



REGULAR CITY COUNCIL MEETING

6:30 PM – COUNCIL CHAMBERS – CITY HALL

DECEMBER 5, 2017

AGENDA

ALL CITIZENS DESIRING TO ADDRESS THE PORT ORANGE CITY COUNCIL DURING CITIZEN PARTICIPATION SHOULD COMPLETE A SPECIAL APPLICATION FORM WHICH IS LOCATED ON THE STANDS OUTSIDE THE COUNCIL CHAMBERS. AFTER COMPLETING THE FORM, PRESENT IT TO THE CITY CLERK.

A. OPENING

1. Pledge of Allegiance
2. Invocation by Pastor Steven Mitchell of Port Orange United Church of Christ
3. Roll Call

B. CONSENT AGENDA

4. Public Comments on Consent Agenda Items Only
5. Agenda Approval
6. Approval of Minutes
 - a. October 17, 2017 - Regular City Council Meeting (Amendment)
 - b. November 14, 2017 - City Council Workshop
 - c. November 14, 2017 - Regular City Council Meeting
 - d. November 28, 2017 - City Council Workshop
7. Council Meeting Schedule for 2018
8. Bid Awards and Contract Items
 - a. Renewal of Temporary Employee and Employee Leasing Services Contracts
 - b. Approval of Task Authorization No. 1 with Southeastern Surveying and Mapping Corp. for City Professional Survey Services Contract CA5749-Centerline Elevation Survey of Stormwater Drainage Ditches-DIP067
9. Resolution No. 17-64 - Extending the Waiver of Permit Fees for damage due to Hurricane Irma
10. Resolution No. 17-65 - Local Agency Program (LAP) Supplemental Agreement #1 for McDonald Road sidewalk and Victoria Gardens Boulevard sidewalk

11. Approval of License Agreement - Cornerstone Grove Subdivision (Coulter Lane)

12. Acceptance of grant funds from the Target Foundation

C. TOWN CENTER CRA MEETING

D. EASTPORT CRA MEETING

E. CITIZEN PARTICIPATION (Agenda)

13. Florida Elite Soccer Club

14. Request by Habitat for Humanity of Greater Volusia County, Inc., to reduce the application fees to actual cost for two Minor Subdivision applications

15. Port Orange/South Daytona Chamber & Rotary Fee Waiver request for Riverwalk

F. CITIZEN PARTICIPATION (Non-Agenda – 15 minutes)

G. COUNCIL COMMENTS

16. Comments/Concerns from Council Members

H. SPECIAL AWARDS, REPORTS, RECOGNITION AND PROCLAMATIONS

17. Report from KemperSports on the Cypress Head Golf

I. BOARD APPOINTMENTS, INTERVIEWS, REPORTS

18. Citizen Advisory Committee for TPO

J. PUBLIC HEARING

19. First Reading -Ordinance No. 2017-31 – LDC Amendment/Chapters 14 and 20, Ridgewood Corridor Improvements, Case No. 17-25000003

20. Final Plat & Plans for King's Landing Subdivision Phase 1, Subdivision Variance for King's Landing Subdivision Phase 1, and Concurrency and Fair-Share Agreement, Case No. 17-50000008

K. REGULAR AGENDA

21. First Reading - Ordinance No. 2017-32 - Police Pension Amendment for the Share Plan

22. Award of Contract to A.G. Pifer Construction Company for renovations at Dorothy L. Hukill City Annex

L. COMMENTS

23. City Attorney Comments

- a. Authorize the engagement of Special Legal Counsel, Daniel W. Langley, Esquire for the proposed Riverwalk property acquisition

24. City Manager Comments

M. ADJOURNMENT

ANY PERSON WHO DECIDES TO APPEAL ANY DECISION MADE BY THE CITY COUNCIL WILL NEED A RECORD OF THE PROCEEDINGS, AND FOR SUCH PURPOSE HE OR SHE MAY NEED TO ENSURE AT HIS OR HER OWN EXPENSE FOR THE TAKING AND PREPARATION OF A VERBATIM RECORD OF ALL TESTIMONY AND EVIDENCE OF THE PROCEEDINGS UPON WHICH THE APPEAL IS TO BE BASED.

NOTE: IF YOU ARE A PERSON WITH A DISABILITY WHO NEEDS AN ACCOMMODATION IN ORDER TO PARTICIPATE IN THIS PROCEEDING, YOU ARE ENTITLED, AT NO COST TO YOU, TO THE PROVISION OF CERTAIN ASSISTANCE. PLEASE CONTACT THE CITY CLERK FOR THE CITY OF PORT ORANGE, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129, TELEPHONE NUMBER 386-506-5563, CITYCLERK@PORT-ORANGE.ORG, AS FAR IN ADVANCE AS POSSIBLE, BUT PREFERABLY WITHIN 2 WORKING DAYS OF YOUR RECEIPT OF THIS NOTICE OR 5 DAYS PRIOR TO THE MEETING DATE. IF YOU ARE HEARING OR VOICE IMPAIRED, CONTACT THE RELAY OPERATOR AT 7-1-1 or 1-800-8771.

UPON REQUEST BY A QUALIFIED INDIVIDUAL WITH A DISABILITY, THIS DOCUMENT WILL BE MADE AVAILABLE IN AN ALTERNATE FORMAT. IF YOU NEED TO REQUEST THIS DOCUMENT IN AN ALTERNATE FORMAT, PLEASE CONTACT THE CITY CLERK WHOSE CONTACT INFORMATION IS PROVIDED ABOVE.

ANY INVOCATION THAT IS OFFERED BEFORE THE OFFICIAL START OF THE CITY COUNCIL MEETING SHALL BE THE VOLUNTARY OFFERING OF A PRIVATE PERSON, TO AND FOR THE BENEFIT OF THE CITY COUNCIL. THE VIEWS OR BELIEFS EXPRESSED BY THE INVOCATION SPEAKER HAVE NOT BEEN PREVIOUSLY REVIEWED OR APPROVED BY THE CITY COUNCIL OR THE CITY STAFF, AND THE CITY IS NOT ALLOWED BY LAW TO ENDORSE THE RELIGIOUS BELIEFS OR VIEWS OF THIS, OR ANY OTHER SPEAKER. PERSONS IN ATTENDANCE AT THE CITY COUNCIL MEETING ARE INVITED TO STAND DURING THE OPENING INVOCATION AND PLEDGE OF ALLEGIANCE. HOWEVER, SUCH INVITATION SHALL NOT BE CONSTRUED AS A DEMAND, ORDER, OR ANY OTHER TYPE OF COMMAND. NO PERSON IN ATTENDANCE AT THE MEETING SHALL BE REQUIRED TO PARTICIPATE IN ANY OPENING INVOCATION THAT IS OFFERED. A PERSON MAY EXIT THE CITY COUNCIL CHAMBERS AND RETURN UPON COMPLETION OF THE OPENING INVOCATION IF A PERSON DOES NOT WISH TO PARTICIPATE IN OR WITNESS THE OPENING INVOCATION.



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (B6a) October 17, 2017 - Regular City Council Meeting (Amendment)

DEPARTMENT: City Clerk

GOAL:

RECOMMENDED MOTION: Move to approve the amendment to the October 17, 2017 City Council Meeting Minutes as presented.

SUMMARY: Item #20 - City Attorney Comments has been changed to clarify that Council authorized the City Manager to execute Amendment #2 to Task Authorization #2 with Ashbritt. I have highlighted the area on page 6 with the amendment.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Amended 10/17/17 Minutes	REGULAR CITY COUNCIL MEETING MINUTES 10-17-17 amended.pdf
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Robin Fenwick

Created/Initiated - 11/16/2017

REGULAR CITY COUNCIL MEETING MINUTES
COUNCIL CHAMBERS – CITY HALL
1000 CITY CENTER CIRCLE
OCTOBER 17, 2017

THE REGULAR CITY COUNCIL MEETING of the City of Port Orange was called to order by Mayor Donald O. Burnette at 6:30 p.m.

Pledge of Allegiance

Invocation was provided by Chaplain Farzad Nourian of Florida Memorial Hospital

Roll Call:	Present:	Councilman Chase Tramont Councilman Drew Bastian Councilman Scott Stiltner Vice Mayor Bob Ford Mayor Donald Burnette
	Also Present:	Jake Johansson, City Manager Margaret T. Roberts, City Attorney Michelle Cusella, Sr. Administrative Assistant

CONSENT AGENDA

4. Public Comments on Consent Agenda Items Only

There were none.

5. Agenda Approval

Item #7e and 10 were pulled for further discussion.

6. Approval of Minutes

a. October 3, 2017 - Regular City Council Meeting

7. Bid Awards and Contract Items

a. Award of ITB #17-38 to Ring Power Corporation for Purchase of a Pre-Owned Forklift

b. Award of ITB #17-06 for McDonald Road and Victoria Gardens Boulevard Sidewalks

c. Award of ITB #17-36 to Cubco, Inc. for T-shirts, Staff Shirts, and Sporting Uniforms

d. Approval of Amendment No. 1 for Government Finance Officers Association (GFOA)

e. Authorization of FY18 Expenditure for Superion, Inc. (formerly SunGard Public Sector, Inc.)

8. Resolution No. 17-55 - Ratifying and Accepting \$99,729.00 for Victims of Crime Act (VOCA) Grant

9. Resolution No. 17-57 - Ratifying Application and Accepting Grant Funds from Volusia County Coastal Division for the Derelict Vessel Removal Program

10. Resolution No. 17-58 - Establishing and Approving an Early Retirement/Separation Program for Fiscal Year 2018
11. Approval of Historic Tree Removal – 3454 County Walk Drive
12. Approval of Utility Service and Miscellaneous Receivable Write-offs for FY18

Motion to approve the Consent Agenda as amended was made by Councilman Bastian, and Seconded by Councilman Stiltner. Motion carried unanimously by roll call vote.

7e. Authorization of FY18 Expenditure for Superion, Inc. (formerly SunGard Public Sector, Inc.)

Mr. Johansson advised Council of the data breach within Superion in Ormond Beach, which caused the suspension of online bill pay and auto bill pay until there is notice that Port Orange accounts are safe, but recommends approval of the expenditure.

Motion to approve as written was made by Councilman Bastian, and Seconded by Councilman Stiltner. Motion carried unanimously by voice vote.

10. Resolution No. 17-58 - Establishing and Approving an Early Retirement/Separation Program for Fiscal Year 2018

Councilman Bastian questioned the list of eligible employees and if Public Safety was included or not eligible.

Jamie Miller, Administrative Services Director, explained to Council that no one in the Public Safety Division meets the criteria of the 80+ years of combined service and age, but is working with outside legal counsel to try to set different parameters in the future.

Councilman Stiltner suggested allowing City employees after one year of retirement to be eligible for re-hire within the City, but not in the same department.

Motion to approve with modification to section 3d eligibility after one year of retirement to reapply for employment within the City in a different department was made by Councilman Stiltner, and Seconded by Councilman Tramont.

Mr. Johansson asked Council to leave the option of whether to rehire within the same department up to Staff.

Councilman Stiltner withdrew his motion

Councilman Tramont withdrew his second.

Motion to approve with modification to section 3d eligibility after one year of retirement to reapply for employment within the City was made by Councilman Stiltner, and Seconded by Councilman Tramont. Motion carried unanimously by roll call vote.

CITIZEN PARTICIPATION (Agenda)

13. Cameron McClelland - Waiver of Rental Fees for Coraci fields

Cameron McClelland asked Council to consider waiving the rental fee for a temporary fence as well as the concession fees at Coraci fields for the upcoming 7th Annual Battle at the Beach Tournament.

Mr. Johansson advised Council due to recent budget constraints and the need to deduct an additional \$222,272 in additional line item costs, the city is not in a position to waive any fees for service delivery and a \$700 waiver is just not in the current budget.

Councilman Stiltner asked about other concession options and setting up their own fences.

Mr. Johansson believes this may not be an option because of liability reasons.

Councilman Tramont announced a conflict and will abstain from voting.

Motion to approve the waiver of fees was made by Vice Mayor Ford, and Seconded by Councilman Stiltner. Motion carried 3-1 with Councilman Bastian voting no.

CITIZEN PARTICIPATION (Non-Agenda – 15 minutes)

Wendell Dallarosa, Citizen, asked Council if any decision or discussion was made yet on his presentation from last City Council Meeting and advised them on a situation that happened between him and a Port Orange Police Officer.

Ted Nofall, Citizen, asked Council to get rid of civil asset forfeiture.

Dianne Gardner, Citizen, questioned what case law is in place for the homeless and the City Police Officers dealing with a request to check on the well-being of the homeless person.

Dr. James Young, Business Owner and Citizen, thanked the City Council, City Manager, uniformed officers, and serviceman for the excellent jobs they are doing within the City.

COUNCIL COMMENTS

14. Comments/Concerns from Council Members

Councilman Tramont denounced the recent KKK flyers that were distributed throughout the City.

Vice Mayor Ford would like to set up a workshop discussing policies to manage the traffic with the cities growth.

Councilman Bastian questioned the debris that was at the City Annex. He also asked Chief Fustin to explain the lapse in time of EVAC arrival on scene at an accident where a pedestrian was struck on the sidewalk.

Chief Fustin explained the Volusia County EMS owned up to their miscommunication mistake on this call.

Mayor Burnette asked Council if there is any action they would like to take on Mr. Dallarosa's presentation from the previous Council Meeting. Councilman Bastian does not believe there is such a thing as overreaction on any safety concern.

Council recessed for five minutes.

SPECIAL AWARDS, REPORTS, RECOGNITION AND PROCLAMATIONS

15. Florida City Government Week 2017 Proclamation

Mayor Burnette read the proclamation for Florida City Government Week 2017.

Christine Martindale, Public Information Officer, explained to the citizens what Port Orange University is and how it works.

Ann Pintiliano, Port Orange/South Daytona Chamber of Commerce, introduced three members of the Leadership 2017 group.

BOARD APPOINTMENTS, INTERVIEWS, REPORTS

16. Citizen Advisory Committee for TPO

Bobby Ball provided an update from the recent meetings held.

PUBLIC HEARING

17. First Reading - Ordinance No. 2017-30 – Rezoning/3518 Nova Road, Case No. 17-60000002

Mayor Burnette read Ordinance No. 2017-30.

ORDINANCE NO. 2017-30

AN ORDINANCE OF THE CITY OF PORT ORANGE REZONING +/- 1 ACRE LOCATED AT 3518 NOVA ROAD FROM MODERATE DENSITY MULTIFAMILY RESIDENTIAL (R-3M) TO COMMUNITY COMMERCIAL (CC); AUTHORIZING REVISION OF THE OFFICIAL ZONING ATLAS; AND PROVIDING AN EFFECTIVE DATE.

Motion to approve Ordinance No. 2017-30 on first reading was made by Councilman Bastian, and Seconded by Councilman Stiltner.

Penelope Cruz, Planner, advised Council of the need for this administrative rezoning application, which is to correct a longstanding inconsistency with the zoning and the actual use of the property.

Motion carried unanimously by roll call vote.

I. REGULAR AGENDA

18. Ratification of Emergency Generator rental with Ring Power Corporation and Electrical Services with Economy Electric

Mr. Johansson provided details of the need for an emergency generator rental at the Water Reclamation Facility.

Motion to ratify the emergency purchase was made by Vice Mayor Ford, and Seconded by Councilman Tramont. Motion carried unanimously by voice vote.

19. Financial Report - August 2017

Tracey Riehm, Finance Director, provided details from the August 2017 financial report.

COMMENTS

20. City Attorney Comments

Ms. Roberts discussed Ashbritt debris management.

Motion to authorize the City Manager to execute Amendment #2 to Task Authorization #2 was made by Vice Mayor Ford and Seconded by Councilman Bastian. Motion carried 4-1 with Councilman Stiltner voting no.

21. City Manager Comments

Mr. Johansson asked Council to consider unfreezing additional personnel from the 2018 budget list: PD CSO, PD Officer, Community Development Administrative Assistant, and Public Utilities new positions. All of which Mr. Johansson believes are important to public safety and/or are not impacting or decreasing pressure on the FY18 general fund.

Motion to approve the unfreezing of the proposed positions was made by Councilman Tramont, and Seconded by Councilman Bastian. Motion carried unanimously by roll call vote.

a. Report on the intent to award a Sole Source Purchase to Sunstate Meter & Supply, Inc.

b. Report on intent to award of a Sole Source to Core & Main (formerly HD Supply Waterworks)

Mr. Johansson advised Council that these two items are on the agenda for transparency purposes. The purchases can be done without Council approval but with the history of the meters, he wanted Council to be aware.

Mr. Johansson stated AquaHawk information is still being vigorously advertised to citizens.

Councilman Tramont commended the City Manager on the call to suspend the online bill pay because of the breach in Ormond Beach as a precautionary measure.

COUNCIL COMMITTEE REPORTS

22. City Council Committee Reports

a. ArtHaus – Vice Mayor Ford provided details of upcoming and recent events.

b. Port Orange/South Daytona Chamber of Commerce – Mayor Burnette provided details of upcoming and recent events.

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c. Roundtable of Elected Officials – Mayor Burnette provided information from the recent meeting.

ADJOURNMENT: 8:31 p.m.

Mayor Donald O. Burnette

Attest:

Robin Fenwick, CMC
City Clerk

CITY COUNCIL WORKSHOP MINUTES
COUNCIL CHAMBERS – CITY HALL
1000 CITY CENTER CIRCLE
NOVEMBER 14, 2017

THE CITY COUNCIL WORKSHOP of the City of Port Orange was called to order by Mayor Donald Burnette 5:17 p.m.

Pledge of Allegiance

Silent Invocation

Roll Call:	Present:	Councilman Chase Tramont Councilman Scott Stiltner Councilman Drew Bastian Vice Mayor Bob ford Mayor Donald Burnette
	Also Present:	Jake Johansson, City Manager Margaret T. Roberts, City Attorney Robin Fenwick, City Clerk

DISCUSSION ITEMS

4. Discussion with Port Orange University Participants

 Christine Martindale, Public Information Officer, explained the Port Orange University program and thanked City Staff for their presentations. Mayor Burnette thanked Ms. Martindale for establishing the University and thanked City Staff for their participation. He also thanked the citizens for participating in the program. Council also thanked all for a good program.

 Participants asked Council questions regarding zoning issues, smoking at the Riverside Park, the ratio of police officers in the City, and the issues with the ambulance service in the community.

ADJOURNMENT: 6:17 p.m.

Mayor Donald O. Burnette

Attest:

Robin Fenwick, CMC
City Clerk

REGULAR CITY COUNCIL MEETING MINUTES
COUNCIL CHAMBERS – CITY HALL
1000 CITY CENTER CIRCLE
NOVEMBER 17, 2017

THE REGULAR CITY COUNCIL MEETING of the City of Port Orange was called to order by Mayor Donald O. Burnette at 6:30 p.m.

Pledge of Allegiance

Invocation – Pastor Tom Nelson of United Methodist

Roll Call:	Present:	Councilman Chase Tramont Councilman Drew Bastian Councilman Scott Stiltner Vice Mayor Bob Ford Mayor Donald Burnette
	Also Present:	Jake Johansson, City Manager Margaret T. Roberts, City Attorney Robin Fenwick, City Clerk

CONSENT AGENDA

4. Public Comments on Consent Agenda Items Only

There were none.

5. Agenda Approval

There were no changes.

6. Approval of Minutes

a. November 7, 2017 - Regular City Council Meeting

7. Resolution No. 17-60 - Education Funding Distribution Formula

8. Dedication of right-of-way along the east side of Yorktowne Boulevard, adjacent to the Cornerstone Grove Subdivision

Motion to approve the Consent Agenda as presented was made by Councilman Bastian, and Seconded by Vice Mayor Ford. Motion carried unanimously by roll call vote.

C. CITIZEN PARTICIPATION (Agenda)

9. Pinnacle Phase II Utility Bill Late Fee Waiver Request

Jim Paytas, Paytas Homes, requested a waiver of the late fees added to the utility bill for Pinnacle Phase II. The payment of the utility bill was a payment in advance for three years of service and was due prior to the approval of the agreement.

Motion to approve the request as presented was made by Vice Mayor Ford, and Seconded by Councilman Bastian. Motion carried unanimously by roll call vote.

Council agreed to shift authority to the City Manager on this type of issue but would require reporting back to the Council.

CITIZEN PARTICIPATION (Non-Agenda – 15 minutes)

Mayor Burnette asked the City Manager to update them on the TNR program with CCFAW. Jake Johansson, City Manager, provided background information regarding the program, as well as funding issues. Staff is working with CCFAW volunteers and have agreed to fund the program (\$1,400) through December 2017 and continue discussions regarding grants.

Citizens discussed their concerns regarding not funding the TNR program.

Vice Mayor Ford would like to see the program funded with discussions and cooperation with volunteers. He recommended Staff talk to Volusia County to learn about their program.

Councilman Tramont wants a humane program that is fiscally responsible. Council would like the volunteers to help with long term funding.

COUNCIL COMMENTS

10. Comments/Concerns from Council Members

Council thanked Staff for the Veteran's Day ceremony, as well as the Riverwalk Park Grand Opening.

BOARD APPOINTMENTS, INTERVIEWS, REPORTS

11. Environmental Advisory Board Report

Newton White, Vice Chairman, provided Council with details from their recent meeting. The tree ordinance was reviewed and accepted by the Board.

REGULAR AGENDA

12. Resolution No. 17-61 - Budget Appropriation
*FY17 Budget Execution Review - Final Year End True-Up

Mayor Burnette read Resolution No. 17-61.

RESOLUTION NO. 17-61

A RESOLUTION OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, APPROPRIATING OPERATING AND CAPITAL FUNDS FOR VARIOUS CITY OPERATIONS; SETTING FORTH REVENUES AND EXPENDITURES; AND PROVIDING AN EFFECTIVE DATE.

Motion to approve Resolution No. 17-61 was made by Councilman Bastian, and Seconded by Councilman Stiltner. Motion carried unanimously by roll call vote.

13. Resolution No. 17-62 - Budget Appropriation
*FY18 Carryover of Open Encumbrances and Project Budgets

Mayor Burnette read Resolution No. 17-62.

RESOLUTION NO. 17-62

A RESOLUTION OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, APPROPRIATING FUNDS FOR PROJECT CARRY OVER AND OPEN ENCUMBRANCE CARRY OVER FUNDS FROM FISCAL YEAR 2017 TO FISCAL YEAR 2018 BUDGET; SETTING FORTH REVENUES AND EXPENDITURES; AND PROVIDING AN EFFECTIVE DATE.

Motion to approve Resolution No. 17-62 was made by Councilman Bastian, and Seconded by Councilman Stiltner. Motion carried unanimously by roll call vote.

14. Resolution No. 17-63 - Budget Appropriation
*FY18 Additional Carryover

Mayor Burnette read Resolution No. 17-63.

RESOLUTION NO. 17-63

A RESOLUTION OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, APPROPRIATING ADDITIONAL PROJECT CARRY OVER FUNDS FROM FISCAL YEAR 2017 TO FISCAL YEAR 2018 BUDGET; SETTING FORTH REVENUES AND EXPENDITURES; AND PROVIDING AN EFFECTIVE DATE.

Motion to approve Resolution No. 17-63 was made by Councilman Bastian, and Seconded by Councilman Tramont. Motion carried unanimously by roll call vote.

15. Rejection of all bids for RFP #17-37 Grants Management Bid and Creation of New Position

Motion to approve rejection of all bids and creation of a new grants manager position was made by Councilman Tramont, and Seconded by Councilman Bastian.

Alan Rosen, Assistant City Manager, advised Council of the proposals received for grants management and explained the expenses compared to the cost of returning the position to a full time City position. He also discussed the benefits and potential for more grants. He asked Council to reject all bids and approve a new position.

Mark Dickinson, citizen, would like to know the cost of a grants manager. He has experience writing grants and knows it is difficult. He wants to make sure the pay is enough to attract a qualified candidate.

Motion carried unanimously by roll call vote.

16. Award of Contract for ITB #17-25 Repair of Causeway Docks

Motion to approve, subject to the city attorney review and approval of the contract documents and council budgetary approval on December 12, 2017, for award to Brothers Construction, Inc. in the amount of \$1,045,250 and an allowance of \$104,525 for a total of \$1,149,775 was made by Councilman Stiltner, and Seconded by Councilman Bastian.

Susan Lovallo, Parks & Recreation Director, explained the bids and the proposed project. The project will not solve the ADA boat ramp issue on the south side or the north boat ramp issue. The timeline of the project was discussed. Staff will stay on the contractor to keep it moving forward.

Motion carried unanimously by roll call vote.

COMMENTS

17. City Attorney Comments

There was nothing further.

18. City Manager Comments

Mr. Johansson asked Council to consider extending the waiver of permit fees to December 30, 2017 for Hurricane Irma damage.

Motion to approve was made by Councilman Tramont, and Seconded by Councilman Bastian. Motion carried unanimously by voice vote.

He asked Council to consider cancelling the Library Advisory Board since there is no City business being done. He would like Stan Hetrick, Chairman to talk with Council. Staff will bring it back to Council.

COUNCIL COMMITTEE REPORTS

19. City Council Committee Reports

- a. ArtHaus – Vice Mayor Ford reported on the recent events and announced the upcoming events.
- b. Port Orange/South Daytona Chamber of Commerce – Mayor Burnette announced the upcoming events.
- c. Roundtable of Elected Officials – Mayor Burnette did not meet in November and will not meet in December either.

ADJOURNMENT: 8:35 p.m.

Mayor Donald O. Burnette

Attest:

Robin Fenwick, CMC
City Clerk

CITY COUNCIL WORKSHOP MINUTES
COUNCIL CHAMBERS – CITY HALL
1000 CITY CENTER CIRCLE
NOVEMBER 28, 2017

THE CITY COUNCIL WORKSHOP of the City of Port Orange was called to order by Mayor Donald Burnette at 6:30 p.m.

Pledge of Allegiance

Silent Invocation

Roll Call:	Present:	Councilman Chase Tramont Councilman Scott Stiltner Councilman Drew Bastian Vice Mayor Bob Ford Mayor Donald Burnette
	Also Present:	Jake Johansson, City Manager Margaret T. Roberts, City Attorney Robin Fenwick, City Clerk

DISCUSSION ITEMS

4. Golf Course Restaurant Model

Alan Rosen, Assistant City Manager, discussed his research on what business model other cities have used to run their restaurants. He recommends moving forward with the Request for Proposals (RFP) with some changes to the previous contract. He would suggest charging a minimal amount in rent to allow more success for the restaurant. Council wants to help the restaurant success but wants the contract administration to be done by City Staff.

Bob Duquette, General Manager, responded to questions and comments from Council. He wants the restaurant to succeed as well and agreed to have the contract administration done by City Staff.

Council consensus was to continue with the RFP process, provide more leeway in the contract, and wants City Staff to manage the contract. Mr. Johansson asked Council for some latitude to continue with the current arrangement. Council agreed and Don Burke (currently running the restaurant) agreed to continue as long as needed.

John Cameron, citizen, expressed concerns regarding communication with golfers and the golf course and restaurant business. He supported the discussion Council held.

Councilman Stiltner asked Mr. Duquette if he could post the agenda to a board at the golf course when there will be a meeting regarding the course or restaurant. Mr. Duquette agreed to do so.

Mr. Johansson said the legal process might not actually be an RFP, but might need to be an Invitation to Bid or other document to incorporate the desires discussed tonight.

5. River District City Property Options

Mr. Johansson advised Council of an opportunity to purchase property along Ridgewood Avenue in the River District. Specifically, Lots #28, 36, 37, 39, and 41 are being discussed with the current property owners: Port Orange Riverwalk, LLP and Port Orange Riverwalk, LLC.

Mayor Burnette discussed some options for purchasing the properties. He believes the City should buy the properties to allow for better marketing.

Councilman Stiltner agreed with Mayor Burnette's statements. He wants to ensure there is a plan to purchase them and they are moved back to the tax roll as quickly as possible. Council agreed to move forward with the purchase.

Mr. Johansson asked Council if they would like to continue with the Christmas Eve Pancake Breakfast tradition as he will be out of town. Council said yes. Mr. Johansson asked Council to check their schedules for Port Orange Days in Tallahassee on January 17-19, 2018.

ADJOURNMENT: 7:47 p.m.

Mayor Donald O. Burnette

Attest:

Robin Fenwick, CMC
City Clerk



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: Yes

SUBJECT: (B7) Council Meeting Schedule for 2018

DEPARTMENT: City Clerk

GOAL:

RECOMMENDED MOTION: Move to approve the proposed 2018 meeting schedule as presented.

SUMMARY: The Port Orange City Council has agreed to meet twice (2x) per month beginning in January 2015, the first and third Tuesdays, except during holidays or other events as determined by Council.

The proposed schedule for 2018 Regular City Council meetings is as follows:

January 4 (Thurs), 16*	July 17*
February 6, 20	August 7, 21
March 6, 20	September 4, 18
April 3, 17	October 2, 16
May 1, 15	November 7 (Wed), 13*
June 5, 19	December 4, 18

(* indicates a change in the normal schedule due to holidays and elections)

In addition, Council has designated the fourth Tuesday of each month for Council workshops.

This schedule does not contemplate the budget workshops that typically occur over the summer months. Those workshops will be scheduled as needed and approved by Council.

Project No.: Funding Account No.:

ATTACHMENTS:

Robin Fenwick
Jake Johansson

Created/Initiated - 11/09/2017
Final Approval - 11/14/2017



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (B8a) Renewal of Temporary Employee and Employee Leasing Services Contracts

DEPARTMENT: Administrative Services

GOAL:

RECOMMENDED MOTION: Move to approve two additional one year terms for both Remedy Intelligent Staffing and AUE Staffing Inc, subject to budget appropriation by Council.

SUMMARY: In 2015, the City released an RFP for Temporary Employee and Employee Leasing Services. The award was given to Remedy Intelligent Staffing and AUE Staffing Inc. Both Standard Contracts for Services were for a 3 year term with 2 automatic one year renewal periods subject to City Council approval. The contract and renewals would expire on January 19, 2020. The provisions for Termination at the convenience of the City is still in effect.

The annual expenditure limit for Remedy is \$75,000. The annual expenditure limit for AUE Staffing Inc. is \$25,000. In 2017, the City brought back in house the use of summer counselors which were previously paid through these agencies. Therefore, the Fiscal Year 2018 anticipated utilization is not as high as in previous years. The only expenditures for AUE Staffing within the last 3 years was in FY 16 for approximately \$5,000. The 3 year look back of approximate expenditures is as follows for temporary staffing, predominately through Remedy Intelligent Staffing:

FYTD 17 - \$35,000 (pre-Hurricane Irma)
FY 16 - \$88,000
FY 15 - \$85,000.

The use of temporary employees allows us to respond quickly to changing circumstances. Some examples of when the City has utilized temporary employees include: helping to monitor sandbags for residents during hurricane preparation, helping to mow and maintain right-of-ways, assisting with high volume and peak workload demands when departments are short-staffed, etc.

Project No.: Funding Account No.: 34-15

ATTACHMENTS:

1.	Remedy - Extension Agreement No. 1	Remedy - Extension Agreement No 1.pdf
2.	AUE - Extension Agreement No. 1	AUE - Extension Agreement No 1.pdf
3.	Remedy Intelligent Staffing Standard Contract for Services	Remedy Intelligent Staffing LLC - Standard Contract Dated 1-28-15-1.pdf
4.	AUE Staffing Inc. Standard Contract for Services	AUE Staffing Inc - Standard Contract 1-20- 15.pdf

Heather Carrizales
Jamie Miller
Tracey Riehm
Margaret Roberts
Jake Johansson
Robin Fenwick

Created/Initiated - 09/07/2017
Approved - 09/12/2017
Approved - 09/12/2017
Approved - 11/17/2017
Approved - 11/19/2017
Final Approval - 11/20/2017

EXTENSION AGREEMENT NO. 1

THIS EXTENSION OF AGREEMENT NO. 1 ("Agreement") is made and entered into the day and year set forth hereinafter by and between the **CITY OF PORT ORANGE, FLORIDA**, a Florida municipal corporation located at 1000 City Center Circle, Port Orange, Volusia County, Florida 32129-4144 (the "City"), and **REMEDY INTELLIGENT STAFFING, LLC** ("Contractor"), a California limited liability company registered to transact business in Florida, whose principal address is 1040 Crown Pointe Parkway, Suite 1040, Atlanta, GA 30338 (collectively "the Parties").

WHEREAS, on the 28th day of January, 2015, Contractor entered into a Contract with the City, pursuant to RFP No. #15-08 Temporary Employee and Employee Leasing Services (the "Contract"), for an initial term commencing on January 28th, 2015 and continuing until January 19th, 2018, which may be renewed for two (2) additional one-year periods, upon mutual agreement of the Parties, and

WHEREAS, the Parties desire to renew the Contract, notwithstanding the date of execution, for a period commencing on January 20th, 2018 and continuing until January 19th, 2020; and

WHEREAS, the Port Orange City Council has determined that the execution of this Contract is beneficial to the citizens of the City of Port Orange.

NOW, THEREFORE, the Parties, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, agree as follows:

1. **Term.** The term of the Contract as amended is hereby extended. Notwithstanding the date of execution, this Agreement shall be effective commencing January 20th, 2018 and continuing until January 19th, 2020.

2. **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered. No contract shall be formed between Contractor and the City until the City signs this Agreement.,

All other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have signed, sealed, and delivered this Agreement on the day and year stated hereinafter.

Witnesses:

REMEDY INTELLIGENT STAFFING, LLC,

By: _____, President

Printed Name: _____

If this Contract is signed by an individual not identified as the President of the company in the records of the Florida Department of State, Division of Corporations, please provide written authorization for that individual to enter into contracts on behalf of the company.

Printed Name: _____

Date: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by _____, as _____ of Remedy Intelligent Staffing LLC, a California limited liability company registered to transact business in Florida, and who:

[Notary: Please select one]

- ☐ is personally known to me; or
☐ has produced _____ as identification.

Notary Public, State of Florida
*Printed, typed or stamped name,
commission and expiration:*

Witnesses:

CITY OF PORT ORANGE

Printed Name:_____

By:_____
Donald O. Burnette, Mayor

Printed Name:_____

Date:_____

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Donald O. Burnette, as Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the City, and who is personally known to me.

Notary Public, State of Florida
*Printed, typed or stamped name, commission
and expiration:*

Witnesses:

ATTEST:

Printed Name:_____

By:_____
Robin L. Fenwick, CMC, City Clerk

Printed Name:_____

Date:_____

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Robin L. Fenwick, as City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the City, and who is personally known to me.

Notary Public, State of Florida
*Printed, typed or stamped name, commission
and expiration:*

EXTENSION AGREEMENT NO. 1

THIS EXTENSION OF AGREEMENT NO. 1 ("Agreement") is made and entered into the day and year set forth hereinafter by and between the **CITY OF PORT ORANGE, FLORIDA**, a Florida municipal corporation located at 1000 City Center Circle, Port Orange, Volusia County, Florida 32129-4144 (the "City"), and **AUE STAFFING, INC.** ("Contractor"), a Florida profit corporation, whose principal address is 777 E Altamonte Drive, Altamonte Springs, FL 32701 (collectively "the Parties").

WHEREAS, on the 20th day of January, 2015, Contractor entered into a Contract with the City, pursuant to RFP No. #15-08 Temporary Employee and Employee Leasing Services (the "Contract"), for an initial term commencing on January 20th, 2015 and continuing until January 19th, 2018, which may be renewed for two (2) additional one-year periods, upon mutual agreement of the Parties, and

WHEREAS, the Parties desire to renew the Contract, notwithstanding the date of execution, for a period commencing on January 20th, 2018 and continuing until January 19th, 2020; and

WHEREAS, the Port Orange City Council has determined that the execution of this Contract is beneficial to the citizens of the City of Port Orange.

NOW, THEREFORE, the Parties, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, agree as follows:

1. **Term.** The term of the Contract as amended is hereby extended. Notwithstanding the date of execution, this Agreement shall be effective commencing January 20th, 2018 and continuing until January 19th, 2020.

2. **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered. No contract shall be formed between Contractor and the City until the City signs this Agreement.,

All other terms and conditions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have signed, sealed, and delivered this Agreement on the day and year stated hereinafter.

Witnesses:

AUE STAFFING, INC.

Printed Name: _____

Printed Name: _____

By: _____

Connie Hall, President

If this Contract is signed by an individual not identified as the President of the corporation in the records of the Florida Department of State, Division of Corporations, please provide written authorization for that individual to enter into contracts on behalf of the corporation.

Date: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by Connie Hall, as President of AUE Staffing, Inc., a Florida profit corporation, and who:

[Notary: Please select one]

- ☐ is personally known to me; or
☐ has produced _____ as identification.

Notary Public, State of Florida
*Printed, typed or stamped name,
commission and expiration:*

Witnesses:

CITY OF PORT ORANGE

Printed Name:_____

By:_____
Donald O. Burnette, Mayor

Printed Name:_____

Date:_____

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Donald O. Burnette, as Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the City, and who is personally known to me.

Notary Public, State of Florida
*Printed, typed or stamped name, commission
and expiration:*

Witnesses:

ATTEST:

Printed Name:_____

By:_____
Robin L. Fenwick, CMC, City Clerk

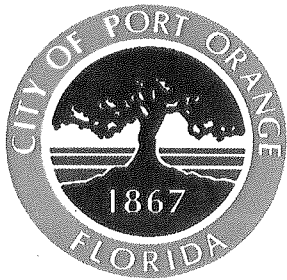
Printed Name:_____

Date:_____

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Robin L. Fenwick, as City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the City, and who is personally known to me.

Notary Public, State of Florida
*Printed, typed or stamped name, commission
and expiration:*



CITY OF PORT ORANGE STANDARD CONTRACT FOR SERVICES

This Standard Contract for Services ("Contract") is entered into this 28 day of January, 2015, by and between the **CITY OF PORT ORANGE**, a Florida municipal corporation, whose principal address is 1000 City Center Circle, Port Orange, Florida 32129 (the "City"), and **REMEDY INTELLIGENT STAFFING, LLC**, a California corporation registered to transact business in Florida whose principal address is 3820 State Street, Santa Barbara, California 93105 ("Contractor"). (The City and Contractor are collectively referred to herein as the "Parties.")

1. Provision of Services

- (a) The Contractor hereby agrees to provide temporary employment and employee leasing related services to the City of Port Orange as outlined in RFP #15-08 Temporary Employee and Employee Leasing Services. A copy of this document is available in the Office of the City Clerk, City Hall, 1000 City Center, Port Orange, Florida 32129.
- (b) The time, manner and place for performance of such services shall be:

Term: The initial term of this Contract shall be for a period of three (3) years, commencing on the last date this Contract is signed by the Parties and continuing until January 19, 2018 (the "Initial Term").

Annual Renewals: This Contract may be renewed for two (2) additional periods as follows:

Renewal No. 1: January 20, 2018 through January 19, 2019

Renewal No. 2: January 20, 2019 through January 19, 2020

The term of this Contract shall be automatically extended at the end of the Initial Term for two (2) additional years and on a succeeding yearly basis thereafter unless either party notifies the other, in writing, at least ninety (90) days prior to the end of the yearly period then in effect that the Contract shall not be extended. Annual renewals shall be subject to review and approval by the City Council.

Manner and Place: As outlined in RFP #15-08 Temporary Employee and Employee Leasing Services.

Time and Essence: Contractor acknowledges that time is of the essence for each Purchase Order issued hereunder.

Authorization for Services: The City makes no covenant or promise as to the number of employees or hours for temporary employment and employee leasing services, nor that the City shall place any orders for temporary employment and employee leasing services during the life of this Contract. The City reserves the right to contract with other parties for the goods and services contemplated by this Contract, as determined in the City's sole and absolute discretion. Authorization for services from Contractor shall be in the form of written Purchase Order(s), signed by an authorized agent of the City of Port Orange.

2. City Obligations In return for the services identified above, the City agrees to compensate Contractor at the prices set forth in Exhibit "A" of the RFP #15-08 Proposer Acknowledgement Form attached hereto as Exhibit "1," subject to a limit up to but not to exceed Seventy-Five Thousand Dollars and 00/100 Dollars (\$75,000.00) per Fiscal Year. (The term "Fiscal Year" shall be defined as that one (1) year period commencing on October 1 and expiring on the following September 30.) The City's obligation to pay Contractor under this Contract is limited to the budgeted amount for the fiscal year approved by the Port Orange City Council for the then current fiscal year. All payments shall be governed by the Local Government Prompt Payment Act as set forth in Sections 218.70 through 218.79, Florida Statutes, as amended.

3. Termination for Convenience of the City

(a) The parties agree that the City may terminate this Contract, or any work or delivery required hereunder, from time to time either in whole or part, whenever the City Manager of Port Orange shall determine that such termination is in the best interest of the City.

(b) Termination, in whole or in part, shall be effected by delivery of a Notice of Termination signed by the City Manager or his designee, mailed or delivered to the Contractor, and specifically setting forth the effective date of termination.

(c) Upon receipt of such Notice, the Contractor shall:

- (i) cease any further deliveries or work due under this Contract, on the date, and to the extent, which may be specified in the Notice;
- (ii) place no further orders with any subcontractors except as may be necessary to perform that portion of this Contract not subject to the Notice;
- (iii) terminate all subcontracts except those made with respect to contract performance not subject to the Notice;
- (iv) settle all outstanding liabilities and claims which may arise out of such termination, with the ratification of the Finance Director of Port Orange; and
- (v) use best efforts to mitigate any damages which may be sustained by the Contractor as a consequence of termination under this clause.

(d) After complying with the provisions of subparagraph (c), above, the Contractor shall submit a termination claim, in no event later than six (6) months after the effective date of termination, unless one or more extensions of three (3) months each are granted by the Finance Director.

(e) The Finance Director, with the approval of the City Manager, shall pay from the using department's budget, reasonable costs of termination, including a reasonable amount for profit on supplies or services delivered or work completed. In no event shall this amount be greater than the original contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the supplies not delivered or the services not provided. This Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

(f) In the event that the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this clause, the Finance Director shall pay the Contractor the amounts determined as follows, without duplicating any amounts which may have already been paid under the preceding paragraph of this clause:

- (i) With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:
 - (1) the cost of work performed or supplies delivered;
 - (2) the cost of settling and paying any reasonable claims as provided in paragraph (c) (iv), above;
 - (3) a sum as profit on (a) determined by the Finance Director to be fair and reasonable.
- (ii) The total sum to be paid under (i) above shall not exceed the contract price, as further reduced by the contract price of work or supplies not terminated.

(g) In the event that the Contractor is not satisfied with any payments which the Finance Director shall determine to be due under this clause, the Contractor may appeal any claim to the City Council in accordance with Paragraph 20 of this contract concerning disputes.

4. Termination for Convenience for Subcontractors In accordance with the termination for the convenience of the City provision of this contract, the Contractor shall include similar provisions in any subcontract, and shall specifically include a requirement that subcontractors make all reasonable efforts to mitigate damages which may be suffered. Failure to include such provisions shall bar the Contractor from any recovery from the City whatsoever of loss or damage sustained by a subcontractor as a consequence of termination for convenience.

5. Termination for Default Either party may terminate this Contract, without further obligation, for the default of the other party or its agents or employees with respect to any agreement or provision contained herein.

6. Examination of Records

(a) The Contractor agrees that the City, or any duly authorized representative, shall, until the expiration of five (5) years after final payment hereunder, have access to and the right to examine and copy any pertinent books, documents, papers and records of the Contractor involving transactions related to this Contract.

(b) The Contractor further agrees to include in any subcontract for more than \$10,000 entered into as a result of this Contract, a provision to the effect that the subcontractor agrees that the City or any duly authorized representative shall, until the expiration of five (5) years after final payment under the subcontract, have access to and the right to examine and copy any pertinent books, documents, papers and records of such contractor involved in transactions related to such subcontract, or this Contract. The term subcontract as used herein shall exclude purchase orders for public utility services at rates established for uniform applicability to the general public.

(c) The period of access provided in subparagraphs (a) and (b) above for records, books, documents and papers which may relate to any arbitration, litigation, or the settlement of claims arising out of the performance of this contract or any subcontract shall continue until any appeals, arbitration, litigation or claims shall have been finally disposed of.

7. Public Records Compliance Contractor shall comply with public records laws as set forth in Chapter 119, Florida Statutes, and shall specifically:

(a) Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.

(b) Provide the public with access to public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed the cost provided in Section 119, Florida Statutes, or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

(d) Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the Contractor upon termination of the Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the City.

If Contractor does not comply with a public records request, the City shall enforce the contract provisions in accordance with the contract.

8. Termination for Non-Appropriation of Funds

(a) If funds are not appropriated for any succeeding fiscal years subsequent to the one in which this contract is entered into, for the purpose of this Contract, then the City may terminate this Contract upon thirty (30) days prior written notice to the Contractor. Should termination be accomplished in accordance with this Section, the City shall be liable only for payments due through the date of termination.

(b) The City agrees that should it terminate in accordance with this Section, it shall not obtain services which are substantially equal to or similar to those for which this contract was entered into. This provision shall survive any termination of the Contract.

9. Insurance Contractor shall maintain insurance during the life of this Contract. Contractor shall provide to the City a certificate of insurance identifying the City of Port Orange as an additional insured. For workers' compensation coverage, the bidder's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the city as an additional insured for workers' compensation.

Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by F.S. 440.572. Contractor shall not commence work under this Agreement until the City has received a certificate or certificates of insurance and endorsement evidencing the required insurance. Contractor shall provide the City written notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change.

The City reserves the right to increase insurance coverage as determined for higher risk contracts and shall reimburse the Contractor for the reasonable additional costs of increased coverage.

Insurance	Standards	Comments
Workers' Compensation <u>Limits:</u>	Coverage A - Statutory Coverage B - \$100,000	If the contract requires work on or about navigable waters, require Longshoreman's and Harbor Workers' Coverage. If vessels involved, require Jones Act coverage with limits of \$500,000.
<u>Additional Coverage:</u>	All States (Broad Form) Voluntary Compensation	

Comprehensive General Liability (including Completed Operations and Contractual Liability)	<u>Limits:</u>	Combined Single Limit Bodily Injury and Property damage \$500,000 occurrence \$1,000,000 Aggregate	When the Contractor work on or under Railroad rights of way or properties, the Contractor shall take out and maintain during the life of the Contract, Railroad protective liability and property damage insurance in amounts as requested by the Railroad.
Comprehensive Business, Automobile Liability to include all automobiles.	<u>Limits:</u>	Auto Liability Bodily Injury: \$100,000 each person \$300,000 each occurrence. Property Damage Liability \$100,000 each occurrence.	Or \$500,000 Combined Single Limit for Bodily Injury and Property Damage
<u>Additional Coverage:</u>		Non-Owned, Hired Car	
Property Insurance — Builders Risk.	<u>Limits:</u>	Buildings — Completed value of contract.	If the Contractor requires handling or installation of Owner's equipment, coverage should be furnished on "All Risk" form, including transit and Owner shall be named.
<u>Additional Coverage:</u>		"All Risk" coverage on latest ISO form or its equivalent. Permission granted to occupy. Owner named as insured AIMA	
Professional Liability (Errors & Omissions)	<u>Limits:</u>	Coverage- \$1,000,000 minimum	

10. A Contract for the purchase of supplies shall be governed by the City of Port Orange Code of Ordinances, as amended, and such supplies shall be deemed "goods," as defined therein.

11. Assignability of Contract Neither this contract, nor any part hereof, may be assigned by the Contractor to any other party without the express written approval of the City Council.

12. Modifications or Changes to this Contract

(a) Change Orders. The Department Head, with the concurrence of the City's signatory as required by the City's Purchasing Policy, shall without notice to any sureties, have the authority to order changes in this Contract which affect the cost or time of performance. Such changes shall be ordered in writing specifically designated to be a change order. Such orders shall be limited to reasonable changes in the services to be performed or the time of the performance. The City will not be held liable for any changes which have not been properly authorized and approved in accordance with this Contract.

(b) If any change under this clause causes an increase or decrease in Contractor's cost of, or time required for the performance of the work hereunder, Contractor shall receive an equitable adjustment in accordance with subparagraph (d), which shall include all compensation to the Contractor, or the City, of any kind in connection with such change, including all costs and damages related to or incidental to such change.

(c) Contractor need not perform any work described in any change order unless it has received a certification from the City that there are funds budgeted and appropriated sufficient to cover the cost of such changes.

(d) No claim for changes ordered hereunder shall be considered if made after final payment in accordance with the Contract.

13. Sovereign Immunity The City expressly retains all rights, benefits and immunities of sovereign immunity in accordance with Section 768.28, Florida Statutes. Notwithstanding anything set forth in any section of this Contract to the contrary, nothing in this Contract shall be deemed as a waiver of immunity or limits of liability of the City beyond any statutory limited waiver of immunity or limits of liability which may have been adopted by the Florida Legislature or may be adopted by the Florida Legislature and the cap on the amount and liability of the City for damages regardless of the number or nature of claims in tort or equity shall not exceed the dollar amount set by the legislature for tort. Nothing in this Contract shall inure to the benefit of any third party for the purpose of allowing any claim against the City which would otherwise be barred under the Doctrine of Sovereign Immunity or operation of law.

14. Contract Administration The Administrative Services Director, Donna J. Steinebach shall perform contract administration of this Contract. For notice provisions, see the paragraph below entitled "Notice."

15. Liability for Loss or Damage Contractor shall be liable for any loss of, or damage to, City property caused by the negligence, recklessness, or intended wrongful misconduct of Contractor, his/its agents, servants and employees and shall indemnify and save the City harmless against all actions, proceedings, claims, demands, costs, damages and expenses, including attorney's fees, by reason of any suit or action brought for any actual or alleged injury to or death of any person or damage to property other than City property, resulting from the performance of the Contract by Contractor, his/its agents, servants and employees. Contractor shall submit a full written report to the Finance Director within twenty-four (24) hours following the occurrence of such damage, loss or injury.

16. Non-discrimination During the performance of this Contract, Contractor agrees as follows:

(a) Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, disability, marital status, age or national origin, except where such is a bona-fide occupational qualification reasonably necessary to the normal operation of Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. Contractor agrees and fully supports and complies with the Americans with Disabilities Act of 1990.

(b) Contractor shall state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor is an equal opportunity employer.

(c) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient compliance with this provision. Contractor shall include the provisions of the foregoing subparagraphs (a), (b), and (c) in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

17. Disputes The Finance Director, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to Contractor, shall decide disputes with respect to this Contract in the first instance. The decision shall be final and binding unless, within thirty-(30) days from the date of such decision, Contractor mails or otherwise furnishes to the Finance Director a written appeal addressed to the City Manager. The decision by the City Manager shall be final and binding unless, within ten (10) days from the date of receipt of the decision of the City Manager, appeal is made to the City Council. The decision of the City Council shall be final and binding unless

set aside by a court of competent jurisdiction as fraudulent, capricious, arbitrary, or so grossly erroneous as necessary to imply bad faith, or not to be supported by any evidence. Pending a final determination of a properly appealed decision of the Finance Director, Contractor shall proceed diligently with the performance of this Contract in accordance with that decision.

18. Force Majeure Neither party shall be liable for any delay in performance or failure to perform any obligation hereunder if, and to the extent that, such failure or delay is caused by an event of Force Majeure. Force Majeure shall mean any act, event or condition that is beyond the party's reasonable control, that materially and adversely affects the party's ability to perform its obligations hereunder, and that is not the result of the party's willful neglect, error, omission or failure to exercise reasonable due diligence.

19. Controlling Law **THIS AGREEMENT CONTAINS IMPORTANT MATTERS AFFECTING LEGAL RIGHTS AND IS ACCEPTED AND ENTERED INTO IN FLORIDA AND ANY QUESTION REGARDING ITS VALIDITY, CONSTRUCTION, ENFORCEMENT, OR PERFORMANCE SHALL BE GOVERNED BY FLORIDA LAW. ANY LEGAL PROCEEDING ARISING FROM OR IN ANY WAY REGARDING THE AGREEMENT SHALL HAVE ITS VENUE LOCATED EXCLUSIVELY IN THE CIRCUIT COURT OF VOLUSIA COUNTY, FLORIDA, AND THE PARTIES HEREBY EXPRESSLY CONSENT AND SUBMIT THEMSELVES TO THE PERSONAL JURISDICTION AND VENUE OF THE COURT.**

20. Additional Provisions This Contract includes all additional provisions as may have been outlined in RFP #15-08 Temporary Employee and Employee Leasing Services and any attachments or exhibits to this Contract whether delivered herewith or subsequently approved as a part hereof, such as drawings or technical specifications prepared in the performance of this work.

21. Integration This Contract and the documents incorporated herein by reference shall constitute the whole agreement between the parties. There are no promises, terms, conditions, or obligations other than those contained herein, and this Contract shall supersede all previous communications, representations, or agreements, written or verbal, between the parties hereto.

22. Notice For purposes of this agreement, notices shall be sent as follows:

City:	City of Port Orange Attention: City Manager 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5501
Copy to:	City of Port Orange Attention: Donna J. Steinebach, Administrative Services Director 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5562
Contractor:	Remedy Intelligent Staffing, LLC Attention: Cheryl L. Ratcliff, Director of Business Development 1140 Pelican Bay Drive Daytona Beach, Florida 32119 (386) 615-8859 Ext. 305 – Telephone tawnyat@remedystaff.com

Remedy Intelligent Staffing, LLC
3820 State Street
Santa Barbara, California 93105

Any notice or other communication given under the Contract will be in writing and delivered by hand, sent by facsimile (provided acknowledgement of receipt thereof is delivered to the sender), sent by certified, registered mail, or sent by any nationally recognized overnight courier service to the addresses provided herein. The parties may, from time to time and at any time, change their respective addresses and each will have the right to specify as its address any other address by at least 10 days written notice to the other party.

23. Contract Construction

This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered. No contract shall be formed between Contractor and the City until the City signs this Agreement.

24. Authority to Sign Each person signing this Agreement warrants that he or she is duly authorized to do so and to bind the respective party to the Agreement.

[Remainder of this page intentionally left blank]

Witnesses:

M H
Printed Name: Heather Peterson

Alissa Greenwalt
Printed Name: Alissa Greenwalt

REMEDY INTELLIGENT STAFFING, LLC

By: Paul Galleberg
B. Stephen Sorenson, CEO PAUL GALLEBERG,
If this Contract is signed by an individual not identified as the President of the
corporation in the records of the Florida Department of State, Division of
Corporations, please provide written authorization for that individual to enter into
contracts on behalf of the corporation. **SECRETARY**

Date: 1/19/15

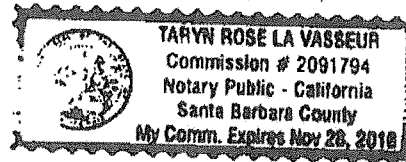
STATE OF CALIFORNIA
COUNTY OF Santa Barbara

The foregoing instrument was acknowledged before me this 19th day of January, 2015, by Stephen Sorenson, as CEO, a California corporation registered to transact business in Florida, and who:
Paul Galleberg Secretary

(Notary: Please select one)

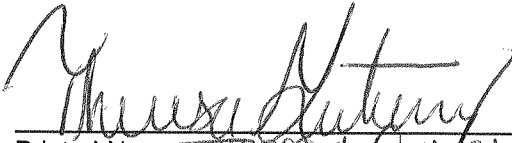
☐ is personally known to me; or
☒ has produced CA Drivers license as identification.

Taryn Rose LaVasseur
Notary Public, State of California
Printed, typed or stamped name, commission and expiration:



Witnesses:

CITY OF PORT ORANGE


Printed Name: Theresa Gutierrez

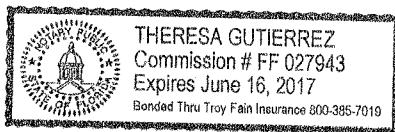
By: 
Allen Green, Mayor

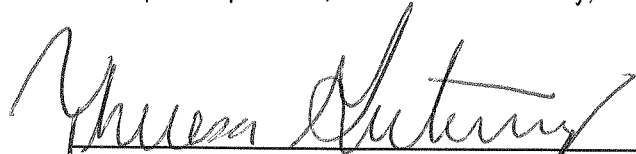

Printed Name: Barbara J. Abbate

Date: 1/28/15

STATE OF FLORIDA
COUNTY OF VOLUSIA

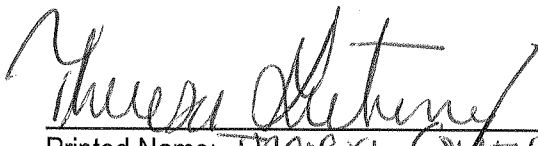
The foregoing instrument was acknowledged before me this 28 day of Jan, 2015, by Allen Green, as Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.

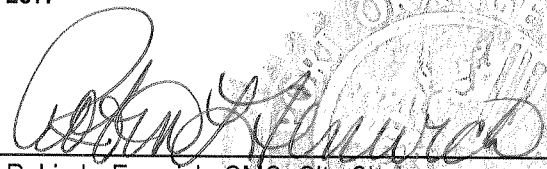



Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

Witnesses:

ATTEST:


Printed Name: Theresa Gutierrez

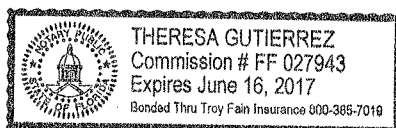
By: 
Robin L. Fenwick, CMC, City Clerk

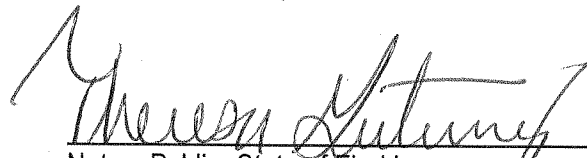

Printed Name: Barbara J. Abbate

Date: 1/28/15

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 28 day of Jan, 2015, by Robin L. Fenwick, as City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.




Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

[CA 4704]

SECTION 230

City of Port Orange

EXHIBIT A

Respondent's Name:

Romeo Intelligent Staffing

TEMPORARY POSITIONS

City of Port Orange Job Classification	City Pay Grade	Workers Comp Code	Employee Rate of Pay	Markup %	City Rate of Pay Temporary
Custodian	95	9015	\$8.51	1.32	11.23
Program Leader	95	9102	\$8.51	1.32	11.23
TV Production Specialist	95	8810	\$8.51	1.32	11.23
Water Meter Repairman	95	7520	\$8.51	1.32	11.23
Maintenance Worker II	110	9102	\$10.39	1.32	13.71
Office Assistant III	110	8810	\$10.39	1.32	13.71
Meter Reader	115	7520	\$10.69	1.32	14.11
Utility/Meter Reader	115	7520	\$10.69	1.32	14.11
Customer Service Rep I	117	8810	\$10.82	1.32	14.28
Permit Licensing Technician	117	8810	\$10.82	1.32	14.28
Office Assistant IV	120	8810	\$11.28	1.32	14.88
Sr. Meter Reader	120	7520	\$11.28	1.32	14.88
Storekeeper	120	8810	\$11.28	1.32	14.88
Utility Service Worker	122	7580	\$11.36	1.32	15.00
Community Service Officer	125	7720	\$11.75	1.32	15.51
Crime Statistician	125	8810	\$11.75	1.32	15.51
Quartermaster	125	8810	\$11.75	1.32	15.51
Customer Service Rep II	126	8810	\$11.78	1.32	15.55
Equipment Operator II	126	5509	\$11.78	1.32	15.55
Sign/Bldg Technician	126	5509	\$11.78	1.32	15.55
Small Engine Mechanic	126	8380	\$11.78	1.32	15.55
Crew Chief	132	7520	\$12.29	1.32	16.22
Accounting Technician II	135	8810	\$12.47	1.32	16.46
Lift Station Mechanic	135	7520	\$12.47	1.32	16.46
Parks & Rec Program Spec.	135	8810	\$12.47	1.32	16.46
Plant Mechanic	135	7520	\$12.47	1.32	16.46
Utilities Technician	135	7520	\$12.47	1.32	16.46
Automotive Mechanic II	136	8380	\$12.63	1.32	16.67
Customer Service Rep III	136	8810	\$12.63	1.32	16.67
Utility Billing Clerk	136	8810	\$12.63	1.32	16.67
Treatment Plant Operator	138	7520	\$13.21	1.32	17.44
Code Compliance Inspector	140	9410	\$13.62	1.32	17.98

SECTION 230

City of Port Orange

EXHIBIT A

Temporary

Customer Service Supervisor	140	8810	\$13.62	1.32	17.98
Office Assistant V	140	8810	\$13.62	1.32	17.98
Senior Utilities Technician	140	7520	\$13.62	1.32	17.98
Victim Advocate	140	7720	\$13.62	1.32	17.98
Lab Technician	145	7520	\$13.93	1.32	18.39
Foreman	146	7520	\$14.20	1.32	18.74
Assistant Lab Manager	150	7520	\$14.64	1.32	19.32
Buyer	150	8810	\$14.64	1.32	19.32
Chief Plant Mechanic	150	7520	\$14.64	1.32	19.32
Helpdesk Specialist	150	8810	\$14.64	1.32	19.32
Instrument Control Technician	150	9410	\$14.64	1.32	19.32
PC Specialist	150	8810	\$14.64	1.32	19.32
Recreation Coordinator	150	9102	\$14.64	1.32	19.32
Shift Supervisor	150	7580	\$14.64	1.32	19.32
Special Events Coordinator	150	8810	\$14.64	1.32	19.32
Accounting Technician III	155	8810	\$15.36	1.32	20.28
Executive Asst. to City Mgr.	155	8810	\$15.36	1.32	20.28
HR Administrator	155	8810	\$15.36	1.32	20.28
Paralegal	155	8810	\$15.36	1.32	20.28
Parks & Rec Supervisor	155	9102	\$15.36	1.32	20.38
Right-of-Way Agent	155	7520	\$15.36	1.32	20.28
Building Permit Coordinator	160	8810	\$16.12	1.32	21.28
Code Enforcement Supervisor	160	9410	\$16.12	1.32	21.28
Construction Inspector	160	9410	\$16.12	1.32	21.28
Development Review Tech.	160	8810	\$16.12	1.32	21.28
Utility Inspector	160	7520	\$16.12	1.32	21.28
Accountant I	165	8810	\$17.20	1.32	22.70
Applications Administrator	165	8810	\$17.20	1.32	22.70
AS400 Mid-Range Programmer	165	8810	\$17.20	1.32	22.70
Engineer	165	8810	\$17.20	1.32	22.70
Lab Manager	165	7580	\$17.20	1.32	22.70
Public Works Engineer	165	8810	\$17.20	1.32	22.70
Sr. I.T. Analyst	165	8810	\$17.20	1.32	22.70
Superintendent	165	7520	\$17.20	1.32	22.70
Building Insp/Plans Examiner	170	9410	\$18.05	1.32	23.83
Capital Improv/Revenue Coord.	170	8810	\$18.05	1.32	23.83
Chief Plant Operator	170	7580	\$18.05	1.32	23.83
GIS Technician	170	8810	\$18.05	1.32	23.83
Grants/Contract Accountant	170	8810	\$18.05	1.32	23.83
Proprietary Funds Accountant	170	8810	\$18.05	1.32	23.83

SECTION 230

City of Port Orange

EXHIBIT A

Temporary

Utilities Budget Analyst	170	8810	\$18.05	1.32	23.83
Web Developer/Programmer	170	8810	\$18.05	1.32	23.83
Chief Inspector	175	9015	\$18.96	1.32	25.03
PIO & Grants Manager	175	8810	\$18.96	1.32	25.03
Planner	175	8810	\$18.96	1.32	25.03
Senior Accountant	175	8810	\$18.96	1.32	25.03
Asst. Public Utilities Director	182	8810	\$20.59	1.32	27.18
Asst. Public Works Director	182	8810	\$20.59	1.32	27.18
City Clerk	182	8810	\$20.59	1.32	27.18
Customer Service Manager	182	8810	\$20.59	1.32	27.18
Facilities Manager	182	5509	\$20.59	1.32	27.18
HR Manager	182	8810	\$20.59	1.32	27.18
Purchasing Manager	182	8810	\$20.59	1.32	27.18
Risk Manager	182	8810	\$20.59	1.32	27.18
Civil Engineer	187	8810	\$22.13	1.32	29.21
Compliance Manager	187	8810	\$22.13	1.32	29.21
Senior Planner	187	8810	\$22.13	1.32	29.21
Principal Planner	188	8810	\$22.74	1.32	30.02
Building Official	189	9410	\$23.35	1.32	30.82
Network Administrator	189	8810	\$23.35	1.32	30.82
Public Utilities Engineer	189	7520	\$23.35	1.32	30.82
Accounting Manager	190	8810	\$25.79	1.32	34.04
Asst. City Attorney/Legal Adv	190	8810	\$25.79	1.32	34.04
Community Development Engineer	190	8810	\$25.79	1.32	34.04
Construction & Engineering Mgr	190	8810	\$25.79	1.32	34.04
IT Manager	190	8810	\$25.79	1.32	34.04
Planning Manager	190	8810	\$25.79	1.32	34.04

Markup % for TEMPORARY Positions not listed:

32%

Markup % for LEASED Positions not listed:

30%

The City reserves the right to add or delete positions as required

SECTION 230

City of Port Orange

EXHIBIT A

Respondent's Name:

Romeo Intelligent Staffing

TEMPORARY POSITIONS

City of Port Orange Job Classification	City Pay Grade	Workers Comp Code	Employee Rate of Pay	Markup %	City Rate of Pay Leased
Custodian	95	9015	\$8.51	1.30	11.06
Program Leader	95	9102	\$8.51	1.30	11.06
TV Production Specialist	95	8810	\$8.51	1.30	11.06
Water Meter Repairman	95	7520	\$8.51	1.30	11.06
Maintenance Worker II	110	9102	\$10.39	1.30	13.51
Office Assistant III	110	8810	\$10.39	1.30	13.51
Meter Reader	115	7520	\$10.69	1.30	13.90
Utility/Meter Reader	115	7520	\$10.69	1.30	13.90
Customer Service Rep I	117	8810	\$10.82	1.30	14.06
Permit Licensing Technician	117	8810	\$10.82	1.30	14.06
Office Assistant IV	120	8810	\$11.28	1.30	14.66
Sr. Meter Reader	120	7520	\$11.28	1.30	14.66
Storekeeper	120	8810	\$11.28	1.30	14.66
Utility Service Worker	122	7580	\$11.36	1.30	14.77
Community Service Officer	125	7720	\$11.75	1.30	15.28
Crime Statistician	125	8810	\$11.75	1.30	15.28
Quartermaster	125	8810	\$11.75	1.30	15.28
Customer Service Rep II	126	8810	\$11.78	1.30	15.31
Equipment Operator II	126	5509	\$11.78	1.30	15.31
Sign/Bldg Technician	126	5509	\$11.78	1.30	15.31
Small Engine Mechanic	126	8380	\$11.78	1.30	15.31
Crew Chief	132	7520	\$12.29	1.30	15.98
Accounting Technician II	135	8810	\$12.47	1.30	16.21
Lift Station Mechanic	135	7520	\$12.47	1.30	16.21
Parks & Rec Program Spec.	135	8810	\$12.47	1.30	16.21
Plant Mechanic	135	7520	\$12.47	1.30	16.21
Utilities Technician	135	7520	\$12.47	1.30	16.21
Automotive Mechanic II	136	8380	\$12.63	1.30	16.42
Customer Service Rep III	136	8810	\$12.63	1.30	16.42
Utility Billing Clerk	136	8810	\$12.63	1.30	16.42
Treatment Plant Operator	138	7520	\$13.21	1.30	17.17
Code Compliance Inspector	140	9410	\$13.62	1.30	17.71

SECTION 230

City of Port Orange

EXHIBIT A

LEASED

Customer Service Supervisor	140	8810	\$13.62	1.30	17.71
Office Assistant V	140	8810	\$13.62	1.30	17.71
Senior Utilities Technician	140	7520	\$13.62	1.30	17.71
Victim Advocate	140	7720	\$13.62	1.30	17.71
Lab Technician	145	7520	\$13.93	1.30	18.11
Foreman	146	7520	\$14.20	1.30	18.46
Assistant Lab Manager	150	7520	\$14.64	1.30	19.03
Buyer	150	8810	\$14.64	1.30	19.03
Chief Plant Mechanic	150	7520	\$14.64	1.30	19.03
Helpdesk Specialist	150	8810	\$14.64	1.30	19.03
Instrument Control Technician	150	9410	\$14.64	1.30	19.03
PC Specialist	150	8810	\$14.64	1.30	19.03
Recreation Coordinator	150	9102	\$14.64	1.30	19.03
Shift Supervisor	150	7580	\$14.64	1.30	19.03
Special Events Coordinator	150	8810	\$14.64	1.30	19.03
Accounting Technician III	155	8810	\$15.36	1.30	19.97
Executive Asst. to City Mgr.	155	8810	\$15.36	1.30	19.97
HR Administrator	155	8810	\$15.36	1.30	19.97
Paralegal	155	8810	\$15.36	1.30	19.97
Parks & Rec Supervisor	155	9102	\$15.36	1.30	19.97
Right-of-Way Agent	155	7520	\$15.36	1.30	19.97
Building Permit Coordinator	160	8810	\$16.12	1.30	20.96
Code Enforcement Supervisor	160	9410	\$16.12	1.30	20.96
Construction Inspector	160	9410	\$16.12	1.30	20.96
Development Review Tech.	160	8810	\$16.12	1.30	20.96
Utility Inspector	160	7520	\$16.12	1.30	20.96
Accountant I	165	8810	\$17.20	1.30	22.36
Applications Administrator	165	8810	\$17.20	1.30	22.36
AS400 Mid-Range Programmer	165	8810	\$17.20	1.30	22.36
Engineer	165	8810	\$17.20	1.30	22.36
Lab Manager	165	7580	\$17.20	1.30	22.36
Public Works Engineer	165	8810	\$17.20	1.30	22.36
Sr. I.T. Analyst	165	8810	\$17.20	1.30	22.36
Superintendent	165	7520	\$17.20	1.30	22.36
Building Insp/Plans Examiner	170	9410	\$18.05	1.30	23.47
Capital Improv/Revenue Coord.	170	8810	\$18.05	1.30	23.47
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GIS Technician	170	8810	\$18.05	1.30	23.47
Grants/Contract Accountant	170	8810	\$18.05	1.30	23.47
Proprietary Funds Accountant	170	8810	\$18.05	1.30	23.47

SECTION 230

City of Port Orange

EXHIBIT A

LEASED

Utilities Budget Analyst	170	8810	\$18.05	1.30	23.47
Web Developer/Programmer	170	8810	\$18.05	1.30	23.47
Chief Inspector	175	9015	\$18.96	1.30	24.95
PIO & Grants Manager	175	8810	\$18.96	1.30	24.95
Planner	175	8810	\$18.96	1.30	24.95
Senior Accountant	175	8810	\$18.96	1.30	24.95
Asst. Public Utilities Director	182	8810	\$20.59	1.30	26.77
Asst. Public Works Director	182	8810	\$20.59	1.30	26.77
City Clerk	182	8810	\$20.59	1.30	26.77
Customer Service Manager	182	8810	\$20.59	1.30	26.77
Facilities Manager	182	5509	\$20.59	1.30	26.77
HR Manager	182	8810	\$20.59	1.30	26.77
Purchasing Manager	182	8810	\$20.59	1.30	26.77
Risk Manager	182	8810	\$20.59	1.30	26.77
Civil Engineer	187	8810	\$22.13	1.30	28.77
Compliance Manager	187	8810	\$22.13	1.30	28.77
Senior Planner	187	8810	\$22.13	1.30	28.77
Principal Planner	188	8810	\$22.74	1.30	29.56
Building Official	189	9410	\$23.35	1.30	30.36
Network Administrator	189	8810	\$23.35	1.30	30.36
Public Utilities Engineer	189	7520	\$23.35	1.30	30.36
Accounting Manager	190	8810	\$25.79	1.30	33.53
Asst. City Attorney/Legal Adv	190	8810	\$25.79	1.30	33.53
Community Development Engineer	190	8810	\$25.79	1.30	33.53
Construction & Engineering Mgr	190	8810	\$25.79	1.30	33.53
IT Manager	190	8810	\$25.79	1.30	33.53
Planning Manager	190	8810	\$25.79	1.30	33.53

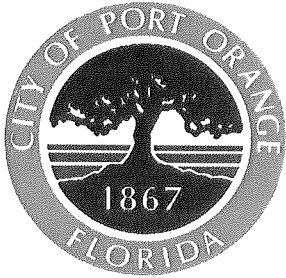
Markup % for TEMPORARY Positions not listed:

32%

Markup % for LEASED Positions not listed:

30%

The City reserves the right to add or delete positions as required



CITY OF PORT ORANGE STANDARD CONTRACT FOR SERVICES

This Standard Contract for Services ("Contract") is entered into this 20th day of January, 2015, by and between the **CITY OF PORT ORANGE**, a Florida municipal corporation, whose principal address is 1000 City Center Circle, Port Orange, Florida 32129 (the "City"), and **AUE STAFFING, INC.**, a Florida corporation whose principal address is 777 East Altamonte Drive, Altamonte Springs, Florida 32751 ("Contractor"). (The City and Contractor are collectively referred to herein as the "Parties.")

1. Provision of Services

(a) The Contractor hereby agrees to provide temporary employment and employee leasing related services to the City of Port Orange as outlined in RFP #15-08 Temporary Employee and Employee Leasing Services. A copy of this document is available in the Office of the City Clerk, City Hall, 1000 City Center, Port Orange, Florida 32129.

(b) The time, manner and place for performance of such services shall be:

Term: The initial term of this Contract shall be for a period of three (3) years, commencing on the last date this Contract is signed by the Parties and continuing until January 19, 2018 (the "Initial Term").

Annual Renewals: This Contract may be renewed for two (2) additional periods as follows:

Renewal No. 1: January 20, 2018 through January 19, 2019

Renewal No. 2: January 20, 2019 through January 19, 2020

The term of this Contract shall be automatically extended at the end of the Initial Term for two (2) additional years and on a succeeding yearly basis thereafter unless either party notifies the other, in writing, at least ninety (90) days prior to the end of the yearly period then in effect that the Contract shall not be extended. Annual renewals shall be subject to review and approval by the City Council.

Manner and Place: As outlined in RFP #15-08 Temporary Employee and Employee Leasing Services.

Time and Essence: Contractor acknowledges that time is of the essence for each Purchase Order issued hereunder.

Authorization for Services: The City makes no covenant or promise as to the number of employees or hours for temporary employment and employee leasing services, nor that the City shall place any orders for temporary employment and employee leasing services during the life of this Contract. The City reserves the right to contract with other parties for the goods and services contemplated by this Contract, as determined in the City's sole and absolute discretion. Authorization for services from Contractor shall be in the form of written Purchase Order(s), signed by an authorized agent of the City of Port Orange.

2. City Obligations. In return for the services identified above, the City agrees to compensate Contractor at the prices set forth in Exhibit "A" of the RFP #15-08 Proposer Acknowledgement Form attached hereto as Exhibit "1," subject to a limit up to but not to exceed Twenty-Five Thousand Dollars and 00/100 Dollars (\$25,000.00) per Fiscal Year. (The term "Fiscal Year" shall be defined as that one (1) year period commencing on October 1 and expiring on the following September 30.) The City's obligation to pay Contractor under this Contract is limited to the budgeted amount for the fiscal year approved by the Port Orange City Council for the then current fiscal year. All payments shall be governed by the Local Government Prompt Payment Act as set forth in Sections 218.70 through 218.79, Florida Statutes, as amended.

3. Termination for Convenience of the City

(a) The parties agree that the City may terminate this Contract, or any work or delivery required hereunder, from time to time either in whole or part, whenever the City Manager of Port Orange shall determine that such termination is in the best interest of the City.

(b) Termination, in whole or in part, shall be effected by delivery of a Notice of Termination signed by the City Manager or his designee, mailed or delivered to the Contractor, and specifically setting forth the effective date of termination.

(c) Upon receipt of such Notice, the Contractor shall:

- (i) cease any further deliveries or work due under this Contract, on the date, and to the extent, which may be specified in the Notice;
- (ii) place no further orders with any subcontractors except as may be necessary to perform that portion of this Contract not subject to the Notice;
- (iii) terminate all subcontracts except those made with respect to contract performance not subject to the Notice;
- (iv) settle all outstanding liabilities and claims which may arise out of such termination, with the ratification of the Finance Director of Port Orange; and
- (v) use best efforts to mitigate any damages which may be sustained by the Contractor as a consequence of termination under this clause.

(d) After complying with the provisions of subparagraph (c), above, the Contractor shall submit a termination claim, in no event later than six (6) months after the effective date of termination, unless one or more extensions of three (3) months each are granted by the Finance Director.

(e) The Finance Director, with the approval of the City Manager, shall pay from the using department's budget, reasonable costs of termination, including a reasonable amount for profit on supplies or services delivered or work completed. In no event shall this amount be greater than the original contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the supplies not delivered or the services not provided. This Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

(f) In the event that the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this clause, the Finance Director shall pay the Contractor the amounts determined as follows, without duplicating any amounts which may have already been paid under the preceding paragraph of this clause:

- (i) With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:
 - (1) the cost of work performed or supplies delivered;
 - (2) the cost of settling and paying any reasonable claims as provided in paragraph (c) (iv), above;
 - (3) a sum as profit on (a) determined by the Finance Director to be fair and reasonable.
- (ii) The total sum to be paid under (i) above shall not exceed the contract price, as further reduced by the contract price of work or supplies not terminated.

(g) In the event that the Contractor is not satisfied with any payments which the Finance Director shall determine to be due under this clause, the Contractor may appeal any claim to the City Council in accordance with Paragraph 20 of this contract concerning disputes.

4. Termination for Convenience for Subcontractors. In accordance with the termination for the convenience of the City provision of this contract, the Contractor shall include similar provisions in any subcontract, and shall specifically include a requirement that subcontractors make all reasonable efforts to mitigate damages which may be suffered. Failure to include such provisions shall bar the Contractor from any recovery from the City whatsoever of loss or damage sustained by a subcontractor as a consequence of termination for convenience.

5. Termination for Default. Either party may terminate this Contract, without further obligation, for the default of the other party or its agents or employees with respect to any agreement or provision contained herein.

6. Examination of Records

(a) The Contractor agrees that the City, or any duly authorized representative, shall, until the expiration of five (5) years after final payment hereunder, have access to and the right to examine and copy any pertinent books, documents, papers and records of the Contractor involving transactions related to this Contract.

(b) The Contractor further agrees to include in any subcontract for more than \$10,000 entered into as a result of this Contract, a provision to the effect that the subcontractor agrees that the City or any duly authorized representative shall, until the expiration of five (5) years after final payment under the subcontract, have access to and the right to examine and copy any pertinent books, documents, papers and records of such contractor involved in transactions related to such subcontract, or this Contract. The term subcontract as used herein shall exclude purchase orders for public utility services at rates established for uniform applicability to the general public.

(c) The period of access provided in subparagraphs (a) and (b) above for records, books, documents and papers which may relate to any arbitration, litigation, or the settlement of claims arising out of the performance of this contract or any subcontract shall continue until any appeals, arbitration, litigation or claims shall have been finally disposed of.

7. Public Records Compliance. Contractor shall comply with public records laws as set forth in Chapter 119, Florida Statutes, and shall specifically:

(a) Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.

(b) Provide the public with access to public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed the cost provided in Section 119, Florida Statutes, or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

(d) Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the Contractor upon termination of the Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the City.

If Contractor does not comply with a public records request, the City shall enforce the contract provisions in accordance with the contract.

8. Termination for Non-Appropriation of Funds

(a) If funds are not appropriated for any succeeding fiscal years subsequent to the one in which this contract is entered into, for the purpose of this Contract, then the City may terminate this Contract upon thirty (30) days prior written notice to the Contractor. Should termination be accomplished in accordance with this Section, the City shall be liable only for payments due through the date of termination.

(b) The City agrees that should it terminate in accordance with this Section, it shall not obtain services which are substantially equal to or similar to those for which this contract was entered into. This provision shall survive any termination of the Contract.

9. Insurance. Contractor shall maintain insurance during the life of this Contract. Contractor shall provide to the City a certificate of insurance identifying the City of Port Orange as an additional insured. For workers' compensation coverage, the bidder's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the city as an additional insured for workers' compensation.

Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by F.S. 440.572. Contractor shall not commence work under this Agreement until the City has received a certificate or certificates of insurance and endorsement evidencing the required insurance. Contractor shall provide the City written notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change.

The City reserves the right to increase insurance coverage as determined for higher risk contracts and shall reimburse the Contractor for the reasonable additional costs of increased coverage.

Insurance	Standards	Comments
Workers' Compensation	Coverage A - Statutory Coverage B - \$100,000	If the contract requires work on or about navigable waters, require Longshoreman's and Harbor Workers' Coverage. If vessels involved, require Jones Act coverage with limits of \$500,000.
<u>Additional Coverage:</u>	All States (Broad Form) Voluntary Compensation	

Comprehensive General Liability (including Completed Operations and Contractual Liability)	<u>Limits:</u>	Combined Single Limit Bodily Injury and Property damage \$500,000 occurrence \$1,000,000 Aggregate	When the Contract work on or under Railroad rights of way or properties, the Contractor shall take out and maintain during the life of the Contract, Railroad protective liability and property damage insurance in amounts as requested by the Railroad.
Comprehensive Business, Automobile Liability to include all automobiles.	<u>Limits:</u>	Auto Liability Body Injury: \$100,000 each person \$300,000 each occurrence. Property Damage Liability \$100,000 each occurrence.	Or \$500,000 Combined Single Limit for Bodily Injury and Property Damage
<u>Additional Coverage:</u>		Non-Owned, Hired Car	
Property Insurance — Builders Risk.	<u>Limits:</u>	Buildings — Completed value of contract.	If the Contract requires handling or installation of Owner's equipment, coverage should be furnished on "All Risk" form, including transit and Owner shall be named.
<u>Additional Coverage:</u>		"All Risk" coverage on latest ISO form or its equivalent. Permission granted to occupy. Owner named as insured AIMA	
Professional Liability (Errors & Omissions)	<u>Limits:</u>	Coverage- \$1,000,000 minimum	

10. A Contract for the purchase of supplies shall be governed by the City of Port Orange Code of Ordinances, as amended, and such supplies shall be deemed "goods," as defined therein.

11. Assignability of Contract. Neither this contract, nor any part hereof, may be assigned by the Contractor to any other party without the express written approval of the City Council.

12. Modifications or Changes to this Contract

(a) Change Orders. The Department Head, with the concurrence of the City's signatory as required by the City's Purchasing Policy, shall without notice to any sureties, have the authority to order changes in this Contract which affect the cost or time of performance. Such changes shall be ordered in writing specifically designated to be a change order. Such orders shall be limited to reasonable changes in the services to be performed or the time of the performance. The City will not be held liable for any changes which have not been properly authorized and approved in accordance with this Contract.

(b) If any change under this clause causes an increase or decrease in Contractor's cost of, or time required for the performance of the work hereunder, Contractor shall receive an equitable adjustment in accordance with subparagraph (d), which shall include all compensation to the Contractor, or the City, of any kind in connection with such change, including all costs and damages related to or incidental to such change.

(c) Contractor need not perform any work described in any change order unless it has received a certification from the City that there are funds budgeted and appropriated sufficient to cover the cost of such changes.

(d) No claim for changes ordered hereunder shall be considered if made after final payment in accordance with the Contract.

13. Sovereign Immunity. The City expressly retains all rights, benefits and immunities of sovereign immunity in accordance with Section 768.28, Florida Statutes. Notwithstanding anything set forth in any section of this Contract to the contrary, nothing in this Contract shall be deemed as a waiver of immunity or limits of liability of the City beyond any statutory limited waiver of immunity or limits of liability which may have been adopted by the Florida Legislature or may be adopted by the Florida Legislature and the cap on the amount and liability of the City for damages regardless of the number or nature of claims in tort or equity shall not exceed the dollar amount set by the legislature for tort. Nothing in this Contract shall inure to the benefit of any third party for the purpose of allowing any claim against the City which would otherwise be barred under the Doctrine of Sovereign Immunity or operation of law.

14. Contract Administration. The Administrative Services Director, Donna J. Steinebach shall perform contract administration of this Contract. For notice provisions, see the paragraph below entitled "Notice."

15. Liability for Loss or Damage. Contractor shall be liable for any loss of, or damage to, City property caused by the negligence, recklessness, or intended wrongful misconduct of Contractor, his/its agents, servants and employees and shall indemnify and save the City harmless against all actions, proceedings, claims, demands, costs, damages and expenses, including attorney's fees, by reason of any suit or action brought for any actual or alleged injury to or death of any person or damage to property other than City property, resulting from the performance of the Contract by Contractor, his/its agents, servants and employees. Contractor shall submit a full written report to the Finance Director within twenty-four (24) hours following the occurrence of such damage, loss or injury.

16. Non-discrimination. During the performance of this Contract, Contractor agrees as follows:

(a) Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, disability, marital status, age or national origin, except where such is a bona-fide occupational qualification reasonably necessary to the normal operation of Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. Contractor agrees and fully supports and complies with the Americans with Disabilities Act of 1990.

(b) Contractor shall state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor is an equal opportunity employer.

(c) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient compliance with this provision. Contractor shall include the provisions of the foregoing subparagraphs (a), (b), and (c) in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

17. Disputes. The Finance Director, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to Contractor, shall decide disputes with respect to this Contract in the first instance. The decision shall be final and binding unless, within thirty-(30) days from the date of such decision, Contractor mails or otherwise furnishes to the Finance Director a written appeal addressed to the City Manager. The decision by the City Manager shall be final and binding unless, within ten (10) days from the date of receipt of the decision of the City Manager, appeal is made to the City Council. The decision of the City Council shall be final and binding unless

set aside by a court of competent jurisdiction as fraudulent, capricious, arbitrary, or so grossly erroneous as necessary to imply bad faith, or not to be supported by any evidence. Pending a final determination of a properly appealed decision of the Finance Director, Contractor shall proceed diligently with the performance of this Contract in accordance with that decision.

18. Force Majeure. Neither party shall be liable for any delay in performance or failure to perform any obligation hereunder if, and to the extent that, such failure or delay is caused by an event of Force Majeure. Force Majeure shall mean any act, event or condition that is beyond the party's reasonable control, that materially and adversely affects the party's ability to perform its obligations hereunder, and that is not the result of the party's willful neglect, error, omission or failure to exercise reasonable due diligence.

19. Controlling Law. **THIS AGREEMENT CONTAINS IMPORTANT MATTERS AFFECTING LEGAL RIGHTS AND IS ACCEPTED AND ENTERED INTO IN FLORIDA AND ANY QUESTION REGARDING ITS VALIDITY, CONSTRUCTION, ENFORCEMENT, OR PERFORMANCE SHALL BE GOVERNED BY FLORIDA LAW. ANY LEGAL PROCEEDING ARISING FROM OR IN ANY WAY REGARDING THE AGREEMENT SHALL HAVE ITS VENUE LOCATED EXCLUSIVELY IN THE CIRCUIT COURT OF VOLUSIA COUNTY, FLORIDA, AND THE PARTIES HEREBY EXPRESSLY CONSENT AND SUBMIT THEMSELVES TO THE PERSONAL JURISDICTION AND VENUE OF THE COURT.**

20. Additional Provisions. This Contract includes all additional provisions as may have been outlined in RFP #15-08 Temporary Employee and Employee Leasing Services and any attachments or exhibits to this Contract whether delivered herewith or subsequently approved as a part hereof, such as drawings or technical specifications prepared in the performance of this work.

21. Integration. This Contract and the documents incorporated herein by reference shall constitute the whole agreement between the parties. There are no promises, terms, conditions, or obligations other than those contained herein, and this Contract shall supersede all previous communications, representations, or agreements, written or verbal, between the parties hereto.

22. Notice. For purposes of this agreement, notices shall be sent as follows:

City:	City of Port Orange Attention: City Manager 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5501
Copy to:	City of Port Orange Attention: Donna J. Steinebach, Administrative Services Director 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5562
Contractor:	AUE Staffing, Inc. Attention: Connie Hall, President 777 East Altamonte Drive Altamonte Springs, Florida 32751 (321) 397-2555 – Telephone twiseman@auestaffing.com

Any notice or other communication given under the Contract will be in writing and delivered by hand, sent by facsimile (provided acknowledgement of receipt thereof is delivered to the sender), sent by certified, registered mail, or sent by any nationally recognized overnight courier service to the addresses provided herein. The parties may, from time to time and at any time, change their respective addresses and each will have the right to specify as its address any other address by at least 10 days written notice to the other party.

23. Contract Construction

This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered. No contract shall be formed between Contractor and the City until the City signs this Agreement.

24. Authority to Sign. Each person signing this Agreement warrants that he or she is duly authorized to do so and to bind the respective party to the Agreement.

[Remainder of this page intentionally left blank]

Witnesses:

CONNIE HALL.

Printed Name: _____

SARA BIRCHER

Printed Name: _____

STATE OF FLORIDA

COUNTY OF SEMINOLE

The foregoing instrument was acknowledged before me this 19 day of JANUARY, 2015, by Connie Hall, as President of AUE Staffing, Inc., a Florida corporation, and who:

(Notary: Please select one)

☒ is personally known to me; or

☐ has produced _____ as identification.

AUE STAFFING, INC.

By: Connie Hall

Connie Hall, President

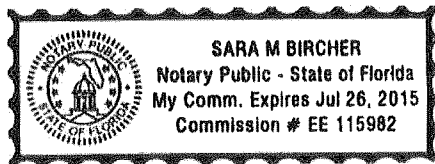
If this Contract is signed by an individual not identified as the President of the corporation in the records of the Florida Department of State, Division of Corporations, please provide written authorization for that individual to enter into contracts on behalf of the corporation.

Date: 1-19-15

Sara M. Bircher

Notary Public, State of Florida

Printed, typed or stamped name, commission and expiration:



Witnesses:

CITY OF PORT ORANGE

David T. Harden
Printed Name: David T. Harden

By: Allen Green
Allen Green, Mayor

Margaret T. Roberts
Printed Name: Margaret T. Roberts

Date: January 20, 2015

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 20th day of January, 2015, by Allen Green, as Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.



Margaret T. Roberts
Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

Witnesses:

ATTEST:

Theresa Gutierrez
Printed Name: Theresa Gutierrez

By: Robin L. Fenwick
Robin L. Fenwick, CMC, City Clerk

Sandra A. Targent
Printed Name: Sandra A. Targent

Date: January 20, 2015

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 20 day of Jan, 2015, by Robin L. Fenwick, as City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.



Theresa Gutierrez
Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

[CA 4705]

SECTION 230

City of Port Orange

EXHIBIT A

Respondent's Name:

AUG STAFFING INC.

TEMPORARY POSITIONS

City of Port Orange Job Classification	City Pay Grade	Workers Comp Code	Employee Rate of Pay	Markup %	City Rate of Pay
Custodian	95	9015	\$8.51	31	11.15
Program Leader	95	9102	\$8.51	31	11.15
TV Production Specialist	95	8810	\$8.51	31	11.15
Water Meter Repairman	95	7520	\$8.51	33	11.32
Maintenance Worker II	110	9102	\$10.39	33	13.82
Office Assistant III	110	8810	\$10.39	29.88	13.49
Meter Reader	115	7520	\$10.69	33	14.22
Utility/Meter Reader	115	7520	\$10.69	33	14.22
Customer Service Rep I	117	8810	\$10.82	29.88	14.05
Permit Licensing Technician	117	8810	\$10.82	29.88	14.05
Office Assistant IV	120	8810	\$11.28	29.88	14.65
Sr. Meter Reader	120	7520	\$11.28	31	14.78
Storekeeper	120	8810	\$11.28	29.88	14.65
Utility Service Worker	122	7580	\$11.36	31	14.88
Community Service Officer	125	7720	\$11.75	31	15.39
Crime Statistician	125	8810	\$11.75	29.88	15.26
Quartermaster	125	8810	\$11.75	29.88	15.26
Customer Service Rep II	126	8810	\$11.78	29.88	15.30
Equipment Operator II	126	5509	\$11.78	N/A	—
Sign/Bldg Technician	126	5509	\$11.78	N/A	—
Small Engine Mechanic	126	8380	\$11.78	N/A	—
Crew Chief	132	7520	\$12.29	N/A	—
Accounting Technician II	135	8810	\$12.47	29.88	16.20
Lift Station Mechanic	135	7520	\$12.47	33	16.58
Parks & Rec Program Spec.	135	8810	\$12.47	29.88	16.20
Plant Mechanic	135	7520	\$12.47	33	16.58
Utilities Technician	135	7520	\$12.47	33	16.58
Automotive Mechanic II	136	8380	\$12.63	N/A	—
Customer Service Rep III	136	8810	\$12.63	29.88	16.40
Utility Billing Clerk	136	8810	\$12.63	29.88	16.40
Treatment Plant Operator	138	7520	\$13.21	33	17.57
Code Compliance Inspector	140	9410	\$13.62	31	17.84

AVE STAFFING 

SECTION 230

City of Port Orange

EXHIBIT A

Customer Service Supervisor	140	8810	\$13.62	29.88	17.69
Office Assistant V	140	8810	\$13.62	29.88	17.69
Senior Utilities Technician	140	7520	\$13.62	33	18.11
Victim Advocate	140	7720	\$13.62	31	17.84
Lab Technician	145	7520	\$13.93	33	18.53
Foreman	146	7520	\$14.20	33	18.89
Assistant Lab Manager	150	7520	\$14.64	33	19.47
Buyer	150	8810	\$14.64	29.88	19.01
Chief Plant Mechanic	150	7520	\$14.64	33	19.47
Helpdesk Specialist	150	8810	\$14.64	29.88	19.01
Instrument Control Technician	150	9410	\$14.64	31	19.18
PC Specialist	150	8810	\$14.64	29.88	19.01
Recreation Coordinator	150	9102	\$14.64	33	19.47
Shift Supervisor	150	7580	\$14.64	31	19.18
Special Events Coordinator	150	8810	\$14.64	29.88	19.01
Accounting Technician III	155	8810	\$15.36	29.88	19.95
Executive Asst. to City Mgr.	155	8810	\$15.36	29.88	19.95
HR Administrator	155	8810	\$15.36	29.88	19.95
Paralegal	155	8810	\$15.36	29.88	19.95
Parks & Rec Supervisor	155	9102	\$15.36	33	20.43
Right-of-Way Agent	155	7520	\$15.36	33	20.43
Building Permit Coordinator	160	8810	\$16.12	29.88	20.94
Code Enforcement Supervisor	160	9410	\$16.12	31	21.12
Construction Inspector	160	9410	\$16.12	31	21.12
Development Review Tech.	160	8810	\$16.12	29.88	20.94
Utility Inspector	160	7520	\$16.12	33	21.44
Accountant I	165	8810	\$17.20	29.88	22.34
Applications Administrator	165	8810	\$17.20	29.88	22.34
AS400 Mid-Range Programmer	165	8810	\$17.20	29.88	22.34
Engineer	165	8810	\$17.20	29.88	22.34
Lab Manager	165	7580	\$17.20	31	22.53
Public Works Engineer	165	8810	\$17.20	29.88	22.34
Sr. I.T. Analyst	165	8810	\$17.20	29.88	22.34
Superintendent	165	7520	\$17.20	33	22.88
Building Insp/Plans Examiner	170	9410	\$18.05	31	23.65
Capital Improv/Revenue Coord.	170	8810	\$18.05	29.88	23.44
Chief Plant Operator	170	7580	\$18.05	31	23.65
GIS Technician	170	8810	\$18.05	29.88	23.44
Grants/Contract Accountant	170	8810	\$18.05	29.88	23.44
Proprietary Funds Accountant	170	8810	\$18.05	29.88	23.44



AGE STAFFING INC. *20*

SECTION 230

City of Port Orange

EXHIBIT A

Utilities Budget Analyst	170	8810	\$18.05	27.88	23.44
Web Developer/Programmer	170	8810	\$18.05	27.88	23.44
Chief Inspector	175	9015	\$18.96	33	25.22
PIO & Grants Manager	175	8810	\$18.96	27.88	24.63
Planner	175	8810	\$18.96	27.88	24.63
Senior Accountant	175	8810	\$18.96	27.88	24.63
Asst. Public Utilities Director	182	8810	\$20.59	27.88	26.74
Asst. Public Works Director	182	8810	\$20.59	27.88	26.74
City Clerk	182	8810	\$20.59	27.88	26.74
Customer Service Manager	182	8810	\$20.59	27.88	26.74
Facilities Manager	182	5509	\$20.59	N/A	—
HR Manager	182	8810	\$20.59	27.88	26.74
Purchasing Manager	182	8810	\$20.59	27.88	26.74
Risk Manager	182	8810	\$20.59	27.88	26.74
Civil Engineer	187	8810	\$22.13	27.88	28.74
Compliance Manager	187	8810	\$22.13	27.88	28.74
Senior Planner	187	8810	\$22.13	27.88	28.74
Principal Planner	188	8810	\$22.74	27.88	29.53
Building Official	189	9410	\$23.35	31	30.59
Network Administrator	189	8810	\$23.35	27.88	30.33
Public Utilities Engineer	189	7520	\$23.35	33	31.06
Accounting Manager	190	8810	\$25.79	27.88	33.50
Asst. City Attorney/Legal Adv	190	8810	\$25.79	27.88	33.50
Community Development Engineer	190	8810	\$25.79	27.88	33.50
Construction & Engineering Mgr	190	8810	\$25.79	27.88	33.50
IT Manager	190	8810	\$25.79	27.88	33.50
Planning Manager	190	8810	\$25.79	27.88	33.50

Markup % for TEMPORARY Positions not listed:

Markup % for LEASED Positions

The City reserves the right to add or delete positions as required

20



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (B8b) Approval of Task Authorization No. 1 with Southeastern Surveying and Mapping Corp. for City Professional Survey Services Contract CA5749-Centerline Elevation Survey of Stormwater Drainage Ditches-DIP067

DEPARTMENT: Public Works

GOAL:

RECOMMENDED MOTION: Move to approve Task Authorization No. 1 to Professional Survey Services Contract CA5849 with Southeastern Surveying and Mapping Corporation in the amount of \$199,339.60.

SUMMARY: The Public Works Department requests City Council approval of Task Authorization No. 1 to Southeastern Surveying and Mapping Corporation under contract CA5749 for professional survey services as part of capital project DIP067, Inventory Condition Assessment.

On August 19, 2016, the City contracted ATS Land Surveying to complete the required survey and mapping for project #DIP 067, Inventory Condition Assessment for Drainage. ATS was required to complete the work within 200 days. The contract expired February 2, 2017 and work was not completed. The project was not on track for final completion within a reasonable time and the decision was made not to extend the contract or task authorization with ATS. ATS had completed 69 out of the 191 required areas to be mapped and surveyed.

On February 7, 2017, the City executed the Professional Survey Services Contract (CA5749) with Southeastern Surveying and Mapping Corporation. Task Authorization No. 1 would complete the work outlined in project DIP067. This project is necessary for the completion of the Halifax Basin and Nova Canal North Basin portion of the Stormwater Master Plan currently ongoing. This task authorization is \$199,339.60 with a total available budget of \$245,264.00.

Project No.: DIP067 Funding Account No.: 412-1800-541-63-97

ATTACHMENTS:

1.	Task Authorization No. 1	Task Authorization No 1 - Southeaster Survey.pdf
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2.	CA5749 Southeaster Surveying	Southeastern Surveying CityContract CA5749 RFSQ 16-33 02.07.2020 (1).pdf
3.	SWMP Southeastern Survey Proposal	SSMC Supplemental Survey Proposal - Port Orange Stormwater Master Plan - Nona Canal North and Halifax Basins 2017-11-20_(002).pdf
4.	Justification Memo	Memo-Southeaster+Surveying-Task+Auth.+No.+1 revised.docx

Alyssa Parnell	Created/Initiated - 10/24/2017
Alyssa Parnell	Approved - 11/14/2017
Ronny Buttrum	Approved - 11/22/2017
Lynn Stevens	Approved - 11/22/2017
Tracey Riehm	Approved - 11/29/2017
Margaret Roberts	Approved - 11/30/2017
Jake Johansson	Approved - 11/30/2017
Robin Fenwick	Final Approval - 11/30/2017

TASK AUTHORIZATION NO. 1

Professional Survey Services Contract dated February 7, 2017

Between the City of Port Orange, Florida and Southeastern Surveying and Mapping Corporation

THIS Task Authorization is entered into by and between the CITY OF PORT ORANGE, FLORIDA, a chartered municipal corporation with its principal place of business at 1000 City Center Circle, Port Orange, Florida 32129 (the "City") and SOUTHEASTERN SURVEYING AND MAPPING CORPORATION, a Florida corporation with its principal place of business at 6500 All American Blvd., Orlando, FL 32810 ("Contractor"), and hereinafter collectively referred to as the "Parties," and is to that certain Professional Survey Services Contract dated February 7, 2017, and any amendments thereto, hereinafter collectively referred to as the "Contract." The Parties, in exchange for the mutual covenants contained herein and in the Contract, agree as follows:

1. This Task Authorization expressly modifies the Contract and in the event of a conflict, the terms and conditions of this Task Authorization shall prevail. In the event of a conflict between the terms of Exhibit "A" and the Contract, the Contract shall control, including the Contractor's payment in accordance with the Prompt Payment Act.
2. In addition to all other terms and conditions contained in the Contract, Contractor shall provide services relating to Supplemental Surveying Services – Nova Canal North and Halifax Drainage Basins, as more particularly described in the Scope of Services attached hereto and incorporated herein as Task Authorization Exhibit "A."
3. Contractor shall commence upon receipt of a City Notice to Proceed and all field surveying will be performed in conjunction with the City's existing Stormwater Master Plan Update and shall be substantially completed within 180 days with an additional 60 days for final completion, including all weekends and holidays, unless otherwise extended. The city reserves the right by separate written notice to schedule the optional scope of work. Each option scheduled by the city shall include the date for completion of the option. The city further reserves the right to remove and not schedule one or more segments of the work. The city shall be obligated to make payments only for the scheduled and completed work. The city shall schedule the work to avoid adverse impacts to the progress of the existing Stormwater Master Plan Update project.
4. In return for the services identified above, the City agrees to compensate Contractor at the prices set forth in Exhibit "A" attached hereto and made a part hereof for all purposes, subject to a limit up to but not to exceed \$199,339.60. All payments shall be governed by the Local Government Prompt Payment Act as set forth in Sections 218.70 through 218.79, Florida Statutes, as amended.
5. This Task Authorization may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Task Authorization shall be deemed valid as if an original signature was delivered. No contract shall be formed between the Contractor and the City until the City signs this Task Authorization.

IN WITNESS WHEREOF, the Parties have made and executed this Task Authorization for the purposes herein expressed on the dates set forth below.

Witnesses:

SOUTHEASTERN SURVEYING AND MAPPING CORPORATION

Printed Name: _____

By: _____
Gary B. Krick, President

Printed Name: _____

Date: _____

Witnesses:

CITY OF PORT ORANGE

Printed Name: _____ By: _____
Donald O. Burnette, Mayor

Printed Name: _____ Date: _____

Witnesses: ATTEST:

Printed Name: _____ By: _____
Robin L. Fenwick, CMC, City Clerk

Printed Name: _____ Date: _____

[CA 5749]

TASK AUTHORIZATION
EXHIBIT “A”

(Consisting of 5 pages)

Steven L. Anderson, Jr., PSM, PLS
Charles M. Arnett, PSM
Michael D. Brown, PSM
Eric E. Cain, PSM
Michael L. Dougherty, PSM
James M. Dunn, II, PSM
Thomas F. Ferguson, PSM
Ronnie A. Figueroa, PSM, GISP
Tate B. Flowers, PSM, PLS
Robert W. Gardner, PSM
Brian R. Garvey, PE, GISP
Daniel J. Henry, PSM, PLS
Ryan E. Johnson, PSM
Gary B. Krick, PSM
Brad J. Lashley, PSM, PLS
Myron F. Lucas, PSM
James E. Mazurak, PSM



Thomas K. Mead, PSM, PLS
Timothy O. Mosby, PSM
James L. Petersen, PSM
William C. Rowe, PSM
Tony G. Syfrett, PSM, PLS
Thomas P. Young, Jr., PSM, GISP
Kirk R. Hall, EI, GISP
Brad A. Stroppel, EI, GISP
Cheryl A. Isenberg, GISP
Brian E. Latchaw, GISP
Patrick J. Phillips, GISP
Donna L. Hendrix, CST IV
Mark W. Klaers, CST IV
Joseph S. Locklin, CST IV
David M. Rentfrow, CST IV
Steve D. Smith, CST IV
Celeste B. van Gelder, CST IV

Land Surveying & Mapping Services • Sub-Surface Utility Designation & Location Services • Geographic Information Systems • GPS Asset Inventories

November 20, 2017

Via E-mail: lstevens@port-orange.org

Ms. Lynn Stevens
Interim Public Works Director
City of Port Orange
1000 City Center Circle
Port Orange, FL 32129

RE: Proposal for Supplemental Surveying Services – Nova Canal North and Halifax Drainage Basins

Dear Ms. Stevens,

We are pleased to submit our proposal for special purpose surveying services on the above referenced project. This labor effort included in this proposal is shown on the attached Exhibits A and B. To develop this Scope of Work, Southeastern Surveying and Mapping Corporation (SSMC) has coordinated with Pegasus Engineering to identify key primary stormwater conveyance systems which will require additional surveying in order to support the stormwater modeling efforts associated with the City's Stormwater Master Plan Update.

SCOPE OF WORK:

SSMC will be responsible for the surveying of selected stormwater conveyances in the Halifax and Nova Canal North drainage basins.

The selected areas will have four (4) levels of survey effort. SSMC will provide Surveying, Mapping & Geographic Information Systems (GIS) Services in accordance with the specific requirements of the City of Port Orange to include the following:

1. The first will be ditch cross-sections in chosen areas to aid in the stormwater analysis.
2. The second and largest effort will be with culvert/structure critical elevations. This effort will be further broken down to structures with no existing vertical data and/or flow restrictions and the verification of the vertical datum used for structures with the available information.
3. The third required effort is to establish vertical information on roads adjacent to the survey structures to determine the critical overtopping of drainage system during storm events.
4. The fourth effort will be flow restriction characteristics on selected bridge structures within the study area. Critical elevations and support structure details will be noted.

To obtain this survey information, first we will recover published vertical control points in the current NAVD1988 Vertical Datum. These points and the NAVD 1988 vertical datum will serve as the basis of all survey efforts.

Ditch cross-sections will also require vertical data brought to the area through a single RTK benchmark. Cross sections will reflect major inflection points including channel top of bank, toe of slope, and water surface elevations. All ditch cross section measurements will be approximate and horizontal locations within the cross section shall be measured with a one hundred foot tape. Cross sections will be delivered as a survey field note sketch and will not be included in the GIS.

6500 All American Blvd Orlando, FL 32810 407.292.8580 407.292.0141 Fax	1130 Highway 90 Chipley, FL 32428 850.638.0790 850.638.8069 Fax	Lakeside Executive Center 8641 Baypine Road Suite 5 Jacksonville, FL 32256 904.737.5990 904.737.5995 Fax	119 West Main Street Tavares, FL 32778 352.343.4880 352.343.4914 Fax	10 East Lake Street Kissimmee, FL 34744 407.944.4880 407.944.0424 Fax	University Corporate Park 10770 North 46th Street Suite C-300 Tampa, FL 33617 813.898.2711 813.898.2712 Fax
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Licenses: PSM: Florida Professional Surveyor & Mapper • PLS: Alabama Professional Land Surveyor • PE: Professional Engineer
Certifications: EI: Engineering Intern • GISP: Geographic Information Systems Professional • CST: Certified Survey Technician

Structure elevations will be determined with Real Time Kinematic (RTK) Global Positioning Systems (GPS) as a labor and time savings operation in open areas with clear sky and through conventional survey practices in areas of dense cover that would restrict the use of GPS.

With either method the top elevations of structures will be determined and measurements taken down to each pipe to determine the pipe invert elevations. Sizes and material will be noted. High water stain lines will be noted with elevations. Stormwater Control Structures will be detailed with critical vertical information for weirs and orifices and a dimensioned sketch will be provided.

Roadway overtopping surveys will consist of centerline profiles taken at structures and extending 50 feet in each direction from the centerline of the pipe at 25 foot intervals and the center of structure. Water elevations in adjacent swales and ditches will be noted.

Bridge surveys will consist of a sketch of the bridge with piling or support column material, width and spacing. A bridge channel cross-section will be taken at the upstream and downstream sides of the bridge 50 feet from the bridge and identified scour or high water marks will be measured. Distance from the bottom of the bridge to the water will be noted. Centerline profiles of bridge deck at 20 foot intervals will be taken to 100 feet on each side of bridge. Bridge deck width will be noted. Utilities attached to the bridge will be noted.

All data will be collected and reduced in field books. Field notes and sketches will be produced. Data will be transferred to the consulting engineer for processing on a daily schedule and the City's existing stormwater GIS database will be updated with all collected survey data.

DELIVERABLES:

The following deliverables will be provided to the City in connection with this project:

1. Updates to the City's existing Stormwater GIS database including structure elevations, pipe invert elevations, roadway profiles and bridge surveys.
2. Field note sketches and digital photographs documenting the surveyed infrastructure.

SCHEDULE:

Work will commence upon receipt of a Notice to Proceed and all field surveying will be performed in conjunction with the City's existing Stormwater Master Plan Update and scheduled in a manner so as to not adversely affect the schedules of the existing Stormwater Master Plan Update projects.

PROFESSIONAL FEE:

This project will be performed by Southeastern Surveying & Mapping Corporation. Our fee schedule for the above referenced mapping services to be performed is listed in the attached Exhibits A and B.

The total fees for the supplemental surveying services in the Nova Canal North and Halifax Drainage Basins will be:

a. Supplemental Surveying Services - Nona Canal North Drainage Basin:	\$ 96,379.80
b. Supplemental Surveying Services - Halifax Drainage Basin:	<u>\$102,959.80</u>
Total Project Fees for all Tasks	\$199,339.60



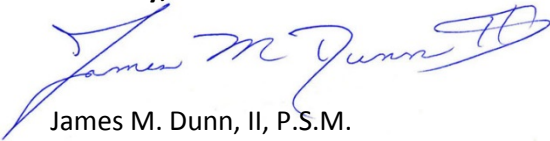
The City may also optionally choose to reduce the surveying scope of services by removing optional task 10.3 for each basin as described in Exhibits A & B. Task 10.3 consists of updating the elevations in the City's existing GIS database from the older NGVD 1929 Vertical Datum to the newer NAVD 1988 Vertical Datum for all pipes and structures surveyed in connection with this scope of services. Should the City decide to eliminate these optional tasks the Fee will be:

a. Supplemental Surveying Services - Nona Canal North Drainage Basin:	\$ 96,379.80
b. Supplemental Surveying Services - Halifax Drainage Basin:	\$102,959.80
c. Less Nova Canal North Task 10.3 (Recalculate Invert in NAVD88 Datum)	-\$ 8,095.00
d. Less Halifax Task 10.3 (Recalculate Invert in NAVD88 Datum)	<u>-\$ 11,533.60</u>
Total Project Fees <u>Less Optional Tasks</u>	\$179,711.00

Payment is expected within thirty (30) days of invoice.

We look forward to continuing our work for the City on this project.

Sincerely,



James M. Dunn, II, P.S.M.
Survey Project Manager

JMD:brg

Attachments:

Exhibit A: Supplemental Survey for Nova Canal North Basin

Exhibit B: Supplemental Survey for Halifax Basin

If the above scope, period of service and method of compensation meets with your approval, please execute below and fax to Southeastern Surveying & Mapping Corp. as notice to proceed along with the notice of commencement.

ACCEPTED BY:

Authorized Signature

Printed Name

Date



City of Port Orange
Supplemental Survey for Nova Canal North Basin
Task Cost Report

Nova Canal North Basin (134 sites, 357 structures)

Local Control

1.1 Establish Local Control (if Conventional Collection is Required) 43 sites

Structures Requiring Elevation Verification

2.1 Shoot Top Elevation with RTK 92 structures

2.2 Shoot Top Elevation Conventionally 34 structures

Open Structures Without Elevations (Headwalls, Pipe Ends, Mitered Ends)

3.1 Shoot Top Elevation with RTK 67 structures

3.2 Shoot Top Elevation Conventionally 36 structures

3.3 Measure Down to Each Pipe 104 inverts

Closed Structures Without Elevations

4.1 Shoot Top Elevation with RTK 90 structures

4.2 Shoot Top Elevation Conventionally 38 structures

4.3 Open Structure Lid / Grate to Access Interior 128 structures

4.4 Measure Down to Crown and Invert of Each Pipe 260 inverts

Control Structures (Structures with Weirs)

5.1 Prepare Dimensioned Structure Sketch 23 structures

5.2 Shoot Top Elevation with RTK 13 structures

5.3 Shoot Top Elevation Conventionally 10 structures

5.4 Measure Down to Pipes, Weirs, Orifices 23 structures

Ditch Cross Sections

6.1 Collect Cross Section with RTK 13 cross sections

6.2 Collect Cross Section Conventionally 28 cross sections

Roadway Overtopping Profile

7.1 Collect Overtopping Profile with RTK 14 profiles

7.2 Collect Overtopping Profile Conventionally 3 profiles

Bridge Survey

8.1 Prepare Bridge Sketch 1 bridges

8.2 Collect Channel Cross Section Under Bridge 1 bridges

8.3 Channel Cross Section 50 foot upstream of Bridge 1 bridges

8.4 Channel Cross Section 50 foot downstream of Bridge 1 bridges

8.5 Centerline Profile of Bridge Deck 1 bridges

File Processing

9.1 Process Survey Data Files & Import into GIS 357 structures

Structures Requiring Elevation Verification

10.1 Compare Field and Record Elevations to Determine Datum 126 structures

10.2 Tag Structures and Culverts with Vertical Datum 126 structures

10.3 Optionally Recalculate Inverts to NAVD88 Datum 210 inverts

Structures Without Elevations

11.1 Enter Top Elevation into GIS 231 structures

11.2 Calculate and Enter Pipe Inverts Using field measurements 364 inverts

Control Structures (Structures with Weirs)

12.1 Prepare Media Point with Scanned Control Structure Sketch 23 structures

12.2 Prepare Media Points with additional Photo Documentation 23 structures

Ditch Cross Sections

13.1 Plot Survey Field Cross Section Points into GIS 0 cross sections

Roadway Overtopping Profile

14.1 Plot Survey Field Overtopping Profile Points into GIS 17 profiles

Bridge Survey

15.1 Prepare Media Point with Scanned Bridge Survey Sketches 1 bridges

15.2 Plot Bridge Survey Cross Sections Points into GIS 1 bridges

15.3 Plot Bridge Survey Deck Profile Points into GIS 1 bridges

Professional Surveyor and Mapper (hrs)	Professional Engineer (hrs)	GIS Technician (hrs)	1 Man GPS Survey Crew (hrs)	2 Man GPS Survey Crew (hrs)	Fee \$
\$130.00	\$130.00	\$86.00	\$76.00	\$130.00	
8.6	0.0	0.0	0.0	107.5	\$15,093.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
0.7	0.0	0.0	0.0	8.5	\$1,196.00
1.3	0.0	0.0	16.8	0.0	\$1,445.80
0.7	0.0	0.0	0.0	9.0	\$1,261.00
1.7	0.0	0.0	20.8	0.0	\$1,801.80
1.8	0.0	0.0	22.5	0.0	\$1,944.00
0.8	0.0	0.0	0.0	9.5	\$1,339.00
2.6	0.0	0.0	0.0	32.0	\$4,498.00
4.2	0.0	0.0	0.0	52.0	\$7,306.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
0.3	0.0	0.0	3.3	0.0	\$289.80
0.2	0.0	0.0	0.0	2.5	\$351.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
2.6	0.0	0.0	32.5	0.0	\$2,808.00
7.8	0.0	0.0	0.0	98.0	\$13,754.00
1.1	0.0	0.0	0.0	14.0	\$1,963.00
0.4	0.0	0.0	0.0	4.5	\$637.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.1	0.0	0.0	0.0	1.5	\$208.00
0.0	2.9	35.7	0.0	0.0	\$3,447.20
0.0	2.0	25.2	0.0	0.0	\$2,427.20
0.0	2.0	25.2	0.0	0.0	\$2,427.20
0.0	6.7	84.0	0.0	0.0	\$8,095.00
0.0	1.8	23.1	0.0	0.0	\$2,220.60
0.0	8.7	109.2	0.0	0.0	\$10,522.20
0.0	0.9	11.5	0.0	0.0	\$1,106.00
0.0	0.9	11.5	0.0	0.0	\$1,106.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.0	0.5	0.0	0.0	\$43.00
0.0	0.0	0.5	0.0	0.0	\$43.00
0.0	0.0	0.5	0.0	0.0	\$43.00
41.5	26.6	335.4	164.9	355.0	\$96,379.80

City of Port Orange
Supplemental Survey for Halifax Basin
Task Cost Report

Halifax Basin (129 sites, 348 structures)

Local Control

1.1 Establish Local Control (if Conventional Collection is Required) 58 sites

Structures Requiring Elevation Verification

2.1 Shoot Top Elevation with RTK 71 structures

2.2 Shoot Top Elevation Conventionally 90 structures

Open Structures Without Elevations (Headwalls, Pipe Ends, Mitered Ends)

3.1 Shoot Top Elevation with RTK 17 structures

3.2 Shoot Top Elevation Conventionally 49 structures

3.3 Measure Down to Each Pipe 70 inverts

Closed Structures Without Elevations

4.1 Shoot Top Elevation with RTK 70 structures

4.2 Shoot Top Elevation Conventionally 51 structures

4.3 Open Structure Lid / Grate to Access Interior 121 structures

4.4 Measure Down to Crown and Invert of Each Pipe 263 inverts

Control Structures (Structures with Weirs)

5.1 Prepare Dimensioned Structure Sketch 17 structures

5.2 Shoot Top Elevation with RTK 7 structures

5.3 Shoot Top Elevation Conventionally 10 structures

5.4 Measure Down to Pipes, Weirs, Orifices 20 structures

Ditch Cross Sections

6.1 Collect Cross Section with RTK 4 cross sections

6.2 Collect Cross Section Conventionally 32 cross sections

Roadway Overtopping Profile

7.1 Collect Overtopping Profile with RTK 0 profiles

7.2 Collect Overtopping Profile Conventionally 0 profiles

Bridge Survey

8.1 Prepare Bridge Sketch 2 bridges

8.2 Collect Channel Cross Section Under Bridge 2 bridges

8.3 Channel Cross Section 50 foot upstream of Bridge 2 bridges

8.4 Channel Cross Section 50 foot downstream of Bridge 2 bridges

8.5 Centerline Profile of Bridge Deck 2 bridges

File Processing

9.1 Process Survey Data Files & Import into GIS 348 structures

Structures Requiring Elevation Verification

10.1 Compare Field and Record Elevations to Determine Datum 161 structures

10.2 Tag Structures and Culverts with Vertical Datum 161 structures

10.3 Optionally Recalculate Inverts to NAVD88 Datum 299 inverts

Structures Without Elevations

11.1 Enter Top Elevation into GIS 187 structures

11.2 Calculate and Enter Pipe Inverts Using field measurements 333 inverts

Control Structures (Structures with Weirs)

12.1 Prepare Media Point with Scanned Control Structure Sketch 17 structures

12.2 Prepare Media Points with additional Photo Documentation 17 structures

Ditch Cross Sections

13.1 Plot Survey Field Cross Section Points into GIS 0 cross sections

Roadway Overtopping Profile

14.1 Plot Survey Field Overtopping Profile Points into GIS 0 profiles

Bridge Survey

15.1 Prepare Media Point with Scanned Bridge Survey Sketches 2 bridges

15.2 Plot Bridge Survey Cross Sections Points into GIS 2 bridges

15.3 Plot Bridge Survey Deck Profile Points into GIS 2 bridges

Professional Surveyor and Mapper (hrs)	Professional Engineer (hrs)	GIS Technician (hrs)	1 Man GPS Survey Crew (hrs)	2 Man GPS Survey Crew (hrs)	Fee \$
\$130.00	\$130.00	\$86.00	\$76.00	\$130.00	
11.6	0.0	0.0	0.0	145.0	\$20,358.00
1.4	0.0	0.0	17.8	0.0	\$1,534.80
1.8	0.0	0.0	0.0	22.5	\$3,159.00
0.3	0.0	0.0	4.3	0.0	\$365.80
1.0	0.0	0.0	0.0	12.3	\$1,729.00
1.1	0.0	0.0	14.0	0.0	\$1,207.00
1.4	0.0	0.0	17.5	0.0	\$1,512.00
1.0	0.0	0.0	0.0	12.8	\$1,794.00
2.4	0.0	0.0	0.0	30.3	\$4,251.00
4.2	0.0	0.0	0.0	52.6	\$7,384.00
1.4	0.0	0.0	17.0	0.0	\$1,474.00
0.1	0.0	0.0	1.8	0.0	\$149.80
0.2	0.0	0.0	0.0	2.5	\$351.00
1.6	0.0	0.0	20.0	0.0	\$1,728.00
0.8	0.0	0.0	10.0	0.0	\$864.00
9.0	0.0	0.0	0.0	112.0	\$15,730.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.2	0.0	0.0	0.0	3.0	\$416.00
0.0	2.8	34.8	0.0	0.0	\$3,356.80
0.0	2.6	32.2	0.0	0.0	\$3,107.20
0.0	2.6	32.2	0.0	0.0	\$3,107.20
0.0	9.6	119.6	0.0	0.0	\$11,533.60
0.0	1.5	18.7	0.0	0.0	\$1,803.20
0.0	8.0	99.9	0.0	0.0	\$9,631.40
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.1	1.0	0.0	0.0	\$99.00
0.0	0.1	1.0	0.0	0.0	\$99.00
0.0	0.1	1.0	0.0	0.0	\$99.00
41.9	28.8	357.4	102.4	425.0	\$102,959.80



CITY OF PORT ORANGE PROFESSIONAL SURVEY SERVICES CONTRACT

This Professional Survey Services Contract ("Contract") is entered into this 7 day of Feb., 2017, by and between the **CITY OF PORT ORANGE**, a Florida municipal corporation, whose principal address is 1000 City Center Circle, Port Orange, Florida 32129 (the "City"), and **SOUTHEASTERN SURVEYING AND MAPPING CORPORATION** ("Contractor"), a Florida corporation whose principal address is 6500 All American Boulevard, Orlando, Florida 32810-4350. The City and Contractor are collectively referred to herein as the "Parties."

1. Provision of Services

- (a) The Contractor hereby agrees to provide the City of Port Orange with professional surveying services that meet the minimum technical standards as set forth by Florida Administrative Code Rule 5J-17.050 regulated and adopted by Florida Statutes 472.027. The Contractor shall further provide and/or perform these professional surveying services for a variety of projects being administered by various City departments. Services may include but not necessarily be limited to: capital improvement projects, projects to improve, expand or modify existing public facilities; property acquisition; and easements. The Contractor shall provide and/or perform the professional surveying services required for each assigned project. In addition to any hard copies, all survey work shall also be submitted in digital format to include both AutoCAD and PDF files. A copy of the files and drawings shall be provided to the City's Project Manager. The Contractor shall provide personnel, equipment, materials and transportation needed to perform all the assigned surveying services in an effective and timely manner, and as more specifically described in Request for Statement of Qualifications ("RFSQ") No. 16-33, and SouthEastern Surveying and Mapping Corporation Proposal dated December 19, 2016 attached hereto as Exhibit "1." Complete copies of RFSQ No. 16-33 and SouthEastern Surveying and Mapping Corporation Submittal is available in the Office of the City Clerk, City Hall, 1000 City Center Circle, Port Orange, Florida 32129.

- (b) The time, manner and place for performance of such services shall be:

Term: The initial term of this Contract shall commence upon the last date the Contract is signed by the Parties and shall continue for a period of three (3) years (the "Initial Term").

Renewals: Upon mutual written agreement of the Parties, this Contract may be renewed for two (2) additional two (2) year periods. Renewal(s) shall be subject to review and approval by the City Manager.

Manner and Place: Work shall be performed in accordance with and in a manner as required by all current federal, state, county, fire, building and land development codes, laws, ordinances and regulations, and with applicable permits and licenses per the City Code of Ordinances.

Time and Essence: Contractor acknowledges that time is of the essence for this Contract.

Authorization of Services: This Contract standing alone does not authorize the purchase of any work or services to be provided by the Contractor, or require the City to place any orders for work or service. Authorization for performance of services by the Contractor under this Contract shall be in the form of written Purchase Order(s) or written Task Authorization(s) issued and executed by the City. A sample Task Authorization is attached hereto as Exhibit "2." The City reserves the right to contract with other parties for the goods and services contemplated by this Contract, as determined in the City's sole and absolute discretion. Contractor agrees that all pricing shall remain valid during the Term(s) of this Contract.

2. City Obligations. In return for the services identified above, the City agrees to compensate Contractor at the prices set forth in Exhibit "1," pursuant to periodic Quotes and Purchase Order(s) in an amount subject to a limit up to but not to exceed Twenty-Five Thousand and 00/100 Dollars (\$25,000.00) and Task Authorization(s) for amounts that exceed Twenty-Five Thousand and 00/100 Dollars (\$25,000.00) per annual term of this Contract. Compensation for any authorized cost which is not set forth in the Contract shall not exceed the actual, documented out-of-pocket cost to the Contractor plus 10%. This Contract does not include retainer fees, nor is there a minimum fee guaranteed during the Contract term(s). The City's obligation to pay Contractor under this Contract is limited to the budgeted amount for the fiscal year(s) approved by the Port Orange City Council for the then current fiscal year. All payments shall be governed by the Local Government Prompt Payment Act as set forth in Sections 218.70 through 218.79, Florida Statutes, as amended.

3. Contract Administration. The Department Head requesting service shall perform contract administration of this Contract. For notice provisions, see the paragraph below entitled "Notice."

4. Liens. Contractor acknowledges that Contractor shall not be entitled to lien the City or other public property.

5. Termination for Convenience of the City

(a) The parties agree that the City may terminate this Contract, or any work or delivery required hereunder, from time to time either in whole or part, whenever the City Manager of Port Orange shall determine that such termination is in the best interest of the City.

(b) Termination, in whole or in part, shall be effected by delivery of a Notice of Termination signed by the City Manager or his designee, mailed or delivered to the Contractor, and specifically setting forth the effective date of termination.

(c) Upon receipt of such Notice, the Contractor shall:

- (i) cease any further deliveries or work due under this Contract, on the date, and to the extent, which may be specified in the Notice;
- (ii) place no further orders with any subcontractors except as may be necessary to perform that portion of this Contract not subject to the Notice;
- (iii) terminate all subcontracts except those made with respect to contract performance not subject to the Notice;
- (iv) settle all outstanding liabilities and claims which may arise out of such termination, with the ratification of the Finance Director of Port Orange; and
- (v) use best efforts to mitigate any damages which may be sustained by the Contractor as a consequence of termination under this clause.

(d) After complying with the provisions of subparagraph (c), above, the Contractor shall submit a termination claim, in no event later than six (6) months after the effective date of termination, unless one or more extensions of three (3) months each are granted by the Finance Director.

(e) The Finance Director, with the approval of the City Manager, shall pay from the using department's budget, reasonable costs of termination, including a reasonable amount for profit on supplies or services delivered or work completed. In no event shall this amount be greater than the original contract price, reduced by any payments made prior to Notice of Termination, and further reduced by the price of the supplies not delivered or the services not provided. This Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount.

(f) In the event that the parties cannot agree on the whole amount to be paid to the Contractor by reason of termination under this clause, the Finance Director shall pay the Contractor the amounts determined as follows, without duplicating any amounts which may have already been paid under the preceding paragraph of this clause:

- (i) With respect to all Contract performance prior to the effective date of Notice of Termination, the total of:
 - (1) the cost of work performed or supplies delivered;
 - (2) the cost of settling and paying any reasonable claims as provided in paragraph (c) (iv), above;
 - (3) a sum as profit on (a) determined by the Finance Director to be fair and reasonable.
- (ii) The total sum to be paid under (i) above shall not exceed the contract price, as further reduced by the contract price of work or supplies not terminated.

(g) In the event that the Contractor is not satisfied with any payments which the Finance Director shall determine to be due under this clause, the Contractor may appeal any claim to the City Council in accordance with Paragraph 20 of this contract concerning disputes.

6. Termination for Convenience for Subcontractors. In accordance with the termination for the convenience of the City provision of this contract, the Contractor shall include similar provisions in any subcontract, and shall specifically include a requirement that subcontractors make all reasonable efforts to mitigate damages which may be suffered. Failure to include such provisions shall bar the Contractor from any recovery from the City whatsoever of loss or damage sustained by a subcontractor as a consequence of termination for convenience.

7. Termination for Default. Either party may terminate this Contract, without further obligation, for the default of the other party or its agents or employees with respect to any agreement or provision contained herein. In the event of default by the contractor, the City reserves the right to procure the item(s) bid from other sources and holds the bidder responsible for excess costs incurred as a result. City Council may elect to refrain from doing business with the bidder as stipulated in City Code 2-276 Suspension and Disbarment.

8. Examination of Records

(a) The Contractor agrees that the City, or any duly authorized representative, shall, until the expiration of five (5) years after final payment hereunder, have access to and the right to examine and copy any pertinent books, documents, papers and records of the Contractor involving transactions related to this Contract.

(b) The Contractor further agrees to include in any subcontract for more than \$10,000 entered into as a result of this Contract, a provision to the effect that the subcontractor agrees that the City or any duly authorized representative shall, until the expiration of five (5) years after final payment under the subcontract, have access to and the right to examine and copy any pertinent books, documents, papers and records of such contractor involved

in transactions related to such subcontract, or this Contract. The term subcontract as used herein shall exclude purchase orders for public utility services at rates established for uniform applicability to the general public.

(c) The period of access provided in subparagraphs (a) and (b) above for records, books, documents and papers which may relate to any arbitration, litigation, or the settlement of claims arising out of the performance of this contract or any subcontract shall continue until any appeals, arbitration, litigation or claims shall have been finally disposed of.

9. Public Records Compliance. Contractor shall comply with public records laws as set forth in Chapter 119, Florida Statutes, and shall specifically:

(a) Keep and maintain public records required by the City to perform the service.

(b) Upon request from the City's custodian of public records, provide the City with a copy of the requested record or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Section 119, Florida Statutes, or as otherwise provided by law.

(c) Ensure that public records that are exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Contract term and following completion of the Contract if the Contractor does not transfer the records to the City.

(d) Upon completion of the Contract, Contractor shall transfer to the City, at no cost, all public records in possession of the Contractor and destroy any duplicate public records that are exempt from public records disclosure requirements. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

If Contractor does not comply with a public records request, the City shall deem the non-compliance a breach of this Contract, and the Contractor may be subject to penalties under Section 119.10, Florida Statutes.

CONTRACTOR QUESTIONS RELATING TO CONTRACTOR'S DUTIES TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT MUST BE FORWARDED TO THE OFFICE OF THE CITY CLERK, CITY HALL, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129 TELEPHONE: (386) 506-5563 E-MAIL: CITYCLERK@PORT-ORANGE.ORG

10. Termination for Non-Appropriation of Funds

(a) If funds are not appropriated for any succeeding fiscal years subsequent to the one in which this contract is entered into, for the purpose of this Contract, then the City may terminate this Contract upon thirty (30) days prior written notice to the Contractor. Should termination be accomplished in accordance with this Section, the City shall be liable only for payments due through the date of termination.

(b) The City agrees that should it terminate in accordance with this Section, it shall not obtain services which are substantially equal to or similar to those for which this contract was entered into. This provision shall survive any termination of the Contract.

11. Insurance. Contractor shall maintain insurance during the life of this Contract. Contractor shall provide to the City a certificate of insurance identifying the City of Port Orange as an additional insured. For workers' compensation coverage, the bidder's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the city as an additional insured for workers' compensation.

Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. Policies for Workers' Compensation

may be issued by companies authorized as a group self-insurer by F.S. 440.572. Contractor shall not commence work under this Agreement until the City has received a certificate or certificates of insurance and endorsement evidencing the required insurance. Contractor shall provide the City written notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change.

The City reserves the right to increase insurance coverage as determined for higher risk contracts and shall reimburse the Contractor for the reasonable additional costs of increased coverage.

Insurance		Standards	Comments
Workers' Compensation	<u>Limits:</u>	Coverage A - Statutory Coverage B - \$100,000	If the contract requires work on or about navigable waters, require Longshoreman's and Harbor Workers' Coverage. If vessels involved, require Jones Act coverage with limits of \$500,000.
<u>Additional Coverage:</u>		All States (Broad Form) Voluntary Compensation	
Comprehensive General Liability (including Completed Operations and Contractual Liability)	<u>Limits:</u>	Combined Single Limit Bodily Injury and Property damage \$500,000 occurrence \$1,000,000 Aggregate	When the Contract work on or under Railroad rights of way or properties, the Contractor shall take out and maintain during the life of the Contract, Railroad protective liability and property damage insurance in amounts as requested by the Railroad.
Comprehensive Business, Automobile Liability to include all automobiles.	<u>Limits:</u>	Auto Liability Bodily Injury: \$100,000 each person \$300,000 each occurrence. Property Damage Liability \$100,000 each occurrence.	Or \$500,000 Combined Single Limit for Bodily Injury and Property Damage
<u>Additional Coverage:</u>		Non-Owned, Hired Car	
Property Insurance — Builders Risk.	<u>Limits:</u>	Buildings — Completed value of contract.	If the Contract requires handling or installation of Owner's equipment, coverage should be furnished on "All Risk" form, including transit and Owner shall be named.
<u>Additional Coverage:</u>		"All Risk" coverage on latest ISO form or its equivalent. Permission granted to occupy. Owner named as insured AIMA	
Professional Liability (Errors & Omissions)	<u>Limits:</u>	Coverage- \$1,000,000 minimum	

12. Assignability of Contract. Neither this contract, nor any part hereof, may be assigned by the Contractor to any other party without the express written approval of the City Council.

13. Modifications or Changes to this Contract

(a) **Change Orders.** The Department Head, with the concurrence of the City's signatory as required by the City's Purchasing Policy, shall without notice to any sureties, have the authority to order changes in this Contract which affect the cost or time of performance. Such changes shall be ordered in writing specifically designated to be a change order. Such orders shall be limited to reasonable changes in the services to be performed or the time of the performance. The City will not be held liable for any changes which have not been properly authorized and approved in accordance with this Contract.

(b) If any change under this clause causes an increase or decrease in Contractor's cost of, or time required for the performance of the work hereunder, Contractor shall receive an equitable adjustment in accordance with subparagraph (d), which shall include all compensation to the Contractor, or the City, of any kind in connection with such change, including all costs and damages related to or incidental to such change.

(c) Contractor need not perform any work described in any change order unless it has received a certification from the City that there are funds budgeted and appropriated sufficient to cover the cost of such changes.

(d) No claim for changes ordered hereunder shall be considered if made after final payment in accordance with the Contract.

14. **Sovereign Immunity.** The City expressly retains all rights, benefits and immunities of sovereign immunity in accordance with Section 768.28, Florida Statutes. Notwithstanding anything set forth in any section of this Contract to the contrary, nothing in this Contract shall be deemed as a waiver of immunity or limits of liability of the City beyond any statutory limited waiver of immunity or limits of liability which may have been adopted by the Florida Legislature or may be adopted by the Florida Legislature and the cap on the amount and liability of the City for damages regardless of the number or nature of claims in tort or equity shall not exceed the dollar amount set by the legislature for tort. Nothing in this Contract shall inure to the benefit of any third party for the purpose of allowing any claim against the City which would otherwise be barred under the Doctrine of Sovereign Immunity or operation of law.

15. **Warranties.** Contractor warrants that (1) the supplies to be provided to the City pursuant to this Contract are fit and sufficient for the purpose intended; (2) the supplies are merchantable, of good quality, and free from defects, whether patent or latent, in material or workmanship, and (3) the supplies sold to the City pursuant to this Contract conform to the standards required by this Contract.

Contractor further warrants that Contractor has title to the supplies provided, and that the supplies are free and clear of all liens encumbrances, and security interests. All warranties made in this Contract, together with service warranties and guarantees, shall run to the City and its successors and assigns.

16. **Additional Warranties.** Contractor further expressly warrants that materials and workmanship are warranted from defect for a one-year period. This is a minimum acceptable warranty.

17. **Inspection**

(a) All supplies (which term throughout this clause includes without limitation raw materials, components, intermediate assemblies, and their products) shall be subject to inspection and test by the City, to the extent practicable at all times and places including the place of manufacturer, and in any event prior to acceptance.

(b) In the event any supplies or lots of supplies are defective in material or workmanship, or otherwise not in conformity with the requirements of this Contract, the City shall have the right either to reject them (with or without instructions as to their disposition) or to require their correction. Supplies or lots of supplies which have been rejected or required to be corrected shall be removed or, if permitted or required by the Finance Director, corrected in place by and at the expense of Contractor promptly after notice, and shall not thereafter be tendered for acceptance unless the former rejection or requirement of correction is disclosed. If Contractor fails promptly to remove such supplies or lots of supplies which are required to be removed or promptly to replace or correct such supplies or lots

of supplies, the City may either (i) by contract or otherwise replace or correct such supplies and charge Contractor the cost for such replacement or correction; or (ii) may terminate this Contract for default as provided in the clause of this Contract entitled "Termination for Default." Unless Contractor corrects or replaces such supplies within the delivery schedule, the Finance Director may require the delivery of such supplies at a reduction in price, which is equitable under the circumstances. Acceptance or rejection of the supplies shall be made as promptly as practicable after delivery, except as otherwise provided in this Contract. Failure to inspect and accept or reject supplies shall neither relieve Contractor from responsibility for such supplies as are not in accordance with the Contract requirements nor impose liability on the City therefor.

(c) The inspection and test by the City of any supplies or lots thereof does not relieve Contractor from any responsibility regarding defects or other failures to meet the Contract requirements, which may be discovered prior to acceptance. Except as otherwise provided in this Contract, acceptance shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

18. Liability for Loss or Damage. Contractor shall be liable for any loss of, or damage to, City property caused by the negligence, recklessness, or intended wrongful misconduct of Contractor, his/its agents, servants and employees and shall indemnify and save the City harmless against all actions, proceedings, claims, demands, costs, damages and expenses, including attorney's fees, by reason of any suit or action brought for any actual or alleged injury to or death of any person or damage to property other than City property, resulting from the performance of the Contract by Contractor, his/its agents, servants and employees. Contractor shall submit a full written report to the Finance Director within twenty-four (24) hours following the occurrence of such damage, loss or injury.

19. Non-discrimination. During the performance of this Contract, Contractor agrees as follows:

(a) Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, disability, marital status, age or national origin, except where such is a bona-fide occupational qualification reasonably necessary to the normal operation of Contractor. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. Contractor agrees and fully supports and complies with the Americans with Disabilities Act of 1990.

(b) Contractor shall state in all solicitations or advertisements for employees placed by or on behalf of Contractor that Contractor is an equal opportunity employer.

(c) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient compliance with this provision. Contractor shall include the provisions of the foregoing subparagraphs (a), (b), and (c) in every subcontract or purchase order of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

20. Disputes. The Finance Director, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to Contractor, shall decide disputes with respect to this Contract in the first instance. The decision shall be final and binding unless, within thirty-(30) days from the date of such decision, Contractor mails or otherwise furnishes to the Finance Director a written appeal addressed to the City Manager. The decision by the City Manager shall be final and binding unless, within ten (10) days from the date of receipt of the decision of the City Manager, appeal is made to the City Council. The decision of the City Council shall be final and binding unless set aside by a court of competent jurisdiction as fraudulent, capricious, arbitrary, or so grossly erroneous as necessary to imply bad faith, or not to be supported by any evidence. Pending a final determination of a properly appealed decision of the Finance Director, Contractor shall proceed diligently with the performance of this Contract in accordance with that decision.

21. Force Majeure. Neither party shall be liable for any delay in performance or failure to perform any obligation hereunder if, and to the extent that, such failure or delay is caused by an event of Force Majeure. Force Majeure shall mean any act, event or condition that is beyond the party's reasonable control, that materially and adversely affects the party's ability to perform its obligations hereunder, and that is not the result of the party's willful neglect, error, omission or failure to exercise reasonable due diligence.

22. Controlling Law. **THIS AGREEMENT CONTAINS IMPORTANT MATTERS AFFECTING LEGAL RIGHTS AND IS ACCEPTED AND ENTERED INTO IN FLORIDA AND ANY QUESTION REGARDING ITS VALIDITY, CONSTRUCTION, ENFORCEMENT, OR PERFORMANCE SHALL BE GOVERNED BY FLORIDA LAW. ANY LEGAL PROCEEDING ARISING FROM OR IN ANY WAY REGARDING THE AGREEMENT SHALL HAVE ITS VENUE LOCATED EXCLUSIVELY IN THE CIRCUIT COURT OF VOLUSIA COUNTY, FLORIDA, AND THE PARTIES HEREBY EXPRESSLY CONSENT AND SUBMIT THEMSELVES TO THE PERSONAL JURISDICTION AND VENUE OF THE COURT.**

23. Additional Provisions. This Contract includes all additional provisions as may have been outlined in written quotes and purchase orders and any attachments or exhibits to this Contract whether delivered herewith or subsequently approved as a part hereof, such as drawings or technical specifications prepared in the performance of this work.

24. Integration. This Contract and the documents incorporated herein by reference shall constitute the whole agreement between the parties. There are no promises, terms, conditions, or obligations other than those contained herein, and this Contract shall supersede all previous communications, representations, or agreements, written or verbal, between the parties hereto.

25. Notice. For purposes of this agreement, notices shall be sent as follows:

City:	City of Port Orange Attention: City Manager 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5501
Copy to:	City of Port Orange Attention: Department Head Requesting Service 1000 City Center Circle Port Orange, Florida 32129 (386) 506-5500
Contractor:	Southeastern Surveying and Mapping Corporation Attention: Gary B. Krick 6500 All American Boulevard Orlando, Florida 32810 (407) 292-8580 Ext. 2202 – Telephone (407) 292-0141 – Facsimile gkrick@southeasternsurveying.com

Any notice or other communication given under the Contract will be in writing and delivered by hand, sent by facsimile (provided acknowledgement of receipt thereof is delivered to the sender), sent by certified, registered mail, or sent by any nationally recognized overnight courier service to the addresses provided herein. The parties may, from time to time and at any time, change their respective addresses and each will have the right to specify as its address any other address by at least 10 days written notice to the other party.

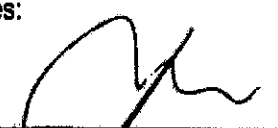
26. Contract Construction

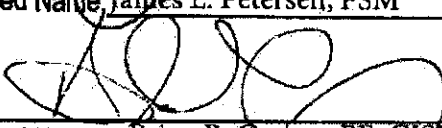
This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered. No contract shall be formed between Contractor and the City until the City signs this Agreement.

27. Authority to Sign. Each person signing this Agreement warrants that he or she is duly authorized to do so and to bind the respective party to the Agreement.

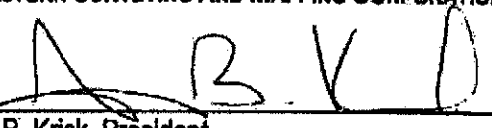
Remainder of this document intentionally left blank

Witnesses:


Printed Name: James L. Petersen, PSM


Printed Name: Brian R. Garvey, PE, GISP

SOUTHEASTERN SURVEYING AND MAPPING CORPORATION

By: 

Gary B. Krick, President

If this Contract is signed by an individual not identified as the President of the corporation in the records of the Florida Department of State, Division of Corporations, please provide written authorization for that individual to enter into contracts on behalf of the corporation.

Date: January 30, 2017

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 30th day of January, 2017, by Gary B. Krick, as President of Southeastern Surveying and Mapping Corporation, a Florida corporation, and who:

[Notary: Please select one]

☒ is personally known to me; or
☐ has produced _____ as identification.




Notary Public, State of Florida

Printed, typed or stamped name, commission and expiration:

Witnesses:

CITY OF PORT ORANGE

Frances Gasnell
Printed Name: Frances Gasnell

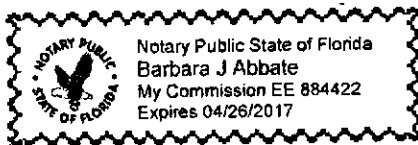
By: Donald O. Burnette
Donald O. Burnette, Mayor

Barbara J. Abbate
Printed Name: Barbara J. Abbate

Date: 2/7/17

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 7 day of Feb., 2017, by Donald O. Burnette, as Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.



Barbara J. Abbate
Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

Witnesses:

ATTEST:

Frances Gasnell
Printed Name: Frances Gasnell

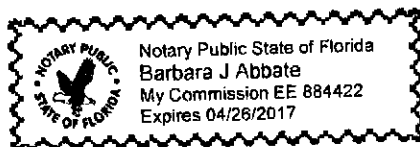
By: Robin L. Fenwick
Robin L. Fenwick, CMC, City Clerk

Barbara J. Abbate
Printed Name: Barbara J. Abbate

Date: 2/7/17

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 7 day of Feb., 2017, by Robin L. Fenwick, as City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.



Barbara J. Abbate
Notary Public, State of Florida
Printed, typed or stamped name, commission and expiration:

HOURLY RATE SCHEDULE
CONTRACT FOR PROFESSIONAL SURVEYING SERVICES
CITY OF PORT ORANGE RFSQ # 16-33

The following schedule provides a maximum direct salary hourly rate for the disciplines, which are likely to be engaged for projects associated with the contract referenced above for the City of Port Orange.

COMPANY NAME: Southeastern Surveying and Mapping Corporation

<u>Category of Employee</u>	<u>Hourly Rate</u>
Professional Surveyor & Mapper/PSM.....	\$ 130.00
Professional Engineer.....	\$ 130.00
SUE Project Manager.....	\$ 130.00
Senior Technician	\$ 97.00
CADD Technician	\$ 86.00
1 Man Survey Field Crew.....	\$ 94.00
2 Man Survey Field Crew.....	\$ 130.00
3 Man Survey Field Crew.....	\$ 164.00
4 Man Survey Field Crew.....	\$ 188.00
GIS Analyst.....	\$ 97.00
GIS Technician	\$ 86.00
1 Man GPS Crew	\$ 76.00
2 Man GPS Crew	\$ 130.00
Senior Utility Coordinator	\$ 130.00
Utility Coordinator.....	\$ 97.00
2 Man SUE Field Crew	\$ 210.00
3 Man SUE Field Crew	\$ 243.00

Expenses/Schedule of Reimbursable Charges

Sketch of Description (per SD).....\$495.00/per SD

Plat Review Services

Initial Review includes Second Review.....	\$770.00 / per Plat (up to two (2) sheets) \$22.00 /per lot (over two (2) sheets)
Third or Additional Review Same Plat.....	\$346.00
Exploratory Excavation Projects.....	\$ 323.00 / hour
Concrete Radar Mapping/Imaging 1 Man Crew.....	\$ 210.00 / hour
GPR Bore Route	\$564.00 / each

Vacuum Excavation / Test Holes

1 Test Hole/Dirt	\$463.00
1 Test Hole/Asphalt/Concrete.....	\$575.00
2 - 19 Test Holes/Dirt.....	\$396.00 / each
2 - 19 Test Holes/Asphalt/Concrete	\$452.00 / each
20 - 49 Test Holes/dirt.....	\$362.00 / each
20 - 49 Test Holes/asphalt/concrete	\$407.00 / each
50 - 99 Test Holes/dirt	\$312.00 / each
50 - 99 Test Holes/asphalt/concrete	\$362.00 / each
100 or more Test Holes/dirt	\$277.00 / each
100 or more Test Holes/asphalt/concrete	\$316.00 / each

Vacuum Excavation for Environmental Services

1 - 9 Monitoring Wells/Soil Samples	\$283.00 / each
10 - 19 Monitoring Wells/Soil Samples	\$227.00 / each
20 - 49 Monitoring Wells/Soil Samples	\$170.00 / each

Maintenance of Traffic (MOT)

SSMC MOT Lane Closures (Day)	\$594.00 / per lane
SSMC MOT Lane Closures (Night).....	\$792.00 / per lane

EXHIBIT “2”

(Consisting of 3 pages)

TASK AUTHORIZATION NO. ____
Professional Survey Services Contract dated _____
Between the City of Port Orange, Florida and SouthEastern Surveying and Mapping Corporation

THIS Task Authorization is entered into by and between the **CITY OF PORT ORANGE, FLORIDA**, a chartered municipal corporation with its principal place of business at 1000 City Center Circle, Port Orange, Florida 32129 (the "City") and **SOUTHEASTERN SURVEYING AND MAPPING CORPORATION**, a Florida corporation with its principal place of business at _____ ("Contractor"), and hereinafter collectively referred to as the "Parties," and is to that certain Professional Survey Services Contract dated _____, and any amendments thereto, hereinafter collectively referred to as the "Contract." The Parties, in exchange for the mutual covenants contained herein and in the Contract, agree as follows:

1. This Task Authorization expressly modifies the Contract and in the event of a conflict, the terms and conditions of this Task Authorization shall prevail.
2. In addition to all other terms and conditions contained in the Contract, Contractor shall provide services relating to _____ as more particularly described in the Scope of Services attached hereto and incorporated herein as Task Authorization Exhibit "A."
3. Contractor shall complete the services to be provided herein within _____ days of the date of written notice by the City to the Contractor.
4. In return for the services identified above, the City agrees to compensate Contractor at the prices set forth in Exhibit "____" attached hereto and made a part hereof for all purposes, subject to a limit up to but not to exceed \$_____. All payments shall be governed by the Local Government Prompt Payment Act as set forth in Sections 218.70 through 218.79, Florida Statutes, as amended.
5. Contractor shall provide a 100% Combination Payment and Performance Bond in accordance with Florida Statutes Section 255.05, including the Front Page and Certificate for Filing in Public Records, in a form substantially similar to the forms attached hereto as Task Authorization Exhibit "B," and acceptable to the Port Orange City Attorney, and recorded with the Clerk of Volusia County at Contractor's expense. A separate bond shall be provided from the Surety which identifies and covers the scope of work for the project stated in this Task Authorization along with all other provisions of this Task Authorization with the penal sum of such bond being not less than the contract sum described in this Task Authorization. If any surety bond furnished in connection with this Task Authorization becomes unacceptable to the City, Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the City and a person supplying labor and materials in the prosecution of work contemplated by this Task Authorization No. ____.
6. This Task Authorization may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile or e-mail of an executed copy of this Task Authorization shall be deemed valid as if an original signature was delivered. No contract shall be formed between the Contractor and the City until the City signs this Task Authorization.

IN WITNESS WHEREOF, the Parties have made and executed this Task Authorization for the purposes herein expressed on the dates set forth below.

Witnesses:

SOUTHEASTERN SURVEYING AND MAPPING CORPORATION

Printed Name: _____

By: _____
Gary B. Krick, President

Printed Name: _____

Date: _____

Witnesses:

CITY OF PORT ORANGE

Printed Name: _____ By: _____
Donald O. Burnette, Mayor

Printed Name: _____ Date: _____

Witnesses:

ATTEST:

Printed Name: _____ By: _____
Robin L. Fenwick, CMC, City Clerk

Printed Name: _____ Date: _____

[CA 5749]

Steven L. Anderson, Jr., PSM, PLS
Charles M. Arnett, PSM
Michael D. Brown, PSM
Eric E. Cain, PSM
Michael L. Dougherty, PSM
James M. Dunn, II, PSM
Thomas F. Ferguson, PSM
Ronnie A. Figueroa, PSM, GISP
Tate B. Flowers, PSM, PLS
Robert W. Gardner, PSM
Brian R. Garvey, PE, GISP
Daniel J. Henry, PSM, PLS
Ryan E. Johnson, PSM
Gary B. Krick, PSM
Brad J. Lashley, PSM, PLS
Myron F. Lucas, PSM
James E. Mazurak, PSM



Thomas K. Mead, PSM, PLS
Timothy O. Mosby, PSM
James L. Petersen, PSM
William C. Rowe, PSM
Tony G. Syfrett, PSM, PLS
Thomas P. Young, Jr., PSM, GISP
Kirk R. Hall, EI, GISP
Brad A. Stroppel, EI, GISP
Cheryl A. Isenberg, GISP
Brian E. Latchaw, GISP
Patrick J. Phillips, GISP
Donna L. Hendrix, CST IV
Mark W. Klaers, CST IV
Joseph S. Locklin, CST IV
David M. Rentfrow, CST IV
Steve D. Smith, CST IV
Celeste B. van Gelder, CST IV

Land Surveying & Mapping Services • Sub-Surface Utility Designation & Location Services • Geographic Information Systems • GPS Asset Inventories

November 20, 2017

Via E-mail: lstevens@port-orange.org

Ms. Lynn Stevens
Interim Public Works Director
City of Port Orange
1000 City Center Circle
Port Orange, FL 32129

RE: Proposal for Supplemental Surveying Services – Nova Canal North and Halifax Drainage Basins

Dear Ms. Stevens,

We are pleased to submit our proposal for special purpose surveying services on the above referenced project. This labor effort included in this proposal is shown on the attached Exhibits A and B. To develop this Scope of Work, Southeastern Surveying and Mapping Corporation (SSMC) has coordinated with Pegasus Engineering to identify key primary stormwater conveyance systems which will require additional surveying in order to support the stormwater modeling efforts associated with the City's Stormwater Master Plan Update.

SCOPE OF WORK:

SSMC will be responsible for the surveying of selected stormwater conveyances in the Halifax and Nova Canal North drainage basins.

The selected areas will have four (4) levels of survey effort. SSMC will provide Surveying, Mapping & Geographic Information Systems (GIS) Services in accordance with the specific requirements of the City of Port Orange to include the following:

1. The first will be ditch cross-sections in chosen areas to aid in the stormwater analysis.
2. The second and largest effort will be with culvert/structure critical elevations. This effort will be further broken down to structures with no existing vertical data and/or flow restrictions and the verification of the vertical datum used for structures with the available information.
3. The third required effort is to establish vertical information on roads adjacent to the survey structures to determine the critical overtopping of drainage system during storm events.
4. The fourth effort will be flow restriction characteristics on selected bridge structures within the study area. Critical elevations and support structure details will be noted.

To obtain this survey information, first we will recover published vertical control points in the current NAVD1988 Vertical Datum. These points and the NAVD 1988 vertical datum will serve as the basis of all survey efforts.

Ditch cross-sections will also require vertical data brought to the area through a single RTK benchmark. Cross sections will reflect major inflection points including channel top of bank, toe of slope, and water surface elevations. All ditch cross section measurements will be approximate and horizontal locations within the cross section shall be measured with a one hundred foot tape. Cross sections will be delivered as a survey field note sketch and will not be included in the GIS.

6500 All American Blvd Orlando, FL 32810 407.292.8580 407.292.0141 Fax	1130 Highway 90 Chipley, FL 32428 850.638.0790 850.638.8069 Fax	Lakeside Executive Center 8641 Baypine Road Suite 5 Jacksonville, FL 32256 904.737.5990 904.737.5995 Fax	119 West Main Street Tavares, FL 32778 352.343.4880 352.343.4914 Fax	10 East Lake Street Kissimmee, FL 34744 407.944.4880 407.944.0424 Fax	University Corporate Park 10770 North 46th Street Suite C-300 Tampa, FL 33617 813.898.2711 813.898.2712 Fax
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Licenses: PSM: Florida Professional Surveyor & Mapper • PLS: Alabama Professional Land Surveyor • PE: Professional Engineer
Certifications: EI: Engineering Intern • GISP: Geographic Information Systems Professional • CST: Certified Survey Technician

Structure elevations will be determined with Real Time Kinematic (RTK) Global Positioning Systems (GPS) as a labor and time savings operation in open areas with clear sky and through conventional survey practices in areas of dense cover that would restrict the use of GPS.

With either method the top elevations of structures will be determined and measurements taken down to each pipe to determine the pipe invert elevations. Sizes and material will be noted. High water stain lines will be noted with elevations. Stormwater Control Structures will be detailed with critical vertical information for weirs and orifices and a dimensioned sketch will be provided.

Roadway overtopping surveys will consist of centerline profiles taken at structures and extending 50 feet in each direction from the centerline of the pipe at 25 foot intervals and the center of structure. Water elevations in adjacent swales and ditches will be noted.

Bridge surveys will consist of a sketch of the bridge with piling or support column material, width and spacing. A bridge channel cross-section will be taken at the upstream and downstream sides of the bridge 50 feet from the bridge and identified scour or high water marks will be measured. Distance from the bottom of the bridge to the water will be noted. Centerline profiles of bridge deck at 20 foot intervals will be taken to 100 feet on each side of bridge. Bridge deck width will be noted. Utilities attached to the bridge will be noted.

All data will be collected and reduced in field books. Field notes and sketches will be produced. Data will be transferred to the consulting engineer for processing on a daily schedule and the City's existing stormwater GIS database will be updated with all collected survey data.

DELIVERABLES:

The following deliverables will be provided to the City in connection with this project:

1. Updates to the City's existing Stormwater GIS database including structure elevations, pipe invert elevations, roadway profiles and bridge surveys.
2. Field note sketches and digital photographs documenting the surveyed infrastructure.

SCHEDULE:

Work will commence upon receipt of a Notice to Proceed and all field surveying will be performed in conjunction with the City's existing Stormwater Master Plan Update and scheduled in a manner so as to not adversely affect the schedules of the existing Stormwater Master Plan Update projects.

PROFESSIONAL FEE:

This project will be performed by Southeastern Surveying & Mapping Corporation. Our fee schedule for the above referenced mapping services to be performed is listed in the attached Exhibits A and B.

The total fees for the supplemental surveying services in the Nova Canal North and Halifax Drainage Basins will be:

a. Supplemental Surveying Services - Nona Canal North Drainage Basin:	\$ 96,379.80
b. Supplemental Surveying Services - Halifax Drainage Basin:	<u>\$102,959.80</u>
Total Project Fees for all Tasks	\$199,339.60



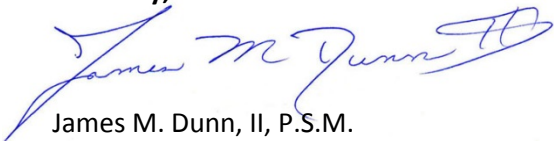
The City may also optionally choose to reduce the surveying scope of services by removing optional task 10.3 for each basin as described in Exhibits A & B. Task 10.3 consists of updating the elevations in the City's existing GIS database from the older NGVD 1929 Vertical Datum to the newer NAVD 1988 Vertical Datum for all pipes and structures surveyed in connection with this scope of services. Should the City decide to eliminate these optional tasks the Fee will be:

a. Supplemental Surveying Services - Nona Canal North Drainage Basin:	\$ 96,379.80
b. Supplemental Surveying Services - Halifax Drainage Basin:	\$102,959.80
c. Less Nova Canal North Task 10.3 (Recalculate Invert in NAVD88 Datum)	-\$ 8,095.00
d. Less Halifax Task 10.3 (Recalculate Invert in NAVD88 Datum)	<u>-\$ 11,533.60</u>
Total Project Fees <u>Less Optional Tasks</u>	\$179,711.00

Payment is expected within thirty (30) days of invoice.

We look forward to continuing our work for the City on this project.

Sincerely,



James M. Dunn, II, P.S.M.
Survey Project Manager

JMD:brg

Attachments:

Exhibit A: Supplemental Survey for Nova Canal North Basin

Exhibit B: Supplemental Survey for Halifax Basin

If the above scope, period of service and method of compensation meets with your approval, please execute below and fax to Southeastern Surveying & Mapping Corp. as notice to proceed along with the notice of commencement.

ACCEPTED BY:

Authorized Signature

Printed Name

Date



City of Port Orange
Supplemental Survey for Nova Canal North Basin
Task Cost Report

Nova Canal North Basin (134 sites, 357 structures)

Local Control

1.1 Establish Local Control (if Conventional Collection is Required) 43 sites

Structures Requiring Elevation Verification

2.1 Shoot Top Elevation with RTK 92 structures

2.2 Shoot Top Elevation Conventionally 34 structures

Open Structures Without Elevations (Headwalls, Pipe Ends, Mitered Ends)

3.1 Shoot Top Elevation with RTK 67 structures

3.2 Shoot Top Elevation Conventionally 36 structures

3.3 Measure Down to Each Pipe 104 inverts

Closed Structures Without Elevations

4.1 Shoot Top Elevation with RTK 90 structures

4.2 Shoot Top Elevation Conventionally 38 structures

4.3 Open Structure Lid / Grate to Access Interior 128 structures

4.4 Measure Down to Crown and Invert of Each Pipe 260 inverts

Control Structures (Structures with Weirs)

5.1 Prepare Dimensioned Structure Sketch 23 structures

5.2 Shoot Top Elevation with RTK 13 structures

5.3 Shoot Top Elevation Conventionally 10 structures

5.4 Measure Down to Pipes, Weirs, Orifices 23 structures

Ditch Cross Sections

6.1 Collect Cross Section with RTK 13 cross sections

6.2 Collect Cross Section Conventionally 28 cross sections

Roadway Overtopping Profile

7.1 Collect Overtopping Profile with RTK 14 profiles

7.2 Collect Overtopping Profile Conventionally 3 profiles

Bridge Survey

8.1 Prepare Bridge Sketch 1 bridges

8.2 Collect Channel Cross Section Under Bridge 1 bridges

8.3 Channel Cross Section 50 foot upstream of Bridge 1 bridges

8.4 Channel Cross Section 50 foot downstream of Bridge 1 bridges

8.5 Centerline Profile of Bridge Deck 1 bridges

File Processing

9.1 Process Survey Data Files & Import into GIS 357 structures

Structures Requiring Elevation Verification

10.1 Compare Field and Record Elevations to Determine Datum 126 structures

10.2 Tag Structures and Culverts with Vertical Datum 126 structures

10.3 Optionally Recalculate Inverts to NAVD88 Datum 210 inverts

Structures Without Elevations

11.1 Enter Top Elevation into GIS 231 structures

11.2 Calculate and Enter Pipe Inverts Using field measurements 364 inverts

Control Structures (Structures with Weirs)

12.1 Prepare Media Point with Scanned Control Structure Sketch 23 structures

12.2 Prepare Media Points with additional Photo Documentation 23 structures

Ditch Cross Sections

13.1 Plot Survey Field Cross Section Points into GIS 0 cross sections

Roadway Overtopping Profile

14.1 Plot Survey Field Overtopping Profile Points into GIS 17 profiles

Bridge Survey

15.1 Prepare Media Point with Scanned Bridge Survey Sketches 1 bridges

15.2 Plot Bridge Survey Cross Sections Points into GIS 1 bridges

15.3 Plot Bridge Survey Deck Profile Points into GIS 1 bridges

Professional Surveyor and Mapper (hrs)	Professional Engineer (hrs)	GIS Technician (hrs)	1 Man GPS Survey Crew (hrs)	2 Man GPS Survey Crew (hrs)	Fee \$
\$130.00	\$130.00	\$86.00	\$76.00	\$130.00	
8.6	0.0	0.0	0.0	107.5	\$15,093.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
0.7	0.0	0.0	0.0	8.5	\$1,196.00
1.3	0.0	0.0	16.8	0.0	\$1,445.80
0.7	0.0	0.0	0.0	9.0	\$1,261.00
1.7	0.0	0.0	20.8	0.0	\$1,801.80
1.8	0.0	0.0	22.5	0.0	\$1,944.00
0.8	0.0	0.0	0.0	9.5	\$1,339.00
2.6	0.0	0.0	0.0	32.0	\$4,498.00
4.2	0.0	0.0	0.0	52.0	\$7,306.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
0.3	0.0	0.0	3.3	0.0	\$289.80
0.2	0.0	0.0	0.0	2.5	\$351.00
1.8	0.0	0.0	23.0	0.0	\$1,982.00
2.6	0.0	0.0	32.5	0.0	\$2,808.00
7.8	0.0	0.0	0.0	98.0	\$13,754.00
1.1	0.0	0.0	0.0	14.0	\$1,963.00
0.4	0.0	0.0	0.0	4.5	\$637.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.3	0.0	0.0	0.0	4.0	\$559.00
0.1	0.0	0.0	0.0	1.5	\$208.00
0.0	2.9	35.7	0.0	0.0	\$3,447.20
0.0	2.0	25.2	0.0	0.0	\$2,427.20
0.0	2.0	25.2	0.0	0.0	\$2,427.20
0.0	6.7	84.0	0.0	0.0	\$8,095.00
0.0	1.8	23.1	0.0	0.0	\$2,220.60
0.0	8.7	109.2	0.0	0.0	\$10,522.20
0.0	0.9	11.5	0.0	0.0	\$1,106.00
0.0	0.9	11.5	0.0	0.0	\$1,106.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.0	0.5	0.0	0.0	\$43.00
0.0	0.0	0.5	0.0	0.0	\$43.00
0.0	0.0	0.5	0.0	0.0	\$43.00
41.5	26.6	335.4	164.9	355.0	\$96,379.80

City of Port Orange
Supplemental Survey for Halifax Basin
Task Cost Report

Halifax Basin (129 sites, 348 structures)

Local Control

1.1 Establish Local Control (if Conventional Collection is Required) 58 sites

Structures Requiring Elevation Verification

2.1 Shoot Top Elevation with RTK 71 structures

2.2 Shoot Top Elevation Conventionally 90 structures

Open Structures Without Elevations (Headwalls, Pipe Ends, Mitered Ends)

3.1 Shoot Top Elevation with RTK 17 structures

3.2 Shoot Top Elevation Conventionally 49 structures

3.3 Measure Down to Each Pipe 70 inverts

Closed Structures Without Elevations

4.1 Shoot Top Elevation with RTK 70 structures

4.2 Shoot Top Elevation Conventionally 51 structures

4.3 Open Structure Lid / Grate to Access Interior 121 structures

4.4 Measure Down to Crown and Invert of Each Pipe 263 inverts

Control Structures (Structures with Weirs)

5.1 Prepare Dimensioned Structure Sketch 17 structures

5.2 Shoot Top Elevation with RTK 7 structures

5.3 Shoot Top Elevation Conventionally 10 structures

5.4 Measure Down to Pipes, Weirs, Orifices 20 structures

Ditch Cross Sections

6.1 Collect Cross Section with RTK 4 cross sections

6.2 Collect Cross Section Conventionally 32 cross sections

Roadway Overtopping Profile

7.1 Collect Overtopping Profile with RTK 0 profiles

7.2 Collect Overtopping Profile Conventionally 0 profiles

Bridge Survey

8.1 Prepare Bridge Sketch 2 bridges

8.2 Collect Channel Cross Section Under Bridge 2 bridges

8.3 Channel Cross Section 50 foot upstream of Bridge 2 bridges

8.4 Channel Cross Section 50 foot downstream of Bridge 2 bridges

8.5 Centerline Profile of Bridge Deck 2 bridges

File Processing

9.1 Process Survey Data Files & Import into GIS 348 structures

Structures Requiring Elevation Verification

10.1 Compare Field and Record Elevations to Determine Datum 161 structures

10.2 Tag Structures and Culverts with Vertical Datum 161 structures

10.3 Optionally Recalculate Inverts to NAVD88 Datum 299 inverts

Structures Without Elevations

11.1 Enter Top Elevation into GIS 187 structures

11.2 Calculate and Enter Pipe Inverts Using field measurements 333 inverts

Control Structures (Structures with Weirs)

12.1 Prepare Media Point with Scanned Control Structure Sketch 17 structures

12.2 Prepare Media Points with additional Photo Documentation 17 structures

Ditch Cross Sections

13.1 Plot Survey Field Cross Section Points into GIS 0 cross sections

Roadway Overtopping Profile

14.1 Plot Survey Field Overtopping Profile Points into GIS 0 profiles

Bridge Survey

15.1 Prepare Media Point with Scanned Bridge Survey Sketches 2 bridges

15.2 Plot Bridge Survey Cross Sections Points into GIS 2 bridges

15.3 Plot Bridge Survey Deck Profile Points into GIS 2 bridges

Professional Surveyor and Mapper (hrs)	Professional Engineer (hrs)	GIS Technician (hrs)	1 Man GPS Survey Crew (hrs)	2 Man GPS Survey Crew (hrs)	Fee \$
\$130.00	\$130.00	\$86.00	\$76.00	\$130.00	
11.6	0.0	0.0	0.0	145.0	\$20,358.00
1.4	0.0	0.0	17.8	0.0	\$1,534.80
1.8	0.0	0.0	0.0	22.5	\$3,159.00
0.3	0.0	0.0	4.3	0.0	\$365.80
1.0	0.0	0.0	0.0	12.3	\$1,729.00
1.1	0.0	0.0	14.0	0.0	\$1,207.00
1.4	0.0	0.0	17.5	0.0	\$1,512.00
1.0	0.0	0.0	0.0	12.8	\$1,794.00
2.4	0.0	0.0	0.0	30.3	\$4,251.00
4.2	0.0	0.0	0.0	52.6	\$7,384.00
1.4	0.0	0.0	17.0	0.0	\$1,474.00
0.1	0.0	0.0	1.8	0.0	\$149.80
0.2	0.0	0.0	0.0	2.5	\$351.00
1.6	0.0	0.0	20.0	0.0	\$1,728.00
0.8	0.0	0.0	10.0	0.0	\$864.00
9.0	0.0	0.0	0.0	112.0	\$15,730.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.6	0.0	0.0	0.0	8.0	\$1,118.00
0.2	0.0	0.0	0.0	3.0	\$416.00
0.0	2.8	34.8	0.0	0.0	\$3,356.80
0.0	2.6	32.2	0.0	0.0	\$3,107.20
0.0	2.6	32.2	0.0	0.0	\$3,107.20
0.0	9.6	119.6	0.0	0.0	\$11,533.60
0.0	1.5	18.7	0.0	0.0	\$1,803.20
0.0	8.0	99.9	0.0	0.0	\$9,631.40
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.7	8.5	0.0	0.0	\$822.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.0	0.0	0.0	0.0	\$0.00
0.0	0.1	1.0	0.0	0.0	\$99.00
0.0	0.1	1.0	0.0	0.0	\$99.00
0.0	0.1	1.0	0.0	0.0	\$99.00
41.9	28.8	357.4	102.4	425.0	\$102,959.80



City of Port Orange

Public Utilities Department

TO: M. H. Johansson, City Manager

THRU: Lynn Stevens, Public Utilities Director

THRU: James Buttrum, Interim Assistant Director, Public Works Department

FROM: Alyssa Parnell, Business Manager

DATE: November 22, 2017

SUBJECT: Southeastern Surveying and Mapping Corp.
Task Authorization No. 1 to Contract CA5749

REQUEST:

The Public Works Department is requesting City Council approval of Task Authorization No. 1 under Professional Survey Services Contract CA5749 with Southeastern Surveying and Mapping Corporation for the Centerline Drainage Ditch and Pipe Elevation Survey as part of the Project DIP067.

PURPOSE:

The purpose of this request is to continue survey work in support of the Stormwater Master Plan.

CONSIDERATION:

On August 19, 2016, the City approved Task Authorization No. 4 to ATS Land Surveying to complete the required survey and mapping under approved capital project #DIP 067, Inventory Condition Assessment for Drainage. ATS was required to complete the work within 200 days. The contract expired February 2, 2017 and work was not completed. The project was not on track for final completion within a reasonable time and the decision was made not to extend the contract or task authorization with ATS. ATS had completed 69 out of the 191 required areas to be mapped and surveyed through March 26, 2017.

On February 7, 2017, the City executed the Professional Survey Services Contract (CA5749) with Southeastern Surveying and Mapping Corporation with an expiration date of February 7, 2020. Task Authorization No. 1 would complete the work outlined in project DIP067. This project is necessary for the completion of the Halifax Basin and Nova Canal North Basin portion of the Stormwater Master Plan currently ongoing. This task authorization is \$199,339.60 with a total available budget of \$245,264.00.

FUNDING:

Drainage Fund

Project Capital Outlay Account

412-1800-541-63-97

Project Balance Remaining \$245,265

RECOMMENDATION:

Recommendation is to approve Task Authorization No. 1 for completion of the Centerline Drainage Ditch and Pipe Elevation Survey DIP067.

ANTICIPATED SCHEDULE:

a.) Entry to Boardsync – October 24, 2014 for December 5, 2014 Agenda

ATTACHMENTS:

CA5749 Professional Survey Services Contract CA5749

Supplemental Survey Proposal from Southeastern Surveying and Mapping Corporation



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (B9) Resolution No. 17-64 - Extending the Waiver of Permit Fees for damage due to Hurricane Irma

DEPARTMENT: Community Development

GOAL:

RECOMMENDED MOTION: Move to approve Resolution No. 17-64.

SUMMARY: December 29 at 11:59 p.m. will be the last opportunity to submit an application for a building permit for repairs or a tree removal permit necessitated by Hurricane Irma and qualify for a permit fee waiver. The formal Resolution No. 17-64 has been prepared consistent with council's direction on November 14, 2017, except that the expiration will occur on December 29 at 11:59 p.m.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Resolution No. 17-64	Reso 17-64.pdf
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Robin Fenwick	Created/Initiated - 11/17/2017
Tim Burman	Approved - 11/21/2017
Tracey Riehm	Approved - 11/29/2017
Margaret Roberts	Approved - 11/30/2017
Jake Johansson	Approved - 11/30/2017
Robin Fenwick	Final Approval - 11/30/2017

RESOLUTION NO. 17-64

A RESOLUTION OF THE CITY OF PORT ORANGE,
VOLUSIA COUNTY, FLORIDA; EXTENDING THE
TEMPORARY WAIVER OF PERMIT FEES FOR REPAIRS
AND FOR TREE REMOVAL RELATING TO HURRICANE
IRMA STORM DAMAGE UNTIL DECEMBER 29, 2017 AT
11:59 P.M.; RATIFYING EXECUTIVE ORDER NO. 2,
DATED SEPTEMBER 8, 2017 AND CITY COUNCIL
AUTHORIZATION DATED NOVEMBER 14, 2017;
PROVIDING FOR REPEAL OF CONFLICTING
RESOLUTIONS; PROVIDING FOR SERVERABILITY; AND
PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Manager has pursuant to Resolution No. 17-42 issued Executive Order No. 2, dated September 8, 2017, providing for a temporary waiver of permit fees for tree removal, roof repair and other accessory structures resulting from Hurricane Irma; and

WHEREAS, on November 14, 2017, City Council approved an extension of this fee waiver; and

WHEREAS, the City Manager recommends that the City Council consider extending the permit fee waiver as more particularly set forth in this Resolution; and

WHEREAS, the City Council desires to encourage the expeditious repair of damage to building roofs and accessory structures to facilitate and mitigate the potential for ongoing damage and associated costs for repair of structures; and

WHEREAS, a permit shall be required as set forth in the laws of the State of Florida and the City of Port Orange; and

WHEREAS, a permit fee waiver does not waive the requirement to apply for and obtain a permit as required by law; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Port Orange, Florida as follows:

Section 1. The foregoing "WHEREAS" clauses are incorporated herein by reference as though fully set forth herein.

Section 2. The City Council of the City of Port Orange hereby ratifies Executive Order No. 2 dated September 8, 2017, and City Council authorization on November 14, 2017, approving an extension of the temporary waiver of permit fees for tree removal and certain repairs necessitated by Hurricane Irma.

Section 3. The City Council of the City of Port Orange hereby authorizes the continuation and expansion of the temporary permit fee waiver for the following activities requiring a permit and caused by Hurricane Irma:

Tree removal;
Roof Repairs and Replacement;
Sheds;
Carports;
Fences;
Pool Enclosures;
Screen Rooms; and
Other repairs requiring a permit caused by Hurricane Irma.

Section 4. Each permit applicant shall be required to sign a sworn affidavit that the permit application is needed as a result of damage sustained in Hurricane Irma. The permit fee shall be waived if the certification is consistent with the damage assessment records of the Community Development Department.

Section 5. The temporary permit fee waivers as ratified and extended by this Resolution No. 17-64 shall commence September 8, 2017, at 8:00 a.m. and shall continue until December 29, 2017 at 11:59 p.m.

Section 6. All resolutions or parts of resolutions in conflict with the provisions of this resolution are hereby repealed to the extent of such conflict.

Section 7. If any provision of this resolution or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this resolution which can be given effect without the invalid provision or application, and to this end the provisions of this resolution are declared severable.

[REMAINDER OF PAGE LEFT BLANK]

Section 8. This resolution shall become effective immediately upon adoption.

MAYOR DONALD O. BURNETTE

ATTEST:

Robin L. Fenwick, CMC, City Clerk

Adopted on the day of

Reviewed and Approved: _____
Margaret T. Roberts, City Attorney



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: Yes

SUBJECT: (B10) Resolution No. 17-65 - Local Agency Program (LAP) Supplemental Agreement #1 for McDonald Road sidewalk and Victoria Gardens Boulevard sidewalk

DEPARTMENT: Community Development

GOAL: 2 - Infrastructure

RECOMMENDED MOTION: Move to approve Resolution No. 17-65, approving the Local Agency Program (LAP) Supplemental Agreements for construction of the McDonald Road sidewalk and the Victoria Gardens Boulevard sidewalk, and authorize the Mayor and City Clerk to execute the Agreements and Resolution.

SUMMARY: The Florida Department of Transportation (FDOT) has requested the City execute the attached Local Agency Program (LAP) Supplemental Agreements and Resolution for construction of two sidewalk projects. In April 2017, the Council passed Resolution 17-11 authorizing the Mayor and City Clerk to sign LAP Agreements totaling \$93,742 in Local Funds out of an estimated \$855,287 for the two projects. Now that the bids are in and the construction costs are lower than estimated, FDOT is requiring a new Resolution for LAP Supplemental Agreements totaling \$92,820 in Local Funds out of \$739,494 for the two projects.

The McDonald Road sidewalk consists of a 5' wide sidewalk along the west side of McDonald Road, from Sauls Street to 6th Street. The project length is approximately 0.5 miles (2,700 linear feet). The River to Sea Transportation Planning Organization (R2CTPO) and FDOT have agreed to fund \$346,921 of the now estimated \$393,391 construction cost.

The Victoria Gardens sidewalk consists of an 8' wide sidewalk along the east/south side of Victoria Gardens Boulevard, from Applevue Way to Clyde Morris Boulevard. The project length is approximately 0.32 miles (1,675 linear ft.). The R2CTPO and FDOT have agreed to fund \$206,933 of the estimated \$253,283 construction cost.

Once the LAP Supplemental Agreements are executed by the City and FDOT, a Notice to Proceed will be issued allowing construction of the projects to begin. Both projects are on schedule to begin in mid-December while school is out.

Project No.: OMI018

OMI018

OMI019

OMI019

OMI019

Funding Account No.: 312-4300-541.63-97

312-4310-541.63-97

312-4300-541.31-63

312-4300-541.63-97

312-4310-541.63-97

ATTACHMENTS:

1.	Reso. No. 17-65	Reso. No. 17-65.pdf
2.	Exhibit "1" - McDonald Rd.	Exhibit 1.pdf
3.	Exhibit "2" - Victoria Gardens Blvd.	Exhibit 2.pdf

Robin Fenwick	Created/Initiated - 11/16/2017
Tim Burman	Approved - 11/16/2017
Tracey Riehm	Approved - 11/17/2017
Margaret Roberts	Approved - 11/22/2017
Jake Johansson	Approved - 11/28/2017
Robin Fenwick	Final Approval - 11/28/2017

RESOLUTION NO. 17-65

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, APPROVING A LOCAL AGENCY PROGRAM SUPPLEMENTAL AGREEMENT FPN 435500-1-58/68-01; FOR THE CONSTRUCTION OF THE MCDONALD ROAD SIDEWALK PROJECT; AND THE LOCAL AGENCY PROGRAM SUPPLEMENTAL AGREEMENT FPN 435536-1-58/68-01; FOR THE CONSTRUCTION OF THE VICTORIA GARDENS SIDEWALK PROJECT; AUTHORIZING THE MAYOR AND CITY CLERK TO EXECUTE AND ATTEST THE AGREEMENTS, RESPECTIVELY, WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the State of Florida Department of Transportation and the City of Port Orange desire to facilitate the Local Agency Program Supplemental Agreements for the construction of the McDonald Road and Victoria Gardens sidewalk projects; and

WHEREAS, the State of Florida Department of Transportation has requested the City of Port Orange to execute and deliver to the State of Florida Department of Transportation the Local Agency Program Agreements for the aforementioned project, FPN 435500-1-58/68-01 and 435536-1-58/68-01.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA:

Section 1. The City Council of the City of Port Orange, Florida, hereby approves and authorizes the Mayor and City Clerk to make, execute, and deliver to the State of Florida Department of Transportation the Local Agency Program Supplemental Agreements for the project FPN 435500-1-58/68-01, copy attached hereto as **Exhibit "1"** and FPN 435536-1-58/68-01, copy attached hereto as **Exhibit "2"**.

Section 2. This resolution shall become effective immediately upon adoption.

MAYOR DONALD O. BURNETTE

ATTEST:

Robin L. Fenwick, CMC, City Clerk

Adopted on the day of

Reviewed and Approved: _____
Margaret T. Roberts, City Attorney

Exhibit "1"

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

LOCAL AGENCY PROGRAM SUPPLEMENTAL AGREEMENT

525-010-32
PROGRAM MANAGEMENT
08/17

Page 1 of 4

SUPPLEMENTAL NO.

1

FEDERAL ID NO. (FAIN)

D517-013-B

CONTRACT NO.

G0N45

FEDERAL AWARD DATE

6/12/2017

FPN

435500-1-58/68-01

LOCAL AGENCY DUNS NO.

08-082-7082

The Florida Department of Transportation and the City of Port Orange desires to supplement the original Agreement entered into and executed on June 19, 2017, as identified above. All provisions in the original Agreement and supplements, if any, remain in effect except as expressly modified by this supplement.

The changes to the Agreement and supplements, if any, are described as follows:

PROJECT DESCRIPTION

Name Construction of the McDonald Road Sidewalk Length ~ 0.5 miles

Termini Sauls Street to 6th Street

Description of Work:

The McDonald Road Sidewalk project is located in City of Port Orange. The project includes the installation of 4-inch thick, 5-foot wide concrete sidewalk. The sidewalk will be placed along the west side of McDonald Road from Sauls Street to 6th Street. Project elements include ADA compliant sidewalk, handrail, gravity wall, minor drainage improvements, minor milling and resurfacing, 6" driveway reconstruction, curb ramps, detectable warning surfaces, signage, and thermoplastic striping to include special emphasis crosswalks. Two rectangular rapid flashing beacons (RRFB) are proposed at McDonald Road and Sauls Street. In addition, mobilization, maintenance of traffic (MOT), erosion control, clearing and grubbing, and sodding are also included as part of this project.

All sidewalk construction includes fiberglass reinforcement and 3,000 psi strength concrete. Fiberglass reinforcement and concrete strength exceeding 2,500 psi are considered upgrades for sidewalks. The City will be reimbursed for the basic 2,500 psi concrete, while the upgrades will be paid through local funds.

Reason for Supplement and supporting engineering and/or cost analysis:

1. Pursuant to Paragraph 4.0 Project Cost of the Local Agency Program Agreement, the Agency and the Department acknowledge and agree that the Schedule of Funding for construction that includes the authorized and encumbered Federal funding and the Local funding contribution on the project shall be reduced to an amount equal to the Agency's construction contract award amount of **\$315,503.00**. This award amounts includes **\$120.00** in Federal-Aid ineligible costs causing the Federal-Aid eligible award amount to be **\$315,383.00**

In addition to the Agency's eligible contract award amount, the amount of **\$31,538.00** in Federal Aid authorized funds on the construction phase remains encumbered for potential participation in reimbursement of eligible additional costs directly associated with construction contract modifications. To be considered for reimbursement with Federal Aid participation, the additional costs directly associated with construction contract modifications must comply with the eligible requirements documented in Chapter 7 of the FDOT Construction Project Administration Manual (CPAM) and with all

**LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT**

Local Agency Program procedures. The Department and FHWA solely reserve the right to determine the extent of Federal Aid participation of all additional costs submitted by the Agency for reimbursement. The Agency acknowledges: (1) Full responsibility for payment of all additional costs directly associated with construction contract modifications in advance; and, (2) that the Department and FHWA are under no obligation to participate in said additional costs if they determine that said costs are not associated with eligible construction contract modifications. The Agency further agrees that the total funding, as may be supplemented in accordance with the terms and limitations of this paragraph, will constitute the maximum limiting amount eligible for reimbursement and no additional funding will be available for this project.

All change orders added to the Agency's contract will require review and approval by the Department (per standard construction administration and oversight procedure, Chapter 23, LAP Manual.) If an Agency authorizes or performs a change of work prior to receiving concurrence from the District LAP Administrator (or delegate) the change will not be eligible for reimbursement. The Agency will incur the entire cost of the changes per Chapter 23 of the LAP Manual.

An amount of **(\$3,079.00)** in federal funds are being unencumbered from the construction phase of the project and an amount of **(\$11,270.00)** in local funds is also being removed. A total of **\$346,921.00** in authorized and encumbered federal funding remains on the construction phase. Additionally, the local funding for CEI is being increased to **\$46,350.00** to reflect the actual negotiated fee for the project. Said revisions are reflected in the Adjusted Schedule of Funding, attached hereto and incorporated herein, as Exhibit B.

2. The River-to-Sea TPO has established a 10% local match requirement for this project. The updated total project cost as a result of the low bid is **\$446,028.00**, yielding a local funding match requirement of **\$44,603.00**. In the event that the additional funding remaining on the contract for possible participation in change orders is utilized, the maximum total project cost increases to **\$477,566.00**, yielding a local funding match requirement of **\$47,757.00**. The City contributed funding in an amount of **\$7,936.00** toward Design, is contributing **\$120.00** for federally ineligible Construction costs, and is locally funding CEI at an amount of **\$46,350.00**. The combined local funding of **\$54,406.00** meets and exceeds the River-to-Sea TPO match requirement. No pro-ratio of invoices related to the local match will be required.

3. The amount of federal funding noted within Exhibit 1, Federal Financial Assistance (Single Audit Act), attached to this Amendment, has been updated accordingly.

4. The Agency Resolution authorizing entry into this Supplemental Agreement is attached and incorporated into this Supplemental Agreement as Exhibit "F".

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT
ADJUSTED EXHIBIT B SCHEDULE OF FUNDING

525-010-32
PROGRAM MANAGEMENT
07/17

FPN
435500-1-58/68-01

Page 3 of 4

TYPE OF WORK By Fiscal Year	FUNDING				
	(1) PREVIOUS TOTAL PROJECT FUNDS	(2) ADDITIONAL PROJECT FUNDS	(3) CURRENT TOTAL PROJECT FUNDS	(4) TOTAL AGENCY FUNDS	(5) TOTAL STATE & FEDERAL FUNDS
Planning					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Planning Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Project Development & Environment (PD&E)					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total PD&E Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Design Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Right-of-Way					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Right-of-Way Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction					
FY: 2016-2017	\$350,000.00	(\$3,079.00)	\$346,921.00	\$0.00	\$346,921.00
FY: 2016-2017	\$11,390.00	(\$11,270.00)	\$120.00	\$120.00	\$0.00
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Construction Cost	\$361,390.00	(\$14,349.00)	\$347,041.00	\$120.00	\$346,921.00
Construction Engineering and Inspection (CEI)					
FY: 2016-2107	\$30,940.00	\$15,410.00	\$46,350.00	\$46,350.00	\$0.00
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total CEI Cost	\$30,940.00	\$15,410.00	\$46,350.00	\$46,350.00	\$0.00
Total Construction & CEI Costs	\$392,330.00	\$1,061.00	\$393,391.00	\$46,470.00	\$346,921.00
TOTAL COST OF THE PROJECT	\$392,330.00	\$1,061.00	\$393,391.00	\$46,470.00	\$346,921.00

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT
ADJUSTED EXHIBIT B SCHEDULE OF FUNDING**

525-010-32
PROGRAM MANAGEMENT
07/17

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IN WITNESS WHEREOF, the parties have executed this Agreement on the date last ascribed herein.

AGENCY CITY OF PORT ORANGE

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

By: _____

Name:

Title:

By: _____

Name: Richard B. Morrow, P.E.

Title: Director of Transportation Development

Date: _____

Legal Review:

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM AGREEMENT

525-010-40F
PROGRAM MANAGEMENT
OGC - 08/15
Page 1 of 1

EXHIBIT "F"

AGENCY RESOLUTION

The agency Resolution authorizing entry into this Agreement is attached and incorporated into this Agreement.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM AGREEMENT

525-010-40
PROGRAM MANAGEMENT
1/15
Page 1 of 1

EXHIBIT 1

FEDERAL FINANCIAL ASSISTANCE (SINGLE AUDIT ACT)

FEDERAL RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:

CFDA No.: 20.205
CFDA Title: Highway Planning and Construction
Federal-Aid Highway Program, Federal Lands Highway Program
CFDA Program Site: <https://www.cfda.gov/>
Award Amount: \$346,921.00
Awarding Agency: Florida Department of Transportation
Award is for R&D: No
Indirect Cost Rate: N/A

FEDERAL RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:

2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles & Audit Requirements for Federal Awards
<http://www.ecfr.gov/>

OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*
http://www.whitehouse.gov/sites/default/files/omb/assets/a133/a133_revised_2007.pdf

OMB Circular A-133 Compliance Supplement 2014
http://www.whitehouse.gov/omb/circulars/a133_compliance_supplement_2014

FEDERAL RESOURCES AWARDED PURSUANT TO THIS AGREEMENT MAY ALSO BE SUBJECT TO THE FOLLOWING:

OMB Circular A-87 (Revised), *Cost Principles for State, Local and Indian Tribal Governments*
http://www.whitehouse.gov/omb/circulars_a087_2004/

OMB Circular A-102, *Grants and Cooperative Agreements with State and Local Governments*
http://www.whitehouse.gov/omb/circulars_a102/

Title 23 – Highways, United States Code
<http://uscode.house.gov/browse/prelim@title23&edition=prelim>

Title 49 – Transportation, United States Code
<http://uscode.house.gov/browse/prelim@title49&edition=prelim>

Map-21 – Moving Ahead for Progress in the 21st Century, Public Law 112-141
<http://www.gpo.gov/fdsys/pkg/PLAW-112publ141/pdf/PLAW-112publ141.pdf>

Federal Highway Administration – Florida Division
<http://www.fhwa.dot.gov/fldiv/>

Federal Funding Accountability and Transparency Act (FFATA) Sub-award Reporting System (FSRS)
<https://www.fsrc.gov/>

Exhibit "2"
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT**

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SUPPLEMENTAL NO.

1

FEDERAL ID NO. (FAIN)

D517-017-B

CONTRACT NO.

G0N46

FEDERAL AWARD DATE

6/9/2017

FPN

435536-1-58/68-01

LOCAL AGENCY DUNS NO.

08-082-7082

The Florida Department of Transportation and the City of Port Orange desires to supplement the original Agreement entered into and executed on June 19, 2017, as identified above. All provisions in the original Agreement and supplements, if any, remain in effect except as expressly modified by this supplement.

The changes to the Agreement and supplements, if any, are described as follows:

PROJECT DESCRIPTION

Name Construction of the Victoria Gardens Sidewalk Length ~ 0.32 miles

Termini Clyde Morris Boulevard to Appleview Way

Description of Work:

Victoria Gardens Sidewalk is located in City of Port Orange. The project includes installation of 4-inch thick, 8-foot wide concrete sidewalk with a thickened edge. The sidewalk will be placed along the south and east sides of Victoria Gardens Blvd. from Clyde Morris Boulevard to connect to an existing sidewalk at Appleview Way in order to complete a loop to SR 421. Project elements include ADA compliant sidewalk, curb ramps, Miami curb replacement to provide compliant counter slopes at Appleview Way, detectable warning surfaces, stabilized shoulder, fire hydrant adjustment, signage, and thermoplastic striping to include special emphasis crosswalks. A sign with a flashing beacon is being replaced which will include installation of new conduit and cables. In addition, mobilization, maintenance of traffic (MOT), clearing and grubbing, swale fine grading, erosion control, and sodding are also included as part of this project.

All sidewalk construction includes fiberglass reinforcement, 3,000 psi strength concrete, and a thickened edge. Fiberglass reinforcement, concrete strength exceeding 2,500 psi, and a thickened edge are considered upgrades for sidewalks. The City will be reimbursed for the basic 2,500 psi concrete, while the upgrades would be paid through local funds.

Reason for Supplement and supporting engineering and/or cost analysis:

1. Pursuant to Paragraph 4.0 Project Cost of the Local Agency Program Agreement, the Agency and the Department acknowledge and agree that the Schedule of Funding for construction that includes the authorized and encumbered Federal funding and the Local funding contribution on the project shall be reduced to an amount equal to the Agency's construction contract award amount of **\$188,121.00**.

In addition to the Agency's eligible contract award amount, the amount of **\$18,812.00** in Federal Aid authorized funds on the construction phase remains encumbered for potential participation in reimbursement of eligible additional costs directly associated with construction contract modifications. To be considered for reimbursement with Federal Aid participation, the additional costs directly associated with construction contract modifications must comply with the eligible requirements documented in Chapter 7 of the FDOT Construction Project Administration Manual (CPAM) and with all

**LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT**

Local Agency Program procedures. The Department and FHWA solely reserve the right to determine the extent of Federal Aid participation of all additional costs submitted by the Agency for reimbursement. The Agency acknowledges: (1) Full responsibility for payment of all additional costs directly associated with construction contract modifications in advance; and, (2) that the Department and FHWA are under no obligation to participate in said additional costs if they determine that said costs are not associated with eligible construction contract modifications. The Agency further agrees that the total funding, as may be supplemented in accordance with the terms and limitations of this paragraph, will constitute the maximum limiting amount eligible for reimbursement and no additional funding will be available for this project.

All change orders added to the Agency's contract will require review and approval by the Department (per standard construction administration and oversight procedure, Chapter 23, LAP Manual.) If an Agency authorizes or performs a change of work prior to receiving concurrence from the District LAP Administrator (or delegate) the change will not be eligible for reimbursement. The Agency will incur the entire cost of the changes per Chapter 23 of the LAP Manual.

An amount of **(\$110,870.00)** in federal funds are being unencumbered from the construction phase of the project and an amount of **(\$20,472.00)** in local funds is also being removed. A total of **\$206,933.00** in authorized and encumbered federal funding remains on the construction phase. Additionally, the local funding for CEI is being increased to **\$46,350.00** to reflect the actual negotiated fee for the project. Said revisions are reflected in the Adjusted Schedule of Funding, attached hereto and incorporated herein, as Exhibit B.

2. The River-to-Sea TPO has established a 10% local match requirement for this project. The updated total project cost as a result of the low bid is **\$298,212.00**, yielding a local funding match requirement of **\$29,821.00**. In the event that the additional funding remaining on the contract for possible participation in change orders is utilized, the maximum total project cost increases to **\$317,024.00**, yielding a local funding match requirement of **\$31,702.00**. The City contributed funding in an amount of **\$6,374.00** toward Design and is locally funding CEI at an amount of **\$46,350.00**. The combined local funding of **\$52,724.00** meets and exceeds the River-to-Sea TPO match requirement. No pro-ration of invoices related to the local match will be required.

3. The amount of federal funding noted within Exhibit 1, Federal Financial Assistance (Single Audit Act), attached to this Amendment, has been updated accordingly.

4. The Agency Resolution authorizing entry into this Supplemental Agreement is attached and incorporated into this Supplemental Agreement as Exhibit "F".

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT
ADJUSTED EXHIBIT B SCHEDULE OF FUNDING

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TYPE OF WORK By Fiscal Year	FUNDING				
	(1) PREVIOUS TOTAL PROJECT FUNDS	(2) ADDITIONAL PROJECT FUNDS	(3) CURRENT TOTAL PROJECT FUNDS	(4) TOTAL AGENCY FUNDS	(5) TOTAL STATE & FEDERAL FUNDS
Planning					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Planning Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Project Development & Environment (PD&E)					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total PD&E Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Design Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Right-of-Way					
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Right-of-Way Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction					
FY: 2016-2017	\$317,803.00	(\$110,870.00)	\$206,933.00	\$0.00	\$206,933.00
FY: 2016-2017	\$20,472.00	(\$20,742.00)	\$0.00	\$0.00	\$0.00
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total Construction Cost	\$338,275.00	(\$131,612.00)	\$206,933.00	\$0.00	\$206,933.00
Construction Engineering and Inspection (CEI)					
FY: 2016-2107	\$30,940.00	\$15,410.00	\$46,350.00	\$46,350.00	\$0.00
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
FY: _____	_____	_____	_____	_____	_____
Total CEI Cost	\$30,940.00	\$15,410.00	\$46,350.00	\$46,350.00	\$0.00
Total Construction & CEI Costs	\$369,215.00	(\$116,202.00)	\$253,283.00	\$46,350.00	\$206,933.00
TOTAL COST OF THE PROJECT	\$369,215.00	(\$116,202.00)	\$253,283.00	\$46,350.00	\$206,933.00

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**LOCAL AGENCY PROGRAM
SUPPLEMENTAL AGREEMENT
ADJUSTED EXHIBIT B SCHEDULE OF FUNDING**

525-010-32
PROGRAM MANAGEMENT
07/17

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IN WITNESS WHEREOF, the parties have executed this Agreement on the date last ascribed herein.

AGENCY CITY OF PORT ORANGE

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

By: _____

Name:

Title:

By: _____

Name: Richard B. Morrow, P.E.

Title: Director of Transportation Development

Date: _____

Legal Review:

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM AGREEMENT

525-010-40F
PROGRAM MANAGEMENT
OGC - 08/15
Page 1 of 1

EXHIBIT "F"

AGENCY RESOLUTION

The agency Resolution authorizing entry into this Agreement is attached and incorporated into this Agreement.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
LOCAL AGENCY PROGRAM AGREEMENT

525-010-40
PROGRAM MANAGEMENT
1/15
Page 1 of 1

EXHIBIT 1

FEDERAL FINANCIAL ASSISTANCE (SINGLE AUDIT ACT)

FEDERAL RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:

CFDA No.: 20.205
CFDA Title: Highway Planning and Construction
Federal-Aid Highway Program, Federal Lands Highway Program
CFDA Program Site: <https://www.cfda.gov/>
Award Amount: \$206,933.00
Awarding Agency: Florida Department of Transportation
Award is for R&D: No
Indirect Cost Rate: N/A

FEDERAL RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:

2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles & Audit Requirements for Federal Awards
<http://www.ecfr.gov/>

OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*
http://www.whitehouse.gov/sites/default/files/omb/assets/a133/a133_revised_2007.pdf

OMB Circular A-133 Compliance Supplement 2014
http://www.whitehouse.gov/omb/circulars/a133_compliance_supplement_2014

FEDERAL RESOURCES AWARDED PURSUANT TO THIS AGREEMENT MAY ALSO BE SUBJECT TO THE FOLLOWING:

OMB Circular A-87 (Revised), *Cost Principles for State, Local and Indian Tribal Governments*
http://www.whitehouse.gov/omb/circulars_a087_2004/

OMB Circular A-102, *Grants and Cooperative Agreements with State and Local Governments*
http://www.whitehouse.gov/omb/circulars_a102/

Title 23 – Highways, United States Code
<http://uscode.house.gov/browse/prelim@title23&edition=prelim>

Title 49 – Transportation, United States Code
<http://uscode.house.gov/browse/prelim@title49&edition=prelim>

Map-21 – Moving Ahead for Progress in the 21st Century, Public Law 112-141
<http://www.gpo.gov/fdsys/pkg/PLAW-112publ141/pdf/PLAW-112publ141.pdf>

Federal Highway Administration – Florida Division
<http://www.fhwa.dot.gov/fldiv/>

Federal Funding Accountability and Transparency Act (FFATA) Sub-award Reporting System (FSRS)
<https://www.fsrc.gov/>



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: Yes

SUBJECT: (B11) Approval of License Agreement - Cornerstone Grove Subdivision (Coulter Lane)

DEPARTMENT: Community Development

GOAL: 3 - Quality of Life

RECOMMENDED MOTION: Move to approve the License Agreement to allow the installation of a subdivision entry sign, along with landscaping and irrigation within the public right-of-way (Coulter Lane), and to authorize the Mayor and City Council to act on behalf of the City to execute the License Agreement.

SUMMARY: The License Agreement is in connection with the installation of a monument sign along with landscaping, and irrigation at the entrance of the Cornerstone Grove subdivision and within the public right-of-way (Coulter Lane). The applicant has been advised of applicable requirements of the License Agreement and that the Home Owners Association (HOA) will be required to maintain and if necessary, replace these improvements. Further, should the HOA fail to abide by this requirement, it provides the City with the ability to take necessary corrective actions at the expense of the HOA. The attached License Agreement requires the licensee to carry a \$1,000,000.00 liability insurance policy naming the City as an additional insured and includes an indemnity statement.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	License Agreement w exhibits	2017_11_16_11_10_19.pdf
----	------------------------------	-------------------------

Robin Fenwick
Tim Burman
Shannon Balmer
Jake Johansson
Robin Fenwick

Created/Initiated - 11/16/2017
Approved - 11/16/2017
Approved - 11/17/2017
Approved - 11/17/2017
Final Approval - 11/17/2017

This Document Prepared by:

Margaret T. Roberts
City Attorney
1000 City Center Circle
Port Orange, FL 32129

LICENSE AGREEMENT

THIS **LICENSE AGREEMENT** is made and entered into this ____ day of _____, 2017, by and between the City of Port Orange, Florida, a chartered municipal corporation ("City"), 1000 City Center Circle, Port Orange, FL 32129, ("Licensor"); and Cornerstone Homeowners Association, Inc., a Florida not for profit corporation, whose mailing address is 424 Luna Bella Lane, Suite 122, New Smyrna Beach, FL 32168, ("Licensee").

PREMISES

WHEREAS, the City Council of the City of Port Orange has adopted Resolution No. 95-64, which establishes City policy regarding improvements within City rights-of-way by private citizens, homeowners associations, and developers; and

WHEREAS, the City and the Licensee have agreed on an improvement plan and specifications, as described on **Exhibit "A,"** attached hereto and incorporated herein by reference; and

WHEREAS, the Licensee hereby warrants to the City that the Licensee has full power and authority to enter into this Agreement, and that the Licensee agrees to be bound by the terms and conditions hereof is in compliance with and shall remain in compliance with any declaration of covenants and restrictions, as may exist and as may be amended from time to time; and

WHEREAS, the Licensee is the owner of real property located in the Cornerstone Grove subdivision, recorded in Map Book ___, Page ___, Public Records of Volusia County, Florida, hereinafter the "Subject Property", as described on **Exhibit "B"**; and

WHEREAS, the Licensee hereby acknowledges that the City public utilities are located within the right-of-way, including but not limited to locations beneath the proposed Improvements.

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the parties agree as follows:

1. The City hereby grants to the Licensee a license to enter upon and to utilize the right-of-way known as Coulter Lane, located and situated in Port Orange, Volusia County, Florida, adjacent to the Subject Property, as depicted on **Exhibit "B"** for the purpose of placing street trees, landscaping and irrigation, adjoining the Subject Property (hereinafter "Improvements") approved by the City as depicted on **Exhibit "A."**

2. All improvements, uses and activities shall comply with the policies established in Resolution No. 95-64 and with the terms and conditions of this License Agreement and exhibits hereto.

3. The Licensee jointly and severally assumes all responsibility for the maintenance and, if necessary, replacement of all Improvements depicted on **Exhibit "A."**

4. The Licensee agrees, upon thirty (30) days written notice from the City, to maintain, repair or replace all Improvements which require maintenance, repair or replacement. If no remedy is made within the specified time, the City reserves the right to remove all Improvements without further notice to the Licensee and at the sole cost and expense of the Licensee.

5. The City reserves the right to request removal of the Improvements depicted on **Exhibit "A"** in the event that the City needs to utilize the property for City purposes, such as road, bike path, public utility installation or maintenance, drainage improvement or other public uses. The City shall endeavor to give at least thirty (30) days prior notice to the Licensee. If the Improvements are not removed within the time specified by the City or in cases where emergency work by the City becomes necessary the City may remove or cause to be removed the Improvements without any liability to the City or obligation to replace same upon completion of the City project. The Licensee may replace the Improvements after the City repair or maintenance; and the Licensee shall be responsible for any and all expenses of the replacement of Improvements.

6. The Licensee agrees that no improvements shall be made or altered in the right-of-way except as depicted on **Exhibit "A"** or subsequently approved amendments thereto. However, the Improvements may be maintained, repaired, replaced and removed.

7. The License granted by this License Agreement shall be effective during the period from the date of execution by both parties until terminated in accordance with the provisions specified herein.

8. Any party may terminate this License Agreement upon giving thirty (30) days prior written notice to the other party, after which time this License Agreement shall be of no force and effect. Upon termination by any party, the City shall have the option of requiring all Improvements to be removed or abandoned in place by the Licensee or maintained in their present state by the City and without further right or obligation by the Licensee. If the Licensee terminates this Agreement or otherwise fails to remain in good standing and in compliance with this Agreement, the City may maintain and repair the Improvements and the City shall not be obligated to either maintain or repair the Improvements and the City shall not be liable for either undertaking or failing to maintain or repair the Improvements. All costs and expenses of the City resulting from maintenance or repair of the Improvements, including administrative expenses, attorney's fees and costs, and expenses incurred in establishing and operating a special district, shall be chargeable to and assessed by the City jointly and severally against all lots located within the development, subdivision or project located within the property described in **Exhibit "B."** The City shall have the right to enforce collection of assessments for such costs and expenses by a lien jointly and severally against the lots, which lien shall include interest at the then highest lawful rate of interest and attorneys' fees and costs for collection thereof. The

City shall have the right to establish a special district and to utilize any methods or procedures provided by law or ordinance for imposition and collection of the assessments described herein.

9. This License is given to the Licensee as an accommodation to the Licensee without any consideration. The Licensee acknowledges the legal title of the City to the right-of-way property described herein and agrees never to deny such title or to claim title in the Licensee's name.

10. The License is personal to the Licensee and shall not inure to the successors or assigns of the Licensee. The rights, privileges and permission granted herein shall not be assignable by the Licensee in whole or in part. Upon the sale or transfer by the Licensee of title to the real property adjoining the right-of-way upon which the Improvements are located, the City shall have the immediate right to remove the improvements for which this license is granted; subject, however, to application made by the successor property owner for and due diligence in obtaining approval by the City of a new license agreement for the existing Improvements to remain in the right-of-way.

11. The Licensee shall exercise the rights, privileges and permission granted herein at the Licensee's own risk. Licensee shall make monthly inspections of the paver surface within the right-of-way, including the driveway apron and sidewalk areas; and shall immediately repair any deviation in the surface. The Licensee shall not claim any damages from the City for any injuries or damages in connection with or on account of the exercise of such rights, privileges or permission, the condition of the City's property, or the use of the property. Licensee agrees to maintain general liability insurance including contractual liability and having a minimum coverage of **One Million Dollars (\$1,000,000.00)**. Licensee shall provide to the City a certificate of insurance identifying the City of Port Orange as an additional insured within ten (10) business days after City Council's approval of this License Agreement. The certificate of insurance shall be provided to the Community Development Department, Engineering Division and shall thereafter be submitted annually by the Licensee each year the license remains in effect. Failure to maintain the required insurance or provide proof thereof may result in the immediate termination of this License Agreement. In the event that the Licensee allows the required general liability insurance to elapse or expire, the City may remove all Improvements after thirty (30) days prior written notice to Licensee that the insurance had elapsed or expired. Further, the Licensee shall indemnify and hold harmless the City, its officers, employees and agents, from and against all claims, damages, losses and expenses, attorneys' fees and costs, arising out of, resulting from, or in any way connected with the condition of the City's property, the use of the property by Licensee, his invitees and members of the public, the exercise of the license granted by this License Agreement, the failure on the part of the Licensee to comply with any of the provisions specified herein, or the City's removal of any Improvements depicted in **Exhibit "A"** or otherwise permitted by this License Agreement. The City shall not be liable to the Licensee if for any reason the Licensee's use of the Subject Property is hindered or disturbed.

12. All notices required to be given by any party shall be in writing, addressed to all other parties, and delivered by certified mail, telegram or in person to: City Manager, City of Port Orange, 1000 City Center Circle, Port Orange, Florida 32129, for the City; and Cornerstone Homeowners Association, Inc., 424 Luna Bella Lane, Suite 122, New Smyrna Beach, FL 32168, for the Licensee, or as otherwise designated in writing to all respective parties.

13. This Agreement shall be recorded in the Public Records of Volusia County,

Florida. Upon execution of this Agreement, the Licensee agrees to pay the City an amount equal to the applicable cost of recording this Agreement in the Public Records of Volusia County, Florida.

14. This License Agreement constitutes the entire agreement between the parties. There are no further or other agreements or understandings, written or oral, in effect between the parties, relating to the subject matter hereof. This License Agreement may be amended or modified only by an instrument of equal formality signed by the respective parties.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this License Agreement on the respective dates below.

WITNESSES:

Printed Name: _____

Printed Name: _____

Printed Name: _____

Printed Name: _____

LICENSOR:

CITY OF PORT ORANGE, FLORIDA
a chartered municipal corporation

By: _____
Donald O. Burnette, Mayor

Attest: _____
Robin L. Fenwick, CMC, City Clerk

(SEAL)

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Donald O. Burnette, as Mayor of the City of Port Orange, Florida, who acknowledged that he is duly authorized to execute the foregoing LICENSE AGREEMENT on behalf of the **CITY OF PORT ORANGE, FLORIDA**, a chartered municipal corporation, and who ☐ is personally known to me, or ☐ has produced _____ as identification.

Notary Public, State of Florida at Large
Printed name, commission and expiration:

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by Robin L. Fenwick, as the City Clerk of the City of Port Orange, Florida, who acknowledged that she is duly authorized to execute the foregoing LICENSE AGREEMENT on behalf of the **CITY OF PORT ORANGE, FLORIDA**, a chartered municipal corporation, and who ☐ is personally known to me, or ☐ has produced _____ as identification.

Notary Public, State of Florida at Large
Printed name, commission and expiration:

WITNESSES:

Printed Name: _____

Printed Name: _____

LICENSEE:

**Cornerstone Grove Homeowners'
Association, Inc., a Florida not for profit
Corporation**

By: _____

Title: _____

Date: _____

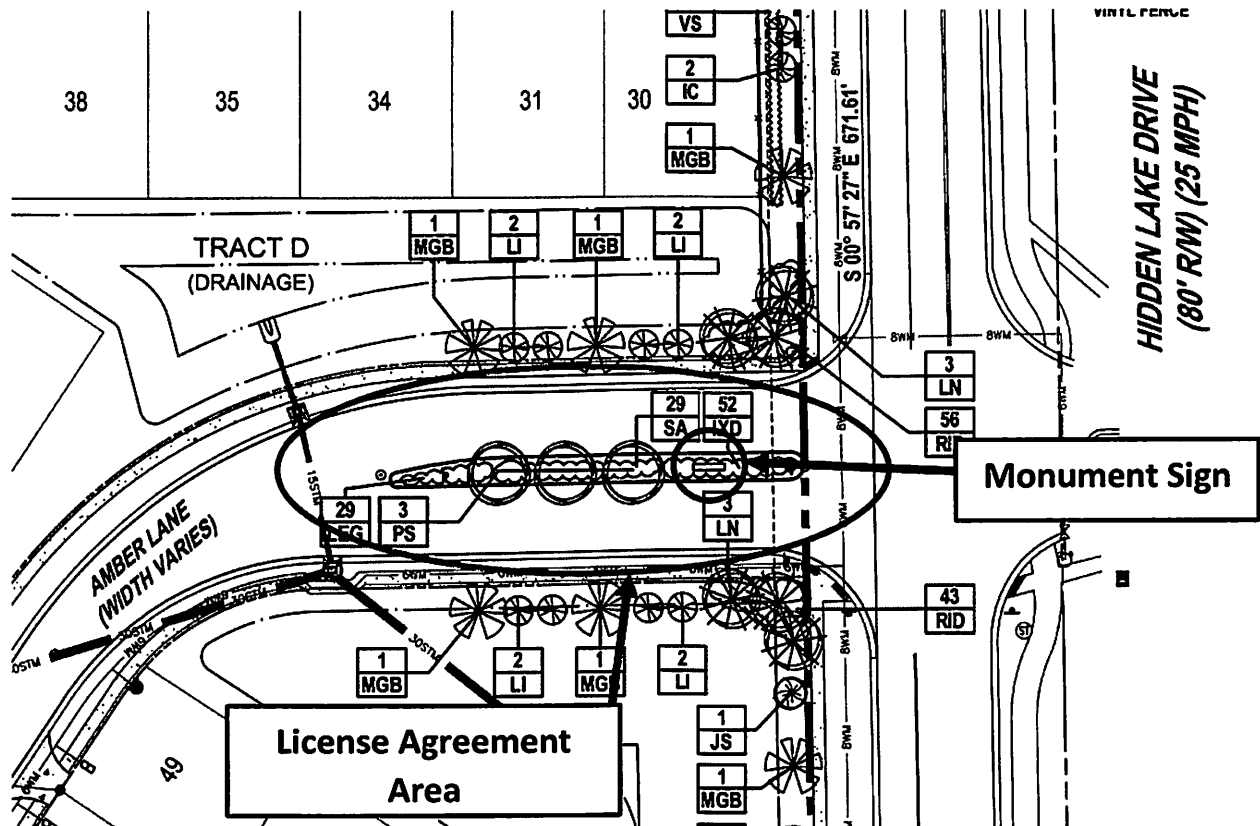
STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by _____, as _____ of the Cornerstone Grove Homeowners' Association, Inc., who is authorized to execute the foregoing LICENSE AGREEMENT, and who ☐ is personally known to me, or ☐ has produced _____ as identification.

Notary Public, State of Florida at Large
Printed name, commission and expiration:

EXHIBIT "A"

Landscaping -Amber Lane (to be recorded on Plat as Coulter Lane)



* Plantings include: Silver Date Palms (3); Evergreen Giants (29); Gold Capela (29); Nora Grant (52)

EXHIBIT "A"

Irrigation -Amber Lane (to be recorded on Plat as Coulter Lane)

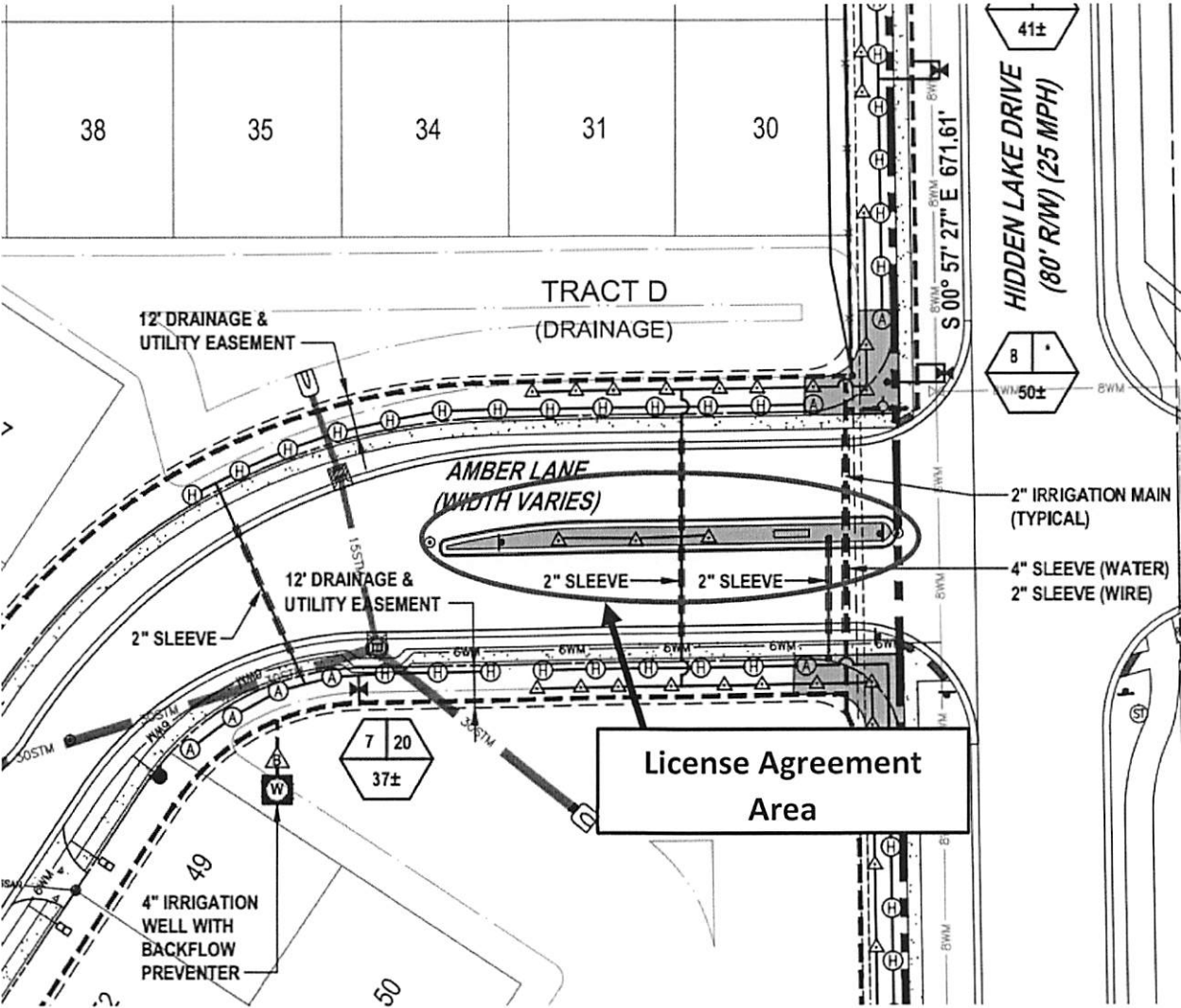
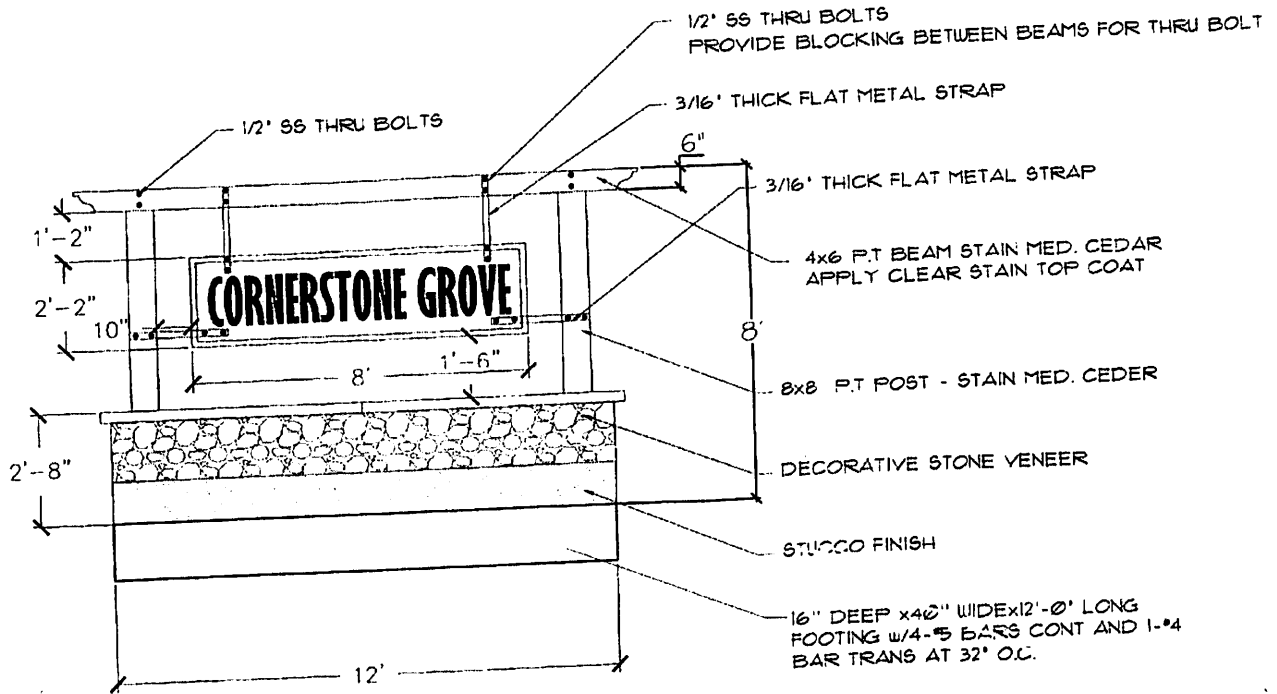


EXHIBIT "A"



DOUBLE SIDED SIGN
Sign Elevation View
SCALE: 1/2" = 1'-0"

PORT ORANGE
NOV 14 1961
PLAN REVIEW

EXHIBIT "B"

Legal Description

A PORTION OF SECTION 18, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

FROM THE NORTHEAST CORNER OF SAID SECTION 18, RUN S01°43'30"E ALONG THE EAST LINE OF SAID SECTION 18, A DISTANCE OF 2640.02 FEET TO THE SOUTHEAST CORNER OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 18; THENCE S89°41'53"W ALONG THE SOUTH LINE OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 18, A DISTANCE OF 2055.18 FEET TO THE EASTERLY RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 95 (A 350 FOOT WIDE RIGHT OF WAY) AND THE BEGINNING OF A NON TANGENT CURVE CONCAVE SOUTHWEST, HAVING A RADIUS OF 3994.83 FEET, A CENTRAL ANGLE OF 05°49'28" AND A CHORD BEARING OF N53°30'41"W; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE AND ALONG SAID EASTERLY RIGHT OF WAY LINE, 406.11 FEET; THENCE CONTINUE ALONG SAID EASTERLY RIGHT OF WAY LINE N56°25'25"W, 2161.92 FEET; THENCE DEPART SAID EASTERLY RIGHT OF WAY LINE N33°34'35"E, 100.00 FEET TO A POINT ON THE EASTERLY RIGHT OF WAY LINE OF YORKTOWNE BOULEVARD (A 100 FOOT WIDE RIGHT OF WAY PER OFFICIAL RECORDS BOOK 3557, PAGE 1879 AND OFFICIAL RECORDS BOOK 3718, PAGE 1042, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA) AND THE POINT OF BEGINNING; THENCE ALONG SAID EASTERLY RIGHT OF WAY LINE N56°25'25"W, 1444.30 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 18; THENCE N01°54'42"W ALONG SAID WEST SECTION LINE 16.36 FEET TO A POINT ON THE WESTERLY PROLONGATION OF THE SOUTH BOUNDARY LINE OF HIDDEN LAKE PHASE IV-B, AS RECORDED IN MAP BOOK 41, PAGE 55, SAID PUBLIC RECORDS; THENCE DEPART SAID WEST SECTION LINE N89°53'21"E ALONG SAID WESTERLY PROLONGATION AND SAID SOUTH BOUNDARY LINE AND THE SOUTH BOUNDARY LINE OF HIDDEN LAKE PHASE IV-A, AS RECORDED IN MAP BOOK 40, PAGES 86- 87, OF SAID PUBLIC RECORDS, 1279.44 FEET; THENCE DEPART SAID LINE S00°57'27"E, 671.61 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE WESTERLY HAVING A RADIUS OF 190.00 FEET AND A CENTRAL ANGLE OF 34°32'02"; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, 114.52 FEET; THENCE S33°34'35"W, 37.00 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 90°00'00" AND A CHORD BEARING OF S78°34'35"W; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, 39.27 FEET TO THE POINT OF BEGINNING.



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: Yes

SUBJECT: (B12) Acceptance of grant funds from the Target Foundation

DEPARTMENT: Police Services

GOAL:

RECOMMENDED MOTION: Move to approve the acceptance of grant funds from Target in the amount of \$3,000 for the Shop with a Cop program.

SUMMARY: Earlier this year, the Port Orange Police Department applied for a grant from Target in the amount of \$3,000 for the Shop with a Cop program. The Shop with a Cop program helps build a positive relationship by pairing police officers from the Port Orange Police Department with deserving elementary school students as they shop for holiday gifts for themselves and family members.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Application	2017_Target_shop with a cop.pdf
----	-------------	---------------------------------

Debbie Grabowski	Created/Initiated - 10/25/2017
William Proctor	Approved - 11/01/2017
Thomas Grimaldi	Approved - 11/01/2017
Tracey Riehm	Approved - 11/07/2017
Margaret Roberts	Approved - 11/17/2017
Jake Johansson	Approved - 11/19/2017
Robin Fenwick	Final Approval - 11/20/2017



Welcome to our Online Grant Application

[Logout](#)

Confirmation of Application Receipt:

Your proposal was successfully submitted to the Target. No further action on your part is required and you can expect to receive notice of your proposal's status shortly. To print a copy of this completed application go to 'File', then 'Print' on your browser toolbar. Click here to [return to the homepage](#) when you are finished.

Contact Information

* Prefix Mrs.

* First Name Kelley

* Last Name Eisen

Suffix

* Title Accreditation Manager

* Telephone (386) 506-5812

* E-mail Address keisen@port-orange.org

* Contact Type Application Primary Contact

Contact Information

* Prefix Mr.

* First Name Evan

* Last Name Doyle

Suffix

* Title Officer

* Telephone (386) 506-5822

* E-mail Address edoyle@port-orange.org

* Contact Type Application Primary Contact

Organization Information

Official Name

AKA Name

* Street Address or P.O. Box 4545 Clyde Morris Boulevard

* City Port Orange

* State Florida

* Zip/Postal Code 32129

* 4-Digit Extension 4062

* Organization Website <https://www.port-orange.org/>

Facebook <https://www.facebook.com/Port-Orange-Police-Department-441051922650909/>

Twitter

Instagram

* Mission Statement The Port Orange Police Department provides unparalleled protection for residents, businesses and property. This is evidenced by a per capita violent crime rate that is less than one-tenth the State average, and lower than any other city in Volusia County with a population over 57,000.

Ninety-one sworn officers, three sworn reserve officers, 17 non-sworn employees and more than 40 VIPS (Volunteers in Police Service) provide law-enforcement and animal control services throughout the City of Port Orange.

As a pro-active and community-oriented agency, the Department subscribes to a philosophy of "community policing" bolstered by "intelligence led policing". By giving careful consideration to each reported crime incident, the Department is able to maintain an accurate assessment of the concerns of local residents. Officers are trained to be client-oriented and to forge close bonds throughout the community.

* Year Established 1867

* Organization Type (US) Government: Police/Law Enforcement

Government Information Letter? Yes

Government Information Letter (file) • [TAXEXEMPTCERTIFICATE82017-82022.pdf \(236.82 K\)](#), uploaded by Kelley Eisen on 10/20/2017

Organization Request Details

- * Organization History The Port Orange Police Department has a long history of protecting it's citizen. As community oriented policing has become more predominate, the Port Orange Police Department has grown in it's endeavors within the community participating in National Night Out, Family Days events, as well as numerous other community outreach events throughout each year. In 2015, Chief Grimaldi, having just been sworn in, reached out to implement our newest annual endeavor, Shop With a Cop at Target. This was developed with an intention of helping to ensure that underprivileged families within our community are able to provide an enjoyable Christmas for their children as well as experiencing a positive interaction with local law enforcement.
- * Organization Goals Our top goals are to increase community involvement with law enforcement, specifically to those from underprivileged areas. This will also assist in increasing trust and communication within this community. As we get closer to our goals of community involvement, this also has a direct correlation in crime prevention, as well as community involvement in assisting with solving crimes.
- * Organization Changes Forfeiture laws changed, which has a direct impact on the funding of crime prevention awareness and community involvement.

Due to the financial situation of the City, our overtime budget has been decreased. This coupled with the increase of population of the city decreases the amount of time that officers have for community involvement.
- * Total Operating Budget FY17 \$12,098,223; FY18 \$12,940,639
- * Change In Net Assets (\$) \$80,000.00
- * Total Unrestricted funds \$0.00
 - * Sources of Revenue Fines/Court Cases .77%

Parking Violations .16%

Animal Citations .04%

Investigation Restitution .02%

Wrecker/Towing Contract .88%

Government Grants .15%

Misc Revenue (public records requests, fingerprinting, police security, false alarms) .93%

Total % of budget from revenue = 2.95%
- * Target Involvement No
- * Current Elected Official No
- * Target Board Members No

* Non-Target Board Members Chief Thomas R. Grimaldi

Are any of your board members and/or leaders a decision maker at Target? No

Proposal Details

* Group/Region/Distribution Center G393

* Request Amount \$3,000.00

* Project/Program Title Shop with a Cop

* Project/Program Start Date 12/16/2017

* Project/Program End Date 12/16/2017

* Program Area Law Enforcement Partner

* Year Project/Program was first implemented 2015

* Total Project/Program Budget \$6,000.00

* Primary Project/Program Expenses Line Item A: \$3000 for twenty (20) \$150 gift cards

* Project/Program Description The Shop with a Cop program helps build a positive relationship by pairing officers from the Port Orange Police Department with deserving elementary school students as they shop for holiday gifts for themselves and family members. The premise for this is simple, kids who have a good relationship with local law enforcement officers are less likely to get into trouble with the law, and are more likely to seek help from police when they need it. It is our hope that Shop with a Cop will break down some of the barriers between the community and the police, helping deserving families and building many new friendships.

* Corporate Benefits? No

Volunteer Opportunities? Yes

Describe Volunteer Opportunities Each child is paired with a police officer and a volunteer to help them during their shopping experience. Volunteers are also utilized for gift wrapping.

Demographics

* Estimated Number of People Served 40

* Ethnicity 100% Remaining Unknown

Economically Disadvantaged Description The children who participate are chosen by their school guidance counselor who basis their decision on the needs of the family and children.

Economically Disadvantaged Measurement The children who participate are chosen by their school guidance counselor who basis their decision on the needs of the family and children.

* Gender 50% Male
50% Female

* Age Groups 100% Elementary Students - Grades K-5 (5-10 years old)

Population Served by this Project/Program Checkbox
None of the Above

Additional Information

* Key Metrics We will be looking in reductions in juvenile delinquent incidents from the communities that our participants are from.

Additional Files

Need Support?

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CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (E13) Florida Elite Soccer Club

DEPARTMENT: Parks & Recreation

GOAL:

RECOMMENDED MOTION:

SUMMARY: Mr. Greenberg represents Port Orange Soccer Club and/or Florida Elite Soccer Club. He has not indicated to staff why he is attending the meeting but indications are that he would like to articulate the need for more/better soccer fields in Port Orange to support the sport. In recent months, we have had issues with one of the primary fields, South Winds, due to over use and also due to the area not being conducive to rapid regrowth after heavy play. This severely limits the ability of the partner to practice at an aggressive rate.

Please see attachments comparing other Parks Partner Agreements, field utilization rates, and partner contributions as a comparison.

Also of note, the City Staff was approached by Port Orange Soccer Club with a proposed agreement under which the Port Orange Soccer Club planned on merging with the Florida Elite Soccer Club. Mr. Greenberg is under the assumption that both clubs still exist. We believe that Mr. Greenberg is coming to this meeting as the Port Orange Soccer Club President.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	PO Soccer Club Agreement	soccerclubagreement17executed.pdf
2.	Fl. Elite Agreement	Floridaelite2017agreementexecuted.pdf
3.	memo to Mgr	mgrmemoonfieldusage.doc

Robin Fenwick
Susan Lovallo
Jake Johansson
Robin Fenwick

Created/Initiated - 10/04/2017
Approved - 11/15/2017
Approved - 11/16/2017
Final Approval - 11/16/2017



PARKS & RECREATION PARTNER AGREEMENT

THIS AGREEMENT is made and entered into this 26th day of January, 2017, between **Port Orange Soccer Club, Inc.**, a not-for profit corporation, whose mailing address is: 5951 Shady Creek Lane, Port Orange, FL 32128 ("Parks & Recreation Partner"), and the **CITY OF PORT ORANGE, FLORIDA**, a chartered municipal corporation, whose mailing address is: 1000 City Center Circle, Port Orange, FL 32129-4144 ("City"), hereinafter collectively referred to as the "Parties."

WHEREAS, the City Council recognizes the community benefit of allowing for Parks & Recreation Partner sports groups to utilize the City's facilities and provide a variety of competitive sports for the City's youths; and

WHEREAS, Parks and Recreation Department has created certain eligibility requirements for Parks & Recreation Partner sports groups applying for use of the City's facilities (attached hereto as **Exhibit "A"**); and

WHEREAS, the Parks & Recreation Partner has met or exceeded the eligibility requirements referenced above; and

NOW THEREFORE, the Parties, for good and valuable consideration, receipt whereof is hereby acknowledged, intending to be legally bound, agree as follows:

ARTICLE I - PREMISES

1.1 The City does hereby agree to provide usage of its recreational facilities, as described in the attached **Exhibit "B"** to Parks & Recreation Partner according to the terms and conditions herein contained; however, Parks & Recreation Partner expressly acknowledges that City activities shall take priority over all recreational facility usage.

1.2 City and Parks & Recreation Partner represent and warrant that it has the full right and authority to enter into this Agreement and all of its terms.

ARTICLE 2- TERM

2.1 The term of this Agreement shall commence on February 1, 2017 and continue for a period of one (1) year until January 31, 2018, unless sooner terminated as provided herein.

2.2 This Agreement may be renewed for additional one (1) year terms, solely at the City's option and with the mutual acceptance by Parks & Recreation Partner within thirty (30) days of the City's exercise of this option.

ARTICLE 3 – FEES

3.1 Recreational Facilities Use Fee

3.1.1 Parks & Recreation Partner shall pay to the City a recreational facilities use fee of Four Thousand and 00/100 Dollars (\$4,000.00) for year-round sports or Two Thousand and 00/100 Dollars (\$2,000.00) for sports that last six (6) months or less each year. The recreational facility use fee may be paid in installments; however, the entire recreational facilities fee must be paid in full by the conclusion of the athletic season for which the recreational facilities are used. **(payment of \$2,000 on 2/15/17 and \$2,000 on 7/15/17)**

3.1.2 The recreational facilities use fee is subject to increase/decrease by Resolution of City Council. In the event that the recreational facility use fee is modified by City Council, each of the Parties hereto shall have the opportunity to agree to the fee modification by amendment to this Agreement. Parks & Recreation Partner may, in the alternative, respond to the fee modification by terminating this Agreement.

3.2 Lighting Fee

3.2.1 Parks & Recreation Partner shall pay to the City a lighting fee of Ten and 00/100 Dollars (\$10.00) per hour for the use of any City facility which requires outdoor lighting.

3.2.2 Lighting fees shall be due and payable on a monthly basis. Lighting fees accrued in any month shall be paid on or before the 15th day of the following month.

3.3 Maintenance Staff Fee

3.3.1 City may provide Maintenance Staff at a rate of Twenty-five and 00/100 Dollars (\$25.00) for full-time employees and Twelve and 00/100 Dollars (\$12.00) for part-time employees at the Parks & Recreation Partner's request. This fee shall apply to Maintenance Staff provided by the City outside of the normal operating hours for the Maintenance Staff.

3.3.2 Maintenance Staff availability is not guaranteed and is subject to change. Parks & Recreation Partner shall notify the City thirty (30) days in advance of any tournament or other athletic event requiring City Maintenance Staff. **(See Fee Resolution Exhibit "D")**

3.3.3 Maintenance Staff Fees shall be due and payable in advance of the event requiring City Maintenance Staff. Should the actual hours worked by the Maintenance Staff exceed the projected number of hours submitted by the Parks & Recreation Partner, the amount of overage must be paid within ten (10) days of the conclusion of the event.

3.4 Field Setup Fee

3.4.1 Parks & Recreation Partner shall pay Field Setup Fee for use of any facility which requires City staff to setup the field prior to the event. This fee covers materials such as trash bags, toilet paper, paper towels, and chalk.

3.4.2 Parks & Recreation Partner may opt to have its own volunteers' setup the fields for play in lieu of paying for a fulltime maintenance person on site; however, they would have to pay for a maintenance person to be on call for tournaments or after hour games. Any person designated to setup fields for sporting events must be trained by the City of Port Orange Parks and Recreation Department prior to engaging in such activity.

3.4.3 Field Setup Fees shall be due and payable in advance of the event requiring field setup.

3.5 Late Payments

If any payment of fees, referenced in Article 3, has not been received by the City within five (5) business days after payment is due, then City may charge a five (5) percent late charge on the past due payment.

ARTICLE 4 – INSURANCE

4.1 Parks & Recreation Partner must maintain and provide proof of general liability insurance in the amount of One Million Dollars (\$1,000,000.00) listing the City of Port Orange as an additional insured.

4.2 The Parks & Recreation Partner shall provide proof of the above insurance coverage in the form of a certificate of insurance annually on the 1st day of February for the entire duration of this Agreement.

4.3 City is entitled to direct notice of insurance cancellation.

ARTICLE 5 - HOLD HARMLESS AND INDEMNIFICATION

The Parks & Recreation Partner shall indemnify, protect, defend and hold harmless the City of Port Orange, its council members, officers, agents, representatives, employees and volunteers from any and all loss, claims, expenses,

actions, causes of action, costs, damages, and obligations, financial or otherwise, including attorney fees and legal expenses, arising from any and all acts of the Parks & Recreation Partner, its agents, employees, licensees, that result in injury to, constitute violations of individual rights of persons, results in damage to property or any other liability for the City.

ARTICLE 6 – RECREATIONAL FACILITIES

6.1 Reservations

6.1.1 Parks & Recreation Partner may make reservations for the use of one court/field twice per week minimum. In addition, Parks & Recreation Partner may make reservations for three (3) tournaments each year. Tournaments shall not last more than three (3) days and shall be held between the hours of 7:00 a.m. or 10:00 p.m. unless otherwise expressly authorized by the City. Additional tournament and court/field reservations may be made if availability allows.

6.1.2 Parks & Recreation Partner shall only reserve recreational facilities for their own organization and are prohibited from reserving recreational facilities for others.

6.1.3 Parks & Recreation Partner agrees to provide a minimum of fourteen (14) day notice to the City when reserving recreational facilities for a tournament. Parks & Recreation Partner acknowledges that even with a fourteen (14) day notice, no recreational facility can be guaranteed to be available to the Parks & Recreation Partner on the date and time requested.

6.1.4 Parks & Recreation Partner agrees to provide a minimum of twenty-four (24) hour notice to the City when reserving recreational facilities for practices. Parks & Recreation Partner acknowledges that even with a (24) hour notice, no recreational facility can be guaranteed to be available for the Parks & Recreation Partner on the date and time requested.

6.1.5 Reservation requests shall be directed to Jennifer Sisk (jsisk@port-orange.org) and Josh Anderson (janderson@port-orange.org). If City fails to respond within twenty-four (24) hours of a reservation request, Parks & Recreation Partner shall contact the Parks and Recreation Department via telephone at (386) 506-5851.

6.1.6 City reserves the right to cancel any tournament or practice due to unsafe field/court conditions or sufficient proof of unauthorized activities.

6.2 Use

6.2.1 This Agreement is subject to and Parks & Recreation Partner shall comply with all statutes, ordinances, regulations, and rules of the Federal Government, the State of Florida, the County of Volusia and the City of Port Orange when using the City's recreational facilities.

6.2.2 City staff shall routinely check recreational facilities during tournaments and practices to ensure all rules and regulations are being followed.

6.2.3 Parks & Recreation Partner shall be prohibited from representing itself to be owner or sole user of any City facilities.

6.2.4 Parks & Recreation Partner shall be liable for any and all damage that occurs to recreational facilities during usage.

6.2.5 Parks & Recreation Partner shall report damage to facility within twenty-four (24) hours of known damage by calling (386) 506-5851 and by e-mail to Jennifer Sisk or Josh Anderson.

6.2.6 In the event of a medical emergency, Parks & Recreation Partner shall dial 9-1-1 and notify the City as soon as practicable thereafter in the manner set forth in the previous paragraph.

6.3 Lost & Found

All items left on City premises shall be held for thirty (30) days and after such time shall be considered abandoned and become the property of the City of Port Orange.

ARTICLE 7 – ASSIGNMENT

The Parks & Recreation Partner shall not assign any interest in this Agreement, and shall not transfer any interest in the same, whether by assignment or novation, without the prior written consent of the City. Such consent shall be solely within the discretion of the City.

ARTICLE 8 – MISCELLANEOUS

8.1 Eligibility Requirements. The eligibility requirements set forth in **Exhibit "A"** are hereby incorporated into this Agreement. Parks & Recreation Partner hereby agrees to maintain compliance with all eligibility requirements throughout the term of this Agreement. Failure to meet any eligibility requirement shall be considered a breach of this Agreement.

8.2 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered.

8.3 Florida Law to Apply. This Agreement is entered into and is to be performed in the State of Florida. The City and the Parks & Recreation Partner agree that the law of the State of Florida shall govern the rights, obligations, duties and liabilities of the parties to this Agreement and shall govern the interpretation of this Agreement. The parties agree that the courts of competent jurisdiction for Volusia County, Florida shall be the venue for all administrative actions or litigation.

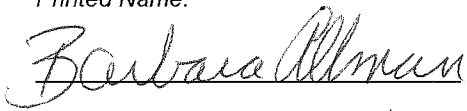
8.4 Amendment. This Agreement may be modified or amended only by a written agreement duly executed by the parties hereto or their representatives.

This Parks & Recreation Partner Agreement is executed by the Parties as of the respective dates below:

WITNESSES:



Jennifer Sisk
Printed Name:



Barbara Allman
Printed Name:

STATE OF FL
COUNTY OF Volusia

The foregoing Parks & Recreation Partner Agreement was acknowledged before me this 26 day of January, 2017, by Marc Greenberg, as _____ of _____, and who: ☒ is personally known to me; or ☐ has produced _____ as identification.

PARKS & RECREATION PARTNER:

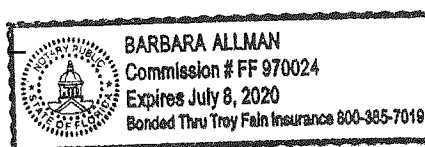
Port Orange Soccer Club
a non-profit corporation 
Marc Greenberg

Printed Name: Marc
Title: President

Date: 1-26, 2017



Notary Public, State of FL at Large
Printed Name, Commission Seal and Term Expiration Date



WITNESSES:

CITY OF PORT ORANGE, FLORIDA,
a chartered municipal corporation

By: M.H. Johansson
Michael Johansson, City Manager

Printed Name:

Date: February 1, 2017

Printed Name:

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing Parks & Recreation Partner Agreement was acknowledged before me this _____ day of _____, 2017, by Michael Johansson, as City Manager of the City of Port Orange, Florida, a chartered municipal corporation, on behalf of the city, and who: ☐ are personally known to me; or ☐ have produced _____ as identification.

Notary Public, State of Florida at Large
Printed Name, Commission Seal and Term Expiration Date

Exhibit "A"

Eligibility Requirements

- 1) There is an existing need for the organization and its services.
- 2) Consideration will be given as to possible duplication of the organization's services with other services offered by the other local organizations, and with similar activities conducted by the department.
- 3) The organization membership must be open to residents of the city.

Department Policies & Procedures

- 1) Must be a nonprofit organization and be able to show articles of incorporation and bylaws that list current board members.
- 2) Must have 50% of children on rosters be Port Orange Residents.
- 3) Port Orange must be representative in the team name.
- 4) Group would need to commit to the financial responsibility set forth by the city for facility usage.
- 5) Co-sponsored group would have to commit 50% of their roster to participate in the Cities Recreation league for like sports.
- 6) All Banners must be uniformed to match the same size banners on the field or in the gym. The banners must be 5 feet in height and at least 5 feet in length at the ball fields and 3 feet in height and 5 feet in length in the gym. Banners must be mesh on the fields for the wind to go through them and vinyl in the gym. All banners must be the same color per complex or facility.
- 7) Lightning Rule- If you hear or see lightning, you must get off the field and go to the vehicles for at least 30 minutes. After each sign of lightning, you must wait 30 minutes. If the lightning continues for more than an hour, then all activities will be cancelled.
- 8) Rainouts- Each president and one other board member must be signed up to the Port Orange recalert. If the Parks & Recreation Department cancels practices or games for any reason, the Parks & Recreation Partner must adhere to cancellation.
- 9) Paint allowance per year is \$2500. Once Parks & Recreation Partner reaches that amount, the group must buy their own paint that the Parks Superintendent recommends.
- 10) All adults working with the youth must be background checked and Identified.

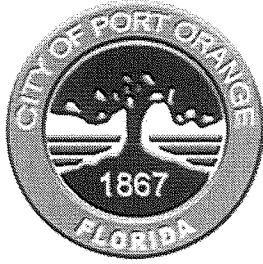
11) Maintenance- all Park & Recreation Partner must help with maintenance of the fields and/or facilities. This includes and not limited to: taking trash to the dumpster, keeping all the areas clean, taking tarps on and off the fields, filling holes after a practice or game, etc.

Print Name: Marc Greenberg

Signature: 

Date: 1-26-17

Exhibit "B"



Port Orange Parks and Recreation Facilities

Adult Activity Center

4790 South Ridgewood Avenue
Port Orange, FL 32127

Original building opened in 1977 and was remodeled in 1987 and 2010. This Facility is a 5000 square foot air-conditioned building and can be reserved for a fee. Classes, clubs, dances, meetings are held here along with the COA lunch program- Meals on Wheels distribution center. Amenities include:

Open floor space Offices Kitchen Restrooms

Adult Center Annex

3738 Halifax Drive
Port Orange, FL 32127

Original building opened in 1971 and was remodeled in 1986. This Facility is a 2600 square foot air-conditioned building that is used for Adult Classes and can be reserved for a fee. Amenities include:

Open floor space Kitchen Restrooms

Airport Road Park

6751 Airport Road
Port Orange, FL 32128

This 10-acre active Park opened in 2000. Amenities include:

Children's playground	Restrooms
4 adult lighted tennis courts	Covered Pavilion picnic area with outdoor grill
8 youth tennis courts	Pavilion can be reserved for a fee
2 outdoor basketball courts	

Allen Green Civic Center

4705 Clyde Morris Blvd.
Port Orange, FL 32129

This facility is currently leased by Palmer Chiropractic College.

Amphitheater - Kenneth W. Parker Performing Arts Center

2001 City Center Circle
Port Orange, FL 32129

The Amphitheater opened in 1998. This facility is used for a variety of special events and concerts. This is a five (5) acre site and the facility can be reserved for a fee. Amenities include:

Performing Stage
Small covered pavilion

Spectator seating
Restrooms

Buschman Park

4575 Spruce Creek Road
Port Orange, FL 32127

30-acres of passive land opened in 2001. Amenities include:

Halifax River Audubon Society Bird Sanctuary
½ mile walkway around the lake
Boardwalk across the water
Two covered pavilion picnic areas one with outdoor grill
(pavilion can be reserved for a fee)
Children's Playground
Outdoor fitness equipment
Restrooms

Causeway Park

93 Dunlawton Avenue
Port Orange, FL 32127

Park opened in 1990 and phase two was completed in 1994. 30-acre passive park. This beautiful park is located on the Halifax River at the Port Orange Dunlawton Bridge. Major boat ramps, fishing piers and picnicking areas open to the public. Amenities included:

7 Boat ramps
3 Fishing piers
Picnic tables with grills

Covered pavilions
Restrooms
Vehicle with boat trailer parking lot

City Center Complex

1000 City Center Circle
Port Orange, FL 32129

This complex includes City Hall, Lakeside Community Center, the Library, the YMCA, the Parks & Recreation Gymnasium, a Performing Arts Center, Athletic Fields, Veteran's Park and a Fitness trail with a ½ mile walking trail around the lake.

City Center Sports Complex and Laura Sacco Park

4625 City Center Drive
Port Orange, FL 32129

City Center Sports Complex opened in 1990. 42.5-acre active park. This Sports Complex hosts the Cities youth baseball and softball programs, women's softball, youth soccer and PAL programs. The playground is open to the public and the sports fields are open during non-competition days. Amenities include:

2 lighted competition softball fields, 300 ft.	4 batting cages
3 lighted competition softball fields, 200 ft.	2 lighted soccer fields
2 children's playgrounds	Restrooms
Concession stand	

Coraci Sports Complex

5200 Coraci Blvd.
Port Orange, FL 32128

The Coraci Sports Complex is a thirty-six (36) acre active Park and opened in 2010. Amenities include:

4 Softball fields with lights	Football Field with lights
Soccer Field with lights	Children's Playground
Concession Stand/Press Box	

Creekside Middle School

6751 Airport Road
Port Orange, FL 32128

This is a ten (10) acre active park with two soccer fields open to the public.

Golf Course at Cypress Head

6231 Palm Vista
Port Orange, FL 32128

Renovated in 2015. 18 hole municipal golf course, 6800 yards.

Lakeside Community Center

1999 City Center Circle
Port Orange, FL 32129

This facility opened in 2007 and offers 1,800 square feet of indoor meeting space, accompanying covered outdoor patio and landscaped lawn, adjoining the Kenneth W. Parker Amphitheater and City Center Lake. Available to rent for your Special Gatherings, meetings and events call 386-506-5936. Amenities include:

Large hall with sound and projection
Kitchen facilities
Large outdoor patio area under roof

Tables and chairs
Portable stage and dance floor

Memorial Park

3801 Jackson Street
Port Orange, FL 32129

Park opened in 1998 and is a ten (10) acre passive park. A beautiful Park open to the public with a 7/10-mile lighted walkway around the lake for walking, running, roller blading and picnicking. Leashed pets are welcome and doggy bags are provided to you for cleaning up after your pet. Amenities include:

Boardwalk/fishing pier

Park benches and picnic tables

Port Orange Gymnasium

4655 City Center Circle
Port Orange, FL 32129

The Gymnasium was built in 1977 and remodeled in 1990 and 2007. This facility is a 20,000 square foot building and houses the Parks and Recreation Administration Staff. The Cities youth basketball program is held here along with open basketball play for the public. Other exercise programs are held here also. Open for the public use during non-competition days. Courts can be reserved for a fee. Amenities include:

Administration Offices 3 indoor air-conditioned basketball courts Restrooms

Port Orange YMCA

4701 City Center Parkway
Port Orange, FL 32129

This facility is a 38,000 square foot building. Amenities include:

Air-conditioned basketball courts	Nautilus room	Steam room
4 indoor racquetball courts	Free weight room	Sauna
Men, women's, boys & girls' locker room		
Heated swimming pool, 50-meter x 25 yards		

Riverwalk

3431 South Ridgewood Avenue
Port Orange, FL 32127

Park opened in 1995 and is currently being expanded Phase 1 A opened in 2015. This Park is located on the Halifax River and is a two (2) acre passive park with fishing piers, kayak and canoe launch, children's playground, picnic tables and restrooms. Concession stand to open soon.

Russell Property

Seventeen (17) acres (Future use)

Silver Sands Middle School

1300 Herbert Street
Port Orange, FL 32129

This is a twenty-three (23) acre City run Park at a Volusia County School. Practice fields for the City's baseball youth program. All facilities opened to the public after school hours. Amenities include:

3 practice baseball fields	1 lighted football/soccer field
4 lighted tennis courts	multi-purpose athletic fields
Track	4 lighted outdoor basketball courts

Skate Park

4655 City Center Circle
Port Orange, FL 32129

Park opened in 2001 and was renovated in 2014. This is a one (1) acre skate park for scooters, skateboards, roller blades and BMX bikes.

Southwinds Soccer Complex

1200 Richel Road
Port Orange, FL 32129

This Park opened in 2001 and is a five (5) acre active Park. The Park is open to the public. Southwinds hosts the Cities youth competitive Soccer program, Port Orange Soccer Club. Amenities included:

2 Soccer fields Children's playground Restrooms

Spruce Creek Recreational Facility

5959 South Spruce Creek Road
Port Orange, FL 32127

The Park opened in 1989 and is a Forty (40) acre active park. This Park/Sports Complex hosts the Cities baseball program, women's softball, men's softball and girls' softball. Playground is open to the public and the sports fields are open during non-completion days. * Two Parks are included with this facility, see below. Amenities at this facility include:

1 lighted competition baseball field 480 ft. 1 lighted softball field 300 ft.
Outdoor basketball court Concession Stand with Press Box

- **All Children's Park** – this Park was built by volunteers in 1990 and is a five (5) acre passive park. Renovations in 2010 for phase 1. Phase 2 opened in 2014. The Park has a large Pirate Ship playground with slides, swings, climbers and more. Several picnic table areas and a large Pavilion with a BBQ charcoal grill. This Pavilion may be reserved with a fee.
- **Seemor Dog Park** – This is a one (1) acre park that opened in 2009. The Park has a Pavilion and benches with areas for large and small dogs. Water and doggie waste bags are provided to you for you to clean up after your dog.

White Place Park

210 White Place
Port Orange, FL 32127

The Park was built in 1974 and is a five (5) acre active park open to the public. Amenities include:

8 lighted pickleball courts 10 horseshoe pits
2 lighted bocce ball courts 4 lighted shuffleboard courts
Picnic area with tables
1 lighted competition ball field/multi-purpose field

Willow Run Park

1351 School House Drive
Port Orange, FL 32129

This Park opened in 1998 and is a ten (10) acre active park. Open to the public. City youth baseball, basketball and soccer practice here. Amenities include:

Multi-purpose athletic fields
2 lighted tennis courts
8 lighted basketball courts

Children's playground
Covered picnic area / Pavilion
Restrooms

RESOLUTION NO 16-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, ESTABLISHING REVISED SPONSOR FEES AND REGISTRATION FEES FOR CITY SPONSORED YOUTH AND ADULT ATHLETIC PROGRAMS, PLAYGROUND PROGRAMS, ADULT PROGRAMS, AND CLASSES; ESTABLISHING REVISED NON-RESIDENT REGISTRATION FEES FOR ACTIVITIES; SUPERSEDING PRIOR RESOLUTION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Port Orange Recreation Department offers youth and adult athletic programs, playground programs, adult PROGRAMS, AND CLASSES; AND

WHEREAS, the City of Port Orange incurs administrative expenses to organize these programs and activities, register participants and provide supervision; and

WHEREAS, additional costs are incurred in providing uniforms, supplies, equipment and officials for the athletic programs which are defrayed, in part, by sponsor fees and registration fees, and

WHEREAS, the City Council desires to have such costs borne by persons participating in designated programs and activities and by team sponsors; and

WHEREAS, Section 50-38 of the Code of Ordinances, City of Port Orange, Florida, authorizes the City Council to establish by resolution non-resident fees for recreation activities.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA:

Section 1. The sponsor fees and registration fees listed on Exhibit A- D,
attached hereto and incorporated herein by reference, are established for
participants in and sponsors of youth and adult programs and for
participants in playground programs, AND OTHER PARKS AND
RECREATION SERVICES offered by the City of Port Orange.

Section 2. Pursuant to Section 50-38 of the Code of Ordinances, City of
Port Orange, Florida, the non-resident registration fees listed on Exhibit A,
attached hereto and incorporated herein by reference, are established for
participants in youth and adult athletic programs, playground
programs, adult clubs, and classes offered by the City of Port Orange.

Section 3. This resolution shall supersede Resolution No. 15-83

Section 4. The fees established in this resolution shall become effective
Immediately upon execution.

Allen Green, Mayor

ATTEST:

Michael Johansson, City Manager

Adopted on the _____ day of _____

Reviewed and approved: _____
City Attorney

Exhibit A

YOUTH PROGRAM REGISTRATION FEES

Youth Sports	\$70		
Youth Rookie Sport	\$50		
All Stars	\$100		
Open Gym child	\$1 daily	\$45 annually	
Open Gym Student	\$2 daily	\$55 annually	
Summer Rec Elem.	\$450		
Elem. Trip Package	\$175		
Teen Camp	\$550		
Camp T- Rec	\$222		
Registration Late Fee	\$10		

Child= child under 18 years of age by May 1

Student= person over 18 as of May 1 with valid student ID.

ADULT PROGRAMS

Open Gym Adult	\$3 Daily	\$65 annually	
Adult Team Sport (15 game season)	\$300 PT	Plus \$30 per player	Min. 12 players
Adult Team Sport (12 game season)	\$200 PT	Plus \$30 per player	Min. 10 players
Adult Individual Sport (12 game season)	\$25pp		Add \$10 pp for indoor or evening league

PT- per team, PP- per person

SENIOR PROGRAMS

Open Gym Senior	\$2 Daily	\$55 annually	
Senior Team Sport (12 game season)	\$75PT	Plus \$30 per player	Min. 12 players
Senior Games Registration fee	\$10	\$5 each addt'l. event	Golf \$15 extra Softball Team fee \$50

PT- per team, PP- per person, Senior = 60 as of January 1

SPECIAL PROGRAMS

Parade entry fee	\$15 (NP/NC)	\$50 (FP/C)
Get Fit	\$40 youth	\$50 Adult

(NP) – Nonprofit, (NC)- noncommercial, (FP)- for profit, (C)- commercial

CO-SPONSORED PROGRAMS

Youth Sport (Half year program)	\$2,000 per year	
Youth Sport (Full year program)	\$4,000 per year	
Adult Center Annual Club Fee (indoors)	\$300 ½ building	\$600 whole
Adult Center Annual Club Fee (outdoors)	\$250	

Exhibit B

SPONSOR FEES

Banner sponsor	\$500 per year	\$350 renewal
Scoreboard sponsor	\$3,000 for 3 years	Or \$1,000 yr. for 3 yrs.
Youth team sponsor	\$350 per team	
Youth league Sponsor	\$1500 per league	(min. 6 teams per league)

ATHLETIC FACILITIES

Gym (1 court) per hour	\$50 (NP/NC) \$100 (FP/C)	Class- \$25 per hr.
Gym Tournament (per court)	\$300 per day (NP/NC)	\$600 per day (FP/C)
Ball Fields (1-bb or 1 soccer)	\$15 per hour (NP/NC)	\$25 per hour (FP/C)
Ball Fields Tournament (per field)	\$100 per day (NP/NC)	\$200 per day (FP/C)
Light Fee per field	\$10 per hour	\$35 Tournament per day
Hard Court with lights	\$10 per hour (NP/NC)	\$20 per hour (FP/C)
Skate Park per hour	\$15 (NP/NC)	\$30 (FP/C)
Skate Park Tournament	\$100 per day (NP/NC)	\$200 per day (FP/C)

(NP) – Nonprofit, (NC)- noncommercial, (FP)- for profit, (C)- commercial

ATHLETIC SERVICES

Tournament Field Prep (chalk or lined) per field	\$35 per Tournament.
Rental Field Prep (peak and non- peak) per field	\$10 per occurrence
Athletic Concessionaire (food, decals, photos, etc.) BLDG	\$500 per season
Athletic Concessionaire (food, decals, photos, etc.) Cart	\$200 per season
Concession Stand (nonprofit)	\$100 per day
Parks Field Staffing- per employee	\$25 per hour
Part Time Staffing- Per employee	\$12 per hour
Temporary Fence Rental per field	\$50

(NP) – Nonprofit, (NC)- noncommercial, (FP)- for profit, (C)- commercial

Exhibit C

LAKESIDE COMMUNITY CENTER

Weekday Rate per hour	\$75 whole	\$30 Lakeview	\$50 Community Rm
Weekend Rate per hour	\$100		
Conference Rate (8:30- 5:30 weekdays only)	\$350		
Wedding Package	\$1000		
Lakeside Lawn per hour	\$10		
Lakeside Concession Per day	\$200 per day (NP/NC)		
Deposit	\$100		
Alcohol Fee	\$75		

(NP) – Nonprofit, (NC)- noncommercial, (FP)- for profit, (C)- commercial

ADULT CENTER & ANNEX

A/C Weekday rate per hour	\$35 ½ building	\$70 Whole
A/C weekend rate per hour	\$100	
Annex rate per hour	\$25	
A/C Class Rental	\$15 ½ building	\$30 whole
Deposit	\$100	
Alcohol Fee	\$75	

SPECIAL EVENT FACILITIES

Amphitheater per hour	\$50 NP/NC	\$75 FP/C
City Center Circle per hour	\$37.50 NP/NC	\$62.50 FP/C
City Center Lake per hour	\$25 NP/NC	\$62.50 FP/C
City Hall Plaza and green per hour	\$12.50 NP/NC	\$25 FP/C
Veterans Park per hour	\$25 NP/NC	\$30 FP/C

(NP) – Nonprofit, (NC)- noncommercial, (FP)- for profit, (C)- commercial

ADDITIONAL VENUES

Picnic Pavilion per 3 hours	\$50 (R)	\$75 (NR)
Concessionaire Fee per day	\$50 NP/NC	\$100 FP/C
Exhibitor Fee per day	\$35 NP/NC	\$75 FP/C

Exhibit D

ADDITIONAL SPECIAL EVENT FEES

Services Supplied by the City	Fee
Electrical Fee for Pedestals	\$50.00 @
Trash Cans (Rental Includes Two)	\$2.00 @
Barricades (Rental Includes ¼ Closure)	\$2.00 @
Police Services	\$40.00 per hr
VIPS (volunteers in police services)	N/A
Fire Services- including 1 st aid	\$55.00 per hr
Park Services	\$25.00 per hr
Public Works Services	\$25.00 per hr
Water Hook Up	\$25.00
Deposit	\$100.00
Additional Part time Recreation staff	\$12 per hr



PARKS & RECREATION PARTNER AGREEMENT

THIS AGREEMENT is made and entered this 1st day of July, 2017, between **FLORIDA ELITE SOCCER ACADEMY, INC.**, a Florida not-for-profit corporation, whose mailing address is: PO Box 57065, Jacksonville, FL 32241 ("Parks & Recreation Partner"), and the **CITY OF PORT ORANGE, FLORIDA**, a chartered municipal corporation, whose mailing address is: 1000 City Center Circle, Port Orange, FL 32129-4144 ("City"), hereinafter collectively referred to as the "Parties."

WHEREAS, the City Council recognizes the community benefit of allowing for Parks & Recreation Partner sports groups to utilize the City's facilities and provide a variety of competitive sports for the City's youths; and

WHEREAS, the Parks and Recreation Department has created certain eligibility requirements for Parks & Recreation Partner sports groups applying for use of the City's facilities (attached hereto as **Exhibit "A"**); and

WHEREAS, the Parks & Recreation Partner has met or exceeded the eligibility requirements referenced above; and

NOW THEREFORE, the Parties, for good and valuable consideration, receipt whereof is hereby acknowledged, intending to be legally bound, agree as follows:

ARTICLE I - PREMISES

1.1 The City does hereby agree to provide usage of its recreational facilities, as described in the attached **Exhibit "B"** to Parks & Recreation Partner according to the terms and conditions herein contained; however, Parks & Recreation Partner expressly acknowledges that City activities shall take priority over all recreational facility usage.

1.2 City and Parks & Recreation Partner represent and warrant that it has the full right and authority to enter this Agreement and all its terms.

ARTICLE 2- TERM

2.1 The term of this Agreement shall commence on July 1, 2017 and continue until January 31, 2018, unless sooner terminated as provided herein.

2.2 This Agreement may be renewed for additional one (1) year terms, at the City's option and with the mutual acceptance by Parks & Recreation Partner within thirty (30) days of the City's exercise of this option.

ARTICLE 3 – FEES

3.1 Recreational Facilities Use Fee

Parks & Recreation Partner shall pay to the City a recreational facility use fee of Four Thousand and 00/100 Dollars (\$4,000.00) for year-round sports or Two Thousand and 00/100 Dollars (\$2,000.00) for sports that last six (6) months or less each year. The recreational facility use fee may be paid in installments; however, the entire recreational facilities fee must be paid in full by the conclusion of the athletic season for which the recreational facilities are used.

paid in full on 5/25/17. [signature]

3.2 Lighting Fee

3.2.1 Parks & Recreation Partner shall pay to the City a lighting fee of Ten and 00/100 Dollars (\$10.00) per hour for the use of any City facility which requires outdoor lighting.

3.2.2 Lighting fees shall be due and payable monthly. Lighting fees accrued in any month shall be paid on or before the 15th day of the following month.

3.3 Maintenance Staff Fee

3.3.1 City may provide Maintenance Staff at a rate of Twenty-five and 00/100 Dollars (\$25.00) for full-time employees and Twelve and 00/100 Dollars (\$12.00) for part-time employees at the Parks & Recreation Partner's request. This fee shall apply to Maintenance Staff provided by the City outside of the normal operating hours for the Maintenance Staff.

3.3.2 Maintenance Staff availability is not guaranteed and is subject to change. Parks & Recreation Partner shall notify the City thirty (30) days in advance of any tournament or other athletic event requiring City Maintenance Staff.

3.3.3 Maintenance Staff Fees shall be due and payable in advance of the event requiring City Maintenance Staff. Should the actual hours worked by the Maintenance Staff exceed the projected number of hours submitted by the Parks & Recreation Partner, the amount of overage must be paid within ten (10) days of the conclusion of the event.

3.4 Field Setup Fee

3.4.1 Parks & Recreation Partner shall pay Field Setup Fee for use of

any facility which requires City staff to setup the field prior to the event. This fee covers materials such as trash bags, toilet paper, paper towels, and chalk.

3.4.2 Parks & Recreation Partner may opt to have its own volunteers' setup the fields for play in lieu of paying for a fulltime maintenance person on site; however, they would have to pay for a maintenance person to be on call for tournaments or after hour games. Any person designated to setup fields for sporting events must be trained by the City of Port Orange Parks and Recreation Department prior to engaging in such activity.

3.4.3 Field Setup Fees shall be due and payable in advance of the event requiring field setup.

3.5 Fees Subject to Change

The fees set forth herein are subject to increase/decrease by Resolution of City Council. The City's current fee resolution is attached hereto as **Exhibit "C"**. In the event that any fee is modified by City Council, the Parks & Recreation Partner shall begin paying the modified fee amount as soon as the City provides notice of such change. The Parks & Recreation Partner may, in the alternative, respond to the notice of fee modification by terminating this Agreement.

3.6 Late Payments

If any payment of fees, referenced in Article 3, has not been received by the City within five (5) business days after payment is due, then City may charge a five (5) percent late charge on the past due payment.

ARTICLE 4 – TERMINATION

Either party may terminate this Agreement by providing the other party with at least 30 days' notice of its intent to terminate in writing. The Parks & Recreation Partner shall be responsible for the payment of any and all fees outstanding at the time, including but not limited to a pro-rated share of the recreational facilities use fee.

ARTICLE 5 – INSURANCE

5.1 Parks & Recreation Partner must maintain and provide proof of general liability insurance in the amount of One Million Dollars (\$1,000,000.00) listing the City of Port Orange as an additional insured.

5.2 The Parks & Recreation Partner shall provide proof of the above insurance coverage in the form of a certificate of insurance annually on the 1st day of February for the entire duration of this Agreement.

5.3 City is entitled to direct notice of insurance cancellation.

ARTICLE 6 - HOLD HARMLESS AND INDEMNIFICATION

The Parks & Recreation Partner shall indemnify, protect, defend and hold harmless the City of Port Orange, its council members, officers, agents, representatives, employees and volunteers from any and all loss, claims, expenses, actions, causes of action, costs, damages, and obligations, financial or otherwise, including attorney fees and legal expenses, arising from any and all acts of the Parks & Recreation Partner, its agents, employees, licensees, that result in injury to, constitute violations of individual rights of persons, results in damage to property or any other liability for the City.

ARTICLE 7 – RECREATIONAL FACILITIES

7.1 Reservations

7.1.1 Parks & Recreation Partner may make reservations for the use of one court/field twice per week minimum. In addition, Parks & Recreation Partner may make reservations for three (3) tournaments each year. Tournaments shall not last more than three (3) days and shall be held between the hours of 7:00 a.m. or 10:00 p.m. unless otherwise expressly authorized by the City. Additional tournament and court/field reservations may be made if availability allows.

7.1.2 Parks & Recreation Partner shall only reserve recreational facilities for their own organization and are prohibited from reserving recreational facilities for others.

7.1.3 Parks & Recreation Partner agrees to provide a minimum of fourteen (14) days' notice to the City when reserving recreational facilities for a tournament. Parks & Recreation Partner acknowledges that even with a fourteen (14) day notice, no recreational facility can be guaranteed to be available to the Parks & Recreation Partner on the date and time requested.

7.1.4 Parks & Recreation Partner agrees to provide a minimum of twenty-four (24) hour notice to the City when reserving recreational facilities for practices. Parks & Recreation Partner acknowledges that even with a (24) hour notice, no recreational facility can be guaranteed to be available for the Parks & Recreation Partner on the date and time requested.

7.1.5 Reservation requests shall be directed to Jennifer Sisk (jsisk@port-orange.org) and Josh Anderson (janderson@port-orange.org). If City fails to respond within twenty-four (24) hours of a reservation request, Parks & Recreation Partner shall contact the Parks and Recreation Department via telephone at (386) 506-5851.

7.1.6 City reserves the right to cancel any tournament or practice due to unsafe field/court conditions or sufficient proof of unauthorized activities.

7.2 Use

7.2.1 This Agreement is subject to and Parks & Recreation Partner shall comply with all statutes, ordinances, regulations, and rules of the Federal Government, the State of Florida, the County of Volusia and the City of Port Orange when using the City's recreational facilities.

7.2.2 City staff shall routinely check recreational facilities during tournaments and practices to ensure all rules and regulations are being followed.

7.2.3 Parks & Recreation Partner shall be prohibited from representing itself to be owner or sole user of any City facilities.

7.2.4 Parks & Recreation Partner shall be liable for any injury to persons and participants resulting from the use of the recreational facilities.

7.2.5 Parks & Recreation Partner shall be liable for all damage that occurs to recreational facilities during usage.

7.2.6 Parks & Recreation Partner shall report damage to facility within twenty-four (24) hours of known damage by calling (386) 506-5851 and by e-mail to Jennifer Sisk or Josh Anderson.

7.2.7 In the event of a medical emergency, Parks & Recreation Partner shall dial 9-1-1 and notify the City as soon as practicable thereafter in the manner set forth in the previous paragraph.

7.3 Lost & Found

All items left on City premises shall be held for thirty (30) days and after such time shall be considered abandoned and become the property of the City of Port Orange.

ARTICLE 8 – ASSIGNMENT

The Parks & Recreation Partner shall not assign any interest in this Agreement, and shall not transfer any interest in the same, whether by assignment or novation, without the prior written consent of the City. Such consent shall be solely within the discretion of the City.

ARTICLE 9 – MISCELLANEOUS

9.1 Eligibility Requirements. The eligibility requirements set forth in **Exhibit “A”** are hereby incorporated into this Agreement. Parks & Recreation Partner hereby agrees to maintain compliance with all eligibility requirements throughout the term of this Agreement. Failure to meet any eligibility requirement shall be considered a breach of this Agreement.

9.2 Examination of Records. The Parks & Recreation Partner agrees that the City, or any of its duly authorized representatives, shall have access to and the right to examine and copy any pertinent books, documents, papers and records of the Parks & Recreation Partner involving transactions relating to this Agreement. The period for of access for records, books, documents, and papers which may relate to any litigation, or other settlement of claims arising out of the performance of this Agreement shall continue until the conclusion of all appeals in ongoing litigation or upon legal resolution approved by the Parties.

9.3 Indemnity. The Parks & Recreation Partner agrees to indemnify and save the City harmless against all actions, proceedings, claims, demands, costs, damages and expenses, including attorney’s fees, by reason of any suit or action brought for actual or alleged injury to or death of any person, or damage to property, resulting from the use by the Parks & Recreation Partner, its agents, servants, participant, or employees of the City’s recreational facilities.

9.4 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered.

9.5 Florida Law to Apply. This Agreement is entered and is to be performed in the State of Florida. The City and the Parks & Recreation Partner agree that the law of the State of Florida shall govern the rights, obligations, duties and liabilities of the parties to this Agreement and shall govern the interpretation of this Agreement. The parties agree that the courts of competent jurisdiction for Volusia County, Florida shall be the venue for all administrative actions or litigation.

9.6 Amendment. This Agreement may be modified or amended only by a written agreement duly executed by the parties hereto or their representatives.

[REMAINDER OF PAGE LEFT BLANK]

Exhibit "A"

Eligibility Requirements

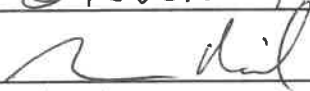
- 1) There is an existing need for the organization and its services.
- 2) Consideration will be given as to possible duplication of the organization's services with other services offered by the other local organizations, and with similar activities conducted by the department.
- 3) The organization membership must be open to residents of the city.

Department Policies & Procedures

- 1) Must be a nonprofit organization and be able to show articles of incorporation and bylaws that list current board members.
- 2) Must have 50% of children on rosters be Port Orange Residents.
- 3) Port Orange must be representative in the team name.
- 4) Group would need to commit to the financial responsibility set forth by the city for facility usage.
- 5) Parks & Recreation Partner group would have to commit 50% of their roster to participate in the Cities Recreation league for like sports.
- 6) All Banners must be uniformed to match the same size banners on the field or in the gym. The banners must be 5 feet in height and at least 5 feet in length at the ball fields and 3 feet in height and 5 feet in length in the gym. Banners must be mesh on the fields for the wind to go through them and vinyl in the gym. All banners must be the same color per complex or facility.
- 7) Lightning Rule- If you hear or see lightning, you must get off the field and go to the vehicles for at least 30 minutes. After each sign of lightning, you must wait 30 minutes. If the lightning continues for more than an hour, then all activities will be cancelled.
- 8) Rainouts- Each president and one other board member must be signed up to the Port Orange recalert. If the Parks & Recreation Department cancels practices or games for any reason, the Parks & Recreation Partner must adhere to cancellation.
- 9) Paint allowance per year is \$2500. Once Parks & Recreation Partner reaches that amount, the group must buy their own paint that the Parks Superintendent recommends.
- 10) All adults working with the youth must be background checked and Identified.

- 11) Maintenance- all Park & Recreation Partner must help with maintenance of the fields and/or facilities. This includes and not limited to: taking trash to the dumpster, keeping all the areas clean, taking tarps on and off the fields, filling holes after a practice or game, etc.

Print Name: STEVEN MAIL

Signature: 

Date: 5/25/17

This Parks & Recreation Partner Agreement is executed by the Parties as of the respective dates below:

WITNESSES:



Jennifer Sisk
Printed Name:



Marc Greenberg
Printed Name:

PARKS & RECREATION PARTNER:
Florida Elite Soccer Academy, Inc.,
a Florida not-for-profit corporation



STEVEN MAIL
Printed Name: PRESIDENT
Title:

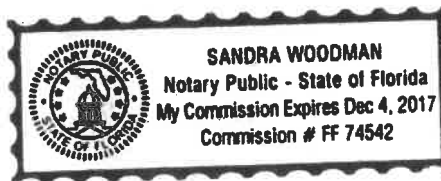
Date: 5/25/, 2017

STATE OF FL.
COUNTY OF VOL.

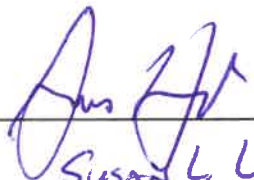
The foregoing Parks & Recreation Partner Agreement was acknowledged before me this 25th day of May, 2017, by Steven Mail, as President of Florida Elite Soccer, and who: ☐ is personally known to me; or ☒ has produced _____ as identification.



Notary Public, State of Florida at Large
Printed Name, Commission Seal and Term Expiration Date



WITNESSES:



Printed Name: _____

Printed Name: _____

CITY OF PORT ORANGE, FLORIDA,
a chartered municipal corporation

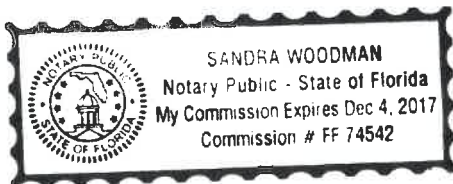
By: 

M. H. Johansson, City Manager

Date: 6.22.17, 2017

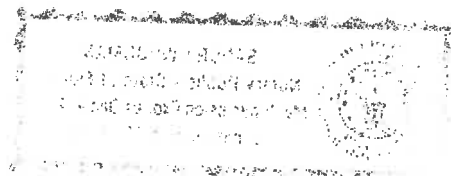
STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing Parks & Recreation Partner Agreement was acknowledged before me this 22 day of June, 2017, by M. H. Johansson, as City Manager of the City of Port Orange, Florida, a chartered municipal corporation, on behalf of the city, and who: ☒ are personally known to me; or ☐ have produced _____ as identification.





Notary Public, State of Florida at Large
Printed Name, Commission Seal and Term Expiration Date





The City of Port Orange Parks & Recreation Dept.

Memorandum

To: Jake Johansson, City Manager

From: Susan L. Lovallo, Parks & Recreation Director

Subject: Park & Recreation Partners

Date: 11/14/17

The city began having partnerships with competitive sports programs about 30 years ago to provide the next level sport experience to its citizens. These groups have been traditionally parent organized. It included Pop Warner to provide youth football which the city was getting out of the business of providing, and then blazer softball, Police Athletic league (PAL), followed by Port Orange Soccer Club, Panther Baseball, Port Orange Volleyball Club and soon to be the Port Orange Stallions. The intent of these partnerships was to provide a sport that was not offered by the City Parks & Recreation Department or provide a competitive travel program for exceptional athletes.

Fast forward to today we have agreements with PAL, Pop Warner, Panther Baseball/Softball, Port Orange Soccer Club AKA (Florida Elite Port Orange), Port Orange Volleyball and Port Orange Stallions. These groups have worked very closely with the department and have contributed financially in addition to their club fee, over the years. Attached is a breakdown of each groups contribution to the city.

City code chapter 50 defines a park and recreation partner. Each group has an annual agreement with the department that outlines the club's responsibilities and field availability. I have attached them to this email. In addition, three groups have long term contracts with the city for considerable financial contributions they have made to the city for facility renovations. Those three are; Port Orange Panthers, Pop Warner Football and the PAL program. All clubs work with the department and will trade out some services or small repairs in lieu of fees during the year.

As the Parks and Recreation Department's sports programs have seen an 83% increase in registration over the past three years our park partners also continue to grow causing over use of the fields. Attached is a breakdown of field usage by group per year.

Historical Data of Park & Recreation Partnerships

Pop Warner Football

Built restroom and storage building at Silver Sands in 1991 for club and city usage. Re roofed building in 2015.

Applied for grant with Racing and Rec district and raised in kind and monetary match in the amount of \$246,400 to build the grandstands, re located fence and bleachers, storage buildings and PA system. After this contribution, they entered into a 30-year agreement with city and club fees were forgiven in place of donation and work.

Police Athletic League

Purchased and installed glass backboards in the gym for \$16,000. In turn, they entered into a 6-year agreement with city for fees forgiven.

Port Orange Panthers

In 2014, they raised \$20,000 in kind and monetary donations to compliment the money donated by Mr. Lemerand to build the north field at Spruce Creek Road Park. They assist with the maintenance of this field. After this donation, they entered into a 9-year agreement and in return have their fees forgiven.

Port Orange Soccer Club

The soccer club has purchased goals and sod over the past 7 years totaling \$10,860.00. Partner fee reductions were granted in the appropriate years based on the contribution amount.

Port Orange Volleyball Club

This club is just about one year old and still establishing itself.

Port Orange Stallions

This club is brand new and still establishing itself.

Field usage by Club Based on Calendar years

Pop Warner Football	Site	Estimated # of Days
	Silvers Sands	90 days
	Coraci	4-6 Saturdays
PAL	Site	Estimated # of Days
	Gym	120 days
Port Orange Panthers	Site	Estimated # of Days
	Coraci	75 days
	City Center	150 days
	Spruce Creek Road Park	120 days
Port Orange Soccer Club	Site	Estimated # of Days
	Southwinds	250 days
	Coraci football	80 when they need lights
	Coraci Soccer Field	120 days
	Silver Sands	80 when they need lights
	Creekside	50-60 when needed
Port Orange Volleyball Club	Site	Estimated # of Days
	Gym	104 days
Port Orange Stallions	Site	Estimated # of Days
	Silver Sands	50 days
	Coraci	4-6 Saturdays



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (E14) Request by Habitat for Humanity of Greater Volusia County, Inc., to reduce the application fees to actual cost for two Minor Subdivision applications

DEPARTMENT: Community Development

GOAL:

RECOMMENDED MOTION:

SUMMARY: Habitat for Humanity of Greater Volusia County, Inc., requests that the City Council reduce the \$2,000 Minor Subdivision Exemption (lot line shift) application fee and the \$2,000 Minor Subdivision (lot split) application fee (total of \$4,000 in fees) to the actual staff cost of review. The estimated cost for staff's review of both applications is \$1,536.00.

In May 2017, Colleen Miles, Land Development Resource Group, LLC, applicant for the property owner, submitted minor subdivision applications to subdivide a +/- .54-acre property into three (3) single-family residential lots and one (1) 30-foot wide lot to be transferred to the existing Mt. Moriah Church property, adjacent to the subject property. The minor subdivision applications have been approved and the property has been subdivided. Habitat for Humanity is currently constructing homes on the lots.

Project No.: Funding Account No.:

ATTACHMENTS:

Melanie Schmotzer
Tim Burman
Tracey Riehm
Jake Johansson
Robin Fenwick

Created/Initiated - 11/16/2017
Approved - 11/16/2017
Approved - 11/17/2017
Approved - 11/17/2017
Final Approval - 11/17/2017



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (E15) Port Orange/South Daytona Chamber & Rotary Fee Waiver request for Riverwalk

DEPARTMENT: Parks & Recreation

GOAL:

RECOMMENDED MOTION: Move to deny the fee waiver for Riverfest 2018.

SUMMARY: The Chamber and Rotary Club have submitted an application to use the Riverwalk Park to host the first annual Riverfest. The event will take place on May 5 & 6 2018. Debbie Connors and Shawn Goepfert will address the council. The event will require, Parks & Recreation, Police and Fire staff. Attached is the breakdown of rental and staff fees totaling \$10,840.00.

Staff recommends denial of fee waiver as it conflicts with the Council approved fee resolution.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Application	application.pdf
2.	Invoice	Riverwalk Invoice Riverfest May 5 6.xls

Susan Lovallo
Susan Lovallo
Jake Johansson
Robin Fenwick

Created/Initiated - 11/22/2017
Approved - 11/22/2017
Approved - 11/28/2017
Final Approval - 11/28/2017

CITY OF PORT ORANGE SPECIAL EVENT APPLICATION

THIS FORM MUST BE COMPLETED IN FULL AND SUBMITTED 30 DAYS PRIOR TO THE EVENT
Port Orange Parks and Recreation, 4655 City Center Circle, Port Orange, FL 32129 Fax: 386-322-5147

Received 10/11
Registering fee
waiver



Please submit a check for \$100.00 rendered to the City of Port Orange upon application

SECTION 1: LESSEE INFORMATION

Individual

(This section is for use by individuals only)

Name: _____ Email: _____

Address: _____ City: _____ State: _____ Zip Code: _____

Daytime Phone: _____ Cell: _____ Fax No: _____

Event Point of Contact: _____ POC Phone: _____

Company/Organization Name: Port Orange S. Daytona Chamber of Commerce & Rotary Club Email: dconnors@pschamber.com
Address: 3431 S. Ridgewood Avenue City: Port Orange State: FL Zip Code: 32129
Organization Website: www.pschamber.com & www.posdrotary
Authorized Representative Point of Contact Name & Title: Shawn Goepfert Debbie Connors
POC Daytime Phone: (386) 761-1601 (Debbie) Cell: (386) 212-8388 Fax No: (386) 761-1601
Shawn:

Charity Organization: Yes No Tax Exempt: Yes No

(Copy of 501(c)(3) Required)

(Florida Exemption Certificate Required)

SECTION 2: EVENT INFORMATION

Date of Event: May 4, 5, 6 2018 Name of Event: Riverfest on the Halifax
Times: Set-Up/Assembly: 5/4 Noon Event Hours: 5/5 5:00am Clean-Up: 5/6 5:00pm Estimated Attendance: 1,000+
Describe Event: Weekend event including a 5k race, standup paddleboard event, food trucks, expo, stage with entertainment

Please check the facility/facilities you will be utilizing:

Veteran's Park _____	Amphitheater _____	City Center Circle _____	City Hall Plaza _____	Riverwalk Park ☒	Other (please list): _____
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SECTION 3: EVENT DETAILS

Please answer the following questions regarding your event:

Is the event Open to the Public? Yes No
Will your event be promoted/advertised? Yes No If yes, please describe all methods Social & print media, radio
Will admission be charged for event (tickets, donations, solicitations)? Yes No If yes, detail cost per person and revenue sources _____
Does your event have vendors selling or distributing food, beverages, services? Yes No If yes, who and what will be sold? Food trucks, some craft/business vendors
Will you be catering the event? Yes No If yes, who will be catering? Food trucks, local restaurants
Is alcohol being requested at the event? Yes No If yes, an additional alcohol application is required to be filled out and approved by the Special Event Alcohol Committee

SECTION 3: EVENT DETAILS (CONTINUED)

The following activities/uses may require a permit, fee and/or additional documentation. Please check all that apply to your event.

☒ Amplified sound	☐ Amusement Rides	☒ Street, lane, sidewalk closure	☒ Live or recorded music
☒ Stages	☐ Additional power source	☒ Tents/banners/signs	☐ Commercial filming/photography
☐ Parade	☐ Parachutes	☒ Inflatable devices	☐ Fireworks/pyrotechnics
☐ Aircraft	☐ Watercraft	☒ Portable restrooms	☐ Live animals

If you checked any of the above items, please provide a complete description of the activity or need.

Stage & sound will be set up on paved area, 5k on Saturday morning, tents for vendors & bounce amusements for children (all activities are in the committee planning stage)

SECTION 4: HOLD HARMLESS/INSURANCE AGREEMENT

The contractor, vendor, or user, hereby promises and agrees to indemnify and save harmless the City of Port Orange, a municipal corporation, its officers, agents, and employees from and against any and all liability claims, damages, demands, expenses, fees, fines, penalties, suits, proceedings, actions and costs of actions, including attorney's fees, for trial and on appeal of any kind and nature arising or growing out of, or in any way connected with the performance of the agreement whether by act or omission of the contractor, vendor, officers, agents, servants, employees, or others, or because of, or due to the mere existence of the agreement between parties.

The licensee shall supply a "Certificate of Liability Insurance" reflecting minimum coverage of \$1,000,000 (one million dollars) per occurrence. The City of Port Orange shall be named as an additional insured, which shall be noted on the certificate. The certificate shall indicate that the applicant's insurance policy shall not be cancelable without thirty day's prior written notice to the City. The undersigned agrees to abide by the regulations governing the said facility and is responsible for charges incurred and must supply a "Certificate of Insurance" to the Department of Recreation no later than thirty (30) calendar days prior to program/event date.

COPYRIGHT LAW: Licensee assumes all costs arising from the use of patented, trademarked, or copyrighted materials, equipment, devices, processes, or dramatic rights used on, or incorporated in the conduct of any event covered under the agreement; and licensee agrees to indemnify and hold harmless the City, from all damages, costs and expenses in law or equity for, or on account of, any patented, trademarked or copyrighted materials, equipment, devices, processes, or dramatic rights furnished or used by licensee in connection with this agreement and will defend the City from any such suit, or action, regardless of whether it be groundless, or fraudulent.

Licensee Signature: *Robert A. Leonard*

Date: 10/9/17

SECTION 5: RULES AND REGULATIONS Deposits & Refunds

1. Applications must be received at least 30 days prior to the event.
2. A refundable reservation deposit of \$100.00 is due when the application is submitted. To receive a full refund of the reservation deposit, written notification must be received within 30 days of rental.
3. All cancellations must be received in writing.
4. 100% of fees must be paid 14 days prior to the rental date.

Licensee Initials: _____

Special Event Facilities Guidelines

1. All events and functions must file a permit with the City of Port Orange Parks and Recreation Department. Sub-leasing is prohibited.
2. The City of Port Orange prohibits gate admission being charged to the public on City property without the express written consent of the City Manager, or his designee.
3. All lessees must supply the City with a certificate of liability insurance in the amount of \$1,000,000 (1 million dollars) per occurrence, listing the City of Port Orange as an additional insured, unless otherwise noted by the Risk Manager.
4. If additional staging is added to the present stage, a \$1,000.00 bond (cash) must be posted before construction.
5. No heavy equipment or props will be brought onto event sight, or seating area without the expressed written consent of the City.
6. Lessee's are responsible for the clean-up of the facility proceeding their event and may be charged for excessive clean up incurred by the Parks and Recreation Department once the lessee has vacated the premises. Facility/property must be left in the same condition, as when rented; if not, the damage/clean-up costs will be charged back to the applicant.

7. The lessee agrees to remove any equipment, decorations, props, etc. at the termination of their permit. The lessee agrees to pay any costs associated with the storage, moving or disposal of such items and holds harmless the City for any damage, which may occur during the moving or storage of items.
8. Permanent attachment of props or decorations by using screws, nails etc. is prohibited on event grounds.
9. Lessees are responsible for any damage obtained as a direct result of the lessee's guests, activities etc.
10. Alcoholic beverages are prohibited in all City parks and facilities without the express written consent of the City Manager, or his designee. Any event that is requesting alcohol at their event must fill out an alcohol application that must be approved by the Special Event Alcohol Committee.
11. Profanity or unacceptable behavior by performers, lessee, or their guests will not be tolerated. If Parks and Recreation personnel deem behavior and or performances unacceptable, they have the right to revoke all permits, present and future, for this facility and terminate any and all activities.
12. The City holds the right to cancel, or terminate any permit if they feel that the public's safety is in jeopardy.
13. It is the lessee's responsibility to hire and pay for any required City Services such as, but not limited to, Police, Fire, Parks, Public Works etc., unless written consent has been granted by the City Manager, City Council or their designees.
14. Amplified sound is not permissible during the times of 10pm-7am as deemed by the City noise ordinance without the express written consent of the City Manager, or his designee.

Licensee Initials: DFC

As a representative of the event, I do hereby accept that I have read and agree to all of the provided rules, regulations and guidelines for facility rentals as put forth by the City of Port Orange.

Licensee Signature: Debra L. Connors Print Name: Debra L. Connors Date: 10/9/17

SECTION 6: LICENSEE ACKNOWLEDGEMENT

You are required to sign and date your agreement. Falsification of information may result in rejection of the agreement, or cancellation of the event by the City of Port Orange.

Licensee Signature: Debra L. Connors Date: 10/9/17

The program/event will be terminated should it create or cause any violation of Local, State, Federal laws or ordinances.

THE PARKS AND RECREATION DEPARTMENT IS NOT AUTHORIZED TO WAIVE FEES WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CITY'S CHIEF ADMINISTRATIVE OFFICER.





CITY OF PORT ORANGE

4655 City Center Circle, Port Orange, FL 32129

Riverwalk Park

Renter: Chamber of Commerce and Rotary Club

Event: Riverfest on the Halifax

Rental Date: 5/5-6/2018

Phone: 386-761-1601

Date: 11/14/2017

MAKE ALL CHECKS PAYABLE TO THE CITY OF PORT ORANGE

MAIL ALL CHECKS TO PARKS AND RECREATION ATTN: TERESA WIGGINS

4655 CITY CENTER CIRCLE PORT ORANGE, FLORIDA 32129

ITEM	TIMES	QTY	UNIT	RATES	TOTAL	TAX
Location: Riverwalk Park						
Park Rental 5/5/18	5:00AM - 10:00PM	17	Hours	\$ 40.00	\$ 680.00	\$ -
Park Rental 5/6/18	9:00AM - 5:00PM	8	Hours	\$ 40.00	\$ 320.00	\$ -
Pavilions Rental	5/5, 9AM - 5/6, 5PM	5	Blocks	\$ 75.00	\$ 375.00	\$ -
Recreation Staff (1)	5/5, 5:00AM - 10:00PM 5/6, 9:00AM - 5:00PM	25	Hours	\$ 15.00	\$ 375.00	\$ -
Parks Staff (3)	5/5, 5:00AM - 10:00PM 5/6, 9:00AM - 5:00PM	75	Hours	\$ 25.00	\$ 1,875.00	\$ -
Public Works Staff (2)	5,5 6:00AM - 10:00AM	8	Hours	\$ 25.00	\$ 200.00	
Foot Patrol Officers (5)	5/5, 10:00AM - 9:00PM 5/6, 10:00AM - 4:00PM	85	Hours	\$ 40.00	\$ 3,400.00	\$ -
Motor Officers (5)	6, 10:00AM - 4:00PM	80	Hours	\$ 40.00	\$ 3,200.00	\$ -
Cnty Serv. Officers (2)	5/5, 7:00AM - 10:00AM	6	Hours	\$ 40.00	\$ 240.00	\$ -
Barricades		50	Each	\$ 2.00	\$ 100.00	\$ -
Alcohol Fee	5/5, 12-9 & 5/6, 12-4	1	Flat Fee	\$ 75.00	\$ 75.00	\$ -

Total Fees	\$ 10,840.00
Total Tax	\$ -
Invoice Total	\$ 10,840.00
Amount Paid	\$ -
BALANCE DUE	\$ 10,840.00

Tax Exempt Form Received

**The Golf Club at Cypress Head
Course Cash Flow Report
October 31, 2017**

	<u>October</u>	<u>YTD</u>
EBITDA	(\$22,271.66)	(\$22,271.66)
Management Fee Expense	(6,684.04)	(6,684.04)
Depreciation & Amortization	<u>(153.61)</u>	<u>(153.61)</u>
Net Income	(29,109.31)	(29,109.31)
Working Capital Changes		
Inventory	(5,003.39)	(5,003.39)
Receivables	92,945.96	92,945.96
Payables	2,568.39	2,568.39
Due to from the City	318.70	318.70
Prepays	5,498.33	5,498.33
Accrued Liabilities	(24,223.13)	(24,223.13)
Other Liabilities	(51,870.45)	(51,870.45)
Depreciation & Amortization	<u>153.61</u>	<u>153.61</u>
Operating Cash Flow	(8,721.29)	(8,721.29)
Investing Cash Flows	<u> </u>	<u> </u>
Financing Cash Flow	<u> </u>	<u> </u>
Net Cash Flows	<u>(8,721.29)</u>	<u>(8,721.29)</u>
Beginning Cash	214,919.79	214,919.79
Net Cash Flows	<u>(8,721.29)</u>	<u>(8,721.29)</u>
Ending Cash	<u>206,198.50</u>	<u>206,198.50</u>

The Golf Club at Cypress Head
Comparative Income Statement
For the Month Ending October 31, 2017

	MTD Prior Year	YTD Prior Year	Audited Prior Year	Percent of Total	MTD Actual	YTD Actual	Annual Budget	Percent of Total
REVENUES								
Green Fees & Cart Fees	74,130	74,130	1,146,664	6%	73,747	73,747	1,180,861	6%
Merchandise	4,030	4,030	63,915	6%	5,356	5,356	59,537	9%
Other Pro Shop	390	390	13,751	3%	340	340	11,927	3%
Range	2,525	2,525	35,853	7%	2,328	2,328	36,706	6%
Food and Beverage	0	0	15,788		19,473	19,473	83,000	23%
Other Operating Revenues	2,732	2,732	39,356	7%	2,723	2,723	39,944	7%
TOTAL REVENUE	83,807	83,807	1,315,327	6%	103,967	103,967	1,411,976	7%
COST OF SALES								
Merchandise	2,434	2,434	37,436	7%	3,196	3,196	38,699	8%
Food & Beverage	0	0	6,042		6,186	6,186	28,745	22%
TOTAL COGS	2,434	2,434	43,478	6%	9,382	9,382	67,444	14%
COGS - Merchandise %	60.4%	60.4%	58.6%	103.1%	59.7%	59.7%	65.0%	91.8%
COGS - Food %			38.3%		31.9%	31.9%	34.6%	92.1%
PAYROLL								
Course and Grounds	29,056	29,056	341,675	9%	24,763	24,763	375,767	7%
Carts, Range, Starters, Etc.	6,548	6,548	86,435	8%	8,462	8,462	99,348	9%
Pro Shop	4,175	4,175	42,904	10%	3,571	3,571	52,439	7%
Food and Beverage	0	0	9,850		15,809	15,809	32,550	49%
General and Administrative	10,973	10,973	133,923	8%	10,408	10,408	152,526	7%
Marketing	4,081	4,081	49,654	8%	3,845	3,845	49,611	8%
TOTAL PAYROLL	54,832	54,832	664,441	8%	66,858	66,858	762,242	9%
OPERATING EXPENSES								
Course and Grounds	21,553	21,553	252,335	9%	18,770	18,770	280,678	7%
Carts, Range, Starters, Etc.	6,423	6,423	80,327	8%	6,422	6,422	83,934	8%
Pro Shop	(425)	(425)	6,324	-7%	(107)	(107)	7,954	-1%
Food and Beverage	0	0	1,413		2,457	2,457	9,561	26%
General and Administrative	22,322	22,322	210,751	11%	19,912	19,912	209,750	9%
Marketing	2,442	2,442	22,941	11%	2,545	2,545	30,260	8%
TOTAL OPERATING EXPENSES	52,314	52,314	574,091	9%	49,999	49,999	622,137	8%
TOTAL EXPENSES	109,581	109,581	1,282,010	9%	126,239	126,239	1,451,823	9%
OTHER INCOME (EXPENSE)								
MANAGEMENT FEES	(5,713)	(5,713)	(69,411)	8%	(6,684)	(6,684)	(71,125)	9%
Depreciation & Amortization	(154)	(154)	(1,841)	8%	(154)	(154)	(4,572)	3%
TOTAL OTHER INCOME (EXPENSE)	(5,866)	(5,866)	(71,252)	8%	(6,838)	(6,838)	(75,697)	9%
NET INCOME	(31,640)	(31,640)	(37,936)	83%	(29,109)	(29,109)	(115,544)	25%
Paid Rounds	2,501	2,501	36,904	7%	2,585	2,585	37,150	7%
Annual Pass Rounds	649	649	8,095	8%	513	513	8,542	6%
Other Rounds	189	189	2,719	7%	211	211	2,924	7%
Total Rounds	3,339	3,339	47,718	7%	3,309	3,309	48,615	7%
Revenue/Paid Rounds	33.51	33.51	35.64	94%	40.22	40.22	38.01	106%
Revenue/Total Rounds	25.10	25.10	27.56	91%	31.42	31.42	29.04	108%

The Golf Club at Cypress Head
For the Month Ending October 31, 2017

	<u>10/31/17</u>	<u>09/30/17</u>	<u>10/31/16</u>
ASSETS			
CURRENT ASSETS:			
Cash			
Cash - Depository	193,221	191,390	117,388
Cash - Payroll	11,427	21,980	0
Cash - Manual Checks	850	850	850
Cash - Housebank & Other	700	700	500
Total Cash	<u>206,199</u>	<u>214,920</u>	<u>118,738</u>
Accounts Receivable			
A/R Member	5,711	98,657	4,318
Total Accounts Recievable	<u>5,711</u>	<u>98,657</u>	<u>4,318</u>
Other Current Assets			
Inventory - Merchandise	17,266	13,394	18,326
Inventory - Food & Beverage	9,119	7,988	0
Prepaid Insurance	16,664	21,005	6,390
Prepaid Exp - Other	1,902	3,059	12,759
Total Other Current Assets	<u>44,951</u>	<u>45,445</u>	<u>37,475</u>
TOTAL CURRENT ASSETS	<u>256,860</u>	<u>359,022</u>	<u>160,531</u>
PROPERTY, PLANT AND EQUIPMENT:			
Buildings & Improvements	30,598	30,598	30,598
Machinery & Equipment	5,550	5,550	5,550
Property Plant and Equipment	36,148	36,148	36,148
Accumulated Depreciation	<u>(26,231)</u>	<u>(26,078)</u>	<u>(24,390)</u>
TOTAL PROPERTY, PLANT AND EQUIPMENT	<u>9,917</u>	<u>10,070</u>	<u>11,758</u>
OTHER ASSETS:			
Deposits (in ST section of chart)	3,000	3,000	0
TOTAL OTHER ASSETS	<u>3,000</u>	<u>3,000</u>	<u>0</u>
TOTAL ASSETS	<u><u>269,777</u></u>	<u><u>372,092</u></u>	<u><u>172,288</u></u>

The Golf Club at Cypress Head
For the Month Ending October 31, 2017

	<u>10/31/17</u>	<u>09/30/17</u>	<u>10/31/16</u>
LIABILITIES AND STOCKHOLDERS' EQUITY			
CURRENT LIABILITIES:			
Accts Pay - Trade	27,147	24,579	41,619
Accts Pay - Other	59,145	58,826	(109,877)
Accrued Expenses	6,634	4,190	8,995
Accrued Payroll	11,096	28,213	7,887
Accrued Taxes	5,691	13,317	10,232
Accrued Interest	4,046	5,971	0
Deferred Revenue	223,064	274,935	245,074
TOTAL CURRENT LIABILITIES	<u>336,823</u>	<u>410,030</u>	<u>203,929</u>
 TOTAL LIABILITIES	 <u>336,823</u>	 <u>410,030</u>	 <u>203,929</u>
STOCKHOLDER'S EQUITY			
Retained Earnings	(67,046)	(37,937)	(31,641)
Net Retained Earnings	(67,046)	(37,937)	(31,641)
Stockholders Equity	(67,046)	(37,937)	(31,641)
TOTAL STOCKHOLDER'S EQUITY	<u>(67,046)</u>	<u>(37,937)</u>	<u>(31,641)</u>
 TOTAL LIABILITIES AND STOCKHOLDER'S EQUITY	 <u>269,777</u>	 <u>372,092</u>	 <u>172,288</u>

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The Golf Club at Cypress Head
Summary of All Units
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
REVENUES												
43,903	43,454	101%	43,024	102%	Green Fees	43,903	43,454	101%	43,024	102%	703,233	671,391
29,843	31,106	96%	31,106	96%	Cart Fee	29,843	31,106	96%	31,106	96%	477,628	474,889
0	0	0%	0	0%	Merchandise	0	0	0%	0	0%	0	30
0	20	0%	0	0%	Handicap Fee	0	20	0%	0	0%	4,538	4,610
130	200	65%	200	65%	Lessons	130	200	65%	200	65%	4,480	5,201
210	170	124%	170	124%	Rental Clubs	210	170	124%	170	124%	2,909	2,890
5,356	4,030	133%	4,030	133%	Retail	5,356	4,030	133%	4,030	133%	59,537	65,211
2,328	2,525	92%	2,525	92%	Range	2,328	2,525	92%	2,525	92%	36,706	35,656
10,449	13,800	76%	0	0%	Food & Beverage	10,449	13,800	76%	0	0%	51,800	18,846
5,605	5,000	112%	0	0%	Beer	5,605	5,000	112%	0	0%	16,500	11,126
2,970	3,200	93%	0	0%	Liquor	2,970	3,200	93%	0	0%	11,900	4,516
372	1,000	37%	0	0%	Wine	372	1,000	37%	0	0%	2,800	697
77	0	0%	0	0%	F&B Other	77	0	0%	0	0%	0	77
2,723	2,759	99%	2,732	100%	City Surcharge R & R	2,723	2,759	99%	2,732	100%	39,944	39,347
103,967	107,265	97%	83,807	124%	Total Revenues	103,967	107,265	97%	83,807	124%	1,411,976	1,335,486
COST OF GOODS SOLD												
3,196	2,620	122%	2,434	131%	COGS - Merchandise	3,196	2,620	122%	2,434	131%	38,699	38,198
3,463	4,935	70%	0	0%	COGS - Food & Beverage	3,463	4,935	70%	0	0%	19,450	6,029
1,977	1,750	113%	0	0%	COGS - Beer	1,977	1,750	113%	0	0%	6,005	4,646
570	704	81%	0	0%	COGS - Liquor	570	704	81%	0	0%	2,618	1,278
175	240	73%	0	0%	COGS - Wine	175	240	73%	0	0%	672	274
9,382	10,249	92%	2,434	385%	Total COGS	9,382	10,249	92%	2,434	385%	67,444	50,426
94,585	97,016	97%	81,373	116%	GROSS MARGIN	94,585	97,016	97%	81,373	116%	1,344,532	1,285,060
59.67%	65.00%	91.80%	60.39%	98.80%	COGS - Merchandise %	59.67%	65.00%	91.80%	60.39%	98.80%	65.00%	698.88%
33.14%	35.76%	92.68%	0.00%	0.00%	COGS - Food & Beverage %	33.14%	35.76%	92.68%	0.00%	0.00%	37.55%	63.70%
35.28%	35.00%	100.80%	0.00%	0.00%	COGS - Beer %	35.28%	35.00%	100.80%	0.00%	0.00%	36.39%	83.62%
19.19%	22.00%	87.22%	0.00%	0.00%	COGS - Liquor %	19.19%	22.00%	87.22%	0.00%	0.00%	22.00%	65.02%
47.05%	24.00%	196.03%	0.00%	0.00%	COGS - Wine %	47.05%	24.00%	196.03%	0.00%	0.00%	24.00%	77.57%
31.89%	33.17%	96.14%	0.00%	0.00%	COGS - All Food & Bev	31.89%	33.17%	96.14%	0.00%	0.00%	34.63%	70.16%
PAYROLL												
15,643	20,854	75%	20,911	75%	Gross Payroll - Salaried	15,643	20,854	75%	20,911	75%	250,243	226,887
6,868	5,000	137%	0	0%	Gross Kitchen Payroll - Salaried	6,868	5,000	137%	0	0%	15,000	11,868
28,295	29,252	97%	24,117	117%	Gross Payroll - Hourly	28,295	29,252	97%	24,117	117%	344,414	307,051
6,969	4,000	174%	0	0%	Gross Kitchen Payroll - Hourly	6,969	4,000	174%	0	0%	12,000	10,726
57,775	59,105	98%	45,029	128%	S/T Wages	57,775	59,105	98%	45,029	128%	621,657	556,533
4,044	4,433	91%	3,427	118%	Payroll Tax - FICA	4,044	4,433	91%	3,427	118%	47,291	41,794
383	811	47%	350	109%	Payroll Tax - UC	383	811	47%	350	109%	6,961	4,084
917	1,065	86%	1,220	75%	Payroll Tax - WC	917	1,065	86%	1,220	75%	11,314	9,907
3,738	6,627	56%	4,807	78%	Benefits	3,738	6,627	56%	4,807	78%	75,017	64,148
9,083	12,936	70%	9,804	93%	S/T Adders	9,083	12,936	70%	9,804	93%	140,584	119,934
66,858	72,041	93%	54,832	122%	TOTAL PAYROLL	66,858	72,041	93%	54,832	122%	762,242	676,467
OPERATING EXPENSES												
47	300	16%	0	0%	Bar Supplies	47	300	16%	0	0%	900	308
32	104	30%	104	30%	Cart Supplies	32	104	30%	104	30%	2,502	1,703
1,151	1,150	100%	0	0%	Chemicals	1,151	1,150	100%	0	0%	11,200	1,151
90	2,150	4%	0	0%	Course Accessories	90	2,150	4%	0	0%	5,293	4,405
80	250	32%	0	0%	Dining Room Supplies	80	250	32%	0	0%	250	246
4,045	4,025	101%	2,203	184%	Fertilizer	4,045	4,025	101%	2,203	184%	38,785	30,133
0	0	0%	0	0%	Flowers/Decor	0	0	0%	0	0%	750	0
1,351	857	158%	57	2384%	Fuel	1,351	857	158%	57	2384%	15,034	14,126
329	882	37%	1,071	31%	Fungicides	329	882	37%	1,071	31%	6,363	4,471
2,338	2,500	94%	2,583	91%	Herbicides	2,338	2,500	94%	2,583	91%	28,748	17,891
727	2,100	35%	2,040	36%	Insecticides	727	2,100	35%	2,040	36%	21,533	30,430
403	201	200%	51	783%	Janitorial Supplies	403	201	200%	51	783%	4,233	3,837
41	250	16%	0	0%	Kitchen Supplies	41	250	16%	0	0%	750	295
77	350	22%	0	0%	Laundry/Linens	77	350	22%	0	0%	1,050	154
887	0	0%	0	0%	Laundry/Uniforms	887	0	0%	0	0%	1,282	1,919
784	154	508%	104	751%	Office Supplies	784	154	508%	104	751%	3,836	4,529
0	0	0%	0	0%	Range Balls	0	0	0%	0	0%	3,055	2,515
87	207	42%	207	42%	Range Equipment	87	207	42%	207	42%	1,789	1,046
0	0	0%	0	0%	Range Expenses	0	0	0%	0	0%	0	0
0	800	0%	0	0%	Sand/Topdress	0	800	0%	0	0%	14,959	9,029
0	4,444	0%	4,400	0%	Seeds/Trees	0	4,444	0%	4,400	0%	4,444	0
0	368	0%	365	0%	Small Tools	0	368	0%	365	0%	821	1,035
0	0	0%	0	0%	Staff/Volunteer Uniforms	0	0	0%	0	0%	842	800
0	0	0%	0	0%	Supplies	0	0	0%	0	0%	1,777	927
(107)	0	-355000%	(425)	25%	Tournament Expense	(107)	0	-355000%	(425)	25%	500	123
210	261	80%	411	51%	Alarm System	210	261	80%	411	51%	2,215	2,812

The Golf Club at Cypress Head
Summary of All Units
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
0	0	0%	0	0%	Carpet Cleaning	0	0	0%	0	0%	550	0
0	100	0%	0	0%	Cart Repairs	0	100	0%	0	0%	1,233	33
151	191	80%	191	80%	Computer Service	151	191	80%	191	80%	2,969	3,046
812	812	100%	0	0%	Contract Cleaning	812	812	100%	0	0%	2,436	1,191
0	0	0%	0	0%	Guest Relations	0	0	0%	0	0%	0	32
0	0	0%	0	0%	Handicap Expense	0	0	0%	0	0%	4,360	4,733
0	0	0%	0	0%	Indoor Plant Maint	0	0	0%	0	0%	100	0
384	1,200	32%	0	0%	Irrigation	384	1,200	32%	0	0%	6,422	6,157
0	0	0%	0	0%	Lesson Expense	0	0	0%	0	0%	426	0
125	125	100%	0	0%	Pest Control	125	125	100%	0	0%	375	250
1,514	2,900	52%	4,175	36%	Repair & Maint - Equipment	1,514	2,900	52%	4,175	36%	25,898	26,598
242	100	242%	0	0%	Repair & Maint - Building	242	100	242%	0	0%	3,807	3,912
5,356	5,356	100%	5,356	100%	Cart Lease	5,356	5,356	100%	5,356	100%	64,268	64,268
5,476	5,466	100%	4,886	112%	Equipment Lease	5,476	5,466	100%	4,886	112%	64,242	59,375
168	168	100%	168	100%	Off-Site Storage	168	168	100%	168	100%	2,016	2,016
1,183	997	119%	994	119%	Utilities - Electric	1,183	997	119%	994	119%	13,296	13,560
1,240	600	207%	0	0%	Utilities - Gas	1,240	600	207%	0	0%	1,800	1,240
3,000	3,703	81%	3,692	81%	Utilities - Other	3,000	3,703	81%	3,692	81%	46,571	52,491
(47)	313	-15%	512	-9%	Utilities - Telephone/Fax	(47)	313	-15%	512	-9%	2,637	2,637
252	238	106%	236	107%	Utilities - Water	252	238	106%	236	107%	2,887	3,083
2,601	2,442	107%	2,442	107%	Advertising & Promotion	2,601	2,442	107%	2,442	107%	26,647	19,587
475	273	174%	473	100%	Bank Charges	475	273	174%	473	100%	4,240	6,071
(243)	0	53902%	884	-27%	Cash Short/(Over)	(243)	0	53902%	884	-27%	0	(1,821)
150	200	75%	300	50%	Cell Phone	150	200	75%	300	50%	2,400	1,950
2,723	2,759	99%	2,732	100%	City Surcharge R & R	2,723	2,759	99%	2,732	100%	39,942	39,347
0	60	0%	60	0%	Copier/Photocopies	0	60	0%	60	0%	442	650
3,024	3,206	94%	3,206	94%	Credit Card Discounts	3,024	3,206	94%	3,206	94%	27,270	24,228
0	0	0%	(267)	0%	Donations	0	0	0%	(267)	0%	200	0
150	0	0%	0	0%	Dues & Subscriptions	150	0	0%	0	0%	1,179	1,189
0	0	0%	0	0%	Education & Training	0	0	0%	0	0%	779	525
34	322	11%	322	11%	Employee Relations	34	322	11%	322	11%	2,096	1,433
(11)	0	0%	0	0%	Employee Testing	(11)	0	0%	0	0%	440	603
4,341	3,974	109%	3,858	113%	Insurance Expense	4,341	3,974	109%	3,858	113%	47,691	48,396
0	38	0%	38	0%	Member Relations	0	38	0%	38	0%	478	27
24	91	27%	91	27%	Messenger Service - Fedex	24	91	27%	91	27%	379	125
(57)	0	0%	(36)	159%	Miscellaneous	(57)	0	0%	(36)	159%	0	3,343
3,000	3,500	86%	3,000	100%	O/S - Accounting	3,000	3,500	86%	3,000	100%	12,500	12,000
0	0	0%	0	0%	O/S - Legal	0	0	0%	0	0%	80	0
0	0	0%	0	0%	O/S - Legal-Mgmt Contracts	0	0	0%	0	0%	0	56
0	0	0%	0	0%	O/S - Other	0	0	0%	0	0%	9,842	12,950
482	450	107%	841	57%	Payroll Processing Fee	482	450	107%	841	57%	5,398	10,031
190	55	345%	55	345%	Postage/Shipping	190	55	345%	55	345%	801	1,073
(30)	(30)	100%	(30)	100%	Tax/Licenses/Fees	(30)	(30)	100%	(30)	100%	(82)	330
25	0	0%	37	69%	Travel - Meals	25	0	0%	37	69%	0	1,698
640	1,079	59%	929	69%	Travel - Other	640	1,079	59%	929	69%	16,914	9,369
0	0	0%	0	0%	Website Expenses	0	0	0%	0	0%	2,400	0
50	0	0%	0	0%	Employee Meals	50	0	0%	0	0%	0	110
49,999	62,039	81%	52,314	96%	TOTAL OPERATING EXPENSES	49,999	62,039	81%	52,314	96%	622,137	571,775
(22,272)	(37,063)	60%	(25,773)	86%	EBITDA	(22,272)	(37,063)	60%	(25,773)	86%	(39,846)	36,818
6,684	6,570	102%	5,713	117%	Management Fee	6,684	6,570	102%	5,713	117%	71,125	70,382
6,684	6,570	102%	5,713	117%	Management Fees	6,684	6,570	102%	5,713	117%	71,125	70,382
37	98	38%	37	100%	Deprec - Mach & Equip	37	98	38%	37	100%	1,176	442
117	283	41%	117	100%	Deprec - Buildings	117	283	41%	117	100%	3,396	1,399
154	381	40%	154	100%	S/T DEPR. & AMORT	154	381	40%	154	100%	4,572	1,841
(29,109)	(44,014)	66%	(31,640)	92%	NET INCOME	(29,109)	(44,014)	66%	(31,640)	92%	(115,544)	(35,406)

The Golf Club at Cypress Head
Course & Grounds
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
REVENUES												
43,903	43,454	101%	43,024	102%	Green Fees	43,903	43,454	101%	43,024	102%	703,233	671,391
2,723	2,759	99%	2,732	100%	City Surcharge R & R	2,723	2,759	99%	2,732	100%	39,944	39,347
46,626	46,214	101%	45,756	102%	Total Revenues	46,626	46,214	101%	45,756	102%	743,178	710,738
46,626	46,214	101%	45,756	102%	GROSS MARGIN	46,626	46,214	101%	45,756	102%	743,178	710,738
PAYROLL												
4,684	8,083	58%	9,209	51%	Gross Payroll - Salaried	4,684	8,083	58%	9,209	51%	97,000	84,742
16,717	17,670	95%	14,562	115%	Gross Payroll - Hourly	16,717	17,670	95%	14,562	115%	208,055	188,646
21,401	25,754	83%	23,771	90%	S/T Wages	21,401	25,754	83%	23,771	90%	305,055	273,389
1,533	1,970	78%	1,728	89%	Payroll Tax - FICA	1,533	1,970	78%	1,728	89%	23,337	19,617
106	27	394%	220	48%	Payroll Tax - UC	106	27	394%	220	48%	2,330	1,925
355	471	75%	575	62%	Payroll Tax - WC	355	471	75%	575	62%	5,573	4,709
1,368	3,289	42%	2,762	50%	Benefits	1,368	3,289	42%	2,762	50%	39,472	37,744
3,362	5,757	58%	5,285	64%	S/T Adders	3,362	5,757	58%	5,285	64%	70,712	63,994
24,763	31,511	79%	29,056	85%	TOTAL PAYROLL	24,763	31,511	79%	29,056	85%	375,767	337,382
OPERATING EXPENSES												
1,151	1,150	100%	0	0%	Chemicals	1,151	1,150	100%	0	0%	11,200	1,151
90	2,150	4%	0	0%	Course Accessories	90	2,150	4%	0	0%	5,293	4,405
4,045	4,025	101%	2,203	184%	Fertilizer	4,045	4,025	101%	2,203	184%	38,785	30,133
0	0	0%	0	0%	Flowers/Decor	0	0	0%	0	0%	750	0
1,351	857	158%	57	2384%	Fuel	1,351	857	158%	57	2384%	15,034	14,126
329	882	37%	1,071	31%	Fungicides	329	882	37%	1,071	31%	6,363	4,471
2,338	2,500	94%	2,583	91%	Herbicides	2,338	2,500	94%	2,583	91%	28,748	17,891
727	2,100	35%	2,040	36%	Insecticides	727	2,100	35%	2,040	36%	21,533	30,430
0	800	0%	0	0%	Sand/Topdress	0	800	0%	0	0%	14,959	9,029
0	4,444	0%	4,400	0%	Seeds/Trees	0	4,444	0%	4,400	0%	4,444	0
0	368	0%	365	0%	Small Tools	0	368	0%	365	0%	821	1,035
0	0	0%	0	0%	Staff/Volunteer Uniforms	0	0	0%	0	0%	842	800
384	1,200	32%	0	0%	Irrigation	384	1,200	32%	0	0%	6,422	6,157
1,514	2,100	72%	2,248	67%	Repair & Maint - Equipment	1,514	2,100	72%	2,248	67%	22,304	25,475
0	100	0%	0	0%	Repair & Maint - Building	0	100	0%	0	0%	1,200	10
5,316	5,316	100%	4,886	109%	Equipment Lease	5,316	5,316	100%	4,886	109%	63,792	59,065
235	240	98%	238	99%	Utilities - Electric	235	240	98%	238	99%	2,610	2,798
947	1,137	83%	1,126	84%	Utilities - Other	947	1,137	83%	1,126	84%	19,255	24,409
102	100	102%	99	103%	Utilities - Telephone/Fax	102	100	102%	99	103%	1,171	1,209
252	238	106%	236	107%	Utilities - Water	252	238	106%	236	107%	2,887	3,083
0	0	0%	0	0%	Education & Training	0	0	0%	0	0%	429	375
0	0	0%	0	0%	Employee Relations	0	0	0%	0	0%	201	0
(11)	0	0%	0	0%	Employee Testing	(11)	0	0%	0	0%	440	603
0	0	0%	0	0%	O/S - Other	0	0	0%	0	0%	9,842	12,600
0	0	0%	0	0%	Tax/Licenses/Fees	0	0	0%	0	0%	303	300
0	50	0%	0	0%	Travel - Other	0	50	0%	0	0%	851	0
18,770	29,758	63%	21,553	87%	TOTAL OPERATING EXPENSES	18,770	29,758	63%	21,553	87%	280,678	249,553
3,093	(15,055)	-21%	(4,852)	-64%	EBITDA	3,093	(15,055)	-21%	(4,852)	-64%	86,733	123,803
3,093	(15,055)	-21%	(4,852)	-64%	NET INCOME	3,093	(15,055)	-21%	(4,852)	-64%	86,733	123,803

The Golf Club at Cypress Head
Carts
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
29,843	31,106	96%	31,106	96%	REVENUES	29,843	31,106	96%	31,106	96%	477,628	474,889
29,843	31,106	96%	31,106	96%	Cart Fee	29,843	31,106	96%	31,106	96%	477,628	474,889
29,843	31,106	96%	31,106	96%	Total Revenues	29,843	31,106	96%	31,106	96%	477,628	474,889
29,843	31,106	96%	31,106	96%	GROSS MARGIN	29,843	31,106	96%	31,106	96%	477,628	474,889
7,616	7,569	101%	5,796	131%	PAYROLL	7,616	7,569	101%	5,796	131%	89,117	79,471
7,616	7,569	101%	5,796	131%	Gross Payroll - Hourly	7,616	7,569	101%	5,796	131%	89,117	79,471
613	579	106%	470	130%	S/T Wages	613	579	106%	470	130%	6,817	6,249
117	147	79%	101	116%	Payroll Tax - FICA	117	147	79%	101	116%	1,674	1,181
116	138	84%	180	64%	Payroll Tax - UC	116	138	84%	180	64%	1,628	1,358
0	9	-3%	1	-21%	Payroll Tax - WC	0	9	-3%	1	-21%	111	90
845	874	97%	752	112%	Benefits	845	874	97%	752	112%	10,231	8,878
8,462	8,443	100%	6,548	129%	S/T Adders	8,462	8,443	100%	6,548	129%	99,348	88,349
32	104	30%	104	30%	TOTAL PAYROLL	32	104	30%	104	30%	2,502	1,703
0	100	0%	0	0%	OPERATING EXPENSES	0	100	0%	0	0%	1,233	33
5,356	5,356	100%	5,356	100%	Cart Supplies	5,356	5,356	100%	5,356	100%	64,268	64,268
948	756	125%	756	125%	Cart Repairs	948	756	125%	756	125%	10,486	10,761
6,335	6,316	100%	6,216	102%	Cart Lease	6,335	6,316	100%	6,216	102%	78,490	76,766
15,046	16,347	92%	18,342	82%	Utilities - Electric	15,046	16,347	92%	18,342	82%	299,790	309,774
15,046	16,347	92%	18,342	82%	TOTAL OPERATING EXPENSES	15,046	16,347	92%	18,342	82%	299,790	309,774
15,046	16,347	92%	18,342	82%	EBITDA	15,046	16,347	92%	18,342	82%	299,790	309,774
15,046	16,347	92%	18,342	82%	NET INCOME	15,046	16,347	92%	18,342	82%	299,790	309,774

The Golf Club at Cypress Head
Range
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
2,328	2,525	92%	2,525	92%	REVENUES	2,328	2,525	92%	2,525	92%	36,706	35,656
2,328	2,525	92%	2,525	92%	Range	2,328	2,525	92%	2,525	92%	36,706	35,656
2,328	2,525	92%	2,525	92%	Total Revenues	2,328	2,525	92%	2,525	92%	36,706	35,656
2,328	2,525	92%	2,525	92%	GROSS MARGIN	2,328	2,525	92%	2,525	92%	36,706	35,656
0	0	0%	0	0%	OPERATING EXPENSES	0	0	0%	0	0%	3,055	2,515
87	207	42%	207	42%	Range Balls	87	207	42%	207	42%	1,789	1,046
0	0	0%	0	0%	Range Equipment	0	0	0%	0	0%	0	0
0	0	0%	0	0%	Range Expenses	0	0	0%	0	0%	600	0
87	207	42%	207	42%	Repair & Maint - Equipment	87	207	42%	207	42%	5,444	3,561
2,241	2,318	97%	2,318	97%	TOTAL OPERATING EXPENSES	2,241	2,318	97%	2,318	97%	31,262	32,095
2,241	2,318	97%	2,318	97%	EBITDA	2,241	2,318	97%	2,318	97%	31,262	32,095
2,241	2,318	97%	2,318	97%	NET INCOME	2,241	2,318	97%	2,318	97%	31,262	32,095

The Golf Club at Cypress Head
F & B Cafe
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
REVENUES												
10,449	13,800	76%	0	0%	Food & Beverage	10,449	13,800	76%	0	0%	51,800	18,846
5,605	5,000	112%	0	0%	Beer	5,605	5,000	112%	0	0%	16,500	11,126
2,970	3,200	93%	0	0%	Liquor	2,970	3,200	93%	0	0%	11,900	4,516
372	1,000	37%	0	0%	Wine	372	1,000	37%	0	0%	2,800	697
77	0	0%	0	0%	F&B Other	77	0	0%	0	0%	0	77
19,473	23,000	85%	0	0%	Total Revenues	19,473	23,000	85%	0	0%	83,000	35,261
COST OF GOODS SOLD												
3,463	4,935	70%	0	0%	COGS - Food & Beverage	3,463	4,935	70%	0	0%	19,450	6,029
1,977	1,750	113%	0	0%	COGS - Beer	1,977	1,750	113%	0	0%	6,005	4,646
570	704	81%	0	0%	COGS - Liquor	570	704	81%	0	0%	2,618	1,278
175	240	73%	0	0%	COGS - Wine	175	240	73%	0	0%	672	274
6,186	7,629	81%	0	0%	Total COGS	6,186	7,629	81%	0	0%	28,745	12,228
13,288	15,371	86%	0	0%	GROSS MARGIN	13,288	15,371	86%	0	0%	54,255	23,033
33.14%	35.76%	92.68%	0.00%	0.00%	COGS - Food & Beverage %	33.14%	35.76%	92.68%	0.00%	0.00%	37.55%	63.70%
35.28%	35.00%	100.80%	0.00%	0.00%	COGS - Beer %	35.28%	35.00%	100.80%	0.00%	0.00%	36.39%	83.62%
19.19%	22.00%	87.22%	0.00%	0.00%	COGS - Liquor %	19.19%	22.00%	87.22%	0.00%	0.00%	22.00%	65.02%
47.05%	24.00%	196.03%	0.00%	0.00%	COGS - Wine %	47.05%	24.00%	196.03%	0.00%	0.00%	24.00%	77.57%
31.89%	33.17%	96.14%	0.00%	0.00%	COGS - All Food & Bev	31.89%	33.17%	96.14%	0.00%	0.00%	34.63%	70.16%
PAYROLL												
6,868	5,000	137%	0	0%	Gross Kitchen Payroll - Salaried	6,868	5,000	137%	0	0%	15,000	11,868
6,969	4,000	174%	0	0%	Gross Kitchen Payroll - Hourly	6,969	4,000	174%	0	0%	12,000	10,726
13,837	9,000	154%	0	0%	S/T Wages	13,837	9,000	154%	0	0%	27,000	22,594
871	600	145%	0	0%	Payroll Tax - FICA	871	600	145%	0	0%	1,800	1,739
130	600	22%	0	0%	Payroll Tax - UC	130	600	22%	0	0%	1,800	224
197	150	131%	0	0%	Payroll Tax - WC	197	150	131%	0	0%	450	327
775	500	155%	0	0%	Benefits	775	500	155%	0	0%	1,500	775
1,972	1,850	107%	0	0%	S/T Adders	1,972	1,850	107%	0	0%	5,550	3,065
15,809	10,850	146%	0	0%	TOTAL PAYROLL	15,809	10,850	146%	0	0%	32,550	25,659
OPERATING EXPENSES												
47	300	16%	0	0%	Bar Supplies	47	300	16%	0	0%	900	308
80	250	32%	0	0%	Dining Room Supplies	80	250	32%	0	0%	750	246
41	250	16%	0	0%	Kitchen Supplies	41	250	16%	0	0%	750	295
77	350	22%	0	0%	Laundry/Linens	77	350	22%	0	0%	1,050	154
0	50	0%	0	0%	Office Supplies	0	50	0%	0	0%	150	0
812	812	100%	0	0%	Contract Cleaning	812	812	100%	0	0%	2,436	1,191
0	125	0%	0	0%	Pest Control	0	125	0%	0	0%	375	125
0	300	0%	0	0%	Repair & Maint - Equipment	0	300	0%	0	0%	900	0
160	150	107%	0	0%	Equipment Lease	160	150	107%	0	0%	450	310
1,240	600	207%	0	0%	Utilities - Gas	1,240	600	207%	0	0%	1,800	1,240
2,457	3,187	77%	0	0%	TOTAL OPERATING EXPENSES	2,457	3,187	77%	0	0%	9,561	3,869
(4,978)	1,334	-373%	0	0%	EBITDA	(4,978)	1,334	-373%	0	0%	12,144	(6,495)
857	857	100%	0	0%	Management Fee	857	857	100%	0	0%	2,571	1,714
857	857	100%	0	0%	Management Fees	857	857	100%	0	0%	2,571	1,714
(5,835)	477	-1223%	0	0%	NET INCOME	(5,835)	477	-1223%	0	0%	9,573	(8,209)

The Golf Club at Cypress Head
Golf Shop
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
REVENUES												
0	0	0%	0	0%	Merchandise	0	0	0%	0	0%	0	30
0	20	0%	20	0%	Handicap Fee	0	20	0%	20	0%	4,538	4,610
130	200	65%	200	65%	Lessons	130	200	65%	200	65%	4,480	6,201
210	170	124%	170	124%	Rental Clubs	210	170	124%	170	124%	2,909	2,890
5,356	4,030	133%	4,030	133%	Retail	5,356	4,030	133%	4,030	133%	59,537	65,211
5,696	4,420	129%	4,420	129%	Total Revenues	5,696	4,420	129%	4,420	129%	71,464	78,942
COST OF GOODS SOLD												
3,196	2,620	122%	2,434	131%	COGS - Merchandise	3,196	2,620	122%	2,434	131%	38,699	38,198
3,196	2,620	122%	2,434	131%	Total COGS	3,196	2,620	122%	2,434	131%	38,699	38,198
2,500	1,801	139%	1,986	126%	GROSS MARGIN	2,500	1,801	139%	1,986	126%	32,765	40,743
59.67%	65.00%	91.80%	60.39%	98.80%	COGS - Merchandise %	59.67%	65.00%	91.80%	60.39%	98.80%	65.00%	698.88%
PAYROLL												
3,245	4,012	81%	3,759	86%	Gross Payroll - Hourly	3,245	4,012	81%	3,759	86%	47,241	38,217
3,245	4,012	81%	3,759	86%	S/T Wages	3,245	4,012	81%	3,759	86%	47,241	38,217
254	307	83%	298	85%	Payroll Tax - FICA	254	307	83%	298	85%	3,614	3,025
22	36	59%	29	74%	Payroll Tax - UC	22	36	59%	29	74%	721	393
50	73	68%	88	56%	Payroll Tax - WC	50	73	68%	88	56%	863	665
326	417	78%	416	78%	S/T Adders	326	417	78%	416	78%	5,198	4,083
3,571	4,429	81%	4,175	86%	TOTAL PAYROLL	3,571	4,429	81%	4,175	86%	52,439	42,300
OPERATING EXPENSES												
0	0	0%	0	0%	Office Supplies	0	0	0%	0	0%	892	860
0	0	0%	0	0%	Supplies	0	0	0%	0	0%	1,777	927
(107)	0	-355000%	(425)	25%	Tournament Expense	(107)	0	-355000%	(425)	25%	500	123
0	0	0%	0	0%	Handicap Expense	0	0	0%	0	0%	4,360	4,733
0	0	0%	0	0%	Lesson Expense	0	0	0%	0	0%	426	0
0	0	0%	0	0%	Repair & Maint - Building	0	0	0%	0	0%	0	0
(107)	0	-355000%	(425)	25%	TOTAL OPERATING EXPENSES	(107)	0	-355000%	(425)	25%	7,954	6,643
(964)	(2,629)	37%	(1,764)	55%	EBITDA	(964)	(2,629)	37%	(1,764)	55%	(27,628)	(8,199)
(964)	(2,629)	37%	(1,764)	55%	NET INCOME	(964)	(2,629)	37%	(1,764)	55%	(27,628)	(8,199)

The Golf Club at Cypress Head
G & A
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
PAYROLL												
7,697	9,417	82%	8,349	92%	Gross Payroll - Salaried	7,697	9,417	82%	8,349	92%	113,004	101,484
716	0	0%	0	0%	Gross Payroll - Hourly	716	0	0%	0	0%	0	716
8,413	9,417	89%	8,349	101%	S/T Wages	8,413	9,417	89%	8,349	101%	113,004	102,200
530	720	74%	690	77%	Payroll Tax - FICA	530	720	74%	690	77%	8,645	8,233
9	0	0%	0	0%	Payroll Tax - UC	9	0	0%	0	0%	291	247
142	172	83%	300	47%	Payroll Tax - WC	142	172	83%	300	47%	2,065	2,079
1,314	2,377	55%	1,634	80%	Benefits	1,314	2,377	55%	1,634	80%	28,522	20,599
1,995	3,269	61%	2,624	76%	S/T Adders	1,995	3,269	61%	2,624	76%	39,522	31,158
10,408	12,686	82%	10,973	95%	TOTAL PAYROLL	10,408	12,686	82%	10,973	95%	152,526	133,358
OPERATING EXPENSES												
403	201	200%	51	783%	Janitorial Supplies	403	201	200%	51	783%	4,233	3,837
887	0	0%	0	0%	Laundry/Uniforms	887	0	0%	0	0%	1,282	1,919
784	104	751%	104	751%	Office Supplies	784	104	751%	104	751%	2,794	3,669
210	261	80%	411	51%	Alarm System	210	261	80%	411	51%	2,215	2,812
0	0	0%	0	0%	Carpet Cleaning	0	0	0%	0	0%	550	0
151	191	80%	191	80%	Computer Service	151	191	80%	191	80%	2,969	3,046
0	0	0%	0	0%	Guest Relations	0	0	0%	0	0%	0	32
0	0	0%	0	0%	Indoor Plant Maint	0	0	0%	0	0%	100	0
125	0	0%	0	0%	Pest Control	125	0	0%	0	0%	0	125
0	500	0%	1,927	0%	Repair & Maint - Equipment	0	500	0%	1,927	0%	2,094	1,123
242	0	0%	0	0%	Repair & Maint - Building	242	0	0%	0	0%	2,607	3,902
168	168	100%	168	100%	Off-Site Storage	168	168	100%	168	100%	2,016	2,016
2,054	2,565	80%	2,565	80%	Utilities - Other	2,054	2,565	80%	2,565	80%	27,316	28,083
(149)	212	-70%	412	-36%	Utilities - Telephone/Fax	(149)	212	-70%	412	-36%	1,866	1,428
475	273	174%	473	100%	Bank Charges	475	273	174%	473	100%	4,240	6,071
(243)	0	53902%	884	-27%	Cash Short/(Over)	(243)	0	53902%	884	-27%	0	(1,821)
150	200	75%	300	50%	Cell Phone	150	200	75%	300	50%	2,400	1,950
2,723	2,759	99%	2,732	100%	City Surcharge R & R	2,723	2,759	99%	2,732	100%	39,942	39,347
0	60	0%	60	0%	Copier/Photocopies	0	60	0%	60	0%	442	650
3,024	3,206	94%	3,206	94%	Credit Card Discounts	3,024	3,206	94%	3,206	94%	27,270	24,228
0	0	0%	(267)	0%	Donations	0	0	0%	(267)	0%	200	0
150	0	0%	0	0%	Dues & Subscriptions	150	0	0%	0	0%	1,179	1,189
0	0	0%	0	0%	Education & Training	0	0	0%	0	0%	350	150
34	322	11%	322	11%	Employee Relations	34	322	11%	322	11%	1,895	1,433
4,341	3,974	109%	3,858	113%	Insurance Expense	4,341	3,974	109%	3,858	113%	47,691	48,396
0	38	0%	38	0%	Member Relations	0	38	0%	38	0%	478	27
24	91	27%	91	27%	Messenger Service - Fedex	24	91	27%	91	27%	379	125
0	0	0%	(36)	0%	Miscellaneous	0	0	0%	(36)	0%	0	0
3,000	3,500	86%	3,000	100%	O/S - Accounting	3,000	3,500	86%	3,000	100%	12,500	12,000
0	0	0%	0	0%	O/S - Legal	0	0	0%	0	0%	80	0
0	0	0%	0	0%	O/S - Legal-Mgmt Contracts	0	0	0%	0	0%	0	56
0	0	0%	0	0%	O/S - Other	0	0	0%	0	0%	0	350
482	450	107%	841	57%	Payroll Processing Fee	482	450	107%	841	57%	5,398	10,031
190	55	345%	55	345%	Postage/Shipping	190	55	345%	55	345%	801	1,073
(30)	(30)	100%	(30)	100%	Tax/Licenses/Fees	(30)	(30)	100%	(30)	100%	(385)	30
25	0	0%	37	69%	Travel - Meals	25	0	0%	37	69%	0	1,698
640	929	69%	929	69%	Travel - Other	640	929	69%	929	69%	14,850	9,257
50	0	0%	0	0%	Employee Meals	50	0	0%	0	0%	0	110
19,912	20,029	99%	22,322	89%	TOTAL OPERATING EXPENSES	19,912	20,029	99%	22,322	89%	209,750	208,340
(30,320)	(32,715)	93%	(33,295)	91%	EBITDA	(30,320)	(32,715)	93%	(33,295)	91%	(362,277)	(341,699)
5,827	5,713	102%	5,713	102%	Management Fee	5,827	5,713	102%	5,713	102%	68,554	68,668
5,827	5,713	102%	5,713	102%	Management Fees	5,827	5,713	102%	5,713	102%	68,554	68,668
37	98	38%	37	100%	Deprec - Mach & Equip	37	98	38%	37	100%	1,176	442
117	283	41%	117	100%	Deprec - Buildings	117	283	41%	117	100%	3,396	1,399
154	381	40%	154	100%	S/T DEPR. & AMORT	154	381	40%	154	100%	4,572	1,841
(36,301)	(38,809)	94%	(39,162)	93%	NET INCOME	(36,301)	(38,809)	94%	(39,162)	93%	(435,403)	(412,208)

The Golf Club at Cypress Head
Marketing
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
					PAYROLL							
3,262	3,353	97%	3,353	97%	Gross Payroll - Salaried	3,262	3,353	97%	3,353	97%	40,239	40,661
3,262	3,353	97%	3,353	97%	S/T Wages	3,262	3,353	97%	3,353	97%	40,239	40,661
243	257	95%	240	101%	Payroll Tax - FICA	243	257	95%	240	101%	3,078	2,931
0	0	0%	0	0%	Payroll Tax - UC	0	0	0%	0	0%	146	115
58	61	95%	78	75%	Payroll Tax - WC	58	61	95%	78	75%	735	769
282	451	63%	409	69%	Benefits	282	451	63%	409	69%	5,413	4,941
583	769	76%	727	80%	S/T Adders	583	769	76%	727	80%	9,372	8,757
3,845	4,122	93%	4,081	94%	TOTAL PAYROLL	3,845	4,122	93%	4,081	94%	49,611	49,418
					OPERATING EXPENSES							
2,601	2,442	107%	2,442	107%	Advertising & Promotion	2,601	2,442	107%	2,442	107%	26,647	19,587
(57)	0	0%	0	0%	Miscellaneous	(57)	0	0%	0	0%	0	3,343
0	100	0%	0	0%	Travel - Other	0	100	0%	0	0%	1,213	112
0	0	0%	0	0%	Website Expenses	0	0	0%	0	0%	2,400	0
2,545	2,542	100%	2,442	104%	TOTAL OPERATING EXPENSES	2,545	2,542	100%	2,442	104%	30,260	23,043
(6,389)	(6,664)	96%	(6,523)	98%	EBITDA	(6,389)	(6,664)	96%	(6,523)	98%	(79,871)	(72,461)
(6,389)	(6,664)	96%	(6,523)	98%	NET INCOME	(6,389)	(6,664)	96%	(6,523)	98%	(79,871)	(72,461)

The Golf Club at Cypress Head
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
REVENUES												
73,747	74,561	99%	74,130	99%	Green Fees & Cart Fees	73,747	74,561	99%	74,130	99%	1,180,861	1,146,280
5,356	4,030	133%	4,030	133%	Merchandise	5,356	4,030	133%	4,030	133%	59,537	65,241
340	390	87%	390	87%	Other Pro Shop	340	390	87%	390	87%	11,927	13,701
2,328	2,525	92%	2,525	92%	Range	2,328	2,525	92%	2,525	92%	36,706	35,656
19,473	23,000	85%	0	0%	Food and Beverage	19,473	23,000	85%	0	0%	83,000	35,261
2,723	2,759	99%	2,732	100%	Other Operating Revenues	2,723	2,759	99%	2,732	100%	39,944	39,347
103,967	107,265	97%	83,807	124%	TOTAL REVENUE	103,967	107,265	97%	83,807	124%	1,411,976	1,335,486
COST OF SALES												
3,196	2,620	122%	2,434	131%	Merchandise	3,196	2,620	122%	2,434	131%	38,699	38,198
6,186	7,629	81%	0	0%	Food & Beverage	6,186	7,629	81%	0	0%	28,745	12,228
9,382	10,249	92%	2,434	385%	TOTAL COGS	9,382	10,249	92%	2,434	385%	67,444	50,426
59.7%	65.0%	91.8%	60.4%	98.8%	COGS - Merchandise %	59.7%	65.0%	91.8%	60.4%	98.8%	65.0%	698.9%
31.9%	33.2%	96.1%	0.0%	0.0%	COGS - Food %	31.9%	33.2%	96.1%	0.0%	0.0%	34.6%	70.2%
PAYROLL												
24,763	31,511	79%	29,056	85%	Course and Grounds	24,763	31,511	79%	29,056	85%	375,767	337,382
8,462	8,443	100%	6,548	129%	Carts, Range, Starters, Etc.	8,462	8,443	100%	6,548	129%	99,348	86,349
3,571	4,429	81%	4,175	86%	Pro Shop	3,571	4,429	81%	4,175	86%	52,439	42,300
15,809	10,850	146%	0	0%	Food and Beverage	15,809	10,850	146%	0	0%	32,550	25,659
10,408	12,686	82%	10,973	95%	General and Administrative	10,408	12,686	82%	10,973	95%	152,526	133,358
3,845	4,122	93%	4,081	94%	Marketing	3,845	4,122	93%	4,081	94%	49,611	49,418
66,858	72,041	93%	54,832	122%	TOTAL PAYROLL	66,858	72,041	93%	54,832	122%	762,242	676,467
OPERATING EXPENSES												
18,770	29,758	63%	21,553	87%	Course and Grounds	18,770	29,758	63%	21,553	87%	280,678	249,553
6,422	6,523	98%	6,423	100%	Carts, Range, Starters, Etc.	6,422	6,523	98%	6,423	100%	83,934	80,327
(107)	0	-355000%	(425)	25%	Pro Shop	(107)	0	-355000%	(425)	25%	7,954	6,643
2,457	3,187	77%	0	0%	Food and Beverage	2,457	3,187	77%	0	0%	9,561	3,869
19,912	20,029	99%	22,322	89%	General and Administrative	19,912	20,029	99%	22,322	89%	209,750	208,340
2,545	2,542	100%	2,442	104%	Marketing	2,545	2,542	100%	2,442	104%	30,260	23,043
49,999	62,039	81%	52,314	96%	TOTAL OPERATING EXPENSES	49,999	62,039	81%	52,314	96%	622,137	571,775
126,239	144,328	87%	109,581	115%	TOTAL EXPENSES	126,239	144,328	87%	109,581	115%	1,451,823	1,298,668
(22,272)	(37,063)	60%	(25,773)	86%	EBITDA	(22,272)	(37,063)	60%	(25,773)	86%	(39,846)	36,818

The Golf Club at Cypress Head
For the Month Ending October 31, 2017

MTD Actual	MTD Budget	% of Budget	MTD Prior Year	% of PY		YTD Actual	YTD Budget	% of Budget	YTD Prior Year	% of PY	Annual Budget	
(22,272)	(37,063)	60%	(25,773)	86%	EBITDA	(22,272)	(37,063)	60%	(25,773)	86%	(39,846)	36,818
(6,684)	(6,570)	102%	(5,713)	117%	MANAGEMENT FEES	(6,684)	(6,570)	102%	(5,713)	117%	(71,125)	(70,382)
(154)	(381)	40%	(154)	100%	OTHER INCOME (EXPENSE)	(154)	(381)	40%	(154)	100%	(4,572)	(1,841)
(154)	(381)	40%	(154)	100%	Depreciation & Amortization	(154)	(381)	40%	(154)	100%	(4,572)	(1,841)
(29,109)	(44,014)	66%	(31,640)	92%	TOTAL OTHER INCOME (EXPENSE)	(29,109)	(44,014)	66%	(31,640)	92%	(115,544)	(35,406)
					NET INCOME							
2,585	2,526	102%	2,501	103%	Paid Rounds	2,585	2,526	102%	2,501	103%	37,150	36,988
513	655	78%	649	79%	Annual Pass Rounds	513	655	78%	649	79%	8,542	7,959
211	191	111%	189	112%	Other Rounds	211	191	111%	189	112%	2,924	2,741
3,309	3,372	98%	3,339	99%	Total Rounds	3,309	3,372	98%	3,339	99%	48,615	47,688
40	42	95%	34	120%	Revenue/Paid Rounds	40	42	95%	34	120%	38	433
31	32	99%	25	125%	Revenue/Total Rounds	31	32	99%	25	125%	29	335

TRIAL BALANCE SUMMARY FOR 2017

The Golf Club at Cypress Head

General Ledger

Ranges: From: To:

Date: 10/1/2017

Account: First Last

Sorted By:

Include:

Print Currency In:

Account Posting, Unit

Functional (Z-US\$)

Inactive	Account	Description	Beginning Balance	Debit	Credit	Net Change	Ending Balance
	10020-5950-900	Cash - Course Depository NEW	\$191,389.59	\$163,274.09	\$161,442.31	\$1,831.78	\$193,221.37
	10050-5950-900	Cash - Course Payroll BMO	\$21,980.20	\$64,419.80	\$74,972.87	(\$10,553.07)	\$11,427.13
	10100-5950-900	Cash - Course Other	\$850.00	\$0.00	\$0.00	\$0.00	\$850.00
	10120-5950-900	Cash - New Payroll	\$0.00	\$95.00	\$95.00	\$0.00	\$0.00
	10180-5950-900	Cash - Pro Shop Bank	\$500.00	\$0.00	\$0.00	\$0.00	\$500.00
	10200-5950-900	Cash - F&B Bank	\$200.00	\$0.00	\$0.00	\$0.00	\$200.00
	11160-5950-900	A/R Member	\$98,656.93	\$16,920.20	\$109,866.16	(\$92,945.96)	\$5,710.97
	12000-5950-900	Inventory - Merchandise	\$13,394.18	\$9,153.31	\$5,281.04	\$3,872.27	\$17,266.45
	12180-5950-900	Inventory - Food	\$2,670.52	\$3,065.53	\$3,408.86	(\$343.33)	\$2,327.19
	12200-5950-900	Inventory - Beverage	\$741.14	\$152.79	\$54.26	\$98.53	\$839.67
	12220-5950-900	Inventory - Beer	\$1,637.82	\$3,897.75	\$2,540.68	\$1,357.07	\$2,994.89
	12240-5950-900	Inventory - Liquor	\$2,179.36	\$665.84	\$569.86	\$95.98	\$2,275.34
	12260-5950-900	Inventory - Wine	\$759.12	\$98.00	\$175.13	(\$77.13)	\$681.99
	13020-5950-900	Prepaid Insurance	\$21,004.85	\$0.00	\$4,341.35	(\$4,341.35)	\$16,663.50
	13040-5950-900	Prepaid Exp - Other	\$3,058.50	\$352.06	\$1,509.04	(\$1,156.98)	\$1,901.52
	13480-5950-900	Deposit - Vendors	\$3,000.00	\$0.00	\$0.00	\$0.00	\$3,000.00
	20100-5950-900	Machinery & Equipment	\$5,550.40	\$0.00	\$0.00	\$0.00	\$5,550.40
	20160-5950-900	Buildings and Improvements	\$30,597.54	\$0.00	\$0.00	\$0.00	\$30,597.54
	22040-5950-900	Accum. Deprec - Mach & Equip	(\$3,494.66)	\$0.00	\$36.87	(\$36.87)	(\$3,531.53)
	22080-5950-900	Accum. Deprec - Buildings	(\$22,583.11)	\$0.00	\$116.74	(\$116.74)	(\$22,699.85)
	30000-5950-900	Accts Pay - Trade	(\$24,578.68)	\$137,167.49	\$139,735.88	(\$2,568.39)	(\$27,147.07)
	30040-5950-900	Accts Pay - Other	(\$58,825.82)	\$10,565.09	\$10,883.79	(\$318.70)	(\$59,144.52)
	31000-5950-900	Accrued Expenses	(\$4,189.81)	\$8,364.81	\$10,809.34	(\$2,444.53)	(\$6,634.34)
	31020-5950-900	Accrued Payroll	(\$28,119.42)	\$43,804.48	\$26,781.41	\$17,023.07	(\$11,096.35)
	31080-5950-900	Accrued Tips Payable	(\$93.50)	\$1,434.40	\$1,340.90	\$93.50	\$0.00
	31220-5950-900	Accrued Sales Tax	(\$13,316.85)	\$13,316.85	\$5,690.78	\$7,626.07	(\$5,690.78)
	31240-5950-900	Accrued Annual Sales Tax	(\$5,970.92)	\$1,925.02	\$0.00	\$1,925.02	(\$4,045.90)
	31400-5950-900	Accrued City Surcharge	\$0.00	\$2,722.71	\$2,722.71	\$0.00	\$0.00
	32000-5950-900	Deferred Rev - Rainchecks	(\$2,364.99)	\$639.07	\$849.90	(\$210.83)	(\$2,575.82)
	32020-5950-900	Deferred Rev - Outing Deposits	(\$13,691.54)	\$11,385.66	\$3,563.69	\$7,821.97	(\$5,869.57)
	32040-5950-900	Deferred Rev - Legacy GF Passes	(\$57,233.32)	\$9,232.66	\$0.00	\$9,232.66	(\$48,000.66)
	32050-5950-900	Deferred Revenue - Cypress GF Passes	(\$55,994.92)	\$15,955.22	\$1,852.97	\$14,102.25	(\$41,892.67)
	32060-5950-900	Deferred Rev - Gift Certificates	(\$125.14)	\$0.00	\$0.00	\$0.00	(\$125.14)
	32070-5950-900	Deferred Rev - Gift Cards	(\$18,062.12)	\$232.83	\$653.53	(\$420.70)	(\$18,482.82)
	32100-5950-900	Deferred Rev - Credit Books	(\$14,245.28)	\$713.16	\$352.83	\$360.33	(\$13,884.95)
	32120-5950-900	Deferred Rev - Trail Fee Pass	(\$112,000.00)	\$20,883.33	\$0.00	\$20,883.33	(\$91,116.67)
	32220-5950-900	Deferred Rev - Founders Pass	(\$1,217.24)	\$101.44	\$0.00	\$101.44	(\$1,115.80)
	49020-5950-900	Retained Earnings - Current	\$37,937.17	\$0.00	\$0.00	\$0.00	\$37,937.17
	50000-5950-100	Green Fees - Annual Pass	\$0.00	\$0.00	\$8,273.57	(\$8,273.57)	(\$8,273.57)
	50040-5950-100	Green Fees - Member	\$0.00	\$0.00	\$32,907.08	(\$32,907.08)	(\$32,907.08)
	50070-5950-100	Green Fees - (surcharge)	\$0.00	\$2,722.71	\$5,445.42	(\$2,722.71)	(\$2,722.71)
	50500-5950-200	Cart Fee 18	\$0.00	\$0.00	\$21,560.07	(\$21,560.07)	(\$21,560.07)
	50520-5950-200	Cart Fee - Annual Trail	\$0.00	\$0.00	\$8,283.33	(\$8,283.33)	(\$8,283.33)
	52150-5950-600	Lessons	\$0.00	\$0.00	\$130.00	(\$130.00)	(\$130.00)
	52280-5950-600	Rental Clubs	\$0.00	\$0.00	\$210.00	(\$210.00)	(\$210.00)
	52310-5950-600	Retail	\$0.00	\$0.00	\$5,355.89	(\$5,355.89)	(\$5,355.89)
	53050-5950-220	Range Pass Revenue	\$0.00	\$0.00	\$2,328.38	(\$2,328.38)	(\$2,328.38)
	54000-5950-540	Food	\$0.00	\$1,278.57	\$10,520.04	(\$9,241.47)	(\$9,241.47)
	54030-5950-540	Beverage	\$0.00	\$0.00	\$1,207.71	(\$1,207.71)	(\$1,207.71)
	54060-5950-540	Beer	\$0.00	\$0.00	\$5,605.02	(\$5,605.02)	(\$5,605.02)
	54090-5950-540	Liquor	\$0.00	\$0.00	\$2,969.98	(\$2,969.98)	(\$2,969.98)
	54120-5950-540	Wine	\$0.00	\$0.00	\$372.24	(\$372.24)	(\$372.24)
	54220-5950-540	F&B Other Income	\$0.00	\$0.00	\$76.68	(\$76.68)	(\$76.68)
	56120-5950-100	City Surcharge R & R	\$0.00	\$0.00	\$2,722.71	(\$2,722.71)	(\$2,722.71)
	60000-5950-600	COGS - Merchandise - Accessories	\$0.00	\$3,195.97	\$0.00	\$3,195.97	\$3,195.97
	61000-5950-540	COGS - Food	\$0.00	\$3,408.86	\$0.00	\$3,408.86	\$3,408.86
	61010-5950-540	COGS - Beverage	\$0.00	\$54.26	\$0.00	\$54.26	\$54.26

Inactive	Account	Description	Beginning Balance	Debit	Credit	Net Change	Ending Balance
	61020-5950-540	COGS - Beer	\$0.00	\$1,977.48	\$0.00	\$1,977.48	\$1,977.48
	61030-5950-540	COGS - Liquor	\$0.00	\$569.86	\$0.00	\$569.86	\$569.86
	61040-5950-540	COGS - Wine	\$0.00	\$175.13	\$0.00	\$175.13	\$175.13
	70000-5950-100	Gross Payroll - Salaried	\$0.00	\$8,612.63	\$3,928.58	\$4,684.05	\$4,684.05
	70000-5950-900	Gross Payroll - Salaried	\$0.00	\$15,196.55	\$7,499.70	\$7,696.85	\$7,696.85
	70000-5950-950	Gross Payroll - Salaried	\$0.00	\$6,038.14	\$2,776.09	\$3,262.05	\$3,262.05
	70002-5950-540	Gross Kitchen Payroll - Salaried	\$0.00	\$9,395.60	\$2,527.48	\$6,868.12	\$6,868.12
	70010-5950-100	Gross Payroll - Hourly	\$0.00	\$30,651.21	\$13,933.82	\$16,717.39	\$16,717.39
	70010-5950-200	Gross Payroll - Hourly	\$0.00	\$11,779.45	\$4,162.96	\$7,616.49	\$7,616.49
	70010-5950-600	Gross Payroll - Hourly	\$0.00	\$5,349.46	\$2,104.22	\$3,245.24	\$3,245.24
	70010-5950-900	Gross Payroll - Hourly	\$0.00	\$716.26	\$0.00	\$716.26	\$716.26
	70012-5950-540	Gross Kitchen Payroll - Hourly	\$0.00	\$10,699.03	\$3,730.19	\$6,968.84	\$6,968.84
	71000-5950-100	Payroll Tax - FICA	\$0.00	\$2,804.14	\$1,270.68	\$1,533.46	\$1,533.46
	71000-5950-200	Payroll Tax - FICA	\$0.00	\$930.79	\$317.76	\$613.03	\$613.03
	71000-5950-540	Payroll Tax - FICA	\$0.00	\$1,536.66	\$665.62	\$871.04	\$871.04
	71000-5950-600	Payroll Tax - FICA	\$0.00	\$416.71	\$162.38	\$254.33	\$254.33
	71000-5950-900	Payroll Tax - FICA	\$0.00	\$1,069.43	\$539.88	\$529.55	\$529.55
	71000-5950-950	Payroll Tax - FICA	\$0.00	\$427.84	\$185.12	\$242.72	\$242.72
	71010-5950-100	Payroll Tax - UC	\$0.00	\$106.02	\$0.00	\$106.02	\$106.02
	71010-5950-200	Payroll Tax - UC	\$0.00	\$116.73	\$0.00	\$116.73	\$116.73
	71010-5950-540	Payroll Tax - UC	\$0.00	\$129.74	\$0.00	\$129.74	\$129.74
	71010-5950-600	Payroll Tax - UC	\$0.00	\$21.52	\$0.00	\$21.52	\$21.52
	71010-5950-900	Payroll Tax - UC	\$0.00	\$9.35	\$0.00	\$9.35	\$9.35
	71020-5950-100	Payroll Tax - WC	\$0.00	\$354.52	\$0.00	\$354.52	\$354.52
	71020-5950-200	Payroll Tax - WC	\$0.00	\$115.76	\$0.00	\$115.76	\$115.76
	71020-5950-540	Payroll Tax - WC	\$0.00	\$196.79	\$0.00	\$196.79	\$196.79
	71020-5950-600	Payroll Tax - WC	\$0.00	\$49.80	\$0.00	\$49.80	\$49.80
	71020-5950-900	Payroll Tax - WC	\$0.00	\$142.12	\$0.00	\$142.12	\$142.12
	71020-5950-950	Payroll Tax - WC	\$0.00	\$58.05	\$0.00	\$58.05	\$58.05
	71030-5950-100	Benefits	\$0.00	\$4,291.26	\$2,923.67	\$1,367.59	\$1,367.59
	71030-5950-200	Benefits	\$0.00	\$68.96	\$69.24	(\$0.28)	(\$0.28)
	71030-5950-540	Benefits	\$0.00	\$1,591.75	\$817.23	\$774.52	\$774.52
	71030-5950-900	Benefits	\$0.00	\$3,297.94	\$1,983.75	\$1,314.19	\$1,314.19
	71030-5950-950	Benefits	\$0.00	\$836.60	\$554.52	\$282.08	\$282.08
	80050-5950-540	Bar Supplies	\$0.00	\$46.81	\$0.00	\$46.81	\$46.81
	80110-5950-200	Cart Supplies	\$0.00	\$31.65	\$0.00	\$31.65	\$31.65
	80120-5950-100	Chemicals	\$0.00	\$1,150.71	\$0.00	\$1,150.71	\$1,150.71
	80170-5950-100	Course Accessories	\$0.00	\$90.27	\$0.00	\$90.27	\$90.27
	80190-5950-540	Dining Room Supplies	\$0.00	\$79.93	\$0.00	\$79.93	\$79.93
	80230-5950-100	Fertilizer	\$0.00	\$8,070.40	\$4,025.00	\$4,045.40	\$4,045.40
	80270-5950-100	Fuel	\$0.00	\$1,351.45	\$0.00	\$1,351.45	\$1,351.45
	80280-5950-100	Fungicides	\$0.00	\$328.84	\$0.00	\$328.84	\$328.84
	80320-5950-100	Herbicides	\$0.00	\$2,338.02	\$0.00	\$2,338.02	\$2,338.02
	80370-5950-100	Insecticides	\$0.00	\$726.81	\$0.00	\$726.81	\$726.81
	80380-5950-900	Janitorial Supplies	\$0.00	\$402.95	\$0.00	\$402.95	\$402.95
	80390-5950-540	Kitchen Supplies	\$0.00	\$40.97	\$0.00	\$40.97	\$40.97
	80410-5950-540	Laundry/Linens	\$0.00	\$77.00	\$0.00	\$77.00	\$77.00
	80420-5950-900	Laundry/Uniforms	\$0.00	\$1,187.43	\$300.00	\$887.43	\$887.43
	80520-5950-900	Office Supplies	\$0.00	\$784.25	\$0.00	\$784.25	\$784.25
	80620-5950-220	Range Equipment	\$0.00	\$86.93	\$0.00	\$86.93	\$86.93
	80770-5950-100	Staff/Volunteer Uniforms	\$0.00	\$800.00	\$800.00	\$0.00	\$0.00
	80810-5950-600	Tournament Expense	\$0.00	\$2,596.34	\$2,702.84	(\$106.50)	(\$106.50)
	81010-5950-900	Alarm System	\$0.00	\$210.26	\$0.00	\$210.26	\$210.26
	81130-5950-900	Computer Service	\$0.00	\$151.47	\$0.00	\$151.47	\$151.47
	81140-5950-540	Contract Cleaning - Tavern	\$0.00	\$812.00	\$0.00	\$812.00	\$812.00
	81250-5950-100	Irrigation	\$0.00	\$383.95	\$0.00	\$383.95	\$383.95
	81300-5950-900	Pest Control	\$0.00	\$125.00	\$0.00	\$125.00	\$125.00
	81350-5950-100	Repair & Maint - Equipment	\$0.00	\$1,513.98	\$0.00	\$1,513.98	\$1,513.98
	81360-5950-900	Repair & Maint - Building	\$0.00	\$241.92	\$0.00	\$241.92	\$241.92
	82000-5950-200	Cart Lease	\$0.00	\$5,355.67	\$0.00	\$5,355.67	\$5,355.67
	82020-5950-100	Equipment Lease	\$0.00	\$5,316.00	\$0.00	\$5,316.00	\$5,316.00
	82020-5950-540	Equipment Lease	\$0.00	\$159.75	\$0.00	\$159.75	\$159.75
	82060-5950-900	Off-Site Storage	\$0.00	\$168.00	\$0.00	\$168.00	\$168.00

TRIAL BALANCE SUMMARY FOR 2017

The Golf Club at Cypress Head

Inactive	Account	Description	Beginning Balance	Debit	Credit	Net Change	Ending Balance
	83000-5950-100	Utilities - Electric	\$0.00	\$234.58	\$0.00	\$234.58	\$234.58
	83000-5950-200	Utilities - Electric	\$0.00	\$947.98	\$0.00	\$947.98	\$947.98
	83010-5950-540	Utilities - Gas	\$0.00	\$1,240.19	\$0.00	\$1,240.19	\$1,240.19
	83020-5950-100	Utilities - Other	\$0.00	\$946.82	\$0.00	\$946.82	\$946.82
	83020-5950-900	Utilities - Other	\$0.00	\$2,053.63	\$0.00	\$2,053.63	\$2,053.63
	83030-5950-100	Utilities - Telephone/Fax	\$0.00	\$102.10	\$0.00	\$102.10	\$102.10
	83030-5950-900	Utilities - Telephone/Fax	\$0.00	\$150.53	\$300.00	(\$149.47)	(\$149.47)
	83050-5950-100	Utilities - Water	\$0.00	\$251.65	\$0.00	\$251.65	\$251.65
	84040-5950-950	Adv/Promo - Mktg/Bus Dev	\$0.00	\$2,601.14	\$0.00	\$2,601.14	\$2,601.14
	85020-5950-900	Bank Charges	\$0.00	\$474.75	\$0.00	\$474.75	\$474.75
	85050-5950-900	Cash Short/(Over)	\$0.00	\$718.38	\$960.94	(\$242.56)	(\$242.56)
	85060-5950-900	Cell Phone	\$0.00	\$150.00	\$0.00	\$150.00	\$150.00
	85070-5950-900	City Surcharge R & R	\$0.00	\$2,722.71	\$0.00	\$2,722.71	\$2,722.71
	85120-5950-900	Credit Card Discounts	\$0.00	\$3,024.20	\$0.00	\$3,024.20	\$3,024.20
	85150-5950-900	Dues & Subscriptions	\$0.00	\$300.00	\$150.00	\$150.00	\$150.00
	85190-5950-900	Employee Relations	\$0.00	\$208.65	\$174.73	\$33.92	\$33.92
	85200-5950-100	Employee Testing	\$0.00	\$0.00	\$10.50	(\$10.50)	(\$10.50)
	85280-5950-900	Insurance Expense	\$0.00	\$4,341.35	\$0.00	\$4,341.35	\$4,341.35
	85330-5950-900	Messenger Service - Fedex	\$0.00	\$24.33	\$0.00	\$24.33	\$24.33
	85340-5950-950	Miscellaneous	\$0.00	\$2,443.45	\$2,500.00	(\$56.55)	(\$56.55)
	85390-5950-900	O/S - Accounting	\$0.00	\$3,000.00	\$0.00	\$3,000.00	\$3,000.00
	85480-5950-900	Payroll Processing Fee	\$0.00	\$482.47	\$0.00	\$482.47	\$482.47
	85490-5950-900	Postage/Shipping	\$0.00	\$189.50	\$0.00	\$189.50	\$189.50
	85610-5950-900	Tax/Licenses/Fees	\$0.00	\$0.00	\$30.00	(\$30.00)	(\$30.00)
	85710-5950-900	Travel - Meals	\$0.00	\$25.44	\$0.00	\$25.44	\$25.44
	85720-5950-900	Travel - Other	\$0.00	\$640.01	\$0.00	\$640.01	\$640.01
	89020-5950-900	Employee Meals	\$0.00	\$50.41	\$0.00	\$50.41	\$50.41
	90000-5950-540	Management Fee - Tavern	\$0.00	\$856.93	\$0.00	\$856.93	\$856.93
	90000-5950-900	Management Fee	\$0.00	\$5,827.11	\$0.00	\$5,827.11	\$5,827.11
	98020-5950-900	Deprec - Mach & Equip	\$0.00	\$36.87	\$0.00	\$36.87	\$36.87
	98040-5950-900	Deprec - Buildings	\$0.00	\$116.74	\$0.00	\$116.74	\$116.74
	RCMWD-5950-100	Rounds - Complimentary - Weekday	11,620.00	116.00	0.00	116.00	11,736.00
	REMWD-5950-100	Rounds - Employee - Weekday	17,805.00	95.00	0.00	95.00	17,900.00
	RMBWD-5950-100	Rounds - Member - Weekday	64,799.00	513.00	0.00	513.00	65,312.00
	RPKWD-5950-100	Rounds - Peak - Weekday	339,045.00	2,585.00	0.00	2,585.00	341,630.00
	RPKWE-5950-100	Rounds - Peak - Weekend	5,071.00	0.00	0.00	0.00	5,071.00
		<u>Accounts</u>	<u>Beginning Balance</u>	<u>Debit</u>	<u>Credit</u>	<u>Net Change</u>	<u>Ending Balance</u>
	Grand Totals:	156	\$0.00	\$739,722.92	\$739,722.92	\$0.00	\$0.00



November 20th, 2017

Robin Fenwick
City of Port Orange
100 City Center Circle
Port Orange, FL 32129

Dear Ms. Fenwick,

The following is the financial and operational summary report for October 2017 at Cypress Head Golf Club. These numbers reflect only the Golf portion for the month and year to date. The Food & Beverage numbers are on a separate table below.

FINANCIAL SUMMARY FOR GOLF MONTH ENDING October 2017								
	Current				Year to Date			
	Actual	Budget	Variance vs. Budget		Actual	Budget	Prior Year	Variance vs. Budget
Revenue								
Green Fees	\$ 43,903	\$ 43,454	\$ 449		\$ 43,903	\$ 43,454	\$ 43,024	\$ 449
Cart Fees	\$ 29,843	\$ 31,106	\$ (1,263)		\$ 29,843	\$ 31,106	\$ 31,106	\$ (1,263)
Range	\$ 2,328	\$ 2,525	\$ (197)		\$ 2,328	\$ 2,525	\$ 2,525	\$ (197)
Pro- Shop Revenues	\$ 5,696	\$ 4,400	\$ 1,296		\$ 5,696	\$ 4,400	\$ 4,400	\$ 1,296
City Surcharge R/R	\$ 2,723	\$ 2,759	\$ (36)		\$ 2,723	\$ 2,759	\$ 2,732	\$ (36)
Total Revenue	\$ 84,493	\$ 84,244	\$ 249		\$ 84,493	\$ 84,244	\$ 83,787	\$ 249
Cost of Sales	\$ 3,196	\$ 2,620	\$ 576		\$ 3,196	\$ 2,620	\$ 2,434	\$ 576
Merchandise	\$ 3,196	\$ 2,620	\$ 576	59%	\$ 3,196	\$ 2,620	\$ 2,434	\$ 576 59%
Gross Margin	\$ 81,297	\$ 81,624	\$ (327)		\$ 81,297	\$ 81,624	\$ 81,353	\$ (327)
Total Payroll	\$ 51,049	\$ 61,191	\$ (10,142)		\$ 51,049	\$ 61,191	\$ 54,832	\$ (10,142)
Total Operating Expenses	\$ 47,542	\$ 58,852	\$ (11,310)		\$ 47,542	\$ 58,852	\$ 52,314	\$ (11,310)
Net Operating Income	\$ (17,294)	\$ (38,397)	\$ 21,103		\$ (17,294)	\$ (38,397)	\$ (25,773)	\$ 21,103
Other Expenses	\$ 5,981	\$ 6,094	\$ (113)		\$ 5,981	\$ 6,094	\$ 5,867	\$ (113)
Management Fee	\$ 5,827	\$ 5,713	\$ 114		\$ 5,827	\$ 5,713	\$ 5,713	\$ 114
Interest Expense	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
Depreciation	\$ 154	\$ 381	\$ 545		\$ 154	\$ 381	\$ 154	\$ (227)
Net Cash From Ops	\$ (23,275)	\$ (44,491)	\$ 21,216		\$ (23,275)	\$ (44,491)	\$ (31,640)	\$ 21,216
Rounds					Rounds			
Total Rounds	3,309	3,372	(63)		3,309	3,372	3,339	(63)
Paid Rounds	3,098	3,240	(142)		3,098	3,240	3,150	(142)
Avg. GF/CF Total rounds	\$22.29	\$22.11	\$ 0.17		\$22.29	\$22.11	\$22.20	\$ 0.17
Avg. GF/CF Paid rounds	\$23.80	\$23.01	\$ 0.79		\$23.80	\$23.01	\$23.53	\$ 0.79
Avg. Merchandise/round	\$1.72	\$1.30	\$ 0.42		\$1.72	\$1.30	\$1.32	\$ 0.42

Overview:

- Overall golf revenues for October finished at \$84,493 versus a budgeted amount of \$84,244. The range revenue was \$2,328 compared to the budgeted amount of \$2,525 for the month. The pro shop and merchandise sales were \$1,296 over the projected budgeted amount.
- Total payroll for the month was lower than the projected budgeted amount, for a savings of \$10,142. This was as a result of controlling labor costs during days when rounds were reduced.
- Our operating expenses finished at \$47,542 versus a budgeted amount of \$58,852 for the month. The reason for the difference in expenses was due to the timing of invoices for products budgeted that was not received for the month but will come due in November.
- The rains have continued throughout the month of October. We received over 8 inches of rain which caused some flooding and damage to the golf course. We were completely closed for two days and forced to operate under cart path only restrictions for another 9 days to avoid damaging the turf. This unfortunately reduces the amount of players and rounds due to an older population who will not play with limited access to the course.
- The month of October is the first month in our fiscal year 2017-2018; therefore the YTD numbers are identical to the monthly figures.

Food & Beverage:

The following is the financial and operational summary report for Food & Beverage for the month of October 2017 at Cypress Head Golf Club.

FINANCIAL SUMMARY FOR F&B MONTH ENDING OCTOBER 2017							
	Current				Year to Date		
Revenue	Actual	Budget	Variance vs. Budget		Actual	Budget	Variance vs. Budget
Food & Beverage	\$ 10,449	\$ 13,800	\$ (3,351)		\$ 10,449	\$ 13,800	\$ (3,351)
Beer	\$ 5,605	\$ 5,000	\$ 605		\$ 5,605	\$ 5,000	\$ 605
Liquor	\$ 2,970	\$ 3,200	\$ (230)		\$ 2,970	\$ 3,200	\$ (230)
Wine	\$ 372	\$ 1,000	\$ (628)		\$ 372	\$ 1,000	\$ (628)
Total Revenue	\$ 19,396	\$ 23,000	\$ (3,604)		\$ 19,396	\$ 23,000	\$ (3,604)
Cost of Sales	\$ 6,186	\$ 7,629	\$ (1,443)		\$ 6,186	\$ 7,629	\$ (1,443)
Merchandise	\$ 6,186	\$ 7,629	\$ (1,443)		\$ 6,186	\$ 7,629	\$ (1,443)
Gross Margin	\$ 13,210	\$ 15,371	\$ (2,161)		\$ 13,210	\$ 15,371	\$ (2,161)
Total Payroll	\$ 15,809	\$ 10,850	\$ 4,959		\$ 15,809	\$ 10,850	\$ 4,959
Total Operating Expenses	\$ 2,457	\$ 3,187	\$ (730)		\$ 2,457	\$ 3,187	\$ (730)
Net Operating Income	\$ (4,978)	\$ 1,334	\$ (6,312)		\$ (4,978)	\$ 1,334	\$ (6,312)
Other Expenses	\$ 857	\$ 857	\$ -		\$ 857	\$ 857	\$ -
Management Fee	\$ 857	\$ 857	\$ -		\$ 857	\$ 857	\$ -
Net Cash From Ops	\$ (5,835)	\$ 477	\$ (6,312)		\$ (5,835)	\$ 477	\$ (6,312)

- The revenues for the restaurant were not realized for October due to the weather and reduced player rounds. These factors have a direct effect on the restaurant operations since it reduces any potential off the street walk in business. Don Burke, the manager of the Restaurant, has been organizing our food and beverage staff to serve the golfing public as well as our local community. He has been able to offer a variety of menu items with several beverage options and we are expecting to host multiple holiday parties during the upcoming months.

R&R Projects:

- There were no projects for the month of October.

Tee Sheet Activity:

- There were 3,309 total rounds for the month which included 2,585 paid rounds, 513 Annual with Cypress Pass member rounds and 211 other rounds. The round type for the month included 2,544 eighteen hole rounds and 705 nine hole rounds.
- The Golf staff continues to monitor daily tee sheet activity and they are trained to recognize underutilization of the tee sheet and offer promotional prices through the website to increase the number of potential players.

October 2017 and YTD rounds mix:

Type	Actual	Budget	Month- P.Y.	Y.T.D	P.Y-Y.T.D
Paid	2585	2526	2501	2585	2501
Annual	513	655	649	513	649
Other rounds	211	191	189	211	189
Total Rounds	3309	3372	3339	3309	3339

Departmental Summaries:**Course & Grounds/Range**

- The regular schedule involving the mowing patterns for the golf course was affected by the rains during the month. Some of the areas that were very wet could not sustain the equipment and in order to prevent any damage to the course or the equipment our capabilities to mow were limited. We continued to remove debris left over from Hurricane Irma in September. Our maintenance team has done a remarkable job in returning the golf course to pre hurricane status.

- A foliar application of nutrients was distributed on the tees & greens. A granular application of fertilizer was applied to targeted areas on the golf course. Fungicides were applied to the putting surfaces. Program to control weeds around specific areas continues on a regular basis.
- The putting surfaces were verticutted and rolled to help maintain smoothness and improve the speed of the putting surfaces.
- The maintenance team is continuing with ongoing projects on the golf course involving edging tee sign marker beds, sand bunkers and cart paths.
- We have an agronomic plan for the upcoming fiscal year 2017-2018 which includes a continuation of fertilizer applications, insecticides and pre-emergent for weed control. All the par three teeing areas as well as the driving range will be over seeded with rye grass to help control damage to those areas during the winter months.

Golf Shop/Carts

- New merchandise continues to arrive and is regularly updated to enhance the professional nature of the golf shop and help promote merchandise sales. Vendors include Horn Legend, Footjoy, Titleist, Callaway, Bridgestone, Nancy Lopez, Ahead headwear and St Andrews products. There was \$655 in gift card sales purchased for the month as well as over \$5,696 in pro-shop sales.
- We continue to follow all regular maintenance procedures regarding the cart fleet which includes registering monthly totals for battery amperage and mileage as well as proper watering of all batteries to protect all warranties associated with the fleet. In addition to the monthly process our carts are inspected daily for any damage which may have occurred during normal play. We continue to be committed to providing quality carts for the enjoyment of all our players.
- The staff at Cypress Head Golf Course continues to offer lesson packages for beginners as well as advanced players. A junior clinic program was offered on Saturday mornings during October to help introduce more kids to the fun of learning and playing golf and was well attended.

- I am very pleased to announce the newest member of our teaching staff, Mr. Mike Dick. Mike is a PGA professional who has moved to the Port Orange area from Indianapolis and he will be assisting the team in adding to our teaching programs to benefit the community.
- Cypress Head passes were made available for sale and renewal during the month and will be active for the fiscal year 2017-2018. Current totals for renewals include 40 Legacy pass holders, 18 Cypress Pass holders and Ray Pinkley who is the last remaining founder. There are also 71 current Trail fee members.
- The MGA and the WGA will be continuing their league play during the upcoming season however our twilight summer leagues will be ending play as we move towards standard time. The leagues have been well attended and we expect more participants as the winter visitors from the northern climates return to Florida. We also host a weekly Homeowner's Nine & Dine event where the players enjoy nine holes of golf and return to the clubhouse for their dinner and cocktails.

Marketing and Sales:

- Ms. Reggie Hunter, our Director of Sales & Marketing, is focusing on booking tournament events for the upcoming season.
- We are continuing our involvement with Daytona CVB, Golf Pac, and Tee-Times USA along with other National wholesaler and Golf Now to maximize utilization of our tee sheet.
- We continue to maintain our database of emails with over 10,000 unique e-mail addresses. The golf staff continues to register player profiles including residency, phone numbers and proper classifications of all players. This process will allow us an opportunity to offer promotions to our database to experience all that Cypress Head has to offer.
- Ms. Hunter continues to cultivate her relationships in the community by her continued involvement in the POSD Chamber, POSD Ambassadors program, Daytona Beach Chamber, SEV Chamber and the POSD Rotary club.

- We hosted multiple events in October including the Elks Tournament, The Kennedy Space Center Tournament, The Pawsability Charity event and the Florida Seminoles Daytona Chapter tournament. These events were well attended and these events help to increase our presence in the community.
- We continue to promote the golf course on various social media platforms such as Facebook, twitter and Instagram.

Mindshare Reviews and Comments:

Report run: 11/22/2017 11:16 AM MST
Data current as of: 11/22/2017 11:12 AM MST

REPORT CRITERIA
Date of Survey: 10/1/17 - 10/31/17
Select level: Cypress Head

Number of Surveys: 2



#	Zip Code	Date Golfed	Date of Survey	Tee Time	Overall Rating	Service Rating	Course Rating	Recommend Rating	NPS	Overall Rating w/o F&B	Comments	
Totals					8.3	9.0	7.5	8.5	50.0	8.3		
Cypress Head					8.3	9.0	7.5	8.5	50.0	8.3		
Golf					8.3	9.0	7.5	8.5	50.0	8.3		

- There were over 300 questionnaires mailed out to players during October however only two responses were returned. The overall rating for the golf course received an 8.3 with a recommended rating of 8.5 and our service rating is at 9.0.



- We continue to assist all players by helping them to enjoy their experience here at Cypress Head. There were some reviews that had constructive ideas to help us improve in some areas which we will evaluate as a team. The comments returned by the players in this avenue are useful tools in helping our maintenance and golf staff team improve. We also review all negative comments and they are discussed by our team and if required we will contact the individual to help us better understand their concerns. Players also have access to a suggestion box which is located at the clubhouse near the Men's and Ladies bulletin boards.

Corporate Support:

- Kemper Sports Center for Excellence – Ongoing resource. We have been participating in monthly webinars designed to share best practices used at Kemper properties throughout the country.

Insights:

- Our entire team is dedicated to being able to serve the needs of our community and our golfers. We have several tournament events booked for November and we expect to see an increase in bookings for holiday parties as well.
- We will be offering multiple promotions over the Thanksgiving holiday to increase sales in the golf shop as well as the Tavern.
- The driving range lights will be operational on Friday and Saturday nights to offer our customers a chance to improve their skills and increase sales.
- Our staff continues to work together in providing the best in class service to all of the guests.

Respectfully Submitted,

Bob Duquette, PGA

General Manager
The Golf Club at Cypress Head

Jody Graham

Regional Operating Executive
KemperSports Management



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (J19) First Reading -Ordinance No. 2017-31 – LDC Amendment/Chapters 14 and 20, Ridgewood Corridor Improvements, Case No. 17-25000003

DEPARTMENT: Community Development

GOAL: 3 - Quality of Life and 4 - Economic Development

RECOMMENDED MOTION: Move to approve Ordinance No. 2017-31, amending Chapters 14 and 20 of the Land Development Code (LDC).

SUMMARY: Planning Commission Action (9/28/17): Recommended Approval

On January 15, 2013, the Ridgewood Corridor Plan (RCP) was adopted by the City Council (Resolution 13-2). The main objectives of the RCP are to improve the corridor by making it more attractive, improving its economic position, and minimizing activities that discourage investment.

At the May 29, 2017 Workshop, Council discussed the Ridgewood Corridor improvement strategies and implementation actions to date. Based on that discussion, staff has prepared recommendations to move forward with implementing strategies of the Ridgewood Corridor Plan (RCP) to encourage development along the corridor that can quickly be accomplished, including providing economic incentives for targeted businesses and providing more flexibility with the architectural requirements. The staff report is attached for more information.

The proposed amendments to Chapter 20 of the LDC would implement Short Term Strategies #11 -14 to establish the framework for various grants for targeted businesses and Long Term Strategy #1 to establish incentives to encourage redevelopment, and includes the following:

- Reformat the Chapter so that the Targeted Business Program is a separate item, no longer under the Redevelopment Grants Program.
- Revises the Redevelopment Grant text to establish the regulatory framework to implement the types of grants identified in the adopted RCP.
- Revises the Phasing Agreement text to extend the timeframe for the phasing of improvements from three to five years, with a three-year pilot program to waive the requirement for a site development plan and site improvements that are not required to meet accessibility, Building and Fire Code requirements if there is no increase in the area of the principal structure for Ridgewood Corridor targeted businesses.
- Authorizes staff to review and approve Phasing Agreements rather than requiring City Council review and approval.
- Removes the section regarding fees in-lieu of required parking and stormwater retention.

-
- Authorizes the City Manager to review and approve grant requests up to \$25,000, as well as the review and approval of targeted business incentives for development in the Ridgewood Corridor.

The proposed amendments to Chapter 14 of the LDC would implement Short Term Strategy #5 to remove the architecture limitation of only Florida Vernacular architectural style, and includes the following:

- Apply city-wide architectural requirements to areas in the Port Orange Town Center (POTC) Community Redevelopment Area (CRA) outside of the Riverwalk District.
- Remove the Florida Vernacular Architectural theme requirement for the POTC CRA except for the Riverwalk District.
- Remove references to the Community Design Manual.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Ordinance No. 2017-31	.pdf
2.	Staff Report	CC Staff Report_Ch 14and20.pdf

Penelope Cruz	Created/Initiated - 09/28/2017
Tim Burman	Approved - 09/28/2017
Shannon Balmer	Approved - 10/04/2017
Matthew Jones	Approved - 11/28/2017
Jake Johansson	Approved - 11/30/2017
Robin Fenwick	Final Approval - 11/30/2017

ORDINANCE NO. 2017-31

AN ORDINANCE OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA AMENDING THE LAND DEVELOPMENT CODE; AMENDING CHAPTER 14, SECTION 3 TO MODIFY THE FLORIDA VERNACULAR ARCHITECTURAL THEME IN THE PORT ORANGE TOWN CENTER COMMUNITY REDEVELOPMENT AREA; AMENDING CHAPTER 20, SECTION 2 TO REVISE EXISTING DEVELOPMENT INCENTIVES AND ADD ADDITIONAL DEVELOPMENT INCENTIVES; PROVIDING FOR REPEAL OF CONFLICTING ORDINANCES; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, City Council adopted the Ridgewood Corridor Plan (“RCP”) on January 15, 2013, with its primary objective to improve the corridor by making it more attractive, improving its economic position, and minimizing activities that discourage investment; and

WHEREAS, City Council discussed improvement strategies and implementation actions for the Ridgewood Corridor at the May 29, 2017, City Council Workshop; and

WHEREAS, this Ordinance will implement City Council strategy outlined in the RCP and encourage development in the Ridgewood Corridor; and

WHEREAS, the Planning Commission has recommended adoption of this Ordinance to amend the Land Development Code; and

WHEREAS, for purposes of this ordinance words with underlined (underlined) type shall constitute additions to the original text and words with strikethrough (~~strikethrough~~) type shall constitute deletions from the original text.

NOW, THEREFORE, BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA:

SECTION 1: The above recitals are hereby adopted as the legislative findings of the City Council and are incorporated herein by reference.

SECTION 2: The City Council of the City of Port Orange hereby amends Chapter 14, Section 3 of the Land Development Code, to read as follows:

Chapter 14 – ARCHITECTURAL DESIGN

Section 3: - Special provisions.

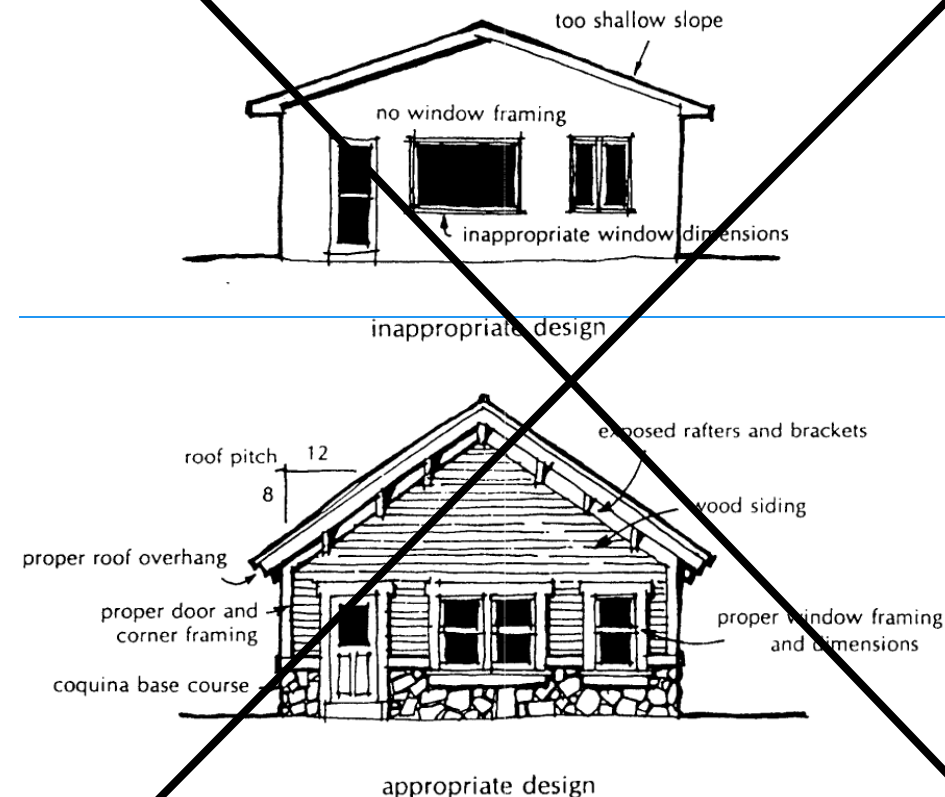
(a) – (e) [Remain Unchanged]

(f) *Port Orange Town Center – Riverwalk District*. New development, renovation, redevelopment, alterations and additions of any kind, including accessory structures and appurtenances, in the Riverwalk District of the Port Orange Town Center shall comply with the following requirements. These requirements are intended to provide a uniform architectural theme which reflects characteristics of the historic Florida waterfront or Cracker vernacular architectural style, including Key West, Marina/Coastal, and Mediterranean with nautical themes.

~~(1) Exterior building materials shall consist of or accurately resemble horizontal or vertical wood siding. Historically correct architectural details, such as door framing, window framing and corner framing, shall be provided. Alternative exterior building materials appropriate within the Port Orange Town Center shall include coquina stone/facing, shell-based stucco or brick, provided that such materials comprise no more than one-third of any building elevation visible from a public right-of-way.~~

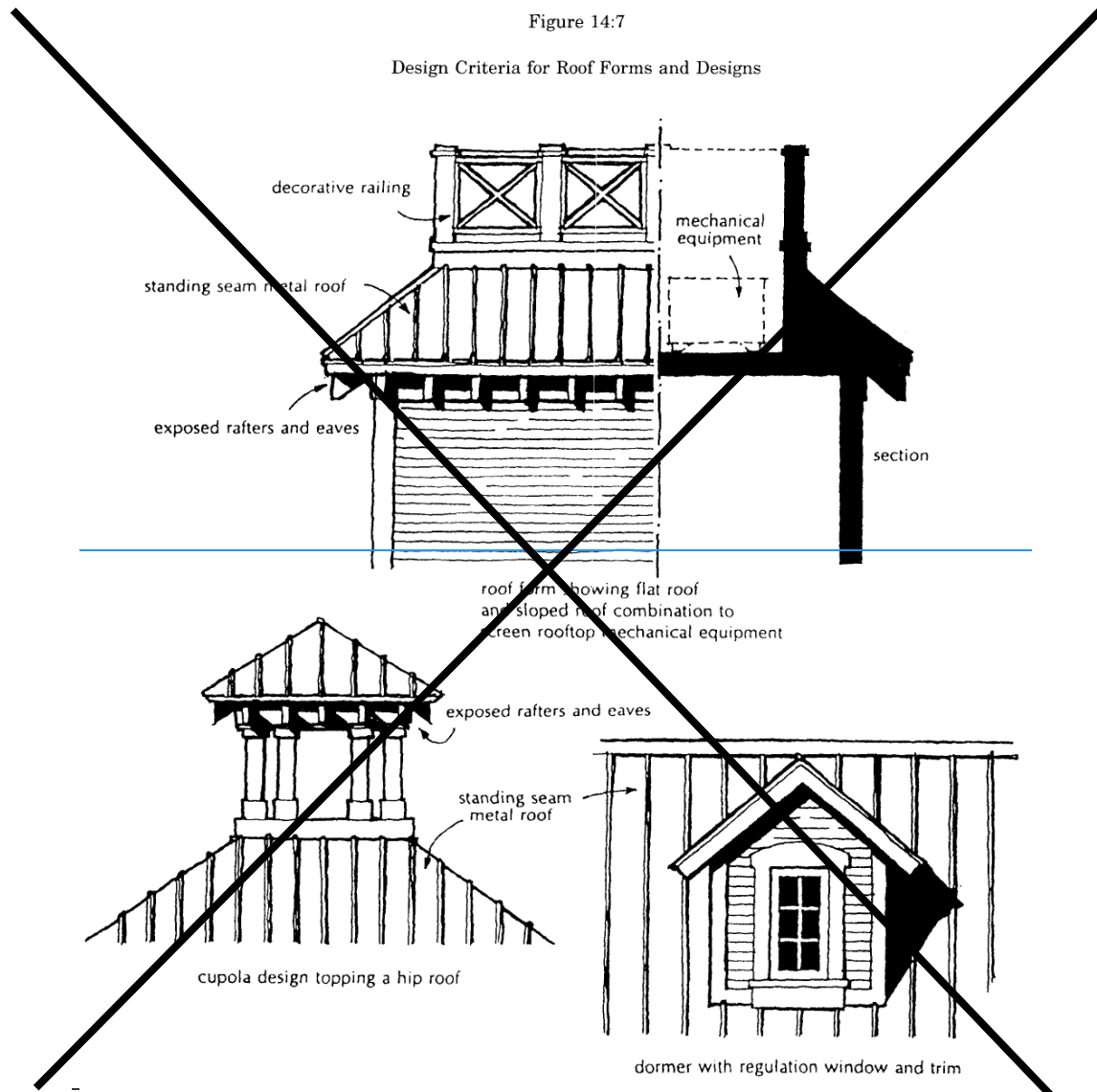
Figure 14:6

Design Criteria for Exterior Building Materials and Building Roof Form



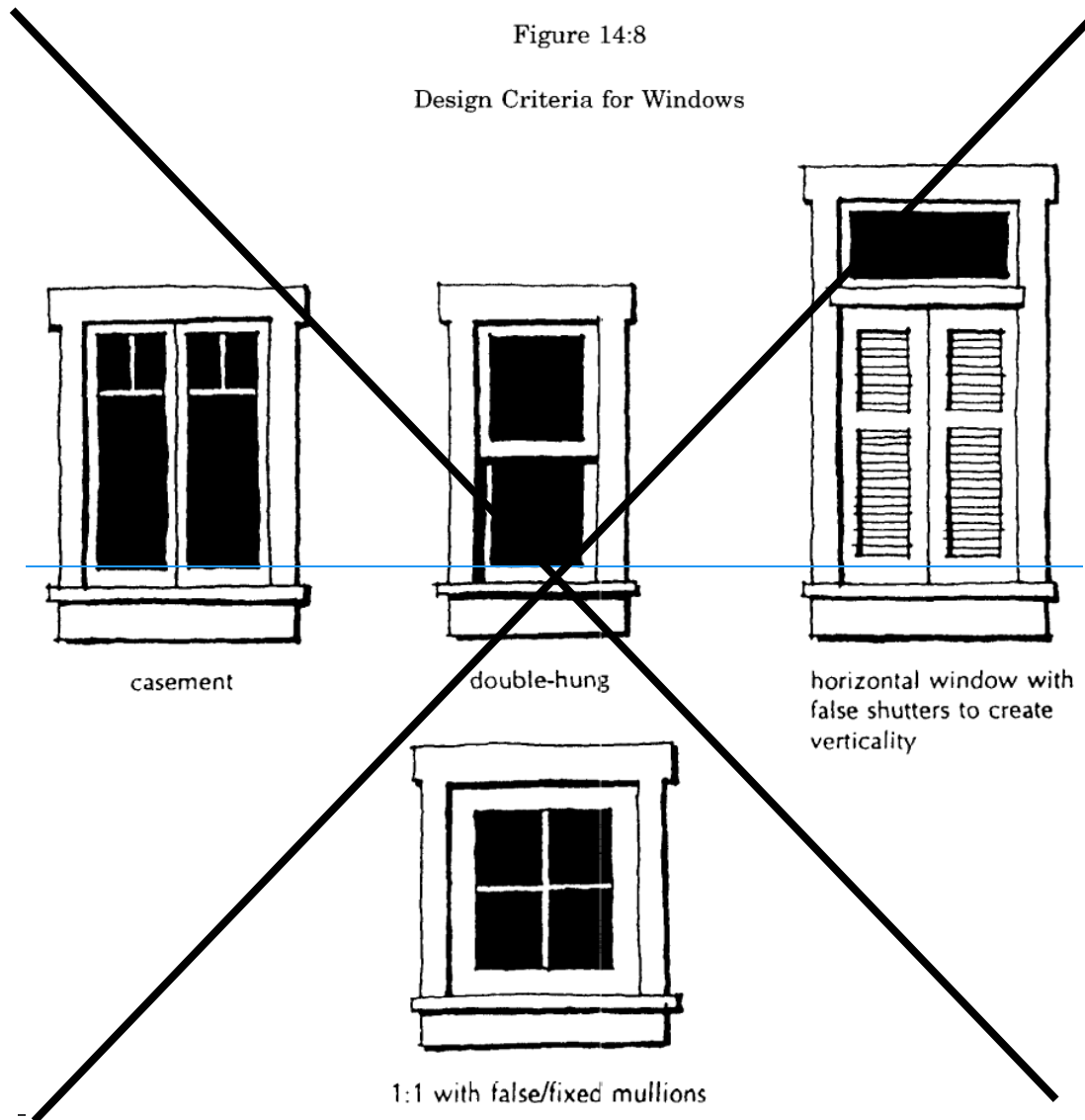
(2) All roof materials shall be made of metal shingles, corrugated metal sheet, V-crimp metal sheet or standing seam metal sheet. Metal roofs shall not be painted and the color shall be steel, tin or gray.

(3) All buildings shall incorporate sloped roofs with a minimum slope of 8:12. All roofs shall be required to display exposed functional or non-functional rafters with an overhang. Where flat roofs are integrated into predominantly sloping roof structures, the top shall be finished with a decorative railing as shown in Figure 14:7. Where hip roofs are utilized, a cupola shall be provided as shown in 14:7. Dormers are strongly encouraged, particularly for residential uses.



(4) Window openings shall appear to be vertical in nature, with a minimum of 1½ feet of vertical height for every one foot of horizontal width. Secondary windows situated on the sides or rear of the building, in a clerestory with lower windows, in the gables or in dormers may have a proportion of one foot of vertical height for

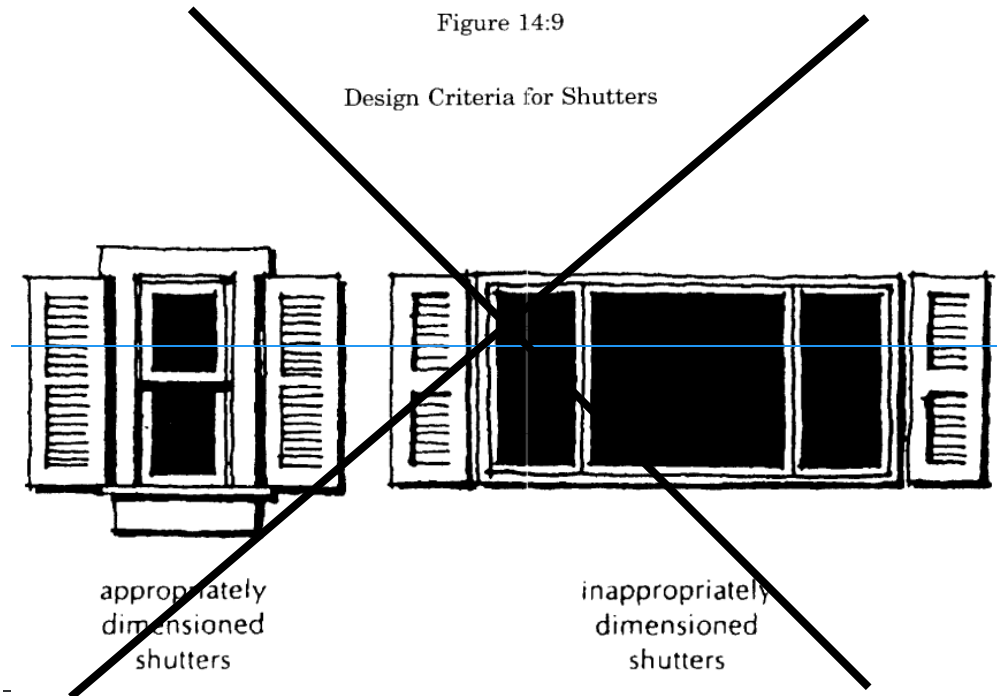
~~every one foot of horizontal width, provided that such windows are divided with fixed or false mullions on the exterior. False mullions on the interior of glass or mullions sandwiched between panes of glass is prohibited. Windows shall appear to be casement or double hung. The use of fixed glass and/or false exterior mullions shall be permitted. The use of closed shutters, three-sided fabric awnings, spandrel glass, or other appropriate vernacular architectural features shall be permitted to achieve the vertical look as shown in Figure 14:8.~~



~~(5) Exterior building materials, unless natural stone or brick, shall be painted a pastel color. Where two or more exterior building materials are utilized, each shall be painted a different, yet complimentary, pastel color. Where building materials are used as a building base course, the materials shall be painted a dark color which may include the use of earth tones. All wood trim, rafters, eaves, corner trim, window trim, brackets, fences, and other wood trim or supporting components shall be white. Doors, garage doors, windows and shutters shall be~~

~~Painted a non-white color that is different from the exterior building materials. Roofs shall remain unpainted. No two buildings that share the same property line shall be permitted to have exterior building materials painted the same color.~~

~~(6) For windows with shutters, the shutter dimensions shall be appropriately scaled to the window so as to give the appearance of operable shutters as shown in Figure 14:9. If the shutters are used to create verticality as required by paragraph (4) of this subsection, the shutters shall not be required to provide the appropriate vertical dimension to fully cover the height of the window.~~



~~(7) The Old Dunlawton Corridor walklight detail as specified in the standard construction details shall be required for all site lighting. Variations of the same style as to height and number of light fixtures shall be permitted as appropriate for specific site development, except in no case shall any site lighting exceed 20 feet in height. Alternative site lighting may be considered as prescribed by the Port Orange Town Center Design Manual, adopted by resolution of the city council and incorporated by reference in this code.~~

~~(8) False or real windows shall be provided on all elevations visible from the public right-of-way in sufficient size and number to complement the proportions of the building.~~

~~(9) Site furnishings, such as trash receptacles, benches and decorative fences, shall be required for all development as prescribed by the Port Orange Town Center Design Manual.~~

~~(10) A four-foot high decorative fence shall be required along all rights-of-way for all residential, institutional and office uses, including the renovation and/or reuse of existing residences within the quadrant. The design of such fencing shall be as prescribed by the Port Orange Town Center Design Manual.~~

~~(11) Decorative pedestrian crossings utilizing paver blocks and environmental curb shall be required for all development as prescribed by the Port Orange Town Center Design Manual.~~

~~(12) Signs shall comply with the special provisions established by chapter 15, subsection 6(d), of this code.~~

SECTION 3: The City Council hereby amends Chapter 20, Section 2 of the Land Development Code, to read as follows:

Chapter 20 - ECONOMIC DEVELOPMENT INCENTIVES

Sec. 2: - Overview of available city incentives.

(a) *Reduced development requirements on Ridgewood.* To encourage investment along the city's original main street, a series of reduced development requirements have been established for all properties zoned Ridgewood Development (RD). The development requirements shall apply within the Ridgewood Development (RD) zoning classification, as follows:

- (1) Chapter 12, section 6(f)(3), alternative surfaces for off-street parking and vehicular use areas.
- (2) Chapter 13, sections 3(c), 3(d)(1)(c), 3(d)(3), 3(e)(1)(b), 3(e)(2), 4(b) and 5(d), landscape buffers.
- (3) Chapter 14, sections 3(a)(2) and 3(f), special provisions.
- (4) Chapter 15, sections 3(f), 5(b)(5), 6(b), 6(d), 7(c)(1)(b) and 7(c)(2)(c), signs.
- (5) Chapter 17, sections 25 and 27, zoning district regulations.

(b) Reserved.

(c) *Deferment of impact fee payments.* Upon written request, payment of city water, sewer and recreation impact fees may be deferred to a later point in the development review process. Rather than being paid just prior to the issuance of the building permit(s), these fees may be paid just prior to the issuance of the certificate of occupancy. Payment of county road and school impact fees may be deferred in a similar fashion, pursuant to article III, section 70-75(2)(b) of the Volusia County Code of Ordinances.

(d) ~~*Owner-occupied business establishments*~~ *Live-work units*. Recognizing that many of the properties within the Port Orange Town Center redevelopment area and those with direct frontage on Ridgewood Avenue (regardless of zoning) have historically been developed with "mom and pop" and "homegrown" type businesses, the city shall permit ~~owner-occupied business establishments~~ live-work units, as defined in chapter 2 of this code, in such areas, provided that these establishments comply with all other requirements of this code and adopted building and fire codes. More specifically, the city

shall permit ~~given business owners/managers~~ a family to reside in a dwelling unit which is set within the principal (business establishment) structure.

(e) *Phasing of required site improvements.* For all business and multifamily properties with direct frontage on Ridgewood Avenue (regardless of zoning); for all properties with industrial zoning located east of Clyde Morris Boulevard; ~~or~~ and for all property located within the Port Orange Town Center and Eastport Business Center redevelopment areas, developers may be permitted to phase the required improvements of chapter 12 (road and vehicular use areas), chapter 13 (landscaping and buffers) and/or chapter 14 (architectural design) over a period not to exceed ~~three~~ five years from the date of ~~issuance of the development order~~ execution of the phasing agreement. However, with respect to chapter 13 improvements, ~~phasing shall not be permitted for landscaping and irrigation within required right-of-way buffers, and shall not be permitted within bufferyards adjacent to residential/institutional uses.~~ To secure permission to phase improvements, a letter of request shall be filed with the city ~~outlining the unique time sensitive conditions/circumstances.~~ The request along with a proposed phasing agreement outlining the installation of improvements in annual installments, ~~shall be scheduled for city council review and approval.~~ Staff shall review the request for consistency with this subsection. If the request is approved by staff, the phasing agreement shall be executed by the mayor and attested by the city clerk ~~between the city and the property owner(s),~~ and shall be recorded in the public-Official ~~Records~~ of Volusia County. In the event that the developer violates the recorded phasing agreement and has not completed the required improvements by the time specified for each improvement in the agreement, the violation(s) may be referred to ~~the code enforcement board~~ staff and the city shall have the right to pursue such other remedies as provided in the agreement and as provided by law including but not limited to the city's right to enter upon the property and to complete the improvements and to record a lien for the costs of completing the improvements.

(f) Waiver of required site improvements for Ridgewood Corridor Targeted Business. As a pilot program, developers of all Ridgewood Corridor targeted businesses, as identified in subsection (k)(2), with direct frontage on Ridgewood Avenue (regardless of zoning) may request a waiver of required site improvements other than those improvements related to accessibility, Building Code, and Fire Code so long as there is no increase in the area of the principal structure. Waivers shall be reviewed and approved by staff, and all approved waivers shall be documented and reported to city council. This pilot program shall terminate and expire on January 31, 2021, unless terminated earlier or extended by city council action.

~~(f) Fees in lieu of required parking and stormwater retention. Upon application to the city, individuals who own property in the Riverwalk District of the Port Orange Town Center redevelopment area may request a waiver (in full or partial) for providing the required number of parking spaces and/or stormwater retention area on-site. The city council in its sole discretion may approve the requested waiver thereby granting the constrained property shared use of an off-site publicly owned and maintained parking lot or stormwater retention area, as the case may be, in exchange for appropriately calculated fees. This incentive shall be available, only if the city owns appropriately designed improved land with available capacity within reasonable proximity to the subject property.~~

~~(1) Applications. Applications for in-lieu fees may be obtained from the department of community development. Applications pertaining to shared parking shall include,~~

~~but shall not be limited to: the number of parking spaces required by code; the proposed on- and off-site number of parking spaces; the existing and proposed building use; the existing and proposed square footage of the building and property; a site plan; and a survey. Applications pertaining to stormwater retention shall include, but shall not be limited to: the existing and proposed square footage of the building and property; the existing and proposed amount of impervious area; a site plan; and a survey.~~

~~(2) Review. Upon acceptance, review and certification of applications as to completeness, the city shall notify the applicant of any special conditions or additional information that may be required, as the case may be.~~

~~(3) Contract required. If a request is approved, the terms by which shared parking and/or shared stormwater retention shall be provided shall be detailed in a contract to be signed by the mayor, the city manager, the applicant and appropriate witnesses thereto. The city shall provide the applicant with an appropriate template to follow for this purpose.~~

~~(4) Conditions and safeguards. In approving a request, the city council may prescribe appropriate conditions and safeguards to ensure compliance with this code or to satisfy the goals/objectives of the Port Orange Town Center Redevelopment Plan.~~

~~(5) Calculation. Upon calculation and receipt of the in-lieu payment from the applicant, the city shall issue credit for a specific number of parking spaces and/or for a specific cubic amount of stormwater retention, as the case may be.~~

~~(6) Shared fund. All in-lieu payments shall be deposited into the applicable shared parking or shared stormwater retention fund. All funds collected through the in-lieu payment process shall be utilized for the purposes of financing parking and/or stormwater retention capital improvements, and other expenses as may be necessary or incidental to the provision of such.~~

~~(7) In-lieu factors. In-lieu factors for shared parking and shared stormwater retention shall be established by resolution of the city council and shall reflect costs associated with, but not limited to: land acquisitions, design, legal, planning, engineering, construction, inspection and finance services. In-lieu factors may be amended from time to time to reflect changes in the above-noted variables.~~

~~(8) Payment collection. Payment may be made in full or in installments, and all the details pertaining to such shall be addressed in the contract between the applicant and the city.~~

~~(9) Rescinding approval. If a request is approved, the construction of the improvements has not commenced and the applicant then decides to significantly revisit the conditions/circumstances as approved, then the city manager shall have the right to rescind said approval, and the applicant shall be required to re-apply based on the revised set of conditions and circumstances.~~

(g) *Expedited review and approval.* Pursuant to a written request, the city manager may designate a given development or redevelopment project as one which is worthy of an expedited review and approval process. Designation by the city manager shall be purely discretionary and afforded only in the most extraordinary circumstances. Upon designation, a community development staff member shall be designated as project manager and shall work in close contact with the applicant and his/her agent(s). Once formal plans have been prepared and submitted to the city, the project manager shall oversee an expedited staff development review of the project. In so doing, the project

manager may take the necessary steps to schedule a special meeting of the staff development review committee (SDRC), the planning commission and/or the city council in order to secure timely approvals.

(h) *Neighborhood Investment Program (NIP)*. Pursuant to Resolution 00-30, this program enables the city to partner with recognized neighborhood organizations to undertake meaningful physical, cultural and recreational initiatives. Under the program, an organization may apply for up to \$5,000.00 annually in grant money (to be matched by the city) to undertake specific initiatives in their neighborhood, including but not limited to: "landscaping, street lighting, benches, bike path and sidewalk construction, entrance improvements, youth/family literacy programs, after-school enrichment programs and art/music/dance training programs". Requests shall be reviewed and evaluated based on individual merit and the city reserves the right to reject any/all proposals. Review and consideration of requests contingent on appropriation of funds by city council.

(i) *City assistance with state and federal grant applications*. Upon request, the city may provide assistance to given organizations/corporations in applying for available state and federal grants. Assistance may entail preparation/submission of grant applications, securing statements of local support and providing required local funding matches.

(j) *Redevelopment grants*. The redevelopment grants are hereby created to reverse blighted conditions and to stimulate reinvestment within the city's redevelopment areas, namely Port Orange Town Center, and Eastport Business Center, and the Ridgewood Corridor. To assist the private sector in this significant challenge, the city may extend grant monies to successful applicants pursuant to the following criteria and administrative processes.

(1) *Criteria*. The following criteria are to be applied to given requests to determine eligibility for financial assistance pursuant to the city's redevelopment grants. All requests shall demonstrate the application of each criterion in the affirmative.

(a) The subject property is located within the boundaries of the Port Orange Town Center CRA, ~~or the Eastport Business Center CRA redevelopment area, or abuts Ridgewood Avenue.~~

(b) The applicant proposes to develop or redevelop the subject property, or to expand or renovate the building or accessory structure on such property, and the financial assistance requested shall be used in full or in part to initiate such improvements within the next 12 month period, barring all unforeseen obstacles.

(c) The proposed improvements ~~shall be substantive in scope/impact;~~ shall result in an highly visible aesthetic enhancement to the property; and may conceivably spur similar investment in surrounding properties.

(d) The proposed improvements pertain to the creation, retainment, or enhancement of a particular business/use which is expected to have a positive socio-economic impact on the corridor and neighborhood in question; or the proposed improvements pertain to the preservation and

enhancement of a particular residential structure which was included in the city's Historic Survey (1996) and is visible from Dunlawton and/or Ridgewood Avenue (but not necessarily located thereon).

(e) The proposed improvements shall be in harmony with the general intent and purpose of the redevelopment area in question, shall not be injurious to surrounding properties and shall not be detrimental to the given corridor or neighborhood.

(f) The availability of matching funds to be invested by the applicant in the redevelopment of the subject property.

(2) *Types of assistance.*

(a) *Demolition grant.* Grants for demolition of existing structures that cannot efficiently be reused or properties with a documented history of code enforcement violations or criminal activity at the property. Priority may be given to motels and properties with documented repeat code enforcement violations or criminal activity at the property.

(b) *Façade grant.* Grants for exterior improvements. Priority shall be given to targeted businesses, as identified in subsection (k).

(c) *Interior improvement grant.* Grants for interior improvements to be used to assist with the cost of renovating or upfitting tenant spaces in existing buildings, including improvements to meet accessibility and other Building Code requirements. Priority shall be given to targeted businesses, as identified in subsection (k).

(d) *Landscape grant.* Grants for the installation of landscape buffers along the right-of-way on existing sites that do not have them or that do not meet existing code requirements. Priority may be given to uses with outdoor storage/sales along the Ridgewood Avenue right-of-way and targeted businesses, as identified in subsection (k).

~~(a) Level One matching grants. These grants are intended for small building renovation, site upgrade projects, or code-required improvements which are expected to result in highly visible, aesthetic enhancements to the property/building in question. The construction value of projects shall be a minimum of \$2,000.00. Projects less than this amount shall not be considered for funding. All matching grants shall constitute 50/50 public/private funding and the city shall fund no more than \$5,000.00 for any given project. Examples of projects that may be open to Level One grants include, but shall not be limited to: repainting a historic structure; the installation of pedestrian walklights, decorative re-roofing, replacing old siding with new and improved material and the installation of landscaping.~~

~~(b) Level Two matching grants. These grants are similar to Level One grants, yet more significant with respect to their scope and overall cost. This being the case, the construction value of projects for a Level Two grant shall~~

~~be a minimum of \$5,001.00 and the city shall fund no more than \$10,000.00 for any given project.~~

~~(c) Level Three matching grants. These grants are similar to Level Two grants. However, rather than being available to any/all properties within the city's two redevelopment areas, Level Three grants are only available to properties within the Riverwalk District of Port Orange Town Center. The Level Three grant offers up to \$5,000.00 more for given projects in recognition that the city code requires an architectural style within the Riverwalk District that results in added costs. The construction value of projects for a Level Three grant shall be a minimum of \$5,001.00 and the city shall fund no more than \$15,000.00 for any given project. Furthermore, the city has recognized the Riverwalk District as an area of great potential and high priority with respect to long term redevelopment.~~

(3) Conditions of approval.

(a) [Review and consideration of requests contingent on availability of funds.] The review and consideration of grant requests pursuant to this program shall be contingent on the availability of funds during given fiscal years. If the city council determines that funds are limited in any given fiscal year, then the city council shall have the full right and authority to limit the number of requests to be considered during that fiscal year, and/or to limit grant monies to be extended to given requests.

(b) Approval level. All ~~Level One~~ grant requests of \$25,000.00 or less shall be reviewed and approved by the city manager. Grant requests in excess of \$25,000.00 shall be reviewed and approved by city council. If there are multiple grant applications in any given year, the grants shall be ranked based upon the criteria set forth in subsection (j)(1). Given the increased scope and cost implications, ~~all Level Two and Three grant requests shall be reviewed and approved by the city council.~~

(c) Matching grants. Only the cost of construction for a given project shall establish the basis for the 50/50 public/private funding. Costs associated with surveying, engineering, architectural, landscaping or similar design services shall not be eligible for the 50/50 public/private funding.

(d) Design services. If a request for a matching grant (any level) is approved by the city, the applicant may opt to utilize the services of one of the city's contract engineering, landscaping, surveying or architectural design firms subject to an agreement to hold the city harmless for its selection and the performance of the individual professional. Notwithstanding, the reimbursement of cost of services by one of the city's design firms shall not exceed the dollar amount approved by the city for the matching grant.

(ec) Contract Agreement required. If a request is approved, the terms by which financial assistance shall be provided shall be detailed in a redevelopment grant agreement contract to be signed by the mayor, the city manager, the applicant and appropriate witnesses thereto. The city shall

provide the applicant with an appropriate template to follow for this purpose. ~~The contract shall be signed by all parties prior to issuance of a development order.~~

~~(fd)~~ *Conditions and safeguards.* In approving a request, the city council may prescribe appropriate conditions and safeguards to ensure compliance with this code or to satisfy the goals/objectives of the applicable redevelopment plan and/or corridor plan. Such conditions may include time limits for the initiation of the improvements, or any other conditions reasonably related to the criteria listed in the above sections.

~~(ge)~~ *After-the-fact reimbursement.* If a request is approved, actual reimbursement shall not occur until close-out of the project in accordance with the plans and/or permits which were approved for construction.

~~(hf)~~ *Window for requests.* ~~For new business operations, requests~~ Requests ~~shall be filed with the city prior to the issuance of a~~ within one year of the issuance of the ~~certificate of occupancy (C/O). For the expansion/renovation of existing business operations, requests shall be filed prior to the issuance of a development order. No requests for financial assistance pursuant to the redevelopment grant shall be accepted after the applicable deadline.~~

~~(i)~~ *Limit to requests.* ~~If financial assistance pursuant to the redevelopment grant is requested and approved by the city, then the subject business thereby waives their right to request any additional assistance pursuant to the redevelopment grant, for the subject property for a period of 12 months.~~

~~(jg)~~ *Rescinding approval.* If a request is approved, the construction of the improvements has not commenced and the applicant then decides to significantly revisit the conditions/circumstances as approved, then the city manager shall have the right to rescind said approval, and the applicant shall be required to re-apply based on the revised set of conditions and circumstances.

~~(kh)~~ *Transfer of approvals.* Approvals run with the business and property. An approval may only be transferred to another individual, for that same business on that same property, subject to an appropriate amendment to the redevelopment grant agreement ~~contract~~ with respect to the signatories.

~~(li)~~ *Expiration of approval.* ~~Matching grants~~ Grants shall expire if within 12 months of the request being filed, the development order or the principal building permits as applicable have not been issued, or if at the discretion of the administrative official, are not imminent. ~~Notwithstanding, the council may approve language within the redevelopment grant contract provides for the terms relating to the expiration of approval.~~

~~(mk)~~ *Targeted businesses program.* The targeted businesses program (TBP) is hereby created to provide assistance to unique business ventures which, from time to time, may be targeted by the city by virtue of the anticipated socio-economic benefits. Targeted

businesses may be extended incentives to aid in retaining their operations within the city; to aid in enhancing/expanding their operations in the city, or to aid in relocating their operations to viable property within the city. ~~The city council shall retain the sole discretion to award or decline incentives in whole or in part and shall be under no obligation to enter into an incentive agreement with any particular business whether or not listed in subsection (1) as stated hereafter. In arriving at a decision the council shall consider the critical factors, including but not limited to the following: number of jobs, number of value added jobs, average wage, type of business venture, how the business venture addresses the critical needs within the city, location of business venture, value of construction, significance of improvements, anticipated tax revenue, multiplier implications on the local economy, health of the economy, availability of city funds and other factors deemed essential by the city council. To be considered by council, a written request providing a detailed overview of the business/project and the circumstances surrounding the need for assistance, shall be submitted to the city. If approved, an agreement contract shall be prepared outlining the given incentives, their allocation and the conditions applicable thereto. The agreement contract shall then be executed and carried out in accordance with its terms.~~

(1) *Targeted businesses – City-wide.* The following businesses shall be targeted businesses City-wide and may be extended assistance by the city pursuant to review and approval by the city council: marina; full service hotel with multi-room conference center serving not less than 500 conference participants; college/university; aviation operations; professional sport operations; entertainment industry operations; regional distribution facility; Fortune 500 company; corporate headquarters; master developer(s) for the riverwalk, causeway or down under districts; master developer(s) for the Eastport Business Center redevelopment area; commercial or industrial venture(s) promising extensive value-added jobs; any other enterprise/project referenced within the city's vision statement; and any other enterprise/project proposed and supported by ordinance of council.

(a) City council approval. The city council shall retain the sole discretion to award or decline incentives in whole or in part and shall be under no obligation to enter into an incentive agreement with any particular business whether or not listed in subsection (k)(1) as stated above. In arriving at a decision the council shall consider the critical factors, including but not limited to the following: number of jobs, number of value added jobs, average wage, type of business venture, how the business venture addresses the critical needs within the city, location of business venture, value of construction, significance of improvements, anticipated tax revenue, multiplier implications on the local economy, health of the economy, availability of city funds and other factors deemed essential by the city council. To be considered by council, a written request providing a detailed overview of the business/project and the circumstances surrounding the need for assistance, shall be submitted to the city.

(2b) *Possible incentives.* Possible city incentives which may be extended to a targeted business as defined herein include, but shall not be limited to, one or more of the following: waive fees for applications, permits and/or inspections; grants/loans; water/sewer impact fee credits/deferrals; wetland

mitigation; engineering, landscaping, surveying, architectural design services; pre-permitted sites; dollars for value-added jobs; utility cost-sharing; and expedited review and approval.

(c) Request. Requests shall be filed with the city within one year of the issuance of a certificate of occupancy (C/O).

(3d) Accountability. In situations where the city council elects to issue a grant based on the type, number and/or wages associated with jobs to be created then the required agreement contract shall specify; a) by what time (e.g. 18 months from commencement of construction) the targets must be met; b) the penalty specifics if the targets are not met, such as reimbursing the city to a prorated dollar amount based on the number/type/wage of jobs falling short of the respective targets, with interest; and c) when the city's grant shall be issued meaning at the time the certificate of occupancy is issued, half now/half later or when the targets are met. Incidentally, the city shall verify whether targets have been met by reviewing an audit of the business in question at their expense. In situations where the city council elects to issue a grant based on the size and/or value of the physical improvements to the property, then the agreement contract shall address similar specifics.

(2) Targeted businesses – Ridgewood Corridor. The following businesses shall be targeted businesses along the Ridgewood Corridor and may be extended assistance by the city: restaurants; professional offices; developments that assemble land to create a connection from Ridgewood to the riverfront; water-based businesses (e.g. watersports sales and rentals, such as kayaks, jet skis, paddle boards, etc., water taxis, boat tours, fish markets, bait and tackle shops); eco-tourism (e.g. guided tours); grocery store; craft food and beverage producer; microbrewery; and any other enterprise/project with an anticipated socio-economic benefit and supported by the city council.

(a) Approval. The city manager is authorized to award or decline incentives in whole or in part and shall be under no obligation to enter into an incentive agreement with any particular business whether or not listed in subsection (k)(2) as stated above. In arriving at a decision, the city manager shall consider the following factors, including but not limited to: whether the proposed business may conceivably spur similar investment in surrounding properties, whether the proposed business is expected to have a positive socio-economic impact on the Ridgewood Corridor, availability of city funds and other factors deemed essential by the city manager. To be considered by the city manager, a written request providing a detailed overview of the business/project and the circumstances surrounding the need for assistance, shall be submitted to the city. Priority for redevelopment grants shall be as identified in subsection (j)(2).

(b) Possible incentives. Possible city incentives which may be extended to a targeted business as defined herein include, but shall not be limited to, one or more of the following: waive fees for planning and engineering

applications, permits and/or inspections; grants/loans; water/sewer impact fee credits/deferrals; dollars for value-added jobs; utility cost-sharing; phased site improvements; and expedited review and approval.

(c) *Request.* Requests shall be filed with the city within one year of the issuance of a certificate of occupancy (C/O).

(d) *Accountability.* In situations where the city manager elects to issue a grant based on the type, number and/or wages associated with jobs to be created then the required agreement shall specify; a) by what time (e.g. 18 months from commencement of construction) the targets must be met; b) the penalty specifics if the targets are not met, such as reimbursing the city to a prorated dollar amount based on the number/type/wage of jobs falling short of the respective targets, with interest; and c) when the city's grant shall be issued meaning at the time the certificate of occupancy is issued, half now/half later or when the targets are met. Incidentally, the city shall verify whether targets have been met by reviewing an audit of the business in question at their expense. In situations where the city manager elects to issue a grant based on the size and/or value of the physical improvements to the property, then the agreement shall address similar specifics.

(e) *Rescinding approval.* If a request is approved, the construction of the improvements has not commenced and the applicant then decides to significantly revisit the conditions/circumstances as approved, then the city manager shall have the right to rescind said approval, and the applicant shall be required to re-apply based on the revised set of conditions and circumstances.

(f) *Transfer of approvals.* Approvals run with the business and property. An approval may only be transferred to another individual, for that same business on that same property, subject to an appropriate amendment to the incentive agreement.

(g) *Expiration of approval.* Incentives shall expire if within 12 months of the request being filed, the development order or the principal building permits as applicable have not been issued, or if at the discretion of the administrative official, are not imminent.

SECTION 4: CONFLICTING ORDINANCES.

All ordinances or parts of ordinances in conflict with the provisions of this Ordinance are hereby repealed to the extent of such conflict.

SECTION 5: CODIFICATION.

The provisions of this Ordinance shall become and be made a part of the Land Development Code of the City of Port Orange and the Sections of this Ordinance may be renumbered or relettered to accomplish such intention. The Code codifier is granted liberal authority to codify the provisions of this Ordinance.

SECTION 6: SEVERABILITY.

If any provision of this Ordinance or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of the Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are declared severable.

SECTION 7: EFFECTIVE DATE.

This Ordinance shall take effect immediately upon adoption.

MAYOR DONALD O. BURNETTE

ATTEST:

Robin L. Fenwick, CMC, City Clerk

Passed on first reading on the day of

Passed and adopted on second and final reading on the day of

Reviewed and Approved: _____
Matthew J. Jones, Deputy City Attorney



STAFF REPORT

CASE NO. 17-25000003

LDC Amendment/Chapters 14 and 20
Ridgewood Corridor Improvements

REQUEST:	Amendments to Chapter 14, Section 3 of the Land Development Code (LDC), regarding architectural requirements for the Port Orange Town Center; and amendments to Chapter 20 of the LDC regarding Economic Development.
APPLICANT:	City of Port Orange
STAFF RECOMMENDATION:	Approval
STAFF CONTACT:	Penelope Cruz, Principal Planner (386) 506-5671
PLANNING COMMISSION:	Recommended Approval
CITY COUNCIL DATE:	October 17, 2017

Introduction

On January 15, 2013, the Ridgewood Corridor Plan (RCP) was adopted by the City Council (Resolution 13-2). The main objectives of the RCP are to improve the corridor by making it more attractive, improving its economic position, and minimizing activities that discourage investment.

At the May 29, 2017 Workshop, Council discussed the Ridgewood Corridor improvement strategies and implementation actions to date. Based on that discussion, staff has prepared recommendations to move forward with implementing strategies of the RCP to encourage development along the corridor that can quickly be accomplished, including providing more flexibility with the architectural requirements and providing economic incentives for targeted businesses.

If approved, the proposed amendments would establish the regulatory framework to implement the following RCP strategies:

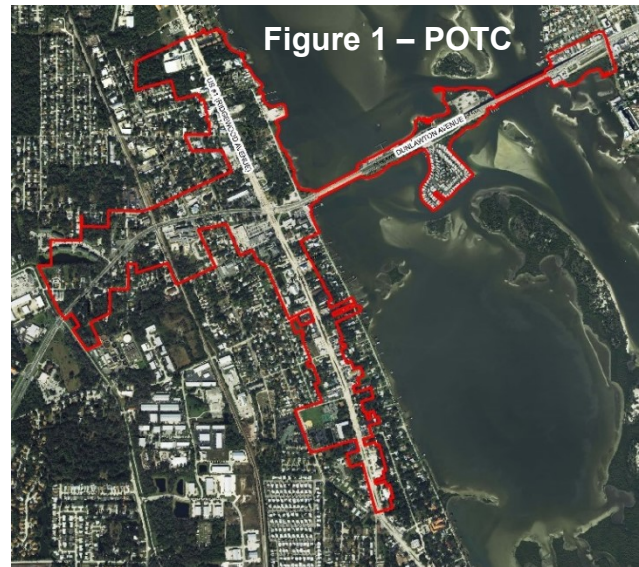
- Short Term Strategy #5 which states that the LDC should be amended to remove the architecture limitation of only Florida Vernacular;
- Short Term Strategies #11 -14 regarding various grants for targeted businesses; and
- Long Term Strategy #1 regarding incentives to encourage redevelopment.

Summary of Proposed Amendments to LDC - Chapter 14

The LDC currently only allows the Florida Vernacular architecture style in the Port Orange Town Center (POTC) Community Redevelopment Area (CRA). The Town Center CRA is generally located around Dunlawton Avenue at Spruce Creek Road east to south Peninsula Drive and Ridgewood Avenue from the Port Orange/South Daytona city limits, south to Rogers Avenue (see Figure 1). The concept of a uniform architectural theme derived from the development of the original POTC Plan adopted in 1998 that envisioned the Riverwalk project area as a master planned development to be developed by a single master developer. The original development concept for Riverwalk has changed in recent years from establishing a master plan for the entire Riverwalk area to approving smaller-scale plans for development of a specific area to achieve the Town Center Plan objectives.

Similarly, the one-size fits all approach to architecture throughout the entire CRA, which includes several small properties, has impacted redevelopment options.

The RCP Short-term Strategy #5 states that the LDC should be amended to remove the architecture limitation of only Florida Vernacular, while still requiring quality architecture pursuant to the architecture standards applicable city-wide. The architecture requirements within the POTC CRA restrict architectural options and can add additional cost and challenges to redevelopment. The proposed amendments to the LDC remove the requirement to use the Florida Vernacular architecture style within the Town Center CRA area, except within the Riverwalk District of the CRA. There are no proposed changes to the city-wide architecture requirements as part of these LDC amendments.



Example of buildings designed in the Florida Vernacular architectural style:



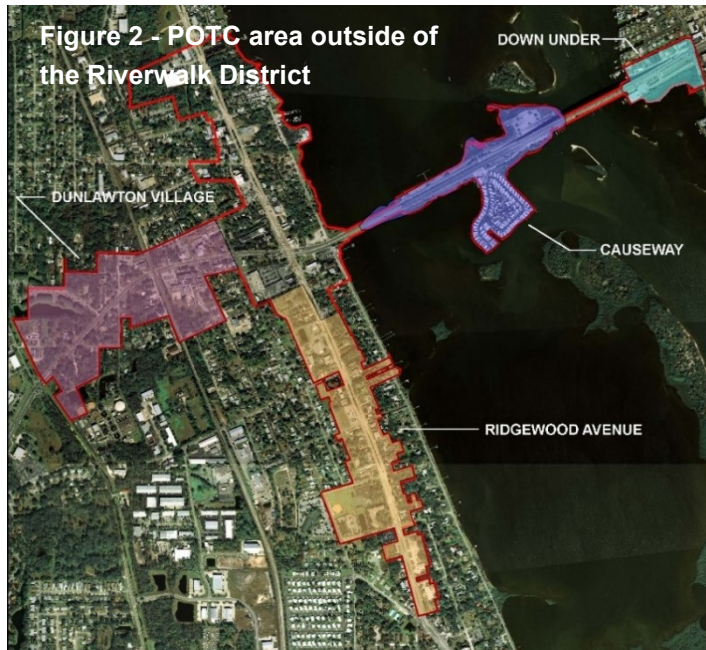
Examples of buildings designed according to the city-wide architecture requirements:



The City's Comprehensive Plan and the POTC CRA Plan specifically require the Florida Vernacular architecture style for the Riverwalk District of the CRA, so until these plans can be updated to allow more flexibility the existing architecture limitation of only allowing the Florida Vernacular style must be maintained in the Riverwalk District.

The proposed amendments to Chapter 14 of the LDC achieve the following:

1. *Apply city-wide architectural requirements to areas in the POTC CRA outside of the Riverwalk District.*



Applying city-wide architectural standards provides for quality appearance and allows for more flexibility to encourage redevelopment. Removing the Florida Vernacular architectural theme requirement for development within the POTC CRA area outside of the Riverwalk District (Figure 2) allows the city-wide architecture requirements to be applied to development in this area instead of limiting development to one architecture style. The city-wide architecture requirements include minimum roof slope of 4:12, use of parapet walls for buildings with a flat roof, exterior colors, exterior

building finishes (stucco, stone, brick, wood, or similar material), placement of doors and windows, etc.).

2. *Remove the Florida Vernacular Architectural theme requirement for the POTC CRA except for the Riverwalk District.*

The City's Comprehensive Plan and the POTC CRA Plan specifically require the Florida Vernacular architecture style for the Riverwalk District of the CRA, but neither plan dictates specific design requirements to achieve the architectural theme. These plans only state that the Riverwalk District shall have an architectural theme which reflects characteristics of the historic Florida waterfront or Cracker vernacular architectural style, including Key West, Marina/Coastal, and Mediterranean with nautical themes.

In 1998, the City adopted specific Florida Vernacular architectural style design requirements into the LDC. These requirements include four graphics and twelve subsections with specifications on materials, colors, proportions and dimensions with a level of detail that restricts flexibility and does not allow designers to incorporate variations to the Florida Vernacular architectural style.



The proposed amendment maintains the requirement for developments to use the Florida Vernacular architectural style for new development and redevelopment in just the Riverwalk District of the POTC CRA (Figure 3), consistent with the Comprehensive Plan and the POTC CRA Plan, but removes the detailed design requirements. Developments in the Riverwalk District area will still be required to incorporate Florida Vernacular architectural style elements such as pastel exterior colors, white trim, decorative roof brackets or rafters, exterior lights, roof materials etc. Over the past 15 years there have

been approximately 8 buildings within the POTC District that have been constructed or remodeled using the Florida Vernacular architectural style. A majority of the buildings within the POTC have some deviations from pure vernacular style but incorporate a majority of the required elements.

3. *Remove references to the Community Design Manual.*

The concept of a design manual was included in the LDC in 1998, but it was never drafted or presented to the City Council for adoption. The design manual idea is a remnant of the POTC Plan originally adopted in 1998 that envisioned the Riverwalk project area as a master planned development to be developed by a single master developer. The original development concept for Riverwalk has changed in recent years from establishing a master plan for the entire Riverwalk area to approving smaller-scale plans for development of a specific area to achieve the Plan. The requirements in the LDC and standard construction details for things such as landscaping, architecture, lighting, etc. have historically been used in place of a design manual.

Summary of Proposed Amendments to Chapter 20

Chapter 20 of the LDC was initially adopted in 2001 to, “promote positive forms of new development and redevelopment; reward the creation and retention of value-added jobs; attract targeted businesses; revitalize the Port Orange Town Center and Eastport Business Center redevelopment areas; increase the nonresidential tax-base; and foster a diverse employment base within the city.” The purpose and intent section of the chapter states that, “This Chapter is not intended to remain static. It is anticipated that the incentives listed herein shall be amended from time to time to improve upon their focus, delivery and impact.” The only amendment to the Chapter was in 2005 and that included a repeal of fee waivers for properties with direct frontage on Ridgewood Avenue; properties with industrial zoning located east of Clyde Morris Boulevard; and for all property located within the Port Orange Town Center and Eastport Business Center redevelopment areas.

During the public workshops and community meetings leading up to the development and adoption of the RCP, the business owners stated that the fees waiver and grants previously

offered are what encouraged some of the more positive redevelopment along the Ridgewood Corridor (e.g. The Clark Properties Corporate Building, Tavern and Chapel in the Garden, and Daytona Auto Tint). However, the fee waivers were repealed in 2005 and the grants were no longer funded.

In 2013, the City Council adopted the Ridgewood Corridor Plan (RCP), which includes Short Term Strategies #11 -14 regarding various grants for targeted businesses and Long-Term Strategy #1 regarding various incentives to encourage redevelopment such as fees waiver, impact fee credits, and grants. Based on Council discussion at the May 29, 2017 workshop, the proposed amendments to Chapter 20 of the LDC include the following:

1. *Reformat the Chapter so that the Targeted Business Program is a separate item, no longer under the Redevelopment Grants Program.*

The amendments to the Targeted Business Program reformat the text so that the existing text still applies city-wide, and adds new text for the Ridgewood Corridor Targeted Businesses. The Ridgewood Corridor Targeted Businesses are based on the adopted RCP and Council discussion at the May 29, 2017 workshop.

- Restaurants; professional offices; developments that assemble land to create a connection from Ridgewood to the riverfront; water-based businesses (e.g. watersports sales and rentals, such as kayaks, jet skis, paddle boards, etc., water taxis, boat tours, fish markets, bait and tackle shops); eco-tourism (e.g. guided tours); grocery store; craft food and beverage producer; microbrewery; and any other enterprise/project proposed and supported by the City Council.
2. *Revises the Redevelopment Grant text to establish the regulatory framework to implement the types of grants identified in the adopted RCP. Types of grants include:*
 - *Demolition grant.* Grants for demolition of existing structures that cannot efficiently be reused or properties with a history of code enforcement or crime problems. Priority may be given to motels and properties with repeat code enforcement and crime violations.
 - *Façade grant.* Grants for exterior improvements with priority given to targeted businesses.
 - *Interior improvement grant.* Grants for interior improvements to be used to assist with the cost of renovating or upfitting spaces in existing buildings, including improvements to meet accessibility and other Building Code requirements, with priority given to targeted businesses.
 - *Landscape grant.* Grants for the installation of landscape buffers along the right-of-way on existing sites that do not have them or that do not meet existing code requirements, with priority given to uses with outdoor storage/sales along the Ridgewood Avenue right-of-way.

If adopted, the proposed LDC amendments will set the framework for the grant program, while the funding will be allocated using the budget process each year.

3. *Revises the Phasing Agreement text to extend the timeframe for the phasing of improvements from three to five years.*

The LDC currently allows all businesses and multi-family properties with direct frontage on Ridgewood Avenue (regardless of zoning), all properties with industrial zoning located east of Clyde Morris Boulevard, and all property located within the Port Orange Town Center and Eastport Business Center redevelopment areas to phase the required site improvements of chapter 12 (road and vehicular use areas), chapter 13 (landscaping and buffers) and chapter 14 (architectural design) through a phasing agreement approved by City Council.

The proposed amendment would extend the timeframe for the phasing of improvements from three to five years based on review of prior redevelopment projects and feedback from the development community regarding realistic timeframes to finalize the required improvements on a constrained budget. The total cost to redevelop the site (buying the land, building upgrades, site upgrades, etc.) can be very costly and discourage investment. From the business investor's perspective, many of the required upgrades are not directly related to increasing the potential revenue a business can generate (paved parking, architecture enhancements, parking lot landscaping, etc.).

The proposed amendments also include a provision to waive the requirement for a site development plan and site improvements that are not required to meet accessibility, Building and Fire Code requirements if there is no increase in the area of the principal structure for three years as a pilot program for Ridgewood Corridor targeted businesses. This temporary waiver of required site improvements will terminate and expire on January 31, 2021, unless terminated earlier or extended by city council action extending the waiver or implementing a permanent regulation.

Some communities have successfully encouraged redevelopment by allowing incremental improvements that permit some items to be upgraded to current code over extended time or even allowing some site upgrades to be deferred until the areas have transformed and there is sufficient private market interest to drive the higher level of improvements. This encourages redevelopment of the area by allowing smaller "mom-and-pop" and local businesses to get started without a substantial amount of upfront costs. There is a risk that the improvements may never get done, but the current regulatory environment has not been successful at encouraging reinvestment in this area.

4. *Removes the section regarding fees in-lieu of required parking and stormwater retention.*

When the POTC Plan was originally adopted in 1998, it envisioned the Riverwalk project area as a master planned development to be built by a single master developer. The original development concept included a master stormwater system and parking garages for shared parking. The development concept for Riverwalk has changed in recent years from establishing a master plan for the entire Riverwalk area to approving smaller-scale plans for development of a specific area to achieve the Plan. The proposed amendment removes this provision because it has not been utilized and it is not feasible without the City or master developer constructing regional parking and stormwater infrastructure.

5. The amendments also include various other formatting and syntax revisions to clarify existing text. These include items such as removing a reference to an old resolution, revising a reference to the code enforcement board to refer to the code enforcement staff to be consistent with current practices, and renumbering the overall chapter accordingly.

Recommendation

Approval of the amendments to Chapter 14 and 20 of the Land Development Code, subject to review by the City Attorney as to legal form and content.

Attachments

- Exhibit A – Proposed LDC Amendments to Chapter 14 (See Ordinance Exhibit)
- Exhibit B – Proposed LDC Amendments to Chapter 20 (See Ordinance Exhibit)
- Figure 1 – Port Orange Town Center CRA Boundary
- Figure 2 – Port Orange Town Center CRA Districts except for Riverwalk District
- Figure 3 – Port Orange Town Center CRA - Riverwalk District

Figure 1 – Port Orange Town Center CRA Boundary



Figure 2 - Port Orange Town Center CRA Districts except for Riverwalk District



Figure 3 - Port Orange Town Center CRA - Riverwalk District





CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (J20) Final Plat & Plans for King's Landing Subdivision Phase 1, Subdivision Variance for King's Landing Subdivision Phase 1, and Concurrency and Fair-Share Agreement, Case No. 17-50000008

DEPARTMENT: Community Development

GOAL: 3 - Quality of Life

RECOMMENDED MOTION: Move to approve (1) the Final Plat & Plans for the King's Landing Subdivision, Phase 1, (2) to approve a subdivision variance to allow the subdivision to be developed without extending Forest Troll Drive and Westport Drive into the proposed subdivision, and (3) to approve the Concurrency Fair-Share Agreement.

SUMMARY: Planning Commission Action (10/26/17): Recommended Approval

A proposal by the applicant to modify the previously approved Subdivision Plat & Plans for Phase 1 of the King's Landing Subdivision to include an additional 52 single-family lots (17-one-acre lots and 35 – 20,000 square-foot lots), along with the previously approved 19-one-acre lots and tracts of land for common area and preservation of specimen trees. The modified Subdivision Plat & Plans will consist of 71 single-family lots (36-one-acre lots and 35 – 20,000 square-foot lots) on +/- 82.2 acres.

The +/- 82.2-acre subject property and 71 single-family lots (36-one-acre lots and 35 – 20,000 square-foot lots) are currently designated Rural Residential (RR) and R-20 Single-Family Residential (R-20SF) on the City's Zoning Map and designated Rural Transition (0-2 units/acre) and Suburban Residential (2-4 units/acre) on the City's Future Land Use Map.

The subject property is located on the east side of Hensel Road, between East Hensel Hill Drive and Hills Boulevard. The plat and subdivision plans have been designed according to the requirements of the City's Land Development Code (LDC). Public facilities and services, such as roads, public infrastructure, schools, and recreational facilities, are currently available to serve the proposed 71 residential lots. The applicant is also requesting a subdivision variance to allow the subdivision to be developed without extending Forest Troll Drive and Westport Drive into the proposed subdivision. See the attached staff report for more information.

The Concurrency and Fair-Share Agreement is to document the number of vested trips being used by the proposed 71 residential lot subdivision and to mitigate the impact of the new traffic generated from the 71 residential lot subdivision. The Traffic Impact Analysis (TIA), completed by Lassiter Transportation Group, Inc., anticipates an

additional 656 vehicle trips generated per day from the subdivision and a minor impact to the Devon Street/Taylor Road Intersection project upon completion of the subdivision. Based on the TIA prepared, the owner is required to make a \$3,653.06 fair-share mitigation payment for the twenty-two PM peak hour trip that is expected to use capacity created by the Devon Street/Taylor Road traffic light improvement. The fair-share mitigation payment will be credited towards the Devon Street/Taylor Road project that was completed in 2008 (see Exhibit A-2 of the Concurrency and Fair-Share Agreement). The Concurrency and Fair-Share Agreement has been executed by the property owner and is attached for review.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Staff Report	Kings landing Staff report CC 12-5.pdf
2.	Exhibit A - Subdivision Plat	Exhibit A King's Landing Final plat.PDF
3.	Exhibit B - Subdivision Plans	Exhibit B King's Landing Civil Plans 10-27-17.pdf
4.	Exhibit C - Volusia County School Board Letter	Exhibit C School Concurrency Letter from Volusia County.pdf
5.	Concurrency and Fair-Share Agreement	Concurrency and Fair Share Agreement - King's Landing.pdf

Briana Conlan-King	Created/Initiated - 11/16/2017
Tim Burman	Approved - 11/16/2017
Shannon Balmer	Approved - 11/17/2017
Margaret Roberts	Approved - 11/17/2017
Jake Johansson	Approved - 11/19/2017
Robin Fenwick	Final Approval - 11/20/2017



STAFF REPORT

SUBDIVISION PLAT & PLANS /KING'S LANDING & SUBDIVISION VARIANCE

CASE NO. 17-50000008

REQUEST: Modification to the Phase 1 King's Landing Subdivision Plat and Plans

LOCATION: East side of Hensel Road, between East Hensel Hill Drive and Hills Boulevard (See Figure 1)

OWNER/APPLICANT: Coventry Partners, LLC

PLANNING COMMISSION DATE: October 26, 2017, Recommended Approval

CITY COUNCIL DATE: December 5, 2017

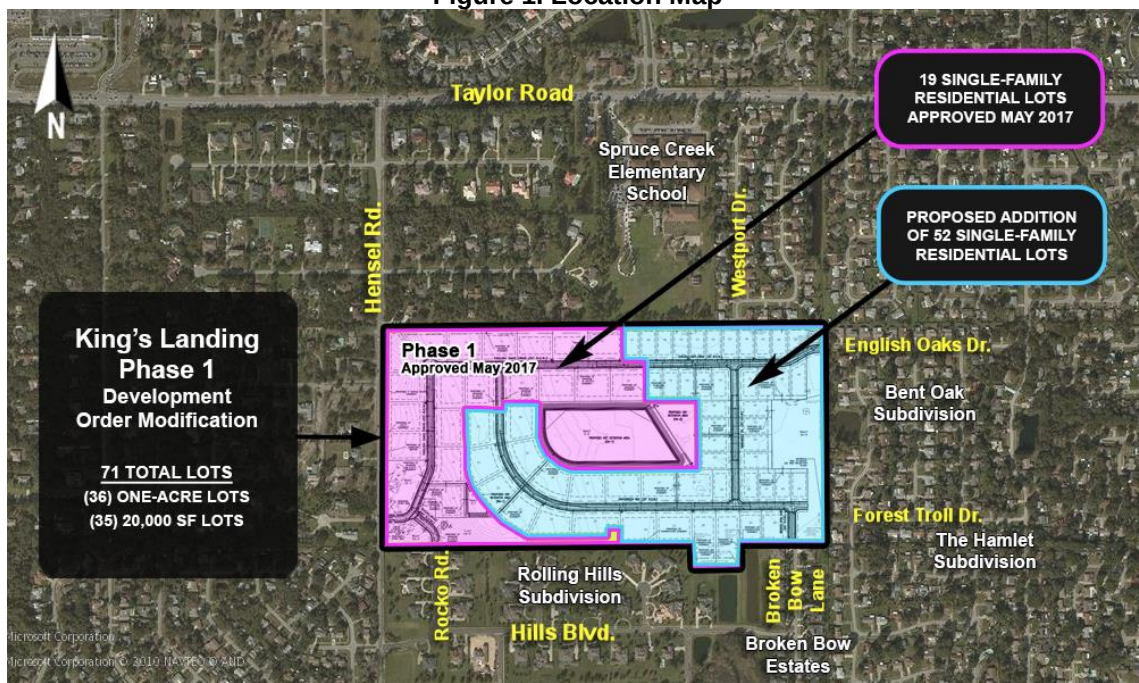
STAFF RECOMMENDATION: Approval

STAFF CONTACT: Tim Burman, Planning Manager (386) 506-5675

DISCUSSION:

The applicant requests to modify the previously approved Subdivision Plat and Plans for Phase 1 of the King's Landing Subdivision to include an additional 52 single-family lots (17-one-acre lots and 35 - 20,000 square-foot lots), along with the previously approved 19 one-acre lots (May 16, 2017) and tracts of land for common area and preservation of specimen trees. The applicant has also requested a subdivision variance to allow the subdivision to be developed without extending Forest Troll Drive and Westport Drive into the proposed King's Landing subdivision. If the Subdivision modification is approved, the Subdivision Plat and Plans for Phase 1 of the King's Landing Subdivision will consist of 71 single-family lots (36-one-acre lots and 35 - 20,000 square-foot lots) on +/- 82.2 acres (Exhibit A and B).

Figure 1. Location Map



The +/- 82.2-acre subject property and 71 single-family lots (36-one-acre lots and 35 - 20,000 square-foot lots) are currently designated *Rural Residential* (RR) and *R-20 Single-Family Residential* (R-20SF) on the City's Zoning Map (Figure 2) and designated *Rural Transition* (0-2 units/acre) and *Suburban Residential* (2-4 units/acre) on the City's Future Land Use Map (Figure 3).

Figure 2. Current Zoning Map and Proposed Subdivision Layout

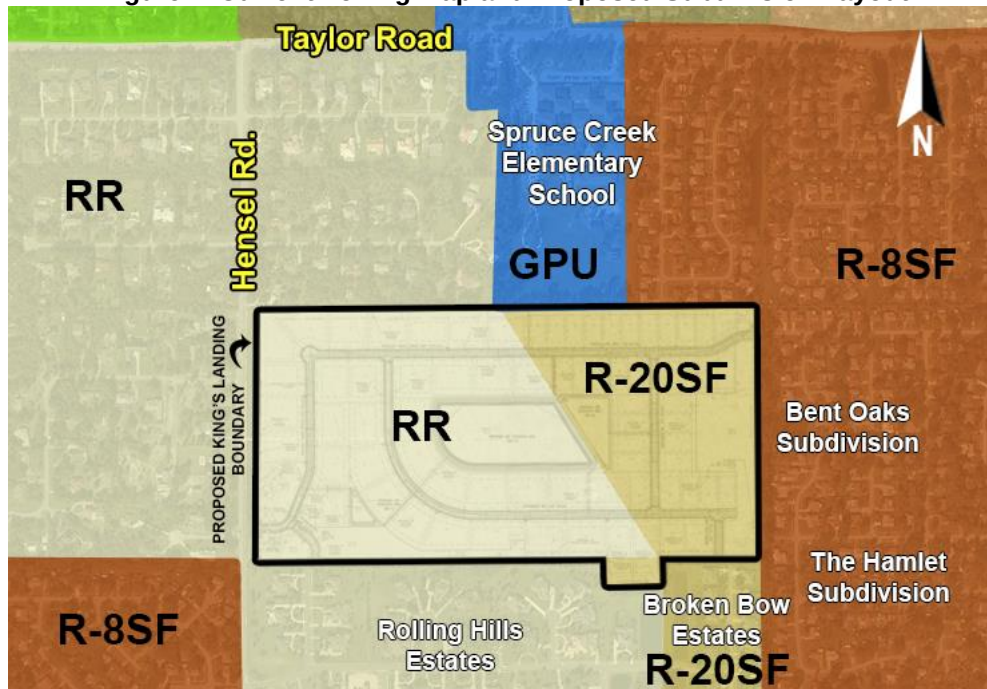
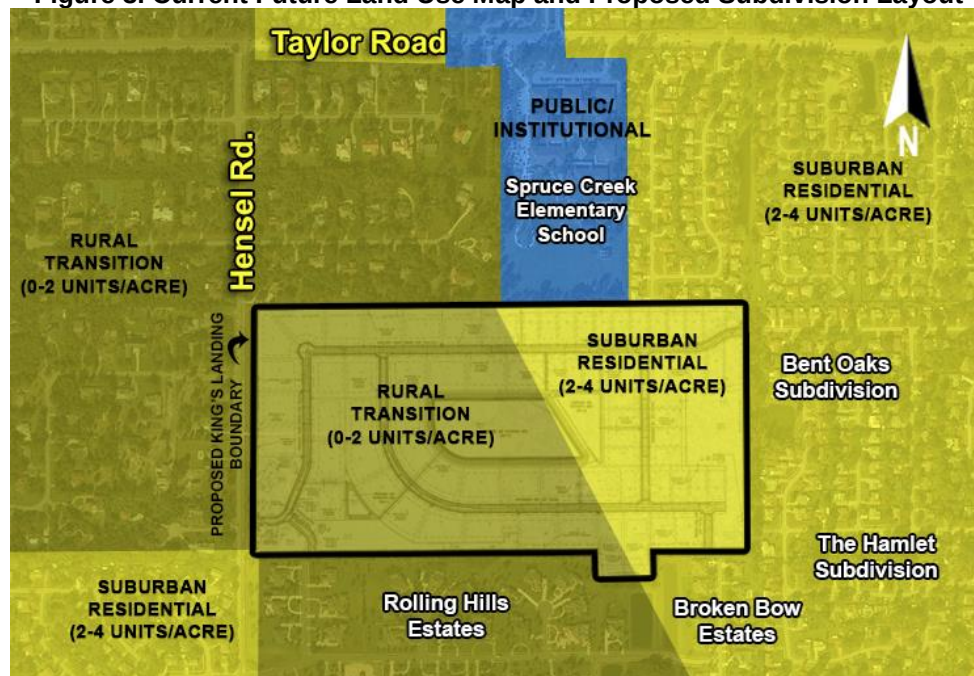


Figure 3. Current Future Land Use Map and Proposed Subdivision Layout



According to the City's Land Development Code (LDC), the plat and associated subdivision plans are to be designed according to the subdivision requirements in the LDC for stormwater, streetlights, roadways and sidewalks, utilities, easements, lot dimensions, roadway landscape buffers, and tree protection. The plat and subdivision plans (Exhibit A and B) have been designed according to the requirements of the City's LDC and the dimensional standards outlined in the RR and R-20SF zoning districts of the LDC (Table 1).

Table 1: Developmental Standards for the RR Zoning District

LOT DEVELOPMENT STANDARDS	RR ZONING DISTRICT	R-20SF ZONING DISTRICT
Minimum lot size	1 acre or 43,560 SF	20,000 SF
Minimum lot width (ft.)	100'	100'
Front setback (ft.)	40'	30'
Side setback (ft.)	15'	10'
Rear setback (ft.)	30'	25'
Maximum building coverage	20%	30%
Minimum open space	60%	60%
Maximum building height (ft.)	35'	35'
Minimum floor area (SF)	1,400 SF	1,400 SF

The following subdivision improvements will be constructed before or simultaneously with the development of the first lot:

- Access onto Hensel Road and roadway connections to Rocko Road, English Oaks Drive, and Broken Bow Lane;
- Common Areas with Tree Conservation Easements for specimen trees being saved;
- Water, sewer, and reclaimed water infrastructure;
- Public local streets (Rocko Road, English Oaks Drive, Highgarden Way, Broken Bow Lane, and Winterfell Drive) within the subdivision;
- Stormwater drainage infrastructure;
- Sidewalks and streetlights along Rocko Road, English Oaks Drive, Broken Bow Lane, Highgarden Way, and Winterfell Drive;
- 10' landscape buffer with a 6' tall PVC white fence along Hensel Road; and
- Entry signage and landscaping at the Hensel Road entrance.

CONCURRENCY REVIEW:

According to the Land Development Code (LDC), public facilities and services, such as roads, public infrastructure, schools, and recreational facilities, are to be reviewed to verify sufficient capacity exists above the adopted level-of-service (LOS) to accommodate the impacts for all proposed residential subdivision.

Public facilities and services are currently available to serve the proposed 71 single-family lots (36-one-acre lots and 35 - 20,000 square-foot lots) on +/- 82.2 acres. The following discussion summarizes the impacts the proposed 71 single-family lots will have on the public facilities and services.

Table 2 - Infrastructure Impact Assessment for 71 Lots

DEVELOPMENT VARIABLE	IMPACTS
Population ¹	160
A.M./P.M./Daily Peak Hour Trips ²	58/78/656 trips
Sanitary Sewer (gallons per day) ³	11,360 gallons
Potable Water (gallons per day) ⁴	12,780 gallons
Solid Waste (lbs. Per day) ⁵	513 lbs.
Stormwater Drainage ⁶	See Note
Recreation & Open Space ⁷ • Parkland • Ball Fields • Basketball Courts • Multipurpose Fields • Tennis Courts • Neighborhood Centers	0.30 acres 0.009 fields 0.01 courts 0.01 fields 0.01 courts 0.0003 centers

Notes:

1. **Population:** 2.25 persons per household (per 2010 Census)
2. **Transportation:** Single-family (210), ITE Trip Generation Manual, 9th Edition
3. **Sanitary Sewer:** 160 gallons per day per Equivalent Residential Unit
4. **Potable Water:** 180 gallons per day per Equivalent Residential Unit
5. **Solid Waste:** 3.21 pounds per person per day
6. **Stormwater Drainage:** LOS standard = 25 year, 24-hour event. Drainage system will be designed to meet the requirements of the Land Development Code.
7. **Rec. & Open Space:**
 - Parkland: 7 acres per 1,000 persons (0.007 acres/person)
 - Ball Fields: 1 field per 5,000 persons (0.0002 ball fields/person)
 - Basketball Courts: 1 court per 4,000 persons (0.00025 basketball courts/person)
 - Multipurpose Fields: 1 field per 3,500 persons (0.0002857 multipurpose fields/person)
 - Tennis Courts: 1 court per 4,000 persons (0.00025 tennis courts/person)
 - Neighborhood Centers: 1 facility per 15,000 persons (0.0000666 neighborhood centers/person)

Water, Sewer, Reclaimed Water:

The City has available sanitary sewer and potable water capacity to accommodate the proposed 71 lots. The City's adopted level-of-service (LOS) standard for sanitary sewer is 160 gallons per day per single-family house and for potable water is 180 per day per single-family household.

The proposed 71 lots will be served by potable water, sanitary sewer, and reclaimed water. Potable water and reclaimed water lines are available along Hensel Road and connections will be at the intersection of Hensel Road and English Oaks Drive. Sanitary sewer

connection will be where English Oaks Drive abuts the east boundary line of the subject property. The developer will construct potable water, sanitary sewer, and reclaimed water lines throughout the proposed subdivision in accordance with the utility plan for this project. All lots will be provided with stub-outs for utilities.

Stormwater Drainage:

The drainage areas shown on the plans will provide the required stormwater drainage for the entire +/- 82.2-acre property. The design and size of the stormwater system complies with the stormwater requirements in the City's Land Development Code and the St. Johns River Water Management District (SJRWMD) Environmental Resource Permit (ERP) for a site that discharges stormwater to the Spruce Creek basin. The State of Florida classifies Spruce Creek as an Impaired Water Body and restricts the amount of Nitrogen and Phosphorus that can be discharged. The proposed drainage system consists of two (2) dry pre-treatment retention areas for the removal of Nitrogen and Phosphorus from the stormwater pollutant prior to going into the wet detention pond. Eventually the stormwater from the wet detention pond is discharged into a series of pipes, swales, canals, and ponds and eventually enters into Spruce Creek.

Figure 4. Stormwater Drainage



The City's adopted level-of-service standard for stormwater drainage requires that all new retention/detention facilities be able to treat and convey the runoff from the 25-year, 24-hour storm event without causing flooding or pollution of receiving water bodies. There must be no net loss of stormwater retention function as a result of development; therefore, the subdivision property must have the same ability to store and discharge water after development as it does before development occurs. In addition, the post-development runoff rates must be less than the pre-development runoff rates.

According to the project engineer, it is anticipated that the usable fill dirt removed from the ponds will be used to bring the grade of the Phase 1 site up to comply with the City and SJRWD stormwater requirements. If there is additional usable fill not needed for Phase 1 the developer will have it removed from the site.

Recreation Facilities:

The City's adopted level-of-service for recreational facilities includes acreage of parkland, and number of ball fields, basketball courts, multi-purpose fields, tennis courts, and neighborhood centers. According to the City's 2016 Concurrency Management Report, the City is not deficient in any of the recreational facilities categories and there are sufficient facilities to support the anticipated 160 people from the proposed 71 lots.

School Capacity:

The Volusia County School District determined that the adopted level of service will be met and capacity exists in the schools for the estimated students to be generated by the proposed subdivision. According to the School Concurrency letter prepared by Volusia County Schools, the proposed 71 lots could generate six (6) full time students (Exhibit C).

Transportation:

According to the King's Landing Traffic Impact Analysis (TIA) prepared by Lassiter Transportation Group, Inc., the 71 single-family homes are expected to generate 58 AM peak-hour trips, 78 PM peak-hour trips, and 656 daily trips. The TIA indicates that all roadway segments and intersections identified in the TIA study area will operate within the adopted level-of-service standards with the traffic generated from the 71-single-family home subdivision. Based on the TIA prepared, the owner is required to make a \$3,653.06 fair-share mitigation payment for the twenty-two PM peak hour trip that is expected to use capacity created by the Devon Street/Taylor Road traffic light improvement. The fair-share mitigation payment will be credited towards the Devon Street/Taylor Road project that was completed in 2008.

Consistency with the Comprehensive Plan:

The +/- 82.2-acre subject property is designated *Rural Transition* (0-2 units/acre) and *Suburban Residential* (2-4 units/acre) on the City's Future Land Use Map. As shown on Exhibit B, the majority of the +/- 82.2-acre property has a Future Land Use (FLU) designation of *Rural Transition* (0-2 units/acre).

- The 36-one-acre lots are proposed to be developed on the west side of the +/- 82.2 area property where the Future Land Use designation is *Rural Transition* (0-2 units/acre). Specifically, the Comprehensive Plan states that the *Rural Transition* category includes rural-scale or large-lot (usually 1 to 2 acres) residential development situated between Agricultural lands and areas of higher density/intensity. The residential development is limited to no more than two units per acre.
- The 35 - 20,000 square-foot lots are proposed to be developed on the east side of the +/- 82.2 area property where the Future Land Use designation is *Suburban Residential* (2-4 units/acre). Specifically, the Comprehensive Plan states that the *Suburban Residential* category includes residential development on lots one quarter-

acre in size. The residential development is limited to no more than four units per acre.

The development of the proposed 71 single-family lots is consistent with the intent of the FLU designations and permitted uses in the RR and R-20SF zoning districts. The density for this phase is 0.86 residential units per acre.

SUBDIVISION VARIANCE

The applicant has requested a subdivision variance to allow this phase to be developed without extending an existing street stub-outs (Forest Troll Drive and Westport Drive) into the proposed subdivision. The variance may be granted by the City Council, upon recommendation of the Planning Commission. The Planning Commission recommended approval of the subdivision variance on October 26, 2017.

The Land Development Code (LDC) requires that existing streets ending at a project boundary be continued into the adjacent proposed subdivision. In 1985, as part of Bent Oak Subdivision, Forest Troll Drive, and as part of Southport Subdivision, Westport Drive, were extended to the project boundary to provide future access points to be extended with the development of the King's Landing property.

Chapter 5, Section 8 of the LDC, lists the review criteria used to determine whether a subdivision variance request should be granted. For a subdivision variance to be approved the following criteria may be considered.

1. *Topographic or other physical conditions exist which are peculiar to the site and not a result of the actions of the applicant.*

Forest Troll Drive: The applicant is requesting to not extend the existing Forest Troll Drive stub-out into the proposed subdivision because it would have the potential of creating a non-traditional intersection between the existing Broken Bow Lane and Forest Troll Drive and the proposed Highgarden Way. It would also require the removal of a 36" historic oak tree.

Westport Drive: The applicant is requesting to not extend the existing Westport Drive stub-out into the proposed subdivision because it would have the potential of adding to the number of vehicles entering/exiting at the intersection of Taylor Road and Southport Drive. There is concern from staff that this connection could increase the number of vehicles making the left turn movement onto Taylor Road during the hours of operation for Spruce Creek Elementary and Spruce Creek High School.

2. *Literal interpretation of this code would result in unnecessary and undue hardship on the applicant.*

When a new subdivision is built, it must comply with current subdivision development requirements of the Land Development Code (LDC). The intent of requirement to extend existing street stub-outs into developing property is to provide an interconnected local road network that provides travel and access options. According to the applicant, the subject property has five roadway stub-outs from adjacent subdivisions and the proposed project extends three of the roadway stub-outs and has a main access onto

Hensel Road. The applicant believes this subdivision has met the intent of the code to create an interconnected local road network.

3. *Required services are already available to proposed lots without the construction of additional improvements.*

All required public utilities and services can be provided to all proposed lots through the proposed subdivision design. In addition, not requiring the two roadway connections will not reduce any other required services for the existing subdivisions. The proposed subdivision meets minimum access requirements in the Land Development Code and connects to a collector road (Hensel Road) and three local roads (Rocko Road, English Oak Drive, and Broken Bow Lane).

4. *Levels of service can be reasonably provided through the site development plan review process or residential site plan review process for individual lots.*

The applicant will be able to provide the required services and meet the Level of Service standards for all homes in the subdivision through the proposed subdivision design.

5. *Other methods can be arranged to assure construction of improvements, eliminating the need for formal subdivision approval.*

Subdivision review is the standard approach to assure the construction of local roads within a subdivision. The applicant is not requesting a different method. The request is to not extend two existing street stub-outs, so this criterion is not applicable to this request.

6. *The granting of a variance is consistent with the overall intent of this code, and will not be injurious to the surrounding properties or detrimental to the public welfare.*

The intent of the code is to provide an interconnected local road network that provides travel and access options. The proposed subdivision meets the minimum subdivision requirements with two access points to public roads. The proposed development is efficiently accessed (Hensel Road, Central Park Road, Taylor Road, and Spruce Creek Road). According to the Fire Department, response times would not be increased by not extending Westport Drive and Forest Troll Drive because these routes are not the routes the Fire Department would use.

Based on the review criteria above, staff recommends approval of the subdivision variance to allow this phase to be developed without extending an existing street stub-out (Forest Troll Drive and Westport Drive) into the proposed subdivision.

RECOMMENDATION:

Staff recommends approval of the final plat and plans for King's Landing Subdivision.

ATTACHMENTS:

1. Exhibit A - Subdivision Plat
2. Exhibit B - Subdivision Plans
3. Exhibit C - Volusia County School Board Letter

RECEIVED
10-27-17
CITY OF PORT ORANGE
Community Development

REVISED

KING'S LANDING

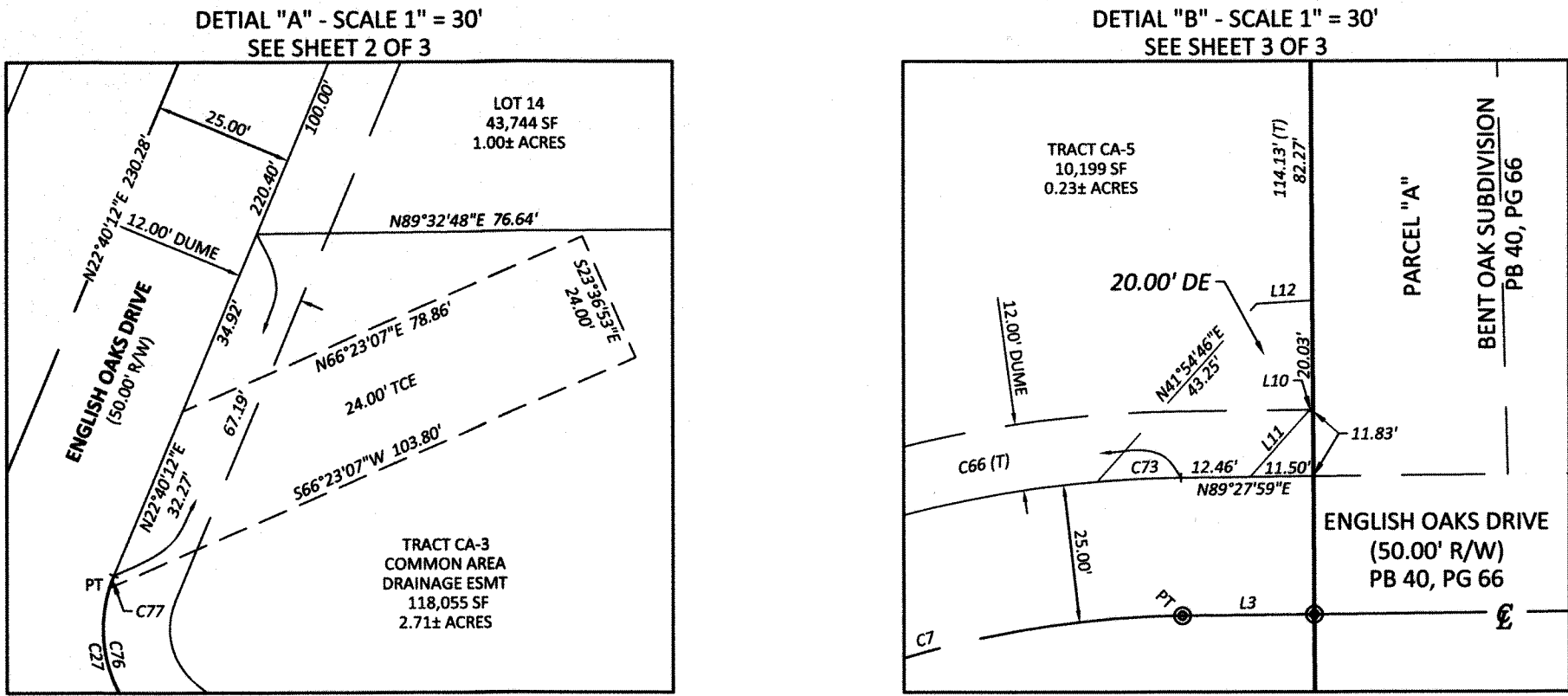
LOCATED IN THE CITY OF PORT ORANGE, SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA.

DESCRIPTION

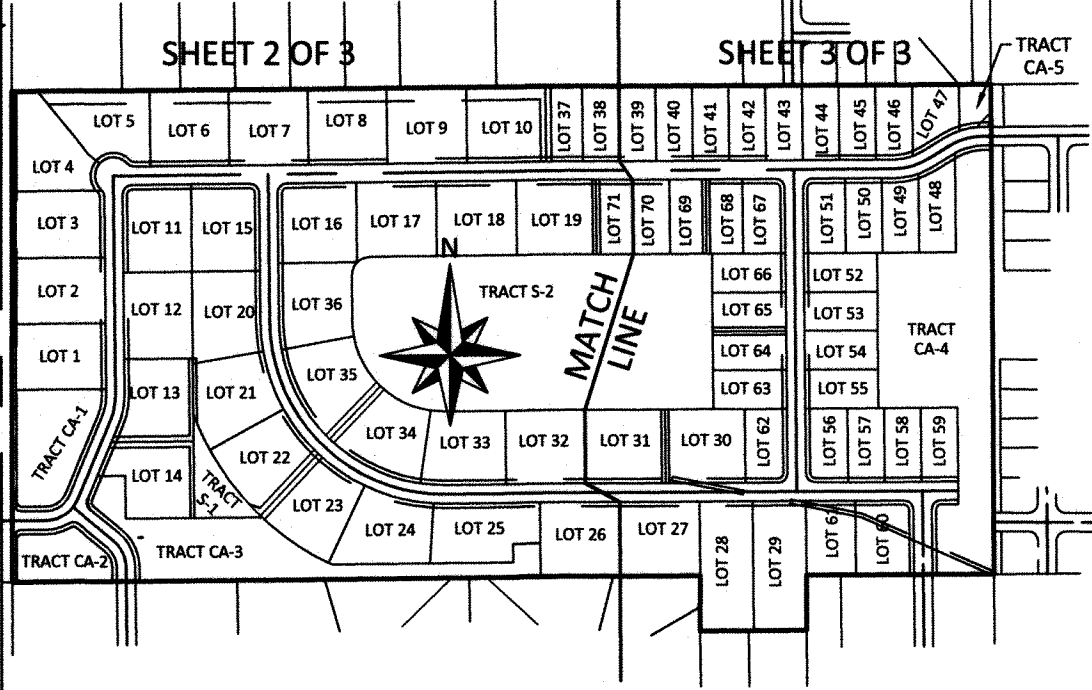
A PORTION OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 27, ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, RUN THENCE N00°00'52"E ALONG THE EAST RIGHT-OF-WAY LINE OF HENSEL ROAD A DISTANCE OF 1,324.97 FEET TO THE SOUTHWEST CORNER OF THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2641, PAGE 2642, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST; THENCE N89°37'07"E ALONG SAID NORTH LINE, A DISTANCE OF 2,671.22 FEET TO THE SOUTHWEST CORNER OF LOT 33, RAIN TREE SUBDIVISION, AS RECORDED IN PLAT BOOK 33, PAGE 190, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE EAST LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE S00°16'25"E ALONG SAID EAST LINE, A DISTANCE OF 1,321.61 FEET TO THE SOUTHWEST CORNER OF PARCEL "B", BENT OAK SUBDIVISION, AS RECORDED IN PLAT BOOK 40, PAGE 66, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE SOUTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE S89°33'46"W ALONG SAID SOUTH LINE A DISTANCE OF 512.21 FEET TO THE NORTHWEST CORNER OF TRACT "C", BROKEN BOW ESTATES, AS RECORDED IN PLAT BOOK 49, PAGES 126 AND 127, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE S00°08'52"W ALONG THE WEST LINE OF SAID TRACT "C" A DISTANCE OF 150.06 FEET TO THE NORTHEAST CORNER OF TRACT "C"; ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE S89°32'23"W ALONG THE NORTH LINE OF SAID ROLLING HILLS ESTATES PHASE 2, A DISTANCE OF 289.93 FEET TO THE NORTHWEST CORNER OF LOT 30, SAID ROLLING HILLS ESTATES PHASE 2, SAID POINT BEING A POINT ON THE EAST LINE OF LOT 12, SAID ROLLING HILLS ESTATES PHASE 2; THENCE N00°08'51"E ALONG SAID EAST LINE AND THE EAST LINE OF LOT 13, SAID ROLLING HILLS ESTATES PHASE 2, A DISTANCE OF 149.98 FEET TO THE NORTHEAST CORNER OF LOT 13, SAID ROLLING HILLS ESTATES PHASE 2, SAID POINT BEING A POINT ON SAID SOUTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21; THENCE S89°32'48"W ALONG SAID SOUTH LINE, A DISTANCE OF 1,875.76 FEET TO THE POINT OF BEGINNING.

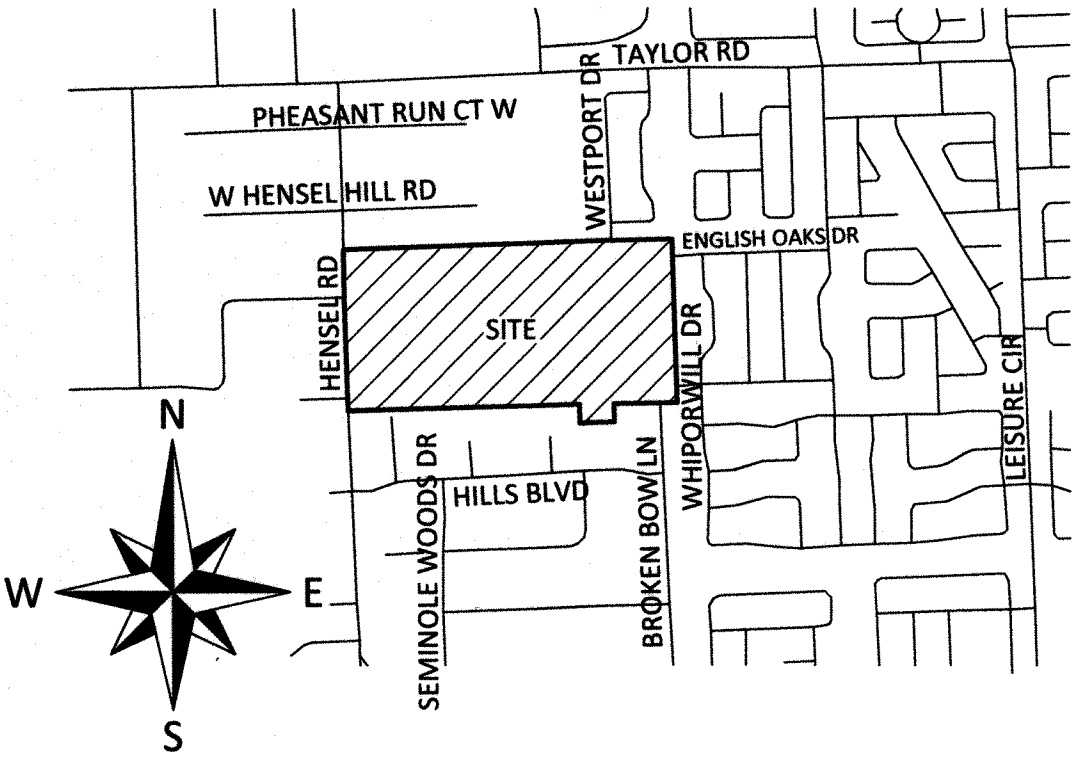
CONTAINS 3,582,585 SQUARE FEET OR 82.245 ACRES MORE OR LESS.



KEYMAP (NOT TO SCALE)



VICINITY MAP (NOT TO SCALE)



GENERAL NOTES

- GENERAL NOTES
- MONUMENTATION
 - DENOTES A PERMANENT REFERENCE MONUMENT, A 4"x4" CONCRETE MONUMENT WITH ABRASS DISC MARKED "PRM LB 4475", UNLESS OTHERWISE NOTED.
 - DENOTES A PERMANENT CONTROL POINT, A NAIL WITH A BRASS DISC MARKED "PRM LB4475", UNLESS OTHERWISE NOTED.
 - DENOTES FOUND SECTION CORNER WITH A CERTIFIED CORNER RECORD MARKED AS SHOWN.
 - (R) - DENOTES A LINE RADIAL RELATIVE TO ADJACENT CURVE.
 - (NR) - DENOTES A LINE NOT RADIAL RELATIVE TO ADJACENT CURVE.
 - DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.
 - ACCURACY
 - THE BOUNDARY LINEAR ERROR OF CLOSURE DOES NOT EXCEED 1:10,000.
 - THE BOUNDARY ANGULAR ERROR OF CLOSURE DOES NOT EXCEED 15 SECONDS MULTIPLIED BY THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.
 - BEARINGS SHOWN HERE ON ARE RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE.
 - NOTE: ALL MEASUREMENTS REFER TO HORIZONTAL PLANE IN ACCORDANCE WITH THE DEFINITION OF THE U.S. SURVEY FOOT OR METER ADOPTED BY THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY. ALL MEASUREMENTS SHALL USE THE 39.37/12+3.2808333333 EQUATION FOR CONVERSION FROM A U.S. FOOT TO METERS.
 - NOTICE: THIS PLAT, AS RECORDED IN ITS GRAPHIC FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREIN AND WILL IN NO CIRCUMSTANCES BE SUPPLANTED IN AUTHORITY BY ANY OTHER GRAPHIC OR DIGITAL FORM OF THE PLAT. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
 - THIS PLAT IS SUBJECT TO ALL EASEMENTS OF RECORD AND RESERVATIONS OF EASEMENTS, INCLUDING BUT NOT LIMITED TO TREE CONSERVATION, DRAINAGE, UTILITY, MAINTENANCE AND GOVERNMENT AND EMERGENCY SERVICES, GRANTED HEREON.
 - UTILITIES INCLUDE BUT ARE NOT LIMITED TO SANITARY SEWER, POTABLE WATER, RECLAIMED WATER, STORM DRAINAGE, ELECTRIC, TELEPHONE, CABLE TELEVISION, SECURITY, NATURAL GAS, FIBER OPTIC, TELECOMMUNICATION.
 - UTILITY EASEMENTS PROVIDED ON THIS PLAT INCLUDE EASEMENTS FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES; PROVIDED, HOWEVER, NO SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES SHALL INTERFERE WITH THE FACILITIES AND SERVICES OF AN ELECTRIC, TELEPHONE, GAS, OR OTHER PUBLIC UTILITY.
 - TREE CONSERVATION EASEMENTS AS DEFINED ON THIS PLAT IS FOR THE EXPRESS PURPOSE OF THE PRESERVATION AND LONGEVITY OF THE TREES THEREIN. ACTIONS DETRIMENTAL TO TREE HEALTH AND SURVIVAL WITHIN THE BOUNDARIES OF THE EASEMENT ARE PROHIBITED WITHOUT THE EXPRESS PERMISSION OF THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT. NOTHING HEREIN SHALL, HOWEVER, BE CONSTRUED TO PREVENT NATURAL VEGETATION WITHIN THE EASEMENT AREA FROM BEING CLEARED BY HAND TO PROVIDE A NEAT, MANICURED APPEARANCE. IN ADDITION, NOTHING HEREIN SHALL BE CONSTRUED TO PREVENT THE PLACEMENT OF SOIL, IRRIGATION AND LANDSCAPE PLANTS OR TO PREVENT NORMAL LAWN MAINTENANCE SUCH AS MOWING, EDGING, AND WEEDING NOT HARMFUL TO THE OBJECTIVE OF TREE PRESERVATION WITHIN THE EASEMENT AREA. ANY PROPOSED CONSTRUCTION OR OTHER USE WITHIN A CONSERVATION EASEMENT MUST BE REVIEWED AND APPROVED BY THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT.
 - BUILDING REQUIREMENTS:
 - LOTS ZONED RR (RURAL RESIDENTIAL), LOTS 1 THROUGH 36
 - MINIMUM LOT AREA: 1 ACRE
 - MINIMUM LOT WIDTH: 100.00 FEET
 - MAXIMUM BUILDING COVERAGE: 20%
 - MINIMUM OPEN SPACE: 70%
 - SETBACKS:
 - FRONT: 40 FEET FOR LOTS 1 THROUGH 36
 - SIDE: 15 FEET FOR LOTS 1 THROUGH 36
 - REAR: 30 FEET FOR LOTS 1 THROUGH 27 AND 30 THROUGH 36
 - REAR: 60 FEET FOR LOTS 28 AND 29
 - LOTS ZONED R-20SF (SINGLE FAMILY RESIDENTIAL), LOTS 37 THROUGH 71
 - MINIMUM LOT AREA: 20,000 SQUARE FEET
 - MINIMUM LOT WIDTH: 100.00 FEET
 - MAXIMUM BUILDING COVERAGE: 30%
 - MINIMUM OPEN SPACE: 60%
 - SETBACKS:
 - FRONT: 30 FEET
 - SIDE: 10 FEET
 - REAR: 25 FEET
13. THE COMMON AREAS GRANTED TO THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. BY THIS PLAT SHALL BE SUBJECT TO EASEMENTS AS SHOWN OR DESCRIBED HEREON OR GRANTED IN ACCORDANCE WITH THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC.'S COVENANTS AND RESTRICTIONS. THE GRANTING OF SUCH COMMON AREAS IS NOT INTENDED TO GRANT ANY RIGHT TO THE GENERAL PUBLIC.
14. THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC., A FLORIDA NON-PROFIT CORPORATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPICTED ON THE STORMWATER MANAGEMENT PLAN APPROVED FOR THE DEVELOPMENT BY THE CITY OF PORT ORANGE, FLORIDA. SHOULD THE ASSOCIATION FAIL TO PERFORM THE MAINTENANCE OF THE DRAINAGE AND STORMWATER MANAGEMENT SYSTEMS, THE CITY OF PORT ORANGE SHALL BE ENTITLED TO ENTER UPON THE COMMON AREAS AND DESIGNATED EASEMENT AREAS TO PERFORM MAINTENANCE, REPAIR OR REPLACE THE FACILITIES, AND, SHALL HAVE THE RIGHT TO LIEN ALL OWNERS OF RECORD IN PROPERTY FOR THE COST OF SUCH MAINTENANCE, REPAIR, AND REPLACEMENT, AS DEEMED BY HE CITY TO BE NECESSARY. IN THE EVENT OF TERMINATION, DISSOLUTION, OR FINAL LIQUIDATION OF THE ASSOCIATION, THE RESPONSIBILITY FOR THE OPERATION AND MAINTENANCE OF THE SURFACE WATER OR STORM WATER MANAGEMENT SYSTEM WILL BE TRANSFERRED TO AND ACCEPTED BY AN ENTITY WHICH COMPLIES WITH SECTION 400-42.027, F.A.C. AND BE APPROVED BY THE SAINT JOHNS RIVER WATER MANAGEMENT DISTRICT PRIOR TO SUCH TERMINATION, DISSOLUTION, OR LIQUIDATION.
15. COMMON AREAS ARE GRANTED AS EASEMENTS TO THE CITY OF PORT ORANGE WITH RIGHTS OF ACCESS, INGRESS, AND EGRESS, TOGETHER WITH THE RIGHT TO HARVEST EXCESS STORM WATER/GROUND WATER AS DEEMED APPROPRIATE IN THE DISCRETION OF THE CITY.
16. THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING AND IRRIGATION IN COMMON AREAS.
17. THE ARTICLES OF INCORPORATION FOR THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORDS BOOK _____, PAGES _____ THROUGH _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
18. TRACT CA-1, CA-2, CA-3, CA-4 AND CA-5, DEPICTED HEREON AS COMMON AREA, WILL BE OWNED AND MAINTAINED BY THE KINGS LANDING HOMEOWNERS ASSOCIATION, ITS SUCCESSORS AND ASSIGNS FOR THE PURPOSE OF COMMON AREA AND IS SUBJECT TO THE TREE CONSERVATION EASEMENTS GRANTED TO THE CITY OF PORT ORANGE, FLORIDA AS RECORDED IN OFFICIAL RECORDS BOOK _____, PAGE _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
19. TRACTS S-1 AND S-2 WILL BE OWNED AND MAINTAINED BY THE KINGS LANDING HOMEOWNERS ASSOCIATION, ITS SUCCESSORS AND ASSIGNS FOR THE PURPOSE OF COMMON AREA AND STORMWATER DRAINAGE.
20. THERE IS A 12.00 FOOT STANDARD UTILITY EASEMENT ALONG THE FRONT OF ALL LOTS ADJACENT TO ROAD RIGHTS-OF-WAY.

LEGEND

ADUGE	- ACCESS, DRAINAGE, UTILITY, GOVERNMENT AND EMERGENCY SERVICES EASEMENT	L	- ARC LENGTH	PRC	- POINT OF REVERSE CURVATURE
COR	- CERTIFIED CORNER RECORD	LB	- LICENSED BUSINESS	PRM	- PERMANENT REFERENCE MONUMENT
CM	- CENTERLINE SYMBOL	LBE	- LANDSCAPE BUFFER EASEMENT	PSM	- PROFESSIONAL SURVEYOR AND MAPPER
Δ	- DELTA / CENTRAL ANGLE	N&D	- NAIL & DISK	PT	- POINT OF TANGENCY
DE	- DRAINAGE, MAINTENANCE AND ACCESS EASEMENT	(NR)	- NON-RADIAL	R	- RADIUS
DMAE	- DRAINAGE, UTILITY AND MAINTENANCE EASEMENT	NT	- NON-TANGENT	R/W	- RIGHT-OF-WAY
ESMT	- EASEMENT	NTS	- NOT TO SCALE	SF	- SQUARE FEET
FND	- FOUND	ORB	- OFFICIAL RECORDS BOOK	(T)	- TOTAL
		PB	- PLAT BOOK	TCE	- TREE CONSERVATION ESMT
		PC	- POINT OF CURVATURE	VAC	- VEHICLE ACCESS CONTROL
		PG	- PAGE		
		PI	- POINT OF INTERSECTION		
		POB	- POINT OF BEGINNING		
		POL	- POINT ON LINE		

ACCURIGHT

ACCURIGHT SURVEYS OF ORLANDO INC., LB 4475
2012 E. Robinson Street, Orlando, Florida 32803
www.AccurightSurveys.net
ACCU@AccurightSurveys.net
PHONE: (407) 894-6314
SHEET 1 OF 3

PLAT BOOK	PAGE
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KING'S LANDING
DEDICATION

KNOW ALL MEN BY THESE PRESENTS, THAT COVENTRY PARTNERS, LLC, A FLORIDA LIMITED LIABILITY COMPANY BEING THE OWNER IN FEE SIMPLE OF THE LANDS SHOWN AND DESCRIBED HEREON AS THE PLAT ENTITLED KING'S LANDING, LOCATED IN THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, HEREBY DEDICATES THE SAID LANDS AND PLAT FOR THE USES AND PURPOSES HEREON EXPRESSED. ALL STREETS AND ROAD RIGHT-OF-WAYS, SHOWN OR DESCRIBED ON THE PLAT ARE, UNLESS OTHERWISE INDICATED, DEDICATED TO THE CITY OF PORT ORANGE. ALL POTABLE WATER, RECLAIMED WATER, AND SANITARY SEWER MAINS CONSTRUCTED WITHIN THE AREA ENCOMPASSED WITHIN THE PLAT ARE DEDICATED TO THE CITY OF PORT ORANGE. ALL TREE CONSERVATION, DRAINAGE, MAINTENANCE AND UTILITY EASEMENTS SHOWN OR DESCRIBED ON THE PLAT ARE, UNLESS OTHERWISE INDICATED, GRANTED TO THE CITY OF PORT ORANGE. ALL DRAINAGE EASEMENTS SHOWN OR DESCRIBED ON THE PLAT ARE ALSO, UNLESS OTHERWISE INDICATED, GRANTED TO THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC., FOR THE PURPOSES DESCRIBED IN THE GENERAL NOTES. TRACTS CA-1, CA-2, CA-3, CA-4, CA-5, S-1 AND S-2, ARE GRANTED FOR THE PURPOSES DESCRIBED IN GENERAL NOTES TO THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. FOR THE BENEFIT OF ALL OWNERS OF RECORDED, SUCCESSORS AND ASSIGNS, OF THE LAND SHOWN AND DESCRIBED HEREON.

IN WITNESS WHEREOF, THE UNDERSIGNED HAS HEREUNTO SET BY HAND ON THIS _____ DAY OF _____, A.D., 2017.

OWNER: COVENTRY PARTNERS, LLC, A FLORIDA LIMITED LIABILITY COMPANY

BY: MITCHEL SABINA, MANAGER

SIGNED and SEALED IN THE PRESENCE OF:

(PRINT NAME) (SIGNATURE)

(PRINT NAME) (SIGNATURE)

ACKNOWLEDGMENT
STATE OF FLORIDA COUNTY OF VOLUSIA

THIS IS TO CERTIFY, THAT ON THIS _____ DAY OF _____, A.D., 2017, BEFORE ME, PERSONALLY APPEARED MITCHEL SABINA, MANAGER, ON BEHALF OF COVENTRY PARTNERS, LLC, A FLORIDA LIMITED LIABILITY COMPANY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE, AS THE INDIVIDUAL DESCRIBED IN AND WHO EXECUTED THE FOREGOING DEDICATION AND ACKNOWLEDGED THE EXECUTION THEREOF TO BE HIS FREE ACT AND DEED AS SUCH MANAGER THEREUNTO DULY AUTHORIZED; AND SAID DEDICATION IS THE ACT AND DEED OF SAID LIMITED PARTNERSHIP AND WHO IS PERSONALLY KNOWN TO ME OR WHO HAS PRODUCED A _____ AS IDENTIFICATION AND WHO (DID)/DID NOT TAKE AN OATH.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND SEAL ON THE ABOVE DATE.

NOTARY PUBLIC _____

COMMISSION NO.: _____

EXPIRATION: _____

CERTIFICATE OF CLERK

I HEREBY CERTIFY THAT I HAVE EXAMINED THE FOREGOING PLAT AND FOUND THAT IT COMPLIES, IN FORM, WITH ALL REQUIREMENTS STATED IN CHAPTER 177, FLORIDA STATUTES, AND THAT IT WAS FILED FOR RECORD ON _____ AT _____ A.M. / P.M.

FILE NO. _____
CLERK OF CIRCUIT COURT
VOLUSIA COUNTY, FLORIDA

REVIEW BY SURVEYOR AND MAPPER FOR THE CITY

I HEREBY CERTIFY TO THE CITY, THAT I HAVE REVIEWED THE FOREGOING PLAT FOR COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 177, FLORIDA STATUTES, AND THAT I HAVE PROVIDED BOTH THE CITY AND THE SURVEYOR AND MAPPER OF RECORD A LIST OF DEVIATIONS, IF ANY, FROM SUCH REQUIREMENTS.

(SIGNATURE) _____ DATE: _____
(PRINT NAME) _____, PSM. NO.: _____

CERTIFICATE OF SURVEYOR AND MAPPER

KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED, BEING A LICENSED AND REGISTERED SURVEYOR AND MAPPER, DOES HEREBY CERTIFY THAT THE PLAT SHOWN AND DESCRIBED HEREON, ENTITLED KING'S LANDING, WAS PREPARED UNDER MY DIRECTION AND SUPERVISION, THAT THE PLAT COMPLIES WITH ALL OF THE SURVEY REQUIREMENTS OF CHAPTER 177, FLORIDA STATUTES, AND THAT ALL MONUMENTATION SHOWN HEREON OR REQUIRED PER CHAPTER 177, FLORIDA STATUTES, HAS BEEN PROPERLY PLACED.

Dated: 10/24/17 Signed: James D. Bray, PSM 6307
Registration Number: LB #4475 Accuright Surveys of Orlando, Inc.
2012 East Robinson Street
Orlando, Florida 32803

CITY COUNCIL CERTIFICATE OF APPROVAL

THIS STATEMENT HEREBY CERTIFIES THAT THE PLAT ENTITLED KING'S LANDING WAS APPROVED BY THE PORT ORANGE CITY COUNCIL ON _____.

BY: MAYOR OF THE CITY OF PORT ORANGE ATTEST: CITY CLERK OF THE CITY OF PORT ORANGE

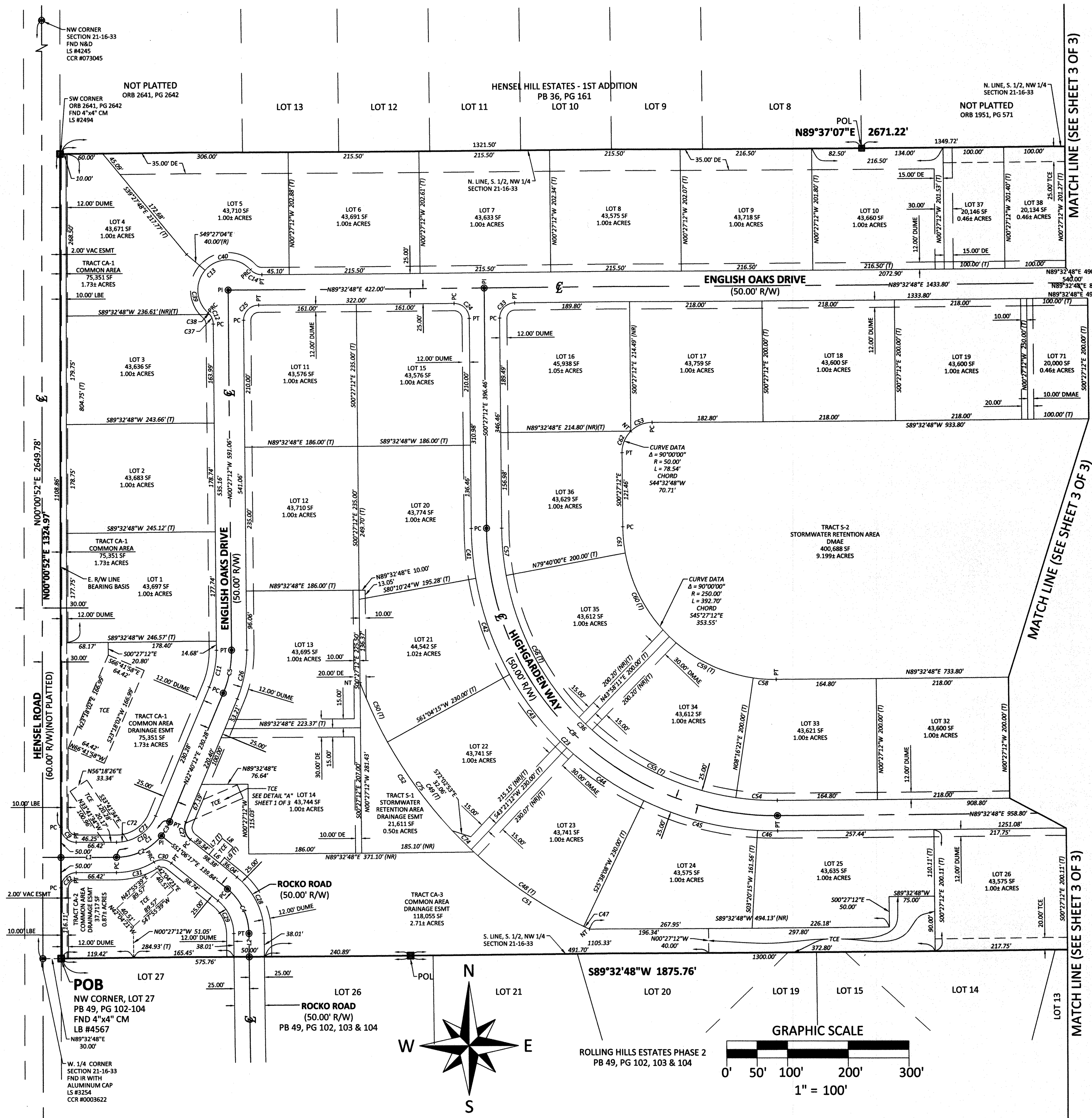
PLANNING COMMISSION CERTIFICATE OF APPROVAL

THIS STATEMENT HEREBY CERTIFIES THAT THE PLAT ENTITLED KING'S LANDING WAS APPROVED BY THE PORT ORANGE PLANNING COMMISSION ON _____.

BY: CHAIRMAN OF THE PORT ORANGE PLANNING COMMISSION

KING'S LANDING

LOCATED IN THE CITY OF PORT ORANGE, SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA.



PLAT BOOK PAGE

- GENERAL NOTES:
1. MONUMENTATION
 - (B) - DENOTES A PERMANENT REFERENCE MONUMENT, A 4"X4" CONCRETE MONUMENT WITH A BRASS DISC MARKED "PRM LB #447", UNLESS OTHERWISE NOTED.
 - (C) - DENOTES A PERMANENT CONTROL POINT, A NAIL WITH A BRASS DISC MARKED "PRM LB#447", UNLESS OTHERWISE NOTED.
 - (D) - DENOTES A FOUND SECTION CORNER WITH A CERTIFIED CORNER RECORD MARKED AS SHOWN.
 - (E) - DENOTES A LINE RADIAL RELATIVE TO ADJACENT CURVE.
 - (NR) - DENOTES A LINE NOT RADIAL RELATIVE TO ADJACENT CURVE.
 - 2. DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.
 - 3. ACCURACY
 - THE BOUNDARY LINE ERROR OF CLOSURE DOES NOT EXCEED 1/10,000.
 - THE BOUNDARY ANGLE ERROR OF CLOSURE DOES NOT EXCEED 15 SECONDS MULTIPLIED BY THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.
 - 4. BEARINGS SHOWN HERE ON ARE RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE.
 - 5. NOTE: ALL MEASUREMENTS REFER TO HORIZONTAL PLANE IN ACCORDANCE WITH THE DEFINITION OF THE U.S. SURVEY FOOT OR METER ADOPTED BY THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY. ALL MEASUREMENTS SHALL USE THE 39.37121-3.280833333 EQUATION FOR CONVERSION FROM A U.S. FOOT TO METERS.
 - 6. NOTICE: THIS PLAT, AS RECORDED IN ITS GRAPHIC FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREIN AND WILL IN NO CIRCUMSTANCES BE SUPPLANTED IN AUTHORITY BY ANY OTHER GRAPHIC OR DIGITAL FORM OF THE PLAT. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
 - 7. THIS PLAT IS SUBJECT TO ALL EASEMENTS OF RECORD AND RESERVATIONS OF EASEMENTS, INCLUDING BUT NOT LIMITED TO TREE CONSERVATION, DRAINAGE, UTILITY, MAINTENANCE AND GOVERNMENT AND EMERGENCY SERVICES, GRANTED HEREON.
 - 8. UTILITIES INCLUDE BUT ARE NOT LIMITED TO SANITARY SEWER, POTABLE WATER, RECLAIMED WATER, STORM DRAINAGE, ELECTRIC, TELEPHONE, CABLE TELEVISION, SECURITY, NATURAL GAS, FIBER OPTIC, TELECOMMUNICATION.
 - 9. UTILITY EASEMENTS PROVIDED ON THIS PLAT INCLUDE EASEMENTS FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES PROVIDED, HOWEVER, NO SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES SHALL INTERFERE WITH THE FACILITIES AND SERVICES OF AN ELECTRIC TELEPHONE, GAS, OR OTHER PUBLIC UTILITY.
 - 10. TREE CONSERVATION EASEMENTS AS DENIED ON THIS PLAT IS FOR THE EXPRESS PURPOSE OF THE PROTECTION AND LONGEVITY OF THE TREES THEREIN. ACTIONS DETRIMENTAL TO TREE HEALTH AND SURVIVAL, WITHIN THE BOUNDARIES OF THE EASEMENT ARE PROHIBITED WITHOUT THE EXPRESS PERMISSION OF THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT. NOTHING HEREIN SHALL, HOWEVER, BE CONSTRUED TO PREVENT NATURAL VEGETATION WITHIN THE EASEMENT AREA FROM BEING CLEARED BY HAND TO PROVIDE A NEAT, MANICURED APPEARANCE. IN ADDITION, NOTHING HEREIN SHALL BE CONSTRUED TO PREVENT THE PLACEMENT OF SOIL, PLANTATION AND LANDSCAPE PLANTS OR TO PREVENT NORMAL LAWN MAINTENANCE SUCH AS MOWING, EDGING AND WEEDING NOT HARMFUL TO THE OBJECTIVE OF THE TREE PRESERVATION WITHIN THE EASEMENT AREA. ANY PROPOSED CONSTRUCTION OR OTHER USE WITHIN A CONSERVATION EASEMENT MUST BE REVIEWED AND APPROVED BY THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT.
 - 11. BUILDING REQUIREMENTS:
 - LOTS ZONED IN (RURAL RESIDENTIAL) LOTS 1 THROUGH 36
 - MINIMUM LOT AREA: 1 ACRE
 - MINIMUM LOT WIDTH: 300.00 FEET
 - MINIMUM BUILDING COVERAGE: 20%
 - MINIMUM OPEN SPACE: 20%
 - LOTS ZONED R-20SF (SINGLE FAMILY RESIDENTIAL) LOTS 37 THROUGH 71
 - MINIMUM LOT AREA: 20,000 SQUARE FEET
 - MINIMUM LOT WIDTH: 100.00 FEET
 - MINIMUM BUILDING COVERAGE: 30%
 - MINIMUM OPEN SPACE: 60%
 - 12. SETBACKS:
 - FRONT: 40 FEET FOR LOTS 1 THROUGH 36
 - REAR: 15 FEET FOR LOTS 1 THROUGH 36
 - REAR: 30 FEET FOR LOTS 37 THROUGH 71 AND 30 THROUGH 36
 - REAR: 60 FEET FOR LOTS 38 AND 39
 - 13. THE COMMON AREAS GRANTED TO THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. BY THIS PLAT SHALL BE SUBJECT TO EASEMENTS AS SHOWN OR DESCRIBED HEREON OR GRANTED IN ACCORDANCE WITH THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC.'S COVENANTS AND RESTRICTIONS. THE GRANTING OF SUCH COMMON AREAS IS NOT INTENDED TO GRANT ANY RIGHT TO THE GENERAL PUBLIC.
 - 14. THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC., A FLORIDA NON-PROFIT CORPORATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPICTED ON THE STORMWATER MANAGEMENT PLAN APPROVED FOR THE DEVELOPMENT BY THE CITY OF PORT ORANGE, FLORIDA. SHOULD THE ASSOCIATION FAIL TO PERFORM THE MAINTENANCE OF THE DRAINAGE AND STORMWATER MANAGEMENT SYSTEMS, THE CITY OF PORT ORANGE SHALL BE ENTITLED TO ENTER UPON THE COMMON AREAS AND TAKE SUCH ACTION AS MAY BE NECESSARY TO PERFORM MAINTENANCE, REPAIR OR REPLACE THE FACILITIES, AND, SHALL HAVE THE RIGHT TO LEND ALL OWNERS OF RECORD IN PROPORTION TO THE COST OF SUCH MAINTENANCE, REPAIR AND REPLACEMENT, AS DETERMINED BY THE CITY OF PORT ORANGE. IN THE EVENT OF TERMINATION, DISSOLUTION, OR FINAL LIQUIDATION OF THE ASSOCIATION, THE RESPONSIBILITY FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE AND STORMWATER MANAGEMENT SYSTEM SHALL BE TRANSFERRED TO AND ACCEPTED BY AN ENTITY WHICH COMPLETES WITH SECTION 402-40.07, F.A.C. AND BE APPROVED BY THE SAINT JOHNS RIVER WATER MANAGEMENT DISTRICT PRIOR TO SUCH TERMINATION, DISSOLUTION, OR LIQUIDATION.
 - 15. COMMON AREAS ARE GRANTED AS EASEMENTS TO THE CITY OF PORT ORANGE WITH RIGHTS OF ACCESS, INGRESS, AND EGRESS, TOGETHER WITH THE RIGHT TO HARVEST EXCESS STORM WATER GROUND WATER AS DEEMED APPROPRIATE IN THE DISCRETION OF THE CITY.
 - 16. THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING AND IRRIGATION IN COMMON AREAS.
 - 17. THE ARTICLES OF INCORPORATION FOR THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORDS BOOK _____, PAGE _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. THE DECLARATION OF COVENANTS AND RESTRICTIONS FOR THE _____ ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORDS BOOK _____, PAGE _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 - 18. TRACT CA-1, CA-2, CA-3, CA-4 AND CA-5, DEPICTED HEREON AS COMMON AREA, WILL BE OWNED AND MAINTAINED BY THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. FOR THE PURPOSE OF COMMON AREA AND IS SUBJECT TO THE TREE CONSERVATION EASEMENTS GRANTED TO THE CITY OF PORT ORANGE, FLORIDA AS RECORDED IN OFFICIAL RECORDS BOOK _____, PAGE _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 - 19. TRACTS S-1 AND S-2 WILL BE OWNED AND MAINTAINED BY THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. FOR THE PURPOSE OF COMMON AREA AND IS SUBJECT TO THE TREE CONSERVATION EASEMENTS GRANTED TO THE CITY OF PORT ORANGE, FLORIDA AS RECORDED IN OFFICIAL RECORDS BOOK _____, PAGE _____ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 - 20. THERE IS A 12.00 FOOT STANDARD UTILITY EASEMENT ALONG THE FRONT OF ALL LOTS ADJACENT TO ROAD RIGHTS-OF-WAY.

LEGEND

ADUGE	ACCESS, DRAINAGE, UTILITY, GOVERNMENT AND EMERGENCY SERVICES EASEMENT	PC	- PLAT BOOK
CER	- CERTIFIED CORNER RECORD	PG	- POINT OF CURVATURE
CMR	- CONCRETE MONUMENT	PI	- POINT OF INTERSECTION
DELTA	- DELTA (CENTRAL ANGLE)	POB	- POINT OF BEGINNING
DRAE	- DRAINAGE ESMT	PRC	- POINT OF REVERSE
DRAE	- DRAINAGE, UTILITY AND MAINTENANCE EASEMENT	PRM	- PERMANENT REFERENCE MONUMENT
ESMT	- EASEMENT	PSM	- PROFESSIONAL SURVEYOR AND MAPPER
FND	- FOUND	PT	- POINT OF TANGENCY
L	- ARC LENGTH	R	- RADIUS
LBE	- LICENSED BUSINESS	(R)	- RADIAL
LBE	- LANDSCAPE BUFFER EASEMENT	R/W	- RIGHT-OF-WAY
NBD	- NAIL & DISK	SF	- SQUARE FEET
(NR)	- NON-RADIAL	NT	- TOTAL
NT	- NON-TANGENT	TCE	- TREE CONSERVATION ESMT
NTS	- NOT TO SCALE	VAC	- VEHICLE ACCESS CONTROL
ORB	- OFFICIAL RECORDS BOOK		

CURVE CHART					CURVE CHART				
NO.	CENTRAL ANGLE	RADIUS	LENGTH	CHORD	BEARING	NO.	CENTRAL ANGLE	RADIUS	LENGTH
C1	67°02'30"	95.00	111.86	N89°27'32"E	105.34	C40	87°11'12"	50.00	84.81
C2	51°07'00"	95.00	84.76	N64°27'17"E	81.98	C41	09°22'24"	500.00	81.80
C3	18°13'00"	95.00	16.13	N04°08'38"E	26.81	C42	18°09'00"	500.00	166.70
C4	50°38'36"	95.00	83.97	S25°46'59"E	81.26	C43	17°43'03"	500.00	154.62
C5	23°07'24"	95.00	161.00	N04°33'51"E	20.41	C44	17°43'03"	500.00	154.62
C6	30°41'59"	180.00	96.45	N74°11'49"E	95.30	C45	22°57'54"	500.00	194.59
C7	30°37'00"	180.00	96.19	N74°07'24"E	95.06	C46	07°44'48"	730.00	10.36
C8	30°00'00"	475.00	746.13	S45°27'12"E	671.75	C47	00°44'48"	730.00	10.36
C9	30°00'00"	25.00	39.27	S44°59'08"E	35.36	C48	17°43'03"	730.00	225.74
C10	67°02'30"	95.00	111.86	N89°27'32"E	105.34	C49	17°43'03"	730.00	225.74
C11	23°07'24"	155.00	62.55	N11°06'30"E	62.11	C50	08°28'53"	730.00	106.06
C12	48°11'22"	25.00	39.27	S44°59'08"E	35.36	C51	18°09'00"	730.00	225.98
C13	186°22'46"	50.00	162.65	N44°32'48"E	99.85	C52	28°40'42"	730.00	339.91
C14	48°11'22"	25.00	39.27	S44°59'08"E	35.36	C53	35°00'00"	50.00	79.57
C15	30°41'59"	155.00	83.05	N74°11'49"E	82.00	C54	08°43'34"	450.00	68.53
C16	30°37'00"	155.00	82.83	N74°07'24"E	81.85	C55	35°41'49"	450.00	280.36
C17	30°41'59"	205.00	106.84	S74°11'49"E	106.53	C56	09°52'48"	450.00	77.60
C18	30°00'00"	25.00	39.27	S44°59'08"E	35.36	C57	08°43'34"	250.00	38.07
C19	30°00'00"	25.00	39.27	S45°27'12"E	35.36	C58	35°41'49"	250.00	155.76
C20	30°00'00"	25.00	39.27	S44°59'08"E	35.36	C59	35°41'49"	250.00	155.76
C21	30°00'00"	500.00	795.40	N45°27'12"E	707.11	C60	35°41'49"	250.00	155.76
C22	30°00'00"	25.00	39.27	N45°27'12"E	35.36	C61	09°52'48"	250.00	43.11
C23	30°00'00"	25.00	39.27	N45°27'12"E	35.36	C62	45°05'54"	50.00	39.49
C24	30°00'00"	25.00	39.27	N45°27'12"E	35.36	C63	19°44'18"	155.00	53.40
C25	30°00'00"	25.00	39.27	S44°59'08"E	35.36	C64	07°57'41"	155.00	29.65
C26	23°07'24"	205.00	82.73	S11°06'30"E	82.17	C65	13°37'38"	205.00	45.18
C27	73°48'36"	25.00	32.19	S14°13'02"E	30.01	C66	17°59'31"	205.00	64.37
C28	50°38'36"	120.00	106.07	S25°46'59"E	102.67	C67	28°56'51"	155.00	79.60
C29	50°38'36"	70.00	61.87	N25°46'59"E	59.88	C68	01°17'17"	155.00	3.17
C30	69°09'47"	25.00	47.47	N80°03'10"E	28.62	C69	11°37'24"	100.00	41.59
C31	30°56'53"	120.00	64.82	S74°32'28"E	64.03	C70	19°54'35"	205.00	68.25
C32	30°00'00"	25.00	39.27	S45°27'12"E	35.36	C71	52°11'52"	70.00	61.77
C33	30°00'00"	25.00	39.27	N44°32'48"E	35.36	C72	15°08'47"	70.00	18.50
C34	30°00'00"	25.00	39.27	S45°27'12"E	35.36	C73	04°47'59"	205.00	15.18
C35	30°00'00"	450.00	706.80	N45°27'12"E	636.47	C74	03°17'09"	730.00	43.99
C36	39°02'57"	25.00	3.99	N44°04'22"E	3.98	C75	14°15'54"	730.00	161.75
C37	89°11'39"	50.00	77.83	N04°06'49"E	70.31	C76	68°27'46"	23.00	25.84
C38	89°11'39"	50.00	77.83	N04°06'49"E	70.31	C77	05°22'41"	25.00	2.35

LINE CHART					LINE CHART				
L	BEARING	LENGTH	BEARING	LENGTH	L	BEARING	LENGTH	BEARING	LENGTH
L1	S89°59'08"E	91.42	L10	S86°34'08"W	0.77	L19	S00°27'12"E	25.00	
L2	S00°27'12"E	38.01	L11	S41°54'46"W	15.98	L20	S00°27'12"E	32.00	
L3	N89°27'32"E	21.84	L12	N88°34'03"E	10.00	L21	S87°32'48"W	70.30	
L4	N89°27'32"E	23.96	L13	S89°43'35"W	12.25	L22	N00°27'12"E	32.00	
L5	S89°27'32"W	23.72	L14	S89°43'35"W	68.18	L23	S89°03'32"W	35.98	
L6	N51°06'17"E	23.00	L15	S00°27'12"E	26.00	L24	N00°27'12"E	31.95	
L7	N89°59'08"E	34.60	L16	S89°59'08"E	18.76	L25	N89°06'12"E	31.98	
L8	S51°06'17"E	23.00	L17	N00°27'12"E	26.00	L26	S00°27'12"E	31.95	
L9	S89°59'43"W	34.63	L18	N89°59'43"W	18.76				

ACCURIGHT

ACCURIGHT SURVEYS OF ORLANDO INC., LB 4475

2012 E. Robinson Street, Orlando, Florida 32803

www.AccurightSurveys.net

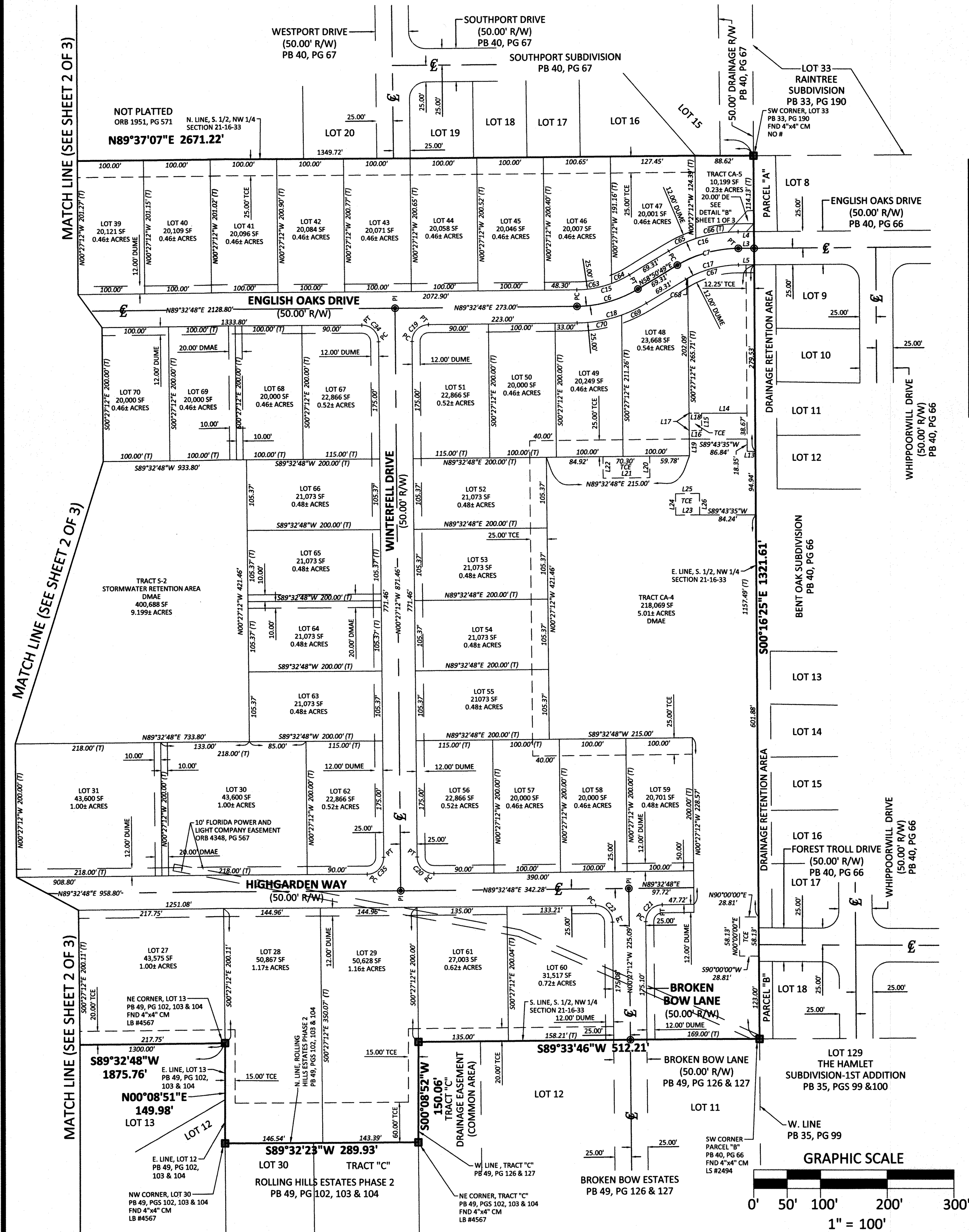
ACCU@AccurightSurveys.net

PHONE: (407) 894-6314

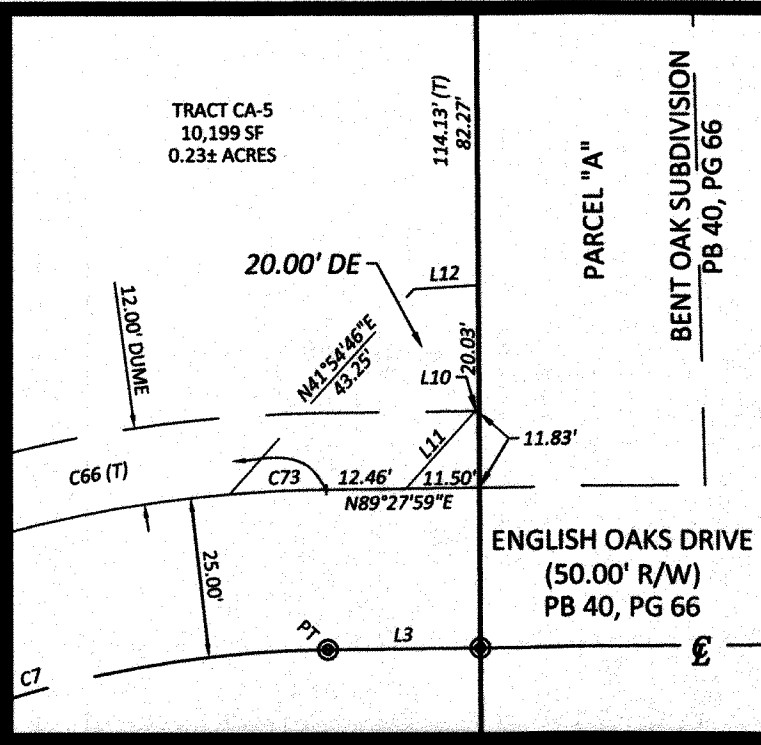
SHEET 2 OF 3

KING'S LANDING

LOCATED IN THE CITY OF PORT ORANGE, SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA.



DETAIL "A" - SCALE: 1" = 30'



- GENERAL NOTES
1. MONUMENTATION
 - (M) DENOTES A PERMANENT REFERENCE MONUMENT, A 4"x4" CONCRETE MONUMENT WITH BRASS DISC MARKED "PM 18 4475".
 - (C) DENOTES A PERMANENT CONTROL POINT, A NAIL WITH A BRASS DISC MARKED "PM 184475", UNLESS OTHERWISE NOTED.
 - (R) DENOTES A LINE RADIAL RELATIVE TO ADJACENT CURVE.
 - (N) DENOTES A LINE NOT RADIAL RELATIVE TO ADJACENT CURVE.
 - (T) DENOTES A LINE TANGENT TO ADJACENT CURVE.
 - (S) DENOTES A LINE SECANT TO ADJACENT CURVE.
 - (D) DENOTES A LINE DIVERGENT TO ADJACENT CURVE.
 - (I) DENOTES A LINE INTERSECTING TO ADJACENT CURVE.
 - (P) DENOTES A LINE PERPENDICULAR TO ADJACENT CURVE.
 - (A) DENOTES A LINE ANGULAR TO ADJACENT CURVE.
 - (O) DENOTES A LINE OBLIQUE TO ADJACENT CURVE.
 - (S) DENOTES A LINE SECANT TO ADJACENT CURVE.
 - (D) DENOTES A LINE DIVERGENT TO ADJACENT CURVE.
 - (I) DENOTES A LINE INTERSECTING TO ADJACENT CURVE.
 - (P) DENOTES A LINE PERPENDICULAR TO ADJACENT CURVE.
 - (A) DENOTES A LINE ANGULAR TO ADJACENT CURVE.
 - (O) DENOTES A LINE OBLIQUE TO ADJACENT CURVE.
 2. DIMENSIONS SHOWN ARE IN FEET AND DECIMALS THEREOF.
 3. THE BOUNDARY LINEAR ERROR OF CLOSURE DOES NOT EXCEED 1:10,000.
 4. THE BOUNDARY ANGULAR ERROR OF CLOSURE DOES NOT EXCEED 15 SECONDS MULTIPLIED BY THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.
 5. BEARINGS SHOWN HEREON ARE RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE.
 6. NOTE: ALL MEASUREMENTS REFER TO HORIZONTAL PLANE IN ACCORDANCE WITH THE DEFINITION OF THE U.S. SURVEY FOOT OR METER ADOPTED BY THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY. ALL MEASUREMENTS SHALL USE THE 39.37125-28385333 EQUATION FOR CONVERSION FROM ALL FEET TO METERS.
 7. NOTICE: THIS PLAT, AS RECORDED IN ITS GRAPHIC FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREON AND WILL BE SUBJECT TO ALL RECORDS AND RESERVATIONS OF EASEMENTS, INCLUDING BUT NOT LIMITED TO THE PUBLIC RECORDS OF THIS COUNTY.
 8. THE PLAT IS SUBJECT TO ALL RECORDS AND RESERVATIONS OF EASEMENTS, INCLUDING BUT NOT LIMITED TO THE PUBLIC RECORDS OF THIS COUNTY.
 9. UTILITIES INCLUDE BUT ARE NOT LIMITED TO SANITARY SEWER, POTABLE WATER, RECLAIMED WATER, STORM DRAINAGE, ELECTRIC, TELEPHONE, CABLE TELEVISION, SECURITY, NATURAL GAS, FIBER OPTIC TELECOMMUNICATION.
 10. UTILITIES EASEMENTS PROVIDED ON THIS PLAT INCLUDE EASEMENTS FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES; PROVIDED, HOWEVER, NO SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE, AND OPERATION OF CABLE TELEVISION SERVICES SHALL INTERFERE WITH THE FACILITIES AND SERVICES OF AN ELECTRIC, TELEPHONE, GAS, OR OTHER PUBLIC UTILITY.
 11. THE EASEMENTS AS SHOWN ON THIS PLAT ARE FOR THE EXPRESS PURPOSE OF THE PRESERVATION AND CONVEYANCE OF THE TRACTS HEREIN. ACTIONS DETRIMENTAL TO THE HEALTH AND SURVIVAL, WITHIN THE BOUNDARIES OF THE EASEMENTS, ARE PROHIBITED WITHOUT THE EXPRESS PERMISSION OF THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT. NOTHING HEREIN SHALL, HOWEVER, BE CONSTRUED TO PREVENT NATURAL VEGETATION WITHIN THE EASEMENT AREA FROM BEING CLEARED BY HAND TO PROVIDE A NEAT, MANICURED APPEARANCE. IN ADDITION, NOTHING HEREIN SHALL BE CONSTRUED TO PREVENT THE PLACEMENT OF SOIL, CONCRETE, OR LANDSCAPE PLANTS OR TO PREVENT NORMAL LAWN MAINTENANCE SUCH AS MOWING, EDGING AND WEEDING NOT HARMFUL TO THE OBJECTIVE OF THE PRESERVATION WITHIN THE EASEMENT AREA. ANY PROPOSED CONSTRUCTION OR OTHER USE WITHIN A CONSERVATION EASEMENT MUST BE REVIEWED AND APPROVED BY THE CITY OF PORT ORANGE AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENT.
 12. BUILDING REQUIREMENTS:
 - LOTS ZONED R-2055 (SINGLE FAMILY RESIDENTIAL) LOTS 1 THROUGH 36
 - MINIMUM LOT AREA: 1 ACRE
 - MINIMUM LOT WIDTH: 100.00 FEET
 - MINIMUM LOT DEPTH: 100.00 FEET
 - MINIMUM BUILDING COVERAGE: 20%
 - MINIMUM OPEN SPACE: 70%
 - SETBACKS
 - FRONT: 40 FEET FOR LOTS 1 THROUGH 36
 - REAR: 30 FEET FOR LOTS 1 THROUGH 36
 - REAR: 30 FEET FOR LOTS 27 AND 30 THROUGH 36
 - REAR: 30 FEET FOR LOTS 28 AND 29
 - LOTS ZONED R-2055 (SINGLE FAMILY RESIDENTIAL) LOTS 37 THROUGH 71
 - MINIMUM LOT AREA: 20,000 SQUARE FEET
 - MINIMUM LOT WIDTH: 200.00 FEET
 - MINIMUM LOT DEPTH: 200.00 FEET
 - MINIMUM BUILDING COVERAGE: 30%
 - MINIMUM OPEN SPACE: 60%
 - SETBACKS
 - FRONT: 30 FEET
 - REAR: 25 FEET
 - REAR: 25 FEET
 13. THE COMMON AREAS GRANTED TO THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. BY THIS PLAT SHALL BE SUBJECT TO EASEMENTS AS SHOWN OR DESCRIBED HEREON OR GRANTED IN ACCORDANCE WITH THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. 3 COVENANTS AND RESTRICTIONS. THE GRANTING OF SUCH COMMON AREAS IS NOT INTENDED TO GRANT ANY RIGHT TO THE GENERAL PUBLIC.
 14. THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC., A FLORIDA NON-PROFIT CORPORATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT.
 15. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT.
 16. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT. THE ASSOCIATION SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THIS PLAT, AS DEPicted ON THE CONSERVATION EASEMENT.
 17. THE ARTICLES OF INCORPORATION FOR THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORDS BOOK NO. 18, PAGE 18, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 18. TRACT CA-1, CA-2, CA-3, CA-4 AND CA-5, AS SHOWN HEREON AS COMMON AREA, WILL BE OWNED AND MAINTAINED BY THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. SUCCESSORS AND ASSIGNS FOR THE PURPOSE OF COMMON AREA AND IS SUBJECT TO THE TRAIL CONSERVATION EASEMENTS GRANTED TO THE CITY OF PORT ORANGE, FLORIDA AS RECORDED IN OFFICIAL RECORDS BOOK NO. 18, PAGE 18, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 19. TRACTS 5-1 AND 5-2 WILL BE OWNED AND MAINTAINED BY THE KING'S LANDING HOMEOWNERS ASSOCIATION, INC. SUCCESSORS AND ASSIGNS FOR THE PURPOSE OF COMMON AREA AND IS SUBJECT TO THE TRAIL CONSERVATION EASEMENTS GRANTED TO THE CITY OF PORT ORANGE, FLORIDA AS RECORDED IN OFFICIAL RECORDS BOOK NO. 18, PAGE 18, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
 20. THERE IS A 12.00 FOOT STANDARD UTILITY EASEMENT ALONG THE FRONT OF ALL LOTS ADJACENT TO ROAD RIGHTS-OF-WAY.

LEGEND

ADJUG	- ACCESS, DRAINAGE, UTILITY, GOVERNMENT AND EMERGENCY SERVICES EASEMENT	PC	- PLAT BOOK
CCR	- CERTIFIED CORNER RECORD	PC	- POINT OF CURVATURE
CM	- CONCRETE MONUMENT	P	- PAGE
CM	- CENTRUM SYMBOL	PI	- POINT OF INTERSECTION
CM	- CONCRETE MONUMENT	POB	- POINT OF BEGINNING
CM	- CENTRUM SYMBOL	POL	- POINT ON LINE
CM	- CONCRETE MONUMENT	PRC	- POINT OF REVERSE CURVATURE
CM	- CENTRUM SYMBOL	PRM	- PERMANENT REFERENCE MONUMENT
CM	- CONCRETE MONUMENT	PSM	- PROFESSIONAL SURVEYOR AND MAPPER
CM	- CENTRUM SYMBOL	PT	- POINT OF TANGENCY
CM	- CONCRETE MONUMENT	R	- RADIUS
CM	- CENTRUM SYMBOL	R	- RADIUS
CM	- CONCRETE MONUMENT	R/W	- RIGHT-OF-WAY
CM	- CENTRUM SYMBOL	SF	- SQUARE FEET
CM	- CONCRETE MONUMENT	T	- TOTAL
CM	- CENTRUM SYMBOL	TCE	- TANGENT CONTROL
CM	- CONCRETE MONUMENT	VAC	- VEHICLE ACCESS CONTROL

CURVE CHART

NO.	CURVE	ANGLE	RADIUS	CHORD	CHORD BEARING	CHORD DISTANCE
1	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
2	51°07'09"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
3	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
4	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
5	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
6	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
7	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
8	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
9	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
10	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
11	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
12	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
13	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
14	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
15	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
16	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
17	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
18	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
19	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
20	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
21	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
22	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
23	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
24	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
25	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
26	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
27	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
28	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
29	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
30	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
31	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
32	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
33	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
34	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
35	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
36	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
37	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
38	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
39	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
40	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
41	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
42	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
43	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
44	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
45	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
46	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
47	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
48	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
49	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
50	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
51	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
52	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
53	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
54	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
55	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
56	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
57	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
58	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
59	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
60	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
61	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
62	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
63	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
64	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
65	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
66	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
67	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
68	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
69	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
70	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
71	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
72	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
73	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
74	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
75	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
76	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
77	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
78	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
79	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
80	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
81	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
82	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
83	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
84	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
85	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
86	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
87	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
88	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
89	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
90	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
91	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
92	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
93	23°07'34"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
94	18°13'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
95	50°38'30"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
96	30°41'59"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
97	30°37'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
98	47°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
99	00°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'
100	67°00'00"	95.00'	84.76'	N64°27'17"E	81.86'	105.34'

KING'S LANDING
CITY OF PORT ORANGE VOLUSIA COUNTY, FL
FINAL ENGINEERING PLANS
CITY PROJECT ID: 17-50000008

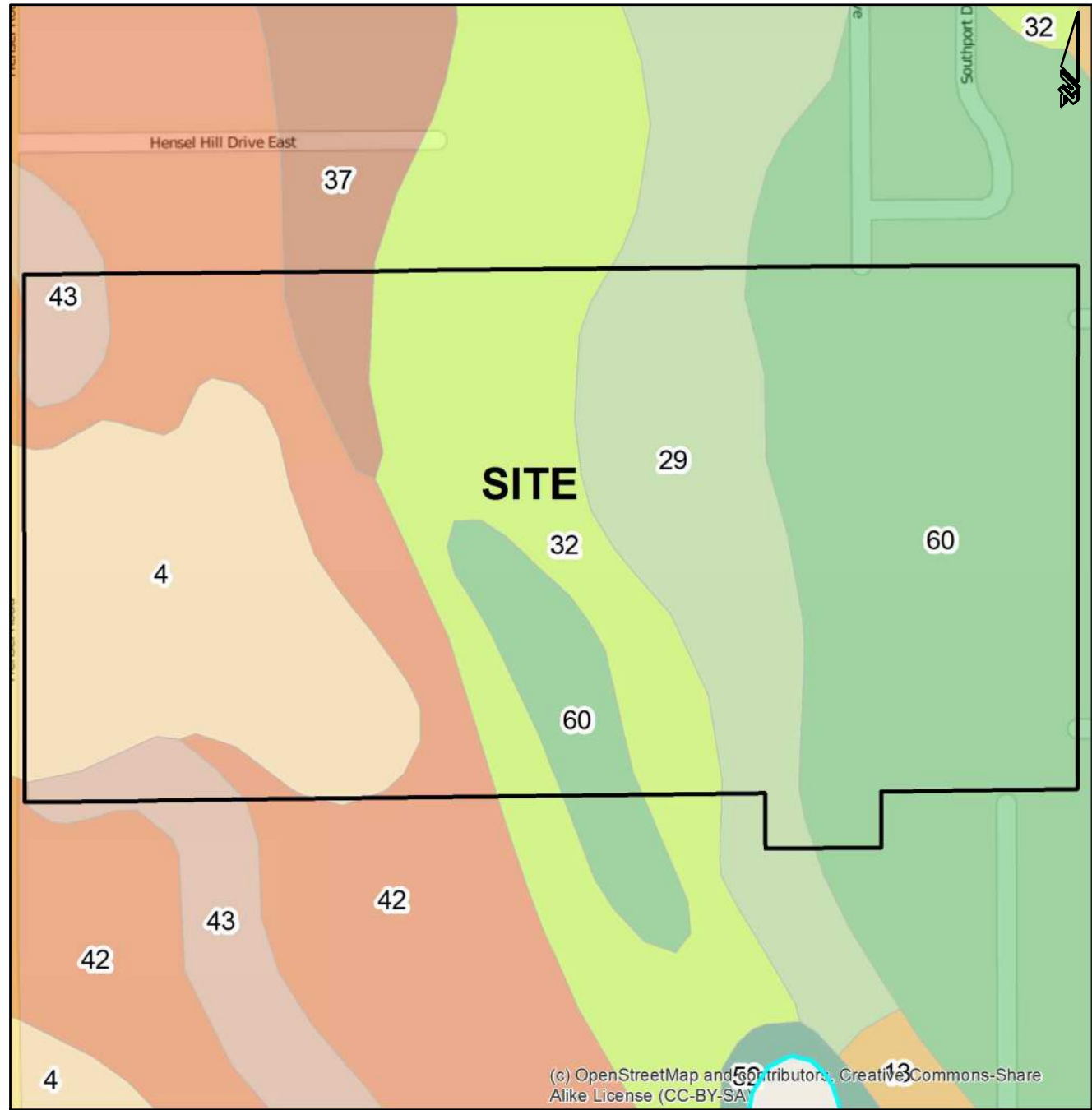


DEVELOPMENT ORDER MODIFICATION TO SUBDIVISION PLAT AND PLANS TO CASE NO.: 16-50000004

OWNER/ DEVELOPER: COVENTRY PARTNERS, LLC
1474A W 84TH ST
HIALEAH, FL 33014
386-527-3943
321-747-0404 (FAX)
CONTACT: FRANK COSTA
FCOSTA@LIBERTYFLA.COM

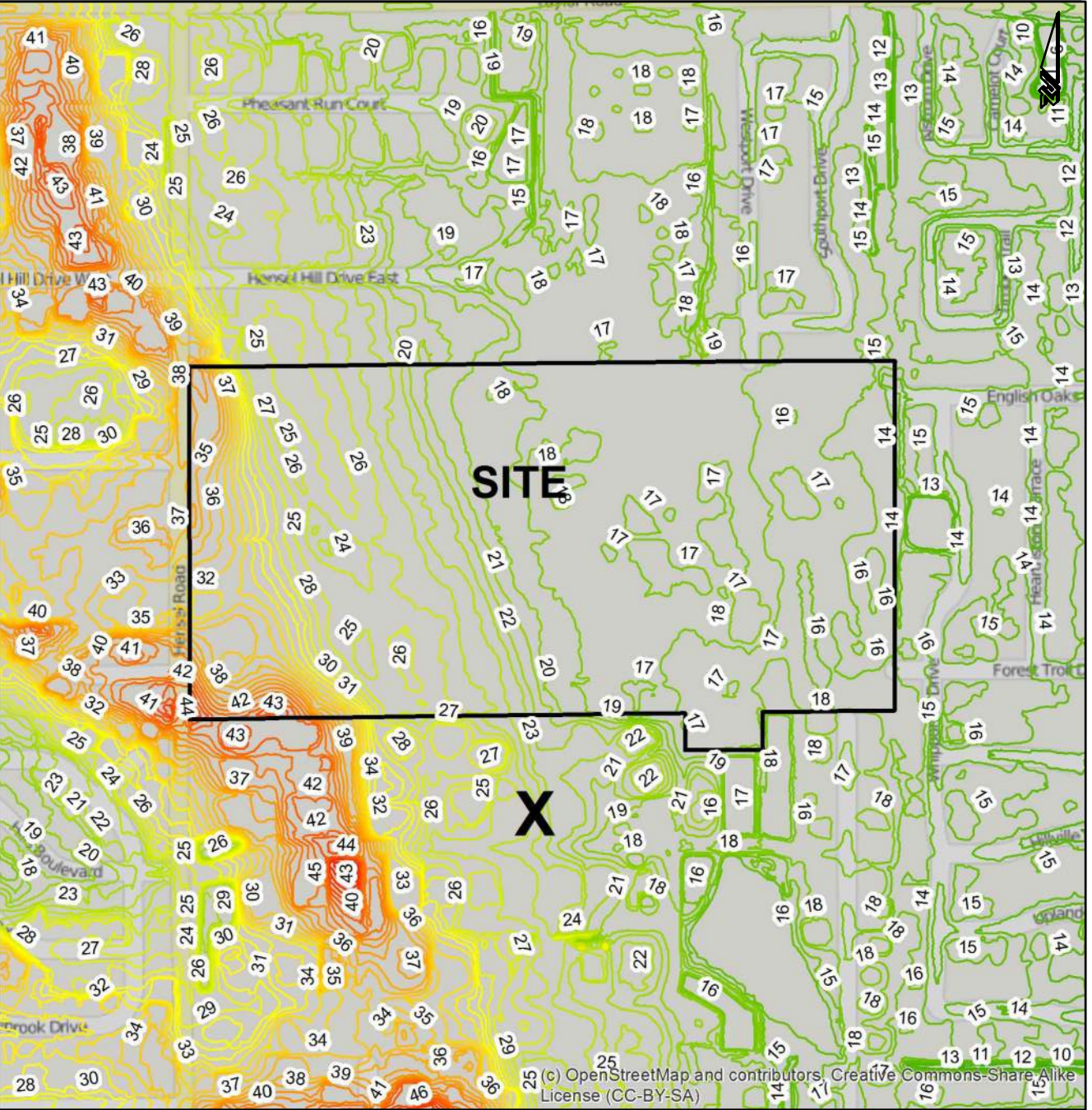
ENGINEER/PLANNER: ZEV COHEN & ASSOC., INC.
300 INTERCHANGE BLVD
ORMOND BEACH, FL., 32174
(386) 677-2482
(386) 677-2505 (FAX)
CONTACT: RANDY M. HUDAK, P.E.
RHUDAK@ZEVCOHEN.COM

SURVEYOR: ACCURIGHT SURVEYS
2012 E. ROBINSON ST.
ORLANDO, FL 32803
(407) 894-6314
(407) 894-3777 (FAX)



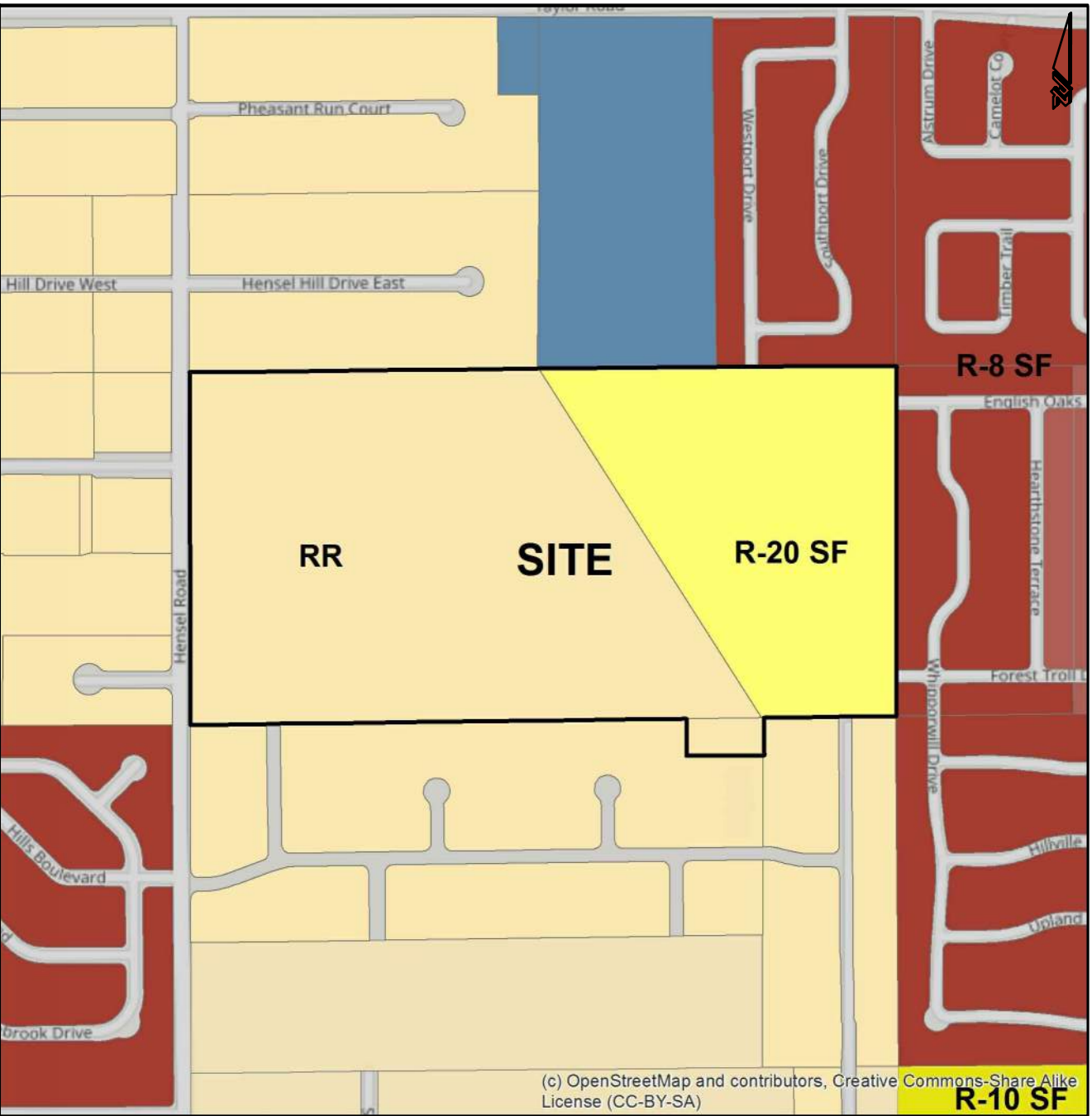
SOILS MAP

SOIL MAP NUMBER	SOIL NAME	HYDROLOGIC GROUP
4	ASTATULA FINE SAND	A
13	CASSIA FINE SAND	C
29	IMMOKALEE FINE SAND	A/D
32	MYAKKA FINE SAND	A/D
37	ORSINO FINE SAND; 0 TO 5% SLOPES	A
42	PAOLA FINE SAND; 0 TO 8% SLOPES	A
43	PAOLA FINE SAND; 8 TO 17% SLOPES	A
52	POMPAHO FINE SAND	A/D
60	SMYRNA FINE SAND	A/D



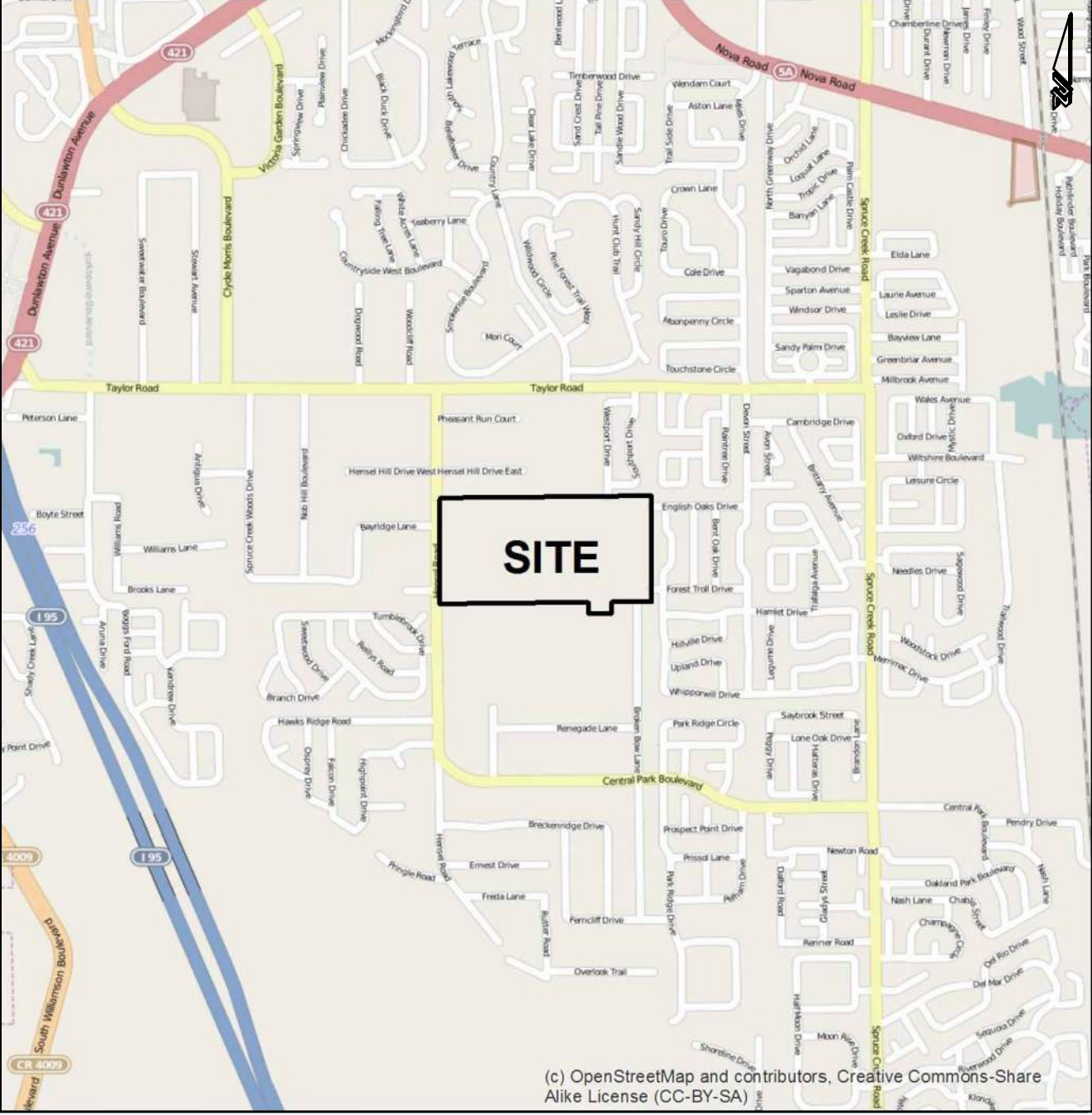
FLOOD ZONE & LIDAR MAP

FLOOD MAP NUMBER 12127C0507H
EFFECTIVE ON 02/19/2014



ZONING MAP

EXISTING ZONING: RR/R-20 SF
ADOPTED FUTURE LAND USE: RURAL TRANSITIONAL (0-2 UNITS/ACRE)
SUBURBAN RESIDENTIAL (2-4 UNITS/ACRE)
PROPOSED ZONING: RR/R-20SF



VICINITY MAP

LEGAL DESCRIPTION

PARCEL 1
THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, LESS AND EXCEPT THE WEST 30 FEET FOR HENSEL ROAD.

AND

PARCEL 2
A PORTION OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

FROM THE NORTHEAST CORNER OF SEMINOLE WOODS, PHASE 1, AS RECORDED IN MAP BOOK 41, PAGE 106, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, RUN NORTH 00 DEGREES 21 MINUTES 48 SECONDS EAST, THEN BEARING BASIS OF THIS DESCRIPTION ALONG THE WEST BOUNDARY OF THE HAMLET SUBDIVISION, FIRST ADDITION, AS RECORDED IN MAP BOOK 35, PAGE 99 AND 100, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, A DISTANCE OF 1,322.28 FEET; THENCE DEPARTING SAID LINE, RUN NORTH 89 DEGREES 49 MINUTES 46 SECONDS WEST A DISTANCE OF 512.04 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 89 DEGREES 49 MINUTES 46 SECONDS WEST, A DISTANCE OF 290.14 FEET; THENCE SOUTH 00 DEGREES 47 MINUTES 08 SECONDS WEST, A DISTANCE OF 150.00 FEET; THENCE SOUTH 89 DEGREES 49 MINUTES 46 SECONDS EAST, A DISTANCE OF 290.14 FEET; THENCE NORTH 00 DEGREES 47 MINUTES 08 SECONDS EAST, A DISTANCE OF 150.00 FEET TO THE POINT OF BEGINNING.

ALL THE ABOVE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 27, ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, RUN THENCE N00°00'52"E ALONG THE EAST RIGHT-OF-WAY LINE OF HENSEL ROAD A DISTANCE OF 1,324.97 FEET TO THE SOUTHWEST CORNER OF THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2641,

SOUTHWEST CORNER OF THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2641, PAGE 2642, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST; THENCE N89°37'07"E ALONG SAID NORTH LINE, A DISTANCE OF 2,671.22 FEET TO THE SOUTHWEST CORNER OF LOT 33, RAINBOW SUBDIVISION, AS RECORDED IN PLAT BOOK 33, PAGE 190, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE EAST LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE S00°16'25"E ALONG SAID EAST LINE, A DISTANCE OF 1,321.61 FEET TO THE SOUTHWEST CORNER OF PARCEL "B", BENT OAK SUBDIVISION, AS RECORDED IN PLAT BOOK 40, PAGE 66, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE SOUTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE S89°33'46"W ALONG SAID SOUTH LINE A DISTANCE OF 512.21 FEET TO THE NORTHWEST CORNER OF TRACT "C", BROKEN BOW ESTATES, AS RECORDED IN PLAT BOOK 49, PAGES 126 AND 127, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE S00°08'52"W ALONG THE WEST LINE OF SAID TRACT "C", A DISTANCE OF 150.06 FEET TO THE NORTHEAST CORNER OF TRACT "C", ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE S89°32'23"W ALONG THE NORTH LINE OF SAID ROLLING HILLS ESTATES PHASE 2; A DISTANCE OF 289.93 FEET TO THE NORTHWEST CORNER OF LOT 30, SAID ROLLING HILLS ESTATES PHASE 2, SAID POINT BEING A POINT ON THE SOUTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE S89°32'48"W ALONG SAID SOUTH LINE, A DISTANCE OF 1,875.76 FEET TO THE POINT OF BEGINNING.

CONTAINS 3,582,585 SQUARE FEET OR 82,245 ACRES MORE OR LESS.

SITE DATA TABLE

PROGRAM DATA	AREA
TOTAL AREA	82.245 ACRES
R/W AREA	8.468 ACRES
LOT AREA	53.539 ACRES
STORMWATER AREA	9.695 ACRES
NATURAL PRESERVATION AREA	12.51 ACRES*
NUMBER OF LOTS PROPOSED	71 LOTS
PARCEL NUMBERS:	6321-00-00-0071 6321-00-00-0074
SETBACKS:	
RR ZONING: LOTS 1-27, 30-36	FRONT = 40 FT SIDE = 15 FT REAR = 30 FT
RR ZONING: LOTS 28-29	FRONT = 40 FT SIDE = 15 FT REAR = 60 FT
R-20SF ZONING: LOTS 37-71	FRONT = 30 FT SIDE = 10 FT REAR = 25 FT

* AREA INCLUDES TREE PRESERVATION AREA
ALSO INCLUDED IN LOT AREA

SHEET INDEX:
SHEET NO. DESCRIPTION

C1 COVER SHEET
C2-C3 CONSTRUCTION NOTES
C4 OVERALL DEVELOPMENT PLAN
C5 EROSION CONTROL PLAN
C6-C11 GEOMETRY, STRIPING & SIGNAGE PLAN
C12-C17 PAVING, GRADING, DRAINAGE PLAN
C18-C23 UTILITY PLAN
C24 PLAN & PROFILE KEY MAP
C25-C32 PLAN & PROFILE
C33-C38 CONSTRUCTION DETAILS
TP1-TP7 TREE PROTECTION PLANS
LA1-LA3 LANDSCAPE PLANS
IR1-IR2 IRRIGATION PLANS



KING'S LANDING
FINAL ENGINEERING PLANS
COVER SHEET

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-COV.DWG
XREF'S:
XREF'S:



NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65953

SCALE: AS SHOWN
SHEET: C1 OF 38

POTABLE WATER CONSTRUCTION NOTES	
1. THE CITY'S PUBLIC UTILITIES DEPARTMENT (380) 506-5750 SHALL BE GIVEN A MINIMUM OF 2 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY POTABLE WATER SYSTEM CONSTRUCTION.	
2. DOWNSPACING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN RISING LADS.	
3. ALL WATER MAINS SHALL BE Laid ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.	
4. TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98% IN PAVED AREAS AND 95% IN UNPAVED AREAS IN ACCORDANCE WITH AASHTO T 180.	
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 5 FEET ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 50 FEET.	
6. 3" METALLIZED PIPE LOCATION TAP SHALL BE LOCATED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAP SHALL BE USED ON ALL DUCTILE IRON PIPE, AS WELL.	
7. ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH A 2" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE THE WATER SERVICES SECURED 2" MAXIMUM ABOVE THE GROUND. ALL SERVICES SHALL BE LOCATED AT THE TIME OF FINAL INSPECTION ON THE CONTRACTOR IN THE PRESENCE OF THE CITY INSPECTOR OR CITY PERSONNEL, AFTER THEY HAVE BEEN INSPECTED AND VERIFIED TO OPERATE PROPERLY.	
8. AT ALL WATER MAIN TIES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LINES EXCEPT ONE.	
9. ALL WATER VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.	
10. UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS, WATER VALVES SHALL BE COMPLETELY OPERATED BY PUBLIC UTILITIES PERSONNEL. AT NO TIME SHALL CONTRACTOR OPERATE ANY EXISTING VALVES.	
11. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF A FIRE. THE PRIMARY HYDRANT PORT SHOULD ALWAYS FACE THE STREET.	
12. AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OF THE BACK OF CURB OR AS APPROVED BY THE CITY.	
13. ALL WATER MAINS SHALL BE NEW AND/OR AWWA APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES (3.0 FEET) AND A MAXIMUM DEPTH OF 48 INCHES (4.0 FEET) FROM FINAL GRADE EXCEPT AT LOCATIONS OF UTILITY CROSSINGS OR WITH SPECIAL APPROVAL WHEN IT IS DETERMINED TO BE IN THE BEST INTEREST OF THE CITY.	
14. WATER MAINS SHALL BE 8" OR 6" OR 4" OR 3" (3.0" OR 2.0" OR 1.5" OR 1.0") ON D.P. PRESSURE CLASS 350 STANDARD CEMENT LINED UNLESS OTHERWISE APPROVED BY THE CITY.	
15. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO INSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF HEALTH AND AS-BUILT'S ARE PROVIDED TO THE CITY PRIOR TO ANY PUBLIC USE OF THIS SYSTEM.	
16. IN AREAS WHERE RECLAIMED WATER IS NOT AVAILABLE THE CONTRACTOR SHALL BE REQUIRED TO UNDOUBTFULLY COMPLY WITH THE PRESSURE TREATING REQUIREMENTS OF THE CITY WITH RECLAIMED WATER LINES TO THE RECLAIMED WATER LINES FOR UTILIZATION IN THEIR PRESSURE TEST.	
17. ALL POTABLE WATER MAINS SHALL USE A THURST TRUST JANT METHOD IN COMPLIANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) GUIDELINES. IN THE EVENT THAT PVC PIPE IS SPECIFIED, THE	
FILE NAME W2.DOC	
STANDARD CONSTRUCTION DETAIL POTABLE WATER CONSTRUCTION NOTES	DETAIL REF: W-2
REV 12/08	

POTABLE WATER CONSTRUCTION NOTES (CONT'D)	
RESTRAINT JOINT SHALL BE MODIFIED IN ACCORDANCE WITH THE RECOMMENDED ADDITIONAL RESTRAINT LENGTH REQUIRED FOR PIPE WRAPPED WITH POLYETHYLENE.	
18. METALLIZED PIPE LOCATION TAP SHALL BE LOCATED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAP SHALL BE USED ON ALL DUCTILE IRON PIPE, AS WELL.	
19. WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS.	
20. ALL WATER SERVICES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TAP SET INTO THE PAVEMENT.	
21. ALL WATER SERVICES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TAP SET INTO THE PAVEMENT. BLOW OFF'S SHALL BE MARKED SIMILARLY, AS WELL. REVERSE TAPPING VALVE SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR PAVEMENT WITH THE ARROW POINTING TO THE DIRECTION OF THE PRESSURE MAIN RUN.	
22. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CITY AND BILLED IN ACCORDANCE WITH THE ADOPTED FEE SCHEDULE. SCHEDULING OF THESE CONNECTIONS OR TAPINGS SHALL REQUIRE A MINIMUM OF 2 BUSINESS DAYS, DIRECTED TO THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE THE WORK DIRECTLY WITH THE PUBLIC UTILITIES DEPARTMENT. SUBSEQUENTLY, THE CONNECTION SHALL BE SCHEDULED TO COME ONLINE BETWEEN 7:00 A.M. AND NOON ON THE APPROPRIATE DAY.	
23. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF HEALTH AND AS-BUILT'S ARE PROVIDED TO THE CITY PRIOR TO ANY PUBLIC USE OF THIS SYSTEM.	
24. IN AREAS WHERE RECLAIMED WATER IS AVAILABLE, RECLAIMED WATER WILL BE UTILIZED IN THE PRESSURE TESTING OF NEW RECLAIMED WATER LINES.	
25. RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH AN "X" OR BY METAL TAP SET INTO PAVEMENT. VALVES AND BLOW OFF'S FOR RECLAIMED WATER MAINS SHALL BE MARKED WITH AN "X" SET INTO THE PAVEMENT. REVERSE TAPPING VALVE SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR PAVEMENT WITH THE ARROW POINTING TO THE DIRECTION OF PRESSURE MAIN RUN.	
26. ALL RECLAIMED WATER SERVICES SHALL BE NORMALLY DOUBLE 1 1/2" SERVICES LOCATED AT SIDE LOT LINES. ALTERNATELY, AT TIE-INS CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-410, F.A.C.	
27. MAXIMUM OBTAINABLE SEPARATION OF PUBLIC RECLAIMED WATER MAINS, STORMWATER MAINS, AND SANITARY SEWER MAINS SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF FIVE (5) FEET BETWEEN POTABLE WATER MAINS AND RECLAIMED WATER MAINS SHALL BE MAINTAINED BETWEEN RECLAIMED WATER MAINS AND SEWAGE MAINS WHERE RECLAIMED WATER AND SANITARY SEWAGE MAINS CROSS WITH LESS THAN EIGHTEEN (18) INCHES VERTICAL CLEARANCE. THE SANITARY SEWER MAIN SHALL BE TWENTY (20) FEET OF OTHER CONCRETE ENCASED PVC PIPE OR ENCASED IN A WATER TIGHT CARBIDE PIPE, CENTERED ON THE POINT OF CROSSING.	
28. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CITY AND BILLED IN ACCORDANCE WITH THE ADOPTED FEE SCHEDULE. SCHEDULING OF THESE CONNECTIONS SHALL BE CLEARLY INDICATED ON THE CITY'S DESIGNATED SITE NOTIFICATION (MAILED ON NORMAL WORK DAYS) DIRECTED TO THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE THE WORK DIRECTLY WITH THE PUBLIC UTILITIES DEPARTMENT. SUBSEQUENTLY, THE CONNECTION SHALL BE SCHEDULED TO COME ON LINE BETWEEN 7:00 A.M. AND NOON ON THE APPROPRIATE DAY.	
29. THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS SUBMITTED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS UNTIL FINISH GRADE IS REACHED. TESTING SHALL BE COMPLETED AND TEST DOCUMENTS COMMITTED TO THE CITY AT A MINIMUM FREQUENCY OF ONE SET OF TESTS WITH EACH MANHOLE AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON THE CITY'S DESIGNATED SITE NOTIFICATION (MAILED ON NORMAL WORK DAYS) DIRECTED TO THE CITY'S DESIGNATED SITE INSPECTOR.	
30. THE CONTRACTOR SHALL INSTALL A METAL OR CONCRETE ASPHALT OR CONCRETE COVER OVER THE TRENCH TO PROTECT THE TRENCH FROM DOWN STREAM MANHOLE TO UP STREAM MANHOLE. CITY INSPECTOR SHALL BE NOTIFIED IN ADVANCE AND BE PRESENT DURING THE TIE-INS OF THE SYSTEM. THE VIDEO SHALL BE NON-STOP WITH AUDIO RECORDING WHEN REQUIRED. WHEN VIDEO LOGS DESCRIBING THE CONNECTION OF THE LINES SHALL ACCORDARY THE VIDEO SUBMISSION TO THE CITY PRIOR TO THE COMMENCEMENT OF INSTALLATION OF ASPHALT OR CONCRETE COVER OVER THE TRENCH. THE CITY MAY REQUIRE ADDITIONAL VIDEO TAPPING, VIDEO TAPING OF LATERALS, AND/OR INTER-TRAVELATION/SEPARATION TESTS IF DEFECTS ARE APPARENT ON THE VIDEO.	
31. ALL SEWER LINES WHICH ARE CONSTRUCTED OUTSIDE OF PUBLIC RIGHTS-OF-WAY WITHIN SIDE YARDS, BACKYARDS, AND OTHER PROBABLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC.	
32. SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH AN "X" SAW CUT, OR BY METAL TAP SET INTO PAVEMENT. VALVES AND BLOW OFF'S FOR RECLAIMED WATER MAINS SHALL BE MARKED WITH AN "X" SET INTO THE PAVEMENT. REVERSE TAPPING VALVE SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR PAVEMENT WITH THE ARROW POINTING TO THE DIRECTION OF PRESSURE MAIN RUN.	
33. ALL P.V.C. PIPE SHALL BE STORED IN SUCH A WAY AS TO PREVENT WARPING, DEFLECTION, OR ANY DEFORMATION. FITTINGS SHALL BE P.V.C. AND MANUFACTURED OF THE SAME DESIGN AS THE P.V.C. PIPE.	
34. P.V.C. FITTINGS 8" INCH THROUGH 36" INCH SHALL BE P.V.C. (OR D.I.P. WITH PROTECT 403) INJECTION MOULDED OR FABRICATED AS SPECIFIED. MADE OF MATERIALS MEETING OR EXCEEDING THE REQUIREMENTS OF CELL CLASS 12454B MATERIALS AS DEFINED IN ASTM D1784. FABRICATED FITTINGS SHALL BE MANUFACTURED WITH P.V.C. THAT MEETS OR EXCEEDS AWWA C-905 STANDARD, AND SHALL BE IDENTIFIED BY THE MANUFACTURER'S MARKING OF 363 PSI. ALL P.V.C. OR MECHANICAL JOINT FITTINGS MUST COMPLY WITH OR EXCEED AWWA C907, UNLESS A STANDARD IS APPLIED TO THE APPROPRIATE SIZE RANGE AND METHOD OF MANUFACTURE.	
35. NO USED, RE-USED, RE-USED, SECOND HAND, OR ANY MATERIAL THAT IS NOT NEW SHALL BE USED IN ANY UTILITY IMPROVEMENT PROJECTS WITHIN THE CITY'S SERVICE AREA.	
36. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE Laid TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-410, F.A.C.	
37. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE Laid TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM TYPE SANITARY SEWER.	
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88. NEW	



STANDARD CONSTRUCTION DETAIL

POTABLE WATER CONSTRUCTION NOTES

FILE NAME
W2.DOC

DETAIL REF:
W-2

TRACT SUMMARY TABLE			
TRACT NUMBER	AREA (AC)	TRACT OWNERSHIP	MAINTENANCE RESPONSIBILITY
ROW	8.468	CITY OF PORT ORANGE	CITY OF PORT ORANGE
TRACT CA-1	1.730	HQA	HQA
TRACT CA-2	0.866	HQA	HQA
TRACT CA-3	2.707	HQA	HQA
TRACT CA-4	5.006	HQA	HQA
TRACT CA-5	0.234	HQA	HQA
TRACT S-1	0.496	HQA	HQA
TRACT S-2	9.199	HQA	HQA

SITE DATA TABLE	
PROGRAM DATA	AREA
TOTAL AREA	82.245 ACRES
R/W AREA	8.468 ACRES
LOT AREA	53.539 ACRES
STORMWATER AREA	9.695 ACRES
NATURAL PRESERVATION AREA	12.333 ACRES*
NUMBER OF LOTS PROPOSED	71 LOTS
PARCEL NUMBERS:	6321-00-00-0071 6321-00-00-0074

* AREA INCLUDES TREE PRESERVATION AREA
ALSO INCLUDED IN LOT AREA

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LOT NUMBER
- PROPOSED SETBACK
- SPECIMEN TREE TO REMAIN

0 50 100 150 200
SCALE : 1" = 100'

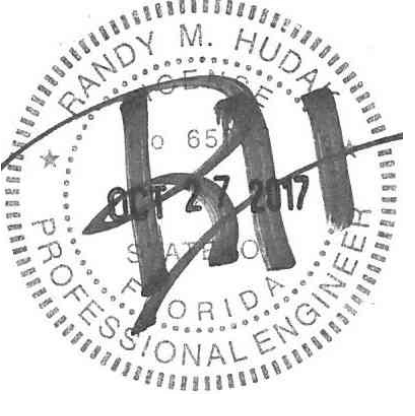


CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

KING'S LANDING FINAL ENGINEERING PLANS OVERALL DEVELOPMENT PLAN

PROJECT NO.: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH

DRAWING FILE: 15082X-ODP.DWG
XREFS: 15082X-BAS.DWG
XREFS: 15082X-SURV.DWG



NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=100'
SHEET: C4 OF 38

PROPOSED ASPHALT PAVEMENT

PROPOSED CONCRETE SIDEWALK

PROPOSED LOT NUMBER

PROPOSED SETBACK

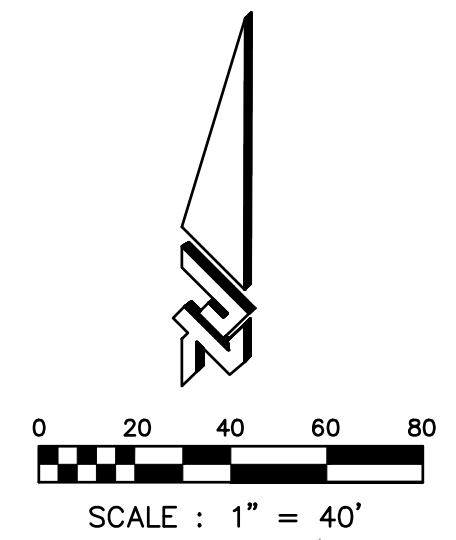
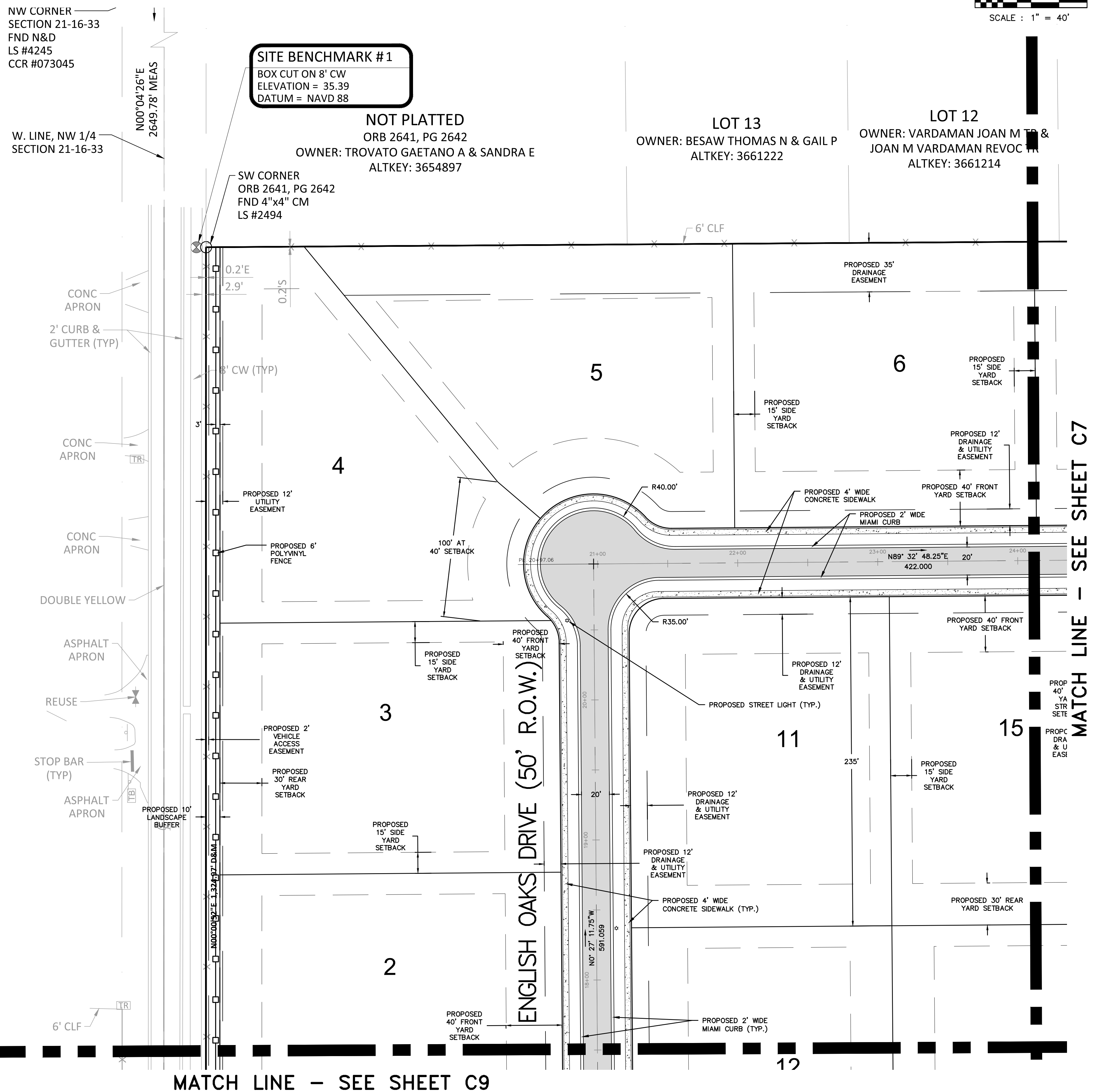
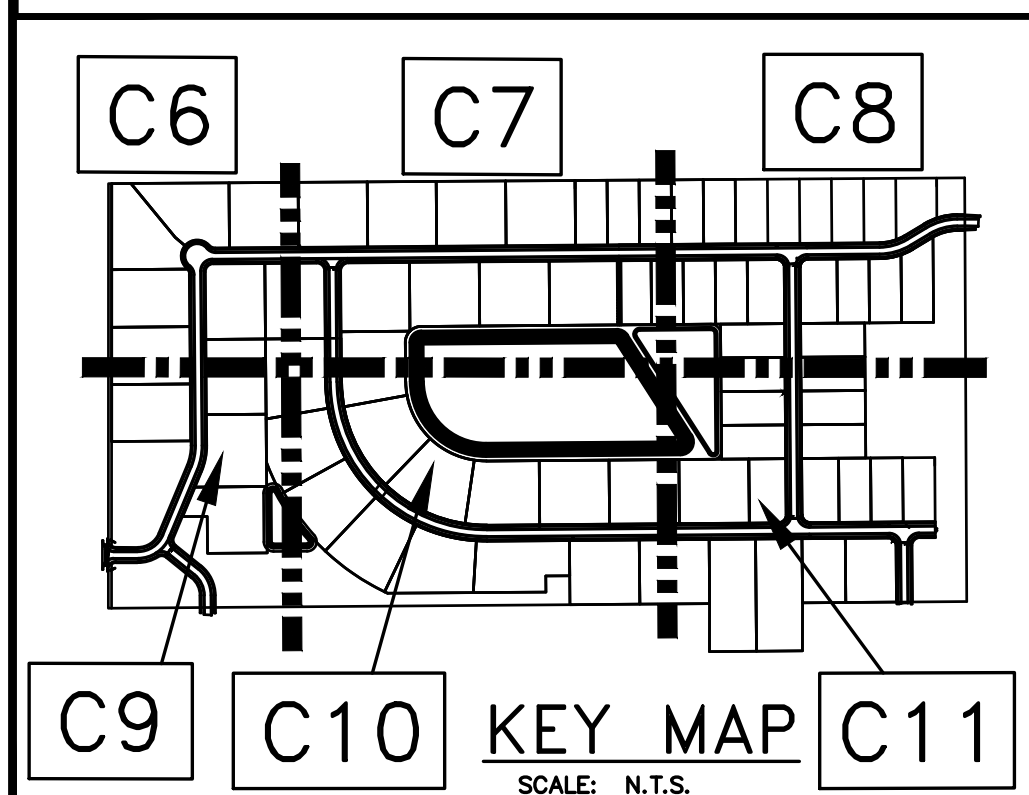
SPECIMEN TREE TO REMAIN

PROPOSED FDOT CROSSWALK

PROPOSED 2' WIDE WHITE STOP BAR

PROPOSED 30" R-1 STOP SIGN

PROPOSED STREET LIGHT



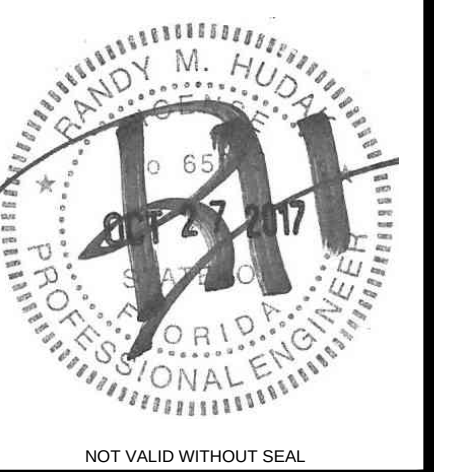
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

[illegible]

KING'S LANDING
FINAL ENGINEERING PLANS
GEOMETRY, STRIPING & SIGNAGE PLAN

CITY OF PORT ORANGE
VOLUSIA COUNTY, FL

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-PGD.DWG XREFS: 15082X-BAS.DWG XREFS: 15082X-SURV.DWG

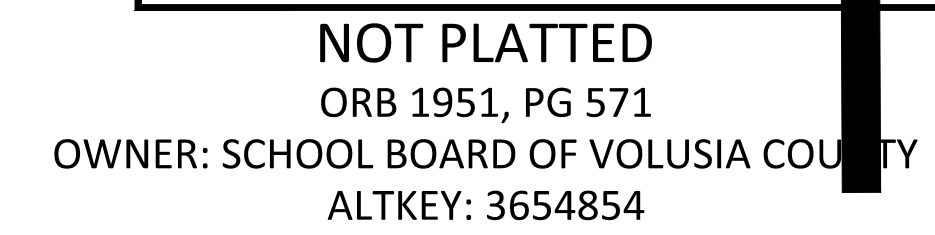
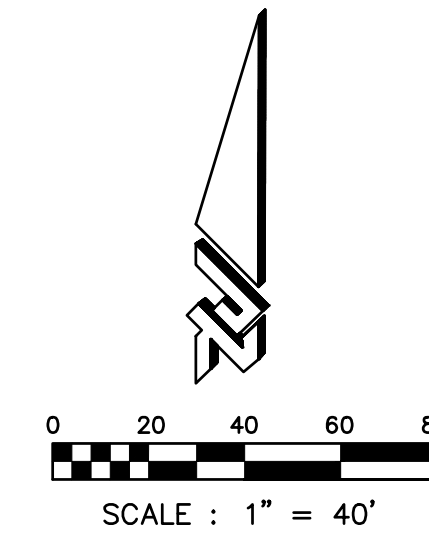


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RANDY M. HUDAK, P.E. NO. 65053

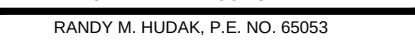
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SHEET: C6 OF 38



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

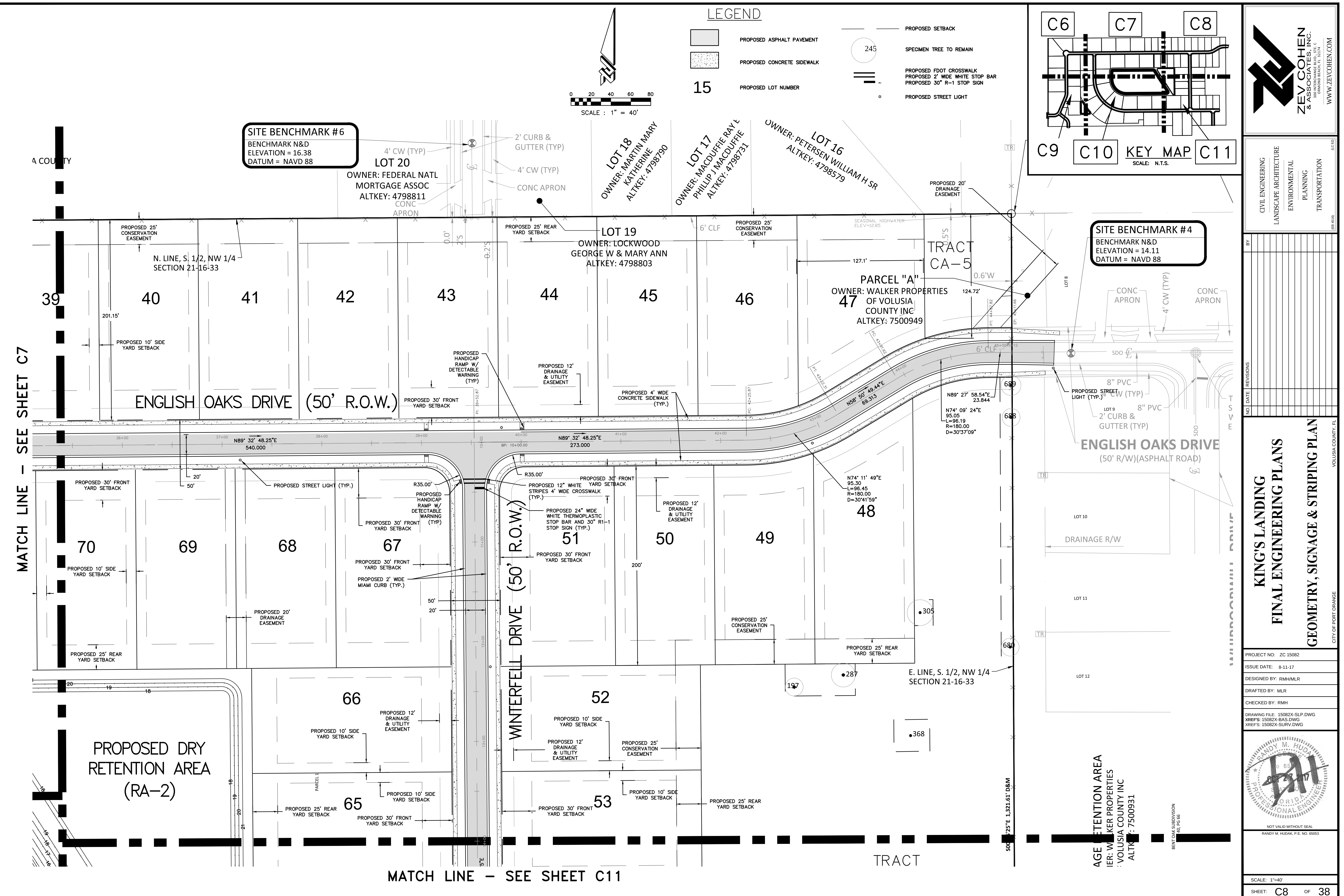
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SUE DATE:	8-11-17
DESIGNED BY:	RMH/MLR
DRAFTED BY:	MLR
CHECKED BY:	RMH
DRAWING FILE:	15082X-SLP.DWG
REFS:	15082X-BAS.DWG
REFS:	15082X-SURV.DWG



SHEET: C7 OF 38



MATCH LINE - SEE SHEET C10





CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

BY: [REVISIONS]

KING'S LANDING
FINAL ENGINEERING PLANS
GEOMETRY, STRIPING & SIGNAGE PLAN
VOLUSIA COUNTY, FL
CITY OF PORT ORANGE

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-SLP.DWG
XREFS: 15082X-BAS.DWG
XREFS: 15082X-SURV.DWG



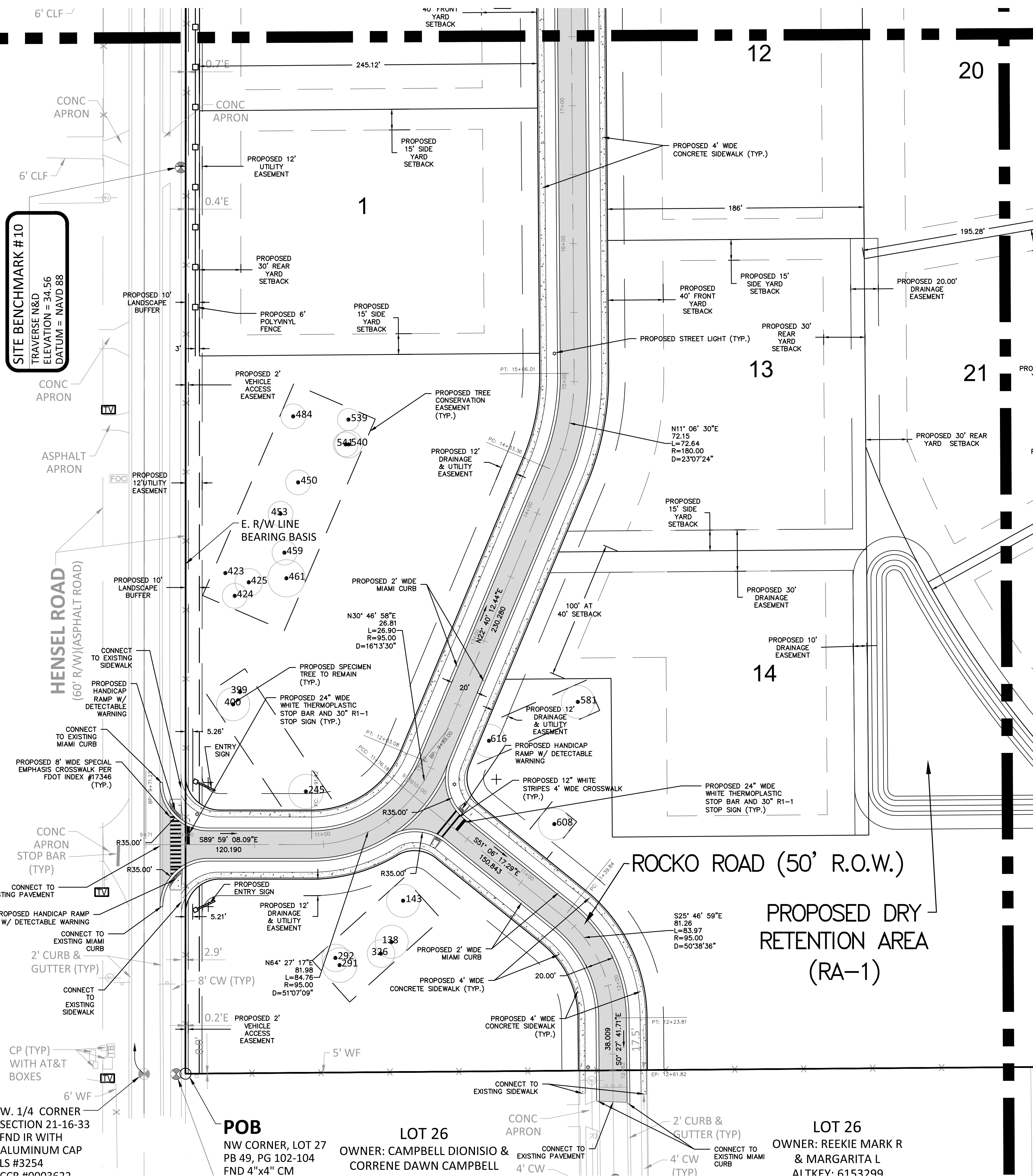
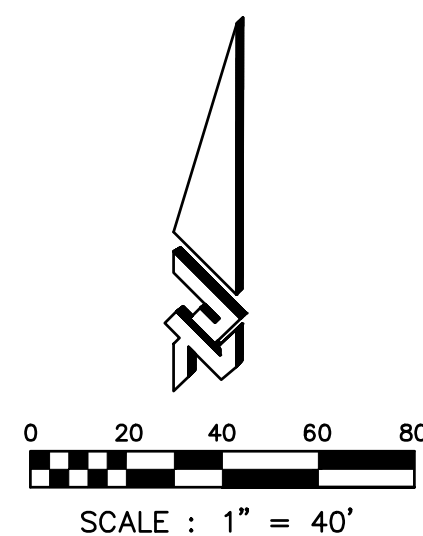
NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=40'
SHEET: C9 OF 38

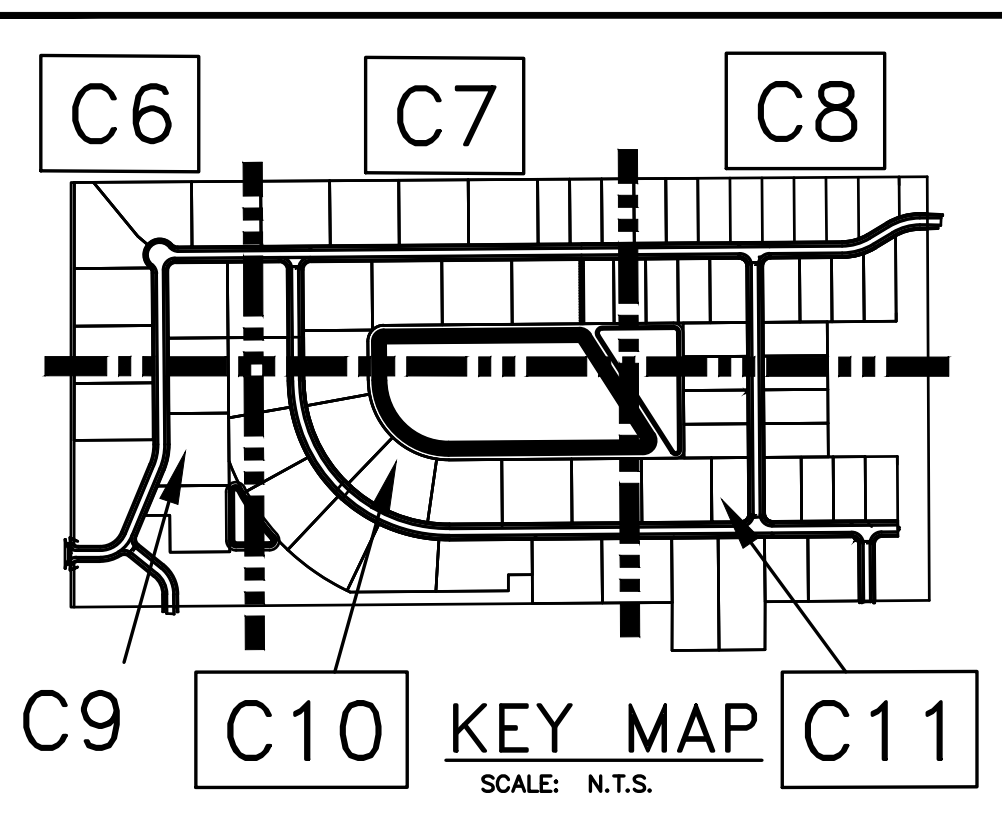
MATCH LINE - SEE SHEET C6

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- 15 PROPOSED LOT NUMBER
- PROPOSED SETBACK
- 245 SPECIMEN TREE TO REMAIN
- PROPOSED FDOT CROSSWALK
PROPOSED 2' WIDE WHITE STOP BAR
PROPOSED 30" R-1 STOP SIGN
- PROPOSED STREET LIGHT



MATCH LINE - SEE SHEET C10



SITE BENCHMARK #10
TRAVERSE N&D
ELEVATION = 34.56
DATUM = NAVD 88

HENSEL ROAD
(60' R/W/ASPHALT ROAD)

ROCKO ROAD (50' R.O.W.)

PROPOSED DRY
RETENTION AREA
(RA-1)

POB
NW CORNER, LOT 27
PB 49, PG 102-104
FND 4"x4" CM

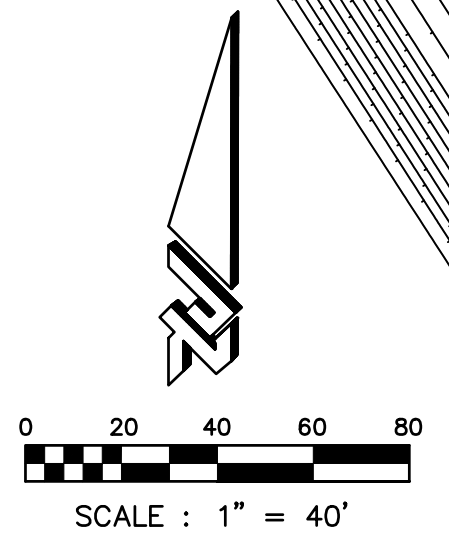
LOT 26
OWNER: CAMPBELL DIONISIO &
CORRENE DAWN CAMPBELL

LOT 26
OWNER: REEKIE MARK R
& MARGARITA L
Δ1 TKFY-6153299

MATCH LINE - SEE SHEET C7

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- 15 PROPOSED LOT NUMBER
- PROPOSED SETBACK
- 245 SPECIMEN TREE TO REMAIN
- PROPOSED FDOT CROSSWALK
- PROPOSED 2' WIDE WHITE STOP BAR
- PROPOSED 30" R-1 STOP SIGN
- PROPOSED STREET LIGHT

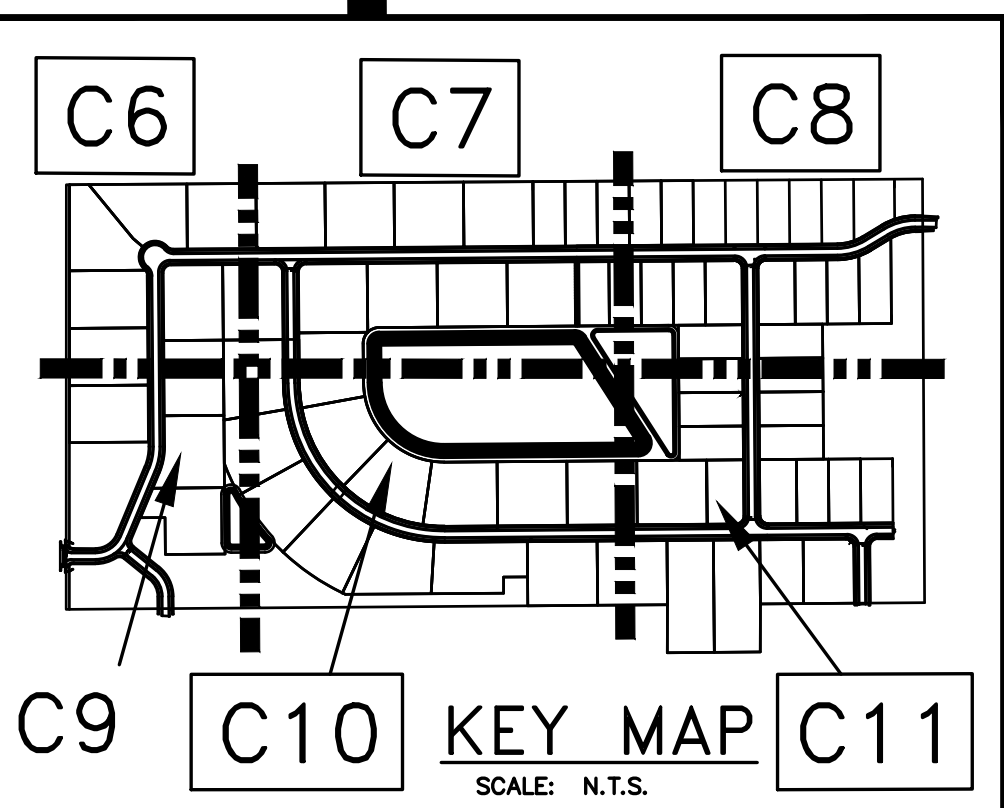


TRACT
S-2

PROPOSED WET
DETENTION AREA
(DA-1)

MATCH LINE - SEE SHEET C9

MATCH LINE - SEE SHEET C11



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
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TRANSPORTATION

KING'S LANDING
FINAL ENGINEERING PLANS
GEOMETRY, STRIPING & SIGNAGE PLAN

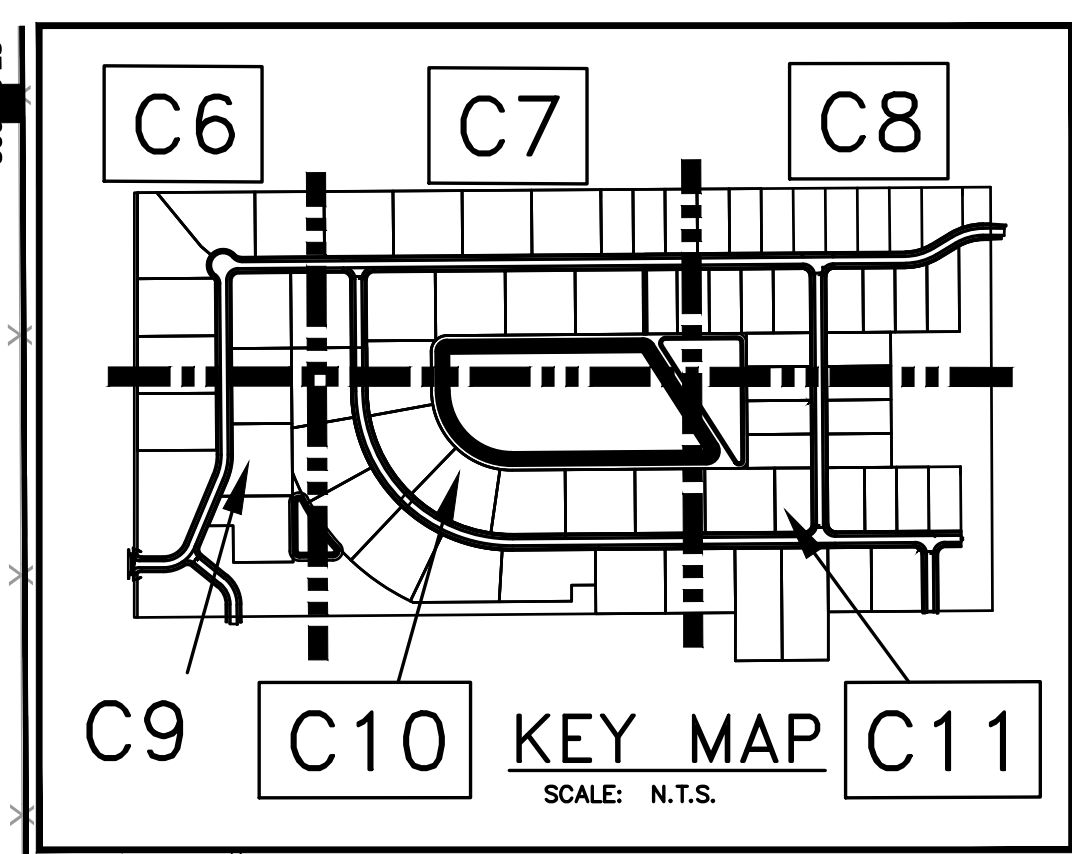
PROJECT NO: ZC 15082
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DESIGNED BY: RMH/MLR
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DRAWING FILE: 15082X-SLP.DWG
XREFS: 15082X-BAS.DWG
XREFS: 15082X-SURV.DWG



TRACT
CA-4

0 20 40 60 80

SCALE : 1" = 40'



**ZEV COHEN
& ASSOCIATES, INC.**
200 INTERCHANGE BLVD., STE. C
ORLANDO BEACH, FL 32274
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
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PLANNING
TRANSPORTATION

**KING'S LANDING
FINAL ENGINEERING PLANS
GEOMETRY, SIGNAGE & SRTIPING PLANS**

CITY OF PORT ORANGE

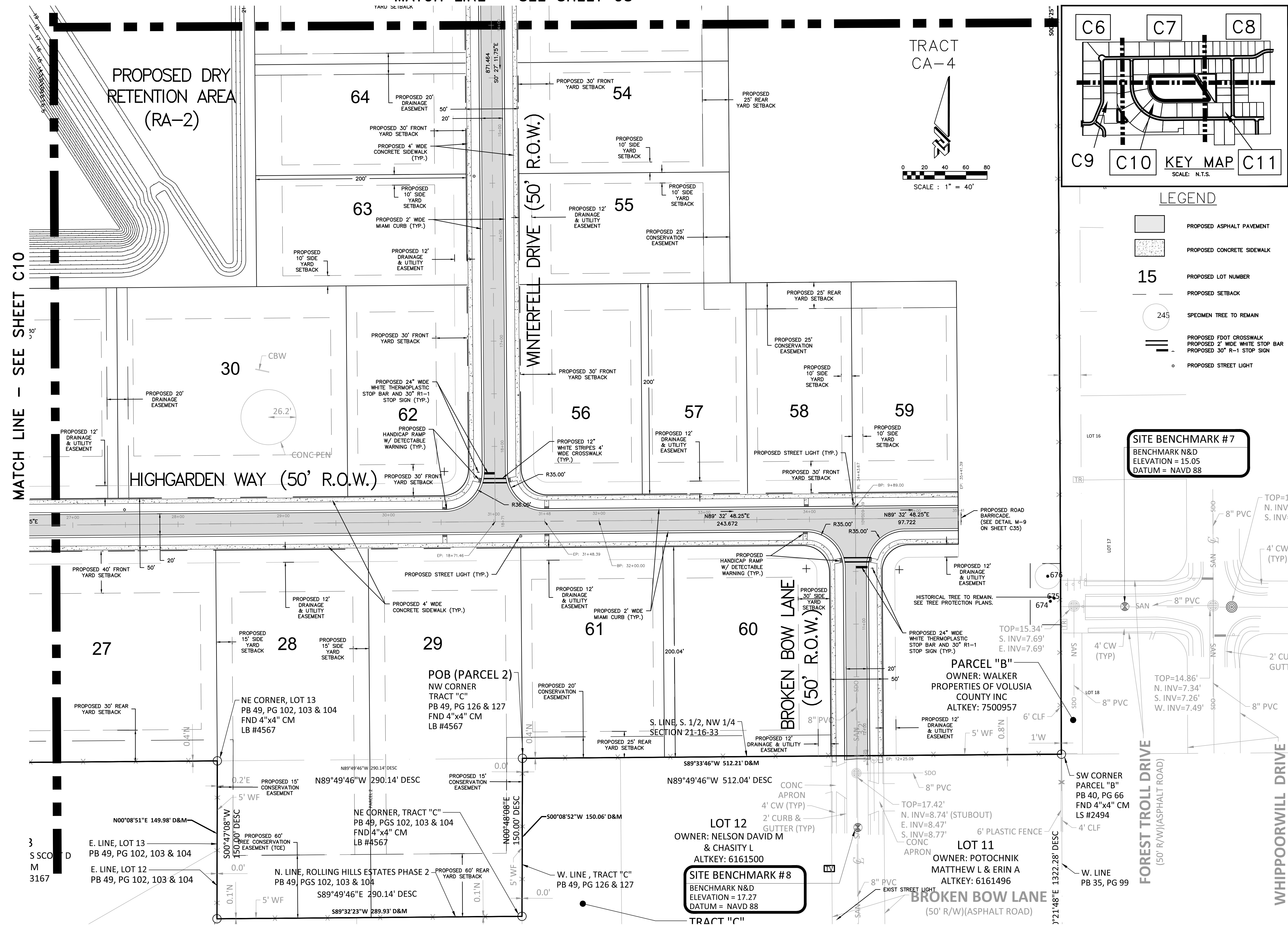
VOLUSIA COUNTY, FL

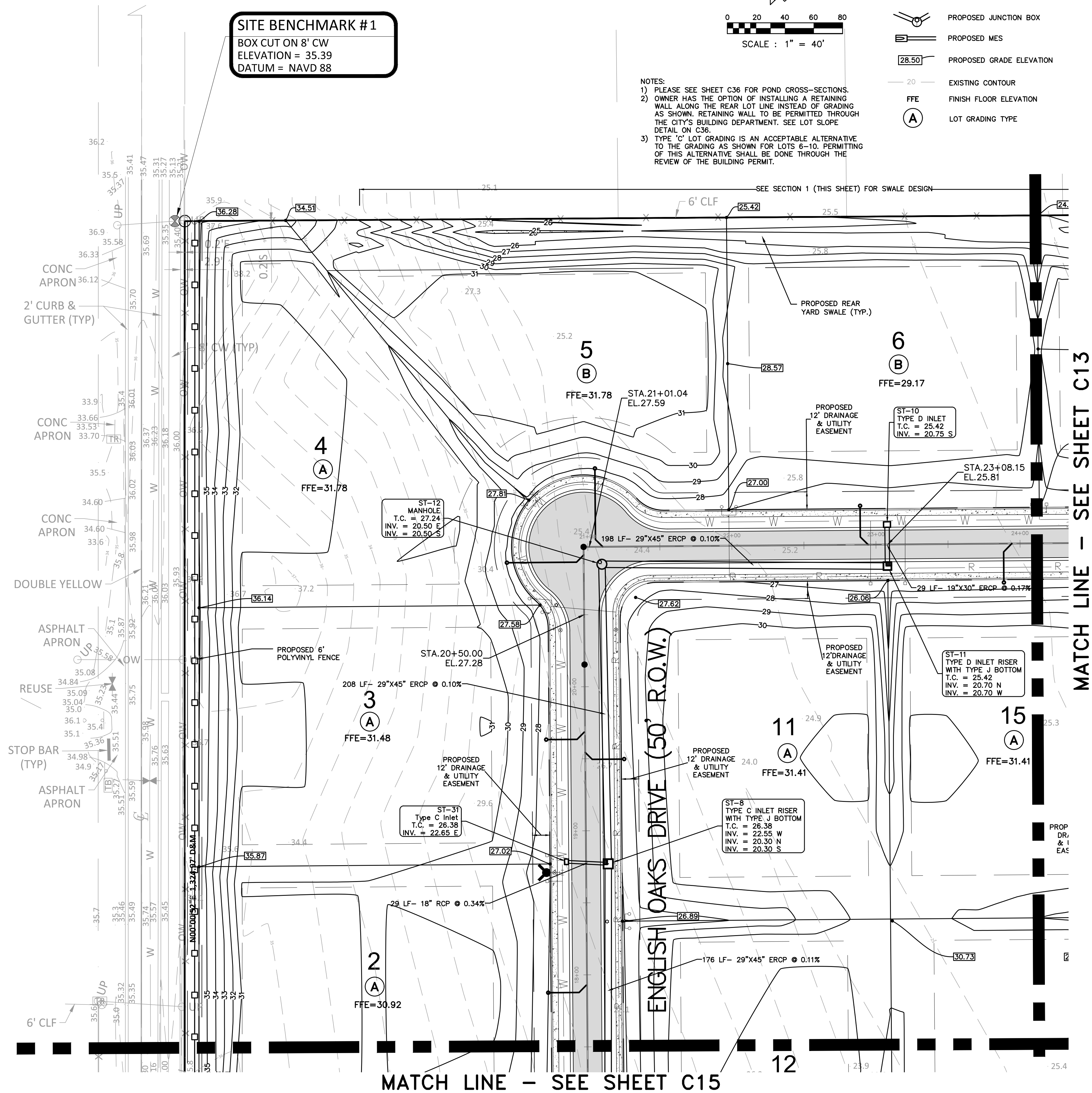
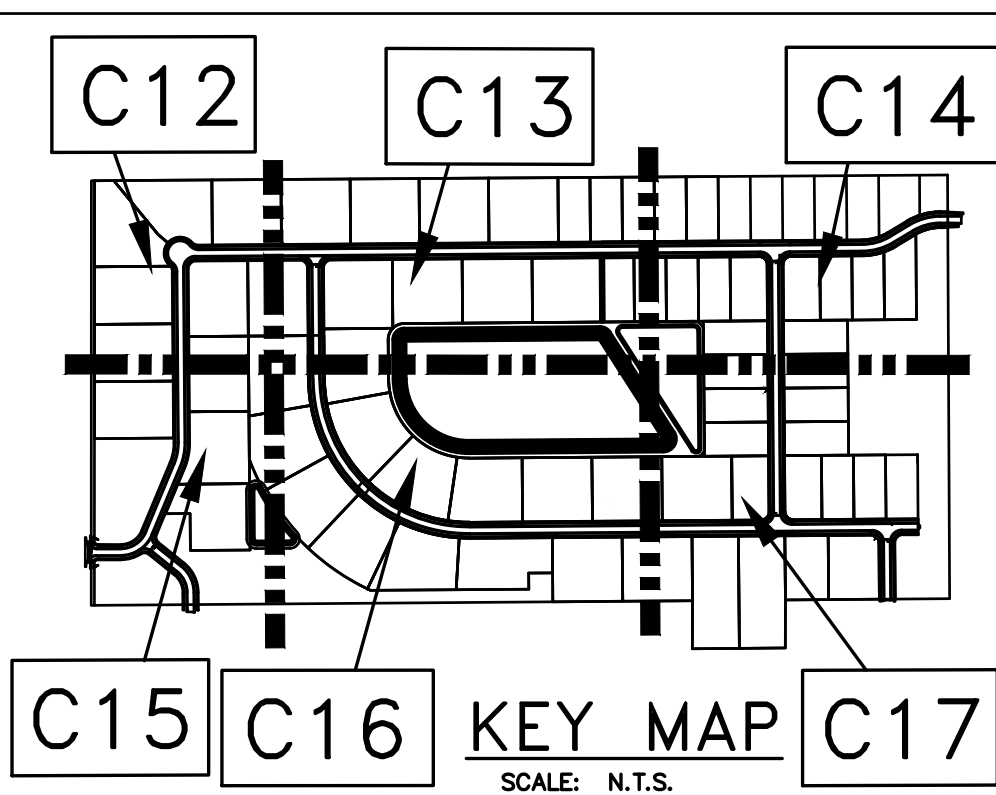
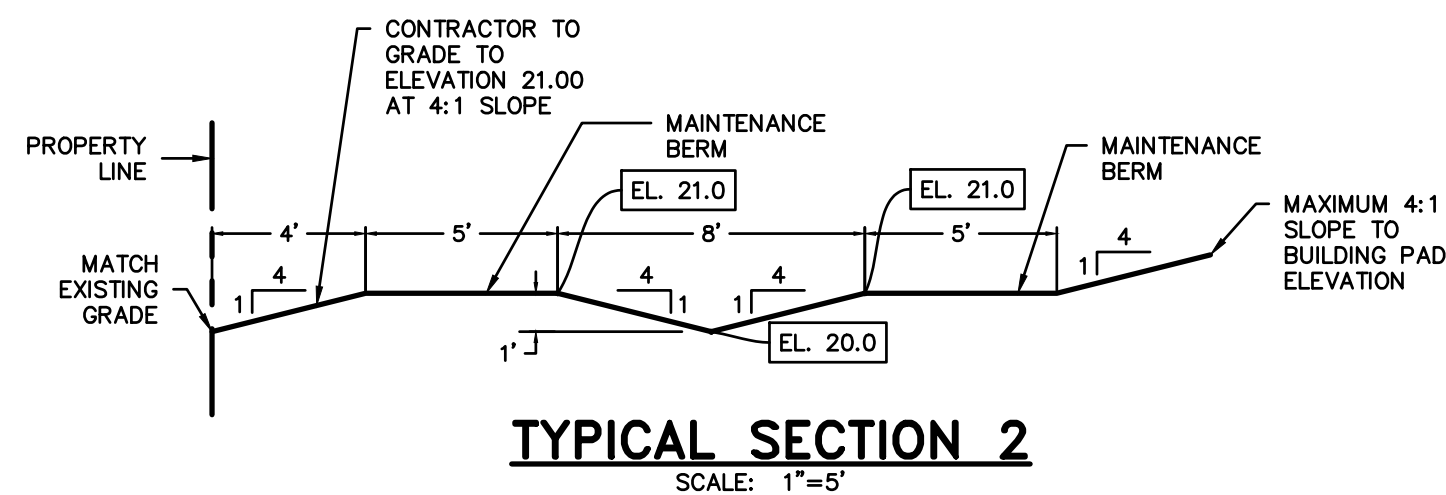
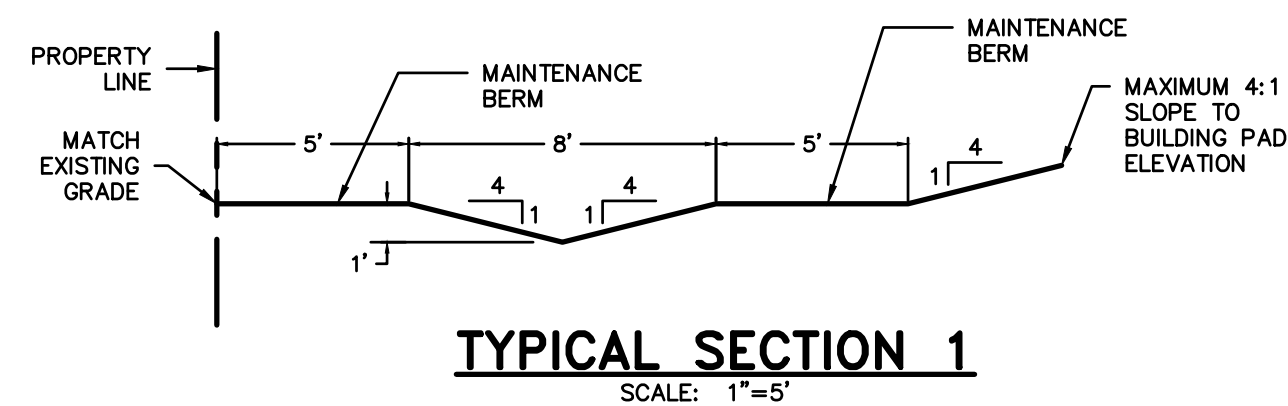
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ISSUE DATE:	8-11-17
DESIGNED BY:	RMH/MLR
DRAFTED BY:	MLR
CHECKED BY:	RMH
DRAWING FILE: 15082X-SLP.DWG	
XREFS: 15082X-BAS.DWG	
XREFS: 15082X-SURV.DWG	



SCALE: 1"=40'

SHEET: C11 OF 38





SITE BENCHMARK #1
BOX CUT ON 8' CW
ELEVATION = 35.39
DATUM = NAVD 88

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED TYPE C INLET & PIPE
- PROPOSED JUNCTION BOX
- PROPOSED MES
- PROPOSED GRADE ELEVATION
- EXISTING CONTOUR
- FINISH FLOOR ELEVATION
- LOT GRADING TYPE

- NOTES:
- PLEASE SEE SHEET C36 FOR POND CROSS-SECTIONS.
 - OWNER HAS THE OPTION OF INSTALLING A RETAINING WALL ALONG THE REAR LOT LINE INSTEAD OF GRADING AS SHOWN. RETAINING WALL TO BE PERMITTED THROUGH THE CITY'S BUILDING DEPARTMENT. SEE LOT SLOPE DETAIL ON C36.
 - TYPE 'C' LOT GRADING IS AN ACCEPTABLE ALTERNATIVE TO THE GRADING AS SHOWN FOR LOTS 6-10. PERMITTING OF THIS ALTERNATIVE SHALL BE DONE THROUGH THE REVIEW OF THE BUILDING PERMIT.



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

KING'S LANDING FINAL ENGINEERING PLANS PAVING, GRADING & DRAINAGE PLAN

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH



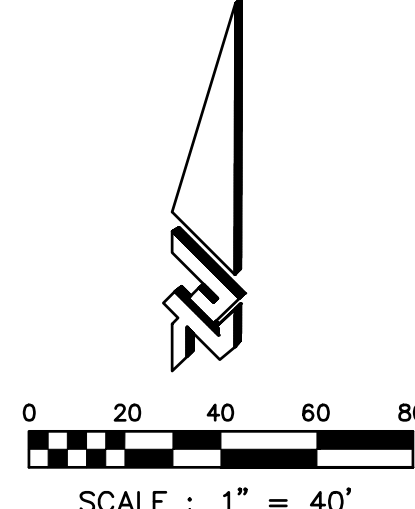
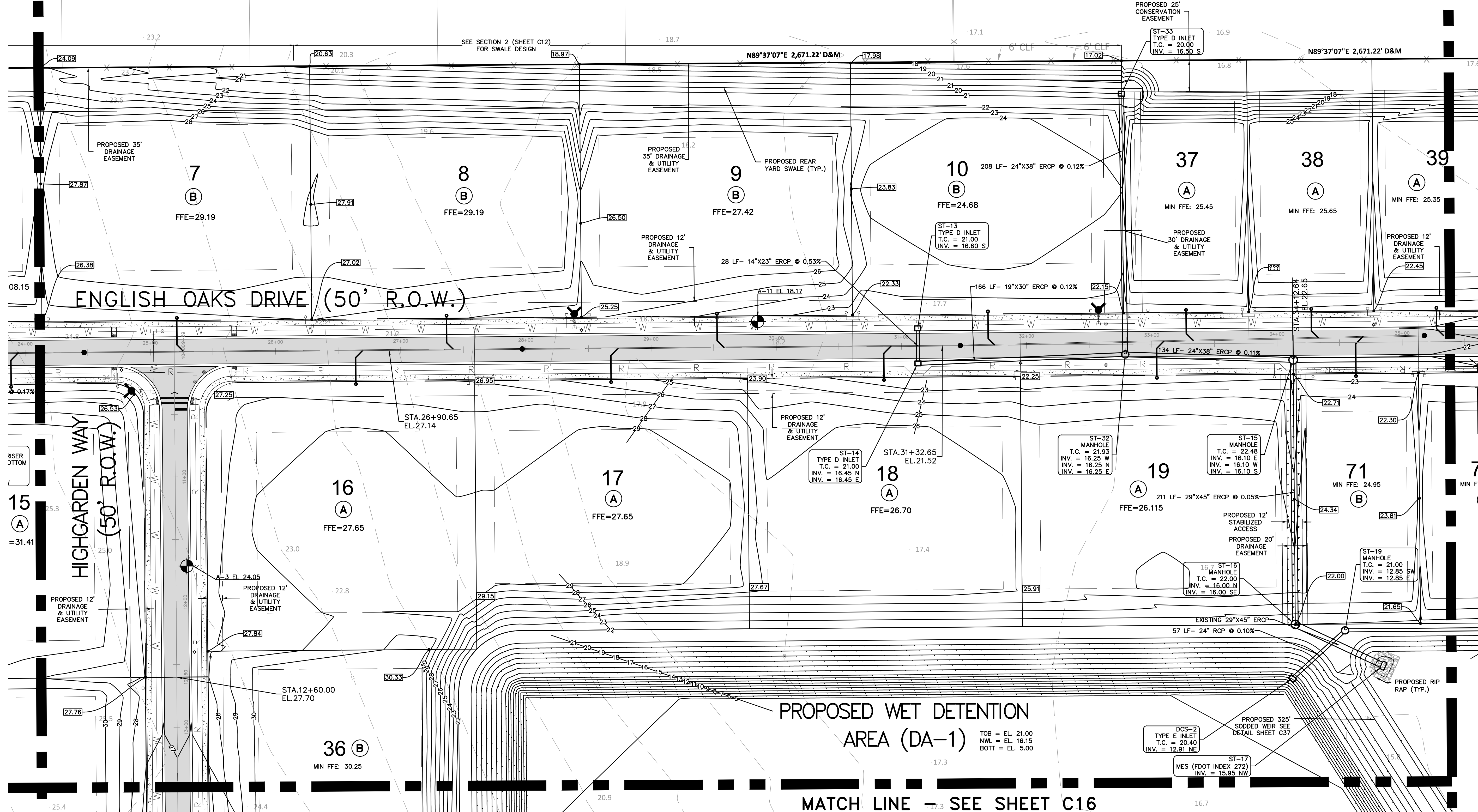
SCALE: 1"=40'
SHEET: C12 OF 38

MATCH LINE - SEE SHEET C12

USER
DTOM
15
A
=31.41

HIGHGARDEN WAY
(50' R.O.W.)

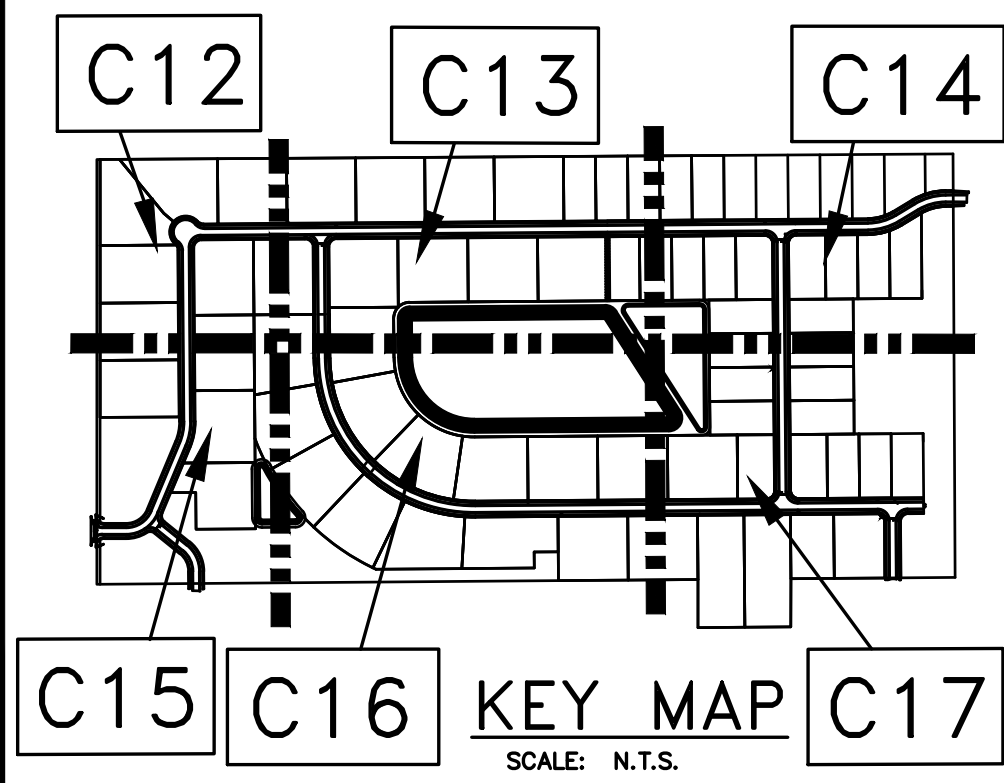
ENGLISH OAKS DRIVE (50' R.O.W.)



- NOTES:
- 1) PLEASE SEE SHEET C36 FOR POND CROSS-SECTIONS.
 - 2) OWNER HAS THE OPTION OF INSTALLING A RETAINING WALL ALONG THE REAR LOT LINE INSTEAD OF GRADING AS SHOWN. RETAINING WALL TO BE PERMITTED THROUGH THE CITY'S BUILDING DEPARTMENT; SEE LOT SLOPE DETAIL ON C36.
 - 3) TYPE 'C' LOT GRADING IS AN ACCEPTABLE ALTERNATIVE TO THE GRADING AS SHOWN FOR LOTS 6-10, PERMITTING OF THIS ALTERNATIVE SHALL BE DONE THROUGH THE REVIEW OF THE BUILDING PERMIT.

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED TYPE C INLET & PIPE
- PROPOSED JUNCTION BOX
- PROPOSED MES
- PROPOSED GRADE ELEVATION
- EXISTING CONTOUR
- FINISH FLOOR ELEVATION
- LOT GRADING TYPE



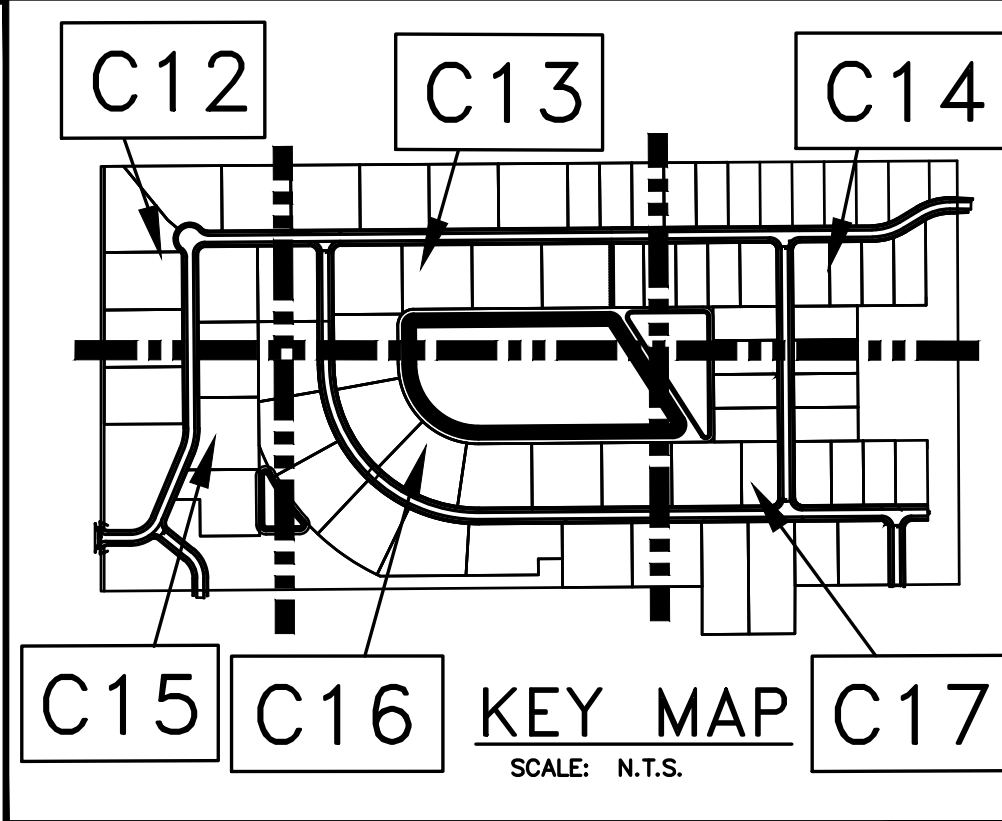
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

KING'S LANDING
FINAL ENGINEERING PLANS
PAVING, GRADING & DRAINAGE PLAN

PROJECT NO.: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH



SCALE: 1"=40'
SHEET: C13 OF 38



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

[illegible]

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-PGD-PH-2-3.DWG XREFS: 15082X-BAS.DWG XREFS: 15082X-SURV.DWG





CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

WWW.ZEVCOHEN.COM

VOLUSIA COUNTY, FL

KING'S LANDING
FINAL ENGINEERING PLANS
PAVING, GRADING & DRAINAGE PLAN

PROJECT NO.: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-PGD-PH-2-3.DWG
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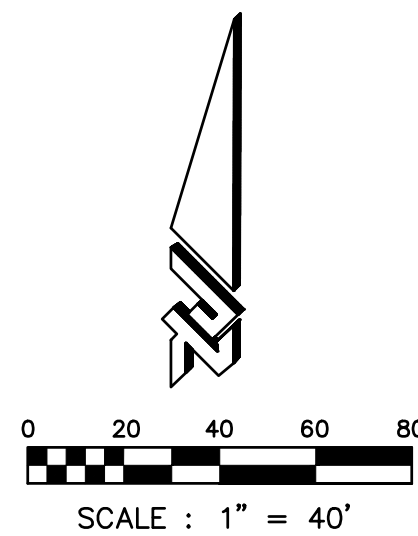


NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=40'
SHEET: C15 OF 38

MATCH LINE - SEE SHEET C12

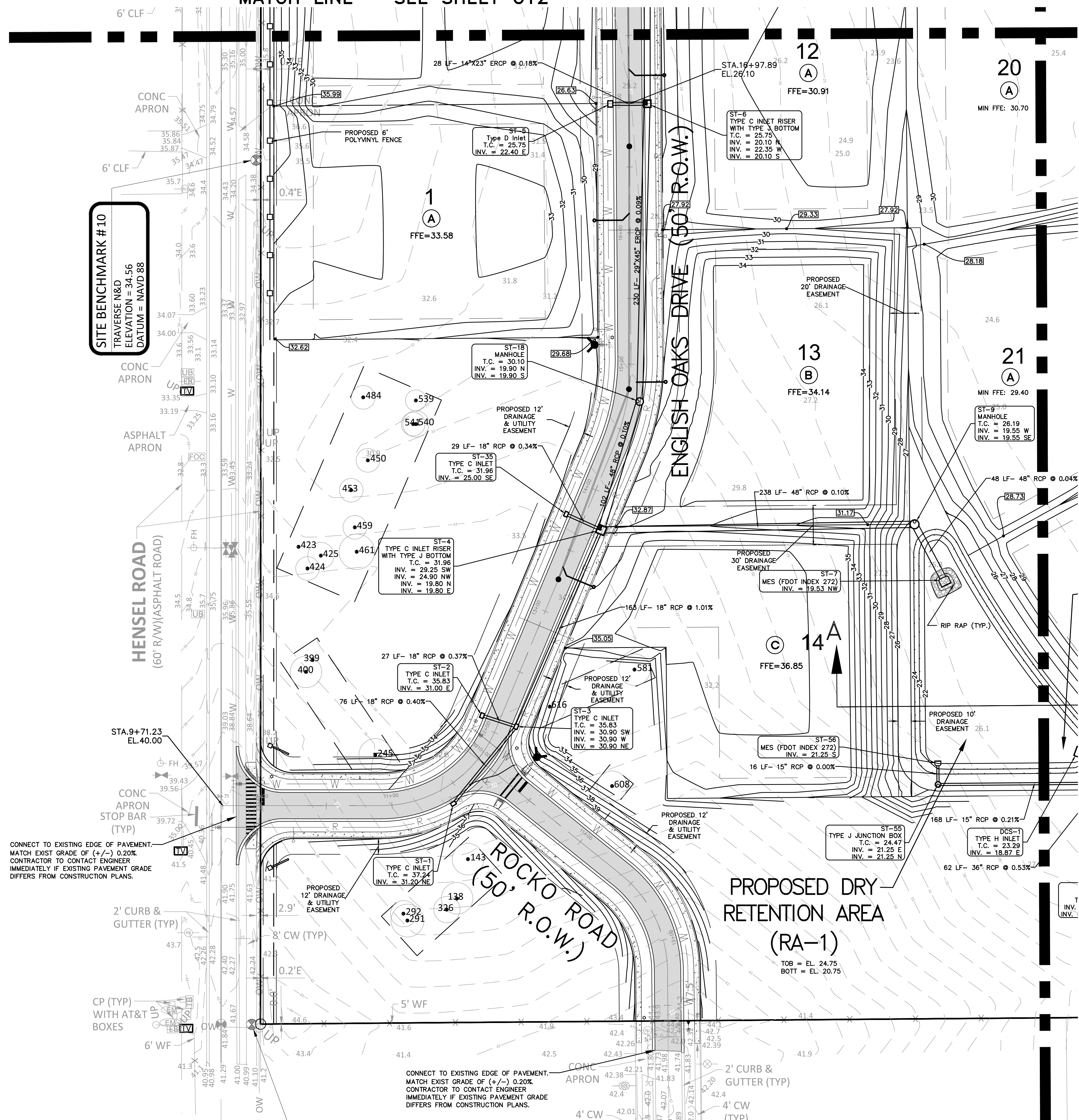
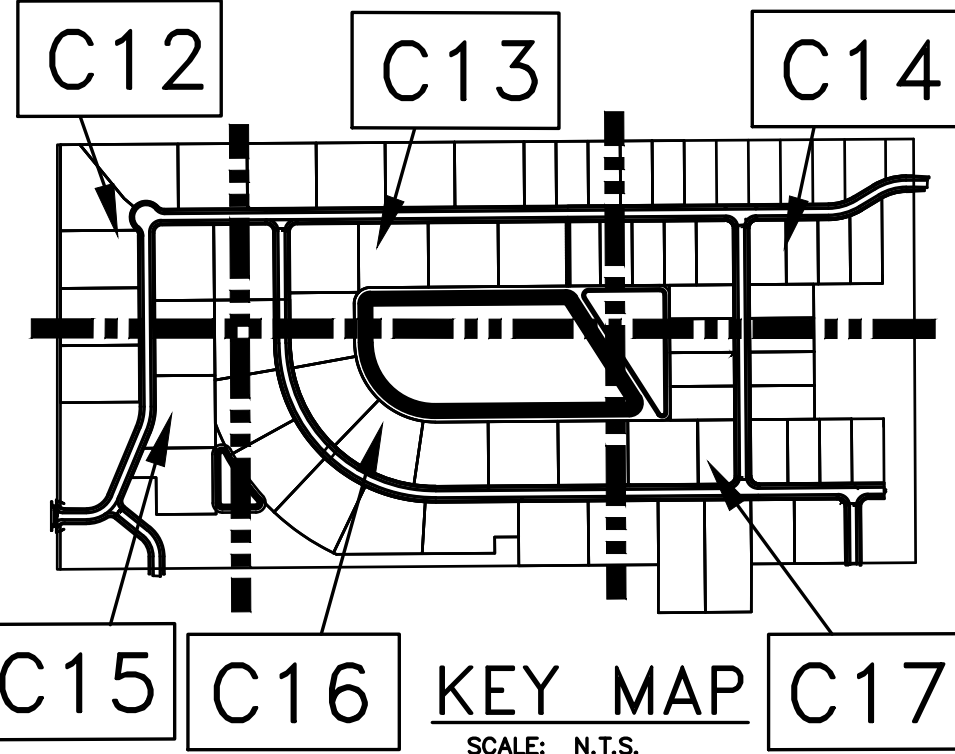
MATCH LINE - SEE SHEET C16



LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED TYPE C INLET & PIPE
- PROPOSED JUNCTION BOX
- PROPOSED MES
- PROPOSED GRADE ELEVATION
- EXISTING CONTOUR
- FINISH FLOOR ELEVATION
- LOT GRADING TYPE

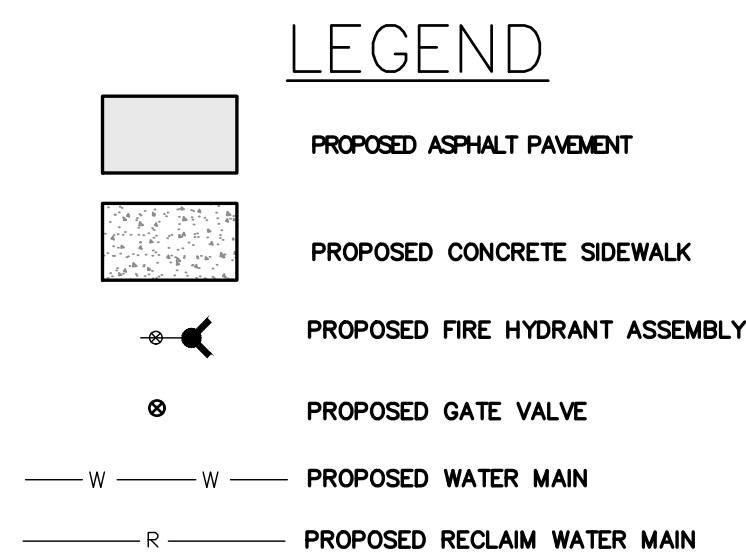
NOTES:
1) PLEASE SEE SHEET C36 FOR POND CROSS-SECTIONS.
2) OWNER HAS THE OPTION OF INSTALLING A RETAINING WALL ALONG THE REAR LOT LINE INSTEAD OF GRADING AS SHOWN. RETAINING WALL TO BE PERMITTED THROUGH THE CITY'S BUILDING DEPARTMENT. SEE LOT SLOPE DETAIL ON C36.



675

304

CONNECT TO EXISTING EDGE OF PAVEMENT.
MATCH EXIST GRADE OF (+/-) 0.20%
CONTRACTOR TO CONTACT ENGINEER
IMMEDIATELY IF EXISTING PAVEMENT GRADE
DIFFERS FROM CONSTRUCTION PLANS.



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

[illegible][illegible]

10

KING'S LANDING FINAL ENGINEERING PLANS UTILITY PLAN

PROJECT NO: ZC 15082

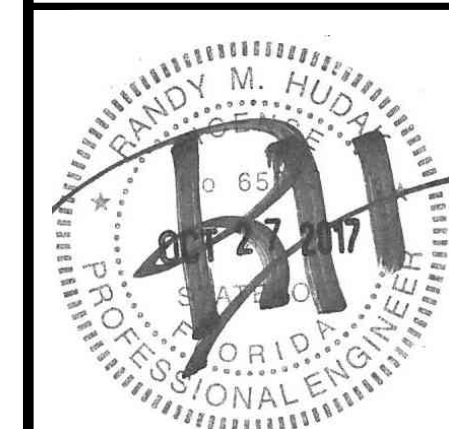
ISSUE DATE: 8-11-17

DESIGNED BY: RMH/MLF

DRAFTED BY: MLR

CHECKED BY: RMH

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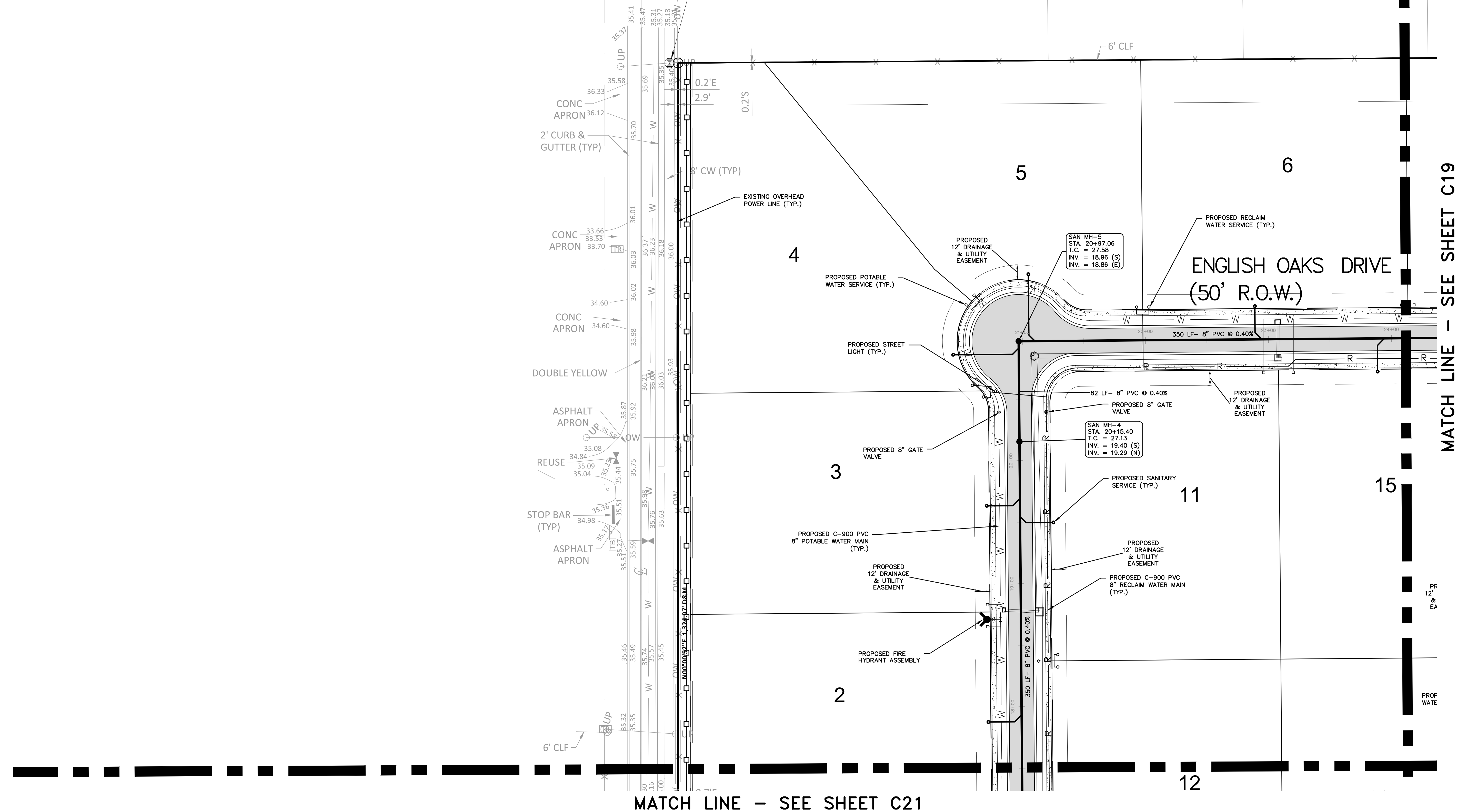


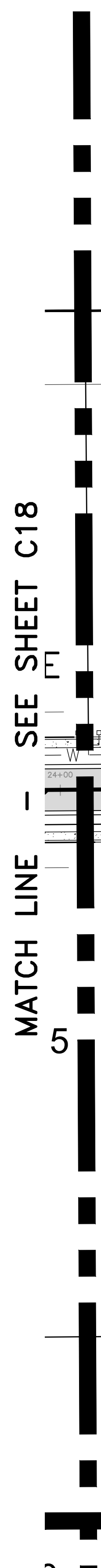
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Randy M. Hudak, P.E., No. 69

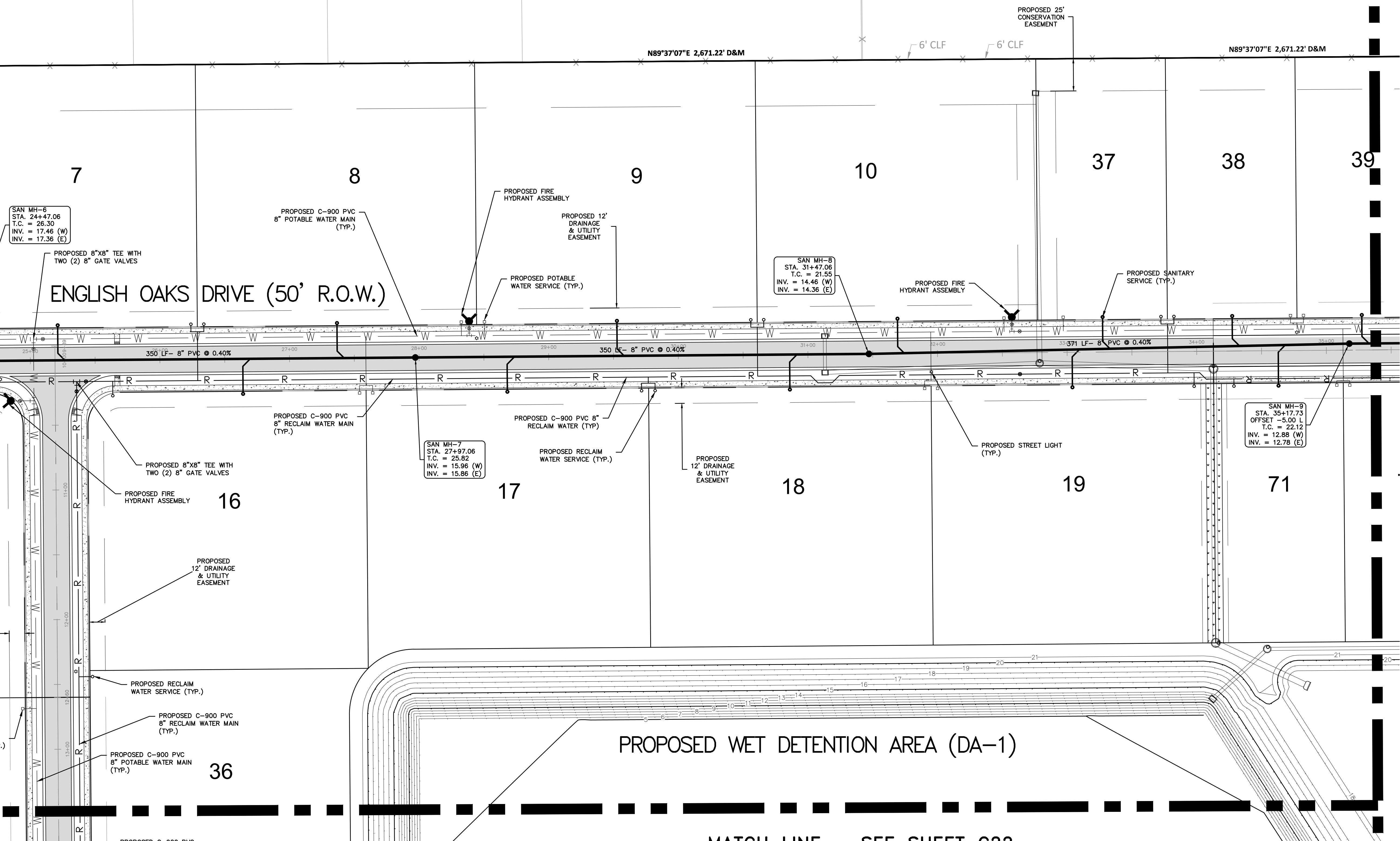
SCALE: 1"=40'

SHEET: C18 OF 38

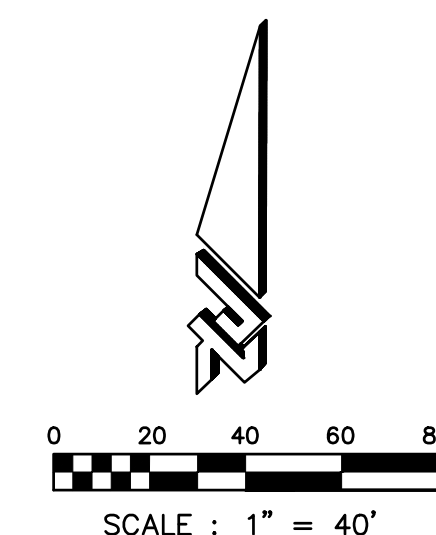




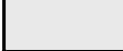
HIGHGARDEN WAY
(50' R.O.W.)

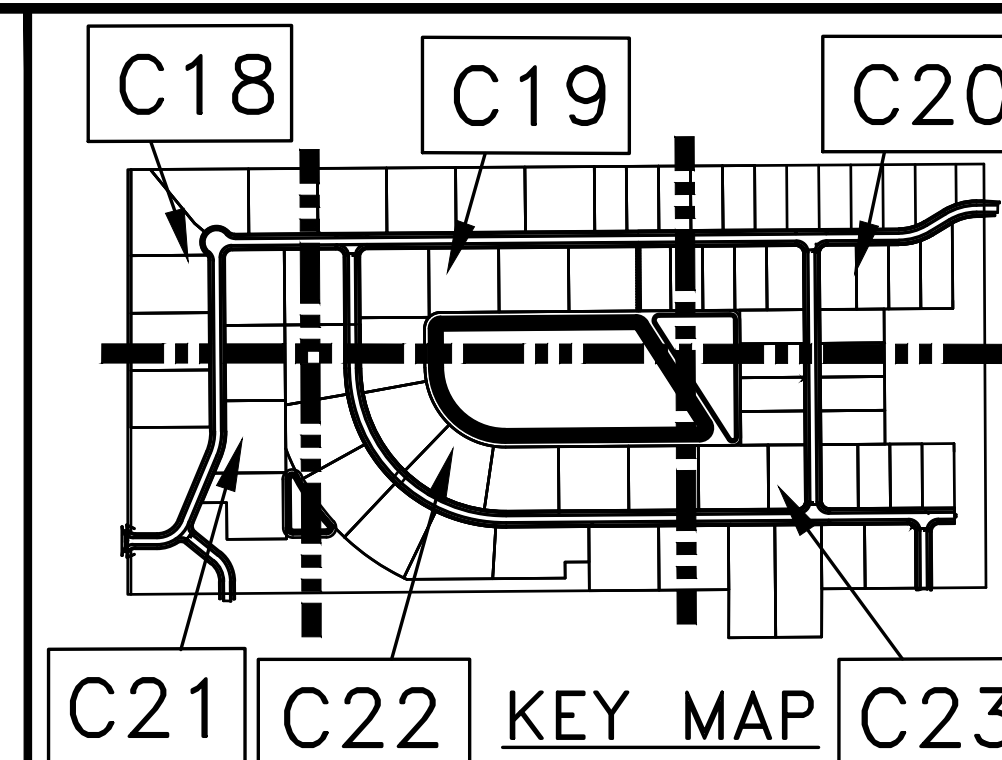


MATCH LINE - SEE SHEET C22



LEGEND

- | | |
|---|---------------------------------------|
|  | PROPOSED ASPHALT PAVEMENT |
|  | PROPOSED CONCRETE SIDEWALK |
|  | PROPOSED FIRE HYDRANT ASSEMBLY |
|  | PROPOSED GATE VALVE |
|  | PROPOSED WATER MAIN |
|  | PROPOSED RECLAIM WATER MAIN |



KEY M
SCALE: N.T.S.



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

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PROJECT NO: ZC 15082

ISSUE DATE: 8-11-17

DESIGNED BY: RMH/MLR

DRAFTED BY: MLR

CHECKED BY: RMH

DRAWING FILE: 15082X-UT

XREF'S: 15082X-BAS.DWG
XREF'S: 15082X-SURV.DW

RESEARCH

ANDY M. A.



.....P



ESS/ORT

CNR

NOT VALID WITHOUT

Randy M. Hudak, P.E.

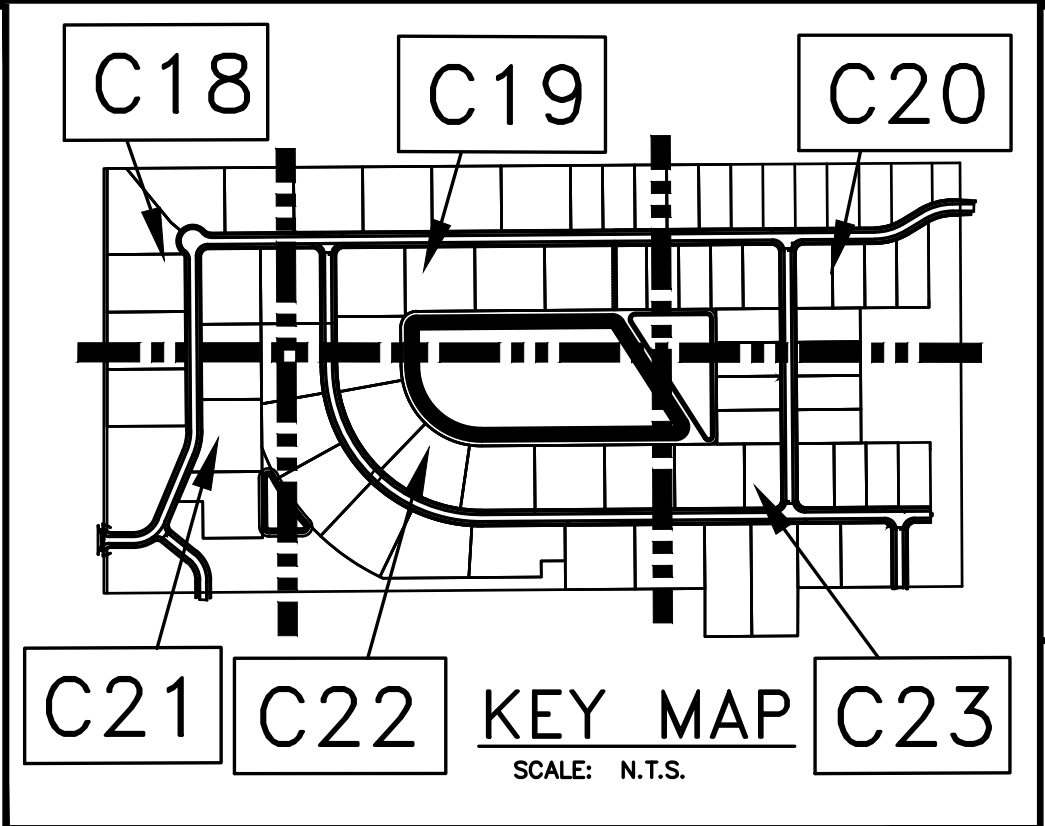
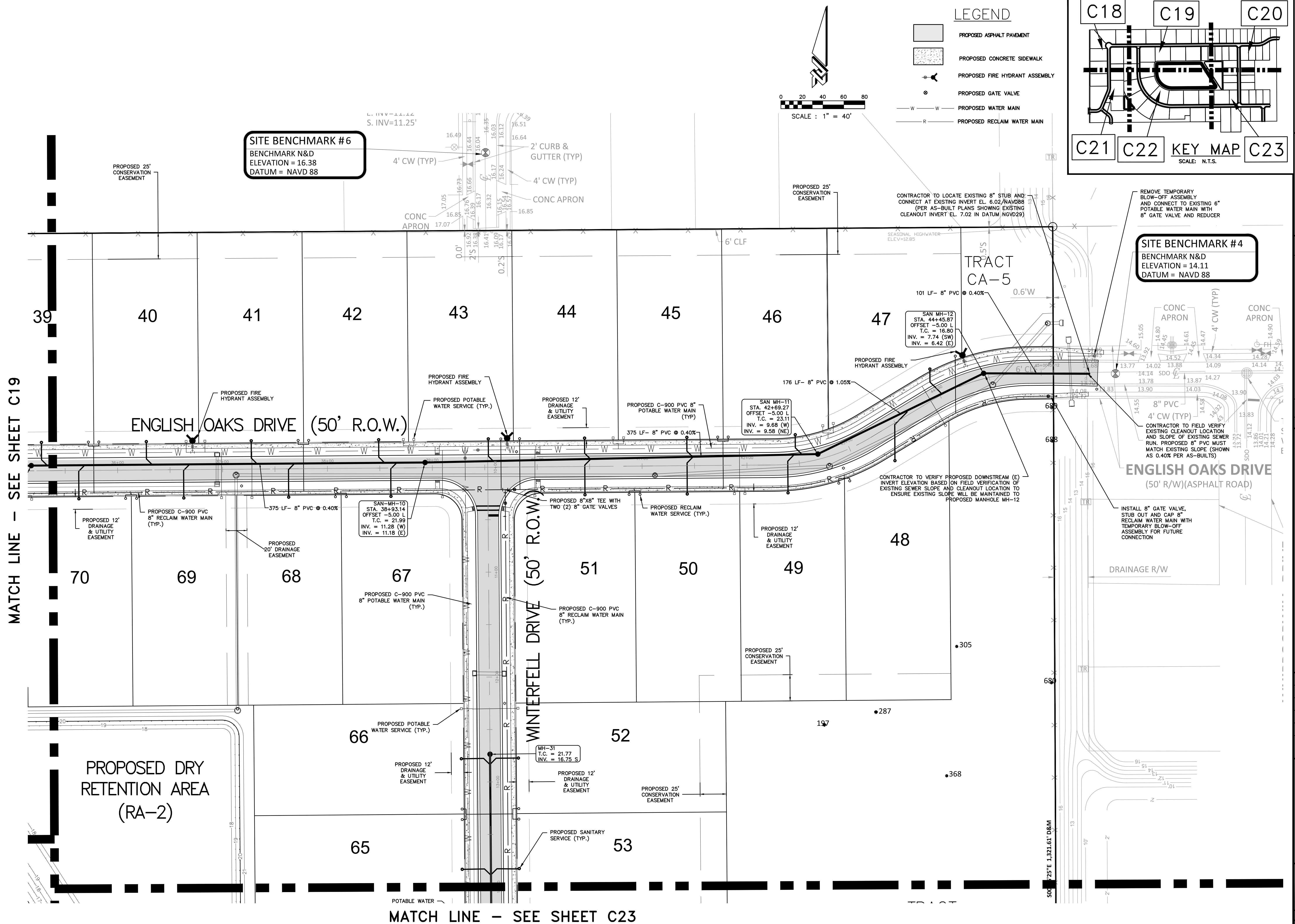
100

100

© 2006 The Authors

SCALE: 1"=40'

SHEET: C19

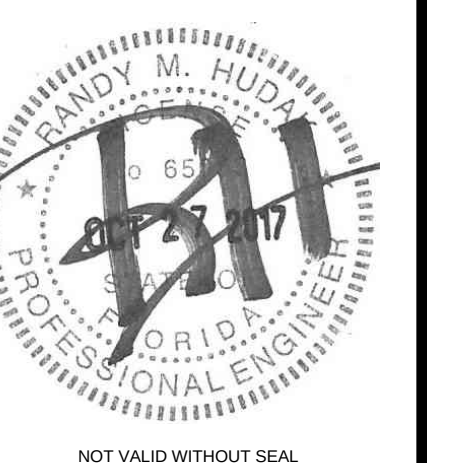


CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

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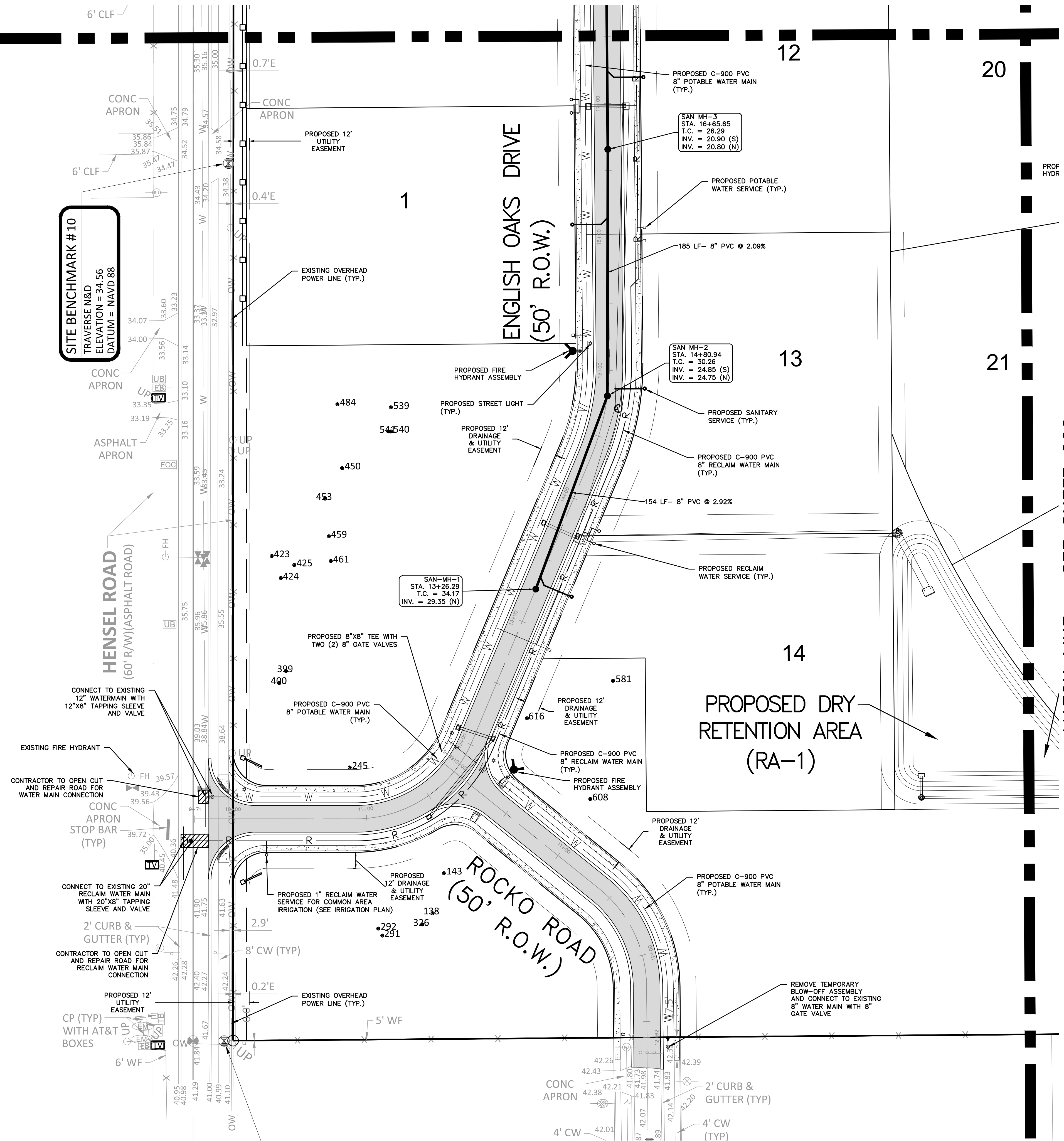
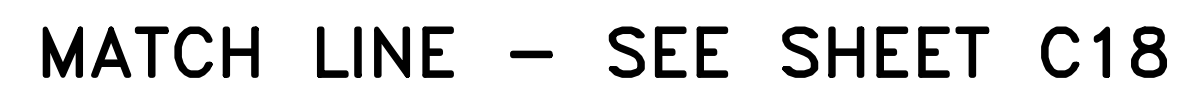
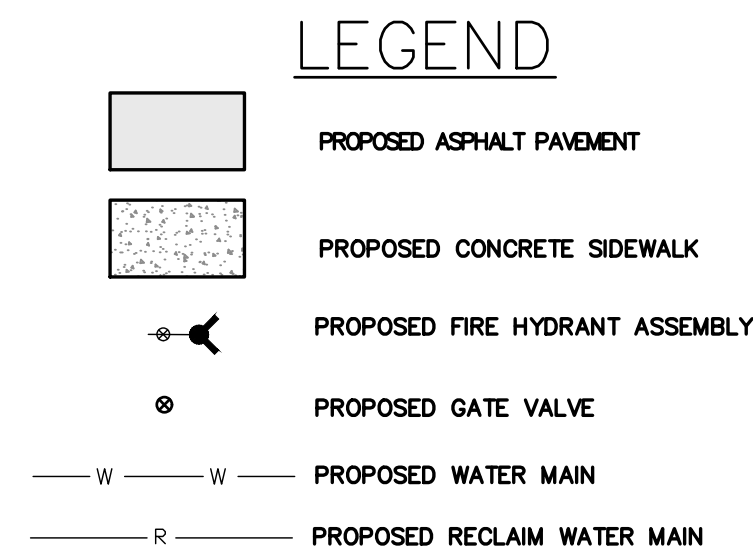
KING'S LANDING FINAL ENGINEERING PLANS UTILITY PLAN

PROJECT NO: ZC 15082
SUE DATE: 8-11-17
SIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-UTL-PH-2-3.DWG EFS: 15082X-BAS.DWG EFS: 15082X-SURV.DWG



SCALE: 1"=40'

SHEET: C20 OF 38



CIVIL ENGINEERING
—
Landscape Architecture
—
ENVIRONMENTAL
—
PLANNING
—
TRANSPORTATION
—
(LLC)

[illegible]

KING'S LANDING FINAL ENGINEERING PLANS

UTILITY PLAN

PORT ORANGE
VOLUSIA COUNTY

PROJECT NO: ZC 15082
ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: MLR
CHECKED BY: RMH
DRAWING FILE: 15082X-UTL-PH-2-3.DWG XREFS: 15082X-BAS.DWG XREFS: 15082X-SURV.DWG



SCALE: 1"=40'

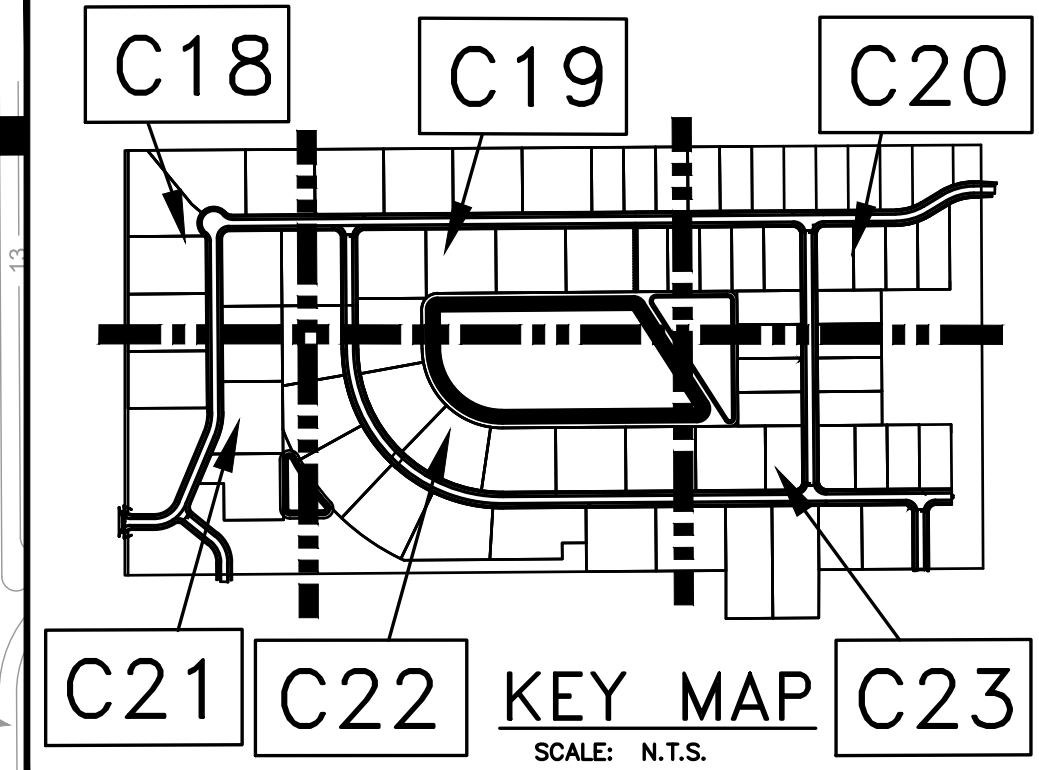
SHEET: C21 OF 38

MATCH LINE - SEE SHEET C22

MATCH LINE - SEE SHEET C20

TRACT
CA-4

SCALE : 1" = 40'



LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- PROPOSED WATER MAIN
- PROPOSED RECLAIM WATER MAIN

SITE BENCHMARK #7
BENCHMARK N&D
ELEVATION = 15.05
DATUM = NAVD 88

KING'S LANDING FINAL ENGINEERING PLANS UTILITY PLAN

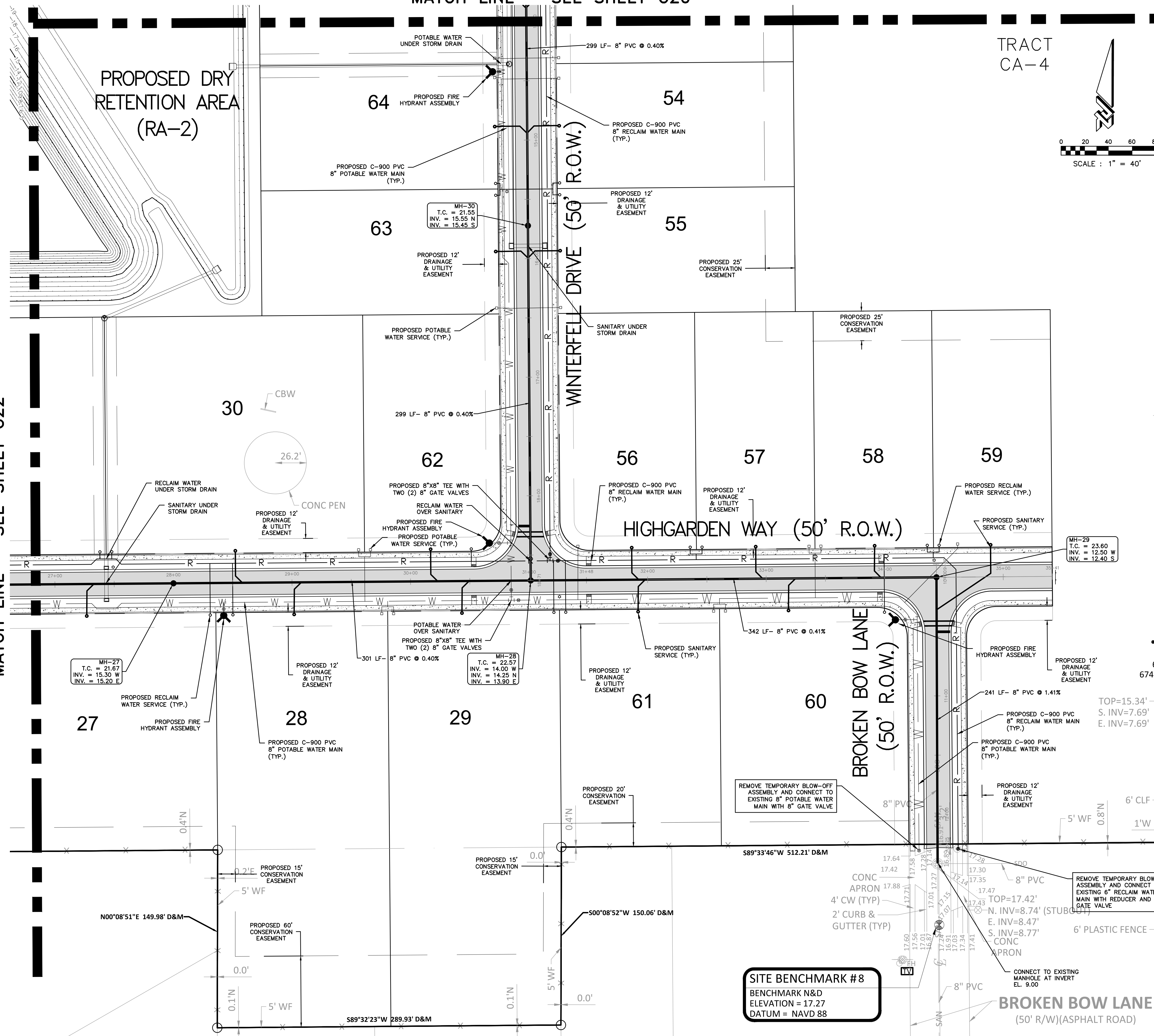
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XREFS: 15082X-BAS.DWG
XREFS: 15082X-SURV.DWG



NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=40'
SHEET: C23 OF 38





EDGEWATER
1840 AIRPARK ROAD
EDGEWATER, FL 32132
(386) 677-2482 FAX (386) 677-2505

[illegible]

**KING'S LANDING
FINAL ENGINEERING PLANS
SEWER PLAN & PROFILE KEY MAP**

CITY OF PORT ORANGE
VOLUSIA COUNTY, FL

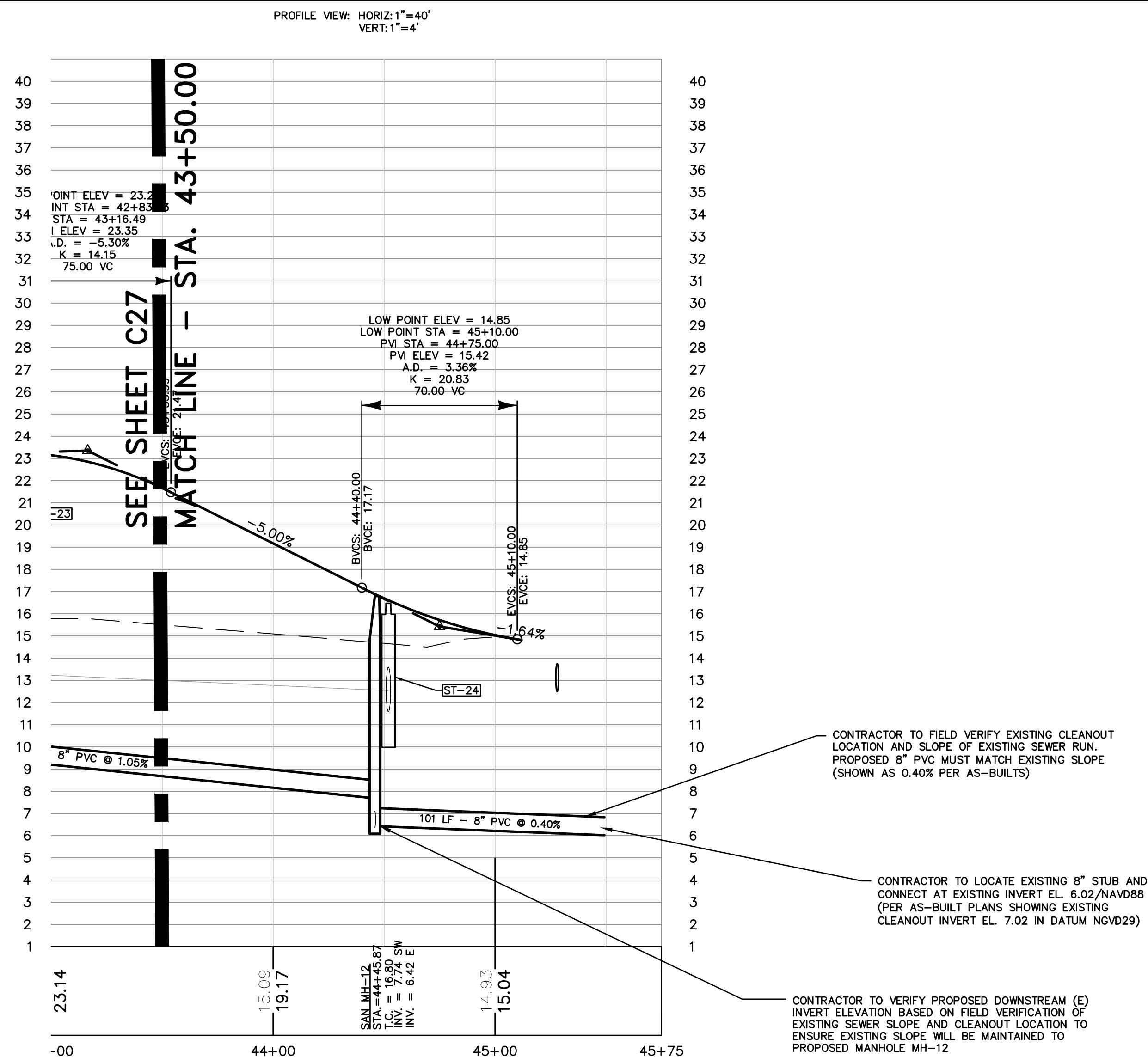
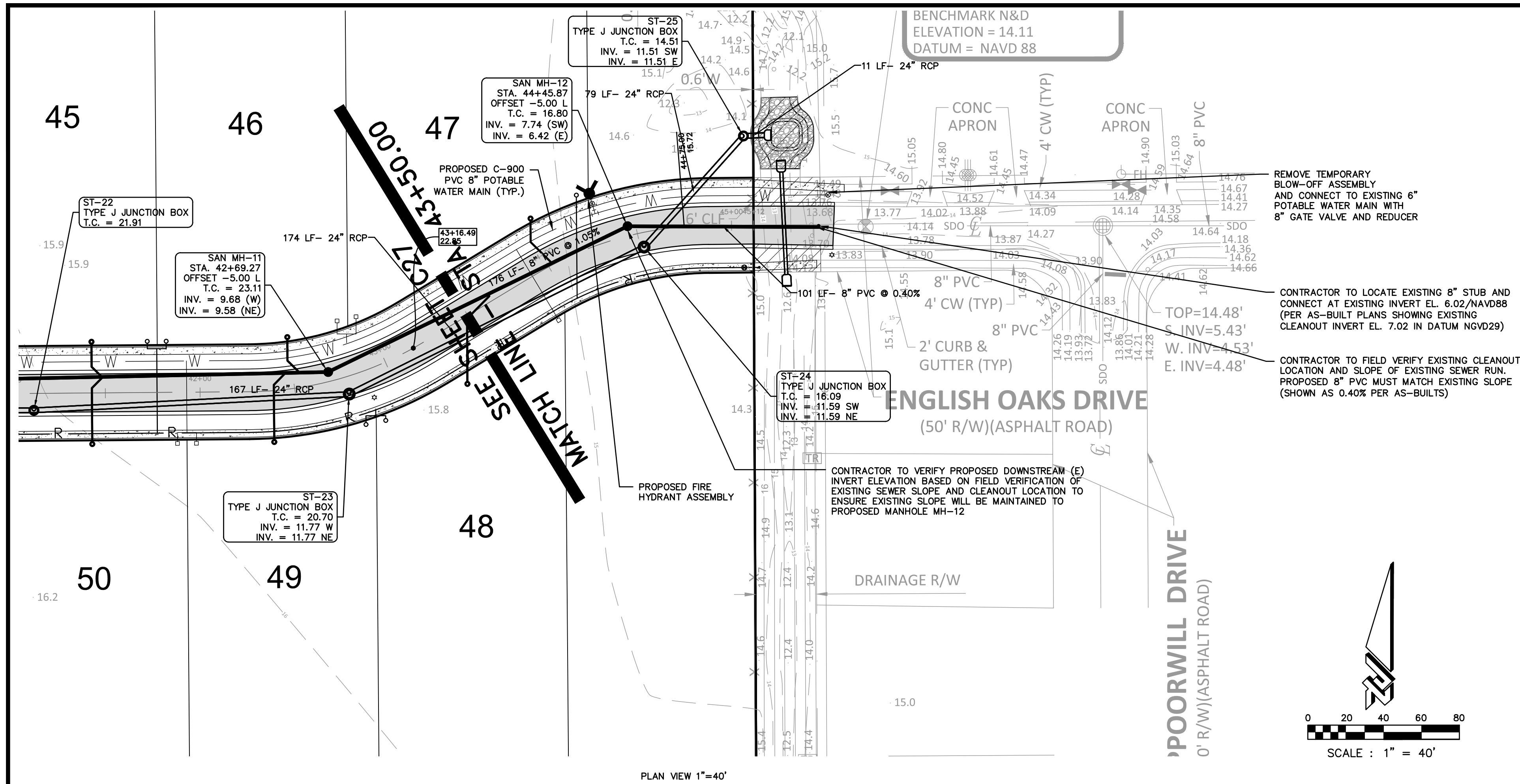
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ISSUE DATE: 8-11-17
DESIGNED BY: RMH/MLR
DRAFTED BY: CM
CHECKED BY: RMH
DRAWING FILE: 15082X-PLPR.DWG XREFS: 15082X-BAS.DWG XREFS: 15082X-SURV.DWG



NOT VALID WITHOUT SEAL
ANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=100'

SHEET: C24 OF 38



ORMOND BEACH
300 INTERCHANGE BLVD., STE. C
ORMOND BEACH, FL 32174
(386) 677-2482 FAX (386) 677-2505

EDGEWATER
1840 AIRPARK ROAD
EDGEWATER, FL 32132
(386) 677-2482 FAX (386) 677-2505

[illegible]

KING'S LANDING FINAL ENGINEERING PLANS

ENGLISH OAKS DRIVE (50' R.O.W.) SEWER PLAN & PROFILE

CITY OF PORT ORANGE
VOLUSIA COUNTY, FL

PROJECT NO: ZC 15082

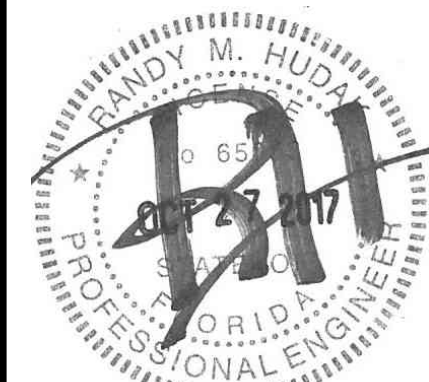
ISSUE DATE: 8-11-17

DESIGNED BY: RMH/MLR

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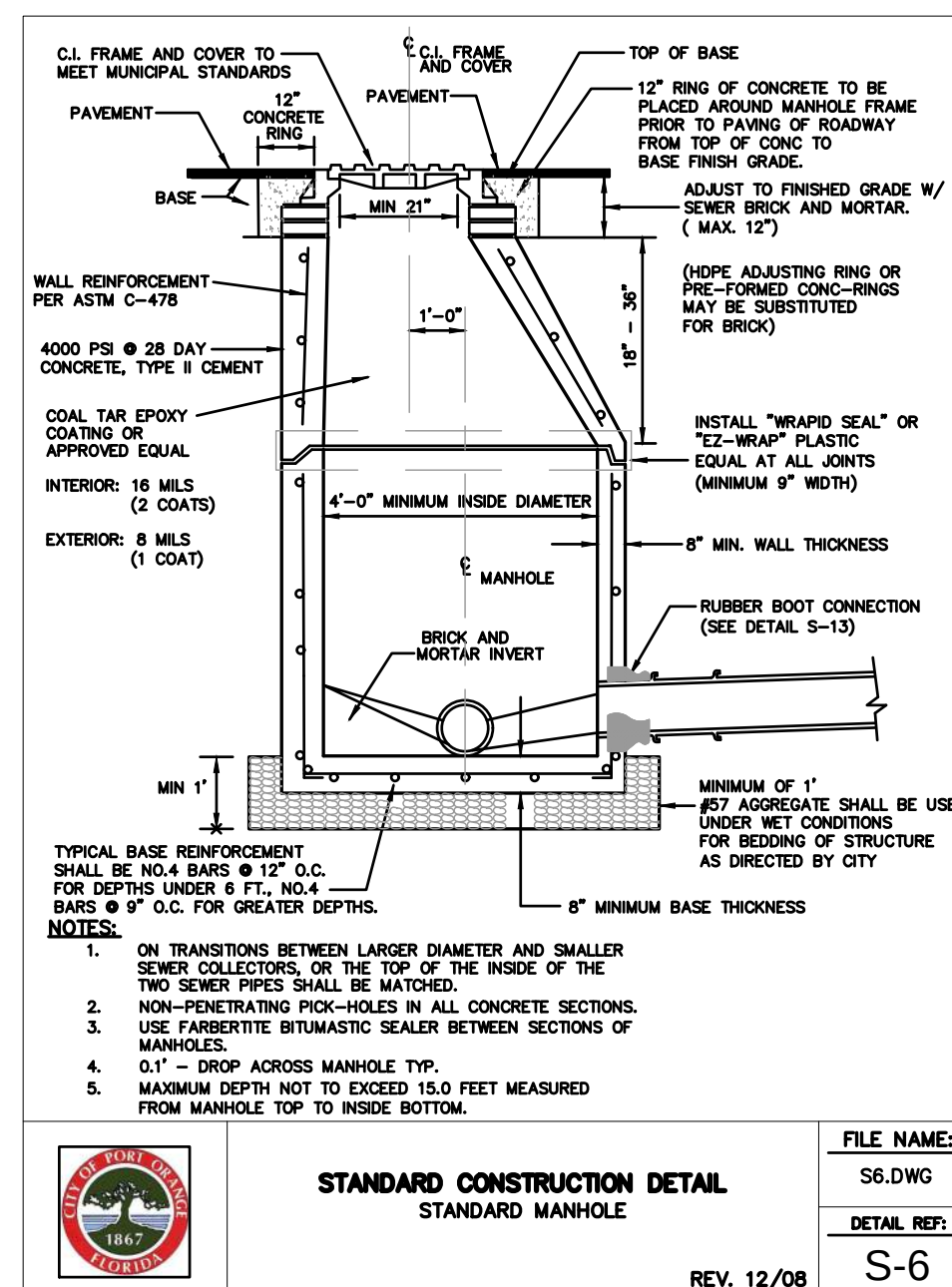
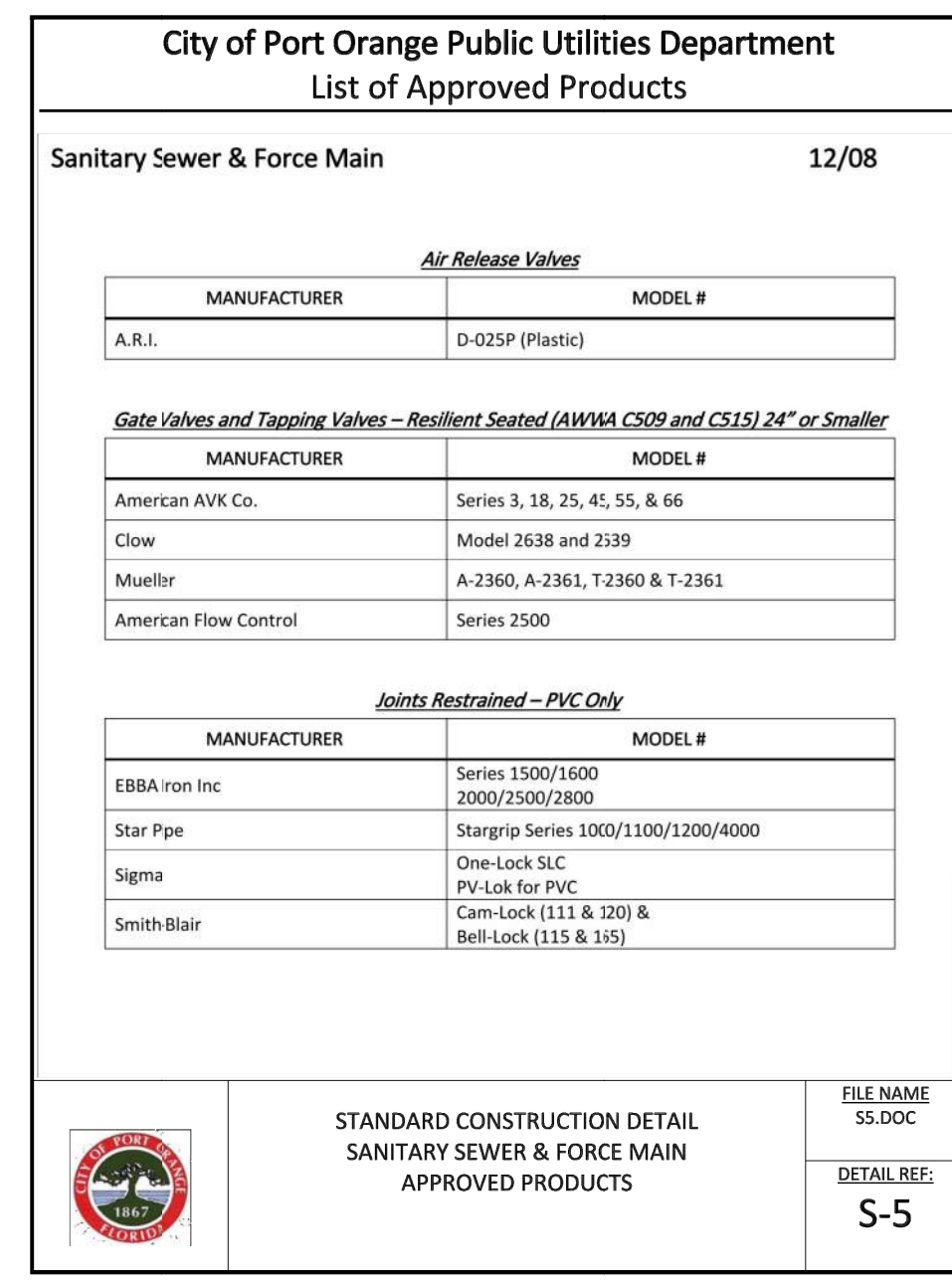
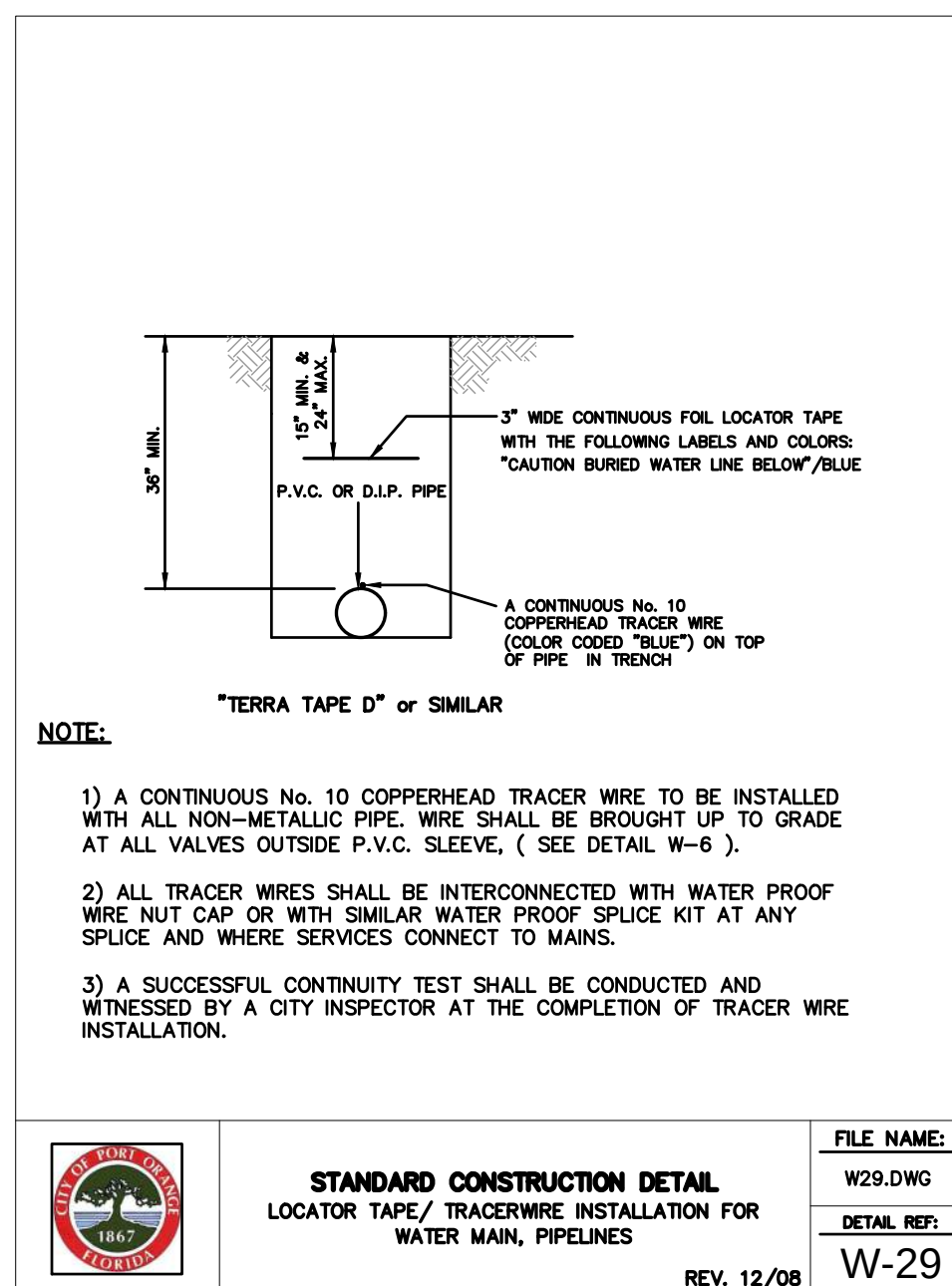
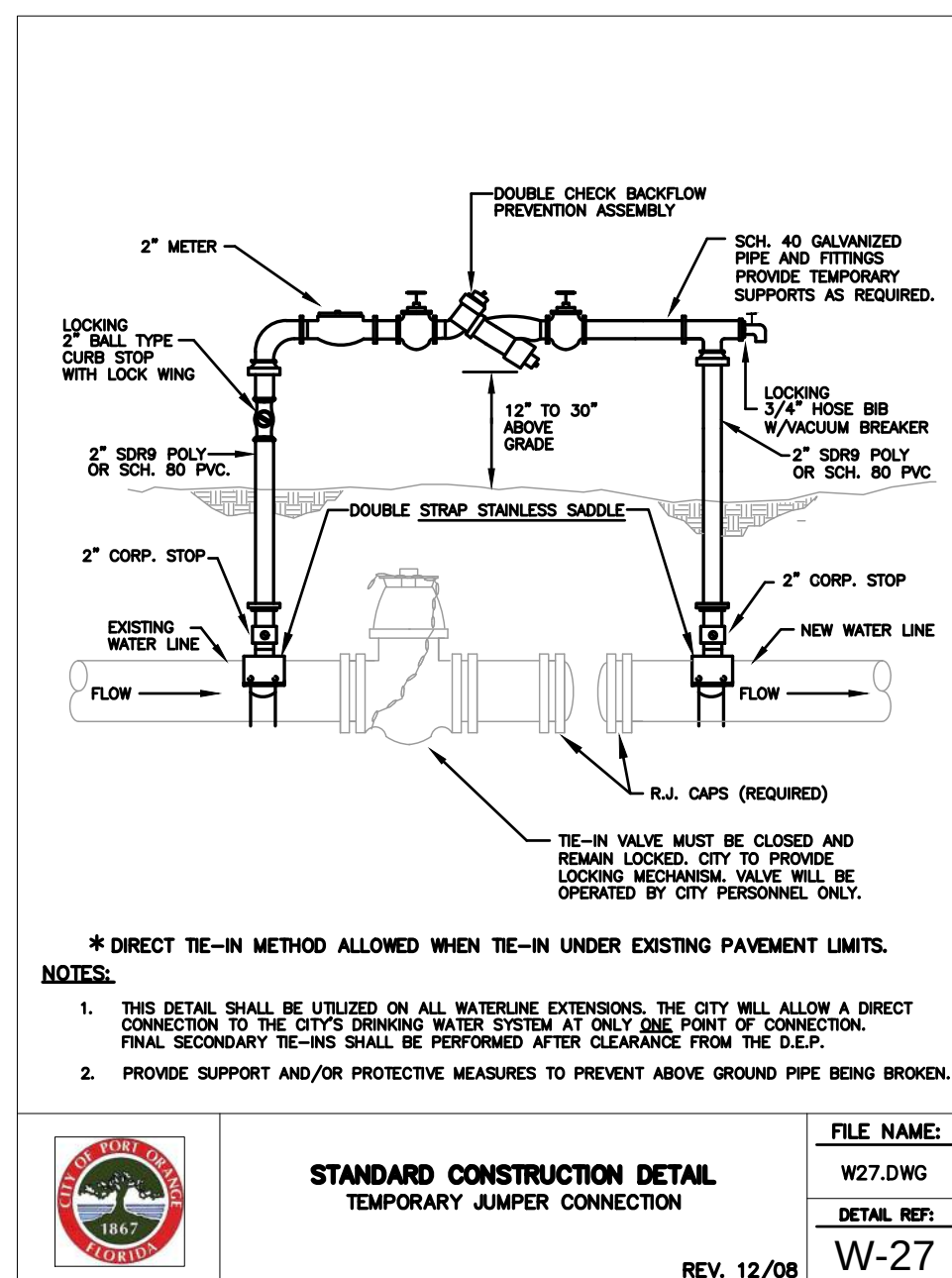
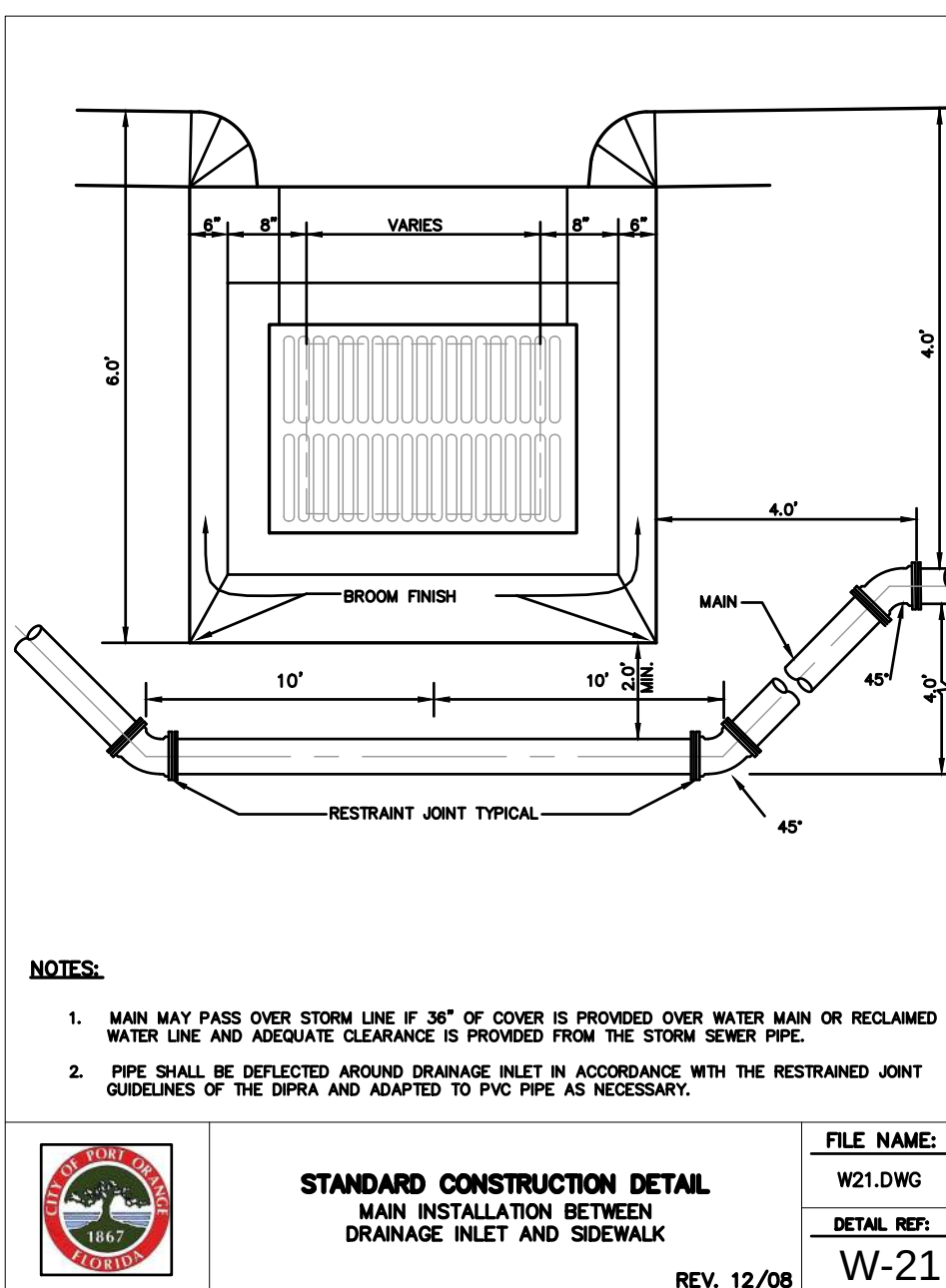
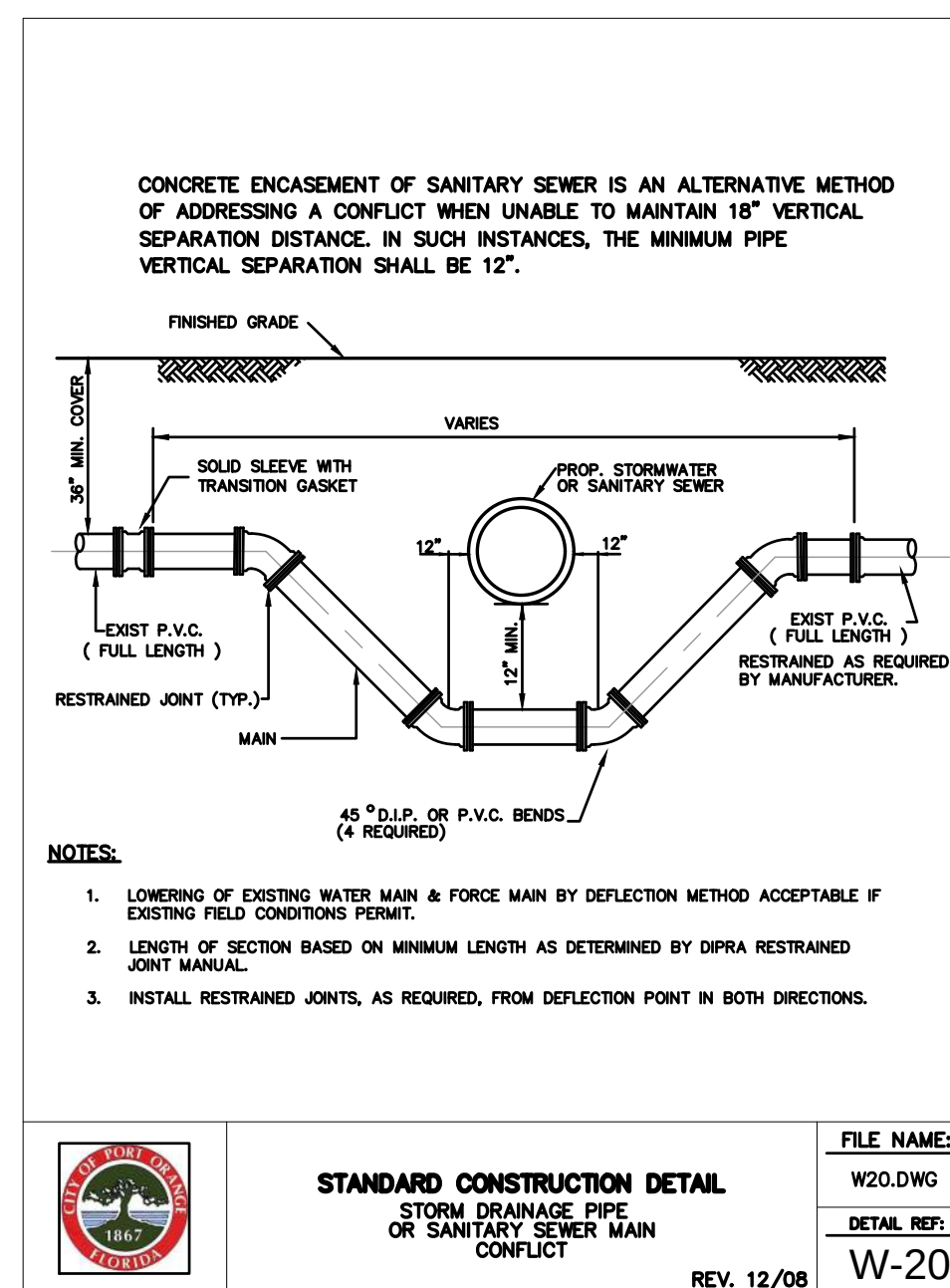
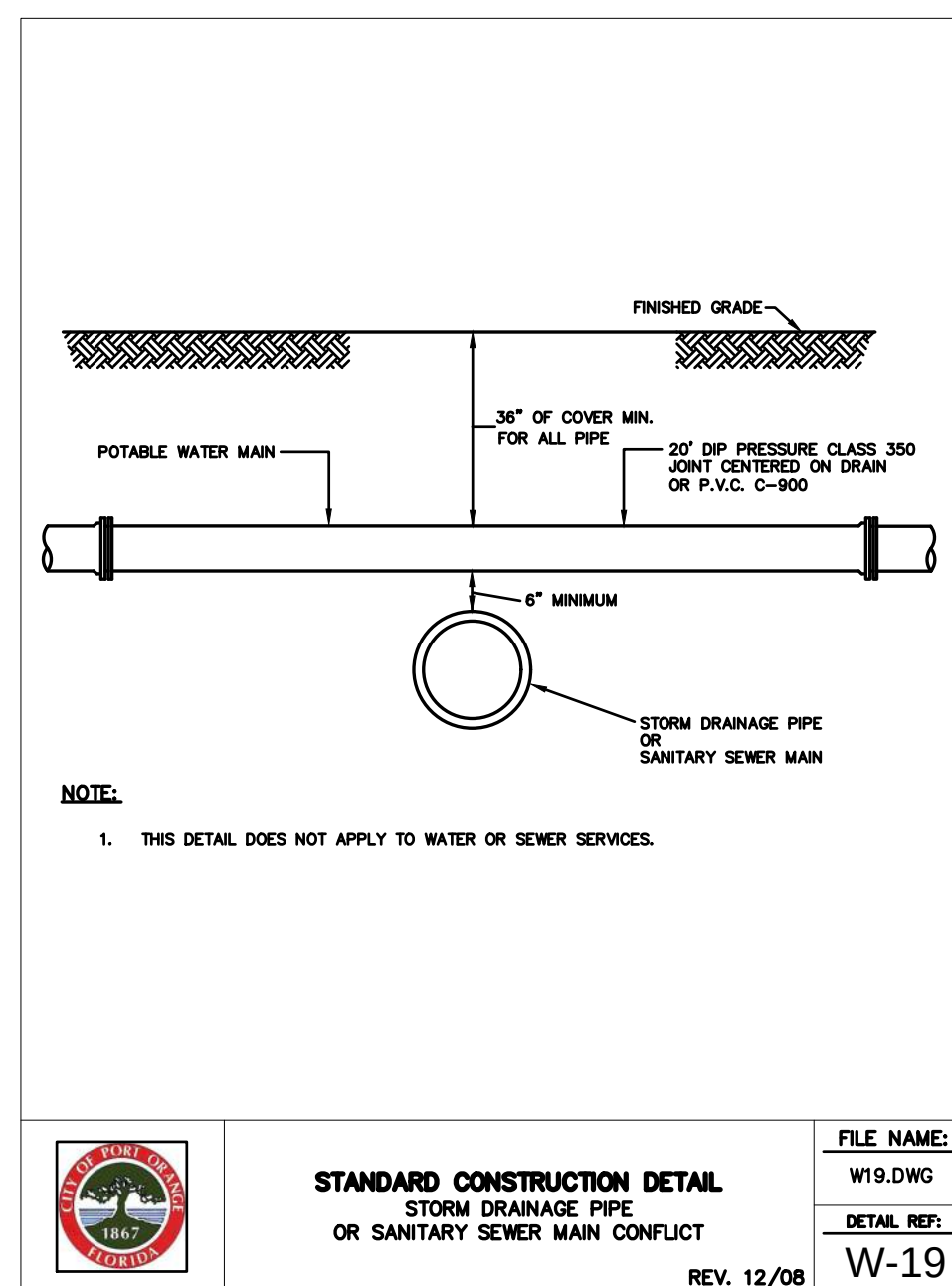
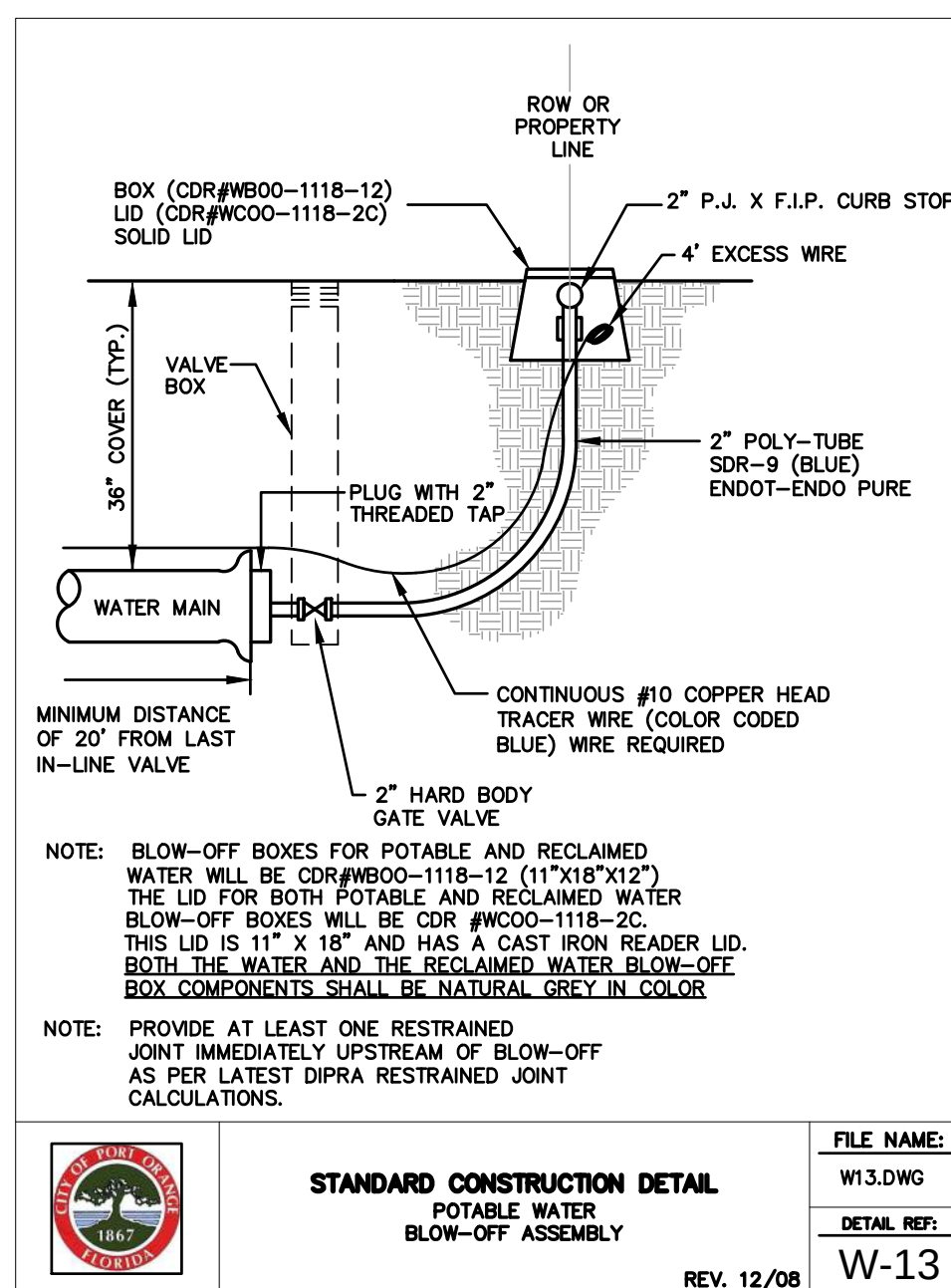
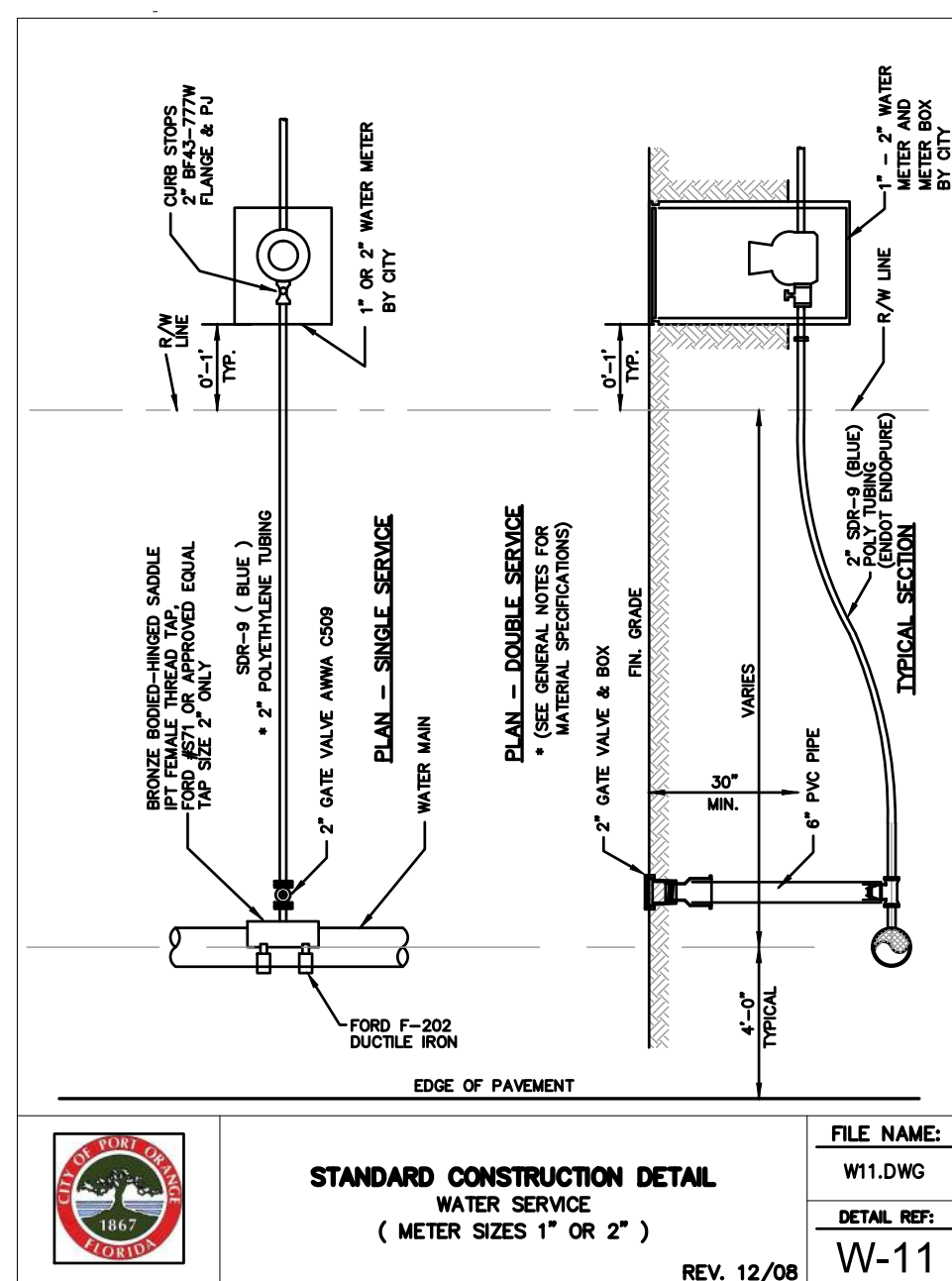
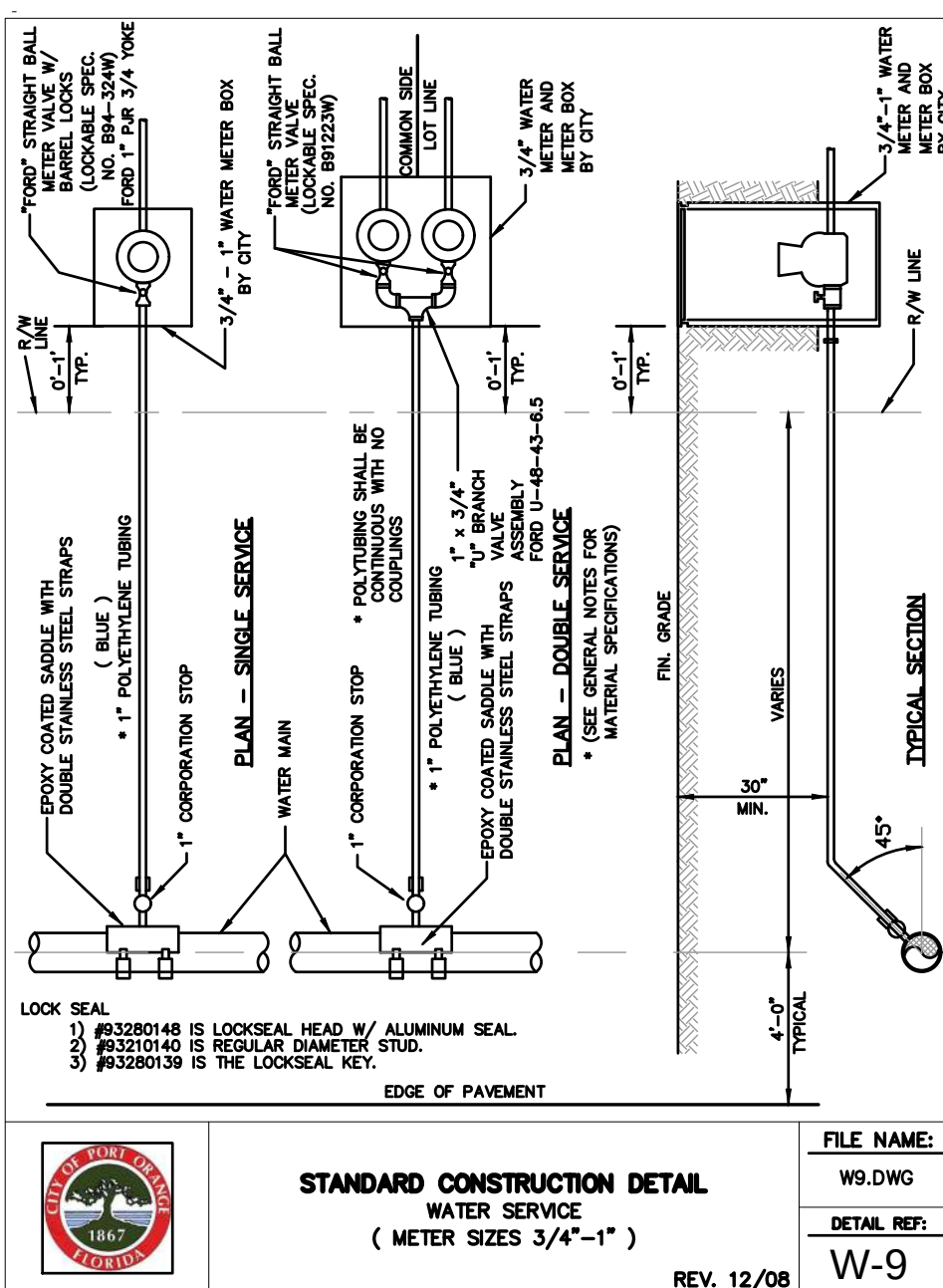
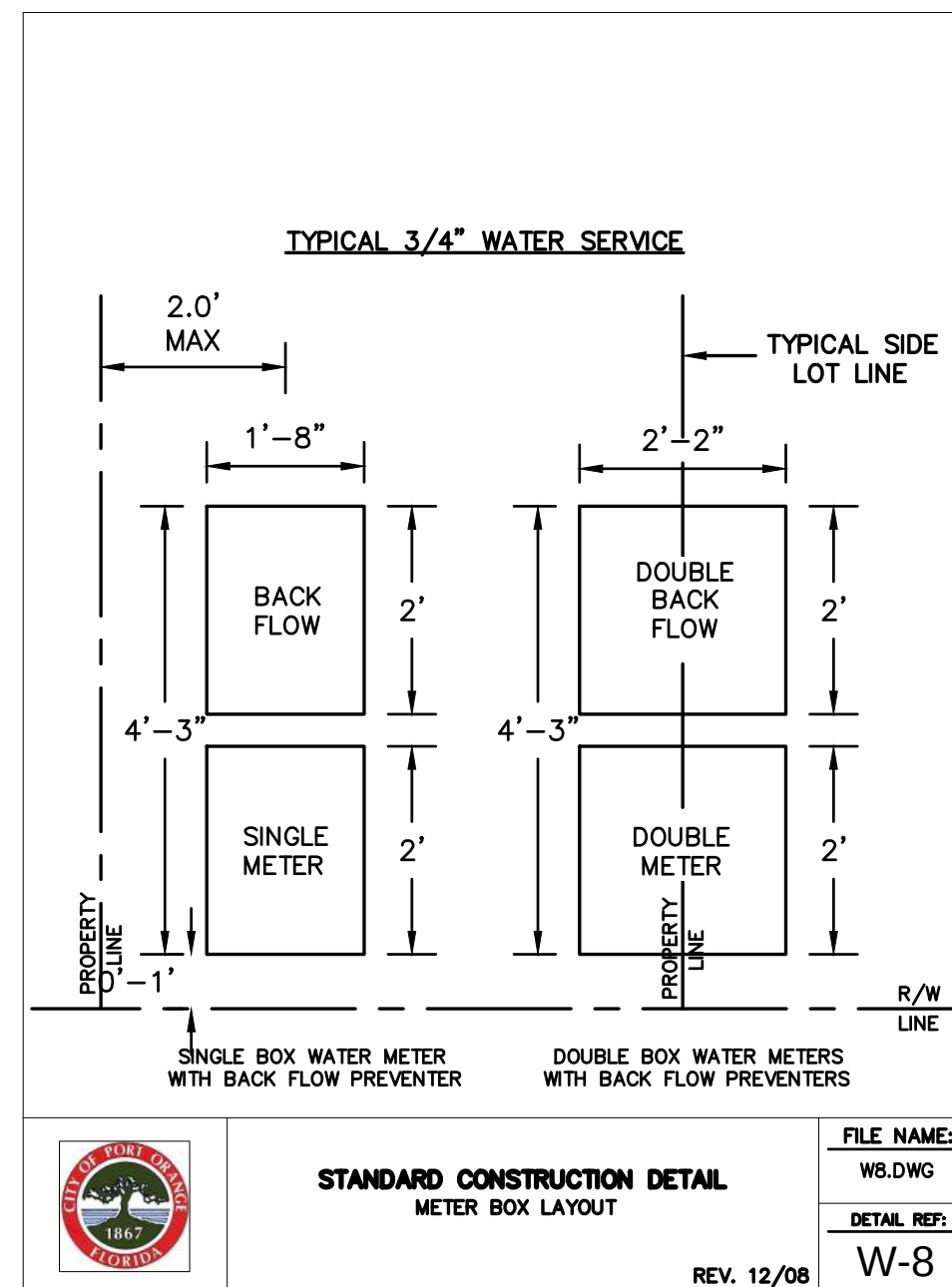
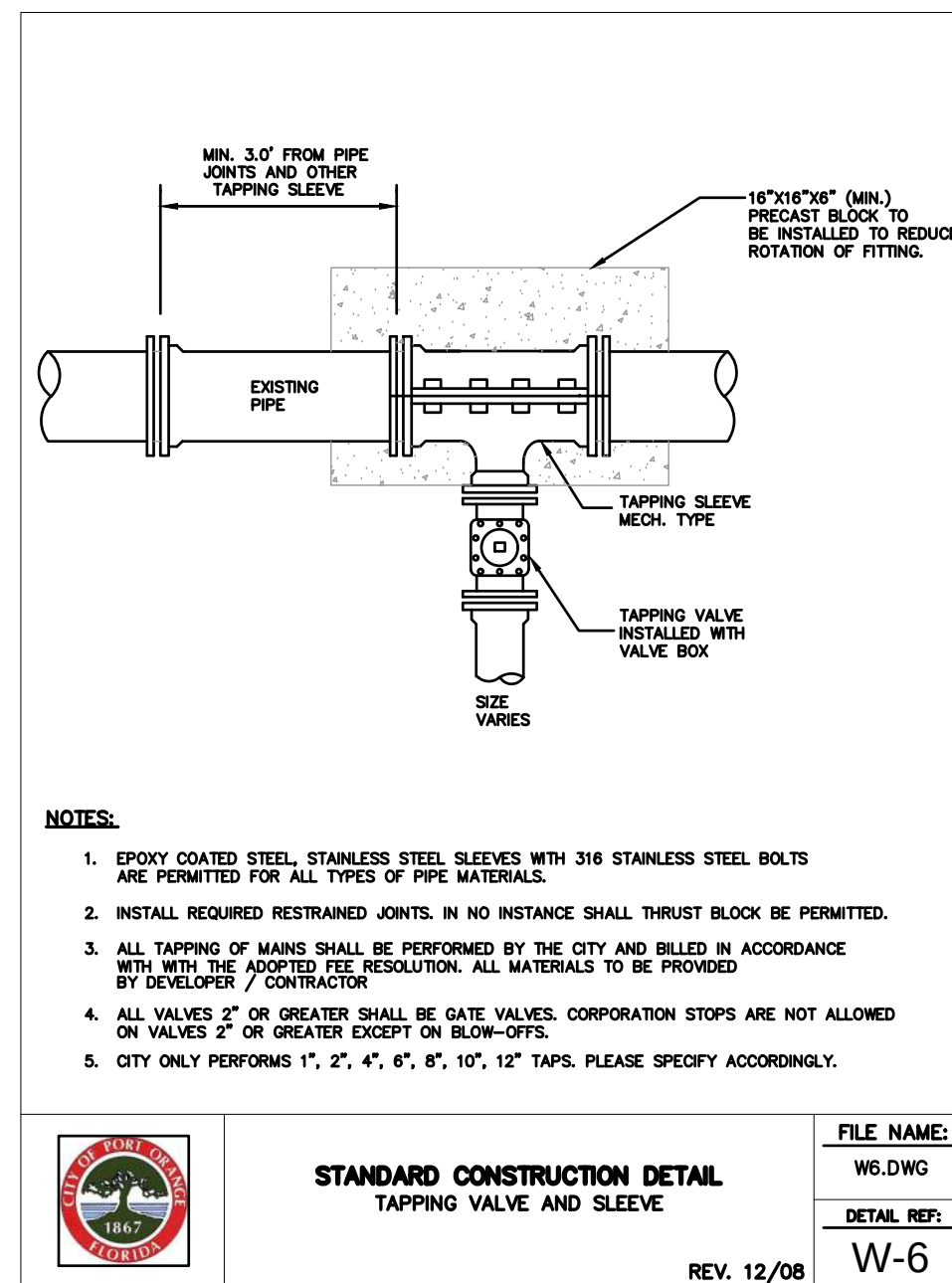
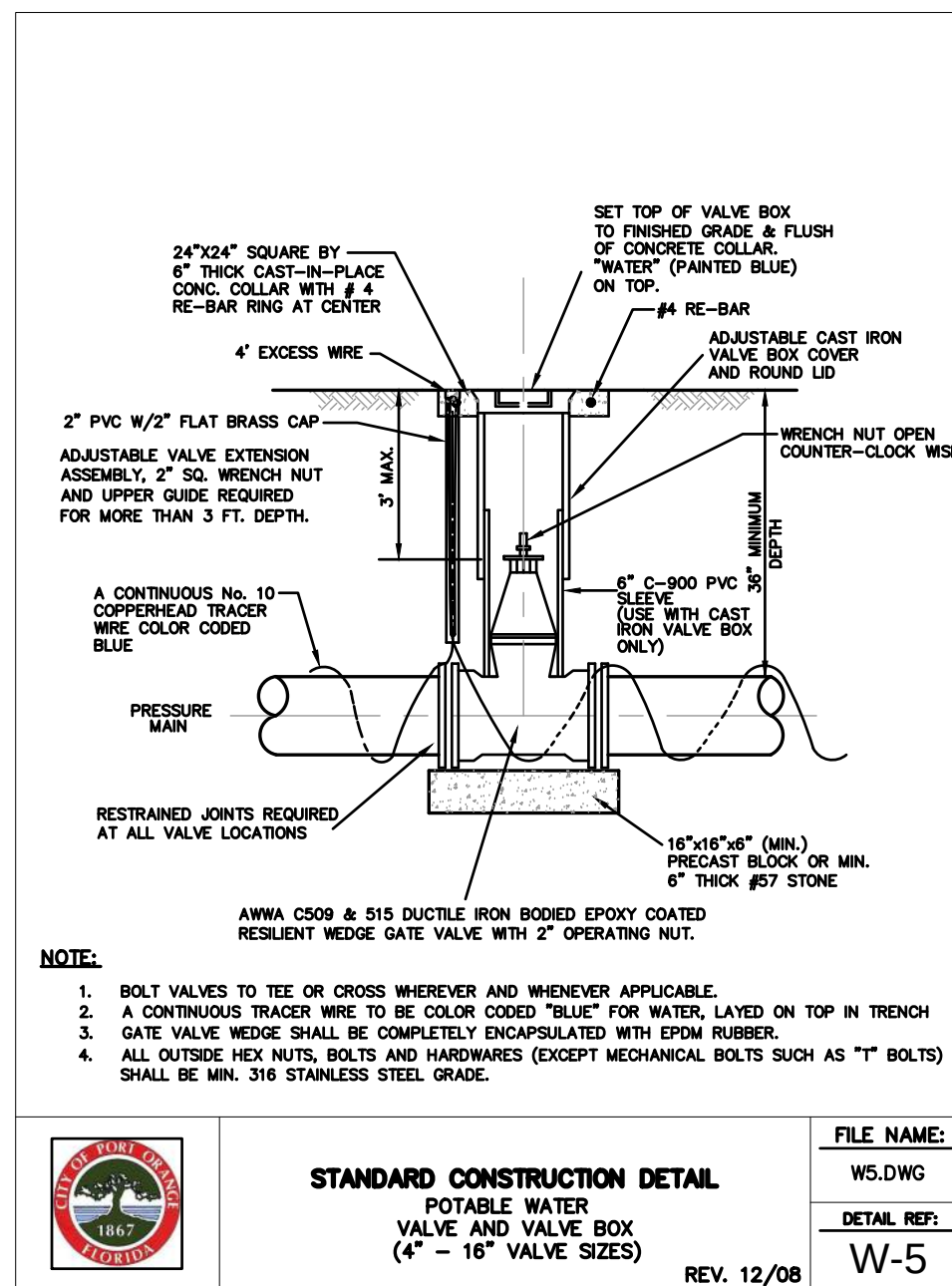
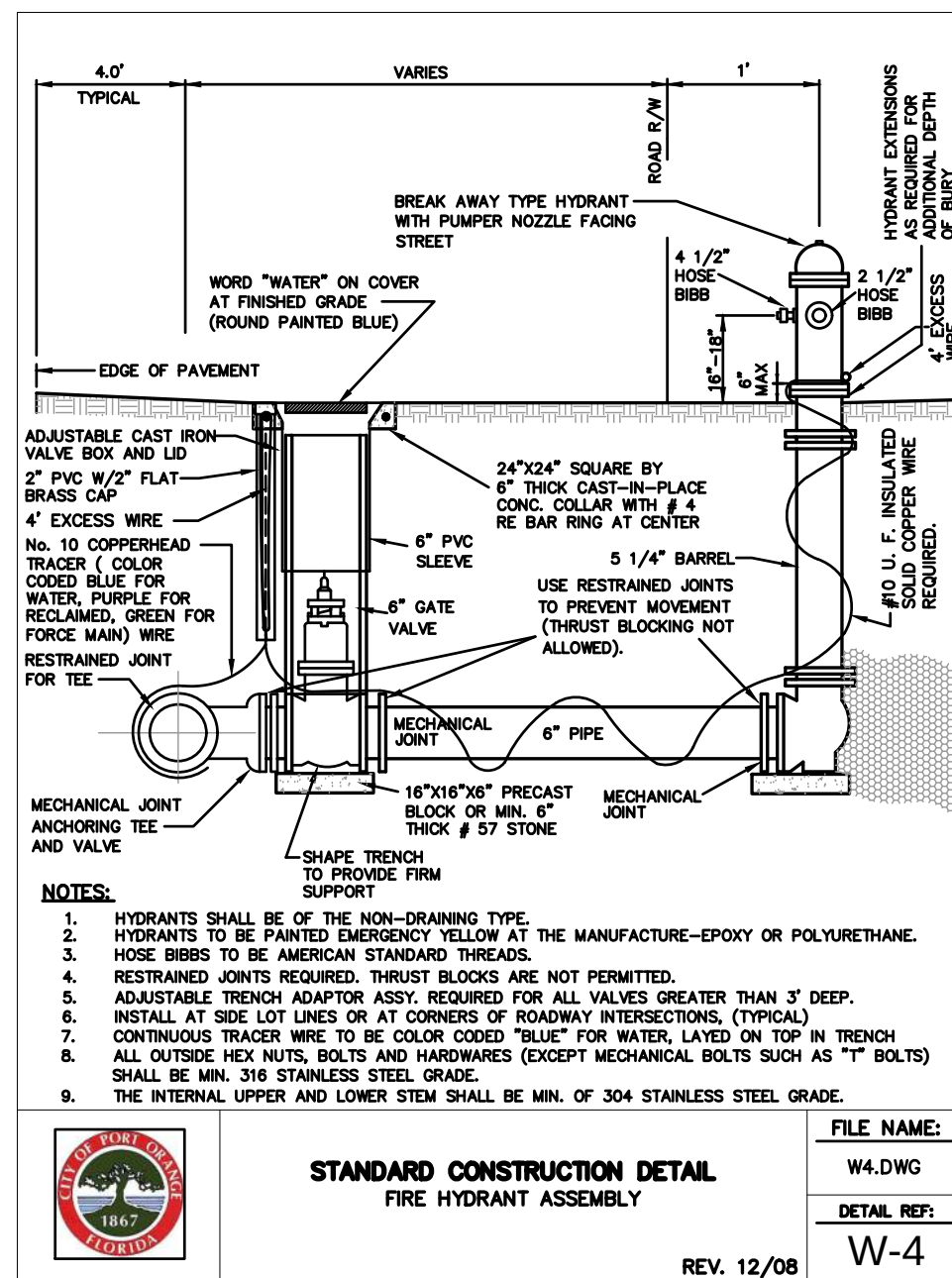


NOT VALID WITHOUT SEAL
RANDY M. HUDAK, P.E. NO. 65053

SCALE: 1"=40'

SHEET: C28 OF 38

City of Port Orange Public Utilities Department List of Approved Products	
Potable Water	
<u>Fire Hydrant (5 1/2" Barrel)</u>	
MANUFACTURER	MODEL #
Muellir	A423 Super Centurion 250
American AVK Co.	Series #2708
American Darling	5 1/2" B-84-B1
Clow	Medallion HF-2545 SS
<u>Air Release Valves</u>	
MANUFACTURER	MODEL #
Val-Matic	Series 38
<u>Gate Valves and Tapping Valves – Resilient Seated (AWWA C509 and C515) 24" or Smaller (Valve welded to be complete encased with EPDM rubber)</u>	
MANUFACTURER	MODEL #
American AVK Co.	Series 3, 18, 25, 45, 55, & 66
Clow	Model 2638 and 2639
Muellir	A-2360, A-2161, T-2360 & T-2361
American Flow Control	Series 2500





REV. 12/08

Diagram illustrating the cross-section of a landscape edging installation. The layers from bottom to top are:

- COMPACTED SUBGRADE
- 6" METAL LANDSCAPE EDGING OR SIMILAR PRODUCT TO PREVENT WASHOUT OF MATERIAL
- 4" FILTER FABRIC
- 3" TOP OF EDGING SHALL BE 3" ABOVE FINISHED GRADE
- FINISHED GRADE

Additional labels and dimensions:

- 8" MINIMUM (width of the edging)
- SEE NOTE #5 BELOW (pointing to the edging)
- STAKE PER MANUFACTURER'S SPECIFICATIONS (pointing to a stake in the edging)

NOTE:

1. THE FOLLOWING MATERIALS ARE PERMITTED TO BE USED AS A STABILIZED WALKWAY:
A. COMPACTED CRUSHED CONCRETE
B. COMPACTED CRUSHED SHELL
2. CONCRETE AND ASPHALT SHALL BE USED IN HIGH-TRAFFIC AREAS.
3. MULCH SHALL NOT BE USED AS A STABILIZED WALKING PATH MATERIAL.
4. THE FINAL GRADE OF THE WALKPATH SHALL BE GRADED WITH A MAXIMUM 2% CROSS-SLOPE AWAY FROM THE CENTERLINE OF THE PATH.



REV. 12/08

Figure 10-1 consists of three diagrams illustrating typical lot layout for a single-family detached house. Diagram (A) shows a front elevation of a house with a front yard, side yard, and rear yard. The front yard is 10.00' wide, the side yard is 10.00' wide, and the rear yard is 10.00' wide. The house is set back from the street by 10.00' and from the side yard by 10.00'. Diagram (B) shows a side elevation of a house with a side yard, rear yard, and front yard. The side yard is 10.00' wide, the rear yard is 10.00' wide, and the front yard is 10.00' wide. The house is set back from the street by 10.00' and from the side yard by 10.00'. Diagram (C) shows a cross-section of the house foundation and the 4-foot minimum clearance from the ground level.

NOTE:

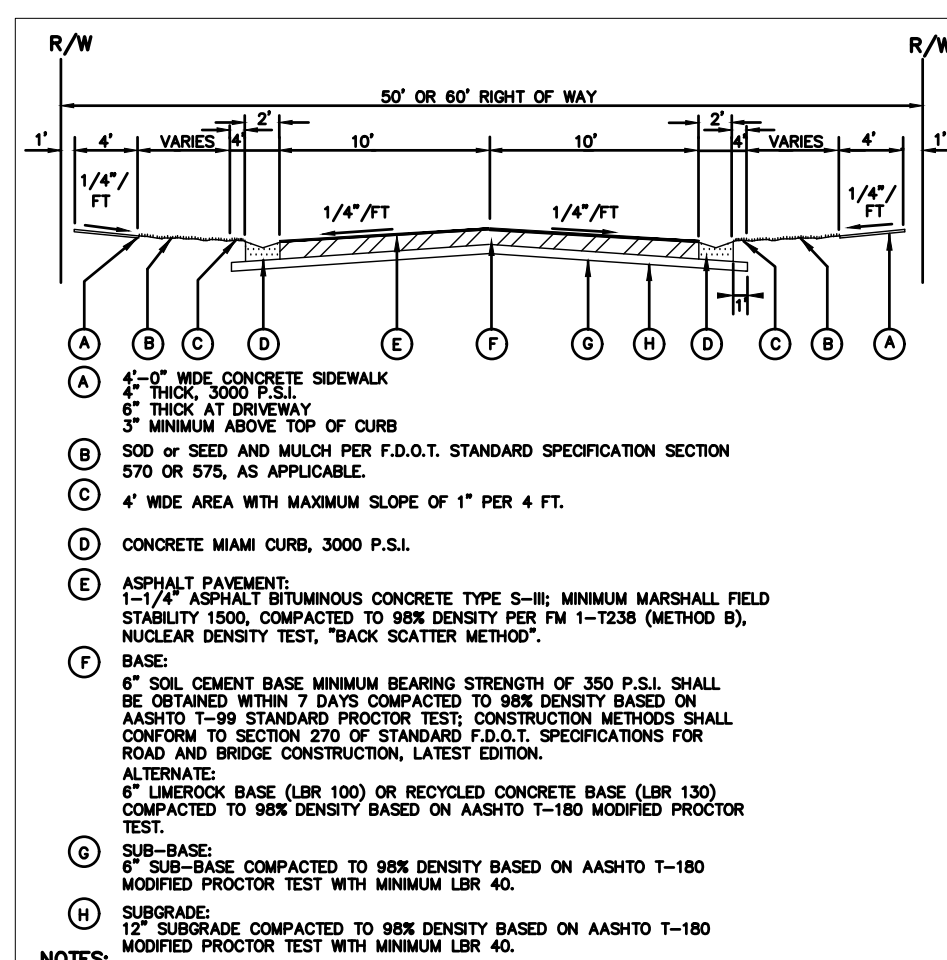
1. ALL FINISHED FLOOR ELEVATIONS SHALL BE SET A MINIMUM OF 16 INCHES ABOVE THE CENTERLINE OF THE ADJACENT ROADWAY.
2. ALL FINISHED FLOOR ELEVATIONS ARE A MINIMUM OF 1-FOOT ABOVE THE LIMITS OF THE 100 YEAR FLOOD PLAIN AND/OR 1 FOOT ABOVE THE 100-YEAR DESIGN HIGH WATER LEVEL OF THE ADJACENT DETENTION/RETENTION AREA.
3. IN CASES WHERE THE ABOVE CONDITIONS CONFLICT, NOTE #2 SHALL TAKE PRECEDENCE.
4. SIDE YARD SWALE SHALL BE CENTERED ON THE COMMON PROPERTY LINE.



REV. 12/01

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER PIPELINE. HOWEVER, IT IS PERMISSIBLE TO LAY THE NEW RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE PIPELINE, AND WHERE IT IS TO BE LAYED ABOVE THE OTHER PIPELINE. WHERE THE NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE. THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY-OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FEE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.



REV. 12/08

SLOPES STEEPER THAN 4:1 REQUIRE MESH REINFORCEMENT WITH PIN SOD
AT 36" O.C. TO PREVENT EROSION. CONTRACTOR HAS OPTION OF
INSTALLING STEM WALL TO INCREASE USEABLE LOT AREA. STEM WALL
DESIGN TO BE SUBMITTED WITH BUILDING PERMIT. SEE PLAN FOR ELEVATION



NOTE: TYPE A LOT SHOWN. SEE PLAN FOR LOT TYPE



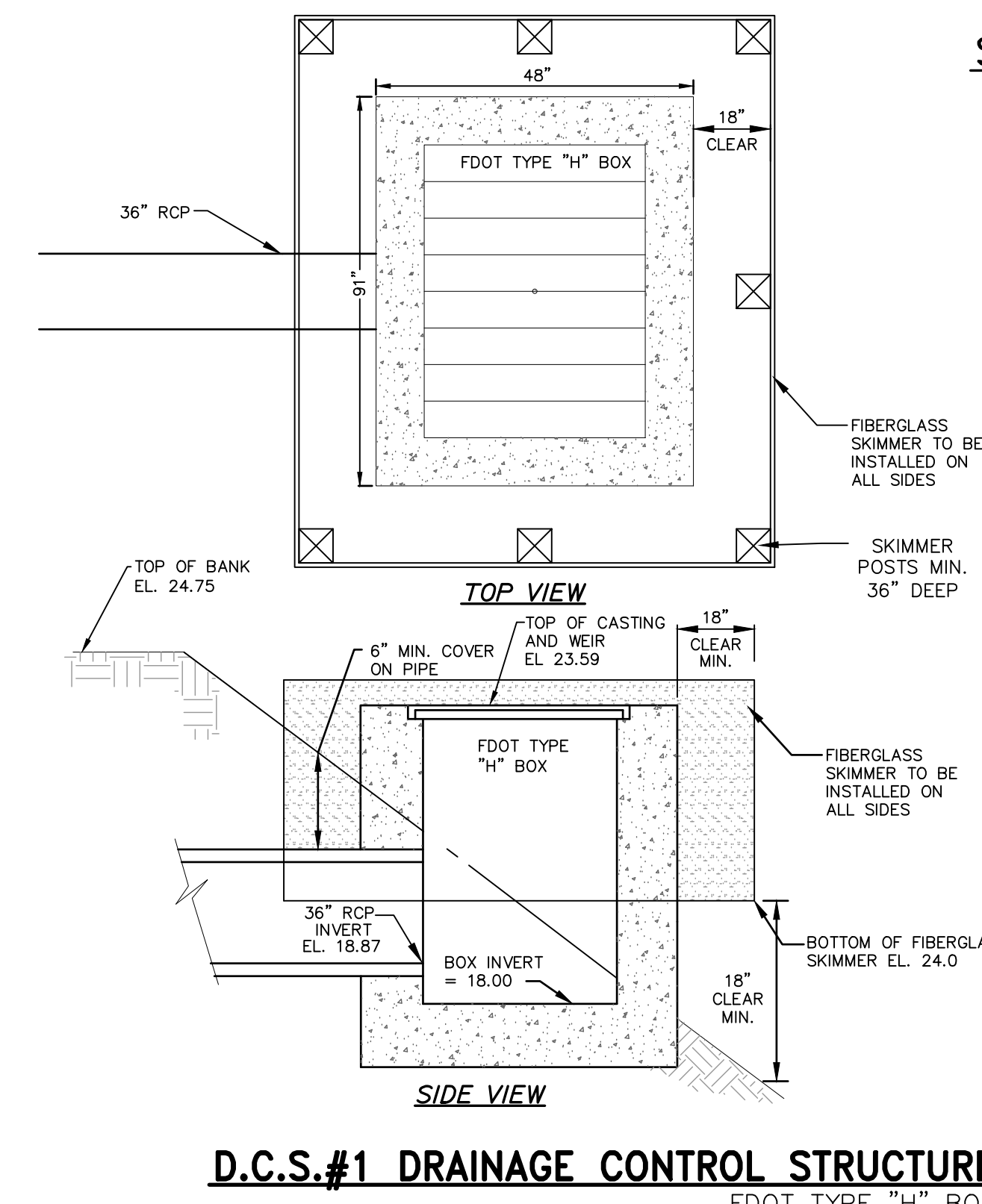
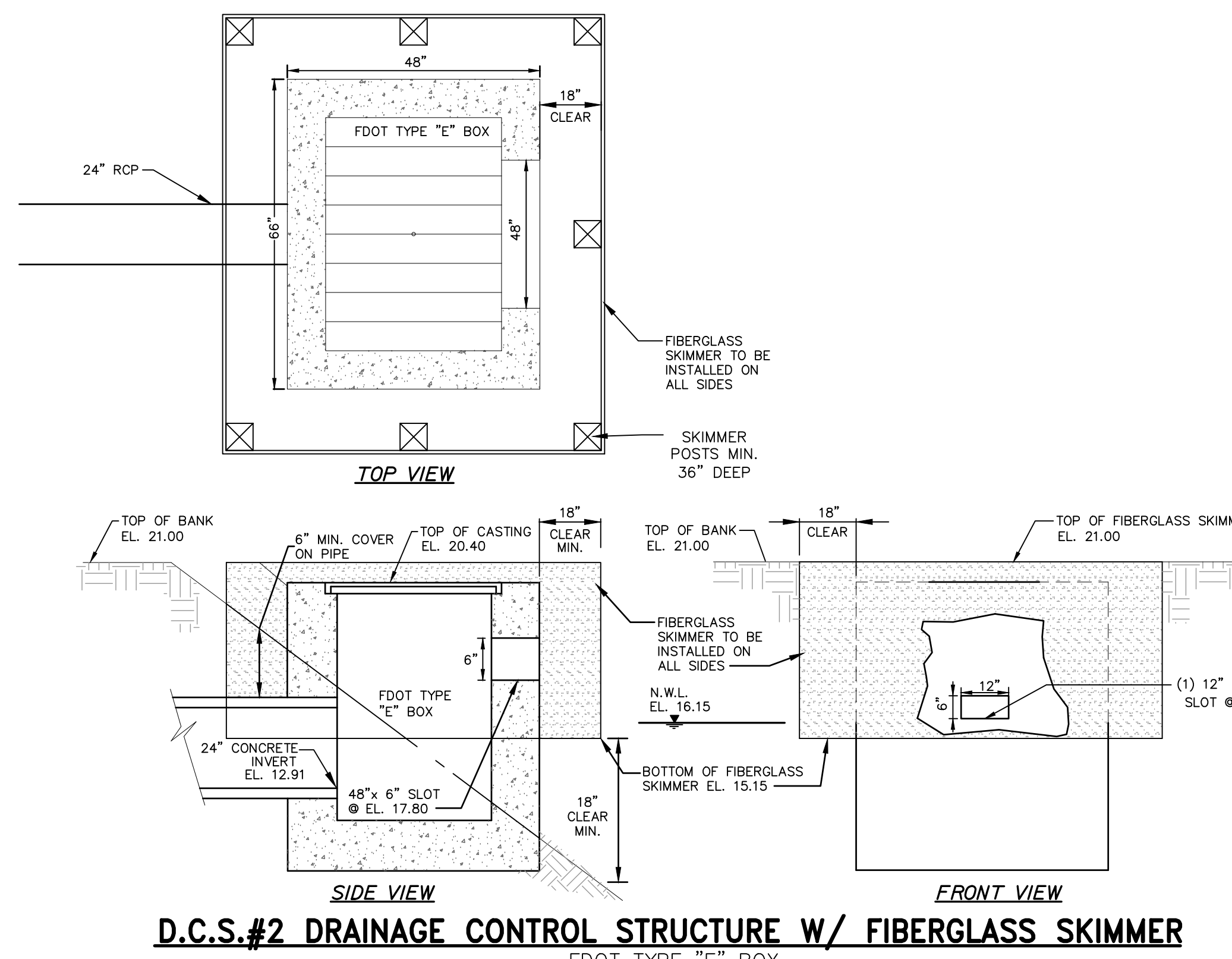
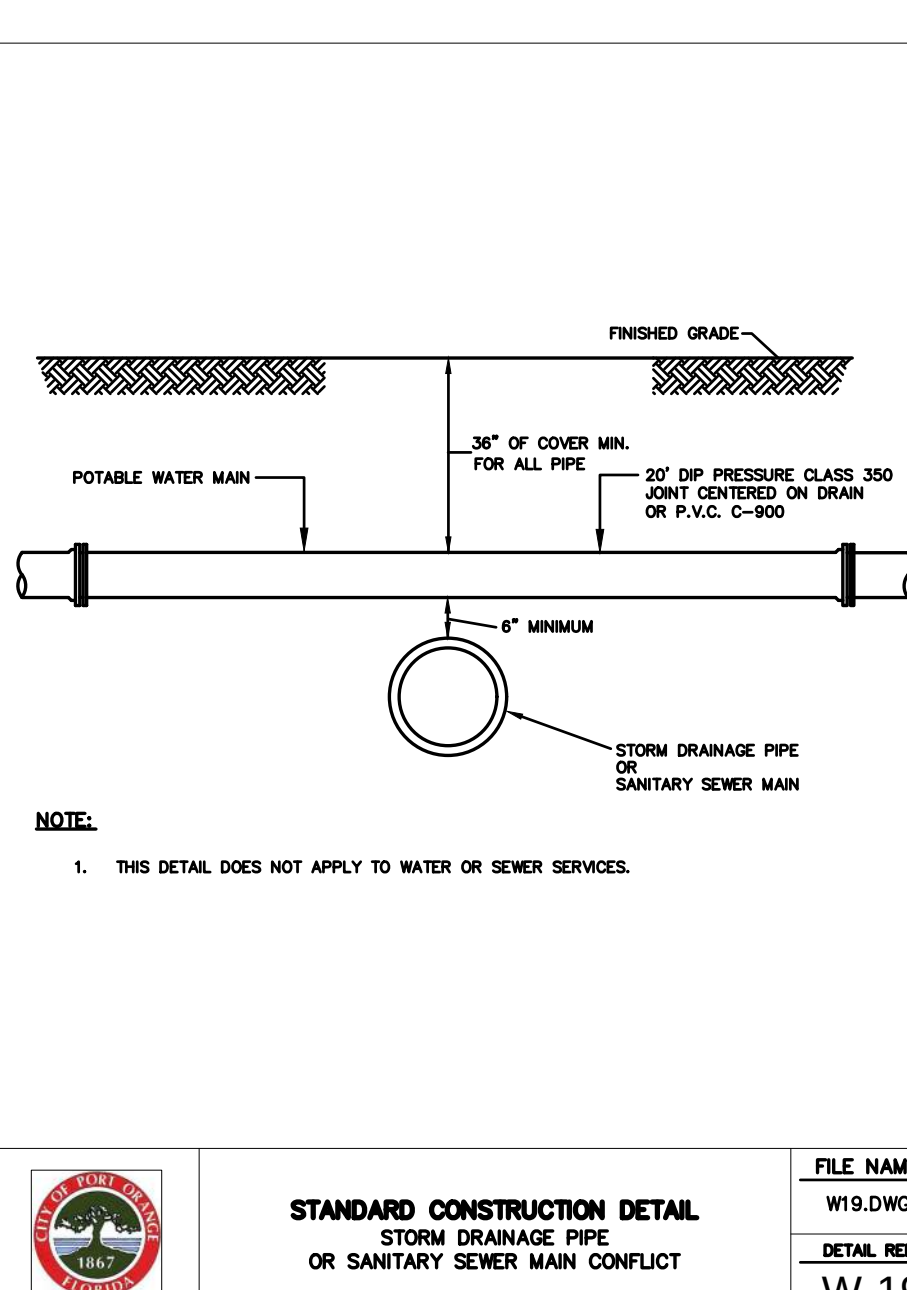
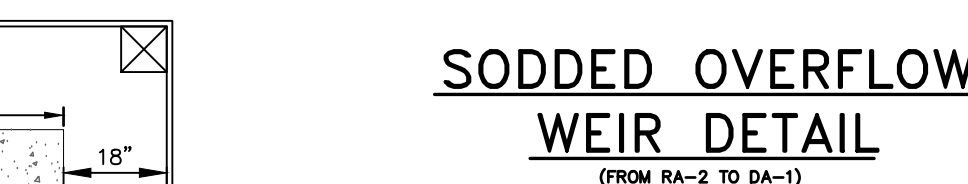
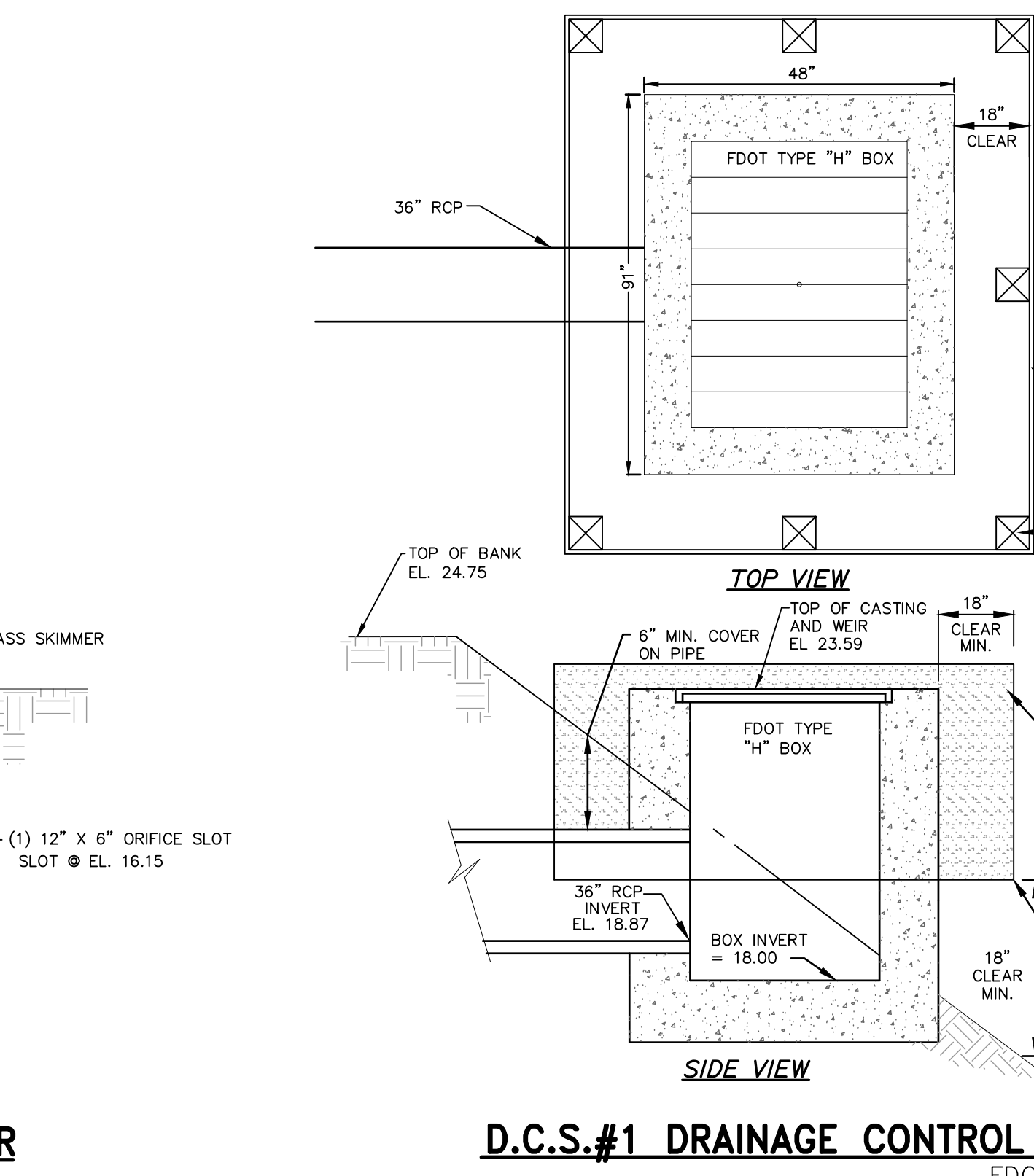
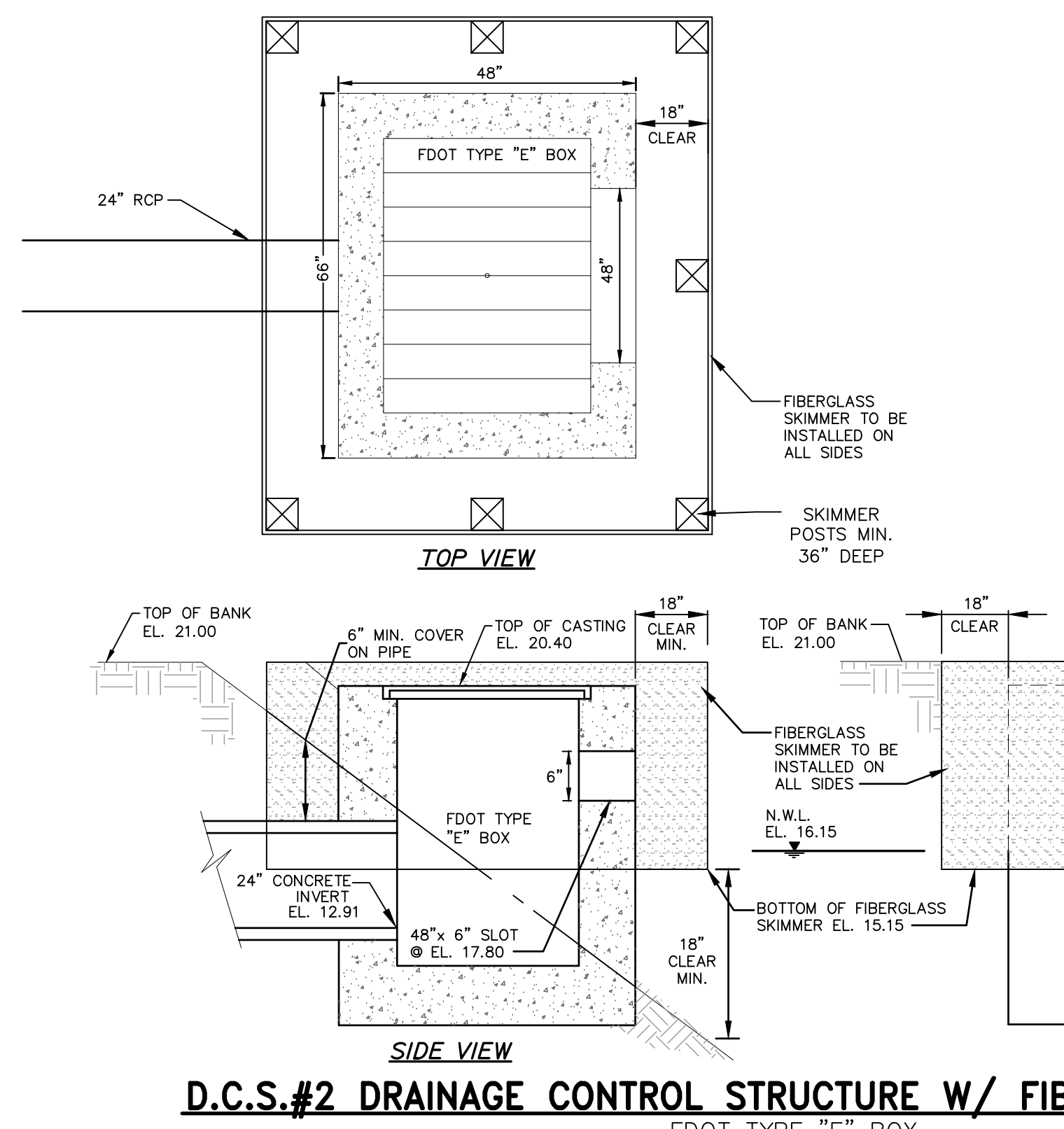
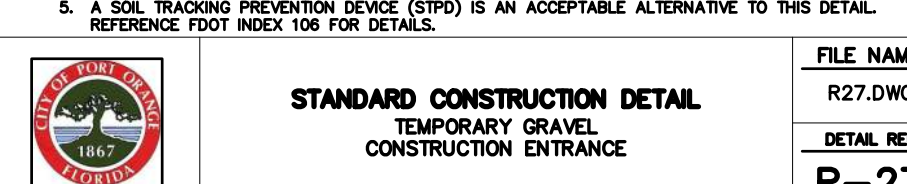
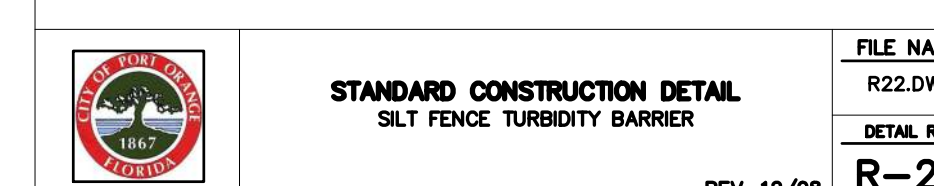
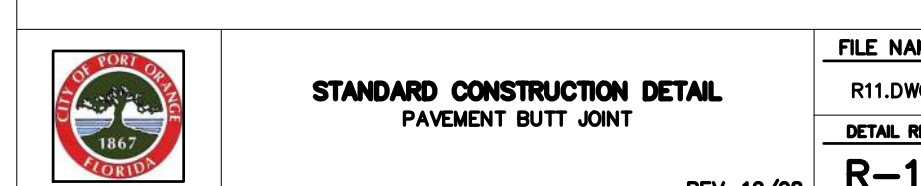


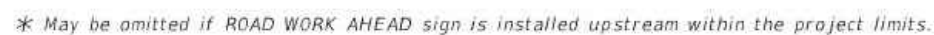
STANDARD CONSTRUCTION DETAIL

ROADWAY GEOMETRY

FILE NAME: R6.DWG

DETAIL REF: R-6





1. *Special Conditions may be required in accordance with these notes and the following sheets.*
2. *If the Work Area encroaches on the Shoulder, use the Layout for Temporary Lane Shift to Shoulder on Sheet 2 only if the Existing Paved Shoulder width is sufficient to provide for an 11' lane between the Work Area and the Edge of Existing Paved Shoulder. Reduce the posted speed when appropriate.*
3. *Temporary Raised Rumble Strips:*
 - a. *Use when both of the following conditions are met concurrently:*
 - i. *Existing Posted Speed is 50 mph or greater;*
 - ii. *Work duration is greater than 60 minutes.*
 - b. *Use a consistent Strip color throughout the work zone.*
 - c. *Place each Rumble Strip Set transversely across the lane at locations shown.*
 - d. *Use Option 1 or Option 2 as shown on Sheet 2. Use only one option throughout work zone.*

4. Additional one-way control may be provided by the following means:
- a. Flag-carrying vehicle;
 - b. Official vehicle;
 - c. Pilot vehicles;
 - d. Traffic signals.

When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.

5. When a side road intersects the highway within the TTC zone, place additional TTC devices in accordance with other applicable TCZ Indexes.
6. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.

7. When Buffer Space cannot be attained due to geometric constraints, use the greatest attainable length, not less than 200 ft.

8. **Railroad Crossings:**
- a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.

- b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

9. ROAD WORK AHEAD and the BE PREPARED TO STOP signs may be omitted if all of the following conditions are met:
- a. Work operations are 60 minutes or less.
 - b. Speed limit is 45 mph or less.

- c. There are no sight obstructions to vehicles approaching the work area for a distance equal to the Buffer Space shown in Table 1.
- d. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.
- e. Volume and complexity of the roadway has been considered.
- f. If a railroad crossing is present, vehicles will not queue across rail tracks.

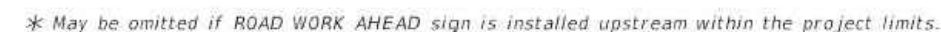
10. See Index 600 for general TCZ requirements and additional information.

11. Automated Flagger Assistance Devices (AFADs) may be used in accordance with the Notes on Sheet 3.

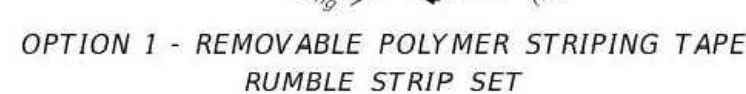
CONDITIONS
WHERE ANY VEHICLE, EQUIPMENT,
WORKERS OR THEIR ACTIVITIES
ENCROACH THE AREA BETWEEN
THE CENTERLINE AND A LINE 2'
OUTSIDE THE EDGE OF TRAVEL WAY.

WHERE ANY VEHICLE, EQUIPMENT,
WORKERS OR THEIR ACTIVITIES
ENCROACH THE AREA BETWEEN
THE CENTERLINE AND A LINE 2'
OUTSIDE THE EDGE OF TRAVEL WAY.

6/16/2015 10:46:45 AM



WHEN REQUIRED WITH ADDITIONAL SIGNS



TEMPORARY RAISED RUMBLE STRIPS

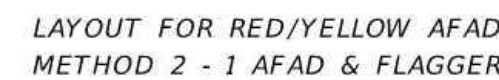
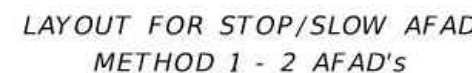
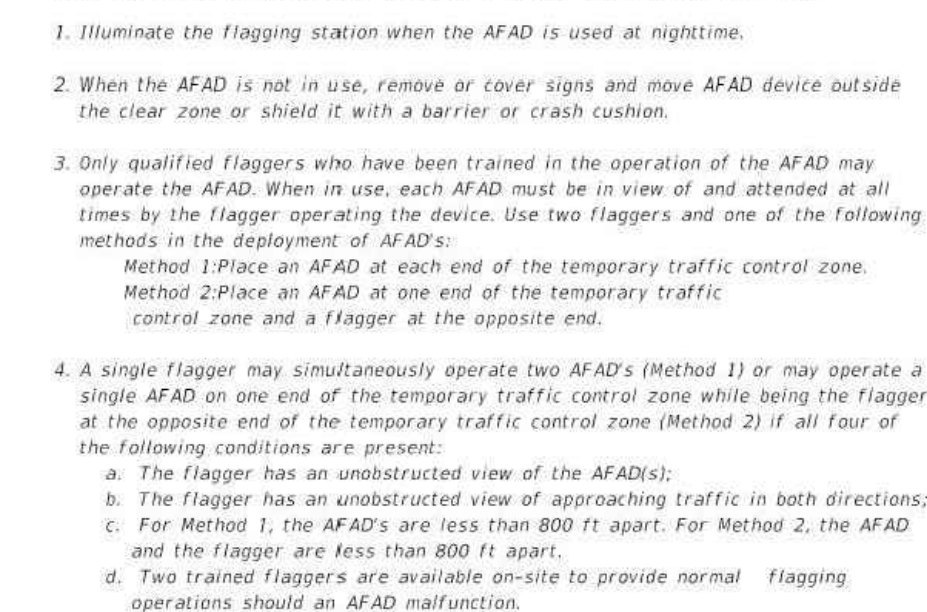


LAYOUT FOR RAILROAD CROSSING
BUFFER SPACE EXTENSION

LAYOUT FOR TEMPORARY LANE SHIFT TO SHOULDER
WHEN WORK AREA ENCREACHES ON THE CENTERLINE

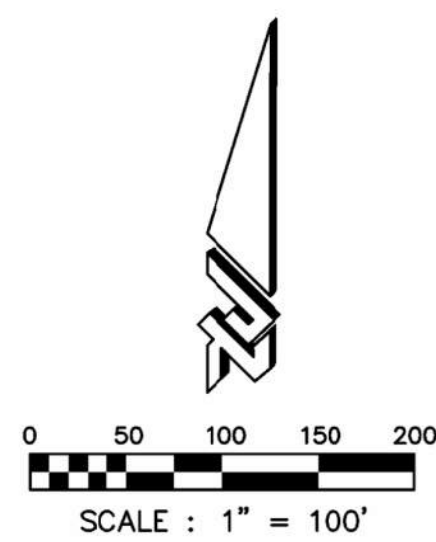
SPECIAL CONDITIONS

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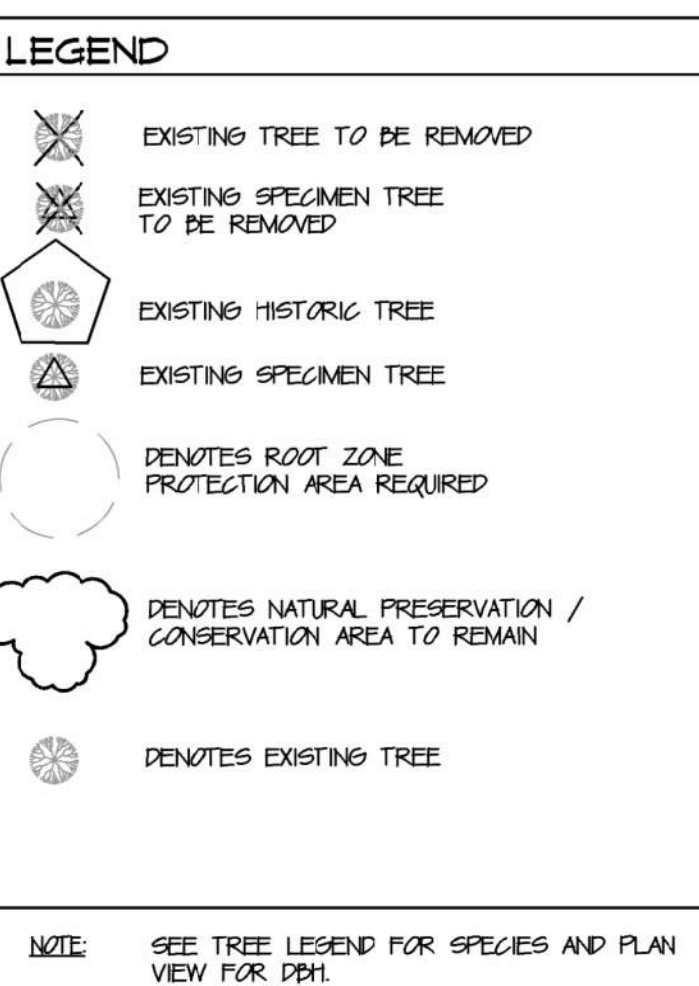


AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADs)

4/16/2015 10:46:46 AM



- SPECIMEN TREE 72 WILL REMAIN BUT SINCE IT IS LOCATED ON A PRIVATE LOT AND NOT IN A COMMON AREA SPECIMEN TREE 72 WILL NOT COUNT TOWARDS THE SPECIMEN TREE REQUIREMENTS



*REMOVALS NOTED FOR SPECIMEN AND HISTORIC TREES ONLY. SEE PLAN FOR ADDITIONAL REMOVALS.



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KINGS LANDING PHASE 2
FINAL ENGINEERING PLANS
TREE PROTECTION PLAN & DETAILS

CITY OF PORT ORANGE VOLUSIA COUNTY, FLORIDA

PROJECT NO: 15082X

ISSUE DATE: 8/31/16

DESIGNED BY: JES

DRAFTED BY: JES

CHECKED BY: SB

DRAWING FILE: 15082X-TP
XREF'S: 15082X-MODIFIEDTRSURV
XREF'S:



STEPHEN R. BURNS, R.L.A NO. 986

SCALE: 1" = 100'

SHEET: TP1 OF 7

MATCH LINE - SEE SHEET TP3

LEGEND

- EXISTING TREE TO BE REMOVED
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING HISTORIC TREE
- EXISTING SPECIMEN TREE
- DENOTES ROOT ZONE PROTECTION AREA REQUIRED
- DENOTES NATURAL PRESERVATION / CONSERVATION AREA TO REMAIN
- DENOTES EXISTING TREE

NOTE: SEE TREE LEGEND FOR SPECIES AND PLAN VIEW FOR DETAIL

15% NATURAL TREE PRESERVATION

TOTAL SITE AREA	82.2 ACRES
TOTAL PRESERVATION AREA REQUIRED (CALCULATION: 82.2 AC. x 15% = 12.33 AC.)	12.33 ACRES
UNDISTURBED NATURAL PRESERVATION AREA	12.51 ACRES

MINIMUM ON SITE TREES

TOTAL LOT AREA	82.24 ACRES	REQ. TREES	PROVIDED TREES
REQUIRED NUMBER OF TREES (1/25000TH OF LOT AREA) FOR TOTAL LOT AREA - PER LDC, CHAPTER 9, ARTICLE II, SEC. 19.0		393	
EXISTING TREES IN TREE PROTECTION AREA TO REMAIN - 50% OF THE NUMBER OF TREES REQUIRED PER LDC, CHAPTER 9, ARTICLE II, SECTION 19.0 PER LDC, CH. 9, ARTICLE II, SECTION 19.0		466	769
MINIMUM NUMBER OF TREES TO BE PLANTED ON PLATTED LOTS PER CHAPTER 19, SECTION 19.0(4)(a) - INSTALLED AT TIME OF CERTIFICATE OF OCCUPANCY (25 LOTS - R-20SF AND 3% LOTS-R)		892	892
MINIMUM TREES PROVIDED (EXISTING AND NEW)			1661

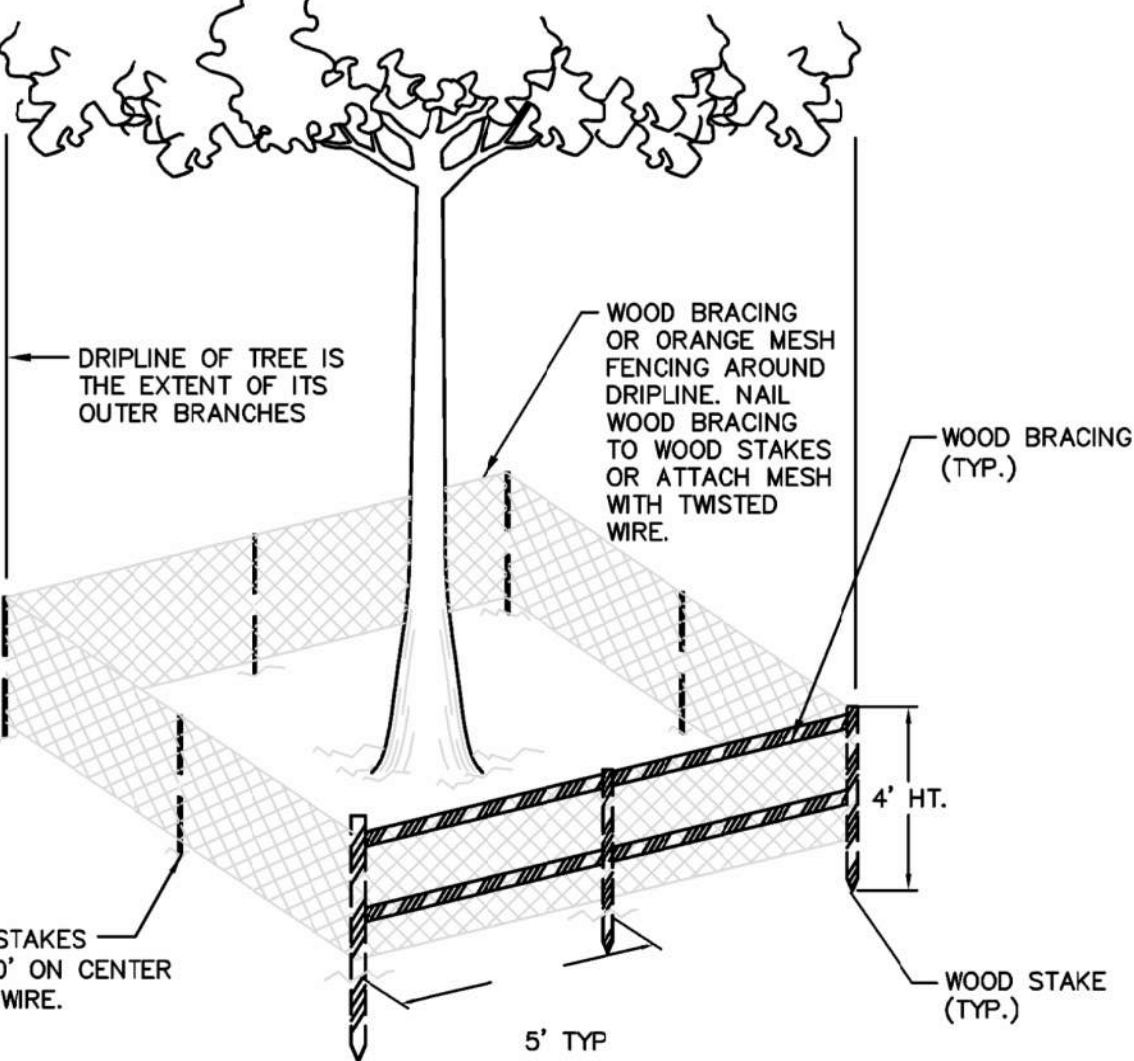
NOTE: TREES WITHIN THE NATURAL VEGETATION AREAS SHALL BE COUNTED TOWARDS ANY DEFICIT OF REQUIRED TREES ON SITE.
NOTE: EXISTING TREES TO REMAIN WITHIN 15% PRESERVATION AREA HAVE BEEN CALCULATED BASED UPON TREE SURVEY CONDUCTED AUGUST 2016.
*LOT AREA

SPECIMEN TREE CALCULATIONS

NUMBER OF SPECIMEN TREES ON SITE- LDC, CH. II, 19.0	50
TOTAL SITE AREA (ACRE)	82.2
SPECIMEN TREES PER ACRE	61
REQUIRED PERCENTAGE OF SPECIMEN TREES REQUIRED TO REMAIN ON SITE-LDC, CH. II, ARTICLE II, SECTION 19.0	80%
SPECIMEN TREES REQUIRED TO BE PRESERVED (CALCULATION: 50 TREES x 80% = 40 TREES)	40
SPECIMEN TREES TO REMAIN ON SITE IN COMMON AREA TRACTS	40
PERCENTAGE OF SPECIMEN TREES REQ. TO REMAIN	80%

PROTECTION AREA SHALL BE EITHER 5' OR 10' (WHICHEVER IS GREATER) FROM THE TRUNK OF THE TREE TO THE BARRICADE.
SPECIMEN TREES PER ACRE: 61
EXISTING SPECIMEN TREES TO BE PRESERVED: 40
PERCENTAGE OF SPECIMEN TREES TO BE PRESERVED: 80%
SPECIMEN TREES TO BE PRESERVED: 40
PERCENTAGE OF SPECIMEN TREES TO BE PRESERVED: 80%
SPECIMEN TREES TO BE PRESERVED: 40
PERCENTAGE OF SPECIMEN TREES TO BE PRESERVED: 80%

NOTE: NO HISTORIC TREES (LIVE OAK [QUERCUS VIRGINIANA] OR PALM CYPRESS [TAXODIUM DISTICHUM]) 3/4 INCH DBH OR GREATER ARE TO BE REMOVED

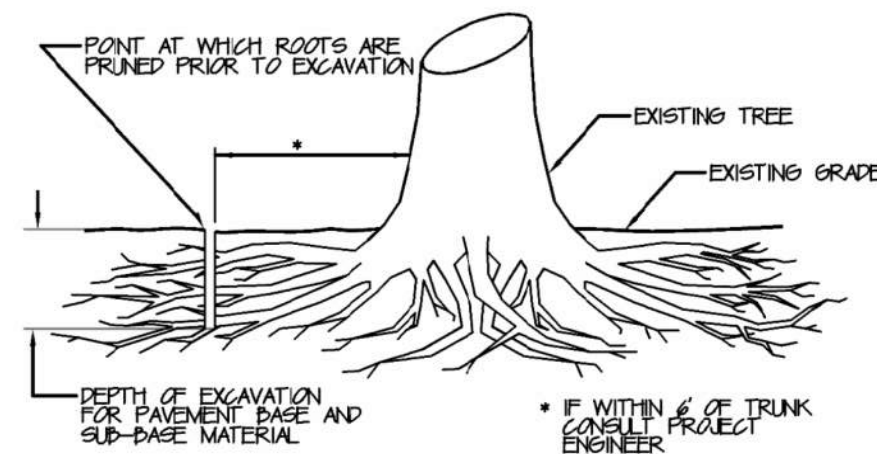


NOTE: BARBED WIRE FENCING IS NOT PERMISSIBLE

STANDARD CONSTRUCTION DETAIL
TREE PROTECTION BARRICADE

REV. 12/08

FILE NAME:
R23.DWG
DETAIL REF:
R-23



NOTES:
1. CUTS ARE TO BE MADE CLEANLY WITH A SHARP ROOT PRUNING TOOL (EITHER A POWER OR HAND PRUNER).
2. INSTALL ORANGE PLASTIC MESH TREE BARRIER WITH REBAR SUPPORTS, PROTECTING THE AREA WITHIN THE DRIPLINE (EXTENT OF OUTER BRANCHES).
3. ROOT PRUNING PROCEDURE MUST BE DONE AND INSPECTED PRIOR TO ISSUANCE OF A BUILDING PERMIT OR GRADING AND FILLING PERMIT.

ROOT PRUNING DETAIL

SCALE: NTS.

TREE PROTECTION BARRICADE DETAIL

1.73 ACRES

NATURAL PRESERVATION AREA

0.87 ACRES

NATURAL PRESERVATION AREA

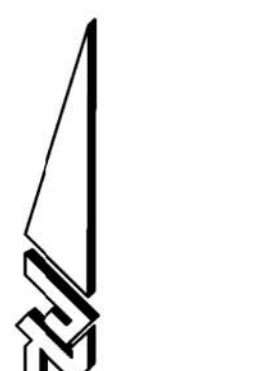
3.52 ACRES
NATURAL PRESERVATION AREA

ROCK RD.

ENGLISH OAKS DRIVE

HIGHGARDEN WAY

MATCH LINE - SEE SHEET TP4



0 20 40 60 80
SCALE: 1" = 40'

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NO.	DATE	REVISIONS
01	10/23/17	REVISED PER CITY COMMENTS SEP. 20, 2017
02	10/26/17	REVISED PER CITY COMMENTS 10/25/2017

KINGS LANDING PHASE 2
FINAL ENGINEERING PLANS
TREE PROTECTION PLAN & DETAILS

VOLUSIA COUNTY, FLORIDA
CITY OF PORT ORANGE

PROJECT NO: 15082X

ISSUE DATE: 8/31/16

DESIGNED BY: JES

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CHECKED BY: SB

DRAWING FILE: 15082X.TP
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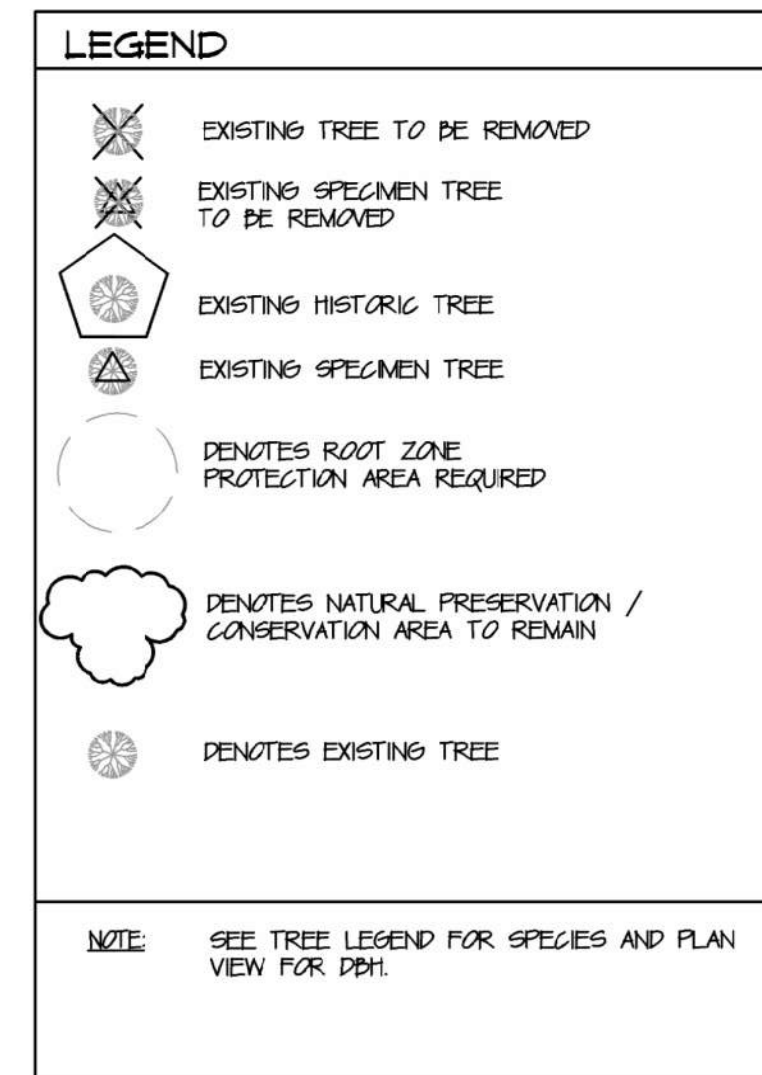


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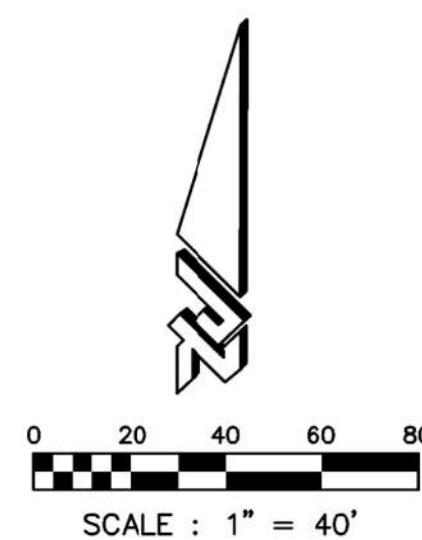
STEPHEN R. BURNS, R.L.A. NO. 986

SCALE: 1" = 40'

SHEET: TP2 OF 7



MATCH LINE - SEE SHEET TP5



MATCH LINE - SEE SHEET TP2

NO.	DATE	REVISIONS	BY
01	9/29/17	REVISED PER CITY COMMENTS SEP. 26, 2017	JES
01	10/26/17	REVISED PER CITY COMMENTS 10/25, 2017	JES

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STEPHEN R. BURNS, R.L.A NO. 986

SCALE: 1" = 40'

SHEET: TP3 OF 7



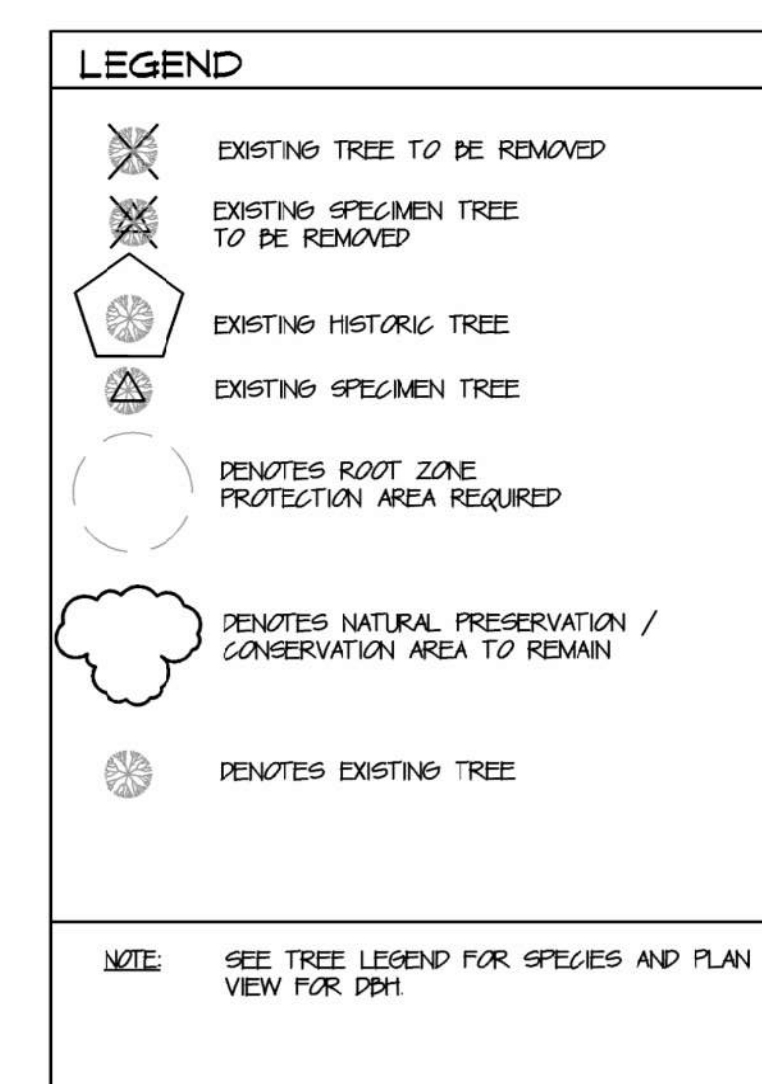
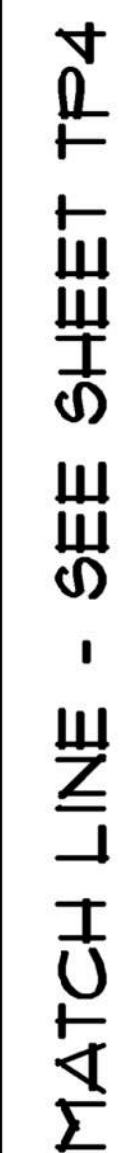
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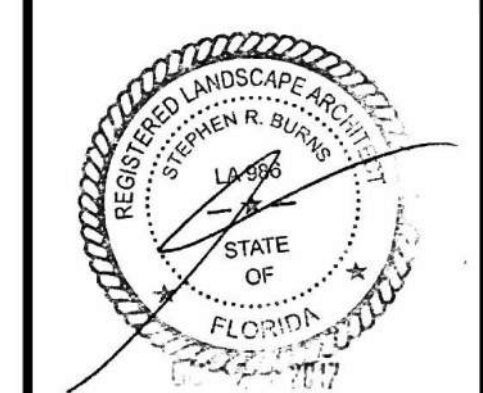
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D1	10/28/17	REVISED PER CITY COMMENTS 10/25/2017	JES

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KINGS LANDING PHASE 2
FINAL ENGINEERING PLANS
TREE PROTECTION PLAN & DETAILS

CITY OF PORT ORANGE
VOLUSIA COUNTY, FLORIDA

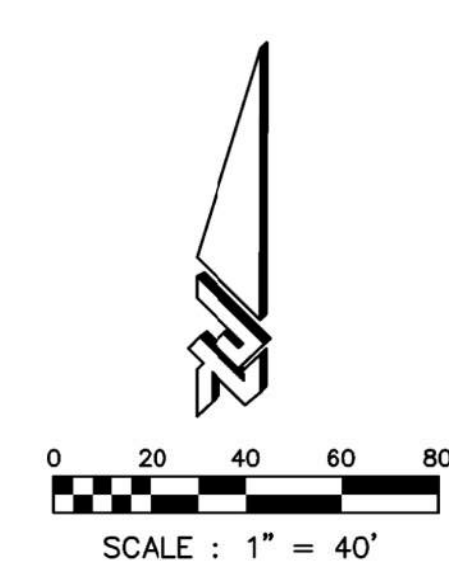
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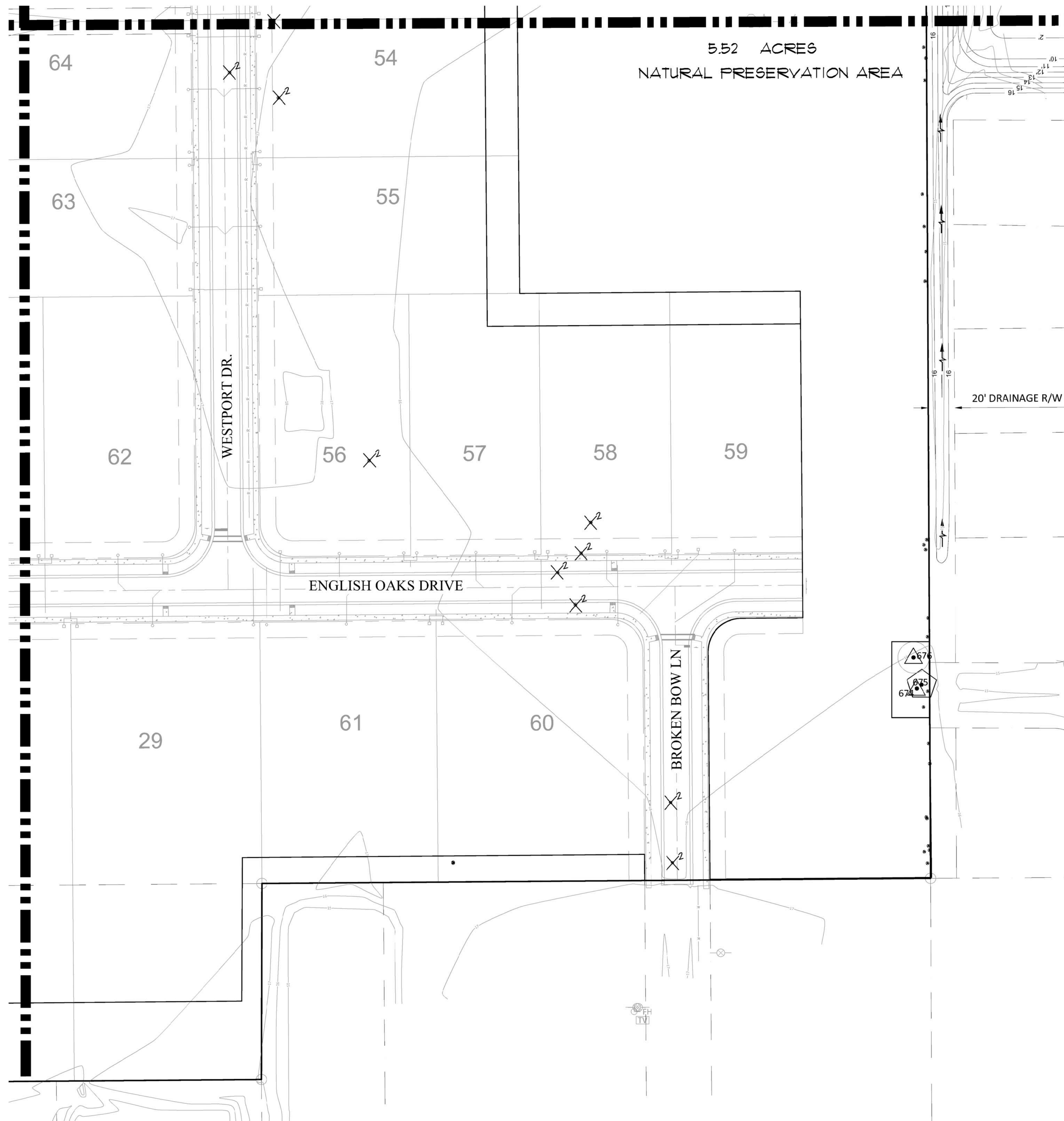
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SCALE: 1" = 40'

SHEET: TP5 OF 7



5.52 ACRES
NATURAL PRESERVATION AREA

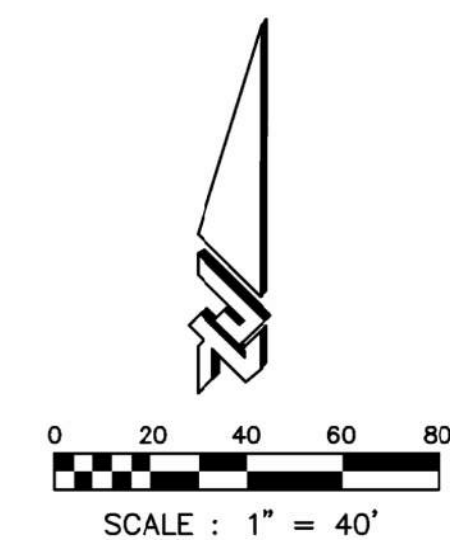


LEGEND

	EXISTING TREE TO BE REMOVED
	EXISTING SPECIMEN TREE TO BE REMOVED
	EXISTING HISTORIC TREE
	EXISTING SPECIMEN TREE
	DENOTES ROOT ZONE PROTECTION AREA REQUIRED
	DENOTES NATURAL PRESERVATION / CONSERVATION AREA TO REMAIN
	DENOTES EXISTING TREE

NOTE: SEE TREE LEGEND FOR SPECIES AND PLANT VIEW FOR DPM.

NOTE: SEE TREE LEGEND FOR SPECIES AND PLANT VIEW FOR DBH.



NOT VALID WITHOUT SEAL

STEPHEN R. BURNS, R.L.A NO. 986

SCALE: 1" = 40'

SHEET: TP6 OF 7

KINGS LANDING PHASE 2
FINAL ENGINEERING PLANS
TREE PROTECTION PLAN & DETAILS

CITY OF PORT ORANGE

VOLUSIA COUNTY, FLORIDA

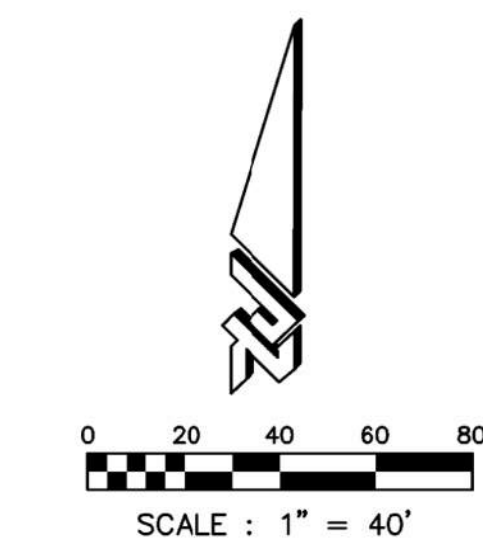
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SUE DATE: 8/31/16
DESIGNED BY: JES
DRAFTED BY: JES
CHECKED BY: SB
DRAWING FILE: 15082X-TP
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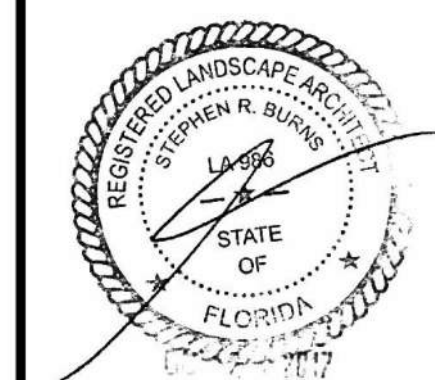
LEGEND

	EXISTING TREE TO BE REMOVED
	EXISTING SPECIMEN TREE TO BE REMOVED
	EXISTING HISTORIC TREE
	EXISTING SPECIMEN TREE
	DENOTES ROOT ZONE PROTECTION AREA REQUIRED
	DENOTES NATURAL PRESERVATION / CONSERVATION AREA TO REMAIN
	DENOTES EXISTING TREE

NOTE: SEE TREE LEGEND FOR SPECIES AND PLANT VIEW FOR DDH.

KINGS LANDING PHASE 2
FINAL ENGINEERING PLANS
TREE PROTECTION PLAN & DETAILS

PROJECT NO: 15082X
ISSUE DATE: 8/31/16
DESIGNED BY: JES
DRAFTED BY: JES
CHECKED BY: SB
DRAWING FILE: 15082X-TP XREF'S: 15082X-MODIFIEDTRSURV XREF'S:



NOT VALID WITHOUT SEAL

STEPHEN R. BURNS, R.L.A. NO. 986

SCALE: 1" = 40'

SHEET: TP7 OF 7

ORMOND BEACH
3000 INTERCHANGE BLVD. STE. C
ORMOND BEACH, FL 32174
(306) 677-2402 FAX (306) 677-2505

ST. AUGUSTINE
2777 A1A SOUTH, STE. #102 OFFICE 4
ST. AUGUSTINE, FL 32080
(904) 797-1610 FAX (386) 677-2505

EDGEWATER
1840 AIRPARK ROAD
EDGEWATER, FL 32132
(386) 677-2482 FAX (386) 677-2505



LANDSCAPE SPECIFICATIONS

1. **FLORIDA #:** ALL PLANT MATERIAL SHALL BE GRADE FLORIDA NO 1 OR BETTER IN QUALITY AS DESIGNATED IN THE MOST RECENT PUBLICATION OF "GRADES AND STANDARDS FOR NURSERY PLANTS", PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. SEE #1 FOR INFO.
2. **EXISTING PLANTS:** IF EXISTING LANDSCAPING INTERFERES WITH PROPOSED PLANTINGS SHOWN ON PLAN, THE EXISTING LANDSCAPING IS TO BE REMOVED IN FAVOR OF THE NEW PLANTINGS, UNLESS OTHERWISE INDICATED. IF THE EXISTING VEGETATION IS INTENDED TO REMAIN, THE PROPOSED LANDSCAPING SHALL BE LOCATED AS CLOSE AS POSSIBLE TO ITS INTENDED LOCATION.
3. **MULCH:** ALL PLANTING BEDS SHALL BE TOP DRESSED WITH 3" PINE BARK MULCH, GRADE "B" OR BETTER. ALL TREES NOT IN BEDS SHALL HAVE A 5" DIAMETER MULCH RING. ALL PALMS NOT IN BEDS SHALL HAVE A 3" DIAMETER MULCH RING.
4. **SOD:** SOD SHALL BE ARGENTINE PAMIA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SOD SHALL BE ROLLED, CONTRACTOR TO SOD ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION RELATED ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SOD IS FREE OF WEEDS UPON INSTALLATION AND FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD. SOD QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5. **QUANTITIES:** IN THE EVENT OF A VARIATION BETWEEN THE QUANTITIES SHOWN ON THE PLANT LIST AND THE ACTUAL QUANTITY OF PLANTS SHOWN ON THE PLAN, THE PLAN SHALL CONTROL.
6. **UNFORESEEN CONFLICTS:** CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY PORTION OF THE LANDSCAPE PLAN AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNFORESEEN OBSTRUCTIONS, GRADE DIFFERENCES, STANDING WATER, SOIL CONDITIONS OR OTHER CONFLICTS EXIST. SUCH UNFORESEEN CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
7. **SUBSTITUTIONS:** NO SUBSTITUTIONS OR VARIATIONS OF ANY PLANT MATERIAL OR ITS INSTALLED LOCATION WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.
8. **CONTAINERS:** IF GALLONAGE FOR PLANTS OR TREES IS SHOWN THEY SHALL BE CONTAINER GROWN AND THE SIZE SHOWN SHALL REPRESENT THE MINIMUM ALLOWABLE GALLONAGE. IN ALL CASES THE PLANT SPECIFIED SIZE SHALL GOVERN OVER THE GALLONAGE INDICATED.
9. **PLANTING SOIL:** CONTRACTOR SHALL VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO THE PLANT SPECIES SPECIFIED. IF SOIL CONDITIONS ARE DEEMED UNSUITABLE FOR PROPER PLANT HEALTH, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROPER SUBSTITUTIONS SHALL BE SPECIFIED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THE CONTRACTOR SHALL REMOVE JUNK, ROCK, CONCRETE AND OTHER DELETERIOUS DEBRIS FROM PLANTING BEDS. IF DEBRIS IS INTEGRATED IN THE SOIL, THE SOIL MUST BE EXCAVATED AND REPLAED WITH ACCEPTABLE SOIL. ALL FILL TO BE PLACED IN LANDSCAPE AREAS MUST HAVE A pH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, AND BE FREE OF ROCKS AND DEBRIS.
10. **TOPSOIL:** TOPSOIL MATERIAL, IF REQUIRED, SHALL BE FREE FROM ALL HARD CLODS, WEEDS, STONES OVER 1" IN DIAMETER, CLAY, HARD PAN, NOXIOUS PLANTS, SOD, INSECTS, OR OTHER UNDESIRABLE PLANTS, SEEDS, OR MATERIAL WHICH MAY BE HARMFUL FOR GROWTH AND SHALL BE CERTIFIED AS STERILE.
11. **WEEDS:** IF PRESENT, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY WEEDS FROM PLANTING AND SOD AREAS PRIOR TO THE INSTALLATION OF PROPOSED PLANT MATERIAL AND MULCH COVER. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP BEDS AND SOD FREE OF WEEDS FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD.
12. **GRADING:** UNLESS OTHERWISE STATED ON THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED AND SODDED IN ORDER TO ELIMINATE BUMPS AND DEPRESSIONS. FINE GRADING SHALL BE DEFINED AS THE FINAL 2" OF GRADE TO BE ACHIEVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND REGRADING WASHOUT AREAS CAUSED BY EROSION UNTIL FINAL ACCEPTANCE OF THE PROJECT.
13. **STAKING:** ALL TREES AND PALMS ARE TO BE STAKED ACCORDING TO THE DETAILS IN THESE PLANS. IF THE CONTRACTOR PREFERENCES TO USE OTHER STAKING METHODS THAN SHOWN IN THE DETAILS, HE OR SHE MUST SUBMIT PROPOSED STAKING DETAILS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN, REPAIR, AND/OR REPLACE ANY PLANTS DAMAGED BY FAILURE TO PROPERLY STAKE OR GUY ANY TREES ON SITE, AT THEIR OWN EXPENSE.
14. **BED LINES:** CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE PARALLEL TO PARKING LOTS AND STRUCTURES UNLESS DESIGNED OTHERWISE.
15. **FERTILIZER:** OSMOCOTE SLOW RELEASE FERTILIZER OR EQUIVALENT SHALL BE APPLIED TO ALL TREE, SHRUB, AND GROUNDCOVER PLANTING AREAS AT THE RATE OF THREE (3) TABLESPOONS PER 2 SF. OF PLANTING AREA.
16. **DRAINAGE:** THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THIS WORK DOES NOT INTERRUPT EXISTING OR PROPOSED DRAINAGE PATTERNS AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHALL A CONFLICT ARISE. CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE/SOD AREAS TO PROPERLY DRAIN AWAY FROM BUILDINGS/STRUCTURES.
17. **SPECIFICATIONS:** THE LANDSCAPE ARCHITECT SHALL BE PERMITTED THE RIGHT DURING INSTALLATION, TO REJECT ANY AND ALL PLANT MATERIAL AND WORKMANSHIP WHICH IN HIS OR HER OPINION DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS.
18. **NATURAL AREAS:** NATURAL VEGETATION PRESERVATION AREAS SHALL BE CLEANED UP INCLUDING BUT NOT LIMITED TO THE REMOVAL OF ANY DEBRIS OR WEEDS AND PRUNING OF DEAD OR YELLOW BRANCHES AND PALM FRONDS. MULCH EDGE OF NATURAL AREA 5' FEET.
19. **WILDLIFE NOTIFICATION:** UNLESS NOTIFIED BY THE CLIENT OR CONTRACTOR, IN WRITING, LANDSCAPE ARCHITECT SHALL NOT BE HELD RESPONSIBLE FOR DAMAGES TO PROPOSED PLANT MATERIAL CAUSED BY DEER OR OTHER ANIMALS. UPON NOTIFICATION OF TEST ANIMAL EXISTENCE, PROPER PLANT SUBSTITUTIONS SHALL BE PROVIDED BY THE LANDSCAPE ARCHITECT.
20. **TURNOVER:** CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR A TURNOVER DATE TO INCLUDE A WALK-THROUGH AND ACCEPTANCE OF WORK BY THE LANDSCAPE ARCHITECT. ANY WORK DEEMED UNACCEPTABLE SHALL BE CORRECTED IMMEDIATELY AND RESPECTED AS SCHEDULED.
21. **MAINTENANCE:** CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE TO BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE 90 DAYS AFTER FINAL WRITTEN ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, PRUNING, WEEDING, MULCHING, MOVER, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY IN ORDER TO MAINTAIN PROPER PLANT HEALTH AND SOIL MOISTURE CONTENT.
22. **GUARANTEE:** CONTRACTOR SHALL GUARANTEE ALL INSTALLED PLANT MATERIAL FOR ONE (1) CALENDAR YEAR STARTING FROM THE TURNOVER DATE. FOR WORK FOUND ACCEPTABLE, ANY CORRECTED WORK SHALL HAVE A PROPORTIONAL EXTENSION OF WARRANTY. ONCE APPROVED, ANY SICK OR DEAD MATERIAL SHALL BE REPLACED IMMEDIATELY. THE LANDSCAPE CONTRACTOR SHALL NOT BE RESPONSIBLE TO HONOR ANY WARRANTY FOR THE LOSS OF ANY PLANT MATERIAL CAUSED BY FLOODING, FIRE, FREEZING TEMPERATURES, WINDS OVER 50 MPH, LIGHTNING, ANY OTHER NATURAL DISASTER, OR ANY LOSS/DAMAGE CAUSED BY VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
23. **CALL BEFORE YOU DIG:** CONTRACTOR SHALL NOTIFY SUNSHINE 811 AND HAVE UTILITIES LOCATED, PRIOR TO DIGGING, BY CALLING 811. CONTRACTOR SHALL NOT PLANT TREES WITHIN 3' OF AN UNDERGROUND UTILITY, EITHER AS LOCATED OR AS SHOWN ON THE PLAN, WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM OWNER'S REPRESENTATIVE.

IRRIGATION NOTES

1. AN AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM WITH A RAIN SENSOR SHALL BE INSTALLED TO PROVIDE 100% HEAD TO HEAD COVERAGE OF ALL NEW PLANTINGS. IRRIGATION PLAN SHALL BE PROVIDED UPON SUBSTANTIAL SITE PLAN APPROVAL.

HARDSCAPE NOTES

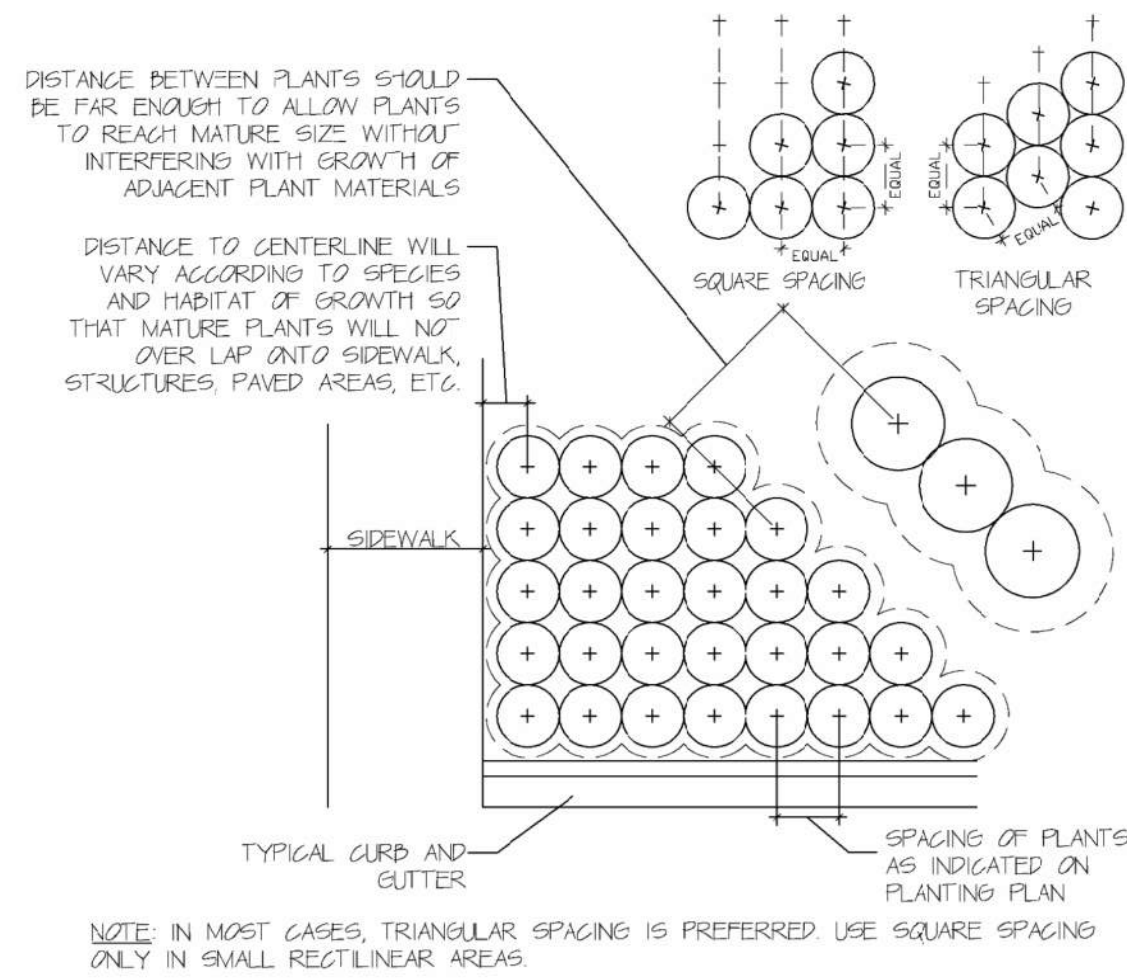
1. **DIMENSIONS:** ALL LAYOUT DIMENSIONS ARE TO EDGE OF PAVEMENTS UNLESS OTHERWISE NOTED.
2. **LAYOUT:** ALL LAYOUT DIMENSIONS SHOWN ON DETAILS ARE APPROXIMATE.
3. **CONCRETE:** REFER TO CIVIL DRAWINGS FOR CONCRETE DESIGN SPECIFICATIONS AS WELL AS GRADING AND DRAINAGE INFORMATION.
4. **ACCESSIBILITY:** ALL CONSTRUCTION SHALL CONFORM WITH THE REQUIREMENTS FOR HANDICAP ACCESSIBILITY AS OUTLINED UNDER THE AMERICANS WITH DISABILITIES ACT (ADAA).
5. **STAKING AND LAYOUT:** THE CONTRACTOR SHALL STAKE AND LAYOUT ALL IMPROVEMENTS USING THE GEOMETRIC DATA PROVIDED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLETELY STAKE AND VERIFY THE ALIGNMENT BOTH VERTICAL AND HORIZONTAL AND TO INSURE PROPER POSITIONING PRIOR TO THE MANUFACTURING AND INSTALLATION OF ANY IMPROVEMENT. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING IF ANY DISCREPANCIES ARE FOUND AND NOT PROCEED WITH THE WORK UNTIL DIRECTED.
6. **EXISTING IMPROVEMENTS:** THE CONTRACTOR SHALL REPAIR OR REPLACE TO AN EQUAL TO OR BETTER CONDITION ANY EXISTING IMPROVEMENTS LOCATED OUTSIDE OF THE LIMITS OF WORK THAT ARE DAMAGED BY THE CONTRACTOR'S CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
7. **EXISTING UTILITIES:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
8. **CONSTRUCTION JOINTS:** CAULK ALL JOINTS BEFORE PAINTING.
9. **PAIN:** COLOR FOR PAINTED SURFACES SHALL BE AS INDICATED ON THESE PLANS OR SELECTED BY OWNER OR OWNER'S REPRESENTATIVE. FINAL PAINT COLOR SELECTED BY OWNER OR OWNER'S REPRESENTATIVE SHALL BE APPLIED AND APPROVED BY SAME PRIOR TO THE INSTALLATION OF SIGAGE LETTERS.
10. **TRASH:** ALL CUTOFFS AND SCRAPS ARE TO BE REMOVED FROM SITE DAILY.
12. **INTENT:** THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. CONTRACTOR SHALL VERIFY THAT ALL LOCAL STRUCTURAL SPECIFICATIONS AND BUILDING CODES ARE SATISFIED.
13. **SHOP DRAWINGS:** THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS INDICATING REQUIRED STRUCTURAL DESIGN SPECIFICATIONS TO THE OWNER THAT ARE SIGNED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

FASTENER NOTES

1. BOLTS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION 1-307 (HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS), TYPE I, AND HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM SPECIFICATION A-193 (ZINC COATING HOT DIP ON IRON AND STEEL HARDWARE). BOLTS SHALL BE SPACED EQUALLY AND SHALL NOT BE CLOSER THAN 4 BOLT DIAMETERS FROM THE EDGE OF THE LUMBER.
2. FASTENERS GALVANIZED TO MEET ASTM A 193 CLASS D ARE ACCEPTABLE FOR USE WITH TREATED LUMBER. STAINLESS STEEL FASTENERS ARE ALSO ACCEPTABLE.

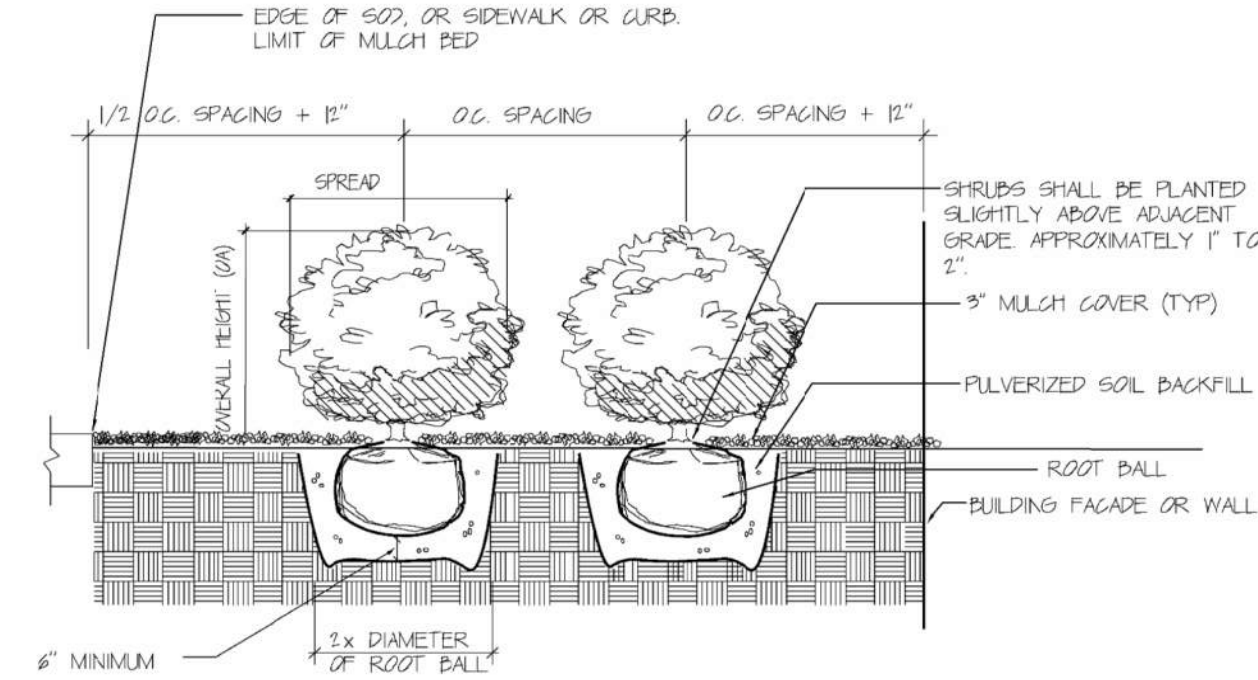
ALUMINUM NOTES

1. ALL ALUMINUM MEMBERS ARE TO BE PAINTED WITH AN ELECTROSTATIC POWDER COAT. COLOR AS INDICATED ON THESE PLANS.



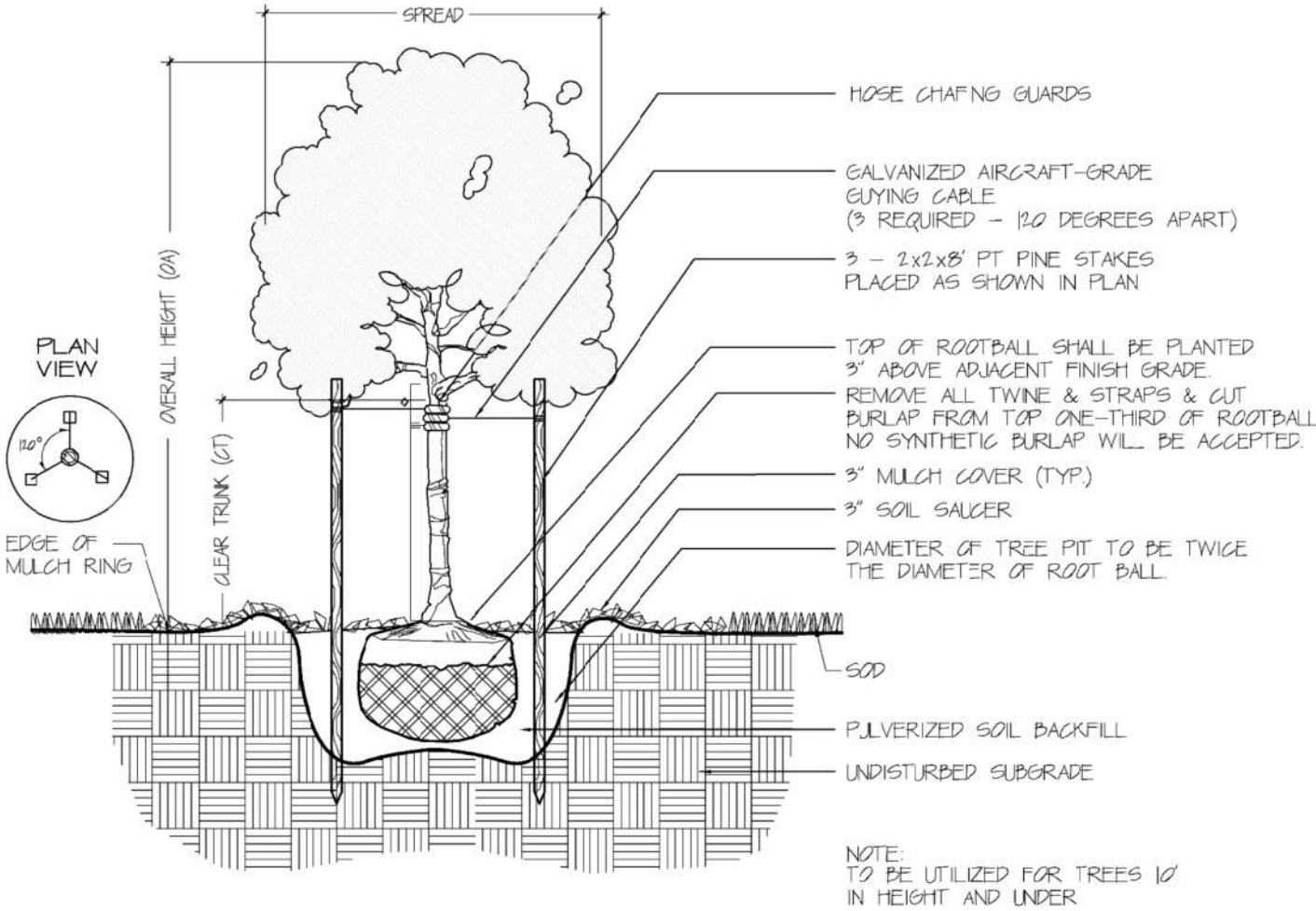
2. PLANT SPACING DETAIL

SCALE: N.T.S.



3. SHRUB PLANTING DETAIL

SCALE: N.T.S.



4. SMALL TREE PLANTING DETAIL

SCALE: N.T.S.



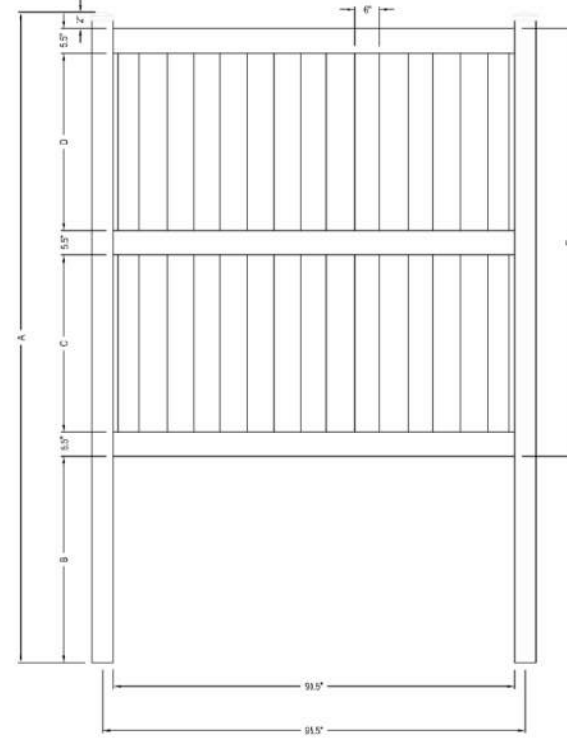
ILLUSIONS VINYL FENCE
MEDFORD, NY 11763
www.illusionsfence.com
TOLL FREE: 1-800-339-3362

SELECT DESIRED POST CAP MODEL

- ☐ FRENCH GOTHIC - V55FG
☐ TEARDROP - V55TD
☐ COACHMAN - V55CM
☐ BALL - V55BC
☐ SOLAR - V55P
☒ SOLAR - V55D
☐ NEW ENGLAND - V55NE
☐ FLAT - V55FO

SELECT DESIRED POST OPTIONS:

- ☒ 8" X 3" - 140 WALL
☐ 8" X 3" H.D. - 250 WALL
☐ MAJESTIC™ 8" X 8" - 250 WALL



A	B	C	D	E
HFT/INCHES	HFT/INCHES	HFT/INCHES	HFT/INCHES	HFT/INCHES
5' 144	8' 48	8' 39.75	8' 39.75	8' 96
10' 168	10' 48	10' 51.75	10' 51.75	10' 120

- NOTES:
1. ALL ILLUSIONS VINYL FENCES ARE ASTM F964 OR COMPLIANT.
2. AVAILABLE IN GRAND ILLUSIONS CCOLOR SPECTRUM (35 COLORS) AND GRAND ILLUSIONS VINYL WOODBOND (IS AUTHENTIC WOODGRAINS).
3. INCLUDES METAL REINFORCEMENT BOTTOM AND MIDDLE RAIL.



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SCALE: N.T.S.



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NO.	DATE	REVISIONS	BY	JES
01	9/29/17	REVISED PER CITY COMMENTS SEP. 25, 2017		

FOR REVIEW ONLY NOT FOR
CONSTRUCTION

KING'S LANDING
FINAL ENGINEERING PLANS
LANDSCAPE PLAN & DETAILS

FLORIDA
VOLUSIA COUNTY

CITY OF PORT ORANGE

PROJECT NO.: 15082X

ISSUE DATE: 8/31/16

DESIGNED BY: JES

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CHECKED BY: SB

DRAWING FILE: 15082X-LA
XREFS: 15082X-BASE

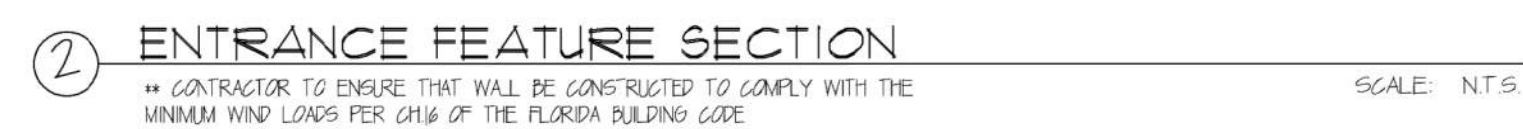
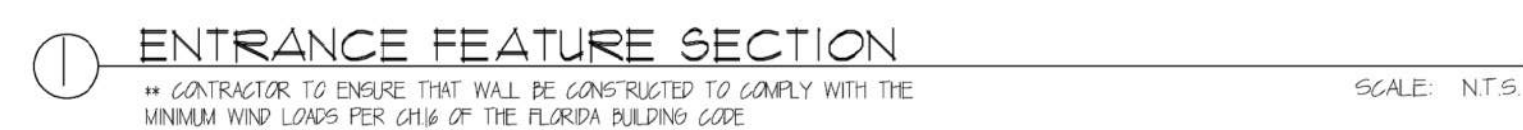


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STEPHEN R. BURNS, R.L.A. NO. 986

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SHEET: LA2 OF 3



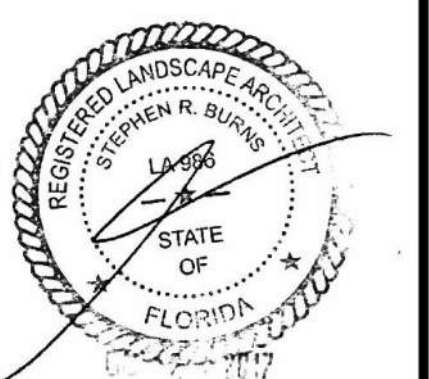
DESIGN INTENT DRAWINGS ONLY
CONTRACTOR TO SUBMIT SHOP
DRAWINGS FOR CONSTRUCTION PERMITS

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KING'S LANDING FINAL ENGINEERING PLANS LANDSCAPE PLAN & DETAILS

CITY OF PORT ORANGE

PROJECT NO: 15082X
ISSUE DATE: 8/31/16
DESIGNED BY: JES
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CHECKED BY: SB
DRAWING FILE: 15082X-LA XREF'S: 15082X-BASE XREF'S:



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HEN R. BURNS, R.L.A NO. 986

E: N.T.S.

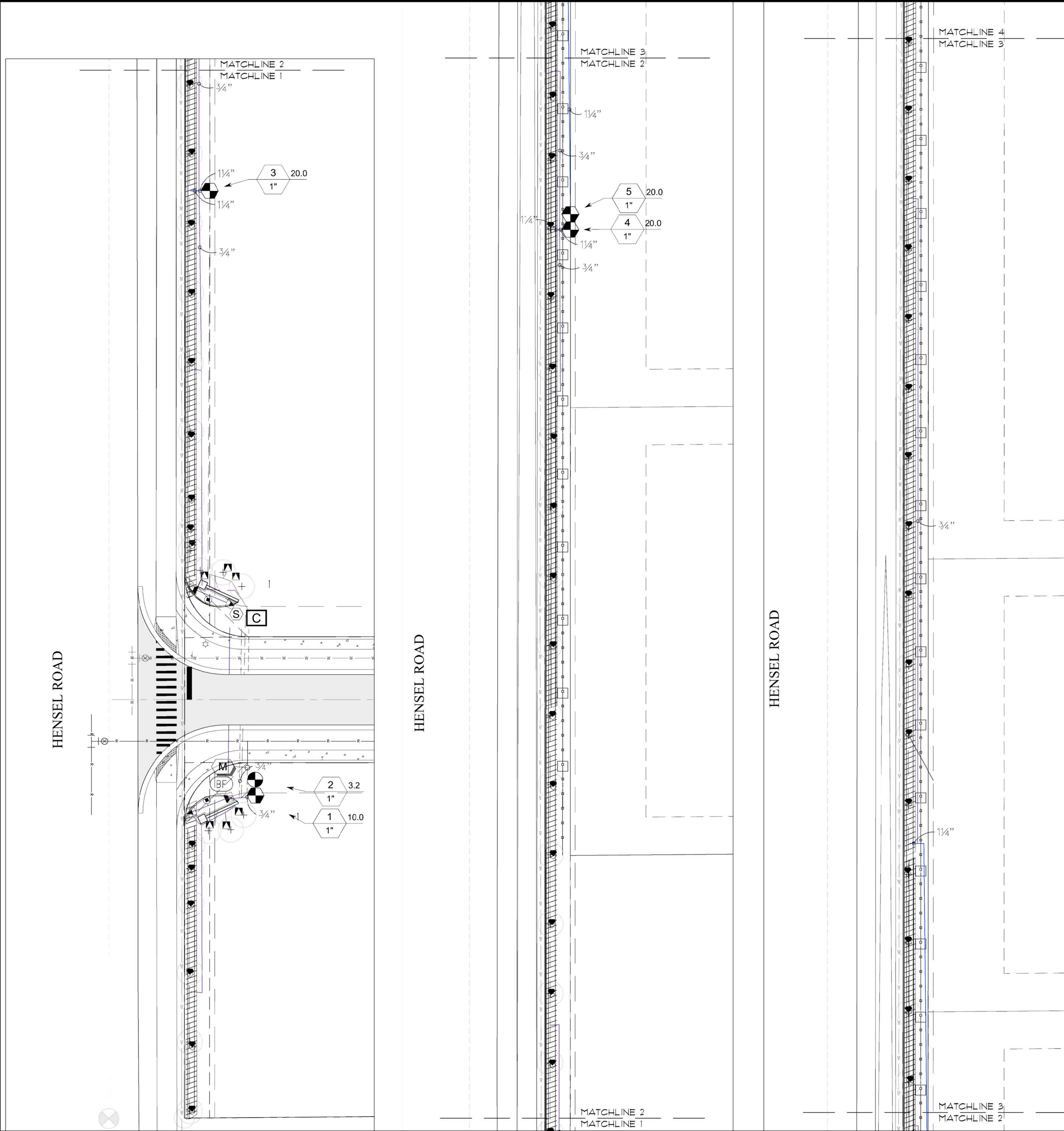
T: LA3 OF 3

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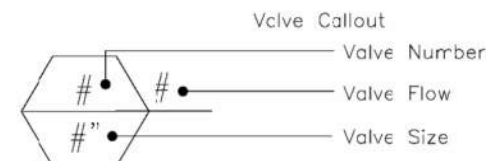
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY	ARC	PSI	GPM	RADIUS
	Rain Bird 180G-PRS 15 Strp Series	2	LCS	30	0.49	4x15'
	Rain Bird 180G-PRS 15 Strp Series	2	RCS	30	0.49	4x15'
	Rain Bird 180G-PRS 6 Series VAN	2	Adj	30		6'
	Two Rain Bird 1401 bubbler	6	360	30	0.50	1'

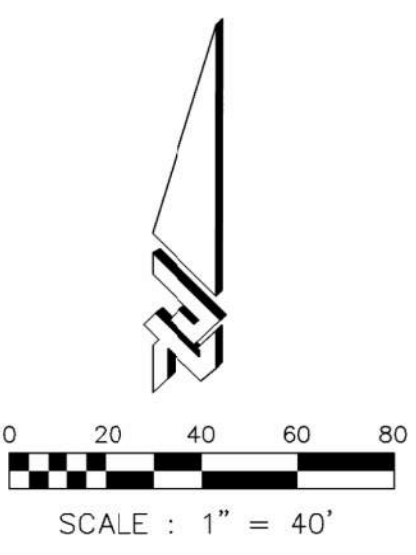
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Two Rain Bird PC-10 Single Outlet Emitter	48x2
	Area to Receive Dripline Rain Bird XFD-09-12 XFD On-Surface Pressure Compensating Landscape Dripline. 0.9GPH emitters at 12.0' O.C. Dripline laterals spaced at 16.0' apart, with emitters offset for triangular pattern. UV Resistant.	5,300 s.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird 100HVF in 10" Valve Box	1
	Rain Bird XCZ-PRB-COM in 12" Valve Box	4
	Wilkins 975XL 1" Backflow Preventer	1
	Rain Bird ESP7Me 7 Stat on Controller	1
	Rain Bird RSD-BEx Rain Sensor	1
	Reclaimed Water Meter 3/4"	1
	Irrigation Lateral Line: PVC Class 160	1,100 l.f.
	Irrigation Mainline: PVC 1-1/2" Class 200 SDR 21	700 l.f.
	Pipe Sleeve: PVC Schedule 40 Extend sleeves 18 inches beyond edges of paving or construction.	

IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN TAKE OFF



HENSEL ROAD



ORMOND BEACH, FL 32174
ST. AUGUSTINE, FL 32080
EDGEWATER, FL 32132

NO.	DATE	REVISIONS	BY
01	9/28/17	REVISED PER CITY COMMENTS SEP. 25, 2017	JES

KING'S LANDING
FINAL ENGINEERING PLANS
IRRIGATION PLAN & DETAILS
CITY OF PORT ORANGE
VOLUSIA COUNTY, FLORIDA

PROJECT NO: 15082X
ISSUE DATE: 8/31/16
DESIGNED BY: JES
DRAFTED BY: JES
CHECKED BY: SB
DRAWING FILE: 15082X-R XREFS: 15082X-SASE XREFS:



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STEPHEN R. BURNS, R.L.A. NO. 986
SCALE: 1" = 40'
SHEET: IR1 OF 2

UNDERGROUND IRRIGATION SPECIFICATIONS

1.0 GENERAL

1.1 SUMMARY: Includes but not limited to:

- A. Furnishing and installing sprinkler system as described in Contract Documents complete with accessories necessary for proper functioning.

1.2 SYSTEM DESCRIPTION:

- A. Design Requirements:
- Layout of Irrigation Heads:
 - Location of heads shown on Drawings is approximate. Actual placement may vary slightly as is required to achieve full, even coverage without spraying onto buildings, sidewalks, fences, etc.
 - During layout, consult with Landscape Architect to verify proper placement and make recommendations, where revisions are advisable.

1.3 QUALITY ASSURANCE:

- A. Regulatory Requirements:
- Work and materials shall be in accordance with latest rules and regulations, and other applicable state or local laws. Nothing in Contract Documents is to be construed to permit work not conforming to these codes.
- B. Pre-Installation Conference:
- Meet with Owner and Landscape Architect to discuss and clarify all aspects of job requirements prior to commencing work of this Section.
- C. System Adjustments:
- Minor adjustments in system will be permitted to avoid existing fixed obstructions.
 - Mainline, laterals, and valves are shown for clarity purposes only. All irrigation equipment to be with landscape area. Mainline, laterals and valves to be installed as far away from existing and new specimen trees as possible.
- D.
- Documentation and submittal of actual water supply performance prior to commencing installation.

1.4 SUBMITTALS:

- A. Record Drawings:
- Prepare an accurate as-built drawing as installation proceeds to be submitted prior to final inspection. Drawing shall include:
 - Detail and dimension changes made during construction.
 - Significant details and dimensions not shown in original Bidding Documents and relevant shop drawings.
 - Maintain, at job site, one copy of Contract Documents (as defined in General Conditions) and relevant shop drawings.
 - Clearly mark each document "PROJECT RECORD COPY" and maintain in good condition for use of the Landscape Architect and Owner.
 - As-built drawing shall be provided in pdf format.
 - Submit product literature for all sprinklers, valves, pipe, wire, wire connectors and controller.
 - Final payment for system will not be authorized until accurate and complete submittals are delivered to the Landscape Architect.
- B. Instruction Manual:
- Provide instruction manual which lists complete instructions for system operation and maintenance.

1.5 PRODUCT STORAGE:

- A. During construction and storage, protect materials from damage and prolonged exposure to sunlight.

1.6 WARRANTY:

- A. Standard one (1) year warranty stipulated in General Conditions shall include:
- Completed system including parts and labor.
 - Filling and repairing depressions and replacing plantings due to settlement of irrigation trenches for one (1) year following final acceptance.
 - System adjustment to supply proper coverage to areas to receive water.

1.7 MAINTENANCE:

- A. Extra Materials:
- In addition to installed system, furnish Owner with the following items at close-out:
 - Two sprinkler head bodies of each size and type.
 - Two nozzles for each size and type.
 - Two adjusting keys for each sprinkler head cover type.

2.0 PRODUCTS:

2.1 PIPE, PIPE FITTINGS, AND CONNECTIONS:

- A. Pipe shall be continuously and permanently marked with Manufacturer's name, size, schedule, type, and working pressure.
- B. Pipe:
- Pressure Lines: as indicated on plans.
 - Lateral Lines: as indicated on plans.
 - Risers: sch. 80 PVC, gray
- C. Fittings:
- Schedule 40 PVC.
- D. Sleeving:
- Schedule 40 PVC.

2.2 SPRINKLER HEADS:

- A. Conform to requirements shown on Drawings as to type, radius of throw, pressure, and discharge.

2.3 AUTOMATIC SPRINKLER SYSTEM:

- A. Control valves shall be of size and type indicated on Drawings.
- B. Control wire shall be UL listed, color coded copper conductor direct burial size 18. Use 3W-DBY waterproof wire connectors at splices and locate all splices within valve boxes. Use white or gray color for common wire and other colors for all other wire.

2.4 VALVES:

- A. Electric Valves:
- Make and model shown on Drawings.
- B. Gate valves:
- Bronze construction, angle type, 150 pound class, threaded connections, with cross-type operating handle designed to receive operating key.
- C. Automatic Controller:
- Make and model shown on Drawings.
- D. Backflow Preventor:
- Make and model shown on Drawings.

2.5 VALVE ACCESSORIES:

- A. Valve Boxes:
- Ametek or Brooks rectangular heavy duty valve box with locking lid or Landscape Architect approved equal.
 - Do not install more than one (1) valve in a single box.
 - Valve boxes shall be large enough for easy removal or maintenance of valves.

3.0 EXECUTION:

3.1 PREPARATION:

- A. Protection:
- Work of others damaged by this Section during course of its work shall be replaced or repaired by original installer at this Section's expense.

3.2 INSTALLATION:

- A. Trenching and Backfilling:
- Over-excavate trenches by two (2") inches and bring back to indicated depth by filling with fine, rock-free soil or sand.
 - Cover pipe both top and sides with two (2") inches of material specified in paragraph above. In no case shall there be less than two (2") inches of rock-free soil or sand surrounding pipe.

- Do not cover pressure main, sprinkler pipe, or fittings until the Landscape Architect has inspected and approved system.
- B. Installation of Plastic Pipe:
- Install plastic pipe in a manner to provide for expansion and contraction as recommended by Manufacturer.
 - Unless otherwise indicated on Drawings, install main lines with a minimum cover of eighteen (18") inches based on finish grade. Install lateral lines with a minimum cover of twelve (12") inches based on finish grade.
 - Install pipe and wires under driveways or parking areas in specified sleeves a minimum of eighteen (18") inches below finish grade or as shown on Drawings.
 - Locate no sprinkler head closer than twelve (12") inches from building foundation. Heads immediately adjacent to mowing strips, walks or curbs shall be one (1") inch below top of mowing strip, walk or curb and have a minimum of one (1") inch clearance between head and mowing strip, walk or curb.
 - Drawings show arrangement of piping. Should local conditions necessitate rearrangement, obtain approval of Landscape Architect prior to proceeding with work.
 - Cut plastic pipe square. Remove burrs at cut ends prior to installation so unobstructed flow will result.
 - Make solvent weld joints in the following manner:
 - Clean mating pipe and fitting with clean, dry cloth and apply one (1) coat of P-70 primer to each.
 - Apply uniform coat of 711 solvent to outside of pipe.
 - Apply solvent to fitting in similar manner.
 - Reapply a light coat of solvent to pipe and quickly insert into fitting.
 - Give pipe or fitting a quarter turn to insure even distribution of solvent and make sure pipe is inserted to full depth of fitting socket.
 - Hold in position for fifteen (15) seconds minimum or long enough to secure joint.
 - Wipe off solvent appearing on outer shoulder of fitting.
 - Do not use an excessive amount of solvent thereby causing an obstruction to form on the inside of pipe.
 - Allow joints to set at least 24 hours before applying pressure to PVC pipe.
 - Tape threaded connection with teflon tape.
 - Install concrete thrust blocks wherever change of direction occurs a PVC main pressure lines unless otherwise detailed on Drawings.
- C. Control Valves and Controller:
- Install controller, control wires, and valves in accordance with Manufacturer's recommendations and according to applicable electrical code.
 - Install valves in plastic boxes with reinforced heavy duty plastic covers. Locate valve box tops at finish grade.
 - Install remote control valves in valve boxes positioned over valve so all parts of valve can be reached for service. Set cover of valve box even with finish grade.
 - Install all valve boxes over nine (9") inches of gravel for drainage.
- D. Sprinkler Heads:
- Prior to the installation of sprinkler heads, open control valves and use full head of water to flush out system.
 - Set sprinkler heads perpendicular to finish grade.
 - Set lawn sprinkler heads adjacent to existing walks, curbs, and other paved areas to grade.
- E. Dripline:
- Install one Rain Bird zone operation indicator (OPERIND), air relief (ARV050) and flush valve (MDCFPCAP) for each drip zone.
 - Stake dripline every 6' with drip stake.

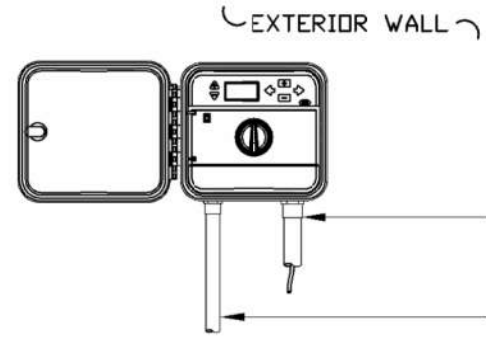
3.3 ADJUSTMENT AND CLEANING:

- A. Adjust heads to proper grade when turf is sufficiently established to allow walking on it without appreciable harm. Such lowering or raising of heads shall be part of the original contract with no additional charge to the Owner.
- B. Adjust sprinkler heads for proper distribution and trim to ensure spray does not fall on building.
- C. Adjust watering time of valves to provide proper amounts of water to all plants.

3.4 DEMONSTRATION:

- A. After system is installed and approved, instruct Owners Representative in complete operation and maintenance.

END OF SECTION



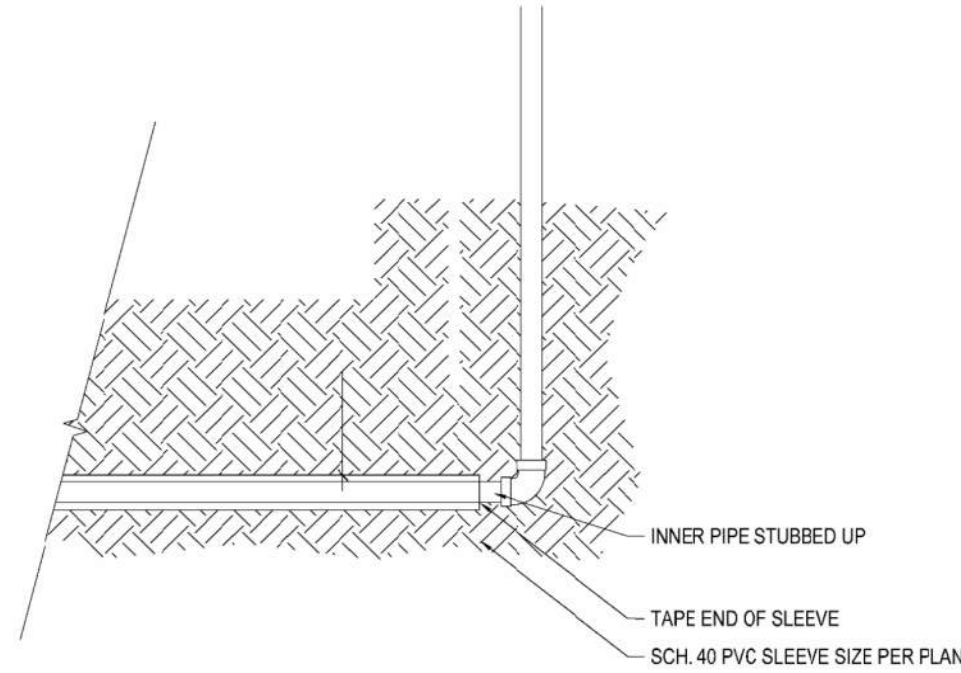
NOTE: MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. CONTROLLER SHALL BE HARD WIRED BY A LICENSED ELECTRICIAN.

CONTROLLER INSTALLATION DETAIL

SCALE NTS

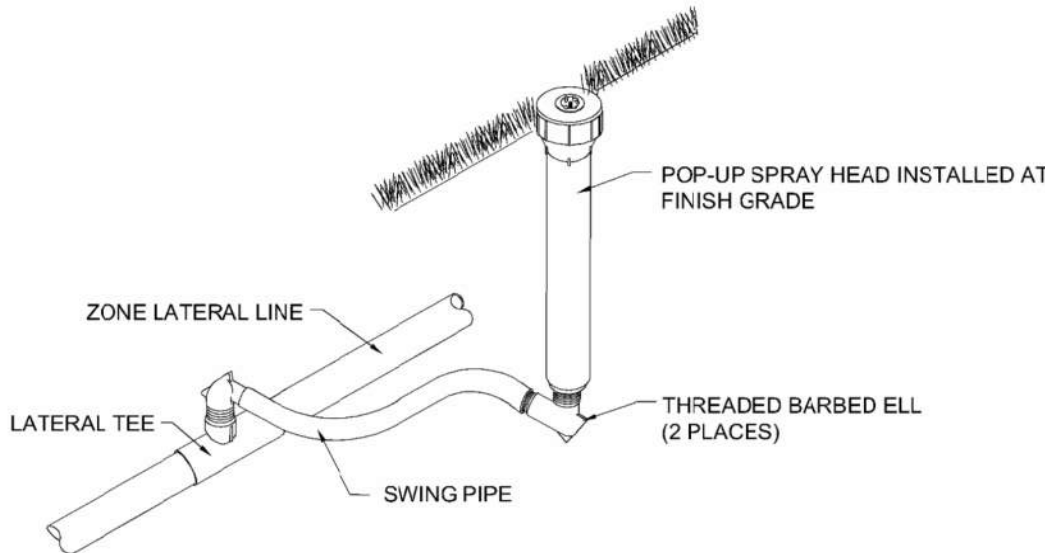
Crawford Irrigation Design, Inc

IRRIGATION DESIGN AND CONSULTATION SERVICES
Edgewater, Florida
Tel: (386) 424-0027
EMAIL: cid@atlantic.net



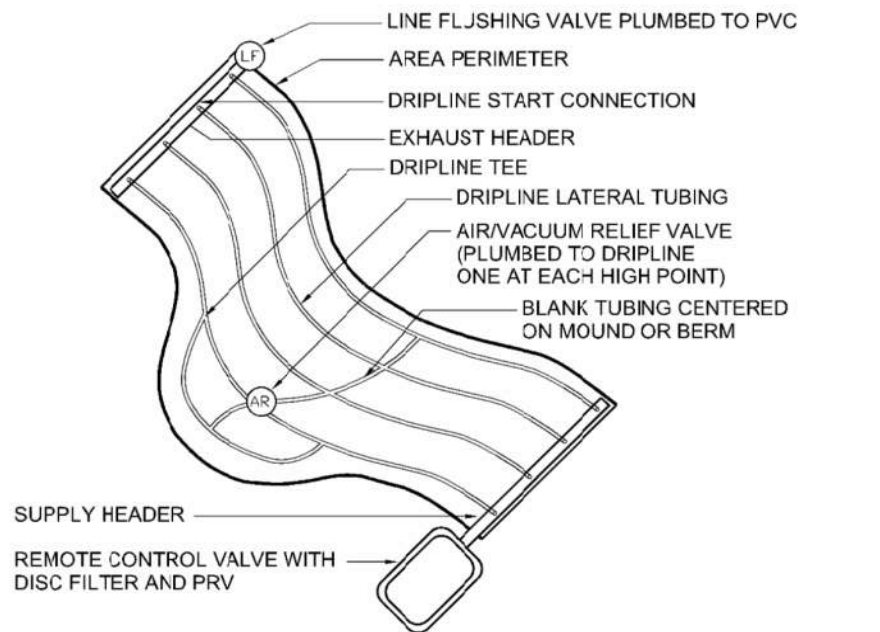
SLEEVING ROUGH-IN DETAIL

SCALE: NTS

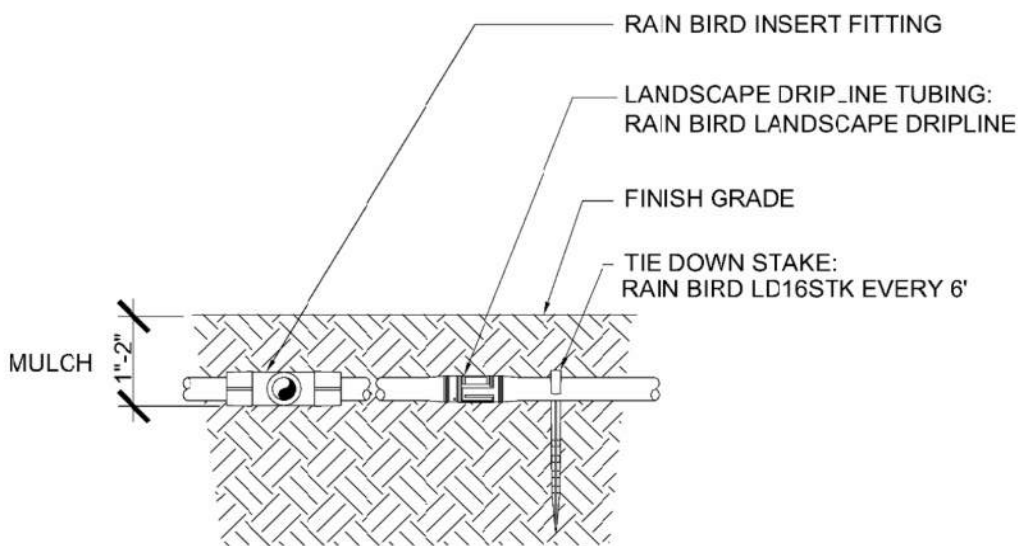


SPRAY HEAD INSTALLATION DETAIL

SCALE: NTS



IRREGULAR AREA DIPLINE LAYOUT



LANDSCAPE DRIPLINE 2" BELOW GRADE WITH EASY FIT TEE

NOT TO SCALE



ORMOND BEACH
3600 ORMOND BEACH BLVD. C
ORMOND BEACH, FL 32174
(386) 677-2402 FAX (386) 677-2505
ST. AUGUSTINE
1827 AIA SOUTH SIDE RD. OFFICE 4
ST. AUGUSTINE, FL 32080
(904) 797-1610 FAX (386) 677-2505
EDGEWATER
1840 AIRPARK ROAD
EDGEWATER, FL 32132
(386) 677-2402 FAX (386) 677-2505

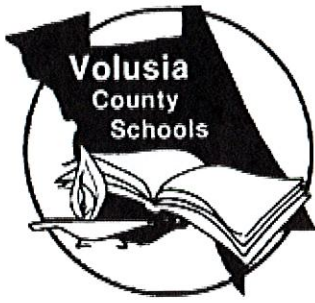
NO.	DATE	REVISIONS	BY	JES
01	9/29/17	REVISED PER CITY COMMENTS SEP. 25, 2017		

KING'S LANDING
FINAL ENGINEERING PLANS
IRRIGATION PLAN & DETAILS
VOLUSIA COUNTY, FLORIDA
CITY OF PORT ORANGE

PROJECT NO: 15082X
ISSUE DATE: 8/31/16
DESIGNED BY: JES
DRAFTED BY: JES
CHECKED BY: SB
DRAWING FILE: 15082X-R XREFS: 15082X-BASE XREFS:



NOT VALID WITHOUT SEAL
STEPHEN R. BURNS, R.L.A. NO. 986
SCALE: N.T.S.
SHEET: IR2 OF 2



James T. Russell
Superintendent of Schools

FACILITIES SERVICES

3750 Olson Drive, Daytona Beach, Florida 32124
PHONE: 386/734-7190 FAX: 386/506-5056

School Board of Volusia County

Mrs. Linda Costello, Chairman
Mrs. Ida White, Vice-Chairman
Mrs. Linda Cuthbert
Dr. John Hill
Mrs. Melody Johnson

20 October 2017

Owner:
Coventry Partners, LLC
500 Fentress Blvd.
Daytona Beach, FL 32114

Agent:
Randy Hudak, P.E.

RE: Kings Landing Phase 1 – Port Orange School Concurrency Case #16-10-21-001-R

Dear Mr. Hudak:

School district staff has reviewed the amended project information for a proposed Single family residential project known as Kings Landing (Phase 1). The complete project site of 82.2+/- acre site is located at 5931 Hensel Road in the City of Port Orange. The information provided in the application packet, the dwelling unit worksheet, and site plans indicate the development of 71 total units to be completed in three phases. Due to the timing of these phases this review will only be relevant for the first phase of nineteen (20) units.

By utilizing the School District's student generation rate (.305) per single family dwelling unit, the project could generate six (6) full time students. The table below contains the impacted school concurrency areas (CSA) and their associated capacity information.

Schools	Adopted LOS	SY1718 Enrollment	Reserved Capacity	Students Generated by Request	Change to LOS
Spruce Creek Elementary	115%	800	56	3	106.3%
Creekside Middle School	115%	1211	34	1	110%
Halifax High School CSA	120%	7397	182	2	99.6%
Other				0	

Kings Landing Phase 1 – Port Orange
20 October 2017

This projected increase in students will not impact the school enrollment beyond adopted LOS utilization rates. At this time the impacted school concurrency areas are operating at or below the adopted level of service standards; for that reason, the school district does not have an objection to the proposed site plan.

At a minimum, planning considerations should include both pedestrian and vehicular access, safety, connectivity and buffering. The site plan submitted includes sidewalks within the apartment complex but those sidewalks do not connect thus do not positively impact the bicycle/ pedestrian connectivity to the surrounding area.

Please note that the School Board has the right to adjust the attendance boundaries to balance the student enrollment populations at these area schools. Therefore, students generated from this project may not attend the current assigned schools.

If you should have additional questions or require more information, please feel free to contact me at extension 50810.

Sincerely,

Handwritten signature of Eric A. Kozielski in dark ink, with the date 20 OCT 2017 written below it.

Eric A. Kozielski
Planning & GIS Specialist

Cc: James Russell, Superintendent of Schools
Penelope Cruz, City of Port Orange
Project File

Document Prepared by:
Shannon K. Balmer,
Assistant City Attorney
1000 City Center Circle
Port Orange, Florida 32129

Return Recorded Document to:
Attention: Records Clerk
1000 City Center Circle
Port Orange FL 32129-4144

CONCURRENCY AND FAIR SHARE AGREEMENT (Transportation)

This Concurrency and Fair Share Agreement (the "Agreement") made and entered into this ____ day of _____, 2017, by and between **CITY OF PORT ORANGE, FLORIDA**, a Chartered Florida Municipality located in Volusia County, Florida, 1000 City Center Circle, Port Orange, Florida 32129 (the "City"); and **Coventry Partners, LLC**, a Florida Limited Liability Company, whose address is 7767 NW 146 St., Miami Lakes, FL 33016 (the "Developer").

RECITALS

WHEREAS, attached to this Concurrency and Fair Share Agreement ("Agreement"), are exhibits describing in greater detail the parties hereto, real property, traffic study and transportation improvements which are referenced throughout this Agreement. The parties agree that all attached exhibits have been reviewed and previously approved by the parties and their respective professional consultants, and all cumulative information set forth or otherwise referenced therein is deemed incorporated herein by reference; and

WHEREAS, unless otherwise stated, the Developer is the owner of the real property described as Project Data on the attached **Exhibits "A-1" and "A-2"** and Developer desires to permit, develop and, if appropriate, plat the real property for the Project(s); and, in addition to other requirements, is seeking to comply with the City's concurrency requirements for roads/traffic circulation under Chapter 4 of the City's Land Development Code ("Traffic Concurrency"); and

WHEREAS, Developer desires to develop a Seventy-One (71) single family residential units on approximately Eighty-Two and two-tenths (82.2) acres of real property more particularly described in **Exhibit "B-1,"** attached hereto and incorporated herein by reference (King's Landing -), which will generate 78 P.M. Peak Hour Trips;

WHEREAS, the transportation improvements ("Concurrency Improvements") described in the attached Exhibits are required in order for the Project(s) to meet minimum concurrency requirements for roads/traffic circulation to support the proposed Project(s); and

WHEREAS, the City and the Developer agree that the new capacity created by the Concurrency Improvements may not be the actual excess capacity of the roadway, due to the

need to account for vested trips, pursuant to the City's Land Development Code, from previously approved, but unbuilt, developments; and

WHEREAS, the City has constructed concurrency improvements as set forth in the attached Exhibits;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other valuable considerations, the receipt and sufficiency of which are hereby acknowledged, the City and Developer, hereby agree as follows:

1. **Incorporation of Recitals.** The presumptions and facts stated above in the recitals are incorporated by reference herein and deemed by the parties to be true, correct and constitute a material part of this Agreement.
2. **Offsite Construction.** The City agrees to construct, or to have constructed, the "Concurrency Improvements." Construction of the Concurrency Improvements will commence and be complete to meet concurrency requirements, unless delay is caused for reasons outside of City's control, in which case construction will commence as soon as is reasonably practical. The City, or its designee, will be responsible for the design of the Concurrency Improvements, which design will be in accordance with the illustration shown on the Exhibit(s). All planning, permitting, and construction will be subject to the review and approval by the Florida Department of Transportation and, if applicable, the County of Volusia, and will comply with the standards and requirements established by the appropriate governmental entities. Developer will have no responsibility for maintenance or upkeep of the Concurrency Improvements.
3. For purposes of this Agreement, "reasons outside of City's control" shall mean: delays or stoppage caused by acts of God, war, inability to obtain labor or materials or reasonable substitutes therefore, inability to receive governmental permits and approvals newly enacted governmental regulations or controls, the application of existing regulations or controls in a manner which City could not have foreseen or other similar matters or causes.
4. **Payment of Fair Share Assessment Amount.** In connection with the City's construction of the Concurrency Improvements, Developer shall pay to the City a fair share assessment, hereinafter the "Fair Share Payment." The "Fair Share Payment" shall be an amount determined by multiplying: A) the City's share of the total construction costs for the Concurrency Improvements; by B) the "Developer's Fair Share Percentage." The "Developer's Fair Share Percentage" shall be a percentage determined by a fraction, the numerator of which shall be the number of peak hour directional trips allocated to the Project(s), and the denominator of which shall be the total peak hour directional trips provided by the Concurrency Improvements. This percentage shall then be multiplied by the City's cost of construction of the required Concurrency Improvements. The City's total construction cost shall include the actual expenses associated with the design, permitting, right-of-way acquisition, administration, and construction of the Concurrency

Improvements, plus interest, if any, incurred by the City for funding the Developer's Fair Share Percentage of the Concurrency Improvements.

5. **Developer Payment.** The Developer herewith agrees to pay the Fair Share Payment to the City in the form of a certified check payable to the City of Port Orange in an amount as set forth in Development **Exhibit "A-2."** Upon the City's receipt of the payment from the Developer, the funds shall become the property of the City. The payment must be deposited with the City within 30 days of the city council's approval of this Agreement and shall be required prior to the issuance of a Development Order for the Development.
- A. To guarantee payment of its fair share, the Developer herewith agrees to pay to the City of Port Orange the amount equal to the actual cost plus the carrying cost for debt service, if any, of the Fair Share Payment, pursuant to Chapter 21 of the Port Orange Land Development Code. Upon Developer's deposit of any payment with the City, the funds shall become the property of the City. This payment must be deposited with the City prior to the issuance of a Development Order for the Project.
 - B. The City and the Developer acknowledge that other entities, including but not limited to the Florida Department of Transportation and the County of Volusia, may participate in and contribute financially to one or more Concurrency Improvements as referenced herein, and hereinafter "Project Participant." In the event that a Project Participant reduces the amount of its proposed participation resulting in a funding shortfall for the cost of the Concurrency Improvement, then the Developer shall be responsible for the increased construction cost to the extent of the Developer's percentage share of the Concurrency Improvement. The dollar amounts reflected on the attached Project **Exhibit "A-2"** do not include the anticipated financial contributions by a Project Participant. Any adjustment will be reflected in the final accounting described in subparagraph (d) below.
 - C. The City shall have the right to make one or more adjustments to the amount of the deposit based upon increased construction costs and all associated costs of the Concurrency Improvements, hereinafter referred to as the "Adjusted Payment". In the event an Adjusted Payment is required by the City, the City shall notify Developer in writing and within twenty (20) days thereafter, the Developer shall deposit the Adjusted Payment with the City.
 - D. Upon completion of the construction, the City shall notify the Developer in writing of the total project cost. In the event the Developer's Payment exceeds the Developer's percentage share of the final construction costs upon completion of the Concurrency Improvements, then the Developer may file a written claim with the City within ninety (90) calendar days after completion of construction for the refund of the overpayment. In the event that the Developer fails to timely claim a refund, then any overpayment shall become the property of the City. All payments less than or equal to the amount of the final construction costs shall be nonrefundable.

6. **Vested Rights in Traffic Concurrency.** The City agrees that by paying the City the Fair Share Payment, and by receiving a Development Order for the Project, Developer will be deemed to have satisfied the City's Traffic Concurrency requirements for the Project and that the Project shall be fully vested with Traffic Concurrency for purposes of development and related Project construction.
7. **Entitlement to Impact Fee Credits.** Nothing herein is intended to alter, reduce or otherwise waive Developer's right to receive impact fee or capacity credits in connection with the Fair Share Payment to the extent that Developer would be entitled to receive such credits. It is the intent of the parties that if it is determined that any portion of the road segment where the Concurrency Improvements are to be constructed is eligible for impact fee credits under the Volusia County impact fee program, then the City shall not object to the Developer seeking a reimbursement from Volusia County to the extent that the Developer has paid impact fees in respect to this Phase.
8. **Application of Agreement Limited to the Project.** Nothing herein is intended to bind the City in determining the additional trip capacity provided by the construction of the Concurrency Improvements beyond that provided to the Project in connection with the Fair Share Payment and the City expressly reserves the right to determine such available excess capacity for all future developments within its jurisdiction.
9. **Miscellaneous.**
 - A. **Attorney's Fees.** In the event of litigation to enforce the terms of this Agreement, the prevailing party shall be entitled to collect from the other party reasonable attorney's fees and costs of suit.
 - B. **Venue and Choice of Law.** In the event of litigation regarding the terms of this Agreement or documents executed as a result of this Agreement, venue of the action shall be in Volusia County and Florida law shall apply. Trial shall be non-jury for any issues subject to trial.
 - C. **Waiver.** The waiver by a party of any terms or conditions of this Agreement or any breach hereof shall not constitute a waiver of any other term or condition or any subsequent breach of this Agreement.
 - D. **Successors.** This Agreement shall be binding on the parties hereto, their heirs, administrators, executors, successors in interest and assigns.
 - E. **Construction of Contract.** The parties hereto agree that they have all participated in the drafting of this Agreement. Therefore, the presumption that any ambiguity or vagueness in the construction of this Agreement shall be construed against the drafter shall not apply. The terms and provisions of the Agreement shall be applied equally to each party and the interpretation of the Agreement shall be

guided by the express intent of the parties as determined by the overall effect of the provisions herein.

- F. Expiration. This Agreement shall expire after Developer's payment of the Adjusted Payment, if required, based upon the final completed construction cost.
- G. Amendments. Amendment to this Agreement shall not be effective unless in writing and signed by all record title property owners of the land for which the amendment is to be applied (but excluding the record title property owners for land that is unaffected by the amendment), and the City. Before amending this Agreement, the City shall conduct one or more public hearings. At the City's option, one of these public hearings may be held by the City Planning Commission.
- i. Notice of intent to consider an amendment to this Agreement shall be published by the City at the Developer's expense in a newspaper of general circulation and readership in Volusia County, Florida.
 - ii. If applicable, notice of intent to consider an amendment shall comply with the requirements of Section 166.041(3)(c), Florida Statutes (2017), as amended from time to time.
 - iii. The day, time, and place at which the second public hearing will be held shall be announced at the first public hearing.
 - iv. Notices of intent to consider an amendment shall specify the location of the Property subject to the proposed amendment, the nature of the proposed amendment, and such other information as the City Staff shall reasonably deem pertinent and appropriate.
 - v. All notices shall specify a place where a copy of the proposed amendment can be obtained.
- H. Conflicts. Developer agrees to be bound by all City codes and ordinances that are not in conflict with the provisions of this Agreement.
- I. Recording. Developer shall record a copy of this Agreement, at its sole cost and expense, with the Public Records of Volusia County, Florida.
- J. Binding Nature and Covenants Running With the Land. The provisions of this Agreement shall be binding upon the parties hereto, and upon all successors in interest in the subject real property. And further, the provisions of this Agreement shall constitute covenants running with the land applicable to all of the subject real property comprising the referenced, "Project."

K. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. The delivery by facsimile of an executed copy of this Agreement shall be deemed valid as if an original signature was delivered.

IN WITNESS WHEREOF, the parties affix their signatures and seals on the dates set forth below:

WITNESSES:

CITY OF PORT ORANGE, a Florida
municipal corporation

Printed Name: _____

By: _____
Donald O. Burnette, Mayor

Printed Name: _____

Date: _____

Printed Name: _____

Attest: _____
Robin L. Fenwick, CMC, City Clerk

Printed Name: _____

Date: _____

(Corporate Seal)

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by Donald O. Burnette, Mayor of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.

Notary Public, State of Florida at Large
Printed Name, Commission Seal and Term Expiration Date

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by Robin L. Fenwick, City Clerk of the City of Port Orange, a Florida municipal corporation, on behalf of the city, and who is personally known to me.

Notary Public, State of Florida at Large
Printed Name, Commission Seal and Term Expiration Date

WITNESSES:

Coventry Partners, LLC
a Florida limited liability company

By: Hensel Holding,
a Florida limited liability company,
its Manager
"Developer"

Name: _____

By: _____

Name: _____

Title: _____

Name: _____

Date: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 2017, by _____ in his representative capacity as _____ of Hensel Holding, LLC, as Manager of Coventry Partners, LLC, a Florida limited liability company, on behalf of said company. He is ☐ personally known to me, or ☐ have produced _____ as identification.

Notary Public, State of Florida at Large
Printed, typed or stamped name, commission and expiration of commission term



Development Exhibit A – 1
Concurrence and Fair-Share Agreement
Transportation Improvement (“TI”)

Development Data:

Development Name:	King’s Landing – Phase 1 Subdivision / Development Order Modification
Site Address:	East side of Hensel Road, between Hensel Hill Drive and Hills Boulevard
City Case No.	17-50000008
Zoning District	RR – Rural Residential and R-20SF Single Family Residential
TIA Report Date	January 23, 2017 / Amendment August 16, 2017
TIA Prepared by:	R. Sans Lassiter, P.E.
Name of Firm:	Lassiter Transportation Group, Inc.
Est. Date of Impact	2020

Developer:

Corporate Entity	Coventry Partners, LLC
Contact Person	Frank Costa
Mailing Address:	1474A W 84 th Street, Hialeah, FL 33014

Land Owner:

Corporate Entity	Coventry Partners, LLC
Contact Person	Frank Costa
Mailing Address:	1474A W 84 th Street, Hialeah, FL 33014

Real Property

Total Acreage:	+/- 82.2 acres
Parcel Number(s):	6321-00-00-0071 / 6321-00-00-0074
Legal Description	Legible real property legal description and sketch attached as EXHIBIT B-1



Development Exhibit A - 2
Concurrency and Fair-Share Agreement
Transportation Improvement ("TI")

Traffic Impact Analysis

Development Name:	King's Landing - Phase 1 Subdivision / Development Order Modification
City Case No.:	17-50000008
TIA Report Date:	January 23, 2017 / Amendment August 16, 2017
TIA Prepared by (Firm):	Lassiter Transportation Group, Inc.
Estimated Date of Impact:	2020

Contribution Calculations: Adjusted April 8, 2013

Impacted Intersections/Road Segments per Transportation Master Concurrency Plan	TI Stage I Reservation Deposit Estimated Cost	TI Stage II Project Cost	TI Stage III Actual Cost	DT/CI Ratio	% of Cost	Subtotal Note N/A if Not Impacted	Contribution with Multiplier* [2]
Devon/Taylor PRVCF OR Bk6145 Pg3697-3699	N/A	N/A	\$144,389.53	22/871	2.53%	\$3,653.06	\$3,653.06

*Financial Guarantee Multiplier	1.1	1.1	1.0
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Total Fair-Share Contribution

Fair Share Projects Dunlawton/Taylor at I-95 (PRVCF ORB 5709/4728), Dunlawton/Clyde Morris (PRVCF ORB 5709/4732, and Town West/Williamson (PVRCF 5709/4736) are completed or fully funded.	\$3,653.06
--	------------

[1] City Project Participant

Eligible for City trans. impact fee credits

[2] Rounded up to nearest whole dollar

Planning Review: *Tim B...* Date 11-16-17

Finance Review: *Nadia Toder* Date 11/16/17

EXHIBIT "B-1"

PARCEL 1

THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, LESS AND EXCEPT THE WEST 30 FEET FOR HENSEL ROAD.

AND

PARCEL 2

A PORTION OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

FROM THE NORTHEAST CORNER OF SEMINOLE WOODS, PHASE I, AS RECORDED IN MAP BOOK 41, PAGE 106, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, RUN NORTH 00 DEGREES 21 MINUTES 48 SECONDS EAST, THEN BEARING BASIS OF THIS DESCRIPTION ALONG THE WEST BOUNDARY OF THE HAMLET SUBDIVISION, FIRST ADDITION, AS RECORDED IN MAP BOOK 35, PAGE 99 AND 100, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, A DISTANCE OF 1322.28 FEET; THENCE DEPARTING SAID LINE, RUN NORTH 89 DEGREES 49 MINUTES 46 SECONDS WEST A DISTANCE OF 512.04 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 89 DEGREES 49 MINUTES 46 SECONDS WEST, A DISTANCE OF 290.14 FEET; THENCE SOUTH 00 DEGREES 47 MINUTES 08 SECONDS WEST, A DISTANCE OF 150.00 FEET; THENCE SOUTH 89 DEGREES 49 MINUTES 46 SECONDS EAST, A DISTANCE OF 290.14 FEET; THENCE NORTH 00 DEGREES 47 MINUTES 08 SECONDS EAST, A DISTANCE OF 150.00 FEET TO THE POINT OF BEGINNING.

ALL THE ABOVE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PORTION OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 27, ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY FLORIDA, RUN THENCE NORTH 00 DEGREES 00 MINUTES 52 SECONDS EAST ALONG THE EAST RIGHT-OF-WAY LINE OF HENSEL ROAD A DISTANCE OF 1,324.97 FEET TO THE SOUTHWEST CORNER OF THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2641, PAGE 2642, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING ON THE NORTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 21, TOWNSHIP 16 SOUTH, RANGE 33 EAST; THENCE NORTH 89 DEGREES 37 MINUTES 07 SECONDS EAST ALONG SAID NORTH LINE, A DISTANCE OF 2,671.22 FEET TO THE SOUTHWEST CORNER OF LOT 33, RAINTREE SUBDIVISION, AS RECORDED IN PLAT BOOK 33, PAGE 190, PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE EAST LINE OF THE SOUTH 1/2 OF THE NORTH WEST 1/4 OF SAID SECTION 21; THENCE SOUTH 00 DEGREES 16 MINUTES 25 SECONDS EAST ALONG SAID EAST LINE, A DISTANCE OF 1,321.61 FEET TO THE SOUTHWEST CORNER OF PARCEL "B", BENT OAK SUBDIVISION, AS RECORDED IN PLAT BOOK 40, PAGE 66, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, SAID POINT BEING A POINT ON THE SOUTH LINE OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SAID SECTION 21; THENCE SOUTH 89

DEGREES 33 MINUTES 46 SECONDS WEST ALONG SAID SOUTH LINE A DISTANCE OF 512.21 FEET TO THE NORTHWEST CORNER OF TRACT "C", BROKEN BOW ESTATES, AS RECORDED IN PLAT BOOK 49, PAGES 126 AND 127, PUBLIC RECORDS OF VOLUSIA COUNTY FLORIDA; THENCE SOUTH 00 DEGREES 08 MINUTES 52 SECONDS WEST ALONG THE WEST LINE OF SAID TRACT "C" A DISTANCE OF 150.06 FEET TO THE NORTHEAST CORNER OF TRACT "C", ROLLING HILLS ESTATES PHASE 2, AS RECORDED IN PLAT BOOK 49, PAGES 102, 103 AND 104, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE SOUTH 89 DEGREES 32 MINUTES 23 SECONDS WEST ALONG THE NORTH LINE OF SAID ROLLING HILLS ESTATES PHASE 2, A DISTANCE OF 289.93 FEET TO THE NORTHWEST CORNER OF LOT 30, SAID ROLLING HILLS ESTATES PHASE 2, SAID POINT BEING A POINT ON THE EAST LINE OF LOTS 12, SAID ROLLING HILLS ESTATES PHASE 2; THENCE NORTH 00DEGREES 08 MINUTES 51 SECONDS EAST ALONG SAID EAST LINE AND THE EAST LINE OF LOT 13, SAID ROLLING HILLS ESTATES PHASE 2, A DISTANCE OF 149.98 FEET TO THE NORTHEAST CORNER OF LOT 13, SAID ROLLING HILLS ESTATES PHASE 2, SAID POINT BEING A POINT ON SAID SOUTH LINE OF THE SOUTH ½ OF THE NORTHWEST ¼ OF SECTION 21; THENCE SOUTH 89 DEGREES 32 MINUTES 48 SECONDS WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1,875.76 FEET TO THE POINT OF BEGINNING.

CONTAINS 3,582,585 SQUARE FEET OR 82.245 ACRES MORE OR LESS.



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (K21) First Reading - Ordinance No. 2017-32 - Police Pension Amendment for the Share Plan

DEPARTMENT: City Attorney

GOAL:

RECOMMENDED MOTION: Move to approve Ordinance No. 2017-32.

SUMMARY: The attached Ordinance has been prepared to comply with the requirements of Florida law. A pension share plan is required as a part of the collective bargaining agreement and the pension ordinance. City contributions to the share plan are not required by enactment of this ordinance. The city and the bargaining unit are required to negotiate the terms for any future deposit as a part of the collective bargaining process.

The Police Pension Board will provide an impact statement from the board's actuary prior to second reading.

Project No.: Funding Account No.:

ATTACHMENTS:

1.	Ord. No. 2017-32	Ord. No. 2017-32.pdf
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Tracy London
Margaret Roberts
Jamie Miller
Tracey Riehm
Jake Johansson
Robin Fenwick

Created/Initiated - 11/14/2017
Approved - 11/17/2017
Approved - 11/20/2017
Approved - 11/20/2017
Approved - 11/21/2017
Final Approval - 11/21/2017

ORDINANCE NO. 2017-32

AN ORDINANCE OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, AMENDING CHAPTER 54, ARTICLE V, CODE OF ORDINANCES, CITY OF PORT ORANGE FLORIDA, ENTITLED “POLICE PENSION FUND”; AMENDING SECTION 54-137, FUNDING; CREATING A NEW SECTION 54-140, SHARE PLAN; PROVIDING FOR REPEAL OF CONFLICTING ORDINANCES; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Port Orange, Florida has entered into collective bargaining agreements with the Coastal Florida Police Benevolent Association (PBA), covering City Police Officers, Sergeants and Lieutenants for the period October 1, 2017 through September 30, 2020; and

WHEREAS, the collective bargaining agreements contain a mutual consent agreement concerning the use of Chapter 185 premium tax revenues and the establishment of a defined contribution component (“share plan”) for the City of Port Orange Police Pension Fund; and

WHEREAS, in order to implement the changes to the Police Pension Fund contained in the collective bargaining agreements, an amendment to Chapter 54 of the City Code is necessary; and

WHEREAS, the City has obtained an actuarial impact statement concerning the retirement plan changes in accordance with Article X, Section 14 of the Florida Constitution and Section 112.63, Florida Statutes; and

WHEREAS, for purposes of this Ordinance text with underlined (underlined) type shall constitute additions to the original text and text with strike-through (~~strike-through~~) type shall constitute deletions to the original text.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA:

Section 1. Section 54-137 of Article V of Chapter 54 of the Code of Ordinances, City of Port Orange, Florida, is hereby amended to read as follows:

Sec. 54-137. - Funding.

(c) *State contributions.* The fund shall receive the premium taxes collected and disbursed pursuant to F.S. §§ 185.08 and 185.10, which monies shall be deposited into the fund immediately, but in no event later than five days of receipt in lieu of which the city may direct that said premium taxes collected be deposited directly into the plan. In conjunction with the city's adoption of an ordinance implementing this pension plan pursuant to F.S. § 185.35, the board of trustees, with the approval of a majority of city police officers, and the city have

acknowledged and agreed that the insurance premium tax revenues received pursuant to F.S. § 185.10 shall be deposited into and become an integral part of this fund, and not used for any other purpose. In accordance with F.S. § 185.35, the city and the union representing city police officers have mutually agreed that all annual premium tax revenues received pursuant to Chapter 185 and all accumulated excess Chapter 185 premium tax revenues as of October 1, 2016 shall be used to offset the city's pension contributions.

Section 2. A new section 54-140 of Article V of Chapter 54 of the Code of Ordinances, City of Port Orange, Florida, is hereby created to read as follows:

Section 54-140. – Share Plan.

In accordance with F.S. § 185.35(6), a defined contribution plan component (“share plan”) is hereby established for police officers as part of the defined benefit pension plan. However, the city and the union representing city police officers have mutually agreed that no Chapter 185 premium tax revenues will be allocated to the share plan at this time. At such time as the city and union mutually agree to allocate Ch. 185 premium tax revenues to the share plan, the city and union will negotiate the details of the share plan.

Section 3. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict.

Section 4. If any provisions of this ordinance or the application thereof to any person or circumstance are held invalid, the invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are declared severable.

Section 5. This ordinance shall become effective upon adoption, except as otherwise specifically provided herein.

MAYOR DONALD O. BURNETTE

ATTEST:

Robin L. Fenwick, CMC, City Clerk

Passed on first reading, this ____ day of _____,

Passed and adopted on second and final reading, this ____ day of _____,

Reviewed and Approved: _____
Margaret T. Roberts, City Attorney



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (K22) Award of Contract to A.G. Pifer Construction Company for renovations at Dorothy L. Hukill City Annex

DEPARTMENT: Parks & Recreation

GOAL:

RECOMMENDED MOTION: Move to approve the contract award effective upon budget appropriation and subject to the city attorney approval of the contract documents for A.G. Pifer Construction Company in the amount of \$1,918,040.51 and to authorize the Mayor and City Clerk to execute the documents.

SUMMARY: RFP# 17-37 was opened on November 2, 2017. We received two bidders and A.G. Pifer Construction Company was the apparent low bidder. The base bid was for renovation of the interior, new roof, new HVAC and outside improvements to the main building for office space and clerks records totaling \$1,749,535.19. The bid also included add alternates for painting of the Fire out building \$4,287.00, partition beam for conference room \$5,848.00. The project is also inclusive of a 9% unforeseen conditions of \$158,370.32 for a **total budgeted amount of \$1,918,040.51**

Base Bid	\$1,749,535.19
Alternate 2,4a & 4b	\$10,135.00
Total contract award	<u>\$1,759,670.19</u>
9% unforeseen	\$158,370.32
Total budgeted	<u>\$1,918,040.51</u>

A budget resolution appropriating funding will be available for Council consideration for the meeting of December 12, 2017.

Project No.: AIO014

BT from ZMI061

BT from QPC067

BT from AIO004

BT from AIO033

BT from OBM007

BT from ZMI003,

QPC074,AIO034,QPC067 (FY18)

BT from FIR020

Funding Account No.: 317-1000-519.62-00

001-1000-519.31-19

001-4400-572.63-97

001-1000-519.341-13

505-1000-519.64-00

506-4200-539.63-97

317-1000-519.63-97

317-1000-519.64-00

ATTACHMENTS:

1.	RFP 17-37	ITB17-37 CITY ANNEX RENOVATION-final.PDF
2.	AG Pifer Response	A.G .Pifer Response (11.02.17).pdf
3.	Bid Tab	BidtabITB 17-37 Tabulation Sheet (11-02-17).pdf
4.	Addendum 1	ADDENDUM NO. 1 (09-28-17).pdf
5.	Addendum 2	ADDENDUM NO. 2 (10-17-17).pdf
6.	Addendum 3	ADDENDUM NO. 3 (10-27-17).pdf
7.	Addendum 4	ADDENDUM NO. 4 (10-30-17).pdf
8.	Intent to award	Notice of Award ITB 17-37 (11-16-17).pdf

Susan Lovallo	Created/Initiated - 11/16/2017
Susan Lovallo	Approved - 11/16/2017
Tracey Riehm	Approved - 11/17/2017
Margaret Roberts	Approved - 11/27/2017
Jake Johansson	Approved - 11/28/2017
Robin Fenwick	Final Approval - 11/28/2017

CITY OF PORT ORANGE, FLORIDA

INVITATION TO BID

CITY ANNEX RENOVATION ITB #17-37



City of Port Orange Purchasing Division

Prepared by: David Battaglia, Purchasing Agent

Release Date: September 21, 2017

Bid Due Date and Time: November 2, 2017 at 2:30 P.M.

City of Port Orange, Florida
1000 City Center Circle
Port Orange, FL 32129
(386) 506-5718
purchdiv@port-orange.org
www.port-orange.org



Legal Notice to Proposers

ITB #17-37 CITY ANNEX RENOVATION

Notice is hereby given that the City of Port Orange is soliciting bids for ITB #17-37 CITY ANNEX RENOVATION. Bids will be accepted in the City Clerk's Office, Port Orange City Hall, 1000 City Center Circle, Port Orange, Florida 32129 until **2:30 P.M. on November 2, 2017**, which may be amended by addendum issued by the City. All untimely Bids will not be considered and will be returned to the Bidder unopened. All Bids will be evaluated to ensure they contain all required forms in order to deem the Bidder responsive or non-responsive. Bids will be opened and read aloud at 2:30 P.M. in Council Chambers.

There will be two (2) Mandatory Pre-Bid conference opportunities for the project at 8:30 A.M. (local time) on **October 5, 2017 and October 12, 2017** at City Hall, Council Chambers (1st floor), 1000 City Center Circle, Port Orange, Florida 32129. Bidders must attend at least one (1) of the Mandatory Pre-Bid conferences. All attendees to the Pre-Bid Conference must sign in. The representative of each Bidder shall be an authorized employee of the Bidder and shall sign in accordingly. All Bidders must attend the Mandatory Pre-Bid conference and site visit. Failure to sign in and attend the entire Mandatory Pre-Bid conference and site visit shall result in disqualification of the submitted bid. Bidders are urged to obtain Bid documents and familiarize themselves with the documents prior to the pre-bid meeting.

A Bid Guarantee in the form of a Bid Bond executed by the Bidder and an acceptable surety or a certified check or bank draft payable to the City of Port Orange, Florida in an amount equal to five percent (5%) of the proposed bid shall be submitted with each submission

DESCRIPTION: *Remodel the old Port Orange Police station to office space for several City Departments.*

All Bids are solicited and shall be made pursuant to the Code of Ordinances, City of Port Orange, Chapter 2, Article VI, Division 2, Section 2-256, and all Bids will be evaluated in accordance with the provisions thereof. Code of Ordinances, City of Port Orange is on file in the Office of the City Clerk, City Hall, 1000 City Center Circle, Port Orange, Florida 32129, and at www.municode.com. Local vendors may be given a local preference pursuant to the Code of Ordinances, City of Port Orange, Chapter 2, Article VI, Division 2, Section 2-275.

Copies of the Bid documents, requirements, scope of service and all other pertinent information necessary to submit a complete package may be obtained electronically from Onvia (DemandStar) via their website at www.demandstar.com. All questions shall be directed **in writing** to the Purchasing Agent, David Battaglia, dbattaglia@port-orange.org or purchdiv@port-orange.org and reference "Questions on ITB #17-37 CITY ANNEX RENOVATION in the subject line. Last day for questions will be **October 26, 2017 at 5:00 P.M.**

All Bidders are required to complete and submit a Public Entity Crime Statement, the Anti-Collusion Statement, and Drug Free Tie Proposal Preference Statement, as well as other documents as required by the solicitation.

NO bid shall be withdrawn for a period of ninety (90) days subsequent to the bid opening without the consent of the City of Port Orange, Florida. Upon award, the successful bidder will also be required to furnish and pay for a satisfactory contract one hundred percent (100%) Payment and Performance Bond to be recorded by the City, with the Clerk of the Circuit Court, Volusia County, Florida and to enter into a contract for services with the City of Port Orange.

No Bids received after the time and date specified for the opening will be considered. The City of Port Orange, Florida reserves the right to reject any and all Bids, to waive any and all non-substantial irregularity in Bids received, whenever such waiver or rejection is in the best interest of the City.

Bids shall be **submitted in the City Clerk's office** with one (1) original and one (1) identical digital (CD or flash drive) version in pdf format, addressed to David Battaglia, Purchasing Agent, Finance Department, City Hall, 1000

City Center Circle, Port Orange, Florida 32129 in a **SEALED ENVELOPE/PACKAGE** plainly marked on the outside: **"ITB #17-37 CITY ANNEX RENOVATION."**

David Battaglia, Purchasing Agent
Legal Ad - One Time – September 21, 2017

[Remainder of this page left intentionally blank]

Cut along the outer border and affix this label to the outside of your sealed bid envelope/package to identify it as a "Sealed Bid". Be sure to include the name of the company submitting the bid where requested.



SEALED BID • DO NOT OPEN

SEALED BID NO. ITB #17-37

BID TITLE: CITY ANNEX RENOVATION

DUE DATE/TIME: November 2, 2017 at 2:30 P.M.

SUBMITTED BY: _____
(Name of Company)

DELIVER TO:
City of Port Orange City Clerk's Office
Attn: David Battaglia
Purchasing Agent
Finance Department
1000 City Center Circle
Port Orange, Florida 32129

DATE/TIME RECEIVED: _____
(To be stamped by Clerk's Office)

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SECTION 1 – PURPOSE AND OVERVIEW

The purpose for this Invitation to Bid (ITB) is to solicit competitive sealed bids from Firms or Companies (Vendors) for the provision of Remodeling of the old Port Orange Police Station into office space for several City departments. described herein.

It is the intent and purpose of the City of Port Orange (City) that this Invitation to Bid promotes competitive selection. It shall be the Bidder's responsibility to advise the Purchasing Division if any language, requirements, etc., or any combination thereof, inadvertently restricts or limits the requirements stated in this ITB to a single source.

[Remainder of this page left intentionally blank]

SECTION 2 – INSTRUCTIONS TO BIDDERS

Firms or companies (Vendor) desiring to provide services, as described herein shall submit sealed bids including one original copy and one (1) digital (CD or flash drive) version in PDF format, in conformance with the detailed submittal instructions.

TIMELINE (Local Time):

The City reserves the right to alter dates as needed.

Date of Distribution: September 21, 2017
Mandatory Pre-Bid Conference No. 1 October 5, 2017 at 8:30 A.M.
Mandatory Pre-Bid Conference No. 2 October 12, 2017 at 8:30 A.M.
Deadline for Questions: October 19, 2017 by 5:00 P.M.
Final Addendum Posting: October 26, 2017 by 5:00 P.M.
Bids Due: **November 2, 2017 by 2:30 P.M.**
City Council Meeting for Approval of Recommendation of Award To be determined.

Bids must be delivered in a sealed envelope/package and delivered to:

City of Port Orange City Clerk's Office
Attn: David Battaglia, Purchasing Agent
Finance Department
1000 City Center Circle
Port Orange, Florida 32129

Sealed Bids must be delivered no later than the date and time listed in the Timeline above. All times referenced are local time.

Bids shall be sealed and Vendors shall clearly indicate on the outside of their bid the following:

- a) Invitation to Bid (ITB) Number and Title
- b) Date of Opening
- c) Name of Vendor
- d) Address of Vendor

Due to the timing of mail service, the City cautions Vendors to assure actual delivery of Bids to the City prior to the deadline set for receiving bids. Carrier and hand deliveries of bids will be accepted in the City Clerk's Office, Port Orange City Hall, 1000 City Center Circle, Port Orange, Florida 32129 until the date and time referenced in the Timeline above or as amended by addendum issued by the City. Bids received after the established deadline shall not be considered.

Vendors are cautioned that they are responsible for delivery to the specific location cited above. Therefore, if your bid, proposal, statement or quotation is delivered by an express mail carrier or by any other means, it is your responsibility to ensure delivery to the above address. This office will not be responsible for deliveries made to any place other than the specified address.

Offers by telephone, email or telegram shall not be accepted. Also, Vendors are instructed NOT to fax their bid package. **Faxed bids shall be rejected as non-responsive regardless of where or when the fax is received.** All Bids will be opened publicly and the names of all Vendors shall be read aloud. All conferences, and meetings (including opening of proposals) regarding this RFP are recorded electronically (audio only).

The City of Port Orange reserves the right to reject any or all Bids or parts of Bids, if it is in the best interest of the City.

MANDATORY PRE-BID AND SITE VISIT CONFERENCE:

There will be two (2) Mandatory Pre-Bid conference opportunities for the project at 8:30 A.M. (local time) on **October 5, 2017 and October 12, 2017** at City Hall, Council Chambers (1st floor), 1000 City Center Circle, Port Orange, Florida 32129. Bidders must attend at least one (1) of the Mandatory Pre-Bid conferences. All attendees to the Pre-Bid Conference must sign in. The representative of each Bidder shall be an authorized employee of the Bidder and shall sign in accordingly. All Bidders must attend the Mandatory Pre-Bid conference and site visit. Failure to sign in and attend the entire Mandatory Pre-Bid conference and site visit shall result in disqualification of the submitted bid. Bidders are urged to obtain Bid documents and familiarize themselves with the documents prior to the pre-bid meeting.

QUESTIONS REGARDING THIS ITB:

All questions shall reference "ITB #17-37 CITY ANNEX RENOVATION" in the subject line. All questions concerning this ITB shall be submitted in writing no later than the date and time referenced in the Timeline above to:

David Battaglia
Purchasing Agent
1000 City Center Circle
Port Orange, FL 32129
dbattaglia@port-orange.org or
purchdiv@port-orange.org

ADDENDA REGARDING THE INVITATION TO BID:

The City will issue responses to inquiries and any other corrections or amendments it deems necessary in written addenda issued prior to the Bid Due Date. Vendors should not rely on any representations, statements or explanations other than those made in this ITB or in any addendum to this ITB. Where there appears to be a conflict between the ITB and any addenda issued, the last addendum issued will prevail.

It is the Vendor's responsibility to be sure all correct number of addenda was received. The Vendor should verify with the designated contact persons prior to submitting a Bid that all addenda have been received. Vendors should acknowledge the correct number of addenda received as part of their Bids. It is the responsibility of the Vendor to ensure all addenda have been received prior to submitting a bid.

Written responses, in the form of an addendum, will be provided via the Demand Star website at: www.demandstar.com.

The failure of Vendors to submit acknowledgement of any addenda that affects the ITB price(s) is considered a major irregularity and will be cause for rejection of the Bid.

The City of Port Orange reserves the right to consider the omission of an acknowledgement of addendum as cause for rejection of the ITB submittal.

This provision exists solely for the convenience and administrative efficiency of the City of Port Orange. No Vendor or other third party gains any rights by virtue of this provision or the application thereof, nor shall any Vendor or third party have any standing to sue or cause of action arising there from.

CLARIFICATIONS:

It is the Vendor's responsibility to become familiar with and fully informed regarding the terms, conditions and specifications of this ITB. Lack of understanding and/or misinterpretation of any portions of this ITB shall not be cause for withdrawal of your Bid after opening or for subsequent protest of award. Vendors must contact the Purchasing Representative, at the email provided, should clarification be required.

Modification or alteration of the documents contained in the solicitation or contract shall only be valid if mutually agreed to in writing by the parties.

Only the locked, fillable Excel document provided by the City with this ITB will be accepted for submittal of the Vendor's Bid/Cost/Fee Proposal. Any other form of submittal will be deemed non-responsive.

MINIMUM QUALIFICATIONS:

Vendors shall be licensed to do business in the State of Florida. Submit Sunbiz report showing your company registered as "Active".

Vendors must be properly registered and licensed to provide the goods or services identified in the scope of work, by all applicable state and local agencies.

Vendors must provide a minimum of three (3) verifiable references from similar scopes of work as identified in this ITB on the provided "Professional References" form. Failure to provide references that verify required experience will cause the Vendor to be deemed non-responsive. The City of Port Orange is not to be used as a reference.

NO LOBBYING:

All Vendors are hereby placed on notice that the City of Port Orange Council, City Employees/Staff, nor Members of the Evaluation Committee (with the exception of the City of Port Orange Purchasing Division personnel designated to receive requests for interpretations or corrections) are not to be lobbied, directly or indirectly either individually or collectively, regarding this ITB. During the entire procurement process, all Vendors and their subcontractors, sub-consultants, or agents are hereby placed on notice that they are not to contact any persons listed above for such purposes as holding meetings of introduction, dinners, etc., if they intend to submit or have submitted Bids for this project. Any Vendor contacting individuals mentioned herein in violation of this warning may automatically be disqualified from further consideration for this ITB.

PRICING SHEETS:

Pricing sheets/Bid Forms are to be completed as directed and without modification and returned as part of the ITB submittal prior to the ITB deadline for submission. Failure to fill out the price sheets/bid forms as directed and without modification may negatively affect the evaluation of your bid.

EXCEPTIONS TO SPECIFICATIONS:

If taking exception to any portion of the ITB specifications, the Vendor must indicate those exceptions as stated on the Vendor's Acknowledgement Form.

BID SUBMISSION AND WITHDRAWAL:

Unless otherwise specified, Vendor shall use the forms supplied by the Purchasing Division. Bids, once opened, become the property of the City, cannot be withdrawn, and will not be returned to the Vendors. Upon opening, Bids become subject to public disclosure in accordance with Chapter 119, Florida Statutes.

CORRECTION OF BIDS:

Correction of inadvertently erroneous Bids shall be permitted up to the time of ITB opening. Vendors shall not be allowed to modify their Bids after the opening time and date.

WITHDRAWAL OF BIDS:

NO Bid shall be withdrawn for a period of ninety (90) days subsequent to the Bid opening without the consent of the City of Port Orange, Florida. Negligence on the part of the Vendor in preparing the Bid confers no right of withdrawal or modification after the Bid has been opened, at the appointed time and place by the City of Port Orange. Any such withdrawn Bid shall not be resubmitted.

OPENING OF BIDS:

Bids will be received until the date and time stated in this ITB and will be publicly opened and read at the place, time and date stated. No responsibility will attach the Purchasing Department for the premature opening of a Bid not properly addressed and identified.

LITIGATION HISTORY:

The City will consider a Vendor's litigation history information in its review and determination of responsibility. All Vendors are required to disclose to the City all "material" cases filed, pending, or resolved during the last five (5) years prior to the solicitation response due date, whether such cases were brought by or against the Vendor, any parent or subsidiary of the Vendor, or any predecessor organization. If the Vendor is a joint venture, the information provided should encompass the joint venture (if it is not newly-formed for purposes of responding to the solicitation) and each of the entities forming the joint venture. Although the review of a Vendor's litigation history is an issue of responsibility, the failure to provide litigation history as required in the Evaluation Criteria may result in a recommendation of non-responsive by the Purchasing Manager.

DEBARMENT HISTORY:

The City will consider a Vendor's debarment history information in its review and determination of responsibility. All Vendors are required to disclose to the City all cases of debarment filed, pending, or resolved by the City or other public entity during the last five (5) years prior to the solicitation response due date, whether such actions were brought by or against the Vendor, any parent or subsidiary of the Vendor, or any predecessor organization. If the Vendor is a joint venture, the information provided should encompass the joint venture (if it is not newly-formed for purposes of responding to the solicitation) and each of the entities forming the joint venture. Although the review of a Vendor's debarment history is an issue of responsibility, the failure to provide debarment history as required in the Proposal Submittal and Requirements Section may result in a recommendation of non-responsive by the Purchasing Manager.

REJECTION OF BIDS:

The City reserves the right to reject any and/or all Bids when such rejection is in the best interest of the City.

BIDS MAY BE REJECTED AND/OR VENDOR(S) DISQUALIFIED FOR THE FOLLOWING REASONS:

- (a) Failure to update the information on file including address, product, service or business descriptions.
- (b) Failure to perform according to contract provisions.
- (c) Conviction in a court of law of any criminal offense in connection with the conduct of business.
- (d) Evidence of a violation of any federal or state anti-trust law based on the submission of bids or proposals, or the awarding of contracts.
- (e) Evidence that the vendor has attempted to give a Board employee a gratuity of any kind for the purpose of influencing a recommendation or decision in connection with any part of the Board's purchasing activity.
- (f) Other reasons deemed appropriate by the City.

OWNERSHIP OF DOCUMENTS:

All documents resulting from this project will become the sole property of the City of Port Orange. The Vendor must meet all requirements for retaining public records and transfer, at no cost, to the City all public records in possession of the Vendor upon termination of this Agreement and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the City.

AMERICANS WITH DISABILITIES ACT (ADA):

If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator in our Human Resources office at 386-506-5560 at least 48 hours before the scheduled event.

SPECIFICATIONS

for

City of Port Orange

City Hall Annex

Renovations

Project #02345

DJdesign Services, Inc.

ARCHITECTS & PLANNERS

**913 North Nova Road
Holly Hill, FL 32117**

**(386) 255-6987 Phone
(386) 255-6989 Fax**

Cover Sheet

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and drawing conventions.

B. Related Section:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Port Orange City Hall Annex Renovations.

B. Owner: The City of Port Orange.

1. Owner's Representative: Susan Lovallo.

C. Architect: DJdesign Services, Inc.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and consists of the following:

1. Drawings and Specifications.

B. Type of Contract.

1. Project will be constructed under a single prime contract.

C. General Conditions:

1. City of Port Orange, Standard Service Agreement.

1.4 PHASED CONSTRUCTION

- A. Construction work in the building shall be done without disturbance to adjacent ongoing activities. Access shall remain unimpeded during construction.

1.5 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 5 p.m., Monday through Friday, except as otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor air intakes.
- F. Controlled Substances: Use of tobacco products and other controlled substances on the Project site is not permitted.
- G. Owner shall reserve the right to remove contractor's personnel from jobsite who are deemed not to have the best interest of The City of Port Orange.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications. See also City of Port Orange Invitation to Bid.
- C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ADDITIVE ALTERNATES

1. Alternate No. 1: Fuel Pump Station: Demolish existing canopy, columns and footings. Provide new canopy as indicated on Sheet A0.3 and as specified in Division 024119 Selective Demolition
2. Alternate No 1A: Remove and Replace Existing Fuel Pump and Card Reader.
3. Alternate No. 2: Pressure Wash and Re-Paint the exterior walls, columns, doors, frames and overhead door of existing Fire Department Storage Building as indicated on Sheet A0.2.
4. Alternate No. 3: Substitute tegular edge ceiling panels in lieu of those specified in Division 095113. Basis of Design: Armstrong Optima 9/16" square tegular edge, 24" x 24".
5. Alternate No. 4: Provide manually-operated operable acoustical panel partition in Training Room.
6. Alternate No. 4A: Provide substructure (columns, beams and foundation) for acoustical panel partition.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Section:
 - 1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.3 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A or similar form.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

- i. Research reports evidencing compliance with building code in effect for Project, from Florida Building Code.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution will not adversely affect Contractor's construction schedule.

- c. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - d. Requested substitution is compatible with other portions of the Work.
 - e. Requested substitution has been coordinated with other portions of the Work.
 - f. Requested substitution provides specified warranty.
 - g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed, unless otherwise indicated.
- C. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Requested substitution will not adversely affect Contractor's construction schedule.
 - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - f. Requested substitution is compatible with other portions of the Work.
 - g. Requested substitution has been coordinated with other portions of the Work.
 - h. Requested substitution provides specified warranty.
 - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Requests for Information (RFIs).
 - 2. Project meetings. (OAC)

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.
- B. OAC: Owner, Architect and Contractor meetings held on a regular basis.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.

5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.4 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Drawing number and detail references, as appropriate.
 9. Field dimensions and conditions, as appropriate.
 10. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 11. Contractor's signature.
 12. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.

1.5 PROJECT MEETINGS (OAC)

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.

- j. Submittal procedures.
 - k. Preparation of record documents.
 - l. Use of the premises and existing building.
 - m. Work restrictions.
 - n. Working hours.
 - o. Owner's occupancy requirements.
 - p. Responsibility for temporary facilities and controls.
 - q. Procedures for moisture and mold control.
 - r. Procedures for disruptions and shutdowns.
 - s. Construction waste management and recycling.
 - t. Parking availability.
 - u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Conduct progress meetings at biweekly intervals.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.

- 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Daily construction reports.
 - 3. Field condition reports.
- B. Related Section:
 - 1. Division 01 Section "Multiple Contract Summary" for preparing a combined Contractor's Construction Schedule.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF electronic file.

2. Two paper copies.
- B. Start-up Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 3. Total Float Report: List of all activities sorted in ascending order of total float.
- E. Daily Construction Reports: Submit at weekly intervals.
- F. Field Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from entities involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 3. Startup and Testing Time: Include not less than 15 days for startup and testing.
 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 5. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 5. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
 2. Unanswered RFIs.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.

- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Start-up Network Diagram: Submit diagram within 14 days of date established for the Notice of Award. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 60 days after date established for the Notice of Award.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
 - 2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 3. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to correlate with Contract Time.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.

- e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and commissioning.
 - j. Punch list and final completion.
 - k. Activities occurring following final completion.
 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
 4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Principal events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Total float or slack time.
 9. Average size of workforce.
 10. Dollar value of activity (coordinated with the schedule of values).
- G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in total float or slack time.
 7. Changes in the Contract Time.

2.4 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events.
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial completions and occupancies.
 19. Substantial Completions authorized.
- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
 - 1. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 2. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 3. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 4. Division 01 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.

- a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of an Agreement form acceptable to the Owner and Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

- j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Other necessary identification.
- E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01A).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 - 4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.
 - h. Name of supplier.
 - i. Name of manufacturer.
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Other necessary identification.
- F. Options: Identify options requiring selection by the Architect.
- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements:
1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
 3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 4. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based upon Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit two sets of Samples. Architect will retain one Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
 - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A.
 1. Submit subcontractor list in the following format:
 - a. PDF electronic file.
 - b. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Architect will return two copies.
 - c. List shall include the following trades:
 - Selective Demolition
 - Landscaping/Irrigations
 - Metal Stud Framing and Dry Wall
 - Acoustical Grid and Ceiling Tile
 - Casework
 - EIFS Repair
 - Membrane Roofing and Accessories
 - Tile Roofing and Accessories
 - Plumbing
 - HVAC
 - Electrical
 - Painting
 - Carpet Tile, VCT, Base and Accessories
 - Quarry Tile, Ceramic Tile, Base and Accessories
 - Concrete Placement and Finishing
 - Aluminum Storefront Systems
 - Rough Carpentry
 - Structural Steel Fabrications and Installation
 - Alternate #1, New Canopy Supplier and Installation
 - Alternate #1A, Fuel Pump Supplier and Installation
 - Alternate #4, Folding Partition Supplier and Installation
- J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

- X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
1. Reviewed
 2. Rejected
 3. Submit Specific Item
 4. Furnish as corrected
 5. Revise and Re-Submit.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections:
 - 1. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 - 1. Laboratory Mockups: Full-size, physical assemblies constructed at testing facility to verify performance characteristics.
- D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of FIVE previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.
 - 1. Seismic-force resisting system, designated seismic system, or component listed in the designated seismic system quality assurance plan prepared by the Architect.

2. Main wind-force resisting system or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.

- d. When testing is complete, remove test specimens, assemblies, mockups do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers

AI	Asphalt Institute
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	Architectural Precast Association
APA	APA - The Engineered Wood Association
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (American Society of Mechanical Engineers International)
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	Association of the Wall and Ceiling Industry

AWCMA	American Window Covering Manufacturers Association (Now WCMA)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association)
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
BICSI	BICSI, Inc.
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation)
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CEA	Consumer Electronics Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CIMA	Cellulose Insulation Manufacturers Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CRRC	Cool Roof Rating Council
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association

CRI	Carpet and Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
DHI	Door and Hardware Institute
EIA	Electronic Industries Alliance
EIMA	EIFS Industry Members Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association (Electrostatic Discharge Association)
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA)
FIBA	Federation Internationale de Basketball (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FM Approvals	FM Approvals LLC
FM Global	FM Global (Formerly: FMG - FM Global)
FMRC	Factory Mutual Research (Now FM Global)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.

FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Part of GSI)
GS	Green Seal
GSI	Geosynthetic Institute
HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation (Now BWF)
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization Available from ANSI

ISSFA	International Solid Surface Fabricators Association
ITS	Intertek Testing Service NA (Now ETL SEMCO)
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute

NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NOMMA	National Ornamental & Miscellaneous Metals Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Now ITS)
PCI	Precast/Prestressed Concrete Institute

PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
SAE	SAE International
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)
SGCC	Safety Glazing Certification Council
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)

SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc. (Now TCNA)
TCNA	Tile Council of North America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute
UL	Underwriters Laboratories Inc.
UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)

WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, Inc.
UBC	Uniform Building Code (See ICC)

- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers
CPSC	Consumer Product Safety Commission
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	Department of Housing and Urban Development
LBL	Lawrence Berkeley National Laboratory
NCHRP	National Cooperative Highway Research Program

(See TRB)

NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration
PBS	Public Buildings Service (See GSA)
PHS	Office of Public Health and Science
RUS	Rural Utilities Service (See USDA)
SD	State Department
TRB	Transportation Research Board
USDA	Department of Agriculture
USPS	Postal Service

- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board
CFR	Code of Federal Regulations Available from Government Printing Office
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point
DSCC	Defense Supply Center Columbus (See FS)
FED-STD	Federal Standard (See FS)
FS	Federal Specification Available from Department of Defense Single Stock Point Available from Defense Standardization Program Available from General Services Administration

Available from National Institute of Building Sciences

FTMS Federal Test Method Standard
(See FS)

MIL (See MILSPEC)

MIL-STD (See MILSPEC)

MILSPEC Military Specification and Standards
Available from Department of Defense Single Stock Point

UFAS Uniform Federal Accessibility Standards
Available from Access Board

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation

CCR California Code of Regulations

CPUC California Public Utilities Commission

TFS Texas Forest Service
Forest Resource Development

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Section:
 - 1. Division 01 Section "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable

product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
- b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

- B. Delivery and Handling:

- 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
- 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

- C. Storage:

- 1. Store products to allow for inspection and measurement of quantity or counting of units.
- 2. Store materials in a manner that will not endanger Project structure.
- 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- 4. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
- 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 - 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Recycling nonhazardous demolition and construction waste.
 - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections:
 - 1. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.
 - 2. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total non-hazardous solid waste generated by the Work. Facilitate recycling and salvage of materials.

1.4 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed.

1.5 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- C. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- D. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- E. Qualification Data: For waste management coordinator.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate

quantities by weight or volume, but use same units of measure throughout waste management plan.

- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 - 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - 2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted on Project site.
- C. Salvaged Items for Owner's Use:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area on-site off-site designated by Owner.
 - 5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

- A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 1-1/2-inch (38-mm) size.
- B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
 2. Clean and stack undamaged, whole masonry units on wood pallets.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
- F. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- G. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.
- H. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.
- I. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 1. Store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.
- J. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- K. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees at landfill facility.

C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

D. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

D. Disposal: Transport waste materials and dispose of at designated spoil areas on Owner's property.

E. Disposal: Transport waste materials off Owner's property and legally dispose of them.

3.7 SAMPLE FORMS

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Sections:
 - 1. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
 - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
 - 5. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.

8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Submit list of incomplete items in the following format:
 - a. PDF electronic file.
 - b. Three paper copies, unless otherwise indicated. Architect will return two copies.

1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

- m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

END OF SECTION 017700

SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, interruption of utility services, use of elevator and stairs, and locations of temporary partitions and means of egress.
- B. Pre-Demolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
- C. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Pre-Demolition Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- E. Hazardous Materials: It is unknown whether hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- F. Hazardous Materials: Hazardous materials are present in construction to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- G. Storage or sale of removed items or materials on-site is not permitted.
- H. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs.
- G. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 5. Dispose of demolished items and materials promptly.
- B. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 03 30 53 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture.
- C. Reinforcing steel mill certificate.
- D. Reinforcing steel shop drawings.

1.4 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. Comply with the following sections of ACI 301 unless modified by requirements in the Contract Documents:
 - 1. "General Requirements."
 - 2. "Formwork and Formwork Accessories."
 - 3. "Reinforcement and Reinforcement Supports."
 - 4. "Concrete Mixtures."
 - 5. "Handling, Placing, and Constructing."
- B. Comply with ACI 117.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
- C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

2.3 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Materials:
 - 1. Portland Cement: ASTM C 150/C 150M, Type I or Type II.
 - 2. Fly Ash: ASTM C 618, Class C or F.
 - 3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.
 - 4. Blended Hydraulic Cement: ASTM C 595/C 595M, Type IS, portland blast-furnace slag cement.
- C. Normal-Weight Aggregate: ASTM C 33/C 33M, 1-1/2-inch nominal maximum aggregate size.
- D. Air-Entraining Admixture: ASTM C 260/C 260M.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- F. Water: ASTM C 94/C 94M.

2.4 FIBER REINFORCEMENT

- A. Synthetic Micro-Fiber: Fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.

2.5 RELATED MATERIALS

- A. Vapor Retarder: Plastic sheet, ASTM E 1745, Class A or B.
- B. Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 10 mils thick; or plastic sheet, ASTM E 1745, Class C.
- C. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.7 CONCRETE MIXTURES

- A. Comply with ACI 301.
- B. Normal-Weight Concrete:
 - 1. Minimum Compressive Strength: 3000 psi at 28 days.
 - 2. Maximum W/C Ratio: 0.50.
 - 3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
 - 4. Slump Limit: 5 inches, plus or minus 1 inch.
 - 5. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of trowel-finished floor slabs to exceed 3 percent.
 - 6. Limit slump to 5 inches for troweled slabs and 4 inches for other slabs.
- C. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than a rate of 1.0 lb/cu. yd..

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116, and furnish batch ticket information.

1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd..
 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

- A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

- A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.
 1. Lap joints 6 inches and seal with manufacturer's recommended adhesive or joint tape.

3.4 STEEL REINFORCEMENT INSTALLATION

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.6 CONCRETE PLACEMENT

- A. Comply with ACI 301 for placing concrete.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
- C. Do not add water to concrete during delivery, at Project site, or during placement.
- D. Consolidate concrete with mechanical vibrating equipment according to ACI 301.
- E. Equipment Bases and Foundations:
 - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 - 2. Construct concrete bases 6 inches high unless otherwise indicated; and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
 - 3. Minimum Compressive Strength: 3000 psi at 28 days.
 - 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
 - 5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor them into structural concrete substrate.
 - 6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.7 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch.
 - 1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch.
 - 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.
- C. Rubbed Finish: Apply the following rubbed finish, defined in ACI 301, to smooth-formed-finished as-cast concrete where indicated:
 - 1. Smooth-rubbed finish.
 - 2. Grout-cleaned finish.
 - 3. Cork-floated finish.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.
 - 1. Do not further disturb surfaces before starting finishing operations.
- C. Scratch Finish: Apply scratch finish to surfaces indicated and surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes unless otherwise indicated.
- D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, fluid-applied or direct-to-deck-applied membrane roofing, or sand-bed terrazzo.
- E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

- F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

3.9 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches , and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Tests: Perform according to ACI 301.

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.

END OF SECTION 03 30 53

SECTION 042200 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units (CMU's).
2. Steel reinforcing bars.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For reinforcing steel. Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
- C. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength.
 2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.3 QUALITY ASSURANCE

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

PART 2 - PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
- B. CMUs: ASTM C 90.
 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi.
 2. Density Classification: Normal weight.

2.2 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of Portland cement and hydrated lime containing no other ingredients.
- D. Aggregate for Mortar: ASTM C 144.
 - 1. For joints, less than 1/4-inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
- E. Aggregate for Grout: ASTM C 404.
- F. Water: Potable.

2.3 REINFORCEMENT

- A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.
- B. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.
 - 1. Interior Walls: Hot-dip galvanized, carbon steel.
 - 2. Exterior Walls: Hot-dip galvanized, carbon steel.
 - 3. Provide in lengths of not less than 10 feet (3 m), with prefabricated corner and tee units.

2.4 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
 - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
 - 2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
 - 3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.5 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use masonry cement or mortar cement mortar unless otherwise indicated.

- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.
 - 1. For masonry below grade or in contact with earth, use Type S.
 - 2. For reinforced masonry, use Type S.
- D. Grout for Unit Masonry: Comply with ASTM C 476.
 - 1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
 - 2. Proportion grout in accordance with ASTM C 476, Table 1.
 - 3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 TOLERANCES

- A. Dimensions and Locations of Elements:
 - 1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
 - 2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
 - 3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:
 - 1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2 inch (12 mm) maximum.
 - 2. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2 inch (12 mm) maximum.
- C. Joints:
 - 1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).

3.2 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets.

Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- C. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

3.3 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:
 - 1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
 - 2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
 - 3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
 - 4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.
- B. Lay solid masonry units with filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.4 MASONRY JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
 - 1. Space reinforcement not more than 16 inches o.c.
- B. Provide continuity at corners by using prefabricated L-shaped units.

3.5 REINFORCED UNIT MASONRY INSTALLATION

- A. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

- B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
 - 1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
 - 2. Limit height of vertical grout pours to not more than 60 inches.

3.6 FIELD QUALITY CONTROL

- A. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

3.7 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

END OF SECTION 042200

SECTION 05 12 00 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Structural steel.
 - 2. Grout.
- B. Related Requirements:

1.3 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Heavy Sections: Rolled and built-up sections as follows:
 - 1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches
 - 2. Welded built-up members with plates thicker than 2 inches.
 - 3. Column base plates thicker than 2 inches.
- C. Protected Zone: Structural members or portions of structural members indicated as "Protected Zone" on Drawings. Connections of structural and nonstructural elements to protected zones are limited.
- D. Demand Critical Welds: Those welds, the failure of which would result in significant degradation of the strength and stiffness of the Seismic-Load-Resisting System and which are indicated as "Demand Critical" or "Seismic Critical" on Drawings.

1.4 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show fabrication of structural-steel components.
 - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
 - 2. Include embedment Drawings.
 - 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
 - 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical, high-strength bolted connections.
 - 5. Identify members and connections of the Seismic-Load-Resisting System.
 - 6. Indicate locations and dimensions of protected zones.
 - 7. Identify demand critical welds.
- C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:
 - 1. Power source (constant current or constant voltage).
 - 2. Electrode manufacturer and trade name, for demand critical welds.
- D. Delegated-Design Submittal: For structural-steel connections indicated to comply with design loads, include analysis data.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer fabricator testing agency.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural steel, including chemical and physical properties.
- E. Product Test Reports: For the following:
 - 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 2. Shop primers.
 - 3. Nonshrink grout.
- F. Survey of existing conditions.

- G. Source quality-control reports.
- H. Field quality-control reports.

1.8 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.
- B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.
- C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or to SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8/D1.8M. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- E. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 341 and AISC 341s1.
 - 3. AISC 360.
 - 4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.

2.2 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992/A 992M.
- B. Channels, Angles, M , S-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.
- D. Corrosion-Resisting Structural-Steel Shapes, Plates, and Bars: ASTM A 588/A 588M, Grade 50 (345).
- E. Cold-Formed Hollow Structural Sections: ASTM A 500/A 500M, Grade B, structural tubing.
- F. Corrosion-Resisting, Cold-Formed Hollow Structural Sections: ASTM A 847/A 847M, structural tubing.
- G. Steel Pipe: ASTM A 53/A 53M, Type E or Type S, Grade B.
 - 1. Weight Class: Standard.
 - 2. Finish: Black.
- H. Welding Electrodes: Comply with AWS requirements.

2.3 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
 - 1. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible-washer type with plain finish.

2.4 PRIMER

- A. Primer: Comply with Section 099110 PAINTING (CONSUMER LINE PRODUCTS)
- B. Primer: SSPC-Paint 25, Type II, zinc oxide, alkyd, linseed oil primer.
- C. Primer: SSPC-Paint 25 BCS, Type II, zinc oxide, alkyd, linseed oil primer.

- D. Primer: SSPC-Paint 23, latex primer.
- E. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

2.5 GROUT

- A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.
- B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.6 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," and to AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.7 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.8 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
 - 2. Surfaces to be field welded.
 - 3. Surfaces of high-strength bolted, slip-critical connections.
 - 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
 - 5. Galvanized surfaces.
 - 6. Surfaces enclosed in interior construction.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
 - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
 - 5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
 - 6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 7. SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
 - 8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
 - 9. SSPC-SP 8, "Pickling."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
 - 2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

- D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils (0.038 mm).

2.9 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
 - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.

2.10 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform shop tests and inspections.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Bolted Connections: Inspect and test shop-bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Visually inspect shop-welded connections according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.
- D. In addition to visual inspection, test and inspect shop-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.
- E. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
 1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Baseplates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 2. Weld plate washers to top of baseplate.
 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 1. Level and plumb individual members of structure.
 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.

- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 - 3. Assemble and weld built-up sections by methods that maintain true alignment of axes without exceeding tolerances in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges," for mill material.

3.5 PREFABRICATED BUILDING COLUMNS

- A. Install prefabricated building columns to comply with AISC 360, manufacturer's written recommendations, and requirements of testing and inspecting agency that apply to the fire-resistance rating indicated.

3.6 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified special inspector to perform the following special inspections:
 - 1. Verify structural-steel materials and inspect steel frame joint details.
 - 2. Verify weld materials and inspect welds.
 - 3. Verify connection materials and inspect high-strength bolted connections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Bolted Connections: Inspect and test bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: Visually inspect field welds according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, test and inspect field welds according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

- a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
- 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Conduct tests according to requirements in AWS D1.1/D1.1M on additional shear connectors if weld fracture occurs on shear connectors already tested.

3.7 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780/A 780M.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
- C. Touchup Painting: Cleaning and touchup painting are specified in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
- D. Touchup Priming: Cleaning and touchup priming are specified in Section 099600 "High-Performance Coatings."

END OF SECTION 05 12 00

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Plastic-laminate cabinets.
 - 2. Plastic-laminate countertops.

1.2 SUBMITTALS

- A. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1.3 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."
- B. Butt Hinges: 2-3/4-inch (70-mm), 5-knuckle steel hinges made from 0.095-inch- (2.4-mm-) thick metal, and as follows:
 - 1. Semi-concealed Hinges for Overlay Doors: BHMA A156.9, B01521.
- C. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter.
- D. Catches: Magnetic catches, BHMA A156.9, B03141
- E. Drawer Slides: BHMA A156.9, B05091.

1. Standard Duty (Grade 1, Grade 2, and Grade 3): Side mounted; full-extension type; zinc-plated steel with polymer rollers.
- F. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
1. Satin Stainless Steel: BHMA 630.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

2.4 FABRICATION

- A. Plastic-Laminate Cabinets: AW1 Custom Grade
1. AWI Type of Cabinet Construction: Flush overlay.
 2. Reveal Dimension: 1/2 inch (13 mm).
 3. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate as follows:
 - a. Horizontal Surfaces Other Than Tops: Grade HGS.
 - b. Vertical Surfaces: Grade HGS.
 4. Materials for Semi-Exposed Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, Grade VGS.
 5. Drawer Sides and Backs: Solid-hardwood lumber
 6. Drawer Bottoms: Hardwood plywood.
 7. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of solid colors, matte finish.
- B. Plastic-Laminate Countertops: AW1 Custom Grade.
1. High-Pressure Decorative Laminate Grade: HGS.
 2. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of solid colors, matte finish.
 3. Core Material at Sinks: exterior-grade plywood.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches (400 mm) o.c. with toggle bolts through metal backing or metal framing behind wall finish.
- B. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION 064023

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Foam-plastic board insulation.
2. Glass-fiber blanket insulation.
3. Vapor retarders.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product test reports.
- C. Research/evaluation reports.

PART 2 - PRODUCTS

2.1 FOAM-PLASTIC BOARD INSULATION

- A. Extruded-Polystyrene Board Insulation: ASTM C 578, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. DiversiFoam Products.
 - b. Dow Chemical Company (The).
 - c. Owens Corning.
 - d. Pactiv Building Products.
 2. Type X, 15 psi (104 kPa).
 3. Type IV, 25 psi (173 kPa).
 4. Type VI, 40 psi (276 kPa).
 5. Type VII, 60 psi (414 kPa).
 6. Type V, 100 psi (690 kPa).

2.2 GLASS-FIBER BLANKET INSULATION

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. CertainTeed Corporation.
 - 2. Guardian Building Products, Inc.
 - 3. Johns Manville.
 - 4. Knauf Insulation.
 - 5. Owens Corning.
- B. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.
- C. Polypropylene-Scrim-Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier).
- D. Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).
- E. Reinforced-Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.
- F. Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class B (faced surface with a flame-propagation resistance of 0.12 W/sq. cm); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.
- G. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.

2.3 VAPOR RETARDERS

- A. Polyethylene Vapor Retarders: ASTM D 4397, 6 mils (0.15 mm) thick, with maximum permeance rating of 0.13 perm (7.5 ng/Pa x s x sq. m).
- B. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Foam-Plastic Board Insulation: Seal joints between units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.
- C. Glass-Fiber or Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
 - 5. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
 - 6. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
 - a. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.
 - b. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- D. Loose-Fill Insulation: Apply according to ASTM C 1015 and manufacturer's written instructions. Level horizontal applications to uniform thickness as indicated, lightly settle to uniform density, but do not compact excessively.

1. For cellulosic-fiber loose-fill insulation, comply with CIMA's Bulletin #2, "Standard Practice for Installing Cellulose Insulation."
- E. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.
- F. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
 2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.3 INSTALLATION OF VAPOR RETARDERS

- A. Place vapor retarders on side of construction indicated on Drawings. Extend vapor retarders to extremities of areas to protect from vapor transmission. Secure vapor retarders in place with adhesives or other anchorage system as indicated. Extend vapor retarders to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
- B. Seal vertical joints in vapor retarders over framing by lapping no fewer than two studs.
 1. Fasten vapor retarders to wood framing at top, end, and bottom edges; at perimeter of wall openings; and at lap joints. Space fasteners 16 inches (406 mm) o.c.
 2. Before installing vapor retarders, apply urethane sealant to flanges of metal framing including runner tracks, metal studs, and framing around door and window openings. Seal overlapping joints in vapor retarders with vapor-retarder tape according to vapor-retarder manufacturer's written instructions. Seal butt joints with vapor-retarder tape. Locate all joints over framing members or other solid substrates.
 3. Firmly attach vapor retarders to metal framing and solid substrates with vapor-retarder fasteners as recommended by vapor-retarder manufacturer.
- C. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape to create an airtight seal between penetrating objects and vapor retarders.
- D. Repair tears or punctures in vapor retarders immediately before concealment by other work. Cover with vapor-retarder tape or another layer of vapor retarders.

END OF SECTION 072100

SECTION 073216 - CONCRETE ROOF TILES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete roof tiles.
2. Underlayment.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each type of concrete roof tile and accessory tile indicated.
- C. Material test reports.
- D. Research/evaluation reports.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide concrete roof tiles and related roofing materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 1. Exterior Fire-Test Exposure: Class A; UL 790 or ASTM E 108, for application and roof slopes indicated.
- B. Preinstallation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS

2.1 CONCRETE ROOF TILES

- A. Concrete Roof Tiles: ASTM C 1492, molded- or extruded-concrete roof tile units of shape and configuration indicated, with integral color, and free of surface imperfections. Provide with fastening holes prepunched at factory.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Basis-of-Design Product: Subject to compliance with requirements, provide Boral Barcelona 900 "Gold Dust" or comparable product by one of the following:
 - a. Eagle Roofing Products.
 - b. Vande Hey-Raleigh Mfg., Inc.
 - c. Westile Roofing Products.
3. Weight: Normal.
4. High-Profile Shape: Type I, Spanish or "S".
5. Side Configuration: Interlocking.
6. Size: 17" x 12 3/8".
7. Solar Reflectance Index: Provide concrete roof tiles with Solar Reflectance Index not less than 29 when calculated according to ASTM E 1980, based on testing of identical products by a qualified testing agency.
8. Colors, Blends, and Patterns: As selected by Architect from manufacturer's full range.
9. Finish and Texture: Matte, smooth.
10. Color: Red.
11. High-Profile-Shape Accessory Tiles: Ridge ridge end hip and hip starter header course roll rake edge starter end band and terminal units, in color matching concrete roof tiles.

2.2 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.
- B. Cold-Applied Adhesive: Manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with underlayments.
- C. Foam Adhesive: Two-component, polyurethane expanding adhesive recommended for application by concrete roof tile manufacturer.
- D. Mortar: ASTM C 270, Type M, with ASTM C 979, pigmented mortar matching the color of concrete roof tiles for exposed-to-view mortar, and natural color for concealed-from-view mortar.
- E. Eave Closure: Manufacturer's standard stainless-steel eave closure formed to shape of concrete roof tiles.
- F. Ridge Closure: Manufacturer's standard EPDM ridge closure, formed to shape of concrete roof tiles.
- G. Wood Nailers, Beveled Cant Strips and Wood Battens: Comply with requirements for pressure-preservative-treated wood in Division 06 Section "Rough Carpentry."

2.3 FASTENERS

- A. Roofing Nails: ASTM F 1667, hot-dip galvanized-steel, 0.1055-inch- (2.7-mm-) diameter shank, sharp-pointed, conventional roofing nails with barbed shanks; minimum 3/8-inch- (10-mm-) diameter head; of sufficient length to penetrate 3/4 inch (19 mm) into roof-deck sheathing.

- B. Felt Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized-steel wire with low-profile capped heads or disc caps, 1-inch (25-mm) minimum diameter.
- C. Wood Batten Nails: ASTM F 1667; common or box, steel wire, flat head, and smooth shank.
- D. Wire Ties: Stainless steel, 0.083-inch (2.1-mm) minimum diameter.
- E. Hook Nails: One-piece wind lock and concrete roof tile fastener system, minimum 0.09-inch- (2.3-mm-) diameter galvanized-steel wire, for direct deck nailing.
- F. Tile Locks: Stainless-steel, 0.1-inch- (2.5-mm-) diameter wire device designed to secure butt edges of overlaid concrete roof tiles.
- G. Storm Clips: Stainless-steel strap-type, 0.04-by-1/2-inch (1.0-by-13-mm), L-shaped retainer clips designed to secure side edges of concrete roof tiles. Provide with two fastener holes in base flange.

2.4 UNDERLAYMENT MATERIALS

- A. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970, minimum of 40-mil- (1.0-mm-) thick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing; cold applied. Provide primer for adjoining concrete or masonry surfaces to receive underlayment.

2.5 METAL FLASHING AND TRIM

- A. Comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim."
 - 1. Sheet Metal: Stainless steel.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. General: Comply with concrete roof tile manufacturer's written instructions and recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Self-Adhering Sheet Underlayment: Install wrinkle free; comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install at locations indicated, lapped in direction to shed water. Lap sides not less than 3-1/2 inches (89 mm). Lap ends not less than 6 inches (152 mm), staggered 24 inches (610 mm) between succeeding courses. Roll laps with roller. Cover underlayment within seven days.

3.2 METAL FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in Division 07 Section "Sheet Metal Flashing and Trim."

1. Install metal flashings according to concrete roof tile manufacturer's written instructions and recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."

3.3 WOOD NAILERS AND BATTENS

- A. Install wood nailers at ridges hips rakes and securely fasten to roof deck.
- B. Install beveled wood cant at eaves and securely fasten to roof deck.
- C. Install nominal 1-by-2-inch (25-by-50-mm) wood battens horizontally in 48-inch (1200-mm) lengths with ends separated by 1/2 inch (13 mm), at spacing required by concrete roof tile manufacturer, and securely fasten to roof deck.
 1. Install nominal 1-by-2-inch (25-by-50-mm) wood counter battens vertically spaced 24 inches (610 mm) apart and securely fasten to roof deck.

3.4 CONCRETE ROOF TILE INSTALLATION

- A. General: Install concrete roof tiles according to manufacturer's written instructions, to recommendations in TRI/WSRCA's "Concrete and Clay Roof Tile Design Criteria Installation Manual for Moderate Climate Regions," and to NRCA's "The NRCA Roofing and Waterproofing Manual."
 1. Maintain uniform exposure and coursing of concrete roof tiles throughout roof.
 2. Extend tiles 2 inches (50 mm) over eave fasciae.
 3. Nail Fastening: Drive nails to clear the concrete roof tile so the tile hangs from the nail and is not drawn up.
 - a. Install wire through nail holes of cut tiles that cannot be nailed directly to roof deck, and fasten to nails driven into deck.
 4. Wire-Tie Fastening: Install wire-tie systems and fasten concrete roof tiles according to manufacturer's written instructions.
 5. Foam-Adhesive Setting: Install concrete roof tiles according to TRI/FRSA's "Concrete and Clay Roof Tile Installation Manual."
 6. Install storm clips to capture edges of longitudinal sides of concrete roof tiles and securely fasten to roof deck.
 7. Install concrete roof tile locks to support and lock overlying tile butts to underlying tiles.
 8. Cut and fit concrete roof tiles neatly around roof vents, pipes, ventilators, and other projections through roof. Fill voids with mortar.
 9. Install concrete roof tiles with color blend approved by Architect.
- B. High-Profile Concrete Roof Tile Installation:
 1. Install sheet metal eave closure.
 2. Provide minimum 3-inch (75-mm) lap between succeeding courses of concrete roof tiles.
 3. Install roll rake tiles.
 4. Install ridge tiles with laps facing away from prevailing wind. Seal laps with elastomeric sealant.

- C. Open Valleys: Cut concrete roof tiles at open valleys to form straight lines. Maintain uniform width of exposed open valley 1/8 inch in 12 inches (1:96)] from highest to lowest point.
 - 1. Drill or notch cut valley tiles and wire-tie to fastener placed clear of valley metal flashings.
 - 2. Do not nail tiles to metal flashings.
- D. Closed Valleys: Cut concrete roof tiles at closed valleys to form straight lines, trimming upper concealed corners of tiles. Maintain uniform gap at centerline of valley of 1/2 to 3/4 inch (13 to 19 mm).
 - 1. Drill or notch cut valley tiles and wire-tie to fastener placed clear of valley metal flashings.
 - 2. Do not nail tiles to metal flashings.
- E. Remove and replace damaged or broken concrete roof tiles.

END OF SECTION 073216

SECTION 075100 – PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Sections Includes:
 - 1. Preparation of existing built-up roof to receive a new single-ply roofing membrane.
 - 2. Removal of existing tile roofing system in preparation for a new underlayment and replacement tile.
- B. Related Sections:
 - 1. Section 01 11 00-Summary of Work
 - 2. Section 02 41 19-Selective Demolition
 - 3. Section 06 10 11-Rough Carpentry
 - 4. Section 07 32 20-Concrete Roof Tile
 - 5. Section 07 54 16-Ethylene Interpolymer (KEE) Roofing

1.2 DESCRIPTION OF WORK

- A. Low-Slope Roof: Prepare existing surface to receive new granular surfaced modified bitumen cap sheet
- B. Tile Roof: Remove existing clay tile roof and underlayment, perimeter flashings, down to the existing wood deck.
- C. Remove and replace any damaged or deteriorated blocking, nailers and decking.

1.3 QUALIFICATIONS

- A. Materials Removal Firm: Company specializing in performing the work of this Section with minimum 3 years documented experience.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Provide product description and specification information of roof materials and accessories as may be specified elsewhere.
- C. Manufacturer's Certificate: Certify that Products meet or exceed specified requirements

1.5 PER-INSTALLATION CONFERENCE

- A. Attend conference specified in Section 01 30 00.

1.6 PROJECT CONDITIONS

A. Existing Conditions

1. The roof applicator shall verify existing conditions, such as soundness of perimeter conditions, varying deck and other visible conditions prior to bidding.
2. Report conflicts and problems to the Architect for resolution prior to bidding Failure to report these conflicts and problems places the responsibility on the Prime Contractor to complete the work in accordance with the Documents at no additional cost to the Owner.
3. Replace or restore to original condition any materials or work damaged during construction
4. Surfaces not designated to receive the system shall be properly masked or otherwise protected against accidental spillage or application of the material to those areas.
5. Failure to install the work in strict accordance with provisions of this Section, is subject to total rejection of work specified herein.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Maintain continuous protection prior to and during installation of new roofing system.

1.8 SCHEDULING AND COORDINATION

- A. Schedule and coordinated work under the provisions of Division 1.
- B. Schedule work to coincide with commencement of installation of new roofing system.
- C. Coordinate the work with affected mechanical and electrical work associated with roof penetrations.
- D. Remove only existing roofing materials that can be replaced with new materials the same day or as the weather will permit.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Temporary Protection: Sheet polyethylene: provide weights to retain sheeting in position.
- B. Protection Board (as may be required): ASTM C208, Roof Insulating Board type, cellulose fiber board, with the following characteristics:
 1. Board Size 48 x 96 inches.
 2. Board Thickness ½ inch.
 3. Board Edges Square

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing site conditions under provisions of Division 1.
- B. Verify that existing roof surfaces are clear and ready for work of this section.

3.2 PREPARATION

- A. Sweep roof surface clean of loose matter. Remove loose refuse and dispose off site.

3.3 MATERIAL REMOVAL

- A. Low-Slope Roof: Remove gravel from existing roofing membrane. Remove pitch pans and infill deck. Perimeter metal edge flashing shall remain in place.
- B. Tile Roof: Remove existing clay roof tile, underlayment and metal edge flashings.
- C. Cut and lay flat any membrane blisters.
- D. Remove damaged insulation and fasteners, cant strips and blocking.
- E. Repair existing wood and lightweight insulating concrete deck surface to provide smooth working surface for new roof system.

3.4 TEMPORARY PROTECTION

- A. Protect finished Work under provisions of Division 1.
- B. Provide temporary protective sheeting over uncovered deck surfaces
- C. Turn sheeting over edges and curbing.
- D. Retain sheeting in position with temporary fasteners.
- E. Provide for surface drainage from sheeting to existing drainage facilities.
- F. Do not permit traffic over unprotected or repaired deck surfaces.

3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 1.
- B. Inspection will identify the exact limits of material removal.
- C. Testing will identify the exact condition of existing materials and their reuse, repair or removal.

END OF SECTION 075100

SECTION 075416 - ETHYLENE INTERPOLYMER (KEE) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Adhered KEE membrane roofing system.

1.2 PERFORMANCE REQUIREMENTS

- A. Energy Performance: Provide roofing system that is listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- B. All roofing materials shall be Class 'A' per ASTM E 108 and shall be certified by a nationally recognized, independent testing laboratory.
- C. Roofing materials shall resist wind up-lift forces per ASCE 7-10 and design wind speeds per structural drawings.
- D. Roof membrane shall be inspected by the manufacturer's representative within one (1) year of acceptance by DSC.
- E. Contractor shall provide Architect with "Final Statement of Compliance" which states that the roof membrane complies with the approved contract documents.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 1. Submit evidence of compliance with performance requirements.
- D. Maintenance data.
- E. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product.
- F. Pre-installation Roofing Conference: Conduct conference at Project site.

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 KEE MEMBRANE ROOFING

- A. KEE Sheet: ASTM D 6754, fabric reinforced and fabric backed.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooley Engineered Membranes; Div. of Cooley Group.
 - b. Ecology Roof Systems.
 - c. Flex Membranes International, Inc.
 - d. Seaman Corporation.
 - e. Tremco Incorporated.
2. Thickness: 45 mils nominal.
3. Exposed Face Color: White.

2.2 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as KEE sheet membrane.
- C. Bonding Adhesive: Manufacturer's standard, water based.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

- F. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.3 ROOF INSULATION

- A. Composite Polyisocyanurate Board Insulation: ASTM C 1289, with factory-applied facing board on one major surface, as indicated below by type, and felt or glass-fiber mat facer on the other.
 - 1. Type IV, cellulosic-fiber-insulating-board facer, Grade 2, 2 inch (13 mm) thick minimum.

2.4 INSULATION ACCESSORIES

- A. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- B. Insulation Adhesive: Insulation manufacturer's recommended cold-applied adhesive formulated to attach roof insulation to substrate or to another insulation layer.
- C. Cover Board: ASTM C 208, Type II, Grade 2, cellulosic-fiber insulation board, 1/2 inch (13 mm) thick.

PART 3 - EXECUTION

3.1 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- D. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.

3.2 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing and install according to membrane roofing system manufacturer's written instructions.
- B. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- C. Bonding Adhesive: Apply to substrate and underside of membrane roofing at rate required by manufacturer and allow to partially dry before installing membrane roofing. Do not apply to splice area of membrane roofing.
- D. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing. All new installed materials shall be sealed against moisture intrusion at the end of the day.
- E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- F. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
 - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.

3.3 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

END OF SECTION 075416

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Manufactured reglets and counterflashing.
2. Formed roof drainage sheet metal fabrications.
3. Formed low-slope roof sheet metal fabrications.
4. Formed steep-slope roof sheet metal fabrications.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.

1. Include details for forming, joining, supporting, and securing sheet metal flashing and trim, including pattern of seams, termination points, fixed points, expansion joints, expansion-joint covers, edge conditions, special conditions, and connections to adjoining work.

C. Samples: For each exposed product and for each finish specified.

D. Maintenance data.

E. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

B. Copper Sheet Metal Standard: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

C. Pre-installation Conference: Conduct conference at Project site.

1.4 WARRANTY

- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304, dead soft, fully annealed; 2D (dull, cold rolled) finish.

2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: Minimum 40 mils (1.0 mm) thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
 - 1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F (116 deg C).
 - 2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C).

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.

- C. Solder:
 - 1. For Stainless Steel: ASTM B 32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- H. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
 - 1. Obtain field measurements for accurate fit before shop fabrication.
 - 2. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.
- B. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant.
- C. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

- F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.5 ROOF DRAINAGE SHEET METAL FABRICATIONS

- A. Hanging Gutters: Fabricate to cross section indicated, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- (2400-mm-) long sections. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing bars, and gutter accessories from same metal as gutters.
- B. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
 - 1. Fabricate from the following materials:
 - a. Stainless Steel: 0.016 inch (0.40 mm) thick.
- C. Parapet Scuppers: Fabricate scuppers of dimensions required with closure flange trim to exterior, 4-inch- (100-mm-) wide wall flanges to interior, and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fabricate from the following materials:
 - 1. Stainless Steel: 0.019 inch (0.48 mm) thick.
- D. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape indicated complete with outlet tubes, exterior flange trim, and built-in overflows. Fabricate from the following materials:
 - 1. Stainless Steel: 0.016 inch (0.40 mm) thick.
- E. Splash Pans: Fabricate from the following materials:
 - 1. Stainless Steel: 0.019 inch (0.48 mm) thick.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Copings: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight. Fabricate from the following materials:
 - 1. Stainless Steel: 0.025 inch (0.64 mm) thick.
- B. Base Flashing: Fabricate from the following materials:
 - 1. Stainless Steel: 0.019 inch (0.48 mm) thick.
- C. Counterflashing and Flashing Receivers: Fabricate from the following materials:

1. Aluminum: 0.032 inch (0.81 mm) thick.
- D. Roof-Drain Flashing: Fabricate from the following materials:
 1. Stainless Steel: 0.016 inch (0.40 mm) thick.
- E. Valley Flashing: Fabricate from the following materials:
 1. Stainless Steel: 0.019 inch (0.48 mm) thick.
- F. Drip Edges: Fabricate from the following materials:
 1. Stainless Steel: 0.016 inch (0.40 mm) thick.
- G. Eave, Rake, Ridge, and Hip Flashing: Fabricate from the following materials:
 1. Stainless Steel: 0.016 inch (0.40 mm) thick.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement so that completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 3. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
 4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
 5. Install sealant tape where indicated.
 6. Torch cutting of sheet metal flashing and trim is not permitted.

- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
 - 1. Coat back side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
- D. Fastener Sizes: Use fasteners of sizes that will penetrate metal decking not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal joints as shown and as required for watertight construction.
- F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 1. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
 - 2. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

3.3 ROOF DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored straps spaced not more than 36 inches (900 mm) apart. Provide end closures and seal watertight with sealant. Slope to downspouts.
 - 1. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet (15.24 m) apart. Install expansion-joint caps.
- C. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c. in between.

- D. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.
- E. Conductor Heads: Anchor securely to wall with elevation of conductor head rim 1 inch (25 mm) below scupper discharge.
- F. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inches (100 mm) in direction of water flow.

3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in SMACNA's "Architectural Sheet Metal Manual" and as indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch (75-mm) centers.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in SMACNA's "Architectural Sheet Metal Manual" and as indicated.
 - 1. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 24-inch (600-mm) centers.
 - 2. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 24-inch (600-mm) centers.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches (100 mm) over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints a minimum of 4 inches (100 mm) and bed with sealant.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric butyl sealant and clamp flashing to pipes that penetrate roof.

3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 076200

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.

1.2 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Warranties.

1.3 QUALITY ASSURANCE

1.4 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
 1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing

according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

2.2 SILICONE JOINT SEALANTS

A. Mildew-Resistant Neutral-Curing Silicone Joint Sealant: ASTM C 920.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems.
 - b. Dow Corning Corporation.
 - c. GE Advanced Materials - Silicones.
 - d. May National Associates, Inc.
 - e. Pecora Corporation.
 - f. Polymeric Systems, Inc.
 - g. Schnee-Morehead, Inc.
 - h. Sika Corporation; Construction Products Division.
 - i. Tremco Incorporated.
2. Type: Single component (S).
3. Grade: Pourable (P) or non-sag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Traffic (T) or Non-traffic (NT).

2.3 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Non-Sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form

smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Other joints as indicated.
 2. Joint Sealant: Silicone.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Control and expansion joints in unit masonry.
 - c. Joints in exterior insulation and finish systems.
 - d. Perimeter joints between materials listed above and frames of doors and louvers.
 2. Joint Sealant: Silicone.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 2. Joint Sealant: Silicone.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors.

2. Joint Sealant: Silicone.
- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 2. Joint Sealant: Silicone.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standard hollow metal doors and frames.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

1.3 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Amweld Building Products, LLC.
 2. Benchmark; a division of Therma-Tru Corporation.
 3. Ceco Door Products; an Assa Abloy Group company.
 4. Curries Company; an Assa Abloy Group company.
 5. Deansteel Manufacturing Company, Inc.
 6. Firedoor Corporation.
 7. Fleming Door Products Ltd.; an Assa Abloy Group company.
 8. Habersham Metal Products Company.
 9. Kewanee Corporation (The).
 10. Mesker Door Inc.
 11. Pioneer Industries, Inc.
 12. Security Metal Products Corp.
 13. Steelcraft; an Ingersoll-Rand company.
 14. Windsor Republic Doors.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS, Type B.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) metallic coating.
- D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat.

2.3 STANDARD HOLLOW METAL DOORS

- A. General: Comply with ANSI/SDI A250.8.
 - 1. Design: Flush panel.
 - 2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
 - 3. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- (1.0-mm-) thick, end closures or channels of same material as face sheets.
 - 4. Tolerances: SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."
- B. All Doors: Face sheets fabricated from metallic-coated steel sheet. Comply with ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 - 1. Level 2 and Physical Performance Level B (Heavy Duty), Model 1 (Full Flush).
- C. Hardware Reinforcement: ANSI/SDI A250.6.

2.4 STANDARD HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8.

- B. All Frames: Fabricated from metallic-coated steel sheet.
 - 1. Fabricate frames with mitered or coped corners.
 - 2. Fabricate frames as face welded unless otherwise indicated.
 - 3. Frames for Level 2 Steel Doors: 0.053-inch- (1.3-mm-) thick steel sheet.
- C. Hardware Reinforcement: ANSI/SDI A250.6.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
 - 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
 - 3. Floor Anchors: Formed From same materials as frames, not less than 0.042 inch (1.0 mm) thick. Monolithic Concrete Slabs: Chip-type anchors, with two holes to receive fasteners.
 - 4. Post installed Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

2.6 LOUVERS

- A. Provide sight proof louvers for, where indicated, that comply with SDI 111C, with blades or baffles formed of 0.020-inch- (0.5-mm-) thick, cold-rolled steel sheet set into 0.032-inch- (0.8-mm-) thick steel frame.

2.7 FABRICATION

- A. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.
- B. Hollow Metal Doors:
 - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors. Seal joints in top edges of doors against water penetration.
- C. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.

2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 3. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - b. Post installed Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
 4. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers.
 - a. Single-Door Frames: Three door silencers.
- D. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.

2.8 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
1. Shop Primer: ANSI/SDI A250.10.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hollow Metal Frames: Comply with ANSI/SDI A250.11.
1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - b. Install frames with removable glazing stops located on secure side of opening.
 - c. Install door silencers in frames before grouting.

- d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - f. Field apply bituminous coating to backs of frames that are filled with grout containing anti-freezing agents.
 2. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 3. In-Place Concrete or Masonry Construction: Secure frames in place with post installed expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus, or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- B. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
 1. Non-Fire-Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - b. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
 - c. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).

3.2 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-core doors with hardboard or MDF faces.

B. Related Sections:

1. Division 08 Section "Glazing" for glass view panels in flush wood doors.

1.2 SUBMITTALS

A. Product Data: For each type of door indicated.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

1. Indicate dimensions and locations of mortises and holes for hardware.
2. Indicate dimensions and locations of cutouts.
3. Indicate requirements for veneer matching.
4. Indicate doors to be factory finished and finish requirements.
5. Indicate fire-protection ratings for fire-rated doors.

1.3 QUALITY ASSURANCE

A. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."

B. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Algoma Hardwoods, Inc.

2. Ampco, Inc.
3. Buell Door Company Inc.
4. Chappell Door Co.
5. Eagle Plywood & Door Manufacturing, Inc.
6. Eggers Industries.
7. Lambton Doors.
8. Marlite.
9. Mohawk Flush Doors, Inc.; a Masonite company.
10. VT Industries Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
- B. WDMA I.S.1-A Performance Grade:
 1. Heavy Duty unless otherwise indicated.
- C. Particleboard-Core Doors:
 1. Particleboard: ANSI A208.1, Grade LD-1, made with binder containing no urea-formaldehyde resin.
 2. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
- D. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
 1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors:
 1. Grade: Custom (Grade A faces).
 2. Species: White oak.
 3. Cut: Plain sliced (flat sliced).
 4. Match between Veneer Leaves: Pleasing match.
 5. Assembly of Veneer Leaves on Door Faces: Running match.
 6. Core: Particleboard.
 7. Construction: Five or seven plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering.
 8. Construction: Seven plies, either bonded or nonbonded construction.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - 1. Comply with requirements in NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
- C. Openings: Cut and trim openings through doors in factory.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
 - a. Comply with NFPA 80 for fire-rated doors.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

END OF SECTION 081416

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior and Interior storefront framing.
2. Exterior manual-swing entrance doors.
3. Storefront framing for punched openings.

1.2 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
2. Dimensional tolerances of building frame and other adjacent construction.
3. Failure includes the following:
 - a. Deflection exceeding specified limits.
 - b. Thermal stresses transferring to building structure.
 - c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
 - d. Noise or vibration created by wind and by thermal and structural movements.
 - e. Loosening or weakening of fasteners, attachments, and other components.
 - f. Failure of operating units.

B. Delegated Design: Design aluminum-framed systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

C. Wind Loads: As required by Code.

D. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed $L/175$ of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to $3/4$ inch (19 mm), whichever is less.

E. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:

1. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
 2. Test Durations: 10 seconds.
- F. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).
- G. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.
1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
- C. Samples: For each type of exposed finish required.
- D. Other Action Submittals:
1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams.
- E. Product test reports.
- F. Maintenance data.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Engineering Responsibility: Prepare data for aluminum-framed systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated for this Project.
- C. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are

indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

- D. Accessible Entrances: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.
- E. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.
- F. Pre-Installation Conference: Conduct conference at Project site.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Arcadia, Inc.
 - 2. Arch Aluminum & Glass Co., Inc.
 - 3. CMI Architectural.
 - 4. Commercial Architectural Products, Inc.
 - 5. EFCO Corporation.
 - 6. Kawneer North America; an Alcoa company.
 - 7. Leed Himmel Industries, Inc.
 - 8. Pittco Architectural Metals, Inc.
 - 9. TRACO.
 - 10. Tubelite.
 - 11. United States Aluminum.
 - 12. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.
 - 13. YKK AP America Inc.

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
 - 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
 - 3. Extruded Structural Pipe and Tubes: ASTM B 429.
 - 4. Structural Profiles: ASTM B 308/B 308M.
 - 5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.
- B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer, complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.
 - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
 - 3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING SYSTEMS

- A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
 - 1. Construction: Nonthermal.
 - 2. Glazing System: Retained mechanically with gaskets on four sides.
 - 3. Glazing Plane: Center.
- B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with non-staining, nonferrous shims for aligning system components.
- C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
 - 2. Reinforce members as required to receive fastener threads.
 - 3. Use exposed fasteners with countersunk Phillips screw heads, fabricated from stainless steel.
- D. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.
- E. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.
 - 1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.4 GLAZING SYSTEMS

- A. Glazing: As specified in Division 08 Section "Glazing."
- B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.
- C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.5 ENTRANCE DOOR SYSTEMS

- A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.
 - 1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 - 2. Door Design: Narrow stile; 2-1/8-inch (54-mm) nominal width.
 - a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.
 - 3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.

2.6 ENTRANCE DOOR HARDWARE

- A. General: Provide entrance door hardware and entrance door hardware sets indicated in door and frame schedule for each entrance door to comply with requirements in this Section.
 - 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA standard referenced.
 - 2. Opening-Force Requirements:
 - a. Egress Doors: Not more than 15 lbf (67 N) to release the latch and not more than 30 lbf (133 N) to set the door in motion and not more than 15 lbf (67 N) to open the door to its minimum required width.
 - b. Accessible Interior Doors: Not more than 5 lbf (22.2 N) to fully open door.
- B. Butt Hinges: BHMA A156.1, Grade 1, radius corner.
 - 1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while entrance door is closed.
 - 2. Exterior Hinges: Stainless steel, with stainless-steel pin.
 - 3. Quantities:
 - a. For doors, up to 87 inches (2210 mm) high, provide 3 hinges per leaf.

- C. Automatic and Self-Latching Flush Bolts: BHMA A156.3, Grade 1.
- D. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- E. Cylinders: BHMA A156.5, Grade 1.
 - 1. Keying: Master key system. Permanently inscribe each key with a visual key control number and include notation "DO NOT DUPLICATE".
- F. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.
- G. Operating Trim: BHMA A156.6.
- H. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to meet field conditions and requirements for opening force.
- I. Surface-Mounted Holders: BHMA A156.16, Grade 1.
- J. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.
- K. Weather Stripping: Manufacturer's standard replaceable components.
- L. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.
- M. Silencers: BHMA A156.16, Grade 1.
- N. Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch (13 mm).
- O. Finger Guards: Manufacturer's standard collapsible neoprene or PVC gasket anchored to frame hinge-jamb at center-pivoted doors.

2.7 ACCESSORY MATERIALS

- A. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil (0.762-mm) thickness per coat.

2.8 FABRICATION

- A. Form or extrude aluminum shapes before finishing.

- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
 - 1. Profiles that are sharp, straight, and free of defects or deformations.
 - 2. Accurately fitted joints with ends coped or mitered.
 - 3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
 - 4. Physical and thermal isolation of glazing from framing members.
 - 5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 - 6. Provisions for field replacement of glazing from interior.
 - 7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
- E. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
- F. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- G. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.9 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Comply with manufacturer's written instructions.
 - 2. Do not install damaged components.
 - 3. Fit joints to produce hairline joints free of burrs and distortion.
 - 4. Rigidly secure nonmovement joints.
 - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
 - 6. Seal joints watertight unless otherwise indicated.
- B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
 2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
- D. Set continuous sill members and flashing in full sealant bed as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.
- E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.
- F. Install glazing as specified in Division 08 Section "Glazing."
- G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.
1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.2 FIELD QUALITY CONTROL

- A. Repair or remove work if test results and inspections indicate that it does not comply with specified requirements.
- B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- C. Aluminum-framed assemblies will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 084113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware.
 - 2. Cylinders for doors specified in other Sections.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Details of electrified door hardware, including wiring diagrams.
- C. Other Action Submittals:
 - 1. Door Hardware Sets: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as procedures and diagrams.
 - a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - b. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

- B. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.5 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Warranty Period: Three years from date of Substantial Completion, except as follows:
 - a. Manual Closers: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in door and frame schedule.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Sets" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Sets" Article.
 - 2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

2.2 HINGES, GENERAL

- A. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - 1. Exterior Hinges: Stainless steel, with stainless-steel pin.

- C. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging exterior doors.
- D. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.

2.3 HINGES

- A. Butts and Hinges: BHMA A156.1.
- B. Template Hinge Dimensions: BHMA A156.7.
- C. Available Manufacturers:
 - 1. Baldwin Hardware Corporation (BH).
 - 2. Bommer Industries, Inc. (BI).
 - 3. Cal-Royal Products, Inc. (CRP).
 - 4. Hager Companies (HAG).
 - 5. Lawrence Brothers, Inc. (LB).
 - 6. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 - 7. PBB, Inc. (PBB).
 - 8. Stanley Commercial Hardware; Div. of The Stanley Works (STH).

2.4 LOCKS AND LATCHES, GENERAL

- A. Accessibility Requirements: Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).
- B. Lock Trim:
 - 1. Levers: Schlage ND Tubular or similar.
 - 2. Dummy Trim: Match lever lock trim and escutcheons.
- C. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors.
- D. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- E. Strikes: Manufacturer's standard strike with strike box for each latch bolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

2.5 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Bored Locks: BHMA A156.2.

B. Bored Locks: BHMA A156.2, Grade 1; Series 4000.

1. Available Manufacturers:

- a. Arrow USA; an ASSA ABLOY Group company (ARW).
- b. Best Access Systems; Div. of The Stanley Works (BAS).
- c. Cal-Royal Products, Inc. (CRP).
- d. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
- e. Falcon Lock; an Ingersoll-Rand Company (FAL).
- f. Marks USA (MKS).
- g. Medeco Security Locks, Inc.; an ASSA ABLOY Group company (MED).
- h. PDQ Manufacturing (PDQ).
- i. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
- j. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).
- k. Security Door Controls (SDC).
- l. Weiser Lock; a Masco Company (WEI).
- m. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.6 AUXILIARY LOCKS AND LATCHES

A. Auxiliary Locks: BHMA A156.5, Grade 1.

1. Available Manufacturers:

- a. ABLOY Security, Inc.; an ASSA ABLOY Group company (ABL).
- b. Accurate Lock & Hardware Co. (ALH).
- c. Adams Rite Manufacturing Co. (ARM).
- d. Arrow USA; an ASSA ABLOY Group company (ARW).
- e. Best Access Systems; Div. of The Stanley Works (BAS).
- f. Cal-Royal Products, Inc. (CRP).
- g. Falcon Lock; an Ingersoll-Rand Company (FAL).
- h. Marks USA (MKS).
- i. Medeco Security Locks, Inc.; an ASSA ABLOY Group company (MED).
- j. PDQ Manufacturing (PDQ).
- k. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
- l. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).
- m. Weiser Lock; a Masco Company (WEI).
- n. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.7 DOOR BOLTS

A. Bolt Throw: Comply with testing requirements for length of bolts required for labeled fire doors.

B. Dustproof Strikes: BHMA A156.16, Grade 1.

2.8 LOCK CYLINDERS

- A. Standard Lock Cylinders: BHMA A156.5, Grade 1.
- B. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - 1. Number of Pins: Five.
- C. Permanent Cores: Manufacturer's standard; finish face to match lockset; with interchangeable cores.
- D. Construction Keying: Comply with the following:
 - 1. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.
 - 2. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.
 - a. Furnish permanent cores to Owner for installation.
- E. Manufacturer: Same manufacturer as for locks and latches.

2.9 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference into master key system.
 - 1. Existing System: Master key or grand master key locks to Owner's existing system.

2.10 OPERATING TRIM

- A. Standard: BHMA A156.6.
- B. Materials: Fabricate from stainless steel, unless otherwise indicated.
- C. Available Manufacturers:
 - 1. Burns Manufacturing Incorporated (BM).
 - 2. Don-Jo Mfg., Inc. (DJO).
 - 3. Forms + Surfaces (FS).
 - 4. Hager Companies (HAG).
 - 5. Hiawatha, Inc. (HIA).
 - 6. IVES Hardware; an Ingersoll-Rand Company (IVS).
 - 7. Rockwood Manufacturing Company (RM).
 - 8. Trimco (TBM).

2.11 CLOSERS

- A. Accessibility Requirements: Comply with the following maximum opening-force requirements:
 - 1. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
- C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- D. Surface Closers: BHMA A156.4, Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
 - 1. Available Manufacturers:
 - a. Arrow USA; an ASSA ABLOY Group company (ARW).
 - b. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
 - c. DORMA Architectural Hardware; Member of The DORMA Group North America (DAH).
 - d. Dor-O-Matic; an Ingersoll-Rand Company (DOR).
 - e. LCN Closers; an Ingersoll-Rand Company (LCN).
 - f. Norton Door Controls; an ASSA ABLOY Group company (NDC).
 - g. Rixson Specialty Door Controls; an ASSA ABLOY Group company (RIX).
 - h. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
 - i. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.12 PROTECTIVE TRIM UNITS

- A. Size: 1-1/2 inches (38 mm) less than door width on push side and 1/2 inch (13 mm) less than door width on pull side, by height specified in door hardware sets.
- B. Metal Protective Trim Units: BHMA A156.6; beveled top and 2 sides; fabricated from the following material:
 - 1. Material: 0.050-inch- (1.3-mm-) thick stainless steel.
 - 2. Available Manufacturers:
 - a. American Floor Products Co., Inc. (AFP).
 - b. Baldwin Hardware Corporation (BH).
 - c. Burns Manufacturing Incorporated (BM).
 - d. Don-Jo Mfg., Inc. (DJO).
 - e. Hager Companies (HAG).
 - f. Hiawatha, Inc. (HIA).

- g. IPC Door and Wall Protection Systems, Inc.; Div. of InPro Corporation (IPC).
- h. IVES Hardware; an Ingersoll-Rand Company (IVS).
- i. Pawling Corporation (PAW).
- j. Rockwood Manufacturing Company (RM).
- k. Trimco (TBM).

2.13 STOPS AND HOLDERS

- A. Stops and Bumpers: BHMA A156.16, Grade 1.
 - 1. Provide floor stops for doors unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.
- B. Combination Floor and Wall Stops and Holders: BHMA A156.8, Grade 1.
- C. Silencers for Door Frames: BHMA A156.16, Grade 1; neoprene or rubber; fabricated for drilled-in application to frame.

2.14 DOOR GASKETING

- A. Standard: BHMA A156.22.
- B. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- C. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- D. Gasketing Materials: ASTM D 2000 and AAMA 701/702.

2.15 THRESHOLDS

- A. Standard: BHMA A156.21.
- B. Accessibility Requirements: Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
- C. Thresholds for Means of Egress Doors: Comply with NFPA 101. Maximum 1/2 inch (13 mm) high.

2.16 FABRICATION

- A. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness.

Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.

- B. Fasteners: Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
- C. Finishes: BHMA A156.18, as indicated in door hardware sets.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Steel Doors and Frames: Comply with DHI A115 Series. Drill and tap doors and frames for surface-applied door hardware according to ANSI A250.6.
- B. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
- C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- E. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 - 2. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

END OF SECTION 087100

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Windows.
 - 2. Doors.
 - 3. Storefront framing.
 - 4. Glazed entrances.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:
 - 1. Design Wind Pressures: As required by Code.
 - 2. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Adhesion and Compatibility Testing: Test each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.
 - 1. Testing will not be required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.

1.4 SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.
- B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.
- C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- D. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

- E. Preconstruction adhesion and compatibility test report.

1.5 QUALITY ASSURANCE

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publications: GANA's "Laminated Glazing Reference Manual."
- B. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or the manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

1.6 WARRANTY

- A. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
- B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Windborne-Debris-Impact Resistance: Provide exterior glazing that passes basic protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated

for use on the Project and shall be installed in same manner as glazing indicated for use on the Project.

1. Large-Missile Test: For glazing located within 30 feet (9.1 m) of grade.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
 2. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
 3. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
1. Products: Subject to compliance with requirements, provide available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. AFG Industries, Inc.; Krystal Klear.
 - b. Guardian Industries Corp.; Ultrawhite.
 - c. Pilkington North America; Optiwhite.
 - d. PPG Industries, Inc.; Starphire.
- B. Reflective-Coated Vision Glass: ASTM C 1376, coated by pyrolytic process and complying with other requirements specified.
1. Basis-of-Design Product: Subject to compliance with requirements, provide <Insert manufacturer's name; product name or designation> or comparable product by one of the following:
 - a. Pilkington North America PPG Industries Inc, Guardian Glass.
 2. Kind: Kind CV (coated vision glass), except that Kind CO (coated overhead glass) may be used where the lower edge of the glass is more than 6 feet (1.8 m) above the adjacent floor level or cannot be approached closer than 10 feet (3.0 m).
 3. Coating Color: Pewter.
 4. Glass: Tinted float.
 5. Tint Color: Gray.
 6. Visible Light Transmittance: 60 percent minimum.

2.3 LAMINATED GLASS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Cardinal Glass Industries

2. Viracon
 3. Pilkington North America.
- B. Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
1. Construction: Laminate glass with polyvinyl butyral interlayer or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written recommendations.
 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 3. Interlayer Color: Clear unless otherwise indicated.
- C. Windborne-Debris-Impact-Resistant Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, with "Windborne-Debris-Impact Resistance" Paragraph in "Glass Products, General" Article, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
1. Construction: Laminate glass with one of the following to comply with interlayer manufacturer's written recommendations:
 - a. Polyvinyl butyral interlayer.
 - b. Polyvinyl butyral interlayers reinforced with polyethylene terephthalate film.
 - c. Ionoplast interlayer.
 - d. Cast-in-place and cured-transparent-resin interlayer.
 - e. Cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene terephthalate film.
 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 3. Interlayer Color: Clear unless otherwise indicated.

2.4 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
1. Neoprene complying with ASTM C 864.
 2. EPDM complying with ASTM C 864.
 3. Silicone complying with ASTM C 1115.
 4. Thermoplastic polyolefin rubber complying with ASTM C 1115.
- B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned neoprene EPDM silicone or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.

1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.
- C. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; non-staining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 1. AAMA 804.3 tape, where indicated.
 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
- D. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
 2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- B. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- C. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- D. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- E. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
- F. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.2 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Apply heel bead of elastomeric sealant.

- F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- G. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.3 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

3.4 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.5 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

END OF SECTION 088000

SECTION 088300 - MIRRORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes the following types of silvered flat glass mirrors:

1. Annealed monolithic glass mirrors.
2. Tempered glass mirrors qualifying as safety glazing.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include mirror elevations, edge details, mirror hardware, and attachments to other work.

C. Samples:

1. Mirrors: 12 inches (300 mm) square, including edge treatment on two adjoining edges.
2. Mirror Clips: Full size.
3. Mirror Trim: 12 inches (300 mm) long.

D. Preconstruction test reports.

E. Maintenance data.

F. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

A. Glazing Publications: Comply with GANA's "Glazing Manual" and "Mirrors, Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."

B. Safety Glazing Products: For tempered mirrors, provide products complying with testing requirements in 16 CFR 1201 for Category II materials.

C. Preconstruction Mirror Mastic Compatibility Test: Submit mirror mastic products to mirror manufacturer for testing to determine compatibility of mastic with mirror backing and substrates on which mirrors are installed.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form in which mirror manufacturer agrees to replace mirrors that deteriorate within specified warranty period. Deterioration of mirrors is

defined as defects developed from normal use that are not attributed to mirror breakage or to maintaining and cleaning mirrors contrary to manufacturer's written instructions. Defects include discoloration, black spots, and clouding of the silver film.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SILVERED FLAT GLASS MIRRORS

- A. Glass Mirrors, General: ASTM C 1503; manufactured using copper-free, low-lead mirror coating process.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Arch Aluminum & Glass Co., Inc.
- b. Avalon Glass and Mirror Company.
- c. Binswanger Mirror; a division of Vitro America, Inc.
- d. D & W Incorporated
- e. Donisi Mirror Company.
- f. Gardner Glass, Inc.
- g. Gilded Mirrors, Inc.
- h. Guardian Industries.
- i. Head West.
- j. Independent Mirror Industries, Inc.
- k. Lenoir Mirror Company.
- l. Maran-Wurzell Glass & Mirror.
- m. National Glass Industries.
- n. Stroupe Mirror Co., Inc.
- o. Sunshine Mirror; Westshore Glass Corp.
- p. Virginia Mirror Company, Inc.
- q. Walker Glass Co., Ltd.

- B. Tempered Clear Glass: Mirror Glazing Quality, for blemish requirements; and comply with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied.

1. Nominal Thickness: 5.0 mm.

2.2 MISCELLANEOUS MATERIALS

- A. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- B. Edge Sealer: Approved by mirror manufacturer.

- C. Mirror Mastic: An adhesive setting compound, asbestos-free, produced specifically for setting mirrors.
- D. Film Backing for Safety Mirrors: Film backing and pressure-sensitive adhesive; both compatible with mirror backing paint as certified by mirror manufacturer.

2.3 MIRROR HARDWARE

- A. Top and Bottom Aluminum J-Channels: Aluminum extrusions with a return deep enough to produce a glazing channel to accommodate mirrors of thickness indicated and in lengths required to cover bottom and top edges of each mirror in a single piece.
 - 1. Finish: Clear bright anodized.
- B. Fasteners: Fabricated of same basic metal and alloy as fastened metal and matching it in finished color and texture where fasteners are exposed.
- C. Anchors and Inserts: Provide devices as required for mirror hardware installation.

2.4 FABRICATION

- A. Cutouts: Fabricate cutouts before tempering for notches and holes in mirrors without marring visible surfaces. Locate and size cutouts so they fit closely around penetrations in mirrors.
- B. Mirror Edge Treatment: Flat polished. Seal edges of mirrors with edge sealer.
- C. Film-Backed Safety Mirrors: Apply film backing with adhesive coating over mirror backing paint as recommended in writing by film-backing manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine substrates, over which mirrors are to be mounted, with Installer present, for compliance with installation tolerances, substrate preparation, and other conditions affecting performance of the Work.
 - 1. Verify compatibility with and suitability of substrates, including compatibility of mirror mastic with existing finishes or primers.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected and surfaces are dry.
- B. Comply with mastic manufacturer's written installation instructions for preparation of substrates, including coating substrates with mastic manufacturer's special bond coating where applicable.

- C. General: Install mirrors to comply with mirror manufacturer's written instructions and with referenced GANA publications. Mount mirrors accurately in place in a manner that avoids distorting reflected images.
- D. Wall-Mounted Mirrors: Install mirrors with mastic and mirror hardware. Attach mirror hardware securely to mounting surfaces with mechanical fasteners installed with anchors or inserts as applicable. Install fasteners so heads do not impose point loads on backs of mirrors. Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.
- E. Protect mirrors from breakage and contaminating substances resulting from construction operations.
- F. Do not permit edges of mirrors to be exposed to standing water.
- G. Maintain environmental conditions that will prevent mirrors from being exposed to moisture from condensation or other sources for continuous periods of time.
- H. Wash exposed surface of mirrors not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash mirrors as recommended in writing by mirror manufacturer.

END OF SECTION 088300

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating, unless otherwise indicated.

2.2 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Steel Studs and Runners: ASTM C 645.
 - 1. Minimum Base-Metal Thickness: 25 ga.
- B. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: 25 ga.
- C. Cold-Rolled Channel Bridging: 0.0538-inch (1.37-mm) bare-steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flanges.

1. Depth: 1-1/2 inches (38.1 mm).
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38.1 by 38.1 mm), 0.068-inch- (1.73-mm-) thick, galvanized steel.
- D. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
 2. Depth: 1-1/2 inches (38.1 mm).
- E. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical or hat shaped.
- F. Cold-Rolled Furring Channels: 0.0538-inch (1.37-mm) bare-steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flanges.
1. Depth: 3/4 inch (19.1 mm).
 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of 0.0312 inch (0.79 mm).
 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- G. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (31.8 mm), wall attachment flange of 7/8 inch (22.2 mm), minimum bare-metal thickness of 0.0179 inch (0.45 mm), and depth required to fit insulation thickness indicated.

2.3 AUXILIARY MATERIALS

- A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

3.2 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to

terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (12.7-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.

C. Z-Furring Members:

1. Erect insulation vertically and hold in place with Z-furring members spaced 24 inches (610 mm) o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (600 mm) o.c.
3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (300 mm) from corner and cut insulation to fit.

- D. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:

1. Interior gypsum board.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. American Gypsum Co.
- b. BPB America Inc.
- c. G-P Gypsum.
- d. Lafarge North America Inc.
- e. National Gypsum Company.
- f. PABCO Gypsum.
- g. Temple.
- h. USG Corporation.

- B. Regular Type:

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Type X:

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

D. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.

1. Core: 5/8 inch (15.9 mm), Type X.
2. Long Edges: Tapered.

2.2 TILE BACKING PANELS

A. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M or ASTM C 1396/C 1396M.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.
 - d. Lafarge North America Inc.
 - e. National Gypsum Company.
 - f. PABCO Gypsum.
 - g. Temple.
 - h. USG Corporation.
2. Core: 5/8 inch (15.9 mm), Type X.

B. Glass-Mat, Water-Resistant Backing Board:

1. Complying with ASTM C 1178/C 1178M.
 - a. Product: Subject to compliance with requirements, provide "DensShield Tile Guard" by G-P Gypsum.
2. Core: 5/8 inch (15.9 mm), Type X.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Plastic.
2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.

- f. Expansion (control) joint.
- g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Wallboard: Paper.
 - 2. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 - 3. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
 - 4. Finish Coat: For third coat, use setting-type, sandable topping compound.
- D. Joint Compound for Tile Backing Panels:
 - 1. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.

2.5 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.

- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

3.2 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Regular Type: Vertical surfaces, unless otherwise indicated.
 - 2. Type X: Where required for fire-resistance-rated assembly.
 - 3. Moisture- and Mold-Resistant Type: Within 5' 2" of plumbing fixtures and on existing CMU walls.
- B. Laminate interior gypsum board to existing epoxy-coated CMU with a combination of adhesive and fasteners per manufacturer's recommendation.

3.3 APPLYING TILE BACKING PANELS

- A. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Panels that are substrate for tile.
3. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.

a. Primer and its application to surfaces are specified in other Division 09 Sections.

- E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

3.6 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 093000 - TILING

PART 1 - PRODUCTS

1.1 TILE PRODUCTS

A. Available Manufacturers:

1. American Marazzi Tile, Inc.
2. American Olean; Div. of Dal-Tile International Corp.
3. Buchtal Corporation USA.
4. Cerim-Floor Gres Ceramiche.
5. Crossville Ceramics Company, L.P.
6. Daltile; Div. of Dal-Tile International Inc.
7. Florida Tile Industries, Inc.
8. GranitiFiandre.
9. Interceramic.
10. KPT, Inc.
11. Laufen USA.
12. Lone Star Ceramics Company.
13. Metropolitan Ceramics.
14. Monarch Tile, Inc.
15. Porcelanite, Inc.
16. Quarry Tile Company.
17. Seneca Tiles, Inc.
18. Summitville Tiles, Inc.
19. United States Ceramic Tile Company.
20. Winburn Tile Manufacturing Company.

B. ANSI Ceramic Tile Standard: Provide Standard grade tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.

C. Unglazed Ceramic Mosaic Tile CT-1: Factory-mounted flat tile as follows:

1. Composition: Porcelain.
2. Surface: Slip-resistant, with abrasive admixture.
3. Module Size: 12" by 12 inches.
4. Basis-of-Design Product: Interceramic-Intertech Ararat or a comparable product of one of the following:

D. Glazed Wall Tile CT-2: Flat tile as follows:

1. Module Size: 6 by 6 inches (152 by 152 mm).
2. Basis-of-Design Product: Interceramic Wall Tile Collection or a comparable product of one of the following:

E. Glazed Wall Tile Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing where applicable.

1. Base: Coved, module size 6 by 6 inches (152 by 152 mm).
2. Wainscot Cap: Bullnose, module size 6 by 6 inches (152 by 152 mm).
3. External Corners: Bullnose.
4. Internal Corners: Field-butt square corners except with coved base and cap angle pieces designed to fit with stretcher shapes.

1.2 ACCESSORY MATERIALS

- A. Thresholds: Fabricate to provide transition between adjacent floor finishes. Bevel edges at 1:2 slope, limit height of bevel to 1/2 inch (12.7 mm) or less, and finish bevel to match face of threshold.
1. Marble Thresholds: ASTM C 503 with a minimum abrasion resistance of **12** per ASTM C 1353 or ASTM C 241 and with honed finish.

1.3 SETTING AND GROUTING MATERIALS

- A. Available Manufacturers:
1. Atlas Minerals & Chemicals, Inc.
 2. Boiardi Products Corporation.
 3. Bonsal, W. R., Company.
 4. Bostik.
 5. C-Cure.
 6. Custom Building Products.
 7. DAP, Inc.
 8. Jamo Inc.
 9. LATICRETE International Inc.
 10. MAPEI Corporation.
 11. Southern Grouts & Mortars, Inc.
 12. Summitville Tiles, Inc.
 13. TEC Specialty Products Inc.
- B. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.1A.
- C. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.
1. Prepackaged dry-mortar mix containing dry additive to which only water must be added.
 2. Prepackaged dry-mortar mix combined with liquid-latex additive.
 3. For wall applications, provide non-sagging mortar.
- D. Water-Cleanable, Tile-Setting Epoxy Adhesive: ANSI A118.3, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Standard Sanded Cement Grout: ANSI A118.6, color as indicated.
- F. Standard Un-Sanded Cement Grout: ANSI A118.6, color as indicated.

PART 2 - EXECUTION

2.1 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. At showers, tubs, and where indicated, install cementitious backer units and treat joints to comply with ANSI A108.11.
- D. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.
 - 1. Exterior tile floors.
 - 2. Tile floors in wet areas.
 - 3. Tile swimming pool decks.
 - 4. Tile floors in laundries.
 - 5. Tile floors composed of tiles 8 by 8 inches (200 by 200 mm) or larger.
 - 6. Tile floors composed of rib-backed tiles.

2.2 FLOOR TILE INSTALLATION SCHEDULE

- A. Interior floor installation on concrete; thin-set mortar; TCA F113.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- B. Interior floor installation on concrete; water-cleanable epoxy adhesive; TCA F116.
 - 1. Grout: Polymer-modified sanded grout.

2.3 WALL TILE INSTALLATION SCHEDULE

- A. Interior wall installation over masonry or concrete; thin-set mortar; TCA W202.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- B. Interior wall installation; thin-set mortar; over cementitious backer units; TCA W244.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- C. Interior bathtub wall installation; thin-set mortar; over cementitious backer units; TCA B412.

1. Thin-Set Mortar: Latex-Portland cement mortar.
2. Grout: Polymer-modified sanded grout.

END OF SECTION 093000

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed finish.
- C. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics:
 - 1. Surface-Burning Characteristics: Acoustical panels complying with ASTM E 1264 for Class A materials, when tested per ASTM E 84.
 - a. Smoke-Developed Index: 450 or less.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANEL CEILINGS, GENERAL

- A. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - 1. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.
- B. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 1. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.

- C. Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.

2.2 ACOUSTICAL PANELS FOR ACOUSTICAL PANEL CEILING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Armstrong World Industries, Inc.
 - 2. BPB USA.
 - 3. Chicago Metallic Corporation.
 - 4. Ecophon CertainTeed, Inc.
 - 5. Tectum Inc.
 - 6. USG Interiors, Inc.
 - 7. Rockfon LLC
- B. Basis-of-Design Product: Subject to compliance with requirements, provide Rockfon "Alaska"
- C. Classification: Provide panels complying with ASTM E 1264 for type and form as follows:
 - 1. Type and Form: Type XX, other types; described as high-density, ceramic- and mineral-base panels with scrubbable finish, resistant to heat, moisture, and corrosive fumes.
- D. Color: White.
- E. LR: Not less than .86.
- F. NRC: Not less than .90.
- G. CAC: Not less than 22.
- H. AC: Not less than 180.
- I. Edge/Joint Detail: Square.
- J. Thickness: 3/4 inch (19 mm).
- K. Modular Size: 24 by 24 inches (610 by 610 mm).

2.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. BPB USA.
 - 3. Chicago Metallic Corporation.

4. Ecophon CertainTeed, Inc.
 5. USG Interiors, Inc.
 6. Rockfon LLC
- C. Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation, with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.
1. Structural Classification: Heavy-duty system.
 2. End Condition of Cross Runners: Override (stepped) type.
 3. Cap Material: Steel cold-rolled sheet.
 4. Cap Finish: Painted white.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with ASTM C 636, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders.
- C. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.
- E. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

END OF SECTION 095113

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Solid Vinyl floor tile.
 - 2. Vinyl composition floor tile.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: Full-size units of each color and pattern of floor tile required.
- C. Maintenance data.

1.3 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive floor tile.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 SOLID VINYL FLOOR TILE

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Altro Group
 - 2. Amtico Studio (The), Amtico International Inc
 - 3. Armstrong World Industries, Inc
 - 4. Burke Mercer Flooring Products, Division of Burke Industries Inc
 - 5. Estrie Products International, American Biltrite (Canada) Ltd
 - 6. Flexco

7. Gemtec Inc
8. Gerflor, Architectural Floor Systems, Inc
9. Johnsonite
10. Polyflor, Ltd., Distributed by Gerbert Limited
11. Roppe Corporation, USA
12. Tarkett, Inc
13. TOLI International
14. VPI, LLC, Floor Products Division
15. Centiva; Victory Series

B. Tile Standard: ASTM F 1700.

1. Class: Class III, printed film vinyl tile.
2. Type: Type B, embossed surface.

C. Thickness: 0.120 inch (3.0 mm).

D. Size: 18 by 18 inches (457 by 457 mm).

E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 VINYL COMPOSITION FLOOR TILE

A. Products: Subject to compliance with requirements, available manufacturers that may be incorporated into the Work include, but are not limited to, the following:

1. AB ColorPlus, American Biltrite (Canada) Ltd.
2. Armstrong World Industries, Inc
3. Congoleum Corporation.
4. Mannington Mills, Inc.
5. Tarkett, Inc.
6. Vinylasa Tile, Distributed by American Tile Inc.

B. Tile Standard: ASTM F 1066, Class 1, solid-color tile.

C. Wearing Surface: Smooth.

D. Thickness: 0.125 inch (3.2 mm).

E. Size: 12 by 12 inches (305 by 305 mm).

F. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
- C. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are same temperature as space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.2 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles square with room axis.

- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay tiles with grain direction alternating in adjacent tiles (basket-weave pattern).
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.
- G. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.3 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Floor Polish: Remove soil, visible adhesive and surface blemishes from floor tile surfaces before applying liquid floor polish if required by manufacturer.
- C. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes modular, fusion-bonded carpet tile.

1.2 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Shop Drawings: Show the following:
 - 1. Existing flooring materials to be removed.
 - 2. Existing flooring materials to remain.
 - 3. Carpet tile type, color, and dye lot.
 - 4. Pattern of installation.
 - 5. Insets and borders.
 - 6. Edge, transition, and other accessory strips.
 - 7. Transition details to other flooring materials.
- C. Samples: For each color and texture required.
 - 1. Carpet Tile: Full-size Sample.
 - 2. Exposed Edge, Transition, and other Accessory Stripping: 12-inch- (300-mm-) long Samples.
- D. Product Schedule: For carpet tile. Use same designations indicated on Drawings.
- E. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is certified by the Floor Covering Installation Board or who can demonstrate compliance with its certification program requirements.
- B. Mockups: Before installing carpet tile, build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Approved mockups may become part of the completed Work if undamaged at time of Substantial Completion.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI 104, Section 5, "Storage and Handling."

1.5 PROJECT CONDITIONS

- A. Comply with CRI 104, Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."
- B. Environmental Limitations: Do not install carpet tiles until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.6 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer's standard form in which manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, loss of tuft bind strength, dimensional stability, excess static discharge, and delamination.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd. (8.3 sq. m).

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:

1. Shaw No Rules Collection
 - a. Color: As selected by Architect from manufacturer's full range.
 - b. Pattern: Color Play
 - c. Source: Shaw Contract Group, shawcontractgroup.com, 1-800-257-7429
 - C. Fiber Content: 100 percent nylon 6, 6
 - D. Pile Characteristic: Level-loop pile.
 - E. Density: 18.0 oz./cu. yd. (g/cu. cm.)
 - F. Pile Thickness: 0.085 inches (2.16 mm) for finished carpet tile [per ASTM D 6859.
 - G. Stitches: 9 stitches per inch (mm).
 - H. Gage: 1/2 ends per inch (mm).
 - I. Primary Backing/Backcoating: Reinforced thermoplastic copolymer.
 - J. Secondary Backing: Manufacturer's standard material.
 - K. Size: 24 by 24 inches (610 by 610 mm).
 - L. Applied Soil-Resistance Treatment: Manufacturer's standard material.
 - M. Antimicrobial Treatment: Manufacturer's standard material.
 - N. Performance Characteristics: As follows:
 1. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.
 2. Dry Breaking Strength: Not less than 100 lbf (445 N) per ASTM D 2646.
 3. Tuft Bind: Not less than 3 lbf (13 N) per ASTM D 1335.
 4. Delamination: Not less than 3.5 lbf/in. (15 N/mm) per ASTM D 3936.
 5. Dimensional Tolerance: Within 1/32 inch (0.8 mm) of specified size dimensions, as determined by physical measurement.
 6. Dimensional Stability: 0.2 percent or less per ISO 2551 (Aachen Test).
 7. Resistance to Insects: Comply with AATCC 24.
 8. Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC 174.
 9. Electrostatic Propensity: Less than 3.5 kV per AATCC 134.
 10. Environmental Requirements: Provide carpet tile that complies with testing and product requirements of Carpet and Rug Institute's "Green Label Plus" program.
- 2.2 INSTALLATION ACCESSORIES
- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.

- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
 - 1. VOC Limits: Provide adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA method 24).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- D. Install pattern parallel to walls and borders.

END OF SECTION 096813

SECTION 099110 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.2 SUBMITTALS

- A. Product Data: For each paint system indicated. Include block fillers and primers.
- B. Samples for Initial Selection: For each type of finish-coat material indicated.
- C. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

1.5 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).
- B. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Benjamin Moore & Co. (Benjamin Moore).
 - 2. Coronado Paint Company (Coronado). Basis of Design unless otherwise noted
 - 3. ICI Dulux Paint Centers (ICI Dulux Paints).
- C. Benjamin Moore Products will be shown in the specified systems. Products of manufacturer's listed above will be accepted meeting those specifications. Products of other manufacturer's not listed above shall not be accepted without written approval from the Architect.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Chemical Components of Interior Paints and Coatings: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions:

1. Flat Paints and Coatings: VOC content of not more than 50 g/L.
2. Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.
3. Anticorrosive Coatings: VOC content of not more than 250 g/L.
4. Varnishes and Sanding Sealers: VOC content of not more than 350 g/L.
5. Stains: VOC content of not more than 250 g/L.
6. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
7. Restricted Components: Paints and coatings shall not contain any of the following:
 - a. Acrolein.
 - b. Acrylonitrile.
 - c. Antimony.
 - d. Benzene.
 - e. Butyl benzyl phthalate.
 - f. Cadmium.
 - g. Di (2-ethylhexyl) phthalate.
 - h. Di-n-butyl phthalate.
 - i. Di-n-octyl phthalate.
 - j. 1,2-dichlorobenzene.
 - k. Diethyl phthalate.
 - l. Dimethyl phthalate.
 - m. Ethylbenzene.
 - n. Formaldehyde.
 - o. Hexavalent chromium.
 - p. Isophorone.
 - q. Lead.
 - r. Mercury.
 - s. Methyl ethyl ketone.
 - t. Methyl isobutyl ketone.
 - u. Methylene chloride.
 - v. Naphthalene.
 - w. Toluene (methylbenzene).
 - x. 1,1,1-trichloroethane.
 - y. Vinyl chloride.

D. Colors: As indicated by manufacturer's designations.

2.3 CONCRETE UNIT MASONRY BLOCK FILLERS

A. Concrete Unit Masonry Block Filler: Factory-formulated high-performance latex block fillers.

2.4 EXTERIOR PRIMERS

- A. Exterior Concrete and Masonry Primer: Factory-formulated alkali-resistant acrylic-latex primer for exterior application.
- B. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.

- C. Exterior Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.

2.5 INTERIOR PRIMERS

- A. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
- B. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.

2.6 EXTERIOR FINISH COATS

- A. Exterior Semi-Gloss Acrylic Coating: Factory-formulated semi-gloss waterborne acrylic-latex enamel for exterior application.

2.7 INTERIOR FINISH COATS

- A. Interior Semi-Gloss Acrylic Coating: Factory-formulated semi-gloss acrylic coating for interior application.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.

2. Cementitious Materials: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.
 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.

9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 10. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer over metal surfaces that have been shop primed and touchup painted.
 3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Uninsulated metal piping.
 2. Uninsulated plastic piping.
 3. Pipe hangers and supports.
 4. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Switchgear.
 2. Panelboards.

3. Electrical equipment that is indicated to have a factory-primed finish for field painting.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
 1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 EXTERIOR PAINT SCHEDULE

- A. Concrete, Stucco, EIFS, and Masonry (Other Than Concrete Unit Masonry): Provide the following finish systems over exterior concrete, stucco, and brick masonry substrates: Basis-of-Design: Ultra Spec N-448 Satin.
 - 1. Low-Luster Acrylic Finish: Two finish coats over a primer.
 - a. Primer: Exterior concrete and masonry primer.
 - b. Finish Coats: Exterior low-luster acrylic paint.
- B. Concrete Unit Masonry: Provide the following finish systems over exterior concrete unit masonry:
 - 1. Low-Luster Acrylic Finish: Two finish coats over a block filler.
 - a. Block Filler: Concrete unit masonry block filler.
 - b. Finish Coats: Exterior low-luster acrylic paint.
- C. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a rust-inhibitive primer.
 - a. Primer: Exterior ferrous-metal primer.
 - b. Finish Coats: Exterior semigloss acrylic enamel.
- D. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated metal surfaces:
 - 1. Full-Gloss Acrylic-Enamel Finish: Two finish coats over a galvanized metal primer.
 - a. Primer: Exterior galvanized metal primer.
 - b. Finish Coats: Exterior full-gloss acrylic enamel for ferrous and other metals.

3.8 INTERIOR PAINT SCHEDULE

- A. Concrete Unit Masonry: Provide the following finish systems over interior concrete masonry:
 - 1. Semi-Gloss Water Based Acrylic Finish: Two finish coats over a block filler. Basis-of-design" Scuffs by Benjamin Moore
 - a. Block Filler: Concrete unit masonry block filler.
 - b. Finish Coats: Interior semi-gloss Acrylic.

- B. Gypsum Wallboard: Provide the following finish systems over gypsum wallboard:
1. Satin Acrylic Finish: Two finish coats over a primer.
 - a. Primer: Interior primer.
 - b. Finish Coats: Interior satin acrylic coating.
- C. Manufacturers and Suppliers Responsibilities:
1. Monitoring of critical phase points i.e.; cleaning, priming/sealing, caulking, and finishing will be performed periodically by either the manufacturer's rep. or the supplier's rep. The monitoring process will be random and unannounced. The monitoring process is strictly for the benefit and comfort of the Paint Company and the supplier. This is not an inspection that certifies conformance of the specification. A third party independent inspector should be employed by the Owner or Association for certified application inspection.
 2. A final review of the project will be performed at the completion of the job, no warranty will be issued until a final review has been completed. This final review confirms that the products used are as specified.
- D. Warranty Information:
1. (7) Seven Year, Non-Prorated, Limited Material and Labor Warranty Warrants that the materials used, as manufactured by Benjamin Moore, Coronado or ICI Dulux Paints, are manufactured to specification and free from defects. These specified coatings will not flake, crack, peel, or blister when applied to a properly prepared masonry substrate, due to a material defect. This warranty does not apply to the condition of or to any failure of the pre-existing paints or any pre-existing structural defects. There is no warranty on metal or against rust or corrosion of metals, or discoloration from masonry alkalinity burn. Substrate repairs and mechanical damage of paint is not covered under warranty.

END OF SECTION 099110

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:

1. Plaques.

1.2 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details for signs.
1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 2. Provide message list, typestyles, graphic elements including tactile characters and Braille, and layout for each sign.
- C. Samples: For each sign type and for each color and texture required.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

2.2 PANEL SIGNS

- A. Panel Signs: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch (1.5 mm) measured diagonally from corner to corner, complying with the following requirements:
 - 1. Acrylic Sheet: 0.060 inch (1.52 mm) thick.
 - 2. Edge Condition: Square cut.
 - 3. Corner Condition: Rounded to radius indicated.
 - 4. Mounting: Framed.
 - 5. Color: As indicated.
 - 6. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch (0.8 mm) above surface with contrasting colors.
- B. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils (0.076 mm) with pressure-sensitive adhesive backing. Apply copy to exposed face of panel sign.
 - 1. Panel Material: Opaque acrylic sheet.

2.3 ACCESSORIES

- A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.4 FABRICATION

- A. General: Provide manufacturer's standard signs of configurations indicated.
 - 1. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
 - 2. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.5 ACRYLIC SHEET FINISHES

- A. Colored Coatings for Acrylic Sheet: For copy, background and frame colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches (75 mm) of sign without encountering protruding objects or standing within swing of door.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.

END OF SECTION 101400

SECTION 102113 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-polymer toilet compartments configured as toilet enclosures and urinal screens.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for each exposed product and for each color and texture specified.

1.3 QUALITY ASSURANCE

- A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84, or another standard acceptable to authorities having jurisdiction, by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 1. Flame-Spread Index: 200 or less.
 2. Smoke-Developed Index: 450 or less.
- B. Regulatory Requirements: Comply with applicable provisions in "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" for toilet compartments designated as accessible.

PART 2 - PRODUCTS

2.1 SOLID-POLYMER UNITS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Accurate Partitions Corporation.
 2. Ampco, Inc.
 3. Bradley Corporation; Mills Partitions.
 4. Comtec Industries/Capitol Partitions.
 5. General Partitions Mfg. Corp.

6. Global Steel Products Corp.
7. Hadrian Manufacturing Inc.
8. Knickerbocker Partition Corporation.
9. Metpar Corp.
10. Partition Systems Incorporated of South Carolina.
11. Rockville Partitions Incorporated.
12. Santana Products, Inc.
13. Sanymetal; a Crane Plumbing company.
14. Weis-Robart Partitions, Inc.

B. Toilet-Enclosure Style: Overhead braced

C. Urinal-Screen Style: Wall hung.

D. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.

1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
2. Heat-Sink Strip: Manufacturer's standard continuous, stainless-steel strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
3. Polymer Panel Finish: One color and pattern in each room.

a. Color and Pattern: As indicated by manufacturer's designations.

E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.

F. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe and sleeve (cap) matching that on the pilaster.

G. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

2.2 ACCESSORIES

A. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories.

1. Material: Stainless steel.
2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.
3. Latch and Keeper: Manufacturer's standard surface-mounted latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.

5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.
 6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with anti-grip profile and in manufacturer's standard finish.
- C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized steel, or other rust-resistant, protective-coated steel.

2.3 FABRICATION

- A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at bottoms of posts. Provide shoes at posts to conceal anchorage.
- D. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
- B. Clearances: Maximum 1/2 inch (13 mm) between pilasters and panels; 1 inch (25 mm) between panels and walls.
- C. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

3.2 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113

SECTION 102226 - OPERABLE PARTITIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Manually operated, acoustical panel partitions.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design operable panel partitions including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:
 1. Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E 90, determined by ASTM E 413, and rated for not less than the STC indicated.
 2. Acoustical Performance Requirements: Installed operable panel partition assembly, identical to partition tested for STC, tested for NIC according to ASTM E 336, determined by ASTM E 413, and rated for 10 dB less than STC value indicated 45dB.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 1. Indicate storage and operating clearances. Indicate location and installation requirements for hardware and track, blocking, and direction of travel.
 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Samples: For each type of exposed material, finish, covering, or facing indicated.
- D. Delegated-Design Submittal: For operable panel partitions indicated to comply with performance requirements, including analysis data and calculations signed and sealed by the qualified professional engineer responsible for their preparation.
 1. Design Calculations: Calculate requirements for seismic restraints.
- E. Coordination Drawings: Reflected ceiling plans, drawn to scale and coordinated with each other, based on input from installers of the items involved:

- F. Setting Drawings: For embedded items and cutouts required in other work, including support-beam, mounting-hole template.
- G. Seismic Qualification Certificates: For operable panel partitions, accessories, and components, from manufacturer.
- H. Product certificates.
- I. Product test reports.
- J. Field quality-control reports.
- K. Operation and maintenance data.
- L. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- C. Testing Agency Qualifications: Qualified according to Division 01 Section "Quality Requirements" for testing indicated.
- D. Forest Certification: Fabricate products with wood, wood veneers, and wood-based panel products produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- E. Fire-Test-Response Characteristics: Provide panels with finishes meeting one of the following as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Surface-Burning Characteristics: As determined by testing per ASTM E 84.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 2. Fire Growth Contribution: Meeting acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265.
- F. Fire-Rated Door Assemblies: Comply with NFPA 80, based on testing according to UL 10B.
 - 1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a testing agency acceptable to authorities having jurisdiction that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- H. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protectively package and sequence panels in order for installation. Clearly mark packages and panels with numbering system used on Shop Drawings. Do not use permanent markings on panels.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of operable panel partitions that fail in materials or workmanship within specified warranty period.

- 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel Frame: Steel sheet, manufacturer's standard thickness.
- B. Steel Face/Liner Sheets: Tension-leveled steel sheet, manufacturer's standard thickness.
- C. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use, corrosion resistance, and finish indicated; manufacturer's standard strengths and thicknesses for type of use.
- D. Particleboard: ANSI A208.1, made with binder containing no urea formaldehyde.
- E. Medium-Density Fiberboard: ANSI A208.2, made with binder containing no urea formaldehyde.

2.2 OPERABLE ACOUSTICAL PANELS

- A. Operable Acoustical Panels: Operable acoustical panel partition system, including panels, seals, finish facing, suspension system, operators, and accessories.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide Hufcor or comparable product by one of the following:
 - a. Advanced Equipment Corporation.
 - b. Curtition, Inc.
 - c. FolDoor; Holcomb & Hoke Mfg. Co., Inc.

- d. KWIK-WALL Company.
 - e. Moderco Inc.
 - f. Modernfold, Inc.; a DORMA Group Company.
 - g. Panelfold Inc.
- B. Panel Operation: Manually operated, paired panels.
- C. Panel Construction: Provide top reinforcement as required to support panel from suspension components and provide reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.
- D. Dimensions: Fabricate operable acoustical panel partitions to form an assembled system of dimensions indicated and verified by field measurements.
- E. STC: Not less than 45.
- F. Panel Closure: Manufacturer's standard.
- G. Hardware: Manufacturer's standard as required to operate operable panel partition and accessories; with decorative, protective finish.

2.3 SEALS

- A. General: Provide types of seals indicated that produce operable panel partitions complying with acoustical performance requirements and the following:
 - 1. Manufacturer's standard seals.
 - 2. Seals made from materials and in profiles that minimize sound leakage.
 - 3. Seals fitting tight at contact surfaces and sealing continuously between adjacent panels and between operable panel partition perimeter and adjacent surfaces, when operable panel partition is extended and closed.
- B. Horizontal Bottom Seals: PVC-faced, mechanical, retractable, constant-force-contact seal exerting uniform constant pressure on floor when extended, ensuring horizontal and vertical sealing and resisting panel movement.
 - 1. Mechanically Operated for Acoustical Panels: Extension and retraction of bottom seal by operating handle or built-in operating mechanism, with operating range not less than 1-1/2 inches (38 mm) between retracted seal and floor finish.

2.4 FINISH FACING

- A. General: Provide finish facings for panels that comply with indicated fire-test-response characteristics and that are factory applied to operable panel partitions with appropriate backing, using mildew-resistant nonstaining adhesive as recommended by facing manufacturer's written instructions.
 - 1. Color/Pattern: As selected by Architect from manufacturer's full range.

- B. High-Pressure Decorative Laminate: NEMA LD 3, Horizontal grade.
- C. Cap-Trimmed Edges: Protective perimeter-edge trim with tight hairline joints concealing edges of panel and finish facing.
- D. Trimless Edges: Fabricate exposed panel edges so finish facing wraps uninterrupted around panel, covering edge and resulting in an installed partition with facing visible on vertical panel edges, without trim, for minimal sightlines at panel-to-panel joints.

2.5 SUSPENSION SYSTEMS

- A. Suspension Tracks: Steel or aluminum with adjustable steel hanger rods for overhead support, designed for type of operation, size, and weight of operable panel partition indicated. Size track to support partition operation and storage without damage to suspension system, operable panel partitions, or adjacent construction. Limit track deflection to no more than 0.10 inch (2.54 mm) between bracket supports. Provide a continuous system of track sections and accessories to accommodate configuration and layout indicated for partition operation and storage.
- B. Carriers: Trolley system as required for configuration type, size, and weight of partition and for easy operation; with ball-bearing wheels.
- C. Track Intersections, Switches, and Accessories: As required for type of operation, storage, track configuration, and layout indicated for operable panel partitions, and compatible with partition assembly specified. Fabricate track intersections and switches from steel or aluminum.
 - 1. Multidirectional Switches: Adjustable switch configuring track into L, T, or X intersections and allowing panels to be moved in all pass-through, 90-degree change, and cross-over travel direction combinations.
- D. Aluminum Finish: Mill finish or manufacturer's standard, factory-applied, decorative finish unless otherwise indicated.
- E. Steel Finish: Manufacturer's standard, factory-applied, corrosion-resistant, protective coating unless otherwise indicated.

2.6 ACCESSORIES

- A. Storage Pocket Door: Full height at end of partition runs to conceal stacked partition; of same materials, finish, construction, thickness, and acoustical qualities as panels; complete with operating hardware and acoustical seals at soffit, floor, and jambs. Hinges in finish to match other exposed hardware.
- B. Work Surfaces: Quantities, placement, and size indicated.
 - 1. Surface: Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with ASTM E 557 except as otherwise required by operable panel partition manufacturer's written installation instructions.
- B. Install operable panel partitions and accessories after other finishing operations, including painting, have been completed.
- C. Install panels from marked packages in numbered sequence indicated on Shop Drawings.
- D. Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.
- E. Broken, cracked, deformed, or unmatched gasketing or gasketing with gaps at butted ends is not acceptable.

3.2 ADJUSTING

- A. Adjust operable panel partitions to operate smoothly, without warping or binding. Lubricate hardware and other moving parts.
- B. Adjust storage pocket doors to operate smoothly and easily, without binding or warping. Check and readjust operating hardware. Confirm that latches and locks engage accurately and securely without forcing or binding.

3.3 FIELD QUALITY CONTROL

- A. Light-Leakage Test: Illuminate one side of partition installation and observe vertical joints and top and bottom seals for voids; adjust partitions for acceptable fit.
- B. Testing Methodology: Perform testing of installed operable panel partition for noise isolation according to ASTM E 336, determined by ASTM E 413, and rated for not less than NIC indicated. Adjust and fit partitions to comply with NIC test method requirements.
- C. Repair or replace operable panel partitions that do not comply with requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of repaired, replaced, or additional work with specified requirements.
- E. Prepare test and inspection reports.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.

END OF SECTION 102226

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Childcare accessories.
3. Underlavatory guards.
4. Custodial accessories.

B. Owner-Furnished Material: Toilet Tissue Dispenser, Soap Dispenser, and Paper Towel Dispenser.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.
2. Identify products using designations indicated.

C. Maintenance data.

D. Warranty: Sample of special warranty.

1.3 WARRANTY

A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. A & J Washroom Accessories, Inc.
2. American Specialties, Inc.
3. Bobrick Washroom Equipment, Inc.
4. Bradley Corporation.
5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
6. Tubular Specialties Manufacturing, Inc.

B. Grab Bar:

1. Basis-of-Design Product: Bobrick "B-6806".
2. Mounting: Flanges with exposed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
4. Outside Diameter: 1-1/4 inches (32 mm).
5. Configuration and Length: As indicated on Drawings.

C. Mirror Unit:

1. Basis-of-Design Product: Bobrick "B-165 series".
2. Frame: Stainless-steel channel. Retain first subparagraph below if required.
3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.

D. Sanitary-Napkin Disposal Unit:

1. Basis-of-Design Product: Bobrick "B-270".
2. Mounting: Surface mounted.
3. Door or Cover: Self-closing, disposal-opening cover.
4. Receptacle: Removable.
5. Material and Finish: Stainless Steel

E. Warm-Air Dryer:

1. Basis-of-Design Product: Excel Dryer Co. "Excelerator eco".
2. Mounting: Surface mounted.
3. Operation: Touch-button activated with timed power cut-off switch.
 - a. Operation Time: 30 to 40 seconds.
4. Cover Material and Finish: Steel, with white enamel finish.
5. Electrical Requirements: 115 V, 13 A, 500 W.

2.2 PRIVATE-USE SHOWER ROOM ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - 1. A & J Washroom Accessories, Inc.
 - 2. American Specialties, Inc.
 - 3. Bobrick Washroom Equipment, Inc.
 - 4. Bradley Corporation.
 - 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 - 6. Tubular Specialties Manufacturing, Inc.

2.3 PRIVATE-USE BATHROOM ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Basco, Inc.
 - 2. Bobrick Washroom Equipment, Inc.
 - 3. Franklin Brass by Liberty Hardware Manufacturing Corporation; a Masco company.
 - 4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 - 5. Ginger; a Masco company.
 - 6. Seachrome Corporation.
 - 7. Tubular Specialties Manufacturing, Inc.
- B. Towel Bar:
 - 1. Basis-of-Design Product: Bobrick "B-205".
 - 2. Description: 3/4-inch- (19-mm-) square tube with rectangular end brackets.
 - 3. Mounting: Flanges with exposed fasteners.
 - 4. Length: 24 inches (610 mm).
 - 5. Material and Finish: Stainless steel, No. 4 finish (satin).

2.4 CHILDCARE ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. American Specialties, Inc.
 - 2. Brocar Products, Inc.
 - 3. Diaper Deck & Company, Inc.
 - 4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 - 5. Koala Kare Products; a division of Bobrick Washroom Equipment, Inc.
 - 6. SSC, Inc.
 - 7. Tubular Specialties Manufacturing, Inc.

B. Diaper-Changing Station:

1. Basis-of-Design Product: Bobrick "B-2200".
2. Description: Vertical unit that opens by folding down from stored position and with child-protection strap.
 - a. Engineered to support a minimum of 250-lb (113-kg) static load when opened.
3. Mounting: Surface mounted, with unit projecting not more than 4 inches (100 mm) from wall when closed.
4. Operation: By pneumatic shock-absorbing mechanism.
5. Material and Finish: HDPE in manufacturer's standard color.
6. Liner Dispenser: Built in.

2.5 UNDERLAVATORY GUARDS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Plumberex Specialty Products, Inc.
 2. Truebro by IPS Corporation.
- B. Underlavatory Guard:
 1. Description: Insulating pipe covering for supply and drain piping assemblies that prevent direct contact with and burns from piping; allow service access without removing coverings.
 2. Material and Finish: Antimicrobial, molded plastic, white.

2.6 CUSTODIAL ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. A & J Washroom Accessories, Inc.
 2. American Specialties, Inc.
 3. Bobrick Washroom Equipment, Inc.
 4. Bradley Corporation.
 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 6. Tubular Specialties Manufacturing, Inc.
- B. Utility Shelf:
 1. Description: With exposed edges turned down not less than 1/2 inch (13 mm) and supported by two triangular brackets welded to shelf underside.
 2. Size: 16 inches (406 mm) long by 6 inches (152 mm) deep.

3. Material and Finish: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel, No. 4 finish (satin).
- C. Mop and Broom Holder:
1. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
 2. Length: 36 inches (914 mm).
 3. Hooks: Three.
 4. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
 5. Material and Finish: Stainless steel, No. 4 finish (satin).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units' level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

END OF SECTION 102800

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers as shown on Life Safety Plan.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Operation and maintenance data.
- C. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
- C. Coordinate type and capacity of fire extinguishers with fire protection cabinets to ensure fit and function.

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Amerex Corporation.
 - b. Ansul Incorporated; Tyco International Ltd.
 - c. Badger Fire Protection; a Kidde company.
 - d. Buckeye Fire Equipment Company.
 - e. Fire End & Croker Corporation.
 - f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
 - g. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
 - h. Larsen's Manufacturing Company.
 - i. Moon-American.
 - j. Pem All Fire Extinguisher Corp.; a division of PEM Systems, Inc.
 - k. Potter Roemer LLC.
 - l. Pyro-Chem; Tyco Safety Products.
2. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.

- B. Multipurpose Dry-Chemical Type: UL-rated 3A-40B; C nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.
- C. Carbon Dioxide Type: UL-rated 5BC capacity, with carbon dioxide in manufacturer's standard enameled-metal container.

2.2 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine fire extinguishers for proper charging and tagging.
 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches (1372 mm) above finished floor to top of fire extinguisher.
- C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 104416

SECTION 23 00 00 – GENERAL MECHANICAL PROVISIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Substitutions and Product Options:

1. Products List: Submit list of major products proposed to be used with names of manufacturers and installing subcontractors.

B. Contractor's Options:

1. For products specified only by standard, select any product meeting standard.
2. For products specified by naming one (1) or more products by manufacturer's name and catalog number, select any one (1) of the products or manufacturers named.
3. Contractor may submit a request for substitution for any product or manufacturer not specifically named.

C. Substitutions: The A/E will consider written requests from the Contractor for substitution of products. Submit a separate request for each product, supported with complete data, with drawings, and appropriate samples, including, in addition to the requirements of the General Conditions, the following:

1. Comparison of qualities of proposed substitution with product specified.
2. Changes required in other elements of the work because of proposed substitution.
3. Effect on construction schedule.
4. Cost data comparing proposed substitution with product specified.
5. Any required license fees or royalties generated by the proposed substitution.
6. Availability of maintenance service and source of replacement materials.

D. A request for a substitution is a representation that the Contractor:

1. Has investigated proposed product and determined it is equal for less cost to or superior for equal cost in all respects to product specified.
2. Provides the same warranties or bonds for the proposed substitution as for the product specified.
3. Will coordinate installation of any accepted substitution into work and make other changes as may be required to make work complete.
4. Waives all claims for additional costs, under Contractor's responsibility, that may become apparent.
5. Has verified the proposed product qualifies for FPL Commercial/Industrial Energy Conservation Programs Standards rebates by meeting or exceeding PBSC specified qualifications.

E. A/E will review requests for substitutions with reasonable promptness, and notify the Contractor, in writing, of its decision to accept or reject requested substitution.

1.2 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Submit shop and detail drawings, factory certified prints, brochures, and materials lists for items specified in the contract drawings.
- C. Substantial Completion Submittal Requirements:
 - 1. Operating and Maintenance Manuals and Charts: Provide four (4) complete sets of operating and maintenance instructions, literature, and information concerning equipment under this Division, including, but not limited to HVAC systems, indexed and bound in accepted loose leaf binders.
 - 2. Record Prints: Keep one (1) complete set of prints on file at job site for sole purpose of recording "record" data. Mark changes in red on the prints as work progresses. Deliver completed set of "record" prints to A/E before request for final payment.

1.3 QUALITY ASSURANCE

- A. Qualifications: Perform work by workers skilled in their respective trades and install specified materials and equipment according to manufacturer's recommendations.
- B. Where special qualifications are required, (i.e., for welders or brazers, a currently active certificate of qualification from a recognized testing laboratory and dated within 12 months before performance of work will be required).
- C. If quality of work of any such specially qualified worker creates reasonable doubt as to skill, A/E may require worker to be removed and replaced.

1.4 WARRANTY

- A. Furnish copies to PBSC of guarantees for equipment or materials as agreed in the contract documents.
- B. The Contractor shall respond to repair of Pump and AHU's, and other routine warranty service requests by completing repairs within 24 hours of service request.
- C. The Contractor shall respond to emergency warranty service requests with the arrival of service technician at affected site within 4 hours of notification of emergency. Repairs shall be expedited to bring system online as soon as possible. Emergencies include, but are not limited to failures of controls, and any other component causing system failure.
- D. If problem is not correctable within specified time frames, the Contractor shall provide in writing an expected completion date to PBSC.
- E. Inspections at End of Warranty: At the end of the 1-year warranty period, PBSC will decide if the warranty items cited during the course of the warranty period have been completed to the satisfaction of PBSC.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide new materials, free from defects, of domestic manufacture unless otherwise noted.

2.2 EQUIPMENT

- A. Use equipment scheduled in the Construction Documents to determine space and service requirements.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Clean surfaces free of grease, scale, rust, and other foreign matter and leave ready for painting. Field paint exposed piping, ducts, hangers, and supports.
- B. Touch-up factory finishes marred in construction with factory touch-up kits.
- C. Provide starters, required control items, and wiring diagrams for motors specified under this Division, unless otherwise noted.

3.2 FIELD SUPERVISION

- A. Verify measurements at building site before starting work. Submit discrepancies and differences to A/E for consideration and decision before proceeding with work.
- B. Obtain full information regarding:
 - 1. Peculiarities and limitations of space available for installation of equipment
 - 2. Materials under contract.
 - 3. Accessibility required to dampers, valves, and other apparatus, including any part of any system needing maintenance or operation.
- C. Provide accurate layout, grades, and elevations. Set sleeves and openings in ample time for other trades to proceed in a timely manner. Take proper precautions to protect work and equipment from damage.
- D. Cut openings and chases required to accommodate the work and repair floors, walls, and ceilings damaged by such cuttings.
- E. Perform required tests in the presence of A/E and PBSC. Give 48-hour notice before tests.
- F. Ensure compliance with safety codes and other codes and ordinances applicable to the performance of work under this Division.

END OF SECTION 23 00 00

SECTION 23 05 00 – BASIC MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1.1 REFERENCES

A. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):

1. ANSI B40.1 - Pressure Gauges and Gauge Attachments

B. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):

1. ASTM A 6/A 6M - (2010a) Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling
2. ASTM E119 - (2010b) Standard Test Methods for Fire Tests of Building Construction and Materials

C. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):

1. NFPA 255 - (2006) Standard Method of Test of Surface Burning Characteristics of Building Materials

1.2 SCOPE OF WORK

- A. The work of this Section shall include the furnishing of systems, equipment and materials specified in this Division, and as called for in the Mechanical Drawings. All facilities, supervision, coordination, transportation, handling, labor and methods for the fabrication, installation, interconnections, start-up, tests, adjustments and other necessary work for the complete and satisfactory systems, ready for operation and use, shall be included. Whenever the words "Contractor" appear in this Division, they refer to the Contractor for work specified in that Section. The Contractor shall examine all Contract Documents including all drawings and all sections of the specifications and shall be responsible for ascertaining to what extent other drawings and sections affect work herein specified. Any error, omission, or code violation noted shall be reported to Architect/Engineer and Owner prior to bidding and commencement of work.
- B. Drawings for the work are diagrammatic, intended to convey the scope of the work and to indicate the general arrangement and locations of the work and shall be followed as closely as actual construction and as other work will permit. Because of the scale of the drawings, certain basic items such as necessary duct and pipe offsets, pipe fittings, access panels and sleeves may not be shown. Mechanical Contractor shall be responsible for selecting the equipment to fit in the space provided. The location and the sizes of equipment, duct and pipe fittings, access panels, sleeves, inserts, and other basic items required by code or other Sections shall be coordinated and included for the proper installation of the Work.
- C. Changes from the Contract Documents required to make this work conform to the building construction or other work of other trades shall be made by the Contractor with no additional

cost to the Owner and shall not impact on the time schedule of the project. All changes shall be shown on shop drawings and submitted to the Architect/Engineer/Owner for approval before commencing the work. Failure to follow the approval procedure may result in the forced removal of all work, performed prior to approval.

- D. Equipment specification may not deal individually with the minor items required such as components, parts, controls and devices which may be required to produce the equipment performance specified or as required to meet the equipment design performance and warranties. Where such items are required, the supplier of the equipment shall include them, whether or not specifically called for in the Contract Documents and properly installed by the Contractor.
- E. Contractor shall verify with the supplier of the equipment the requirements for the complete installation to insure proper operation of the equipment furnished under Division 23 of the specifications.
- F. Contract Documents may call for Mechanical Contractor to install specific equipment furnished by others.
- G. Specifications and drawings shall be considered as complimentary one to the other. Where equipment items, material and labor are specified, indicated, called for or implied by either the drawings or the specifications, they shall be deemed as specified by both and included as part of the contract. Should conflicts occur between the drawings and the Division 23 Specifications, the more stringent requirements shall apply and take precedent.

1.3 DEFINITIONS

- A. PIPING: As used herein, is defined as pipe, fittings, valves, flanges, unions, specialties and accessories and appurtenances necessary for, or incidental to, a complete system.
- B. DUCTWORK: As used herein, is defined as all air delivery and recirculation and exhaust ducts whether of sheet metal or other material, and includes all connections, accessories and appurtenances necessary for and incidental to a complete system.
- C. PROVIDE: As used herein is defined as to furnish and install. Where the words “furnish,” “include” or “install” are used in the Specifications or on the Drawings, it shall mean to deliver to the job site and to install and test complete and ready for operation systems and items mentioned. If an item is called for in either the Specification or on the Drawings, it shall be considered sufficient to including the same in the Work.
- D. CONCEALED WORK: As used herein refers to piping, ductwork, and accessories above ceilings and within walls, partitions, shafts or service spaces, not normally exposed to view and enclosed on all sides by finish materials. Access to piping and ductwork would demolish finish materials.
- E. CONCEALED BUT ACCESSIBLE: As used herein refers to piping, ductwork and accessories accessible above or through suspended ceilings, in walls at access panels or in chases with access doors.
- F. EXPOSED WORK: Refers to piping or equipment normally exposed to view within rooms or open areas.

1.4 QUALITY ASSURANCE

- A. Codes and Standards: All work shall be in compliance with, but not be limited to the requirements of all applicable Laws, Codes, and Regulations of Governmental Bodies having jurisdiction over work performed over the applicable job site. The work shall also be performed in accordance with current issues and revisions of the following Codes and Standards listed below and called for in other Sections of the specifications.
1. Florida Building Code, 2014, 5th Edition
 2. Air Diffusion Council – ADC
 3. Air Moving and Conditioning Association – AMCA
 4. American National Standards Institute – ANSI
 5. American Refrigeration Institute – ARI
 6. American Society of Mechanical Engineers – ASME
 7. American Society for Testing and Materials – ASTM
 8. American Water Works Association – AWWA
 9. Factory Mutual – FM
 10. Cast Iron Soil Pipe Institute – CISPI
 11. Manufacturers Standardization Society for the Valve and Fitting Industry – MSS
 12. National Electrical Manufacturers Association – NEMA
 13. National Fire Protection Association – NFPA
 14. National Electric Code – NEC, 2011 Edition
 15. Occupational Safety and Health Act of 1970, as amended – OSHA
 16. Plumbing and Drainage Institute - PDI.
 17. Sheet Metal and Air Conditioning Contractors National Association – SMACNA
 18. Underwriters Laboratories – UL
 19. Florida Mechanical Code – 2014, 5th Edition
 20. Florida Plumbing Code – 2014, 5th Edition
 21. Florida Gas Code – 2014, 5th Edition
 22. American Society of Heating, Refrigeration and Air Conditioning Engineers –ASHRAE
 23. International Green Construction Code, 2012
 24. Standard codes enforced by Palm Beach County as well as minimum requirements per Palm Beach State College building standards
- B. Contractor shall refer to the Owner any part of the contract documents which may be in conflict with the above codes and regulations. Contractor shall prepare proposed changes for review and approval by the Owner. Base bid shall include the more stringent of the conflicting codes.

1.5 ACTIVE SERVICES

- A. Existing active services: water, gas, sewer, electric, when encountered shall be protected against damage. Do not prevent or disturb operation of active services that are to remain. If active services are encountered which require temporary interruption or relocation, make request to authorities having jurisdiction for determination of procedures and coordinate work with the users of such utility services. Where existing services are to be abandoned, they shall be terminated in conformance with the Utility or Municipality having jurisdiction.

1.6 SITE INSPECTION

- A. Contractor shall inspect and carefully examine the site to be familiar with conditions that will affect the work. Contractor shall verify points of connection of utilities, routing of outside piping to include required clearances from any existing structures, trees or other obstacles. Contractor shall verify available space in the existing structure and accessibility required for the installation of work under this contract and alert the Architect/Engineer to conditions, which may be detrimental or will prevent proper execution of the work.
- B. The submittal of bid will be construed as that site inspection has been performed and extra payment will not be allowed for changes in work, resulting from observable existing conditions.
- C. Submittal of bid shall indicate that the Contractor has included all required allowances in the bid. No allowances shall be made for any error resulting from Contractor's failure to visit job site and to review all contract documents.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Each system component installed by Contractor shall meet or exceed performance specifications listed in the contract documents. Components with a lesser degree of performance documented in the final Test and Balance Report will not be accepted and shall be replaced with no additional charge to Owner.
- B. Materials and equipment shall be new, unused, standard current products from manufacturers regularly engaged in the production of such equipment and shall bear label of the Underwriters' Laboratory for the intent use or shall be materials approved by the code enforcing agency.
- C. Where two or more units of the same class of equipment or material are required, these shall be the product of a single manufacturer throughout entire project and shall fit in the allocated spaces provided, complying with all clearances and codes.
- D. All hardware and accessory fittings shall be a type designed, intended or appropriate for use and compliment item with which they are used. They shall have corrosion protection suitable for atmosphere in which they are installed. All such hardware shall be U.S. standard size.
- E. All materials including insulation, jackets, and adhesives shall have a Flame Spread Rating not exceeding 25, and Smoke Developed Rating not exceeding 50, when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials. Submittal data shall specifically indicate those ratings.
- F. All materials and equipment shall be fabricated in the United States of America and shall be labeled accordingly. Foreign made materials and equipment are not acceptable unless specified.
- G. All equipment and piping supports shall be hot dipped galvanized except as otherwise noted in Contract Documents. Hangers for copper pipe shall be vinyl coated. Copper clad hangers shall not be used.

- H. Air conditioning system components shall conform to federal, state and local sound emission and vibration isolation guidelines. Contractor shall attenuate noise and isolate various items of equipment from the building structure and take all steps that may be necessary to eliminate objectionable noise or excessive vibration produced by Division 23 equipment. If noise attenuation or vibration isolation measures do not produce satisfactory results all components which prove to be in violation shall be replaced at no additional cost to the Owner, to comply with codes and ordinances having jurisdiction at the job site.
- I. Follow installations directions and recommendations of material and equipment manufacturers.
- J. Pressure gages shall conform to ANSI B40.1 and to requirements specified herein. Pressure-gage size shall be 6 inches nominal diameter. Case shall be corrosion-resistant steel, conforming to any of the AISI 300 series of ASTM A 6/A 6M, with an ASM No. 4 standard commercial polish or better. Gages shall be equipped with adjustable red marking pointer and damper-screw adjustment in inlet connection. Service-pressure reading shall be at midpoint of gage range. All gages shall be Grade A or better and be equipped with gage isolators.
- K. Sleeve couplings for plain-end pipe shall consist of one steel middle ring, two steel followers, two chloroprene or Buna-N elastomer gaskets, and the necessary steel bolts and nuts.

PART 3 - EXECUTION

3.1 GENERAL

- A. Workmanship throughout shall correspond to the standard of best practice, and all labor employed shall be competent to do the work required. The job foreman must hold a state or local license certifying that he/she is capable of installing the equipment specified. The installation shall be accomplished by workers skilled in the type of work involved. Workers shall have current certifications, when required, for particular trade.
- B. The Contractor shall be responsible for furnishing to all trades, in ample time, any information they may require to construct all equipment bases, trenches, pits, chases, and openings in floors, walls and finishes, and to provide clearances to accommodate the work. The contractor shall set all sleeves, anchor bolts or inserts to fasten equipment before adjacent concrete work is poured.
- C. Mechanical Contractor shall ensure that all items/components that require power are coordinated with Electrical Contractor and install a fully functional system. These include all control/solenoid valves, DDC panels, VAV boxes, and fire alarm controls including door releases, damper motor controls, etc. These electrical requirements shall be identified prior to bid and communicated to Electrical Contractor for pricing, as required.
- D. Coordinate location of all Division 23 work with Division 26. Do not run piping, ductwork and similar Division 23 work in National Electric Code (NEC) dedicated service areas for electrical equipment, including above panel boards, starters, communication panels, control panels, telephone backboards, data panels and similar electrical elements. Water piping shall not be installed directly above electrical equipment. Refer questionable locations to the Owner for resolution prior to installation and correct non-conforming installed work at no additional cost to the Owner.

- E. All piping systems shall be capped or plugged at the end of each workday until system is complete to prevent contamination.

3.2 COORDINATION OF WORK AND DRAWINGS

- A. Each contractor and subcontractor shall be responsible for coordinating the installation of his equipment/labor with other Contractors and trades. The contractor shall harmonize the work of different trades so that interference between piping, ductwork, equipment and structural work will be avoided.
- B. It is recommended that each contractor prepare shop drawings at 1/4" to 1'-0" scale clearly indicating all applicable components and coordinate the same with all trades. It is recommended that coordination shop drawings show in detail the space conditions of all concerned trades, and be reviewed and accepted by the Owner. Contractor's failure to coordinate work between trades using coordination shop drawings or other means will not cause for any additional cost changes to the Owner, and/or changes to the project schedule. If the contractor installs his work before coordinating with other trades or causes interference with work of other trades, the contractor shall make necessary changes in the work to correct the condition, at no additional cost changes to the Owner, and/or changes to the project schedule.

3.3 SUBSTITUTIONS

- A. If Contractor proposes to deviate from the specifications or drawings, he shall call attention to any deviation in his proposal, otherwise it will be assumed that he accepts and agrees to follow the contract drawings and specifications. Owner's representative must approve any deviations.

3.4 ACCESS PANELS

- A. Contractor shall provide required access panels or doors for all serviceable equipment in concealed locations whether or not called for on the drawings. Access panels shall be provided for accessing duct work fire alarm/protection devices as required per code.

3.5 CUTTING AND PATCHING

- A. Coordinate the placing of openings in the existing or new structures as required for installation of the Mechanical Work.
- B. When additional patching for unnecessary openings are required due to failure to inspect and coordinate work, than provide the patching required to properly close the openings, to include matching surface finishing and painting, at no additional cost.
- C. When cutting and patching of the structure is necessary due to failure to install piping, ducts, sleeves or equipment on schedule, or due to failure to furnish, on schedule, the information required for leaving of openings, than provide cutting and patching as required, at no additional cost.

- D. Provide cutting and patching, surface finishing and painting in the existing structure, as required for the installation of work, and furnish lintels and supports as required for openings. Cutting of structural members will not be permitted. Extent of cutting shall be minimized; use core drills, power saws or other machines that will provide neat, minimum openings. Patching shall match adjacent materials and surfaces and shall be performed by craftsmen skilled in the respective craft required.

3.6 SLEEVES

- A. Sleeves for piping passing through non-load bearing or non-fire or smoke rated walls and partitions are required. The sleeves shall be galvanized sheet steel with lock seam joints of minimum gauges as follows: pipes 2½" and smaller - 24 gage; 3" to 6" - 22 gage; over 6" - 20 gage.
- B. Sleeves for piping passing through load bearing walls, concrete beams, foundations, footings and waterproof floors shall be Schedule 40 galvanized steel pipe or 18 gage galvanized sheet steel.
- C. Sleeves for insulated piping shall be of sufficient internal diameter to take pipe and insulation and to allow for free movement of pipe. Waterproof sleeves shall be of sufficient internal diameter to take pipe and waterproofing material.
- D. In finished areas where pipes are exposed, sleeves shall be terminated flush with wall, partitions and ceilings, and shall extend ½" above finished floors. Extend sleeves 1" above finished floors in areas likely to entrap water.
- E. Sleeves passing through waterproofing membrane shall be flashed
- F. When any mechanical component (duct, pipe, drain, etc.) penetrates or encroaches into an architectural fire rated partition, the penetration in partition (wall, floor, ceiling, roof, etc.) shall be fire-stopped (caulked and sealed) in a method acceptable to the authority having jurisdiction. Such penetration shall retain the original integrity of the fire rated partition. Products and procedures used to complete the fire stopping must be tested and recognized by testing laboratories such as U.L. or Factory Mutual and comply with requirements of ASTM-E-119.
- G. Sleeves for round and rectangular ductwork shall be galvanized sheet steel.
- H. Fire-stopping insulation shall be glass fiber type, non-combustible.
- I. Sealant shall be acrylic.

3.7 ESCUTCHEONS

- A. Provide chrome-plated escutcheons at each sleeve opening into finished spaces. Escutcheons shall fit around insulation or around pipe when not insulated; outside diameter shall cover sleeve. Where sleeve extends above finished floor, escutcheon shall be high cap type and shall clear sleeve extension. Secure escutcheons or plates to sleeve but not to insulation with set screws or other approved devices.

3.8 PROTECTION

- A. Special care shall be taken for the protection of equipment and materials furnished. Store and completely protect all materials from damage. Materials and equipment shall be kept clean and dry, free from deterioration by weather elements, painting, plaster, etc., until the project is completed. Damaged or defective materials shall not be installed. Damage from rust, paint, etc., and finishes on equipment which have been scratched or marred shall be touched-up to match original finish or shall be completely refinished to restore equipment to original condition.
- B. Where the installation or connection of equipment requires work in areas previously finished by other Contractors, the area shall be protected and not marred, soiled or otherwise damaged during the course of such work. The Contractor shall provide drop cloths, or any other materials necessary to protect floors, walls, furniture, equipment, etc. from soil or damage.
- C. Welding will be permitted in the existing buildings as long as the contractor provides for an approved fire watch and other required safety measures. Contractor's work, and construction means, methods, materials and equipment used shall not compromise the building fire safety, as well as safety and welfare of coworkers and building occupants.

3.9 CONCRETE WORK

- A. Provide concrete bases and housekeeping pads for mechanical equipment unless indicated otherwise. This Contractor shall provide vibration pads and equipment base.
- B. Provide equipment anchor bolts and coordinate their proper installation and accurate location.

3.10 ANCHORING EQUIPMENT

- A. All equipment designed to be permanently mounted shall be securely anchored to its supporting surface in compliance with SREF 5.4(9)(b). A minimum of two bolts is required per each piece of equipment and bolts shall be of sufficient size to prevent equipment from overturning.

3.11 CORROSION

- A. Provisions shall be made to prevent corrosion due to contact of metallic pipe and equipment with moisture or dissimilar materials. When pipe is joined with another pipe, valve, fitting or piece of equipment constructed of dissimilar metal an insulated joint shall be installed to prevent formation of galvanic couple. Pipe hangers and supports of dissimilar metal shall be isolated from contact with pipe. Metal pipe and equipment shall be isolated from direct contact with concrete or other corrosive materials and soils.

3.12 PAINTING AND FINISHING

- A. All exposed metal surfaces shall be painted, unless specified otherwise. Mechanical equipment shall have factory finish as specified; any damage to that finish shall be field primed and painted to match existing. All ferrous metal equipment and supports, not factory finished, shall be cleaned, primed with a suitable primer and given two finish coats of exterior enamel.

- B. Exposed galvanized metal shall be primed with zinc rich metal primer and painted with enamel paint to match surrounding area.
- C. Other unpainted ferrous metal including all pipe sleeves or equipment supports shall be cleaned and primed with metal primer suitable to the metal, and shall be finished with two coats, one flat and one enamel as selected.
- D. All equipment and piping, not hidden, after insulation has been installed, shall be primed and painted with one color flat coat and with utility designation color enamel paint. This includes non painted equipment, piping, and ductwork in mechanical rooms. Color to be selected by the Owner.

3.13 TESTS

- A. All materials, equipment and systems that are required to be tested by these specifications or by any applicable regulation or code, shall be tested in the presence of owner's representative or authority having jurisdiction. All items requiring pressure or leakage tests shall be tested before being concealed from view. All defects disclosed by tests shall be rectified and the tests repeated. The Contractor shall provide all labor, materials and equipment used in tests.

3.14 COMPLETION OF WORK

- A. Prior to acceptance of the installation and final payment of the Contract, the Contractor shall provide and complete the following:
 - 1. CLEANING:
 - a. At the conclusion of the construction, the site and structure shall be cleaned thoroughly of all debris and unused materials remaining from the mechanical construction. All areas and temporary storage spaces shall be cleaned of all packing boxes, wood frame members and other waste materials used in the mechanical construction.
 - b. The entire system of piping and equipment shall be cleaned internally. The Contractor shall open all dirt pockets and strainers, completely blowing down as required and clean strainer screens of all accumulated debris. Strainers shall be cleaned in the presence of the District Representative.
 - c. All pumps shall be drained and proven free of sludge and accumulated matter.
 - d. All temporary labels, stickers, etc. shall be removed from all fixtures and equipment. (Do not remove permanent nameplates, equipment model numbers, ratings, etc.).
 - e. Pumps, traps, etc., shall be thoroughly cleaned.
 - 2. OPERATION AND MAINTENANCE MANUALS
 - a. At substantial completion the Contractor shall provide the Owner with four (4) copies of a hardbound Operating & Maintenance manual (O & M) for all equipment furnished and installed under his work, otherwise systems involved will not be acknowledged as complete and therefore not accepted.

- b. The O & M manuals shall include factory installation, maintenance and operating instructions, and repair manuals for each and every component within each system, such as but not limited to: chillers, pumps, cooling towers, air handlers, fans, controls, etc. Submittal or cut sheets shall not be acceptable as primary information on any component. The manufacturer parts list and serial numbers for all operating equipment shall also be included.
- c. The O & M manuals shall include all information on component and equipment modifications, such as required options, impeller sizes, and performance curves.
- d. The O & M manuals shall include detailed control drawings for each system indicating components used and their respective locations within the buildings being served. Drawings shall list building and room numbers.
- e. All controls and safety devices shall be clearly and permanently embossed or have printed plates indicating their purpose or operation. Plates shall be laminated plastic (color selected by Architect/Engineer) with white or black letters, attached to the equipment or device with screws, rivets or non-soluble cement (glue).
- f. Provide name, address, and phone numbers of equipment suppliers used for all system components.
- g. Upon completion of the work, the Contractor shall put the system into service. The Contractor shall be entirely responsible for the equipment during all testing operations.

3. AS-BUILT PRINTS

- a. Contractor shall keep day-to-day records of all changes, and upon completion of the work, incorporate these changes on the clean copies of the original drawings. Four (4) copies of as-built prints shall be provided to the Owner at the date of substantial completion.
- b. The drawings shall show all equipment, piping (including underground) and ductwork with dimensions and reference points, other concealed non-accessible work, branching arrangement and valve location for piping systems, locations of damper and heaters in duct systems, locations of control system sensors and other control devices, and work of change orders not shown on contract documents.

4. INSTRUCTIONS AND DEMONSTRATIONS

- a. Systems shall be tested and placed in proper working order prior to demonstrating systems to the Owner.
- b. Prior to acceptance of the mechanical installation, schedule and conduct a walk-thru instruction seminar to demonstrate to the Owner or his designated representatives all essential features and functions of all systems installed, and instruct to the Owner the proper operation and maintenance of such systems.
- c. Provide trained personnel who are fully knowledgeable and capable of answering any question raised pertaining to the mechanical systems installed to perform the demonstrations and instructions. Provide manufacturer's representatives for systems as required, to assist with the demonstrations.
- d. Dates and times for performing the demonstrations shall be coordinated with owner's representative.
- e. System demonstrations shall be in accordance with operating and maintenance data. All systems shall be demonstrated including controls.
- f. Upon completion of demonstrations, provide a certificate testifying that demonstrations have been completed. Certificate shall list each system

demonstrated, dates demonstrations were performed, names of parties in attendance, and shall bear signatures of Contractor and Owner.

5. WARRANTY

- a. All equipment and systems, unless specified otherwise, shall have a manufacturer's warranty for a period of one (1) year from the date of substantial completion. This warranty shall be against defective materials, design and workmanship.
- b. The mechanical contractor shall repair or replace any component of the Division 23 work under warranty, which proves to be defective, at no cost to the Owner.
- c. Upon receipt of notice from the Owner of failure of any part during the warranty period the Contractor shall respond the same day and shall complete warranty service work in a timely manner.
- d. During warranty period, all responses to warranty calls made by the Contractor shall be documented by leaving a copy of the mechanics service ticket with the administration/facility office upon completion of the warranty work, prior to leaving the site. Without proper documentation the Owner shall not acknowledge repairs have been completed.
- e. Required optional extended manufacturer or vendor warranties for specific items, their performance or expected durability will be explicitly included in Division 23 Specifications. Manufacturer or vendor shall repair or replace any defective component under extended warranty at no cost to the Owner.

PART 4 - SPECIFIC REQUIREMENTS

- A. The contractor is solely responsible for maintaining cleanliness of all air distribution equipment and systems which will remain (or be placed in operation) during any phase of the construction/renovation and shall appropriate steps to ensure that no transmission of construction dust, debris, vapors and/or odors occurs between the construction site and any occupied area of the building being renovated.
- B. Tag font shall be 1.25" tall. All hand and motor operated valves shall be sequentially numbered with the same intent as equipment numbering excluding the requirement of area served, with circular 3" diameter brass tags and chains. Alpha-numeric will be either stamped or engraved into tags and shall be legible from a minimum distance of 25'. Valve tags will be designated as to the system the corresponding valves control i.e. oil, chill water, hot water, condenser water, etc.
- C. All piping shall be identified as to the type of fluid within and the system served per ASA standards and to MIL-STD-101 except that slip on labels or tapes with pressure sensitive adhesive conforming to FED. SPEC. A-A-1689 may be used in lieu of stenciling.
- D. Air handling units shall be double walled with 1" thick/3 PCF density or 2" thick/1-1/2 PCF density uncompressed insulation having a minimum R-value of 4.2 sandwiched between the two panels, constructed of galvanize steel and contain a 2" angular filter section with access modules for coil maintenance. Filters shall be 2" metal frame replaceable media type and media shall meet current ASHRAE 62 filtration requirements of MERV 8.
- E. Protection shall be provided for the coil tubes from fluid infiltration during the coating process by maintaining a 50 PSI blanket of nitrogen on the fluid side. Coating materials shall have

passed a MINIMUM of 1000 hours of salt spray exposure in testing performed by an independent laboratory in accordance with ASTM B117.85 standards. The coating shall be field-repairable and touchup product shall be available for this purpose. The company providing the coating process shall also provide a five-year coil warranty. The entire coating process shall be similar to the Husky Coil Coat patented process as manufactured by Bronz-Glow Technologies, Inc. (Jacksonville, FL), Heresite (Manotowac, WI) or equal, approved by Facilities. Cooling coil shall be coated for the air handler.

- F. All AHU three phase motors shall be protected against contact failure, loss of any phase (single phasing), low voltage, high voltage, voltage unbalance and phase reversal. The protection device shall be capable of providing automatic power system range sensing; adjustable trip delay, restart delay and voltage adjustment; unbalance trip indicator; LED status readout.

END OF SECTION 23 05 00

SECTION 23 05 13 – ELECTRICAL FOR MECHANICAL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This section specifies the requirements of independent electrical components required for mechanical systems installed in this project. Electrical specifications will take precedence in the event of a conflict between this specification section and electrical specifications. This section includes:
 - 1. Motors independent of manufactured equipment.
- B. Adjustable speed drives, also referred to as variable speed drives. The publications listed below form a part of this section to the extent referenced.
 - 1. Anti-Friction Bearing Manufacturers Association (AFBMA)
 - a. AFBMA 11 – Load Ratings and Fatigue Life for Roller Bearings (1990)
 - b. AFBMA 9 – Load Ratings and Fatigue Life for Ball Bearings (1990)
 - 2. Institute of Electrical and Electronics Engineers (IEEE)
 - a. IEEE Std 112 – Standard Test Procedure for Polyphase Induction Motors and Generators (1991)
 - 3. International Organization for Standardization (ISO)
 - a. ISO 1940/1 – Mechanical Vibration – Balance Quality Requirements of Rigid Rotors – Part 1: Determination of Permissible Residual Unbalance
 - 4. National Electrical Manufacturer’s Association (NEMA)
 - a. NEMA MG 1 – Motors and Generators (1993)

1.2 SUBMITTALS

- A. Submit Shop Drawings: Outline drawings for motors shall indicate overall physical features, dimensions, ratings, service requirements, and weights of equipment.
- B. Submit Product Data: Equipment and performance data shall be submitted for Motors consisting of use life, system functional flows, safety features, and mechanical automated details. Curves indicating tested and certified equipment response and performance characteristics shall also be submitted.
- C. Manufacturer’s Catalog Data shall be submitted for the following items:
 - 1. Motors

2. Motor Enclosures
3. Adjustable Speed Drives

- D. Manufacturer's Instructions shall be submitted for Motors including special provisions required to install equipment components and system packages. Special notices shall detail impedances, hazards and safety precautions.

1.3 DESIGN REQUIREMENTS

- A. The following motor design data shall be provided prior to final turnover:
 1. Number of motor rotor bars, stator slots, and rotational speed.
 2. Number of cooling fan blades.
 3. RPM of motor.
 4. Bearing manufacturer, bearing type, bearing style, and number of balls/elements.
 5. Number of commutator bars and commutator brushes.
 6. SCR firing frequencies for variable speed motors.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Design, fabrication, testing, and performance of motors shall be in accordance with NEMA MG 1 and ISO 1940/1.
- B. Testing and performance of polyphase induction motors shall be in accordance with IEEE Std 112, Method B.
- C. Efficiency labeling shall be in accordance with NEMA MG 1.
- D. Allowable balance limits shall be in accordance with ISO 1940/1, Table 1.

2.2 MOTOR TYPES

- A. Induction motors with 5 to 250-horsepower (HP) rating a power rating 3.7 to 185 kilowatt shall be the energy-efficient type, inverter duty rated when connected directly to adjustable speed drives and efficiencies shall be as high as those shown below. Motor shall be marked to show the index letter, which shall be the letter shown or a letter that indicates premium efficiency.

HP	RPM	Minimum Efficiency
5	1200	89.5
	1800	90.2
7.5	1200	91.7
	1800	91.0
10	1200	91.7
	1800	91.7
15	1200	92.4
	1800	92.4
20	1200	92.4
	1800	93.0
25	1200	93.0
	1800	93.6
30	1200	93.0
	1800	93.6

- B. Motors less than 5 hp shall have the following efficiency at minimum:

HP	RPM	Minimum Efficiency
1.0	1750	86.5
1.5	1750	87.5
2.0	1750	88.0
3.0	1750	89.5

The minimum efficiency of the motors shall comply with the above ratings.

1. 1/3 HP, 250 watt rating and smaller, single-phase 0 capacitor start.
2. 1/2 HP, 375 watt and larger, three phase – induction squirrel-cage type, NEMA Design B, having normal starting torque and low starting current.
3. Motors shall be designed for across-the-line starting and shall be designed with torque characteristics to carry the specified rated starting load.
4. Motors shall have factory-sealed ball bearings with an L-10 rated life of not less than 30,000 hours in accordance with AFBMA 9 or AFBMA 11.

2.3 SIZES OF MOTORS

- A. Motors shall be a sufficient size for the duty to be performed and shall not exceed the full-load rating when the driven equipment is operating at specified capacity under the most severe loading conditions.
- B. When electrically driven equipment differs from that indicated, adjustments shall be made to the motor size, wiring and conduit systems, disconnect devices, and circuit protection to accommodate the equipment actually installed, at no additional cost to the Government.

2.4 VOLTAGE RATINGS

- A. Motors shall have the following minimum voltage ratings and match the required voltage ratings shown on contract drawings.

Motor Size			Motor
Motor Type	Horsepower	Service	Voltage Rating
Fractional horsepower, single-phase	1/3 and smaller	120/208-volt, 3-phase, 4-wire	115-volt, 60-hertz
Fractional and integral horsepower, 3-phase	½ and larger	120/208-volt, 3-phase, 4-wire	200-volt, 3-phase, 60-hertz
Fractional and integral horsepower, 3-phase	½ and larger	480-volt, 3-phase, 3-wire	230/460-volt, 3-phase, 60-hertz

2.5 TEMPERATURE RATING AND INSULATION

- A. Motors shall be designed for continuous operation at the rated full load in an ambient temperature of 104°F. Insulation level shall be at least Class F.

2.6 MOTOR HOUSINGS

- A. The motor housing shall have a smooth surface in the vertical, horizontal, and axial directions at each bearing housing for attaching a magnet mounted accelerometer in order to monitor the motor vibration. The surface shall be on the bearing housing. The axial surface will be as close to the motor centerline as possible. The surface will have a finish of 63 micro-inch minimum. Diameter of finished surface shall be 2-inch minimum and must be corrosion resistant. As an option sound disks can be used to meet the smooth surface requirement. Disk shall have a minimum thickness of 3/8 inch.

1. Surface shall be level within 1 degree or .001 inch.
2. The smooth surface shall be identified (using a label or plate) "Vibration data collection point – Do Not Paint."

2.7 MOTOR ENCLOSURES

- A. Motors installed in indoor, nonhazardous locations, shall have totally enclosed fan-cooled enclosures for exterior cooling by means of a fan or fans integral with the machine but external to the enclosing parts. Enclosures shall have a hinged access cover at each vibration collection point. Cover must be large enough to enable the placement of a magnet/accelerometer data collection instrument.
1. Motors installed in outdoor, nonhazardous locations shall meet requirements of 2.07.A and have waterproof enclosures.
 2. Motors with weatherproof/waterproof enclosures shall have permanent accelerometers installed in the horizontal, vertical, and axial directions. The enclosure shall have a penetration installed to enable the accelerometer cables to be routed to outside the

enclosure. A data collection box shall be mounted to the outside of the motor enclosure in a location that is easily accessible. Data collection box shall be rated NEMA 4R.

2.8 SERVICE FACTOR

- A. Service factor of general purpose and other open AC motors shall be in accordance with NEMA MG 1.
- B. Totally enclosed ac motors shall have a service factor of 1.15.

2.9 FACTORY TESTS

- A. Motors shall be factory-tested in accordance with the requirements of NEMA MG 1. Polyphase induction motors shall be factory-tested in accordance with IEEE Std 112, Method B. Tests shall consist of measurements of voltage, frequency, speed, and current under no-load conditions; voltage, frequency, and current under locked-rotor conditions; and efficiency, noise, power factor, and thermal protection. Routine tests on wound-rotor induction motors shall include the measurement of wound-rotor open-circuit voltage across the slip rings under locked-rotor conditions. Electrical tests shall consist of winding resistance, insulation resistance, and high-potential tests. Certified copies of factory test results shall be submitted to the responsible systems engineer for approval prior to shipment from the factory. Previous test reports on identical motors are not acceptable for these tests.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Motors shall be installed, aligned, and connected in accordance with the equipment manufacturer's instructions.
- B. Motors shall be bolt mounted. Motor feet shall be coplanar within 0.001 inch. Base mounting points shall be accessible and adjustable to enable machine alignment. Motors over 7.5 hp shall have alignment jack bolts installed to enable alignment.
- C. Alignment of motors shall be rechecked and adjusted as required after the motor has been in operation for not less than 48 hours.

3.2 ALIGNMENT

- A. Before attempting alignment, the contractor will demonstrate that the load does not have any load/force imposed by the piping system. Minimum alignment values (below) are for motor and load at normal running temperatures. Values must be compensated for thermal growth. Limited movement of the motor or load (commonly known as bolt-bound) must be corrected to ensure alignment capability. Hold down bolts shall not be undercut in order to perform adjustment.

- B. Shims shall be commercially die-cut, without seams or folds, and be made of corrosion resistant stainless steel. No more than four shims shall be used at any single point.
- C. Motor and load shall be aligned to the following minimum specifications:

Speed	Close-Coupled Offset (mils)	Close-Coupled Angle (mils/in.)	Spool Piece Angle (mils/in @ coupling point)
600	6.0	2.0	3.0
900	5.0	1.5	2.0
1200	4.0	1.0	1.5
1800	3.0	0.5	1.0
3600	1.5	0.4	0.5
7200	1.0	0.3	0.4

- D. Final alignment settings shall be provided as part of the final test data.

3.3 ELECTRICAL TESTS

- A. Perform continuity test on all phases.
- B. Perform insulation resistance and polarization index test on each phase of motor. Insulation tests on 480-volt and 600-volt motors shall be conducted using a 1000-volt insulation test set. Insulation tests on motors rated less than 480-volts shall be conducted using 500-volt insulation test set.
- C. Test data shall and shall include the location and identification of motors and megohm readings versus time. Test data shall be recorded at 15, 30, 45 seconds, and in 1 minute increments thereafter up to 10 minutes. Megohm readings shall not be less than 25 megohms for each phase and each phase reading shall be within 10 percent of the other two.
- D. Calculate the polarization index of each phase by dividing the 10-minute reading by the 1-minute reading. The polarization index shall be greater than 1.25. Any values lower shall be rejected and the motor returned to the factory.

END OF SECTION 23 05 13

SECTION 23 05 48.13 - VIBRATION CONTROLS FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Open-spring isolators.
 - 2. Housed-spring isolators.
 - 3. Restrained-spring isolators.
 - 4. Housed-restrained-spring isolators.
 - 5. Air-spring isolators.
 - 6. Restrained-air-spring isolators.
 - 7. Elastomeric hangers.
 - 8. Spring hangers.
 - 9. Vibration isolation equipment bases.
 - 10. Restrained isolation roof-curb rails.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include rated load, rated deflection, and overload capacity for each vibration isolation device.
 - 2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of vibration isolation device type required.
- B. Shop Drawings:
 - 1. Detail fabrication and assembly of equipment bases. Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - 2. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Show coordination of vibration isolation device installation for HVAC piping and equipment with other systems and equipment in the vicinity, including other supports and restraints, if any.

- B. Qualification Data: For testing agency.
- C. Welding certificates.
- D. Air-Mounting System Performance Certification: Include natural frequency, load, and damping test data.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air-spring mounts and restrained-air-spring mounts to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 OPEN-SPRING ISOLATORS

- A. Freestanding, Laterally Stable, Open-Spring Isolators.
 - 1. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
 - 2. Minimum Additional Travel: 50 percent of the required deflection at rated load.
 - 3. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
 - 4. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
 - 5. Baseplates: Factory-drilled steel plate for bolting to structure with an elastomeric isolator pad attached to the underside. Baseplates shall limit floor load to 500 psig .
 - 6. Top Plate and Adjustment Bolt: Threaded top plate with adjustment bolt and cap screw to fasten and level equipment.

2.2 HOUSED-SPRING ISOLATORS

- A. Freestanding, Laterally Stable, Open-Spring Isolators in Two-Part Telescoping Housing.
 - 1. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
 - 2. Minimum Additional Travel: 50 percent of the required deflection at rated load.
 - 3. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
 - 4. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
 - 5. Two-Part Telescoping Housing: A steel top and bottom frame separated by an elastomeric material and enclosing the spring isolators.

- a. Drilled base housing for bolting to structure with an elastomeric isolator pad attached to the underside. Bases shall limit floor load to 500 psig

2.3 RESTRAINED-SPRING ISOLATORS

A. Freestanding, Laterally Stable, Open-Spring Isolators with Vertical-Limit Stop Restrains.

1. Housing: Steel housing with vertical-limit stops to prevent spring extension due to weight being removed.
 - a. Base with holes for bolting to structure with an elastomeric isolator pad attached to the underside. Bases shall limit floor load to 500 psig.
 - b. Top plate with threaded mounting holes.
 - c. Internal leveling bolt that acts as blocking during installation.
2. Restraint: Limit stop as required for equipment and authorities having jurisdiction.
3. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
4. Minimum Additional Travel: 50 percent of the required deflection at rated load.
5. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
6. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.

2.4 HOUSED-RESTRAINED-SPRING ISOLATORS

A. Freestanding, Steel, Open-Spring Isolators with Vertical-Limit Stop Restraint in Two-Part Telescoping Housing.

1. Two-Part Telescoping Housing: A steel top and bottom frame separated by an elastomeric material and enclosing the spring isolators. Housings are equipped with adjustable snubbers to limit vertical movement.
 - a. Drilled base housing for bolting to structure with an elastomeric isolator pad attached to the underside. Bases shall limit floor load to 500 psig.
 - b. Threaded top housing with adjustment bolt and cap screw to fasten and level equipment.
2. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
3. Minimum Additional Travel: 50 percent of the required deflection at rated load.
4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.

2.5 AIR-SPRING ISOLATORS

A. Freestanding, Single or Multiple, Compressed-Air Bellows.

1. Bellows Assembly: Upper and lower powder-coated steel sections connected by a replaceable, flexible, nylon-reinforced neoprene bellows or similar elastomeric material.
2. Maximum Natural Frequency: 3 Hz.
3. Operating Pressure Range: 25 to 100 psig.
4. Burst Pressure: At least three times manufacturer's published maximum operating pressure.

2.6 RESTRAINED-AIR-SPRING ISOLATORS

A. Freestanding, Single or Multiple, Compressed-Air Bellows with Vertical-Limit Stop Restraint .

1. Housing: Steel housing with vertical-limit stops to prevent spring extension due to weight being removed.
 - a. Base with holes for bolting to structure with an elastomeric isolator pad attached to the underside. Bases shall limit floor load to 500 psig.
 - b. Top plate with threaded mounting holes.
 - c. Internal leveling bolt that acts as blocking during installation.
2. Restraint: Limit stop as required for equipment and authorities having jurisdiction.
3. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
4. Minimum Additional Travel: 50 percent of the required deflection at rated load.
5. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
6. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
7. Bellows Assembly: Upper and lower powder-coated steel sections connected by a replaceable, flexible, nylon-reinforced neoprene bellows or similar elastomeric material.
8. Maximum Natural Frequency: 3 Hz.
9. Operating Pressure Range: 25 to 100 psig.
10. Burst Pressure: At least three times manufacturer's published maximum operating pressure.

2.7 ELASTOMERIC HANGERS

A. Elastomeric Mount in a Steel Frame with Upper and Lower Steel Hanger Rods.

1. or an upper threaded hanger rod and an opening on the underside to allow for a maximum of 30 degrees of angular lower hanger-rod misalignment without binding or reducing isolation efficiency.
2. Dampening Element: Molded, oil-resistant rubber, neoprene, or other elastomeric material with a projecting bushing for the underside opening preventing steel to steel contact.

2.8 SPRING HANGERS

A. Combination Coil-Spring and Elastomeric-Insert Hanger with Spring and Insert in Compression.

1. Frame: Steel, fabricated for connection to threaded hanger rods and to allow for a maximum of 30 degrees of angular hanger-rod misalignment without binding or reducing isolation efficiency.
2. Outside Spring Diameter: Not less than 80 percent of the compressed height of the spring at rated load.
3. Minimum Additional Travel: 50 percent of the required deflection at rated load.
4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
6. Elastomeric Element: Molded, oil-resistant rubber or neoprene. Steel-washer-reinforced cup to support spring and bushing projecting through bottom of frame.
7. Adjustable Vertical Stop: Steel washer with neoprene washer "up-stop" on lower threaded rod.
8. Self-centering hanger rod cap to ensure concentricity between hanger rod and support spring coil.

2.9 RESTRAINED ISOLATION ROOF-CURB RAILS

- A. Description: Factory-assembled, fully enclosed, insulated, air- and watertight curb rail designed to resiliently support equipment.
- B. Upper Frame: Upper frame shall provide continuous and captive support for equipment.
- C. Lower Support Assembly: The lower support assembly shall be formed sheet metal section containing adjustable and removable steel springs that support upper frame. The lower support assembly shall have a means for attaching to building structure and a wood nailer for attaching roof materials and shall be insulated with a minimum of 2 inches of rigid glass-fiber insulation on inside of assembly. Adjustable, restrained-spring isolators shall be mounted on elastomeric vibration isolation pads and shall have access ports, for level adjustment, with removable waterproof covers at all isolator locations. Isolators shall be located so they are accessible for adjustment at any time during the life of the installation without interfering with the integrity of the roof.
- D. Snubber Bushings: All-directional, elastomeric snubber bushings at least 1/4 inch thick.
- E. Water Seal: Galvanized sheet metal with EPDM seals at corners, attached to upper support frame, extending down past wood nailer of lower support assembly, and counterflashed over roof materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and equipment to receive vibration isolation control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 VIBRATION CONTROL DEVICE INSTALLATION

- A. Coordinate the location of embedded connection hardware with supported equipment attachment and mounting points and with requirements for concrete reinforcement and formwork.
- B. Installation of vibration isolators must not cause any change of position of equipment, piping, or ductwork resulting in stresses or misalignment.

3.3 AIR-SPRING ISOLATORS INSTALLATION

- A. Independent Isolator Installation:
 - 1. Install tank valve into each air isolator.
 - 2. Inflate each isolator to height and pressure specified on Drawings.
- B. Pressure-Regulated Isolator Installation:
 - 1. Coordinate the constant pressure-regulated air supply to air springs with the requirements for piping and connections specified in Section 221513 "General-Service Compressed-Air Piping."
 - 2. Connect all pressure regulators to a single dry, filtered facility air supply.
 - 3. Inflate isolators to height and pressure specified on Drawings.

END OF SECTION 23 05 48.13

SECTION 23 05 53 - IDENTIFICATION FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Equipment labels.
 - 2. Warning signs and labels.
 - 3. Stencils.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

- A. Metal Labels for Equipment:
 - 1. Material and Thickness: anodized aluminum, 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
 - 2. Letter Color: White.
 - 3. Background Color: Black.
 - 4. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
 - 5. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
 - 6. Fasteners: Stainless-steel rivets.
 - 7. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.

- B. Label Content: Include equipment's Drawing designation or unique equipment number, Drawing numbers where equipment is indicated (plans, details, and schedules), and the Specification Section number and title where equipment is specified.
- C. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch (A4) bond paper. Tabulate equipment identification number, and identify Drawing numbers where equipment is indicated (plans, details, and schedules) and the Specification Section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 WARNING SIGNS AND LABELS

- A. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/16-inch-thick, and having predrilled holes for attachment hardware.
- B. Letter Color: Yellow.
- C. Background Color: Black.
- D. Maximum Temperature: Able to withstand temperatures up to 160 deg F
- E. Minimum Label Size: Length and width vary for required label content, but not less than 2-1/2 by 3/4 inch.
- F. Minimum Letter Size: 1/4 inch for name of units if viewing distance is less than 24 inches, 1/2 inch for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-quarters the size of principal lettering.
- G. Fasteners: Stainless-steel.
- H. Adhesive: Contact-type permanent adhesive, compatible with label and with substrate.
- I. Label Content: Include caution and warning information plus emergency notification instructions.

2.3 WARNING TAGS

- A. Description: Preprinted or partially preprinted accident-prevention tags of plasticized card stock with matte finish suitable for writing.
 - 1. Size: 3 by 5-1/4 inches.
 - 2. Fasteners: Brass grommet and wire.
 - 3. Nomenclature: Large-size primary caption such as "DANGER," "CAUTION," or "DO NOT OPERATE."
 - 4. Color: Safety-yellow background with black lettering.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.3 EQUIPMENT LABEL INSTALLATION

- A. Install or permanently fasten labels on each major item of mechanical equipment.
- B. Locate equipment labels where accessible and visible.

3.4 WARNING-TAG INSTALLATION

- A. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 23 05 53

SECTION 23 05 93 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Balancing Air Systems:
 - a. Variable-air-volume systems.

1.3 DEFINITIONS

- A. AABC: Associated Air Balance Council.
- B. NEBB: National Environmental Balancing Bureau.
- C. TAB: Testing, adjusting, and balancing.
- D. TABB: Testing, Adjusting, and Balancing Bureau.
- E. TAB Specialist: An entity engaged to perform TAB Work.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: Within 30 days of Contractor's Notice to Proceed, submit documentation that the TAB contractor and this Project's TAB team members meet the qualifications specified in "Quality Assurance" Article.
- B. Contract Documents Examination Report: Within 30 days of Contractor's Notice to Proceed, submit the Contract Documents review report as specified in Part 3.
- C. Strategies and Procedures Plan: Within 30 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures as specified in "Preparation" Article.
- D. Certified TAB reports.
- E. Sample report forms.
- F. Instrument calibration reports, to include the following:

1. Instrument type and make.
2. Serial number.
3. Application.
4. Dates of use.
5. Dates of calibration.

1.5 QUALITY ASSURANCE

- A. TAB Contractor Qualifications: Engage a TAB entity certified by.
1. TAB Field Supervisor: Employee of the TAB contractor and certified by NEBB or TABB.
 2. TAB Technician: Employee of the TAB contractor and who is certified by NEBB or TABB as a TAB technician.
- B. TAB Conference: Meet with Commissioning Authority on approval of the TAB strategies and procedures plan to develop a mutual understanding of the details. Require the participation of the TAB field supervisor and technicians. Provide seven days' advance notice of scheduled meeting time and location.
1. Agenda Items:
 - a. The Contract Documents examination report.
 - b. The TAB plan.
 - c. Coordination and cooperation of trades and subcontractors.
 - d. Coordination of documentation and communication flow.
- C. Certify TAB field data reports and perform the following:
1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.
 2. Certify that the TAB team complied with the approved TAB plan and the procedures specified and referenced in this Specification.
- D. TAB Report Forms: Use standard TAB contractor's forms approved by Commissioning Authority.
- E. Instrumentation Type, Quantity, Accuracy, and Calibration: As described in ASHRAE 111, Section 5, "Instrumentation."
- F. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
- G. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

1.6 COORDINATION

- A. Notice: Provide seven days' advance notice for each test. Include scheduled test dates and times.

- B. Perform TAB after leakage and pressure tests on air distribution systems have been satisfactorily completed.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.
- B. Examine systems for installed balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are accessible.
- C. Examine the approved submittals for HVAC systems and equipment.
- D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.
- E. Examine ceiling plenums and underfloor air plenums used for supply, return, or relief air to verify that they meet the leakage class of connected ducts as specified in Section 233113 "Ductwork and Accessories" Verify that penetrations in plenum walls are sealed and fire-stopped if required.
- F. Examine equipment performance data including fan and pump curves.
 - 1. Relate performance data to Project conditions and requirements, including system effects that can create undesired or unpredicted conditions that cause reduced capacities in all or part of a system.
 - 2. Calculate system-effect factors to reduce performance ratings of HVAC equipment when installed under conditions different from the conditions used to rate equipment performance. To calculate system effects for air systems, use tables and charts found in AMCA 201, "Fans and Systems," or in SMACNA's "HVAC Systems - Duct Design." Compare results with the design data and installed conditions.
- G. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.
- H. Examine test reports specified in individual system and equipment Sections.
- I. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.
- J. Examine terminal units, such as variable-air-volume boxes, and verify that they are accessible and their controls are connected and functioning.

- K. Examine heat-transfer coils for correct piping connections and for clean and straight fins.
- L. Examine operating safety interlocks and controls on HVAC equipment.
- M. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

- A. Prepare a TAB plan that includes strategies and step-by-step procedures.
- B. Complete system-readiness checks and prepare reports. Verify the following:
 - 1. Permanent electrical-power wiring is complete.
 - 2. Hydronic systems are filled, clean, and free of air.
 - 3. Automatic temperature-control systems are operational.
 - 4. Equipment and duct access doors are securely closed.
 - 5. Balance, smoke, and fire dampers are open.
 - 6. Isolating and balancing valves are open and control valves are operational.
 - 7. Ceilings are installed in critical areas where air-pattern adjustments are required and access to balancing devices is provided.
 - 8. Windows and doors can be closed so indicated conditions for system operations can be met.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance", ASHRAE 111, NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems", SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
- B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
 - 1. After testing and balancing, install test ports and duct access doors that comply with requirements in Section 233300 "Air Duct Accessories."
 - 2. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Section 230713 "Duct Insulation," Section 230716 "HVAC Equipment Insulation," and Section 230719 "HVAC Piping Insulation."
- C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.
- D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. Prepare test reports for both fans and outlets. Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with required fan volumes.
- B. Prepare schematic diagrams of systems' "as-built" duct layouts.
- C. For variable-air-volume systems, develop a plan to simulate diversity.
- D. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.
- E. Check airflow patterns from the outdoor-air louvers and dampers and the return- and exhaust-air dampers through the supply-fan discharge and mixing dampers.
- F. Locate start-stop and disconnect switches, electrical interlocks, and motor starters.
- G. Verify that motor starters are equipped with properly sized thermal protection.
- H. Check dampers for proper position to achieve desired airflow path.
- I. Check for airflow blockages.
- J. Check condensate drains for proper connections and functioning.
- K. Check for proper sealing of air-handling-unit components.
- L. Verify that air duct system is sealed as specified in Section 233113 "Metal Ducts."

3.5 PROCEDURES FOR VARIABLE-AIR-VOLUME SYSTEMS

- A. Compensating for Diversity: When the total airflow of all terminal units is more than the indicated airflow of the fan, place a selected number of terminal units at a minimum set-point airflow with the remainder at maximum-airflow condition until the total airflow of the terminal units equals the indicated airflow of the fan. Select the reduced-airflow terminal units so they are distributed evenly among the branch ducts.
- B. Pressure-Independent, Variable-Air-Volume Systems: After the fan systems have been adjusted, adjust the variable-air-volume systems as follows:
 - 1. Set outdoor-air dampers at minimum, and set return- and exhaust-air dampers at a position that simulates full-cooling load.
 - 2. Select the terminal unit that is most critical to the supply-fan airflow and static pressure. Measure static pressure. Adjust system static pressure so the entering static pressure for the critical terminal unit is not less than the sum of the terminal-unit manufacturer's recommended minimum inlet static pressure plus the static pressure needed to overcome terminal-unit discharge system losses.
 - 3. Measure total system airflow. Adjust to within indicated airflow.
 - 4. Set terminal units at maximum airflow and adjust controller or regulator to deliver the designed maximum airflow. Use terminal-unit manufacturer's written instructions to

- make this adjustment. When total airflow is correct, balance the air outlets downstream from terminal units the same as described for constant-volume air systems.
5. Set terminal units at minimum airflow and adjust controller or regulator to deliver the designed minimum airflow. Check air outlets for a proportional reduction in airflow the same as described for constant-volume air systems.
 - a. If air outlets are out of balance at minimum airflow, report the condition but leave outlets balanced for maximum airflow.
 6. Remeasure the return airflow to the fan while operating at maximum return airflow and minimum outdoor airflow.
 - a. Adjust the fan and balance the return-air ducts and inlets the same as described for constant-volume air systems.
 7. Measure static pressure at the most critical terminal unit and adjust the static-pressure controller at the main supply-air sensing station to ensure that adequate static pressure is maintained at the most critical unit.
 8. Record final fan-performance data.
- C. Pressure-Dependent, Variable-Air-Volume Systems without Diversity: After the fan systems have been adjusted, adjust the variable-air-volume systems as follows:
1. Balance variable-air-volume systems the same as described for constant-volume air systems.
 2. Set terminal units and supply fan at full-airflow condition.
 3. Adjust inlet dampers of each terminal unit to indicated airflow and verify operation of the static-pressure controller. When total airflow is correct, balance the air outlets downstream from terminal units the same as described for constant-volume air systems.
 4. Readjust fan airflow for final maximum readings.
 5. Measure operating static pressure at the sensor that controls the supply fan if one is installed, and verify operation of the static-pressure controller.
 6. Set supply fan at minimum airflow if minimum airflow is indicated. Measure static pressure to verify that it is being maintained by the controller.
 7. Set terminal units at minimum airflow and adjust controller or regulator to deliver the designed minimum airflow. Check air outlets for a proportional reduction in airflow the same as described for constant-volume air systems.
 - a. If air outlets are out of balance at minimum airflow, report the condition but leave the outlets balanced for maximum airflow.
 8. Measure the return airflow to the fan while operating at maximum return airflow and minimum outdoor airflow.
 - a. Adjust the fan and balance the return-air ducts and inlets the same as described for constant-volume air systems.
- D. Pressure-Dependent, Variable-Air-Volume Systems with Diversity: After the fan systems have been adjusted, adjust the variable-air-volume systems as follows:

1. Set system at maximum indicated airflow by setting the required number of terminal units at minimum airflow. Select the reduced-airflow terminal units so they are distributed evenly among the branch ducts.
2. Adjust supply fan to maximum indicated airflow with the variable-airflow controller set at maximum airflow.
3. Set terminal units at full-airflow condition.
4. Adjust terminal units starting at the supply-fan end of the system and continuing progressively to the end of the system. Adjust inlet dampers of each terminal unit to indicated airflow. When total airflow is correct, balance the air outlets downstream from terminal units the same as described for constant-volume air systems.
5. Adjust terminal units for minimum airflow.
6. Measure static pressure at the sensor.
7. Measure the return airflow to the fan while operating at maximum return airflow and minimum outdoor airflow. Adjust the fan and balance the return-air ducts and inlets the same as described for constant-volume air systems.

3.6 PROCEDURES FOR MOTORS

- A. Motors, 1/2 HP and Larger: Test at final balanced conditions and record the following data:
1. Manufacturer's name, model number, and serial number.
 2. Motor horsepower rating.
 3. Motor rpm.
 4. Efficiency rating.
 5. Nameplate and measured voltage, each phase.
 6. Nameplate and measured amperage, each phase.
 7. Starter thermal-protection-element rating.
- B. Motors Driven by Variable-Frequency Controllers: Test for proper operation at speeds varying from minimum to maximum. Test the manual bypass of the controller to prove proper operation. Record observations including name of controller manufacturer, model number, serial number, and nameplate data.

3.7 PROCEDURES FOR CONDENSING UNITS

- A. Verify proper rotation of fans.
- B. Measure entering- and leaving-air temperatures.
- C. Record compressor data.

3.8 TOLERANCES

- A. Set HVAC system's air flow rates and water flow rates within the following tolerances:
1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus, or minus 10 percent.
 2. Air Outlets and Inlets: Plus, or minus 10 percent

3.9 REPORTING

- A. Initial Construction-Phase Report: Based on examination of the Contract Documents as specified in "Examination" Article, prepare a report on the adequacy of design for systems' balancing devices. Recommend changes and additions to systems' balancing devices to facilitate proper performance measuring and balancing. Recommend changes and additions to HVAC systems and general construction to allow access for performance measuring and balancing devices.
- B. Status Reports: Prepare weekly progress reports to describe completed procedures, procedures in progress, and scheduled procedures. Include a list of deficiencies and problems found in systems being tested and balanced. Prepare a separate report for each system and each building floor for systems serving multiple floors.

3.10 FINAL REPORT

- A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
 - 1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
 - 2. Include a list of instruments used for procedures, along with proof of calibration.
- B. Final Report Contents: In addition to certified field-report data, include the following:
 - 1. Pump curves.
 - 2. Fan curves.
 - 3. Manufacturers' test data.
 - 4. Field test reports prepared by system and equipment installers.
 - 5. Other information relative to equipment performance; do not include Shop Drawings and product data.
- C. General Report Data: In addition to form titles and entries, include the following data:
 - 1. Title page.
 - 2. Name and address of the TAB contractor.
 - 3. Project name.
 - 4. Project location.
 - 5. Architect's name and address.
 - 6. Engineer's name and address.
 - 7. Contractor's name and address.
 - 8. Report date.
 - 9. Signature of TAB supervisor who certifies the report.
 - 10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
 - 11. Summary of contents including the following:
 - a. Indicated versus final performance.
 - b. Notable characteristics of systems.

- c. Description of system operation sequence if it varies from the Contract Documents.
- 12. Nomenclature sheets for each item of equipment.
- 13. Data for terminal units, including manufacturer's name, type, size, and fittings.
- 14. Notes to explain why certain final data in the body of reports vary from indicated values.
- 15. Test conditions for fans and pump performance forms including the following:
 - a. Settings for outdoor-, return-, and exhaust-air dampers.
 - b. Conditions of filters.
 - c. Cooling coil, wet- and dry-bulb conditions.
 - d. Face and bypass damper settings at coils.
 - e. Fan drive settings including settings and percentage of maximum pitch diameter.
 - f. Inlet vane settings for variable-air-volume systems.
 - g. Settings for supply-air, static-pressure controller.
 - h. Other system operating conditions that affect performance.
- D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:
 - 1. Quantities of outdoor, supply, return, and exhaust airflows.
 - 2. Water and steam flow rates.
 - 3. Duct, outlet, and inlet sizes.
 - 4. Pipe and valve sizes and locations.
 - 5. Terminal units.
 - 6. Balancing stations.
 - 7. Position of balancing devices.
- E. Air-Handling-Unit Test Reports: For air-handling units with coils, include the following:
 - 1. Unit Data:
 - a. Unit identification.
 - b. Location.
 - c. Make and type.
 - d. Model number and unit size.
 - e. Manufacturer's serial number.
 - f. Unit arrangement and class.
 - g. Discharge arrangement.
 - h. Sheave make, size in inches and bore.
 - i. Center-to-center dimensions of sheave, and amount of adjustments in inches
 - j. Number, make, and size of belts.
 - k. Number, type, and size of filters.
 - 2. Motor Data:
 - a. Motor make, and frame type and size.
 - b. Horsepower and rpm.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches and bore.

- f. Center-to-center dimensions of sheave, and amount of adjustments in inches (mm).
- 3. Test Data (Indicated and Actual Values):
 - a. Total air flow rate in cfm.
 - b. Total system static pressure in inches wg .
 - c. Fan rpm.
 - d. Discharge static pressure in inches wg.
 - e. Filter static-pressure differential in inches wg.
 - f. Preheat-coil static-pressure differential in inches wg.
 - g. Cooling-coil static-pressure differential in inches wg.
 - h. Heating-coil static-pressure differential in inches wg.
 - i. Outdoor airflow in cfm.
 - j. Return airflow in cfm.
 - k. Outdoor-air damper position.
- F. Apparatus-Coil Test Reports:
 - 1. Coil Data:
 - a. System identification.
 - b. Location.
 - c. Coil type.
 - d. Number of rows.
 - e. Fin spacing in fins per inch o.c.
 - f. Make and model number.
 - g. Face area in sq. ft..
 - h. Tube size in NPS
 - i. Tube and fin materials.
 - j. Circuiting arrangement.
 - 2. Test Data (Indicated and Actual Values):
 - a. Air flow rate in cfm.
 - b. Average face velocity in fpm.
 - c. Air pressure drop in inches wg.
 - d. Outdoor-air, wet- and dry-bulb temperatures in deg F.
 - e. Return-air, wet- and dry-bulb temperatures in deg F.
 - f. Entering-air, wet- and dry-bulb temperatures in deg F.
 - g. Leaving-air, wet- and dry-bulb temperatures in deg F
 - h. Refrigerant expansion valve and refrigerant types.
 - i. Refrigerant suction pressure in psig.
 - j. Refrigerant suction temperature in deg F.
- G. Electric-Coil Test Reports: For electric furnaces, duct coils, and electric coils installed in central-station air-handling units, include the following:
 - 1. Unit Data:
 - a. System identification.
 - b. Location.

- c. Coil identification.
 - d. Capacity in Btu/h.
 - e. Number of stages.
 - f. Connected volts, phase, and hertz.
 - g. Rated amperage.
 - h. Air flow rate in cfm.
 - i. Face area in sq. ft.
 - j. Minimum face velocity in fpm.
 - 2. Test Data (Indicated and Actual Values):
 - a. Heat output in Btu/h.
 - b. Air flow rate in cfm.
 - c. Air velocity in fpm.
 - d. Entering-air temperature in deg F.
 - e. Leaving-air temperature in deg F.
 - f. Voltage at each connection.
 - g. Amperage for each phase.
- H. Fan Test Reports: For supply, return, and exhaust fans, include the following:
- 1. Fan Data:
 - a. System identification.
 - b. Location.
 - c. Make and type.
 - d. Model number and size.
 - e. Manufacturer's serial number.
 - f. Arrangement and class.
 - g. Sheave make, size in inches, and bore.
 - h. Center-to-center dimensions of sheave, and amount of adjustments in inches
 - 2. Motor Data:
 - a. Motor make, and frame type and size.
 - b. Horsepower and rpm.
 - c. Volts, phase, and hertz.
 - d. Full-load amperage and service factor.
 - e. Sheave make, size in inches, and bore.
 - f. Center-to-center dimensions of sheave, and amount of adjustments in inches.
 - g. Number, make, and size of belts.
 - 3. Test Data (Indicated and Actual Values):
 - a. Total airflow rate in cfm.
 - b. Total system static pressure in inches wg.
 - c. Fan rpm.
 - d. Discharge static pressure in inches wg.
 - e. Suction static pressure in inches wg.
- I. Air-Terminal-Device Reports:

1. Unit Data:
 - a. System and air-handling unit identification.
 - b. Location and zone.
 - c. Apparatus used for test.
 - d. Area served.
 - e. Make.
 - f. Number from system diagram.
 - g. Type and model number.
 - h. Size.
 - i. Effective area in sq. ft.
2. Test Data (Indicated and Actual Values):
 - a. Air flow rate in cfm.
 - b. Air velocity in fpm.
 - c. Preliminary air flow rate as needed in cfm.
 - d. Preliminary velocity as needed in fpm.
 - e. Final air flow rate in cfm.
 - f. Final velocity in fpm.
 - g. Space temperature in deg F.

J. Instrument Calibration Reports:

1. Report Data:
 - a. Instrument type and make.
 - b. Serial number.
 - c. Application.
 - d. Dates of use.
 - e. Dates of calibration.

3.11 INSPECTIONS

A. Initial Inspection:

1. After testing and balancing are complete, operate each system and randomly check measurements to verify that the system is operating according to the final test and balance readings documented in the final report.
2. Check the following for each system:
 - a. Measure airflow of at least 10 percent of air outlets.
 - b. Measure water flow of at least 5 percent of terminals.
 - c. Measure room temperature at each thermostat/temperature sensor. Compare the reading to the set point.
 - d. Verify that balancing devices are marked with final balance position.
 - e. Note deviations from the Contract Documents in the final report.

B. Final Inspection:

1. After initial inspection is complete and documentation by random checks verifies that testing and balancing are complete and accurately documented in the final report, request that a final inspection be made by Commissioning Authority.
 2. The TAB contractor's test and balance engineer shall conduct the inspection in the presence of Commissioning Authority
 3. Commissioning Authority shall randomly select measurements, documented in the final report, to be rechecked. Rechecking shall be limited to either 10 percent of the total measurements recorded or the extent of measurements that can be accomplished in a normal 8-hour business day.
 4. If rechecks yield measurements that differ from the measurements documented in the final report by more than the tolerances allowed, the measurements shall be noted as "FAILED."
 5. If the number of "FAILED" measurements is greater than 10 percent of the total measurements checked during the final inspection, the testing and balancing shall be considered incomplete and shall be rejected.
- C. TAB Work will be considered defective if it does not pass final inspections. If TAB Work fails, proceed as follows:
1. Recheck all measurements and make adjustments. Revise the final report and balancing device settings to include all changes; resubmit the final report and request a second final inspection.
 2. If the second final inspection also fails, Owner may contract the services of another TAB contractor to complete TAB Work according to the Contract Documents and deduct the cost of the services from the original TAB contractor's final payment.
- D. Prepare test and inspection reports.

3.12 ADDITIONAL TESTS

- A. Within 90 days of completing TAB, perform additional TAB to verify that balanced conditions are being maintained throughout and to correct unusual conditions.
- B. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional TAB during near-peak summer and winter conditions.

END OF SECTION 23 05 93

SECTION 23 07 13 - DUCTWORK INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Related Sections:

1. 233111 – Ductwork and Accessories.

1.2 REFERENCES

American Society for Testing and Materials (ASTM):

ASTM E84-2016 Test Method for Surface Burning Characteristics of Building Materials.

ASTM E96-200 Test Methods for Water Vapor Transmission of Materials.

National Fire Protection Institute (NFPA):

NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems

NFPA 255 Standard Method of Test of Surface Burning Characteristics of Building Materials

Underwriters Laboratories (UL):

UL 723 Test for Surface Burning Characteristics of Building Materials

1.3 SUBMITTALS

- A. Submit properly identified manufacturer's catalog cuts, performance curves, and procedures before starting work.

1.4 DELIVERY AND STORAGE

- A. Protect materials from the weather during storage and installation.

1.5 QUALITY ASSURANCE

- A. Materials shall be labeled, listed, or have certified test reports submitted from testing laboratory.

1.6 FIRE HAZARD RATING

- A. Fire hazard rated materials shall be UL labeled or a certified test report by an accepted testing laboratory shall be submitted indicating compliance with specified fire hazard requirements.
- B. Insulation (including adhesives) shall be fire retardant or self-extinguishing. Finishing jackets, insulation, and adhesives shall have composite fire and smoke ratings complying with ASTM E84, NFPA 255, and UL 723, as plain or on a composite basis.
- C. When insulation, vapor barrier covering, wrapping materials, and adhesives are applied separately in field, each item shall be tested individually.
- D. When insulation, vapor barrier covering, wrapping materials, and adhesives are factory composite systems, they shall be tested as an assembly.
- E. Insulation materials, adhesives, coatings, and other accessories shall have a fire hazard rating not more than 25 for flame developed and not more than 50 for fuel contributed and smoke developed.
- F. Flame resistance treatments subject to deterioration due to effects of moisture or high humidity are not acceptable.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Insulation:
 - 1. Armaflex.
 - 2. Armstrong.
 - 3. Cell-U-Foam.
 - 4. Foamglas.
 - 5. Manville.
 - 6. Owens-Corning.
 - 7. Pittsburgh Corning.
- B. Insulating Cement:
 - 1. Keene Powerhouse.
 - 2. Benjamin Foster.
 - 3. Fibrex FBX fast set.

2.2 MATERIALS

- A. Insulation: Type and thickness as specified.
 - 1. Provide fire retardant or self-extinguishing insulation, including adhesives.
 - 2. Finishing jackets, insulation, and adhesives shall have composite fire and smoke ratings

per ASTM E84, NFPA 255, and UL 723.

- B. Tape: As recommended by the insulation manufacturer or 3M adhesive EC-1329.
- C. Vapor Barrier Jacket:
 - 1. Flame resistant glass fiber adhered to outside of a 1-mil aluminum foil sheet with longitudinal pressure sealing lap and seal strips for butt joints.
 - 2. End cement perm rating shall not exceed 0.05.
- D. Rigid Fiberglass Ductboard Insulation:
 - 1. Comply with ASTM C612.
 - 2. Maximum Thermal Conductivity: 0.24K factor at 75 degrees F.
 - 3. Minimum 3 pcf density fiberglass duct board with foil-scrim-kraft jacket.
- E. Flexible Fiberglass Ductwrap Blanket Insulation:
 - 1. 2.5 inches thick, 1-1/2 pcf density fiberglass blanket with UL approved aluminum foil vapor seal facing reinforced with fiberglass scrim, laminated to 30 lb. kraft paper.
 - a. Comply with ASTM C553, TYPE I, Class B-4.
 - b. Maximum Thermal Conductivity: 0.24K factor at 75 degrees F.
- F. Accessories:
 - 1. The following accessories shall be used in the application of thermal insulation:
 - a. Vapor Seal Mastic:
 - 1) Benjamin Foster 30-86 or 30-25.
 - 2) Childers CP-30.
 - b. Lagging Adhesive:
 - 1) Benjamin Foster 81-42W.
 - 2) Childers CP-50.
 - c. Breather Mastic:
 - 1) Benjamin Foster 45-00 or 30-86.
 - 2) Childers CP-10.
 - d. Insulation Bonding Adhesive (to metal):
 - 1) Benjamin Foster 85-20, or 85-15.
 - 2) Childers CP-82.
 - e. Coatings: Sealfas G-P-M mastic or accepted equivalent.
 - f. Fire Resistive Mastic: As manufactured by Benjamin Foster or accepted equivalent.

- g. Sealants: 81-33 as manufactured by Benjamin Foster or accepted equivalent.
- h. Staples: Type 304 or 316 stainless steel outward clinching type.
- i. Wire: 16 gage, copper weld wire.
- j. Bands: 3/4 by 0.015" thick galvanized steel.
- k. Glass Fabric:
 - 1) Woven open mesh type glass fabric conforming to ASTM D1668.
 - 2) Type III light color organic resin treated for aboveground use.
- l. Insulation Jackets:
 - 1) Vapor Barrier Jackets:
 - a) For Air-conditioning Ducts: Perm rating not more than 0.05, ASTM E96, Procedure A. Puncture resistance not less than 25 beach units.

2.3 SYSTEMS INSULATION BY TYPE

A. Exterior Exposed Ductwork Insulation and Mechanical Rooms:

- 1. Rigid Fiberglass Ductboard Insulation: 2-inches thick (minimum) for supply duct work, 3 pcf density, with field applied fab and mastic finish consisting of a 10 x 10 glass fabric imbedded in 2 coats of a white breather weather barrier mastic.
- 2. Insulate all supply air ductwork. ALL outside air ductwork and return/exhaust ductwork in the mechanical rooms and closets shall be insulated to prevent condensation in the mechanical rooms and closets. Minimum insulation thickness shall be 1.5 inches.
- 3. All transfer duct work shall have internal lining for noise attenuation. The recommended material is ToughGuard Duct Board lining manufactured by Certainteed with minimum thickness of 1.5" and NRC rating of 0.9 minimum.

B. Interior Concealed Ductwork Insulation:

- 1. Flexible fiberglass Ductwrap Blanket Insulation: 2.5 inches thick, 1 pcf density, minimum R-6.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install insulation according to applicable codes and regulations.
- B. Except as specified, install materials according to manufacturer's recommendations and specifications for obtaining conformance to construction documents.
- C. Packages or standard containers of insulation, jacket material, cements, adhesives, and coatings delivered for use and samples required for acceptance shall have manufacturer's stamp or label attached listing manufacturer, brand name, and a description of material.

- D. Provide allowances for expansion/contraction, and wall and manhole penetrations.
- E. Run continuous through wall, floor, and ceiling penetrations.
- F. Insulation materials shall not be applied until:
 - 1. Test results specified in other sections of these specifications are completed and accepted.
 - 2. Rust, scale, dirt, and any other foreign material have been removed.
 - 3. Ductwork or piping material are clean, dry, joints firmly butted together, and tightly sealed at all joints, seams, and fittings.
- G. Wrap butt joints with a 3-inch wide strip of the same material as the jacket.
- H. Insulation shall be kept clean and dry at all times.
- I. Duct Materials:
 - 1. Internal duct lining is not allowed on supply duct.
 - 2. Duct materials solid exposed to the airflow shall be noncombustible metal.
 - 3. Duct insulation for thermal or acoustical purposes shall be separated from airflows by solid metal.
 - 4. Provide natural noise attenuation procedures, as recommended in ASHRAE, and SMACNA, and industry good engineering practices.
 - 5. Fiberglass ducts or ductboards shall not be used to convey air.
- J. Ductwork sizes shown, for supply only, on drawings are actual internal "air side" dimensions.
- K. Vapor Barriers:
 - 1. Intact and continuous.
 - 2. Do not install with staples.

3.2 APPLICATIONS

- A. Rigid Fiberglass Ductboard Insulation Installation:
 - 1. Apply insulation tightly and smoothly to duct.
 - 2. Secure insulation on the sides and bottom of duct by impaling insulation over pins or anchors located not more than 18 inches apart and held in place with washers or clips.
 - 3. Cut off protruding pins after clips are secured and seal with vapor barrier mastic.
 - 4. Apply insulation with joints tightly butted.
 - 5. Seal ductwork joints, punctures, and pin heads with a vapor barrier mastic type sealant.
 - 6. Insulation shall be continuous through walls and floors except at fire dampers and at combination smoke/fire dampers.
 - 7. Finish with field applied fab and mastic finish consisting of a 10 x 10 glass fabric imbedded in 2 coats of a white breather weather barrier mastic.
- B. Flexible Fiberglass Ductwrap Blanket Insulation Installation:

1. Apply insulation to duct with joints tightly butted. Prepare stretch-out dimensions and cut out insulation so a 2-inch minimum overlap is created that will overlap the facing and insulation at the other end, and the adjoining seam. Install so insulation is not excessively compressed at duct edges. Foil face shall be on outside. Seams shall be stapled approximately at 6 inches on center with outward clinching staples.
2. On ductwork having a 24-inch or larger dimension, insulation shall be secured to the bottom of the duct with mechanical fasteners spaced at not more than 18 inches on center and held in place with washers or clips. Cut off protruding pin after clips are secured.
3. Seal all insulation joints, pinheads, tears, punctures, washers, clips, and staples with 2 coats of a vapor barrier mastic type sealant, reinforced with 1 layer of 4 inch woven glass fabric.
4. Insulation seams shall be covered with a minimum of 2-inch wide duct tape in addition to the vapor barrier mastic.

END OF SECTION 23 07 13

SECTION 23 09 00 - DIRECT DIGITAL CONTROL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Retain or delete this article in all Sections of Project Manual.
- B. All work of this Division shall be coordinated and provided by the single Facilities Management System (FMS) Contractor.
- C. The work of this Division shall be scheduled, coordinated, and interfaced with the associated work of other trades. Reference the Division 23 and 26 Sections for details.
- D. Technical Proposal From Building Automation Supplier
 - 1. It is the intent of this specification to describe the performance requirements of the FMS.
 - 2. Contractor shall provide a Technical Proposal to the satisfaction of the Architect, Engineer and Owners Agent along with the bid. At minimum this submittal shall contain the following documentation which shall become part of the Contract.
 - a. Statement of Compliance. Written narrative stating that strict compliance to the specification will be adhered to. Any non-compliance issues are to be addressed paragraph by paragraph with alternate method of supplying desired intent. The Statement of Compliance shall form part of the FMS Contract.
 - b. FMS network architecture diagram.
 - c. Product information sheets for each model of FMS product, including software, and feature identified on the FMS network architecture diagram. For existing campus systems only the products or software that have not been used before need to be submitted on.
 - d. Specific printed product information detailing the operator workstation hardware and operator interface software. Same exception as c.
 - e. Project team organization including resumes of key project team members. Team members may not change without written approval of Owner.
 - f. Project scheduling including anticipated manpower requirements to meet the Project schedule.
 - g. Location of the FMS Contractor's branch office that would perform warranty work, routine maintenance and 24/7/365 emergency repair services. Provide the phone number that could be used by the Owner for emergency service.
 - h. Prior project list of five Facility Management Systems of similar size, scope and complexity, which have been completed and accepted. Include; Project Name, Project Owner, Project Address, Contact Name, Contact Phone Number and a brief description of the FMS.
 - 3. The Technical Proposal shall be reviewed with and accepted by the Engineer prior to contract execution.
 - 4. The work of this Division shall be as required by the Specifications, Point Schedules and Drawings.

5. If the FMS Contractor believes there are conflicts or missing information in the project documents, the Contractor shall promptly request clarification and instruction from the design team. If clarification is not requested any interpretation of project scope and specification intent will be the sole responsibility of the Engineer.

1.2 DEFINITIONS

- A. Analog: A continuously variable system or value not having discrete levels. Typically exists within a defined range of limiting values.
- B. Binary: A two-state system where an “ON” condition is represented by one discrete signal level and an “OFF” condition is represented by a second discrete signal level each separated by a defined deadband.
- C. Facility Management System (FMS): The total integrated system of fully operational and functional elements, including equipment, software, programming, and associated materials, to be provided by this Division FMS Contractor and to be interfaced to the associated work of other related trades.
- D. FMS Contractor: The single Contractor to provide the work of this Division. This Contractor shall be the primary manufacturer, installer, commissioner and ongoing service provider for the FMS work.
- E. Control Sequence: An FMS pre-programmed arrangement of software algorithms, logical computation, target values and limits as required to attain the defined operational control objectives.
- F. Direct Digital Control: The digital algorithms and pre-defined arrangements included in the FMS software to provide direct closed-loop control for the designated equipment and controlled variables. Inclusive of Proportional, Derivative and Integral control algorithms together with target values, limits, logical functions, arithmetic functions, constant values, timing considerations and the like.
- G. FMS Network: The total digital on-line real-time interconnected configuration of FMS digital processing units, workstations, panels, sub-panels, controllers, devices and associated elements individually known as network nodes. May exist as one or more fully interfaced and integrated sub-networks, LAN, WAN or the like.
- H. Node: A digitally programmable entity existing on the FMS network.
- I. FMS Integration: The complete functional and operational interconnection and interfacing of all FMS work elements and nodes in compliance with all applicable codes, standards and ordinances so as to provide a single coherent FMS as required by this Division.
- J. Provide: The term “Provide” and its derivatives when used in this Division shall mean to furnish, install in place, connect, calibrate, test, commission, warrant, document and supply the associated required services ready for operation.
- K. PC: IBM-compatible Personal Computer from a recognized major manufacturer. PC “clones” are not acceptable.

- L. Furnish: The term “Furnish” and its derivatives when used in this Division shall mean supply at the FMS Contractor’s cost to the designated third party trade contractor for installation. FMS Contractor shall connect furnished items to the FMS, calibrate, test, commission, warrant and document.
- M. Wiring: The term “Wiring” and its derivatives when used in this Division shall mean provide the FMS wiring and terminations.
- N. Install: The term “Install” and its derivatives when used in this Division shall mean receive at the jobsite and mount.
- O. Protocol: The term “protocol” and its derivatives when used in this Division shall mean a defined set of rules and standards governing the on-line exchange of data between FMS network nodes.
- P. Software: The term “software” and its derivatives when used in this Division shall mean all of programmed digital processor software, preprogrammed firmware and project specific digital process programming and database entries and definitions as generally understood in the FMS industry for real-time, on-line, integrated FMS configurations.
- Q. The use of words in the singular in these Division documents shall not be considered as limiting when other indications in these documents denote that more than one such item is being referenced.
- R. Headings, paragraph numbers, titles, shading, bolding, underscores, clouds and other symbolic interpretation aids included in the Division documents are for general information only and are to assist in the reading and interpretation of these Documents. They do not form a formal part of the Documents and may not be consistent or complete in their use throughout the Documents.

1.3 FMS DESCRIPTION

- A. The work of the single FMS Contractor shall be as defined individually and collectively in all Sections of this Division specifications together with the associated Point Sheets and Drawings and the associated interfacing work as referenced in the related documents as are listed in Part 1 of this Section.
- B. The FMS work shall consist of the provision of all labor, materials, tools, equipment, software, software licenses, software configurations and database entries, interfaces, wiring, tubing, installation, labeling, engineering, calibration, documentation, samples, submittals, testing, commissioning, training services, permits and licenses, transportation, shipping, handling, administration, supervision, management, insurance, temporary protection, cleaning, cutting and patching, warranties, services, and items, even though these may not be specifically mentioned in these Division documents which are required for the complete, fully functional and commissioned FMS.
- C. Provide a complete, neat and workmanlike installation. Use only manufacturer employees who are skilled, experienced, trained, and familiar with the specific equipment, software, standards and configurations to be provided for this Project.

- D. Manage and coordinate the FMS work in a timely manner in consideration of the Project schedules. Coordinate with the associated work of other trades so as to not impede or delay the work of associated trades.
- E. The FMS as provided shall incorporate, at minimum, the following integrated features, functions and services:
 - 1. Operator information, alarm management and control functions.
 - 2. Enterprise-level information and control functions.
 - 3. Information management including monitoring, transmission, archiving, retrieval, and reporting functions.
 - 4. Diagnostic monitoring and reporting of FMS functions.
 - 5. Offsite monitoring and management
 - 6. Energy management
 - 7. Standard applications for terminal HVAC systems.

1.4 QUALITY ASSURANCE

A. General

- 1. The Facility Management System Contractor shall be the primary manufacturer-owned branch office that is regularly engaged in the engineering, programming, installation and service of total integrated Facility Management of similar size, scope and complexity to the FMS specified in this Contract. Bids by any firm whose principal business is not that of manufacturing and installing Facility Management Systems shall not be acceptable without the prior written approval of the Owner.
- 2. Bids will be accepted from Andovers controls only.
- 3. The FMS Contractor shall have a branch facility within a 50-mile radius of the job site supplying complete maintenance and support services on a 24 hour, 7-day-a-week basis. This branch facility shall provide the work for this project. This support facility shall have a spare parts and all necessary test and diagnostic equipment required to install, commission and service the specified FMS.
- 4. As evidence and assurance of the contractor's ability to support the Owner's system with service and parts, the contractor must have been in the FMS business for at least the last ten (10) years and have successfully completed total projects of at least 10 times the value of this contract in each of the preceding five years.
- 5. The Facility Management System architecture shall consist of the products of a manufacturer regularly engaged in the production of Facility Management Systems, and shall be the manufacturer's latest standard of design at the time of bid.

B. Quality Management Program

- 1. Provide a competent and experienced FMS Project Manager employed by the FMS Contractor. The Project Manager shall be supported as necessary by other FMS Contractor employees in order to provide professional management service for the work. The Project Manager shall be empowered to make technical, scheduling and related decisions on behalf of the FMS Contractor. At minimum, the Project Manager shall:
 - a. Manage the scheduling of the work to ensure that adequate materials, labor and other resources are available as needed.

- b. Coordinate as necessary with other trades.
- c. Be responsible for the work and actions of the FMS workforce on site.

1.5 REFERENCES

- A. All work shall conform to the following Codes and Standards, as applicable:
1. National Fire Protection Association (NFPA) Standards.
 2. National Electric Code (NEC) and applicable local Electric Code.
 3. Underwriters Laboratories (UL) listing and labels.
 4. UL 864 /UUKL Smoke Control
 5. UL 268 Smoke Detectors.
 6. UL 916 Energy Management
 7. NFPA 70 - National Electrical Code.
 8. NFPA 90A - Standard For The Installation Of Air Conditioning And Ventilating Systems.
 9. NFPA 92A and 92B Smoke Purge/Control Equipment.
 10. Florida Building Code, Florida Mechanical Code.
 11. American National Standards Institute (ANSI).
 12. National Electric Manufacturer's Association (NEMA).
 13. American Society of Mechanical Engineers (ASME).
 14. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Air Movement and Control Association (AMCA).
 15. Institute of Electrical and Electronic Engineers (IEEE).
 16. American Standard Code for Information Interchange (ASCII).
 17. Electronics Industries Association (EIA).
 18. Occupational Safety and Health Administration (OSHA).
 19. American Society for Testing and Materials (ASTM).
 20. Federal Communications Commission (FCC) including Part 15, Radio Frequency Devices.
 21. Americans Disability Act (ADA)
- B. In the case of conflicts or discrepancies, the more stringent regulation shall apply.
- C. All work shall meet the approval of the Authorities Having Jurisdiction at the project site.

1.6 WORK BY OTHERS

- A. The demarcation of work and responsibilities between the FMS Contractor and other related trades shall be as outlined in the FMS RESPONSIBILITY MATRIX herein. The numbers refer to Division 23 or 26 of contract specifications.

FMS RESPONSIBILITY MATRIX				
WORK	FURNISH	INSTALL	LowVolt. WIRING/TUBE	LINE POWER
FMS low voltage and communication wiring	FMS	FMS	FMS	N/A
FMS conduits and raceway	FMS	FMS	FMS	FMS
Automatic dampers	FMS	23	N/A	N/A
Manual valves	23	23	N/A	N/A

FMS RESPONSIBILITY MATRIX				
WORK	FURNISH	INSTALL	LowVolt. WIRING/TUBE	LINE POWER
Automatic valves	FMS	23	FMS	N/A
Pipe insertion devices and taps including thermowells, flow and pressure stations.	FMS	23	FMS	FMS
FMS Current Switches.	FMS	FMS	FMS	N/A
FMS Control Relays	FMS	FMS	FMS	N/A
Power distribution system monitoring interfaces	26	26	FMS	26
FMS interface with Chiller controls	FMS	FMS	FMS	FMS
All FMS Nodes, equipment, housings, enclosures and panels.	FMS	FMS	FMS	FMS
Smoke Detectors	26	26	26	26
Fire/Smoke Dampers	23	23	FMS	26
Fire Dampers	23	23	N/A	N/A
VFDs	23	26	FMS	26
Fire Alarm shutdown relay interlock wiring	26	26	26	26
Starters, HOA switches	26	26	N/A	26
Control damper actuators	FMS	FMS	FMS	26

1.7 SUBMITTALS

A. Shop Drawings, Product Data, and Samples:

1. Submittals shall be in defined packages. Each package shall be complete and shall only reference itself and previously submitted packages. The packages shall be as approved by the Architect and Engineer for Contract compliance.
2. Allow 15 working days for the review of each package by the Architect and Engineer in the scheduling of the total FMS work.
3. Prepare an index of all submittals and shop drawings for the installation. Index shall include a shop drawing identification number, Contract Documents reference and item description.

B. The FMS Contractor shall correct any errors or omissions noted in the first review and resubmit as necessary. Resubmittal shall be within 5 working days.

C. At a minimum, submit the following:

1. FMS network architecture diagrams including all nodes and interconnections.
2. Schematics, sequences and flow diagrams. Sequence indicated on plans is to describe overall concept of plant operation. Contractor shall submit a detailed sequence for each piece of equipment operation with flow diagram, and this shall be reviewed and approved by Engineer of Record. All safeties/failure modes/ranges of controls to be programmed by the controls contractor shall be identified in this submittal. All set points shall be use adjustable. Intent of every device function shall be described in sequence.

3. Points schedule for each point in the FMS, including: Tag, Point Type, System Name, Object Name, Expanded ID, Display Units, Node Type, Address, Cable Destination, Module Type, Terminal ID, Panel, Slot Number, Reference Drawing, and Cable Number.
4. A sample of each Graphic Display
5. Detailed Bill of Material list for each Node, identifying quantity, part number, description, and optional features.
6. Control Damper Schedule including a separate line for each damper provided under this section and a column for each of the damper attributes, including: Code Number, Fail Position, Damper Type, Damper Operator, Blade Type, Bearing Type, Seals, Duct Size, Damper Size, Mounting, and Actuator Type.
7. Control Valve Schedules including a separate line for each valve provided under this section and a column for each of the valve attributes: Code Number, Configuration, Fail Position, Pipe Size, Valve Size, Body Configuration, Close off Pressure, Capacity, Valve CV, Calculated CV, Design Pressure, Actual Pressure, and Actuator Type.
8. Room Schedule including a separate line for each VAV box and/or terminal unit indicating location and address
9. Details of all FMS interfaces and connections to the work of other trades.
10. Product data sheets for all products including software.

1.8 RECORD DOCUMENTATION

A. Operation and Maintenance Manuals

1. Three (3) copies of the Operation and Maintenance Manuals shall be provided to the Owner's Representative upon completion of the project. The entire Operation and Maintenance Manual shall be furnished on Compact Disc media, and include the following for the FMS provided:
 - a. Table of contents.
 - b. As-built system record drawings. Computer Aided Drawings (CAD) record drawings shall represent the as-built condition of the system and incorporate all information supplied with the approved submittal.
 - c. CAD program shall be supplied in its current version to the owner if other than campus standard.
 - d. Manufacturer's product data sheets for all products including software.
 - e. System Operator's manuals.
 - f. Archive copy of all site-specific databases and sequences.
 - g. FMS network diagrams.
 - h. Interfaces to all third-party products and work by other trades.
2. The Operation and Maintenance Manual CD shall be self-contained, and include all necessary software required to access the product data sheets. A logically organized table of contents shall provide dynamic links to view and print all product data sheets. Viewer software shall provide the ability to display, zoom, and search all documents.

1.9 WARRANTY

A. Standard Material and Labor Warranty

1. Provide a two-year labor and material warranty on the FMS.
2. Repair must be initiated within 48 hours of warranty call and repair complete within 10 working days.
3. If within thirty six (36) months from the date of acceptance of product, upon written notice from the owner, it is found to be defective in operation, workmanship or materials, it shall be replaced, repaired or adjusted at the option of the Owner at the cost of the FMS Contractor.
4. Maintain an adequate supply of materials within 50 miles of the Project site such that replacement of key parts and labor support, including programming.

B. Optional Preventative and Extended Material and Labor Warranty

1. Provide a separate price for an additional four-year labor and material warranty on the FMS, commencing at the end of the Standard Warranty.
2. If within sixty (60) months from the date of acceptance of product, upon written notice from the Owner, it is found to be defective in operation, workmanship or materials, it will be replaced, repaired or adjusted at the option of the FMS Contractor at the cost of the contractor.
3. The FMS Contractor shall clean, adjust and recalibrate the FMS to maintain FMS integrity and performance as originally accepted, on a regular scheduled basis.
4. Provide all necessary Node and OWS software updates to ensure all FMS software is at the current revision.
5. Maintain a record on-site of all work done, all items removed from site, all items returned to site, all new replacement items installed and all remedial programming and database entry work undertaken including software revisions installed. Maintain a record of all calibrations done.
6. Provide a minimum of eighty (80) hours of on site maintenance, during normal business hours, each year for (5) years for scheduled preventative maintenance of the Facility Management System.
7. FMS Contractor is to have a qualified employee on-site within 4 hours from the receipt of an emergency service call, Monday through Friday, between 8 AM and 5 PM. The FMS Contractor must have the capability to respond after normal working hours if required.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The FMS shall consist of a number of Nodes and associated equipment connected by industry standard network practices. All communication between Nodes shall be by digital means only.
- B. The FMS network shall at minimum comprise of the following:
 1. Operator Workstations
 2. Network processing, data storage and communication equipment including file servers.
 3. Routers, bridges, switches, hubs, modems and like communications equipment.
 4. Active processing Nodes including field panels.
 5. Intelligent and addressable elements and end devices.
 6. Third-party equipment interfaces.
 7. Other components required for a complete and working FMS.

- C. The FMS shall support auto-dial/auto-answer communications to allow FMS Nodes to communicate with other remote FMS Nodes via standard telephone lines.
- D. The PC Workstations, File servers and principal network equipment shall be standard products of recognized major manufacturers available through normal PC vendor channels. "Clones" are not acceptable.
- E. Provide licenses for all software residing in the FMS system and transfer these licenses to the Owner prior to completion.

2.2 NETWORK

- A. The FMS shall incorporate a primary Tier 1 network. At the Contractor's option, the FMS may also incorporate integrated secondary Tier 2 and tertiary Tier 3 networks.
- B. The FMS Network shall utilize an open architecture capable of all of the following:
 - 1. Utilizing standard Ethernet communications and operate at a minimum speed of 10Mb/sec
 - 2. Connecting via BACnet.
- C. The FMS network shall support both copper and optical fiber communication media.

2.3 THIRD PARTY INTERFACES

- A. The FMS system shall include necessary FMS hardware equipment and software to allow data communications between the FMS system and systems supplied by other trades.
- B. The trade contractor supplying other systems will provide their necessary hardware and software and will cooperate fully with the FMS contractor in a timely manner at their cost to ensure complete data integration.
- C. FMS Contractor shall integrate real-time data from systems supplied by other trades as required in Part 3.

2.4 POWER FAIL / AUTO RESTART

- A. Provide for the automatic orderly and predefined startup of parts or all of the FMS following total loss of power to those parts or all of the FMS. Archive and annunciate time and details of restoration.
- B. Provide for the orderly and predefined scheduling of controlled return to normal, automatically time scheduled, operation of controlled equipment as a result of the auto restart processes.
- C. Maintain the FMS real-time clock operation during periods of power outage for a minimum of 72 hours.

2.5 DOWNLOADING AND UPLOADING

- A. Provide the capability to generate FMS software-based sequences, database items and associated operational definition information and user-required revisions to same on designated OWS, and the means to download same to the associated Application Node.
- B. Provide the capability to upload FMS operating software information, database items, sequences and alarms to the designated OWS with automatic archiving of same on the OWS.
- C. The functions of this Part shall be governed by the codes, approvals and regulations applying to each individual FMS application.

2.6 OPERATOR WORKSTATION

- A. The Operator Workstations (OWS) shall provide the primary means of communication with the FMS and shall be used for operations, engineering, management, audit, reporting and other related functions.
- B. The OWS shall consist of fixed and portable units as scheduled in Part 3 of this Specification. The fixed units shall consist of installed PC-based configurations. The portable units shall consist of digital hand-held, PC Laptop or similar designed unit, complete with keypad or similar entry/selection device and complete with display and communication arrangements with ANs.
- C. Each fixed OWS shall, at minimum, consist of:
 - 1. PC processor with minimum 64-bit word structure.
 - 2. Hard drive or equal high-speed data storage.
 - 3. Removable high-speed data storage and export device(s) such as Read/Write CD ROM or equal.
 - 4. Full ASCII keyboard and digital Mouse or equal pointing device.
 - 5. Full color, flat screen VDU display unit, minimum 17 inches diagonal screen, minimum 1280 x 1024 resolution, 0.26 or better dot pitch and minimum 72 Hz refresh rate.
 - 6. Printers as scheduled in Part 3 of this Specification. Printers shall be as scheduled and designed for the functional requirements and duty of the application.
- D. All fixed OWS shall operate independently and concurrently without interference and under individual user password protection.
- E. OWS functionality shall be individually definable by software means such that OWS may be designated for specific limited users and may also be readily re-designated to provide OWS back-up to other OWSs in the FMS.
- F. OWS shall be located in the chiller plant maintenance office.

2.7 OPERATOR INTERFACE

- A. The FMS Operator Interface shall be user friendly, readily understood and shall make maximum use of colors, graphics, icons, embedded images, animation, and text based information to enhance and simplify the use and understanding of the FMS by authorized users at the OWS.

- B. User access to the FMS shall be protected by a flexible and Owner redefinable software-based password access protection. Password protection shall be multi-level and partitionable to accommodate the varied access requirements of the different user groups. Provide the means to define unique access privileges for each individual authorized user. Provide the means to on-line manage password access control under the control of a Master Password.
- C. The Operator Interface shall incorporate comprehensive support for functions including, but not necessarily limited to, the following:
 - 1. User access for selective information retrieval and control command execution
 - 2. Monitoring and reporting
 - 3. Alarm and non-normal condition annunciation
 - 4. Selective operator override and other control actions
 - 5. Information archiving, manipulation, formatting, display and reporting
 - 6. FMS internal performance supervision and diagnostics
 - 7. On-line access to user HELP menus
 - 8. Means for the controlled re-programming, re-configuration of FMS operation and for the manipulation of FMS database information in compliance with the prevailing codes, approvals and regulations for individual FMS applications.
- D. Provide FMS reports and displays making maximized use of simple English language descriptions and readily understood acronyms, abbreviations and the like to assist user understanding and interpretation. All text naming conventions shall be consistent in their use and application throughout the FMS.
- E. All PC-based configurations shall operate on Microsoft® Windows
- F. Each fixed and/or portable OWS shall be on-line configurable for specific applications, functions and groups of FMS points.

2.8 ALARMS

- A. Designated OWS shall annunciate alarms generated by the FMS. The alarm management portion of the OWS software shall, at the minimum, provide the following functions:
 - 1. Log date and time of alarm occurrence.
 - 2. Generate a "Pop-Up" window, with audible alarm, informing a user that an alarm has been received.
 - 3. Allow a user, with the appropriate security level, to acknowledge, or disable an alarm.
 - 4. Provide an audit trail on hard drive for alarms by recording user acknowledgment, deletion, or disabling of an alarm. The audit trail shall include the name of the user, the alarm, the action taken on the alarm, and a time/date stamp.
- B. The FMS shall annunciate diagnostic alarms indicating system failures and non-normal operating conditions
- C. The FMS shall annunciate application alarms at minimum, as required by Part 3.

2.9 REPORTS

- A. Reports shall be generated and directed to one or more of the following: OWS display, printer, or archive at the user's option. As a minimum, the system shall provide the following reports:
 - 1. All points in the FMS.
 - 2. All points in each FMS application.
 - 3. All points in a specific AN.
 - 4. All points in a user-defined group of points.
 - 5. All points currently in alarm in an FMS application.
 - 6. All points locked out in an FMS application.
 - 7. All FMS schedules.
 - 8. All user defined and adjustable variables, schedules, interlocks and the like.
 - 9. FMS diagnostic and system status reports.
- B. Provide all applicable standard reports of the FMS manufacturer.
- C. Provide custom reports as defined by owner in commissioning.

2.10 DYNAMIC COLOR GRAPHICS

- A. An unlimited number of graphic displays shall be able to be generated and executed.
- B. The graphic displays shall be able to display and provide animation based on real-time FMS data that is acquired, derived, or entered.
- C. The user shall be able to change values (setpoints) and states in system controlled equipment.
- D. Provide a graphic editing tool that allows for the creation and editing of graphic files.
- E. FMS system shall be provided with a complete user expandable symbol library containing all of the basic symbols used to represent components of a typical FMS system.

2.11 SCHEDULES

- A. Provide a spreadsheet-type schedule input form for automatic FMS time-of-day scheduling and override scheduling of FMS operations shall be provided. At a minimum, the following spreadsheet types shall be accommodated:
 - 1. Weekly schedules.
 - 2. Temporary override schedules.
 - 3. Special "Only Active If Today Is A Holiday" schedules.
 - 4. Monthly schedules.
- B. Schedules shall be provided for each system or sub-system in the FMS. Each schedule shall include all commandable points residing within the system. Each point may have a unique schedule of operation relative to the system use schedule, allowing for sequential starting and control of equipment within the system. Scheduling and rescheduling of points shall be accomplished easily via the system schedule spreadsheets.

- C. Monthly calendars for a 12-month period shall be provided that allow for simplified scheduling of holidays and special days in advance. Holidays and special days shall be user-selected with the pointing device or keyboard, and shall automatically reschedule equipment operation as previously defined on the weekly schedules.

2.12 HISTORICAL TRENDING AND DATA COLLECTION

- A. Trend and store point history data for all FMS points and values as indicated on point list in Part 3 of these specifications. The system shall provide and support user-selectable trends and histories.
- B. The trend data shall be stored in a manner that allows custom queries and reports using Microsoft Word or Excel.
- C. At a minimum, provide the capability to perform statistical functions on the historical database:
 - 1. Average.
 - 2. Arithmetic mean.
 - 3. Maximum/minimum values.
 - 4. Range – difference between minimum and maximum values.
 - 5. Standard deviation.
 - 6. Sum of all values.
 - 7. Variance.
- D. This information shall be stored either in the system or on the OWS for 6 months and utilize FIFO logic to manage the size of the data file.

2.13 APPLICATION NODES

A. GENERAL

- 1. The Application Nodes (AN) shall include all monitoring, control and information Nodes including field panels.
- 2. AN shall be programmable and governed by the requirements of their applicable codes, approvals and regulations.
- 3. The AN shall be designed, packaged, installed, programmed and commissioned in consideration of their specific service and prevailing operating conditions. They shall be proven standard product of their original manufacturer and not a custom product for this Project.
- 4. A failure at an AN shall not cause failures or non-normal operation at any other system AN other than the possible loss of active real-time information from the failed AN.
- 5. Ancillary AN equipment, including interfaces and power supplies, shall not be operated at more than 80% of their rated service capacity.
- 6. AN shall comply with FCC Part 15 subpart J class A emission requirements.

B. HVAC NODE

- 1. HVAC Node shall provide both standalone and networked direct digital control of HVAC systems.

2. A dedicated HVAC Node shall be configured and provided for each primary HVAC system (air handler, chiller) and each terminal HVAC system (VAV Box, Unit Ventilator, Unit Heater, Fan Coil Unit).
3. Each HVAC Node shall be able to retain program, control algorithms, and setpoint information for at least 72 hours in the event of a power failure, and shall return to normal operation upon restoration of power.
4. Each HVAC Node shall report its communication status to the FMS. The FMS shall provide a system advisory upon communication failure and restoration.
5. For each primary HVAC system, provide means of indication of system performance and setpoints at, or adjacent to the HVAC Node.
6. For each primary HVAC system, provide a means to adjust setpoints and start/stop equipment at, or adjacent to the HVAC Node.
7. Provide a means to prevent unauthorized personnel from accessing setpoint adjustments and equipment control functions.
8. The HVAC Node shall provide the ability to modify configuration data, both locally at the Node and via the FMS communications network.

2.14 HVAC APPLICATION SOFTWARE

- A. Event Messaging: Provide for the automatic execution of user-defined messages on the occurrence of each predefined FMS real-time event including equipment/point status change, approaching limit or alarm, time of day and the like. (per equipment point list)
- B. Indoor Air Quality: Provide monitoring of outside air, return air and supply air CO2 concentration, calculate and maintain fresh air requirements. Adjust outdoor air intake per schedule of operations.
- C. Optimum Start/Stop: Provide software to start equipment on a sliding schedule based upon indoor and outdoor conditions, to determine the minimum time of HVAC system operation needed to satisfy the space environmental requirements. The program shall also determine the earliest possible time to stop the mechanical systems. The optimum start/stop program shall operate in conjunction with, and be coordinated with, the scheduled start/stop and night setback programs.
- D. Auto Alarm Lockout: Provide for scheduled and automatic lockout of alarm annunciation from equipment during non-normal operating conditions including shutdown, emergency power operation, fire alarm and the like.
- E. Demand Limiting: Provide software to limit excess utility charges caused by uncontrolled demand. Provide the ability to prioritize the demand limiting actions based on FMS system parameters.
- F. System Restart: Upon restoration of the AC power to an HVAC Node, automatically restart all equipment and restore all loads to the state as required by the FMS. Provide appropriate time delays to prevent demand surges or overload trips.
- G. Heavy Equipment Delays: The system shall provide protection against excessive demand situations during start-up periods by automatically introducing time delays between successive start commands to heavy electrical loads.

- H. Runtime Totalization: Automatically sample, calculate and store runtime hours for binary input and output points as listed in the point schedule of this specification.
- I. Analog/Pulse Totalization: Sample, calculate and store consumption totals on a daily, weekly, or monthly basis for user-selected analog and binary pulse input-type points.
- J. Provide all software specified in section 2.5. Implement application software as indicated in Part 3 of these specifications.

2.15 FIELD DEVICES

A. Input Devices

- 1. Air Low Differential Pressure Switch
 - a. Rating: NEMA 1
 - b. Mounting: Duct Insertion
 - c. Range: 0.05" to 5.0" WC, complete with field adjustable setpoint.
 - d. Protection: Overpressure to 1 PSIG
 - e. Output: Form C Contact, minimum 50VA
 - f. Special: Automatic reset, provide complete installation kit including static pressure tips, tubing, fittings, and air filters.
- 2. Air Low Differential Pressure Sensor
 - a. Rating: NEMA 1
 - b. Mounting: Duct Insertion
 - c. Range: 0.05" to 5.0" WC,
 - d. Protection: Overpressure to 1 PSIG
 - e. Output: 0-10vDC, 4-20mA
 - f. Special: Provide complete installation kit including static pressure tips, tubing, fittings, and air filters.
- 3. Water Differential Pressure Switch
 - a. Materials: Brass bellows
 - b. Mounting: Pipe mounted
 - c. Range: 0 – 75 PSI, 1.2 PSI fixed differential
 - d. Protection: 120 PSI Differential overpressure, 180 PSI static pressure.
 - e. Output: Form C contacts, 50 VA
 - f. Special: Pipe taps and shut off valves provided by Div. 23.
- 4. Water Differential Pressure Sensors
 - a. Water differential pressure sensors shall be used across the chillers shall be 0-10 PSI range, with very high accuracy I2: and reliability. Manufacturer: United Electric J21K Series Differential Pressure Switch, Phosphor Bronze Bellows and 1/4" NPT Female Brass Pressure Connection, 0 to 25 PSID Adjustable Set Point Range, 0.6 to 1 PSI Deadband, 25 PSID Proof Pressure, 30"Hg Vac to 110 PSI Working Pressure.

5. Temperature Sensors
 - a. Materials: Nickel or platinum element
 - b. Mounting: Duct/Pipe, Room
 - c. Range: -50°F to 250°F, 55°F to 85°F
 - d. Room Sensors for Terminal Units: shall include warmer/cooler slidebar adjustment and pushbutton for occupied/unoccupied override
 - e. Accuracy: 0.1%
 - f. Output: Resistive 1000ohms @ 70°F/1000ohms @ 32°F
 - g. Special: Duct Element Holder, Brass Well Assembly, Room Mounting Bracket and Cover
6. Humidity Sensors
 - a. Materials: Polymer
 - b. Rating: class 2
 - c. Mounting: Duct or Wall
 - d. Range: 20% to 80%
 - e. Accuracy: +/-3%
 - f. Protection: 0-100% non-condensing
 - g. Output: 0-10vDC, 4-20mA
 - h. Special: Duct or Wall Mounting Kit
7. Current Switch
 - a. Materials: Encased copper
 - b. Rating: 600vAC
 - c. Mounting: Split Core
 - d. Range: 1.5amps to 50 amps
 - e. Action: Trip point adjustment
 - f. Output: SPST, N.O.
 - g. Special: Status LED
8. Current Transducer
 - a. Mounting: Field Mounted
 - b. Range: 60 Hz nominal
 - c. Accuracy: +/- 2% full scale
 - d. Protection: 250 A max current
 - e. Output: 4-20mA
9. Differential Pressure Transducer
 - a. Rating: NEMA 1
 - b. Mounting: Duct Insertion
 - c. Range: 0-25 in. water column unidirectional, 0- +/- 5 in. water column bi-directional
 - d. Accuracy: +/- 1% full scale
 - e. Protection: 10 PSIG
 - f. Output: 4-20 mA, 0-5 VDC, 0-10 VDC
10. Air Flow Monitoring

- a. Materials: 304 SS
- b. Rating: 350FPM to 9,000FPM
- c. Mounting: Duct
- d. Range:
- e. Accuracy: +/- 5%
- f. Protection:
- g. Output: 0-10vDC, 4-20mA
- h. Special:

11. Power Meter

- a. Rating: ANSI C12.1 metering standards
- b. Mounting: Split Core
- c. Accuracy: +/- 1% from 5 % to 100 % of the rated at 0-60 Deg C.
- d. Protection: internally isolated to 2000 VAC, case isolation 600 VAC
- e. Special: Store KWH in non-volatile memory

12. KW Transducer

- a. Materials: Encased copper
- b. Rating: 600vAC
- c. Mounting: Split Core
- d. Range: Up to 2400amps
- e. Accuracy: +/- 1%
- f. Output: 4-20mA

13. Override Request Switch

- a. Materials: Bakelite
- b. Rating: 10 amps @ 120vAC
- c. Mounting: Wall
- d. Output: SPDT Momentary Contact
- e. Special: Provide with cover plate

14. End Switches

15. Low Temperature Switches

16. High Temperature Switches

17. Thermostats

18. Carbon Dioxide Sensors

- a. Materials: Molded plastic enclosure
- b. Rating: 0 to 5000ppm

B. Output Devices

1. CONTROL RELAYS

- a. Materials: Gold Flash
- b. Rating: 10 amps @ 120-277vAC
- c. Mounting: Standard Electrical Box
- d. Protection: NEMA 1 Housing

- e. Output: SPDT, DPDT

C. Control Devices

1. Refer to Section 23 for ball valves, butterfly valves and control damper materials. All outside air control dampers shall be stainless steel (304) minimum.
2. Electric Damper Actuators
 - a. Rating: NEMA 2 Enclosure
 - b. Mounting: Direct mount
 - c. Stroke: 90 seconds end to end full stroke, 15 seconds return to normal for spring return
 - d. Protection: Electronic stall protection
 - e. Control Input: 0-10 VDC or 0-20 mADC
 - f. Power: Nominal 24 VAC
 - g. Torque: Size for minimum 150% of required duty
 - h. Duty cycle: rated for 65,000 cycles
 - i. Special: field selectable rotational / spring return direction, field adjustable zero and span.
3. Electric Valve Actuators
 - a. Rating: NEMA 1 Enclosure
 - b. Mounting: Direct mount
 - c. Control Input: Continuous 0-10 VDC, 0-20 mADC or 24VAC incremental
 - d. Power: Nominal 24 VAC
 - e. Protection: Stall protection
 - f. Torque: Size for minimum 150% of required duty
 - g. Special: field selectable direction, field adjustable zero and span. For spring return provide field selectable spring return direction.

PART 3 - PERFORMANCE / EXECUTION

3.1 FMS SPECIFIC REQUIREMENTS

A. FMS Reports

1. Standard reports to be defined by project requirements. Standard reports to include Trending of all control loops, history of all statuses, and Trending of power consumption of building. (per control points list indicated on control drawings)

B. Graphic Displays

1. Provide a color graphic system flow diagram display for each system with all points as indicated on the point list. All terminal unit graphic displays shall be from a standard design library.
2. User shall access the various system schematics via a graphical penetration scheme and/or menu selection.

3. User shall penetrate from color graphic display for each floor to associated HVAC system graphic.

C. Graphical User Interface (GUI) Equipment Schedule

ID	TYPE	LOCATION	FUNCTION	NOTES
GUI	Desktop PC	Plant Office	HVAC	Integrate to existing system as necessary.
Printer 1	Laser	Plant Office	HVAC	Integrate to existing system as necessary.
Handheld 1	PDA	N/A	HVAC	New.

3.2 INSTALLATION PRACTICES

A. FMS Wiring

1. All conduit, wiring, accessories and wiring connections required for the installation of the Facility Management System, as herein specified, shall be provided by the FMS Contractor unless specifically shown on the Electrical Drawings under Division 26 Electrical. All wiring shall comply with the requirements of applicable portions of Division 26 and all local and national electric codes, unless specified otherwise in this section.
2. All FMS wiring materials and installation methods shall comply with FMS manufacturer recommendations.
3. Control wiring shall have its own support system. The sizing, type and provision of cable, conduit, cable trays, and raceways shall be the design responsibility of the FMS Contractor.
4. Class 2 Wiring
 - a. All Class 2 (24VAC or less) wiring shall be installed in conduit unless otherwise specified.
 - b. Conduit is not required for Class 2 wiring in concealed accessible locations. Class 2 wiring not installed in conduit shall be supported every 5' from the building structure utilizing metal hangers designed for this application. Wiring shall be installed parallel to the building structural lines. All wiring shall be installed in accordance with local code requirements.
5. Class 2 signal wiring and 24VAC power can be run in the same conduit. Power wiring 120VAC and greater cannot share the same conduit with Class 2 signal wiring.
6. Perform circuit tests using qualified personnel only. Provide complete testing for all cables used under this Contract. Provide all equipment, tools, and personnel as necessary to conduct these tests.
7. Provide for complete grounding of all signal and communications cables, panels and equipment so as to ensure system integrity of operation. Ground cabling and conduit at the panel terminations. All grounding per manufacturers specifications and applicable codes.

B. FMS Line Voltage Power Source

1. 120-volt AC circuits used for the Facility Management System shall be taken from panelboards and circuit breakers provided by Division 26.

2. Circuits used for the FMS shall be dedicated to the FMS and shall not be used for any other purposes.
3. DDC terminal unit controllers may use AC power from motor power circuits.

C. FMS Raceways

1. All wiring shall be installed in conduit or raceway except as noted elsewhere in this specification. Minimum control wiring conduit size 1/2".
2. Where it is not possible to conceal raceways in finished locations, surface raceway (Wiremold) may be used as approved by the Architect and Owner.
3. All conduits and raceways shall be installed level, plumb, at right angles to the building lines and shall follow the contours of the surface to which they are attached.
4. Flexible Metal Conduit shall be used for vibration isolation and shall be limited to 3 feet in length when terminating to vibrating equipment. Flexible Metal Conduit may be used within partition walls. Flexible Metal Conduit shall be UL listed.

D. Penetrations

1. Provide firestopping for all penetrations used by dedicated FMS conduits and raceways.
2. All openings in fire proofed or fire stopped components shall be closed by using approved fire resistive sealant.
3. All wiring passing through penetrations, including walls, shall be in conduit or enclosed raceway.
4. Penetrations of floor slabs shall be by core drilling. All penetrations shall be plumb, true, and square.
5. No penetrations in structural elements shall be made before receipt of written approval from the architect and structural engineer.

E. FMS Identification Standards

1. Node Identification. All nodes shall be identified by a permanent label fastened to the the enclosure. Labels shall be suitable for the node location.
2. Each of the cable types specified in Item A shall be of a different color coding for easy identification and troubleshooting. Contractor proposed color codes per industry standard shall be approved by the owner for the cables.
 - a. Input Cable
 - b. Output Cable
 - c. Communication Cable
 - d. 24VAC cable
 - e. To be determined

F. FMS Node Installation

1. The FMS panels and cabinets shall be located as indicated at an elevation of not less than 2 feet from the bottom edge of the panel to the finished floor. Each cabinet shall be anchored per the manufacturer's recommendations.
2. The FMS contractor shall be responsible for coordinating panel locations with other trades and electrical and mechanical contractors.

G. Input Devices

1. All Input devices shall be installed per the manufacturer recommendation
2. Locate components of the FMS in accessible local control panels wherever possible.

H. HVAC Input Devices – General

1. All Input devices shall be installed per the manufacturer recommendation
2. Locate components of the FMS in accessible local control panels wherever possible.
3. The mechanical contractor shall install all in-line devices such as temperature wells, pressure taps, airflow stations, etc.
4. Input Flow Measuring Devices shall be installed in strict compliance with ASME guidelines affecting non-standard approach conditions.
5. Outside Air Sensors
 - a. Sensors shall be mounted on the North wall to minimize solar radiant heat impact or located in a continuous intake flow adequate to monitor outside air conditions accurately.
 - b. Sensors shall be installed with a rain proof, perforated cover.
6. Water Differential Pressure Sensors
 - a. Differential pressure transmitters used for flow measurement shall be sized to the flow-sensing device.
 - b. Differential pressure transmitters shall be supplied with tee fittings and shut-off valves in the high and low sensing pick-up lines and equalization line.
 - c. The transmitters shall be installed in an accessible location.
7. Medium to High Differential Water Pressure Applications (Over 21" w.c.):
 - a. Air bleed units, bypass valves and compression fittings shall be provided.
8. Space Sensors:
 - a. Shall be mounted per ADA requirements.
 - b. Provide lockable tamper-proof covers for all classrooms and all common areas such as lobby, museum, etc.,
9. Low Temperature Limit Switches:
 - a. Install on the discharge side of the first water coil in the air stream.
 - b. Mount element horizontally across duct in a serpentine pattern insuring each square foot of coil is protected by 1 foot of sensor.
 - c. For large duct areas where the sensing element does not provide full coverage of the air stream, provide additional switches as required to provide full protection of the air stream.
10. Water Differential Pressure Status Switches:
 - a. Install with shut off valves for isolation.
11. Air Flow Measuring Stations:

- a. Where the stations are installed in insulated ducts, the airflow passage of the station shall be the same size as the inside airflow dimension of the duct.
- b. Station flanges shall be two inch to three inch to facilitate matching connecting ductwork.

12. Duct Temperature Sensors:

- a. Duct mount sensors shall mount in an electrical box through a hole in the duct and be positioned so as to be easily accessible for repair or replacement.
- b. The sensors shall be insertion type and constructed as a complete assembly including lock nut and mounting plate.
- c. For ductwork greater in any dimension than 48 inches or where air temperature stratification exists such as a mixed air plenum, utilize an averaging sensor.
- d. The sensor shall be mounted to suitable supports using factory approved element holders.

13. Air Differential Pressure Status Switches:

- a. Install with static pressure tips, tubing, fittings, and air filter.

I. HVAC OUTPUT DEVICES

1. All output devices shall be installed per the manufacturers recommendation. The mechanical contractor shall install all in-line devices such as control valves, dampers, air flow stations, pressure wells, etc.
2. Actuators: All control actuators shall be sized capable of closing against the maximum system shut-off pressure. The actuator shall modulate in a smooth fashion through the entire stroke.
3. Control Dampers: Shall be opposed blade for modulating control of airflow. Parallel blade dampers shall be installed for two position applications.
4. Control Valves: Shall be sized for proper flow control with equal percentage valve plugs. The maximum pressure drop for water applications shall be 5 PSI.

3.3 TRAINING

- A. The FMS contractor shall provide the following training services after completion of commissioning:
 1. One day of on-site orientation by a system technician who is fully knowledgeable of the specific installation details of the project. This orientation shall, at a minimum, consist of a review of the project as-built drawings, the FMS software layout and naming conventions, and a walk through of the facility to identify panel and device locations. Four hours of classroom training and four hours of hands-on training should be provided.

3.4 COMMISSIONING

- A. Fully commission all aspects of the Facility Management System work.

1. Contractor responsible to commission all aspects of the control system. When complete supply Owner/Engineer with copy of commissioning manual for review. Sequence indicated on plans is to define a overall intent of plant operation. After implementation, additional changes/logics may have to be added based on actual response of the plant. Contractor shall revise/update sequence and setpoints during the first year of operation at no additional cost to Owner.
- B. Test and Balance performance verification.
 1. Controls contractor responsible to assist T&B contractor in manipulation of system needed to complete Test and Balance.
- C. Commissioning check performed by Owners agent
 1. Trending must be in place for 2 weeks on points listed in Trend Table prior to Owners agent verification of system.
- D. Promptly rectify all listed deficiencies and submit to the Owner/Engineer that this has been done.
- E. Final acceptance of system will not occur until all commissioning documents are completed and approved by the owner/engineer of record.

END OF SECTION 23 09 00

SECTION 23 23 00 - REFRIGERANT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Refrigerant pipes and fittings.
 - 2. Refrigerant piping valves and specialties.
 - 3. Refrigerants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of valve and refrigerant piping specialty.
- B. Shop Drawings:
 - 1. Show layout of refrigerant piping and specialties, including pipe, tube, and fitting sizes; flow capacities; valve arrangements and locations; slopes of horizontal runs; oil traps; double risers; wall and floor penetrations; and equipment connection details.
 - 2. Show piping size and piping layout, including oil traps, double risers, specialties, and pipe and tube sizes to accommodate, as a minimum, equipment provided, elevation difference between compressor and evaporator, and length of piping to ensure proper operation and compliance with warranties of connected equipment.
 - 3. Show interface and spatial relationships between piping and equipment.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For refrigerant valves and piping specialties to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to 2010 ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
- B. Comply with ASHRAE 15, "Safety Code for Refrigeration Systems."
- C. Comply with ASME B31.5, "Refrigeration Piping and Heat Transfer Components."

1.7 PRODUCT STORAGE AND HANDLING

- A. Store piping with end caps in place to ensure that piping interior and exterior are clean when installed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Line Test Pressure for Refrigerant R-410A:
 - 1. Suction Lines for Air-Conditioning Applications: 300 psig.
 - 2. Suction Lines for Heat-Pump Applications: 535 psig.
 - 3. Hot-Gas and Liquid Lines: 535 psig.

2.2 COPPER TUBE AND FITTINGS

- A. Copper Tube: ASTM B 88, Type K or L.
- B. Wrought-Copper Fittings: ASME B16.22.
- C. Wrought-Copper Unions: ASME B16.22.
- D. Solder Filler Metals: ASTM B 32. Use 95-5 tin antimony or alloy HB solder to join copper socket fittings on copper pipe.
- E. Brazing Filler Metals: AWS A5.8/A5.8M.
- F. Flexible Connectors:
 - 1. Body: Tin-bronze bellows with woven, flexible, tinned-bronze-wire-reinforced protective jacket.
 - 2. End Connections: Socket ends.
 - 3. Offset Performance: Capable of minimum 3/4-inch misalignment in minimum 7-inch- (180-mm-) long assembly.
 - 4. Working Pressure Rating: Factory test at minimum 500 psig.
 - 5. Maximum Operating Temperature: 250 deg F.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS FOR REFRIGERANT R-410A

- A. Suction Lines NPS 3-1/2 and Smaller for Conventional Air-Conditioning Applications: Copper, Type L, drawn-temper tubing and wrought-copper fittings with brazed or soldered joints.
- B. Hot-Gas and Liquid Lines, and Suction Lines for Heat-Pump Applications: Copper, Type L, annealed- or drawn-temper tubing and wrought-copper fittings with brazed or soldered joints.
- C. Safety-Relief-Valve Discharge Piping: Copper, Type L, annealed- or drawn-temper tubing and wrought-copper fittings with brazed or soldered joints.

3.2 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.
- B. Install refrigerant piping according to ASHRAE 15.
- C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping adjacent to machines to allow service and maintenance.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.
- I. Select system components with pressure rating equal to or greater than system operating pressure.
- J. Refer to Section 230923 "Direct Digital Control (DDC) System for HVAC" and Section 230993.11 "Sequence of Operations for HVAC DDC" for solenoid valve controllers, control wiring, and sequence of operation.
- K. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.
- L. Arrange piping to allow inspection and service of refrigeration equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels if equipment requiring maintenance is concealed behind finished surfaces.

- M. Install refrigerant piping in protective conduit where installed belowground.
- N. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.
- O. Slope refrigerant piping as follows:
 - 1. Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.
 - 2. Install horizontal suction lines with a uniform slope downward to compressor.
 - 3. Install traps and double risers to entrain oil in vertical runs.
 - 4. Liquid lines may be installed level.
- P. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.
- Q. Before installation of steel refrigerant piping, clean pipe and fittings using the following procedures:
 - 1. Shot blast the interior of piping.
 - 2. Remove coarse particles of dirt and dust by drawing a clean, lintless cloth through tubing by means of a wire or electrician's tape.
 - 3. Draw a clean, lintless cloth saturated with trichloroethylene through the tube or pipe. Continue this procedure until cloth is not discolored by dirt.
 - 4. Draw a clean, lintless cloth, saturated with compressor oil, squeezed dry, through the tube or pipe to remove remaining lint. Inspect tube or pipe visually for remaining dirt and lint.
 - 5. Finally, draw a clean, dry, lintless cloth through the tube or pipe.
 - 6. Safety-relief-valve discharge piping is not required to be cleaned but is required to be open to allow unrestricted flow.
- R. Install piping with adequate clearance between pipe and adjacent walls and hangers or between pipes for insulation installation.
- S. Identify refrigerant piping and valves according to Section 230553 "Identification for HVAC Piping and Equipment."
- T. Install sleeves for piping penetrations of walls, ceilings, and floors.
- U. Install sleeve seals for piping penetrations of concrete walls and slabs.
- V. Install escutcheons for piping penetrations of walls, ceilings, and floors.

3.3 PIPE JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

- C. Fill pipe and fittings with an inert gas (nitrogen or carbon dioxide), during brazing or welding, to prevent scale formation.
- D. Soldered Joints: Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook."
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."
 - 1. Use Type BCuP (copper-phosphorus) alloy for joining copper socket fittings with copper pipe.
 - 2. Use Type BAg (cadmium-free silver) alloy for joining copper with bronze or steel.
- F. Welded Joints: Construct joints according to AWS D10.12M/D10.12.

3.4 HANGERS AND SUPPORTS

- A. Comply with requirements for pipe hangers and supports specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- B. Install the following pipe attachments:
 - 1. Adjustable steel clevis hangers for individual horizontal runs less than 20 feet long.
 - 2. Roller hangers and spring hangers for individual horizontal runs 20 feet or longer.
 - 3. Pipe Roller: MSS SP-58, Type 44 for multiple horizontal piping 20 feet or longer, supported on a trapeze.
 - 4. Spring hangers to support vertical runs.
 - 5. Copper-clad hangers and supports for hangers and supports in direct contact with copper pipe.
- C. Install hangers for copper tubing with the following maximum spacing and minimum rod diameters:
 - 1. NPS 1/2: Maximum span, 60 inches; minimum rod, 1/4 inch.
 - 2. NPS 5/8: Maximum span, 60 inches; minimum rod, 1/4 inch.
 - 3. NPS 1: Maximum span, 72 inches; minimum rod, 1/4 inch.
 - 4. NPS 1-1/4: Maximum span, 96 inches; minimum rod, 3/8 inch.
 - 5. NPS 1-1/2: Maximum span, 96 inches; minimum rod, 3/8 inch.
- D. Support multifloor vertical runs at least at each floor.

3.5 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections:
 - 1. Comply with ASME B31.5, Chapter VI.
 - 2. Test refrigerant piping, specialties, and receivers. Isolate compressor, condenser, evaporator, and safety devices from test pressure if they are not rated above the test pressure.

3. Test high- and low-pressure side piping of each system separately at not less than the pressures indicated in "Performance Requirements" Article.
 - a. Fill system with nitrogen to the required test pressure.
 - b. System shall maintain test pressure at the manifold gage throughout duration of test.
 - c. Test joints and fittings with electronic leak detector or by brushing a small amount of soap and glycerin solution over joints.
 - d. Remake leaking joints using new materials, and retest until satisfactory results are achieved.
- B. Prepare test and inspection reports.

3.6 SYSTEM CHARGING

- A. Charge system using the following procedures:
 1. Install core in filter dryers after leak test but before evacuation.
 2. Evacuate entire refrigerant system with a vacuum pump to 500 micrometers. If vacuum holds for 12 hours, system is ready for charging.
 3. Break vacuum with refrigerant gas, allowing pressure to build up to 2 psig.
 4. Charge system with a new filter-dryer core in charging line.

3.7 ADJUSTING

- A. Adjust thermostatic expansion valve to obtain proper evaporator superheat.
- B. Adjust high- and low-pressure switch settings to avoid short cycling in response to fluctuating suction pressure.
- C. Adjust set-point temperature of air-conditioning or chilled-water controllers to the system design temperature.
- D. Perform the following adjustments before operating the refrigeration system, according to manufacturer's written instructions:
 1. Open shutoff valves in condenser water circuit.
 2. Verify that compressor oil level is correct.
 3. Open compressor suction and discharge valves.
 4. Open refrigerant valves except bypass valves that are used for other purposes.
 5. Check open compressor-motor alignment and verify lubrication for motors and bearings.
- E. Replace core of replaceable filter dryer after system has been adjusted and after design flow rates and pressures are established.

END OF SECTION 23 23 00

SECTION 23 31 11 – DUCTWORK AND ACCESSORIES

PART 1 - GENERAL

1.1 REFERENCES

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1. ASTM A36 -14 Standard Specification for Carbon Structural Steel
2. ASTM A480 -14B Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip
3. ASTM A653 - 13 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
4. ASTM C553 - 13 Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
5. ASTM C920 -14a Standard Specification for Elastomeric Joint Sealants

B. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

1. NFPA 90A (2015) Standard for the Installation of Air Conditioning and Ventilating Systems

C. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

1. SMACNA 1966(2005) HVAC Duct Construction Standards Metal and Flexible, 3rd Edition

D. UNDERWRITERS LABORATORIES (UL)

1. UL 181 (2013) Factory-Made Air Ducts and Air Connectors
2. UL 555 (2006; ANSI Approved 2013) Standard for Fire Dampers

E. AIR MOVEMENT AND CONTROL ASSOCIATION (AMCA)

1. AMCA 500-D – Laboratory Methods for Testing Dampers for Ratings.
2. AMCA 511 – Certified Ratings Program for Air Control Devices.

1.2 SUMMARY

A. This Section includes metal ducts for supply, return, outside, and exhaust air-distribution systems in pressure classes from minus 2-inch to plus 4-inch wg. Metal ducts include the following:

1. Rectangular ducts and fittings.
2. Single-wall, round, and flat-oval spiral-seam ducts and formed fittings.
3. Backdraft dampers.

4. Volume dampers.
5. Turning vanes.
6. Duct-mounting access doors.
7. Flexible connectors.
8. Flexible ducts.

1.3 SUBMITTALS

A. Shop Drawings: Show fabrication and installation details for metal ducts.

1. Duct layout indicating sizes and pressure classes.
2. Elevations of top and bottom of ducts.
3. Dimensions of main duct runs from building grid lines.
4. Fittings.
5. Penetrations through fire-rated and other partitions.
6. Equipment installation based on equipment being used on Project.
7. Duct accessories, including access doors and panels.

B. Product Data: Submit manufacturer's product data.

1. Include leakage, velocity, and maximum pressure data of air measuring station.
2. Indicate materials, construction, and dimensions of air measuring station.
3. Include a copy of Installation Instructions of air measuring station.
4. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each electric duct heater.
5. Include rated capacities, operating characteristics, and pressure drops for each electric duct heater.

C. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Other systems installed in same space as ducts.
2. Ceiling- and wall-mounting access doors and panels required to provide access to dampers and other operating devices.
3. Ceiling-mounting items, including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.

D. Closeout Submittals

1. Operation and Maintenance Data: For electric duct heater to include in operation and maintenance manuals.

1.4 QUALITY ASSURANCE

A. NFPA Compliance:

1. NFPA 90A, "Installation of Air Conditioning and Ventilating Systems."
2. NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."

- B. Dampers shall bear the AMCA certified ratings seal for air performance and air leakage in accordance with AMCA 511.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

- A. Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods, unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Lock-forming quality; complying with ASTM A 653/A 653M and having G90 coating designation; ducts shall have mill-phosphatized finish for surfaces exposed to view.
- C. Stainless Steel: ASTM A 480/A 480M, Type 316, and having a No. 2D finish.
- D. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts.

2.2 SEALANT MATERIALS

- A. Joint and Seam Tape: 2 inches wide; glass-fiber-reinforced fabric.
- B. Tape Sealing System: Woven-fiber tape impregnated with gypsum mineral compound and modified acrylic/silicone activator to react exothermically with tape to form hard, durable, airtight seal.
- C. Water-Based Joint and Seam Sealant: Flexible, adhesive sealant, resistant to UV light when cured, UL 723 listed, and complying with NFPA requirements for Class 1 ducts.
- D. Solvent-Based Joint and Seam Sealant: One-part, nonsag, solvent-release-curing, polymerized butyl sealant formulated with a minimum of 75 percent solids.
- E. Flanged Joint Mastic: One-part, acid-curing, silicone, elastomeric joint sealant complying with ASTM C 920, Type S, Grade NS, Class 25, Use O.
- F. Flange Gaskets: Butyl rubber or EPDM polymer with polyisobutylene plasticizer.

2.3 HANGERS AND SUPPORTS

- A. Building Attachments: Concrete inserts or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
- B. Hanger Materials: Galvanized sheet steel or threaded steel rod.

1. Hangers Installed in Corrosive Atmospheres: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
 2. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for steel sheet width and thickness and for steel rod diameters.
 3. Galvanized-steel straps attached to aluminum ducts shall have contact surfaces painted with zinc-chromate primer.
- C. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- D. Trapeze and Riser Supports: Steel shapes complying with ASTM A 36/A 36M.
1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.
 2. Supports for Stainless-Steel Ducts: Stainless-steel support materials.

2.4 RECTANGULAR DUCT FABRICATION

- A. Fabricate ducts, elbows, transitions, offsets, branch connections, and other construction according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" and complying with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals.
- B. Transverse Joints: Prefabricated slide-on joints and components constructed using manufacturer's guidelines for material thickness, reinforcement size and spacing, and joint reinforcement.
- C. Formed-On Flanges: Construct according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," Figure 1-4, using corner, bolt, cleat, and gasket details.
1. Duct Size: Maximum 30 inches wide and up to 2-inch wg pressure class.
 2. Longitudinal Seams: Pittsburgh lock sealed with noncuring polymer sealant.
- D. Cross Breaking or Cross Beading: Cross break or cross bead duct sides 19 inches and larger and 0.0359 inch thick or less, with more than 10 sq. ft. of nonbraced panel area unless ducts are lined.
- E. Range hood Exhaust Duct: Construct range hood exhaust duct of 16 gauge black steel or 18 gauge stainless steel with liquid tight external welds.

2.5 ROUND AND FLAT-OVAL DUCT AND FITTING FABRICATION

- A. Diameter as applied to flat-oval ducts in this Article is the diameter of a round duct with a circumference equal to the perimeter of a given size of flat-oval duct.
- B. Round, Spiral Lock-Seam Ducts: Fabricate supply ducts of galvanized steel according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
- C. Flat-Oval, Spiral Lock-Seam Ducts: Fabricate supply ducts according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."

D. Duct Joints:

1. Ducts up to 20 Inches in Diameter: Interior, center-beaded slip coupling, sealed before and after fastening, attached with sheet metal screws.
2. Ducts 21 to 72 Inches in Diameter: Three-piece, gasketed, flanged joint consisting of two internal flanges with sealant and one external closure band with gasket.
3. Round Ducts: Prefabricated connection system consisting of double-lipped, EPDM rubber gasket. Manufacture ducts according to connection system manufacturer's tolerances.
4. Flat-Oval Ducts: Prefabricated connection system consisting of two flanges and one synthetic rubber gasket.

E. Diverging-Flow Fittings: Fabricate with reduced entrance to branch taps and with no excess material projecting from fitting onto branch tap entrance.

F. Fabricate elbows using die-formed, gored, pleated, or mitered construction. Bend radius of die-formed, gored, and pleated elbows shall be 1-1/2 times duct diameter.

1. Mitered-Elbow Radius and Number of Pieces: Welded construction complying with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," unless otherwise indicated.
2. Flat-Oval Mitered Elbows: Welded construction with same metal thickness as longitudinal-seam flat-oval duct.
3. Round Elbows 8 Inches and Less in Diameter: Fabricate die-formed elbows for 45- and 90-degree elbows and pleated elbows for 30, 45, 60, and 90 degrees only. Fabricate nonstandard bend-angle configurations or nonstandard diameter elbows with gored construction.
4. Round Elbows 9 through 14 Inches in Diameter: Fabricate gored or pleated elbows for 30, 45, 60, and 90 degrees unless space restrictions require mitered elbows. Fabricate nonstandard bend-angle configurations or nonstandard diameter elbows with gored construction.
5. Round Elbows Larger Than 14 Inches in Diameter and All Flat-Oval Elbows: Fabricate gored elbows unless space restrictions require mitered elbows.

2.6 VOLUME DAMPERS

A. General Description: Factory fabricated, with required hardware and accessories. Stiffen damper blades for stability. Include locking device to hold single-blade dampers in a fixed position without vibration. Close duct penetrations for damper components to seal duct consistent with pressure class.

B. Standard Volume Dampers: Multiple-opposed-blade design, standard leakage rating, and suitable for horizontal or vertical applications.

1. Steel Frames: Hat-shaped, galvanized sheet steel channels, minimum of 0.064 inch thick, with mitered and welded corners; frames with flanges where indicated for attaching to walls and flangeless frames where indicated for installing in ducts.
2. Roll-Formed Steel Blades: 0.064-inch-thick, galvanized sheet steel.
3. Blade Axles: Galvanized steel.
4. Bearings: Oil-impregnated bronze.

5. Tie Bars and Brackets: Galvanized steel.

2.7 TURNING VANES

- A. Fabricate to comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for vanes and vane runners. Vane runners shall automatically align vanes.
- B. Manufactured Turning Vanes: Fabricate 1-1/2-inch- wide, single-vane, curved blades of galvanized sheet steel set 3/4 inch o.c.; support with bars perpendicular to blades set 2 inches o.c.; and set into vane runners suitable for duct mounting.

2.8 DUCT-MOUNTING ACCESS DOORS

- A. General Description: Fabricate doors airtight and suitable for duct pressure class.
- B. Door: Double wall, duct mounting, and rectangular; fabricated of galvanized sheet metal with insulation fill and thickness as indicated for duct pressure class. Include 1-by-1-inch butt or piano hinge and cam latches.
 1. Frame: Galvanized sheet steel, with bend-over tabs and foam gaskets.
 2. Provide number of hinges and locks as follows:
 - a. Up to 18 Inches Square: Two hinges and two sash locks.
 - b. Up to 24 by 48 Inches: Three hinges and two compression latches with outside and inside handles.
 - c. Sizes 24 by 48 Inches and Larger: One additional hinge.
- C. Seal around frame attachment to duct and door to frame with neoprene or foam rubber.
- D. Insulation: 1-inch-thick, fibrous-glass or polystyrene-foam board.

2.9 FLEXIBLE CONNECTORS

- A. General Description: Flame-retardant or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.
- B. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene.
 1. Minimum Weight: 26 oz./sq. yd.
 2. Tensile Strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling.
- C. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.
 1. Minimum Weight: 24-oz./sq. yd.
 2. Tensile Strength: 530 lbf/inch in the warp and 440 lbf/inch in the filling.

2.10 DUCT SLEEVES

- A. Fabricate from minimum 20 gage galvanized steel. Where sleeves are installed in bearing walls, provide structural steel sleeves as indicated. Size sleeves to provide one-inch clearance between duct and sleeve or between insulation and sleeve for insulated ducts.
- B. Prepared Openings: Provide one-inch clearance between the duct and the sleeve, or one inch clearance between insulation and sleeve for insulated ducts except at grilles, registers, and diffusers.
- C. Packing: ASTM C 553, Type 1, Class B-2, mineral fiber.
- D. Closure Collars: Four inches wide minimum, fabricated from minimum 20 gage-galvanized steel or aluminum.

2.11 FLEXIBLE DUCTS

- A. Provide Low Pressure Flexible Duct composed of an inner duct of woven and coated fiberglass providing an air seal and permanently bonded to coated steel wire helix, a 1" thick, ¾ lb/ft³ fiberglass insulating blanket and fiberglass reinforced metallized film laminate outer vapor barrier. Low-pressure flexible duct shall be Thermaflex M-KC, Wiremold 57K or Flexmaster Type 4.
- B. Medium pressure flexible duct (upstream from air terminals): Construct medium pressure flexible duct with a bonded, two-ply laminate, corrugated aluminum inner core. Insulate the core with 1" thick, 1 lb./ft³ fiberglass and cover with an airtight fiberglass reinforced foil vapor barrier. Medium pressure flexible duct shall be Cleveflex 12FV.
- C. Flexible connectors shall not exceed 8 feet in length and shall not be used upstream of VAV boxes.
- D. Make connections between flexible ducts and other equipment using galvanized steel draw bands with plated screws and buckles and United Duct seal for medium pressured ducts and nylon draw bands for low pressure ducts.

2.12 BACKDRAFT DAMPERS (GRAVITY DAMPERS OR SHUTTERS)

- A. Factory-fabricated, with statically balanced blades that open automatically when the fan starts and close by gravity when the fan stops. Provide the edges of blades with felt or rubber strips to prevent rattling. Provide stainless steel/aluminum back draft dampers for outside air application.

PART 3 - EXECUTION

3.1 DUCT APPLICATIONS

- A. Static-Pressure Classes: Unless otherwise indicated, construct ducts according to the following:

1. Supply Ducts (Positive Pressure): 2-inches wg.
2. Return Ducts (Negative Pressure): 2-inch wg.
3. Exhaust Ducts (Negative Pressure): 2-inch wg.

3.2 DUCT INSTALLATION

- A. Construct and install ducts according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible," unless otherwise indicated.
- B. Install ducts with fewest possible joints.
- C. Install fabricated fittings for changes in directions, size, and shape and for connections.
- D. Install couplings tight to duct wall surface with a minimum of projections into duct. Secure couplings with sheet metal screws. Install screws at intervals of 12 inches, with a minimum of 3 screws in each coupling.
- E. Install ducts with a clearance of 1 inch, plus allowance for insulation thickness.
- F. Seal all joints and seams. Apply sealant to male end connectors before insertion, and afterward to cover entire joint and sheet metal screws.
- G. Electrical Equipment Spaces: Route ducts to avoid passing through electrical equipment spaces and enclosures.
- H. Non-Fire-Rated Partition Penetrations: Where ducts pass through interior partitions and exterior walls and are exposed to view, conceal spaces between construction openings and ducts or duct insulation with sheet metal flanges of same metal thickness as ducts. Overlap openings on 4 sides by at least 1-1/2 inches.
- I. Protect duct interiors from the elements and foreign materials until building is enclosed.
- J. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for metal ducts and in NAIMA AH116.
- K. Install backdraft dampers on exhaust fans or exhaust ducts nearest to outside and where indicated.
- L. Install volume dampers in ducts as indicated on plans and at all branch connections to diffusers and from return air and exhaust air grilles.
- M. Provide balancing dampers at points on supply, return, and exhaust systems where branches lead from larger ducts as required for air balancing. Install at a minimum of two duct widths from branch takeoff.
- N. Install duct access doors to allow for inspecting, adjusting, and maintaining accessories and terminal units as follows:
 1. On both sides of duct coils.
 2. Downstream from equipment.
 3. Adjacent to fire or smoke dampers, providing access to reset or reinstall fusible links.

- O. Install the following sizes for duct-mounting, rectangular access doors:
 - 1. One-Hand or Inspection Access: 8 by 5 inches.
 - 2. Two-Hand Access: 12 by 6 inches.
 - 3. Head and Hand Access: 18 by 10 inches.
 - 4. Head and Shoulders Access: 21 by 14 inches.
 - 5. Body Access: 25 by 14 inches.
 - 6. Body Plus Ladder Access: 25 by 17 inches.
- P. Install the following sizes for duct-mounting, round access doors:
 - 1. One-Hand or Inspection Access: 8 inches in diameter.
 - 2. Two-Hand Access: 10 inches in diameter.
 - 3. Head and Hand Access: 12 inches in diameter.
 - 4. Head and Shoulders Access: 18 inches in diameter.
 - 5. Body Access: 24 inches in diameter.
- Q. Install flexible connectors immediately adjacent to equipment in ducts associated with fans and motorized equipment.
- R. Connect diffusers to low pressure ducts with maximum 60-inch lengths of flexible duct clamped or strapped in place.
- S. Connect flexible ducts to metal ducts with draw bands.
- T. Access Doors: Provide for automatic dampers, volume dampers, fire dampers, coils, thermostats, temperature controllers, valves, filters, humidifiers and other concealed apparatus requiring service and inspection in the duct systems.
- U. Duct Sleeves, Prepared Openings, and Closure Collars: Provide for ductwork penetrations in floors, walls, and partitions through which metallic ductwork passes.
 - 1. Duct Sleeves: Fill space between duct and sleeve or between insulation and sleeve for insulated ducts with mineral fiber, except at grilles, registers, and diffusers.
 - 2. Prepared Openings: Fill space between duct and opening or between insulation and opening for insulated ducts with mineral fiber, except at grilles, registers, and diffusers.
 - 3. Closure Collars: Fit collars snugly around ducts or insulation. Grind edges of collar smooth to preclude tearing or puncturing insulation covering or vapor barrier. Provide nails with maximum 6 inch centers on collars.

3.3 SEAM AND JOINT SEALING

- A. Seal duct seams and joints according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for duct pressure class indicated.
 - 1. For pressure classes lower than 2-inch wg, seal transverse joints.
- B. Seal ducts before external insulation is applied.

3.4 HANGING AND SUPPORTING

- A. Support horizontal ducts within 24 inches of each elbow and within 48 inches of each branch intersection.
- B. Support vertical ducts at maximum intervals of 16 feet and at each floor.
- C. Install upper attachments to structures with an allowable load not exceeding one-fourth of failure (proof-test) load.

3.5 CONNECTIONS

- A. Comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.6 CLEANING NEW SYSTEMS

- A. Ductwork improperly protected from construction dust and debris as described under Duct Installation will require the following.
 - 1. Mark position of dampers and air-directional mechanical devices before cleaning, and perform cleaning before air balancing.
 - 2. Use service openings, as required, for physical and mechanical entry and for inspection.
 - a. Create other openings to comply with duct standards.
 - b. Disconnect flexible ducts as needed for cleaning and inspection.
 - c. Remove and reinstall ceiling sections to gain access during the cleaning process.
 - 3. Vent vacuuming system to the outside. Include filtration to contain debris removed from HVAC systems, and locate exhaust down wind and away from air intakes and other points of entry into building.
- B. Clean the following metal duct systems by removing surface contaminants and deposits:
 - 1. Air outlets and inlets (registers, grilles, and diffusers).
 - 2. Supply, return, and exhaust fans including fan housings, plenums (except ceiling supply and return plenums), scrolls, blades or vanes, shafts, baffles, dampers, and drive assemblies.
 - 3. Air-handling unit internal surfaces and components including mixing box, coil section, air wash systems, spray eliminators, condensate drain pans, humidifiers and dehumidifiers, filters and filter sections, and condensate collectors and drains.
 - 4. Coils and related components.
 - 5. Clean coils using materials and methods recommended in writing by manufacturers, and clean inside of casings and enclosures to remove dust and debris.
 - 6. Return-air ducts, dampers, and actuators except in ceiling plenums and mechanical equipment rooms.
 - 7. Supply-air ducts, dampers, actuators, and turning vanes.
- C. Cleanliness Verification:

1. Visually inspect metal ducts for contaminants.
 2. Where contaminants are discovered, re-clean and reinspect ducts.
- D. Testing: Duct leakage tests shall be performed per SMACNA procedures for the pressure class applicable to the construction. Smoke exhaust ducts shall be tested for 1.5 times the operating pressure and measured leakage shall not exceed 5% of design flow. All new ducts shall be tested irrespective of pressure class.
- E. Ductwork coordination drawing submittal required. All mechanical room drawings shall be submitted with the final equipment selected.
- F. Snap-lock joint system acceptable for longitudinal seams.

END OF SECTION 23 31 11

SECTION 23 34 16 - CENTRIFUGAL HVAC FANS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes: For each product.
 - 1. Backward-inclined centrifugal fans.

1.3 ACTION SUBMITTALS

- A. Product Data:
 - 1. Include rated capacities, furnished specialties, and accessories for each fan.
 - 2. Certified fan performance curves with system operating conditions indicated.
 - 3. Motor ratings and electrical characteristics, plus motor and electrical accessories.
 - 4. Material thickness and finishes, including color charts.
 - 5. Dampers, including housings, linkages, and operators.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Show fan room layout and relationships between components and adjacent structural and mechanical elements. Show support locations, type of support, and weight on each support. Indicate and certify field measurements.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For centrifugal fans to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. AMCA Compliance:

1. Comply with AMCA performance requirements and bear the AMCA-Certified Ratings Seal.
2. Operating Limits: Classify according to AMCA 99.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 BACKWARD-INCLINED CENTRIFUGAL FANS

A. Description:

1. Factory-fabricated, -assembled, -tested, and -finished, belt-driven centrifugal fans consisting of housing, wheel, fan shaft, bearings, motor, drive assembly, and support structure.
2. Deliver fans as factory-assembled units, to the extent allowable by shipping limitations.
3. Factory-installed and -wired disconnect switch.

B. Housings:

1. Formed panels to make curved-scroll housings with shaped cutoff.
2. Panel Bracing: Steel angle- or channel-iron member supports for mounting and supporting fan scroll, wheel, motor, and accessories.
3. Spun inlet cone with flange.
4. Outlet flange.

C. Backward-Inclined Wheels:

1. Single-width-single-inlet and double-width-double-inlet construction with curved inlet flange, backplate, backward-inclined blades, and fastened to shaft with set screws.
2. Welded or riveted to flange and backplate; cast-iron or cast-steel hub riveted to backplate.

D. Shafts:

1. Statically and dynamically balanced and selected for continuous operation at maximum rated fan speed and motor horsepower, with adjustable alignment and belt tensioning.
2. Turned, ground, and polished hot-rolled steel with keyway. Ship with protective coating of lubricating oil.
3. Designed to operate at no more than 70 percent of first critical speed at top of fan's speed range.

E. Sealed Shaft Bearings:

1. Self-aligning, pillow-block-type ball bearings.

2. Ball-Bearing Rating Life: ABMA 9, L10 at 100,000 hours or Roller-Bearing Rating Life: ABMA 11, L10 at 100,000 hours.

F. Accessories:

1. Access for Inspection, Cleaning, and Maintenance: Comply with requirements in ASHRAE 62.1.
2. Scroll Drain Connection: NPS 1 steel pipe coupling welded to low point of fan scroll.
3. Companion Flanges: Rolled flanges for duct connections of same material as housing.
4. Discharge Dampers: Assembly with opposed blades constructed of two plates formed around and to shaft, channel frame, and sealed ball bearings; with blades linked outside of airstream to single control lever of same material as housing.
5. Inlet Screens: Grid screen of same material as housing.
6. Shaft Cooler: Metal disk between bearings and fan wheel, designed to dissipate heat from shaft.
7. Spark-Resistant Construction: AMCA 99.
8. Shaft Seals: Airtight seals installed around shaft on drive side of single-width fans.
9. Weather Cover: Enameled-steel sheet with ventilation slots, bolted to housing.

2.3 MOTORS

- A. Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."

2.4 SOURCE QUALITY CONTROL

- A. with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data." Factory test fans according to AMCA 300, "Reverberant Room Method for Sound Testing of Fans." Label fans with the AMCA-Certified Ratings Seal.
- B. Fan Performance Ratings: Establish flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests and ratings according to AMCA 210/ASHRAE 51, "Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install centrifugal fans level and plumb.
- B. Disassemble and reassemble units, as required for moving to the final location, according to manufacturer's written instructions.
- C. Lift and support units with manufacturer's designated lifting or supporting points.
- D. Equipment Mounting:

1. Comply with requirements for vibration isolation devices specified in Section 230548.13 "Vibration Controls for HVAC."
- E. Curb Support: Install roof curb on roof structure, level and secure, according to "The NRCA Roofing and Waterproofing Manual," Low-Slope Membrane Roofing Construction Details Section, Illustration "Raised Curb Detail for Rooftop Air Handling Units and Ducts." Install and secure centrifugal fans on curbs, and coordinate roof penetrations and flashing with roof construction. Secure units to curb support with anchor bolts.
- F. Unit Support: Install centrifugal fans level on structural curbs. Coordinate wall penetrations and flashing with wall construction. Secure units to structural support with anchor bolts.
- G. Install units with clearances for service and maintenance.
- H. Label fans according to requirements specified in Section 230553 "Identification for HVAC Piping and Equipment."

3.2 CONNECTIONS

- A. Duct connections with flexible connectors. Flexible connectors are specified in Section 233111 "Ductwork and Accessories."
- B. Install ducts adjacent to fans to allow service and maintenance.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform the following tests and inspections:
 1. Verify that shipping, blocking, and bracing are removed.
 2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
 3. Verify that cleaning and adjusting are complete.
 4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, align and adjust belts, and install belt guards.
 5. Adjust damper linkages for proper damper operation.
 6. Verify lubrication for bearings and other moving parts.
 7. See Section 230593 "Testing, Adjusting, and Balancing For HVAC" for testing, adjusting, and balancing procedures.
 8. Remove and replace malfunctioning units and retest as specified above.
- D. Test and adjust controls and safeties. Controls and equipment will be considered defective if they do not pass tests and inspections.

- E. Prepare test and inspection reports.

3.4 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain centrifugal fans.

END OF SECTION 23 34 16

SECTION 23 36 00 - AIR TERMINAL UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Single-duct air terminal units.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of the following products, including rated capacities, furnished specialties, sound-power ratings, and accessories.
 - 1. Air terminal units.
 - 2. Liners and adhesives.
 - 3. Sealants and gaskets.
- B. Shop Drawings: For air terminal units. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
 - 3. Hangers and supports, including methods for duct and building attachment and vibration isolation.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
 - 1. Ceiling suspension assembly members.
 - 2. Size and location of initial access modules for acoustic tile.
 - 3. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air terminal units to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - 1. Instructions for resetting minimum and maximum air volumes.
 - 2. Instructions for adjusting software set points.

1.6 QUALITY ASSURANCE

- A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-Up."

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 SINGLE-DUCT AIR TERMINAL UNITS

- A. Configuration: Volume-damper assembly inside unit casing with control components inside a protective metal shroud.
- B. Casing: 0.034-inch single wall.
 - 1. Casing Lining: Adhesive attached, 3/4-inch- thick, polyurethane foam insulation complying with UL 181 erosion requirements, and having a maximum flame-spread index of 25 and a maximum smoke-developed index of 50, for both insulation and adhesive, when tested according to ASTM E 84.
 - 2. Air Inlet: Round stub connection or S-slip and drive connections for duct attachment.
 - 3. Air Outlet: S-slip and drive connections.
 - 4. Access: Removable panels for access to parts requiring service, adjustment, or maintenance; with airtight gasket.
 - 5. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
- C. Volume Damper: Galvanized steel with peripheral gasket and self-lubricating bearings.
 - 1. Maximum Damper Leakage: ARI 880 rated, 2 percent of nominal airflow at 3-inch wg inlet static pressure.
 - 2. Damper Position: Normally closed.
 - 3. Lining: Adhesive attached, 3/4-inch- thick, polyurethane foam insulation complying with UL 181 erosion requirements, and having a maximum flame-spread index of 25 and a

- maximum smoke-developed index of 50, for both insulation and adhesive, when tested according to ASTM E 84.
4. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
- D. Electric-Resistance Heating Coils: Nickel-chromium heating wire, free of expansion noise and hum, mounted in ceramic inserts in a galvanized-steel housing; with primary automatic, and secondary manual, reset thermal cutouts. Terminate elements in stainless-steel, machine-staked terminals secured with stainless-steel hardware.
1. Access door interlocked disconnect switch.
 2. Downstream air temperature sensor with local connection to override discharge-air temperature to not exceed a maximum temperature set point (adjustable.)
 3. Nickel chrome 80/20 heating elements.
 4. Airflow switch for proof of airflow.
 5. Fan interlock contacts.
 6. Fuses in terminal box for overcurrent protection (for coils more than 48 A).
 7. Mercury contactors.
 8. Pneumatic-electric switches and relays.
 9. Magnetic contactor for each step of control (for three-phase coils).
- E. Direct Digital Controls: Single-package unitary controller and actuator specified in Section 230923 "Direct Digital Control (DDC) System for HVAC."
- F. Direct Digital Controls: Bidirectional damper operators and microprocessor-based controller and room sensor. Control devices shall be compatible with temperature controls specified in Section 230923 "Direct Digital Control (DDC) System for HVAC" and shall have the following features:
1. Damper Actuator: 24 V, powered closed, [spring return open] [powered open].
 2. Terminal Unit Controller: Pressure-independent, variable-air-volume controller with electronic airflow transducer with multipoint velocity sensor at air inlet, factory calibrated to minimum and maximum air volumes, and having the following features:
 - a. Occupied and unoccupied operating mode.
 - b. Remote reset of airflow or temperature set points.
 - c. Adjusting and monitoring with portable terminal.
 - d. Communication with temperature-control system specified in Section 230923 "Direct Digital Control (DDC) System for HVAC."
 3. Room Sensor: Wall mounted with temperature set-point adjustment and access for connection of portable operator terminal.
- G. Control Sequence:
1. Suitable for operation with duct pressures between 0.25- and 3.0-inch wg inlet static pressure.
 2. System-powered, wall-mounted thermostat.

2.3 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Air Terminal Unit Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- D. Trapeze and Riser Supports: Steel shapes and plates for units with steel casings; aluminum for units with aluminum casings.

2.4 SOURCE QUALITY CONTROL

- A. Factory Tests: Test assembled air terminal units according to ARI 880.
 - 1. Label each air terminal unit with plan number, nominal airflow, maximum and minimum factory-set airflows, coil type, and ARI certification seal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install air terminal units according to NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems."
- B. Install air terminal units level and plumb. Maintain sufficient clearance for normal service and maintenance.
- C. Install wall-mounted thermostats.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 - 1. Where practical, install concrete inserts before placing concrete.
 - 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 - 3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes and for slabs more than 4 inches thick.
 - 4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes and for slabs less than 4 inches thick.
- C. Hangers Exposed to View: Threaded rod and angle or channel supports.

- D. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.3 CONNECTIONS

- A. Install piping adjacent to air terminal unit to allow service and maintenance.
- B. Connect ducts to air terminal units according to Section 233111 "Ductwork and Accessories"
- C. Make connections to air terminal units with flexible connectors complying with requirements in Section 233111 "Ductwork and Accessories"

3.4 IDENTIFICATION

- A. Label each air terminal unit with plan number, nominal airflow, and maximum and minimum factory-set airflows. Comply with requirements in Section 230553 "Identification for HVAC Piping and Equipment" for equipment labels and warning signs and labels.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- D. Tests and Inspections:
 - 1. After installing air terminal units and after electrical circuitry has been energized, test for compliance with requirements.
 - 2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Air terminal unit will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.

3.6 STARTUP SERVICE

- A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that inlet duct connections are as recommended by air terminal unit manufacturer to achieve proper performance.
3. Verify that controls and control enclosure are accessible.
4. Verify that control connections are complete.
5. Verify that nameplate and identification tag are visible.
6. Verify that controls respond to inputs as specified.

3.7 DEMONSTRATION

- A. Train Owner's maintenance personnel to adjust, operate, and maintain air terminal units.

END OF SECTION 23 36 00

SECTION 23 37 13 - DIFFUSERS, REGISTERS, AND GRILLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Rectangular and square ceiling diffusers.
 - 2. Perforated diffusers.
 - 3. Louver face diffusers.
 - 4. Fixed face registers and grilles.
 - 5. Linear bar grilles.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, include the following:
 - 1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
 - 2. Diffuser, Register, and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
 - 1. Ceiling suspension assembly members.
 - 2. Method of attaching hangers to building structure.
 - 3. Size and location of initial access modules for acoustical tile.
 - 4. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 - 5. Duct access panels.
- B. Source quality-control reports.

PART 2 - PRODUCTS

2.1 CEILING DIFFUSERS

A. Rectangular and Square Ceiling Diffusers CD-1:

1. Devices shall be specifically designed for variable-air-volume flows.
2. Material: Aluminum.
3. Finish: Baked enamel, white.
4. Face Size: 24 by 24 inches.
5. Face Style: Three cone.
6. Mounting: T-bar.
7. Pattern: Fixed.

B. Perforated Diffuser RG-1, EG-2, TG-2:

1. Devices shall be specifically designed for variable-air-volume flows.
2. Material: Steel backpan and pattern controllers, with aluminum face.
3. Finish: Baked enamel, white.
4. Face Size: 24 by 24 inches.
5. Duct Inlet: Square.
6. Face Style: Flush.
7. Mounting: T-bar.
8. Pattern Controller: None.

C. Louver Face Diffuser SG-2

1. Devices shall be specifically designed for variable-air-volume flows.
2. Material: Aluminum.
3. Finish: Baked enamel, white
4. Mounting: Surface.
5. Pattern: Four-way.
6. Dampers: Radial opposed blade.

2.2 REGISTERS AND GRILLES

A. Fixed Face Register and Grille EG-1, TG-1, RG-2:

1. Material: Aluminum.
2. Finish: Baked enamel, white.
3. Face Arrangement: 1/2-by-1/2-by-1/2-inch grid core.
4. Core Construction: Integral.
5. Frame: 1-1/4 inches wide.
6. Mounting: Countersunk screw.
7. Damper Type (for EG-1 and RG-2 only): Adjustable opposed blade.

2.3 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate diffusers, registers, and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where diffusers, registers, and grilles are to be installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install diffusers, registers, and grilles level and plumb.
- B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.
- C. Install diffusers, registers, and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3 ADJUSTING

- A. After installation, adjust diffusers, registers, and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 23 37 13

SECTION 23 74 13 - PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes packaged, outdoor, central-station air-handling units (rooftop units) with the following components and accessories:
 - 1. Direct-expansion cooling.
 - 2. Heat-pump refrigeration components.
 - 3. Hot-gas reheat.
 - 4. Electric-heating coils.
 - 5. Integral, space temperature controls.
 - 6. Roof curbs.

1.3 DEFINITIONS

- A. DDC: Direct-digital controls.
- B. ECM: Electrically commutated motor.
- C. Outdoor-Air Refrigerant Coil: Refrigerant coil in the outdoor-air stream to reject heat during cooling operations and to absorb heat during heating operations. "Outdoor air" is defined as the air outside the building or taken from outdoors and not previously circulated through the system.
- D. Outdoor-Air Refrigerant-Coil Fan: The outdoor-air refrigerant-coil fan in RTUs. "Outdoor air" is defined as the air outside the building or taken from outdoors and not previously circulated through the system.
- E. RTU: Rooftop unit. As used in this Section, this abbreviation means packaged, outdoor, central-station air-handling units. This abbreviation is used regardless of whether the unit is mounted on the roof or on a concrete base on ground.
- F. Supply-Air Fan: The fan providing supply air to conditioned space. "Supply air" is defined as the air entering a space from air-conditioning, heating, or ventilating apparatus.
- G. Supply-Air Refrigerant Coil: Refrigerant coil in the supply-air stream to absorb heat (provide cooling) during cooling operations and to reject heat (provide heating) during heating operations. "Supply air" is defined as the air entering a space from air-conditioning, heating, or ventilating apparatus.

- H. VVT: Variable-air volume and temperature.

1.4 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design RTU supports to comply with wind performance requirements, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Wind-Restraint Performance:
 - 1. Basic Wind Speed: (3-second gust) 137 MPH.
 - 2. Building Classification Category: II.
 - 3. Wind pressure shall be multiplied by the maximum area of the mechanical component projected on a vertical plane that is normal to the wind direction, and 45 degrees either side of normal.
 - 4. Compute wind pressures per ASCE 7-10.

1.5 ACTION SUBMITTALS

- A. Product Data: Include manufacturer's technical data for each RTU, including rated capacities, dimensions, required clearances, characteristics, furnished specialties, and accessories.
- B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Power, signal, and control wiring.
- C. Delegated-Design Submittal: For RTU supports indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Wind Restraint Details: Detail fabrication and attachment of wind and seismic restraints and snubbers. Show anchorage details and indicate quantity, diameter, and depth of penetration of anchors.

1.6 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members to which RTUs will be attached.
 - 2. Roof openings
 - 3. Roof curbs and flashing.
- B. Manufacturer Wind Loading Qualification Certification: Submit certification that specified equipment will withstand wind forces identified in "Performance Requirements" Article and in Section 230548 "Vibration and Seismic Controls for HVAC."

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculations.
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of wind force and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Field quality-control test reports.
- D. Warranty: Special warranty specified in this Section.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For RTUs to include in emergency, operation, and maintenance manuals.

1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Fan Belts: One set for each belt-driven fan.
 2. Filters: One set of filters for each unit.

1.9 QUALITY ASSURANCE

- A. ARI Compliance:
1. Comply with ARI 203/110 and ARI 303/110 for testing and rating energy efficiencies for RTUs.
 2. Comply with ARI 270 for testing and rating sound performance for RTUs.
- B. ASHRAE Compliance:
1. Comply with ASHRAE 15 for refrigeration system safety.
 2. Comply with ASHRAE 33 for methods of testing cooling and heating coils.
 3. Comply with applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."
- C. ASHRAE/IESNA 90.1 Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."
- D. NFPA Compliance: Comply with NFPA 90A and NFPA 90B.
- E. UL Compliance: Comply with UL 1995.
- F. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to replace components of RTUs that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period for Compressors: Manufacturer's standard, but not less than five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CASING

- A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.
- B. Exterior Casing Material: Galvanized steel with factory-painted finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
 - 1. Exterior Casing Thickness: 0.052 inch.
- C. Inner Casing Fabrication Requirements:
 - 1. Inside Casing: Galvanized steel, 0.034 inch.
- D. Casing Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.
 - 1. Materials: ASTM C 1071, Type I.
 - 2. Thickness: 1-1/2 inch.
 - 3. Liner materials shall have air-stream surface coated with an erosion- and temperature-resistant coating or faced with a plain or coated fibrous mat or fabric.
 - 4. Liner Adhesive: Comply with ASTM C 916, Type I.
- E. Condensate Drain Pans: Formed sections of stainless-steel sheet, a minimum of 2 inches deep, and complying with ASHRAE 62.1.
 - 1. Double-Wall Construction: Fill space between walls with foam insulation and seal moisture tight.
 - 2. Drain Connections: Threaded nipple.
- F. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

2.2 FANS

- A. Direct-Driven Supply-Air Fans: Double width, backward inclined, centrifugal; with permanently lubricated, multispeed motor resiliently mounted in the fan inlet. Aluminum or painted-steel wheels, and galvanized- or painted-steel fan scrolls.

- B. Belt-Driven Supply-Air Fans: Double width, forward curved, centrifugal; with permanently lubricated, single-speed motor installed on an adjustable fan base resiliently mounted in the casing. Aluminum or painted-steel wheels, and galvanized- or painted-steel fan scrolls.
- C. Condenser-Coil Fan: Propeller, mounted on shaft of permanently lubricated motor.
- D. Fan Motor: Comply with requirements in Section 230513 "Common Motor Requirements for HVAC Equipment."

2.3 COILS

- A. Supply-Air Refrigerant Coil:
 - 1. Aluminum-plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor.
 - 2. Polymer strip shall prevent all copper coil from contacting steel coil frame or condensate pan.
 - 3. Coil Split: Interlaced.
 - 4. Polymer coating.
 - 5. Condensate Drain Pan: Stainless steel formed with pitch and drain connections complying with ASHRAE 62.1.
- B. Outdoor-Air Refrigerant Coil:
 - 1. Aluminum plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor.
 - 2. Polymer strip shall prevent all copper coil from contacting steel coil frame or condensate pan.
 - 3. Polymer coating.
- C. Hot-Gas Reheat Refrigerant Coil:
 - 1. Aluminum plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor.
 - 2. Polymer strip shall prevent all copper coil from contacting steel coil frame or condensate pan.
 - 3. Polymer coating.
- D. Electric-Resistance Heating:
 - 1. Open Heating Elements: Resistance wire of 80 percent nickel and 20 percent chromium, supported and insulated by floating ceramic bushings recessed into casing openings, fastened to supporting brackets, and mounted in galvanized-steel frame. Terminate elements in stainless-steel machine-staked terminals secured with stainless-steel hardware.
 - 2. Overtemperature Protection: Disk-type, automatically reset, thermal-cutout, safety device; serviceable through terminal box.
 - 3. Overcurrent Protection: Manual-reset thermal cutouts, factory wired in each heater stage.
 - 4. Control Panel: Unit mounted with disconnecting means and overcurrent protection. Include the following controls:

- a. Mercury contactors.
- b. Step Controller: Pilot lights and override toggle switch for each step.
- c. SCR Controller: Pilot lights operate on load ratio, a minimum of five steps.
- d. Time-delay relay.
- e. Airflow proving switch.

2.4 REFRIGERANT CIRCUIT COMPONENTS

- A. Compressor: Hermetic, scroll, mounted on vibration isolators; with internal overcurrent and high-temperature protection, internal pressure relief.
- B. Refrigeration Specialties:
 1. Refrigerant: R-410A.
 2. Expansion valve with replaceable thermostatic element.
 3. Refrigerant filter/dryer.
 4. Manual-reset high-pressure safety switch.
 5. Automatic-reset low-pressure safety switch.
 6. Minimum off-time relay.
 7. Automatic-reset compressor motor thermal overload.
 8. Brass service valves installed in compressor suction and liquid lines.
 9. Low-ambient kit high-pressure sensor.
 10. Hot-gas reheat solenoid valve with a replaceable magnetic coil.
 11. Hot-gas bypass solenoid valve with a replaceable magnetic coil.
 12. Four-way reversing valve with a replaceable magnetic coil, thermostatic expansion valves with bypass check valves, and a suction line accumulator.

2.5 AIR FILTRATION

- A. Minimum arrestance according to ASHRAE 52.1, and a minimum efficiency reporting value (MERV) according to ASHRAE 52.2.
 1. Pleated: Minimum 90 percent arrestance, and MERV 8.

2.6 DAMPERS

- A. Outdoor-Air Damper: Linked damper blades, for 0 to 25 percent outdoor air, with motorized damper.
- B. Outdoor- and Return-Air Mixing Dampers: Parallel- or opposed-blade galvanized-steel dampers mechanically fastened to cadmium plated for galvanized-steel operating rod in reinforced cabinet. Connect operating rods with common linkage and interconnect linkages so dampers operate simultaneously.
 1. Damper Motor: Modulating with adjustable minimum position.
 2. Relief-Air Damper: Gravity actuated or motorized, as required by ASHRAE/IESNA 90.1, with bird screen and hood.

2.7 ELECTRICAL POWER CONNECTION

- A. Provide for single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection.

2.8 CONTROLS

- A. Control equipment and sequence of operation are specified in Section 230923 "Direct Digital Control (DDC) System for HVAC" and Section 230993.11 "Sequence of Operations for HVAC DDC."
- B. Basic Unit Controls:
 - 1. Control-voltage transformer.
 - 2. Wall-mounted thermostat or sensor with the following features:
 - a. Heat-cool-off switch.
 - b. Fan on-auto switch.
 - c. Fan-speed switch.
 - d. Automatic changeover.
 - e. Adjustable deadband.
 - f. Degree F indication.
 - g. Unoccupied-period-override push button.
 - h. Data entry and access port to input temperature set points, occupied and unoccupied periods, and output room temperature, supply-air temperature, operating mode, and status.
- C. DDC Controller:
 - 1. Controller shall have volatile-memory backup.
 - 2. Safety Control Operation:
 - a. Smoke Detectors: Stop fan and close outdoor-air damper if smoke is detected. Provide additional contacts for alarm interface to fire alarm control panel.
 - b. Firestats: Stop fan and close outdoor-air damper if air greater than 130 deg F enters unit. Provide additional contacts for alarm interface to fire alarm control panel.
 - c. Fire Alarm Control Panel Interface: Provide control interface to coordinate with operating sequence described in Section 283111 "Digital, Addressable Fire-Alarm System" and Section 283112 "Zoned (DC Loop) Fire-Alarm System."
 - 3. Scheduled Operation: Occupied and unoccupied periods on seven-day clock with a minimum of four programmable periods per day.
 - 4. Unoccupied Period:
 - a. Heating Setback: 10 deg F.
 - b. Cooling Setback: System off.
 - c. Override Operation: Two hours.
 - 5. Supply Fan Operation:

- a. Occupied Periods: Run fan continuously.
 - b. Unoccupied Periods: Cycle fan to maintain setback temperature.
6. Refrigerant Circuit Operation:
- a. Occupied Periods: Cycle or stage compressors to match compressor output to cooling load to maintain room temperature. Cycle condenser fans to maintain maximum hot-gas pressure. Operate low-ambient control kit to maintain minimum hot-gas pressure.
 - b. Unoccupied Periods: Compressors off.
 - c. Switch reversing valve for heating or cooling mode on air-to-air heat pump.
7. Hot-Gas Reheat-Coil Operation:
- a. Occupied Periods: Humidistat opens hot-gas valve to provide hot-gas reheat, and cycles compressor.
 - b. Unoccupied Periods: Reheat not required.
8. Electric-Heating-Coil Operation:
- a. Occupied Periods: Modulate coil to maintain room temperature.
 - b. Unoccupied Periods: Energize coil to maintain setback temperature.
9. Fixed Minimum Outdoor-Air Damper Operation:
- a. Unoccupied Periods: Close the outdoor-air damper.
10. Carbon Dioxide Sensor Operation:
- a. Occupied Periods: Reset minimum outdoor-air ratio down to minimum 10 percent to maintain maximum 1000-ppm concentration.
 - b. Unoccupied Periods: Close outdoor-air damper and open return-air damper.
11. VVT Relays:
- a. Provide heating- and cooling-mode changeover relays compatible with VVT terminal control system required in Section 233600 "Air Terminal Units" and Section 230923 "Direct Digital Control (DDC) System for HVAC."
- D. Interface Requirements for HVAC Instrumentation and Control System:
- 1. Interface relay for scheduled operation.
 - 2. Interface relay to provide indication of fault at the central workstation and diagnostic code storage.
 - 3. Provide BACnet compatible interface for central HVAC control workstation for the following:
 - a. Adjusting set points.
 - b. Monitoring supply fan start, stop, and operation.
 - c. Inquiring data to include outdoor-air damper position, supply- and room-air temperature.
 - d. Monitoring occupied and unoccupied operations.

- e. Monitoring constant and variable motor loads.
- f. Monitoring variable-frequency drive operation.
- g. Monitoring cooling load.
- h. Monitoring economizer cycles.
- i. Monitoring air-distribution static pressure and ventilation air volume.

2.9 ACCESSORIES

- A. Electric heater with integral thermostat maintains minimum 50 deg F temperature in gas burner compartment.
- B. Duplex, 115-V, ground-fault-interrupter outlet with 15-A overcurrent protection. Include transformer if required.
- C. Filter differential pressure switch with sensor tubing on either side of filter. Set for final filter pressure loss.
- D. Coil guards of painted, galvanized-steel wire.
- E. Hail guards of galvanized steel, painted to match casing.
- F. Concentric diffuser with white louvers and polished aluminum return grilles, insulated diffuser box with mounting flanges, and interior transition.

2.10 ROOF CURBS

- A. Materials: Galvanized steel with corrosion-protection coating, watertight gaskets, and factory-installed wood nailer; complying with NRCA standards.
 - 1. Curb Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.
 - a. Materials: ASTM C 1071, Type I or II.
 - b. Thickness: 1 inches .
 - 2. Application: Factory applied with adhesive and mechanical fasteners to the internal surface of curb.
 - a. Liner Adhesive: Comply with ASTM C 916, Type I.
 - b. Mechanical Fasteners: Galvanized steel, suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and without causing leakage in cabinet.
 - c. Liner materials applied in this location shall have air-stream surface coated with a temperature-resistant coating or faced with a plain or coated fibrous mat or fabric depending on service air velocity.
 - d. Liner Adhesive: Comply with ASTM C 916, Type I.
- B. Curb Height: 14 inches.

- C. Wind and Seismic Restraints: Metal brackets compatible with the curb and casing, painted to match RTU, used to anchor unit to the curb, and designed for loads at Project site. requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of RTUs.
- B. Examine roughing-in for RTUs to verify actual locations of piping and duct connections before equipment installation.
- C. Examine roofs for suitable conditions where RTUs will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Equipment Mounting:
 - 1. Comply with requirements for vibration isolation devices specified in Section 230548.13 "Vibration Controls for HVAC."
- B. Roof Curb: Install on roof structure or concrete base, level and secure, according to NRCA's "Low-Slope Membrane Roofing Construction Details Manual," Illustration "Raised Curb Detail for Rooftop Air Handling Units and Ducts." Install RTUs on curbs and coordinate roof penetrations and flashing with roof construction specified in Section 077200 "Roof Accessories." Secure RTUs to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts.
- C. Unit Support: Install unit level on structural curbs. Coordinate wall penetrations and flashing with wall construction. Secure RTUs to structural support with anchor bolts.

3.3 CONNECTIONS

- A. Install condensate drain, minimum connection size, with trap and indirect connection to nearest roof drain or area drain.
- B. Install piping adjacent to RTUs to allow service and maintenance.
- C. Duct installation requirements are specified in other HVAC Sections. Drawings indicate the general arrangement of ducts. The following are specific connection requirements:
 - 1. Install ducts to termination at top of roof curb.
 - 2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.
 - 3. Connect supply ducts to RTUs with flexible duct connectors specified in Section 233300 "Air Duct Accessories."

4. Install return-air duct continuously through roof structure.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.
- B. Perform tests and inspections and prepare test reports.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing. Report results in writing.
- C. Tests and Inspections:
 1. After installing RTUs and after electrical circuitry has been energized, test units for compliance with requirements.
 2. Inspect for and remove shipping bolts, blocks, and tie-down straps.
 3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Remove and replace malfunctioning units and retest as specified above.

3.5 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
- B. Complete installation and startup checks according to manufacturer's written instructions and do the following:
 1. Inspect for visible damage to unit casing.
 2. Inspect for visible damage to furnace combustion chamber.
 3. Inspect for visible damage to compressor, coils, and fans.
 4. Inspect internal insulation.
 5. Verify that labels are clearly visible.
 6. Verify that clearances have been provided for servicing.
 7. Verify that controls are connected and operable.
 8. Verify that filters are installed.
 9. Clean condenser coil and inspect for construction debris.
 10. Remove packing from vibration isolators.
 11. Verify lubrication on fan and motor bearings.
 12. Inspect fan-wheel rotation for movement in correct direction without vibration and binding.
 13. Adjust fan belts to proper alignment and tension.
 14. Start unit according to manufacturer's written instructions.

- a. Start refrigeration system.
 - b. Do not operate below recommended low-ambient temperature.
 - c. Complete startup sheets and attach copy with Contractor's startup report.
15. Inspect and record performance of interlocks and protective devices; verify sequences.
16. Operate unit for an initial period as recommended or required by manufacturer.
17. Calibrate thermostats.
18. Adjust and inspect high-temperature limits.
19. Inspect outdoor-air dampers for proper stroke and interlock with return-air dampers.
20. Start refrigeration system and measure and record the following when ambient is a minimum of 15 deg F above return-air temperature:
 - a. Coil leaving-air, dry- and wet-bulb temperatures.
 - b. Coil entering-air, dry- and wet-bulb temperatures.
 - c. Outdoor-air, dry-bulb temperature.
 - d. Outdoor-air-coil, discharge-air, dry-bulb temperature.
21. Inspect controls for correct sequencing of heating, mixing dampers, refrigeration, and normal and emergency shutdown.
22. Measure and record the following minimum and maximum airflows. Plot fan volumes on fan curve.
 - a. Supply-air volume.
 - b. Return-air volume.
 - c. Relief-air volume.
 - d. Outdoor-air intake volume.
23. Simulate maximum cooling demand and inspect the following:
 - a. Compressor refrigerant suction and hot-gas pressures.
 - b. Short circuiting of air through condenser coil or from condenser fans to outdoor-air intake.
24. Verify operation of remote panel including pilot-light operation and failure modes. Inspect the following:
 - a. High-temperature limit on gas-fired heat exchanger.
 - b. Low-temperature safety operation.
 - c. Filter high-pressure differential alarm.
 - d. Economizer to minimum outdoor-air changeover.
 - e. Relief-air fan operation.
 - f. Smoke and firestat alarms.
25. After startup and performance testing and prior to Substantial Completion, replace existing filters with new filters.

3.6 CLEANING AND ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to site during other-than-normal occupancy hours for this purpose.
- B. After completing system installation and testing, adjusting, and balancing RTU and air-distribution systems, clean filter housings and install new filters.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain RTUs. Refer to Section 017900 "Demonstration and Training."

END OF SECTION 23 74 13

SECTION 23 81 26 - SPLIT-SYSTEM AIR-CONDITIONERS

PART 1 - GENERALRELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes split-system air-conditioning and heat-pump units consisting of separate evaporator-fan and compressor-condenser components.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Include performance data in terms of capacities, outlet velocities, static pressures, sound power characteristics, motor requirements, and electrical characteristics.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Samples for Initial Selection: For units with factory-applied color finishes.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For split-system air-conditioning units to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Filters: One set(s) for each air-handling unit.

2. Gaskets: One set(s) for each access door.
3. Fan Belts: One set(s) for each air-handling unit fan.

1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. ASHRAE Compliance:
 1. Fabricate and label refrigeration system to comply with ASHRAE 15, "Safety Standard for Refrigeration Systems."
 2. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 4 - "Outdoor Air Quality," Section 5 - "Systems and Equipment," Section 6 - "Procedures," and Section 7 - "Construction and System Start-up."
- C. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1.

1.8 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of split-system air-conditioning units that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 INDOOR UNITS (5 TONS OR LESS)

- A. Wall-Mounted, Evaporator-Fan Components:
 1. Cabinet: Enameled steel with removable panels on front and ends in color selected by Architect, and discharge drain pans with drain connection.
 2. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and thermal-expansion valve. Comply with ARI 206/110.
 3. Electric Coil: Helical, nickel-chrome, resistance-wire heating elements; with refractory ceramic support bushings, automatic-reset thermal cutout, built-in magnetic contactors, manual-reset thermal cutout, airflow proving device, and one-time fuses in terminal box for overcurrent protection.
 4. Fan: Direct drive, centrifugal.
 5. Fan Motors:

- a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
 - b. Multitapped, multispeed with internal thermal protection and permanent lubrication.
 - c. Enclosure Type: Totally enclosed, fan cooled.
 - d. NEMA Premium (TM) efficient motors as defined in NEMA MG 1.
 - e. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.
6. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
7. Condensate Drain Pans:
- a. Fabricated with two percent slope in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and humidifiers, and to direct water toward drain connection.
 - 1) Length: Extend drain pan downstream from leaving face to comply with ASHRAE 62.1.
 - 2) Depth: A minimum of 1 inch deep.
 - b. Double-wall, stainless-steel sheet with space between walls filled with foam insulation and moisture-tight seal.
 - c. Drain Connection: Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on [one end] [both ends] of pan.
 - 1) Minimum Connection Size: NPS 1.
8. Air Filtration Section:
- a. General Requirements for Air Filtration Section:
 - 1) Comply with NFPA 90A.
 - 2) Minimum Arrestance: According to ASHRAE 52.1 and MERV according to ASHRAE 52.2.
 - 3) Filter-Holding Frames: Arranged for flat or angular orientation, with access doors on both sides of unit. Filters shall be removable from one side or lifted out from access plenum.
 - b. Disposable Panel Filters:
 - 1) Factory-fabricated, viscous-coated, flat-panel type.
 - 2) Thickness: 1 inch.

2.2 OUTDOOR UNITS (5 TONS OR LESS)

A. Air-Cooled, Compressor-Condenser Components:

1. Casing: Steel, finished with baked enamel in color selected by Architect, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.
2. Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.
 - a. Compressor Type: Scroll.
 - b. Refrigerant Charge: R-410A.
 - c. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and liquid subcooler. Comply with ARI 206/110.
3. Heat-Pump Components: Reversing valve and low-temperature-air cutoff thermostat.
4. Fan: Aluminum-propeller type, directly connected to motor.
5. Motor: Permanently lubricated, with integral thermal-overload protection.
6. Low Ambient Kit: Permits operation down to 45 deg F.
7. Mounting Base: Polyethylene.

2.3 ACCESSORIES

- A. Thermostat: Wireless infrared functioning to remotely control compressor and evaporator fan, with the following features:
 1. Compressor time delay.
 2. 24-hour time control of system stop and start.
 3. Liquid-crystal display indicating temperature, set-point temperature, time setting, operating mode, and fan speed.
 4. Fan-speed selection including auto setting.
- B. Automatic-reset timer to prevent rapid cycling of compressor.
- C. Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.
- D. Drain Hose: For condensate.
- E. Additional Monitoring:
 1. Monitor constant and variable motor loads.
 2. Monitor variable-frequency-drive operation.
 3. Monitor economizer cycle.
 4. Monitor cooling load.
 5. Monitor air distribution static pressure and ventilation air volumes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install units level and plumb.

- B. Install evaporator-fan components using manufacturer's standard mounting devices securely fastened to building structure.
- C. Install roof-mounted, compressor-condenser components on equipment supports specified in Section 077200 "Roof Accessories." Anchor units to supports with removable, cadmium-plated fasteners.
- D. Equipment Mounting:
 - 1. Comply with requirements for vibration isolation devices specified in Section 230548.13 "Vibration Controls for HVAC."
- E. Install and connect precharged refrigerant tubing to component's quick-connect fittings. Install tubing to allow access to unit.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Where piping is installed adjacent to unit, allow space for service and maintenance of unit.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Remove and replace malfunctioning units and retest as specified above.
- E. Prepare test and inspection reports.

3.4 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. <Insert startup steps if any>.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION 23 81 26

SECTION 26 00 10 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL

- A. Basic Requirements: The Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.
- B. General Provisions: Provide all labor, materials, equipment, and incidentals required to make ready for use complete electrical systems as specified herein and shown on the drawings.
- C. Provide and Install: The word "provide" where used on the Drawings or in the Specifications shall mean "furnish, install, mount, connect, test, complete, and make ready for operation". The word "install" where used on the Drawings or in the Specifications shall mean "mount, connect, test, complete, and make ready for operation". Perform work required by, and in accordance with, the Contract Documents.
- D. Installation: Provide and place in satisfactory condition, ready for proper operation, raceways, wires, cables, and other material needed for all complete electrical systems required by the Contract Documents. Additional raceways and wiring shall be provided to complete the installation of the specific equipment provided. Include auxiliaries and accessories for complete and properly operating systems. Provide electrical systems and accessories to comply with the NEC, state and local codes and ordinances. It is the intent of these Specifications that the electrical systems be suitable in every way for the use intended. Material and work which is incidental to the work of this Contract shall be provided at no additional cost to the Contract.
- E. Field Connections: Provide field connections to remote equipment and control panels provided under other Divisions of these Specifications. Provide raceway, wire, and interconnections between equipment, transmitters, local indicators, and receivers. Provide 120V at equipment as required. Install field connections to "packaged" equipment provided under other Divisions of these Specifications.

1.2 SCOPE OF WORK

- A. General: Provide labor, materials, permits, inspections and re-inspection fees, tools, equipment, transportation, insurance, temporary protection, temporary power and lighting, supervision and incidental items essential for proper installation and operation of the Electrical systems indicated in the Contract Documents. Provide materials not specifically mentioned or indicated but which are usually provided or are essential for proper installation and operation of the Electrical systems indicated in the contract documents.
- B. Notices: Give notices, file Plans, pay fees, and obtain permits and approvals from authorities having jurisdiction. Include all fees in the Bid Price.

1.3 INTERPRETATION OF DRAWINGS

- A. General: The Drawings are diagrammatic and are not intended to show exact locations of Raceway runs, outlet boxes, junction boxes, pull boxes, etc. The locations of equipment, appliances, fixtures, Raceways, outlets, boxes and similar devices shown on the Drawings are approximate only. Exact locations shall be determined and coordinated in the field. The right is reserved to change, without additional cost, the location of any outlet within the same room or general area before it is permanently installed. Obtain all information relevant to the placing of electrical work and in case of interference with other work, proceed as directed by the Architect.
- B. Discrepancies: Notify the Architect of any discrepancies found during construction of the project. The Architect will provide written instructions as to how to proceed with that portion of work. If a conflict exists between the Contract Documents and an applicable code or standard, the most stringent requirement shall apply.
- C. Wiring: Each three-phase circuit shall be run in a separate Raceway unless otherwise shown on the Drawings. Unless otherwise accepted by the Architect, Raceway shall not be installed exposed. Where circuits are shown as "home runs" all necessary fittings, supports, and boxes shall be provided for a complete raceway installation.
- D. Layout: Circuit layouts are not intended to show the number of fittings, or other installation details. Connections to equipment shall be made as required, and in accordance with the accepted shop and manufacturer's setting drawings.
- E. Coordination: Coordinate final equipment locations with drawings or other disciplines. Layout before installation so that all trades may install equipment in available space. Provide coordination as required for installation in a neat and workmanlike manner.

1.4 EQUIPMENT SIZE AND HANDLING

- A. Coordination: Investigate each space in the structure through which equipment must pass to reach its final location. If necessary, ship the equipment in sections of specific sizes to permit the passing through the necessary areas within the structure.
- B. Handling: Equipment shall be kept upright at all times. When equipment has to be tilted for ease of passage through restricted areas during transportation, the manufacturer shall be required to brace the equipment suitably, to insure that the tilting does not impair the functional integrity of the equipment.

1.5 RECORD DRAWINGS

- A. Production: The Contractor shall provide two (2) sets of black or blue line on white drawings to maintain and submit record "As-Built Documents". Label each sheet of the Record Document set with "Project Record Documents" with company name of the installing contractor in stamped or printed letters. One set shall be maintained at the site and at all times be accurate, clear, and complete. These drawings shall be available at all times to the Architect's field representatives.

- B. Recording: Record information concurrent with construction progress. Make entries within 24 hours upon receipt of information. The "As-Built" drawings shall accurately reflect installed electrical work specified or shown on the Contract Documents.
- C. Completion: At the completion of the Work, transfer changes with a colored pencil onto the second set and submit to the Architect. The "As-Built" drawings shall be made available to the Architect to make the substantial completion punch list.
- D. Final: Upon Contractor's completion of the Engineer's final punch list, transfer all "As-Built" conditions and all requirements by the Engineer to a reproducible set of drawings and CAD files. Submit drawings and CAD disks for review and acceptance. The Contractor shall provide updated disks which include final As-Built conditions.

1.6 CODES, FEES, AND STANDARDS

- A. Application: The codes, standards and practices listed herein generally apply to the entire project and specification sections. Other codes, standards or practices that are more specific will be referenced within a particular specification.
- B. Requirements: All materials and types of construction covered in the specifications will be required to meet or exceed applicable standards of manufacturer, testing, performance, and installation according to the requirements of UL, ANSI, NEMA, IEEE, and NEC referenced documents where indicated and the manufacturer's recommended practices. Requirements indicated on the contract documents that exceed but are not contrary to governing codes shall be followed.
- C. Compliance and Certification: The installation shall comply with the governing state and local codes or ordinances. The completed electrical installation shall be inspected and certified by applicable agencies that it is in compliance with codes.

1.7 INVESTIGATION OF SITE

- A. General: Before commencing work, verify existing conditions at the premises including, but not limited to, existing structural frame, existing openings; existing wall and partition locations, existing mechanical and electrical work, equipment type, and examine adjoining work on which work is in anyway dependent.
- B. Responsibility: No waiver of responsibility for defective and inadequate work or additional cost as a result of existing conditions which should have been verified shall be considered unless notice of same has been filed by the Contractor and agreed to in writing by the Architect before the bid date.
- C. Site Renovation: Verify and coordinate existing site raceways and pipes at any excavation on site. Provide hand-digging and required rerouting in areas of existing Raceways and pipes within bid price.
- D. Renovation: Investigate site thoroughly and reroute raceway and wiring in area of new construction in order to maintain continuity of existing circuitry. Existing Raceways shown on plans show approximate locations only.

1.8 SUPERVISION OF THE WORK

- A. Supervision: Provide one field superintendent who has had a minimum of four (4) years previous successful experience on projects of comparable sizes, type and complexity. The Superintendent shall be present at all times when work is being performed. At least one member of the Electrical Contracting Firm shall hold a State Master Certificate of Competency.

1.9 COORDINATION

- A. General: Compare drawings and specifications with those of other trades and report any discrepancies between them to the Architect. Obtain from the Architect written instructions to make the necessary changes in any of the affected work. Work shall be installed in cooperation with other Trades installing interrelated work. Before installation, Trades shall make proper provisions to avoid interferences in a manner approved by the Architect.
- B. Provide all required coordination and supervision where work connects to or is affected by work of others, and comply with all requirements affecting this Division. Work required under other divisions, specifications or drawings to be performed by this Division shall be coordinated with the Contractor and such work performed at no additional cost to Owner.
- C. Obtain set of Contract Documents from Owner's Authorized Representative or Contractor for all areas of work and include all electrical work in bid whether included in Division 26 Contract Documents or not.
- D. Secure approved shop drawings from all required disciplines and verify final electrical characteristics before roughing power feeds to any equipment. When electrical data on approved shop drawings differs from that shown or called for in Construction Documents, make adjustments to the wiring, disconnects, and branch circuit protection to match that required for the equipment installed.
- E. Damage from interference caused by inadequate coordination shall be corrected at no additional cost to the Owner.
- F. Adjustments: Locations of raceway and equipment shall be adjusted to accommodate the work with interferences anticipated and encountered. Determine the exact routing and location of systems prior to fabrication or installation.
- G. Priorities: Lines which pitch shall have the right of way over those which do not pitch. For example, plumbing drains shall normally have the right of way. Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.
- H. Modifications: Offsets and changes of direction in raceway systems shall be made to maintain proper headroom and pitch of sloping lines whether or not indicated on the drawings. Provide elbows, boxes, etc., as required to allow offsets and changes to suit job conditions.
- I. Replacement: Work shall be installed in a way to permit removal (without damage to other parts) of other system components provided under this Contract requiring periodic replacement or maintenance. Raceway shall be arranged in a manner to clear the openings of swinging overhead access doors as well as ceiling tiles.

- J. Layout: The Contract Drawings are diagrammatic only intending to show general runs and locations of raceway and equipment, and not necessarily showing required offsets, details and accessories and equipment to be connected. Work shall be accurately laid out with other Trades to avoid conflicts and to obtain a neat and workmanlike installation, which will afford maximum accessibility for operation, maintenance and headroom.
- K. Contract Conflicts: Where discrepancies exist in the Scope of Work as to what Trade provides items such as starters, disconnects, flow switches, etc. such conflicts shall be coordinated between the divisions involved. It is the intent of the Contract Documents that all work shall be provided complete as one bid price.
- L. Drawing Conflicts: Where drawing details, plans or specification requirements are in conflict and where sizes of the same item run are shown to be different within the contract documents, the most stringent requirement shall be included in the Contract. Systems and equipment called for in the specification or as shown on the drawings shall be provided as if it was required by both the drawings and specifications. Prior to ordering or installation of any portion of work, which appears to be in conflict, such work shall be brought to Architect's attention for direction as to what is to be provided.
- M. It is the responsibility of this Contractor to coordinate the exact required location of floor outlets, floor ducts, floor stub-ups, etc. with Owner's Authorized Representative and Designer (and receive their approval) prior to rough-in. Locations indicated in Contract Documents are only approximate locations.
- N. The Contract Documents describe specific sizes of switches, breakers, fuses, Raceways, conductors, motor starters and other items of wiring equipment. These sizes are based on specific items of power consuming equipment (heaters, lights, motors for fans, compressors, pumps, etc.). Coordinate the requirements of each load with each load's respective circuitry shown and with each load's requirements as noted on its nameplate data and manufacturer's published electrical criteria. Adjust circuit breaker, fuse, Raceway, and conductor sizes to meet the actual requirements of the equipment being provided and installed and change from single point to multiple points of connection (or vice versa) to meet equipment requirements. Changes shall be made at no additional cost to the Owner.
- O. Working Clearances: Minimum working clearances about electrical equipment shall be as referenced in the applicable edition NEC Article 110, and shall include equipment installed in ceiling spaces.

1.10 DEMOLITION

- A. General: Relocate existing equipment and reroute existing raceways in areas being renovated as required to facilitate the installation of the new systems. The Owner shall require continuous operation of the existing systems, while demolition, relocation work or new tie-ins are performed.
- B. Coordination: Prior to any deactivation, relocation or demolition work, arrange a conference with the Architect and the Owner's representative in the field to inspect each of the items to be deactivated, removed or relocated. Care shall be taken to protect equipment designated as being relocated and reused or equipment remaining in operation and integrated with the new systems.

- C. Provisions: Deactivation, relocation, and temporary tie-ins shall be provided by the Contractor. Demolition, removal and the legal disposal of demolished materials shall be provided by the Contractor.
- D. Owner's Salvage: The Owner reserves the right to inspect the material scheduled for removal and salvage any items he deems usable as spare parts.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Specified Method: Where several brand names, make or manufacturers are listed as acceptable each shall be regarded as equally acceptable, based on the design selection but each must meet all specification requirements. Where a manufacturer's model number is listed, this model shall set the standard of quality and performance required. Where no brand name is specified, the source and quality shall be subject to Engineer's review and acceptance. Where manufacturers are listed, one of the listed manufacturers shall be submitted for acceptance. No substitutions are permitted.
- B. Certification: When a product is specified to be in accordance with a trade association or government standard requested by the Engineer, Contractor shall provide a certificate that the product complies with the referenced standard. Upon request of Engineer, Contractor shall submit supporting test data to substantiate compliance.
- C. Basis of Bid: Each bidder represents that his bid is based upon the manufacturer's, materials, and equipment described in the Contract Documents.
- D. Space Requirements: Equipment or optional equipment shall conform to established space requirements within the project. Equipment which does not meet space requirements, shall be replaced at no additional expense to the Contract. Modifications of related systems shall be made at no additional expense to the Contract. Submit modifications to the Architect/Engineer for acceptance.

2.2 EQUIPMENT, MATERIALS, AND SUPPORTS

- A. General: Each item of equipment or material shall be manufactured by a company regularly engaged in the manufacture of the type and size of equipment, shall be suitable for the environment in which it is to be installed, shall be approved for its purpose, environment, and application, and shall bear the UL label.
- B. Installation Requirements: Each item of equipment or material shall be installed in accordance with instructions and recommendations of the manufacturer, however, the methods shall not be less stringent than specified herein.
- C. Required Accessories: Provide all devices and materials, such as expansion bolts, foundation bolts, screws, channels, angles, and other attaching means, required to fasten enclosures, raceways, and other electrical equipment and materials to be mounted on structures which are existing or new.

- D. Protection: Electrical equipment shall at all times during construction be adequately protected against mechanical injury or damage by the elements. Equipment shall be stored in dry permanent shelters. If apparatus has been damaged, such damage shall be repaired at no additional cost or time extension to the Contract. If apparatus has been subject to possible injury, it shall be thoroughly cleaned, dried out and put through tests as directed by the Manufacturer and Engineer, or shall be replaced, if directed by the Engineer, at no additional cost to the Contract.

2.3 IDENTIFICATION OF EQUIPMENT

- A. General: Electrical items shall be identified as specified in the Contract Documents. Such identification shall be in addition to the manufacturer's nameplates and shall serve to identify the item's function and the equipment or system, which it serves or controls. Refer to Identification Section of the specifications for additional information.

2.4 CONCRETE PADS

- A. General: Provide reinforced concrete pads for floor mounted electrical equipment. Unless otherwise noted, pads shall be nominal four (4) inches high and shall exceed dimensions of equipment being set on them, including future sections, by six (6) inches on all sides, except when equipment is flush against a wall, then the side or sides against the wall shall be flush with the equipment. Chamfer top edges 1/2". Trowel surfaces smooth. Reinforce pads with #5 reinforcing bars at 24" centers each way, unless specifically detailed on drawings.

2.5 SURFACE MOUNTED EQUIPMENT

- A. General: Surface mounted fixtures, outlets, cabinets, panels, etc. shall have a factory-applied finish or shall be painted as accepted by Engineer. Raceways and fittings, where allowed to be installed surface mounted, shall be painted to match the finish on which it was installed. Paint shall be in accordance with other applicable sections of these specifications.

2.6 CUTTING AND PATCHING

- A. Core Drilling: The Contractor shall be responsible for core drilling as required for work under this section, but in no case shall the Contractor cut into or weld onto any structural element of the project without the written approval of the Architect.
- B. Cutting and Patching: Cutting, rough patching and finish patching shall be provided as specified in the contract documents. Cutting and patching shall be performed in a neat and workmanlike manner. Upon completion, the patched area shall match adjacent surfaces.
- C. Openings and Sleeves: Locate openings required for work performed under this section. Provide sleeves, guards or other accepted methods to allow passage of items installed under this section.
- D. Roof Penetration: Provide roofer with pitch pans, fittings, etc., required for electrical items which penetrate the roof. Roof penetrations are to be waterproofed in such a manner that

roofing guarantees are fully in force. Roof penetrations shall be coordinated with other Trades to ensure that roof warranty is not invalidated.

2.7 TEMPORARY LIGHT AND POWER

- A. Capacity: Provide capacity from new temporary service. Make arrangements with the Owner for temporary service and pay all related expenses. Temporary light and power shall be provided constantly during the project dependent upon Owner's safety requirements.
- B. Lighting: Temporary light shall be based on one 200 watt lamp covering each 1,000 square foot of floor area in the building. Each room 100 square foot and over shall have a minimum of one 100-watt lamp with guards. Provide power for motors up to 3/4 horsepower only. Provisions are to be made for electric welders, if required.
- C. Outlets: Provide outlets located at convenient points so that extension cords of not over fifty (50) feet will reach work requiring artificial light or power.
- D. Other Connections: Contractors of other trades shall furnish their own cords and sockets, as may be required for their work and shall also pay for cost of temporary wiring of construction offices and shanties used by them.
- E. New Fixtures: Permanently installed lighting fixtures may be used for temporary lighting at the Contractor's option with the provision that cool white lamps for fluorescent, clear lamps for incandescent and marked temporary for other types shall be installed. At job completion, lamps shall be replaced with permanent lamps specified.

PART 3 - EXECUTION

3.1 WORKMANSHIP

- A. General: The installation of materials and equipment shall be performed in a neat, workmanlike and timely manner by an adequate number of craftsmen knowledgeable of the requirements of the Contract Documents. They shall be skilled in the methods and craftsmanship needed to produce a quality level of workmanship. Personnel who install materials and equipment shall be qualified by training and experience to perform their assigned tasks.
- B. Acceptable Workmanship: Acceptable workmanship is characterized by first-quality appearance and function, conforming to applicable standards of building system construction, and exhibiting a high degree of quality and proficiency which is judged by the Architect as equivalent or better than that ordinarily produced by qualified industry tradesmen.
- C. Performance: Personnel shall not be used in the performance of the installation of material and equipment who, in the opinion of the Architect, are deemed to be careless or unqualified to perform the assigned tasks. Material and equipment installations not in compliance with the Contract Documents, or installed with substandard workmanship and not acceptable to the Architect, shall be removed and reinstalled by qualified craftsmen, at no change in the contract price.

3.2 PROTECTION AND CLEAN UP

- A. Protection and Restoration: Suitably protect equipment provided under this Division during construction. Restore damaged surfaces and items to "like new" condition before a request for substantial completion inspection.
- B. Handling: Materials shall be properly protected and Raceway openings shall be temporarily closed by the Contractor to prevent obstruction and damage. Post notice prohibiting the use of systems provided under this Contract, prior to completion of work and acceptance of systems by the Owner's representative. The Contractor shall take precautions to protect his materials from damage and theft.
- C. Safeguards: The Contractor shall furnish, place and maintain proper safety guards for the prevention of accidents that might be caused by the workmanship, materials, equipment or systems provided under this contract.
- D. Cleanup: Keep the job site free from debris and rubbish. Remove debris and rubbish from the site and leave premises in clean condition on a daily basis.

3.3 SYSTEMS GUARANTEE

- A. General: Provide a one-year guarantee. This guarantee shall be by the Contractor to the Owner for any defective workmanship or material, which has been provided under this Contract at no cost to the Owner for a period of one year from the date of substantial completion of the System. The guarantee shall include lamps, for ninety days after date of Substantial Completion of the System. Explain the provisions of guarantee to the Owner at the "Demonstration of Completed System".

3.4 FINAL OBSERVATION

- A. General: Work shall be completed, and forms and other information shall be submitted for acceptance one week prior to the request for final observation of the installation.

3.5 SPECIAL CONSIDERATIONS

- A. Comply with special requirements imposed at site by Owner. This may include badging of employees, prohibition of smoking, special working hours, or special working conditions.

END OF SECTION 26 00 10

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Copper building wire rated 600 V or less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Subject to compliance with requirements, provide products by one of the following:
 - 1. Southwire Company
 - 2. Senator Wire & Cable Company
 - 3. Allied Wire & Cable
- C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 2. RoHS compliant.
 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.
- E. Conductor Insulation:
1. Type THHN and Type THWN-2: Comply with UL 83.
 2. Type XHHW-2: Comply with UL 44.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN/THWN-2, single conductors in raceway or Type XHHW-2, single conductors in raceway.
- B. Feeders below Slabs-on-Grade and Underground: Type THHN/THWN-2, single conductors in raceway or Type XHHW-2, single conductors in raceway.
- C. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway.
- D. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform tests and inspections.

1. After installing conductors and cables and before electrical circuitry has been energized, test all conductors for compliance with requirements.
2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - 3) Thermographic survey.
 - c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- C. Cables will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports to record the following:
 1. Procedures used.
 2. Results that comply with requirements.
 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.3 BONDING AND EQUIPMENT GROUNDING

- A. Description of System: In general, all electrical equipment (metallic conduit, motor frames, panelboards, etc.) shall be bonded together with a green insulated copper system grounding conductor in accordance with specific rules of Article 250 of the NEC Equipment grounding conductors through the raceway system shall be continuous from main switch ground bus to panel ground bar of each panelboard, and from panel grounding bar of each panelboard to branch circuit equipment and devices.
- B. Equipment Grounding Conductors: All raceways shall have an insulated copper system ground conductor run throughout the entire length of circuit installed within conduit in strict accordance with NEC. Grounding conductor shall be included in total conduit fill when determining conduit sizes, even though not included or shown on drawings.
- C. Bonding: In addition to connections to grounding electrodes, the main service ground shall be bonded to underground metal piping.
- D. Bushings: Provide insulated grounding bushings on all metallic feeder conduits terminated within panelboards, switchboards or enclosed overcurrent devices. Provide insulated grounding bushings on all branch circuit conduits where concentric knockouts are used.
- E. Connection to Other Systems: Provide all required grounding and bonding connections as specified herein and as required by the National Electrical Code.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 - 4. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 - 5. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
- C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32-inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.3 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- C. Bus-Bar Connectors: Compression type, copper or copper alloy, with two wire terminals.
- D. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.
- E. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

- F. Conduit Hubs: Mechanical type, terminal with threaded hub.
- G. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.
- H. U-Bolt Clamps: Mechanical type, copper or copper alloy, terminal listed for direct burial.
- I. Water Pipe Clamps:
 - 1. Mechanical type, two pieces with zinc-plated bolts.
 - a. Material: Die-cast zinc alloy.
 - b. Listed for direct burial.
 - 2. U-bolt type with malleable-iron clamp and copper ground connector rated for direct burial.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare tinned-copper conductor.
 - 1. Bury at least 24 inches below grade.
 - 2. Duct-Bank Grounding Conductor: Bury 12 inches above duct bank when indicated as part of duct-bank installation.
- C. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.
 - 1. Install bus horizontally, on insulated spacers 2 inches minimum from wall, 6 inches above finished floor unless otherwise indicated.
 - 2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down; connect to horizontal bus.
- D. Conductor Terminations and Connections:
 - 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
 - 3. Connections to Ground Rods at Test Wells: Bolted connectors.
 - 4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

- A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.4 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- D. Grounding and Bonding for Piping:
 - 1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
 - 3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform tests and inspections.

C. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
3. Test completed grounding system at each location. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
4. Prepare dimensioned Drawings locating each test well, ground rod and ground-rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location, and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

D. Grounding system will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

F. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Construction requirements for concrete bases.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4 factory-fabricated components for field assembly.
 - 1. Material: Galvanized steel.
 - 2. Channel Width: 1-5/8 inches.
 - 3. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 4. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - 5. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 - 6. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
 - 7. Channel Dimensions: Selected for applicable load criteria.
- B. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as

required to suit individual conductors or cables supported. Body shall be made of malleable iron.

- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - 3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
 - 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
 - 5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
 - 6. Toggle Bolts: All-steel springhead type.
 - 7. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems unless requirements in this Section are stricter.
- B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
- C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for raceway required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter.
- D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with two-bolt conduit clamps.
- E. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, raceway may be supported by openings through structure members, according to NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- D. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi, 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Section 033000 "Cast-in-Place Concrete."
- C. Anchor equipment to concrete base as follows:
 - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.4 PAINTING

- A. Touchup: Comply with requirements in Section 099123 "Interior Painting" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 26 05 29

SECTION 26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Metal wireways and auxiliary gutters.
3. Surface raceways.
4. Boxes, enclosures, and cabinets.
5. Handholes and boxes for exterior underground cabling.

1.3 ACTION SUBMITTALS

- A. Product Data: For all equipment

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

- A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. GRC: Comply with ANSI C80.1 and UL 6.
- C. EMT: Comply with ANSI C80.3 and UL 797.
- D. FMC: Comply with UL 1; zinc-coated steel.
- E. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- F. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
 1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
 2. Fittings for EMT:
 - a. Material: Steel.

- b. Type: Compression.
- 3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
- 4. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.
- G. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Description: Sheet metal, complying with UL 870 and NEMA 250, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 - 2. NEMA 250 Type 3R.
- B. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- C. Wireway Covers: Screw-cover type unless otherwise indicated.
- D. Finish: Manufacturer's standard enamel finish.

2.3 SURFACE RACEWAYS

- A. Listing and Labeling: Surface raceways shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Surface Metal Raceways: Galvanized steel with snap-on covers complying with UL 5. Manufacturer's standard enamel finish in color selected by Architect.

2.4 BOXES, ENCLOSURES, AND CABINETS

- A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

- E. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.
- F. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- G. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- H. Gangable boxes are allowed.
- I. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- J. Cabinets:
 - 1. NEMA 250, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage.
 - 5. Accessory feet where required for freestanding equipment.
 - 6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: GRC.
 - 2. Concealed Conduit, Aboveground: EMT.
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed: EMT
 - 2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 - 4. Damp or Wet Locations: GRC.
 - 5. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 nonmetallic in damp or wet locations.

- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
- E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F. Install surface raceways only where indicated on Drawings.
- G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- G. Conceal raceways within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Arrange raceways to keep a minimum of 1 inch of concrete cover in all directions.
- J. Stub-ups to Above Recessed Ceilings: Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

- L. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors.
- M. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- N. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- O. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- P. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- Q. Install pull wires in all empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- R. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.
- S. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where an underground service raceway enters a building or structure.
 - 3. Where otherwise required by NFPA 70.
- T. Comply with manufacturer's written instructions for solvent welding RNC and fittings.
- U. Flexible Conduit Connections: Comply with NEMA RV 3.
- V. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- W. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.
- X. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- Y. Locate boxes so that cover or plate will not span different building finishes.

- Z. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- AA. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- BB. Set metal floor boxes level and flush with finished floor surface.

3.3 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.4 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 26 05 33

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Warning labels and signs.
 - 5. Instruction signs.
 - 6. Equipment identification labels.
 - 7. Miscellaneous identification products.

1.3 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 POWER RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Raceways Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage.
- C. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

2.2 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

2.3 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.

2.4 FLOOR MARKING TAPE

- A. 2-inch- (50-mm-) wide, 5-mil (0.125-mm) pressure-sensitive vinyl tape, with black and white stripes and clear vinyl overlay.

2.5 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.

- B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
- C. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."
 - 3. Arc Flash: Provide permanent warning labels to warn personnel of potential electric arc flash hazards. Refer to Section 260574 for Arc Flash study requirements.

2.6 INSTRUCTION SIGNS

- A. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch. Overlay shall provide a weatherproof and UV-resistant seal for label.

2.7 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved Plastic Laminate Nameplates:
 - 1. Provide engraving phenolic plastic laminate, in sizes and thicknesses indicated, engraved with 1/16 inch thick lines with square standard pica lettering and wording as specified herein.
 - a. black face with white core plies (letter color) for normal systems
 - b. kelly green with white letters for equipment systems
 - c. bright orange with white letters for critical systems
 - d. bright yellow with black letters for life safety systems
 - e. red with white letters for fire alarm
 - 2. Punch for mechanical fastening, except where adhesive mounting is necessary because of substrate.
 - 3. Material thickness shall be 1/16 inch. Titles shall be 1/2 inch high and all other lettering shall be 1/4 inch high.
 - 4. Provide beveled edge in order to eliminate sharp corners.
 - 5. Provide self-tapping stainless steel round head screws. Provide contact type permanent adhesive where screws cannot or shall not penetrate the substrate. Adhesive nameplate shall be permanently installed.

2.8 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).

- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- G. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
 - 1. Outdoors: UV-stabilized nylon.
 - 2. In Spaces Handling Environmental Air: Plenum rated.
- H. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

3.2 IDENTIFICATION SCHEDULE

- A. System Identification Color Banding for Raceways and Cables: Each color band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
 - 1. Use following colors for color bands and for color coding:

<u>System</u>	<u>Color</u>
Normal Power	Royal Blue
Fire Alarm	Red
Telephone/Computer	Black
TV	Light Pink

- ~~B.~~ Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of all systems with colors indicated in the wiring system legend. For all power circuits, indicate the panel & circuit number and system voltage on the box cover.
- C. Power-Circuit Conductor Identification, 600 V or Less:
1. Use colors listed below for ungrounded conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- D. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive warning labels.
1. Comply with 29 CFR 1910.145.
 2. Identify system voltage with black letters on an orange background.
 3. Apply to exterior of door, cover, or other access.
- E. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- F. Equipment Identification Labels:
1. Labeling Instructions:
 - a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label
 2. Equipment to Be Labeled:
 - a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be self-adhesive, engraved laminated acrylic or melamine label.
 - b. Enclosures and electrical cabinets.
 - c. Access doors and panels for concealed electrical items.
 - d. Enclosed switches.
 - e. Enclosed circuit breakers.
 - f. Enclosed controllers.
 - g. Push-button stations.
 - h. Contactors.

- i. Remote-controlled switches, dimmer modules, and control devices.
- j. Battery-inverter units.
- k. Monitoring and control equipment.
- l. Light switch cover plate. Provide 3/16 inch engraved and "filled in" lettering indicating panelboard and circuit number "where fed from" for all switches. Fill red coverplates with white filler. Fill white coverplates with black filler.
- m. Receptacle coverplate: Provide 3/16 inch engraved and "filled in" lettering indicating panelboard and circuit number "where fed from" for all receptacles. Fill red coverplates with white filler. Fill white coverplates with black filler.

END OF SECTION 26 05 53

SECTION 26 05 72 - OVERCURRENT PROTECTIVE DEVICE SHORT-CIRCUIT STUDY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes a computer-based, fault-current study to determine the minimum interrupting capacity of circuit protective devices.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.
- D. SCCR: Short-circuit current rating.
- E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

- A. Product Data: For computer software program to be used for studies.
- B. Other Action Submittals: Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.
 - 1. Short-circuit study input data, including completed computer program input data sheets.
 - 2. Short-circuit study and equipment evaluation report; signed, dated, and sealed by a qualified professional engineer.
 - a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary

submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

- b. Revised single-line diagram, reflecting field investigation results and results of short-circuit study.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For short-circuit study software, certifying compliance with IEEE 399.

1.6 QUALITY ASSURANCE

- A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.
- B. Short-Circuit Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.
 - 1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- C. Short-Circuit Study Specialist Qualifications: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.
- D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE

- A. Comply with IEEE 399 and IEEE 551.
- B. Analytical features of fault-current-study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.
- C. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output.

2.2 SHORT-CIRCUIT STUDY REPORT CONTENTS

- A. Executive summary.
- B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of the computer printout.
- C. One-line diagram, showing the following:
 - 1. Protective device designations and ampere ratings.
 - 2. Cable size and lengths.
 - 3. Transformer kilovolt ampere (kVA) and voltage ratings.
 - 4. Motor and generator designations and kVA ratings.
 - 5. Switchgear, switchboard, motor-control center, and panelboard designations.
- D. Comments and recommendations for system improvements, where needed.
- E. Protective Device Evaluation:
 - 1. Evaluate equipment and protective devices and compare to short-circuit ratings.
 - 2. Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.
 - 3. For 600-V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
 - 4. For devices and equipment rated for asymmetrical fault current, apply multiplication factors listed in the standards to 1/2-cycle symmetrical fault current.
 - 5. Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
- F. Short-Circuit Study Input Data: As described in "Power System Data" Article in the Evaluations.
- G. Short-Circuit Study Output:
 - 1. Low-Voltage Fault Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. Equivalent impedance.
 - 2. Momentary Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. Calculated asymmetrical fault currents:

- 1) Based on fault-point X/R ratio.
 - 2) Based on calculated symmetrical value multiplied by 1.6.
 - 3) Based on calculated symmetrical value multiplied by 2.7.
3. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. No AC Decrement (NACD) ratio.
 - e. Equivalent impedance.
 - f. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a symmetrical basis.
 - g. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a total basis.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Obtain all data necessary for the conduct of the study.
 1. Verify completeness of data supplied on the one-line diagram. Call any discrepancies to the attention of Architect.
 2. For equipment provided that is Work of this Project, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
 3. For relocated equipment and that which is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. The qualifications of technicians and engineers shall be qualified as defined by NFPA 70E.
- B. Gather and tabulate the following input data to support the short-circuit study. Comply with recommendations in IEEE 551 as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.
 1. Product Data for Project's overcurrent protective devices involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
 2. Obtain electrical power utility impedance at the service.
 3. Power sources and ties.
 4. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
 5. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
 6. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip, SCCR, current rating, and breaker settings.

7. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
8. Busway manufacturer and model designation, current rating, impedance, lengths, and conductor material.
9. Motor horsepower and NEMA MG 1 code letter designation.
10. Cable sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).

3.2 SHORT-CIRCUIT STUDY

- A. Perform study following the general study procedures contained in IEEE 399.
- B. Calculate short-circuit currents according to IEEE 551.
- C. Base study on the device characteristics supplied by device manufacturer.
- D. The extent of the electrical power system to be studied is indicated on Drawings.
- E. Begin short-circuit current analysis at the service, extending down to the system overcurrent protective devices as follows:
 1. To normal system low-voltage load buses where fault current is 10 kA or less.
 2. Exclude equipment rated 240-V ac or less when supplied by a single transformer rated less than 125 kVA.
- F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.
- G. The calculations shall include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and shall apply to low- and medium-voltage, three-phase ac systems. The calculations shall also account for the fault-current dc decrement, to address the asymmetrical requirements of the interrupting equipment.
 1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.
- H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each of the following:
 1. Electric utility's supply termination point.
 2. Incoming switchgear.
 3. Unit substation primary and secondary terminals.
 4. Low-voltage switchgear.
 5. Motor-control centers.
 6. Control panels.
 7. Standby generators and automatic transfer switches.
 8. Branch circuit panelboards.
 9. Disconnect switches.

3.3 ADJUSTING

- A. Make minor modifications to equipment as required to accomplish compliance with short-circuit study.

3.4 DEMONSTRATION

- A. Train Owner's operating and maintenance personnel in the use of study results.

END OF SECTION 26 05 72

SECTION 26 05 73 - OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes computer-based, overcurrent protective device coordination studies to determine overcurrent protective devices and to determine overcurrent protective device settings for selective tripping.
 - 1. Study results shall be used to determine coordination of series-rated devices.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.
- D. SCCR: Short-circuit current rating.
- E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

- A. Product Data: For computer software program to be used for studies.
- B. Other Action Submittals: Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.
 - 1. Coordination-study input data, including completed computer program input data sheets.
 - 2. Study and equipment evaluation reports.
 - 3. Overcurrent protective device coordination study report; signed, dated, and sealed by a qualified professional engineer.

- a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For overcurrent protective device coordination study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For the overcurrent protective devices to include in emergency, operation, and maintenance manuals.

1. Include the following:

- a. The following parts from the Protective Device Coordination Study Report:

- 1) One-line diagram.
- 2) Protective device coordination study.
- 3) Time-current coordination curves.

- b. Power system data.

1.7 QUALITY ASSURANCE

- A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.
- B. Coordination Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.
 1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- C. Coordination Study Specialist Qualifications: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.
- D. Field Adjusting Agency Qualifications: An independent agency, with the experience and capability to adjust overcurrent devices and to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing

laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

- A. Comply with IEEE 242 and IEEE 399.
- B. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.
- C. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output. Computer software program shall report device settings and ratings of all overcurrent protective devices and shall demonstrate selective coordination by computer-generated, time-current coordination plots.
 - 1. Optional Features:
 - a. Arcing faults.
 - b. Simultaneous faults.
 - c. Explicit negative sequence.
 - d. Mutual coupling in zero sequence.

2.2 PROTECTIVE DEVICE COORDINATION STUDY REPORT CONTENTS

- A. Executive summary.
- B. Study descriptions, purpose, basis and scope. Include case descriptions, definition of terms and guide for interpretation of the computer printout.
- C. One-line diagram, showing the following:
 - 1. Protective device designations and ampere ratings.
 - 2. Cable size and lengths.
 - 3. Transformer kilovolt ampere (kVA) and voltage ratings.
 - 4. Motor and generator designations and kVA ratings.
 - 5. Switchgear, switchboard, motor-control center, and panelboard designations.
- D. Study Input Data: As described in "Power System Data" Article.
- E. Short-Circuit Study Output: As specified in "Short-Circuit Study Output" Paragraph in "Short-Circuit Study Report Contents" Article in Section 260572 "Overcurrent Protective Device Short-Circuit Study."
- F. Protective Device Coordination Study:

1. Report recommended settings of protective devices, ready to be applied in the field. Use manufacturer's data sheets for recording the recommended setting of overcurrent protective devices when available.
 - a. Phase and Ground Relays:
 - 1) Device tag.
 - 2) Relay current transformer ratio and tap, time dial, and instantaneous pickup value.
 - 3) Recommendations on improved relaying systems, if applicable.
 - b. Circuit Breakers:
 - 1) Adjustable pickups and time delays (long time, short time, ground).
 - 2) Adjustable time-current characteristic.
 - 3) Adjustable instantaneous pickup.
 - 4) Recommendations on improved trip systems, if applicable.
 - c. Fuses: Show current rating, voltage, and class.
- G. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation. Show the following information:
 1. Device tag and title, one-line diagram with legend identifying the portion of the system covered.
 2. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
 3. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
 4. Plot the following listed characteristic curves, as applicable:
 - a. Power utility's overcurrent protective device.
 - b. Medium-voltage equipment overcurrent relays.
 - c. Medium- and low-voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands.
 - d. Low-voltage equipment circuit-breaker trip devices, including manufacturer's tolerance bands.
 - e. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves.
 - f. Cables and conductors damage curves.
 - g. Ground-fault protective devices.
 - h. Motor-starting characteristics and motor damage points.
 - i. Generator short-circuit decrement curve and generator damage point.
 - j. The largest feeder circuit breaker in each motor-control center and panelboard.
 5. Series rating on equipment allows the application of two series interrupting devices for a condition where the available fault current is greater than the interrupting rating of the downstream equipment. Both devices share in the interruption of the fault and selectivity

- is sacrificed at high fault levels. Maintain selectivity for tripping currents caused by overloads.
6. Provide adequate time margins between device characteristics such that selective operation is achieved.
 7. Comments and recommendations for system improvements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine Project overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance. Devices to be coordinated are indicated on Drawings.
 1. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

3.2 PROTECTIVE DEVICE COORDINATION STUDY

- A. Comply with IEEE 242 for calculating short-circuit currents and determining coordination time intervals.
- B. Comply with IEEE 399 for general study procedures.
- C. The study shall be based on the device characteristics supplied by device manufacturer.
- D. The extent of the electrical power system to be studied is indicated on Drawings.
- E. Begin analysis at the service, extending down to the system overcurrent protective devices as follows:
 1. To normal system low-voltage load buses where fault current is 10 kA or less.
 2. Exclude equipment rated 240-V ac or less when supplied by a single transformer rated less than 125 kVA.
- F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.
- G. Transformer Primary Overcurrent Protective Devices:
 1. Device shall not operate in response to the following:
 - a. Inrush current when first energized.
 - b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.
 - c. Permissible transformer overloads according to IEEE C57.96 if required by unusual loading or emergency conditions.

2. Device settings shall protect transformers according to IEEE C57.12.00, for fault currents.

H. Motor Protection:

1. Select protection for low-voltage motors according to IEEE 242 and NFPA 70.
2. Select protection for motors served at voltages more than 600 V according to IEEE 620.

I. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.

J. Generator Protection: Select protection according to manufacturer's written recommendations and to IEEE 242.

K. The calculations shall include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and shall apply to low- and medium-voltage, three-phase ac systems. The calculations shall also account for the fault-current dc decrement, to address the asymmetrical requirements of the interrupting equipment.

1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.

L. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and single line-to-ground fault at each of the following:

1. Electric utility's supply termination point.
2. Switchgear.
3. Unit substation primary and secondary terminals.
4. Low-voltage switchgear.
5. Motor-control centers.
6. Standby generators and automatic transfer switches.
7. Branch circuit panelboards.

M. Protective Device Evaluation:

1. Evaluate equipment and protective devices and compare to short-circuit ratings.
2. Adequacy of switchgear, motor-control centers, and panelboard bus bars to withstand short-circuit stresses.
3. Any application of series-rated devices shall be recertified, complying with requirements in NFPA 70.

3.3 LOAD-FLOW AND VOLTAGE-DROP STUDY

A. Perform a load-flow and voltage-drop study to determine the steady-state loading profile of the system. Analyze power system performance two times as follows:

1. Determine load-flow and voltage drop based on full-load currents obtained in "Power System Data" Article.
2. Determine load-flow and voltage drop based on 80 percent of the design capacity of the load buses.
3. Prepare the load-flow and voltage-drop analysis and report to show power system components that are overloaded, or might become overloaded; show bus voltages that are less than as prescribed by NFPA 70.

3.4 MOTOR-STARTING STUDY

- A. Perform a motor-starting study to analyze the transient effect of the system's voltage profile during motor starting. Calculate significant motor-starting voltage profiles and analyze the effects of the motor starting on the power system stability.
- B. Prepare the motor-starting study report, noting light flicker for limits proposed by IEEE 141, and voltage sags so as not to affect the operation of other utilization equipment on the system supplying the motor.

3.5 POWER SYSTEM DATA

- A. Obtain all data necessary for the conduct of the overcurrent protective device study.
 1. Verify completeness of data supplied in the one-line diagram on Drawings. Call discrepancies to the attention of Architect.
 2. For new equipment, use characteristics submitted under the provisions of action submittals and information submittals for this Project.
 3. For existing equipment, whether or not relocated obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. The qualifications of technicians and engineers shall be qualified as defined by NFPA 70E.
- B. Gather and tabulate the following input data to support coordination study. The list below is a guide. Comply with recommendations in IEEE 551 for the amount of detail required to be acquired in the field. Field data gathering shall be under the direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.
 1. Product Data for overcurrent protective devices specified in other Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
 2. Electrical power utility impedance at the service.
 3. Power sources and ties.
 4. Short-circuit current at each system bus, three phase and line-to-ground.
 5. Full-load current of all loads.
 6. Voltage level at each bus.
 7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.

8. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
9. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
10. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
11. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
12. Maximum demands from service meters.
13. Busway manufacturer and model designation, current rating, impedance, lengths, and conductor material.
14. Motor horsepower and NEMA MG 1 code letter designation.
15. Low-voltage cable sizes, lengths, number, conductor material, and conduit material (magnetic or nonmagnetic).
16. Medium-voltage cable sizes, lengths, conductor material, and cable construction and metallic shield performance parameters.
17. Data sheets to supplement electrical distribution system diagram, cross-referenced with tag numbers on diagram, showing the following:
 - a. Special load considerations, including starting inrush currents and frequent starting and stopping.
 - b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
 - c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal-damage curve.
 - d. Generator thermal-damage curve.
 - e. Ratings, types, and settings of utility company's overcurrent protective devices.
 - f. Special overcurrent protective device settings or types stipulated by utility company.
 - g. Time-current-characteristic curves of devices indicated to be coordinated.
 - h. Manufacturer, frame size, interrupting rating in amperes rms symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.
 - i. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.
 - j. Panelboards, switchboards, motor-control center ampacity, and SCCR in amperes rms symmetrical.
 - k. Identify series-rated interrupting devices for a condition where the available fault current is greater than the interrupting rating of the downstream equipment. Obtain device data details to allow verification that series application of these devices complies with NFPA 70 and UL 489 requirements.

3.6 FIELD ADJUSTING

- A. Adjust relay and protective device settings according to the recommended settings provided by the coordination study. Field adjustments shall be completed by the engineering service division of the equipment manufacturer under the Startup and Acceptance Testing contract portion.

- B. Make minor modifications to equipment as required to accomplish compliance with short-circuit and protective device coordination studies.
- C. Testing and adjusting shall be by a full-time employee of the Field Adjusting Agency, who holds NETA ETT Level III certification or NICET Electrical Power Testing Level III certification.
 - 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters. Perform NETA tests and inspections for all adjustable overcurrent protective devices.

3.7 DEMONSTRATION

- A. Engage the Coordination Study Specialist to train Owner's maintenance personnel in the following:
 - 1. Acquaint personnel in the fundamentals of operating the power system in normal and emergency modes.
 - 2. Hand-out and explain the objectives of the coordination study, study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpreting the time-current coordination curves.
 - 3. Adjust, operate, and maintain overcurrent protective device settings.

END OF SECTION 26 05 73

SECTION 26 05 74 - OVERCURRENT PROTECTIVE DEVICE ARC-FLASH STUDY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes a computer-based, arc-flash study to determine the arc-flash hazard distance and the incident energy to which personnel could be exposed during work on or near electrical equipment.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- B. One-Line Diagram: A diagram which shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- C. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion from the system.
- D. SCCR: Short-circuit current rating.
- E. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.4 ACTION SUBMITTALS

- A. Study Submittals: Submit the following submittals after the approval of system protective devices submittals. Submittals shall be in digital form.
 - 1. Arc-flash study input data, including completed computer program input data sheets.
 - 2. Arc-flash study report; signed, dated, and sealed by a qualified professional engineer.
 - a. Submit study report for action prior to receiving final approval of the distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that the selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For arc-flash hazard analysis software, certifying compliance with IEEE 1584 and NFPA 70E.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data:
 - 1. Maintenance procedures according to requirements in NFPA 70E shall be provided in the equipment manuals.
 - 2. Operation and Maintenance Procedures: Provide maintenance procedures for use by Owner's personnel that comply with requirements in NFPA 70E.

1.7 QUALITY ASSURANCE

- A. Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable.
- B. Arc-Flash Study Software Developer Qualifications: An entity that owns and markets computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.
 - 1. The computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- C. Arc-Flash Study Specialist Qualifications: Professional engineer in charge of performing the study, analyzing the arc flash, and documenting recommendations, licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.

PART 2 - PRODUCTS

2.1 COMPUTER SOFTWARE DEVELOPERS

- A. Comply with IEEE 1584 and NFPA 70E.
- B. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.

2.2 ARC-FLASH STUDY REPORT CONTENT

- A. Executive summary.
- B. Study descriptions, purpose, basis and scope.

- C. One-line diagram, showing the following:
 - 1. Protective device designations and ampere ratings.
 - 2. Cable size and lengths.
 - 3. Transformer kilovolt ampere (kVA) and voltage ratings.
 - 4. Motor and generator designations and kVA ratings.
 - 5. Switchgear, switchboard, motor-control center and panelboard designations.
- D. Study Input Data: As described in "Power System Data" Article.
- E. Short-Circuit Study Output: As specified in "Short Circuit Study Output" Paragraph in "Short-Circuit Study Report Contents" Article in Section 260572 "Overcurrent Protective Device Short-Circuit Study."
- F. Protective Device Coordination Study Report Contents: As specified in "Protective Device Coordination Study Report Contents" Article in Section 260573 "Overcurrent Protective Device Coordination Study."
- G. Arc-Flash Study Output:
 - 1. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. No AC Decrement (NACD) ratio.
 - e. Equivalent impedance.
 - f. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a symmetrical basis.
 - g. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a total basis.
- H. Incident Energy and Flash Protection Boundary Calculations:
 - 1. Arcing fault magnitude.
 - 2. Protective device clearing time.
 - 3. Duration of arc.
 - 4. Arc-flash boundary.
 - 5. Working distance.
 - 6. Incident energy.
 - 7. Hazard risk category.
 - 8. Recommendations for arc-flash energy reduction.
- I. Fault study input data, case descriptions, and fault-current calculations including a definition of terms and guide for interpretation of the computer printout.

2.3 ARC-FLASH WARNING LABELS

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems" for self-adhesive equipment labels. Produce a 3.5-by-5-inch self-adhesive equipment label for each work location included in the analysis.
- B. The label shall have an orange header with the wording, "WARNING, ARC-FLASH HAZARD," and shall include the following information taken directly from the arc-flash hazard analysis:
 - 1. Location designation.
 - 2. Nominal voltage.
 - 3. Flash protection boundary.
 - 4. Hazard risk category.
 - 5. Incident energy.
 - 6. Working distance.
- C. Labels shall be machine printed, with no field-applied markings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine Project overcurrent protective device submittals. Proceed with arc-flash study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to arc-flash study may not be used in study.

3.2 ARC-FLASH HAZARD ANALYSIS

- A. Comply with NFPA 70E and its Annex D for hazard analysis study.
- B. Calculate maximum and minimum contributions of fault-current size.
 - 1. The minimum calculation shall assume that the utility contribution is at a minimum and shall assume no motor load.
 - 2. The maximum calculation shall assume a maximum contribution from the utility and shall assume motors to be operating under full-load conditions.
- C. Calculate the arc-flash protection boundary and incident energy at locations in the electrical distribution system where personnel could perform work on energized parts.
- D. Safe working distances shall be specified for calculated fault locations based on the calculated arc-flash boundary, considering incident energy of 1.2 cal/sq.cm.
- E. Incident energy calculations shall consider the accumulation of energy over time when performing arc-flash calculations on buses with multiple sources. Iterative calculations shall take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors and generators shall be decremented as follows:

1. Fault contribution from induction motors should not be considered beyond three to five cycles.
 2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g., contributions from permanent magnet generators will typically decay from 10 per unit to three per unit after 10 cycles).
- F. Arc-flash computation shall include both line and load side of a circuit breaker as follows:
1. When the circuit breaker is in a separate enclosure.
 2. When the line terminals of the circuit breaker are separate from the work location.
- G. Base arc-flash calculations on actual overcurrent protective device clearing time. Cap maximum clearing time at two seconds based on IEEE 1584, Section B.1.2.

3.3 POWER SYSTEM DATA

- A. Obtain all data necessary for the conduct of the arc-flash hazard analysis.
1. For new equipment, use submittals information for this Project.
 2. For existing equipment, whether or not relocated, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers.
- B. Electrical Survey Data: Gather and tabulate input data to support study. Comply with recommendations in IEEE 1584 and NFPA 70E as to the amount of detail that is required to be acquired in the field.
1. Product Data for overcurrent protective devices.
 2. Obtain electrical power utility impedance at the service.
 3. Power sources and ties.
 4. Short-circuit current at each system bus, three phase and line-to-ground.
 5. Full-load current of all loads.
 6. Voltage level at each bus.
 7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in per cent, and phase shift.
 8. For reactors, provide manufacturer and model designation, voltage rating and impedance.
 9. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
 10. Motor horsepower and NEMA MG 1 code letter designation.
 11. Low-voltage cable sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).
 12. Medium-voltage cable sizes, lengths, conductor material, and cable construction and metallic shield performance parameters.

3.4 LABELING

- A. Apply one arc-flash label for all panelboards and disconnects.

END OF SECTION 26 05 74

SECTION 26 09 23 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Indoor occupancy and vacancy sensors.
 - 2. Switchbox-mounted vacancy sensors.
- B. Related Requirements:
 - 1. Section 262726 "Wiring Devices" for wall-box dimmers and manual light switches.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Show installation details for the following:
 - a. Occupancy sensors.
 - b. Vacancy sensors.
 - 2. Interconnection diagrams showing field-installed wiring.
 - 3. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Sample Warranty: For manufacturer's warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of lighting control device to include in operation and maintenance manuals.

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace lighting control devices that fail(s) in materials or workmanship within specified warranty period.

- 1. Warranty Period: Two year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SENSORS

- A. As specified on the drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine lighting control devices before installation. Reject lighting control devices that are wet, moisture damaged, or mold damaged.
- B. Examine walls and ceilings for suitable conditions where lighting control devices will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SENSOR INSTALLATION

- A. Comply with NECA 1.
- B. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression systems, and partition assemblies.
- C. Install and aim sensors in locations to achieve not less than 90-percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

3.3 WIRING INSTALLATION

- A. Comply with NECA 1.
- B. Wiring Method: Comply with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- C. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.

- D. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- E. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.4 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 260553 "Identification for Electrical Systems."
 - 1. Identify controlled circuits in lighting contactors.
 - 2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
 - 1. Operational Test: After installing time switches and sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Lighting control devices will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

3.6 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting lighting control devices to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

END OF SECTION 26 09 23

SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Lighting and appliance branch-circuit panelboards.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of panelboard.
 - 1. Include overcurrent protective devices.
- B. Shop Drawings: For each panelboard and related equipment.
 - 1. Short-circuit current rating of overcurrent protective devices.
 - 2. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graph paper; include selectable ranges for each type of overcurrent protective device. Include an Internet link for electronic access to downloadable PDF of the coordination curves.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Panelboard Schedules: For installation in panelboards. Submit final versions.

1.5 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 18 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 OVERCURRENT PROTECTIVE DEVICES

A. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers (400A and smaller):

- a. Inverse time-current element for low-level overloads.
- b. Instantaneous magnetic trip element for short circuits.
- c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

2. Electronic Trip Circuit Breakers (450A and larger):

- a. RMS sensing.
- b. Field-replaceable rating plug or electronic trip.
- c. Digital display of settings, trip targets, and indicated metering displays.
- d. Multi-button keypad to access programmable functions and monitored data.
- e. Ten-event, trip-history log. Each trip event shall be recorded with type, phase, and magnitude of fault that caused the trip.
- f. Integral test jack for connection to portable test set or laptop computer.
- g. Field-Adjustable Settings:
 - 1) Instantaneous trip.
 - 2) Long- and short-time pickup levels.
 - 3) Long and short time adjustments.
 - 4) Ground-fault pickup level, time delay, and I squared T response.

3. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).

4. MCCB Features:

- a. Standard frame sizes, trip ratings, and number of poles.
- b. Breaker handle indicates tripped status.
- c. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
- d. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
- e. Multipole units enclosed in a single housing with a single handle

2.2 IDENTIFICATION

- A. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.
- B. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.

1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 1. Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory.

3.2 INSTALLATION

- A. Coordinate layout and installation of circuit breakers and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

3.3 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."
- B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations.
- C. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.

3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Acceptance Testing Preparation:
 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 2. Test continuity of each circuit.
- C. Tests and Inspections:
 1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers.

2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
 - c. Instruments and Equipment:
 - 1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
- D. Panelboards will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges as indicated.

END OF SECTION 26 24 16

SECTION 26 27 26 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Straight-blade convenience receptacles.
 - 2. GFCI receptacles.
 - 3. Twist-locking receptacles.
 - 4. Toggle switches.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

PART 2 - PRODUCTS

2.1 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Acceptable manufacturers:
 - 1. Cooper Wiring Devices.
 - 2. Hubbell Incorporated.
 - 3. Leviton Mfg. Company, Inc.
 - 4. Pass& Seymour/Legrand.
- B. All devices shall be commercial grade

- C. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Comply with NFPA 70.
- E. Devices for Owner-Furnished Equipment:
 - 1. Receptacles: Match plug configurations.
 - 2. Cord and Plug Sets: Match equipment requirements.
- F. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 STRAIGHT-BLADE RECEPTACLES

- A. Duplex Convenience Receptacles: 125 V, 20 A; comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.

2.3 GFCI RECEPTACLES

- A. General Description:
 - 1. 125 V, 20 A, straight blade, feed-through type.
 - 2. Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, UL 943 Class A, and FS W-C-596.
 - 3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.

2.4 TWIST-LOCKING RECEPTACLES

- A. Twist-Lock, Single Convenience Receptacles: 125 V, 20 A; comply with NEMA WD 1, NEMA WD 6 Configuration L5-20R, and UL 498.

2.5 TOGGLE SWITCHES

- A. Comply with NEMA WD 1, UL 20, and FS W-S-896.
- B. Switches, 120/277 V, 20 A.

2.6 WALL PLATES

- A. Single and combination types shall match corresponding wiring devices.
 - 1. Plate-Securing Screws: Metal with head color to match plate finish.
 - 2. Material for Finished Spaces: 0.035-inch- thick, satin-finished, Type 302 stainless steel.
 - 3. Material for Unfinished Spaces: Galvanized steel.

4. Material for Damp Locations: Thermoplastic with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.
- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, thermoplastic with lockable cover.

2.7 FINISHES

- A. Devices Color: White, unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtail existing conductors is permitted, provided the outlet box is large enough.
- D. Device Installation:
 1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.

3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of receptacles down.

F. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

G. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

3.2 IDENTIFICATION

- A. Comply with Section 260553 "Identification for Electrical Systems."
- B. Identify each receptacle with panelboard identification and circuit number.

3.3 FIELD QUALITY CONTROL

A. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

- B. Wiring device will be considered defective if it does not pass tests and inspections.

END OF SECTION 26 27 26

SECTION 26 28 16 - ENCLOSED SWITCHES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Fusible switches.
 - 2. Nonfusible switches.
 - 3. Enclosures.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
 - b. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.
 1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
- C. Comply with NFPA 70.

2.2 FUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Square D
 2. Siemens
 3. Eaton
 4. GE
- B. Type HD, Heavy Duty:
 1. Single throw.
 2. 600-V ac.
 3. UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate fuses.
 4. Lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:
 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 3. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.3 NONFUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Square D
 - 2. Siemens
 - 3. Eaton
 - 4. GE
- B. Type HD, Heavy Duty, Single Throw, 600-V ac: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 - 3. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.4 ENCLOSURES

- A. UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
- B. Enclosure Finish: The enclosure shall be gray baked enamel paint, electrodeposited on cleaned, phosphatized steel (NEMA 250 Type 1) or gray baked enamel paint, electrodeposited on cleaned, phosphatized galvanized steel (NEMA 250 Types 3R).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

- A. Provide enclosures at installed locations with the following environmental ratings.
 - 1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
 - 2. Outdoor Locations: NEMA 250, Type 3R.

3.3 INSTALLATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- C. Comply with NFPA 70 and NECA 1.

3.4 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
 - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 - 2. Label each enclosure with engraved laminated-plastic nameplate.

3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections for Switches:
 - 1. Visual and Mechanical Inspection:
 - a. Inspect physical and mechanical condition.
 - b. Inspect anchorage, alignment, grounding, and clearances.
 - c. Verify that the unit is clean.
 - d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
 - e. Verify that fuse sizes and types match the Specifications and Drawings.
 - f. Verify that each fuse has adequate mechanical support and contact integrity.
 - g. Inspect bolted electrical connections for high resistance using one of the two following methods:
 - 1) Use a low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.

- h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on the Drawings.
 - i. Verify correct phase barrier installation.
 - j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.
 - 2. Electrical Tests:
 - a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - b. Measure contact resistance across each switchblade fuseholder. Drop values shall not exceed the high level of the manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - c. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
 - d. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.
 - e. Perform ground fault test according to NETA ATS 7.14 "Ground Fault Protection Systems, Low-Voltage."
 - C. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
 - D. Prepare test and inspection reports.
 - 1. Test procedures used.
 - 2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
 - 3. List deficiencies detected, remedial action taken, and observations after remedial action.
- 3.6 ADJUSTING
- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

END OF SECTION 26 28 16

SECTION 28 31 11 - DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Fire-alarm control unit.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Notification appliances.
5. Firefighters' two-way telephone communication service.
6. Addressable interface device.
7. Digital alarm communicator transmitter.
8. System printer.

1.3 DEFINITIONS

- A. LED: Light-emitting diode.
- B. NICET: National Institute for Certification in Engineering Technologies.

1.4 SYSTEM DESCRIPTION

- A. Noncoded, UL-certified addressable system, with multiplexed signal transmission, dedicated to fire-alarm service only.
- B. Noncoded addressable system, with automatic sensitivity control of certain smoke detectors and multiplexed signal transmission, dedicated to fire-alarm service only.

1.5 PERFORMANCE REQUIREMENTS

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For fire-alarm system. Include plans, elevations, sections, details, and attachments to other work.

1. Comply with recommendations in the "Documentation" Section of the "Fundamentals of Fire Alarm Systems" Chapter in NFPA 72.
2. Include voltage drop calculations for notification appliance circuits.
3. Include battery-size calculations.
4. Include performance parameters and installation details for each detector, verifying that each detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.
5. Include plans, sections, and elevations of heating, ventilating, and air-conditioning ducts, drawn to scale and coordinating installation of duct smoke detectors and access to them. Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators. Locate detectors according to manufacturer's written recommendations.
6. Include voice/alarm signaling-service equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.
7. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits.

C. General Submittal Requirements:

1. Submittals shall be approved by authorities having jurisdiction prior to submitting them to Architect.
2. Shop Drawings shall be prepared by persons with the following qualifications:
 - a. Trained and certified by manufacturer in fire-alarm system design.
 - b. NICET-certified fire-alarm technician, Level III minimum.
 - c. Licensed or certified by authorities having jurisdiction.

D. Delegated-Design Submittal: For smoke and heat detectors indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Drawings showing the location of each smoke and heat detector, ratings of each, and installation details as needed to comply with listing conditions of the detector.
2. Design Calculations: Calculate requirements for selecting the spacing and sensitivity of detection, complying with NFPA 72.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Seismic Qualification Certificates: For fire-alarm control unit, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

- C. Field quality-control reports.

1.8 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," deliver copies to authorities having jurisdiction and include the following:
 - 1. Comply with the "Records" Section of the "Inspection, Testing and Maintenance" Chapter in NFPA 72.
 - 2. Provide "Record of Completion Documents" according to NFPA 72 article "Permanent Records" in the "Records" Section of the "Inspection, Testing and Maintenance" Chapter.
 - 3. Record copy of site-specific software.
 - 4. Provide "Maintenance, Inspection and Testing Records" according to NFPA 72 article of the same name and include the following:
 - a. Frequency of testing of installed components.
 - b. Frequency of inspection of installed components.
 - c. Requirements and recommendations related to results of maintenance.
 - d. Manufacturer's user training manuals.
 - 5. Manufacturer's required maintenance related to system warranty requirements.
 - 6. Abbreviated operating instructions for mounting at fire-alarm control unit.
- B. Software and Firmware Operational Documentation:
 - 1. Software operating and upgrade manuals.
 - 2. Program Software Backup: On magnetic media or compact disk, complete with data files.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.

1.9 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than 1 unit.
 - 2. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than 1 unit.
 - 3. Smoke Detectors, Fire Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than 1 unit of each type.
 - 4. Detector Bases: Quantity equal to 2 percent of amount of each type installed, but no fewer than 1 unit of each type.
 - 5. Keys and Tools: One extra set for access to locked and tamperproofed components.
 - 6. Audible and Visual Notification Appliances: One of each type installed.
 - 7. Fuses: Two of each type installed in the system.

1.10 QUALITY ASSURANCE

- A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.
- B. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level III technician.
- C. Source Limitations for Fire-Alarm System and Components: Obtain fire-alarm system from single source from single manufacturer. Components shall be compatible with, and operate as, an extension of existing system.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. NFPA Certification: Obtain certification according to NFPA 72 by a UL-listed alarm company.

1.11 PROJECT CONDITIONS

- A. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:
 - 1. Notify Construction Manager no fewer than two days in advance of proposed interruption of fire-alarm service.
 - 2. Do not proceed with interruption of fire-alarm service without Construction Manager's written permission.

1.12 SEQUENCING AND SCHEDULING

- A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. As new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.
- B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

1.13 SOFTWARE SERVICE AGREEMENT

- A. Comply with UL 864.
- B. Technical Support: Beginning with Substantial Completion, provide software support for two years.
- C. Upgrade Service: Update software to latest version at Project completion. Install and program software upgrades that become available within two years from date of Substantial Completion. Upgrading software shall include operating system. Upgrade shall include new or revised licenses for use of software.

1. Provide 30 days' notice to Owner to allow scheduling and access to system and to allow Owner to upgrade computer equipment if necessary.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Gamewell; a Honeywell company.
 2. NOTIFIER; a Honeywell company.
 3. Silent Knight; a Honeywell company.

2.2 SYSTEMS OPERATIONAL DESCRIPTION

- A. Fire-alarm signal initiation shall be by one or more of the following devices:
 1. Manual stations.
 2. Smoke detectors.
 3. Duct smoke detectors.
 4. Verified automatic alarm operation of smoke detectors.
 5. Automatic sprinkler system water flow.
- B. Fire-alarm signal shall initiate the following actions:
 1. Continuously operate alarm notification appliances.
 2. Identify alarm at fire-alarm control unit and remote annunciators.
 3. Transmit an alarm signal to the remote alarm receiving station.
 4. Unlock electric door locks in designated egress paths.
 5. Release fire and smoke doors held open by magnetic door holders.
 6. Activate voice/alarm communication system.
 7. Switch heating, ventilating, and air-conditioning equipment controls to fire-alarm mode.
 8. Activate smoke-control system (smoke management) at firefighter smoke-control system panel.
 9. Close smoke dampers in air ducts of designated air-conditioning duct systems.
 10. Activate emergency lighting control.
 11. Activate emergency shutoffs for gas and fuel supplies.
 12. Record events in the system memory.
 13. Record events by the system printer.
- C. Supervisory signal initiation shall be by one or more of the following devices and actions:
 1. Valve supervisory switch.
 2. Low-air-pressure switch of a dry-pipe sprinkler system.
- D. System trouble signal initiation shall be by one or more of the following devices and actions:
 1. Open circuits, shorts, and grounds in designated circuits.

2. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
 3. Loss of primary power at fire-alarm control unit.
 4. Ground or a single break in fire-alarm control unit internal circuits.
 5. Abnormal ac voltage at fire-alarm control unit.
 6. Break in standby battery circuitry.
 7. Failure of battery charging.
 8. Abnormal position of any switch at fire-alarm control unit or annunciator.
 9. Fire-pump power failure, including a dead-phase or phase-reversal condition.
 10. Low-air-pressure switch operation on a dry-pipe or preaction sprinkler system.
- E. System Trouble and Supervisory Signal Actions: Initiate notification appliance and annunciate at fire-alarm control unit and remote annunciators. Record the event on system printer.

2.3 FIRE-ALARM CONTROL UNIT

A. General Requirements for Fire-Alarm Control Unit:

1. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL 864 and listed and labeled by an NRTL.
 - a. System software and programs shall be held in flash electrically erasable programmable read-only memory (EEPROM), retaining the information through failure of primary and secondary power supplies.
 - b. Include a real-time clock for time annotation of events on the event recorder and printer.
2. Addressable initiation devices that communicate device identity and status.
 - a. Smoke sensors shall additionally communicate sensitivity setting.
 - b. Temperature sensors shall additionally test for and communicate the sensitivity range of the device.
3. Addressable control circuits for operation of mechanical equipment.

B. Alphanumeric Display and System Controls: Arranged for interface between human operator at fire-alarm control unit and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and the programming and control menu.

1. Annunciator and Display: Liquid-crystal type, 3 line(s) of 80 characters, minimum.
2. Keypad: Arranged to permit entry and execution of programming, display, and control commands.

C. Circuits:

1. Initiating Device, Notification Appliance, and Signaling Line Circuits: NFPA 72, Class A.
 - a. Initiating Device Circuits: Style D.

- b. Notification Appliance Circuits: Style Z.
 - c. Signaling Line Circuits: Style 2.
 - d. Install no more than 50 addressable devices on each signaling line circuit.
 - 2. Serial Interfaces: Two RS-232 ports for printers.
 - D. Smoke-Alarm Verification:
 - 1. Initiate audible and visible indication of an "alarm-verification" signal at fire-alarm control unit.
 - 2. Activate an NRTL-listed and -approved "alarm-verification" sequence at fire-alarm control unit and detector.
 - 3. Record events by the system printer.
 - 4. Sound general alarm if the alarm is verified.
 - 5. Cancel fire-alarm control unit indication and system reset if the alarm is not verified.
 - E. Notification Appliance Circuit: Operation shall sound in a Temporal Pattern Complying with ANSI 53.41.1/
 - F. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.
 - G. Printout of Events: On receipt of signal, print alarm, supervisory, and trouble events. Identify zone, device, and function. Include type of signal (alarm, supervisory, or trouble) and date and time of occurrence. Differentiate alarm signals from all other printed indications. Also print system reset event, including same information for device, location, date, and time. Commands initiate the printing of a list of existing alarm, supervisory, and trouble conditions in the system and a historical log of events.
 - H. Primary Power: 24-V dc obtained from 120-V ac service and a power-supply module. Initiating devices, notification appliances, signaling lines, trouble signals, supervisory signals shall be powered by 24-V dc source.
 - 1. Alarm current draw of entire fire-alarm system shall not exceed 80 percent of the power-supply module rating.
 - I. Secondary Power: 24-V dc supply system with batteries, automatic battery charger, and automatic transfer switch.
 - 1. Batteries: Sealed lead calcium.
 - J. Instructions: Computer printout or typewritten instruction card mounted behind a plastic or glass cover in a stainless-steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.
- 2.4 MANUAL FIRE-ALARM BOXES
- A. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show

visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

1. Single-action mechanism, breaking-glass type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.
2. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.
3. Station Reset: Key- or wrench-operated switch.
4. Indoor Protective Shield: Factory-fabricated clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm. Lifting the cover actuates an integral battery-powered audible horn intended to discourage false-alarm operation.
5. Weatherproof Protective Shield: Factory-fabricated clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm.

2.5 SYSTEM SMOKE DETECTORS

A. General Requirements for System Smoke Detectors:

1. Comply with UL 268; operating at 24-V dc, nominal.
2. Detectors shall be four wire type.
3. Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to fire-alarm control unit.
4. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base. Provide terminals in the fixed base for connection to building wiring.
5. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
6. Integral Visual-Indicating Light: LED type indicating detector has operated and power-on status.

B. Photoelectric Smoke Detectors:

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).

C. Ionization Smoke Detector:

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.

2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).

D. Duct Smoke Detectors: Photoelectric type complying with UL 268A.

1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. An operator at fire-alarm control unit, having the designated access level, shall be able to manually access the following for each detector:
 - a. Primary status.
 - b. Device type.
 - c. Present average value.
 - d. Present sensitivity selected.
 - e. Sensor range (normal, dirty, etc.).
3. Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with the supplied detector.
4. Each sensor shall have multiple levels of detection sensitivity.
5. Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.
6. Relay Fan Shutdown: Rated to interrupt fan motor-control circuit.

2.6 NOTIFICATION APPLIANCES

- A. General Requirements for Notification Appliances: Individually addressed, connected to a signaling line circuit, equipped for mounting as indicated and with screw terminals for system connections.
- B. General Requirements for Notification Appliances: Connected to notification appliance signal circuits, zoned as indicated, equipped for mounting as indicated and with screw terminals for system connections.
 1. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated and with screw terminals for system connections.
- C. Chimes, Low-Level Output: Vibrating type, 75-dBA minimum rated output.
- D. Chimes, High-Level Output: Vibrating type, 81-dBA minimum rated output.
- E. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level

of 90 dBA, measured 10 feet from the horn, using the coded signal prescribed in UL 464 test protocol.

- F. Visible Notification Appliances: Xenon strobe lights comply with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch- high letters on the lens.
1. Rated Light Output:
 - a. 15/30/75/110 cd, selectable in the field.
 2. Mounting: Wall mounted unless otherwise indicated.
 3. For units with guards to prevent physical damage, light output ratings shall be determined with guards in place.
 4. Flashing shall be in a temporal pattern, synchronized with other units.
 5. Strobe Leads: Factory connected to screw terminals.
 6. Mounting Faceplate: Factory finished, red.
- G. Voice/Tone Notification Appliances:
1. Appliances shall comply with UL 1480 and shall be listed and labeled by an NRTL.
 2. High-Range Units: Rated 2 to 15 W.
 3. Low-Range Units: Rated 1 to 2 W.
 4. Mounting: Surface mounted and bidirectional.
 5. Matching Transformers: Tap range matched to acoustical environment of speaker location.

2.7 ADDRESSABLE INTERFACE DEVICE

- A. Description: Microelectronic monitor module, NRTL listed for use in providing a system address for alarm-initiating devices for wired applications with normally open contacts.
- B. Integral Relay: Capable of providing a direct signal [to elevator controller to initiate elevator recall] [to circuit-breaker shunt trip for power shutdown] <Insert functions>.

2.8 DIGITAL ALARM COMMUNICATOR TRANSMITTER

- A. Digital alarm communicator transmitter shall be acceptable to the remote central station and shall comply with UL 632 and be listed and labeled by an NRTL.
- B. Functional Performance: Unit shall receive an alarm, supervisory, or trouble signal from fire-alarm control unit and automatically capture two telephone line(s) and dial a preset number for a remote central station. When contact is made with central station(s), signals shall be transmitted. If service on line is interrupted for longer than 45 seconds, transmitter shall initiate a local trouble signal and transmit the signal indicating loss of telephone line to the remote alarm receiving station over the remaining line. Transmitter shall automatically report telephone service restoration to the central station. If service is lost on both telephone lines, transmitter shall initiate the local trouble signal.

- C. Local functions and display at the digital alarm communicator transmitter shall include the following:
 - 1. Verification that both telephone lines are available.
 - 2. Programming device.
 - 3. LED display.
 - 4. Manual test report function and manual transmission clear indication.
 - 5. Communications failure with the central station or fire-alarm control unit.
- D. Digital data transmission shall include the following:
 - 1. Address of the alarm-initiating device.
 - 2. Address of the supervisory signal.
 - 3. Address of the trouble-initiating device.
 - 4. Loss of ac supply or loss of power.
 - 5. Low battery.
 - 6. Abnormal test signal.
 - 7. Communication bus failure.
- E. Secondary Power: Integral rechargeable battery and automatic charger.
- F. Self-Test: Conducted automatically every 24 hours with report transmitted to central station.

2.9 SYSTEM PRINTER

- A. Printer shall be listed and labeled by an NRTL as an integral part of fire-alarm system.

2.10 DEVICE GUARDS

- A. Description: Welded wire mesh of size and shape for the manual station, smoke detector, gong, or other device requiring protection.
 - 1. Factory fabricated and furnished by manufacturer of device.
 - 2. Finish: Paint of color to match the protected device.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

- A. Comply with NFPA 72 for installation of fire-alarm equipment.
- B. Install wall-mounted equipment, with tops of cabinets not more than 72 inches (1830 mm) above the finished floor.
- C. Connecting to Existing Equipment: Verify that existing fire-alarm system is operational before making changes or connections.
 - 1. Connect new equipment to existing monitoring equipment at the supervising station.

2. Expand, modify, and supplement existing monitoring equipment as necessary to extend existing monitoring functions to the new points. New components shall be capable of merging with existing configuration without degrading the performance of either system.

D. Smoke- or Heat-Detector Spacing:

1. Comply with NFPA 72, "Smoke-Sensing Fire Detectors" Section in the "Initiating Devices" Chapter, for smoke-detector spacing.
2. Comply with NFPA 72, "Heat-Sensing Fire Detectors" Section in the "Initiating Devices" Chapter, for heat-detector spacing.
3. Smooth ceiling spacing shall not exceed 30 feet .
4. Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas shall be determined according to Appendix A or Appendix B in NFPA 72.
5. HVAC: Locate detectors not closer than 3 feet (1 m) from air-supply diffuser or return-air opening.
6. Lighting Fixtures: Locate detectors not closer than 12 inches (300 mm) from any part of a lighting fixture.

E. Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend the full width of duct.

F. Single-Station Smoke Detectors: Where more than one smoke alarm is installed within a dwelling or suite, they shall be connected so that the operation of any smoke alarm causes the alarm in all smoke alarms to sound.

G. Remote Status and Alarm Indicators: Install near each smoke detector and each sprinkler water-flow switch and valve-tamper switch that is not readily visible from normal viewing position.

H. Audible Alarm-Indicating Devices: Install not less than 6 inches (150 mm) below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille.

I. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches (150 mm) below the ceiling.

J. Device Location-Indicating Lights: Locate in public space near the device they monitor.

K. Fire-Alarm Control Unit: Surface mounted, with tops of cabinets not more than 72 inches (1830 mm) above the finished floor.

3.2 CONNECTIONS

A. Make addressable connections with a supervised interface device to the following devices and systems. Install the interface device less than 3 feet (1 m) from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.

1. Alarm-initiating connection to smoke-control system (smoke management) at firefighter smoke-control system panel.
2. Smoke dampers in air ducts of designated air-conditioning duct systems.

3. Supervisory connections at valve supervisory switches.
4. Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.

3.3 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."
- B. Install framed instructions in a location visible from fire-alarm control unit.

3.4 GROUNDING

- A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to fire-alarm control unit.

3.5 FIELD QUALITY CONTROL

- A. Field tests shall be witnessed by Architect and authorities having jurisdiction.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- D. Tests and Inspections:
 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection shall be based on completed Record Drawings and system documentation that is required by NFPA 72 in its "Completion Documents, Preparation" Table in the "Documentation" Section of the "Fundamentals of Fire Alarm Systems" Chapter.
 - b. Comply with "Visual Inspection Frequencies" Table in the "Inspection" Section of the "Inspection, Testing and Maintenance" Chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
 2. System Testing: Comply with "Test Methods" Table in the "Testing" Section of the "Inspection, Testing and Maintenance" Chapter in NFPA 72.
 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
 4. Test audible appliances for the private operating mode according to manufacturer's written instructions.
 5. Test visible appliances for the public operating mode according to manufacturer's written instructions.

6. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" Section of the "Fundamentals of Fire Alarm Systems" Chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" Section of the "Inspection, Testing and Maintenance" Chapter in NFPA 72.
- E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
- F. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- G. Prepare test and inspection reports.
- H. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.
- I. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system.

END OF SECTION 28 31 11

SECTION 31 66 13

HELICAL PILES AND HELICAL ANCHORS

PART 1 - GENERAL

1.1 Description

This work pertains to furnishing and installing Helical Piles, Helical Anchors, and Bracket Assemblies shown in the Contract in accordance with the Drawings and this specification. Each Helical Pile and Helical Anchor shall be installed at the location and to the elevation, minimum length, installation torque, and allowable capacities shown and as established by specialty Engineer and as approved by Engineer of Record. This work also pertains to load testing and pre-loading Helical Piles and Helical Anchors (if required on the Drawings).

1.3 Referenced Codes and Standards

This specification is based on nationally recognized codes and standards including the references listed below. In case of a conflict between the reference and this specification, this specification shall govern.

A. American Society for Testing and Materials (ASTM):

1. ASTM A36/A36M Structural Steel
2. ASTM A123-02 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
3. ASTM A153-05 Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
4. ASTM A450/A450M-07 Standard Specification for General Requirements for Carbon and Low Alloy Steel Tubes

B. American Society of Mechanical Engineers (ASME):

1. ANSI/ASME Standard B18.2.1-1996, Square and Hex Bolts and Screws, Inch Series

C. Occupational Safety and Health Administration (OSHA):

1. Excavation Safety Guidelines

D. ICC-Evaluation Services, Inc.:

1. AC308 Acceptance Criteria for Helical Foundation Systems and Devices

E. American Welding Society

1. ANSI/AWS B2.1-00 Standard for Welding Procedure and Performance Qualification

1.4 Definitions

- A. Helical Pile: Manufactured steel foundation with one or more helical bearing plates that is rotated into the ground to support structures.

- B. Helical Anchor: Same as a Helical Pile. Term generally used when axial tension is the primary service load.
- C. Engineer of Record: Individual or firm retained by Owner or General Contractor to verify Helical Pile and Helical Anchor quality assurance with the Contract, the Drawings, and this specification.
- D. Allowable Bearing Capacity: Ultimate bearing capacity of the bearing stratum divided by a factor of safety.
- E. Lead Section: The first section of a Helical Pile or Helical Anchor to enter the ground. Lead Sections consist of a central shaft with a tapered end and one or more helical bearing plates affixed to the shaft.
- F. Extension Section: Helical Pile or Helical Anchor sections that follow the Lead Section into the ground and extend the Helical Lead to the appropriate depth. Extension Sections consist of a central shaft and may have helical bearing plates affixed to the shaft.
- G. Brackets: Cap plate, angle, thread bar, or other termination device that is bolted or welded to the end of a Helical Pile or Helical Anchor after completion of installation to facilitate attachment to structures or embedment in cast-in-place concrete.
- H. Augering: Rotation of the shaft with little or no advancement. It can occur when the helical bearing plates pass from a relatively soft material into a comparatively hard material. Augering can also result from insufficient crowd or downward pressure during installation. In some cases, augering may be (temporarily) necessary in order to grind through an obstruction.
- I. Pile Design Professional: Individual or firm responsible for the design of Helical Piles, Helical Anchors, and Brackets.
- J. Threshold Inspector: An engineer who is certified by the State of Florida as Special Inspector of Threshold Buildings, in accordance with Florida Statute Chapter 471, can assume the responsibilities of a Special Inspector.

1.5 Qualifications

- A. Due to the special requirements for manufacture and quality control of Helical Piles, Helical Anchors, and Brackets, all Helical Piles, Helical Anchors and Brackets shall be obtained from a company specializing in the manufacturing and distribution of these products.

Manufacturer qualifications for this project shall be submitted to the Engineer of Record for review not less than seven (7) calendar days prior to the start of construction. The submittal shall include:

1. A product catalog and all necessary technical data sufficient to qualify the proposed product substitution.
2. Evidence showing manufacturer has at least ten (10) years experience in the design and manufacture of Helical Piles and Helical Anchors.
3. Current ICC-ES product evaluation report or complete description of product testing and engineering calculations used to assess product capacity.
4. Current ISO 9001:2008 certification.

5. Evidence that the specialty Engineer is licensed in state of Florida.
- B. Due to the special requirements for installation of Helical Piles, Helical Anchors, and Brackets, all Helical Piles, Helical Anchors, and Brackets shall be installed by an organization specializing in the installation of those products.

Contractor selected as the Helical Pile and Helical Anchor installer for this project shall submit to the Engineer of Record for review not less than seven (7) calendar days prior to the start of construction the following:

1. Evidence the Contractor has completed training in the proper methods of installation of Helical Piles and Helical Anchors and the mounting of Brackets.
 2. A recent company brochure indicating experience in this type of work.
 3. Evidence of having installed Helical Piles and Helical Anchors on at least ten (10) projects, including project name, number and type of Helical Piles or Helical Anchors, project location, and client contact information.
 4. Contractor's foreman shall have minimum of two (2) years experience in the oversight of Helical Pile and Helical Anchor installation. on at least five (5) projects in the last five (5) years, including project name, number and type of Helical Piles or Helical Anchors installed, project location, and client contact information.
 5. List of installation and testing equipment and detailed description of proposed method of installation and load testing Helical Piles and Helical Anchors.
 6. Current ANSI/AWS welding certificate and documentation of welder experience within the last 5 years (if welding is required).
- C. Due to the special requirements for design of Helical Piles, Helical Anchors, and Brackets, all Helical Piles, Helical Anchors, and Brackets shall be designed by a licensed design professional specialized in the engineering and design of Helical Piles and Helical Anchors.

Pile Design Professional's qualifications shall be submitted to the Engineer of Record for review not less than seven (7) calendar days prior to the start of construction. The submittal shall include:

1. The curriculum vitae of the designated Pile Design Professional indicating at least ten (10) years experience in this type of work as well as graduate education in structural and/or geotechnical engineering.
 2. Evidence of Pile Design Professional having designed Helical Piles and Helical Anchors on at least ten (10) projects, including project name, number and type of Helical Piles or Helical Anchors, project location, and client contact information.
 3. Professional errors and omissions liability insurance certificate.
 4. Evidence of current license to practice engineering in the state of Florida.
- D. Prior to start of work for the project, written approval to bid must be received from the Engineer of Record. Engineer of Record shall grant approval based on compliance with specific criteria herein. The Engineer's decision is final.

1.6 Submittals

- A. Owner's approval is required for all submittals. Submit four (4) copies of each submittal.

- B. Contractor shall prepare and submit to the Engineer of Record for review and approval, Shop Drawings and specifications for the Helical Piles and Helical Anchors intended for use on the project at least 7 calendar days prior to planned start of installation. The Shop Drawings shall include the following:
1. Helical Pile and Helical Anchor product identification number(s) and designation(s)
 2. Maximum allowable mechanical compression and tensile strength of the Helical Piles and Helical Anchors
 3. Number of Helical Piles and Helical Anchors and respective design allowable capacities from the Drawings
 4. Planned installation depth and the number of lead and extension sections
 5. Preliminary helical configuration (number and diameter of helical bearing plates)
 6. Manufacturer's recommended capacity to installation torque ratio
 7. Minimum final installation torque(s)
 8. Product identification numbers and designations for all Bracket Assemblies and number and size of connection bolts or concrete reinforcing steel detail
 9. Corrosion protection coating on Helical Piles, Helical Anchors, and Bracket Assemblies
- C. Contractor's Pile Design Professional shall submit to the Engineer or Record design calculations for the Helical Piles, Helical Anchors, and Brackets intended for use on the project at least 7 calendar days prior to planned start of installation. The Shop Drawings shall include the following:
1. Signed & sealed calculations and drawings for helical piles/anchors and footing. Calculations shall demonstrate compliance with all applicable codes, standards, geotechnical repairs and frame reactions indicated on plans.
 2. Reduction in shaft dimension and strength by the sacrificial thickness anticipated based on corrosion loss over the design life for project soil conditions.
- D. Contractor shall submit to the Engineer of Record calibration information certified by an independent testing agency for the torque measurement device and all load testing and monitoring equipment to be used on the project. Calibration information shall have been tested within the last year of the date submitted. Calibration information shall include, but is not limited to, the name of the testing agency, identification number or serial number of device calibrated, and the date of calibration.
- E. Manufacturer shall provide a one year warranty against manufacturing defects on Helical Pile, Helical Anchor, and Bracket products. Any additional warranty provided by the Contractor shall be issued as an addendum to this specification.
- F. Work shall not begin until all the technical submittals have been received and approved by the Engineer of Record. The Contractor shall allow the Engineer a reasonable number of days to review, comment, and return the submittal package after a complete set has been received. All costs associated with incomplete or unacceptable submittals shall be the responsibility of the Contractor. Administrative submittals shall be reviewed by Engineer of Record prior to work is started.

1.7 Shipping, Storage, and Handling

- A. All Helical Pile, Helical Anchor, and Bracket Assemblies shall be free of structural defects and protected from damage. Store Helical Piles, Helical Anchors, and Bracket Assemblies on wood

pallets or supports to keep from contacting the ground. Damage to materials shall be cause for rejection.

PART 2 - PRODUCTS

2.1 Helical Piles, Helical Anchors, and Brackets

- A. Unless noted otherwise, it is the Contractor's Pile Design Professional's responsibility to select the appropriate size and type of Helical Piles, Helical Anchors, and Brackets to support the design loads shown on the Drawings. These specifications and the Drawings provide minimum requirements to aid the Contractor in making appropriate materials selections. The size and number of helical bearing plates must be such that the Helical Piles and Helical Anchors achieve the appropriate torque and capacity in the soils at the site within the minimum and maximum length requirements. Failure to achieve proper torque and capacity shall result in Contractor replacing Helical Piles and Helical Anchors as appropriate to support the required loads. All material replacements shall be acceptable to Engineer of Record.
- B. The design strength of the helical bearing plates, shaft connections, Brackets, and the pile shaft itself shall be sufficient to support the design loads specified on the Drawings times appropriate service load factors. In addition, all Helical Piles and Helical Anchors shall be manufactured to the following criteria.
 - 1. Central Shaft: The central shaft shall consist of a high strength structural steel tube meeting the requirements of ASTM A513.
 - 2. Helical Bearing Plates: One or more helical bearing plates shall be affixed to the central shaft. Helical bearing plates shall be attached to central shafts via fillet welds continuous on top and bottom and around the leading edges. Helical bearing plates shall be cold pressed into a near perfect helical shape that when affixed to the central shaft are perpendicular with the central shaft, of uniform pitch, and such that the leading and trailing edges are within 3/8 inch of parallel. Average helical pitch shall be within plus or minus 1/4 inch of the thickness of the helical bearing plate plus 3 inches.
 - 3. Corrosion Protection: Helical Piles, Helical Anchors, Brackets and all Hardware shall be hot-dip galvanized per ASTM A123 or A153.
 - 4. Shaft Connections: The Helical Pile and Helical Anchor shaft connections shall consist of an external sleeve connection or a welded connection. External sleeve connections shall be in-line, straight and rigid and shall have a maximum tolerable slack of 1/16-inch. Welded connections shall consist of a full penetration groove weld all-around the central shaft. Shaft connections shall have a flexural strength at least as great as the shaft itself.
 - 5. Bolts: Bolt holes through the external sleeve and central shaft shall have a diameter that is 1/16th inch greater than the bolt diameter. Bolts and nuts used to join Helical Pile and Helical Anchor sections at the shaft connections shall be hot-dip galvanized to match the corrosion protection used for the central shaft. All Helical Pile and Helical Anchor bolts shall be securely snug tightened.
 - 6. Plug Welds: Alternatively, external sleeve connections may be made using plug welds matching the diameter and number of bolt holes. Restore damaged finish due to welding to equal the damaged finish.
 - 7. External sleeve: External sleeve Helical Pile and Helical Anchor shaft connections shall consist of a high strength structural steel tube outer sleeve meeting the requirements of ASTM A513. The outer sleeve shall be welded to the central shaft via a continuous fillet weld all-around. The fillet weld shall have a throat thickness equal to the external sleeve tube thickness.

- C. Helical Piles and Helical Anchors shall be fitted with a manufactured Bracket that facilitates connection to the structure. Brackets shall be rated for the design loads shown on the Drawings. Brackets shall be affixed to the end of Helical Piles and Helical Anchors via bolts, plug welds, or continuous penetration welds meeting the requirements for shaft connections given previously in these specifications.

PART 3 - EXECUTION

3.1 Examination

- A. Contractor shall take reasonable effort to locate all utilities and structures above and underground in the area of the Work. Contractor shall pot hole to determine the exact location of underground utilities and buried structures within a distance from a Helical Pile or Helical Anchor equal to three times the maximum helix diameter. Contractor is responsible for protection of utilities and structures shown on the Drawings.
- B. Contractor shall review Drawings and soil borings in the Contract Documents to determine subsurface conditions for sizing and installation of Helical Piles and Helical Anchors. In addition, Contractor shall make a site visit to observe conditions prior to the start of Work.
- C. Contractor shall notify Engineer of Record of any condition that would affect proper installation of Helical Piles and Helical Anchors immediately after the condition is revealed. Contractor shall halt installation work until the matter can be resolved upon mutual satisfaction of Contractor, Owner, and Engineer of Record. Costs associated with construction delays, product substitutions, pile or anchor relocations, or other related costs shall be the responsibility of the Owner if the result of an unforeseen condition that could not be inferred by a reasonable Contractor from the Drawings and Construction Documents.
- D. If the number and size of helical bearing plates required for the project is not shown on the working drawings, the contractor shall have the option of performing subsurface tests using methods subject to the review and acceptance of the Owner and Engineer of Record. The data collected along with other information pertinent to the project site shall be used to determine the required helical bearing plate configuration.
- E. If excavation is required for proper installation of Helical Piles and Helical Anchors, Contractor shall make safe excavations in accordance with OSHA standards. All excavations greater than 20 feet in depth or not in strict accordance with OSHA standard details shall be designed by a registered design professional in state of Florida specializing in the design of excavations and shoring. The costs of all excavations, shoring, and related design shall be born by the Contractor unless noted otherwise in the Contract.
- F. Contractor shall notify Engineer at least 24 hours prior to installation of Helical Piles or Helical Anchors to schedule quality assurance observations required on the Drawings.

3.2 Installation Equipment

- A. Torque Motor: Helical Piles and Helical Anchors should be installed with high torque, low RPM torque motors, which allow the helical plates to advance with minimal soil disturbance. The torque motor shall be hydraulic power driven with clockwise and counter-clockwise rotation capability. The torque motor shall be adjustable with respect to revolutions per minute during installation. Percussion drilling equipment shall not be permitted. The torque motor shall have

- torque capacity equal to or greater than the minimum final installation torque required for the project. The connection between the torque motor and the installation rig shall have no more than two pivot hinges oriented 90 degrees from each other. Additional hinges promote wobbling and affect lateral capacity.
- B. Installation Equipment: The installation equipment shall be capable of applying adequate crowd and torque simultaneously to ensure normal advancement of the Helical Piles and Helical Anchors. The equipment shall be capable of maintaining proper alignment and position.
 - C. Drive Tool: The connection between the torque motor and Helical Pile and Helical Anchor shall be in-line, straight, and rigid, and shall consist of a hexagonal, square, or round Kelly bar adapter and helical shaft socket. To ensure proper fit, the drive tool shall be manufactured by the Helical Pile manufacturer and used in accordance with the manufacturer's installation instructions.
 - D. Connection Pins: The central shaft of the Helical Pile or Helical Anchor shall be attached to the drive tool by ASME SAE Grade 8 smooth tapered pins matching the number and diameter of the specified shaft connection bolts. The connection pins should be maintained in good condition and safe to operate at all times. The pins should be regularly inspected for wear and deformation. Pins should be replaced with identical pins when worn or damaged.
 - E. Torque Indicator: A torque indicator shall be used to measure installation torque during installation. The torque indicator can be an integral part of the installation equipment or externally mounted in-line with the installation tooling. The torque indicator shall be capable of torque measurements with a sensitivity of 500 ft-lb or less. Torque indicators shall have been calibrated within 1-year prior to start of Work. Torque indicators that are an integral part of the installation equipment shall be calibrated on-site. Torque indicators that are mounted in-line with the installation tooling shall be calibrated either on-site or at an appropriately equipped test facility. Indicators that measure torque as a function of hydraulic pressure shall be re-calibrated following any maintenance performed on the torque motor. Torque indicators shall be re-calibrated if, in the opinion of the Engineer, reasonable doubt exists as to the accuracy of the torque measurements.
- 3.3 Installation Procedures
- A. Unless shown on the Drawings, the number and size of helical blades shall be determined by the Contractor's Pile Design Professional in order to achieve the required torque and tensile/bearing capacity for the soil conditions at the site. The ratio of design load to the total area of the helical bearing plates shall not exceed the Allowable Bearing Capacity.
 - B. Connect the lead section to the Torque Motor using the Drive Tool and Connection Pins. Position and align the Lead Section at the location and to the inclination shown on the Drawings and crowd the pilot point into the soil. Advance the Lead Section and continue to add Extension Sections to achieve the Termination Criteria. All sections shall be advanced into the soil in a smooth, continuous manner at a rate of rotation between 10 and 40 revolutions per minute. Snug tight all coupling bolts.
 - C. Constant axial force (crowd) shall be applied while rotating Helical Piles and Helical Anchors into the ground. The crowd applied shall be sufficient to ensure that the Helical Pile and Helical Anchor advances into the ground a distance equal to at least 80% of the blade pitch per revolution during normal advancement.

- D. The manufacturer's torsional strength rating of the Helical Pile or Helical Anchor shall not be exceeded during installation.
- E. Bolt hole elongation due to torsion of the shaft of a Helical Anchor at the drive tool shall be limited to ¼ inch. Helical Anchors with bolt hole damage exceeding this criterion shall be uninstalled, removed, and discarded.
- F. When the Termination Criteria of a Helical Pile or Helical Anchor is obtained, the Contractor shall adjust the elevation of the top end of the shaft to the elevation shown on the Drawings or as required. This adjustment may consist of cutting off the top of the shaft and drilling new holes to facilitate installation of Brackets to the orientation shown on the Drawings. Alternatively, installation may continue until the final elevation and orientation of the pre-drilled bolt holes are in alignment. Contractor shall not reverse the direction of torque and back-out the Helical Pile or Helical Anchor to obtain the final elevation.
- G. The Contractor shall install Brackets in accordance with Helical Pile manufacturer's details or as shown on the reviewed Shop Drawings.
- H. All Helical Pile and Helical Anchor components including the shaft and Bracket shall be isolated from making a direct electrical contact with any concrete reinforcing bars or other non-galvanized metal objects since these contacts may alter corrosion rates.
- I. After installation, Helical Anchors shall be pre-tensioned if indicated on the reviewed Shop Drawings.

3.4 Termination Criteria

- A. Helical Piles and Helical Anchors shall be advanced until all of the following criteria are satisfied.
 - 1. Axial capacity is verified by achieving the final installation torque as provided by the Pile Design Professional.
- B. If the final installation torque is not achieved at the contract length, the Contractor shall have the following options:
 - 1. Until the maximum depth is achieved (if any), install the Helical Pile or Helical Anchor deeper using additional Extension Sections.
 - 2. Remove the Helical Pile or Helical Anchor and install a new one with additional and/or larger diameter helical bearing plates.
 - 3. Decrease the rated load capacity of the Helical Pile or Helical Anchor and install additional Helical Piles or Helical Anchors. The rated capacity and additional unit location shall be subject to the review and acceptance of the Engineer of Record.

3.5 Allowable Tolerances

- A. Helical Piles and Helical Anchors shall be installed as close to the specified installation and orientation angles as possible. Tolerance for departure from installation and orientation angles shall be +/- 5 degrees.

- B. Helical Piles, Helical Anchors, and Bracket Assemblies shall be installed at the locations and to the elevations shown on the Plans. Tolerances for Bracket Assembly placement shall be +/- 1 inch in both directions perpendicular to the shaft and +/- 1/4 inch in a direction parallel with the shaft unless otherwise specified.

3.6 Quality Assurance

- A. The Contractor shall provide the Engineer of Record, and Owner's Inspector copies of installation records within 48 hours after each installation is completed. These installation records shall include, but are not limited to, the following information:
 - 1. Name of project and Contractor
 - 2. Name of Contractor's supervisor during installation
 - 3. Date and time of installation
 - 4. Name and model of installation equipment
 - 5. Type of torque indicator used
 - 6. Location of Helical Pile or Helical Anchor by grid location, diagram, or assigned identification number
 - 7. Type and configuration of Lead Section with length of shaft and number and size of helical bearing plates
 - 8. Type and configuration of Extension Sections with length and number and size of helical bearing plates, if any
 - 9. Installation duration and observations
 - 10. Total length installed
 - 11. Final elevation of top of shaft and cut-off length, if any
 - 12. Final plumbness or inclination of shaft
 - 13. Installation torque at minimum three-foot depth intervals
 - 14. Final installation torque
 - 15. Comments pertaining to interruptions, obstructions, or other relevant information
 - 16. Verified axial load capacity
- B. Unless specified otherwise on the Drawings or by local codes, the Engineer of Record, the Pile Design Professional, or an inspection agency accepted by the Engineer of Record shall observe and document 100 percent of Helical Pile and Helical Anchor installations.

END OF SECTION 31 66 13

REMODEL OF PORT ORANGE CITY HALL ANNEX



913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989

ARCHITECTURAL SYMBOLS

SYMBOL	DESCRIPTION
	BUILDING AND WALL SECTION REFERENCE AND DRAWING NO.
	DETAIL NUMBER REFERENCE DRAWING NUMBER
	INTERIOR ELEVATIONS
	WALL OR PARTITION CONSTRUCTION TYPE
	DOOR DESIGNATION
	ROOM / SPACE NO.
	REVISION
	PROJECT NORTH

DRAWING SCHEDULE

DWG	SHEET NAME
ARCHITECTURAL	
A0.0	COVER SHEET
LA-1	SITE LANDSCAPE PLAN
A0.1	LIFE SAFETY PLAN
A0.2	ARCHITECTURAL SITE PLAN
A0.3	FUEL PUMP CANOPY
AD10	DEMOLITION PLAN
AD12	FLOOR DEMOLITION PLAN
A1.1	FLOOR PLAN - DIMENSION
A1.2	FLOOR PLAN - NOTES
A1.3	REFLECTED CEILING PLAN
A1.4	ROOF PLAN
A1.5	HEADER PLAN
A2.1	BUILDING ELEVATIONS
A2.2	CROSS SECTIONS
A3.1	WALL SECTIONS AND DETAILS
A3.2	WALL SECTIONS AND DETAILS
A3.3	WALL SECTION
A6.1	ROOM FINISH SCHEDULE, ELEVATIONS AND DETAILS
A6.2	ROOM FINISH SCHEDULE, ELEVATIONS AND DETAILS
S-001	STRUCTURAL ABBREVIATIONS, LEGENDS AND NOTES
S-100	STRUCTURAL PLANS AND FOOTING SCHEDULE
S-500	STRUCTURAL DETAILS
M-001	MECHANICAL ABBREVIATIONS, LEGENDS AND NOTES
MD-101	HVAC PLAN-DEMOLITION
MD-102	HVAC ROOF PLAN-DEMOLITION
M-101	HVAC PLAN-NEW
M-102	HVAC ROOF PLAN-NEW
M-501	DETAILS
M-601	SCHEDULES
M-101	CONTROL DIAGRAMS
P-001	PLUMBING ABBREVIATIONS, LEGENDS AND NOTES
PD-101	DMV PLAN - DEMO
PD-102	DOMESTIC WATER PLAN - DEMO
P-101	DMV - PLAN - NEW
P-102	DOMESTIC WATER PLAN - NEW
E-100	ELECTRICAL ABBREVIATIONS, LEGENDS AND NOTES
ED-101	LIGHTING DEMOLITION PLAN
ED-201	POWER DEMOLITION PLAN
ED-202	POWER DEMOLITION PLAN - ROOF
ED-301	SYSTEMS AND FIRE ALARM DEMOLITION PLAN
E-101	LIGHTING PLAN
E-201	POWER PLAN
E-202	POWER PLAN - TERMINAL BOXES
E-203	POWER PLAN - ROOF
E-301	SYSTEM AND FIRE ALARM PLAN
E-302	CABLE TRAY LAYOUT PLAN
E-601	ELECTRICAL SCHEDULE
E-602	ELECTRICAL SCHEDULE
E-101	SINGLE LINE DIAGRAM - DEMOLITION
E-102	SINGLE LINE DIAGRAM - NEW WORK

CODE REVIEW DATA- ALTERATIONS

APPLICABLE CODES:

FLORIDA BUILDING CODE - BUILDING (5th EDITION)
FLORIDA BUILDING CODE - EXISTING BUILDING (5th EDITION)
FLORIDA BUILDING CODE - ACCESSIBILITY (5th EDITION)
FLORIDA BUILDING CODE - ENERGY CONSERVATION (5th EDITION)
FLORIDA BUILDING CODE - FUEL GAS (5th EDITION)
FLORIDA BUILDING CODE - MECHANICAL (5th EDITION)
FLORIDA BUILDING CODE - PLUMBING (5th EDITION)
FLORIDA FIRE PREVENTION CODE (5th EDITION)
NATIONAL ELECTRICAL CODE (2011)

AUTHORITY HAVING JURISDICTION

CITY OF PORT ORANGE
CHIEF BUILDING OFFICIAL -

OCCUPANCY TYPE (CHAPTER 3 FBCB)

BUSINESS 'B'

ALTERATION CLASSIFICATION (CHAPTER 5)

ALTERATION LEVEL 3

BUILDING AREA (CHAPTER 5)

EXIST. GROUND FLOOR AREA: 17,382 SQ. FT.
ALLOWABLE (TABLE 503): 23,000 SQ. FT.

CONSTRUCTION TYPE (CHAPTER 6)

TYPE IIB
STRUCTURAL FRAME 0 HR
BEARING WALLS - EXTERIOR 0 HR
BEARING WALLS - INTERIOR 0 HR
FLOOR CONSTRUCTION 0 HR
ROOF CONSTRUCTION 0 HR

FIRE PROTECTION SYSTEMS

FIRE SPRINKLER SYSTEM NOT PROVIDED OR REQUIRED PER FCBS SECT. 804.2.2 (1)
EXISTING FIRE SPRINKLER SYSTEM STORAGE ROOMS 'A', 'B' AND 'C'
FIRE ALARM SYSTEM IS REQUIRED PER FBC CHAPTER 9

TRAINING ROOM AREA and OCCUPANT CAPACITY (TABLE 1004.1.2)

ASSEMBLY AREA WITHOUT FIXED SEATS, UNCONCENTRATED:
181 SF/18NSF/OCCUPANT = 52 OCCUPANTS
3,168 SQ. FT. MOBILE CONTRACT SHELVING / 300 GSF / OCCUPANT = 11 OCCUPANTS
13,421 SQ. FT. BUSINESS / 100 GSF / OCCUPANT = 134 OCCUPANTS
TOTAL 197 OCCUPANTS

EGRESS CALCULATION

REQUIRED 221' / pers = 40'
PROVIDED 204'

MAXIMUM ALLOWABLE TRAVEL DISTANCE

200 FT (TABLE 1016.2)

INTERIOR FINISH REQUIREMENTS (CHAPTER 8)

VERTICAL EXITS AND EXIT PASSAGEWAYS CLASS 'A'
EXIT ACCESS CORRIDORS AND OTHER EXITWAYS CLASS 'B'
ROOMS AND ENCLOSED SPACES CLASS 'C'

PLUMBING FIXTURE COUNT (2014 FLORIDA BUILDING CODE- PLUMBING)

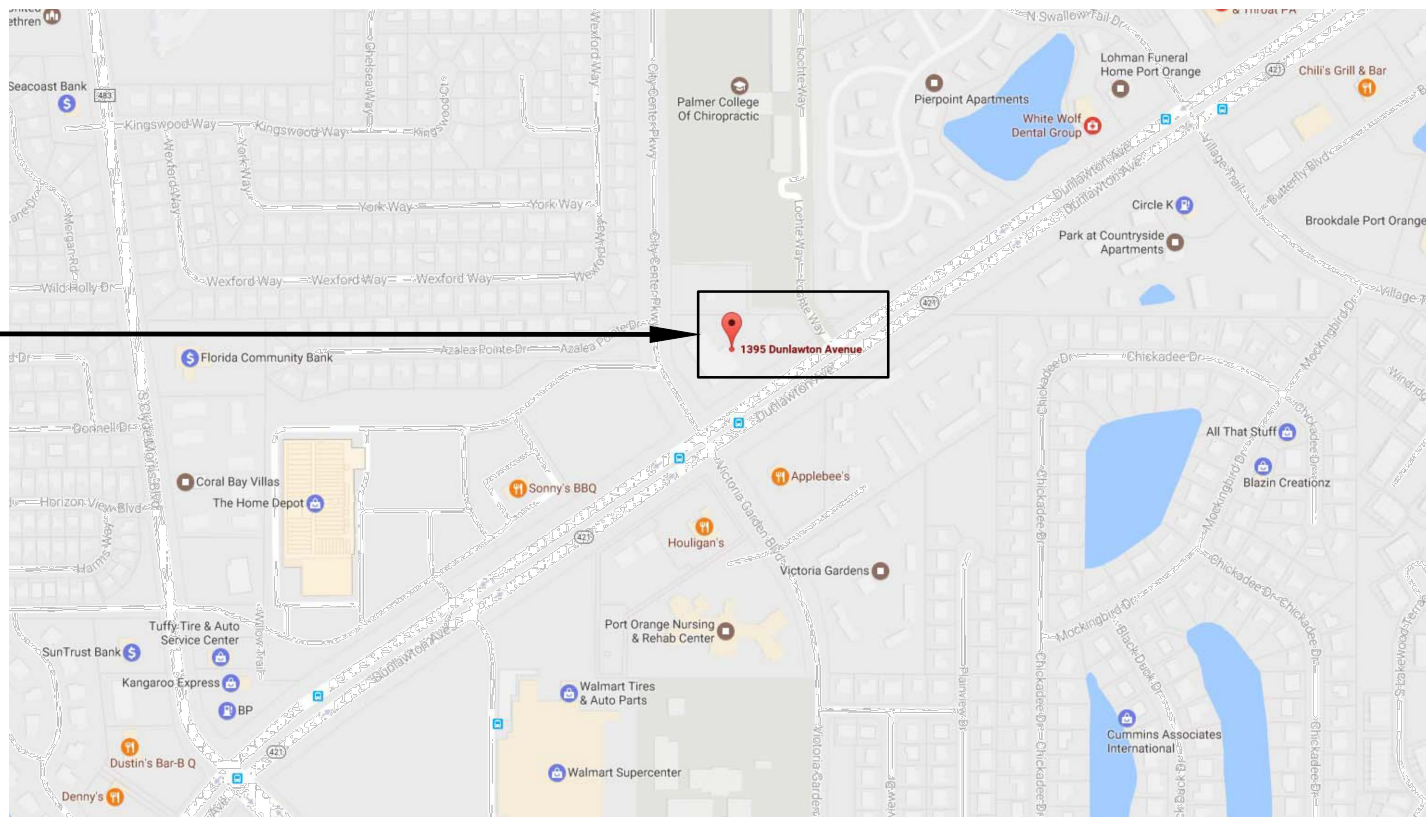
181 OCCUPANTS 98 MEN 98 WOMEN	WATER CLOSETS		LAVATORIES		DRINKING FOUNTAINS	SERVICE SINKS
	MALE	FEMALE	MALE	FEMALE		
	1/25 FOR 1st 50 1/50	1/25 FOR 1st 50 1/50	1/40 FOR 1st 80 1/80	1/25 FOR 1st 50 1/50	1/100	
REQUIRED	3	3	2	2	2	1
PROVIDED	5 WC	5	6	6	2	EXIST.

PLUMBING FIXTURE COUNT IS IN COMPLIANCE WITH THE FLORIDA BUILDING CODE - EXISTING BUILDING
AS REQUIRED PER SECTION 301.1 OF FBCEB.

GENERAL NOTES:

- THESE DRAWINGS AND THE PROJECT MANUAL ARE COMPLEMENTARY, AND ANY REQUIREMENT OF ONE SHALL BE A REQUIREMENT OF THE OTHER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE THE DRAWINGS AND SPECIFICATIONS AND TO COMPARE THE REQUIREMENTS OF EACH DIVISION (16. CIVIL, ARCHITECTURAL, STRUCTURAL, ELECTRICAL, ETC.) AND ENSURE THAT EACH TRADE OR SUBCONTRACTOR IS MAKING THE ALLOWANCES NECESSARY TO PROVIDE THE OWNER A COMPLETE FACILITY, OPERATIONAL IN ALL RESPECTS. UNLESS OTHERWISE SPECIFICALLY NOTED IN THE DRAWINGS OR PROJECT MANUAL, IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT/ENGINEER OF ANY DEFICIENCIES OR DISCREPANCIES AMONG THE DIVISIONS OF THE DRAWINGS AND SPECIFICATIONS PRIOR TO THE BID DATE. NEITHER THE OWNER NOR ARCHITECT/ENGINEER WILL BE RESPONSIBLE FOR ANY DEFICIENCIES OR DISCREPANCIES RAISED AFTER THE BID OPENING. ACCORDINGLY, IN LIGHT OF THESE OBLIGATIONS, THE ARCHITECT/ENGINEER IS OBLIGATED TO INTERPRET THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT WILL PROVIDE THE OWNER WITH A COMPLETE, FUNCTIONING FACILITY FOR THE BID PRICE.
- ANY AND ALL DEVIATIONS FROM SPECIFIED PRODUCTS MUST BE APPROVED BY THE ARCHITECT.
- ALL PROPOSED CONSTRUCTION SHALL BE PURSUANT TO INFORMATION SHOWN ON THESE PLANS AND LOCAL CODES. ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER.
- THE CONTRACTOR SHALL PROVIDE SAFE, SUFFICIENT, AND PROPER FACILITIES AT ALL TIMES FOR THE INSPECTION OF THE WORK BY THE OWNER, ENGINEER, AND ALL APPROPRIATE GOVERNMENTAL AND REGULATORY AGENCIES.
- A NEW FINISHED FLOOR SHALL BE A MINIMUM OF 12" ABOVE THE CROWN OF THE ADJACENT ROAD, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEERING DEPARTMENT OR THE MINIMUM FLOOD ZONE ELEVATION IF GREATER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL DUST AND MUD ASSOCIATED WITH THE WORK OF THIS PROJECT. EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND METHOD USED SHALL MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS, PER FOOT SPECIFICATIONS, SECTION 104.
- THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED AND SHALL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES AND UTILITIES SHALL BE CAREFULLY PERFORMED, BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGES TO, AND FOR PROPER MAINTENANCE PROTECTION OF, EXISTING UTILITIES AND STRUCTURES DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL BE LIABLE FOR ANY COSTS ASSOCIATED WITH THE RELOCATION OF TELEPHONE OR GAS LINES BY THE UTILITY COMPANIES.
- CHANGES IN ELEVATIONS OF 1/4" TO 1/2" SHALL BE BEVELED AT A SLOPE OF 1:2 OR LESS. CHANGES IN ELEVATION OF 1/2" TO 30" SHALL BE RAMPED WITH REQUIRED PLATFORMS AND RAILINGS PER THE 5th EDITION OF THE FLORIDA BUILDING CODE.
- THE PROJECT SHALL BE CONSTRUCTED TO COMPLY WITH THE 5th EDITION OF THE FLORIDA BUILDING CODE, CHAPTER 16, FOR STRUCTURAL DESIGN LOADS INCLUDING APPLICABLE WINDLOADS AND UPLIFT, AND ADOPTED AMENDMENTS AS REQUIRED BY CITY ORDINANCE. CONTRACTOR SHALL CERTIFY THAT ALL CONNECTIONS HAVE BEEN CHECKED TO WITHSTAND ALL APPLICABLE LOADS.
- LIVE LOAD DESIGN OF PRINCIPAL BUILDING COMPONENTS SHALL BE AS PER THE 5th EDITION OF THE FLORIDA BUILDING CODE.
- HURRICANE ANCHORING SHALL BE SELECTED, LOCATED AND SECURED TO WITHSTAND APPLICABLE LOCAL MINIMUM WIND LIVE LOADS AND ASSOCIATED UPLIFT, PER THE 5th EDITION OF THE FLORIDA BUILDING CODE.
- ALL NEW DOORS INSTALLED IN THE MEANS OF EGRESS INCLUDING EXIT ACCESS DOORS FROM ALL AREAS SHALL BE 36" WIDE THEREBY PROVIDING A MINIMUM 32" CLEAR OPENING.
- DOOR HARDWARE FURNISHED FOR NEW DOORS INSTALLED IN THE MEANS OF EGRESS, INCLUDING EXIT ACCESS DOORS, WILL BE OPERABLE FROM THE INSIDE WITHOUT SPECIAL KEY, EFFORT, OR KNOWLEDGE. THE HARDWARE SHALL BE LEVER HANDLE OR EQUAL (PANIC HARDWARE IN ASSEMBLY OCCUPANCY) PER THE 5th EDITION OF THE FLORIDA BUILDING CODE. 5-LB FORCE IS FOR PUSHING AND PULLING DOORS AS REQUIRED PER SECTION 1008.1.3 OF FBCEB, A 8.5 FORCE IS FOR EXTERIOR DOORS THAT ARE REQUIRED TO COMPLY WITH SECTION 404.2.3 OF FBCEB.
- PAINT ALL NEW SURFACES AS SCHEDULED AND AS REQUIRED TO ASSURE A UNIFORM APPEARANCE.
- PARTITION WALLS SHALL BE CONSTRUCTED OF MATERIALS AS ALLOWED PER SECTION 602 AND TABLE 601 OF THE 5th EDITION OF THE FLORIDA BUILDING CODE FOR THE TYPE CONSTRUCTION REFERENCED ELSEWHERE.
- INTERIOR FINISH CLASSIFICATION SHALL BE AS NOTED IN TABLE 803.3 OF THE 5th EDITION OF THE FLORIDA BUILDING CODE FOR THE CONSTRUCTION TYPE REFERENCED ELSEWHERE.

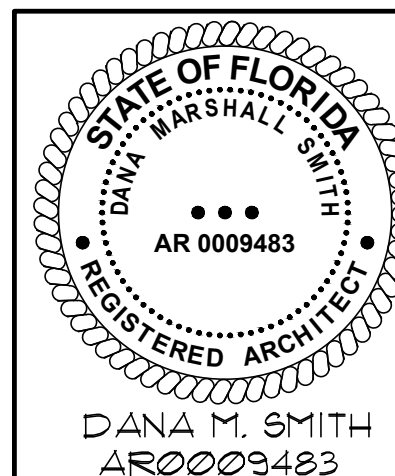
LOCATION
OF SITE



REMODELING OF PORT ORANGE
CITY HALL ANNEX

1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128

FJT#: 02345.03
DATE: 8.25.2017
DRN BY: DJB
DGN BY: DMS
REV BY: DMS
SCALE: AS NOTED



BID SET

SHEET

A0.0

	EXISTING PARTITION TO REMAIN
	EXISTING PARTITION OR ELEMENT TO BE REMOVED
	NEW UNRATED PARTITION
	CEILING MOUNTED EXIT SIGN
	VOICE/DATA OUTLET
	LIGHT SWITCH
	DUPLEX POWER RECEPTACLE
	QUAD POWER RECEPTACLE
	FLOORBOX POWER RECEPTACLE
	NEW ACOUSTICAL TILE
	EXISTING ACOUSTICAL TILE
	EXIST. DOOR & FRAME TO BE REMOVED.
	NEW DOOR AND FRAME
	EXISTING DOOR AND FRAME TO REMAIN
	SPRINKLER HEAD
	SUPPLY AIR DIFFUSER
	RETURN AIR DIFFUSER
	RECESSED FLUORESCENT 2x4 LIGHT FIXTURE
	RECESSED CAN LIGHT FIXTURE
	THERMOSTAT
	FIRE ALARM
	JUNCTION BOX
	PROJECTOR
	SPEAKER
	HEAT SENSOR
	TELEVISION
	CLOCK
	WALL TYPE DESIGNATION
	WINDOW DESIGNATION
	DOOR DESIGNATION

SYMBOL	DESCRIPTION	REMARKS
	1 HOUR FIRE RATING	
	2 HOUR FIRE RATING	
	FIRE DOOR / RATING (HOURS)	
	LIFE SAFETY SYMBOLS	
FEOL	FIRE EXTINGUISHER	
	EGRESS DOOR CAPACITY	
	A.) DOOR SIZE OR STAIR WIDTH B.) EGRESS WIDTH C.) MAX ALLOWABLE LOAD D.) ACTUAL OCCUPANT LOAD	
	OCCUPANT LOAD A.) OCCUPANCY PER TABLE 1004.12 B.) ACTUAL FLOOR AREA C.) OCCUPANT LOAD FACTOR PER TABLE 1004.12 D.) ACTUAL LOAD	
	TRAVEL DISTANCE	
	DISTANCE FROM MOST REMOTE POINT IN OCCUPANT AREA	
	DIRECTION OF TRAVEL / PATH OF TRAVEL	
	START / FINISH OF TRAVEL DISTANCE	
	EMERGENCY EXIT LIGHTS	

**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

PJT#:	02345.03
DATE:	8.25.2017
DRN BY:	DJS
DGN BY:	DMS
REV BY:	DMS
SCALE:	AS NOTED

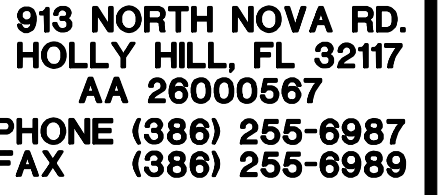
SHEET

A0.1



**913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989**

REV	REVISIONS	DATE
1		
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REV	REVISIONS	DATE
1		
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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

**1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128**

PT#: 02345.03
DATE: 8.25.2017
PRN BY: DJS
COGN BY: DMS
REV BY: DMS
SCALE: AS NOTED

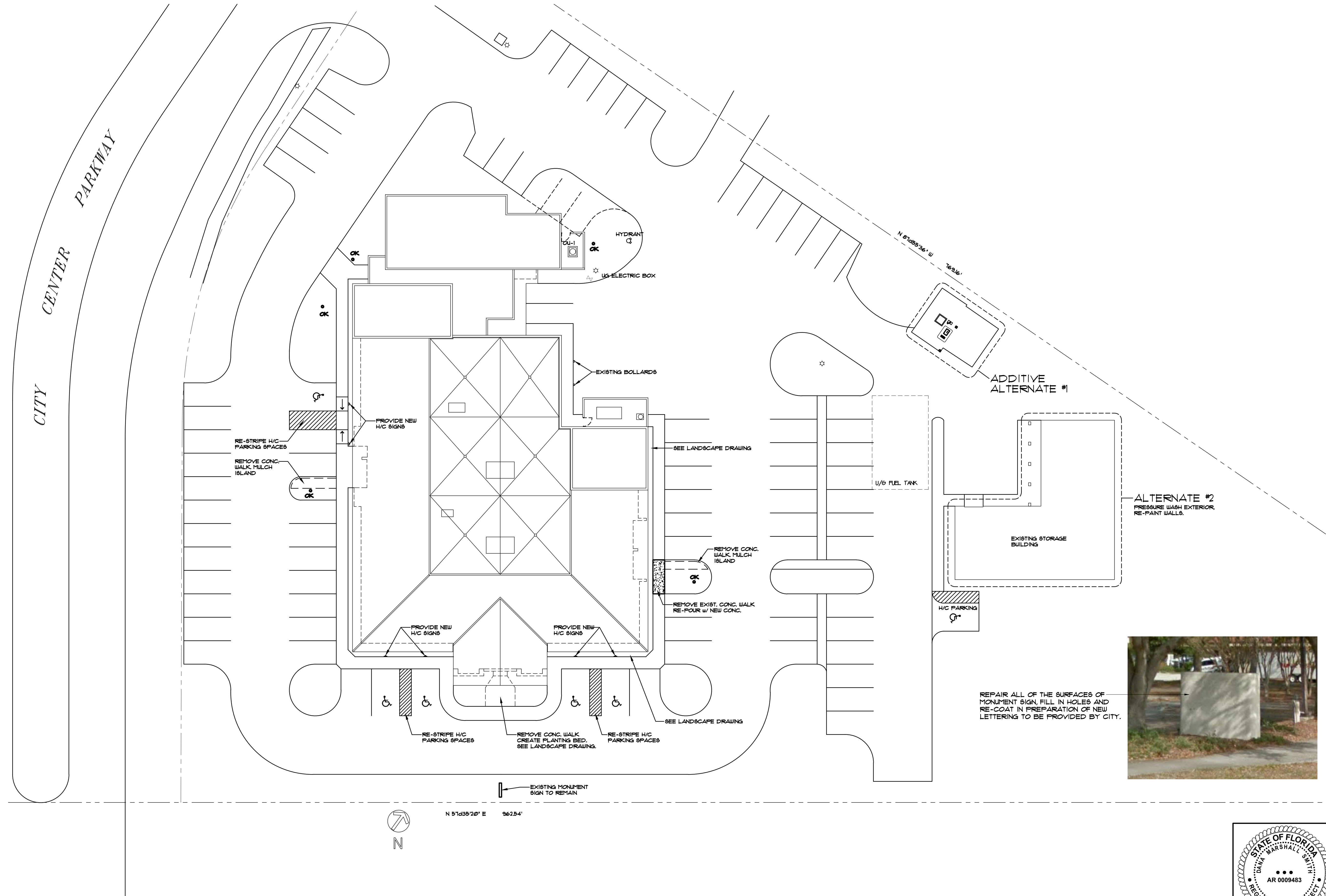
SHEET

40.2

STATE OF FLORIDA
DANA MARSHALL SMITH
AR 0009483
REGISTERED ARCHITECT

DANA M. SMITH
AR0009483

BID SET



ARCHITECTURAL SITE PLAN

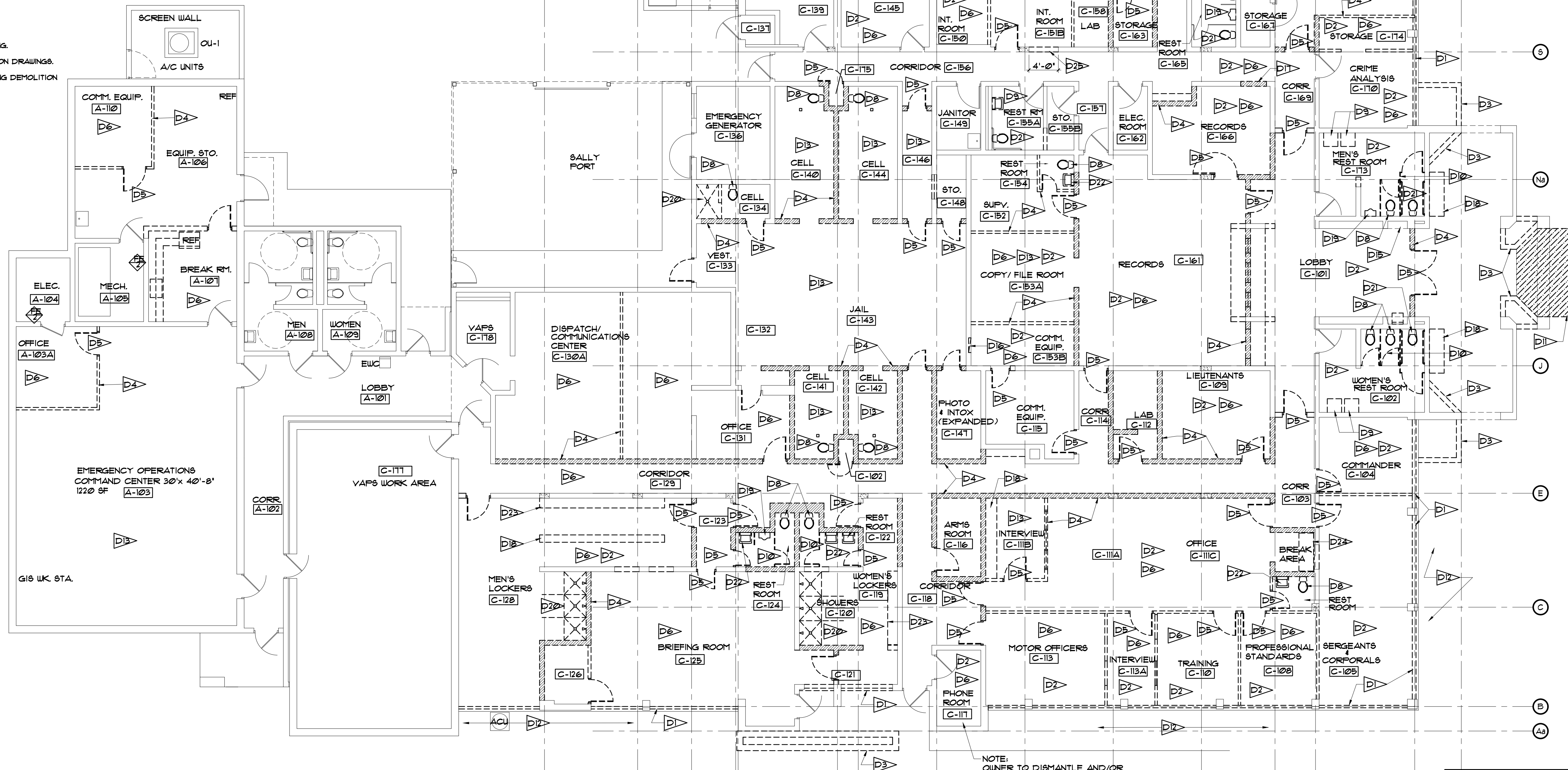
SCALE: 1" = 200'



- D1) REMOVE EXISTING GLASS BLOCK PANELS, PREPARE MASONRY OPENINGS FOR NEW FIXED GLASS SYSTEM.
- D2) REMOVE ALL FLOOR FINISHES (CARPET, HARD TILE, OR VINYL TILE) AND BASE. PREPARE FLOOR FOR NEW FINISHES. TYPICAL IN ALL AREAS AFFECTED. SEE SHEET AD12
- D3) REMOVE EXISTING PLANTER DOWN TO FOUNDATION, CAP OFF IRRIGATION DRAINAGE PIPING & HOSE BIBBS BELOW GRADE. LANDSCAPE 1 MULCH PER LANDSCAPE PLAN.
- D4) REMOVE EXISTING WALLS AND ASSOCIATED AFFURTEANCES TO EXTENT SHOWN AND AS NECESSARY TO PERFORM NEW WORK.
- D5) REMOVE EXISTING DOOR, FRAME, AND HARDWARE IN ITS ENTIRETY.
- D6) REMOVE EXISTING ACOUSTICAL PANELS & SUSPENSION SYSTEM TO THE EXTENT INDICATED
- D7) CUT-OUT MASONRY OPENINGS AS SHOWN. PREPARE R.O. FOR NEW FIXED WINDOWS w/ NEW PRECAST LINTELS.
- D8) REMOVE EXISTING WATER CLOSET. CAP PLUMBING AND REPAIR FLOOR TO MATCH ADJACENT.
- D9) REMOVE WALL MOUNTED LAVATORY RECONFIGURE WATER SUPPLY AND DRAINAGE TO ACCEPT NEW FIXTURE(S). SEE PLUMBING DRAWINGS.
- D10) DEMOLISH EXISTING TOILET PARTITION/BRACING.
- D11) DEMOLISH EXIST. CONCRETE WALK TO THE EXTENT SHOWN.
- D12) REMOVE EXISTING PLANTING AND VEGETATION, CAP-OFF IRRIGATION S/FRINKLER PIPING. FOR RE-USE
- D13) DEMOLISH EXISTING GUB CEILING, REMOVE FRAMING AND AFFURTEANCES.
- D14) REMOVE EXISTING GRASS- PAYER PARKING SPACE, EXTEND PARKING ISLAND.
- D15) REMOVE EXISTING PAY-PHONE NICHE.
- D16) REMOVE AND RELOCATE SECURITY SYSTEM PANEL. PER OWNER'S DIRECTIVE.
- D17) CUT-OUT 3'-4"x1'-6" M.O. PROVIDE NEW PRE-CAST LINTEL TO ACCOMMODATE NEW 6'-10" H.M. DOOR FRAME.
- D18) REMOVE EXISTING BENCHES.
- D19) REMOVE URINAL. SEE PLUMBING DEMOLITION DRAWINGS.
- D20) REMOVE ENTIRE SHOWER ENCLOSURE, CAP & REMOVE ALL PLUMBING.
- D21) REPLACE EXISTING TOILET w/ NEW TOILET. SEE PLUMBING DEMOLITION DRAWINGS.
- D22) REMOVE WALL MOUNTED LAVATORY & CAP PLUMBING. SEE PLUMBING DEMOLITION DRAWINGS.
- D23) REMOVE EXISTING METAL LOCKERS.
- D24) REMOVE UNIT KITCHEN.
- D25) CUT-OUT 4'-0" M.O. TO BOTTOM OF TIE-BEAM.
- D26) CUT-OUT 3'-4"x8'-0" M.O. PROVIDE NEW PRE-CAST LINTEL TO ACCOMMODATE 1'-4" H.M. DOOR FRAME.

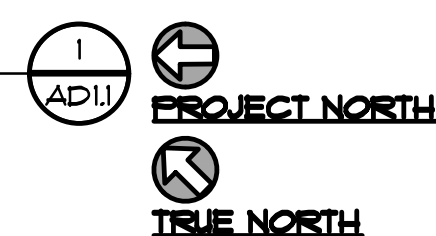
1. DEMOLITION SHALL BE COMPLETED ONLY TO EXTENT NECESSARY TO REPAIR NEW WORK. ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETELY. PATCH HOLES & SURFACES REMAINING SHALL BE SMOOTH, CLEAN, AND READY TO ACCEPT NEW WORK, TYPICALLY.
2. OWNER WILL REMOVE MOVABLE APPLIANCES (COMPUTERS), FURNITURE A/V EQUIPMENT, FURNISHINGS AND ARTWORK PRIOR TO START OF DEMOLITION, TYPICAL IN ALL ROOMS SHOWN.
3. ELECTRICAL AND DATA DEVICES SHOWN TO BE REMOVED SHALL HAVE WIRING REMOVED BACK TO PANELS OR TO NEAREST OFFICE POINT. CONDUITS SHALL BE REMOVED BACK TO NEAREST EXPOSED POINT.

	EXISTING PARTITION TO REMAIN
	EXISTING PARTITION OR ELEMENT TO BE REMOVED
	NEW WALL OR PARTITION
	DOOR AND FRAME TO BE REMOVED.
	EXISTING DOOR AND FRAME TO REMAIN
	NEW DOOR, FRAME & HARDWARE
	EXISTING SLAB ON GRADE TO BE REMOVED.

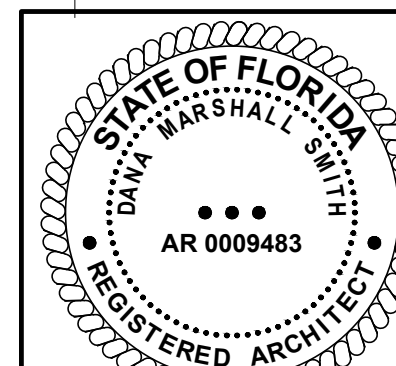


NOTE:
OWNER TO DISMANTLE AND/OR
SALVAGE TELECOM EQUIPMENT
PRIOR TO CONSTRUCTION. G.C.
TO DEMOLISH REMAINDER.

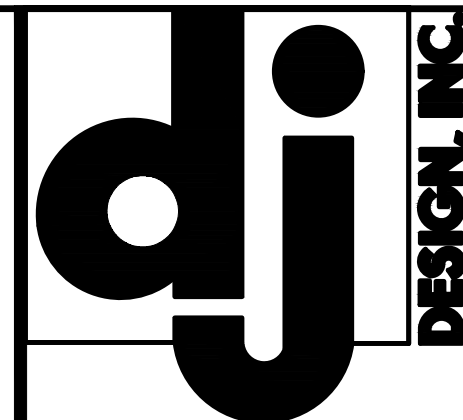
SCALE: 1/8" = 1'-0"



BID SET



DANA M. SMIT
AR00009483



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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

**1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128**

PJT*: 02345.03
DATE: 8.25.2017
DRN BY: DJS
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AD1.1

DEMOLITION GENERAL NOTES

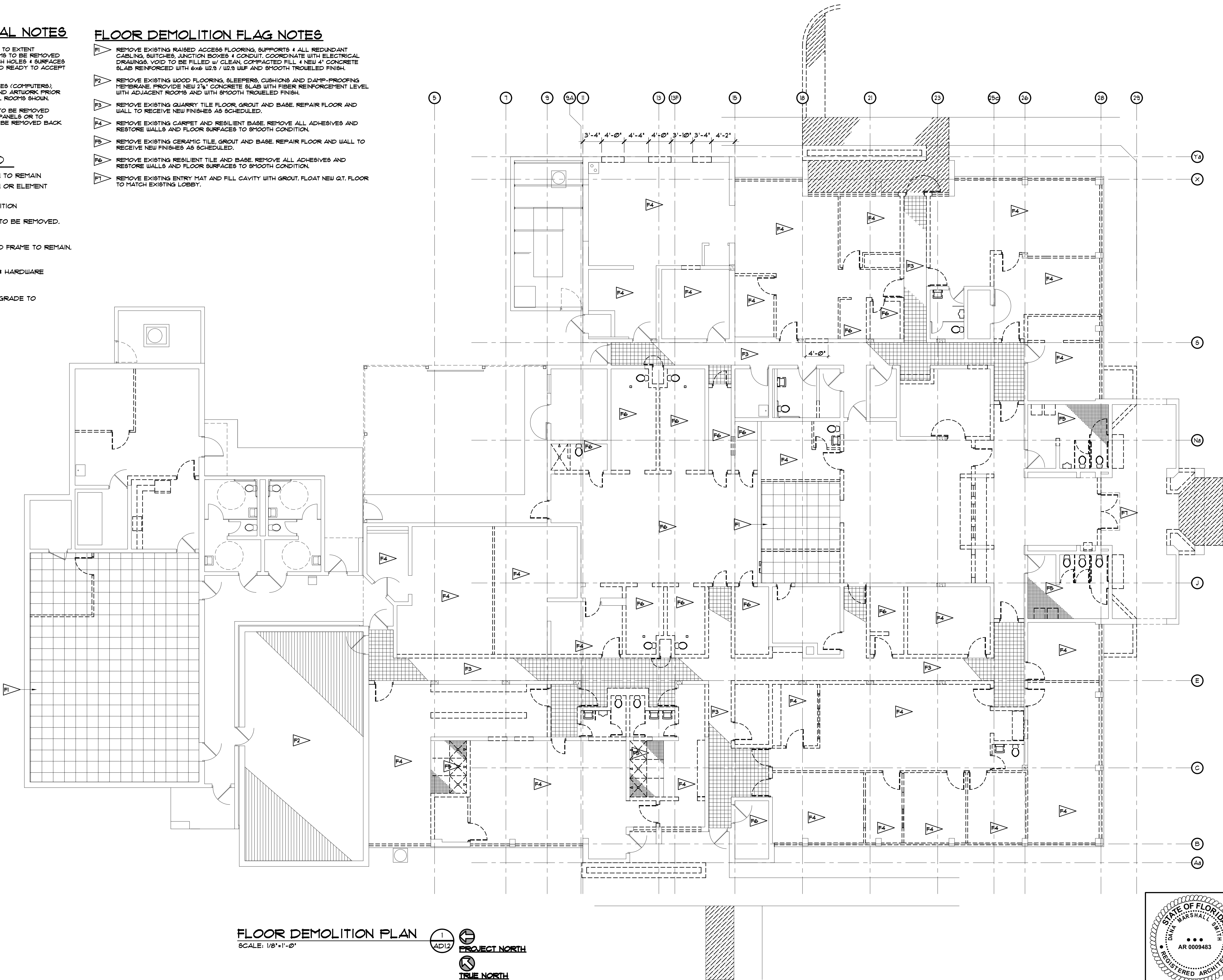
- DEMOLITION SHALL BE COMPLETED ONLY TO EXTENT NECESSARY TO PERFORM NEW WORK. ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETELY. PATCH HOLES & SURFACES REMAINING SHALL BE SMOOTH, CLEAN, AND READY TO ACCEPT NEW WORK, TYPICALLY.
- OWNER WILL REMOVE MOVABLE APPLIANCES (COMPUTERS), FURNITURE AND EQUIPMENT, FURNISHINGS AND ARTWORK PRIOR TO START OF DEMOLITION, TYPICAL IN ALL ROOMS SHOWN.
- ELECTRICAL AND DATA DEVICES SHOWN TO BE REMOVED SHALL HAVE WIRING REMOVED BACK TO PANELS OR TO NEAREST SPLICE POINT. CONDUITS SHALL BE REMOVED BACK TO NEAREST EXPOSED POINT.

PARTITION AND
SYMBOL LEGEND

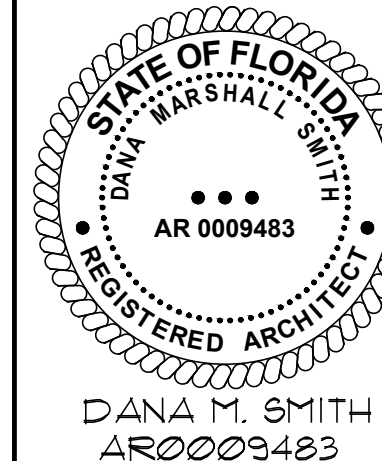
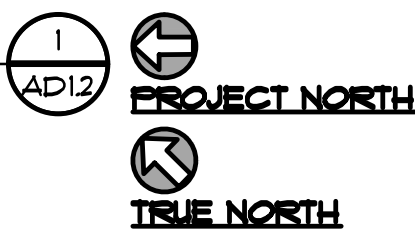
- EXISTING PARTITION TO REMAIN
EXISTING PARTITION OR ELEMENT
TO BE REMOVED
NEW WALL OR PARTITION
DOOR AND FRAME TO BE REMOVED.
EXISTING DOOR AND FRAME TO REMAIN.
NEW DOOR, FRAME & HARDWARE
EXISTING SLAB ON GRADE TO
BE REMOVED.

FLOOR DEMOLITION FLAG NOTES

- F1 REMOVE EXISTING RAISED ACCESS FLOORING, SUPPORTS & ALL REDUNDANT CABLING, SWITCHES, JUNCTION BOXES & CONDUIT. COORDINATE WITH ELECTRICAL DRAWINGS. VOID TO BE FILLED W/ CLEAN, COMPACTED FILL & NEW 4" CONCRETE SLAB REINFORCED WITH 6x6 W2.9 / W2.9 WUF AND SMOOTH TROUELED FINISH.
- F2 REMOVE EXISTING WOOD FLOORING, SLEEPERS, CUSHIONS AND DAMP-PROOFING MEMBRANE. PROVIDE NEW 2 1/8" CONCRETE SLAB WITH FIBER REINFORCEMENT LEVEL WITH ADJACENT ROOMS AND WITH SMOOTH TROUELED FINISH.
- F3 REMOVE EXISTING QUARRY TILE FLOOR, GROUT AND BASE. REPAIR FLOOR AND WALL TO RECEIVE NEW FINISHES AS SCHEDULED.
- F4 REMOVE EXISTING CARPET AND RESILIENT BASE. REMOVE ALL ADHESIVES AND RESTORE WALLS AND FLOOR SURFACES TO SMOOTH CONDITION.
- F5 REMOVE EXISTING CERAMIC TILE, GROUT AND BASE. REPAIR FLOOR AND WALL TO RECEIVE NEW FINISHES AS SCHEDULED.
- F6 REMOVE EXISTING RESILIENT TILE AND BASE. REMOVE ALL ADHESIVES AND RESTORE WALLS AND FLOOR SURFACES TO SMOOTH CONDITION.
- F7 REMOVE EXISTING ENTRY MAT AND FILL CAVITY WITH GROUT. FLOAT NEW G.T. FLOOR TO MATCH EXISTING LOBBY.



FLOOR DEMOLITION PLAN
SCALE: 1/8"=1'-0"



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REMODELING OF PORT ORANGE
CITY HALL ANNEX
1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128

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AD1.2

The logo for DJ Design, Inc. features a large, stylized lowercase 'dj' in a bold, sans-serif font. To the right of the 'dj', the words 'DESIGN, INC.' are written in a smaller, uppercase, sans-serif font, stacked vertically.

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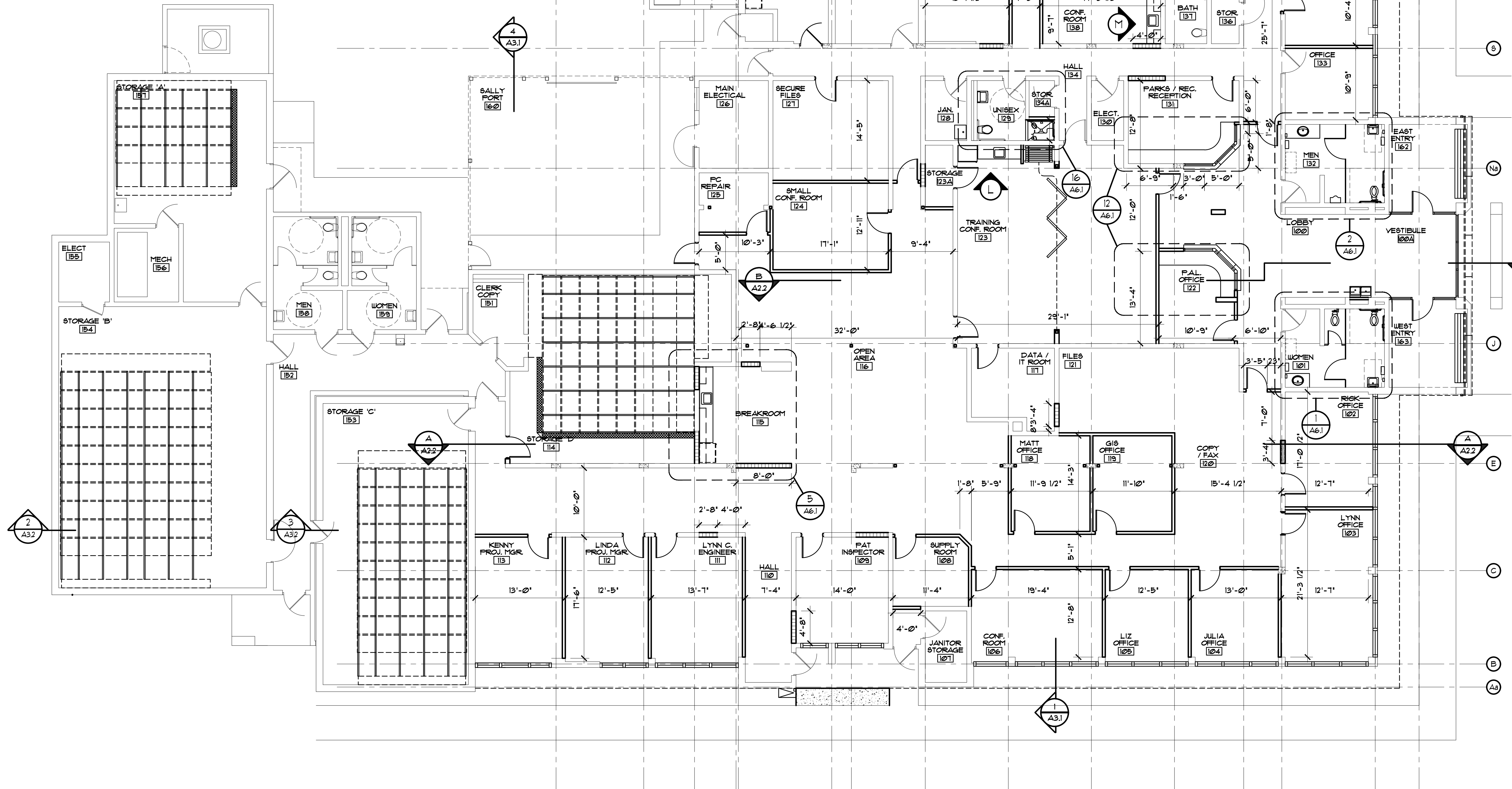
**1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128**

STATE OF FLORIDA
DANA MARSHALL SMITH
• • •
AR 0009483
REGISTERED ARCHITECT

DANA M. SMITH
AR0009483

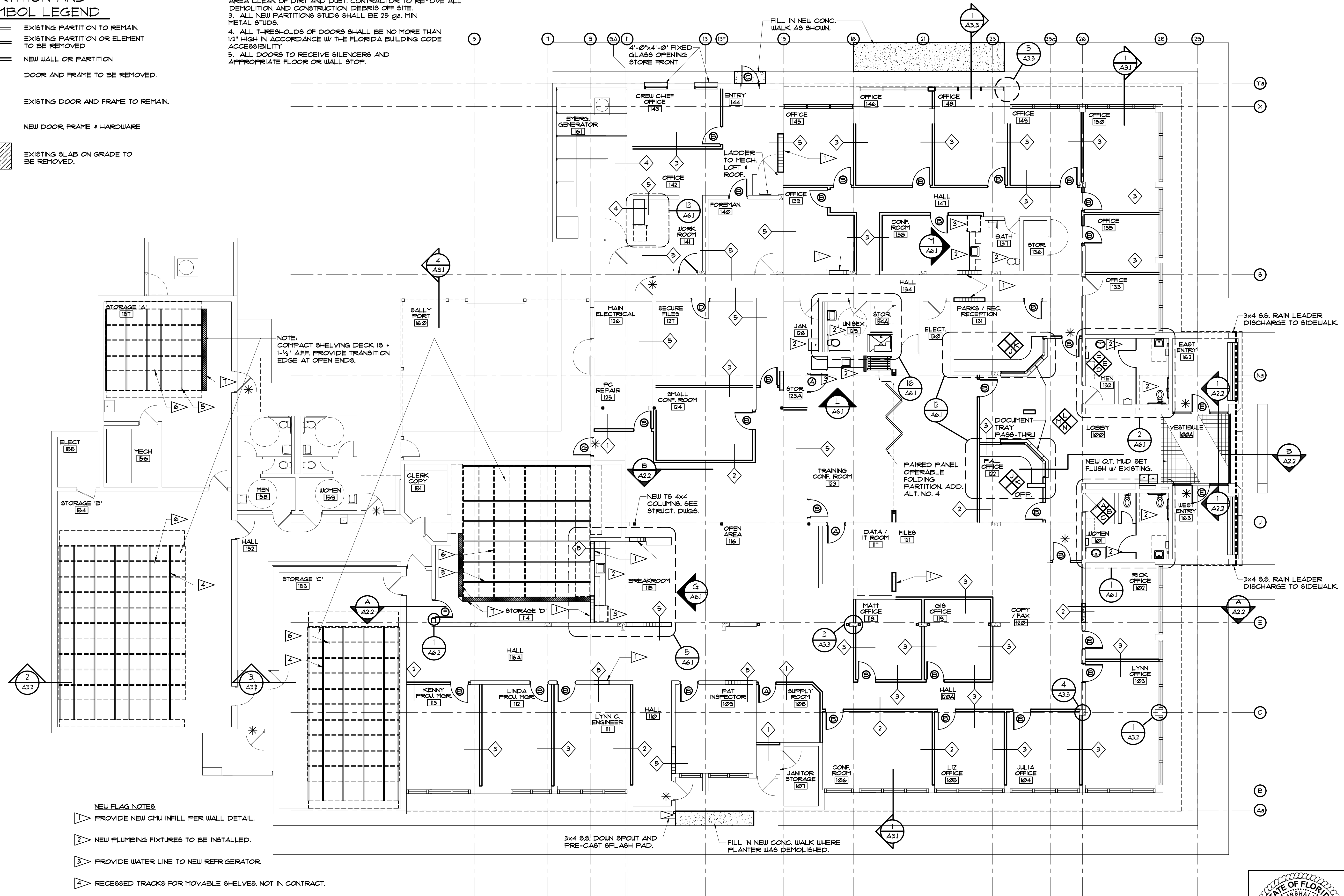
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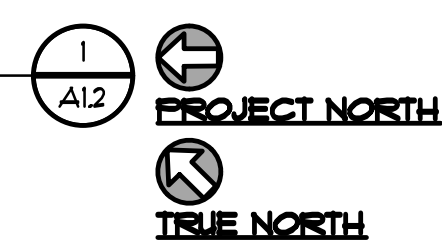


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	EXISTING PARTITION OR ELEMENT TO BE REMOVED
	NEW WALL OR PARTITION
	DOOR AND FRAME TO BE REMOVED.
	EXISTING DOOR AND FRAME TO REMAIN.
	NEW DOOR, FRAME & HARDWARE
	EXISTING SLAB ON GRADE TO BE REMOVED.

1. FURNITURE, FIXTURES AND EQUIPMENT SHOWN FOR CLARITY, PROVIDED BY OWNER.
2. CONTRACTOR MUST KEEP THE SITE AND SURROUNDING AREA CLEANLY AT ALL TIMES. CONTRACTOR TO REMOVE ALL DEBRIS AND CONSTRUCTION MATERIALS FROM SITE.
3. ALL NEW PARTITIONS STUDS SHALL BE 25 ga. MIN METAL STUDS.
4. ALL THRESHOLDS OF DOORS SHALL BE NO MORE THAN 1/2" HIGH ACCORDANCE W/ THE FLORIDA BUILDING CODE ACCESSIBILITY.
5. ALL DOORS TO RECEIVE SILENCERS AND APPROPRIATE FLOOR OR WALL STOP.

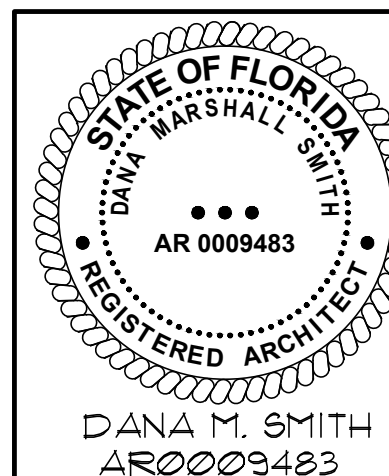


SCALE: 1/8" = 1'-0"



NOTE:
DOORS MARKED * ARE TO RECEIVE ACCESS CONTROL.
EXISTING DOORS TO RECEIVE MAGNETIC LOCKS BY OWNERS
VENDOR SEE DOOR SCHEDULE.

BID SET



REMODELING OF PORT ORANGE CITY HALL ANNEX

**1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128**



di
DESIGN, INC.

**913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
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FAX (386) 255-6989**

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	EXISTING PARTITION TO REMAIN
	EXISTING PARTITION OR ELEMENT TO BE REMOVED
	NEW UNRATED PARTITION
	CEILING MOUNTED EXIT SIGN
	VOICE/DATA OUTLET
	LIGHT SWITCH
	DUPLEX POWER RECEPTACLE
	QUAD POWER RECEPTACLE
	FLOORBOX POWER RECEPTACLE
	NEW ACOUSTICAL TILE
	EXISTING ACOUSTICAL TILE
	NEW DOOR AND FRAME
	EXISTING DOOR AND FRAME
	SPRINKLER HEAD
	SUPPLY AIR DIFFUSER
	RETURN AIR DIFFUSER
	RECESSED FLUORESCENT 2x4 LIGHT FIXTURE
	RECESSED CAN LIGHT FIXTURE
	CAMERA LOCATIONS. PROVIDE 4x4 JUNCTION BOX w/ EMPTY CONDUIT & FULL STRING FOR INSTALLATION BY OWNER'S VENDOR.

NO CEILING WORK
IN THIS SPACE.

— WALLS TO BE
DEMOLISHED
SHOWN AS DASHED

—NO CEILING WORK—
IN THIS SPACE.

PRESSURE WASH SOFFITS-
AND WALLS, REPAINT.

PRESSURE WASH SOFF
AND WALLS, REPAINT.

STATE OF FLORIDA
DANA MARSHALL SMITH
•••
AR 0009483
REGISTERED ARCHITECT

DANA M. SMITH
AR0009483

**REMODELING OF PORT ORANGE
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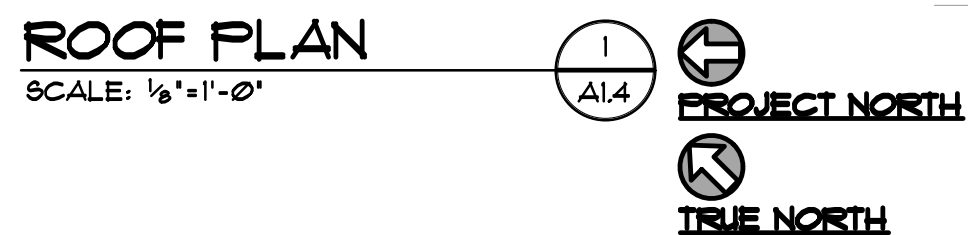
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- 1 EXISTING PREFINISHED EDGE METAL TO REMAIN IN PLACE, REPAIR ANY DAMAGE TO RESTORE TO A "LIKE-NEW" CONDITION AS DETERMINED IN THE FIELD BY THE OWNER AND ARCHITECT.
- 2 EXISTING OVERFLOW SCUFFERS & DOWNSPOUTS TO REMAIN IN PLACE, REPAIR ANY DAMAGE TO RESTORE TO A "LIKE-NEW" CONDITION AS DETERMINED IN THE FIELD BY THE OWNER AND ARCHITECT.
- 3 EXISTING ROOF DRAINS TO REMAIN IN PLACE, REMOVE AND REINSTALL STRAINER AND CLAMPING RING AS REQUIRED TO INSTALL THE NEW ROOF MEMBRANE, ROD, SNAKE, BLOW OR OTHERWISE CLEAN EXISTING ROOF LEADER PIPING TO ENSURE PROPER FLOW AND DRAINAGE. - NOTE: OWNER OF ANY PROBLEMS OR BLOCKAGE DISCOVERED, SEE DETAIL 7/A3.1.
- 4 REMOVE EXISTING ROOF EQUIPMENT AND CURBS AND BUILT UP ROOF, ADD STRUCTURAL DECKING TO MATCH EXISTING, SEE DETAIL 6/A3.2.
- 5 REMOVE EXISTING ACCESS DOOR WITH NEW HOLLOW METAL DOOR RE-USE FRAME, BUTTS AND LOCKSET.



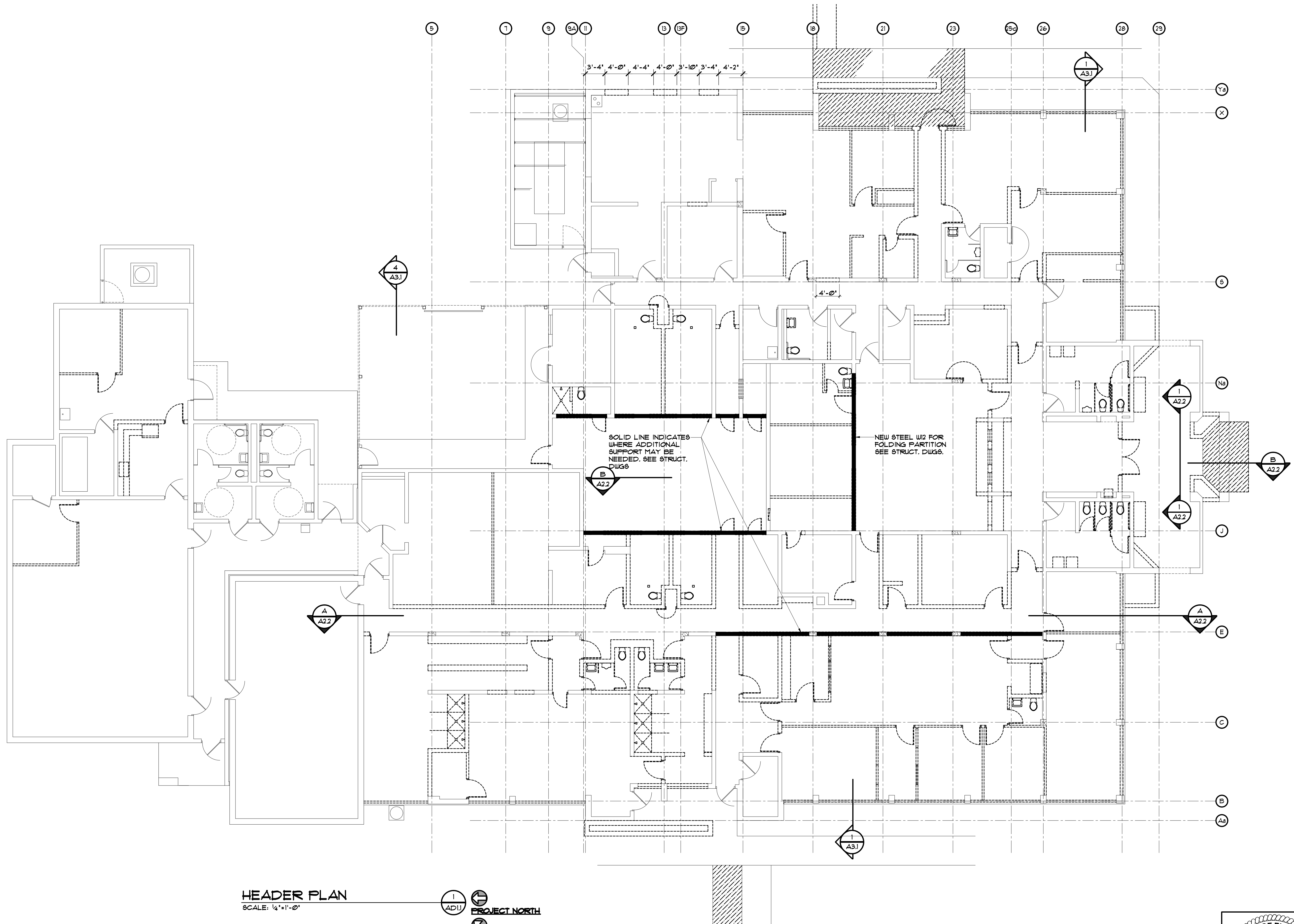
1. THE DIMENSIONS SHOWN ON THE ROOF PLANS OF THIS PROJECT WERE TAKEN FROM THE OWNER'S ARCHITECTURAL DOCUMENTS OR ARE THE RESULT OF FIELD MEASUREMENTS TAKEN BY ARCHITECTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO AVOID PROSPECTIVE BIDDERS ESTABLISHING THE APPROXIMATE SCOPE OF THE PROJECT. AS A PRE-REQUIREMENT FOR BIDDING THE PROJECT, HOWEVER ALL DIMENSIONS, INCLUDING FITCH SHALL BE VERIFIED AND VERIFIED DIMENSIONS SHALL BE THE DIMENSIONS UTILIZED IN BIDDING THE PROJECT WILL BE THOSE DIMENSIONS TAKEN, CONFIRMED OR CORRECTED BY THE BIDDER.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DETAILS & ELEMENTS NOTED ON THE PROJECT PLANS AND REPORT ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
3. THE REEROOFING PLAN IS GENERAL IN NATURE & INDICATES APPROXIMATE EXISTING CONDITIONS. AT THE PROJECT SITE THE CONTRACTOR SHALL BE RESPONSIBLE FOR A VISUAL FIELD SURVEY (PRIOR TO BID) IN REGARD TO QUANTITIES & VERIFICATION OF GENERAL CONFORMANCE WITH THE LOCAL BUILDING CODE.
4. PRIOR TO THE START OF ANY WORK, THE CONTRACTOR WITH THE PROJECT ARCHITECT & OWNERS REPRESENTATIVE SHALL VISIT THE SITE & PHOTO & VIDEO TAPE THE ROOF & ALL SPACES UNDERNEATH THE ROOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROJECT IN ORDER TO DETERMINE THE CONTRACTOR'S RESPONSIBILITY IN KEEPING THOSE ITEMS IN THEIR CURRENT STATUS. SPECIAL ATTENTION SHALL BE GIVEN TO EXISTING LIGHT FIXTURES, EXTERIOR LIGHTING, AIR CONDITIONING UNITS, ETC. PARTICULARLY IN THOSE AREAS WHERE EXISTING LEAKS ARE PRESENT.
5. CONTRACTOR SHALL EXERCISE CARE DURING DEMOLITION & REMEDIATION TO ASSURE THAT ITEMS SCHEDULED FOR REMEDIATION ARE PROPERLY REMOVED & ITEMS TO REMAIN AND/OR TO BE RELOCATED ARE PROTECTED FROM DAMAGE. ALL SALVAGEABLE ITEMS REMOVED THAT ARE NOT TO BE REUSED SHALL BE DISPOSED OF AS WASTE. IN THE EVENT OF WATER DAMAGE TO THE INTERIOR OF STRUCTURES, A DAMAGE REPORT WITH PHOTOGRAPHS SHALL BE COMPLETED BY THE PROJECT ARCHITECT. THE REPORT SHALL BE SUBMITTED TO THE OWNER AND THE CONTRACTOR FOR THEIR RECORDS.
6. NOTIFY THE LOCAL POLICE OFFICIALS, THE OWNER OR PROJECT ARCHITECT BY LETTER OF ANY DAMAGE TO PROPERTY OR DAMAGE RESULTING FROM FIRE, WATER DAMAGE, ILLEGAL ENTRY, VANDALISM, THEFT OR BURGLARY OR VEHICLE DAMAGE WITHIN 24 HOURS OF DISCOVERING THE INCIDENT.
7. ALL NEW & REPAIR DRAWINGS & DRAWINGS ARE "TYPICAL" & ARE NOT CUT AT EVERY LOCATION WHERE THE CONDITION OCCURS. BID & EXECUTE A COMPLETE PROJECT AS IF DETAILS WERE "CUT" AT EVERY LOCATION WHERE SUCH A CONDITION OR OCCURRENCE EXISTS.
8. PERIMETER COPING MAY VARY IN DIMENSIONAL REQUIREMENTS, VERIFY BLOCKING REQUIREMENTS IN EACH ROOF AREA PRIOR TO BIDDING.
9. ALL METAL DETAILS & TRANSITIONS NOT SHOWN SHALL BE REQUIRED AS IF SHOWN PREPARE & SUBMIT SHOP DRAWINGS OF THESE REQUIREMENTS TO THE ARCHITECT FOR APPROVAL PRIOR TO SHOP FABRICATION.
10. ALL NEW & EXISTING UNMOUNTED EQUIPMENT, CURBS, PIPE SUPPORTS, WOODWORK & SHEET METAL WORK SHALL BE SECURED WITH FASTENERS AND/OR STAINLESS STEEL CABLE HOLD-DOWNS TO SAFELY RESIST UP FORCES AS COMPUTED BY ENGINEER WITH A SAFETY FACTOR OF 1/3 (WIND VELOCITY - 140 MPH, EXPOSURE 'C').
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR & FINISHES/FINISHES TO BE REQUIRED FOR DAMAGE DAMAGED AS A RESULT OF ROOFING REPLACEMENT, WORK NOT COVERED BY NEWLY INSTALLED WORK. REPAIRS & FINISHES SHALL MATCH EXISTING ADJACENT CONDITIONS TO REMAIN UNCHANGED.
12. ALL EQUIPMENT, CURBS, PIPE SUPPORTS, WOODWORK, ETC. TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING FOR PROPER COORDINATION.
13. VERIFY PRECISE LOCATIONS OF EXPANSION JOINTS SHOWN ON CURB ROOF PLANS. PROVIDE COORDINATION OF JOINT CHANGES FROM THE UNDERSIDE OF DECK PRIOR TO CONSTRUCTING THE EXPANSION JOINT CURBS. COORDINATE ANY NEW LOCATIONS WITH ARCHITECT.
14. CONTRACTOR SHALL PROVIDE ALL SUPPLEMENT MATERIALS REQUIRED TO PROPERLY INSTALL, SUPPORT & BRACE ALL ITEMS & COMPONENTS WITH THE WORK.
15. INCLUDE THE COST OF PROVIDING TEN (10) FULL SHEETS OF 1" CONCRETE BASE ROOFING. PROVIDE ADDITIONAL FULL SHEETS REQUIRED SHALL BE PROVIDED AT BASE UNIT COST / SHEET.

STATE OF FLORIDA
DANA MARSHALL SMITH
• • •
AR 0009483
REGISTERED ARCHITECT

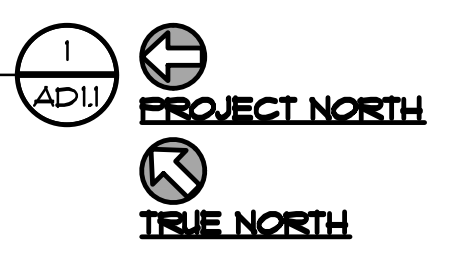
DANA M. SMITH
AR0009483

**1395 DUNLAWTON AVE.
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HEADER PLAN
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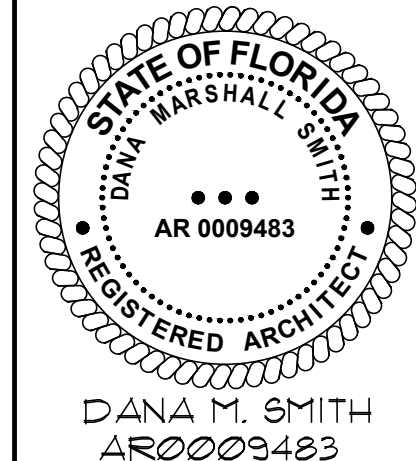


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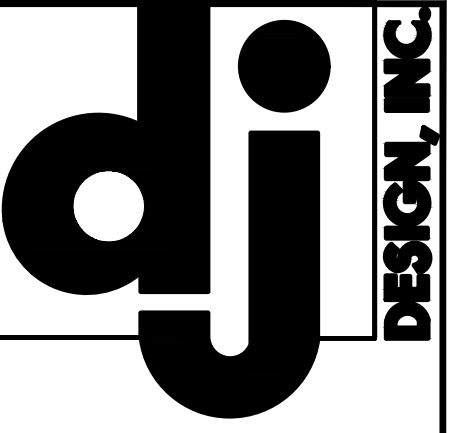
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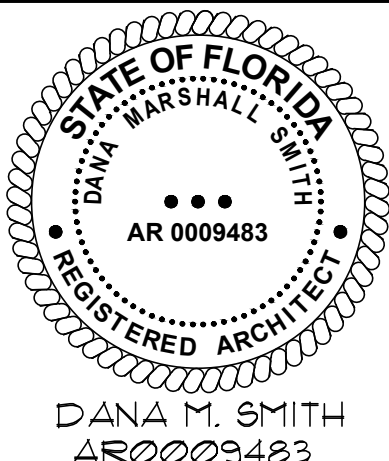
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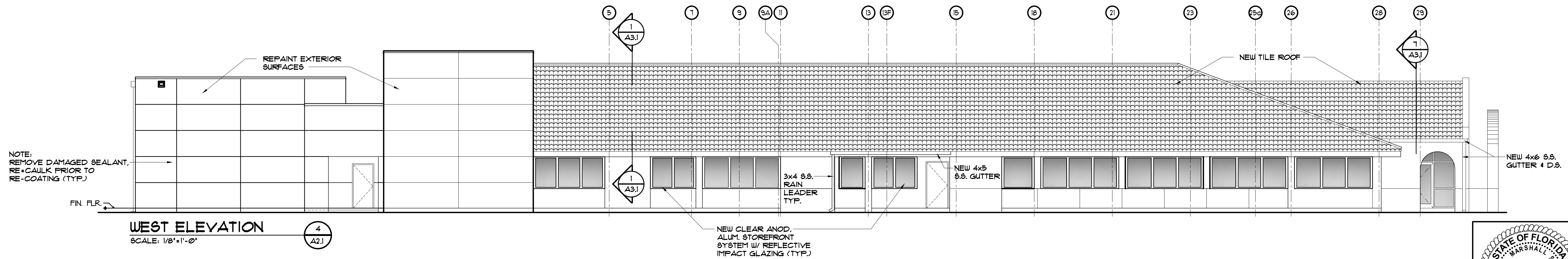
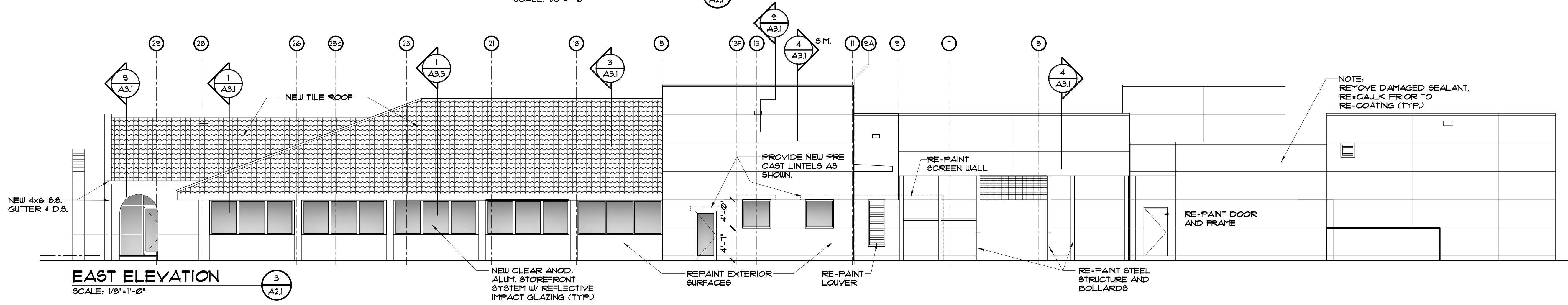
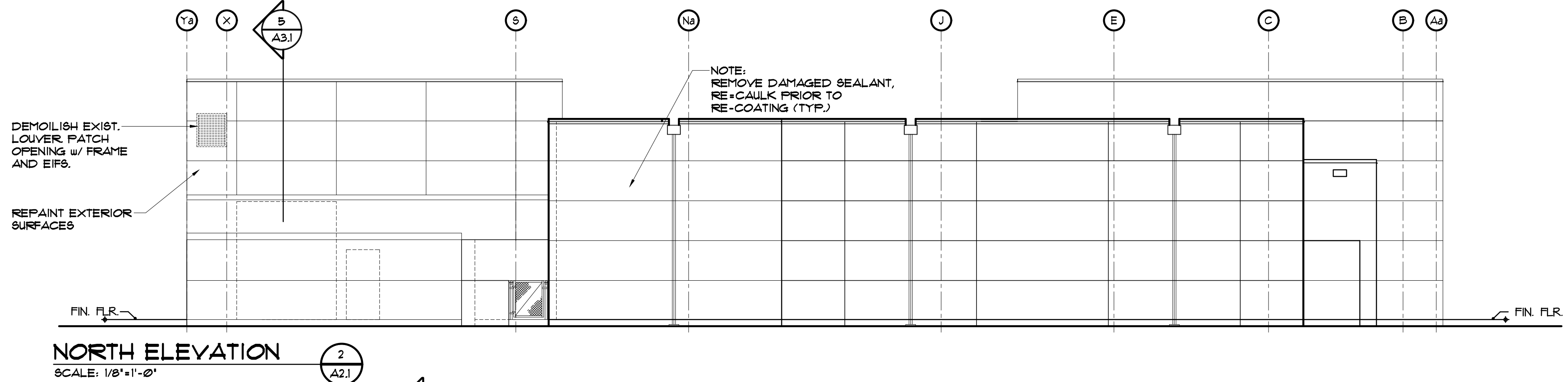
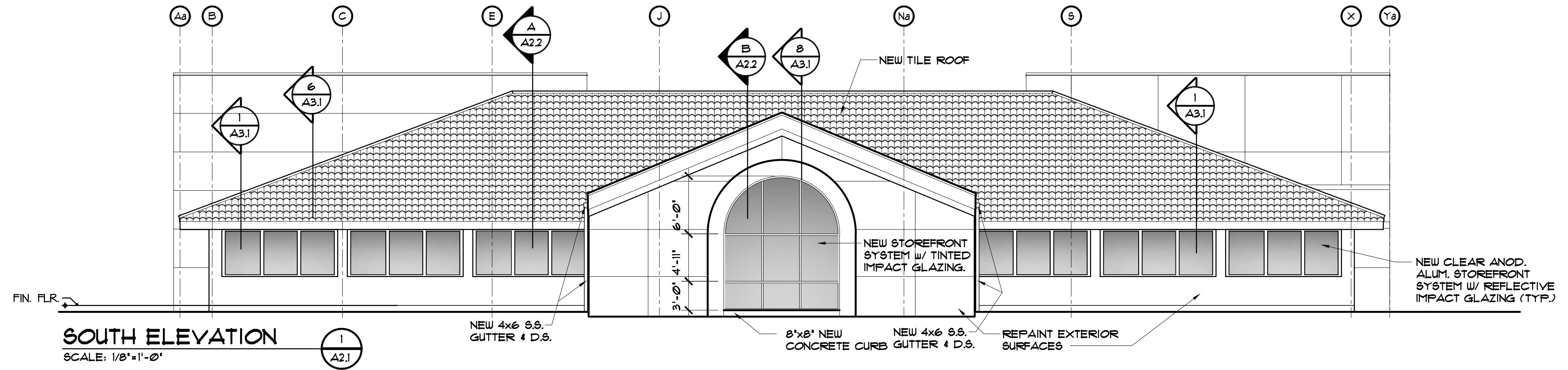
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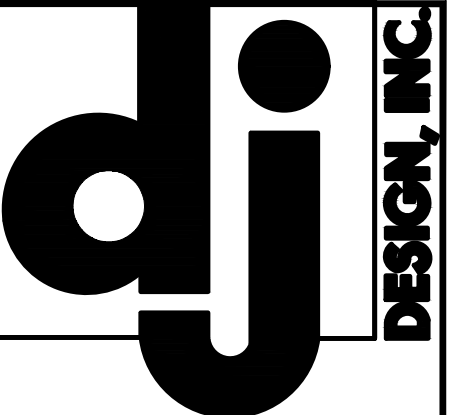
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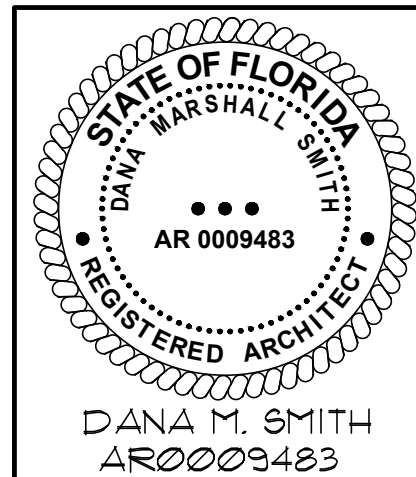
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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**
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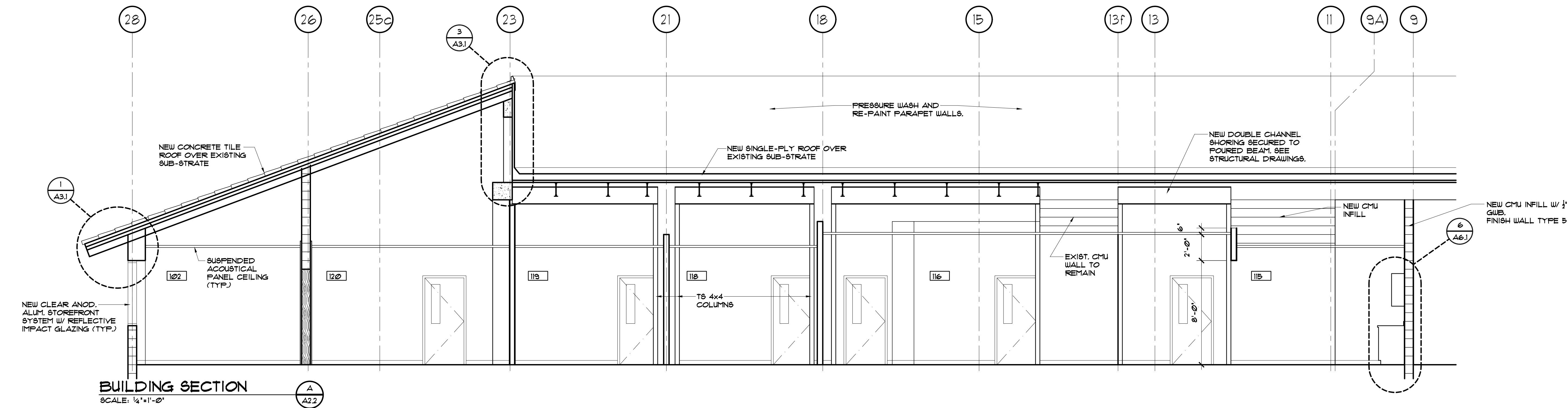
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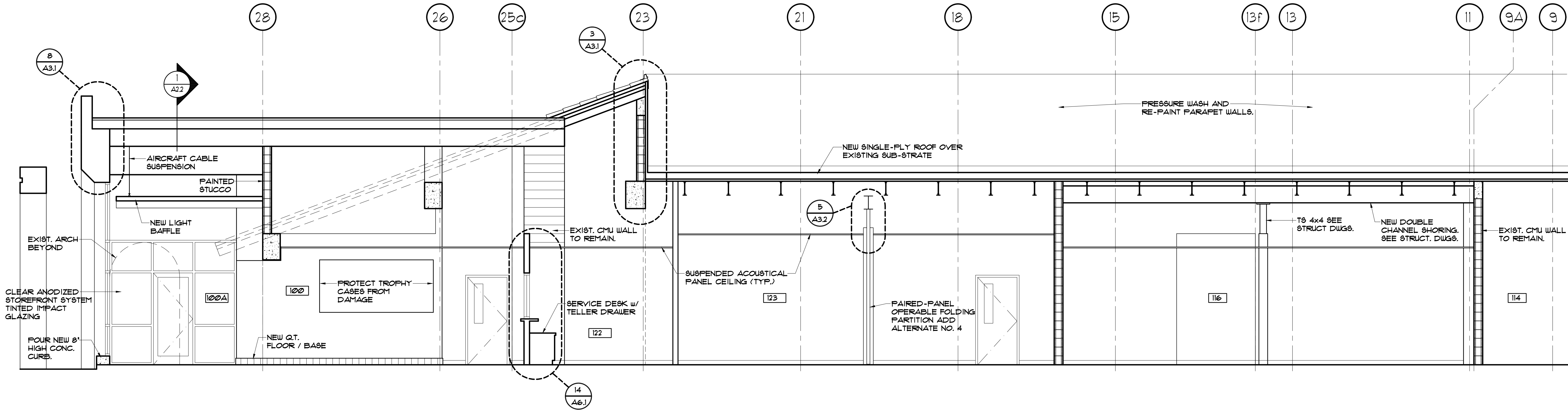
A2.2



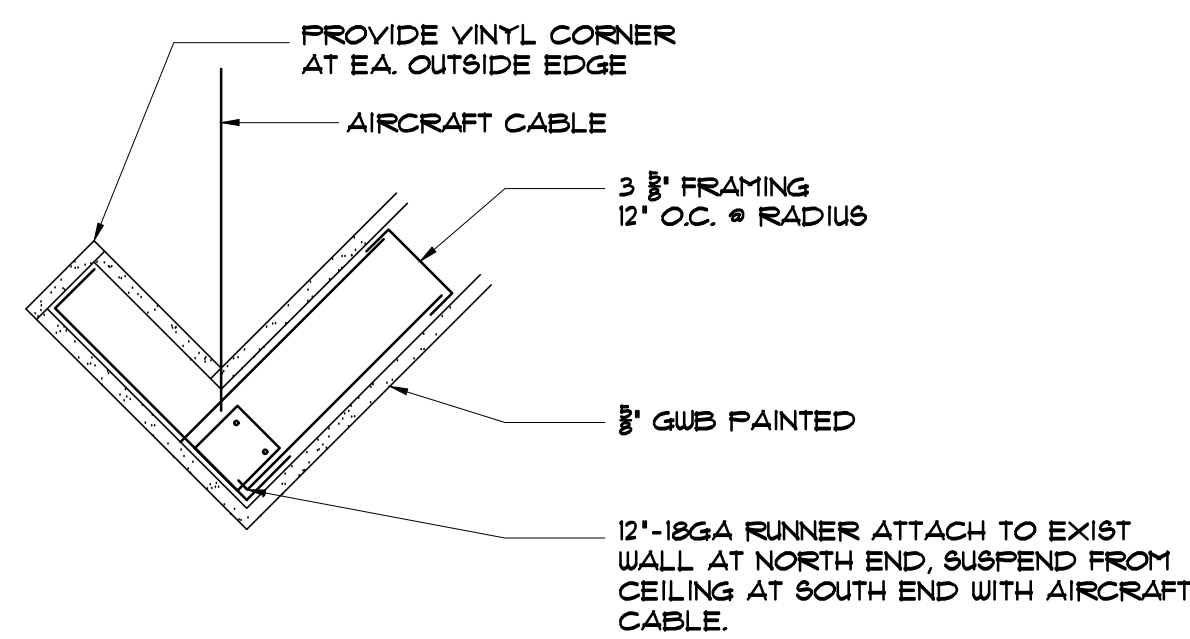
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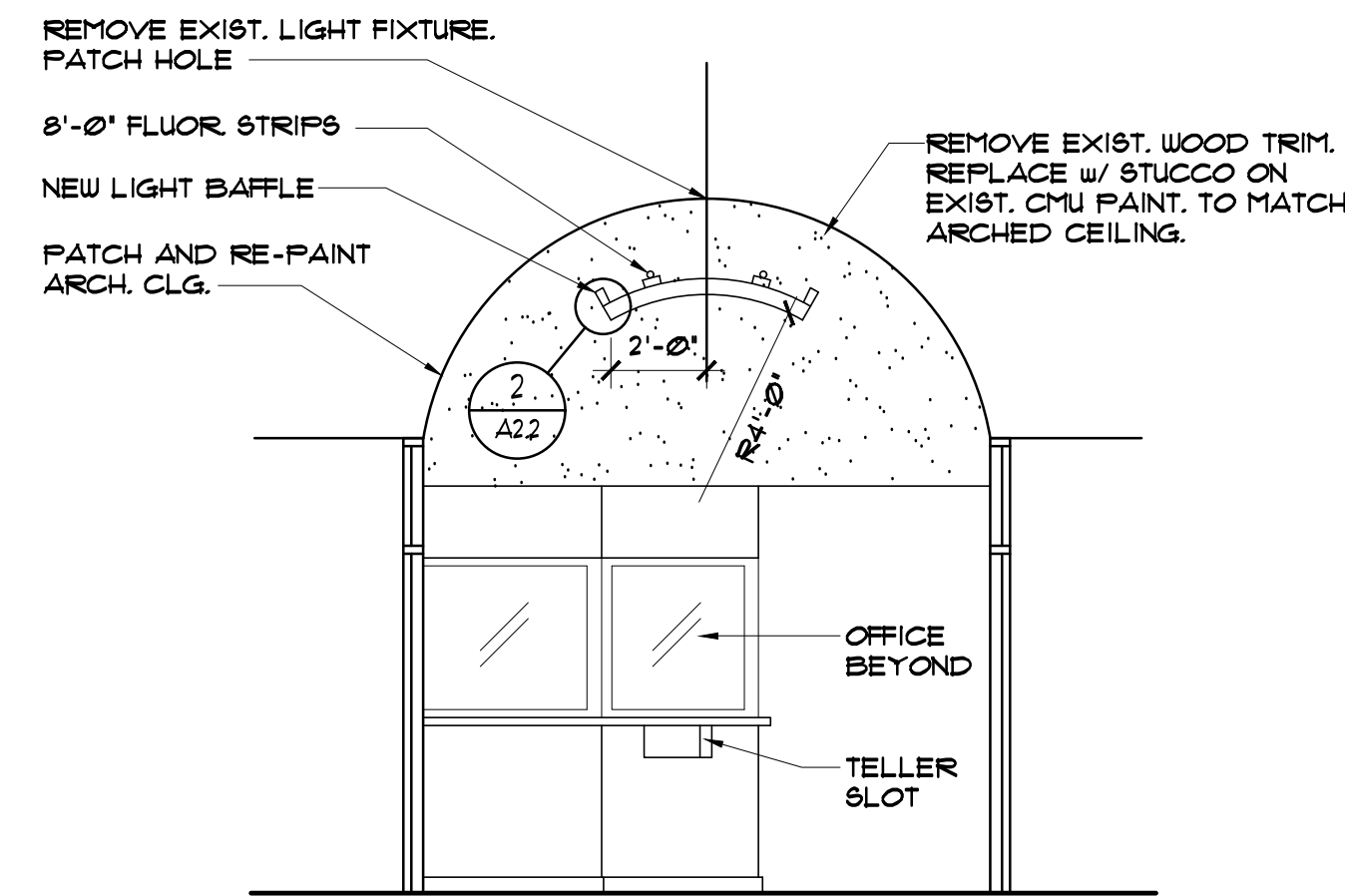
BUILDING SECTION
SCALE: 1/4"=1'-0"



BUILDING SECTION
SCALE: 1/4"=1'-0"



BAFFLE DETAIL
SCALE: 1-1/2"=1'-0"



SECTION THRU VESTIBULE
SCALE: 1/4"=1'-0"



REV#	REVISIONS	DATE
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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

PJT#: 02345.03
DATE: 8.25.2017
DRN BY: DJS
DGN BY: DMS
REV BY: DMS
SCALE: AS NOTED

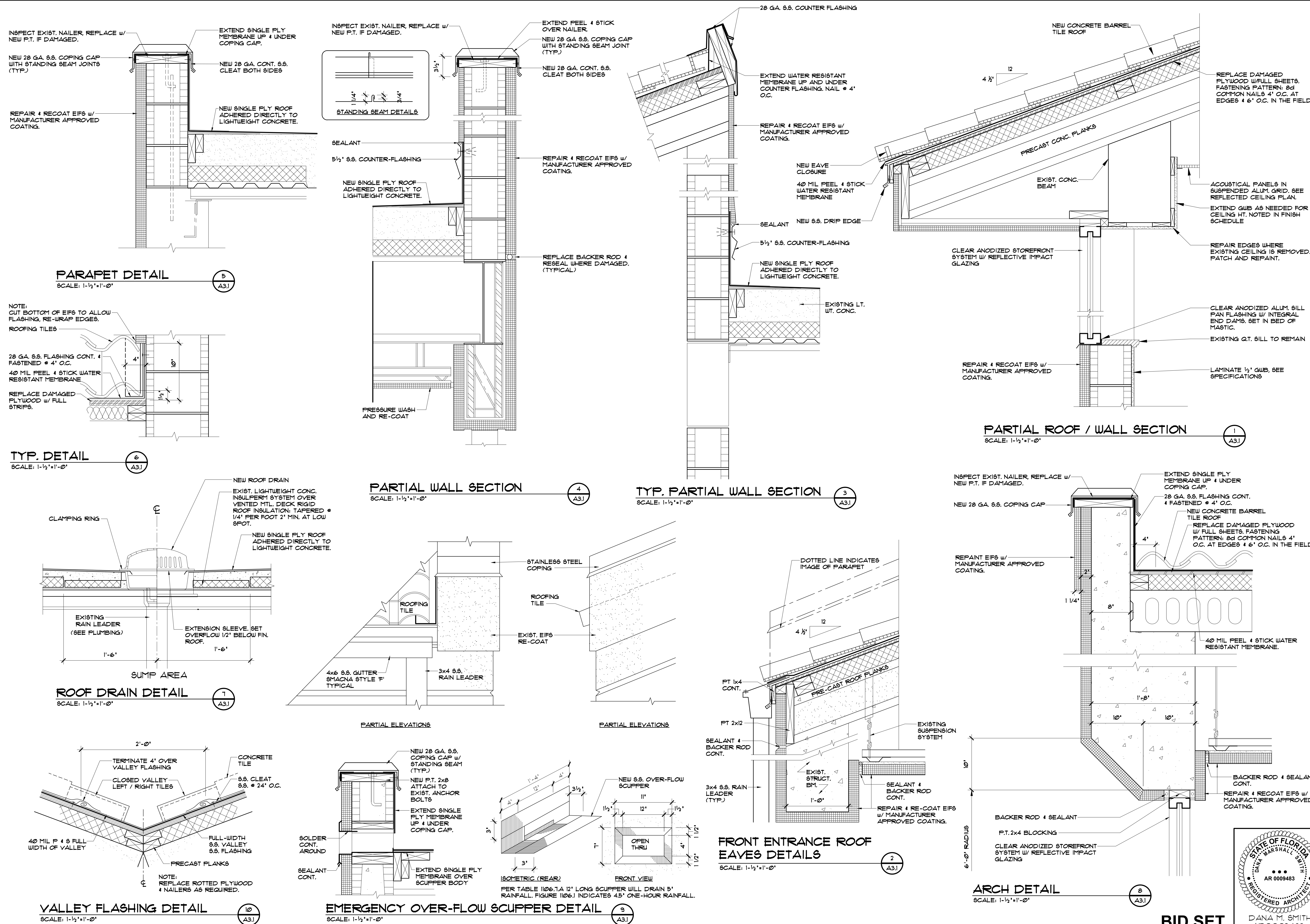
SHEET

A3.1

STATE OF FLORIDA
DANA MARSHALL SMITH
• • •
AR 0009483
REGISTERED ARCHITECT

DANA M. SMITH
AR0009483

BID SET





REV#	REVISIONS	DATE
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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

PJT#: 02345.03
DATE: 8.25.2017
DRN BY: DJG
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REV BY: DMS
SCALE: AS NOTED

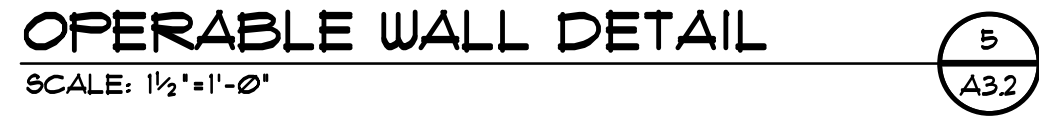
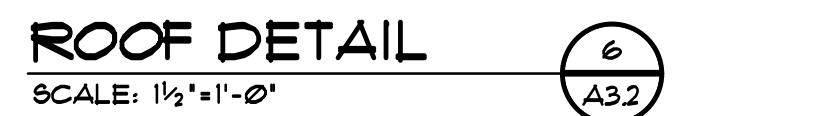
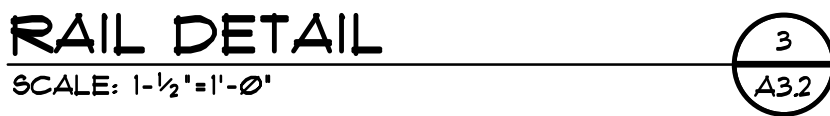
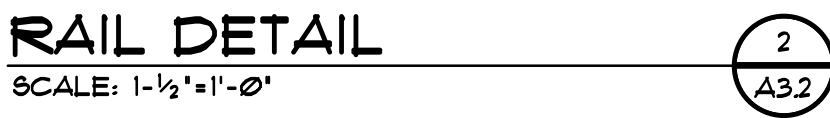
SHEET

A3.2

STATE OF FLORIDA
DANA MARSHALL SMITH
• • •
AR 0009483
REGISTERED ARCHITECT
DANA M. SMITH
AR0009483

DANA M. SMITH
AR0009483

BID SET



FASTENER SCHEDULE:

- ### CLIPS FOR SHEETMETAL:
1. WOOD BLOCKING: 1" GAGE X 1 1/2" ANNULAR RING STAINLESS STEEL ROOFING NAILS AT 8' O.C. MAX. (4' O.C. AT CORNER ZONES OF ROOF).
 2. LIGHTGAUGE METAL: #20 SELF TAPPING STAINLESS STEEL, FLAT OR WAFER HEAD SCREWS AT 12" O.C. MAX.
 3. CONCRETE: 1/4" X 1 1/2" ZAMAC 'NAIL-IN' DRIVE PIN, EXPANSION TYPE FASTENER @ 8' O.C. MAX. WITH STAINLESS STEEL DRIVE PIN.
 4. CONCRETE BLOCK: 1/4" X 1 1/2" ZAMAC 'NAIL-IN' DRIVE PIN, EXPANSION TYPE FASTENER @ 12' O.C. MAX. WITH STAINLESS STEEL DRIVE PIN.
 5. BRICK: 1/4" X 1 1/2" ZAMAC 'NAIL-IN' DRIVE PIN, EXPANSION TYPE FASTENER @ 12" O.C. MAX. WITH STAINLESS STEEL DRIVE PIN.
- ### APPLIED SHEETMETAL (COUNTERFLASHING, TERMINATION BAR, ETC.):
1. WOOD BLOCKING: 12" SELF-TAPPING, STAINLESS STEEL SCREWS AT 8' O.C. MAX. LENGTH AS REQ'D FOR 1/4" MIN. EMBEDMENT INTO WOOD. IF EXPOSED TO THE WEATHER PROVIDE METAL BACKED NEOPRENE SEALING WASHERS OR USE 'SCOTS' TYPE SCREW WITH INTEGRAL SEALING WASHER.
 2. SHEETMETAL BACKING: 12" SELF-TAPPING STAINLESS SCREWS AT 8' O.C. MAX. LENGTH AS REQ'D FOR 1/4" MIN. EMBEDMENT OF TREADS THROUGH STEEL. IF EXPOSED TO THE WEATHER PROVIDE METAL BACKED NEOPRENE SEALING WASHERS OR USE 'SCOTS' TYPE SCREW WITH INTEGRAL SEALING WASHER.
 3. CONCRETE: 1/4" SELF-TAPPING STAINLESS STEEL MASONRY SCREWS AT 8' O.C. MAX. LENGTH AS REQUIRED FOR 1/4" MIN. EMBEDMENT. -OR- 1/4" X 1 1/2" ZAMAC 'NAILIN' DRIVE PIN, EXPANSION TYPE FASTENER @ 8' O.C. MAX. WITH STAINLESS STEEL DRIVE PIN. IF EXPOSED TO THE WEATHER PROVIDE METAL BACKED NEOPRENE SEALING WASHERS-INCREASE LENGTH IF REQ'D BY OVERLYING FINISH FOR 1/4" MIN. EMBEDMENT INTO CONCRETE (BLOCK).
 4. CONCRETE BLOCK: 1/4" SELF-TAPPING STAINLESS STEEL MASONRY SCREWS AT 8' O.C. MAX. LENGTH AS REQUIRED FOR 1/4" MIN. EMBEDMENT. -OR- 1/4" X 1 1/2" ZAMAC 'NAILIN' DRIVE PIN, EXPANSION TYPE FASTENER @ 8' O.C. MAX. WITH STAINLESS STEEL DRIVE PIN. IF EXPOSED TO THE WEATHER PROVIDE METAL BACKED NEOPRENE SEALING WASHERS - INCREASE LENGTH IF REQ'D BY OVERLYING FINISH FOR 1/4" MIN EMBEDMENT INTO CONCRETE (BLOCK).

TYPICAL EDGE FLASHING DETAILS



REV#	REVISIONS	DATE
1		
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**REMODELING OF PORT ORANGE
CITY HALL ANNEX**

**1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128**

PJT#: 02345.03
DATE: 8.25.2017
DRN BY: DJG
OGN BY: DMS
REV BY: DMS
SCALE: AS NOTED

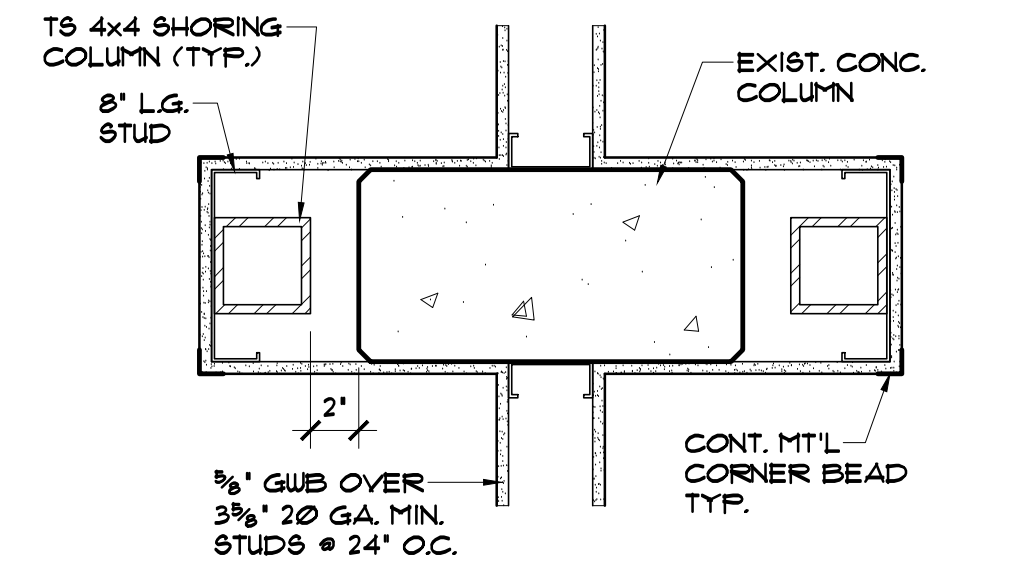
SHEET

A3.3

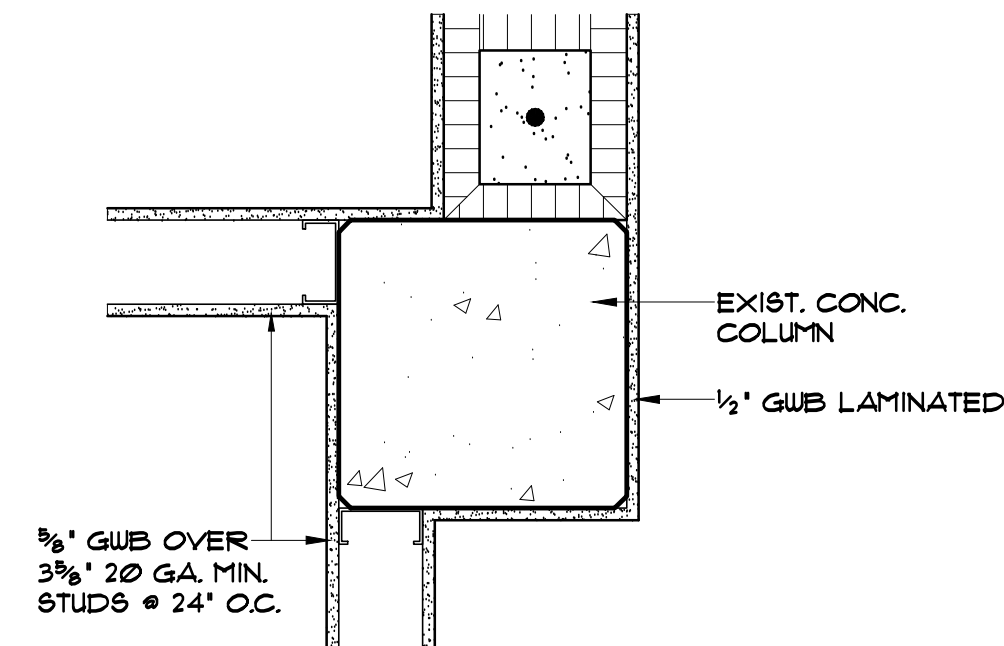
STATE OF FLORIDA
DANA MARSHALL SMITH
AR 0009483
REGISTERED ARCHITECT

DANA M. SMITH
AR0009483

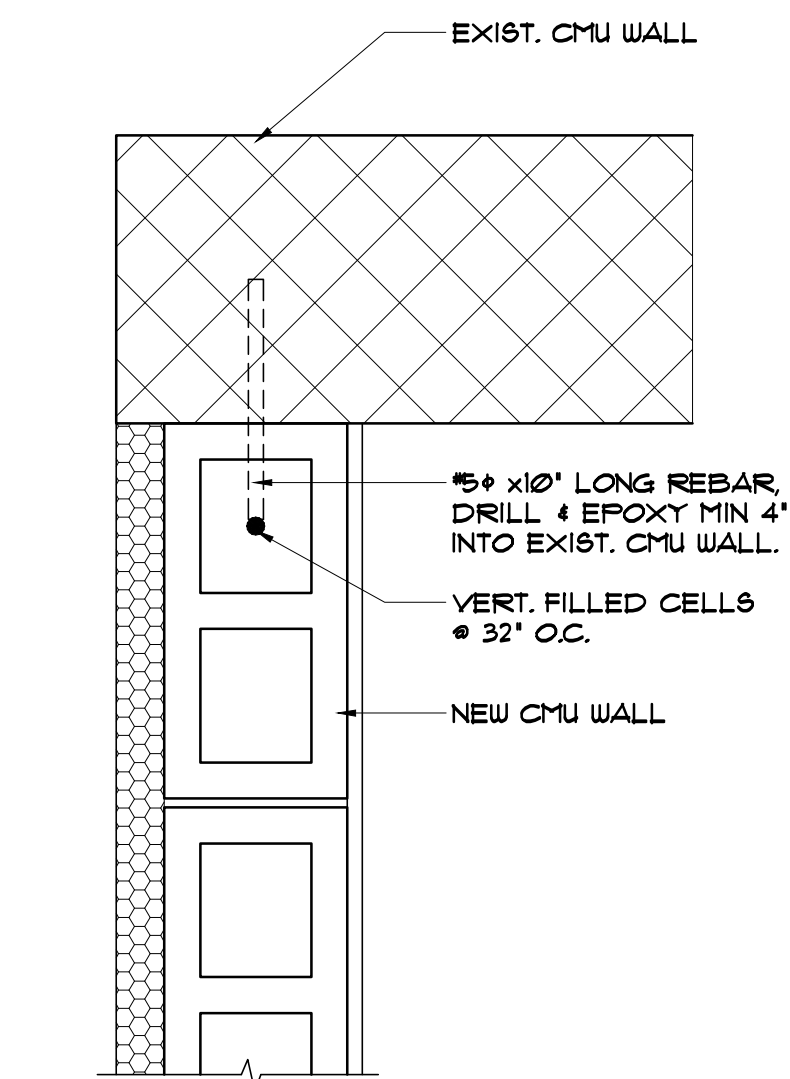
BID SET



COLUMN DETAIL
SCALE: 1-1/2" = 1'-0"

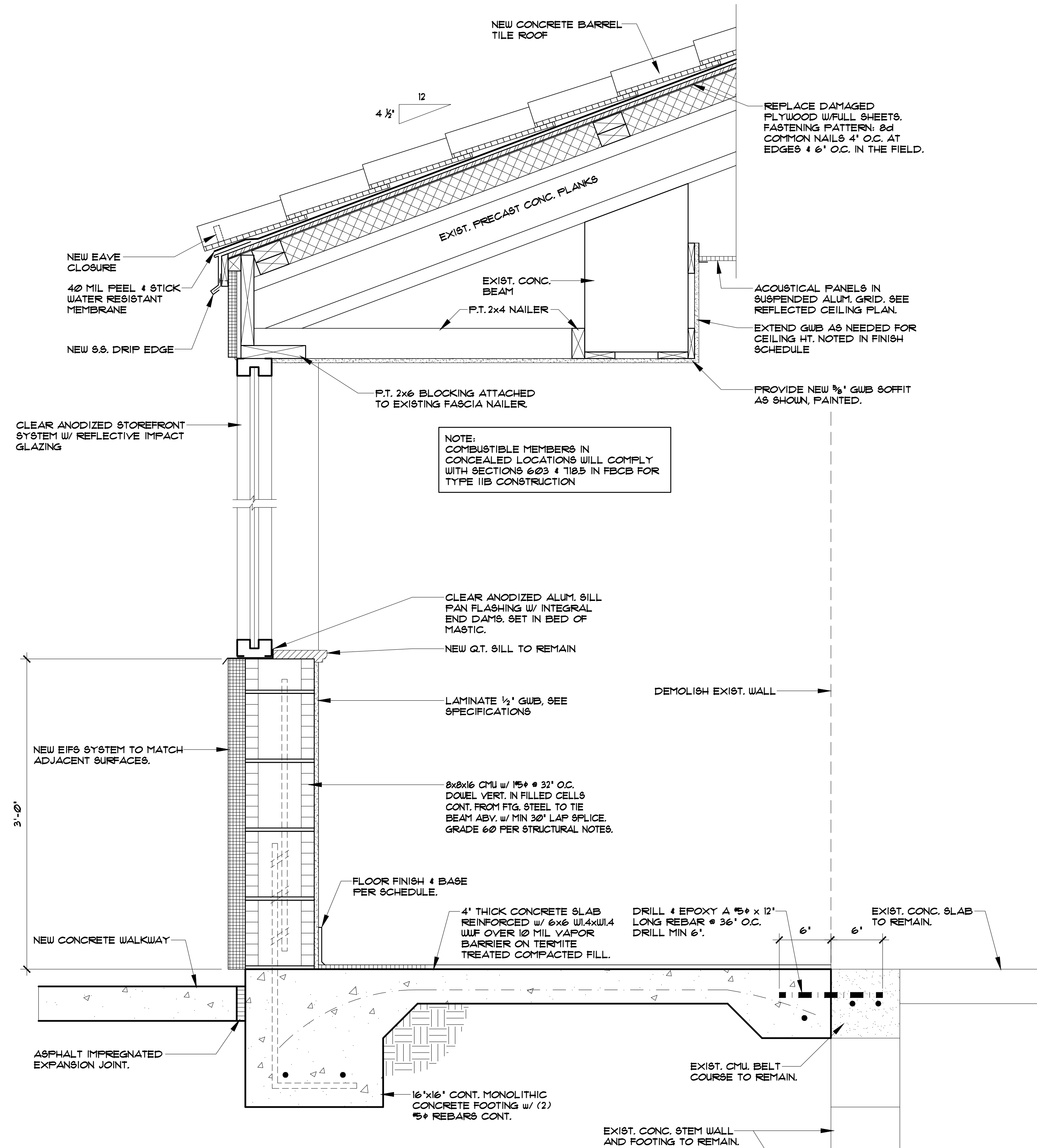


COLUMN DETAIL
SCALE: 1-1/2" = 1'-0"



CONNECTION DETAIL

SCALE: 1-1/2"=1'-0"

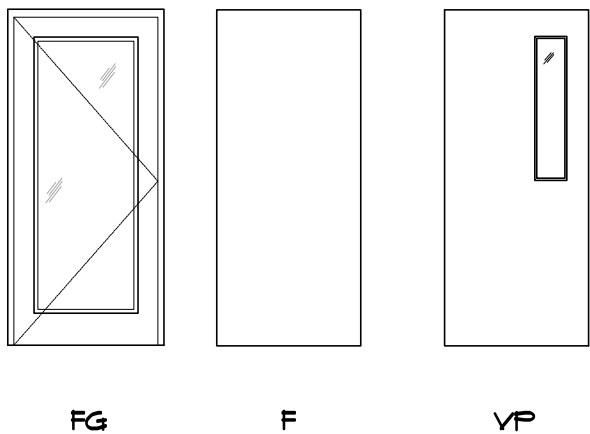


PARTIAL ROOF / WALL SECTION
SCALE: 1-1/2" = 1'-0"

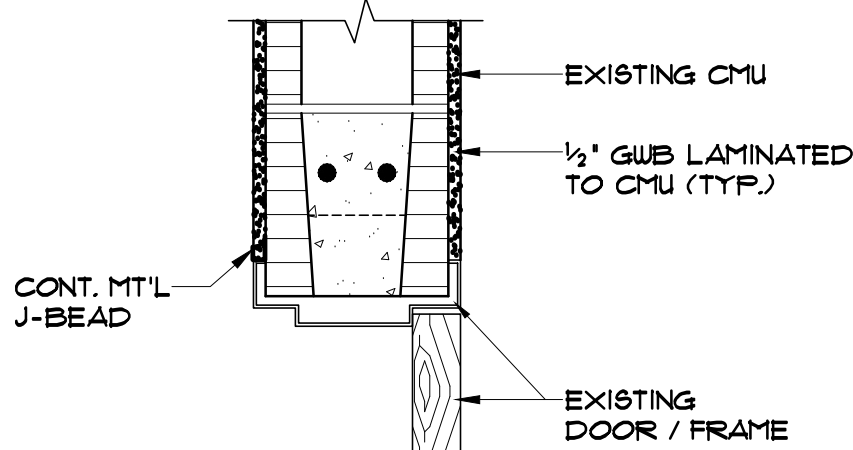
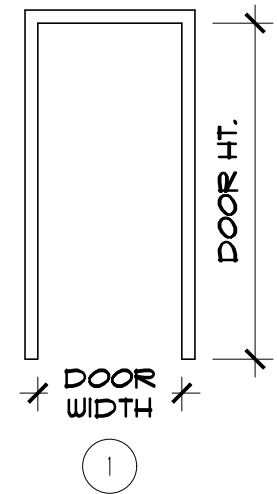
DOOR SCHEDULE

DOOR MK	DOOR SIZE	DOOR THK	DOOR TYPE	DOOR MAT'L	FRM (TYP.)	FRM MTL	GLAZING	FIRE RATING	HDW	NOTES
A	3'-0" X 6'-0"	1 3/4"	F	SCUD	I	HM			2-1-2	
B	3'-0" X 6'-0"	1 3/4"	VP	SCUD	I	HM	CLEAR GLASS		2-1-1	ACCESS CONTROL WHERE NOTED
C	3'-0" X 7'-0"	1 3/4"	FG	HM	I	HM	CLEAR GLASS		1-1-2	
D	3'-0" X 6'-0"	1 3/4"	VP	SCUD	I	HM			2-1-2	
E	3'-0" X 7'-0"	1 3/4"	FG	ALUM.		ALUM.	CLEAR GLASS		1-2-1	STOREFRONT, ACCESS CONTROL
F	3'-0" X 6'-0"	1 3/4"	F	SCUD	I	HM			2-1-3	
G	3'-0" X 7'-0"	1 3/4"	VP	HM	I	HM			1-1-2	

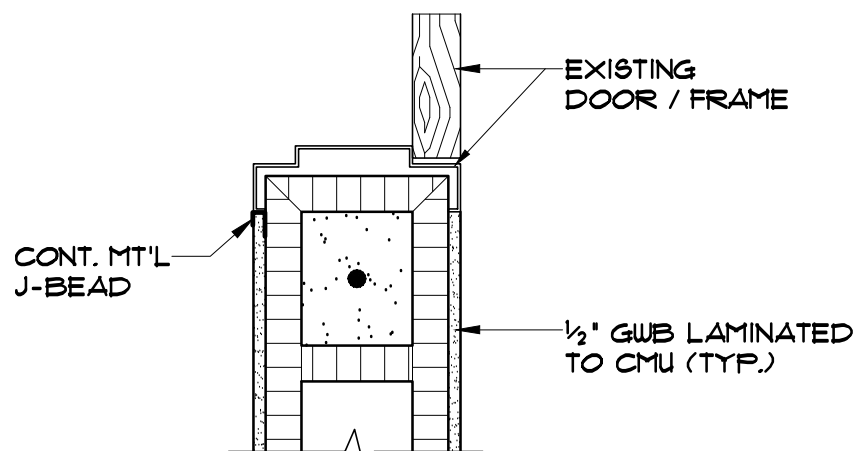
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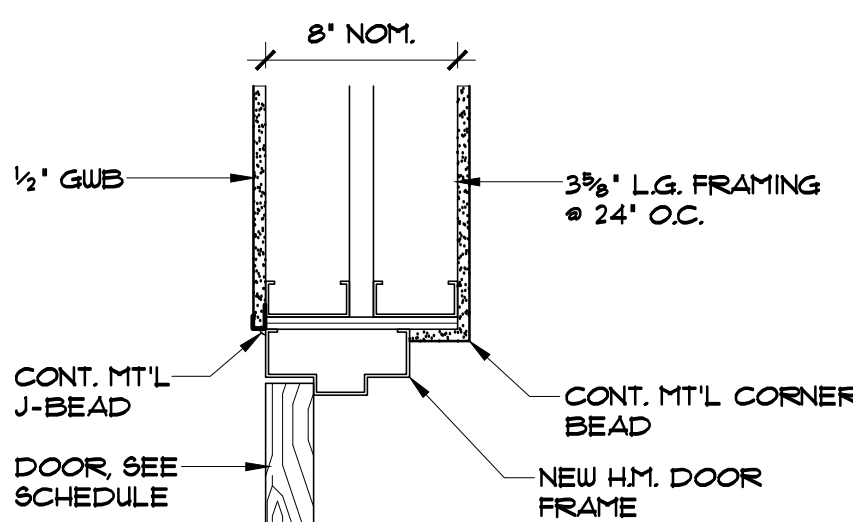
FRAME TYPES:



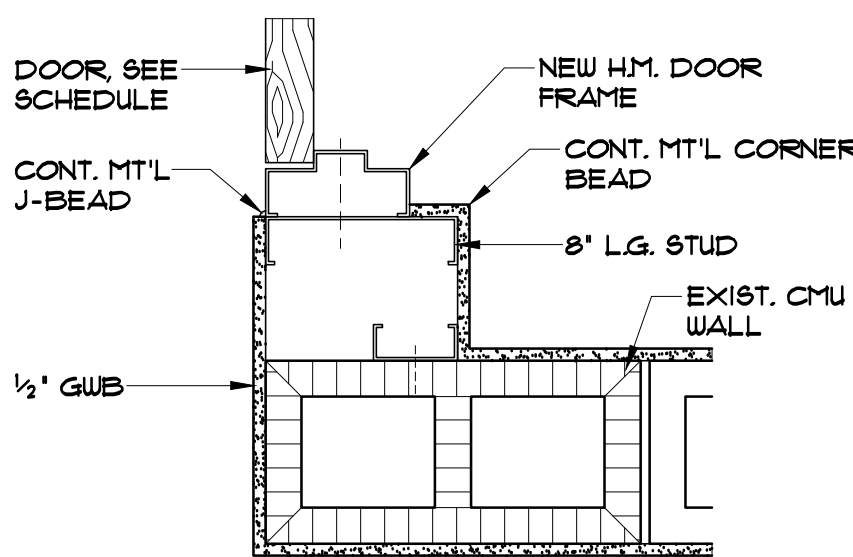
TYPICAL HEAD



TYPICAL JAMB



HEAD @ DOOR 'F'



JAMB @ DOOR 'F'

DOOR FRAME DETAILS

SCALE: 1 1/2\"/>

HARDWARE SETS:

EXTERIOR DOORS

- 1-1-1 - 3 PAIR BUTT HINGES
EXIT LOCK SET
THRESHOLD
WEATHER STRIPPING
- 1-1-2 - 3 PAIR BUTT HINGES
ENTRANCE LOCK SET
PANIC HARDWARE ON INTERIOR
1 CLOSER
THRESHOLD
WEATHER STRIPPING 4 RAIN DRIP

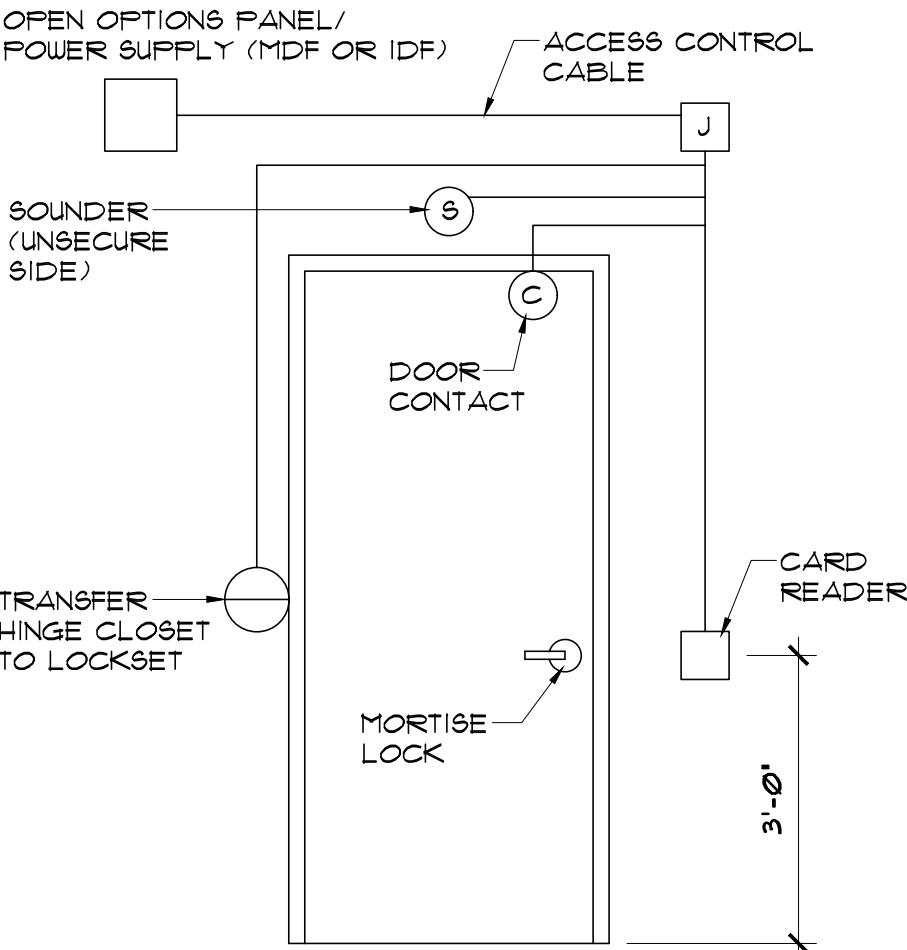
- 1-2-1 - PIVOT HINGES
1 LOCKSET-ALWAYS OPENABLE FROM INT.
PANIC HARDWARE
THRESHOLD
WEATHER STRIPPING

INTERIOR DOORS

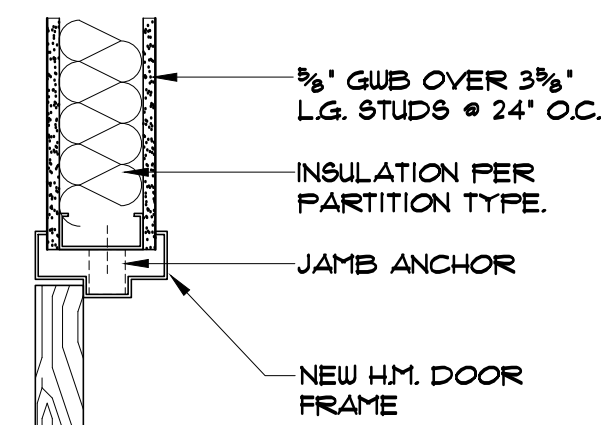
- 2-1-1 - 3 PAIR BUTT HINGES
ENTRANCE / OFFICE LOCKSET
- 2-1-2 - 3 PAIR BUTT HINGES
STORE ROOM LOCKSET - ALWAYS OPENABLE FROM INT.
- 2-1-3 - 3 PAIR BUTT HINGES, STORE ROOM
LOCKSET-ALWAYS OPENABLE FROM INT.
KEYED TO CITY CLERK'S MASTER

GENERAL DOOR AND HARDWARE NOTES:

1. ALL THRESHOLDS OF EXTERIOR DOORS SHALL BE NO MORE THAN 1/2\"/>
2. ALL DOORS TO RECEIVE SILENCERS AND APPROPRIATE FLOOR OR WALL STOP.
3. EXISTING DOORS INDICATED TO REMAIN SHALL BE DEMOUNTED, SANDED AND REFINISHED w/ CLEAR SHELLAC AND HAVE KNOBS REPLACED BY KEYED LEVERS. TRIM TO MATCH NEW DOORS.
4. VERIFY THAT LOCKING DEVICE IS INTEGRAL TO PANIC HARDWARE SUCH THAT UNLATCHING REQUIRES A SINGLE OPERATION IN ACCORDANCE TO SECTION 1008.1.9.5 OF THE FBCA.



CARD READER DOOR PREPARATION:



TYPICAL JAMB

FINISH SCHEDULE

RM. NO.	ROOM NAME	FLOOR		BASE		N. WALL		E. WALL		S. WALL		W. WALL		CEILING		NOTES
		MATL	TYPE	MATL	TYPE	MATL	FINISH	MATL	FINISH	MATL	FINISH	MATL	FINISH	MATL	FINISH	
100	LOBBY	EXP		E		N		E	P	E	P	E	P	AP		
100A	VESTIBULE	QT		QT		N		SF		SF		SF		E	P	VARIES
101	WOMEN RESTROOM	CT		CT		E	P	E	CT	E	CT	E	P	GUWB	P	9'-0"
102	RICK OFFICE	C		R		E	P	E	P	GUWB	P	GUWB	P	AP		9'-0"
103	LYNN OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
104	JULIA OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
105	LIZ OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
106	CONFERENCE ROOM	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
107	JANITOR STORAGE	VCT		R		E	P	E	P	E	P	E	P	AP		9'-0"
108	SUPPLY ROOM	VCT		R		E	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
109	FAT INSPECTOR	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
110	HALL	VCT		R		GUWB	P	N	P	E	P	E	P	AP		9'-0"
111	LYNN C ENGINEER	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
112	LINDA PROJECT MANAGER	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
113	KENNY PROJECT MANAGER	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
114	STORAGE 'D'	VCT		R		E	P	E	P	E	P	E	P	E		12'-0"
115	BREAKROOM	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
116	OPEN AREA	VCT		R		E	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
116A	HALL	VCT		R		E	P	E	P			GUWB	P	AP		9'-0"
117	DATA / IT ROOM	E		R		E	P	E	P	E	P	E	P	AP		9'-0"
118	MATT OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
119	GIS OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
120	COPY / FAX	VCT		R		GUWB	P	E	P	GUWB	P	GUWB	P	AP		9'-0"
120A	HALL	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
121	FILES	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
122	PAL. OFFICE	C		R		GUWB	P	SF		SF		E	P	AP		9'-0"
123	TRAINING / CONF. ROOM	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		10'-0"
124	SMALL CONF. ROOM	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
125	PC REPAIR	VCT		R		E	P	E	P	GUWB	P	GUWB	P	AP		8'-0"
126	MAIN ELECTRICAL	EXP				E	P	E	P	E	P	E	P	EXP		E
127	SECURE FILES	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
128	JANITOR	E		R		E	P	E	P	E	P	E	P	E		E
129	UNISEX RESTROOM	E		R		E	P	E	P	E	P	E	P	E		E
130	ELECTRICAL ROOM	E		R		E	P	E	P	E	P	E	P	E		E
131	PARKS / REC RECEPTION	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
132	MENS RESTROOM	CT		CT		E	P	E	P	E	P	E	P	E		E
133	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
134	HALL	VCT		R				GUWB	P			GUWB	P	AP		9'-0"
134A	STORAGE	E		E		E	P	E	P	E	P	GUWB	P	GUWB	P	9'-0"
135	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
136	STORAGE ROOM	E		E		E	P	E	P	E	P	E	P	E		E
137	BATH	E		E		E	P	E	P	E	P	E	P	E		E
138	CONFERENCE ROOM	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
139	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
140	FOREMAN	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
141	WORK ROOM	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
142	OFFICE	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
143	CREW CHIEF OFFICE	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
144	ENTRY	VCT		R		GUWB	P	E	P	GUWB	P	E	P	AP		9'-0"
145	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
146	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
147	HALL	VCT		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
148	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
149	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
150	OFFICE	C		R		GUWB	P	GUWB	P	GUWB	P	GUWB	P	AP		9'-0"
151	CLERK COPY	E		E		E	P	E	P	E	P	E	P	AP		9'-0"
152	HALL	E		E		E	P	E	P	E	P	E	P	E		E
153	STORAGE 'C'	VCT		R		E	P	E	P	E	P	E	P	E		E
154	STORAGE 'B'	VCT		R		E	P	E	P	E	P	E	P	E		E
155	ELECTRICAL ROOM	E		E		E	P	E	P	E	P	E	P	E		E
156	MECHANICAL ROOM	E		E		E	P	E	P	E	P	E	P	E		E
157	STORAGE 'A'	VCT		R		E	P	E	P	E	P	E	P	AP		E
158	MENS RESTROOM	E		E		E	P	E	P	E	P	E	P	E		E
159	WOMENS RESTROOM	E		E		E	P	E	P	E	P	E	P	E		E
160	SALLY PORT	EXP		N						E	P	E	P	E		E
161	EMERG. GENERATOR	N		N		E	P	E	P	E	P	E	P	E	N	E
162	EAST ENTRY	EXP		N		E	P	E	P	E	P	SF		E	P	E
163	WEST ENTRY	EXP		N		E	P	SF		P	E	P	E	P	E	E

FINISH NOTES

1. PAINT ALL NEW FRAMES TO MATCH ADJACENT WALLS. ALL INTERIOR SPACES SHALL BE ONE COLOR.
2. IN SMALL UNNUMBERED ROOMS SUCH AS CLOSETS, STORAGE AREAS AND NOOKS, EXTEND FLOOR, WALL AND CEILING FINISHES OF THE CONTIGUOUS SPACES INTO THESE AREAS.
3. WALLS WITHIN 2 FEET OF WATER CLOSETS & SERVICE SINKS WILL BE SMOOTH, HARD, NONABSORBENT SURFACES

FINISH MATERIALS:

FLOOR

- C - CARPET TILE
26 oz LEVEL LOOP, NYLON FIBER,
GLUE DOWN APPLICATION
- VCT - VINYL COMPOSITION TILE
- QT - QUARRY TILE
- CT - CERAMIC TILE
- EXP - EXPOSED
- EXIST- EXISTING TO REMAIN

BASE

- C - CARPET
- QT - QUARRY TILE
- CT - CERAMIC TILE
- N - NONE
- R - RESILIENT
- E - EXISTING TO REMAIN

WALL

- GUWB - GYPSUM WALL BOARD
- F - PAINT
- CT - CERAMIC TILE
- N - NONE
- SC - SPECIAL COATING POLYMER
- SF - STOREFRONT

CEILING

- GUWB - GYPSUM WALL BOARD
- F - PAINT
- AP - ACOUSTICAL PANELS:
- EXP - EXPOSED STRUCTURE
- E - EXISTING TO REMAIN



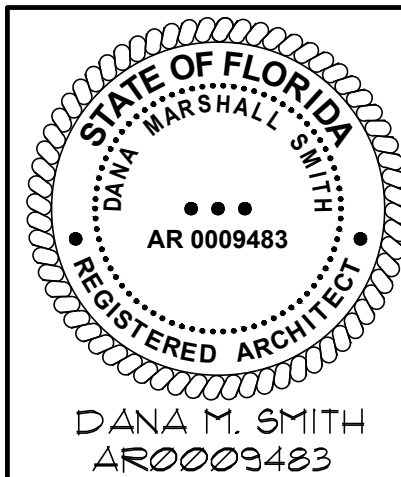
913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989

DATE																
REVISIONS																
REV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

REMODELING OF PORT ORANGE
CITY HALL ANNEX

1395 DUNLAWTON AVE.
PORT ORANGE FL. 32128

FJT#: 02345.03
DATE: 8.25.2017
DRN BY: DJB
DGN BY: DMS
REV BY: DMS
SCALE: AS NOTED



BID SET

SHEET

A6.2

ANCHOR	L	LENGTH
AB ANCHOR BOLTS	LDG	LANDING
ACI AMERICAN CONCRETE INSTITUTE	LGTH	LENGTH
ADD'L ADDITIONAL	LP	LOW POINT
AFB ABOVE FINISH FLOOR	LLH	LONG LEG HORIZONTAL
AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLV	LONG LEG VERTICAL
AISI AMERICAN IRON AND STEEL INSTITUTE	MANUF	MANUFACTURER
AL ALUMINUM	MATL	MATERIAL
ALT ALTERNATE / ALTERNATIVE	MAX	MAXIMUM
APP'D APPROVED	MB	MASONRY BEAM
ARCH ARCHITECTURAL, ARCHITECT	MBCI	METAL BUILDING COMPONENTS INC.
ASPH ASPHALT	MCCJ	MASONRY CONTROL JOINT
ASTM AMERICAN SOCIETY OF TESTING MATERIALS	MECH	MECHANICAL
AWS AMERICAN WELDING SOCIETY	MIN	MINIMUM
B.M. BENCH MARK	MISC	MISCELLANEOUS
B.P.L. BASE PLATE	MJ	MOVEMENT JOINT
B/V BOTTOM OF	MO	MASONRY OPENING
BIT BITUMINOUS	MOM	MOMENT
BLD'G. BUILDING	MTL	METAL
BLK BLOCK	NIC	NOT IN CONTRACT
BM BEAM	NS	NEAR SIDE
BOT BOTTOM	N.T.S.	NOT TO SCALE
BRG BEARING	OC	ON CENTER
BU BUILT UP	OD	OUTSIDE DIAMETER
C/C CENTER TO CENTER	OF	OUTSIDE FACE
CB CONCRETE BEAM	OPNG	OPENING
CC CONCRETE COLUMN	ORIENT	ORIENTATION
CE CONCRETE ENCASED	P/C	PRE CAST CONC
CF CUBIC FOOT/FEET	PAR	PARALLEL
CH CHANNEL	PENN	PENETRATION
CHK CHECKERED	PERIM	PERIMETER
CI CAST IRON	PMB	PRE ENGINEERED METAL BUILDING
CJ CONTRACTION JOINT	PL/E	PLATE
CLR CLEAR/CLEARANCE	PLF	POUNDS PER LINEAR FOOT
CMP CENTER LINE	PLY	PLYWOOD
CMU CORRUGATED METAL PIPE	PREFAB	PREFABRICATED
CONC CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
CO COMPANY	PSI	POUNDS PER SQUARE INCH
COL COLUMN	PT	PRESSURE TREATED
CONC CONCRETE	R/W	REINFORCED WITH
CONN CONNECTION	RCP	REINFORCED CONCRETE PIPE
CONST CONSTRUCTION	REF	REFERENCE
CONT CONTINUOUS	REINF	REINFORCING
COORD COORDINATE	REQ'D	REQUIRED
C CAST STEEL	SCH	SCHEDULE
CJ CONSTRUCTION JOINT	SF	SQUARE FEET
CY CUBIC YARD	SIM	SIMILAR
D DECK DIAPHRAGM LOAD (PLF)	SJ	SAW JOINT
DBA DOWEL BAR ANCHOR	SP	SPACING
DEG DEGREE	SPA	SPACE(S)
DEPT DEPARTMENT	SPECS	SPECIFICATIONS
DFI DRY FILM THICKNESS	SQ	SQUARE
DIA DIAMETER	SS	STAINLESS STEEL
DIAG DIAGONAL	STD	STANDARD
DIM DIMENSION	STIRR	STIRRUPS
DIST DISTANCE	STL	STEEL
DN DOWN	SYM	SYMMETRICAL
DR DRAIN	T & B	TOP & BOTTOM
DWG DRAWING	T/	TOP OF
EACH EACH	T/C	TOP OF CONCRETE
EOR ENGINEER OF RECORD	T/S	TOP STEEL
EE EACH END	TB	TIE BEAM
EF EACH FACE	TEMP	TEMPORARY
EJ EXPANSION JOINT	TENS	TENSION
EL ELEVATION	THD	THREAD(ED)
ELEC ELECTRICAL/ELECTRIC	THK	THICK
ENG ENGINEER	TJ	TIE JOIST
EOS EDGE OF SLAB	T.O.	TOP OF
EQ EQUAL SPACED	TOL	TOLERANCE
EQUIP EQUIPMENT	TRANS	TRANSVERSE
EW EACH WAY	TS	THICKENED SLAB
EXCL U/S	TYP	TYPICAL
EXIST EXISTING	U.O.N.	UNLESS OTHERWISE NOTED
EXP EXPANSION	U/S	UNDERSIDE
EXT EXTERIOR	VERT	VERTICAL
FB FLAT BAR	VOL	VOLUME
FD FLOOR DRAIN	W	WIDE
FI FINISHED FLOOR	W/O	WITHOUT
FRP FIBERGLASS REINFORCED PLASTIC	WOOD	WOOD
FL FLOOR	WF	WIDE FLANGE
FND FOUNDATION	WH	WEEP HOLE
FG FINISHED GRADE	WP	WORKING POINT
FS FAR SIDE	WT	WEIGHT
FT FOOT/FEET	WWR	WELDED WIRE REINFORCEMENT
FTG FOOTING		
GA GAUGE		
GALV GALVANIZED		
GC GENERAL CONTRACTOR		
GR GRADE		
HORIZ HORIZONTAL		
HSA HEADED STUD		
ANCHOR		
HT HEIGHT		
HDG HOT DIP GALVANIZE		
ID INSIDE DIAMETER		
IF INSIDE FACE		
IN INCH		
JST JOIST		
JT JOINT		
KIP K		
KO KNOCK OUT		
KWY KEY WAY		

ALL CONCRETE SHALL BE AS DESIGNED TO DEVELOP A COMPRESSIVE STRENGTH AS FOLLOWS:

STRUCTURAL REINFORCED CONCRETE, 3000 PSI

- ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE 60 (FY=60 KSI).
- ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318-11 AND THE "MANUALS OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI SP-66 (04). SHOP DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR REVIEW PRIOR TO FABRICATION.
- ALL BAR SPLICES SHALL BE AS FOLLOWS:
 - HORIZONTAL BARS WHERE 12" OF CONCRETE WILL BE PLACED BELOW BOTTOM

BAR SIZES #	3	4	5	6	7	8	9	10
3000 PSI LAP (IN)	28	37	47	56	81	93	105	118
 - ALL OTHER BARS

BAR SIZES #	3	4	5	6	7	8	9	10
3000 PSI LAP (IN)	22	29	36	43	63	72	81	91
- CALCIUM CHLORIDE SHALL NOT BE USED IN ANY FORM.
- MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS:

STRUCTURAL PART	MINIMUM CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
SLABS, WALLS, NOT EXPOSED TO EARTH OR WEATHER	1 INCH
ALL OTHER CONDITIONS	1.5 INCHES
- UNLESS OTHERWISE PERMITTED OR SPECIFIED, THE CONCRETE SHALL BE PROPORTIONED AND PRODUCED TO HAVE A SLUMP OF 5" $\pm$ 1". IMMEDIATELY AFTER DEPOSITING, CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY MEANS OF MECHANICAL VIBRATION.
- WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A-185.
- PROVIDE CORNER BARS IN FOOTINGS AND IN TIE BEAMS (CAST IN PLACE & BOND BEAMS), TYPICAL.
- NON-SHRINK GROUT FOR BASE PLATES AND BEARING PLATES SHALL MEET THE FOLLOWING:
 - NON-METALLIC, SHRINKAGE RESISTANT PREMIXES NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS, AND FLUIDITY IMPROVING COMPOUNDS, AND SHALL CONFORM TO CORPS OF ENGINEERS SPECIFICATION FOR NON-SHRINK GROUT, CRD-C621-83.
 - TWENTY-EIGHT DAY COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.
- PROVIDE MINIMUM TEMPERATURE REINFORCEMENT AS REQUIRED BY ACI 318 IN ALL SLABS AND WALLS WHERE REINFORCEMENT IS NOT INDICATED ON DRAWINGS.
- HOOKS SHOWN AT THE ENDS OF REINFORCING BARS SHALL BE ACI STANDARD 90° HOOKS OF THE FOLLOWING LENGTHS, UNLESS NOTED OTHERWISE

BAR SIZES (#)	3	4	5	6	7	8	9	10
LENGTH	6"	8"	10"	12"	14"	16"	19"	22"
- COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND PIPE SLEEVES WITH ARCH AND MECH DRAWINGS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6 INCHES.
- ALL EMBEDDED ITEMS, SUCH AS PLATES AND ANCHOR BOLTS, SHALL BE TIED TO REINFORCING STEEL AND/OR FORMWORK PRIOR TO CONCRETE PLACEMENT. "WEI" PLACEMENT OF BARS OR EMBED ITEMS SHALL NOT BE PERMITTED.

1. ALL STRUCTURAL STEEL SHALL HAVE THE FOLLOWING MINIMUM YIELD STRENGTHS, UNLESS OTHERWISE NOTED ON THE DRAWINGS:

WIDE FLANGE "W" SHAPES	ASTM A992
S, M, HP AND CHANNELS	ASTM A36
ANGLES AND PLATES	ASTM A36
STRUCTURAL TUBES	ASTM A500, GRADE B
2. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS AND CODES, INCLUDING THE SECTION ON COMMENTARY, LATEST EDITION.
3. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. ANCHOR BOLTS SHALL BE ASTM A307.
4. ALL WELDING ELECTRODES SHALL BE E70XX.
5. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS AND SHALL CONFORM TO THE AWS "CODE FOR ARC ADD GAS WELDING TO BUILDING CONSTRUCTION," LATEST EDITION.
6. ALL BEAM CONNECTIONS SHALL BE SIMPLE SHEAR CONNECTIONS WITH BOLTS IN BEARINGS. THE DESIGN LOAD FOR CONNECTIONS SHALL BE AS INDICATED ON SECTIONS, DETAILS OR STANDARD AISC CONNECTION.
7. ALL BEAM CONNECTIONS SHALL HAVE ENLARGED OR SLOTTED HOLES TO PROVIDE END ROTATION AS PER THE REQUIREMENTS OF THE AISC SPECIFICATION, SECTION J1.2 AND THE LATEST SUPPLEMENTS AND SHALL ALSO REFLECT THE LOAD ECCENTRICITY IN THE DESIGN OF THE CONNECTION.
8. NO CONNECTION SHALL CONSIST OF LESS THAN (2/3/4" (A325) BOLTS OR WELD DEVELOPING A MINIMUM OF 10,000 LBS. UNLESS INDICATED ON THE DRAWINGS.
9. ALL FILET WELDS SHALL BE A MINIMUM OF 3/16" UNLESS NOTED OTHERWISE, BUT NOT LESS THAN THE AISC MINIMUM.
10. THE FABRICATOR SHALL FURNISH A STRUCTURAL SUBMITTAL WHICH SHALL BE CHECKED BY THE CONTRACTOR FOR COMPLETENESS AND CONTENT PRIOR TO SUBMITTAL TO THE PROJECT ENGINEER FOR REVIEW. THE SUBMITTAL SHOULD INCLUDE FABRICATION AND ERECTION DRAWINGS AND DESIGN CALCULATIONS FOR CONNECTIONS AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE DESIGN CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. FABRICATION SHALL NOT COMMENCE UNTIL THIS REVIEW IS COMPLETED.
11. SIZES OF STRUCTURAL STEEL CANNOT BE VARIED FROM THOSE SHOWN ON THE DRAWINGS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT/ENGINEER.
12. CUTS, HOLES AND THEIR REINFORCEMENT (REQUIRED BY OTHER TRADES) SHALL BE SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS AND SHALL BE MADE IN THE SHOP. FIELD BURNING OF HOLES AND CUTS IN STRUCTURAL STEEL SHALL NOT BE PERMITTED EXCEPT BY WRITTEN PERMISSION FROM THE ARCHITECT/ENGINEER.
13. AFTER ERECTION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIAL AND SCUFFS AND ABRASIONS SHALL BE FIELD TOUCHED-UP.
14. FABRICATOR SHALL PROVIDE CALCULATIONS FOR ANY BOLTED CONNECTION THAT IS NOT SHOWN ON THESE PLANS. THE CALCULATIONS SHALL BEAR THE SEAL, DATE AND SIGNATURE OF STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
15. CAP ALL OPEN ENDS OF TUBES WITH 1/4" STEEL PLATE SEAL WELD ALL AROUND. HEAT TUBE TO DRY OFF MOISTURE BEFORE CAPPING.
16. NON-SHRINK GROUT FOR BASE PLATES AND BEARING PLATES SHALL MEET THE FOLLOWING:
 - A. NON-METALLIC, SHRINKAGE RESISTANT PREMIXES NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS, AND FLUIDITY IMPROVING COMPOUNDS, AND SHALL CONFORM TO CORPS OF ENGINEERS SPECIFICATION FOR NON-SHRINK GROUT, CRD-C621-83
 - B. TWENTY-EIGHT DAY COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.

DESIGN LOADS ARE BASED ON FLORIDA BUILDING CODE 15TH EDITION (2014). WIND LOADS ARE BASED ON ASCE 7-10.

A) WIND PRESSURES ARE BASED ON:

ULTIMATE WIND SPEED, $V_{ult} = 148$ MPH (3-SECOND GUST)
NOMINAL WIND SPEED, $V_{asd} = 115$ MPH (3-SECOND GUST)
BUILDING RISK CATEGORY = III
BUILDING EXPOSURE = C (ALL DIRECTIONS)

B) DESIGN LOADS:

DEAD LOADS: 30 PSF (APPLIED)
30 PSF (ROOF)
LIVE LOADS: 30 PSF (ROOF)

C) SEISMIC PARAMETERS:

RISK CATEGORY = III
SEISMIC SITE CLASS = D
MAPPED RESPONSE (SS) = 0.081
MAPPED RESPONSE (S1) = 0.043
DESIGN CATEGORY (SDC) = A
IMPORTANCE = SEISMIC 1.25
SITE COEFF (FA) = 1.6
SITE COEFF (FV) = 2.4
DESIGN RESPONSE (SMS) = 0.129
DESIGN RESPONSE (SM1) = 0.103
DESIGN RESPONSE (SDS) = 0.086
DESIGN RESPONSE (SD1) = 0.069
RES MOD FACTOR, R = 3
APP PERIOD, TA = 0.321
BASE SHEAR = 143.97 KIPS

NOTES:

1. THE SEISMIC ANALYSIS PROCEDURE USED ON THIS STRUCTURE IS EQUIVALENT LATERAL FORCE PROCEDURE.

2. FOUNDATIONS AND SLABS ON GRADE ARE DESIGNED TO BEAR ON SOIL WITH AN ASSUMED SAFE NET BEARING CAPACITY OF 2,000 PSI.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONNECTIONS BOLT LOCATIONS FROM CERTIFIED DRAWINGS AND FABRICATOR'S PLANS.

4. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE PLANS CAN BE DETERMINED BY THE TITLE OF THE DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SHOWN AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER.

5. THE STRUCTURAL INTEGRITY OF THE COMPLETED STRUCTURE DEPENDS UPON THE INTERDEPENDENT OPERATION OF ALL STRUCTURAL COMPONENTS. PROVIDE ADEQUATE BRACING, SHORING, AND OTHER TEMPORARY SUPPORTS AS REQUIRED TO SAFELY COMPLETE THE WORK.

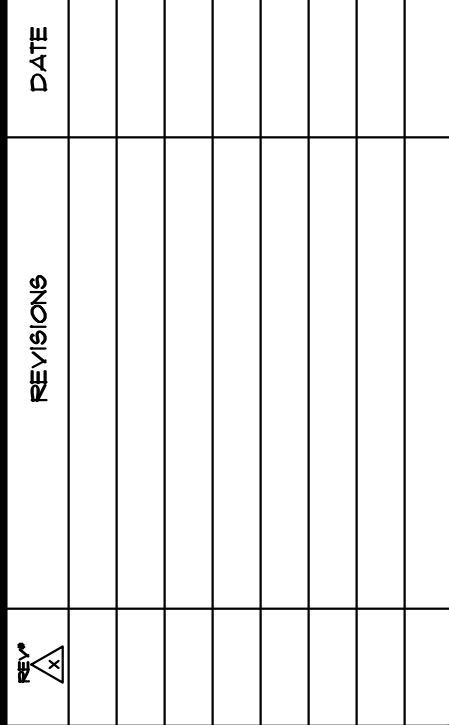
6. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE, AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE HELD RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

7. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

8. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIM TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.

9. PROVIDE DISSIMILAR METAL SEPARATORS AT ALL JUNCTIONS OF ALUMINUM, STAINLESS STEEL FRAMING AND STRUCTURAL STEEL.

1. ALL SLABS ON GRADE SHALL HAVE INDICATED MIN. THICKNESS, REINFORCED AS INDICATED ON PLANS, TYPICAL UNLESS OTHERWISE NOTED. THE REINFORCEMENT AND WELDED WIRE FABRIC SHALL BE MAINTAINED IN CORRECT POSITION AS REQUIRED. ALL SLABS AND THICKENED SLAB EDGES SHALL BE PLACED ON PROPERLY COMPACTED BACKFILL, ON A 10 MIL VAPOR BARRIER AND TERMITE TREATMENT.
2. ALL SLABS ON GRADE SHALL HAVE KEYS CONSTRUCTION/CONTRACTION JOINTS AND SAWCUT JOINTS PLACED AT NO MORE THAN 30'-00" O.C. AND 15'-00" O.C. RESPECTIVELY IN BOTH DIRECTIONS. SAWCUTS MUST BE MADE AS SOON AS IT IS POSSIBLE TO CUT THE SLAB WITHOUT DISPLACING THE AGGREGATE, AND WITHIN 12 HOURS OF POURING THE SLAB.
3. CONTRACTOR MUST NOTIFY ARCHITECT/ENGINEER IF UNSUITABLE CONDITIONS ARE UNCOVERED TO ATTAIN THE REQUIRED SOIL PRESSURE.
4. COORDINATE ALL PLUMBING AND ELECTRICAL CONDUITS WITH FOOTINGS AS REQUIRED. DO NOT EXCAVATE UNDER FOOTINGS TO INSTALL PLUMBING OR ELECTRICAL CONDUITS.
5. ALL ORGANIC MATERIALS, REFUSE MATERIALS OR SOFT AREAS SHALL BE REMOVED AND SOIL PREPARED FOR AN ALLOWABLE NET BEARING PRESSURE OF 2,000 PSF AS INDICATED IN SPECIFICATIONS. DEMUCK AND REMOVE ALL ORGANIC MATERIALS WITHIN THE BUILDING AREA. DEWATER EXCAVATION DURING COMPACTION PROCESS IF REQUIRED. BACKFILL WITH EITHER CLEAN SAND COMPACTED TO AT LEAST 95% MODIFIED PROCTOR MAX. DENSITY PLACED IN 12" MAX. HIGH LIFTS, OR OTHER ALTERNATE STRUCTURAL BACKFILL APPROVED AND COMPACTED AS DIRECTED BY THE ENGINEER. COMPACTION SHALL BE VERIFIED 24" BELOW THE BASE OF ALL FOOTINGS AND SLABS AND AT ALL LIFT LEVELS.



***PORT ORANGE CITY HALL
ANNEX RENOVATIONS***

STRUCTURAL ABBREVIATIONS, LEGEND AND NOTES

*DUNLAWTON AVE.
PORT ORANGE FL. 32128*

PJT#: 17-016
DATE: 08-29-2017
DRN BY: P. ROOT
DGN BY: J. WALLACE
REV BY: L. MIZED

S-001

LUTFI M. MIZED
FL PE# 42004



465

(SOME MAY NOT BE USED)

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AIR	FD	FLOOR DRAIN/FIRE DAMPER	NC	NORMALLY CLOSED
AFF	ABOVE FINISHED FLOOR	FLEX	FLEXIBLE	NO	NORMALLY OPEN
AD	AIR DEVICE	FT	FEET	NO.	NUMBER
AP	ACCESS PANEL	FOS	FUEL OIL SUPPLY	NOM	NOMINAL
AVG	AVERAGE	FOR	FUEL OIL RETURN	NIC	NOT INCLUDED IN THIS CONTRACT
AAV	AUTOMATIC AIR VENT	PPM	FEET PER MINUTE	NTS	NOT TO SCALE
AMB	AMBIENT	FPS	FEET PER SECOND		
ASC	APPLICATION SPECIFIC CONTROLLER	FPI	FINS PER INCH	OC	ON CENTER
AHU	AIR HANDLING UNIT	F	FAHRENHEIT	OD	OUTSIDE DIAMETER
AS	AIR SEPARATOR	FCO	FLOOR CLEANOUT	OZ	OUNCE
		FOB	FLAT ON BOTTOM		
BLDG	BUILDING	FOT	FLAT ON TOP	P.O.C.	POINT OF CONNECTION (NEW PIPING)
BOT	BOTTOM	FOD	FLAT OVAL DUCT		
BAL	BALANCING	FLG	FLANGE	PRD	PRESSURE RELIEF DAMPER
BOD	BOTTOM OF DUCT	FOF	FACE OF FLANGE	PRV	PRESSURE RELIEF VALVE
B	BOILER			P	PUMP
BD	BACKDRAFT DAMPER	GA	GAUGE	PRESS	PRESSURE
BFP	BACKFLOW PREVENTER	GPM	GALLONS PER MINUTE	PNEU	PNEUMATIC
BTU	BRITISH THERMAL UNIT	GPH	GALLONS PER HOUR	PVC	POLYVINYL-CHLORIDE PIPE
BC	BOLT CIRCLE	GV	GATE VALVE	PSI	POUNDS PER SQUARE INCH
BOP	BOTTOM OF PIPE	G	GAS	Ph	PHASE
BCS	BLACK CARBON STEEL	GRD	GRADE	PW	POTABLE WATER
		GAL	GALLON		
CHWS	CHILLED WATER SUPPLY	GTH	GRAND TOTAL HEAT	QTY	QUANTITY
CHWR	CHILLED WATER RETURN	GSP	GALVANIZED STEEL PIPE		
CW	COLD WATER			RET	RETURN
CON	CONCENTRIC	HW	HOT WATER	RA	RETURN AIR
CONC	CONCRETE	HB	HOSE BIBB	RAT	RETURN AIR TEMPERATURE
COND	CONDENSATE	H	HEIGHT	REQD	REQUIRED
CD	CONDENSATE DRAIN	HD	HEAD	RPM	REVOLUTIONS PER MINUTE
CFM	CUBIC FEET PER MINUTE	HP	HORSEPOWER	RF	RADIO FREQUENCY
CO	CLEANOUT	Hz	HERTZ		
CONN	CONNECTION	HWS	HEATING HOT WATER SUPPLY	SA	SUPPLY AIR
CY	CYCLES	HWR	HEATING HOT WATER RETURN	SLV	SLEEVE
CU	COPPER	Hg	MERCURY	S/M	SHEET METAL
CV	CONTROL VALVE	HTR	HEATER	SHT	SHEET
CH	CHILLER	HX	HEAT EXCHANGER	SQ	SQUARE
CHW	CHILLED WATER			SP	STATIC PRESSURE
CT	COOLING TOWER	IN	INCHES	SUP	SUPPLY
CHP	CHILLED WATER PUMP	INT	INTERIOR	SPEC	SPECIFICATION
CWP	CONDENSER WATER PUMP	INIT	INITIAL	SF	SUPPLY FAN
		ISO	ISOMETRIC		
D	DEPTH	INS	INSIDE	TOT	TOTAL
DIA	DIAMETER	ID	INSIDE DIAMETER	TEMP	TEMPERATURE
DB	DRY BULB	INSUL	INSULATION	TSH	TOTAL SENSIBLE HEAT
dB	DECIBEL	INV	INVERT	TSP	TOTAL STATIC PRESSURE
DET	DETAIL			TYP	TYPICAL
DL	DOOR LOUVER	JT	JOINT	TRPV	TEMPERATURE/PRESSURE RELIEF VALVE
DES	DESIGN	JUNC	JUNCTION		
DIP	DUCTILE IRON PIPE			TERM	TERMINAL
DWH	DOMESTIC WATER HEATER	KW	KILOWATT	TCM	TEMPERATURE CONTROL
DEMO	DEMOLITION				
DN	DOWN	LWT	LEAVING WATER TEMPERATURE	TCP	TEMPERATURE CONTROL PANEL
		LAT	LEAVING AIR TEMPERATURE		
ELEC	ELECTRIC	LVG	LEAVING	UON	UNLESS OTHERWISE NOTED
EA	EACH	LBS	POUNDS		
EAT	ENTERING AIR TEMPERATURE	LAV	LAVATORY	VERT	VERTICAL
EXH	EXHAUST	LLD	LOW LEAKAGE DAMPER	VEL	VELOCITY
EQ	EQUAL	LCP	LOCAL CONTROL PANEL	V	VENTS
ECC	ECCENTRIC	L	LENGTH	VB	VALVE BOX
EER	ENERGY EFFICIENCY RATING	LWCO	LOW VOLUME CUT OFF	VAV	VARIABLE AIR VOLUME
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM			VFD	VARIABLE FREQUENCY DRIVE
		MATL	MATERIAL		
EWT	ENTERING WATER TEMPERATURE	MAX	MAXIMUM	WT	WEIGHT
EDH	ELECTRIC DUCT HEATER	MIN	MINIMUM	W	WIDTH
EWC	ELECTRIC WATER COOLER	MBTU	THOUSAND BTU'S	WTR	WATER
EWB	ELECTRIC WATER HEATER	MTD	MOUNTED	WB	WET BULB
ELEV	ELEVATOR	MTG	MOUNTING	WG	WATER GAUGE
EL	ELEVATION	M	MOTOR	WH	WATER HEATER
ET	EXPANSION TANK	MAS	MASONRY		
ERV	ENERGY RECOVERY VENTILATORS	MVD	MANUAL VOLUME DAMPER		
		MRU	MOBILE REFRIGERATION UNIT		
FA	FRESH AIR	MRHL	MANUAL RESET HIGH LIMIT		
FCU	FAN COIL UNIT		CONTROL		
FIN	FINISH				
FL	FLOOR				

(SOME MAY NOT BE USED)

SYMBOL	DESCRIPTION
	ACCESS PANEL
	SPIN IN BRANCH CONNECTION
	HIGH EFFICIENCY BRANCH CONNECTION TO CIRCULAR MAIN
	HIGH EFFICIENCY BRANCH CONNECTION TO RECTANGULAR MAIN
	FLEXIBLE DUCT CONNECTION
	TURNING VANES
	FIRE/SMOKE DAMPER
	FIRE DAMPER - CURTAIN TYPE (W/FUSIBLE LINK)
	BACKDRAFT DAMPER
	MOTOR OPERATED DAMPER
	MANUAL VOLUME CONTROL DAMPER
	DUCT SIZE NOTATION - WxD
	VERTICAL DUCT OFFSET - UP
	TOP OF DUCT (ELEVATION)
	BOTTOM OF DUCT (ELEVATION)
	VERTICAL DUCT OFFSET - DOWN
	LINED DUCT (INSIDE DIMENSION)
	SUPPLY AIR
	RETURN AIR
	TRANSFER AIR
	EXHAUST AIR
	AIR INTAKE
	AIR DISCHARGE
	DOOR LOUVER
	SMOKE DETECTOR

(M)	– ELECTRIC ACTUATOR (VALVE OR DAMPER)	PS	– PRESSURE SWITCH
(TI)	– TEMPERATURE INDICATOR	FS	– FLOW SWITCH
(T)	– THERMOSTAT	AI	– ANALOG INPUT
(HI)	– HUMIDITY INDICATOR	AO	– ANALOG OUTPUT
(HT)	– HUMIDITY TRANSMITTER	DI	– DIGITAL INPUT
(PI)	– PRESSURE INDICATOR	DO	– DIGITAL OUTPUT
(PT)	– PRESSURE TRANSMITTER	DPT	– DIFFERENTIAL PRESSURE TRANSMITTER
(DP)	– DIFFERENTIAL PRESSURE INDICATOR	EMC	– ENERGY MANAGEMENT CONTROL SYSTEM
(IT)	– CURRENT TRANSMITTER	TT	– TEMPERATURE TRANSMITTER
(H)	– HUMIDSTAT	STR	– STARTER (START/STOP)
(M)	– MOTOR	VFD	– VARIABLE FREQUENCY DRIVE
(Z)	– SMOKE DETECTOR	ASC	– APPLICATION SPECIFIC CONTROLLER
—	– CONTROL WIRE *	FM	– FLOW METER
—	– POWER WIRE *	XX-1.1	– INSTRUMENT SYMBOL [INSTRUMENT]–[POINT]
P/T	– PRESSURE / THERMOMETER WELL, ONLY		

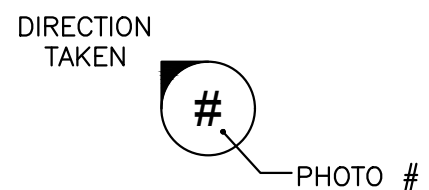
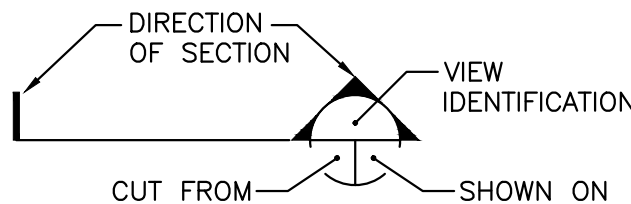
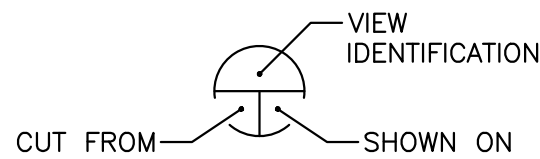


PHOTO CALL OUT



SECTION CALL OUT



DETAIL CALL OUT

(SOME MAY NOT BE USED)

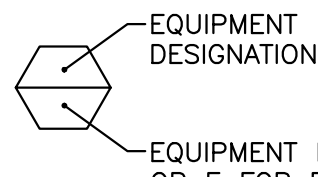
SYMBOL	DESCRIPTION
C	PIPING DROP
O	PIPE RISER
	PIPE SLEEVE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	LINE STRAINER
	STRAINER WITH HOUSE BIBB
	UNION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	ANGLE VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	DOUBLE CHECK BACKFLOW PREVENTER
	HOSE VALVE (UTILITY)
	PLUG VALVE
	TRIPLE DUTY VALVE
	CALIBRATED BALANCING VALVE
	THREE WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE/TEMPERATURE RELIEF VALVE
	MOTORIZED BUTTERFLY VALVE
	SOLENOID VALVE
	VALVE IN YARD BOX
	VALVE IN RISER
	FLOW METER
	CAP
	PLUGGED TEE
	FLEXIBLE CONNECTION
	AUTOMATIC AIR VENT
	PRESSURE GAUGE W/ COCK
	THERMOMETER
	THERMOMETER WELL
	FLOW
	PITCH DOWN SLOPE P IN DIRECTION OF ARROW
	POINT OF CONNECTION

1. PROVIDE LABOR MATERIALS

3. PROVIDE LABOR, MATERIALS, TOOLS, EQUIPMENT, AND DEVICES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DRAWINGS. FULLY TEST, BALANCE, CLEAN AND LEAVE SYSTEMS IN A COMPLETE AND OPERATIONAL STATUS.
4. THESE DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT SHOW ALL OFFSETS, BENDS, ELBOWS, OR OTHER SPECIFIC ELEMENTS THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF THE WORK. SUCH WORK SHALL BE FIELD VERIFIED AND CAREFULLY COORDINATED AT THE SITE BY THE CONTRACTOR.
5. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE U.L. LISTED WHERE APPLICABLE. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS WITH ADEQUATE MAINTENANCE CLEARANCES AS SPECIFIED BY LOCAL CODES AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. PROVIDE WORK IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE (5TH EDITION), 2014 FLORIDA MECHANICAL CODE (5TH EDITION), 2014 FLORIDA ACCESSIBILITY CODE (5TH EDITION), 2014 FLORIDA ENERGY CODE (5TH EDITION), LATEST ADDENDUMS AND OTHER LOCAL CODES AND STANDARDS AS ENFORCED.
7. PROVIDE ALL SUPPLEMENTARY STEEL FOR SUPPORTS AND BRACING OF ALL PIPING AND DUCTWORK.
8. DO NOT ROUTE WATER PIPING OR DUCTWORK ABOVE ANY ELECTRICAL OR TELEPHONE PANELS.
9. PROVIDE PROTECTION FROM ELECTROLYTIC CORROSION FOR ALL CONNECTIONS AND POINTS OF CONTACT OF DISSIMILAR METALS USING DIELECTRIC ISOLATORS.
10. EXCEPT WHERE INDICATED IN DIMENSIONAL DETAIL, THE LOCATIONS OF MECHANICAL EQUIPMENT, DUCTS, PIPING, AND FITTINGS ARE ONLY APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND COORDINATED WITH OTHER TRADES.
11. TYPICAL DETAILS APPLY TO ALL SITUATIONS WHERE SIMILAR CONDITIONS EXIST AND ARE INTENDED TO BE USED AS NECESSARY FOR THE APPLICATION INTENDED UNLESS OTHERWISE INDICATED.
12. AT SUBSTANTIAL COMPLETION THE CONTRACTOR SHALL PROVIDE THE OWNER WITH FOUR (4) COPIES OF A HARD BOUND OPERATING & MAINTENANCE MANUAL (O & M) FOR ALL EQUIPMENT FURNISHED AND INSTALLED UNDER HIS WORK, OTHERWISE SYSTEMS INVOLVED WILL NOT BE ACKNOWLEDGED AS COMPLETE AND THEREFORE NOT ACCEPTED.
13. THE O & M MANUALS SHALL INCLUDE DETAILED CONTROL DRAWINGS FOR EACH SYSTEM. THEY SHALL INDICATE COMMENTS USED AND THEIR RESPECTIVE LOCATIONS WITHIN THE BUILDINGS BEING SERVED. DRAWINGS SHALL LIST BUILDING AND ROOM NUMBERS, THE MANUFACTURER PARTS LIST AND SERIAL NUMBERS FOR ALL OPERATING EQUIPMENT SHALL ALSO BE INCLUDED.
14. TWO (2) COPIES OF AS-BUILT PRINTS SHALL BE PROVIDED TO THE OWNER AT THE DATE OF SUBSTANTIAL COMPLETION. THE DRAWINGS SHALL SHOW ALL EQUIPMENT, AND DUCTWORK WITH DUCTS AND REFERENCE POINTS, OTHER CONCEALED NON-ACCESSIBLE WORK, BRANCHING ARRANGEMENT AND VALVE LOCATION FOR PIPING SYSTEMS, LOCATIONS OF DAMPERS, VAV BOXES AND HEATERS IN DUCT SYSTEMS, LOCATIONS OF CONTROL SYSTEM SENSORS AND OTHER CONTROL DEVICES, AND WORK OF CHANGE ORDERS NOT SHOWN ON CONTRACT DOCUMENTS.
15. ALL WALL MOUNTED THERMOSTATS SHALL BE INSTALLED AT AN ELEVATION OF 48" MAXIMUM ABOVE FINISHED FLOOR TO THE TOP WITH NO OBSTRUCTION TO ACCESS UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
16. PROVIDE SUBMITTALS AS INDICATED ON THE HVAC SUBMITTALS TABLE ON THIS DRAWING. MARK EQUIPMENT TO BE PROVIDED CLEARLY; INCLUDING OPERATING CAPACITIES AND REQUIREMENTS PER THE SCHEDULES AND SPECIFICATIONS.

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NOTES:
(1)FOR REVIEW
(2)FOR RECORD



NOTE: REFER TO SCHEDULES FOR ADDITIONAL
INFORMATION REGARDING EQUIPMENT.

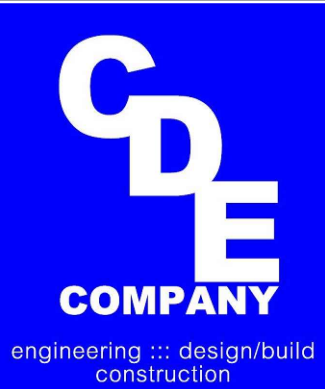
EQUIPMENT TAG OF
SCHEDULED EQUIPMENT

BID SET

STEVE STEVEN
FL PE# 81352



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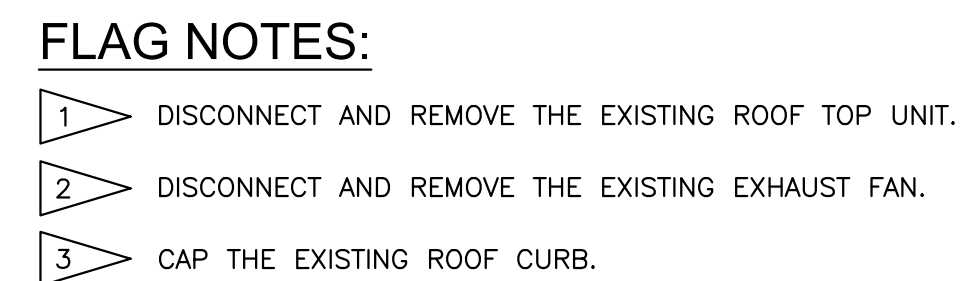
PORT ORANGE CITY HALL
ANNEX RENOVATIONS
MECHANICAL ABBREVIATIONS,
LEGENDS AND NOTES
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#: 17-016
DATE:08-29-2017
DRN BY: S. STEVEN
DGN BY: S. STEVEN
REV BY: P. THOMAS

SHEET

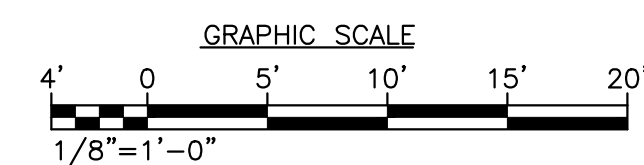
M-001





GENERAL NOTES:

1. THE INDICATED LOCATIONS OF EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE INFORMATION INDICATED ON THE PLANS WAS OBTAINED FROM AVAILABLE DRAWINGS, DOCUMENTS OF EXISTING CONSTRUCTION, ON-SITE OBSERVATIONS, AND PARTIAL MEASUREMENTS. ALL CONDITIONS THAT EFFECT THE WORK MUST BE INSPECTED AND VERIFIED BY THE CONTRACTOR. EXACT LOCATIONS OF THE WORK SHALL BE DETERMINED BY THE CONTRACTOR BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL COSTS AND DAMAGES WHICH RESULT FROM HIS FAILURE TO LOCATE AND/OR PRESERVE ANY AND ALL EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CLEANLINESS OF ALL DUCTWORK SYSTEMS DURING THE DEMO AND INSTALLATION OF EQUIPMENT AND DUCTS.
3. CONTRACTOR SHALL VERIFY MEANS FOR NEW EQUIPMENT PLACEMENT BASED ON THE EXISTING BUILDINGS OPENINGS AND ACCESS ROUTES.
4. CONTRACTOR SHALL PREPARE A COORDINATION DRAWING FOR DUCT WORK BASED ON EXISTING CONDITIONS AND SUBMIT AS A SHOP DRAWING FOR APPROVAL. INSTALLATION OF MECHANICAL ELEMENTS WITHOUT COORDINATION MAY RESULT IN INTERFERENCE ISSUES FOR WHICH CONTRACTOR IS FULLY RESPONSIBLE AND SHALL REMEDY THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL DISCONNECT EXISTING EQUIPMENT TO PREVENT DAMAGE AND COORDINATE WITH THE OWNER WHO HAS THE FIRST RIGHT OF REFUSAL.



BID SET

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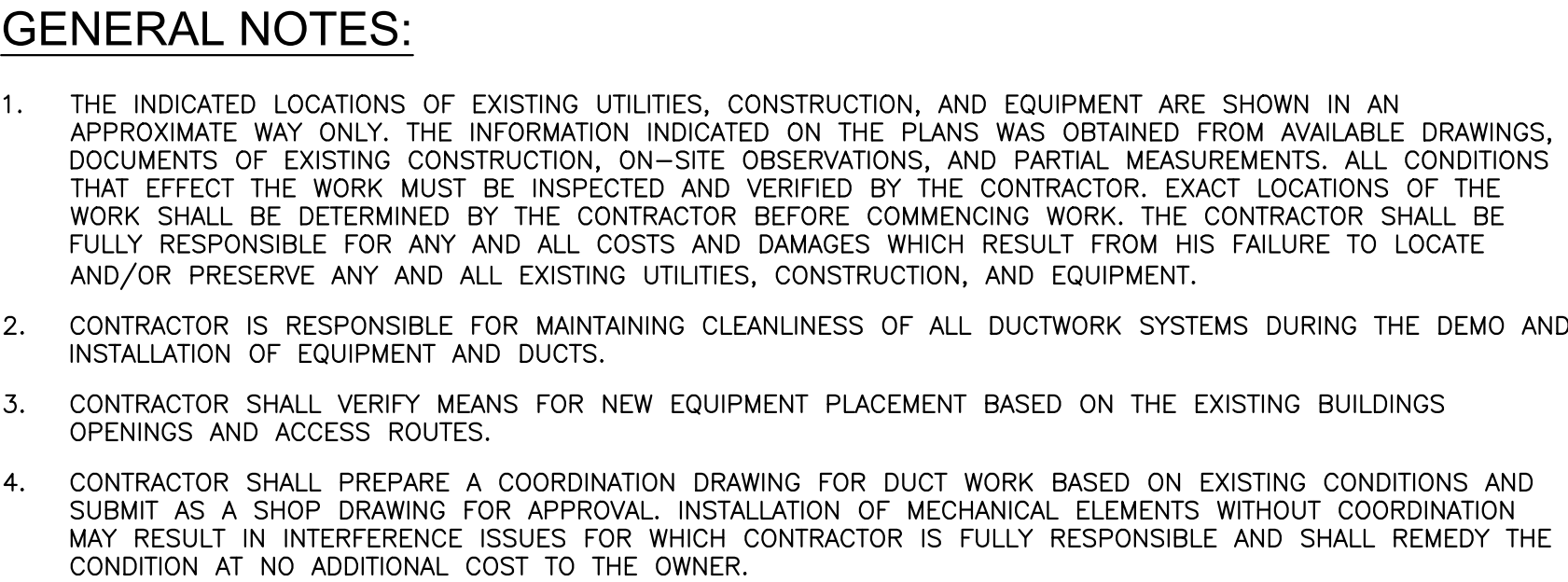
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**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**
HVAC ROOF PLAN - DEMO
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	S. STEVEN
DGN BY:	S. STEVEN
REV BY:	P. THOMAS

SHEET

MD-102



1. THE INDICATED LOCATIONS OF EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE INFORMATION INDICATED ON THE PLANS WAS OBTAINED FROM AVAILABLE DRAWINGS, DOCUMENTS OF EXISTING CONSTRUCTION, ON-SITE OBSERVATIONS, AND PARTIAL MEASUREMENTS. ALL CONDITIONS SHALL BE SUBJECT TO THE FIELD VERIFICATION AND VERIFIED BY THE CONTRACTOR. EXISTING LOCATIONS OF THE WORK SHALL BE DETERMINED BY THE CONTRACTOR BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL COSTS AND DAMAGES WHICH RESULT FROM HIS FAILURE TO LOCATE AND/OR PRESERVE ANY AND ALL EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT.
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- 1 HVAC SYSTEM INCLUDING AHU-1, CU-1, AND ASSOCIATED DUCTWORK TO REMAIN WITH NO CHANGES.
- 2 PROVIDE NEW WALL-MOUNTED INDOOR UNIT OF AHU-4 MINI-SPLIT SYSTEM. ROUTE REFRIGERANT PIPES TO THE CU-4 ON THE ROOF. PROVIDE PIPE INSULATION. REFER TO THE PIPING ROOF PENETRATION DETAIL ON M-501. PROVIDE CONDENSATE DRAIN PIPE WITH INSULATION TO THE EXISTING WASTE PIPE WITH INDIRECT CONNECTION.
- 3 PROVIDE NEW DUCTWORK, TERMINAL BOXES, DIFFUSERS AND GRILLES. PROVIDE INSULATION AND SUPPORT FROM STRUCTURE ABOVE. REFER TO THE TYPICAL VAV BOXES AND DUCTWORK INSTALLATION DETAILS ON M-501.
- 4 ROUTE 24X20 SA DUCT AND 20X18 RA DUCT TO /FROM RTU-1 ON THE ROOF. REFER TO M-102 AND COORDINATE WITH UNIT LOCATION ON THE EXISTING CURB. PROVIDE INSULATION AND SUPPORT.
- 5 ROUTE 24X20 SA DUCT AND 20X16 RA DUCT TO /FROM RTU-2 ON THE ROOF. REFER TO M-102 AND COORDINATE WITH UNIT LOCATION ON THE EXISTING CURB. PROVIDE INSULATION AND SUPPORT.
- 6 ROUTE 16X12 SA DUCT AND 12X10 RA DUCT TO /FROM RTU-3 ON THE ROOF. REFER TO M-102 FOR THE UNIT LOCATION. PROVIDE INSULATION AND SUPPORT.
- 7 ROUTE 10X10 EA DUCT TO EE-2 ON THE ROOF. PROVIDE SUPPORT.
- 8 PROVIDE BACKDRAFT DAMPER AT THE RELIEF GRILLE.
- 9 ADJUST EXISTING DIFFUSER LOCATIONS ON REPLACED CEILING GRID.
- 10 CONNECT NEW SA AND RA DUCTS TO EXISTING DUCTWORK AS INDICATED.

(SOME MAY NOT BE USED)

(E) SA		(E) EA	
NEW SA		NEW EA	
DEMO SA		DEMO EA	
(E) RA		(E) TA	
NEW RA		NEW TA	
DEMO RA		DEMO TA	
(E) OA			
NEW OA			
DEMO OA			



STEVE STEVEN
FL PE# 81352

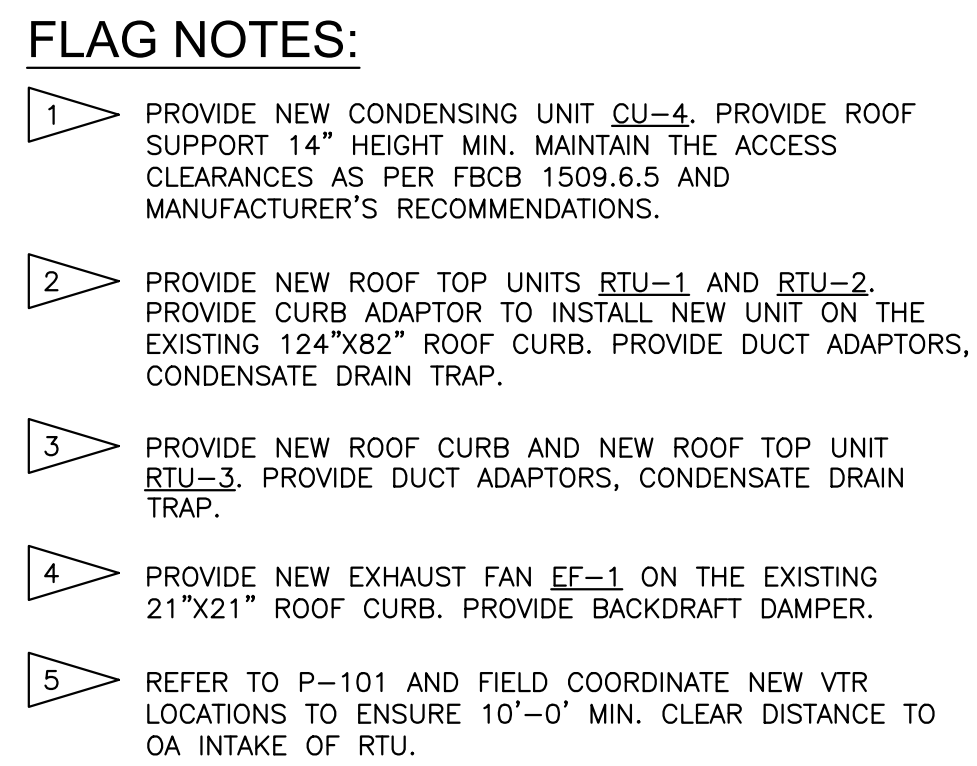


PORT ORANGE CITY HALL
NEXT RENOVATIONS
HVAC PLAN - NEW
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#: 17-016
DATE: 08-29-2017
DRN BY: S. STEVEN
DGN BY: S. STEVEN
REV BY: P. THOMAS

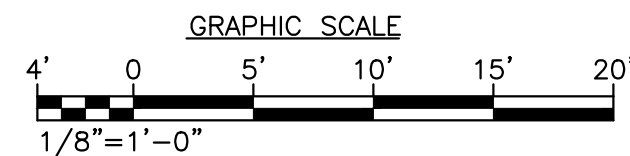
SHEET

M-101



1. THE INDICATED LOCATIONS OF EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE INFORMATION INDICATED ON THE PLANS WAS OBTAINED FROM AVAILABLE DRAWINGS, DOCUMENTS OF EXISTING CONSTRUCTION, ON-SITE OBSERVATIONS, AND PARTIAL MEASUREMENTS. ALL CONDITIONS THAT EFFECT THE WORK MUST BE INSPECTED AND VERIFIED BY THE CONTRACTOR. EXACT LOCATIONS OF THE WORK SHALL BE DETERMINED BY THE CONTRACTOR BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL COSTS AND DAMAGES WHICH RESULT FROM HIS FAILURE TO LOCATE AND/OR PRESERVE ANY AND ALL EXISTING UTILITIES, CONSTRUCTION, AND EQUIPMENT.
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5. AS THE AGE AND CONDITION OF EXISTING CURBS ARE UNKNOWN, CONTRACTOR SHALL PROVIDE AN ALTERNATE PRICING TO REPLACE CURBS UNDER NEW RTUS. NEW CURBS SHALL BE CAPABLE OF MEETING WIND LOAD PRESSURE.
6. CONTRACTOR SHALL VERIFY EXISTING ROOF CURB CONDITION AND SUBMIT SHOP DRAWINGS FOR ROOF CURBS ADAPTER MEETING WIND LOAD CRITERIA PER ASCE 7-10.
7. CONTRACTOR SHALL PREPARE FOR THE PERMIT SUBMITTAL PRODUCT APPROVAL INFORMATION FOR ROOF STANDS, ROOF CURBS, AND ROOF ADAPTORS PER FINAL HVAC EQUIPMENT SELECTION.

 HVAC ROOF PLAN - NEW
1/8" = 1'-0"



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FL PE# 81352

***PORT ORANGE CITY HALL
ANNEX RENOVATIONS***
HVAC ROOF PLAN - NEW
*DUNLAWTON AVE.
PORT ORANGE FL. 32128*

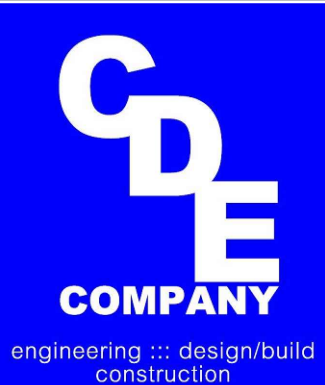
PJT#: 17-016
DATE: 08-29-2017
DRN BY: S. STEVEN
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SHEET

M-102

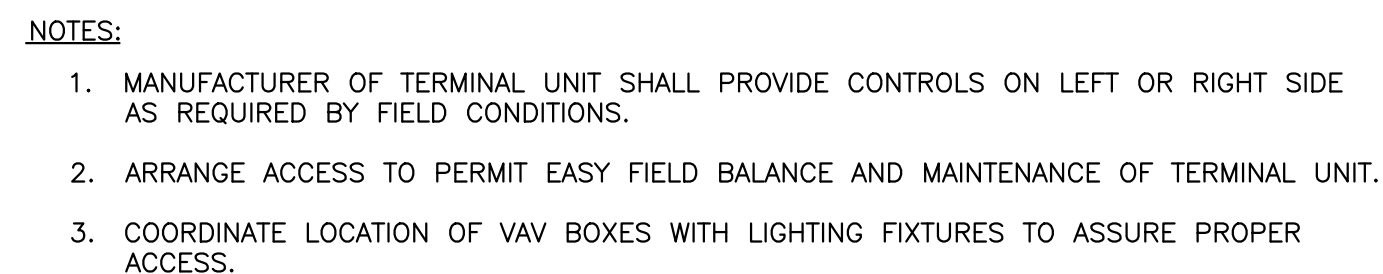


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[illegible]



N.T.S.



1. CORE DRILL THE HOLE THROUGH THE ROOF.
2. INSTALL THE BLOCKING, CANT, ROOFING, AND FLASHING AS INDICATED.
3. INSTALL THE PIPE HANGER SUPPORT.
4. INSTALL THE VERTICAL SECTIONS OF THE NEW PIPES AND PROVIDE AN ELBOW AND A SHORT LENGTH OF HORIZONTAL PIPING ON EACH PIPE.
5. INSULATE THE INSTALLED SECTION LINE REFRIGERANT PIPE.
6. INSTALL THE PORTION OF ELECTRICAL CONDUIT THAT WILL PASS THROUGH THE NEW ROOF OPENING AND HOODED FLASHING CAP.
7. DRILL THREE SEPARATE HOLES IN THE HOODED FLASHING CAP FOR THE TWO PIPES AND ONE ELECTRICAL CONDUIT.
8. INSTALL THE HOODED FLASHING CAP.
9. CAULK AROUND THE PIPE AND CONDUIT HOLES IN THE CAP AND ALSO ALL FLASHING SEAMS.
10. SPRAY URETHANE FOAM INSULATION IN THE VOID SPACE AROUND THE PIPES IN THE HOLE THROUGH THE ROOF.
11. INSTALL REMAINING PIPING AND CONDUIT.

N.T.S



1. PROVIDE PIPE SUPPORTS ON BOTH SIDES OF P-TRAP.
2. PROVIDE PIPE INSULATION WITHIN UNCONDITIONED AREAS.

N.T.S.



1. PROVIDE PIPE SUPPORTS ON BOTH SIDES OF P-TRAP.
2. PROVIDE PIPE INSULATION WITHIN UNCONDITIONED AREAS

N.T.S.



STEVE STEVEN
FL PE# 81352

M-501

LOCATION: 17-0317V-0309W-CADDO DESIGN - PORT ORANGE PUBLIC SAFETY BUILDING/RETIRED HQ BLDG. DATE: 09/20/2017 8:33:24 AM SCALE: 1/4" = 1'-0" PARAWALL FULL BLEED D/CAD03 X 36.00 INCHES STYLE: CDE COLOR: C78, ANTI-ALCOLOD OFF (GENERAL DOCUMENTATION) C30

BASIS OF DESIGN		
OUTSIDE AIR TEMPERATURE (DB °F/WB °F)		
SUMMER TEMP.	COOLING MODE	92.7/76.8
	DEHUMIDIFICATION MODE	83.8/77.6
WINTER TEMP. (DB °F)	HEATING MODE	34.7
INDOOR CONDITION		
SPACE ENVIRONMENTAL CONDITIONS	INDOOR DRYBULB	75° F
	HUMIDITY	60%RH (OCCUPIED) (NOT ACTIVELY CONTROLLED)
VENTILATION RATES		
OUTDOOR AIR	OFFICE CONFERENCE ROOM	5 CFM/PERSON + 0.06 CFM/SQFT
	STORAGE	0.12 CFM/SQFT
	CORRIDOR	0.06 CFM/SQFT
	ELECTRICAL ROOM VESTIBULE	
EXHAUST	RESTROOM	50 CFM/FIXTURE
	SHOWER	20 CFM/FIXTURE
	KITCHENETTES	0.3 CFM/SQFT
	JANITOR CLOSET	1 CFM/SQFT

AIR DISTRIBUTION SCHEDULE				
PLAN MARK	CFM RANGE	NECK SIZE	FACE SIZE	DESCRIPTION
CD-1	0-100	6"ø	24" X 24"	CEILING DIFFUSER TITUS MODEL TMS-AA
	101-210	8"ø	24" X 24"	ALL ALUMINUM CONSTRUCTION WHITE POWDER COAT FINISH
	211-390	10"ø	24" X 24"	T-BAR LAY-IN MOUNTING
	391-620	12"ø	24" X 24"	INSULATE BACK OF DIFFUSER
	621-850	14"ø	24" X 24"	
	851-980	15"ø	24" X 24"	
SG-2	0-140	6" X 6"		TITUS MODEL 250-AA, ALL ALUMINUM CONSTRUCTION, 4 WAY DISCHARGE PATTERN, SURFACE MOUNT, OPPOSED BLADE DAMPER, WHITE POWDER COAT FINISH
	141-200	8" X 8"		
	201-430	12" X 12"		
	431-620	14" X 14"		
	621-840	18" X 18"		
	SEE DRAWING FOR OTHER SIZES			
RG-1 EG-2	0-130	6" X 6"	24" X 24"	TRANSFER/RETURN GRILLE TITUS MODEL PAR-AA
	131-350	8" X 8"	24" X 24"	T-BAR LAY-IN MOUNTING WHITE POWDER COAT FINISH
	351-550	10" X 10"	24" X 24"	
	551-700	12" X 12"	24" X 24"	
	701-1090	15" X 15"	24" X 24"	
	1091-1350	18" X 18"	24" X 24"	
EG-1 RG-2	1351-2000	22" X 22"	24" X 24"	
	2001-3500	46" X 22"	48" X 24"	
	0-130	6" X 6"		TITUS MODEL 50F, ALUMINUM EGGCRATE RETURN GRILLE, SURFACE MOUNT, OPPOSED BLADE DAMPER, 1/2"x1/2"x1/2" CORE SIZE
	131-290	8" X 8"		
	291-470	10" X 10"		
	471-700	12" X 12"		
TG-1	701-970	14" X 14"		
	971-1130	16" X 16"		
	1131-1650	18" X 18"		
	1651-2050	20" X 20"		
	SEE DRAWING FOR OTHER SIZES			
	0-80	6" X 6"		TITUS MODEL 50F, ALUMINUM EGGCRATE RETURN GRILLE, SURFACE MOUNT, 1/2"x1/2"x1/2" CORE SIZE
TG-2	81-180	8" X 8"		
	181-330	10" X 10"		
	331-540	12" X 12"		
	541-820	14" X 14"		
	821-1130	16" X 16"		
	1131-1650	18" X 18"		
TG-2	1651-2050	20" X 20"		
	SEE DRAWING FOR OTHER SIZES			
	0-80	6" X 6"	24" X 24"	TRANSFER/RETURN GRILLE TITUS MODEL PAR-AA
	81-180	8" X 8"	24" X 24"	T-BAR LAY-IN MOUNTING WHITE POWDER COAT FINISH
	181-330	10" X 10"	24" X 24"	
	331-540	12" X 12"	24" X 24"	
TG-2	541-990	15" X 15"	24" X 24"	
	991-1350	18" X 18"	24" X 24"	
	1351-2000	22" X 22"	24" X 24"	
	2001-3500	46" X 22"	48" X 24"	

NOTE:
NC LEVEL FOR ALL DIFFUSERS AND GRILLES SHALL NOT EXCEED NC30.

DUCT CONSTRUCTION SCHEDULE						
SERVICE	LOCATION	SMACNA PRESSURE CLASS	MATERIAL	INSULATION	LINING	NOTES
SUPPLY/OUTSIDE/MAKE-UP AIR DUCTS						
FROM AHU CONNECTION TO 20 FEET DOWNSTREAM ON SUPPLY SIDE	INTERNAL	+4"	SINGLE WALL SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM.	(SEE LINING FOR MIN. R-6 INTERNAL INSULATION)	1-1/2" INTERNALLY LINED	1-7
FROM 20 FEET DOWNSTREAM OF AHU TO TERMINAL UNIT OR VAV BOX	INTERNAL	+4"	SINGLE WALL SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS.	CONCEALED - MIN. 2" (R-6) EXTERNAL WRAP; EXPOSED - MIN. 1-1/2" RIGID BOARD		1-7
DOWNSTREAM OF TERMINAL UNIT OR VAV BOX	INTERNAL	+2"	SINGLE WALL SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS.	MIN. 2" (R-6) EXTERNAL WRAP		1-7
OTHER SUPPLY/ OUTSIDE/ MAKE-UP AIR DUCTS	INTERNAL	+2	SINGLE WALL SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS.	CONCEALED - MIN. 2" (R-6) EXTERNAL WRAP; EXPOSED - MIN. 1-1/2" RIGID BOARD		1-6, 8
RETURN AIR DUCT						
FROM AHU CONNECTION TO 20 FEET UPSTREAM ON RETURN SIDE	INTERNAL	-2	SINGLE WALL GALVANIZED SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM.	UNISULATED	1" INTERNALLY LINED	1-6, 8
OTHER RETURN AIR DUCTS	INTERNAL	-2	SINGLE WALL SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS.	UNISULATED		1-6, 8
EXHAUST AIR DUCTS						
GENERAL EXHAUST	INTERNAL	-2"	SINGLE WALL GALVANIZED G90 SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS.	UNISULATED		1-6
TRANSFER AIR DUCTS						
TRANSFER AIR	INTERNAL	-2"	SINGLE WALL GALVANIZED SHEET METAL ROUND/FLAT OVAL OR RECTANGULAR AS INDICATED ON PLANS WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM.	UNISULATED	1" INTERNALLY LINED	1-6

NOTES:
1. ALL DUCTWORK IS TO BE FABRICATED, SUPPORTED, PRESSURE TESTED AND INSTALLED PER SMACNA STANDARDS.
2. ALL JOINTS, SEAMS AND CONNECTIONS IN DUCTS SHALL BE IN ACCORDANCE WITH SECTION C403.2.7 OF FBCEC AND SECTION 603 OF FBCM.
3. MATERIAL OF CONSTRUCTION: G90 GALVANIZED STEEL.
4. GAGE THICKNESS SHALL BE SELECTED BASED ON PRESSURE CLASS.
5. DIMENSIONS ON PLANS INDICATE CLEAR INSIDE DIMENSIONS REQUIRED FOR AIRFLOW AND ANY INTERNAL LINING SHOULD ACCOMMODATE THIS.
6. ALL NEW SUPPLY DUCT SHALL BE PRESSURE TESTED, FOLLOW SMACNA GUIDELINES FOR TESTING PROCEDURES.
7. ALL SUPPLY DUCT SHALL HAVE CLASS A DUCT SEAL (ALL TRANSVERSE AND LONGITUDINAL SEAMS AND DUCT WALL PENETRATION).
8. RA AND OA DUCT SHALL HAVE CLASS B DUCT SEAL (ALL TRANSVERSE AND LONGITUDINAL SEAMS ONLY).

TERMINAL BOX WITH ELECTRIC HEATING COIL SCHEDULE														
TAG	DESIGN AIRFLOW			NOMINAL BOX	AIRSIDE		ELECTRICAL			PRESSURE LOSS	BASIS OF DESIGN		INLET SIZES	NOTES
	MAXIMUM COOLING	MINIMUM COOLING	MINIMUM HEATING		EAT	LAT	CAPACITY	STAGE	V/PH/HZ		MANUF.	MODEL		
	CFM	CFM	CFM	CFM	°F	°F	KW			IN.W.G			IN.	
VAV-1.1	370	110	130	500	50.6	99.6	2.0	3	208/3/60	0.313	TITUS	DESV	6	1-2
VAV-1.2	150	50	70	225	50.6	96.1	1.0	2	208/1/60	0.225	TITUS	DESV	4	1-2
VAV-1.3	520	160	190	650	50.6	92.6	2.5	3	208/3/60	0.308	TITUS	DESV	7	1-2
VAV-1.4	200	60	100	225	50.6	98.4	1.5	3	208/1/60	0.400	TITUS	DESV	4	1-2
VAV-1.5	570	170	180	650	50.6	94.9	2.5	3	208/3/60	0.369	TITUS	DESV	7	1-2
VAV-1.6	240	80	100	350	50.6	98.4	1.5	3	208/3/60	0.215	TITUS	DESV	5	1-2
VAV-1.7	700	210	220	900	50.6	94.1	3.0	3	208/3/60	0.376	TITUS	DESV	8	1-2
VAV-1.8	200	60	70	225	50.6	96.1	1.0	2	208/1/60	0.400	TITUS	DESV	4	1-2
VAV-1.9	730	220	230	900	50.6	99.1	3.5	3	208/3/60	0.409	TITUS	DESV	8	1-2
VAV-1.10	640	190	200	900	50.6	90.5	2.5	3	208/3/60	0.314	TITUS	DESV	8	1-2
VAV-2.1	700	300	210	900	50.6	96.1	3.0	3	208/3/60	0.376	TITUS	DESV	8	1-2
VAV-2.2	360	170	130	500	50.6	99.6	2.0	3	208/3/60	0.269	TITUS	DESV	6	1-2
VAV-2.3	470	210	300	650	50.6	93.1	4.0	3	208/3/60	0.253	TITUS	DESV	7	1-2
VAV-2.4	220	100	160	350	50.6	90.5	2.0	3	208/3/60	0.181	TITUS	DESV	5	1-2
VAV-2.5	400	170	130	500	50.6	99.6	2.0	3	208/3/60	0.366	TITUS	DESV	6	1-2
VAV-2.6	460	210	140	650	50.6	96.1	2.0	3	208/3/60	0.242	TITUS	DESV	7	1-2
VAV-2.7	590	250	200	650	50.6	98.4	3.0	3	208/3/60	0.394	TITUS	DESV	7	1-2
VAV-2.8	130	60	70	225	50.6	96.1	1.0	2	208/1/60	0.169	TITUS	DESV	4	1-2
VAV-2.9	430	200	140	300	50.6	96.1	2.0	3	208/3/60	0.423	TITUS	DESV	6	1-2
VAV-2.10	210	90	100	350	50.6	98.4	1.5	3	208/3/60	0.165	TITUS	DESV	5	1-2
VAV-2.11	500	210	170	650	50.6	97.5	2.5	3	208/3/60	0.286	TITUS	DESV	7	1-2

NOTES:

1. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL EACH OF THE VAV BOXES PER VAV BOX INSTALLATION DETAIL WITH ALL REQUIRED ACCESS. PROVIDE FACTORY MOUNTED CONTROLLER.

2. PROVIDE BUILT-IN TRANSFORMER FOR ALL VAV BOXES.

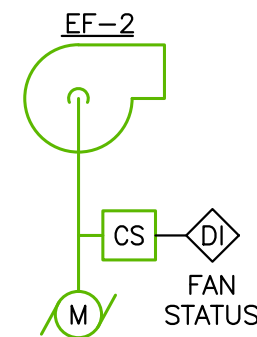
FAN SCHEDULE												
TAG	AIRFLOW	STATIC PRESSURE	TYPE	DRIVE TYPE	LOCATION	SERVICE	CONTROL	MOTOR DATA		BASIS OF DESIGN		NOTES
	CFM	IN. W.G.						HP	V/PH/HZ	MANUF.	MODEL	
EF-2	430	0.3	CENTRIFUGAL	DIRECT	ROOF	BATHROOMS	CONTINUOUS OPERATION, INTERLOCK W/ RTU-1,-2	1/10	120/1/60	GREENHECK	G-090-VG	1, 2

NOTES:
1. PROVIDE PRE-WIRED DISCONNECT SWITCH. ELECTRICAL CONTRACTOR SHALL INSTALL.
2. PROVIDE BACKDRAFT DAMPER.

MECHANICAL ROOFTOP UNIT (DX COOL) SCHEDULE																																
TAG	FLOW RATE		DX COOLING COIL				HOT GAS REHEAT COIL		ELECTRIC HEATING COIL			EFFICIENCY		SUPPLY FAN DATA			ESP	TSP	ELECTRICAL DATA			FILTER			COMPRESSOR				BASIS OF DESIGN		OVERALL UNIT WEIGHT	NOTES
	SA	OA	TOTAL	SENSIBLE	EAT	LAT	CAPACITY	LAT DB/WB	CAPACITY	HEATING CONTROL	LAT			FAN	BHP	NAME PLATE			IN.W.G	IN.W.G	MCA	MOCP	VOLTAGE	TYPE	ASHRAE EFF.	SIZE	QTY.	CAPACITY CONTROL				
	CFM	CFM	MBH	MBH	DB/WB °F	DB/WB °F	MBH	°F	MBH		°F	EER	IEER	QTY	HP	HP	IN.W.G	IN.W.G	AMPS	AMPS			IN.					MANUF.	MODEL	LBS		
	RTU-1	3,670	1,240	207.3	129.9	82.2/69.1	50.6/50.6	58.6	68.6/57.5	-	-	-	10.8	11.9	1	4.06	7.5	2.5	4.8	129	150	208/3/60	4" PLEATED	MERV 8	(4) 16X25	2	2 STAGES, 10%-100% MODULATION 1ST STAGE		R-410A	REZNOR	YDHA-210	
RTU-2	3,900	1,880	245.6	140.2	82.7/70.9	50.6/50.6	60.2	69.2/58.7	-	-	-	11.6	11.9	4.28	3.85	7.5	2.5	4.8	132	150	208/3/60	4" PLEATED	MERV 8	(4) 16X25	2	2 STAGES, 10%-100% MODULATION 1ST STAGE		R-410A	REZNOR	YDHA-240	3,375	2-9
RTU-3	1,070	440	83.7	42.5	83.2/72.3	47.2/46.8	19	73.8/56.8	51	SCR	98.6	11.0	11.2	1	1.13	4.83	1.0	2.6	66.5	80	208/3/60	4" PLEATED	MERV 8	(2) 20X24	1	2 STAGES, 10%-100% MODULATION 1ST STAGE		R-410A	REZNOR	YDHA-090	2,772	1, 3-8
NOTES: 1. PROVIDE 14" HEIGHT ROOF CURB WITH 2" INTERNAL INSULATION (R-13 MIN. VALUE) FROM THE UNIT MANUFACTURER. 2. PROVIDE ROOF CURB ADAPTOR TO MATCH EXISTING 124"x82" ROOF CURB. PROVIDE R-13 INSULATION FOR ADAPTOR AND FOR EXISTING ROOF CURB. 3. PROVIDE DUCT ADAPTOR. 4. COMPLETE COAT CONDENSER AND EVAPORATOR COIL WITH SEA COAST PROTECTION. 5. PROVIDE STAINLESS STEEL DRAIN PAN. 6. PROVIDE UNIT MOUNTED NON-FUSED DISCONNECT, ELECTRICAL CONTRACTOR TO INSTALL. 7. PROVIDE MOTORIZED OA DAMPER. OA DAMPER SHALL BE FULLY CLOSE WHEN UNIT IS "OFF". 8. ANCHOR THE ROOF-TOP UNIT TO THE ROOF STRUCTURE TO MEET WIND LOAD REQUIREMENT PER STRUCTURAL PLANS. PROVIDE SHOP DRAWING DETAIL. 9. PROVIDE NEW SMOKE DETECTOR IN RA DUCT AS REQUIRED PER 606.2.1 OF FBCM.																																

AIR HANDLING (INDOOR) UNIT SCHEDULE	
TAG	AHU-4
OUTDOOR UNIT	CU-4
EQUIPMENT LOCATION	DATA/IT ROOM #117
AREA SERVED	DATA/IT ROOM #117
DESIGN CONDITIONS:	
SPACE TEMPERATURE(DEG F)	68
SUMMER OA TEMPERATURE (DEG F DB/DEG F WB)	92.7/76.8
WINTER OA TEMPERATURE (DEG F DB)	34.7
SYSTEM DATA:	
AIR FLOW TYPE	CAV
SUPPLY AIR H/M/L (CFM)	706/530/459
OUTSIDE AIR (CFM)	-
ESP (IN WG)	0.05
FAN DATA:	
SA MOTOR (HP)	
V/PH/HZ	208-230/1/60
COIL DATA:	
COOLING CAPACITY (MBH)	34.0
HEATING CAPACITY (MBH)	38.9
FILTER	3M HAF
ELECTRICAL DATA	
MCA	-
MOP	-
BASIS OF DESIGN:	
MANUF.	LG
MODEL NO.	LCN360HLV
WEIGHT (LB)	46
NOTES	1, 2

CONDENSING (OUTDOOR) UNIT SCHEDULE	
TAG	CU-4
INDOOR UNIT	AHU-4
TYPE	CONDENSER
REFRIGERANT	R-410a
NOMINAL TON	3
UNIT EER/SEER	8.2/17.5
HSPF	10
V/PH/HZ	208-230/1/60
MCA	23
MOP	35
FACTORY DISCONNECT	YES
LOW AMBIENT WIND BAFFLE	ZLABGP02A
MANUF.	LG
MODEL	LSU360HLV
MAX PIPING LENGTH/ELEVATION (FT)	164/98.4
WEIGHT (LB)	125
NEOPRENE ISOLATOR	YES
FROSTAT	YES
NOTES:	
1. PROVIDE FACTORY FOR AC, ELECTRICAL CONTRACTOR TO INSTALL.	
2. PROVIDE THERMOSTAT.	



GENERAL NOTE:

UNIT SHALL BE COMPLETELY FACTORY-MOUNTED AND WIRED WITH NECESSARY CONTROLS. MICRO-PROCESSOR CONTROLS ARE PROVIDED FOR ALL 24 VOLT CONTROL FUNCTIONS INCLUDES: LOW VOLTAGE CONTROL CIRCUIT, REMOTE ACCESS SUPPORT OVER INTERNET/INTRANET OR MODEM AND BACNET PROTOCOLS. THE RESIDENT CONTROL ALGORITHMS WILL MAKE ALL HEATING, COOLING AND/OR VENTILATING DECISIONS IN RESPONSE TO ELECTRONIC SIGNALS FROM SENSORS.

TYPICAL VARIABLE AIR VOLUME UNIT CONSISTS OF COOLING COIL, HOT GAS REHEAT COIL AND DRAW THROUGH FAN. THE UNIT IS TO BE CONTROLLED BY A DDC CONTROLLER.

THE AIR HANDLING UNIT IS SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES.

UNOCCUPIED MODE: DURING UNOCCUPIED PERIOD, THE UNIT SHALL BE TUNED OFF AND OUTSIDE AIR SHALL BE CLOSED, THE HEATING SET POINT WILL BE RESET TO 60 DEG F AND COOLING SET POINT WILL BE RESET TO 85 DEG F.

OCCUPIED MODE:
DURING OCCUPIED MODE, THE SUPPLY AIR FAN RUNS CONTINUOUSLY.

COOLING MODE;
IN COOLING MODE (IF THE SPACE TEMPERATURE IS ABOVE 74° F), THE FOLLOWING SEQUENCE SHALL BE USED. ONE COMPRESSOR SHALL CYCLE "ON" AND "OFF" AND ALLOW ANOTHER VARIABLE SPEED COMPRESSOR TO MAINTAIN THE SA TEMPERATURE LEAVING COOLING COIL AT 52°F (VARIED BY TT-4). HOT GAS REHEAT COIL SOLENOID VALVE SHALL MODULATE BASED ON REHEAT TEMPERATURE. THE SUPPLY FAN SHALL MAINTAIN STATIC PRESSURE SENSOR SET POINT. THE TOTAL SUPPLY AIR FLOW FROM RTU SHALL NOT DROP BELOW LOWER ALLOWABLE NUMBER BY THE RTU MANUFACTURER.
VAV BOXES SHALL MAINTAIN SPACE TEMPERATURE THROUGH REHEAT CONTROL.

HEATING MODE:
IN HEATING MODE (IF THE SPACE TEMPERATURE IS LOWER THAN 74° F) THE COMPRESSOR SHALL BE OFF.
VAV BOXES SHALL MAINTAIN SPACE TEMPERATURE THROUGH REHEAT CONTROL.

OUTSIDE AIR CONTROL: THE OUTSIDE AIR DAMPER SHALL OPEN TO PROVIDE A MINIMUM SUPPLY OF OUTSIDE AIR REQUIRED. THE AIR FLOW SENSOR SHALL VERIFY THE AIR FLOW.

HUMIDITY CONTROL: IF RH>60%, SUPPLY AIR TEMPERATURE CAN BE REDUCED TO MAINTAIN LOWER RH. HOT GAS REHEAT SHALL BE CONTROLLED BY THE SPACE TEMPERATURE SENSOR.

SAFETY: SMOKE DETECTOR SHALL SHUTDOWN THE UNIT IF SMOKE IS DETECTED. RESET SHALL BE MANUAL.

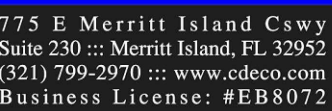
N.T.S.

TYP. POINTS FOR EACH RTU-1 AND RTU-2	OA DAMPER			X									X
	OA FLOW	AFS-1							X				X
	OA TEMPERATURE	TT-1				X							X
	RA TEMPERATURE	TT-2				X							X
	CO2 LEVEL	CO2-1							X				X
	RA DAMPER			X									X
	PRESSURE ACROSS FILTER	DPT-1					X						X
	MIXING AIR TEMPERATURE	TT-3				X							X
	COOLING COIL LEAVING AIR TEMPERATURE	TT-4				X							X
	HOT GAS REHEAT CONTROL VALVE			X							X		
	SUPPLY FAN STATUS				X						X		X
	SUPPLY FAN VFD START/STOP			X									
	SUPPLY FAN VFD FAULT				X						X		X
	SUPPLY FAN VFD SPEED				X								X
	SUPPLY FAN VFD FREQUENCY												
SA TEMPERATURE	TT-5				X							X	
SA STATIC PRESSURE	SPT-1					X					X	X	
EF-2 FAN STATUS				X								X	



N.T.S.

CONTROL POINT	HARDWARE									SOFTWARE			TREND
	OUTPUT		INPUT							ALARM			
	DIGITAL	ANALOG	DIGITAL	ANALOG					DIGITAL	ANALOG			
	CONTROL RELAY	0-10 VOLT	CURRENT SWITCH	TEMP.	PRESSURE	RH	CO2	AIR FLOW	CHANGE OF STATE	HIGH LIMIT	LOW LIMIT		
SPACE TEMPERATURE				X						X	X	X	
AFT								X				X	
SA MOTORIZED DAMPER		X										X	
HTR-STAGE 1	X							X				X	
HTR-STAGE 2	X											X	
SA TEMP SENSOR				X						X	X	X	

[illegible]

ORANGE CITY HALL
WEX RENOVATIONS
CONTROL DIAGRAM
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#: 17-016
DATE:08-29-2017
DRN BY: S. STEVEN
DGN BY: S. STEVEN
REV BY: P. THOMAS

SHEET

BID SET

STEVE STEVEN
FL PE# 81352

M-701

PLUMBING ABBREVIATIONS:

(SOME MAY NOT BE USED)

SYMBOL	DESCRIPTION	ABBREVIATION
	EXISTING PIPING	
	NEW PIPING	
	DOMESTIC COLD WATER	DCW
	DOMESTIC HOT WATER (120°F)	DHW
	DOMESTIC HOT WATER CIRC (120°F)	DHWC
	DOMESTIC HOT WATER (140°F)	140° F DHW
	DOMESTIC HOT WATER CIRC (140°F)	140° F DHWC
	INDIRECT DRAIN	D
	CONDENSATE DRAIN	CD
	STORM DRAIN, RAINWATER DRAIN	SD
	SOIL, WASTE, OR SANITARY SEWER	W, SS
	VENT	V
	GAS	
	PIPING BELOW PLAIN OF CUT	
	FILL, SEAL AND ABANDON IN PLACE	
	CAP	
	CLEANOUT PLUG	CO
	FLOOR CLEANOUT	FCO
	FLOOR DRAIN WITH P-TRAP	FD
	ROOF DRAIN, AREA DRAIN	RD, AD
	FIRE HYDRANT	FH
	FLOAT FILL VALVE	FFV
	FLOW METER	FM
	GAS PRESSURE REGULATOR	GPR
	HOSE BIBB	HB
	REDUCED PRESSURE BACKFLOW PREVENTER	RPBP
	DOUBLE CHECK BACKFLOW PREVENTER	
	WALL CLEANOUT	WCO
	WALL HYDRANT	WH
	YARD CLEANOUT	YCO
	VALVE IN YARD BOX	YBX
	YARD HYDRANT	YH
	POINT OF CONNECTION	POC
	HANDICAPPED	HC
	FLOW IN DIRECTION OF ARROW	
	PITCH DOWN IN DIRECTION OF ARROW	
	VENT THROUGH ROOF	VTR
	WATER HAMMER ARRESTOR	WHA
	BALL VALVE	
	CALIBRATED BALANCING VALVE	
	PRESSURE REDUCING VALVE	
	CHECK VALVE	
	THERMOMETER	
	THERMOSTATIC MIXING VALVE	
	AIR RELEASE VALVE	

PLUMBING ABBREVIATIONS:

ALL ABBREVIATIONS MAY NOT BE USED.

AEG	— ABOVE EXISTING GRADE	MIN	— MINIMUM
AFF	— ABOVE FINISH FLOOR	MS	— MOP SINK
AIP	— ABANDON IN PLACE	NC	— NORMALLY CLOSED
AVTR	— ACID VENT THRU ROOF	NO	— NORMALLY OPEN
BFP	— BACKFLOW PREVENTER (DOUBLE VALVE)	NTS	— NOT TO SCALE
CI	— CAST IRON	OC	— ON CENTER
CLDI	— CONCRETE LINED	OD	— OUTSIDE DIAMETER
	DUCTILE IRON	PC	— PEDICURE CHAIR
CO	— CLEANOUT	POC	— POINT OF CONNECTION
CONC	— CONCRETE	POD	— POINT OF DISCONNECTION
CONT	— CONTINUATION	PRV	— PRESSURE REDUCING VALVE
CS	— CARBON STEEL	PSI	— POUNDS PER SQUARE INCH
CU	— COPPER TUBING	PS	— PEDICURE STATION
CW	— DOMESTIC COLD WATER	PVC	— POLYVINYL CHLORIDE PIPE
CW	— DOMESTIC COLD WATER	RPZ	— REDUCED PRESSURE BACKFLOW PREVENTER
D	— CLOTHES DRYER	SK	— SINK
DIA	— DIAMETER	SAN	— SANITARY
DIP	— DUCTILE IRON PIPE	SF	— SQUARE FEET
DN	— DOWN	SH	— SHOWER
DSC	— DAYTONA STATE COLLEGE	SHT	— SHEET
DWG	— DRAWING	SS	— SERVICE SINK
ER	— EQUIPMENT ROOM	ST STL	— STAINLESS STEEL
EXIST	— EXISTING	SWD	— SIDE WALL DRAIN
EWC	— ELECTRIC WATER COOLER	TYP	— TYPICAL
EWL	— ELECTRIC WATER HEATER	UR	— URINAL
*F	— DEGREE FAHRENHEIT	V	— VENT
FCO	— FLOOR CLEAN OUT	VR	— VENT RISER
FD	— FLOOR DRAIN	VTR	— VENT THRU ROOF
GV	— GATE VALVE	VTW	— VENT THRU WALL
GWH	— GAS WATER HEATER	W	— CLOTHES WASHER
HB	— HOSE BIBB	WC	— WATER CLOSET
HC	— HANDICAPPED	WCH	— ADA WATER CLOSET
HW	— DOMESTIC HOT WATER	WCO	— WALL CLEANOUT
HS	— HAIR WASH SINK	WH	— WALL HYDRANT
IW	— INDIRECT WASTE	WTR	— WATER
LAV	— LAVATORY	YCO	— YARD CLEANOUT
LAVH	— ADA LAVATORY		

PLUMBING FIXTURE SCHEDULE

PLAN MARK	FIXTURE	CW	HW	WASTE	DESCRIPTION	ACCESSORIES
WC-1	WATER CLOSET	1/2"	—	3"	AMERICAN STANDARD #2467.100, CADET FLOWISE RIGHT HEIGHT ELONGATED PRESSURE-ASSISTED TOILET 1.1 GPF/ 4.2 LPF	SLOAN ECOS 8111.1.6/1.1 FLUSHOMETER. AMERICAN STANDARD #5901.110T COMMERCIAL TOILET SEAT; OPEN FRONT SEAT LESS COVER MCGUIRE #BV172 POLISHED BRASS TOILET SUPPLIES. PROVIDE FLOOR FLANGE, (SAME MATERIAL AS THE CONNECTING PIPE DRAIN), WITH ALL BRASS BOLTS AND WITH RUBBER GASKET.
WC-2	ADA WATER CLOSET	1/2"	—	3"	AMERICAN STANDARD #2467.100, CADET FLOWISE RIGHT HEIGHT ELONGATED PRESSURE-ASSISTED TOILET 1.1 GPF/ 4.2 LPF	SLOAN ECOS 8111.1.6/1.1 FLUSHOMETER. AMERICAN STANDARD #5901.110T COMMERCIAL TOILET SEAT; OPEN FRONT SEAT LESS COVER MCGUIRE #BV172 POLISHED BRASS TOILET SUPPLY. PROVIDE FLOOR FLANGE, (SAME MATERIAL AS THE CONNECTING PIPE DRAIN), WITH ALL BRASS BOLTS AND WITH RUBBER GASKET.
LV-1	SINK SET IN COUNTERTOP	1/2"	1/2"	1 1/2"	KOHLER CAXTON BATHROOM SINK K-2210-0 IN WHITE	SLOAN BASYS EFX-2 FAUCET INTEGRATED SIDE MIXER, BATTERY, SOLAR AND TURBINE POWERED INCLUDE SOLAR+DISPLAY CROWN. 0.5 GPM MULTI-LAMINAR SPRAY. STANDARD BRIGHT CHROME. PROVIDE AMERICAN STANDARD ACCESSORY K-8998 P-TRAP
UR-1	URINAL	1"	—	2"	SLOAN SMALL WASHDOWN URINAL. MODEL SU-7009-STG	SLOAN ECOS 8111.1.6/1.1 FLUSHOMETER.
LV-2	ADA LAVATORY	1/2"	1/2"	1-1/2"	AMERICAN STANDARD DECORUM WALL-HUNG LAVATORY WITH EVERCLEAN VITREOUS CHINA MODEL #9024.001EC	SLOAN BASYS EFX-2 FAUCET INTEGRATED SIDE MIXER, BATTERY, SOLAR AND TURBINE POWERED INCLUDE SOLAR+DISPLAY CROWN. 0.5 GPM MULTI-LAMINAR SPRAY. STANDARD BRIGHT CHROME. MCGUIRE #155WCC OFFSET OPEN GRID DRAIN. MCGUIRE #LFBV170 POLISHED BRASS FAUCET SUPPLIES. MCGUIRE #MGT150075ZN, MGT150075ZN SERIES LITE COMMERCIAL P-TRAP. MCGUIRE PROWRAP #PW2000WC SANITARY COVERING. JAY R. SMITH MODEL 0801, CARRIER.
SK-1	KITCHEN SINK DOUBLE BASIN	1/2"	1/2"	1 1/2"	AMERICAN STANDARD 15DB.332283.073 STAINLESS STEEL DROP IN 50/50 STAINLESS STEEL KITCHEN SINK WITH 8" CENTERS AND 33-3/8" LENGTH	ELKAY LK1000CR IN CHROME
SH-1	SHOWER (TILED)	1/2"	1/2"	2"	2" SHOWER DRAIN	SHOWER CONTROLS WITH MIXING VALVE
MS-1	FLOOR SINK (MOP SERVICE SINK)	1/2"	1/2"	3"	PROFLO PFMB SERIES MOP BASIN. MODEL PFMB2424 WITH SS BUMPER AND WALL GAURDS	DELTA 28T9 WALL MOUNTED FAUCET W. SERVICE HOSE AND BRACKET HANGER
FD	FLOOR DRAIN	3/8"	—	3"	ZURN Z415BZ BODY ASSEMBLY WITH "TYPE BZ" LEVELING STRAINER	PROVIDE 3/8 FLEX PIPING FROM TRAP PRIMER NEAR WATER CLOSET VAVLE
FCO	FLOOR CLEANOUT	—	—	—	ZURN Z1456 DECK CLEANOUT, NICKEL BRONZE BODY WITH SCORIATED DECK PLUG AND O-RING SEAL.	—
WCO	WALL CLEANOUT	—	—	—	ZURN Z1441 WALL CLEANOUT W/SMOOTH ACCESS COVER	DURA-COATED CAST IRON BODY WITH STAINLESS STEEL COVER.
EW-1	ELECTRIC WATER COOLER W/ BOTTLE FILLER STATION	3/8"	—	1-1/2"	ELKAY LZST8WSSP	MCGUIRE #LFBV170 POLISHED BRASS FAUCET SUPPLIES. MGT150075ZN SERIES LITE COMMERCIAL P-TRAP.

- NOTES:
1. PROVIDE SPRAY FLOW AERATORS FOR ALL LAVATORY AND SINK FAUCETS.
 2. ALL ACCESSIBLE FIXTURES SHALL BE INSTALLED PER ADA HEIGHT REQUIREMENTS. REFER TO ARCH DWGS.
 3. PROVIDE QUARTER TURN STOP VALVES AT SINKS, LAVATORIES AND WATER CLOSETS.

ELECTRIC WATER HEATER SCHEDULE

MARK	EWL-1
TANK CAP (GAL)	30
RECOVERY (GALLON/HR)	37
TEMP RISE (DEG F)	70
V/PH/HZ	208/3/60
FLA	25
NO. OF ELEMENT	1
KW	9.0
110°F SERVICE	SINKS
LOCATION	STORAGE (114)
MANUFACTURER	A.O. SMITH
MODEL	DSE-30-9
DIMENSION	20.5"(DIA) X 36"(H)

NOTE:
WATER HEATER LISTED IS BASIS OF DESIGN.
SUBMIT EQUALS FOR APPROVAL PRIOR TO BID.

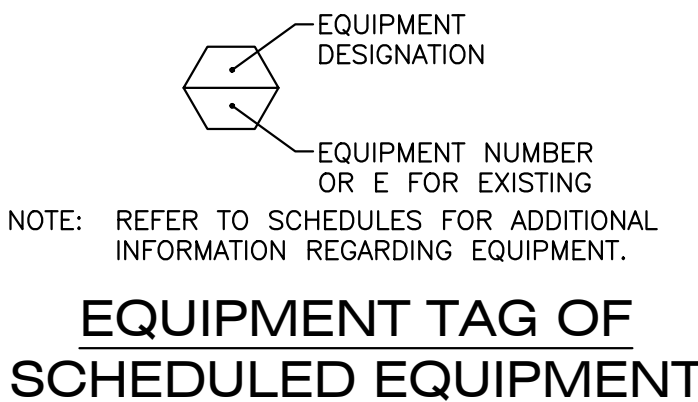
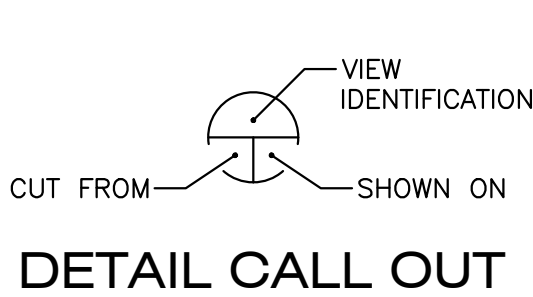
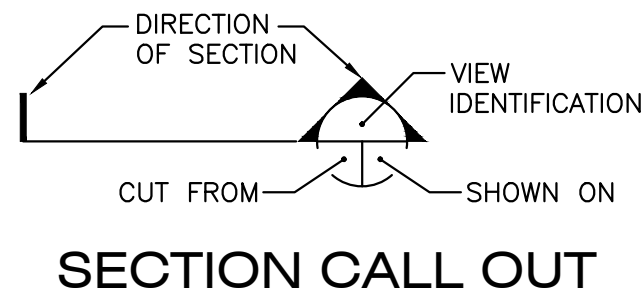
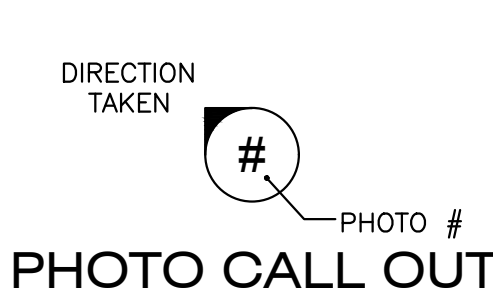
GENERAL NOTES:

1. PROVIDE LABOR, MATERIALS, TOOLS, EQUIPMENT, AND DEVICES NECESSARY TO PROVIDE COMPLETE AND OPERATIONAL SYSTEMS IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DRAWINGS. FULLY TEST, BALANCE, CLEAN AND LEAVE SYSTEMS IN A COMPLETE AND OPERATIONAL STATUS.
2. ALL MATERIALS SHALL BE FABRICATED AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER WITH THE COORDINATION OF ALL INVOLVED TRADES.
3. THESE DRAWINGS ARE DIAGRAMMATIC ONLY AND DO NOT SHOW ALL OFFSETS, BENDS, ELBOWS, OR OTHER SPECIFIC ELEMENTS THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF THE WORK. SUCH WORK SHALL BE FIELD VERIFIED AND CAREFULLY COORDINATED AT THE SITE BY THE CONTRACTOR.
4. ALL MATERIALS AND EQUIPMENT PROVIDED SHALL BE NEW AND SHALL BE U.L. LISTED WHERE APPLICABLE, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS WITH ADEQUATE MAINTENANCE CLEARANCES.
5. PROVIDE WORK IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 5TH EDITION (2014), FLORIDA ENERGY EFFICIENCY CODE, FLORIDA PLUMBING CODE AND OTHER LOCAL CODES AND STANDARDS AS ENFORCED. ALL CODE REFERENCES SHALL BE THE LATEST EDITION AS OF THE CONTRACT DATE.
6. EQUIPMENT AND DESIGN OF SYSTEMS INDICATED ON THE CONTRACT DRAWINGS ARE TO ESTABLISH THE SPECIFIED STANDARD OF QUALITY AND TO PROVIDE THE REQUIRED TYPE(S), SIZE(S), AND CONFIGURATION.
7. EXCEPT WHERE INDICATED IN DIMENSIONAL DETAIL, THE LOCATIONS OF PLUMBING, MECHANICAL EQUIPMENT, PIPING, AND FITTINGS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL BE COORDINATED WITH ALL APPLICABLE TRADES.
8. TYPICAL DETAILS APPLY TO ALL SITUATIONS WHERE SIMILAR CONDITIONS EXIST AND ARE INTENDED TO BE USED AS APPROPRIATE FOR THE APPLICATION INTENDED UNLESS OTHERWISE INDICATED. REFER TO P-500.
9. ALL EXTERIOR COMPONENTS SHALL WITHSTAND WIND LOADS OF 120 MPH OR AS REQUIRED BY LOCALLY ENFORCED CODES, WHICHEVER IS GREATER. ALL EXTERIOR SUPPORTS SHALL BE ANCHORED TO THE SUPPORTING STRUCTURE.
10. PROVIDE ALL SUPPLEMENTARY STEEL AND FOUNDATIONS FOR SUPPORTS AND BRACING OF ALL PIPING AND EQUIPMENT.
11. PROVIDE PROTECTION FOR ALL CONNECTIONS AND POINTS OF CONTACT OF DISSIMILAR METALS FROM ELECTROLYTIC CORROSION TO BE PROVIDED FOR THIS PROJECT.
12. PROVIDE ACCESS DOORS/PANELS AS REQUIRED FOR ACCESS TO ALL VALVES OR OTHER COMPONENTS WHERE FLOORS, WALLS, CEILINGS, CHASES, ETC. WOULD OTHERWISE PREVENT NECESSARY ACCESS.
13. UNLESS APPROVED ALL DOMESTIC WATER SUPPLY PIPING SHALL BE COPPER TUBING PER ASTM B88, TYPE L (TYPE M, FOR UNDERGROUND) WITH ANSI B.16.18 OR ANSI B16.22 SOLDER JOINT FITTINGS OR WITH ANSI B16.26 FLARED JOINT FITTINGS. PROVIDE ASTM B42 COPPER PIPE NIPPLES WITH THREADED END CONNECTIONS. PROVIDE ASTM B32 95-5 TIN-ANTIMONY SOLDER OR STANDARD PLUMBING CODE APPROVED LEAD-FREE SOLDER. HYDROSTATICALLY TEST SUPPLY PIPING AT NOT LESS THAN 100 PSIG WITH NO LEAKAGE OR REDUCTION IN GAGE PRESSURE FOR 2 HOURS.
14. PROVIDE AND INSTALL NEW FIXTURES, COMPLETE WITH VALVES, STOPS, STRAPS AND PIPING.
15. PROVIDE PROTECTION FOR ALL CONNECTIONS AND POINTS OF CONTACT OF DISSIMILAR METALS FROM ELECTROLYTIC CORROSION. PROVIDE DIELECTRIC WATERWAYS AT ALL WATER HEATER CONNECTIONS, "CLEARFLOW" AS MANUFACTURED BY VICTAULIC, OR APPROVED EQUAL.
16. MAKE WATER CONNECTIONS TO FIXTURES ABOVE FLOOR.
17. PROVIDE CLEANOUTS IN ACCORDANCE WITH APPROPRIATE CODES AND REGULATIONS AND AS SHOWN. PROVIDE 18-INCH MINIMUM CLEARANCE FOR RODDING OF CLEANOUTS. PROVIDE CLEANOUTS AT THE BASE OF ALL SOIL AND WASTE STACKS. PROVIDE ACCESS DOORS FOR CLEANOUTS IN INACCESSIBLE LOCATIONS.
18. PROVIDE ISOLATION VALVES ON CW AND HW SUPPLY MAINS AS INDICATED.
19. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED.
20. DO NOT ROUTE WATER PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
21. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH MSS SP-58 AND MSS SP-69 AND PER THE FLORIDA BUILDING CODE.
22. CONFIRM LOCATION AND ELEVATION OF ALL CROSSING LINES PRIOR TO INSTALLING ANY PIPE. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
23. ALL ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH THE UNIFORM FEDERAL ACCESSIBILITY STANDARD.
24. POTABLE WATER SYSTEMS SHALL BE SANITIZED AND TESTED PER AWWA C651-92.
25. VALVES INCLUDED IN POTABLE WATER SUPPLY PIPING SHALL BE BRONZE GATE VALVES PER MSS SP-80 OR BALL VALVES PER MSS SP-110, CLASS 125, WITH SOLDER OR THREADED END CONNECTIONS.
26. PROVIDE ONE PIECE CHROMIUM PLATED ON COPPER ALLOY ESCUTCHEON PLATES FOR ALL PIPING PASSING THROUGH WALLS IN FINISHED SPACES. PROVIDE PAINTED FINISH ON METAL IN UNFINISHED SPACES.
27. EXPOSED HOT WATER PIPING INSULATION: PROVIDE 1" THICK MOLDED FIBERGLASS INSULATION WITH PRE-SIZED FACTORY APPLIED FRJ JACKET OF GLASS CLOTH WITH LONGITUDINAL LAP AND BUTT JOINT STRIPS WITH SELF SEALING ADHESIVE OR 1" THICK FOAMED PLASTIC INSULATION.
28. PROVIDE SUBMITTALS AS INDICATED ON THE PLUMBING SUBMITTALS TABLE ON THIS DRAWING. MARK EQUIPMENT TO BE PROVIDED CLEARLY, INCLUDING OPERATING CAPACITIES AND REQUIREMENTS PER THE SCHEDULES AND SPECIFICATIONS.

PLUMBING SUBMITTALS

ITEM	PRODUCT DATA	SHOP DRAWINGS		TEST REPORTS		COORDINATION DRAWINGS		WIRING DIAGRAMS		O & M MANUAL	
		1	2	1	2	1	2	1	2	1	2
PIPE AND FITTINGS	X X										
VALVES	X X									X	X
PLUMBING FIXTURES	X X									X	X

NOTES:
(1)FOR REVIEW
(2)FOR RECORD



BID SET

STEVE STEVEN
FL PE# 81352

SHEET

P-001



913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
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DATE						
REVISIONS						

PORT ORANGE CITY HALL
ANNEX RENOVATIONS
ABBREVIATIONS, LEGEND AND NOTES
DUNLAWTON AVE.
PORT ORANGE FL. 32128

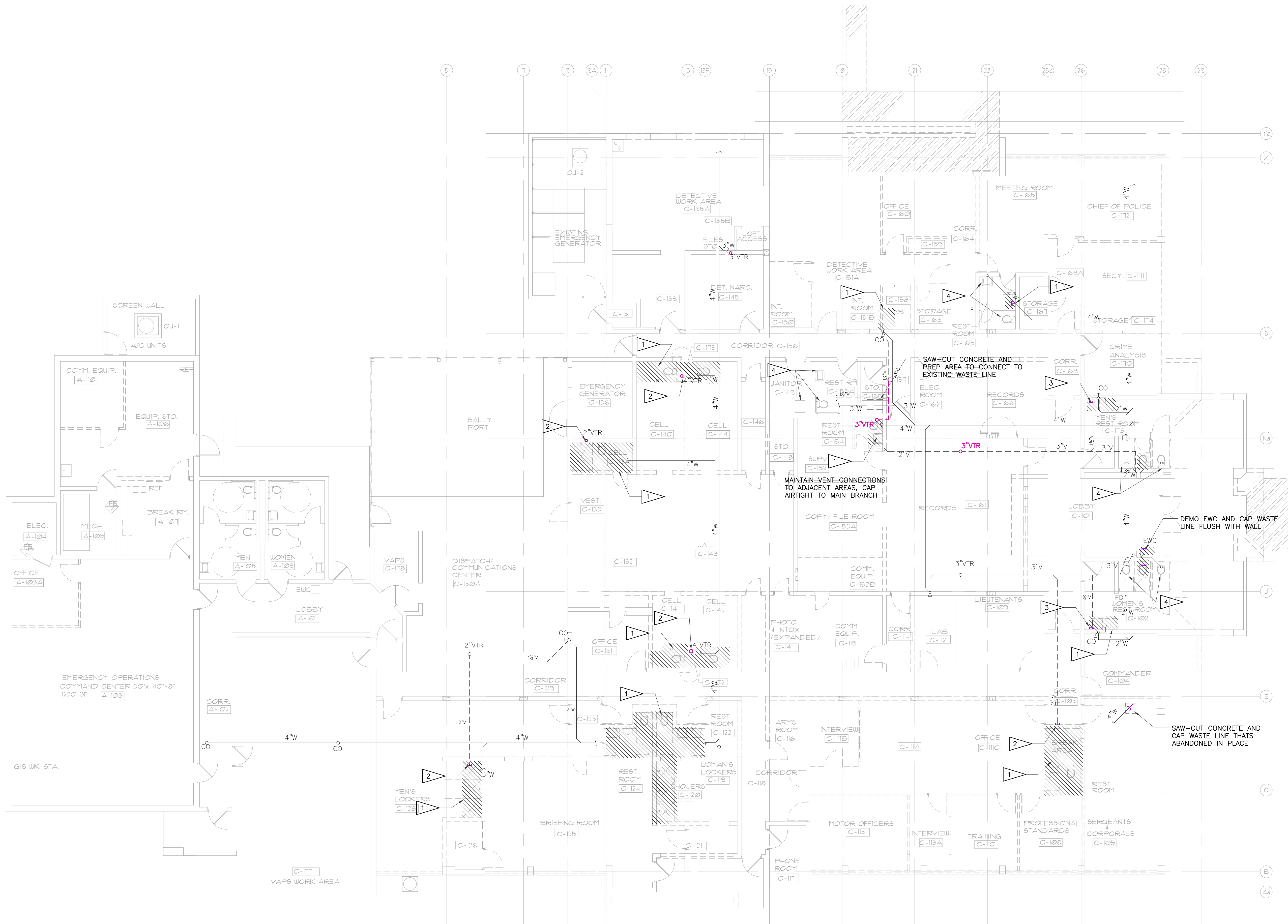
PJT#: 17-016
DATE:08-29-2017
DRN BY: P. ROOT
DGN BY: J. WALLACE
REV BY: L. MIZED

GENERAL NOTES:

1. ALL WASTE PIPING SHALL BE PVC SCHEDULE 40
2. REPLACE TOILET FLANGE IF CONDITION IS UNACCEPTABLE.

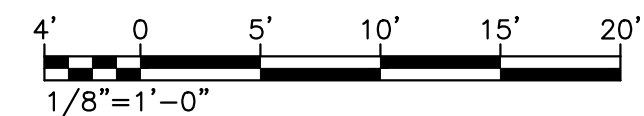
FLAG NOTES:

- 1 DEMO ALL FIXTURES IN HATCHED AREA, CAP EXISTING WASTE PIPING OF FIXTURES THAT ARE NOT BEING REPLACED, BY PROVIDING A PERMANENT AIRTIGHT CAP FLUSH WITH TOP OF CONCRETE FLOOR. PREP FLOOR FOR NEW FINISHED FLOOR MATERIAL. SEE ARCH.
- 2 DEMO VENT PIPING IN WALLS AND CEILING UP TO MAIN PIPE. CAP VENT PIPING IN CEILING WITH AIRTIGHT CAP.
- 3 REMOVE SINKS IN COUNTER AND CAP ONE WASTE LINE UNDER-COUNTER TO FINISHED WALL, RE-USE OTHER FOR NEW FIXTURE.
- 4 FIXTURES TO BE DEMOED AND REPLACED AT SAME LOCATION.



DWV PLAN - DEMO

GRAPHIC SCALE

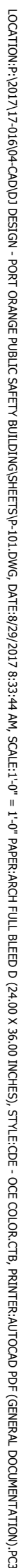


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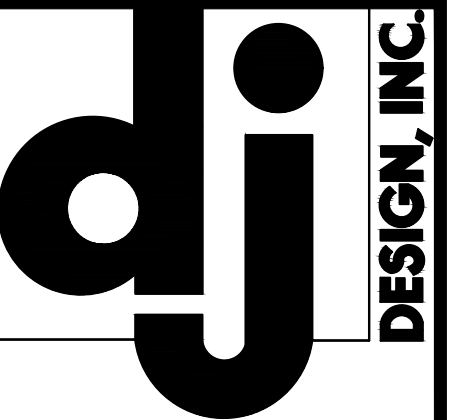
STEVE STEVEN
FL PE# 81352



PD-102



1. PROVIDE NEW FIXTURES AS INDICATED ON
FIXTURE SCHEDULE ON P-001.
2. RE-USE EXISTING WASTE CONNECTIONS NEARBY
UNLESS OTHERWISE NOTED.
3. REFER TO DETAIL ON M-500 FOR THE CONCRETE
REPAIR DETAIL AFTER PIPE INSTALLATION.



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[illegible]

**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**

DWV PLAN - NEW

DUNLAWTON AVE.
PORT ORANGE FL, 32128

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	P. ROOT
DGN BY:	S. STEVEN
REV BY:	P. THOMAS

SHEET

P-101

BID SET

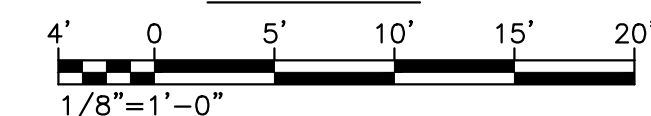
STEVE STEVEN
FL PE# 81352

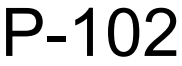


DWV PLAN - NEW

1/8" = 1'-0"

GRAPHIC SCALE





ELECTRICAL ABBREVIATION LIST

(SOME MAY NOT BE USED)

A	AMPERES	OC	ON CENTER
AC	ABOVE COUNTER	OD	OUTSIDE DIAMETER
A/C	AIR CONDITIONER	OF	OUTSIDE FACE
ACT	ACOUSTIC CEILING TILE	OPNG	OPENING
ADA	AMERICAN DISABILITY ACT	ORIENT	ORIENTATION
AFF	ABOVE FINISH FLOOR		
AHU	AIR HANDLING UNIT	P	POLE
ATS	AUTOMATIC TRANSFER SWITCH	PAC	PACKAGED AC UNIT
AFG	ABOVE FINISHED GRADE	PAR	PARALLEL
AWG	AMERICAN WIRE GAUGE	PB	PULL BOX/PULL BUTTON
APPROX	APPROXIMATELY	PNL	PANEL/PANELBOARD
ARCH	ARCHITECTURAL, ARCHITECT	PVC	POLYVINYL CHLORIDE
		PVC40	PVC SCHEDULE 40
BC	BELOW COUNTER	PWR	POWER
BLDG	BUILDING		
BU	BUILT UP	QTY	QUANTITY
C	CONDUIT		
COMM	COMMUNICATIONS	R	EXISTING TO BE REPLACED /REMOVED
CU	COPPER	RA	ROOF ACCESS
CL	CLEAR/CLEARANCE	RAD	RADIATOR
¢	CENTER LINE	RD	ROOF DRAIN
CO	COMPANY	REF	REFERENCE
CON'T	CONTINUOUS	RGS	RIGID GALVANIZED STEEL
COORD	COORDINATE	REQ'D	REQUIRED
CT	COILING TOWER	RM	ROOM
CWP	CHILLED WATER PUMP	RMC	RIGID METAL CONDUIT
		RSG	RIGID STEEL CONDUIT
DS	DISCONNECT SWITCH		
DWG	DRAWING	SCH	SCHEDULE
DEG	DEGREE	SEC	SECURITY
DEP	DEPARTMENT	SF	SUPPLY FAN
DIA	DIAMETER	SIM	SIMILAR
DIAG	DIAGONAL	SN	SOLID NEUTRAL
DIM	DIMENSION	SP	SPACING
DIST	DISTANCE	SPA	SPACE(S)
DN	DWN	SPEC	SPECIFICATION
DR	DRAIN	SPECS	SPECIFICATIONS
DWG	DRAWING	SQ	SQUARE
		SS	STAINLESS STEEL
E	EXISTING	STD	STANDARD
ECB	ENCLOSED CIRCUIT BREAKER	SW	SWITCH
EF	EXHAUST FAN	SWBD	SWITCHBOARD
ELEV	ELEVATION	SWGR	SWITCHGEAR
ELEC	ELECTRICAL/ELECTRIC		
EMH	ELECTRICAL MANHOLE	T/	TOP OF
EMS	ENERGY MANAGEMENT SYSTEM	T/S	TIMESWITCH
EMT	ELECTRICAL METALLIC TUBING	TEL	TELEPHONE
ENG	ENGINEER	TTC	TELEPHONE TERMINAL CABINET
EOR	ENGINEER OF RECORD	TEMP	TEMPORARY
EQUIP	EQUIPMENT	TR	TRANSFORMER
EXCL	EXCLUDING	TSP	TWISTED SHIELDED PAIR
EXIST	EXISTING	TYP	TYPICAL
EXT	EXTERIOR	TV	TELEVISION
EWC	ELECTRIC WATER COOLER		
		UC	UNDER COUNTER
FA	FIRE ALARM	UG	UNDERGROUND
FACP	FIRE ALARM CONTROL PANEL	UH	UNIT HEATER
FD	FLOOR DRAIN	UL	UNDERWRITER'S LABORATORIES
FF	FINISHED FLOOR	UON	UNLESS OTHERWISE NOTED
FG	FINISHED GRADE		
FL	FLOOR	V	VOLTS
FTL	FEED THRU LUGS	VOL	VOLUME
G	GROUND	W	WIRE
GALV	GALVANIZED	W/	WITH
GC	GENERAL CONTRACTOR	W/O	WITHOUT
GEC	GROUND ELECTRODE CONDUCTOR	W/W	WIREFWAY
GF	GROUND FAULT	WH	WATER HEATER
GFI	GROUND FAULT INTERRUPTER	WP	WEATHER PROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	WT	WEIGHT
GND	GROUND		
GRC	GALVANIZED RIGID CONDUIT	XFMR	TRANSFORMER
HORIZ	HORIZONTAL	Y	WYE (CONNECTED)
HID	HIGH INTENSITY DISCHARGE		
HP	HORSE POWER	Z	ZONE
HT	HEIGHT		
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	3R	NEMA TYPE 3R
		4X	NEMA TYPE 4X
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
IN	INCH		
INT	INTERIOR		
INV	INVERT		
JST	JOIST		
JT	JOINT		
JBOX	JUNCTION BOX		
KAIC	(THOUSAND) AMPERE INTERRUPTING CAPACITY		
KCMIL	THOUSANDS OF CIRCULAR MILS		
KVA	KILOVOLT--AMPERES		
KW	KILOWATT		
L	LENGTH		
LB	LOAD BANK		
LC	LIGHTING CONTACTOR		
LED	LIGHT EMITTING DIODE		
LFNC	LIQUID TIGHT FLEX NONMETALLIC CONDUIT		
LTG	LIGHTING		
MANUF	MANUFACTURER		
MAT	MATERIAL		
MCB	MAIN CIRCUIT BREAKER		
MCU	MASTER CONTROL UNIT		
MDP	MAIN DISTRIBUTION PANEL		
MECH	MECHANICAL		
MH	MANHOLE/METAL HALIDE		
MLO	MAIN LUG ONLY		
MAX	MAXIMUM		
MTD	MOUNTED		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MTL	METAL		
MTS	MANUAL TRANSFER SWITCH		
MV	MEDIUM VOLTAGE		
N	NUETRAL		
NA	NOT APPLICABLE		
NC	NORMALLY CLOSED		
NEC	NATIONAL ELECTRICAL CODE		
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION		
NF	NON--FUSED		
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION		
NIC	NOT IN CONTRACT		
NL	NIGHT LIGHT		
NO	NORMALLY OPEN		
NTS	NOT TO SCALE		

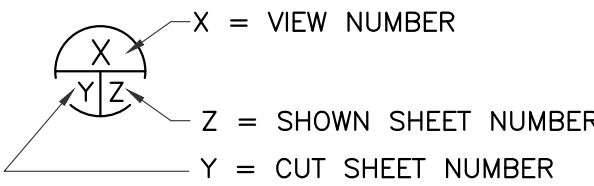
ELECTRICAL LEGEND:

NOTE: NOT EVERY LEGEND SYMBOL IS USED IN THIS PROJECT.

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	1X4 LUMINAIRE		PHOTO CALLOUT
	2X4 LUMINAIRE		FLAG NOTE IDENTIFIER
	2X4 LUMINAIRE CONNECTED TO EMERGENCY POWER		OCCUPANCY SENSOR WALL MOUNTED
	STRIP LIGHT		OCCUPANCY SENSOR CEILING MOUNTED
	EXIT SIGN, SHADED AREA SHOWS EXIT DIRECTION		SWITCH: SINGLE, 3--WAY, 4--WAY, KEY SWITCH
	DOWNLIGHT FIXTURE		SWITCH: DIMMER
	WALL MOUNTED LIGHT FIXTURE		DUPLEX RECEPTACLE
	EMERGENCY LIGHT FIXTURE		QUAD RECEPTACLE
	POWER PANELBOARD		GFI DUPLEX RECEPTACLE
	DISTRIBUTION TRANSFORMER (VOLTAGE, PHASE, RATINGS AS INDICATED)		GFI, WATERPROOF HOUSING DUPLEX RECEPTACLE
	EQUIPMENT CONNECTION		GFI, DUPLEX RECEPTACLE CONNECTED TO TIMECLOCK
	PULL BOX (SIZE AS INDICATED)		FIRE ALARM TERMINAL CABINET
	VARIABLE FREQUENCY DRIVE (VFD) WITH INTEGRAL DISCONNECT		FIRE ALARM CONTROL PANEL
	ELECTRICAL SUB--METER		HORN AND STROBE COMBINATION
	TRANSIENT VOLTAGE SURGE SUPPRESSOR		SMOKE DETECTOR
	GROUNDING CIRCUIT		FIRE ALARM PULL STATION
	MOTOR		STROBE
	DISCONNECT SWITCH XXX = SIZE YYY = FUSE (NF=NON--FUSED)		HEAT DETECTOR
	DOUBLE GANG, DEEP BOX, SINGLE MUD RING, AND 1" EMPTY CONDUIT WITH PULL STRING STUBBED ABOVE CEILING TO CABLE TRAY.		DUCT SMOKE DETECTOR
	CEILING MOUNTED DOUBLE GANG, DEEP BOX, SINGLE MUD RING, AND 1" EMPTY CONDUIT WITH PULL STRING STUBBED ABOVE CEILING TO CABLE TRAY.		SMOKE DETECTOR, ELEVATOR RECALL
	CCTV CAMERA		SINGLE STATION SMOKE DETECTOR AT GUEST ROOMS
	TELECOMMUNICATIONS GROUND BUSBAR		SPRINKLER SYSTEM FLOW SWITCH CONNECTION
			SPRINKLER SYSTEM TAMPER SWITCH CONNECTION

GENERAL ELECTRICAL NOTES:

1. APPLICABLE CODES:
 - FLORIDA BUILDING CODE 5TH EDITION
 - FLORIDA FIRE PREVENTION CODE 5TH EDITION
 - NATIONAL ELECTRICAL CODE 2011
2. IT IS THE INTENT OF THESE CONTRACT DRAWINGS TO PROVIDE A COMPLETE AND WORKABLE FACILITY.
3. DESIGN DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS, ELBOWS, OR OTHER SPECIFIC ELEMENTS THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF THE WORK. SUCH WORK SHALL BE VERIFIED AT THE SITE. ADDITIONAL BENDS, OFFSETS, AND CONDUIT AS REQUIRED BY VERTICAL AND HORIZONTAL EQUIPMENT LOCATIONS OR OTHER JOB CONDITIONS, SHALL BE PROVIDED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
4. EXCEPT WHERE SHOWN IN DIMENSIONAL DETAIL, THE LOCATIONS OF EQUIPMENT SHOWN ON PLANS ARE APPROXIMATE. SUCH ITEMS SHALL BE PLACED TO ELIMINATE INTERFERENCE WITH OTHER EQUIPMENT. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE NATIONAL & LOCAL CODES.
6. MATERIALS SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. SHOULD PLANS AND CODES CONFLICT, CONTACT THE CONSTRUCTION MANAGER. MAKE NO CHANGES, EVEN IN CASE OF CONFLICT, WITHOUT FIRST OBTAINING THE APPROVAL OF THE BUILDING CONSTRUCTION MANAGER.
7. IN ACCORDANCE WITH NFPA 70, GROUND EXPOSED, NON CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN METALLIC RACEWAYS.
8. BONDING JUMPERS SHALL BE USED TO BOND CONDUIT TO ENCLOSURES, BOXES, AND EQUIPMENT WHERE CONCENTRIC OR ECCENTRIC KNOCKOUTS ARE USED.
9. EQUIPMENT SIZES INDICATED ARE MINIMUM, BEFORE INSTALLING ANY WIRE OR CONDUIT, THE SUBCONTRACTOR SHALL OBTAIN THE EXACT EQUIPMENT REQUIREMENTS AND SHALL INSTALL WIRE, CONDUIT, CIRCUIT BREAKERS AND OTHER ITEMS OF THE CORRECT SIZE FOR THE EQUIPMENT ACTUALLY INSTALLED. HOWEVER, WIRE AND CONDUIT SIZES FOR THE EQUIPMENT SHALL BE TAKEN AS A MINIMUM AND SHALL NOT BE REDUCED WITHOUT WRITTEN APPROVAL.
10. THE INSTALLATION OF THE ELECTRICAL WORK SHALL BE COORDINATED WITH THE WORK OF THE OTHER TRADES.
11. THE INSTALLATION SHALL BE ACCOMPLISHED BY WORKERS SKILLED IN THIS TYPE OF WORK WITH APPROPRIATE LICENSES.
12. THE CONTRACTOR SHALL INSTALL HIS WORK IN SUCH A MANNER AND AT SUCH A TIME AS WILL REQUIRE A MINIMUM OF CUTTING AND PATCHING OF THE BUILDING STRUCTURE.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING UTILITIES FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF THE UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK.
14. ALL BOLTS, NUTS, WASHERS, ETC. USED FOR GROUNDING AND BONDING CONNECTIONS SHALL BE SILICON BRONZE. CONTRACTOR SHALL UTILIZE CONNECTORS TO PREVENT GALVANIC ACTION.
15. ALL EXPOSED ELECTRICAL CONDUIT VULNERABLE TO MECHANICAL DAMAGE SHALL BE RIGID GALVANIZED STEEL, UNLESS NOTED OTHERWISE. ALL OTHER CONDUIT INSIDE FACILITY SHALL BE ELECTRICAL METAL TUBE (EMT). CONDUITS SHALL BE SUPPORTED BY SUITABLE CLAMPS, HANGERS OR STRAPS TO PROVIDE A RIGID INSTALLATION.
16. CONDUIT SUPPORTS SHALL NOT BE FASTENED OR ATTACHED TO OTHER PIPES. PERFORATED STRAP HANGERS WILL NOT BE ALLOWED. EMPTY CONDUIT SHALL BE THOROUGHLY SWABBED OUT WITH DRY SWAB TO REMOVE MOISTURE AND DEBRIS BEFORE WIRE IS DRAWN IN. END OF CONDUIT SHALL BE TIGHTLY PLUGGED UNTIL WIRE IS PULLED. NO CONDUIT SHALL BE LOCATED TO IMPAIR THE STRENGTH OF STRUCTURAL MEMBERS. MAKE CHANGES IN DIRECTION OF RUNS WITH SYMMETRICAL BENDS. DO NOT INSTALL CRUSHED OR DEFORMED CONDUITS. AVOID TRAPPED CONDUITS. PREVENT PLASTER, DIRT, OR TRASH FROM LODGING IN CONDUIT, BOXES, FITTINGS. FREE CLOGGED CONDUITS OF OBSTRUCTIONS.
17. CONTRACTOR SHALL PROVIDE ALL NECESSARY LUGS FOR NEW PANELBOARDS AND ELECTRICAL EQUIPMENT TO HANDLE THE NUMBER AND SIZE OF CONDUCTORS SHOWN ON CONTRACT DOCUMENTS.



VIEW CALLOUT BUBBLE
N.T.S.

BID SET

BRIAN K. WILLIAMS
FL PE# 81366



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DATE									
REVISIONS									

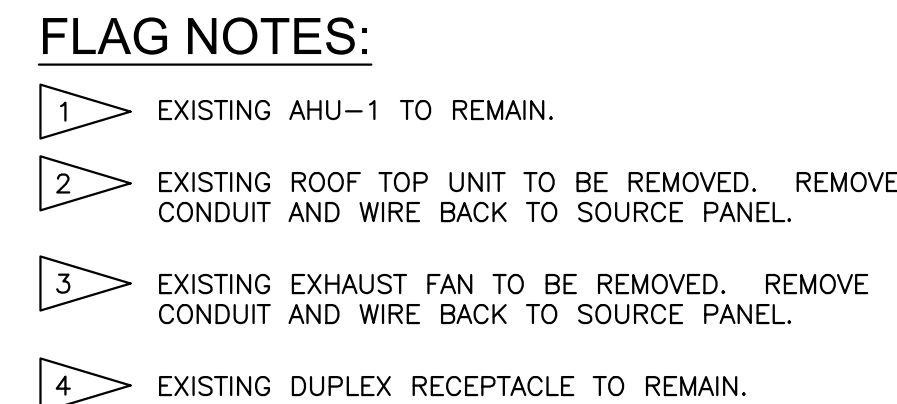
PORT ORANGE CITY HALL
ANNEX RENOVATIONS
ELECTRICAL ABBREVIATIONS, LEGENDS,
AND NOTES
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#: 17-016
DATE: 08-29-2017
DRN BY: B. WILLIAMS
DGN BY: B. WILLIAMS
REV BY: V. DIAZ

SHEET

E-100





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[illegible]

POWER DEMOLITION PLAN - ROOF

DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	B. WILLIAMS
DGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

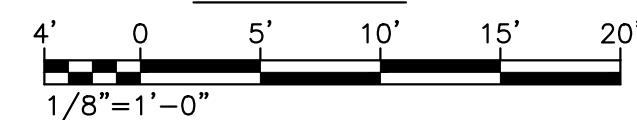
SHEET

ED-202

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

GRAPHIC SCALE



[illegible]

***PORT ORANGE CITY HALL
ANNEX RENOVATIONS***
SYSTEMS AND FIRE ALARM DEMOLITION
PLAN
*DUNLAWTON AVE.
PORT ORANGE FL 32128*

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	B. WILLIAMS
DGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

SHEET

ED-301

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

GENERAL NOTES:

1. ALL EXISTING FIRE ALARM NOTIFICATION DEVICES, INITIATING DEVICES, CONDUIT, AND WIRE SHALL BE REMOVED, UON.
2. ALL EXISTING COMMUNICATIONS OUTLETS, CONDUIT, AND WIRE SHALL BE REMOVED BACK TO DATA RACK, UON.

FLAG NOTES:

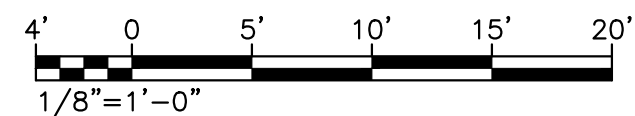
- 1 REMOVE EXISTING PLYWOOD BACKBOARD AND COMMUNICATIONS EQUIPMENT.
- 2 EXISTING DATA RACK, PLYWOOD BACKBOARD, COMMUNICATION DEVICES, AND EQUIPMENT IN THIS ROOM TO REMAIN.
- 3 EXISTING DATA RACK TO BE REMOVED AND TURNED OVER TO OWNER. DISCONNECT ALL CONNECTIONS TO DATA RACK. SEE SHEET E-301 FOR NEW LOCATION.
- 4 EXISTING FIRE ALARM PANEL TO BE REMOVED. REMOVE EXISTING FIRE ALARM DEVICES, CONDUIT, AND WIRE BACK TO PANEL.
- 5 EXISTING COMMUNICATIONS DEVICES IN THIS ROOM TO REMAIN.



SYSTEMS AND FIRE ALARM DEMOLITION PLAN

$$\frac{1}{8}'' = 1'-0''$$

GRAPHIC SCALE



**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**

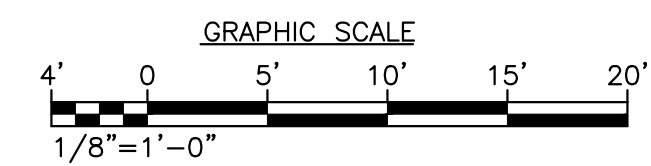
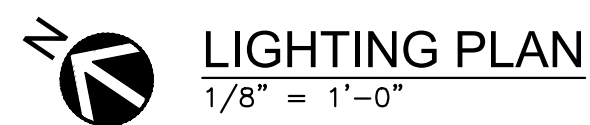
LIGHTING PLAN

DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	B. WILLIAMS
DGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

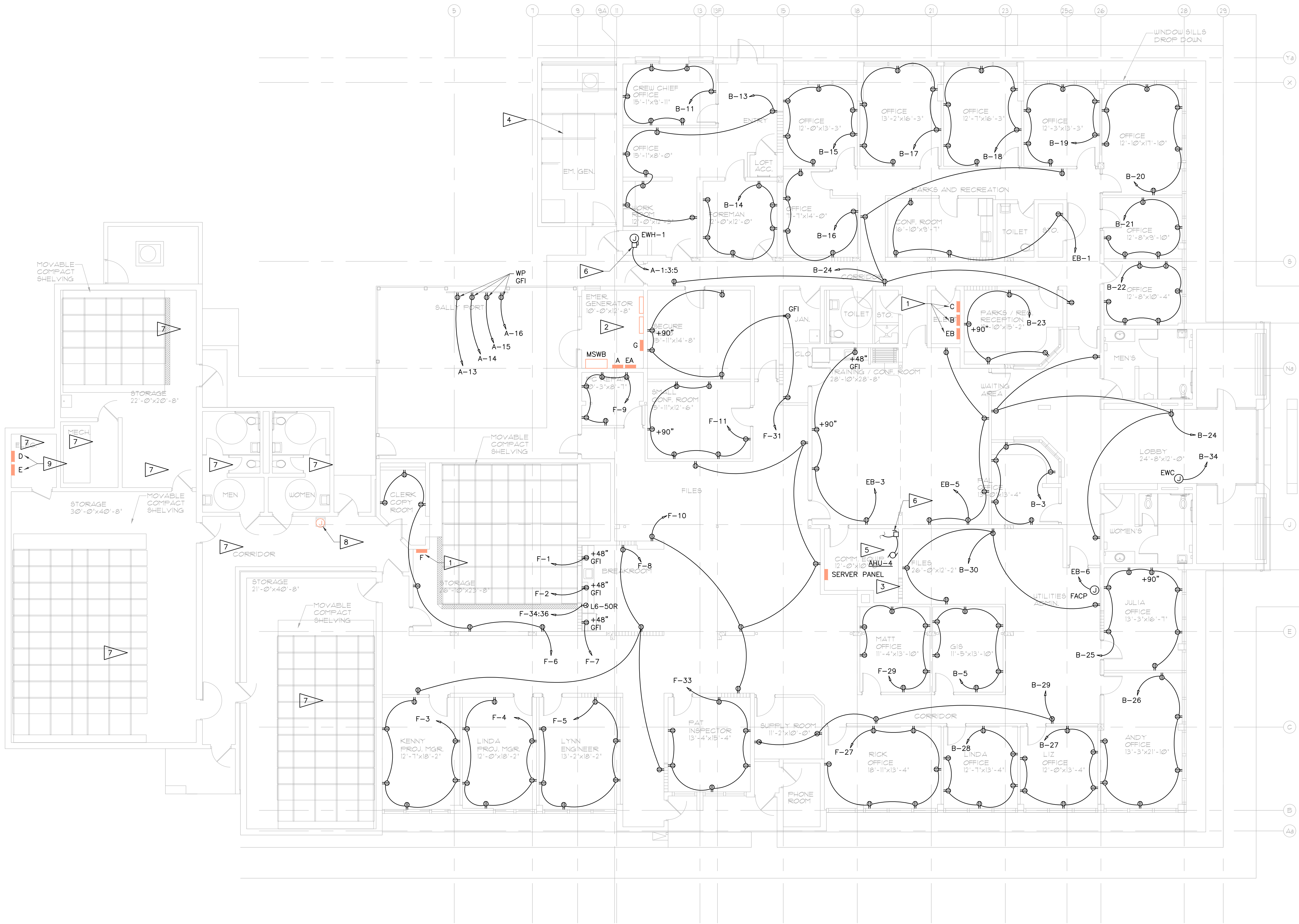
E-101

BRIAN K. WILLIAMS
FL PE# 81366



FLAG NOTES:

1. EXISTING PANEL TO REMAIN FOR RE-USE.
2. ALL EXISTING ELECTRICAL EQUIPMENT IN THIS ROOM TO REMAIN.
3. EXISTING ELECTRICAL DEVICES, EQUIPMENT, AND PANELBOARDS IN THIS ROOM ARE EXISTING TO REMAIN.
4. EXISTING EMERGENCY GENERATOR TO REMAIN. REPLACE EXISTING GENERATOR HOUSING.
5. AIR HANDLING UNIT PROVIDED BY MECHANICAL CONTRACTOR. SEE SHEET E-203 FOR CONTINUATION.
6. PROVIDE 240V, 3-POLE, 60A, HEAVY-DUTY DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.
7. EXISTING RECEPTACLES AND ELECTRICAL DEVICES IN THIS ROOM TO REMAIN, UON.
8. CONNECTION FOR EWC. UTILIZE EXISTING CONDUIT AND WIRE. CONNECT TO EXISTING CIRCUIT.
9. EXISTING PANEL TO REMAIN.



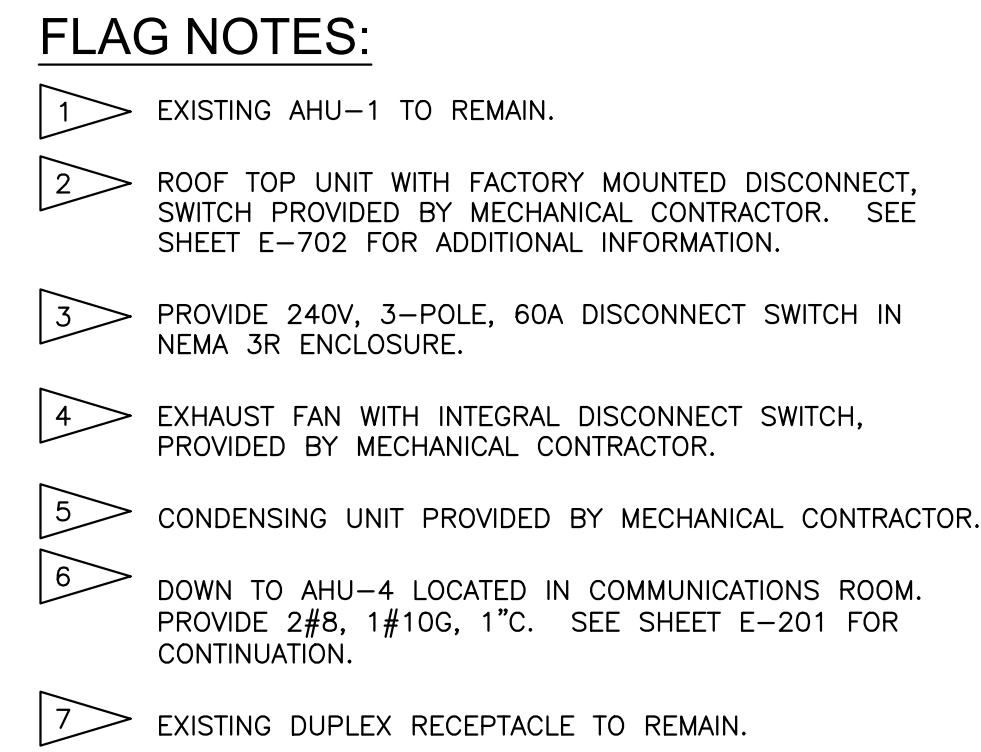
 **POWER PLAN**
1/8" = 1'-0"

GRAPHIC SCALE

$1/8" = 1'-0"$

BID SET

BRIAN K. WILLIAMS
FL PE# 81366



**913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989**



**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**

POWER PLAN - ROOF

DUNLAWTON AVE.
PORT ORANGE FL 32128

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	B. WILLIAMS
DGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

E-203

BRIAN K. WILLIAMS
FL PE# 81366

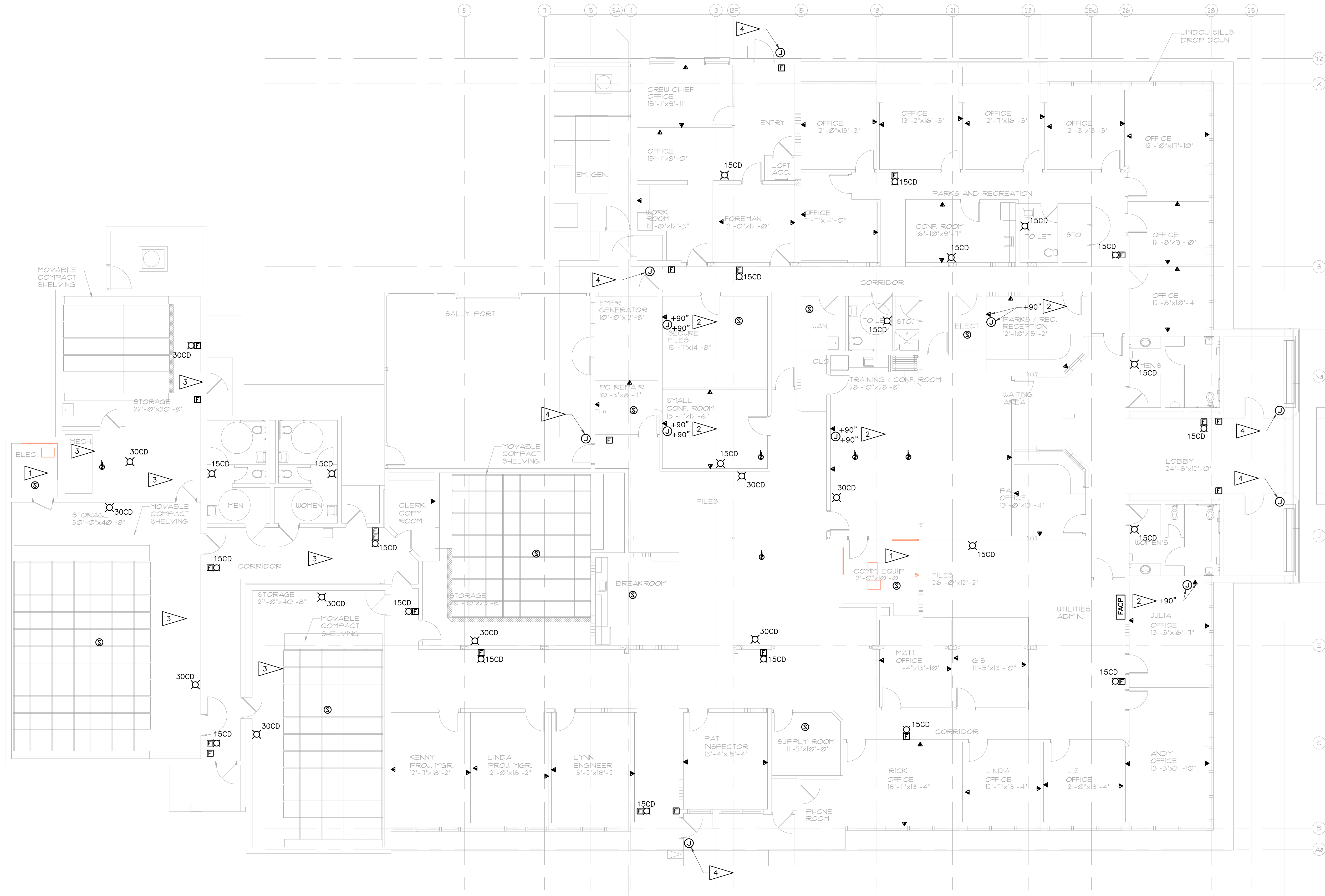


GENERAL NOTES:

1. FOR ALL TELECOMM DEVICES, PROVIDE DOUBLE GANG, DEEP BOX, SINGLE MUD RING, AND 1" EMPTY CONDUIT STUBBED UP ABOVE CEILING TO CABLE TRAY.

FLAG NOTES:

- 1 EXISTING DATA RACK, PLYWOOD BACKBOARD, COMMUNICATION DEVICES AND EQUIPMENT IN THIS ROOM TO REMAIN.
- 2 COORDINATE LOCATION OF DEVICES WITH RECEPTACLE FOR TELEVISION. SEE SHEET E-201.
- 3 EXISTING COMMUNICATIONS DEVICES IN THIS ROOM TO REMAIN.
- 4 JUNCTION BOX FOR MAGNETIC LOCK. PROVIDE 1" STUBBED ABOVE INTERIOR CEILING.



 **SYSTEMS AND FIRE ALARM PLAN**
1/8" = 1'-0"

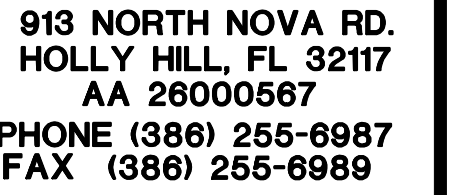
GRAPHIC SCALE

4' 0 5' 10' 15' 20'

$1/8" = 1'-0"$

BID SET

BRIAN K. WILLIAMS
FL PE# 81366



CDE
COMPANY

engineering ::: design/build
construction

775 E Merritt Island Cswy
Suite 230 :: Merritt Island, FL 32952
(321) 799-2970 :: www.cdccom.com
Business License: #EB8072

[illegible]

**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**

CABLE TRAY LAYOUT PLAN

DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#:	17-016
DATE:	08-29-2017
BORN BY:	B. WILLIAMS
DOGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

HEET

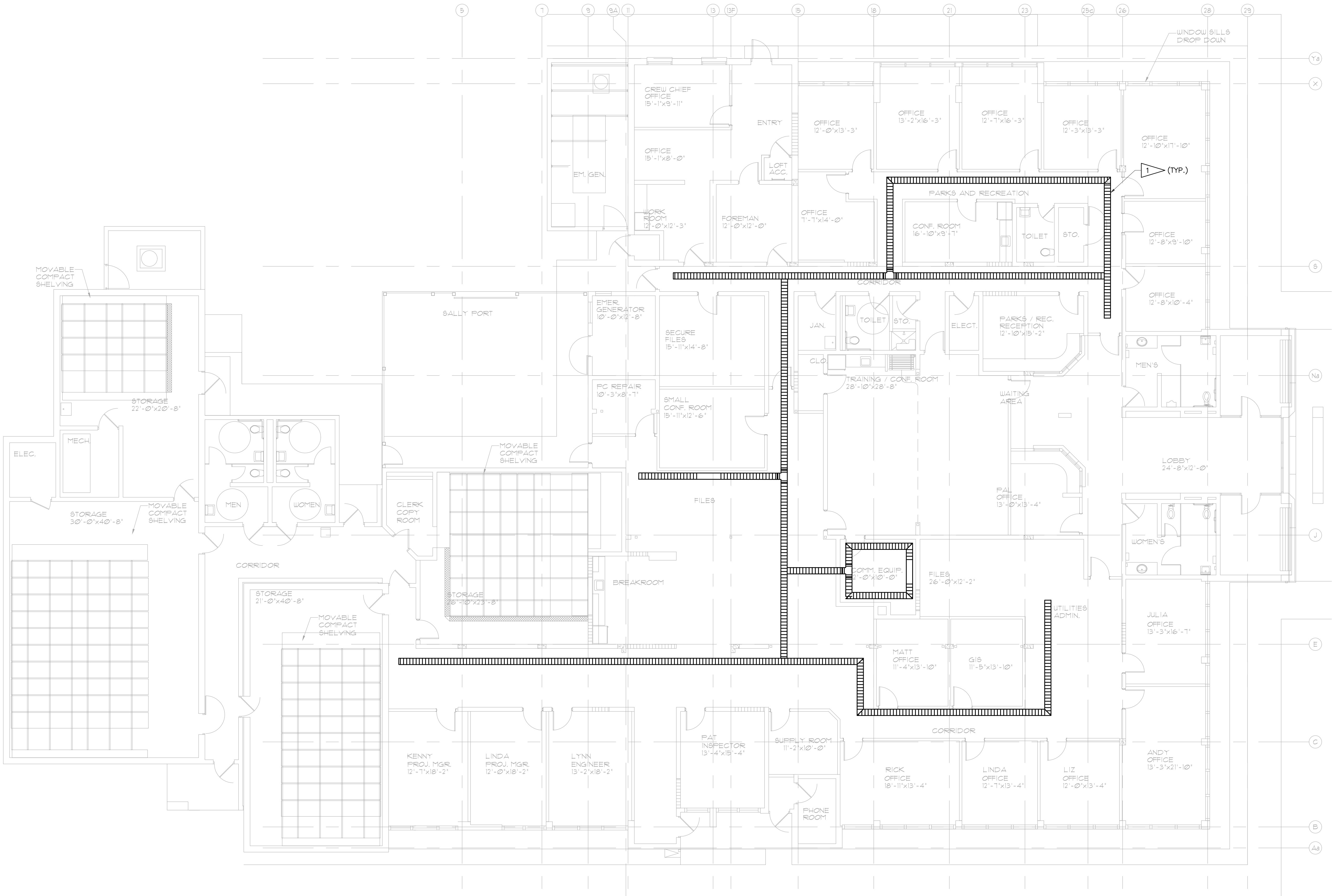
E-302

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

FLAG NOTES:

1 12" X 3" BASKET TYPE CABLE TRAY.

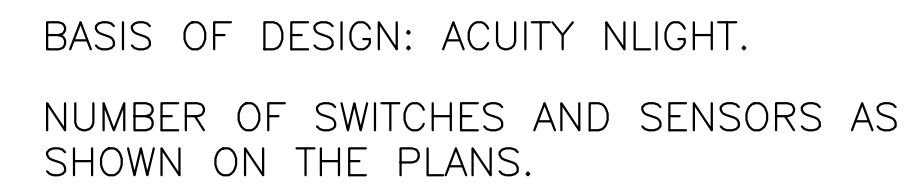


 **CABLE TRAY LAYOUT PLAN**
1/8" = 1'-0"

GRAPHIC SCALE

4' 0 5' 10' 15' 20'

1/8" = 1'-0"



N.T.S.

WIRE LEGEND	
	CAT 5 (LOW VOLTAGE)
	CLASS 1 (LINE VOLTAGE)
	CLASS 2 (LOW VOLTAGE)



**913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989**



775 E Merritt Island Cswy
Suite 230 :: Merritt Island, FL 32952
(321) 799-2970 :: www.cdeco.com
Business License: #EB8072

[illegible]

**PORT ORANGE CITY HALL
ANNEX RENOVATIONS**

ELECTRICAL DETAILS

*DUNLAWTON AVE.
PORT ORANGE FL. 32128*

PJT#:	17-016
DATE:	08-29-2017
DRN BY:	B. WILLIAMS
DGN BY:	B. WILLIAMS
REV BY:	V. DIAZ

SHEET

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

E-501

PANELBOARD: A												
V,P,W:208/120,3Ø,4W						RATING: 225A						
BUS MATERIAL: COPPER						TYPE: M.L.O.			MOUNTING: SURFACE			
REMARKS:						BREAKER TYPE: BOLT-ON			ENCLOSURE: NEMA 1			
						INT. RATING: 10 KAIC			LOCATION: GENERATOR ROOM			
CKT #	LOAD DESCRIPTION	WIRE SIZE	CB		PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT #
			P	TRIP	A	B	C	TRIP	P			
1	EQUIP - EWH-1	3#8, 1#10G, 1"C	3	35	3000	2500		25	3	3#10, 1#10G, 3/4"C	EQUIP - VAV-2.5, 2.6, 2.9, 2, 10	2
3						3000	2500					4
5							3000					6
7					3000	2500						8
9	EQUIP - VAV-2.2, 2.3, 2.7	3#10, 1#10G, 1"C	3	30		3000	2500	25	3	3#10, 1#10G, 3/4"C	EQUIP - VAV-2.1, 2.4, 2, 11	10
11							3000					12
13					600	600						14
15						600	600					16
17	LIGHTING	2#12, 1#12G, 3/4"C	1	20			1355	1786	20	1	2#12, 1#12G, 3/4"C	18
19	SPARE		1	20					20	1	SPARE	20
21	SPARE		1	20					20	1	SPARE	22
23	SPARE		1	20					30	2	(EXISTING)	24
25	EQUIP - WATER HEATER (EXISTING)	(EXISTING)	3	60	3000	1600		30	2	(EXISTING)	STREET LIGHTS (EXISTING)	26
27						3000	1600					28
29							3000					30
31					1800	1600						32
33	MTR - COMPRESSOR (EXISTING)	(EXISTING)	3	30		1800	1600	30	2	(EXISTING)	STREET LIGHTS (EXISTING)	34
35							1800					36
37												38
39												40
41	SPARE (EXISTING)		2	25				30	2	(EXISTING)	STREET LIGHTS (EXISTING)	42
CONNECTED LOAD=			65741 VA		20200	20200	25341	DEMAND LOAD= 62041 VA				

PANEL: A	REC	LTG	MTR	EQUIP
CONNECTED VA	17400	15941	5400	27000
DEMAND FACTOR	NEC	100%	100%	100%
DEMAND VA	13700	15941	5400	27000
TOTAL CONNECTED AMPS:	182 A			
TOTAL DEMAND AMPS:	172 A			

PANELBOARD: C												
V,P,W:208/120,3Ø,4W			RATING: 100A									
BUS MATERIAL: COPPER			TYPE: M.L.O.						MOUNTING: SURFACE			
REMARKS:			BREAKER TYPE: BOLT-ON						ENCLOSURE: NEMA 1			
			INT. RATING: 10 KAIC						LOCATION: ROOM C-162			
CKT	LOAD DESCRIPTION	WIRE SIZE	CB		PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT
			P	TRIP	A	B	C	TRIP	P			
1	SPARE		1	20				40	2		SPARE	2
3	SPARE		1	20								4
5	SPARE		1	20								6
7	SPARE		1	20								8
9	SPARE		1	20				20	1		SPARE	10
11	SPARE		1	20								12
13	SPARE		1	20								14
15	SPARE		1	20								16
17	SPARE		1	20				30	3		SPACE ONLY	18
19	SPARE		1	20								20
21	SPARE		1	20								22
23	SPACE ONLY		1	20								24
CONNECTED LOAD=			0 VA		0	0	0	DEMAND LOAD= 0 VA				

PANEL: C	REC	LTG	MTR	EQUIP
CONNECTED VA	0	0	0	0
DEMAND FACTOR	NEC	100%	100%	100%
DEMAND VA	0	0	0	0
TOTAL CONNECTED AMPS:	0 A			
TOTAL DEMAND AMPS:	0 A			

PANELBOARD: B															
V, P, W: 208/120, 3Ø, 4W					RATING: 225A										
BUS MATERIAL: COPPER					TYPE: M.L.O.					MOUNTING: SURFACE					
REMARKS:					BREAKER TYPE: BOLT-ON					ENCLOSURE: NEMA 1					
					INT. RATING: 10 KAIC					LOCATION: ROOM C-162					
CKT #	LOAD DESCRIPTION	WIRE SIZE	CB		PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT #			
			P	TRIP	A	B	C	TRIP	P						
1	MTR - EF-2	2#12, 1#12G, 3/4"C	1	20	264	3000						2			
3	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20			900	3000		30	3	3#10, 1#10G, 3/4"C	EQUIP - VAV-1.1, 1.5, 1.6, 1.7	4	
5	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					1080	3000				6	
7	EQUIP - VAV-1.4, 1.8, 2.8, 1.2	2#8, 1#10G, 1"C	2	25	2250	2833								8	
9							2250	2833			30	3	3#10, 1#10G, 3/4"C	EQUIP - VAV-1.3, 1.9, 1.10	10
11	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					1080	2833				12	
13	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20	1260	1080					20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	14
15	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20			1080	900			20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	16
17	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					1080	1080	20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	18
19	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20	1080	1080					20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	20
21	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20			900	1080			20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	22
23	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					720	900	20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	24
25	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20	1260	1080					20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	26
27	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20			1080	1080			20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	28
29	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					720	720	20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	30
31	SPARE		1	20		540					20	1	2#10, 1#10G, 3/4"C	RECEPTACLES	32
33	SPARE		1	20				1200			20	1	2#12, 1#12G, 3/4"C	EQUIP - EWC	34
35	SPARE		1	20							20	1		SPARE	36
37	EQUIP - PANEL 'C'	(EXISTING)	3	90	3000						20	1		SPARE	38
39							3000			20	1		SPARE	40	
									3000		20	1		SPARE	42
41												20	1		SPARE
CONNECTED LOAD=					54243 VA		18727	19303	16213	DEMAND LOAD= 48353 VA					

PANEL: B	REC	LTG	MTR	EQUIP
CONNECTED VA	21780	0	264	32199
DEMAND FACTOR	NEC	100%	100%	100%
DEMAND VA	15890	0	264	32199
TOTAL CONNECTED AMPS:	151 A			
TOTAL DEMAND AMPS:	134 A			

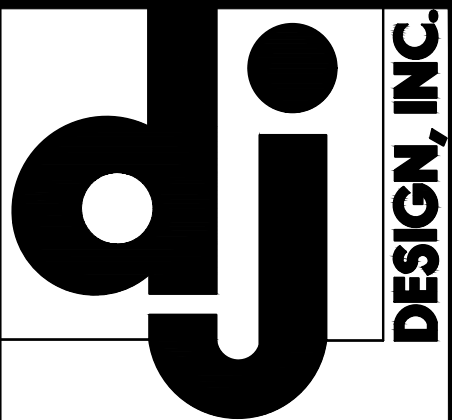
PANELBOARD: F																
V,P,W:208/120,3Ø,4W					RATING: 250A											
BUS MATERIAL: COPPER					TYPE: M.L.O.					MOUNTING: SURFACE						
REMARKS:					BREAKER TYPE: BOLT-ON					ENCLOSURE: NEMA 1						
					INT. RATING: 10 KAIC					LOCATION: ROOM A-104						
CKT	LOAD DESCRIPTION	WIRE SIZE	CB		PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT				
#			P	TRIP	A	B	C	TRIP	P			#				
1	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20	180	180			20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	2			
3	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20			1080	1080		20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	4		
5	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					1080	1080	20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	6	
7	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20		180	720				20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	8	
9	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20				900	1080		20	1	2#12, 1#12G, 3/4"C	RECEPTACLES	10	
11	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20					1080	900	20	1	EXISTING TO REMAIN	EXISTING LOAD	12	
13	EXISTING LOAD	EXISTING TO REMAIN	1	20		900	900				20	1	EXISTING TO REMAIN	EXISTING LOAD	14	
15	EXISTING LOAD	EXISTING TO REMAIN	1	20				900	900		20	1	EXISTING TO REMAIN	EXISTING LOAD	16	
17	EXISTING LOAD	EXISTING TO REMAIN	1	20						900	900	20	1	EXISTING TO REMAIN	EXISTING LOAD	18
19	EXISTING LOAD	EXISTING TO REMAIN	1	20		900	900				20	1	EXISTING TO REMAIN	EXISTING LOAD	20	
21	EXISTING LOAD	EXISTING TO REMAIN	1	20				900			20	1		SPARE	22	
23	EXISTING LOAD	EXISTING TO REMAIN	1	20						900		20	1		SPARE	24
25	SPARE		1	20							20	1		SPARE	26	
27	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20				1080	900		20	1	EXISTING TO REMAIN	EXISTING LOAD	28	
29	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20						1080	1128	20	1	2#12, 1#12G, 3/4"C	LIGHTING	30
31	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20		1080						20	1		SPARE	32
33	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20				1080	3328							34
35	SPARE		1	20							3328	50	2	2#8, 1#10G, 3/4"C	RECEPTACLE	36
37	SPARE		1	20			180									38
39	SPARE		1	20					180			30	3	(EXISTING)	TVSS (EXISTING)	40
41	SPARE		1	20						180						42
CONNECTED LOAD=					32084 VA			6120	13408	12556	DEMAND LOAD=			21876 VA		

PANELBOARD: EA														
V,P,W:208/120,3Ø,4W					RATING: 225A									
BUS MATERIAL: COPPER					TYPE: 225A M.C.B.					MOUNTING: SURFACE				
REMARKS:					BREAKER TYPE: BOLT-ON					ENCLOSURE: NEMA 1				
					INT. RATING: 10 KA/IC					LOCATION: GENERATOR ROOM				
CKT	LOAD DESCRIPTION	WIRE SIZE	CB			PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT	
#			P	TRIP	A	B	C	TRIP	P	#				
1	LIGHTING	2#12, 1#12G, 3/4"C	1	20	1022				20	1		SPARE	2	
3	LIGHTING	2#12, 1#12G, 3/4"C	1	20		1673			20	1		SPARE	4	
5	LIGHTING	2#12, 1#12G, 3/4"C	1	20				1502	20	1		SPARE	6	
7	LIGHTING	2#12, 1#12G, 3/4"C	1	20	903				20	1		SPARE	8	
9	SPARE		1	20					20	1		SPARE	10	
11	SPARE		1	20					20	1		SPARE	12	
13	SPARE		1	20					20	1		SPARE	14	
15	SPARE		1	20					20	1		SPARE	16	
17	SPARE		1	20					20	1		SPARE	18	
19	SPARE		1	20		1200			20	2	(EXISTING)	EQUIP - GENERATOR HEATER (EXISTING)	20	
21	SPARE		1	20			1200					EQUIP - SERVER PANEL (EXISTING)	22	
23	SPARE		1	20				6000			(EXISTING)		24	
25	SPARE		1	20		6000			90	3		EQUIP - SERVER PANEL (EXISTING)	26	
27	SPARE		1	20				6000			(EXISTING)		28	
29	SPARE		1	20				6000				EQUIP - PANEL 'EB' (EXISTING)	30	
31	SPACE ONLY					6000			90	3			32	
33	EQUIP - PANEL 'G' (EXISTING)	(EXISTING)	2	40			2400	6000					34	
35								2400						SPACE ONLY
37	SPARE		1	20								SPACE ONLY	38	
39	SPARE		1	20								SPACE ONLY	40	
41	SPACE ONLY											SPACE ONLY	42	
CONNECTED LOAD=			48300 VA			15125	17273	15902	DEMAND LOAD=			48300 VA		

PANEL: EA	REC	LTG	MTR	EQUIP
CONNECTED VA	0	5100	0	43200
DEMAND FACTOR	NEC	100%	100%	100%
DEMAND VA	0	5100	0	43200
TOTAL CONNECTED AMPS:	134 A			
TOTAL DEMAND AMPS:	134 A			

PANELBOARD: EB														
V,P,W:208/120,3Ø,4W				RATING: 225A										
BUS MATERIAL: COPPER				TYPE: M.L.O.						MOUNTING: SURFACE				
REMARKS:				BREAKER TYPE: BOLT-ON						ENCLOSURE: NEMA 1				
				INT. RATING: 10 KAIC						LOCATION: ROOM C-162				
CKT	LOAD DESCRIPTION	WIRE SIZE	CB		PHASE LOAD (VA)			CB		WIRE SIZE	LOAD DESCRIPTION	CKT		
#			P	TRIP	A	B	C	TRIP	P			#		
1	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20	720	1913			35	2	2#8, 1#10G, 1"C	2		
3	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20		720	1913					4		
5	RECEPTACLES	2#12, 1#12G, 3/4"C	1	20				900	540	20	1	2#12, 1#12G, 3/4"C	EQUIP - FIRE ALARM PANEL	6
7	SPARE		1	20						20	1		SPARE	8
9	SPARE		1	20						20	1		SPARE	10
11	SPARE		1	20						20	1		SPARE	12
13	SPARE		1	20						20	1		SPARE	14
15	SPARE		1	20						20	1		SPARE	16
17	SPARE		1	20						20	1		SPARE	18
19	SPARE		1	20						20	1		SPARE	20
21	SPARE		1	20						20	1		SPARE	22
23	SPARE		1	20						20	1		SPARE	24
25	SPARE		1	20						20	1		SPARE	26
27	SPARE		1	20						20	1		SPARE	28
29	SPARE		1	20						20	1		SPARE	30
31	SPARE		1	20						20	1		SPARE	32
33	SPARE		1	20						20	1		SPARE	34
35	SPARE		1	20						20	1		SPARE	36
37	SPARE		1	20						20	1		SPARE	38
39	SPARE		1	20						20	1		SPARE	40
41	SPARE		1	20						20	1		SPARE	42
CONNECTED LOAD=			6706 VA		2633	2633	1440	DEMAND LOAD=			6706 VA			

PANEL: EB	REC	LTG	MTR	EQUIP
CONNECTED VA	2340	0	3826	540
DEMAND FACTOR	NEC	100%	100%	100%
DEMAND VA	2340	0	3826	540
TOTAL CONNECTED AMPS:	19 A			
TOTAL DEMAND AMPS:	19 A			



913 NORTH NOVA RD.
HOLLY HILL, FL 32117
AA 26000567
PHONE (386) 255-6987
FAX (386) 255-6989



DATE									
REVISIONS									
DATE									

PORT ORANGE CITY HALL
ANNEX RENOVATIONS
ELECTRICAL SCHEDULES
DUNLAWTON AVE.
PORT ORANGE FL. 32128

PJT#: 17-016
DATE: 08-29-2017
DRN BY: B. WILLIAMS
DGN BY: B. WILLIAMS
REV BY: V. DIAZ

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

SHEET

E-602

[illegible]

TYPE	PICTURE	DESCRIPTION	CATALOG	LAMP	VOLTAGE	REMARKS
A		2'X4' LOW PROFILE LED TROFFER, 4000K, 4400 LUMENS NOMINAL	LSI #LPEC24-LED-HO-NW-UE OR EQUAL	LED	120	
AE		2'X4' LOW PROFILE LED TROFFER, 4000K, 4400 LUMENS NOMINAL WITH EMERGENCY BATTERY	LSI #LPEC24-LED-HO-NW-UE-EM OR EQUAL	LED	120	
B		2'X2' LOW PROFILE LED TROFFER, 4000K, 4250 LUMENS NOMINAL	LSI #LPEC22-LED-HO-NW-UE OR EQUAL	LED	120	
BE		2'X2' LOW PROFILE LED TROFFER, 4000K, 4250 LUMENS NOMINAL WITH EMERGENCY BATTERY	LSI #LPEC22-LED-HO-NW-UE-EM OR EQUAL	LED	120	
C		6" ROUND LED DOWNLIGHT, 3000 LUMENS NOMINAL, 4000K	SPECTRUM LIGHTING #SGE6LEDOS-30L-40K-DO10-1-BH27-AR6223OS-SG OR EQUAL	LED	120	
CE		6" ROUND LED DOWNLIGHT, 3000 LUMENS NOMINAL, 4000K WITH EMERGENCY BATTERY	SPECTRUM LIGHTING #SGE6LEDOS-30L-40K-DO10-1-BH27-AR6223OS-SG OR EQUAL	LED	120	PROVIDE 1400 LUMEN EMERGENCY BATTERY PACK
D		6" ROUND LED DOWNLIGHT, 1100 LUMENS NOMINAL, 4000K	SPECTRUM LIGHTING #SGE6LEDOS-11L-40K-DO10-1-BH27-AR6223OS-SG OR EQUAL	LED	120	PROVIDE WET LOCATION OPTION
F		12" ROUND LED DOWNLIGHT, 3000 LUMENS NOMINAL, 4000K	SPECTRUM LIGHTING #SGE12LEDOS-30L-40K-E-1-BH27-AR1223OS-SG OR EQUAL	LED	120	PROVIDE WET LOCATION OPTION
G		8' LED STRIPLIGHT, 8000 LUMENS NOMINAL, 4000K. UL LISTED FOR DAMP LOCATIONS	LSI LIGHTING #S-8-LED-SS-NW-UE OR EQUAL	LED	120	
H		8' SUSPENDED DIRECT/INDIRECT LED FIXTURE, 4200 LUMENS NOMINAL, 4000K	LSI LIGHTING #LDI-8-LED-PB-HO-40K-S-WHT-UE OR EQUAL	LED	120	
HE		8' SUSPENDED DIRECT/INDIRECT LED FIXTURE, 4200 LUMENS NOMINAL, 4000K WITH EMERGENCY BATTERY	LSI LIGHTING #LDI-8-LED-PB-HO-40K-S-WHT-EM-UE OR EQUAL	LED	120	
JE		4' SURFACE MOUNTED LED FIXTURE, 4000 LUMENS NOMINAL, 4000K WITH EMERGENCY BATTERY	LSI LIGHTING #WNA10-LED-SS-NW-UE-EM	LED	120	
X		THERMOPLASTIC LED EXIT SIGN, RED LETTERS, WHITE HOUSING, BATTERY BACKUP. NUMBER OF FACES AND DIRECTIONAL ARROWS AS INDICATED ON THE DRAWINGS.	LITHONIA EXR-LED-EL OR EQUAL	LED	120	

BID SET

BRIAN K. WILLIAMS
FL PE# 81366

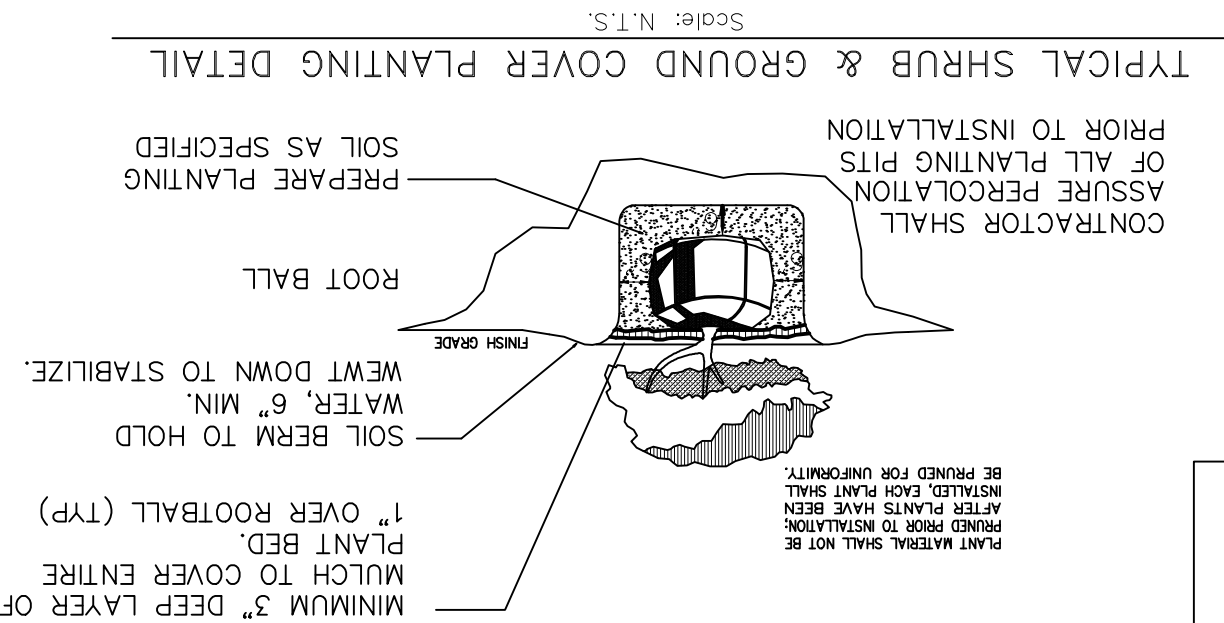
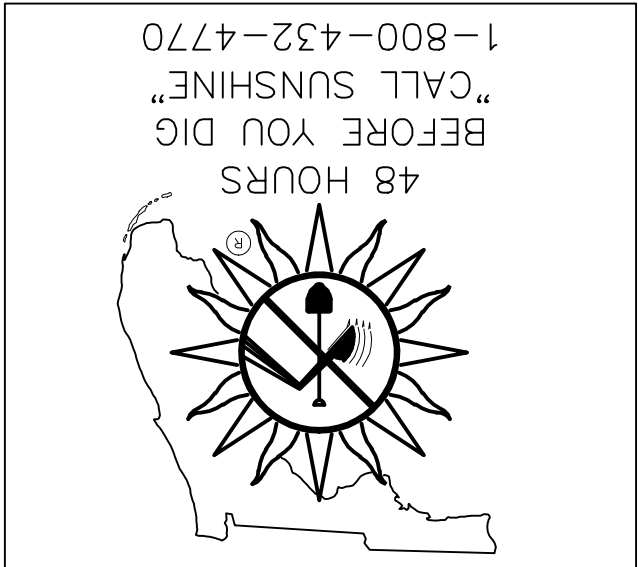
[illegible]

PORT ORANGE CITY HALL
ANNEX RENOVATIONS
ELECTRICAL SCHEDULES

DUNLAWTON AVE.
PORT ORANGE FL. 32128

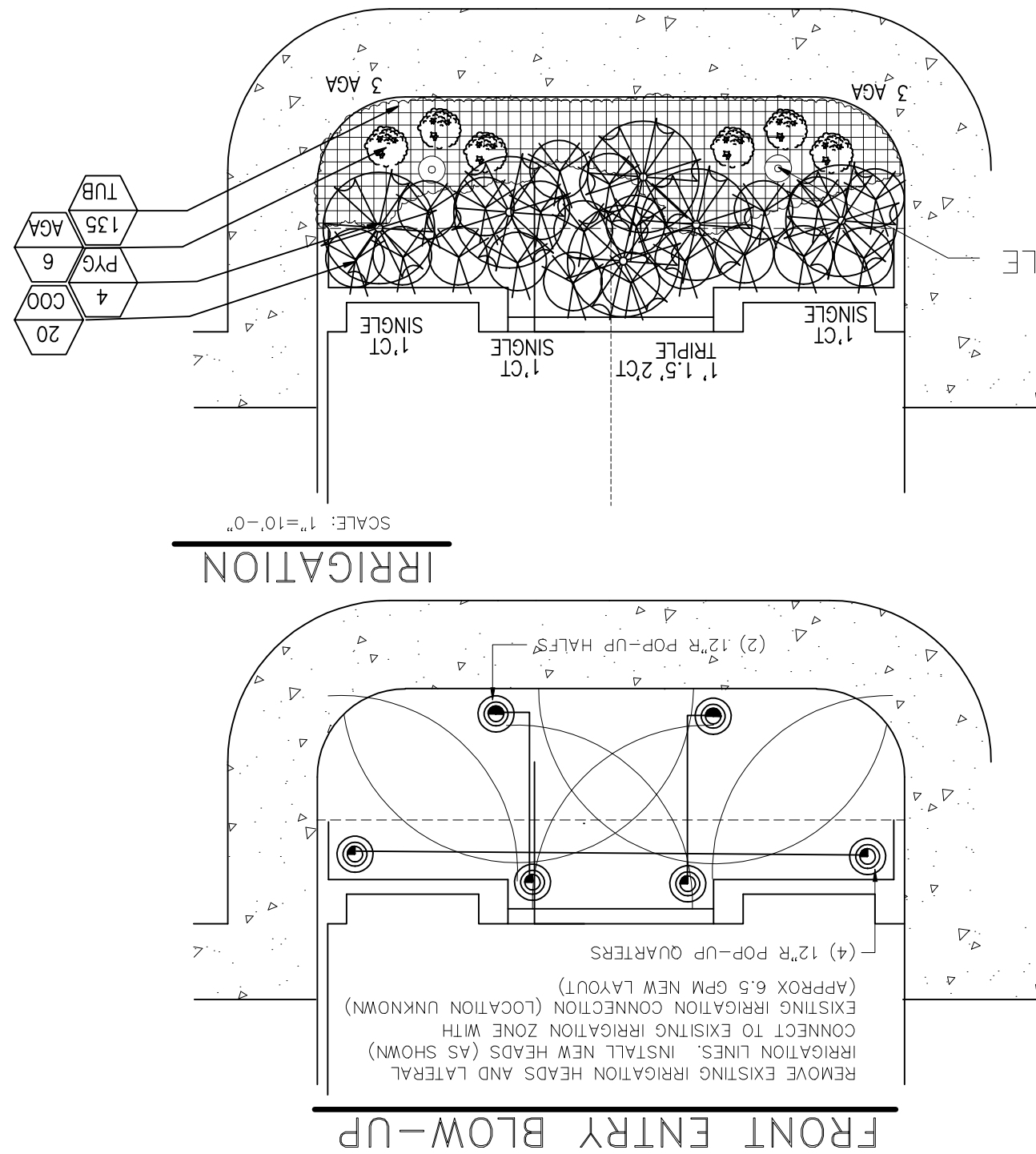
SHEET

E-603



LANDSCAPE PLANTING

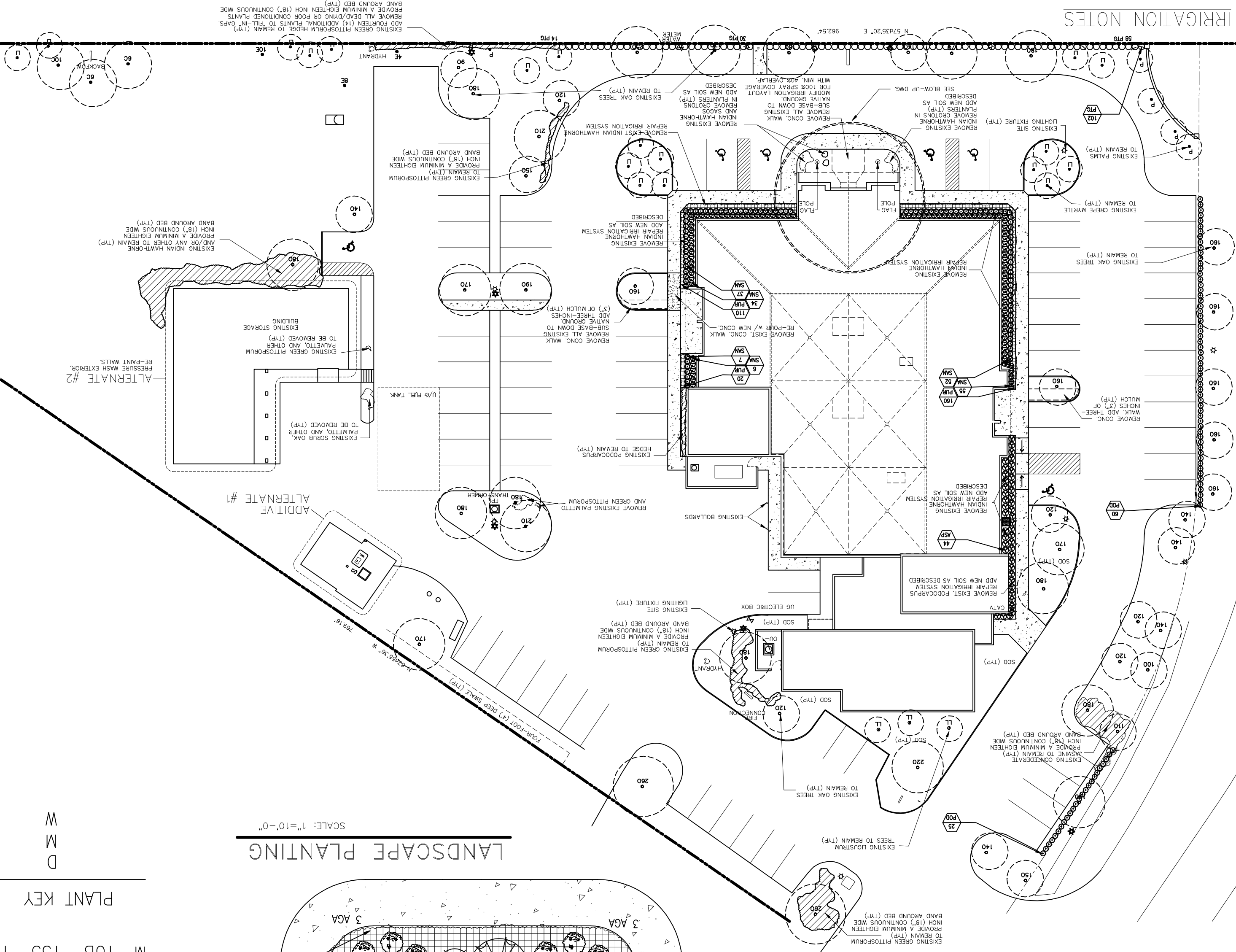
SCALE: 1"=10'-0"



KEY	QTY	BOTANICAL/COMMON NAMES	HT.	SPR.	REMARKS
M	AGA	6 Agapanthus africanus	14"	5 Gal Cont	
D	ASP	44 Asparagus densiflorus	10"	1 Gal Cont	
D	COO	20 Zamia pumilia	18"	3 Gal Cont	
M	POD	85 Podocarpus macrophyllum	26"	3 Gal Cont	
M	PTG	102 Pittosporum tobira 'Green'	18"	3 Gal Cont	
D	PUR	290 Tradescantia pallida 'Purpurea'	6"	1 Gal Cont	
D	PYG	4 Phoenix roebelenii	6"	1 Gal Cont	
D	SAN	96 Sonseveria trifasciata 'Hahnii'	6"	1 Gal Cont	
D	SNA	95 Sonseveria trifasciata 'Black Gold'	22"	3 Gal Cont	
M	TUB	135 Tubaghia violacea	6"	1 Gal Cont	
M	AGA	3 Society Garlic	18"	0.0.C.	

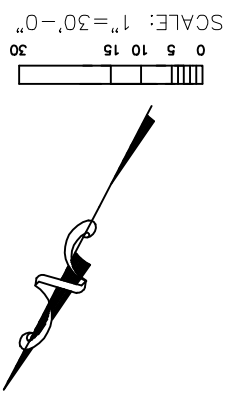
PLANTING NOTES

1. LANDSCAPE CONTRACTOR IS TO LOCATE AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING THE WORK. THE LANDSCAPE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO UTILITY OR IRRIGATION LINES.
2. LANDSCAPE CONTRACTOR IS TO VERIFY ALL DRAWINGS AND CHECK FOR DISCREPANCIES AND BRING THEM TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING WITH THE WORK.
3. THE PLANT MATERIALS SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR. SHOULD THERE BE ANY DISCREPANCY, PLANTING PLANS SHALL TAKE PRECEDENCE OVER THE PLANT LIST.
4. NO SUBSTITUTIONS WILL BE MADE AT THE TIME OF BIDDING OR CHANGES OF ANY KIND, SO AS TO PROVIDE FOR FAIR COMPARISONS. NO FURTHER CHANGES ARE TO BE MADE WITHOUT PRIOR CONSENT OF THE LANDSCAPE ARCHITECT.
5. ALL PERMIT AND VARIANCE APPLICATION ARE TO BE MADE BY THE CONTRACTOR.
6. THE CONTRACTOR IS RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO AMEND THE SOIL TO MEET ADEQUATE FERTILITY AND PH. FOR CORRESPONDING PLANT MATERIALS.
7. REMOVE ALL TAGS FROM INSTALLED PLANT MATERIALS.
8. PLACE TERRA SORB, OR EQUAL, UNDER THE ROOT BALL OF ALL PLANT MATERIALS.
9. ALL QUESTIONS CONCERNING THE PLAN AND/OR SPECIFICATIONS ARE TO BE DIRECTED TO THE LANDSCAPE ARCHITECT. (386-788-3788)
10. ALL PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM THE TIME OF FINAL ACCEPTANCE. ALL REPLACEMENTS TO BE MADE WITHIN TWO (2) WEEKS OF CONTRACTOR NOTIFICATION.
11. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AS-BUILT DRAWINGS DIRECTLY TO THE LANDSCAPE ARCHITECT UPON COMPLETION.



IRRIGATION NOTES

- Irrigation Contractor shall be responsible for all applicable fees and permits. All pipe and heads shall be purple in color and marked "FOR RE-USE ONLY, DO NOT DRINK"
- All Pipe and Wire under paving shall be placed in Schedule 40 P.V.C. Sleeves for the full pavement coverage length and shall be at least 24" below grade.
- Mainlines shall be buried to provide a minimum cover of 18", while all Lateral lines shall have a minimum of 12".
- Dripperline to be 12" spacing with 4" burial depth.
- All Control Wiring to be 14/1 U.F. direct burial.
- No irrigation drip-lines may be installed closer than twelve-inches (12") to any building.
- All Sprinklers shall be site adjusted to prevent water overthrow onto building surfaces and walkways.
- The Contractor should take care to reroute piping as necessary to avoid plant or tree drip-lines and roots.



SCALE: 1"=30'-0"

GENERAL NOTES

ALL PLANT MATERIAL THAT IS INSTALLED MUST BE FLORIDA NO. 1 GRADE OR BETTER ACCORDING TO THE PLANTS, STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.

ANY VARIATIONS FROM THE APPROVED LANDSCAPE PLAN MUST BE INITIALLY REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO ANY REVISIONS TO THE LANDSCAPE PLANTING PLAN. PLANTING TO BE COMPLETED MAY RESULT IN REQUIRED MITIGATION AND/OR DELAY OF THIS PROJECT.

ALL FILL DIRT TO BE PLACED IN THE PROPOSED LANDSCAPE AREAS AND/OR BERMS MUST HAVE A pH RANGE BETWEEN 5.5 AND 7.5. BE ORGANIC IN NATURE. FREE OF ROCKS AND DEBRIS. SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE AND MUST BE PARALLEL TO PARKING LOTS, WALKWAYS, AND/OR STRUCTURES UNLESS INTENTIONALLY DESIGNED TO MEANDER.

ST. AUGUSTINE SAND SOIL IS TO BE USED IN ALL OPEN AREAS AS SHOWN AND SPECIFIED ON THIS PLAN. ALL OTHER AREAS AS SHOWN AND SPECIFIED FOR VEGETATION REMOVAL.

THERE IS A WORKING EXISTING IRRIGATION SYSTEM ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR INITIALLY RUNNING THE SYSTEM, REPAIRING ALL BROKEN IRRIGATION PIPE(S), VALVE(S) AND HEAD(S). IN ADDITION, ALL IRRIGATION HEADS MUST BE MOVED AND BE INSTALLED AT LEAST TWELVE-INCHES (12") FROM ANY BUILDING WALLS. THE IRRIGATION SYSTEM SHALL MEET SECTION 808.04 OF THE VOLUSIA CODE.

ALL IRRIGATION BACK-FLOW DEVICES WILL BE VISUALLY SCREENED WITH LANDSCAPING AND PAINTED BLACK AND/OR MILE GREEN. MODIFY ALL SHRUB PLANTINGS AND IRRIGATION DESIGNED TO REMAIN.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL PROPOSED TREES, SHRUBS, AND GROUND COVERS TO BE PRESERVED. NO VEHICLES OR MATERIALS SHALL BE PLACED UNDER OR AROUND THE MATERIALS TO REMAIN.

ALL EXISTING SHRUBS, GROUND COVERS AND TREES NOT SHOWN ARE TO BE REMOVED ALONG WITH THEIR ROOT SYSTEM. ALL UNDERBUSH, STUMPS, AND DEAD BRANCHES ARE TO BE REMOVED ON ALL EXISTING REMAINING TREES AND PALMS. ALL WORK AROUND SPECIMEN TREES WILL BE LIMITED TO HAND LABOR AND TOOLS.

ALL EXISTING PLANTS, AS LISTED ON THE FLOORPLAN, EXCEPT PERMANENT PLANTS, SHALL BE REMOVED. ALL EXISTING HARDSCAPE SURFACES WHICH ARE SHOWN TO BE REMOVED (SIDEWALKS), SHALL HAVE THEIR LIME ROCK AND/OR COMPACTED BASES REMOVED DOWN TO THE NATIVE SOIL BASE.

THE LOCATION OF ALL PROPOSED SHRUBS MUST NOT CONFLICT WITH THE LIGHTING FIXTURES, SIGNS, UNDERGROUND AND OVERHEAD UTILITIES, FIRE HYDRANTS, ETC.

ALL EXISTING TREES SHALL HAVE A MINIMUM FIVE-FOOT (5') MULCH RING INSTALLED AROUND THE TRUNK AREA. SEE ARCHITECT'S PLAN FOR ALL EXISTING AND PROPOSED FERTILIZERS, COFFERS, R.O.W., BUFFER DIMENSIONS, AND ALL SITE LAYOUT DIMENSIONING.

PROJECT MULCH SHALL BE PINE BARK NUGGETS AND BE INSTALLED A MINIMUM OF THREE-INCHES (3") THICK AND A MINIMUM OF TWELVE-INCHES (12") FROM ANY PLANTED TREE TRUNK. NO CRESS MULCH IS TO BE USED.

ALL PLANTED AREAS AROUND THE BUILDING WHERE NEW PLANT MATERIAL IS TO BE INSTALLED SHALL HAVE THE EXISTING DIRT REMOVED DOWN EIGHTEEN-INCHES (18"). NEW PLANTING SOIL SHALL BE INSTALLED. THIS NEW SOIL SHALL BE FREE OF TOWNS, WEEDS, AND DISEASES. IT SHALL BE AND ALLOW GOOD ROOT GROWTH. IT IS SUGGESTED TO BE COMPOSED OF THE FOLLOWING MIXTURE: ONE (1) PART GARDEN SOIL AS DESCRIBED ABOVE, ONE (1) PART PEAT MOSS, ONE (1) PART PERLITE OR COARSE SAND. IN ADDITION, AN ORGANIC FERTILIZER SHALL BE ADDED AS PER MANUFACTURER'S RECOMMENDATIONS.

REV.	DATE	DESCRIPTION	BY

REVISIONS

CITY OF PORT ORANGE
PARKS AND RECREATION BUILDING
SITE LANDSCAPE PLAN

THE STERN DESIGN GROUP, P.A.
LANDSCAPE ARCHITECTS • LAND PLANNERS
1685 Promenade Circle, Port Orange, Florida 32129
(386) 788-3788 CELL 290-6411
sterndesigngroup@aol.net

PROJECT NO. 010
DESIGNED BY: J.S.
DRAFTED BY: J.S.
CHECKED BY: J.S.
FILE LOCATION: DWGS
DATE PREPARED: JUNE 15, 2017
SHEET NUMBER LA-1 OF LA-1

DUNLAWTON AVE. (STATE ROAD 415) 200' R/W

SECTION 4 – STANDARD PURCHASE DEFINITIONS

The City will use the following definitions in instructions to bidders, terms and conditions, special provisions, technical specifications and any other solicitation documents.

1. **Addendum** is a formal written document, released prior to the public opening that modifies any aspect of a Solicitation. Plural: Addenda
2. **Alternate Bid** means multiple Bids with substantive variations from the same Bidder in response to a Solicitation.
3. **Amendment** is a formal written agreement, signed by both parties, that modifies an existing contractual agreement.
4. **Appropriate, Appropriated, or Appropriation** means the adoption by the City Council of the City of a budget for a fiscal year that includes payments to be made under the Contract during the respective fiscal year.
5. **Best Value** means the highest overall value to the City based on factors that include, but are not limited to, price, quality, design, and workmanship.
6. **Bid** is a complete, properly signed response to an Invitation to Bid, which if accepted, would bind the Bidder to perform the resultant Contract.
7. **Bid Guaranty (Bid Bond)** guarantees that the Bidder (a) will not withdraw the Bid within the period specified for acceptance, and (b) will execute a Contract and furnish required bonds and any necessary insurance within the time specified in the Solicitation, unless a longer time is allowed by the City. The guarantee will be returned to the Bidder upon execution of a Contract
8. **Bidder or Proposer** is a person, firm, or entity that that submits a Response to a Solicitation. Any Bidder/Proposer may be represented by an agent after submitting evidence demonstrating the agent's authority. The agent cannot certify as to his own agency status. (See also "Vendor")
9. **City** means the City of Port Orange.
10. **Competitive Negotiation** means a method for acquiring goods, services, and construction for public use in which discussions or negotiations may be conducted with responsible offerors who submit Responses through a Request for Proposals, Request for Statements of Qualifications, or Invitation to Negotiate.
11. **Competitive (Formal) Solicitation** is the process of requesting and receiving two or more sealed bids, proposals, statements of qualifications or replies submitted by responsive vendors in accordance with the terms of a competitive process, regardless of the method of procurement.
12. **Competitive Range** means the responsive submissions that meet the evaluation criteria and are considered to be reasonably susceptible of award.
13. **Construction** means the process of building, repairing, improving, and alterations, conversion or extension of building, parks, utilities, streets or other improvements or alterations to real property.
14. **Contract** is a written agreement or purchase order issued for the purchase of goods or services.
15. **Contractor** means the person, firm or entity selling goods or services to the City under a Contract.
16. **Deliverables** means the goods, products, materials, and/or services to be provided to the City by a Bidder.
17. **Due Date** means the date and time specified for receipt of Responses to a Solicitation.
18. **End User** is a person, program, agency, or other eligible user who uses a contract to

purchase a commodity or contractual service.

19. **Evaluation Committee/Team** is a temporary group of City personnel who are responsible for evaluation of proposals, statements of qualifications or replies as part of a Request for Proposals (RFP), Request for Submission of Qualifications (RFSQ), or Invitation to Negotiate (ITN), or competitive grant process.
20. **Evaluator** is a member of the evaluation committee/team.
21. **Goods** are supplies, materials, or equipment.
22. **Intent to Award** is a document, published on Onvia/DemandStar, that informs the public and respondents of the City's decision to award a contract pursuant to a previously issued competitive solicitation.
23. **Invitation to Bid (ITB) or Bid** means a formal request to prospective vendors requesting pricing for a specified Good or Service which has been advertised for Bid in a newspaper.
24. **Invitation to Negotiate (ITN)** means a formal request to prospective vendors requesting proposed specifications and pricing of a product and/or service which has been advertised for replies in a newspaper.
25. **Issues** means points, matters, or concerns to be addressed during negotiations.
26. **Lead Negotiator** is the negotiator responsible for leading and facilitating the formal negotiation discussions and selecting other required negotiation team members. Is often the "driver of change" and seeks alternatives/options.
27. **Lowest Responsible Bid means the responsive Bid** meeting all requirements of the specifications, terms, and conditions of the Invitation to Bid resulting in the lowest cost to the City in a total cost concept or based solely on price, taking into consideration the financial and practical ability of the Bidder to perform the Contract, past performance of the Bidder, and

compliance with all City ordinances concerning the purchasing process.

28. **Lowest Responsible Bidder** means the Bidder submitting Lowest Responsible Bid.
29. **Negotiation Team** is a temporary group of City personnel who are responsible for negotiations as part of an Invitation to Negotiate (ITN).
30. **Negotiator** is a member of the negotiation team.
31. **Non-Professional Services** are services performed that are not of a professional nature such as lawn care, security, janitorial, etc.
32. **Offer** means a complete signed Response submitted to the City in response to a Solicitation including, but not limited to, a Bid submitted in response to an Invitation to Bid, a Proposal submitted in response to a Request for Proposal, a Quote submitted in response to a Request for Quotation, a Statement of Qualifications and interest submitted in response to a Request for Statements of Qualifications, or a Reply submitted in response to an Invitation to Negotiate.
33. **Onvia/DemandStar** is the official online repository for all City competitive solicitations.
34. **Outlier** is a bid, offer, or proposal which is determined by the Purchasing Director or Manager to be significantly dissimilar to or inconsistent with, competing bids or offers.
35. **Pre-Bid/Proposal/Statement/Reply Conference** means a meeting conducted by the Purchasing Office, held in order to allow Vendors to ask questions about the proposed Contract and particularly the Contract specifications with the City department requesting the goods/services.
36. **Price Analysis** is an evaluation of the total cost of a contract in order to determine if the price is reasonable.
37. **Procurement (Process)** is a term used in the governmental sector for the combined functions of acquiring (purchasing) needed

goods and/or services, receiving and inspection, inventory management, contract administration, and disposal/surplus.

38. **Professional Services** means those services within the scope of the practice of architecture, professional engineering, landscape architecture, or registered surveying and mapping, as defined by the laws of the state, or those performed by any architect, professional engineer, landscape architect, or registered surveyor and mapper regarding his or her professional employment or practice.

39. **Protest** is a formalized process by which respondents have an opportunity to challenge a procurement practice or contract award.

40. **Proposal** is a complete, properly signed Response to a Request for Proposal, based on performance that is offered rather than on that of price alone, which if accepted, would bind the Vendor to perform the resultant Contract.

41. **Purchase Order** is an order placed by the Purchasing Division for the purchase of Goods or Services written on the City's standard Purchase Order form and which, when accepted by the Bidder, becomes a contract. The Purchase Order is the Bidder's authority to deliver and invoice the City for Goods or Services specified, and the City's commitment to accept the Goods or Services for an agreed upon price.

42. **Request for Proposal (RFP)** means a formal request to prospective vendors requesting qualifications of the vendor and pricing for a specified Good or Service which has been advertised for Proposal in a newspaper.

43. **Request for Statement of Qualifications (RFSQ)** means a formal request to prospective vendors requesting statements of qualifications pursuant to Florida Statute 287.055 "Consultant's Competitive Negotiation Act" which has been advertised for Statement in a newspaper.

44. **Respondent** means an entity that has (or will, i.e. "prospective respondents") submitted a response to a competitive

solicitation conducted to create a contractual relationship for the provision of commodities or services.

45. **Response/Submission** means all materials submitted to the City by a respondent as part of a solicitation. A response may be called a bid, proposal, statement of qualifications, or a reply, depending on the type of competitive solicitation being issued.

46. **Responsible (Vendor)** is a vendor who has the capability in all respects to fully perform the contract requirements and the integrity and reliability that will assure good faith performance.

47. **Responsive (Vendor)** is a vendor that has submitted a bid, proposal, statement of qualifications, or reply that conforms in all material respects to the solicitation.

48. **Scope** means the extent of the area or subject matter that something deals with or to which it is relevant.

49. **Scope of Work** means a description of the work activities, deliverables, and/or timeline that a vendor must execute in terms of delivering specific commodities or in performance of contractual services.

50. **Services** include all work or labor performed for the City on an independent contractor basis other than construction.

51. **Solicitation** means a formal request, as applicable, for prospective vendors to submit responses to an Invitation to Bid, Request for Proposal, Request for Qualifications, Invitation to Negotiate, or a Request for Quotation.

52. **Solicitation Document** means a document, or collection of documents, either paper or electronic, that contains all information required to conduct a competitive procurement project according to § 287.057, Florida Statutes.

53. **Stakeholder** means an individual, who is not likely to become a vendor, who has an interest in the commodities/contractual services needed.

54. **Subcontractor** means a person, firm or entity providing goods or services to a Vendor to be used in the performance of the Vendor's obligations under the Contract.
55. **Subject Matter Expert** means a person who has working or expert knowledge about a particular topic or field.
56. **Unbalanced Bid** means a Bid that is based on prices which are significantly less than

cost for some bid items and significantly more than cost for others.

57. **Vendor** is a person, firm, or entity that provides commodities or services and submits a Response to a Solicitation. Any Vendor may be represented by an agent after submitting evidence demonstrating the agent's authority. The agent cannot certify as to his own agency status. (Also called "Bidder" or "Proposer".)

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SECTION 5 – GENERAL TERMS AND CONDITIONS

These instructions are standard for all contracts for commodities or services issued through the City of Port Orange Purchasing Division. General Requirements apply to all advertised Solicitations; however, **these may be superseded, in whole or in part, by the SPECIAL REQUIREMENTS/INSTRUCTIONS OR OTHER DATA CONTAINED HEREIN.**

READ THIS ENTIRE DOCUMENT CAREFULLY. FOLLOW ALL INSTRUCTIONS. YOU ARE RESPONSIBLE FOR FULFILLING ALL REQUIREMENTS AND SPECIFICATIONS. BE SURE YOU UNDERSTAND THEM.

1. ACCEPTANCE BY CITY

The City shall have a reasonable time (but not less than 30 days) after receipt to inspect the goods and services tendered by vendor. The City at its option may reject all or any portion of such goods or services which do not, in City's sole discretion, comply in every respect with all terms and conditions of the contract. The City may elect to reject the entire goods and services tendered even if only a portion thereof is nonconforming. If the City elects to accept nonconforming goods and services, the City, in addition to its other remedies, shall be entitled to deduct a reasonable amount from the price thereof to compensate the City for the nonconformity. Any acceptance by the City, even if non-conditional, shall not be deemed a waiver or settlement of any defect in such goods and services. The material delivered as a result of this solicitation shall remain the property of the seller until a physical inspection and actual usage of the item(s) is made and thereafter deemed acceptable to the satisfaction of the City, in compliance with the terms and specifications contained herein. In the event that the item(s) supplied to the City is/are found to be defective, or does/do not conform to specifications, the City reserves the right to cancel the order upon written notice to the seller and return the item(s) to the seller at the seller's expense.

2. ADDENDUM

When specifications are revised, the City of Port Orange Purchasing Division will issue an addendum addressing the nature of the change. Vendors should acknowledge all addenda by circling the quantity of addenda received on the "Vendor Acknowledgment Form" and include it in the returned Response package. Failure to acknowledge the correct number of addenda issued may result in rejection of the Response. It is the responsibility of the Vendor to ensure all addenda have been received prior to submitting a bid. All Addenda shall be posted by the CITY on www.demandstar.com.

The City shall issue responses to inquiries and any other corrections or amendments it deems necessary in written addenda issued prior to the Solicitation Response Due Date. Vendors should not rely on any representations, statements or explanations other than those made in this Solicitation or in any addendum to the Solicitation. Where there appears to be a conflict between the Solicitation and any addenda issued, the last addendum issued shall prevail.

3. ADDITIONAL GOODS

Products, Materials and Goods not specifically identified in this bid request may be added to any resultant contract upon mutual consent of the contracting parties. The City reserves the right to add or delete products or materials of similar nature, within the family of products of "ITB Item(s)" and their commodity codes, to those items requested in this bid.

4. ANTI-COLLUSION STATEMENT

By submitting this Response to a Formal Solicitation, the Vendor affirms that this Response is without previous understanding, agreement, or connection with any person, business, or corporation submitting a Response for the same materials, supplies, or equipment, and that this Response is in all respects fair, and without collusion or fraud. Additionally, Vendor agrees to abide by all conditions of this Solicitation and certifies that they are authorized to sign this Response for the Vendor. In submitting a Response to the City of Port Orange, the Vendor offers and agrees that if the Response is accepted, the Vendor shall

convey, sell, assign or transfer to the City of Port Orange all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the State of Florida for price fixing relating to the particular commodities or services purchased or acquired by the City of Port Orange. At the City's discretion, such assignment shall be made and become effective at the time the City tender's final payment to the Vendor.

5. **APPLICABLE LAWS**

In connection with the furnishing of supplies or performance of work under the Contract, the Vendor agrees to comply with the Fair Labor Standards Act, Equal Opportunity Employment Act, and all other applicable federal and state laws, regulations and executive orders to the extent that the same may be applicable.

6. **ASSIGNMENT**

The successful Vendor shall not sell, assign, transfer or convey this contract in whole or in part, without the prior written consent of the City of Port Orange. Any such assignment or transfer shall not release Vendor from all contractual obligations.

7. **AUTHORITY TO CONDUCT BUSINESS IN FLORIDA:**

A Florida corporation or partnership is required to provide evidence with its response that the Vendor is authorized to transact business in Florida and is in good standing with the Florida Department of State. If not with its response, such evidence must be submitted to the City no later than five (5) business days from request of the Purchasing Manager.

A foreign (out-of-state) corporation or partnership is required to provide evidence with its response that the Vendor is authorized to transact business in Florida and is in good standing with the Florida Department of State. If not with its response, such evidence must be submitted to the City no later than five (5) business days from request of the Purchasing Manager.

A joint venture is required to provide evidence with its response that the joint venture, or at least one of the joint venture partners, is authorized to transact business in Florida and is in good standing with the Florida Department of State. If not with its response, such evidence must be submitted to the City no later than five (5) business days from request of the Purchasing Manager. However, the joint venture is required to provide evidence prior to contract execution that the joint venture is authorized to transact business in Florida and provide the City with a copy of the joint venture Agreement.

A joint venture is also required to provide with its response a Statement of Authority indicating that that the individual submitting the joint venture's proposal has the legal authority to bind the joint venture. If not with its response, such evidence must be submitted to the City no later than five (5) business days from request of the Purchasing Manager.

8. **AWARDS**

Results from the evaluation committee will be considered by the City of Port Orange City Council at the earliest possible regular meeting subsequent to the evaluation process. This RFP is issued in accordance with and shall be governed by the provisions of the City's Purchasing Policy.

The City of Port Orange City Council reserves the right to make award(s) by individual sections, groups, all or none, or a combination thereof, with one or more Vendors; to reject any and all proposals, or to waive any informality or technicality in proposals received as deemed to be in the best interest of the City.

The City does not award publicly funded contracts to those who knowingly employ unauthorized alien workers in violation of section 274A(e) of the Immigration and Naturalization Act, 8 United States Code s1324a(e). Such employment deprives legal workers of job opportunities. Violation of section 274A(e)

shall be grounds for unilateral cancellation of the contract, Contract, proposal or quote for purchase of services and goods by the City of Port Orange.

9. **AWARD AND EXECUTION OF CONTRACT:**

When a bid received has been determined to be satisfactory, a Contract will be awarded to the lowest responsible Bidder within the time designated in the Contract Documents.

The Bidder(s) to whom the award is made shall execute the Contract(s) and return it, together with the properly executed bonds and insurance certificates to the office of the Owner, within the time specified

10. **BID RETURNS**

Vendors shall return all completed Responses to the City of Port Orange at the address set forth in Section 2 of this document on the date and at the time specified. Late submissions will not be accepted and shall be returned to Vendors unopened.

11. **BID PROTEST**

Any person who is adversely affected by the City's decision or intended decision shall file with the City Purchasing Manager a notice of protest in writing within 72 hours after the posting of the notice of decision or intended decision. With respect to a protest of the terms, conditions, and specifications contained in a solicitation, including any provisions governing the methods for ranking Bids, Proposals, Statements, or Replies, awarding contracts, reserving rights of further negotiation, or modifying or amending any contract, the notice of protest shall be filed in writing within 72 hours after the posting of the Solicitation. Saturdays, Sundays, and state holidays shall be excluded in the computation of the 72-hour time period established herein. The formal written protest shall be filed with the Purchasing Manager in writing within ten (10) days after the date the notice of protest is filed. The formal written protest shall state with particularity the facts and law upon which the protest is based. Failure to file a notice of protest or failure to file a formal written protest shall constitute a waiver of proceedings. Upon receipt of the formal written protest that has been timely filed, the City shall stop the solicitation or contract award process until the subject of the protest is resolved by final City action. However, the City may continue the solicitation or award process, provided the City Manager sets forth in writing particular facts and circumstances which require the continuance of the solicitation or contract award process without delay in order to avoid an immediate and serious danger to the public health, safety, or welfare. The City shall provide an opportunity to resolve the protest by mutual agreement between the parties. The policy this City has established is as follows:

- a. As soon as possible after receipt, the Purchasing Manager shall provide written bid protest to City Manager, City Attorney, Department Head involved, and Supervisor directly involved in the acquisition.
- b. Purchasing Manager shall schedule within seven (7) business days, excluding weekends and holidays, a meeting with the above mentioned individuals or designee and protestor. The intent of the meeting is to provide a review and/or solution prior to going before Council. After reviewing all relevant information, the City Manager shall render a decision.
- c. If the protestor disagrees, he may appeal to the City Council at a formal council meeting. After reviewing the evidence, the City Council will issue their decision. The City Council's decision is final; however, the protestor can appeal the decision to the Circuit Court in Volusia County, Florida within thirty (30) days of the City Council's final decision. Decisions at all levels shall be in writing to the protestor.

12. **BID/PROPOSAL TABULATION**

Vendors who wish to receive a copy of the bid/proposal tabulation may obtain it via www.demandstar.com or by contacting the City of Port Orange, Purchasing Manager at purchdiv@port-orange.org.

13. **BONDS**

If this Solicitation requires submission of bid guarantee and performance bonds, there will be a separate page explaining those requirements. Responses submitted without the required bid bond or certified check shall be deemed non-responsive. When the Purchasing Manager deems it necessary, bid bonds/deposits shall be prescribed and are advertised in the public notices inviting bids. Normally, if a bid bond/deposit is requested, it is in the amount of five percent (5%) of the bid amount. Payment and Performance Bonds requested for construction projects shall be in an amount equal to one hundred percent (100%) of the total contract amount. Upon award, the successful Vendor may also be required to furnish and pay for a satisfactory contract one hundred percent (100%) Payment and Performance Bond which will be recorded by the City, at the Vendor's sole cost and expense, with the Clerk of the Circuit Court, Volusia County, Florida, and to enter into a written contract with the City of Port Orange. After recording, the City will furnish to the contractor the recording information for the bond to evidence that the contractor has met the requirements of Florida law. The City will bill the cost of recording to the contractor. Payment and Performance Bonds shall also be recorded at the Vendor's expense in the Office of the Clerk of the Circuit Court, Volusia County, Florida. All bonds no matter which kind, are advertised in the Solicitation which appears in the newspaper. Unsuccessful Vendors are entitled to the return of their surety where the Purchasing Manager has required such. A successful Vendor shall forfeit any surety required by the Purchasing Manager upon failure on the part of the Vendor to enter into a contract within the time specified after the award of bid.

14. **CERTIFICATE OF INSURANCE**

Upon notice of intent to award contract resulting from this solicitation, the selected Vendor will be required to submit a Certificate of Insurance showing proof of adequate coverage for professional general liability, errors and omissions and workers' compensation as identified under the insurance requirements of this solicitation, and listing the City of Port Orange as a Certificate Holder prior to execution of the contract.

15. **CHANGE ORDERS**

No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change order requests shall be made in writing by the Contractor for review by the Contract Administrator for the City of Port Orange. No work shall be performed as set forth in the change order until the Contractor receives an executed Purchase Order for the requested change.

16. **CHANGE ORDER REQUEST NOTIFICATION**

The Successful Contractor is responsible for giving the City of Port Orange, prior to the Contract expiration date, at least forty-five (45) calendar day's advance notice for any anticipated changes in price greater than \$25,000.00, time and/or scope of the awarded Contract. The Contractor shall not continue to provide services past the Contract expiration date unless approved by a written Change Order Notice from the City.

17. **CLEAN UP**

Upon completion of the delivery of materials, the Contractor shall restore any/all public and private property which was damaged during delivery. Restoration is meant to include removal of any spillage or restoring damage to the edge of pavement, sidewalks, driveways, landscaped areas, etc. Contractor shall make repairs consistent with or better than what existed prior to delivery. This shall be understood to include the use of sod or seed and mulch to replace (if necessary) existing grass that has been damaged.

If sod is used it shall match the sod present on the effected property. Contractor shall make all repairs and restorations at his expense.

18. **CONDUCT OF VENDORS**

All Vendors or individuals acting on behalf of a Vendor are hereby prohibited from lobbying or otherwise attempting to persuade or influence any member of the Evaluation Committee, City Council members, or

City staff at any time during the course of the solicitation process. The solicitation process shall end upon issuance of the written City Manager and staff recommendation for selection of a Vendor. All Vendors or individuals acting on behalf of a Vendor are further prohibited from contacting or otherwise attempting to communicate with any member of the staff, Evaluation Committee or City Council members regarding the pending solicitation or its outcome until after the issuance of the written recommendation of the most qualified Vendor. Until such recommendation is issued in writing, any questions regarding the pending solicitation shall be submitted to the Purchasing Manager. Failure to comply with this procedure shall result in rejection/disqualification of said submittal without exception. Contact with staff, City Council members and the Evaluation Committee during a public meeting shall not be considered a violation of this requirement.

19. **CONE OF SILENCE**

The Cone of Silence is designed to protect the integrity of the procurement process by shielding it from undue influences prior to the execution of the award.

The Cone of Silence is defined as the period beginning with the issuance of the solicitation document and continues through the execution of the award document. During this time vendors, service providers and the like are prohibited from all communications regarding the solicitation with City staff, City consultants, City legal counsel, City Agents, or elected officials. Any vendor who initiates any discussions or attempts to influence a member or members of the aforementioned shall be disqualified from continued participation in the procurement process with regard to that particular solicitation.

Exceptions to the Cone of Silence:

- Written communication directed to the Procurement Officer;
- All communications occurring at Pre-Proposal Conferences;
- Oral presentations before publicly notice committee meetings;
- Procurement of goods and services for Emergency situations; and
- Contractors already on contract with the City to perform services for the City are allowed discussions necessary for the completion of an existing contract.

20. **CONFLICT OF INTEREST**

For purposes of determining any possible conflict of interest, all Vendors must disclose if any City of Port Orange employee is also an owner, corporate officer, or employee of Vendor's business. No official or employee of the City who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of the Scope of Work covered by the Contract shall voluntarily acquire any personal interest, directly or indirectly, in the contract or proposed Contract.

21. **CONFLICT OF INSTRUCTIONS**

If a conflict exists between the General Terms and Conditions and instructions contained herein, and the Special Terms and Conditions and instructions contained herein, the Special Terms and Conditions shall govern.

22. **CONTRACT**

Any acquisition above the \$25,000 level shall be done through one of the formal competitive methods except upon City Council waiver and/or shall have City Council approval. Only the Purchasing Manager and/or City Manager, have the authority to obligate the City by entering into a written contract to purchase goods and/or services up to \$25,000.00. The City of Port Orange, Florida reserves the right to reject any and all Responses or to waive any and all non-substantial irregularity in Responses received, whenever such waiver or rejection is in the best interest of the City.

23. **CONTRACT OBLIGATION**

The City of Port Orange City Council shall approve the contract if greater than \$25,000.00 annually. The Mayor or other person authorized by the Mayor must sign the contract before it becomes binding on the

City of Port Orange or the Vendor. Department heads are NOT authorized to sign contracts for the City of Port Orange. Binding agreements shall remain in effect until all products and/or services covered by this purchase have been satisfactorily delivered and accepted.

24. **CONTRACT RENEWALS**

Renewals may be made ONLY by written agreement between the City of Port Orange and the Vendor. Any price escalations are limited to those stated by the Vendor on the original Response.

25. **COOPERATIVE PURCHASING**

The City Manager may elect to purchase through or join with other governmental units in cooperative purchasing ventures when the best interest of the City would be served thereby, provided the same is in accordance with all applicable laws. In the event the City Manager should elect to purchase through or join with other governmental agencies in cooperative purchasing ventures, all purchases in excess of twenty-five thousand dollars (\$25,000.00) shall require council approval before the purchasing contracts are entered into. (Code 1981, § 8-33, Ord. 1997-22, § 5. 5-6-1997; Ord. No. 2004-15, § 4, 7-20-2004)

26. **COPYRIGHT AND PATENT RIGHTS**

Vendor warrants that there has been no violation of copyrights or patent rights in manufacturing, producing and/or selling the item(s) ordered or shipped as a result of this Response, and successful Vendor agrees to hold the City harmless from any and all liability, loss or expense by any such violation.

27. **COST INCURRED BY VENDOR**

All expenses, including costs for required bonds, involved with the preparation and submission of Responses to the City, or any work performed in connection therewith shall be borne by the Vendor. No payment shall be made for any response received, nor for any other effort required of or made by the Vendor prior to commencement of work as defined by the contract approved by the City Council.

28. **DAMAGE**

Any damage to driveways, irrigation systems, sidewalks, pavement, or landscaping will be evaluated by the County's representative and the Contractor. If the Contractor is found to be at fault, all repairs, restitution, or reimbursements to the County must be completed within one week of discovery.

29. **DEBARMENT HISTORY**

The City will consider a Vendor's debarment history information in its review and determination of responsibility. All Vendors are required to disclose to the City all cases of debarment filed, pending, or resolved by the City or other public entity during the last five (5) years prior to the solicitation response due date, whether such actions were brought by or against the Vendor, any parent or subsidiary of the Vendor, or any predecessor organization. If the Vendor is a joint venture, the information provided should encompass the joint venture (if it is not newly-formed for purposes of responding to the solicitation) and each of the entities forming the joint venture. Although the review of a Vendor's debarment history is an issue of responsibility, the failure to provide debarment history as required in the Proposal Submittal and Requirements Section may result in a recommendation of non-responsive by the Purchasing Manager.

30. **DEFAULT PROVISIONS**

In the event of default by the Vendor, the City reserves the right to procure the item(s) bid from other sources and hold the Vendor responsible for excess costs incurred as a result. If a contractor defaults on a City contract the City Council may elect to refrain from doing business with the Vendor for a period of 36 months from the date of default.

31. **DELIVERY OF GOODS/SERVICES**

All materials are to be delivered F.O.B.; City of Port Orange designated facility.

Delivery dates pertaining to this invitation must be clearly stated in the bid form where required and include weekends and holidays. Failure to comply with this requirement may be a cause for disqualification of bid. Unless otherwise specified, delivery at the earliest date is required. The Vendor shall clearly state in the Response the time required for delivery upon receipt of contract or purchase order. Proposed delivery time must be specific and such phrases "as required," "as soon as possible" or "prompt" may result in disqualification of the bid. Delivery time will be a factor for any orders placed as a result of this Response. The City reserves the right to cancel such order(s) or any part thereof, without obligation, if delivery is not made within the time(s) specified herein and hold the vendor in default.

Upon approval of a contract, the vendor is obligated to deliver the goods to the destination specified in the Solicitation or the Purchase Order and bears the risk of loss until delivery. If this Solicitation or Purchase Order does not contain delivery instructions, Vendor shall request instructions in writing from the Purchasing Manager. If the delivery instructions contained in the Solicitation allocate delivery costs and risks in a manner contrary to this section, the provisions of this Competitive Solicitation shall prevail.

When delivery is not met as provided for in the contract, the Purchasing Division reserves the right to make the purchase on the open market, with any cost in excess of the contract price paid by the Vendor, in addition to any other damages, direct or consequential, incurred by the City as a result thereof. In addition, failure of the Vendor to meet the contract delivery dates will be cause for removal of the Vendor from the City's list of eligible Bidders/Proposers as determined by the Purchasing Division.

32. **DETERMINATION OF LOWEST AND BEST RESPONSIBLE BIDDER /PROPOSER**

In determining the lowest and best responsible Bidder/Proposer, in addition to price, there will be considered the following:

- a. The ability, capacity and skill of the Bidder/Proposer to perform the contract.
- b. Whether the Bidder/Proposer can perform the contract within the time specified, without delay or interference.
- c. The character, integrity, reputation, judgment, experience, and efficiency of the Bidder/Proposer.
- d. The quality of performance of previous contracts.
- e. The previous and existing compliance by the Bidder/Proposer with laws and ordinances relating to the contract.
- f. The sufficiency of the financial resources and ability of the Bidder/Proposer to perform the contract or provide the service.
- g. The quality, availability and adaptability of the supplies or contractual services to the particular use required.
- h. The ability of the Bidder/Proposer to provide further maintenance and service for the use of the subject of the contract.
- i. The number and scope of conditions attached to the bid.
- j. Such other factors as appear to the city council to be pertinent to the bid or the contract under all of the circumstances involved.

33. **DISCLOSURE OF CONFLICTS**

The award is subject to the provisions of Chapter 112.313, Florida Statutes. All Vendors must disclose with their Response the name of any officer, director, or agent who is also an employee of the City. Further, all Vendors must disclose the name of any employee who owns, directly or indirectly, an interest in the Vendor's firm or any of its branches. The Vendor shall not compensate, in any manner, directly or

indirectly, any officer, agent, or employee of the City for any act or service that he/she may do, or perform for, or on behalf of any officer, agent or employee of the Vendor. No officer, agent, or employee of the City shall have any interest, directly or indirectly, in any contract or purchase made, or authorized to be made by anyone for, or on behalf of the City. The Vendor shall have no interest and shall not acquire any interest that shall conflict in any manner or degree with the performance of the services required under the Solicitation.

34. **DISQUALIFICATION OF BIDDER/PROPOSER**

The Purchasing Manager shall maintain a current listing of qualified Bidders. The Purchasing Manager may, from time to time, remove any vendor's name from the list of qualified Bidders. Normally the removal of a vendor from the vendor list is done after non response from that vendor for three (3) consecutive Solicitations. Such action may also arise out of breach of contract, default, or irregular business practice, based on the Finance Director and City Attorney's recommendation. Any or all Responses may be rejected if the City believes that collusion exists among the Bidders/Proposers. Responses in which the prices are obviously unbalanced may be rejected. If multiple Responses are submitted by a Bidder/Proposer and after the Responses are opened one of the Responses is withdrawn, the result will be that all of the Responses submitted by that Bidder/Proposer will be withdrawn; however, nothing herein prohibits a vendor from submitting multiple Responses for different products or services.

35. **EVALUATION**

Evaluation shall be used as a determinant as to which Response items or services are the most efficient and/or most economical for the City. It shall be based on all factors which have a bearing on price and performance of the items in the user environment. All Responses are subject to tabulation by the City of Port Orange Purchasing Division and recommendation to the governing body. Compliance with all Solicitation requirements, delivery and needs of the using department are considerations in evaluating Responses. Pricing is NOT the only criteria for making a recommendation. The City of Port Orange Purchasing Division reserves the right to contact any Bidder/Proposer, at any time, to clarify, verify or request information with regard to any Response.

36. **EVALUATING RFPs/RFSQs/ITNs**

The evaluation process is formally conducted by a committee appointed by the Purchasing Manager or requesting department as required by general law. The Purchasing Manager leads and oversees the entire process. The evaluation is based upon specific criteria outlined in the Solicitation. The user department shall assign a weight to each of the evaluation criteria by its relative importance, with the total weights equaling 100. Each committee member establishes a summary of total scores for all the vendors. The summary of total scores is used to rank the vendors. Based upon the scores/ranking of the committee members, consensually a short list is obtained. In this Solicitation process this short list will consist of no less than three vendors (unless less than three were received). This committee falls under the Florida Sunshine Law and therefore cannot speak with one another concerning the Solicitation unless in a public committee meeting. These meetings also shall be announced publicly in a designated area and meetings are recorded. In the case of the Solicitation, one member of the Evaluation Committee may consist of one (1) member from the City Council; and at least one (1) member from the user department, except as otherwise required by general law. The Evaluation Committee, through the Purchasing Division, schedules oral presentations from the firms that were short-listed. At the oral presentation, the short listed firms present an over view of their company and their approach to the scope of work outlined. Upon conclusion of the oral presentations, with the same criteria and procedures used to evaluate the written Responses, the committee members then evaluate those three firms again to determine a second ranking. Then, by consensus a final ranking is determined. That final ranking is then presented to the City Council by the using department head requesting approval to negotiate with the individual/firm ranked as number one. A contract is completed pursuant to the negotiations with this individual and/or firm. If a successful contract cannot be obtained with the number one ranked firm, the negotiations then move to the team ranked as number two, never to return to the number one again.

37. **EXCEPTIONS TO SPECIFICATIONS**

For purposes of evaluation, the Vendor must indicate any exception to the specifications, terms, and/or conditions, no matter how minor. This includes any agreement or contract forms supplied by the Vendor that are required to be signed by the City. If exceptions are not stated by the Vendor, in his bid, it will be understood that the item(s)/services fully comply with the specifications, terms and/or conditions stated by the City. Exceptions are to be listed by the Vendor on an attachment included with the bid. The City will not determine exceptions based on a review of any attached sales or manufacturer's literature.

38. **E-VERIFY**

Vendors shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Vendor during the term of contract and shall expressly require any subcontractor performing services pursuant to the contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the term of contract.

39. **FACILITIES**

The City reserves the right to inspect the Vendor's facilities at any time.

40. **FAILURE TO RESPOND**

If the vendor elects not to bid, please return the enclosed "Bidder Acknowledgement Form" by the bid due date, and state the reason(s) for not bidding. Failure to respond, either by submitting a bid, or by submitting a "Statement of No Bid", three (3) times, shall result in the vendor's name being removed from the City's mailing list.

41. **FINANCIAL STABILITY**

Vendors shall be prepared to supply a financial statement upon request, preferably a certified audit of the last available fiscal year. A third party prepared financial statement and the latest Dunn & Bradstreet report will be accepted in lieu thereof.

42. **FORCE MAJEURE**

Neither party shall be liable for any delay in performance or failure to perform any obligation hereunder if, and to the extent that, such failure or delay is caused by an event of Force Majeure. Force majeure shall mean any act, event or condition that is beyond the party's reasonable control, that materially and adversely affects the party's ability to perform its obligations hereunder, and that is not the result of the party's willful neglect, error, omission or failure to exercise reasonable due diligence.

43. **GOVERNING FORMS**

In the event of any conflict between the terms and provisions of these requirements and the specifications, the specifications shall govern. In the event of any conflict of interpretation of any part of this overall document, the City's interpretation shall govern.

44. **GOVERNING LAW**

Vendors shall comply with all applicable federal, state and local laws and regulations. All Responses are solicited and shall be made pursuant to the Code of Ordinances, City of Port Orange, Chapter 2, Article VI, Division 2, Section 2-263, and all Responses will be evaluated in accordance with the provisions thereof. Code of Ordinances, City of Port Orange is on file in the Office of the City Clerk, City Hall, 1000 City Center Circle, Port Orange, Florida and at www.municode.com.

The City of Port Orange is also governed by the Consultants' Competitive Negotiation Act, Section 287.055, Florida Statutes, as the method of selecting architects, engineers and land surveyors. The City has utilized the procedures in the Act for Professional counselors, environmentalists, planners, general contractors, computer systems, designers, telecommunications consultants, maintenance technicians, financial services and other professional services.

Every acquisition equal to or greater than \$10,000.00 must have a signed, notarized "Public Entity Crimes Form" to comply with Section 287.133(3)(a), Florida Statutes. Also required is the "Drug Free Preference Form" to comply with Section 287.087, Florida Statutes. Each form is included in the Solicitation.

45. **GRANT FUNDING**

Any contract entered into by the City that is to be paid from grant funds shall be limited to payment from the grant funding and the vendor/provider understands that the City has not set aside any City funds for the payment of obligations under a grant contract. If grant funding should become unavailable at any time for the continuation of services paid for by the grant, and further funding cannot be obtained for the contract, then *the sole recourse of the provider shall be to terminate any further services under the contract and the contract shall be null and void.*

46. **HIPAA COMPLIANCE**

The Vendor agrees to comply with the Standards for Privacy of Individually Identifiable Health Information of the Health Insurance Portability and Accountability Act of 1996, PL 104-191, 45 CFR Parts 160-164, as amended, referred to as "HIPAA," to the extent that the Vendor uses, discloses or has access to protected health information as defined by HIPAA.

47. **IDENTICAL TIE BIDS**

In accordance with Section 287.087, Florida Statutes, preference shall be given to businesses with Drug-Free Workplace Programs. Whenever two or more Responses that are equal with respect to price, quality, and service are received for the procurement of commodities or contractual service, a Response received from a business that certifies that it has implemented a Drug-Free Workplace Program shall be given preference in the award process.

48. **INDEMNIFICATION/HOLD HARMLESS**

Contractor covenants and agrees that it will indemnify and hold harmless the City and all of the City's officers, agents, and employees from any claim, loss, damage, costs, charge or expense arising out of any act, action, neglect or omission by contractor during the performance of the contract, whether direct, or indirect, and whether to any person or property to which the City of said parties may be subject, except that neither the contractor nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused or resulting from the sole negligence of City or any of its officers, agents, or employees.

49. **INDEPENDENT CONTRACTOR**

It is expressly understood and agreed by both parties hereto that the City is contracting with the successful vendor as an independent contractor. The parties hereto understand and agree that the City shall not be liable for any claims which may be asserted by any third party occurring in connection with the services to be performed by the successful vendor under this contract and that the successful vendor has no authority to bind the City.

The Vendor represents itself to be an independent contractor offering such services to the general public and shall not represent himself or his employees to be an employee of the City. Therefore, the Vendor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, worker's compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save, and hold the City, its officers, agents, and employees, harmless from and against, any and all loss; cost (including attorney's fees); and damage of any kind related to such matters. The Vendor shall further understand that the City cannot save and hold harmless and or indemnify the Vendor and/or the Vendor's employees against any liability incurred or arising as a result of any activity of the Bidder/Proposer or any activity of the Vendor's employees performed in connection with the Contract.

50. **INSPECTIONS AND TESTING**

City of Port Orange reserves the right to inspect any item(s) or service location for compliance with specifications and requirements and needs of the using department. If a Vendor cannot furnish a sample of a Response item, where applicable, for review, or fails to satisfactorily show an ability to perform, the City can reject the Response as inadequate and non-responsive.

51. **INSURANCE**

Please submit a copy of your insurance certificate with your Response. Upon execution of a contract, the Vendor shall maintain insurance during the life of this agreement, and the City of Port Orange shall be listed as additional insured on that insurance document. A waiver of subrogation must be added in all areas and shall suffice in lieu of additional insured on workers' compensation, in an amount and a form set forth herein, to insure against risks, which are identified herein. Insurance providers must be rated "A" or better accordingly to the A.M. Best Company.

52. **INSURANCE CANCELLATION**

No change or cancellation in insurance shall be made without thirty (30) days' written notice by the Vendor to the City. Insurance coverage required in these specifications shall be in force throughout the contract term. Should any awardee fail to maintain or to provide acceptable evidence of current insurance within five (5) days after receipt of written notice at any time during the contract term, the City shall have the right to consider the Contract breached which shall justify the termination thereof.

53. **INSURANCE REQUIREMENTS**

Please submit a copy of your insurance certificate with your proposal. Upon execution of a contract, the Vendor shall maintain insurance during the life of the Contract. Upon notice of Intent to Award and prior to execution of a contract, the Vendor shall provide to the City a certificate of insurance identifying the City of Port Orange as an additional insured. For workers' compensation coverage, the Vendor's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the city as an additional insured for workers' compensation.

Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by F.S. 440.572. The Vendor shall not commence work under the contract until the City has received a certificate or certificates of insurance and endorsement evidencing the required insurance. The Vendor shall provide the City written notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change.

The City reserves the right to increase insurance coverage as determined for higher risk contracts and shall reimburse the Contractor for the reasonable additional costs of increased coverage.

Insurance	Limits: Standards	Comments
Workers' Compensation <u>Additional Coverage:</u>	Coverage A - Statutory Coverage B - \$100,000 All States (Broad Form) Voluntary Compensation	If the contract requires work on or about navigable waters, require Longshoreman's and Harbor Workers' Coverage. If vessels involved, require Jones Act coverage with limits of \$500,000.

Comprehensive General Liability (including Completed Operations and Contractual Liability)	Combined Single Limit Bodily Injury and Property damage \$500,000 occurrence \$1,000,000. Aggregate	When the Contract work on or under Railroad rights of way or properties, the Contractor shall take out and maintain during the life of the Contract, Railroad protective liability and property damage insurance in amounts as requested by the Railroad.
Comprehensive Business, Automobile Liability to include all automobiles. <u>Additional Coverage:</u>	Auto Liability Body Injury: \$100,000 each person, \$300,000 each occurrence. Property Damage Liability \$100,000 each occurrence. Non-Owned, Hired Car	Or \$500,000 Combined Single Limit for Bodily Injury and Property Damage
Property Insurance Builders Risk. <u>Additional Coverage:</u>	Buildings - Completed value of contract. "All Risk" coverage on latest ISO form or its equivalent. Permission granted to occupy. Owner named as insured AIMA	If the Contract requires handling or installation of Owner's equipment, coverage should be furnished on "All Risk" form, including transit and Owner shall be named.
Professional Liability (Errors & Omissions)	Coverage \$1,000,000 minimum	

54. **INVOICES AND PAYMENTS**

All invoices shall be sent to: City of Port Orange, Accounts Payable, P.O. Box 291759, Port Orange, Florida, 32129. In accordance with Florida Statutes, Chapter 218, payment will be made within 45 days after receipt of merchandise and a proper invoice. The City will attempt to pay within fewer days if Vendor offers a payment discount. The City cannot make advance payments, make deposits in advance of receipt of goods, or pay C.O.D. Vendors should state any payment discount in the space provided on the bid form for construction services.

55. **IRREVOCABILITY OF RESPONSES**

Each Vendor agrees that Responses shall remain open until the effective date not to exceed 90 days after selection, shall not be subject to revocation or withdrawal, and shall be subject to the City Council's acceptance of a contract with the Vendor.

56. **LATE SUBMISSIONS, LATE MODIFICATIONS AND LATE WITHDRAWALS**

Responses received after the Response Due Date and time are late and shall not be considered. Modifications received after the Response Due Date are also late and shall not be considered. Letters of withdrawal received after the Response Due Date are late and shall not be considered. Letters of withdraw received after contract award shall be deemed a breach of contract, subject to penalties as set forth in the contract and Solicitation.

57. **LEGAL REQUIREMENTS**

Applicable provision of all federal, state, county and local laws, and all ordinances, rules, and regulations shall govern development, submittal and evaluation of all Responses received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a response to a Solicitation hereto and the City by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and lack of knowledge by any Vendor shall not constitute a cognizable defense against the legal effect thereof.

Upon execution of a contract, the successful Vendor shall hold harmless, indemnify and defend the City of Port Orange, its members, officials, officers and employees against any claim, action, loss, damage, injury, liability, cost and expense of whatsoever kind or nature (including, but not by way of limitation, attorneys' fees and court costs) arising out of or incidental to the performance of the Contract, whether or not due to or caused by negligence of the City of Port Orange, its members, officials, officers or employees. This Contract requirement shall be reflected in the insurance coverage certificate.

58. **LICENSES, PERMITS AND TAXES**

The Vendor shall comply with all rules, regulations, laws and permitting requirements of the City, Volusia County, the State of Florida, and the United States Government now in force or hereafter to be adopted. The Vendor shall abide by all ordinances and laws pertaining to his operations and shall secure, at his expense, all licenses and permits necessary for construction and operation.

59. **LITERATURE (if applicable):**

If no particular brand, model or make is specified, Vendors shall submit with the RFP two (2) copies of descriptive literature and technical data, fully detailing all features, designs, construction, appointments, finishes and the like not covered in the specifications, necessary to fully describe the equipment, material, and/or services he proposes to furnish.

60. **LITIGATION HISTORY:**

The City will consider a Vendor's litigation history information in its review and determination of responsibility. All Vendors are required to disclose to the City all "material" cases filed, pending, or resolved during the last five (5) years prior to the solicitation response due date, whether such cases were brought by or against the Vendor, any parent or subsidiary of the Vendor, or any predecessor organization. If the Vendor is a joint venture, the information provided should encompass the joint venture (if it is not newly-formed for purposes of responding to the solicitation) and each of the entities forming the joint venture. Although the review of a Vendor's litigation history is an issue of responsibility, the failure to provide litigation history as required in the Evaluation Criteria may result in a recommendation of non-responsive by the Purchasing Manager.

61. **LOCAL PREFERENCE**

In accordance with City of Port Orange City Code 2-275, except where federal or state law, or any other funding source, mandates to the contrary, the City shall give preference to local businesses in the following manner:

(a) Competitive Bids

(1) Port Orange Business: In any competitive bidding process where a bid submitted by a Port Orange business is within eight percent (8%) of the lowest and best responsible bid submitted by a non-Port-Orange business, then the Port Orange business shall have the opportunity to submit, within five (5) working days of the bid opening, a best and final bid equal to or lower than the amount of the original low bid. The bid shall then be awarded to the lowest and best responsible bidder.

(2) Volusia County business: In any competitive bidding process where a Volusia County business is within five percent (5%) of the lowest and best responsible bid submitted by a business other than a Port Orange business or Volusia County business, then the Volusia County business shall

have the opportunity to submit, within five (5) working days of the bid opening, a best and final bid equal to or lower than the amount of the original low bid. The bid shall then be awarded to the lowest and best responsible bidder.

- (3) **Florida Business:** In any competitive bidding process where a State of Florida business is within three percent (3%) of the lowest and best responsible bid submitted by a non-local business, then the Florida business shall have the opportunity to submit, within five (5) working days of the bid opening, a best and final bid equal to or lower than the amount of the original low bid. The bid shall then be awarded to the lowest and best responsible bidder.
 - (4) **Tied Bid Preference:** In case of a tie bid between a local business and a non-local business, the local business shall prevail. In case of a tie between two or more local businesses, the following order of preference shall control: first priority to Port Orange business, second priority to Volusia County business, and third priority to Florida business.
- (b) **Request for Proposals, Qualifications or other Qualitative Submittals.** In any ranking conducted pursuant to a request for proposals, qualifications, or other qualitative submittals where the bidders are rated by a point system, local businesses shall be granted the following preference:
- (1) Port Orange business shall be granted up to eight percent (8%) of the available points.
 - (2) Volusia County business shall be granted up to five percent (5%) of the available points.
 - (3) Florida business shall be granted up to three percent (3%) of the available points.
 - (4) **Tied bid preference.** In case of a tie between a local business and a non-local business, the local business shall prevail. In case of a tie between two or more local businesses, the following order of preference shall control: first priority to Port Orange business, second priority to Volusia County business, and third priority to Florida business.
- (c) **Definitions.** The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Port Orange Business means a business having its headquarters and principal place of business within the City of Port Orange at least twelve (12) months prior to the bid or proposal opening date, as evidenced by a valid business tax receipt or such other documentation, to the City's satisfaction, demonstrating the physical business presence of the firm within the limits of the City of Port Orange.

Volusia County Business means a business having its headquarters and principal place of business within the County of Volusia, and not within the City of Port Orange, at least twelve (12) months prior to the bid or proposal opening date, as evidenced by a valid business tax receipt or such other documentation, to the City's satisfaction, demonstrating the physical business presence of the firm within the limits of Volusia County.

Florida Business means a business having its headquarters and principal place of business within the State of Florida, and not within Volusia County, at least twelve (12) months prior to the bid or proposal opening date, as evidenced by a valid business tax receipt or such other documentation, to the city's satisfaction, demonstrating the physical business presence of the firm within the limits of the State of Florida.

62. **MAINTENANCE**

Maintenance required for equipment Solicitation is preferred to be available in the City of Port Orange by a manufacturer-authorized maintenance facility. Costs for this service shall be shown on the Pricing/Delivery Information form. If the City of Port Orange opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and shall be priced accordingly.

63. **NAME BRANDS**

Specifications may reference name brands and model numbers. It is not the intent of the City of Port Orange to restrict these bids in such cases, but to establish a desired quality level of merchandise or to meet a pre-established standard due to like existing items. Vendors may offer items of equal stature and the burden of proof of such stature rests with the Vendor, unless otherwise specified by the City. The City of Port Orange shall act as sole judge in determining equality and acceptability of products offered.

64. **NON-DISCRIMINATION**

There shall be no discrimination as to race, color, religion, gender, age, marital status, national origin, ancestry, and physical or mental disability in the operations conducted under this contract. Included as applicable activities by the contractor under this section are the solicitation for or purchase of goods or services, or the subcontracting of work in performance of this contract.

65. **NON-EXCLUSIVITY OF CONTRACT**

The selected Vendor understands and agrees that any resulting contractual relationship is non-exclusive and the City of Port Orange reserves the right to seek similar or identical services elsewhere if deemed in the best interest of the City of Port Orange.

66. **NON-PERFORMANCE:**

Failure to meet the expected quality of workmanship, schedule, or other criteria agreed upon, shall be considered a default.

In case of default, the City may procure the required services from other sources and hold the Consultant responsible for any excess costs occasioned thereby and may immediately cancel the contract.

67. **NOTICE TO CONTRACTOR**

The employment of unauthorized aliens by any contractor is considered a violation of Section 274A (e) of the Immigration and Nationality Act. If the contractor knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of the contract.

68. **OPTIONAL CONTRACT USAGE**

As provided in Section 287.042(16), Florida Statutes, State of Florida agencies may purchase from a contract resulting from this solicitation, provided the Department of Management Services, Division of Purchasing, has certified its use to be cost effective and in the best interest of the State. Contractor(s) may sell such commodities or services certified by the Division to State of Florida agencies at the contractor's option.

69. **OTHER AGENCIES**

(a) All Vendors awarded contracts from this Bid may, upon mutual agreement, permit any municipality or other governmental agency to participate in the contract under the same prices, terms, and conditions, if agreed to by both parties.

(b) It is understood that at no time will any city, municipality, or other agency be obligated for placing an order for any other city, municipality, or agency; nor will any city, municipality, or agency be obligated

for any bills incurred by any other city, municipality, or agency. Further, it is understood that each agency will issue its own purchase order to the awarded Vendor(s).

70. **PATENTS/COPYRIGHTS**

The successful vendor agrees to indemnify and hold the City harmless from any claim involving patent infringement or copyrights on goods supplied.

71. **PRE-BID CONFERENCE OR PRE-PROPOSAL CONFERENCE**

The Purchasing Manager shall determine if the pre-bid or pre-proposal conference is mandatory and provide the date, time and location in the Solicitation legal advertisement and Solicitation specifications. The conference shall normally be held in the Council Chambers, located on the first floor of City Hall, 1000 City Center Circle, Port Orange, Florida. A site visit may be included and shall immediately follow. Attendance to the pre-bid and pre-proposal conference is normally mandatory. Only Vendors attending a mandatory pre-bid conference will be eligible to submit a Response. The representative of each Vendor shall be an authorized employee of the Vendor and shall sign in accordingly.

72. **PREPARATION OF RESPONSES**

In preparing Responses, the Proposal Form, the Bid Form (when a Bid Bond is permitted as proposal security), Certificate as to Corporate Principal, Public Entity Crimes Statement, Anti-Collusion Statement, and Drug Free Preference Statement must be properly executed in ink.

Upon the prescribed Schedule of Unit Prices, all bid prices shall be typewritten or written in ink, in both words and numerals, in the blank spaces for each item, with the amounts extended if a unit price bid, and all amounts totaled. In the event of any discrepancy between the written amounts and the numerals, the written amounts shall govern and will be considered as the price bid. The sum of the Total Bid as calculated from the individual items, Schedule of Unit Prices, shall equal the Total Price. Except as provided below, bids containing substitutions or combinations of alternates will not be considered unless such substitutions or combinations are specifically authorized by the Proposal. The Vendor shall sign his/her name and give his/her business address in the spaces provided therefore. If the Proposal is made as a partnership, it shall be signed by all partners; if made by a corporation, it shall be signed in the name of the corporation by one of the officers thereof and shall have affixed the seal of the corporation.

73. **POSTPONEMENT / CANCELLATION / WAIVER OF IRREGULARITIES**

The City may, at its sole and absolute discretion, reject any and all, or parts of, Responses; re-advertise the Solicitation for new Responses; postpone or cancel, at any time, the Solicitation process; or waive any irregularities in the Solicitation or in the Responses received as a result of the Solicitation, or to accept that Response which best serves the interest of the City.

74. **PRICING**

The Vendor certifies that prices, terms and conditions in the Response will be firm for acceptance for a period of ninety (90) days from the date of Response opening unless otherwise stated by the City. Responses may not be withdrawn before the expiration of ninety (90) days. Prices shall be firm, with no escalator clauses unless specified by the City. Responses may be withdrawn after ninety (90) days only upon written notification to the City. Prices for all goods and/or services shall be firm for the duration of this contract and shall be stated on the Pricing/Delivery Information form.

Prices shall be all inclusive: no price changes, additions, or subsequent qualifications will be honored during the course of the contract. All prices must be written in ink or typewritten. Pricing on all transportation, freight, drayage and other charges are to be prepaid by the contractor and included in the bid prices. If there are any additional charges of any kind, other than those mentioned above, specified or unspecified, the Vendor shall indicate the items required and attendant costs or forfeit the right to payment for such items. Where unit pricing and extended pricing differ, unit pricing prevails. In the event

of any discrepancy between the written amounts and the numerals, the written amounts shall govern and will be considered as the price bid.

When submitting Bids/Proposals based on a Lump Sum basis, Vendors shall be required to submit a Schedule of Unit Pricing for each line item listed on the Bid Proposal in order to be considered for award.

75. **PRODUCTS/ESTIMATES:**

Items included on the Bid Form represent the needs of various departments within the City. This is in no way to be construed as the entire or complete list of products to be purchased from the resulting contract.

There is no anticipated dollar volume for this contract and cannot be guaranteed. Items shall be ordered on an as needed, when needed basis. Exact quantities or estimated quantities cannot be predetermined.

76. **PROPRIETY INFORMATION**

Upon receipt by the City, responses to Solicitations, become public records subject to the provisions Florida's state policy on public records, Section 119, Florida Statutes. If you believe that any portion of your response is exempt, you should clearly identify the specific documents for which confidentiality is claimed, and provide specific legal authority of the asserted exemption. Any financial statement that an agency requires a prospective Vendor to submit in order to prequalify for bidding or for responding to a proposal for a road or any other public works project is exempt from Section 119.07, Florida Statutes, and Article I, 24(a), Florida Constitution.

77. **PROTECTION**

Precaution shall be exercised at all times for the protection of persons, (including employees) and property. All existing structures, utilities, services, roads, trees, shrubbery, etc. shall be protected against damage or interrupted service at all times by the Vendor during the term of contract, and the Vendor shall be held responsible for any damage to the property occurring by reason of his operation on the property.

78. **PUBLIC ENTITY CRIMES**

In accordance Section 287.133 (2)(a), Florida Statutes: A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided Section 287.017, Florida Statutes, for CATEGORY TWO for a period of 36 Months from the date of being placed on the convicted vendor list.

79. **PUBLIC RECORDS COMPLIANCE**

Contractor shall comply with public records laws as set forth in Section 119, Florida Statutes, and shall specifically:

- a. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.
- b. Provide the public with access to public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed the cost provided in Section 119, Florida Statutes, or as otherwise provided by law.
- c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

- d. Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the Contractor upon termination of the Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the City.

The failure of Contractor to comply with a public records request shall constitute a material breach of the contract.

80. **PUBLIC RECORDS/PUBLIC MEETINGS EXEMPTION STATEMENT**

Section 119.071(1)(c), Florida Statutes: **Any financial statement that an agency requires a prospective Vendor to submit in order to prequalify for bidding or for responding to a proposal for a road or any other public works project is exempt from s. 119.07(1) and s. 24(a), Art. I of the State Constitution. On June 2, 2011, Governor Scott signed HB 7223 into law.** This new legislation amends Florida's Public Records and Sunshine Laws, by expanding "exemptions" applicable to bids, proposals and replies to sealed competitive solicitations, and closes evaluation meetings from the public in certain instances. First, Section 119.071, Florida Statutes was amended to provide that sealed bids, proposals, or replies received by a Florida public agency shall remain exempt from disclosure until an intended decision is announced or until 30 days from the opening, whichever is earlier. This means that Vendors will not be able to procure a copy of their competitor's bids until an intended decision is reached or 30 days has elapsed since the time of the bid opening. The prior version of the law provided for a 10-day exemption. Next, Section 286.0113, Florida Statutes was amended to provide that meetings of persons appointed to evaluate bids or proposals and negotiate contracts shall be closed in certain circumstances. Specifically, portions of such meetings may now be closed to the public during oral presentations made by a vendor, or where a vendor answers questions. In other words, neither Vendors, nor the public will be permitted to sit in on meetings, unless this exemption is waived by the City Council, wherein their competitors are making presentations or discussing their bid or proposal with the committee members. The portions of these meetings must still be recorded and are subject to disclosure at the time of an intended award decision or within 30 days of the bid or proposal opening, whichever is earlier. Portions of the meetings that do not involve presentations, questions and answers, or negotiation strategy or negotiation sessions are still open to the public and competing Vendors, but the new law limits public attendance to portions of such meetings.

81. **PURCHASE ORDER AND DELIVERY**

The successful Vendor shall not deliver products or provide services without a City of Port Orange Purchase Order, signed by an authorized agent of the City of Port Orange. The fastest, most reasonable delivery time shall be indicated by the Vendor. Any special information concerning delivery should also be included, on a separate sheet, if necessary. All items shall be shipped F.O.B. INSIDE DELIVERY unless otherwise stated in the specifications. This shall be understood to include bringing merchandise to the appropriate room or place designated by the using department. Every tender or delivery of goods must fully comply with all provisions of these requirements and the specifications including time, delivery and quality. Nonconformance shall constitute a breach which shall be rectified prior to expiration of the time for performance. Failure to rectify within the performance period shall be considered cause to reject future deliveries and cancellation of the contract by City of Port Orange without prejudice to other remedies provided by law. Where delivery times are critical, the City of Port Orange reserves the right to award accordingly.

82. **QUALITY**

All materials used for the manufacture or construction of any supplies, materials or equipment covered by this bid shall be new. The items bid must be new, the latest model, of the best quality and highest grade workmanship unless otherwise specified in this bid by the City.

83. **QUESTIONS, INTERPRETATIONS**

Questions regarding interpretation of Responses, Solicitation results or Solicitation awards shall be directed in writing to the Purchasing Division and referenced by the Solicitation number no later than the last day for questions as specified in the Solicitation documents. The City of Port Orange shall not be responsible for oral interpretations given by any City personnel or representative or others. The issuance of a written addendum is the only official method whereby interpretation, clarification or additional information can be given.

84. **RECORDS/AUDIT**

The Vendor shall maintain records sufficient to document their completion of the scope of services as a public record and as a requirement of the Contract. At all reasonable times, these records, unless exempt or confidential, shall be subject to review, inspection, copy and audit by persons duly authorized by the City. These records shall be kept for a minimum of three (3) years after completion of the Contract and in accordance with the requirements of public records retention as prescribed by general law. Records which relate to any litigation, appeals or settlements of claims arising from performance under this requirement shall be made available until a final disposition has been made of such litigation, appeals, or claims.

85. **RECYCLED MATERIALS**

City of Port Orange encourages the use of products made of recycled materials.

86. **REJECTING OF RESPONSES, REBIDDING**

The City reserves the right to accept or reject any or all Responses or parts of Responses, to waive irregularities and technicalities, and to request re-bids. The City also reserves the right to award the contract on such items the City deems will best serve the interests of the City. The City further reserves the right to award the contract on a "split order" basis, or such combination as shall best serve the interests of the City unless otherwise specified. The City Council shall have the authority to reject any and all Responses. If the lowest and best Response exceeds the budgeted amount and the City Council does not make additional funds available, the purchasing agent with the help of the department head shall have the authority to re-advertise the article or articles for bidding after making sufficient changes in the plans or specifications to bring the cost within the limit of the money available. (Code 1981, § 8-28.)

87. **REQUEST FOR ADDITIONAL INFORMATION**

Prior to the final Solicitation selection, Vendors may be required to submit additional information which the City may deem necessary to further evaluate the Vendor's qualifications to perform under the terms of the Solicitation and subsequent Contract.

88. **REVIEW OF RESPONSES/SUBMISSIONS**

Each Response will be reviewed to determine if the Response is responsive to the submission requirements outlined in the Solicitation. A responsive Response is one which follows the requirements of the Solicitation, includes all required documentation, is submitted in the format outlined in the Solicitation, is of timely submission, and has the appropriate signatures as required on each document. Failure to comply with these requirements may deem your Response non-responsive.

89. **RIGHT OF NEGOTIATION RFP/RFSQ/ITN**

The City reserves the right to negotiate with the selected Vendor the exact terms and conditions of the Contract.

90. **RIGHT OF WITHDRAWAL**

A bid, proposal, statement, or reply may not be withdrawn before the expiration of ninety (90) days from the Response due date.

91. **RIGHTS TO SOLICITATION SUBMITTED MATERIAL**

All Responses, inquiries, or correspondence relating to or in reference to a Solicitation, and all reports, charts, and other documentation submitted by Vendors shall become the property of the City when received.

92. **RULES, REGULATIONS AND LICENSING REQUIREMENT**

The Vendor shall comply with all laws, ordinances and regulations applicable to the services contemplated herein, including those applicable to conflict of interest and collusion. Vendors are presumed to be familiar with all federal, state and local laws, ordinances, codes and regulations that may in any way affect the services offered.

93. **SAMPLES**

Samples, when requested, must be furnished at, or before, Response opening, (unless otherwise specified), and will be delivered at no charge to the City. If not used and/or destroyed in testing, said sample(s) will, at the Vendor's request, be returned within thirty (30) days after bid award at the Vendor's expense. If requested by the City, samples and/or inspection of like items are to be made available in the central Florida area.

94. **SEPARATION AND DISTRIBUTION**

The Solicitation has been designed for transmittal as a complete document to interested parties. It is recommended that it not be separated; however, it may be reproduced in its entirety as additional distribution might dictate.

The City will utilize Demand Star for distribution of Formal Solicitations at: www.demandstar.com.

95. **SEVERABILITY**

If any section, subsection, paragraph, sentence, clause, phrase or word of these requirements or the specifications shall be held invalid, such holding shall not affect the remaining portions of these requirements and the specifications and it is hereby declared that such remaining portions would have been included in these requirements and the specifications as though the invalid portion had been omitted.

96. **SIGNATURE REQUIRED**

All Responses must show the company name and be signed by a company officer or employee who has the authority to bind the company or firm by their signature. UNSIGNED RESPONSES WILL BE REJECTED. All manual signatures must be original - no rubber stamp, photocopy, etc.

97. **SIGNED RESPONSE CONSIDERED AN OFFER**

The signed Response is considered an offer on the part of the Vendor, which offer shall be considered accepted upon approval by the City of Port Orange City Council (if required). The City of Port Orange will issue a purchase order or a letter of authorization to the successful Vendor, as authorization for delivery of the items awarded subject to requirements of detailed specifications and those contained herein. In the event of default on the part of the Vendor after such acceptance, the City may take such action as it deems appropriate including legal action for damages or specific performance.

98. **SILENCE OF SPECIFICATIONS**

The apparent silence of specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of specifications shall be made on the basis of this statement. The items furnished under this contract shall be new, unused of the latest product in production to commercial trade and shall be of the highest

quality as to materials used and workmanship. Manufacturer furnishing these items shall be experienced in design and construction of such items and shall be an established supplier of the item bid.

99. **SOLICITATION FORM COMPLETION, SUBMISSION AND RECEIPT OF RESPONSES**

Unless otherwise specified, Vendors shall use the Solicitation forms supplied by the Purchasing Division. Responses shall be typewritten or handwritten in ink and shall bear the original signature of the Vendor's authorized representative. Responses containing erasures or corrections must be initialed by the Vendor in ink. Responses shall be submitted by mail or hand delivery only. No Response will be accepted by facsimile transmission, e-mail or other electronic delivery. Responses submitted by mail shall be addressed to: David Battaglia, Purchasing Agent, Purchasing Office, a division of the Finance Department, Port Orange City Hall, 1000 City Center, Port Orange, Florida 32129. Responses submitted by hand delivery shall be delivered to: City Clerk, Port Orange City Hall, 1000 City Center Circle, Port Orange, Florida 32129. Responses will be accepted until 2:30 p.m. on the date indicated in the Solicitation documents or as addenda issued by the City. One (1) sealed envelope or package shall be submitted. The sealed envelope/package must contain the required forms and price proposals, where applicable, and will be evaluated and deemed responsive or non-responsive. All Responses deemed non-responsive will be returned to the Vendor and will not be opened.

Bids (Envelope/Package) shall contain one (1) original and one (1) digital (Cd or flash drive) version unless otherwise indicated in the legal advertisement and shall be mailed or delivered as set forth in the preceding paragraph in one (1) SEALED ENVELOPE/PACKAGE. The envelope/package shall be clearly marked on the outside to include the bid project name, bid number and name of the Vendor.

100. **STATE LICENSING REQUIREMENTS**

All entities defined under Chapters 607, 608, 617 or 620, Florida Statutes, seeking to do business with the City shall be on file and in good standing with the State of Florida's Department of State. Prior to making an offer, the Vendor shall have met the license, certification, and any other requirements of the state, county, city and/or other agency of authority with jurisdiction in such matters and should provide copies of documentation that evidence such qualifications with the response to the Solicitation; and, that the Vendor shall provide follow-up evidence that the Vendor maintains such credentials throughout the period of the agreement. A copy of a current certificate of authority from the Secretary of State authorizing the Bidder/Responder to do business in the State of Florida, or other evidence of legal authority to do business in the state, county, city and/or any other agency of authority should be provided with your response to the Solicitation. Information concerning certification with the Secretary of State may be obtained at <http://ccfcorp.dos.state.fl.us/index.html>. Contract documents shall be executed by the entity's duly authorized officer as evidence by entity records.

101. **SUBCONTRACTING**

The Vendor will not sub-contract, or enter into any subcontracting agreements pertaining to this contract, without obtaining approval from the City of Port Orange.

102. **SUPPLEMENTAL MATERIALS**

Vendors are responsible for including all pertinent product data in the returned bid package. Literature, brochures, data sheets, specification information, completed forms requested as part of the bid package and any other facts which may affect the evaluation and subsequent contract award should be included. Materials such as legal documents and contractual agreements that the Vendor wishes to include as a condition of the bid must also be in the returned bid package. Failure to include all necessary and proper supplemental materials may be cause to reject the entire bid.

103. **TAXES**

The City of Port Orange is exempt from all federal excise, state and local taxes unless otherwise stated in this document. A Tax Exemption Certificate will be furnished upon written request to the City of Port Orange Purchasing Division.

104. **TERM CONTRACTS**

Acceptance by the City of Port Orange of Vendor's offer shall be limited to the terms herein unless expressly agreed in writing by the City. If the contract is intended to cover a specific time period, the term will be given in the bid specifications.

105. **TERMINATION**

The City of Port Orange reserves the right to terminate the contract for default if the Vendor breaches any of the terms therein, including warranties of the Vendor or if the Vendor becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which the City of Port Orange may have in law or equity. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all services required to the City's satisfaction and/or to meet all other obligations and requirements. The City may cancel the Contract at any time for breach of contractual obligations by providing the Vendor with a written notice of such cancellation. Should the City exercise its right to cancel the contract for such reasons, the cancellation shall become effective on the date as specified in the notice of cancellation sent to the Vendor.

106. **TERMINATION - NOTICE**

Either party may cancel the contract at any time after award, unless otherwise specified. The City shall be required to give the vendor notice thirty days prior to the date of cancellation of the contract. The vendor shall be required to give the City written notice (60) sixty days prior to the date of cancellation of the contract. The City of Port Orange may terminate the contract without cause upon thirty (30) days written notice.

107. **TITLE TRANSFER**

Title and Risk of Loss of goods shall not pass to City of Port Orange until City of Port Orange actually receives and takes possession of the goods at the point or points of delivery. Receiving times may vary with the using department. Generally, deliveries may be made between 8:30 a.m. and 3:00 p.m., Monday through Friday. The Vendor is advised to consult the using department for instructions. The place of delivery shall be specified in the bid specification and/or on the Purchase Order as a "Deliver To:" address.

108. **UNBALANCED BID**

A mathematically unbalanced bid is where a bidder places a high price on some items and a low price on other items in a unit price contract. A bid is materially unbalanced when there is reasonable doubt that acceptance of a mathematically unbalanced bid will result in the lowest overall cost to the City. Unbalanced Bids will be rejected if the prices are deemed materially unbalanced.

109. **USE OF SOLICITATION FORMS**

The Vendor shall complete the appropriate Solicitation Form(s) included in the Solicitation. All blanks on the Solicitation Forms shall be completed. If a question or confirmation is not applicable, it should be answered with an "N/A."

Supplemental information may be attached to the Solicitation Forms. Failure to fully complete the appropriate Solicitation Forms may result in disqualification of the Response.

If additional space for a response is required, attach an additional page to the page on which the question is stated. Clearly identify the number of the question to which the response is attached. Further, if additional Solicitation Form pages are needed, photocopy or replicate as appropriate, and attach such additional pages to the page on which the question or chart is stated.

The signature of the Authorized Person or Entity must be that of an officer, partner or a sole proprietor of the entity making the Response. The original Response, and each copy submitted, shall contain an original signature on the Vendor's Acknowledgement Form contained in each Solicitation.

110. **VARIANCES**

For purposes of Response evaluation, Vendors must indicate any variances, no matter how slight, contained in the Response. No variations or exceptions by a Vendor will be considered or deemed a part of the Response submitted unless such variances or exceptions are listed in the Response and referenced in the space provided on the Response pages. If variances are not stated, or referenced as required, it will be assumed that the product or service complies with the City's terms, conditions and specifications. By receiving a Response, the City does not necessarily accept any variances contained in the Response. All variances submitted are subject to review and approval by the City. If any Response contains material variances that, in the City's sole opinion, make that Response conditional in nature, the City reserves the right to reject the Response or part of the Response that is declared, by the City, as conditional.

111. **VENDOR'S PRODUCT OR SERVICES**

The Vendor's product (if applicable) delivered to the City shall be free of all liens, claims or encumbrances, and the vendor warrants that it has a clear title to the product being delivered.

- a. If the Vendor is contracted to provide services, such services shall be fully satisfactory to the City as determined by the City.
- b. The Vendor shall provide the City with any data, reports or other information as required and requested by the City to enable it to utilize the product or service furnished by the Vendor.
- c. In furnishing the service or product to the City, the Vendor shall comply with all federal, state, county laws, and city rules, regulations and codes and their successors or amendments. Violation of such laws, rules, regulations and codes may be grounds for delaying or reducing the amount due, or in rescinding the contract, Contract, proposal or quote.

112. **WAIVER OF IRREGULARITIES**

The City of Port Orange reserves the right to waive and/or reject any non-substantial irregularity in Responses received whenever such waiver or rejection is in the best interest of the City and/or it does not meet the minimum requirements set forth. All reasonably responsive Responses will be considered. However, the City reserves the right to waive formalities or informalities in Responses, to reject, with or without cause, any or all Responses or portions of Responses, or to interview or not interview individual Vendors, and to accept any Responses or portions of Responses deemed to be in the best interest of the City. The city council shall grant the City Manager to waive any and all non-substantial irregularities in any and all formal Solicitations. (Code 1981, § 8-29; Ord. No. 2015-17, § 1, 5-19-2015)

113. **WARRANTIES**

Vendors shall furnish all data pertinent to warranties or guarantees which may apply to items in the Response. Vendors may not limit or exclude any implied warranties. The Vendor warrants that product sold to the City shall conform to the standards established by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event product does not conform to OSHA Standards, where applicable, City of Port Orange may return the product for correction or replacement at the Vendor's expense. If the Vendor fails to make the appropriate correction within a reasonable time, City of Port Orange may correct at the Vendor's expense.

SECTION 6 – SPECIAL CONDITIONS

PERIOD OF OFFER VALIDITY:

Bids offered in this ITB must remain firm for a period of ninety (90)Days from the ITB opening date.

CONTRACT TERM

The term of the contract shall be from notice to proceed. Substantial completion will be 270 calendar days. Final completion will be 30 calendar days more.

ELIGIBILITY OF VENDOR:

To be eligible to respond to this ITB, the Vendors must have a minimum of five (5) years' prior successful experience working with the services described in this ITB. Please provide eligibility experience with your submittal.

NOTICE: The City reserves the right to consider cooperative contracts, federal, state municipal etc.; in the evaluation process. If in the City's best interest, the City may utilize a cooperative contract in lieu of making an award.

BID BONDS

A certified check or bank draft, payable to the City of Port Orange, Florida or a satisfactory bid bond executed by the Bidder and an acceptable surety, in an amount equal to five percent (5%) of the bid shall be submitted with each bid.

PAYMENT & PERFORMANCE BONDS

Upon award, the successful bidder will also be required to furnish and pay for a satisfactory contract one hundred percent (100%) Payment and Performance Bond to be recorded by the City, with the Clerk of the Circuit Court, Volusia County, Florida and to enter into a contract for services with the City of Port Orange. After recording, the City will furnish to the contractor the recording information for the bond to evidence that the contractor has met the requirement of Florida law. The City will bill the cost of recording to the contractor.

[Remainder of this page left intentionally blank]

SECTION 7 – REQUIRED FORMS

FORM 7.1 – BID SUBMITTAL CHECKLIST

- _____ Form 7.2 – Vendor’s Acknowledgement
- _____ Form 7.3 – Addendum and Change Order Procedure Acknowledgement
- _____ Form 7.4 – Drug Free/Tie Preference Statement
- _____ Form 7.5 – Public Entity Crimes Statement
- _____ Form 7.6 – Affidavit of Anti-Collusion
- _____ Form 7.7– Statement of Vendor’s Qualifications
- _____ Form 7.8 – Professional References for Previous Experience
- _____ Form 7.9 – Listing of Subcontractors
- _____ Form 7.10 – Vendor Application
- _____ Form 7.11 – Local Business Affidavit of Eligibility
- _____ Bid Bond
- _____ Attachment 1 – Bid Proposal
- _____ Submission of one (1) original marked “ORIGINAL” and one (1) digital (CD or flash drive) version in PDF format.

BY: _____
Name of Business

Authorized Signature

Date

This document must be completed and returned with your Submittal

FORM 7.2 – VENDOR’S ACKNOWLEDGEMENT FORM

I have carefully examined the Invitation to Bid (ITB), Instructions to Vendors, General and/or Special Conditions, Specifications, and any other documents accompanying or made a part of this invitation.

I hereby propose to furnish the goods or services specified in the Invitation to Bid at the prices or rates as finally negotiated. I agree that my bid will remain firm for a period of up to ninety (90) days in order to allow the City of Port Orange adequate time to evaluate the proposed bid. Furthermore, I agree to abide by all conditions of the Invitation to Bid.

I certify that all information contained in this Bid is truthful to the best of my knowledge and belief. I further certify that I am a duly authorized to submit this Bid on behalf of the Vendor / Contractor as its act and deed and that the Vendor / Contractor is ready, willing and able to perform if awarded the contract.

I further certify that this Bid is made without prior understanding, Contract, connection, discussion, or collusion with any person, firm or corporation submitting a Bid for the same product or service; no officer, employee or agent of the City of Port Orange City Council or of any other Vendor interested in said ITB; and that the undersigned executed this Vendor’s Acknowledgement with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

I further certify that having read and examined the specifications and documents for the designated services and understanding the general conditions for contract under which services will be performed, does hereby propose to furnish all labor, equipment, and material to provide the services set forth in the ITB.

I hereby declare that the following listing states any clarifications, any and all variations from and exceptions to the requirements of the specifications and documents. The undersigned further declares that the “work” will be performed in strict accordance with such requirements, and understands that any exceptions to the requirements of the specifications and documents may render the Bid non-responsive.

NO EXCEPTIONS ALLOWED AFTER THE BID IS SUBMITTED:

Please check one: ☐ I take NO exceptions. ☐ Exceptions (list below; add additional pages if necessary):

NAME OF BUSINESS

MAILING ADDRESS

AUTHORIZED SIGNATURE

CITY, STATE & ZIP CODE

NAME, TITLE, TYPED

TELEPHONE NUMBER / FAX NUMBER

FEDERAL IDENTIFICATION #

E-MAIL ADDRESS

STATE OF _____ COUNTY OF _____

The foregoing instrument was acknowledged before me this day of _____, 20____ by _____, who is personally known to me or who has produced ad identification and who did take an oath.

My Commission Expires:

Notary Public

This document must be completed and returned with your Submittal

FORM 7.3 – ADDENDUM and CHANGE ORDER PROCEDURE ACKNOWLEDGEMENT

ADDENDUM ACKNOWLEDGEMENT

I have carefully examined the Invitation to Bid (ITB), Instructions to Vendors, General and/or Special Conditions, Specifications, and any other documents accompanying or made a part of this invitation to Bid.

I acknowledge receipt and incorporation of the following addenda, and the cost, if any, of such revisions has been included in the price of the bid proposal.

Addendum # _____ Date: _____ Addendum # _____ Date: _____

Addendum # _____ Date: _____ Addendum # _____ Date: _____

CHANGE ORDER PROCEDURE ACKNOWLEDGEMENT

If awarded the Contract for this Solicitation, I acknowledge that no oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders requests shall be made in writing by the Contractor for review by the Contract Administrator for the City of Port Orange. No work shall be performed as set forth in the change order until the Contractor receives an executed Purchase Order for the requested change.

I acknowledge the following statement regarding Change Orders to the awarded Contract:

“The Successful Contractor is responsible for giving the City of Port Orange, prior to the Contract expiration date, at least forty-five (45) calendar days’ advance notice for any anticipated changes in price greater than \$25,000.00, time and/or scope of the awarded Contract. The Contractor shall not continue to provide services past the Contract expiration date unless approved by a written Change Order Notice from the City.”

Name of Business

By: _____

Printed Name: _____

Title: _____

STATE OF _____
COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by
_____, as _____ of
(NAME) (TITLE)
_____ and who:
(NAME OF ORGANIZATION)

[Notary: Please select one]

☐ is personally known to me; or

☐ has produced _____ as identification.

Notary Public, State of _____

Printed, typed or stamped name, commission and expiration:

This document must be completed and returned with your Submittal

FORM 7.4 – DRUG FREE PREFERENCE STATEMENT

IDENTICAL TIE BIDS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids, proposals, statements, or replies that are equal with respect to price, quality, and service are received by the city for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program.

In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of Section 287.087, Florida Statutes.

As an authorized representative of the firm, I certify that this firm complies fully with the above requirements.

Name of Business

By: _____

Printed Name: _____

Title: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by
_____, as _____ of

(NAME)

(TITLE)

and who:

(NAME OF ORGANIZATION)

[Notary: Please select one]

☐ is personally known to me; or

☐ has produced _____ as identification.

Notary Public, State of _____

Printed, typed or stamped name, commission and expiration:

This document must be completed and returned with your Submittal

**FORM 7.5 – SWORN STATEMENT UNDER SECTION 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY
CRIMES**

(To be signed in the presence of notary public or other officer authorized to administer oaths.)

Before me, the undersigned Authority, personally appeared affiant _____, who, being by me first duly sworn, made the following statement:

1. The business address of _____ (name of Offeror or business) is _____.
2. My relationship to _____ (name of Offeror or business) is _____ (relationship such as sole proprietor, partner, president, vice president).
3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any proposal or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy or material misrepresentation.
4. I understand that "convicted" or "conviction" is defined by the Florida Statutes to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilt or nolo contendere.
5. I understand that "affiliate" is defined by the Florida Statutes to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.
6. Neither the Offeror or contractor, nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the Offeror or contractor, nor any affiliate of the Offeror or contractor has been convicted of a public entity crime subsequent to July 1, 1989. (Draw a line through paragraph 6 if paragraph 7 below applies.)
7. There has been a conviction of a public entity crime by the Offeror or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the Offeror or contractor who is active in the management of the Offeror or contractor or an affiliate of the Offeror or contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____. A copy of the order of the Division of Administrative Hearings is attached to this statement. **(Draw a line through paragraph 7 if paragraph 6 above applies.)**

Name of Business

By: _____

Printed Name: _____

Title: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by _____, as _____ of _____ and who:

[Notary: Please select one]

☐ is personally known to me; or

☐ has produced _____ as identification.

Notary Public, State of _____

Printed, typed or stamped name, commission and expiration:

This document must be completed and returned with your Submittal

FORM 7.6 – ANTI-COLLUSION FORM

ANTI-COLLUSION STATEMENT BID FORM:

By signing this form, the Proposer agrees that this Bid is made without any other understanding, agreement, or connection with any person, corporation, or firm submitting a bid for the same purpose and that the bid is in all respects fair and without collusion or fraud.

SIGN in ink in the space provided below. Unsigned Bids will be considered incomplete, and will be disqualified, and rejected.

IT IS AGREED BY THE UNDERSIGNED VENDOR THAT THE SIGNING AND DELIVERY OF THE BID REPRESENTS THE VENDORS ACCEPTANCE OF THE TERMS AND CONDITIONS OF THE FOREGOING SPECIFICATIONS, CONTRACT AND PROVISIONS, AND IF AWARDED, THIS CONTRACT WILL REPRESENT THE AGREEMENT BETWEEN THE VENDORS AND THE CITY OF PORT ORANGE.

NAME OF FIRM: _____

SIGNED BY: _____
(MUST BE SIGNED BY A COMPANY OFFICER OR AUTHORIZED AGENT)

PRINTED SIGNATURE: _____

TITLE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

TELEPHONE: _____ FAX: _____

COMPLETION TIME: _____

F.E.I.N. NUMBER: _____

NO Bid may be withdrawn for a period of ninety (90) days subsequent to the submittal of the Bids, without the consent of the City of Port Orange.

NO BID (REASON): _____

This document must be completed and returned with your Submittal

FORM 7.7 – STATEMENT OF VENDOR’S QUALIFICATIONS

The undersigned warrants that he or she is duly authorized to complete this document, and hereby affirms that the information contained in Form 7.8 is complete, true, and correct to the best of their knowledge and belief. If necessary, questions may be answered on separate paper and attached, with any additional information that may be pertinent.

- A. Name of Vendor.
- B. Permanent main office address.
- C. Date organized.
- D. If a corporation, where incorporated.
- E. How many years have you been engaged in the contracting business under your present firm or trade name?
- F. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)
- G. General character of work performed by your company.
- H.⁽¹⁾ Have you ever failed to complete any work awarded to you? If so, where and why?
- H. ⁽²⁾ Provide list of any lawsuits or judgments filed by or against your company in the last three years, indicating the nature and outcome.
- I. Have you ever defaulted on a contract? If so, where and why?
- J. List the more important projects recently completed by your company, stating the approximate cost for each and the month and year completed.
- K. List your major equipment currently owned or leased.
- L. Experience in work similar to this type of project.
- M. Background and experience of the principal members of your organization, including the officers.
- N. Credit currently available: \$_____
- O. Give bank reference: _____
- P. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner?

(Form 7.7 Statement of Vendor's Qualifications – Page 2)

Q. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Vendor's Qualifications.

Name of Business

By: _____

Printed Name: _____

Title: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by _____, as _____ of _____ and who:

[Notary: Please select one]

☐ is personally known to me; or

☐ has produced _____ as identification.

Notary Public, State of _____

Printed, typed or stamped name, commission
and expiration:

This document must be completed and returned with your Submittal

FORM 7.8 – PROFESSIONAL REFERENCES FOR PREVIOUS EXPERIENCE

The Vendor proposes that he/she is qualified to perform the referenced work and has successfully done so on recent projects similar in nature and size. The City reserves the right to check references and confirm information provided herein.

Please provide three (3) current and correct references from clients for similar services.

(Do not include the City of Port Orange)

1. Company Name: _____
Contact Person: _____
City, State: _____
Telephone Number: _____
Email Address: _____

Description of goods or

Services provided: _____

Contract Amount: _____

Start/End Date of Contract: _____

2. Company Name: _____
Contact Person: _____
City, State: _____
Telephone Number: _____
Email Address: _____

Description of goods or

Services provided: _____

Contract Amount: _____

Start/End Date of Contract: _____

3. Company Name: _____
Contact Person: _____
City, State: _____
Telephone Number: _____
Email Address: _____

Description of goods or

Services provided: _____

Contract Amount: _____

Start/End Date of Contract: _____

This document must be completed and returned with your Submittal.

FORM 7.9 – LISTING OF SUBCONTRACTORS

The Vendor proposes that the following subcontractors are qualified to perform the referenced work and have successfully done so on recent projects similar in nature and size. All subcontractors whose work product accounts for 5% or more of the total contract value shall be listed. Upon approval of subcontractors listed, the successful Vendor shall not substitute subcontractors without approval from the Engineer. Vendor shall attach additional sheets as necessary.

Subcontractor No. 1

Name: _____

Description of Work: _____

Percent of Contract Price: _____

Previous Experience Together: Yes/No _____

Subcontractor No. 2

Name: _____

Description of Work: _____

Percent of Contract Price: _____

Previous Experience Together: Yes/No _____

Subcontractor No. 3

Name: _____

Description of Work: _____

Percent of Contract Price: _____

Previous Experience Together: Yes/No _____

Subcontractor No. 4

Name: _____

Description of Work: _____

Percent of Contract Price: _____

Previous Experience Together: Yes/No _____

Subcontractor No. 5

Name: _____

Description of Work: _____

Percent of Contract Price: _____

Previous Experience Together: Yes/No _____

This document must be completed and returned with your Submittal



CITY OF PORT ORANGE

Vendor Application and Agreement

City of Port Orange
Attn: Purchasing Division
(386) 506-5718
PurchDiv@port-orange.org
1000 City Center Circle
Port Orange, FL 32129

Please complete the following information:

Name of Individual or Business: _____

Payment Remit to Name: _____

Contact Person and Title: _____

Phone Number: _____ **Fax Number:** _____

Email Address: _____

Taxpayer Identification Number (TIN): _____

Tax Classification:

- | | |
|---|--|
| ☐ Individual/Sole Proprietor/Single Member LLC | ☐ S Corporation |
| ☐ Partnership | ☐ C Corporation |
| ☐ Other (Explain) _____ | ☐ Trust/Estate |

Current W-9 Attached (Required) ☐ Yes

Type of Commodity/Services _____

Does your company accept Purchasing Cards (i.e. Visa)? ☐ Yes ☐ No

Permanent Address:

Address _____

City _____ State _____ Zip Code _____

Remit to Address (if different from above):

Address _____

City _____ State _____ Zip Code _____

Please inform the Purchasing Division of all address, contact information or insurance changes.

PURCHASING GENERAL TERMS AND CONDITIONS

The City objects in advance to the inclusion of any additional terms and conditions proposed by the vendor in its acceptance or acknowledgement of any order. The inclusion of terms and conditions, or reference thereto, by the vendor shall be of no significance, shall not be binding on the City, and the City's acceptance of the vendor's goods or services shall not be deemed as acceptance of such terms and conditions. The terms and conditions contained in a Supplemental Document, as defined hereinafter, to the Purchase Order shall only control if and when a Supplemental Document to the Purchase Order is signed by the City Manager or Mayor. The terms and conditions contained in a Supplemental Document fully executed by the City Manager or Mayor are incorporated herein by this reference. **In the event that a vendor contracts with the City via a Supplemental Document and there is a conflict between the general terms and conditions set forth herein and the Supplemental Document, the terms and conditions of the Supplemental Document shall control. Supplemental Document shall be defined as to include invitation to bid, proposal, quote, and contract.** Unless otherwise stated on the face of a purchase order, the following terms and conditions shall apply:

- 1. ACCEPTANCE.** The Purchase Order ("PO") issued by the City of Port Orange ("the City") and made apart hereof by reference, becomes a binding contract, subject to the terms and conditions set forth herein, upon confirmation of the PO by the Vendor; or by the commencement of the work set forth in the PO; or by acceptance of payment for the work set forth in the PO. Any change, addition or modification to the terms set forth on the face of the PO must be agreed to in writing by the City.
- 2. ASSIGNMENT.** Neither the PO nor any interest under such PO may be assigned by Vendor without the prior written consent of City.
- 3. CHANGES.** City shall have the right at any time to make changes in drawings, designs, specifications, materials, packaging, time and place of delivery and method of transportation. If any such changes cause an increase or decrease in the costs or the time required for Vendor's required performance, an equitable adjustment will be made and the PO will be modified, in writing, accordingly.
- 4. COMPLIANCE WITH LAWS.** Vendor warrants that all goods and services applicable under the PO will have been produced, sold, delivered and furnished in strict compliance with all applicable Federal and State laws and regulations. Vendor shall execute and deliver such documents as may be required to effect or to evidence compliance. All laws and regulations required in agreements of this character are incorporated by this reference.
- 5. FREIGHT.** Vendor shall ensure that shipper complies with the shipping terms and instructions stated on the face of the PO. Failure to accurately follow the shipping terms and instructions as stated may result in one of the following: (i) a chargeback for any freight cost increase; or (ii) a chargeback for the full cost of the freight.
- 6. INSPECTION.**
 - a. All goods and/or services, purchased are subject to City's inspection, test and approval at destination, whether or not prior payments have been made or inspections have been performed by the City. All goods and/or services not in accordance with specifications may be rejected and held subject to shippers' orders. Shipper must pay all expenses, including freight both ways, on rejected goods.
 - b. If goods and/or services provided hereunder are rejected, in whole or in part by the City by reason of the Vendor's failure to comply with any of the terms, conditions and/or specifications contained herein and on the face of the PO, City, after notifying Vendor in writing may (i) return the rejected portion of such goods and/or services to Vendor at Vendor's expense or hold the same for such disposal as Vendor shall indicate, without invalidating the remainder of the PO; (ii) may reject the

entire shipment of goods and cancel the PO for any undelivered goods; or (iii) to cause Vendor to pay City promptly for expenses incurred in remedying the defective or nonconforming goods and/or services (including without limitation, the purchase of substitute (or functionally equivalent) goods and/or services), or to cause Vendor, at Vendor's expense, to expeditiously replace, upgrade, or repair any defective or rejected goods. If the option set forth in (i) is exercised, City may, in its discretion, reduce the quantity specified in the PO by the number of goods and/or services returned or rejected.

7. INDEMNIFICATION. The City reserves the right to add in a Supplemental Document, as previously defined to include invitation to bid, proposal, quote, and contract, the following clause or substantially similar language:

Vendor covenants and agrees that it will indemnify and hold harmless the City and all of the City's officers, agents, and employees from any claim, loss, damage, costs, charge or expense arising out of any act, action, neglect or omission by Vendor during the performance of the contract, whether direct, or indirect, and whether to any person or property to which the City or said parties may be subject, except that neither the Vendor nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused by or resulting from the sole negligence of City or any of its officers, agents, or employees.

8. INTELLECTUAL PROPERTY INDEMNIFICATION. Vendor warrants that there has been no violation or infringement of any copyright, trade name, trademark, patent or related intellectual property right, as a result of manufacturing, producing or selling the goods. Vendor further agrees to defend and indemnify City, its officers, agents and employees from all claims, expenses and liabilities arising from any actual or alleged intellectual property violation or infringement.

9. INSURANCE. THE DEPARTMENT HEAD HAS THE RIGHT TO WAIVE CERTAIN INSURANCE REQUIREMENTS AND SHALL PROVIDE THE WAIVER WITH THE REQUEST FOR PURCHASE ORDER. IF INSURANCE IS REQUIRED, THE FOLLOWING TERMS SHALL APPLY:

Vendor shall maintain all insurance as required by the City. Vendor shall provide to the City a certificate of insurance evidencing coverage and identifying the City as an additional insured. Failure of the Vendor to provide a certificate of insurance shall not relieve the Vendor from its responsibility to maintain the insurance coverage required by the City. The certificates shall clearly indicate that the Vendor has obtained insurance of the type, amount and classification required by the City. Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. For worker's compensation coverage, the Vendor's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the City as an additional insured for Workers' Compensation. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by F.S. 440.572.

Vendor shall not commence work until the City has received a certificate or certificates of insurance and endorsements evidencing the required insurance. Vendor shall be solely responsible to provide the City the written original certificate, notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change. If insurance policies required are not provided to the City within thirty (30) days of the date requested, this Vendor Application and Agreement may be terminated.

10. INVOICING. Vendor agrees to submit an invoice with each shipment showing the PO number. All invoices should be issued to the City c/o Accounts Payable. The discount period of any cash discounts available to the City will commence on the date of the invoice. When freight is prepaid by Vendor, Vendor must show freight charges separately; before adding freight charges, and submit a copy of the freight bill with the invoice. No allowance will be made for boxes, reels, drums or other returnable containers unless so stated on the face of the PO and invoiced separately.

11. JURISDICTION AND VENUE. For any suit or proceeding to enforce the provisions of the PO, Vendor irrevocably consents to the jurisdiction of the Courts of the State of Florida. Furthermore, Vendor agrees that the PO will be interpreted, construed and enforced in all respects in accordance with the laws of the State of Florida, without giving effect to its principles of conflicts of law.

12. OVERSHIPMENT. Quantities in excess of that shown on the face of the PO, if rejected, will be returned to Vendor at Vendor's risk and expense. Any excess quantities that City accepts will be billed at the PO price.

13. TERMINATION. City reserves the right to cancel all or any part of the PO without penalty.

14. TIME. Time is of the essence of the PO. The City reserves the right to cancel the PO (or any portion) without penalty in the event that deliveries are not made within the specified time, without liability for deliveries previously made and accepted by City.

15. TITLE. Unless the face of the PO provides for the City's assumption of ownership at the point of shipment, title to the goods purchased under the PO remains with the Vendor until such goods are off-loaded at the City facility or site specified on the face of the PO; provided, however, that in all cases, Vendor shall bear all risks of loss or damage in transit until such goods are delivered to City's facility or site and accepted by City or its designee.

16. WARRANTY. Vendor expressly warrants that all goods, services, workmanship, and title furnished and/or delivered pursuant to the PO and the terms and conditions stated herein will be free from defects in material, workmanship and title. Further Vendor warrants all goods and/or services will conform in all respects to all applicable specifications, drawings, and shall be fit for its intended use and service. All goods and/or services shall be new and not secondhand, of good quality and free from defects whether latent or patent in material or workmanship; all material and workmanship is warranted for a minimum of one (1) year from date of acceptance by City unless otherwise stipulated herein. Upon notification by City, Vendor shall correct any defect either by repair or replacement of the defective goods subject to the approval of the City, at Vendor's expense, provided that City's continued use of said defective goods pending repair or replacement shall not constitute a waiver by City under the PO. Further warrants that all goods and/or services covered by the PO meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-956) and its regulations in effect as of the date of the PO. These warranties shall survive acceptance of and payment for the goods and/or services furnished.

17. PAYMENT. Vendor agrees that payment will be made subject to "Local Government Prompt Payment Act", Sections 218.70-218.74, Florida Statutes, and in accordance with the City's policies and procedures, including but not limited to the requirement that Vendor shall be required to maintain a Current Vendor Application on file with the City. Prior to release of payment, Vendor shall be required to make current the vendor application on file with the City. For purposes set forth herein, a "Current Vendor Application" shall include the following: 1) an updated, completed, and executed current vendor application; 2) proof of current and updated insurance, if required; 3) updated and completed W-9, and 4) any other documentation that may be required by the City or otherwise required by law.

18. PUBLIC RECORDS COMPLIANCE. Vendor shall also be defined as to include the term set forth in Chapter 119.0701(1)(a), Florida Statutes. Vendor shall comply with public records laws as set forth in Chapter 119, Florida Statutes, and shall specifically:

- (a) Keep and maintain public records required by the City to perform the service.
- (b) Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
- (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Vendor does not transfer the records to the City.
- (d) Upon completion of the Contract, Vendor shall transfer to the City, at no cost, all public records in possession of the Vendor and destroy any duplicate public records that are exempt from public records disclosure requirements. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.
- (e) Comply with the City's request for records within a reasonable time. Failure to comply with the City's request for records within a reasonable time may subject Vendor to penalties set forth in Chapter 119.10, Florida Statutes.

IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE VENDOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THE CONTRACT, CONTACT THE OFFICE OF THE CITY CLERK, CITY HALL, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129 TELEPHONE: (386) 506- 5563 E-MAIL: CITYCLERK@PORT- ORANGE.ORG

19. SEVERABILITY. Vendor understands and agrees that if any provision, term, or condition stated herein or on the face of the PO is by the courts held to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions shall not be affected, and the rights and obligations of the Vendor and the City shall be construed and enforced as if the PO and this Vendor Application and Agreement did not contain the particular provision, term or condition held to be invalid.

20. COUNTERPARTS; FACSIMILE SIGNATURES. This Vendor Application and Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. Any party may effect the execution and delivery of this Vendor Application and Agreement by signing the same and sending a copy thereof to the City by facsimile, email or other electronic mean and so executed, shall have the full force and effect as an original.

***[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]
[SIGNATURES FOLLOW ON NEXT PAGE]***

ACKNOWLEDGEMENT AND AUTHORIZATION

Vendor acknowledges, authorizes, and agrees to the following:

1. The Vendor, as also defined to include principals and officers authorized to legally bind and obligate the Vendor for purposes set forth herein, does hereby certify under penalty of law that this Vendor Application and Agreement and all attachments provided are correct and were prepared under Vendor direction or supervision. Furthermore, Vendor is legally authorized to sign this Vendor Application and Agreement and by such execution does hereby approve and accept all of the terms and conditions contained herein.
2. The Vendor does hereby certify that Vendor has read and understands the Vendor Application and Agreement and Purchasing General Terms and Conditions contained herein.
3. The Vendor does hereby certify that no person (or concern) in connection with the Vendor, so far as is known, is disqualified from public contracting or purchasing from any agency of the federal government, State of Florida or City of Port Orange. Vendor further certifies that Vendor will notify the City of Port Orange should any person (or concern) in connection with the Vendor, so far as is known, becomes disqualified while Vendor contracts with the City of Port Orange.
4. Vendor acknowledges and agrees to be bound by the terms and conditions set forth in the Current Vendor Application form approved by the City Finance Director, posted on the City's website, www.port-orange.org as of the date of issuance on the face of the PO and as otherwise referenced herein. Furthermore, it shall be the Vendor's responsibility to maintain a Current Vendor Application, as defined in Section 16 of this Vendor Application and Agreement, on file with the City. Vendor agrees that the City is not required to make payment until the Current Vendor Application is filed.

Name of Vendor: _____

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Please return the completed Vendor Application and Agreement along with the required documentation to:

City of Port Orange
Attn: Purchasing Division
1000 City Center Circle
Port Orange, FL 32129

Or email: PurchDiv@port-orange.org

Any questions, please call the Purchasing Division at (386) 506-5718.

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only <u>one</u> of the following seven boxes: ☐ Individual/sole proprietor or single-member LLC ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. ☐ Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number											
				-				-			
or											
Employer identification number											

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶ _____	Date ▶ _____
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ¹
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ¹
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN.
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

This document must be completed and returned with your Submittal

*** NOTE TO VENDORS***

The City of Port Orange, Florida does not maintain a prospective vendor's list, classified by commodities for the purpose of inviting sealed bids and quotation.

The City utilizes DemandStar www.demandstar.com to release Bids/RFP's and quotes. While the City advertises the Invitation to Bid in the local newspaper (Daytona News Journal) only in rare cases does the City mail out announcement notices to vendors. Vendors interested in becoming a member of DemandStar may visit their web site at: www.demandstar.com or by calling them at 1-800-711-1712.

Vendors will automatically receive notice of request for Bids/RFP's or quotes after they sign up on DemandStar. It is important that vendors sign, complete and return this application. Also include the W-9 and insurance information requirements in order for the City to assign a vendor number on our computer system. It is also the vendor's responsibility to keep the Purchasing Division informed as to any change of address or insurance that may occur.

If your company is interested in bidding on commodities/services in addition to those specified, on any specific article related to the main category, insert the type of those materials on the blank space provided for each category group. Attorney services are secured by direct telephone quotes or written price inquiries.

Drug Free Workplace: A statement as to whether or not your firm has implemented a drug-free workplace program, as described in Section 287.087 of the Florida Statutes should be noted. Failure to respond in affirmative to this request will not disqualify you from consideration. Preference will be given to firms which have implemented a drug-free workplace program in the case where the City has received two or more bids what are equal with respect to price, quality, and service.

Equal Employment Opportunity (EEO). All vendors will be required to make an affirmative statement as to their support of all applicable equal opportunity affirmative action requirements. A copy of the City's Equal Employment Opportunity statement (EEO) will be available to the vendor upon request.

I certify that the information supplied herein is correct and that neither the applicant nor any person (or concern) in any connection with the applicant as a principal or officer, so far as is known, is now disqualified from the public contracting and purchasing process by any agency of the federal government, the State of Florida or the City of Port Orange.

Signature of Person Completing Form: _____

Printed/Types Name: _____ Title: _____

Commodity/Services _____

This document must be completed and returned with your Submittal

FORM 7.11 – LOCAL BUSINESS AFFIDAVIT OF ELIGIBILITY

City of Port Orange

*This declaration is executed under penalty of perjury of the laws to the United States and State of Florida***THIS AFFIDAVIT IS SUBMITTED IN REFERENCE TO THE FOLLOWING SOLICITATION:**

RFSQ/RFP/ITN/BID/CONTRACT/PROJECT # (as applicable): _____

BUSINESS NAME: _____

CONTACT PERSON/TITLE: _____

MAILING ADDRESS: _____

CITY-STATE-ZIP: _____

Length of Time at Address Provided: _____

Physical Presence of Business: ☐ Headquarters, ☐ Manufacturing Facility, or ☐ Locally Owned FranchiseAnd within Legal Boundaries: ☐ The City of Port Orange ☐ Volusia County ☐ The State of Florida

FEIN (Federal Employer Identification Number): _____

BUSINESS STRUCTURE: ☐ Corporation ☐ LLC ☐ Partnership ☐ Sole Proprietorship
☐ Other (Specify): _____

PHONE NUMBER: _____ FAX: _____

EMAIL: _____

****Please attach a valid business tax receipt, or other such documentation****

ATTESTATION – I understand that:

- In accordance with City Of Port Orange City Code 2-275, local businesses shall have five (5) business days from bid/proposal opening to submit a best and final bid for evaluation. To qualify: A Port Orange business initial bid must be within (8%) of the lowest and best responsible bid from a non-Port Orange business; A Volusia County business initial bid must be within (5%) of the lowest and best responsible bid from a non-Volusia County business; A State of Florida business initial bid must be within (3%) of the lowest and best responsible bid from a non-State of Florida business.
- A local business must have its headquarters, manufacturing facility, or locally owned franchise located within the legal boundaries of the City of Port Orange, Volusia County, or the State of Florida, as indicated herein, for at least twelve (12) months prior to the bid or proposal opening date and a valid business license, issued by the corresponding government agency. Post office boxes are not verifiable and shall not be used for the purpose of establishing said physical address. Bidders shall attach to this affidavit of eligibility with a bid or proposal, a copy of a valid business tax receipt or such other documentation, to the city's satisfaction, demonstrating the physical business presence of the firm within corresponding local limits.
- The preference does not apply to goods or services exempted by statute or prohibited by Federal law, State law, or other funding source restrictions.
- The preference established in this policy does not prohibit the right of the City, or other authorized purchasing authority, to compare quality or fitness for use of supplies, materials, equipment and services proposed for purchase and compare qualifications, character, responsibility and fitness of all persons, firms or corporations submitting bids or proposals.
- The information contained herein may be subject to verification.
- A vendor who misrepresents the local preference status of its firm in a proposal or bid submitted to the City of Port Orange will lose the privilege to claim local preference status, and shall lose eligibility to claim local preference for a period of one (1) year. The City Manager may also recommend that the firm be referred for debarment.

BEFORE ME; the undersigned authority, in and for the State of Florida and the City of Port Orange personally appeared _____ who, after being sworn according to law, stated that he or she was authorized to represent _____ and to execute this affidavit on behalf of the said Business Entity and attests, under penalty of perjury, to the above.

(Form 7.11 – Local Business Affidavit of Eligibility – Page 2)

SWORN AND SUBSCRIBED BEFORE ME

NOTARY SEAL

SIGNATURE OF NOTARY PUBLIC
THIS _____ DAY OF _____, 20____
My Commission Expires: _____

SIGNATURE OF AFFIANT DATE

PRINTED NAME OF AFFIANT / TITLE

COMPANY

This document must be completed and returned with your Submittal

BID BOND

BID BOND

Bond No.:

KNOW ALL MEN BY THESE PRESENTS that _____, as Contractor, duly authorized to conduct business in the State of Florida, whose principal place of business is located at _____, Tel.: _____, (hereinafter called "PRINCIPAL"), and _____, as SURETY, duly authorized to conduct business in the State of Florida, whose principal place of business is located at _____, Tel.: _____ (hereinafter called "SURETY"), are held and firmly bound unto the City of Port Orange, Florida, as CITY, a Florida municipal corporation, whose address is City of Port Orange, 1000 City Center Circle, Port Orange, Florida 32129, Tel.: (386) 506-5501, (hereinafter called "OBLIGEE" or "CITY"), in the penal sum of _____ dollars and (____)/100 (\$ _____), lawful money of the United States, for the payment of which sum shall and truly be made, whereof PRINCIPAL and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas the Principal has submitted the accompanying bid, dated _____, 20____, for:

Project Name / Bid No.:

Project Address:

Legal Description: See Attached

Description of Work:

NOW, THEREFORE,

A. If the principal shall not withdraw said bid within one hundred twenty (120) days after date of opening of the same, and shall within ten (10) days after the prescribed forms are presented to it for signature, enter into a written contract with the City in accordance with the bid as accepted, and give bonds with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract, then the above obligations shall be void and of no effect, otherwise to remain in full force and virtue.

B. In the event of the withdrawal of said bid within the period specified, or the failure to enter into such contract and give such bonds within the time specified, if the principal shall pay the City the difference between the amount specified in said bid and the amount for which the City may procure the required work and supplies, if the latter amount be in excess of the former, then the above obligations shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above parties have executed this instrument under their several seals, this _____ day of _____, A.D. 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Note: If the firm is a sole ownership or partnership including limited liability company, two (2) witnesses are required to attest the signature. If the firm is a corporation, then the corporate secretary shall attest and affix the corporate seal (Attach power of attorney to original bid bond and financial statement of Surety Company).

PRINCIPAL:

Signature

Corporate Officer & Title

ATTEST:

Signature

Corporate Secretary (Affix Corporate Seal)

WITNESSES:

SURETY:

Attorney-in-Fact (signature)

Name & Title

Name of Local Resident Agent

City, State, Zip

Telephone:
A.M. Best No.: _____ NAIC No. : _____

ATTEST:

Signature

Corporate Secretary (Affix Corporate Seal)

STATE OF _____

COUNTY OF _____

Before me this day personally appeared _____ (affiant), who, being duly sworn, deposes and says that he/she is the Attorney-in-Fact for the _____ (corporate surety) and that this person has been authorized by _____ (corporate surety) to execute the forgoing bond on behalf of the Contractor named therein in favor of the City of Port Orange, Florida.

Signature of Affiant

Sworn to / Affirmed and subscribed before me this _____ day of _____, 20____, by _____, who is personally known to me or who produced _____ as identification.

NOTARY PUBLIC – STATE OF

Type or print name: _____

Commission No.: _____

Commission Expires: _____

(Seal)

.....
END OF BID BOND

"ATTACHMENT 1" ITB 17-37 SCHEDULE OF UNIT PRICING

BID FORM

**CITY OF PORT ORANGE
CITY ANNEXATION RENOVATION**



ITB# 17-37

Completed Attachment 1 Bid Proposal form **MUST** be included with Bid Submission

Instruction to save Attachment from Demandstar website:

Perform "File Save As" and save spreadsheet to your computer.

Fill in pricing in highlighted cells, preferably electronically.

Bidders are required to complete all fields shaded in green. All other fields will be automatically calculated.

NAME OF BUSINESS:

CONTACT PERSON:

EMAIL ADDRESS:

AUTHORIZED SIGNATURE:

CITY ANNEXATION PER SPECIFICATIONS	UNIT	TOTAL FEE	EXTENDED COST
	LS	\$ -	\$ -
TOTAL BASE BID			\$ -
Alternate No. 1: Fuel Pump Station: Demolish existing canopy, columns and footings. Provide new canopy as indicated on Sheet A0.3 and as specified in Division 024119 Selective Demolition	LS	\$ -	\$ -
Alternate No 1A: Remove and Replace Existing Fuel Pump and Card Reader.	LS	\$ -	\$ -
Alternate No. 2: Pressure Wash and Re-Paint the exterior walls, columns, doors, frames and overhead door of existing Fire Department Storage Building as indicated on Sheet A0.2.	LS	\$ -	\$ -
Alternate No. 3: Substitute tegular edge ceiling panels in lieu of those specified in Division 095113. Basis of Design: Armstrong Optima 9/16" square tegular edge, 24" x 24".	LS	\$ -	\$ -

Above is a sample of the bid cost/fee proposal that must be included with a Vendor's sealed bid package. A fillable, locked Excel document is uploaded along with this ITB document on DemandStar.com for completion by the Vendor and must be included in the Vendor's sealed bid submittal. Only the Cost/Fee Proposal document provided by the City will be acceptable.

PERFORMANCE & PAYMENT BOND

RETURN RECORDED DOCUMENT TO:

City Clerk
1000 City Center Circle
Port Orange, Florida 32129-4144

FRONT PAGE FOR BOND REQUIRED BY SECTION 255.05, F.S.

PAYMENT AND PERFORMANCE BOND

(Public Works)

Notice and Time Limitations Must Be In Accordance
With Section 255.05(2), (8) and (10), Florida Statutes

BOND NO. _____

PRINCIPAL:

Developer or Contractor: _____

Principal Business Address: _____

Contact Person: _____

Phone Number: _____

SURETY:

Address: _____

Contact Person: _____

Phone Number: _____

OWNER:

City of Port Orange, Florida, a chartered municipal corporation

1000 City Center Circle

Port Orange, Florida 32129-4144

Contact Person: _____

Phone Number: _____

City Manager
(386) 506-5501

Amount: \$ _____

City Case/Project No. _____

Description of Work: _____

Project Location: _____

Port Orange, Volusia County, Florida

Legal Description: _____

Front Page

All other pages are subsequent to this page regardless of any numbers that may be printed thereon.

[MTR/sal 2015-02-10]

RETURN RECORDED DOCUMENT TO:

City Clerk
1000 City Center Circle
Port Orange, Florida 32129-4144

Name of Project

City Project No. _____

Bond No. _____

Space Reserved for Recording Data

**COMBINATION PAYMENT AND PERFORMANCE BOND
FOR
PUBLIC CONSTRUCTION**

per Section 255.05, Florida Statutes
Guaranty for Construction of Public Improvements

BY THIS BOND, We, _____ as Principal, and _____, a corporation, as Surety, are bound to CITY OF PORT ORANGE, FLORIDA, a Florida municipal corporation, herein called "Owner" or sometimes referred to as "City," in the sum of _____ DOLLARS (\$ _____), for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the terms of that certain _____ having an effective date of _____, entered into by and between the Principal and the City, for _____, hereinafter referred to as the "Contract," being made a part of this bond by reference, at the times and in the manner prescribed in the Contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Contract (the "Work"); and
3. Pays Owner all losses, damages, delay damages (including contractually authorized liquidated damages), expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a breach or material breach by Principal under the Contract documents; and
4. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this bond is void; otherwise it remains in full force.

Notice of Nonpayment and Time Limitations

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Sections 255.02(2), (8) and (10), Florida Statutes.

Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the contract or the changes does not affect Surety's obligation under this bond.

IN WITNESS WHEREOF, this performance and payment bond is executed in duplicate originals, each of which shall be deemed an original, this _____, day of _____, 20__.

Attest:

(Name of Principal)

(As to Corporate Principal) Secretary

By: _____
Name/Title: _____

(Witness to Principal)

(Corporate Seal)

(Surety)

(Witness to Surety)

By: _____
Name: _____

(Attorney-in-Fact)

(Corporate Seal)

NOTE: **Date of BOND must not be prior to date of Contract.** If Developer/Principal is Partnership, all partners should execute BOND. All BONDS signed by an agent must be accompanied by a certified copy of the authority to act.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Florida.

AIA[®] Document A101[™] – 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the _____ day of _____ in the year _____
(In words, indicate day, month and year)

BETWEEN the Owner:
(Name, address and other information)

and the Contractor:
(Name, address and other information)

for the following Project:
(Name, location and detailed description)

The Architect:
(Name, address and other information)

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201[™]–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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User Notes:

TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS
10	INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the Work not later than _____ and Final Completion on _____.

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(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be _____ (\$ _____), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.3 Unit prices, if any:

(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit
------	-----------------------	----------------

§ 4.4 Allowances included in the Contract Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
------	-------

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Contractor shall provide to the Owner fully executed *Waiver and Partial Release from Contractor, Waiver and Partial Releases from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights, and Contractor's Affidavit of Outstanding Accounts* at the time each Application for Payment is submitted. Based upon Applications for Payment submitted to the Architect by the Contractor in the form attached as Exhibit "C" and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents. Copies of

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the required *Waiver and Partial Release from Contractor, Waiver and Partial Releases from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights*, and *Contractor's Affidavit of Outstanding Accounts* are attached as Composite Exhibit "D".

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the 10th day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the 15th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than thirty (30) days after the Architect receives the Application for Payment. *(Federal, state or local laws may require payment within a certain period of time.)*

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ten percent (10%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction, as modified by Owner;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ten percent (10%);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007, as modified by Owner.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and *(Section 9.8.5 of AIA Document A201–2007, as modified by Owner, requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)*
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007, as modified by Owner.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

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No reduction of retainage below ten percent (10%) before Substantial Completion.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201-2007, as modified by Owner, and to satisfy other requirements, if any, which extend beyond final payment; and the Contractor provides to the Owner fully executed *Contractor's Final Payment Affidavit, Contractor's Affidavit of Outstanding Accounts, Final Waiver and Release of Lien from Contractor and Final Waivers and Releases of Liens from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights*.and
- .2 a final Certificate for Payment has been issued by the Architect.

Copies of the required *Contractor's Final Payment Affidavit, Contractor's Affidavit of Outstanding Accounts, Final Waiver and Release of Lien from Contractor and Final Waivers and Releases of Liens from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights* are attached as Composite Exhibit "D".

§ 5.2.2 The Owner's final payment to the Contractor shall be made within thirty (30) days of compliance with all Contract requirements.

§ 5.2.3 At closeout, Contractor shall complete the *Contract Completion Checklist*, a copy of which is attached hereto as Exhibit "E", and shall provide to the Owner all items required thereon as a condition precedent to final payment being due from the Owner.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201-2007, as modified by Owner, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 BINDING DISPUTE RESOLUTION

The method of dispute resolution shall be as follows:

✓ Litigation in a court of competent jurisdiction
(Paragraphs deleted)

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201-2007, as modified by Owner.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007, as modified by Owner.

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ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007, as modified by Owner, or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2

(Paragraphs deleted)

Interest on payments due and unpaid under the Contract: N/A

§ 8.3 The Owner's representative:

(Name, address and other information)

§ 8.4 The Contractor's representative:

(Name, address and other information)

§ 8.5 The Contractor's representative shall not be changed without ten days written notice to the other party.

§ 8.6 OTHER PROVISIONS

§ 8.6.1 FINANCIAL DISCLOSURES

During the term of this Contract, Contractor covenants and agrees that it will keep adequate books and records of accounts in accordance with Generally Accepted Accounting Principles (GAAP). Contractor further covenants and agrees that, upon request from Owner, Contractor shall provide to Owner financial statements of Contractor, including current income and expense statements of Contractor, consolidated balance sheets signed by a financial officer of Contractor, and audited reports provided to Contractor's Surety, audited financial statements certified by a Certified Public Accountant concerning the financial affairs of Contractor and all affiliates of Contractor, and such other financial information requested by Owner. All such financial information shall comply with GAAP.

In the event that Contractor becomes insolvent and/or fails to pay its current obligations when they become due, Contractor shall so advise Owner of such situation. Contractor hereby authorizes its sureties, lenders, financial institutions and other third parties to release to Owner financial information requested by Owner, including, but not limited to, the financial information described in the preceding paragraph.

§ 8.6.2 WAIVER OF JURY TRIAL

All parties hereby waive any and all right to any trial by jury in any action or proceeding arising directly or indirectly hereunder.

§ 8.6.3 CORRECTION OF WORK

In the event that Contractor fails to timely take corrective action, Owner may correct, remove and/or replace the non-conforming work at Contractor's expense using the specified materials or such other materials which the Owner, in its sole discretion, deems appropriate.

§ 8.6.4 SCHEDULING

Contractor shall utilize Primavera (P3) or Suretrac as its scheduling software.

§ 8.6.5 VENDOR DIVERSITY/MINORITY

Provided that prices are competitive and that the quality, quantity and timeliness of the Work will not be prejudiced or compromised, Contractor is encouraged, but not required, to utilize where reasonably practical a reasonable number of minority owned and/or controlled companies for the Project. In the event that Contractor utilizes a minority owned and/or controlled company, Contractor shall submit to the Owner the name of the company, the scope of the work and

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the contract sum of the work being performed by the minority owned and/or controlled company. Contractor shall retain in its sole discretion the final decision on the selection and use of subcontractors and other vendors and shall remain fully responsible for their work, material and services as called for by the Contract Documents.

§ 8.6.6 The Contractor's use of local (in state) laborers, subcontractors, material suppliers, and equipment suppliers is encouraged by Owner and may influence the Owner's selection process.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor, as modified by Owner with attached Exhibits "A" to "F".

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction, as modified by Owner.

§ 9.1.3 The Supplementary and other Conditions of the Contract are those contained on the Scope of Work, List of Contract Drawings and Specifications attached as Exhibit "A".

(Table deleted)

§ 9.1.4 The

(Paragraphs deleted)

Specifications are those contained on the Scope of Work, List of Contract Drawings and Specifications attached as Exhibit "A".

(Table deleted)

§ 9.1.5 The

(Paragraphs deleted)

Drawings are those contained on the Scope of Work, List of Contract Drawings and Specifications attached as Exhibit "A".

(Table deleted)

§ 9.1.6 The Addenda, if any:

Number

Date

Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1

(Paragraphs deleted)

Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201-2007, as modified by Owner, provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

Exhibit "A" – Scope of Work, List of Contract Drawings and Specifications

Exhibit "B" – Start and Completion Schedule

Exhibit "C" – Application for Payment

Exhibit "D" – Waiver and Partial Releases, Final Waivers and Releases of Liens,
Contractor's Affidavit of Outstanding Accounts, Contractor's Final Payment
Affidavit

Exhibit "E" – Contract Completion Checklist

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Exhibit "F" – Performance Bond and Payment Bond

ARTICLE 10 INSURANCE AND BONDS

If required by Owner, the Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007, as modified by Owner.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007, as modified by Owner.)

Type of insurance or bond	Limit of liability or bond amount (\$ 0.00)
Comprehensive General Liability Policy; including but not limited to owners and contractors protective liability and products and completed operations coverage	Minimum of \$1,000,000 per occurrence; \$2,000,000 general aggregate, combined single limit
Business Auto Policy	Minimum of \$1,000,000 per occurrence, combined single limit
Workers' Compensation Insurance	\$500,000 per occurrence
Payment and Performance Bonds	

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

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AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
| (Name and address)

THE ARCHITECT:
| (Name and address)

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| 15 | CLAIMS AND DISPUTES |

ADDITIONS AND DELETIONS:

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Contractor shall provide to the Owner two (2) copies of all electronic drawing files of all as-built drawings in a format compatible with the AutoCAD release version designated by Owner. This shall include an organized, rational file/drawing naming system that refers directly to the actual hard copy drawings. For example, drawings shall be named A-1.dwg, A-2.dwg, M-1.dwg, M-2.dwg etc. Each drawing file shall be processed through AutoCad's XREF Manager utilizing the "bind process" prior to submittal to the Owner to combine the files and eliminate the need for attached files. Text documents such as specification books shall be presented in Microsoft Word or pdf format. Such electronic files shall be delivered to the Owner within ten (10) days after requested by the Owner or, if not specifically requested, prior to final payment from Owner.

§ 1.5.2 The Drawings, Specifications and Instruments of Service, including those in electronic form, prepared by the Architect and its consultants and other consultants retained by the Owner are and shall remain the property of the Owner, and Owner shall retain all common law, statutory and other reserved rights, in addition to copyrights, with respect thereto. The Contractor may retain one record set. They shall not be used on any other project without the prior written consent of the Owner, and Contractor shall take such action as may be necessary to prevent their use on any other project or for additions to the Project outside the scope of the Work by any Subcontractor, Sub-subcontractor or material or equipment supplier. The Contractor, Subcontractors, Sub-subcontractors and material and equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and Instruments of Service prepared by the Architect appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license, except the Contractor's record set, shall be returned or suitably accounted for to the Owner upon completion of the Work and shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and Instruments of Service prepared by the Architect, its consultants and Owner's consultants. Submittals or distributions necessary to meet official regulatory requirements or for other purposes relating to completion of the Project are not to be construed as a publication in derogation of the Owner's copyright or other reserved rights.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.7 REQUIRED PROJECT FORMS

The following project forms shall be used by the Contractor for submissions and other general requirements of the Contract Documents if required by Owner or Architect:

Title	Document Number
Contractor's Qualification Statement	AIA Doc. A-305
Bid Bond	AIA Doc. A-310
Change Order	AIA Doc. G-701
Application & Certificate for Payment	AIA Doc. G-702

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Application & Certificate for Payment	AIA Doc. G-703
Certificate of Substantial Completion	AIA Doc. G-704
Contractor's Affidavit for Payment of Debts and Claims	AIA Doc. G-706
Consent of Surety Company to Final Payment	AIA Doc. G-707
Proposal Request	AIA Doc. G-709
Architect's Supplemental Instructions	AIA Doc. G-710

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Information or services required of the Owner by the Contract Documents shall be furnished by the Owner with reasonable promptness. Any other information or services relevant to the Contractor's performance of the Work under the Owner's control shall be furnished by the Owner after receipt from the Contractor of a written request for such information or services.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 (Intentionally Omitted)

§ 2.2.5 (Intentionally Omitted)

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

§ 2.3.1 If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.3.2 If, after consultation with the Architect, suspension of the Work is warranted by reason of unforeseen conditions which may adversely affect the quality of the Work if such Work were continued, the Owner may suspend the Work by written notice to the Contractor. In such event, the Contract Time shall be adjusted accordingly, and the Contract Sum shall be adjusted to the extent, if any, that additional costs are incurred by reason of such suspension. If the Contractor, in its reasonable judgment, believes that a suspension is warranted by reason of unforeseen circumstances which may adversely affect the quality of the Work if the Work were continued, the Contractor shall immediately notify the Owner and the Architect of such belief and describe with particularity the reasons therefor.

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§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, commence and continue to carry out the Work. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. The right of Owner to stop the Work pursuant to this Subparagraph 2.4.1 shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, and shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and bringing to the attention of the Architect errors, omissions, or inconsistencies in the Contract Documents. The Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. Any design errors or omissions noted by the Contractor during this review shall be reported promptly to the Architect.

§ 3.2.3 The Contractor is required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods,

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techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 At the earliest possible time after the commencement of the Work on the Project site, the Contractor shall have all property corners and benchmarks verified or established by a state-licensed land surveyor, shall locate the Project on the Project site, establishing necessary reference marks and axes from which the Work accurately can progress, shall furnish Architect evidence of such verification and shall report at once any errors discovered during the process of such verification.

§ 3.3.5 If any of the Work is required to be inspected or approved by any public authority, the Contractor shall cause such inspection or approval to be performed. No inspection performed or failed to be performed by the Owner hereunder shall be a waiver of any of the Contractor's obligations hereunder or be construed as an approval or acceptance of the Work or any part thereof.

§ 3.3.6 The Contractor acknowledges that it is the Contractor's responsibility to hire all personnel for the proper and diligent prosecution of the Work and the Contractor shall use its best efforts to maintain labor peace for the duration of the Project. In the event of a labor dispute of the Contractor, its subcontractors or suppliers, the Contractor shall not be entitled to any increase in the Contract Sum.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded. The Contractor shall procure all certificates of inspection, use, occupancy, permits and licenses, pay all charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the Work. Certificates of inspection, use and occupancy shall be delivered to the Owner upon completion of the Work in sufficient time for occupation of the Project in accordance with the approved schedule for the Work. The costs of such procurement, payment and delivery are included within the Contract Sum.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. Contractor shall comply with all applicable federal, state and county, and city statutes, safety regulations, codes, ordinances and orders, including the Occupational Safety and Health Administration Act of 1970 (OSHA).

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

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§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be satisfactory to the Owner in all respects, and Owner shall have the right to require Contractor to dismiss from the Project any superintendent whose performance is not satisfactory to Owner, and to replace such superintendent with a superintendent satisfactory to Owner. The Contractor shall not replace the superintendent without the written consent of the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.9.4 The list of all supervisory personnel, including the project manager and superintendent, that the Contractor intends to use on the Project and a chain-of-command organizational chart shall be submitted to the Owner for approval. The Contractor shall not engage supervisory personnel or utilize an organization and chain-of-command other than as approved by Owner in writing, and shall not change such personnel or form of organization without the written approval of the Owner.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, immediately after being awarded the Contract, shall prepare in consultation with the Owner and Architect and submit for the Owner's and Architect's approval a Contractor's construction schedule for the Work. The construction schedule shall not exceed time limits current under the Contract Documents, shall be updated and revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, shall provide for expeditious and practicable execution of the Work and shall not be modified or extended without the prior approval of the Owner in each instance.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Owner's and Architect's approval. The Owner's and Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Owner and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

The Contractor shall prepare at least monthly a progress report in a form, in sufficient detail, and of a character approved by the Owner and Owner's lender, if any, for the Project. The progress report shall specify, among other things, an estimated percentage of completion, whether the Project is on schedule, and if not, the reasons therefor and the new schedule, as well as the number of man-days worked for each category of labor and the projected Work to be completed in the next succeeding month. Accompanying the progress report shall be an updated current Project schedule, and a listing and the status of all Change Orders, Modifications, bulletins and other relevant documents.

The Contractor also shall prepare not later than 30 days after the Contract is awarded a materials report which shall include a complete list of suppliers and fabricators, items to be purchased from the suppliers or fabricators, time required for fabrication and the scheduled delivery dates for each item to be purchased. As soon as available, the Contractor shall furnish copies of purchase orders to the Owner.

The Contractor shall prepare such additional reports as the Owner or Owner's lender for the Project, if any, may request. The Contractor shall hold weekly progress meetings at the Project site, or at such other time and frequency as the Owner requests. Progress of the Work shall be reported in detail with reference to construction schedules. Each

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interested Subcontractor shall have present a competent representative to report the condition of its work and to receive information.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.10.4 The Contractor acknowledges that the Owner may retain the services of a scheduling consultant at the Owner's expense. The Contractor shall cooperate with any such scheduling consultant at the Owner's direction, including, without limitation, with regard to the preparation of the Project schedule.

§ 3.10.5 Contractor shall utilize Primavera (P3) or Suretrac as its scheduling software.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

§ 3.11.1 The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed, signed by the Contractor, certifying that they show complete and exact "as-built" conditions, including, but not limited to, specific locations and types of materials, piping, conduit, utilities and other "as-built" conditions.

§ 3.11.2 The Contractor shall maintain all approved permit drawings in a manner so as to make them accessible to governmental inspectors and other authorized agencies. All approved drawings shall be wrapped, marked with appropriate identification and delivered to the Owner within sixty (60) days of final completion of the Work.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

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§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.12.11 Shop drawings for Architectural, Structural, Mechanical and Electrical work shall be submitted for approval to the Architect.

§ 3.12.12 The Contractor shall assemble for the Architect's approval three complete copies in looseleaf binders of all operating and maintenance data from all manufacturers whose equipment is or will be installed in the Work. The Contractor shall also prepare a checklist and schedule showing the type of lubricant to be used at each point of application, and the intervals between lubrication for each item of equipment.

§ 3.12.13 The Contractor shall submit to Owner one copy of all submissions made to the Architect pursuant to this Paragraph 3.12.

§ 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall assure free, convenient, unencumbered and direct access to properties neighboring the Project site for the owners of such properties and their respective tenants, agents, invitees and guests.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 The Contractor shall be responsible for broken and scratched glass, which finished product does not meet industry standards ("damaged glass"). At the completion of the Work, Contractor shall replace such damaged glass. After damaged glass has been replaced, the Contractor shall remove all labels, wash and polish both sides of all glass.

In addition to general broom cleaning, the Contractor shall perform the following final cleaning for all trades at completion of the Work:

- .1 remove temporary protections;
- .2 remove marks, stains, fingerprints and other soil or dirt from painted, decorated and natural-finished woodwork and other Work;
- .3 remove spots, plaster, soil and paint from ceramic tile, marble and other finished materials, and wash or wipe clean;
- .4 clean fixtures, cabinet work and equipment, removing stains, paint, dirt and dust, and leave same in undamaged, new condition;
- .5 clean aluminum in accordance with recommendations of the manufacturer; and,
- .6 clean resilient floors thoroughly with a well rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring the surfaces to sheen.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or Instruments of Service prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall defend, indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses

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and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.18.3 If any of the indemnification provisions recited in this Agreement and/or these General Conditions are deemed to fall within the provisions of the indemnity statutes of the state where the project is located, then the extent of indemnification for each of those provisions under this Agreement and/or these General Conditions shall each be limited to the sum of \$1,000,000. It is further acknowledged and agreed that this provision is hereby incorporated into and shall constitute part of the project specifications and bid documents. The parties further agree that \$1,000.00 of the Contract Sum shall constitute consideration for the indemnity obligation set forth herein.

§ 3.19

§ 3.19.1 The Contractor shall provide all documents, reports and other information requested by any lender, escrowee under any construction loan escrow or title insurer and shall cooperate with such lender, escrowee or insurer to the fullest extent possible.

§ 3.19.2 If Owner's lender shall designate an inspecting architect or other representative, the Contractor shall cooperate with such inspecting architect or representative to the fullest extent possible.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 If an Architect is identified on page one of this Agreement, Article 4 shall apply. The Architect is the person lawfully licensed to practice architecture. The term "Architect" means the Architect or the Architect's authorized representative.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) deviations from the Contract Documents and

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from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and

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decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.15 Upon request of the Owner, claims, disputes and other matters in question relating to the execution or progress of the Work or the interpretation of the Contract Documents may be referred to the Architect for initial decision, which the Architect shall render in writing within a reasonable time, not to exceed 15 days after the date on which such request is made.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection. Copies of all bids or other proposals from Subcontractors and Sub-subcontractors shall, upon the request of the Owner, be submitted to the Owner for review. All Subcontractors and Sub-subcontractors shall be subject to the approval of Owner's lender, if any.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution. The Owner may require the Contractor to change any Subcontractor or Sub-subcontractor previously approved and, if at such time the Contractor is not in default hereunder, the Contract Sum shall be increased or decreased by the difference in cost occasioned by such change.

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§ 5.3 SUBCONTRACTUAL RELATIONS

§ 5.3.1 By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Notwithstanding any provision of Subparagraph 5.3.1, any part of the Work performed for the Contractor by a Subcontractor or its Sub-subcontractor shall be pursuant to a written Subcontract between the Contractor and such Subcontractor, which shall be prepared on a form of subcontract satisfactory to the Owner in all respects. Each such subcontract shall, where the context so requires, contain provisions that:

- .1 require that such Work be performed in accordance with the requirements of the Contract Documents;
- .2 waive all rights the contracting parties may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the Contractor's insurance described in the Contract Documents;
- .3 require the Subcontractor to carry and maintain insurance coverage in accordance with the Contract Documents, and to file certificates of such coverage with the Contractor;
- .4 require the Subcontractor to submit certificates and waivers of liens for work completed by it and by its Sub-subcontractors as a condition to the disbursement of the progress payment next due and owing;
- .5 require submission to Contractor or Subcontractor, as the case may be, of applications for payment in a form approved by the Owner;
- .6 report, so far as practicable, unit prices and any other feasible formula for use in the determination of costs of changes in the Work;
- .7 require each Subcontractor to furnish to the Contractor in a timely fashion all information necessary for the preparation and submission of the reports required herein;
- .8 require that each Subcontractor continue to perform under its subcontract in the event the Contract is terminated and the Owner shall take an assignment of said subcontract and request such Subcontractor to continue such performance;
- .9 require each Subcontractor to remove all debris created by its activities; and,
- .10 require each Subcontractor to represent that it is an equal opportunity employer as described in state statutes and local ordinances.

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§ 5.3.3 The Contractor shall not enter into any subcontract, contract, agreement, purchase order or other arrangement ("Arrangement") for the furnishing of any portion of the materials, services, equipment of Work with any party or entity if such party or entity is an Affiliated Entity (as defined below), unless such Arrangement has been approved by the Owner, after full disclosure in writing by the Contractor to the Owner of such affiliation or relationship and all details relating to the proposed Arrangement. The term "Affiliated Entity" means any entity related to or affiliated with the Contractor or with respect to which the Contractor has direct or indirect ownership or control, including, without limitation, any entity owned in whole or part by the Contractor; any holder of more than 10% of the issued and outstanding shares of, or the holder of any interest in, the Contractor; any entity in which any officer, director, employee, partner or shareholder (or member of the family of any of the foregoing persons) of the Contractor or any entity owned by the Contractor has a direct or indirect interest, which interest includes, but is not limited to, that of a partner, employee, agent or shareholder.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner, at its option, shall either (i) provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them or (ii) shall require that the Contractor provide for such coordination, which the Contractor shall perform when directed by Owner to do so. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

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§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.2.6 If any Subcontractor initiates legal or any other proceedings against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at its own expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys' fees and court or other costs which the Owner has incurred over and above those paid for directly by the Contractor.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The

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Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 When either the Owner or the Contractor or both do not agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, such disagreement shall be resolved in the manner prescribed in Paragraph 8.3.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor. The Contractor shall receive no additional compensation therefor, nor shall there be any change in the Contract Time as a result thereof.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. To ensure that Substantial Completion of the Work is achieved within the Contract Time, the Contractor will, before commencing the Work, submit to Owner a progress schedule showing milestone dates for completion of major portions of the Work which, if the milestone dates are met, will achieve Substantial Completion of the Work within the Contract Time. In the event any milestone date is missed, the Contractor will immediately accelerate the progress of the Work by taking those steps necessary to ensure that the next milestone date is achieved as originally planned including, without limitation, working seven days a week and overtime and employing additional employees or subcontractors. Unless the failure to meet a milestone date is caused by act of the Owner, the additional cost resulting from such acceleration shall not increase the Contract Sum.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 The Contractor shall delay or suspend the progress of the Work, or of any part thereof, whenever he shall be so required by written order of the Owner, and for such periods of time as the Owner may order, providing that in the event of such delay or delays or of such suspension or suspensions of the progress of the Work, or any part thereof, the Contract Time for the Work so suspended or of Work delayed by such suspension shall be extended for a period

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equivalent to the time lost by reason of the suspension(s), except when the Contractor is notified to suspend Work on account of faulty construction or construction methods that endanger the Work. Such order of the Owner shall not otherwise modify or invalidate in any way any of the provisions of this Contract, and the Contractor shall not be entitled to any damages or compensation from the Owner on account of such delay or delays, suspension or suspensions, except as provided below.

§ 8.3.2 When alterations or additions on the critical path are made to the Work, and such alterations or additions increase the overall completion date, the Contractor shall submit to the Architect in writing any resultant claim for an extension in the Contract Time, and shall deliver such claims to the Architect within ten (10) days after the occurrence of the event giving rise to the claim. The recommendation of the Architect regarding extension of Contract Time shall be submitted to the Owner for approval.

Any approved changes in Contract Time shall be incorporated in a Change Order. No changes in Contract Time shall be made for any alterations or additions to the Work which are not demonstrated to affect the overall completion of the job. The provision of this Article shall in no way alter, change or invalidate the provisions of the Contract Documents with respect to liquidated damages. The Contractor shall not be entitled to any delay damages or other compensation solely on account of an increase in Contract Time except in accordance with 8.3.4 below.

§ 8.3.3 Should the Contractor be obstructed or delayed in the commencement, prosecution or completion of any part of the Work by any act or delay of the Owner; or by any acts or neglect by any separate contractor employed by the Owner; material or appurtenances for the Work; or by riot, insurrection, war (excluding wars involving the United States in the Mid-Eastern portion of the World), pestilence, fire, earthquakes, cyclones, floods, epidemics; or through any act, default or delay of other parties under contract with the Owner; then the Contract Time for the Work so delayed shall be extended for a period equivalent to the time lost. Such allowance shall not be made unless a claim for extension of time is made by the Contractor to the Owner and Architect in writing within ten (10) days from the time when the alleged cause for delay occurs.

§ 8.3.4 It is further expressly agreed that the Contractor shall not be entitled to any damages or compensation from the Owner on account of any delays resulting from any of the causes specified above except those circumstances where delays are caused by the Owner or by parties under contract with the Owner, in which circumstances the Contractor shall be entitled to compensation (1) for Contractor's actual costs of increased direct jobsite wages resulting from the extended completion date caused by Owner; and (2) for extra premiums on bonds actually paid by the Contractor on account of the additional time required to complete all Work hereunder. Any change in the Contract Time resulting from any claims for delays shall be incorporated in a signed Change Order upon approval of the change by the Owner.

§ 8.3.5 Contractor expressly assumes the risk for all weather delays of every kind and nature.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. The schedule of values shall be prepared in such a manner that each major item of the Work and each subcontracted item of the Work is shown as a separate line item on AIA Document G703, Application and Certificate for Payment, Continuation Sheet, or other form acceptable to the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of

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requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents. Such Application for Payment shall be certified as correct by Contractor and shall be accompanied by waivers of liens and other documentation from Subcontractors and Sub-subcontractors as reasonably may be required by the Owner or Owner's lender, if any, under its Loan agreement with Owner or title insurer. In addition, such Application for Payment shall contain a certification by the Contractor that there are no written claims of construction, mechanics' or materialmen's liens submitted to the Contractor at the date of such Application for Payment, that the Contractor has no knowledge of any filed construction, mechanics' or materialmen's liens with respect to the Work, that all due and payable bills with respect to the Work have been paid to date or shall be paid from the proceeds of such Application for Payment, that there is no known basis for the filing of any construction, mechanics' or materialmen's liens on the Work, and that waivers from all Subcontractors constitute an effective waiver of lien under the laws of the jurisdiction in which the Project is located to the extent of payments that have been made or are to be made concurrently with payment pursuant to such Application for Payment. Upon request by Owner, copies of all Applications for Payment shall be submitted by Contractor directly to Owner's lender for the Project.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site. The Contractor shall submit, within 30 days after the date of commencement of the Work and thereafter as the Owner requires, schedules of materials and equipment for each category or subcontract for which application for payment under Subparagraph 9.3.2 will be made, which schedules shall include items, quantities, value of unit prices with extensions and the month in which Application for Payment with respect thereto is expected to occur. Schedules shall be updated on a monthly basis and submitted as an attachment to the Contractor's Application for Payment.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to

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check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.5.4 If the Contractor disputes any determination by the Architect with respect to any Certificate of Payment, the Contractor nevertheless expeditiously shall continue to prosecute the Work.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 Contractor shall provide to the Owner fully executed *Waiver and Partial Release from Contractor, Waiver and Partial Releases from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights, and Contractor's Affidavit of Outstanding Accounts* at the time each Application for Payment is submitted. After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect. Copies of the required *Waiver and Partial Release from Contractor, Waiver and Partial Releases from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights, and Contractor's Affidavit of Outstanding Accounts* shall be set forth in an exhibit to be incorporated in the Contract Documents.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. If required by the Owner or its lender, if any, within five days of receipt of payment from the Owner, the Contractor shall send to the Owner copies of checks paid for all items of the Contractor's costs listed in the Application for Payment that were not paid prior to the date on which the Application for Payment was submitted.

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§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner.

§ 9.7 FAILURE OF PAYMENT

If the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount not in dispute has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down and start-up, plus interest as provided for in the Contract Documents. Notwithstanding the preceding sentence, the Contractor shall not stop the Work during the pendency of a bona fide dispute between the Owner and the Contractor, provided all sums not in dispute claimed by the Contractor are paid.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any,

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the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions of the Work may not yet have expired. However, such action on the part of the Owner shall not be deemed to be an acceptance of any Work not completed in accordance with the Contract Documents. Likewise, absent the issuance of a Certificate of Substantial Completion by the Project Architect, no portion of the Work shall be subject to the running of the Contractor's bonded one (1) year guarantee on workmanship and materials, despite the fact that the building may be partially utilized. Where mechanical equipment is used prior to final inspection, the Owner shall perform routine maintenance and furnish those supplies that normally wear out in use, such as seals, packings, lubricants, etc. However, any major failure or breakdown of equipment not attributable to lack of maintenance or improper use or abuse of the equipment by Owner shall be made good by the Contractor under terms of its contract warranty, guaranty, bonds, etc.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. A reasonable sum may be withheld until the Contractor delivers to the Owner record Drawings, Specifications, Addenda, Change Orders and other Modifications maintained at the site; the warranties, instructions and maintenance manuals required to be furnished; and a final statement of the cost of the Work allocated in accordance with the budget and in a form approved by Owner's lender.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect and/or Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5) *Contractor's Final Payment Affidavit, Contractor's Affidavit of Outstanding Accounts, Final Waiver and Release of Lien from Contractor and Final*

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Waivers and Releases of Liens from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees. Copies of the required ***Contractor's Final Payment Affidavit, Contractor's Affidavit of Outstanding Accounts, Final Waiver and Release of Lien from Contractor and Final Waivers and Releases of Liens from Contractor's Subcontractors, Sub-subcontractors, suppliers and materialmen or any party with lien rights*** shall be set forth in an exhibit to be incorporated in the Contract Documents.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.10.6 If the Owner has furnished to the Contractor a construction loan agreement or similar agreement between the Owner and any lender for the Project, the Contractor agrees fully to cooperate with the Owner in complying with the provisions thereof and agrees to timely furnish any and all information, reports and certificates which are required or helpful thereunder. Interim and final payments may be withheld by Owner until such provisions have been complied with.

§ 9.10.7 After execution of the Certificate of Substantial Completion, and prior to the submittal of the Final Certificate and Application for Payment, the Contractor shall submit to the Architect, along with the affidavits and other documents set forth in Paragraph 9.10.2 above:

- .1 Validated warranties and notarized copies of all guarantees for equipment and materials as required by the Construction Documents, and as referred to in the Supplementary Conditions;
- .2 Copies of all approved Shop Drawings or installation diagrams and three (3) copies of all brochures, manuals, etc. of all equipment as offered by the manufacturers;
- .3 List of subcontractors and major material suppliers (shall include address, telephone number and name of individual to contact regarding this Project);
- .4 As-built drawings of the completed Project. The Contractor shall provide to the Owner two (2) copies of all electronic drawing files of all as-built drawings in a format compatible with the AutoCAD release version designated by Owner. This shall include an organized, rational file/drawing naming system that would refer directly to the actual hard copy drawings. For example, drawings shall be named A-1.dwg, A-2.dwg, M-1.dwg, M-2.dwg etc. Each drawing file shall be processed through AutoCad's XREF Manager utilizing the "bind process" prior to submittal to the Owner to combine the files and eliminate the need for attached files. Text documents such as specification books shall be presented in Microsoft Word or pdf format.

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Such electronic files shall be delivered to the Owner within ten (10) days after requested by the Owner or, if not specifically requested, prior to final payment from Owner; and

- .5 The Contractor shall obtain an electronic version of the Site Master Survey from the Owner and insert an as-built survey of the project into the Site Master Survey via the addition of another CADD layer added to the file in a format compatible with the AutoCAD release version designated by Owner. The CADD layer shall include an organized, rational file/drawing naming system that refers specifically to the precise name of the project constructed. For example, the layer must be named 2008 Media Center, 2009 DePalma restrooms, etc. The Contractor will establish permanent control monuments (hub set in concrete, iron pin in ground, etc.), or use existing monuments when approved by the Owner, to tie the location of the project to the overall facility Site Master Survey. The permanent control monument(s) shall be identified in the CADD layer such that the Owner will be able to utilize the monument for future design and development projects. Such electronic files shall be delivered to the Owner within ten (10) days after requested by the Owner or, if not specifically requested, prior to final payment from Owner.

These items shall be packaged in a suitable metal file box, supplied for the Project as approved by the Architect, and shall be properly indexed. Individual submission of these items will not be acceptable.

§ 9.10.8 Prior to submission of the Final Certificate and Application for Payment, Contractor and manufacturer's representatives shall provide free instruction in the proper use of installed equipment to representatives of the Owner as designated by the Architect. Instruction shall be given in presence of the Architect.

Instruction of the Owner's designated Maintenance Supervisor in the proper methods of cleaning and maintaining all of the finished surfaces and the proper methods of replacement of the consumable items such as filters, light bulbs, washers, etc. shall be the responsibility of the Contractor.

§ 9.10.9 Prior to submission of the Final Certificate and Application for Payment, the Contractor shall start up, test, adjust, balance and otherwise place in a satisfactory working condition all items of mechanical and electrical systems and shall fully instruct representatives of the Owner in the care and operation of such systems.

Contractor shall submit to the Architect, along with final requisition for payment, three (3) copies of a manual for the Project, assembled and bound, presenting for the Owner's guidance full details for care and maintenance of equipment included in the Contract.

Contractor shall, for this manual, obtain from subcontractors literature of manufacturers relating to equipment, including motors; also furnish cuts, wiring diagrams, instruction sheets and other information pertaining to same in overall operation and maintenance.

§ 9.10.10 During a valid warranty period, if the Contractor is unable or unwilling to respond immediately to make emergency repairs under conditions which the Owner may determine to be an emergency situation, the Owner reserves the right to make such emergency repairs and then to bill the Contractor for a fair and reasonable amount in the reimbursement for such repair.

§ 9.10.11 At closeout, Contractor shall complete the **Contract Completion Checklist**, a copy of which is to be incorporated as an exhibit to the Contract Documents, and shall provide to the Owner all items required thereon as a condition precedent to final payment being due from the Owner.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

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- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. Contractor shall comply with all applicable federal, state and county, and city statutes, safety regulations, codes, ordinances and orders, including the Occupational Safety and Health Administration Act of 1970 (OSHA).

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.2.9 Contractor shall protect adjoining private or municipal property and shall provide barricades, temporary fences, and covered walkways required to protect the safety of passers-by, as required by prudent construction practices, local building codes, ordinances or other laws, or the Contract Documents.

§ 10.2.10 Contractor shall maintain Work, materials and apparatus free from injury or damage from rain, wind, storms, frost or heat. If adverse weather makes it impossible to continue operations safely in spite of weather precautions, the Contractor shall cease Work and notify the Owner and the Architect of such cessation. The Contractor shall not permit open fires on the Project site.

§ 10.2.11 In addition to its other obligations pursuant to this Article 10, the Contractor shall, at its sole cost and expense, promptly repair any damage or disturbance to walls, utilities, sidewalks, curbs and the property of third parties (including municipalities) resulting from the performance of the Work, whether by it or by its Subcontractors at any tier. The Contractor shall maintain streets in good repair and traversable condition.

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§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located and reasonably acceptable to Owner such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. City of Port Orange and its agents, employees, City Council

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members, Architect and Architect's consultants ("additional insureds") shall be named as additional insureds on all insurance policies.

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater, but in any event, the following minimum coverages and conditions are required: Contractor shall furnish upon acceptance of the Contract an occurrence form, \$1,000,000 per occurrence; \$2,000,000 general aggregate combined single limit, comprehensive general liability policy; including but not limited to owners and contractors protective liability and products and completed operations coverage. A \$1,000,000 per occurrence, combined single limit, business auto policy covering all owned and non-owned autos used by the Contractor is required. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Contractor shall provide to Owner a copy of its Commercial General Liability policy and an additional insured endorsement for the additional insureds listed in this Paragraph 11 prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. The insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. Evidence of continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include the additional insureds listed in this Paragraph 11 for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations and for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 The Contractor shall be responsible for purchasing and maintaining workers' compensation insurance in the amount of \$500,000 per occurrence.

§ 11.1.6 (Intentionally omitted)

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Owner and Contractor specifically agree that the risk of loss in ownership of the materials delivered to the building site for incorporation into the structure shall remain with the Contractor until such time as the material is fully incorporated into the structure. The Contractor may not recover from the Owner's insurance proceeds, if any, funds for loss of materials supplied to the site or fully incorporated into the structure.

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§ 11.3.1.1 Contractor shall purchase and maintain property insurance on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements to the full insurable value thereof on a replacement cost basis without optional deductibles, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. The additional insureds listed in this Paragraph 11 shall be named as additional insureds on all insurance policies.

§ 11.3.1.2 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.3 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.1.4 (Intentionally omitted)

§ 11.3.1.5 (Intentionally omitted)

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.4 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.6. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.5 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.6 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power. If such objection be made, the Owner shall not make any settlement with respect to such loss until a resolution has been reached by agreement between such parties in interest and the insurers or by a court of competent jurisdiction.

§ 11.3.7 (Intentionally omitted)

§ 11.3.8 (Intentionally omitted)

§ 11.3.9 (Intentionally omitted)

§ 11.3.10 (Intentionally omitted)

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 If required by Owner, Contractor shall furnish to Owner and keep in force during the term of the Contract performance and labor and material payment bonds guaranteeing that the Contractor will perform its obligations under the Contract and will pay for all labor and materials furnished for the Work. Such bonds shall be issued in a form and by a surety reasonably acceptable to the Owner, shall be submitted to Owner for approval as to form, shall name the Owner and its lender, if any, as obligees and shall be in an amount equal to at least 100% of the Contract Sum (as the same may be adjusted from time to time pursuant to the Contract). The Contractor shall deliver the executed, approved bonds to the Owner within seven days after execution of this Contract. The Contractor shall provide to Owner Performance Bond and Payment Bond substantially in the form attached as an exhibit to the Contract Documents.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.4.3 The costs of all bonds required under this Paragraph 11.4 shall be included in the Contract Sum.

§ 11.4.4 The Owner shall have the right to waive any bonds required to be provided under this Paragraph 11.4, in which event the amount of the premium of any such waived bond, if included in the Contract Sum, shall be deducted from the Contract Sum by appropriate Change Order.

§ 11.4.5 Upon the request of any person or entity appearing to be a potential beneficiary of any of the bonds required under this Paragraph 11.4, the Contractor promptly shall furnish a copy of the bonds or shall permit a copy thereof to be made and delivered to such person or entity.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

§ 12.2.1.1 The Contractor shall promptly correct Work rejected by the Architect for failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and

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inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.1.2 Contractor understands and agrees that corrective work and warranty work must be performed within 48 hours of notice from the Architect. If, in the opinion of Architect, the corrective and/or warranty work cannot be accomplished in sufficient time under contract specifications due to curing, testing, inspections or otherwise to meet Architect's requirements, then corrective and/or warranty work shall be accomplished on an emergency basis utilizing corrective specifications and/or procedures acceptable to the Architect to correct, repair and/or replace deficient and/or non-conforming work irrespective of whether the corrective measures are consistent with the initial contract plans and specifications. If the corrections are not completed within 48 hours of Architect's Notice, Architect may in its sole discretion complete or contract to complete the work necessary to correct or replace the deficient and/or non-conforming work and may use whatever means, methods, procedures and specifications are necessary or desirable to correct or replace the non-conforming or deficient work even though the Architect chosen method of correction or replacement is more expensive than the initially specified work. This provision supersedes all other provisions of the contract and performance bond (if a performance bond is required) and the Contractor and Surety waive all other notices, rights and options inconsistent with this provision.

§ 12.2.1.3 In the event that Contractor fails to timely take corrective action, Owner may correct, remove and/or replace the non-conforming work at Contractor's expense using the specified materials or such other materials which the Owner, in its sole discretion, deems appropriate.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

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§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

§ 13.1.1 The Contract shall be governed by the law of the place where the Project is located.

§ 13.1.2 Historical lack of enforcement of any local law shall not constitute a waiver of Contractor's responsibility for compliance with such law in a manner consistent with the Contract Documents unless and until the Contractor has received written consent for the waiver of such compliance from the Owner and the agency responsible for the local law enforcement.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Contractor may not assign its rights or obligations under this Contract. If Contractor attempts to make such an assignment, it shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice. At Owner's request, a copy of all written notices by the Contractor to it shall be delivered to the lender for the Project, if any.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.4.3 The invalidity of any part or provision of the Contract Documents shall not impair or affect in any manner the validity, enforceability or effect of the remaining parts and provisions of the Contract Documents.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or

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approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense, including the cost of retesting for verification of compliance if necessary, until the Architect certifies that the Work in question does comply with the requirements of the Contract Documents, and all such costs shall not be included in computing the Contract Sum.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Interest on payments due and unpaid under the Contract Documents – N/A.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law.

§ 13.8 FINANCIAL DISCLOSURES

During the term of this Contract, Contractor covenants and agrees that it will keep adequate books and records of accounts in accordance with Generally Accepted Accounting Principles (GAAP). Contractor further covenants and agrees that, upon request from Owner, Contractor shall provide to Owner financial statements of Contractor, including current income and expense statements of Contractor, consolidated balance sheets signed by a financial officer of Contractor, and audited reports provided to Contractor's Surety, audited financial statements certified by a Certified Public Accountant concerning the financial affairs of Contractor and all affiliates of Contractor, and such other financial information requested by Owner. All such financial information shall comply with GAAP.

In the event that Contractor becomes insolvent and/or fails to pay its current obligations when they become due, Contractor shall so advise Owner of such situation. Contractor hereby authorizes its sureties, lenders, financial institutions and other third parties to release to Owner financial information requested by Owner, including, but not limited to, the financial information described in the preceding paragraph.

§ 13.9 WAIVER OF JURY TRIAL

§ 13.9.1 All parties hereby waive any and all right to any trial by jury in any action or proceeding arising directly or indirectly hereunder.

§ 13.10 VENDOR DIVERSITY/MINORITY

§ 13.10.1 Provided that prices are competitive and that the quality, quantity and timeliness of the Work will not be prejudiced or compromised, Contractor is encouraged, but not required, to utilize where reasonably practical a reasonable number of minority owned and/or controlled companies for the Project. In the event that Contractor utilizes a minority owned and/or controlled company, Contractor shall submit to the Owner the name of the company, the scope of the work and the contract sum of the work being performed by the minority owned and/or controlled company. Contractor shall retain in its sole discretion the final decision on the selection and use of subcontractors and other vendors and shall remain fully responsible for their work, material and services as called for by the Contract Documents.

§ 13.11 The Contractor's use of local (in state) laborers, subcontractors, material suppliers, and equipment suppliers

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is encouraged by Owner and may influence the Owner's selection process.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or
- .5 is adjudged a bankrupt or insolvent, or if it makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the Contractor or for any of its property, or if it files a petition to take advantage of any debtor's loss, or to reorganize under the bankruptcy or similar laws.

§ 14.2.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

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§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination.

ARTICLE 15 CLAIMS AND DISPUTES

The parties expressly agree to opt out of the requirements of Section 558.005, Florida Statutes. The provisions of Chapter 558, Florida Statutes, shall not apply to this Agreement.

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make

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payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

(Paragraphs deleted)

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages, except for liquidated damages as provided for in the Contract Documents, arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision

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Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties.

§ 15.2.6 (Intentionally omitted)

(Paragraph deleted)

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to litigation.

§ 15.3.2 (Intentionally omitted)

§ 15.3.3 (Intentionally omitted)

§ 15.4 ARBITRATION

§ 15.4.1 (Intentionally omitted)

(Paragraph deleted)

§ 15.4.2 (Intentionally omitted)

§ 15.4.3 (Intentionally omitted)

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 (Intentionally omitted)

§ 15.4.4.2 (Intentionally omitted)

§ 15.4.4.3 (Intentionally omitted)



End of Solicitation Documents

SECTION 7 – REQUIRED FORMS

FORM 7.1 – BID SUBMITTAL CHECKLIST

- 8 Form 7.2 – Vendor's Acknowledgement
- 8 Form 7.3 – Addendum and Change Order Procedure Acknowledgement
- 8 Form 7.4 – Drug Free/Tie Preference Statement
- 8 Form 7.5 – Public Entity Crimes Statement
- 8 Form 7.6 – Affidavit of Anti-Collusion
- 8 Form 7.7– Statement of Vendor's Qualifications
- 8 Form 7.8 – Professional References for Previous Experience
- 8 Form 7.9 – Listing of Subcontractors
- 8 Form 7.10 – Vendor Application
- 8 Form 7.11 – Local Business Affidavit of Eligibility
- 8 Bid Bond
- 8 Attachment 1 – Bid Proposal
- 8 Submission of one (1) original marked "ORIGINAL" and one (1) digital (CD or flash drive) version in PDF format.

BY: A.G. Pifer Construction Co. Inc.

Name of Business

Authorized Signature

11/2/17

Date

This document must be completed and returned with your Submittal

FORM 7.2 – VENDOR'S ACKNOWLEDGEMENT FORM

I have carefully examined the Invitation to Bid (ITB), Instructions to Vendors, General and/or Special Conditions, Specifications, and any other documents accompanying or made a part of this invitation.

I hereby propose to furnish the goods or services specified in the Invitation to Bid at the prices or rates as finally negotiated. I agree that my bid will remain firm for a period of up to ninety (90) days in order to allow the City of Port Orange adequate time to evaluate the proposed bid. Furthermore, I agree to abide by all conditions of the Invitation to Bid.

I certify that all information contained in this Bid is truthful to the best of my knowledge and belief. I further certify that I am a duly authorized to submit this Bid on behalf of the Vendor / Contractor as its act and deed and that the Vendor / Contractor is ready, willing and able to perform if awarded the contract.

I further certify that this Bid is made without prior understanding, Contract, connection, discussion, or collusion with any person, firm or corporation submitting a Bid for the same product or service; no officer, employee or agent of the City of Port Orange City Council or of any other Vendor interested in said ITB; and that the undersigned executed this Vendor's Acknowledgement with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

I further certify that having read and examined the specifications and documents for the designated services and understanding the general conditions for contract under which services will be performed, does hereby propose to furnish all labor, equipment, and material to provide the services set forth in the ITB.

I hereby declare that the following listing states any clarifications, any and all variations from and exceptions to the requirements of the specifications and documents. The undersigned further declares that the "work" will be performed in strict accordance with such requirements, and understands that any exceptions to the requirements of the specifications and documents may render the Bid non-responsive.

NO EXCEPTIONS ALLOWED AFTER THE BID IS SUBMITTED:

Please check one: ☒ I take NO exceptions. ☐ Exceptions (list below; add additional pages if necessary):

A.G. Pifer Construction Co./Inc.

NAME OF BUSINESS

3629 Old Deland Road

MAILING ADDRESS

Daytona Beach, FL 32124

CITY, STATE & ZIP CODE

Anthony Gregg Pifer, President

NAME, TITLE, TYPED

386-257-4448 / 386-257-5503

TELEPHONE NUMBER / FAX NUMBER

59-2986219

FEDERAL IDENTIFICATION #

agpcon@bellsouth.net

E-MAIL ADDRESS

STATE OF Florida

COUNTY OF Volusia

The foregoing instrument was acknowledged before me this day of November, 20 17 by Anthony Gregg Pifer, President, who is personally known to me or who has produced ad identification and who did take an oath.

My Commission Expires:

Sheri Scarsella
Notary Public

This document must be completed and returned with your Submittal



FORM 7.3 – ADDENDUM and CHANGE ORDER PROCEDURE ACKNOWLEDGEMENT

ADDENDUM ACKNOWLEDGEMENT

I have carefully examined the Invitation to Bid (ITB), Instructions to Vendors, General and/or Special Conditions, Specifications, and any other documents accompanying or made a part of this invitation to Bid.

I acknowledge receipt and incorporation of the following addenda, and the cost, if any, of such revisions has been included in the price of the bid proposal.

Addendum # 1 Date: 9/28/17 Addendum # 3 Date: 10/27/17

Addendum # 2 Date: 10/17/17 Addendum # 4 Date: 10/30/17

CHANGE ORDER PROCEDURE ACKNOWLEDGEMENT

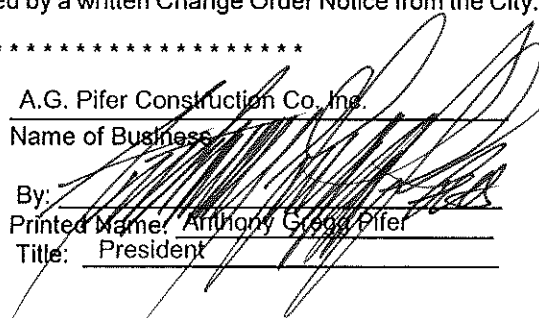
If awarded the Contract for this Solicitation, I acknowledge that no oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders requests shall be made in writing by the Contractor for review by the Contract Administrator for the City of Port Orange. No work shall be performed as set forth in the change order until the Contractor receives an executed Purchase Order for the requested change.

I acknowledge the following statement regarding Change Orders to the awarded Contract:

"The Successful Contractor is responsible for giving the City of Port Orange, prior to the Contract expiration date, at least forty-five (45) calendar days' advance notice for any anticipated changes in price greater than \$25,000.00, time and/or scope of the awarded Contract. The Contractor shall not continue to provide services past the Contract expiration date unless approved by a written Change Order Notice from the City."

A.G. Pifer Construction Co. Inc.

Name of Business

By: 

Printed Name: Anthony Gregg Pifer

Title: President

STATE OF Florida
COUNTY OF Volusia

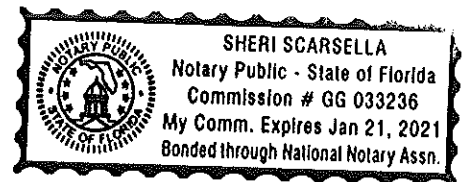
Sworn to (or affirmed) and subscribed before me this 2nd day of November, 2017, by
Anthony Gregg Pifer, as President of

(NAME) (TITLE)
A.G. Pifer Construction Co. Inc. and who:
(NAME OF ORGANIZATION)

[Notary: Please select one]

☒ is personally known to me; or

☐ has produced _____ as identification.




Notary Public, State of Florida

Printed, typed or stamped name, commission and expiration:

This document must be completed and returned with your Submittal

FORM 7.4 – DRUG FREE PREFERENCE STATEMENT

IDENTICAL TIE BIDS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids, proposals, statements, or replies that are equal with respect to price, quality, and service are received by the city for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program.

In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of Section 287.087, Florida Statutes.

As an authorized representative of the firm, I certify that this firm complies fully with the above requirements.

A.G. Pifer Construction Co. Inc.

Name of Business

By:

Printed Name: Anthony Gregg Pifer

Title: President

STATE OF Florida
COUNTY OF Volusia

Sworn to (or affirmed) and subscribed before me this 2nd day of November, 2017, by
Anthony Gregg Pifer, as President of

A.G. Pifer Construction Co. Inc.
(NAME)
(NAME OF ORGANIZATION)

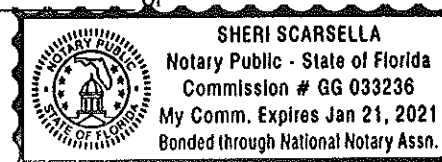
and who:

[Notary: Please select one]

☒ is personally known to me; or

☐ has produced _____ as identification.

This document must be completed and returned with your Submittal



Sheri Scarcella
Notary Public, State of Florida

Printed, typed or stamped name, commission and expiration:

FORM 7.5 – SWORN STATEMENT UNDER SECTION 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of notary public or other officer authorized to administer oaths.)

Before me, the undersigned Authority, personally appeared affiant Anthony Gregg Pifer, who, being by me first duly sworn, made the following statement:

1. The business address of A.G. Pifer Construction Co. Inc. (name of Offeror or business) is 3629 Old Deland Road, Daytona Beach, FL 32124.
2. My relationship to A.G. Pifer Construction Co. Inc. (name of Offeror or business) is President (relationship such as sole proprietor, partner, president, vice president).
3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any proposal or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy or material misrepresentation.
4. I understand that "convicted" or "conviction" is defined by the Florida Statutes to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilt or nolo contendere.
5. I understand that "affiliate" is defined by the Florida Statutes to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.
6. Neither the Offeror or contractor, nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the Offeror or contractor, nor any affiliate of the Offeror or contractor has been convicted of a public entity crime subsequent to July 1, 1989. (Draw a line through paragraph 6 if paragraph 7 below applies.)
7. ~~There has been a conviction of a public entity crime by the Offeror or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the Offeror or contractor who is active in the management of the Offeror or contractor or an affiliate of the Offeror or contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is N/A. A copy of the order of the Division of Administrative Hearings is attached to this statement. (Draw a line through paragraph 7 if paragraph 6 above applies.)~~

A.G. Pifer Construction Co. Inc.

Name of Business

By: [Signature]

Printed Name: Anthony Gregg Pifer

Title: President

STATE OF Florida

COUNTY OF Volusia

Sworn to (or affirmed) and subscribed before me this 2nd day of November, 2017, by Anthony Gregg Pifer, as President of A.G. Pifer Construction Co. Inc. and who:

[Notary: Please select one]

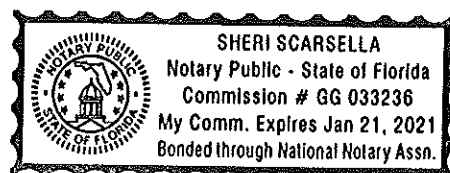
☒ is personally known to me; or

☐ has produced _____ as identification.

This document must be completed and returned with your Submittal

[Signature]
Notary Public, State of Florida

Printed, typed or stamped name, commission and expiration:



FORM 7.6 – ANTI-COLLUSION FORM

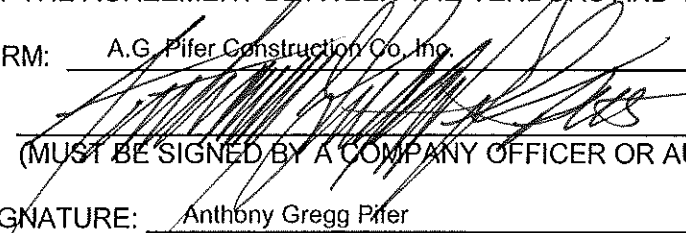
ANTI-COLLUSION STATEMENT BID FORM:

By signing this form, the Proposer agrees that this Bid is made without any other understanding, agreement, or connection with any person, corporation, or firm submitting a bid for the same purpose and that the bid is in all respects fair and without collusion or fraud.

SIGN in ink in the space provided below. Unsigned Bids will be considered incomplete, and will be disqualified, and rejected.

IT IS AGREED BY THE UNDERSIGNED VENDOR THAT THE SIGNING AND DELIVERY OF THE BID REPRESENTS THE VENDORS ACCEPTANCE OF THE TERMS AND CONDITIONS OF THE FOREGOING SPECIFICATIONS, CONTRACT AND PROVISIONS, AND IF AWARDED, THIS CONTRACT WILL REPRESENT THE AGREEMENT BETWEEN THE VENDORS AND THE CITY OF PORT ORANGE.

NAME OF FIRM: A.G. Pifer Construction Co. Inc.

SIGNED BY: 
(MUST BE SIGNED BY A COMPANY OFFICER OR AUTHORIZED AGENT)

PRINTED SIGNATURE: Anthony Gregg Pifer

TITLE: President

ADDRESS: 3629 Old Deland Road

Daytona Beach

CITY: FL STATE: FL ZIP CODE: 32124

(386) 257-4448

TELEPHONE: (386) 257-4448 FAX: (386) 257-5503

COMPLETION TIME: 300 Days

F.E.I.N. NUMBER: 59-2986219

NO Bid may be withdrawn for a period of ninety (90) days subsequent to the submittal of the Bids, without the consent of the City of Port Orange.

NO BID (REASON): _____

This document must be completed and returned with your Submittal

FORM 7.7 – STATEMENT OF VENDOR'S QUALIFICATIONS

The undersigned warrants that he or she is duly authorized to complete this document, and hereby affirms that the information contained in Form 7.8 is complete, true, and correct to the best of their knowledge and belief. If necessary, questions may be answered on separate paper and attached, with any additional information that may be pertinent.

- A. Name of Vendor.
A.G. Pifer Construction Co. Inc.
- B. Permanent main office address.
3629 Old Deland Road, Daytona Beach, FL 32124
- C. Date organized.
December 22, 1989
- D. If a corporation, where incorporated.
Florida
- E. How many years have you been engaged in the contracting business under your present firm or trade name?
28 Years
- F. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)
Please see Attachment A
- G. General character of work performed by your company.
Commercial, Residential and Industrial Construction
- H.⁽¹⁾ Have you ever failed to complete any work awarded to you? If so, where and why?
No
- H.⁽²⁾ Provide list of any lawsuits or judgments filed by or against your company in the last three years, indicating the nature and outcome.
Please see Attachment B
- I. Have you ever defaulted on a contract? If so, where and why?
No
- J. List the more important projects recently completed by your company, stating the approximate cost for each and the month and year completed.
Please see Attachment C
- K. List your major equipment currently owned or leased.
Standard Construction Equipment & Scaffolding
- L. Experience in work similar to this type of project.
Please see Attachment C
- M. Background and experience of the principal members of your organization, including the officers.
Please see Attachment D
- N. Credit currently available: \$ 1 million
- O. Give bank reference: Bank of America - Jill Hazard Ph: (386) 676-0891 - Daytona Beach
- P. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner?
Upon Bid Award.

(Form 7.7 Statement of Vendor's Qualifications – Page 2)

- Q. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Vendor's Qualifications.

A.G. Pifer Construction Co. Inc.

Name of Business

By: [Signature]

Printed Name: Anthony Gregg Pifer

Title: President

STATE OF Florida

COUNTY OF Volusia

Sworn to (or affirmed) and subscribed before me this 2nd day of November, 2017, by
Anthony Gregg Pifer, as President of
A.G. Pifer Construction Co. Inc. and who:

[Notary: Please select one]

☒ is personally known to me; or

☐ has produced _____ as identification.

[Signature]
Notary Public, State of Florida

Printed, typed or stamped name, commission
and expiration:



This document must be completed and returned with your Submittal

A.G. PIFER CONSTRUCTION CO. INC.

State Certified General Contractor CGC040437
 3629 Old Deland Road, Daytona Beach, FL 32124
 Ph: (386) 257-4448 Fx: (386) 257-5503 E-mail: agpcon@bellsouth.net
 www.agpiferconstruction.com

CONTRACTS ON HAND

Job #	Job Name & Address	Owner Address	Start	End	Contract Amount
Various	VOTRAN M/A County of Volusia Construction of ADA Bus Stops	County of Volusia / Votran 950 Big Tree Road South Daytona, FL 32119	7/1/1905	Current	MA Appx 1 Million
057-17	Mill Lake Park Phase 2 207 East Blue Springs Avenue Orange City, FL 32763	City of Orange City 205 East Graves Avenue Orange City, FL 32763	7/5/2017	Current	\$ 999,519.37
Various	Vystar Credit Union - Drive Through ATM Install Volusia Locations	VyStar Credit Union P.O. Box 45085 Jacksonville, FL 32232	4/28/2017	Current	\$ 258,167.00
058-17	Azalea Health - Daytona Beach Additions and Renovations 1425 & 1455 Dunn Avenue Daytona Beach, FL 32114	Azalea Health Center 613 St. Johns Avenue Palatka, FL 32177	7/31/2017	Current	\$ 573,469.76
060-17	Drews Renovations 2534 Tain Spin Trail Port Orange, FL 32127	Mark Drews 2534 Tain Spin Trail Port Orange, FL 32127	To Start	Current	\$ 27,850.00
068-17	Manning Residence Deck Addition 146 Magnolia Drive Ormond By The Sea, FL 32174	William Manning 146 Magnolia Drive Ormond By The Sea, FL 32174	To Start	Current	\$ 13,980.00
069-17	Graham Residence Hurricane Irma Storm Repairs 407 Riverside Drive Holly Hill, FL 32117	Leslie and Aaron Graham 407 Riverside Drive Holly Hill, FL 32117	10/27/2017	Current	\$ 135,477.31
070-17	Southern States Management Grp Westgate Village Siding Replacement 1190 Pelican Bay Drive Daytona Beach, FL 32119	Westgate Village 1190 Pelican Bay Drive Daytona Beach, FL 32119	To Start	Current	\$ 83,000.00
071-17	County of Volusia Mosquito Control Building Repair 801 South Street New Smyrna Beach, FL 32168	County of Volusia 123 W Indiana Avenue 4th Floor, Room 402 DeLand, FL 32720-4262	10/24/2017	Current	\$ 19,435.00
072-17	New Smyrna Beach Health Department Renovation 717 Canal Street New Smyrna Beach, FL 32168	County of Volusia 123 W Indiana Avenue 4th Floor, Room 402 DeLand, FL 32720-4263	To Start	Current	\$ 17,540.00



A. G. PIFER CONSTRUCTION CO., INC.

Attachment B

General Contractor License #CGC040437

3629 Old Deland Road

Daytona Beach, FL 32124

(386) 257-4448 • Fax (386) 257-5503

www.agpiferconstruction.com • Email agpcon@bellsouth.net

LITIGATION

A.G. Pifer Construction Co. Inc. was involved in two lawsuits in the past three years.

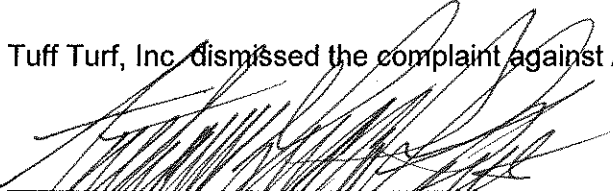
Case No. 2014-10145-CIDL A.G. Pifer Construction Co. Inc. vs. International Design and Construction, LLC

A.G. Pifer Construction was awarded a final judgement amount, to be recovered from IDC for their inability to complete the work they were contracted to perform on March 10, 2015.

A.G. Pifer Construction completed the scope of work IDC did not complete and provided a finished project to our client.

Case No. 2016-30051-CICI Tuff Turf, Inc. vs. A.G. Pifer Construction Co. Inc.

Tuff Turf, Inc. dismissed the complaint against A.G. Pifer Construction Co. Inc. on January 5, 2017.

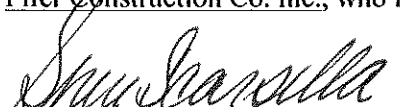


Anthony Gregg Pifer, President

11/2/17
Date

State of FLORIDA
County of VOLUSIA

Sworn to and subscribed before me this 2nd day of November, 2017 by Anthony Gregg Pifer who is President of A.G. Pifer Construction Co. Inc., who is personally known to me or who has/have produced personally known as identification.

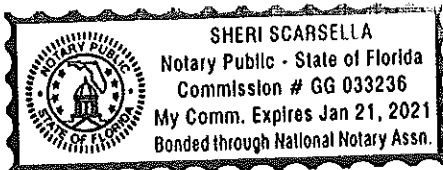


NOTARY PUBLIC – STATE OF Florida
Type or Print Name:

Sheri Scarsella

Commission No.: EE866836

Commission Expires: 01/21/2021



(Seal)

A.G. PIFER CONSTRUCTION CO. INC.

State Certified General Contractor CGC040437

3629 Old Deland Road, Daytona Beach, FL 32124

Ph: (386) 257-4448 Fx: (386) 257-5503 E-mail: agpcon@bellsouth.net

www.agpiferconstruction.com

COMPLETED PROJECTS

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
DeLand Transportation Facility Construction of Additional Storage & Renovation of Existing	Volusia County School Board Tim Moore 200 North Clara Avenue DeLand, FL (386) 947-8787	6/29/2006	4/17/2007	\$ 690,000.00
Pathways Elementary New 14,000 SF Classroom Addition & Site Drainage Improvements	Volusia County School Board Tim Moore 200 North Clara Avenue DeLand, FL (386) 947-8787	10/17/2006	12/27/2007	\$ 2,700,000.00
Chisholm Elementary New 14,000 SF Classroom Addition	Volusia County School Board Tom Brown 200 North Clara Avenue DeLand, FL (386) 947-8787	6/9/2006	12/21/2007	\$ 2,400,000.00
Williams Properties Construction of 42,000 SF Industrial Park	Williams Properties Terry Williams 1111 Saxon Boulevard Orange City, FL (386) 775-4544	1/1/2007	12/31/2007	\$ 2,210,000.00
Port Orange Gym 24,000 SF Renovation of Gym and Rec Center	City of Port Orange Susan Lovallo 1000 City Center Circle Port Orange, FL 32129 (386) 506-5600	2/22/2007	11/26/2007	\$ 700,000.00
Sailpoint Bay Apartments Multibuilding Renovation / Interior and Exterior	River Associates, Inc. Pat Jenkins 1025 South Beach Street Daytona Beach, FL 32114 (386) 527-3217	4/2/2007	7/14/2008	\$ 3,800,000.00
DeLand Family YMCA 19,000 SF Addition	DeLand Family YMCA Blaine Wheeler 761 E Int'l Speedway Boulevard DeLand, FL (770) 979-2563	12/6/2007	6/4/2009	\$ 3,400,000.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
Lakeview Terrace Mobile Home Park 37 Slip Boat Marina with Park Replacement of Sewer Lines Renovation of Office	Lake View Terrace Marja Bural 1250 Lakeview Drive DeLand, FL (727) 938-4513	3/20/2009	4/12/2010	\$ 635,000.00
Windsor / Maley Apartments Fire Suppression Systems for both buildings	Daytona Beach Housing Authority Doug Zimmer 211 North Ridgewood Avenue Daytona Beach, FL 32114 (386) 253-5653	7/30/2009	4/13/2010	\$ 1,706,000.00
Windsor / Maley Apartments Rehabilitation of 305 low income units	Daytona Beach Housing Authority Doug Zimmer 211 North Ridgewood Avenue Daytona Beach, FL 32114 (386) 253-5653	1/1/2009	12/31/2009	\$ 1,700,000.00
Renovation of 159 Duplex Apartments in various locations throughout the Daytona Beach Area	Daytona Beach Housing Authority Doug Zimmer 211 North Ridgewood Avenue Daytona Beach, FL 32114 (386) 253-5653	1/1/2009	12/31/2009	\$ 1,400,000.00
Veterans Memorial Park	City of Port Orange Suzan Lavello 1000 City Center Circle Port Orange, FL 32129 (386) 506-5851	11/4/2010	6/10/2011	\$ 121,000.00
Fire Station #46 New addition to occupied living quarters	County of Volusia Gary Morton 123 West Indiana Avenue DeLand, FL 32720 (386) 736-5967 x 3289	11/19/2010	6/22/2011	\$ 222,000.00
Fire Station #11 Renovation of Occupied Living Quarters	County of Volusia Gary Morton 123 West Indiana Avenue DeLand, FL 32720 (386) 736-5967 x 3289	11/19/2010	5/18/2011	\$ 215,000.00
Refurbish Flagler Beach Pier Restrooms	County of Volusia Gary Morton 123 West Indiana Avenue DeLand, FL 32720 (386) 736-5967 x 3289	9/15/2011	11/7/2011	\$ 79,471.40
Miller Office Building Renovation of Historical Building	Miller Diversified Holdings Jean Miller 120 N Alabama Avenue DeLand, FL (386) 956-6672	9/20/2011	3/8/2012	\$ 350,000.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
Flagler Avenue Seawall, Boardwalk, Parking Area, Sidewalks & Restroom Improvements	City of New Smyrna Beach Khalid Resheidat 210 Sams Avenue New Smyrna Beach FL 32168 (386) 547-8498	11/1/2011	7/10/2012	\$ 1,029,994.00
Energy Efficiency Upgrades	City of DeLand Robin Zelenak 120 S Florida Avenue DeLand, FL 32720 (386) 626-7196	4/1/2012	7/8/2012	\$ 364,281.00
Esther Street Beachfront Park and Stormwater Improvements	City of New Smyrna Beach 210 Sams Avenue New Smyrna Beach FL 32168 (386) 424-2185	7/16/2012	3/27/2013	\$ 1,051,831.26
Port Orange City Center Ballfields City Center Circle Port Orange, FL 32129	City of Port Orange Suzan Lavello 1000 City Center Circle Port Orange, FL 32129 (386) 506-5851	11/6/2012	3/8/2013	\$ 374,615.00
Pine Hills MRI Trailer 5287 Alhambra Dr Orlando FL 32808	Central FL Medical & Chiro Ctr Dr Sean Leotta 5287 Alhambra Drive Orlando FL 32808 (407) 739-0063	2/10/2013	8/12/2013	\$ 65,150.00
City of Deltona SHIP Program Renovation of various homes in Deltona	City of Deltona Angelia Briggs 2345 Providence Boulevard Deltona FL 32725 (386) 878-8102	4/29/2013	Current	\$ 300,000.00
Mary Ave Tot Lot - Restrooms /Pavilion 505 Mary Avenue New Smyrna Beach, FL 32168	City of New Smyrna Beach Fernand Tiblier Jr 210 Sams Avenue New Smyrna Beach FL 32168 (386) 424-2185	5/14/2013	7/11/2013	\$ 65,805.00
VCSB - Spruce Creek HS Portable Repairs Taylor Rd Port Orange FL	Volusia County School Board 3750 Olson Dr Daytona Beach FL 32124 386-947-8787	7/8/2013	8/9/2013	\$ 33,593.00
Lake Forest Apts - Balconies & Staircase 600 Jimmy Ann Drive Daytona Beach FL 32114	Lake Forest Acquisition Corp Donna Penny 1004 Farnam Street Suite 400 Omaha NE (386) 253-5710	4/15/2013	5/30/2013	\$ 35,541.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
FAA - Refurbishment of DAB SSC Bldg 1580 Aviation Center Pkwy Daytona Beach FL 32114	Federal Aviation Administration Jacksonville District Office Program Operations Center 9685 Jeff Fuqua Blvd Orlando FL 32827	7/29/2013	9/30/2013	\$ 35,364.00
Stadium Bleacher Renovations 1800 Turnbull Bay Road New Smyrna Beach, FL 32168 New Smyrna Beach Sports Complex	City of New Smyrna Beach Khalid Resheidat 210 Sams Avenue New Smyrna Beach FL 32168 (386) 424-2185	5/4/2013	12/4/2013	\$ 371,737.00
Dove Villas - Kitchen Remodel 1150 Jimmy Ann Dr Daytona Beach FL 32117	UCP/WORC 1100 Jimmy Ann Dr Daytona Beach FL 32117 (386) 274-6474	9/13/2013	2/4/2014	\$ 103,618.00
City of Deltona SHIP & NSP Program	City of Deltona Angelia Briggs 2345 Providence Boulevard Deltona FL 32725 (386) 878-8900	7/1/1905	Current	\$1 Million +
516 Main Street - Interior Interior Renovations Daytona Beach, FL 32117	Mr. John Matts 516 Main Street Daytona Beach, FL 32118 (305) 785-5180	1/8/2014	7/2/14	\$ 176,124.25
Windsor / Maley Elevator Modernization 524 S. Beach Street Daytona Beach, FL 32114	Daytona Beach Housing Authority Doug Zimmer 211 North Ridgewood Avenue Daytona Beach, FL 32114 (386) 253-5653	4/23/2014	10/6/14	\$ 720,000.00
Debary Hall Roof & Porch Stabiliz. 210 Sunrise Boulevard Debary, FL 32713	County of Volusia Purchasing & Contracts 123 West Indiana Ave, Room 302 DeLand, FL 32720	5/12/2014	10/6/14	\$ 301,981.95
Spruce Creek Rec. Fac. Ballfield Mod 5959 S. Spruce Creek Road Port Orange, FL 32124	City of Port Orange Frank Flagg 1000 City Center Circle Port Orange FL 32129 (386) 547-0582	11/11/2013	5/14/14	\$ 344,410.80
Toronita Off Beach Parking & Restroom Construction 4200 South Atlantic Avenue Port Orange, FL 32117	County of Volusia Gary Morton 123 West Indiana Ave, Room 302 DeLand, FL 32720 (386) 804-9229	12/5/2013	6/4/14	\$ 373,427.30
Camp Winona Kitchen Remodel & New Cabin 898 Camp Winona Road DeLeon Springs, FL 32130	Florida Diabetes Camp Blaine Wheeler 898 Camp Winona Road DeLeon Springs, FL 32130 (770) 979-2563	5/12/2014	12/11/14	\$ 250,000.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
Rotary Park Restrooms 902 West Park Avenue Edgewater, FL 32132	City of Edgewater Jack Corder 1108 South Ridgewood Avenue Edgewater, FL 32132 (386) 424-2485	10/13/2014	12/15/14	\$ 81,994.22
Volusia County Courthouse Judges Chamber Renovations 101 North Alabama Avenue DeLand, FL 32724	County of Volusia Pete Musslewhite 123 West Indiana Avenue 4th Floor, Room 402 DeLand, FL 32720 (386) 547-2763	10/16/2014	1/23/15	\$ 54,000.00
Two Men and Truck Site Renovations 370 South Nova Road Daytona Beach, FL 32114	Two Men and a Truck Brad Lehman 370 South Nova Road Daytona Beach, FL 32114 (386) 255-6683	1/8/2015	3/4/15	\$ 82,960.00
Shokudo Restaurant Renovation 413 S. Woodland Boulevard DeLand, FL 32720	Shokudo Restaurant Kieu Nguyen 413 S. Woodland Boulevard DeLand, FL 32720 (386) 898-1553	1/9/2015	4/15/15	\$ 114,648.26
Lloyd/Bridges Home Reno & Addition 291 Hartford Avenue Daytona Beach, FL 32118	David Lloyd & Susan Bridges 291 Hartford Avenue Daytona Beach, FL 32118	4/10/2015	6/29/15	\$ 85,864.80
Port Orange Soccer Fields Richel Drive and City Center Drive Port Orange, FL 32129	City of Port Orange Frank Flagg 1000 City Center Circle Port Orange FL 32129 (386) 547-0582	5/5/2015	8/13/2015	\$ 370,763.00
Wingstop Interior Buildout - Daytona 1344 W Internationla Speedway Blvd Daytona Beach, FL 32114	Almaraz-Lozano Investment LLC Bud Hart 1300 North 10th Street, Ste 440 McAllen, TX 78501 (863) 670-0555	7/7/2015	10/19/2015	\$ 246,723.00
Deltona High School Culinary Lab 100 Wolf Pack Lane Deltona, FL 32725	Volusia County School Board Ken Blom 3750 Olson Drive Daytona Beach FL 32124 (386) 527-6874	6/1/2015	8/18/2015	\$ 95,651.00
Sweet Lie's Yogurt Shop 224 N. Woodland Boulevard DeLand, FL 32720	Barb Sternett 224 N. Woodland Boulevard DeLand, FL 32720	9/28/2015	12/17/2015	\$ 215,802.03
1040 Mason Interior Alterations 1040 Mason Avenue Daytona Beach, FL 32114	Advantacare of Florida, LLC 697 Maitland Avenue, Suite 1001 Altamonte Springs, FL 32701	11/9/2015	11/30/2015	\$ 48,299.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
VR Pediatrics Parking Lot 600 N. New York Avenue DeLand, FL 32720	Virginio Rodriguez III MD 345 Clyde Morris Blvd. Ste 360 Ormond Beach, FL 32174	9/22/2015	10/30/2015	\$ 49,405.00
Leotta-830 Commed MRI & Int. Reno 830 Commed Boulevard Orange, City, FL	Sean Leotta 5287 Alhambra Drive Orlando, FL 32780	10/12/2015	11/25/2015	\$ 120,417.00
Ponce Inlet (5) Bus Stops Ponce Inlet, FL	Town of Ponce Inlet Amy Dowling 4785 S. Peninsula Drive Ponce Inlet, FL 32127 (386) 322-6729	2/14/2016	3/7/2016	\$ 40,500.00
Riverwalk Park Phase 1A 3441 Ridgewood Avenue Port Orange, FL 32129	City of Port Orange Frank Flagg 1000 City Center Circle Port Orange FL 32129 (386) 547-0582	6/15/2015	4/11/2016	\$ 1,027,319.20
Underhill Residence 1776 Lightfoot Lane Barberville, FL 32105	Barberville Pioneer Settlement for the Creative Arts P.O. Box 6 Barberville, FL 32105	11/19/2015	5/3/16	\$ 262,881.00
Port Orange YMCA Phase 3 Reno 4701 City Center Parkway Port Orange, FL 32129	City of Port Orange Frank Flagg 1000 City Center Circle Port Orange FL 32129 (386) 547-0582	2/8/2016	6/13/16	\$ 240,659.25
Deltona City Hall Renovation 2345 Providence Boulevard Deltona, FL 32725	City of Deltona Crystal Harris 2345 Providence Boulevard Deltona, FL 32725 (386) 878-8970	12/18/2015	3/17/16	\$ 162,531.00
Bethune Cookman CCE West Wall 740 West Int'l Speedway Blvd. Daytona Beach, FL 32114	Bethune Cookman University Dustin DePersia 640 Dr Mary McLeod Bethune Blvd Daytona Beach, FL 32114 808-264-7214	4/21/2016	9/4/16	\$ 48,450.27
Bethel AME Church Restoration 210 East Howry Avenue DeLand, FL 32724	Bethel AME Church Carol Thamas 210 East Howry Avenue DeLand, FL 32724 386-804-9196	6/9/2016	9/26/2016	\$ 283,609.42
Florida Fiber Networks Office Remodel 24401 State Road 40 Astor, FL	Florida Fiber Networks 301 South Collins Street Suite 105 Plant City, FL 33563	9/12/2016	11/11/16	\$ 58,993.00

Job Name & Address	Owner Address & Phone	Start	End	Contract Amount
Port Orange Breakroom Renovation 1000 City Center Circle Port Orange, FL 32129	City of Port Orange Frank Flagg 1000 City Center Circle Port Orange FL 32129 (386) 547-0582	9/26/2016	11/23/16	\$ 42,230.00
4th Floor Judges Chamber Renovation 101 North Alabama Avenue DeLand, FL 32724	County of Volusia Pete Musslewhite 123 West Indiana Avenue 4th Floor, Room 402 DeLand, FL 32720 (386) 547-2763	10/31/2016	12/20/16	\$ 66,580.00
DBHA Palmetto Park Exterior Renovations 68 Buildings	Daytona Beach Housing Authority Doug Zimmer 211 Ridgewood Avenue Daytona Beach, FL 32114 386-253-5653 x314	5/16/2016	1/6/17	\$ 849,879.68
St. George Coptic Church Parking 300 North Halifax Avenue Daytona Beach, FL 32118	St. George Coptic Church 300 North Halifax Avenue Daytona Beach, FL 32118	6/15/2016	4/12/17	\$ 151,338.00
Panton Private Residence Addition 403 Kingsbury Boulevard DeLand, FL 32720	Palmer & Joette Panton 403 Kingsbury Boulevard DeLand, FL 32720	6/1/2016	5/20/17	\$ 174,000.00
City Island Courthouse Storefront Replacement 125 East Orange Avenue Daytona Beach, FL 32114	County of Volusia Pete Musslewhite 123 West Indiana Avenue 4th Floor, Room 402 DeLand, FL 32720 (386) 547-2763	8/15/2016	5/18/17	\$ 46,224.00
Whitmer Residence Addition 28 Forestview Way Ormond Beach, FL 32174	Stephen and Leslie Whitmer 28 Forestview Way Ormond Beach, FL 32174	11/21/2016	5/14/2017	\$ 168,720.00

A.G. PIFER CONSTRUCTION CO. INC.

Mr. Anthony Gregg Pifer

President

A.G. Pifer Construction Co. Inc. was established as a Corporation in December of 1989, with a workforce consisting of one laborer and A. Gregg Pifer as President / Owner and has grown to a competitively sized construction company with sixteen employees and annual gross sales averaging \$7 to \$8 million dollars.

In May of 1988, Mr. Pifer started the company with a Superintendents weekly pay check of \$360.00 and a lot of prayer.

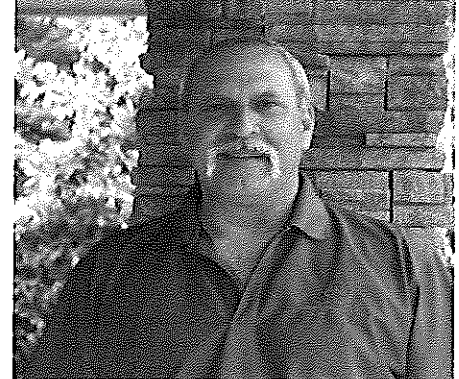
Mr. Pifer's construction career started in 1972, when a friend's father hired him to move drywall to the second floor of his office building in Pittsburgh, PA. He noticed the framing carpenters building walls and decided it would be a great thing to learn more about. He obtained guidance of one of the finest carpenters he had ever met, even to this day. During the last two years of high school, he entered a trade school called Parkway West Technical School, where he received his technical training regarding construction mechanics. While in technical college, he was put in charge of constructing a four story classroom building to be used for future students in the facility. This building is still used on campus today.

In 1981 Equity Realty Inc. hired Mr. Pifer over the phone. Their primary business was condominium conversions. After two weeks of employment, he was promoted to head carpenter, overseeing a 270-unit complex in Altamonte Springs. In the following five months, he was again promoted to head Supervisor in charge of multiple million dollar projects, at twenty-one years of age. At eleven months, he was transferred to Daytona Beach to oversee a project, which the budget was about to be exhausted and completion was not in site. Mr. Pifer successfully completed the project within the anticipated budget.

He then accepted a position with the local carpenters Union and worked at Epcot Center for seven months. During these months, he excelled in his knowledge of custom construction methods and other trades related to construction. After a few years of constructing high-rise buildings, low-rise buildings and other types of buildings, Mr. Pifer accepted a position with Hall Construction.

Mr. Jim Hall sent Mr. Pifer to construction licensing courses to prepare him for the state certified contractors' exam. In May of 1987, Mr. Pifer passed the Contractors exam and notified Hall Construction Co. Inc. that he would be leaving, with a two year notice, to venture out on his own.

Anthony Gregg Pifer started A.G. Pifer Construction Co. Inc. in December of 1989. In the years to come, the firm experienced well controlled growth. This growth included small and large scale projects. No project was unmanaged by Mr. Pifer. The reputation of the company grew and to this day, its clients still continue to call back for additional projects.



CONTACT INFORMATION

3629 Old Deland Road
Daytona Beach, Florida 32124
Ph: (386) 257-4448
Fx: (386) 257-5503
E-mail: agpcon@bellsouth.net

Experience

46 Years Experience In Construction

Tenure with AGP

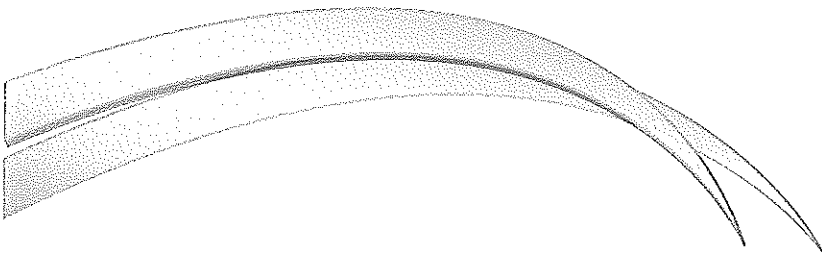
28 Years with A.G.P.

Qualifications

State of Florida Certified General
Contractor CGC040437
Jessica Lungford Certified
LEED Certified

Primary Role

President
Chief Project Manager
Chief Project Coordinator
Chief Executive Operator
Chief Financial Executive



A.G. PIFER CONSTRUCTION CO. INC.

Mr. William DeMattia

Project Manager / Estimator

Mr. William DeMattia was hired by Mr. Pifer in October of 2005, at the young age of 21 years old. Eager to learn the construction field, Mr. DeMattia quickly found a place with the A.G. Pifer Construction crew and began developing his vast knowledge of construction.

Throughout his employment with A.G. Pifer Construction Co. Inc., Mr. DeMattia was given the opportunity to manage jobs and repeatedly proved to Mr. Pifer that he had what it took to become a successful Superintendent.

In 2013, Mr. Pifer decided to test Mr. DeMattia and gave him his first Supervision project, Mary Avenue TOT Lot and Restrooms located at 505 Mary Avenue, New Smyrna Beach, FL 32168. He effectively completed the job on time and without complications, proving to Mr. Pifer that he was a viable asset to the A.G. Pifer construction family.

In 2014, Mr. DeMattia was asked to join the Office team of A.G. Pifer Construction Co. Inc. as Assistant Project Manager to Mr. Pifer. He has used his vast knowledge in the field to help Mr. Pifer time manage project and deal with any problems that have arrived in an effective and knowledgeable manner.

In 2015, Mr. DeMattia was promoted from Assistant Project Manager to Project Manager / Estimator after providing outstanding management skills and the ability to provide quality estimating services to our clients.



CONTACT INFORMATION

3629 Old Deland Road
Daytona Beach, Florida 32124
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Fx: (386) 257-5503
E-mail: agpcon@bellsouth.net

Experience

13 Years Experience in Construction

Tenure with AGP

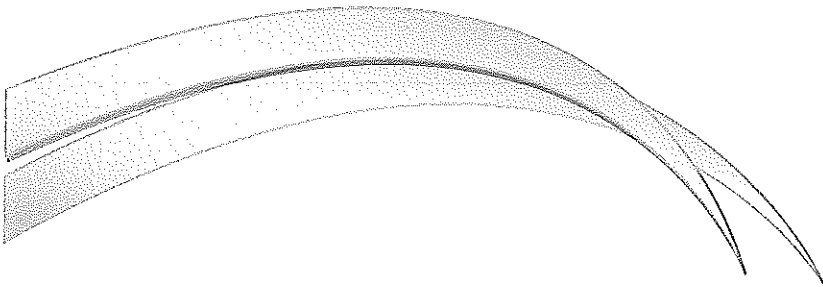
13 Years with A.G.P.

Qualifications

Notary Public, FF130633

Primary Role

Project Manager
Estimator
Superintendent
Site Coordinator
Client Contact



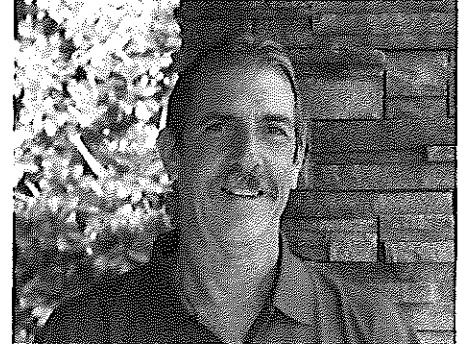
A.G. PIFER CONSTRUCTION CO. INC.

Mr. John Griswold

Senior Superintendent

Mr. John Griswold was hired by A.G. Pifer Construction Co. Inc. in April of 2004 as a Project Superintendent with 42 Years construction experience. During his employment with A.G. Pifer Construction, Mr. Griswold has constructed over 30 MRI suites, as well as many other successful construction projects, including Toronita Off-Beach Parking & Restrooms in Port Orange, FL for Volusia County and Stadium Bleacher Renovations in New Smyrna Beach, FL for the City of New Smyrna Beach.

Mr. Griswold is known for his effective project supervision and delivering a project ahead of schedule or on time. His problem solving skills allow the job site to maintain an effective work flow and progress. Employees that work under Mr. Griswold will adhere to all OSHA and Drug Free Workplace requirements, as well as job safety to ensure the most reduced Workman's Compensation injuries.



CONTACT INFORMATION

3629 Old Deland Road
Daytona Beach, Florida 32124
Ph: (386) 257-4448
Fx: (386) 257-5503
E-mail: agpcon@bellsouth.net

Experience

55 Years Experience in Construction

Tenure with AGP

14 Years with A.G.P.

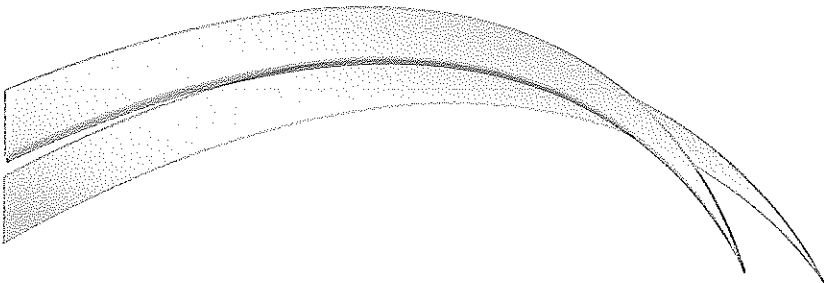
Qualifications

Lead Certified

Jessica Lungford Certified

Primary Role

Senior Superintendent



A.G. PIFER CONSTRUCTION CO. INC.

Mrs. Sheri Scarsella

Office Manager / Project Coordinator

Mrs. Sheri Scarsella was born into a construction home in upstate New York, her father is the Owner of a successful, 40 years old, Remodeling business and her brother is a licensed Architect in the State of New York, as well as Florida.

In 2003, Mrs. Scarsella was hired by a local Architecture firm as Receptionist / Office Manager in training. Her career, as well as that firm, blossomed into a success and Mrs. Scarsella gained a vast knowledge of the construction field as well as business management, including the permitting process, construction management and management of the various aspects of construction. She also proved to be effective in office management with her extensive problem solving skills. In her six years with that firm, Mrs. Scarsella developed very close relationships with various subcontractors and contractors in the Volusia County area, as well as relationships with clients which she has carried with her. She mastered many programs, including Quickbooks accounting, Excel, Word, Outlook and other office management software.

Mrs. Scarsella then decided to branch her career out and was hired by Mr. Pifer to become Office Manager of A.G. Pifer Construction Co. Inc. in October of 2009. In working with A.G. Pifer Construction, Mrs. Scarsella gained a different aspect into the construction field. She successfully manages the office and business under Mr. Pifer. Her effective communication skills, as well as time management and organization skills have made project management easily understood and effective in A.G. Pifer Construction Co. Inc.



CONTACT INFORMATION

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Ph: (386) 257-4448
Fx: (386) 257-5503
E-mail: agpcon@bellsouth.net

Experience

18 Years Experience in Construction

Tenure with AGP

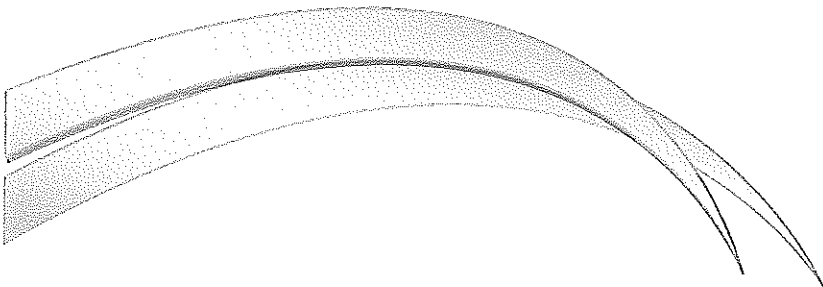
8 Years with A.G.P.

Qualifications

Notary Public, GG033236

Primary Role

Project Coordinator
Office Manager



FORM 7.8 – PROFESSIONAL REFERENCES FOR PREVIOUS EXPERIENCE

The Vendor proposes that he/she is qualified to perform the referenced work and has successfully done so on recent projects similar in nature and size. The City reserves the right to check references and confirm information provided herein.

Please provide three (3) current and correct references from clients for similar services.

(Do not include the City of Port Orange)

1. Company Name: City of Orange City
Contact Person: Raul Palenzuela
City, State: Orange City, FL
Telephone Number: (386) 851-7525
Email Address: rpalenzuela@ourorangecity.com
Description of goods or
Services provided: Construction of Mill Lake Park
Contract Amount: \$1,032,882.37
Start/End Date of Contract: July 2017 - Current
2. Company Name: Azalea Health Center
Contact Person: Jim Reid
City, State: Palatka, FL
Telephone Number: (386) 326-7341
Email Address: jreid@azaleahealth.org
Description of goods or
Services provided: Construction of Azalea Health - Daytona Interior Renovation
Contract Amount: \$573,469.76
Start/End Date of Contract: July 2017 - Current
3. Company Name: City of New Smyrna Beach
Contact Person: Khalid Resheidat
City, State: New Smyrna Beach, FL
Telephone Number: (386) 424-2185
Email Address: kresheidat@cityofnsb.com
Description of goods or
Services provided: Construction of Various Parks (Mary Ave, Esther St, Flagler Ave)
Contract Amount: \$1,051,831.26 + \$65,805 + \$899,495 = 2,017,131.26
Start/End Date of Contract: 2011 - 2013

This document must be completed and returned with your Submittal.

FORM 7.9 – LISTING OF SUBCONTRACTORS

The Vendor proposes that the following subcontractors are qualified to perform the referenced work and have successfully done so on recent projects similar in nature and size. All subcontractors whose work product accounts for 5% or more of the total contract value shall be listed. Upon approval of subcontractors listed, the successful Vendor shall not substitute subcontractors without approval from the Engineer. Vendor shall attach additional sheets as necessary.

Subcontractor No. 1

Name: Giles Electric Company
Description of Work: Electric
Percent of Contract Price: 12%
Previous Experience Together: Yes/No Yes

Subcontractor No. 2

Name: R&R Industries
Description of Work: Roofing
Percent of Contract Price: 8.5%
Previous Experience Together: Yes/No Yes

Subcontractor No. 3

Name: G&W Plumbing
Description of Work: Plumbing
Percent of Contract Price: 3%
Previous Experience Together: Yes/No Yes

Subcontractor No. 4

Name: D.G. Meyer, Inc.
Description of Work: Mechanical
Percent of Contract Price: 21%
Previous Experience Together: Yes/No Yes

Subcontractor No. 5

Name: Colson Corporation
Description of Work: Framing, Drywall and Acoustical Ceilings
Percent of Contract Price: 6%
Previous Experience Together: Yes/No Yes

This document must be completed and returned with your Submittal



CITY OF PORT ORANGE

Vendor Application and Agreement

City of Port Orange
Attn: Purchasing Division
(386) 506-5718
PurchDiv@port-orange.org
1000 City Center Circle
Port Orange, FL 32129

Please complete the following information:

Name of Individual or Business: A.G. Pifer Construction Co. Inc.

Payment Remit to Name: A.G. Pifer Construction Co. Inc.

Contact Person and Title: Anthony Gregg Pifer, President

Phone Number: 386-257-4448 Fax Number: 386-257-5503

Email Address: agpcon@bellsouth.net

Taxpayer Identification Number (TIN): 59-2986219

Tax Classification:

- | | |
|---|---|
| ☐ Individual/Sole Proprietor/Single Member LLC | ☒ S Corporation |
| ☐ Partnership | ☐ C Corporation |
| ☐ Other (Explain) _____ | ☐ Trust/Estate |

Current W-9 Attached (Required) ☒ Yes

Type of Commodity/Services General Contractor / Construction

Does your company accept Purchasing Cards (i.e. Visa)? ☐ Yes ☒ No

Permanent Address:

Address 3629 Old Deland Road
City Daytona Beach State FL Zip Code 32124

Remit to Address (if different from above):

Address 3629 Old Deland Road
City Daytona Beach State FL Zip Code 32124

Please inform the Purchasing Division of all address, contact information or insurance changes.

City of Port Orange Vendor Application and Agreement

Revised April 2017

PURCHASING GENERAL TERMS AND CONDITIONS

The City objects in advance to the inclusion of any additional terms and conditions proposed by the vendor in its acceptance or acknowledgement of any order. The inclusion of terms and conditions, or reference thereto, by the vendor shall be of no significance, shall not be binding on the City, and the City's acceptance of the vendor's goods or services shall not be deemed as acceptance of such terms and conditions. The terms and conditions contained in a Supplemental Document, as defined hereinafter, to the Purchase Order shall only control if and when a Supplemental Document to the Purchase Order is signed by the City Manager or Mayor. The terms and conditions contained in a Supplemental Document fully executed by the City Manager or Mayor are incorporated herein by this reference. **In the event that a vendor contracts with the City via a Supplemental Document and there is a conflict between the general terms and conditions set forth herein and the Supplemental Document, the terms and conditions of the Supplemental Document shall control. Supplemental Document shall be defined as to include invitation to bid, proposal, quote, and contract.** Unless otherwise stated on the face of a purchase order, the following terms and conditions shall apply:

- 1. ACCEPTANCE.** The Purchase Order ("PO") issued by the City of Port Orange ("the City") and made apart hereof by reference, becomes a binding contract, subject to the terms and conditions set forth herein, upon confirmation of the PO by the Vendor; or by the commencement of the work set forth in the PO; or by acceptance of payment for the work set forth in the PO. Any change, addition or modification to the terms set forth on the face of the PO must be agreed to in writing by the City.
- 2. ASSIGNMENT.** Neither the PO nor any interest under such PO may be assigned by Vendor without the prior written consent of City.
- 3. CHANGES.** City shall have the right at any time to make changes in drawings, designs, specifications, materials, packaging, time and place of delivery and method of transportation. If any such changes cause an increase or decrease in the costs or the time required for Vendor's required performance, an equitable adjustment will be made and the PO will be modified, in writing, accordingly.
- 4. COMPLIANCE WITH LAWS.** Vendor warrants that all goods and services applicable under the PO will have been produced, sold, delivered and furnished in strict compliance with all applicable Federal and State laws and regulations. Vendor shall execute and deliver such documents as may be required to effect or to evidence compliance. All laws and regulations required in agreements of this character are incorporated by this reference.
- 5. FREIGHT.** Vendor shall ensure that shipper complies with the shipping terms and instructions stated on the face of the PO. Failure to accurately follow the shipping terms and instructions as stated may result in one of the following: (i) a chargeback for any freight cost increase; or (ii) a chargeback for the full cost of the freight.
- 6. INSPECTION.**
 - a. All goods and/or services, purchased are subject to City's inspection, test and approval at destination, whether or not prior payments have been made or inspections have been performed by the City. All goods and/or services not in accordance with specifications may be rejected and held subject to shippers' orders. Shipper must pay all expenses, including freight both ways, on rejected goods.
 - b. If goods and/or services provided hereunder are rejected, in whole or in part by the City by reason of the Vendor's failure to comply with any of the terms, conditions and/or specifications contained herein and on the face of the PO, City, after notifying Vendor in writing may (i) return the rejected portion of such goods and/or services to Vendor at Vendor's expense or hold the same for such disposal as Vendor shall indicate, without invalidating the remainder of the PO; (ii) may reject the

entire shipment of goods and cancel the PO for any undelivered goods; or (iii) to cause Vendor to pay City promptly for expenses incurred in remedying the defective or nonconforming goods and/or services (including without limitation, the purchase of substitute (or functionally equivalent) goods and/or services), or to cause Vendor, at Vendor's expense, to expeditiously replace, upgrade, or repair any defective or rejected goods. If the option set forth in (i) is exercised, City may, in its discretion, reduce the quantity specified in the PO by the number of goods and/or services returned or rejected.

7. INDEMNIFICATION. The City reserves the right to add in a Supplemental Document, as previously defined to include invitation to bid, proposal, quote, and contract, the following clause or substantially similar language:

Vendor covenants and agrees that it will indemnify and hold harmless the City and all of the City's officers, agents, and employees from any claim, loss, damage, costs, charge or expense arising out of any act, action, neglect or omission by Vendor during the performance of the contract, whether direct, or indirect, and whether to any person or property to which the City or said parties may be subject, except that neither the Vendor nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused by or resulting from the sole negligence of City or any of its officers, agents, or employees.

8. INTELLECTUAL PROPERTY INDEMNIFICATION. Vendor warrants that there has been no violation or infringement of any copyright, trade name, trademark, patent or related intellectual property right, as a result of manufacturing, producing or selling the goods. Vendor further agrees to defend and indemnify City, its officers, agents and employees from all claims, expenses and liabilities arising from any actual or alleged intellectual property violation or infringement.

9. INSURANCE. THE DEPARTMENT HEAD HAS THE RIGHT TO WAIVE CERTAIN INSURANCE REQUIREMENTS AND SHALL PROVIDE THE WAIVER WITH THE REQUEST FOR PURCHASE ORDER. IF INSURANCE IS REQUIRED, THE FOLLOWING TERMS SHALL APPLY:

Vendor shall maintain all insurance as required by the City. Vendor shall provide to the City a certificate of insurance evidencing coverage and identifying the City as an additional insured. Failure of the Vendor to provide a certificate of insurance shall not relieve the Vendor from its responsibility to maintain the insurance coverage required by the City. The certificates shall clearly indicate that the Vendor has obtained insurance of the type, amount and classification required by the City. Policies other than Workers' Compensation shall be issued by insurers licensed and/or duly authorized under Florida Law to do business in the State of Florida and all insuring companies are required to have a minimum rating of "A" in the "Best Key Rating Guide" published by A.M. Best & Company, Inc. For worker's compensation coverage, the Vendor's insurance certificate shall include the insurer's waiver of subrogation in lieu of naming the City as an additional insured for Workers' Compensation. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by F.S. 440.572.

Vendor shall not commence work until the City has received a certificate or certificates of insurance and endorsements evidencing the required insurance. Vendor shall be solely responsible to provide the City the written original certificate, notice of cancellation, nonrenewal or any other changes in coverage no later than ten (10) days prior to the effective date of the change. If insurance policies required are not provided to the City within thirty (30) days of the date requested, this Vendor Application and Agreement may be terminated.

10. INVOICING. Vendor agrees to submit an invoice with each shipment showing the PO number. All invoices should be issued to the City c/o Accounts Payable. The discount period of any cash discounts available to the City will commence on the date of the invoice. When freight is prepaid by Vendor, Vendor must show freight charges separately; before adding freight charges, and submit a copy of the freight bill with the invoice. No allowance will be made for boxes, reels, drums or other returnable containers unless so stated on the face of the PO and invoiced separately.

11. JURISDICTION AND VENUE. For any suit or proceeding to enforce the provisions of the PO, Vendor irrevocably consents to the jurisdiction of the Courts of the State of Florida. Furthermore, Vendor agrees that the PO will be interpreted, construed and enforced in all respects in accordance with the laws of the State of Florida, without giving effect to its principles of conflicts of law.

12. OVERSHIPMENT. Quantities in excess of that shown on the face of the PO, if rejected, will be returned to Vendor at Vendor's risk and expense. Any excess quantities that City accepts will be billed at the PO price.

13. TERMINATION. City reserves the right to cancel all or any part of the PO without penalty.

14. TIME. Time is of the essence of the PO. The City reserves the right to cancel the PO (or any portion) without penalty in the event that deliveries are not made within the specified time, without liability for deliveries previously made and accepted by City.

15. TITLE. Unless the face of the PO provides for the City's assumption of ownership at the point of shipment, title to the goods purchased under the PO remains with the Vendor until such goods are off-loaded at the City facility or site specified on the face of the PO; provided, however, that in all cases, Vendor shall bear all risks of loss or damage in transit until such goods are delivered to City's facility or site and accepted by City or its designee.

16. WARRANTY. Vendor expressly warrants that all goods, services, workmanship, and title furnished and/or delivered pursuant to the PO and the terms and conditions stated herein will be free from defects in material, workmanship and title. Further Vendor warrants all goods and/or services will conform in all respects to all applicable specifications, drawings, and shall be fit for its intended use and service. All goods and/or services shall be new and not secondhand, of good quality and free from defects whether latent or patent in material or workmanship; all material and workmanship is warranted for a minimum of one (1) year from date of acceptance by City unless otherwise stipulated herein. Upon notification by City, Vendor shall correct any defect either by repair or replacement of the defective goods subject to the approval of the City, at Vendor's expense, provided that City's continued use of said defective goods pending repair or replacement shall not constitute a waiver by City under the PO. Further warrants that all goods and/or services covered by the PO meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-956) and its regulations in effect as of the date of the PO. These warranties shall survive acceptance of and payment for the goods and/or services furnished.

17. PAYMENT. Vendor agrees that payment will be made subject to "Local Government Prompt Payment Act", Sections 218.70-218.74, Florida Statutes, and in accordance with the City's policies and procedures, including but not limited to the requirement that Vendor shall be required to maintain a Current Vendor Application on file with the City. Prior to release of payment, Vendor shall be required to make current the vendor application on file with the City. For purposes set forth herein, a "Current Vendor Application" shall include the following: 1) an updated, completed, and executed current vendor application; 2) proof of current and updated insurance, if required; 3) updated and completed W-9; and 4) any other documentation that may be required by the City or otherwise required by law.

18. PUBLIC RECORDS COMPLIANCE. Vendor shall also be defined as to include the term set forth in Chapter 119.0701(1)(a), Florida Statutes. Vendor shall comply with public records laws as set forth in Chapter 119, Florida Statutes, and shall specifically:

- (a) Keep and maintain public records required by the City to perform the service.
- (b) Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
- (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Vendor does not transfer the records to the City.
- (d) Upon completion of the Contract, Vendor shall transfer to the City, at no cost, all public records in possession of the Vendor and destroy any duplicate public records that are exempt from public records disclosure requirements. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.
- (e) Comply with the City's request for records within a reasonable time. Failure to comply with the City's request for records within a reasonable time may subject Vendor to penalties set forth in Chapter 119.10, Florida Statutes.

IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE VENDOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THE CONTRACT, CONTACT THE OFFICE OF THE CITY CLERK, CITY HALL, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129 TELEPHONE: (386) 506- 5563 E-MAIL: CITYCLERK@PORT- ORANGE.ORG

19. SEVERABILITY. Vendor understands and agrees that if any provision, term, or condition stated herein or on the face of the PO is by the courts held to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions shall not be affected, and the rights and obligations of the Vendor and the City shall be construed and enforced as if the PO and this Vendor Application and Agreement did not contain the particular provision, term or condition held to be invalid.

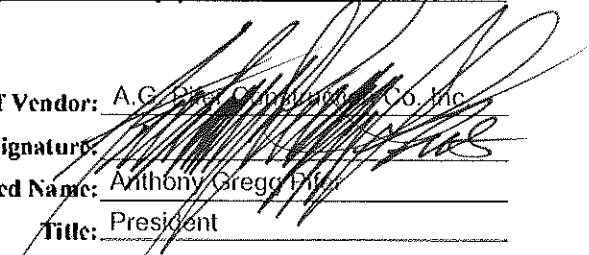
20. COUNTERPARTS; FACSIMILE SIGNATURES. This Vendor Application and Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument. Any party may effect the execution and delivery of this Vendor Application and Agreement by signing the same and sending a copy thereof to the City by facsimile, email or other electronic mean and so executed, shall have the full force and effect as an original.

***[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]
[SIGNATURES FOLLOW ON NEXT PAGE]***

ACKNOWLEDGEMENT AND AUTHORIZATION

Vendor acknowledges, authorizes, and agrees to the following:

1. The Vendor, as also defined to include principals and officers authorized to legally bind and obligate the Vendor for purposes set forth herein, does hereby certify under penalty of law that this Vendor Application and Agreement and all attachments provided are correct and were prepared under Vendor direction or supervision. Furthermore, Vendor is legally authorized to sign this Vendor Application and Agreement and by such execution does hereby approve and accept all of the terms and conditions contained herein.
2. The Vendor does hereby certify that Vendor has read and understands the Vendor Application and Agreement and Purchasing General Terms and Conditions contained herein.
3. The Vendor does hereby certify that no person (or concern) in connection with the Vendor, so far as is known, is disqualified from public contracting or purchasing from any agency of the federal government, State of Florida or City of Port Orange. Vendor further certifies that Vendor will notify the City of Port Orange should any person (or concern) in connection with the Vendor, so far as is known, becomes disqualified while Vendor contracts with the City of Port Orange.
4. Vendor acknowledges and agrees to be bound by the terms and conditions set forth in the Current Vendor Application form approved by the City Finance Director, posted on the City's website, www.port-orange.org as of the date of issuance on the face of the PO and as otherwise referenced herein. Furthermore, it shall be the Vendor's responsibility to maintain a Current Vendor Application, as defined in Section 16 of this Vendor Application and Agreement, on file with the City. Vendor agrees that the City is not required to make payment until the Current Vendor Application is filed.

Name of Vendor: A.G. City Contractors Co. Inc.
Signature: 
Printed Name: Anthony Gregg
Title: President
Date: 11/02/2017

Please return the completed Vendor Application and Agreement along with the required documentation to:

City of Port Orange
Attn: Purchasing Division
1000 City Center Circle
Port Orange, FL 32129

Or email: PurchDiv@port-orange.org

Any questions, please call the Purchasing Division at (386) 506-5718.

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank. A.G. Pifer Construction Co. Inc.	
	2 Business name/disregarded entity name, if different from above A.G. Pifer Construction Co. Inc.	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: ☐ Individual/sole proprietor or single-member LLC ☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. ☐ Other (see instructions) ▶	
	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>	
	5 Address (number, street, and apt. or suite no.) 3629 Old Deland Road	Requester's name and address (optional)
	6 City, state, and ZIP code Daytona Beach, FL 32124	City of Port Orange 1000 City Center Circle Port Orange, FL 32129
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number								
			-			-		
or								
Employer identification number								
5	9	-	2	9	8	6	2	1 9

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign
Here

Signature of
U.S. person ▶

Date ▶ 11/2/2017

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

• Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)

• Form 1099-C (canceled debt)

• Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

*** NOTE TO VENDORS***

The City of Port Orange, Florida does not maintain a prospective vendor's list, classified by commodities for the purpose of inviting sealed bids and quotation.

The City utilizes DemandStar www.demandstar.com to release Bids/RFP's and quotes. While the City advertises the Invitation to Bid in the local newspaper (Daytona News Journal) only in rare cases does the City mail out announcement notices to vendors. Vendors interested in becoming a member of DemandStar may visit their web site at: www.demandstar.com or by calling them at 1-800-711-1712.

Vendors will automatically receive notice of request for Bids/RFP's or quotes after they sign up on DemandStar. It is important that vendors sign, complete and return this application. Also include the W-9 and insurance information requirements in order for the City to assign a vendor number on our computer system. It is also the vendor's responsibility to keep the Purchasing Division informed as to any change of address or insurance that may occur.

If your company is interested in bidding on commodities/services in addition to those specified, on any specific article related to the main category, insert the type of those materials on the blank space provided for each category group. Attorney services are secured by direct telephone quotes or written price inquiries.

Drug Free Workplace: A statement as to whether or not your firm has implemented a drug-free workplace program, as described in Section 287.087 of the Florida Statutes should be noted. Failure to respond in affirmative to this request will not disqualify you from consideration. Preference will be given to firms which have implemented a drug-free workplace program in the case where the City has received two or more bids what are equal with respect to price, quality, and service.

Equal Employment Opportunity (EEO). All vendors will be required to make an affirmative statement as to their support of all applicable equal opportunity affirmative action requirements. A copy of the City's Equal Employment Opportunity statement (EEO) will be available to the vendor upon request.

I **certify** that the information supplied herein is correct and that neither the applicant nor any person (or concern) in any connection with the applicant as a principal or officer, so far as is known, is now disqualified from the public contracting and purchasing process by any agency of the federal government, the State of Florida or the City of Port Orange.

Signature of Person Completing Form: _____

Printed/Types Name: Anthony Gregg Pifer

Title: President

Commodity/Services General Construction

This document must be completed and returned with your Submittal

FORM 7.11 – LOCAL BUSINESS AFFIDAVIT OF ELIGIBILITY

City of Port Orange

This declaration is executed under penalty of perjury of the laws to the United States and State of Florida

THIS AFFIDAVIT IS SUBMITTED IN REFERENCE TO THE FOLLOWING SOLICITATION:RFSQ/RFP/ITN/BID/CONTRACT/PROJECT # (as applicable): ITB 17-37 City Annex RenovationBUSINESS NAME: A.G. Pifer Construction Co. Inc.CONTACT PERSON/TITLE: Anthony Gregg Pifer, PresidentMAILING ADDRESS: 3629 Old Deland RoadCITY-STATE-ZIP: Daytona Beach, FL 32124Length of Time at Address Provided: 28 YearsPhysical Presence of Business: ☒ Headquarters, ☐ Manufacturing Facility, or ☐ Locally Owned FranchiseAnd within Legal Boundaries: ☐ The City of Port Orange ☒ Volusia County ☐ The State of Florida

FEIN (Federal Employer Identification Number): _____

BUSINESS STRUCTURE: ☒ Corporation ☐ LLC ☐ Partnership ☐ Sole Proprietorship
☐ Other (Specify): _____PHONE NUMBER: (386) 257-4448FAX: (386) 257-5503EMAIL: agpcon@bellsouth.net****Please attach a valid business tax receipt, or other such documentation******ATTESTATION – I understand that:**

- In accordance with City Of Port Orange City Code 2-275, local businesses shall have five (5) business days from bid/proposal opening to submit a best and final bid for evaluation. To qualify: A Port Orange business initial bid must be within (8%) of the lowest and best responsible bid from a non-Port Orange business; A Volusia County business initial bid must be within (5%) of the lowest and best responsible bid from a non-Volusia County business; A State of Florida business initial bid must be within (3%) of the lowest and best responsible bid from a non-State of Florida business.
- A local business must have its headquarters, manufacturing facility, or locally owned franchise located within the legal boundaries of the City of Port Orange, Volusia County, or the State of Florida, as indicated herein, for at least twelve (12) months prior to the bid or proposal opening date and a valid business license, issued by the corresponding government agency. Post office boxes are not verifiable and shall not be used for the purpose of establishing said physical address. Bidders shall attach to this affidavit of eligibility with a bid or proposal, a copy of a valid business tax receipt or such other documentation, to the city's satisfaction, demonstrating the physical business presence of the firm within corresponding local limits.
- The preference does not apply to goods or services exempted by statute or prohibited by Federal law, State law, or other funding source restrictions.
- The preference established in this policy does not prohibit the right of the City, or other authorized purchasing authority, to compare quality or fitness for use of supplies, materials, equipment and services proposed for purchase and compare qualifications, character, responsibility and fitness of all persons, firms or corporations submitting bids or proposals.
- The information contained herein may be subject to verification.
- A vendor who misrepresents the local preference status of its firm in a proposal or bid submitted to the City of Port Orange will lose the privilege to claim local preference status, and shall lose eligibility to claim local preference for a period of one (1) year. The City Manager may also recommend that the firm be referred for debarment.

BEFORE ME; the undersigned authority, in and for the State of Florida and the City of Port Orange personally appeared Anthony Gregg Pifer, President who, after being sworn according to law, stated that he or she was authorized to represent A.G. Pifer Construction Co. Inc. and to execute this affidavit on behalf of the said Business Entity and attests, under penalty of perjury, to the above.

SWORN AND SUBSCRIBED BEFORE ME

Sheri Scarsella
SIGNATURE OF NOTARY PUBLIC

THIS 2nd DAY OF November, 2017

My Commission Expires 01/21/2021

Anthony Gregg Pifer
SIGNATURE OF AFFIANT

11/02/2017
DATE

Anthony Gregg Pifer, President

PRINTED NAME OF AFFIANT / TITLE

A.G. Pifer Construction Co. Inc.

COMPANY

NOTARY SEAL



This document must be completed and returned with your Submittal

2017/2018

Volusia County Business Tax Receipt

Issued pursuant to F.S. 205 and Volusia County Code of Ordinances Chapter 114-1 by:
Volusia County Revenue Division - 123 W Indiana Ave, Room 103, DeLand, FL 32720 – (386) 736-5938

Account # 198711160004 Expires: September 30, 2018
Business Location: 3629 OLD DELAND RD



Business Name: A G PIFER CONSTRUCTION CO
Owner Name: ANTHONY GREGG PIFER
Mailing Address: 3629 OLD DELAND ROAD
DAYTONA BEACH, FL 32124

BUSINESS TYPE	CODE	COUNT	TAX
General Contractor Class A	301C	10	\$18.00

- This receipt indicates payment of a tax, which is levied for the privilege of doing the type(s) of business listed above within Volusia County. This receipt is non-regulatory in nature and is not meant to be a certification of the holder's ability to perform the service for which he is registered. This receipt also does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.
- The business must meet all County and/or Municipality planning and zoning requirements or this Business Tax Receipt may be revoked and all taxes paid would be forfeited.
- The information contained on this Business Tax Receipt must be kept up to date. Contact the Volusia County Revenue Division for instructions on making changes to your account.

**THIS PORTION OF THE BUSINESS TAX RECEIPT MUST BE
POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS**

Volusia County Business Tax Receipt

Revenue Division - 123 W Indiana Ave, Room 103, DeLand, FL 32720 – (386) 736-5938

DATE PAID: 07/24/2017
RECEIPT #: Lockbox-16-00084846
TOTAL TAX: 18.00
PENALTY: 0.00
TOTAL PAID: 18.00



Business Name: A G PIFER CONSTRUCTION CO
Owner Name: ANTHONY GREGG PIFER
Mailing Address: 3629 OLD DELAND ROAD
DAYTONA BEACH, FL 32124

Account # 198711160004 Expires: September 30, 2018
Business Location: 3629 OLD DELAND RD



PLEASE DETACH THIS PORTION OF THE BUSINESS TAX RECEIPT FOR YOUR RECORDS

BID BOND

BID BOND

Bond No.: N/A

KNOW ALL MEN BY THESE PRESENTS that A.G. Pifer Construction Co., Inc., as Contractor, duly authorized to conduct business in the State of Florida, whose principal place of business is located at 3629 Old Deland Road, Daytona Beach, FL 32124, Tel.: 386-257-4448, (hereinafter called "PRINCIPAL"), and Westfield Insurance Company, as SURETY, duly authorized to conduct business in the State of Florida, whose principal place of business is located at PO Box 5001, Westfield Center, OH 44251, Tel.: 330-887-0101 (hereinafter called "SURETY"), are held and firmly bound unto the City of Port Orange, Florida, as CITY, a Florida municipal corporation, whose address is City of Port Orange, 1000 City Center Circle, Port Orange, Florida 32129, Tel.: (386) 506-5501, (hereinafter called "OBLIGEE" or "CITY"), in the penal sum of Five percent of proposed bid dollars and (----)/100 (\$ --5%--), lawful money of the United States, for the payment of which sum shall and truly be made, whereof PRINCIPAL and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas the Principal has submitted the accompanying bid, dated November 2, 2017, for:

Project Name / Bid No.: City Annex Renovation(Old Police Station)/17-37

Project Address: 1395 Dunlawton Avenue
Port Orange, FL 32128

Legal Description: See Attached

Description of Work: Renovation of Existing Police Station

NOW, THEREFORE,

A. If the principal shall not withdraw said bid within one hundred twenty (120) days after date of opening of the same, and shall within ten (10) days after the prescribed forms are presented to it for signature, enter into a written contract with the City in accordance with the bid as accepted, and give bonds with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract, then the above obligations shall be void and of no effect, otherwise to remain in full force and virtue.

B. In the event of the withdrawal of said bid within the period specified, or the failure to enter into such contract and give such bonds within the time specified, if the principal shall pay the City the difference between the amount specified in said bid and the amount for which the City may procure the required work and supplies, if the latter amount be in excess of the former, then the above obligations shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above parties have executed this instrument under their several seals, this 2nd day of November, A.D. 2017, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Note: If the firm is a sole ownership or partnership including limited liability company, two (2) witnesses are required to attest the signature. If the firm is a corporation, then the corporate secretary shall attest and affix the corporate seal (Attach power of attorney to original bid bond and financial statement of Surety Company).

PRINCIPAL: A.G. Pifer Construction Co., Inc.

Signature

Anthony Gregg Pifer, President
Corporate Officer & Title

ATTEST:

Signature

Anthony Gregg Pifer, Secretary
Corporate Secretary (Affix Corporate Seal)

WITNESSES:

ATTEST:

See attached power of attorney
Signature

Corporate Secretary (Affix Corporate Seal)

SURETY: Westfield Insurance Company

Attorney-in-Fact (signature)

Don Bramlage, Attorney in Fact

Name & Title

Don Bramlage

Name of Local Resident Agent

4380 St. Johns Pkwy, Ste 110, Sanford, FL 32771

City, State, Zip

407-330-3990

Telephone:

A.M. Best No.: 002382 NAIC No.: 24112

STATE OF Florida

COUNTY OF Seminole

Before me this day personally appeared Don Bramlage (affiant), who, being duly sworn, deposes and says that he/she is the Attorney-in-Fact for the Westfield Insurance Company (corporate surety) and that this person has been authorized by Westfield Insurance Company (corporate surety) to execute the foregoing bond on behalf of the Contractor named therein in favor of the City of Port Orange, Florida.

Signature of Affiant

Sworn to / Affirmed and subscribed before me this 2nd day of November, 2017, by Don Bramlage who is personally known to me or who produced

N/A as Identification.

NOTARY PUBLIC - STATE OF

Type or print name: Kelly Phelan

Commission No.: FF97286

Commission Expires: March 2, 2018

(Seal)



END OF BID BOND

POWER NO. 0994592 00
General Power of Attorney

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY, and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having their principal offices in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint **DON BRAMLAGE, LAURA D. MOSHOLDER, EDWARD M. CLARK, JOINTLY OR SEVERALLY**, of SANFORD and State of FL their true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in their names, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship - - -

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY, and OHIO FARMERS INSURANCE COMPANY:

"BE IT RESOLVED, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents cancelling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon The Company as if signed by the President and sealed and attested by the Corporate Secretary."

"BE IT FURTHER RESOLVED, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000.)

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY, and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 16th day of October, A.D., 2017.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By: 
Dennis P. Baus,
National Surety Leader and Senior Executive

State of Ohio
County of Medina ss.:

On this 16th day of October, A.D., 2017, before me personally came Dennis P. Baus, to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY, and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Board of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed



By: 
David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio
County of Medina ss.:

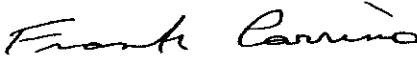
CERTIFICATE

I, Frank Carrino, Secretary of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY, and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Board of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seal of said Company at Westfield Center, Ohio, this 2nd day of November A.D., 2017.

BPOAC (0.



By: 
Frank Carrino, Secretary

**"ATTACHMENT 1" ITB 17-37 SCHEDULE OF UNIT PRICING
BID FORM**



**CITY OF PORT ORANGE
CITY ANNEX RENOVATION REVISED PER ADDENDUM NO.4**

ITB# 17-37

Completed Attachment 1 Bid Proposal form **MUST** be included with Bid Submission
Instruction to save Attachment from Demandstar website:
Perform "File Save As" and save spreadsheet to your computer.
Fill in pricing in highlighted cells, preferably electronically.

Bidders are required to complete all fields shaded in green. All other fields will be automatically calculated.

NAME OF BUSINESS:	A.G. Pifer Construction Co. Inc.
CONTACT PERSON:	Anthony Gregg Pifer, President
EMAIL ADDRESS:	agpcon@bellsouth.net
AUTHORIZED SIGNATURE:	

CITY ANNEXATION PER SPECIFICATIONS	UNIT	TOTAL FEE	EXTENDED COST
	LS	\$ 1,749,535.19	\$ 1,749,535.19
TOTAL BASE BID			\$ 1,749,535.19
Alternate No. 1: Fuel Pump Station: Demolish existing canopy, columns and footings. Provide new canopy as indicated on Sheet A0.3 and as specified in Division 024119 Selective Demolition	LS	\$ 43,800.00	\$ 43,800.00
Alternate No 1 A: Remove and Replace Existing Fuel Pump and Card Reader.	LS	\$ 31,291.00	\$ 31,291.00
Alternate No. 2: Pressure Wash and Re-Paint the exterior walls, columns, doors, frames and overhead door of existing Fire Department Storage Building as indicated on Sheet A0.2.	LS	\$ 4,287.00	\$ 4,287.00
Alternate No. 3: Substitute tegular edge ceiling panels in lieu of those specified in Division 095113. Basis of Design: Armstrong Optima 9/16" square tegular edge, 24" x 24".	LS	\$ 18,000.00	\$ 18,000.00
Alternate No. 4: Provide manually-operated operable acoustical panel partition in Training Room.	LS	\$ 14,825.00	\$ 14,825.00
Alternate No. 4 A: Provide substructure (columns, beams and foundation) for acoustical panel partition.	LS	\$ 5,848.00	\$ 5,848.00
Alternate No. 4 B: If the required depth of the Helical Anchors to meet the required capacity exceeds 21 feet, contractor shall provide a unit cost per additional foot of depth based on the gross length of the last extension.	LF	\$ 25.00	\$ 25.00



CITY OF PORT ORANGE, FLORIDA
ITB TABULATION SHEET

ALL BIDS ACCEPTED BY THE CITY OF PORT ORANGE ARE SUBJECT TO THE CITY'S TERMS AND CONDITIONS. ANY AND ALL ADDITIONAL TERMS AND CONDITIONS SUBMITTED BY THE BIDDERS ARE REJECTED AND SHALL HAVE NO FORCE AND EFFECT. BIDS FROM THE BIDDERS LISTED HEREIN ARE THE ONLY BIDS RECEIVED TIMELY AS OF THE OPENING DATE AND TIME. ALL OTHER BIDS SUBMITTED IN RESPONSE TO THIS SOLICITATION, IF ANY, ARE HEREBY REJECTED AS LATE. ALL BIDS ARE SUBJECT TO REVIEW BY THE CITY AND AWARD REQUIRES A FORMAL CONTRACT AND APPROVAL BY CITY COUNCIL.

ITB NUMBER: ITB-#17-37
ITB TITLE: CITY ANNEX RENOVATION
OPENING DATE/TIME: NOVEMBER 2, 2017 AT 2:30 P.M.

		Response 1	Response 2	Response 3	Response 4
Submittal Required Forms (mark "yes" or "no")		General Mechanical Corporation	A.G. Pifer Construction Co. Inc.		
1	Form 7.1 Submittal Checklist	YES	YES		
2	Form 7.2 Bidder's Acknowledgment	YES	YES		
3	Form 7.3 Addendum & Change Order Acknowledgement	YES	YES		
4	Form 7.4 Drug Free Preference Statement	YES	YES		
5	Form 7.5 Statement on Public Entity Crimes	YES	YES		
6	Form 7.6 Affidavit of Anti-Collusion	YES	YES		
7	Form 7.7 Statement of Vendors Qualifications	YES	YES		
8	Form 7.8 Professional References	YES	YES		
9	Form 7.9 Listing of Subcontractors	YES	YES		
10	Form 7.10 Vendor Application Form & W-9	YES	YES		
11	Form 7.11 Local Business Affidavit of Eligibility	YES	YES		
12	Bid Bond	YES	YES		
13	Attachment 1-Bid Proposal	YES	YES		
1 Original, 1 Digital Copy		YES	YES		
Deemed Responsive?		YES	YES		
TOTAL BID		\$ 1,753,300.00	\$ 1,749,535.19	\$ -	\$ -
ALTERNATE No. 1		\$ 33,925.00	\$ 43,800.00	\$ -	\$ -
ALTERNATE No. 1 A		\$ 8,119.00	\$ 31,291.00	\$ -	\$ -
ALTERNATE No. 2		\$ 6,727.50	\$ 4,287.00	\$ -	\$ -
ALTERNATE No. 3		\$ 19,837.50	\$ 18,000.00	\$ -	\$ -
ALTERNATE No. 4		\$ 19,262.50	\$ 14,825.00	\$ -	\$ -
ALTERNATE No. 4 A		\$ 13,512.50	\$ 5,848.00	\$ -	\$ -
ALTERNATE No. 4 B		\$ 30.00	\$ 25.00	\$ -	\$ -

Opened and tabulated by: David Battaglia, Purchasing Agent
 Witnessed by: Marla Callanan, Buyer



CITY OF PORT ORANGE

PURCHASING DIVISION
1000 CITY CENTER CIRCLE
PORT ORANGE, FLORIDA 32129
TELEPHONE 386-506-5718
FAX 386-506-5711
purchdiv@port-orange.org

ADDENDUM NO. # 1
September 28, 2017
ITB #17-37 CITY ANNEX RENOVATION

To All Bidders:

The following changes, clarifications and additions are hereby made part of the bidding and specifications for the above referenced project dated September 21, 2017 and prepared by the City of Port Orange Purchasing Division as fully and completely as if the same were fully set forth therein. It is the sole responsibility of bidder to confirm that all addenda have been received prior to submitting bid and acknowledge such in the bid documents.

A. CLARIFICATIONS:

The attachment 1 Schedule of Unit Prices Bid Form for ITB #17-37 City Annex Renovation found on page 549 of the solicitation is not displaying all six (6) alternates. A revised attachment 1 Schedule of Unit Prices Bid Form is uploaded to DemandStar and is also attached as an example to this addendum.

In all other respects, except as specifically stated herein, the subject ITB remains unchanged.

END OF ADDENDUM NO. #1

"ATTACHMENT 1" ITB 17-37 SCHEDULE OF UNIT PRICING

BID FORM

**CITY OF PORT ORANGE
CITY ANNEXATION RENOVATION**



ITB# 17-37

Completed Attachment 1 Bid Proposal form **MUST** be included with Bid Submission

Instruction to save Attachment from Demandstar website:

Perform "File Save As" and save spreadsheet to your computer.

Fill in pricing in highlighted cells, preferably electronically.

Bidders are required to complete all fields shaded in green. All other fields will be automatically calculated.

NAME OF BUSINESS:

CONTACT PERSON:

EMAIL ADDRESS:

AUTHORIZED SIGNATURE:

CITY ANNEXATION PER SPECIFICATIONS	UNIT	TOTAL FEE	EXTENDED COST
	LS	\$ -	\$ -
TOTAL BASE BID			\$ -
Alternate No. 1: Fuel Pump Station: Demolish existing canopy, columns and footings. Provide new canopy as indicated on Sheet A0.3 and as specified in Division 024119 Selective Demolition	LS	\$ -	\$ -
Alternate No 1 A: Remove and Replace Existing Fuel Pump and Card Reader.	LS	\$ -	\$ -
Alternate No. 2: Pressure Wash and Re-Paint the exterior walls, columns, doors, frames and overhead door of existing Fire Department Storage Building as indicated on Sheet A0.2.	LS	\$ -	\$ -
Alternate No. 3: Substitute tegular edge ceiling panels in lieu of those specified in Division 095113. Basis of Design: Armstrong Optima 9/16" square tegular edge, 24" x 24".	LS	\$ -	\$ -
Alternate No. 4: Provide manually-operated operable acoustical panel partition in Training Room.	LS	\$ -	\$ -
Alternate No. 4 A: Provide substructure (columns, beams and foundation) for acoustical panel partition.	LS	\$ -	\$ -



CITY OF PORT ORANGE

PURCHASING DIVISION
1000 CITY CENTER CIRCLE
PORT ORANGE, FLORIDA 32129
TELEPHONE 386-506-5718
FAX 386-506-5711
purchdiv@port-orange.org

ADDENDUM NO. # 2

October 17, 2017

ITB #17-37 CITY ANNEX RENOVATION

To All Bidders:

The following changes, clarifications and additions are hereby made part of the bidding and specifications for the above referenced project dated September 21, 2017 and prepared by the City of Port Orange Purchasing Division as fully and completely as if the same were fully set forth therein. It is the sole responsibility of bidder to confirm that all addenda have been received prior to submitting bid and acknowledge such in the bid documents.

A. CLARIFICATIONS:

Last day for questions has been moved to October 24, 2017.

Final addendum is now moved to October 27, 2017.

Sheet LA-1, General Note #8 shall be modified as follows: The Contractor is responsible for maintaining all proposed and existing trees, shrubs and ground cover shown to be preserved. Contractor shall employ a licensed tree trimmer who shall follow National Arborist recommendations and guidelines. Palm tree "boots" shall be removed to within 3'-0" of the crown and dead branches removed within 10'-0" of the ground. No vehicles or materials shall be placed under or around the materials to remain.

B. QUESTIONS AND ANSWERS:

1. Have there been any date/time changes to the advertised bid date or pre-bid meeting?

Answer: Yes. Please see clarifications.

2. Do you have already and architect/engineer on this project? If yes, may I know the name and company?

Answer: Yes, Architect is DJ Design Services, Inc. 913 North Nova Road, Holly Hill FL 32117.

3. Can you tell me how I would find out about the furniture specifications?

Answer: Furniture, Fixtures and Equipment (FF&E) is not included in this project. I believe the City has a vendor(s) for these.

4. Just checking is there an asbestos survey for the bldg.?

Answer: There will be one done by the City.

5. I have reviewed the general specifications for ITB 17-37 and noticed there is no listing for Division 27 in your TABLE OF CONTENTS?

Answer: There is no Division 27 in the specifications.

6. Please advise if the low voltage voice, data, and CCTV requirements are going to be addressed in a separate ITB?

Answer: Low voltage Voice/Video/Data and CCTV connectivity is NIC and will be handled through a separate vendor.

7. What is the date for all the addendums to be answered?

Answer: It has been changed to October 27, 2017.

8. What is the date for the last day of questions?

Answer: It has been changed to October 24, 2017.

9. How much is the estimated budget for this project?

Answer: \$ 1.7 Million.

10. We are requesting the document as a 24x36 PDF file to be able to do a digital takeoff. Currently, the bid documents are not to scale.

Answer: Please see link below.

https://www.dropbox.com/sh/olqwd78bwmkhhbtt/AACJZVf6_IIOjLPwaOeAVz37a?dl=0

11. Are we doing anything with the leaning power transformer?

Answer: No, this is FPL's responsibility.

12. Can we view the site again?

Answer: Yes, you must call Bruce Ferguson, Parks and Recreation Superintendent at 386-527-6868 to make an appointment. There will be a one-time opportunity on Thursday 10-19-17. If you are more than 15 minutes late you will miss this opportunity.

13. I was wondering if the (4) mobile shelving systems for this project will be purchased directly through the City or by the GC? Is there anyone specifications for the systems and who would I contact about becoming an approved equal?

Answer: The City clerk is performing this task and she is currently looking at a state contract? You could contact Robin Fenwick at 386-506-5563 for more information.

In all other respects, except as specifically stated herein, the subject ITB remains unchanged.

END OF ADDENDUM NO. #2



CITY OF PORT ORANGE

PURCHASING DIVISION
1000 CITY CENTER CIRCLE
PORT ORANGE, FLORIDA 32129
TELEPHONE 386-506-5718
FAX 386-506-5711
purchdiv@port-orange.org

ADDENDUM NO. # 3

October 27, 2017

ITB #17-37 CITY ANNEX RENOVATION

To All Bidders:

The following changes, clarifications and additions are hereby made part of the bidding and specifications for the above referenced project dated September 21, 2017 and prepared by the City of Port Orange Purchasing Division as fully and completely as if the same were fully set forth therein. It is the sole responsibility of bidder to confirm that all addenda have been received prior to submitting bid and acknowledge such in the bid documents.

A. CLARIFICATIONS:

Proposed response to the helical anchors:

"Soil boring logs are not available for the project site. Therefore, contractor shall assume a required depth of 21 feet for the helical anchors. If the required depth to meet the capacity exceeds 21 feet, contractor shall provide in his bid a unit cost per additional foot of depth based on the gross length of the last extension. All other provisions within the drawings and specifications shall remain unchanged"

Section 099110-3.8 Interior Paint Schedule, should read: B. Gypsum Wallboard/Ceilings (1.) Two finish coats over a primer. Basis-of-design: Scuffs by Benjamin Moore.

Amend specifications to allow both Thermoplastic Polyvinyl-Chloride (PVC) Roofing and Thermoplastic Polyolefin (TPO) Roofing as approved equivalents. All other conditions of Section 07416 shall apply, including warranty type and duration.

B. QUESTIONS AND ANSWERS:

1. If VAV's have internal fuse protection can we use motor rated switches for above ceiling?
Answer: No, each fused disconnect switch provides overcurrent protection per VAV. The fused disconnect allows for easy changing of the fuses in the event of a trip.

2. On wall OS will these be line voltage or low volt with power packs?

Answer: They will be low voltage with power packs.

3. Existing light poles are to remain as there are with no work done to them?

Answer: Correct, the existing light poles will remain.

4. ALT-1 Gas pumps did not notice an emergency shut off for pumps, will one be added?

Answer: There currently is an existing emergency shut off switch. However, the pole and shut off switch are completely covered in vines and foliage. GC shall clean off the vines and foliage for better visual clarity of the emergency switch. An emergency shut off switch is required by the National Electrical Code.

5. Are existing floor boxes to remain or removed and filled in?

Answer: The existing floor boxes are to be removed and filled in.

6. During Demo is the EC going to remove all Comm. And data cables from above ceiling or will that be handled by division 27?

Answer: Communication cabling demolition and installation will be handled by the City of Port Orange.

7. Has the generator had a load test done and is the ATS working properly?

Answer: A load test was not done on the generator, and tests were not conducted on either the ATS to determine its functionality.

8. Sheet ED201 shows this room being Demo and later becoming a janitor's storage room. There are 4-4" conduits along the wall that look like there are the conduits bringing in the Comm. From the outside. Please advise on how to proceed?

Answer: This is the old phone room. It has been confirmed with City's IT department, that the (4)-4" conduits can be capped. These are not the lines that bring in the communication. These are the old phone lines for the 911 station and are no longer used.

9. Is there an allowance to replace damaged wood sheathing? Without removing the roof tiles, it is impossible to identify quantities for this scope. Please advise?

Answer: General Roofing Note #15 states: *Include the cost of providing ten (10) full sheets of 1" CDX in base re-roofing cost. Additional full sheets required shall be provided at base unit cost/sheet.*

10. Replace damaged backer rood. Same as above. Will there be an allowance for this scope?

Answer: See #20 below.

11. Sheet A3.1 detail #2. Please advise is the 2" x 12" PT is new or existing. Not clear on drawings?

Answer: Existing to remain unless damaged.

12. Pre-cast roof planks. Are these existing or to be replaced? Not clear on drawing?
Answer: Existing to remain.
13. Who will be responsible in installing shelving rail?
Answer: City's vendor.
14. Sheet A3.3 Detail #1. New QT sill to remain. Please clarify if new who will install? Is this sill included in this contract?
Answer: This is a new QT sill installed by GC.
15. Sheet A6.1 Detail A shows a urinal screen. Floor plan shows what appears to be a partition. Please clarify?
Answer: Note should read: solid plastic toilet partition.
16. Please confirm. Sheet A6.1 Detail #1 does not show a toilet paper dispenser in one of the stalls. Should GC include toilet paper holder for this toilet?
Answer: GC to provide toilet paper dispenser in the non-accessible stall.
17. Sheet E301. Symbol shown on floor plan not referenced on legend. Please clarify?
Answer: Symbol is a Fire Horn Strobe.
18. Sheet A6.1 Detail 1,2 show note 13 on restroom floor plan but not shown on accessory schedule. Please clarify?
Answer: Note #13 should be read as Note #7-Diaper Changing Station.
19. Please verify scale on reflective ceiling plan?
Answer: Scale is 1/8" =1'-0"
20. Please advise how GC will price damaged backer rod if to be replaced as needed?
Answer: GC shall include the cost of 100 LF of backer rod removal and replacement. GC shall provide in his bid a unit cost per additional foot of length. All other provisions within the drawings and specifications shall remain unchanged.

In all other respects, except as specifically stated herein, the subject ITB remains unchanged.

END OF ADDENDUM NO. #3



CITY OF PORT ORANGE

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1000 CITY CENTER CIRCLE
PORT ORANGE, FLORIDA 32129
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ADDENDUM NO. # 4 **October 30, 2017**

ITB #17-37 CITY ANNEX RENOVATION

To All Bidders:

The following changes, clarifications and additions are hereby made part of the bidding and specifications for the above referenced project dated September 21, 2017 and prepared by the City of Port Orange Purchasing Division as fully and completely as if the same were fully set forth therein. It is the sole responsibility of bidder to confirm that all addenda have been received prior to submitting bid and acknowledge such in the bid documents.

A. CLARIFICATIONS:

A new Attachment 1 Schedule of Unit Pricing Bid Form to address the below clarification has been uploaded to DemandStar and attached to this addendum as an example.

Proposed response to the helical anchors:

"Soil boring logs are not available for the project site. Therefore, contractor shall assume a required depth of 21 feet for the helical anchors. If the required depth to meet the capacity exceeds 21 feet, contractor shall provide in his bid a unit cost per additional foot of depth based on the gross length of the last extension. All other provisions within the drawings and specifications shall remain unchanged"

In all other respects, except as specifically stated herein, the subject ITB remains unchanged.

END OF ADDENDUM NO. #4

**"ATTACHMENT 1" ITB 17-37 SCHEDULE OF UNIT PRICING
BID FORM**



**CITY OF PORT ORANGE
CITY ANNEX RENOVATION REVISED PER ADDENDUM NO.4**

ITB# 17-37

Completed Attachment 1 Bid Proposal form **MUST** be included with Bid Submission

Instruction to save Attachment from Demandstar website:

Perform "File Save As" and save spreadsheet to your computer.

Fill in pricing in highlighted cells, preferably electronically.

Bidders are required to complete all fields shaded in green. All other fields will be automatically calculated.

NAME OF BUSINESS:

CONTACT PERSON:

EMAIL ADDRESS:

AUTHORIZED SIGNATURE:

CITY ANNEXATION PER SPECIFICATIONS	UNIT	TOTAL FEE	EXTENDED COST
	LS	\$ -	\$ -
TOTAL BASE BID			\$ -
Alternate No. 1: Fuel Pump Station: Demolish existing canopy, columns and footings. Provide new canopy as indicated on Sheet A0.3 and as specified in Division 024119 Selective Demolition	LS	\$ -	\$ -
Alternate No 1 A: Remove and Replace Existing Fuel Pump and Card Reader.	LS	\$ -	\$ -
Alternate No. 2: Pressure Wash and Re-Paint the exterior walls, columns, doors, frames and overhead door of existing Fire Department Storage Building as indicated on Sheet A0.2.	LS	\$ -	\$ -
Alternate No. 3: Substitute tegular edge ceiling panels in lieu of those specified in Division 095113. Basis of Design: Armstrong Optima 9/16" square tegular edge, 24" x 24".	LS	\$ -	\$ -
Alternate No. 4: Provide manually-operated operable acoustical panel partition in Training Room.	LS	\$ -	\$ -
Alternate No. 4 A: Provide substructure (columns, beams and foundation) for acoustical panel partition.	LS	\$ -	
Alternate No. 4 B: If the required depth of the Helical Anchors to meet the required capacity exceeds 21 feet, contractor shall provide a unit cost per additional foot of depth based on the gross length of the last extension.	LF	\$ -	\$ -



INTENT TO AWARD

ITB# 17-37

CITY ANNEXATION RENOVATION

November 16, 2017

On November 2, 2017 Purchasing received two (2) submittals for ITB #17-37 City Hall Annex Renovation. After review of the proposals submitted, City staff have made a recommendation to award to A.G. Pifer Construction Co Inc. of Daytona Beach Florida. The Line items award will be as follows: Line item No. 1 Total Base Bid in the amount of \$1,749,535.19 Alternate No. 2 in the amount of \$4287.00 Alternate No.4A in the amount \$5848.00. City Staff has also agreed to the rate supplied on Alternate No. 4B of \$25.00 per additional lineal foot per helical anchor. Recommendation to Award will be presented to City Council on December 5, 2017.

David Battaglia
Purchasing Agent



CITY COUNCIL AGENDA ITEM

REQUESTED COUNCIL MEETING DATE 12/05/2017

Consent item: No

SUBJECT: (L23a) Authorize the engagement of Special Legal Counsel, Daniel W. Langley, Esquire for the proposed Riverwalk property acquisition

DEPARTMENT: City Attorney

GOAL:

RECOMMENDED MOTION: Move to approve the engagement of Daniel W. Langley, Esquire as recommended by the City Attorney.

SUMMARY: In the City Council Workshop meeting of November 28, 2017, council members expressed a willingness to consider the city manager's plan of action to acquire key parcels in the Riverwalk area between Dunlawton Avenue and Herbert Street and to facilitate the acquisition. The City Attorney recommends engaging the services of Daniel W. Langley, Esquire of the Fishback Dominick Law Firm.

Project No.: Funding Account No.:

ATTACHMENTS:

Robin Fenwick
Margaret Roberts
Robin Fenwick

Created/Initiated - 11/29/2017
Approved - 11/30/2017
Final Approval - 11/30/2017
