



# **CITY OF VENICE, FLORIDA**

**Procurement- Finance Department**

**401 W. Venice Avenue  
Venice, FL 34285**

## **Invitation to Bid**

**ITB Number 3010-15**

**Date of Issue: July 24, 2015**

**Submission Deadline: August 26, 2015 at 2:00 PM**

Title and Purpose of ITB:

**Border Road Water Main Extension Re-bid**

## INVITATION TO BID

The City of Venice invites sealed bids from qualified bidders to provide the following goods or services, which is described in detail in the Specifications.

**Bid No.:** 3010-15

**Bid Title:** Border Road Water Main Extension Re-bid

**PROJECT DESCRIPTION:** This project includes installation of approximately 3,730 linear feet of 12-inch PVC water main by open cut, approximately 2,280 linear feet of 12-inch fusible PVC water main by horizontal directional drill and approximately 55 linear feet of 12-inch PVC carrier pipe in a 24-inch steel casing by jack and bore. Installation of appurtenances including, but not limited to, eleven (11) 12-inch gate valves, one (1) 10-inch gate valve, six (6) fire hydrants and one (1) automatic flushing device. Connection to an existing water main and testing of the entire system. Erosion and siltation controls along with the provisions of the Best Management Practices (BMP) shown in the Contract Documents. Maintenance of traffic; both vehicular and pedestrian. Maintenance of flow in the water mains to which this project is connecting. Concrete sidewalk and driveway restoration. And restoration of areas disturbed by construction.

**BID OPENING LOCATION:** City of Venice, Venice City Hall, Community Hall, room # 114,  
401 West Venice Ave., Venice FL 34285

**BID SUBMITTAL DEADLINE and BID OPENING DATE & TIME:** August 26, 2015  
at 2:00 PM

**PRE-BID MEETING: YES DATE & TIME:** August 6, 2015 at 2:00 PM

**LOCATION:** City of Venice, Venice City Hall, Community Hall, room # 114,  
401 West Venice Ave., Venice FL 34285

Specifications and Bid documents are available by calling Onvia DemandStar at (800) 711-1712 or by their Internet address at <http://www.demandstar.com>. Proposers may also pick up Bid documents at the City of Venice Procurement- Finance Department, Room 204, 401 West Venice Ave., Venice Florida 34285, (941) 486-2626 Ext. 24002 at no charge.

A non-mandatory pre-bid meeting will be held on August 6, 2015 at 2:00 p.m., Venice City Hall, Community Hall, room #114, 401 West Venice Ave., Venice FL 34285. Representatives from the City will be present to discuss the overall project and the Invitation to Bid. **Interested Firms are encouraged to attend.**

All questions, comments, or concerns about this ITB must be submitted in writing to Mr. Jon Mayes, Procurement- Finance Department, for the City of Venice, Room 204, 401 West Venice Avenue, Venice, FL 34285 or e-mail at [jmayes@venicegov.com](mailto:jmayes@venicegov.com). Mr. Mayes is the only designated representative of the City authorized to respond to comments, questions, and concerns. The City will not respond to comments, questions or concerns addressed to any person other than Mr. Mayes. If the City determines that a particular comment, question or concern necessitates a global response to all Proposers, the City will issue a clarifying memorandum or addendum. **The final day that the City will accept questions will be August 17, 2015 by 1:00 p.m.**

Bids must be submitted in **four sets** and at least one set must bear an original signature, in a sealed envelope marked **“Invitation to Bid # 3010-15: “Border Road Water Main Extension Re-bid”** and mailed or delivered to the City of Venice- Purchasing Department, 401 W. Venice Ave. Room # 204, Venice, FL 34285, no later than the deadline specified. The City assumes no responsibility for bids

received after the bid submittal time or at any location other than that specified, no matter what the reason. Late bids will be held unopened and will not be considered for award.

No bid will be received after the specified time for acceptance and no bidder may withdraw his bid within a period of one-hundred and eighty (180) days after the actual date of opening thereof.

Bids will be considered only from bidders who have the applicable license, if a license is required by the City of Venice and/or State of Florida, for the type of work specified. A copy of the applicable license must be submitted with bid if a license is required.

The City reserves the right to reject any or all bids in whole or in part, with or without cause, to waive any requirements, irregularities or technical defects therein, when it is deemed to be in the interest of the City.

CITY OF VENICE, FLORIDA

Publish: Wednesday, July 22, 2015  
Saturday, July 25, 2015

**SEALED INVITATION TO BID**  
**CITY OF VENICE, FLORIDA**  
**ITB# 3010-15**

**GENERAL CONDITIONS & INSTRUCTIONS TO OFFERORS**

**DEFINED TERMS**

Terms used in this solicitation are defined and have the meaning assigned to them. The term "Offeror" means one that submits a proposal directly to CITY as distinct from a Sub-Offeror, who submits a Proposal to the Offeror. The term "Successful Offeror" means the qualified, responsible and responsive Offeror to whom the City of Venice (on the basis of CITY'S evaluation as hereinafter provided) makes an award. The term "CITY" refers to the City of Venice, a municipal corporation of the State of Florida. The term "ITB" refers to this Sealed INVITATION TO BID. The term "solicitation" refers to the entire ITB package and the Offeror's submittal as a response to this ITB. The term "submittal" refers to all documentation and information as submitted by the Offeror in response to this solicitation. The term "Department" refers to the State of Florida Department of Transportation.

**1. OFFEROR REGISTRATION**

Offerors who obtain solicitation documents from sources other than the City or download from <http://www.demandstar.com/> must officially register receipt of the solicitation with the City's Procurement- Finance Department in order to be placed on the notification list for any forthcoming addendum or other official communications. Failure to register as a prospective Offeror may cause your submittal to be rejected as non-responsive if you have submitted a response without acknowledgment of issued addenda. The City of Venice is not responsible for the accuracy of bid documents and information obtained from any source other than <http://www.demandstar.com/>.

**2. CONTACT**

All prospective Offerors are hereby instructed not to contact any member of the City of Venice City Council, City Manager, or City of Venice staff member other than the contact person indicated in this ITB regarding this solicitation or their submittal at any time prior to the final evaluation and recommended ranking by the City staff for this project. Any such contact shall be cause for rejection of your submittal.

**3. ADDENDA AND INQUIRIES**

- 3.1 If there is any doubt as to the true meaning of the specifications and information provided, Offerors may submit written or faxed inquiries regarding this solicitation to the Procurement- Finance Department, 401 West Venice Avenue, Room # 204 Venice, FL 34285, Fax No. (941) 486-2790. The City will respond to written or faxed inquiries received by the posted deadline for questions. Inquiries must reference the date and time of opening, and the solicitation number. Failure to comply with this condition shall result in the Offeror waiving their right to dispute the specifications and information provided in the solicitation document.
- 3.2 Any change to this solicitation shall be made by addenda duly issued to each registered Offeror. Receipt of such addenda must be so noted on or within your response. It is the Offeror's responsibility to make contact through the Internet or phone to determine if Addenda have been issued.
- 3.3 Oral Inquiries: The City will not respond to oral inquiries.

**4. PUBLIC OPENING**

*Submittals shall be received in the Procurement- Finance Department, 401 W. Venice Ave, Venice, FL 34285 by the date and time indicated on these documents. As soon as possible thereafter, the names of the Offerors shall be read off at the specified location.*

**5. DELAYS**

The City, at its sole discretion, may delay the scheduled due dates indicated above if it is to the advantage of the City to do so. The City will notify Offerors of all changes in scheduled due dates by written addenda.

**6. PROPOSAL SUBMISSION AND WITHDRAWAL**

6.1 Address to send submittal:

*Procurement- Finance Department  
City of Venice – Purchasing Department  
401 W. Venice Ave, Room # 204.  
Venice, FL 34285*

- 6.2 The outside of the envelope/container must be identified with the solicitation number and title as stated above. The envelope/container must also include the Offeror's name and return address.
- 6.3 Submittals may be withdrawn by an appropriate document duly executed (in the manner that a Submittal must be executed) and delivered to the place where Submittals are to be submitted at any time prior to the deadline for submission. A request for

withdrawal or a modification must be in writing and signed by a person duly authorized to do so. Evidence of such authority must accompany the request for withdrawal or modification. Withdrawal of a Submittal will not prejudice the rights of an Offeror to submit a new Submittal prior to the opening date and time. After expiration of the period for receiving Submittals, no Submittal may be withdrawn or modified.

- 6.4 Withdrawal of Submittals after Opening Date: Submittals, once opened, become the property of the City and will not be returned to the Offerors. Submittals not so withdrawn before the opening constitute an irrevocable offer for a period of one-hundred-eighty (180) days to provide the City the services set forth in these specifications until one or more of the proposals have been accepted by City staff. No Offeror may withdraw their proposal during this one-hundred-eighty (180) day period.
- 6.5 Number of Submittal Copies: Offerors shall submit four (4) complete sets (one original and three copies) of the submittal complete with all supporting documentation (i.e. photographs, drawings, and exhibits) in a sealed envelope/container marked as noted above.
- 6.6 Proposal Is Not Binding: The Offeror understands that responding to this solicitation does not constitute an agreement or contract with the Offeror. A submittal is not binding until submittal is reviewed and accepted by the appropriate level of authority and both parties execute a contract.
- 6.7 Responsibility for getting a submittal to the City on or before the specified date and time is solely and strictly that of the Offeror. The City will not be responsible for any delay, for any reason whatsoever. Submittals by telephone, telegram, facsimile machines, and Internet, will not be acceptable. Submittals must be received and stamped on the outside of the envelope with the time and date, in the Procurement- Finance Department by the date and time specified for opening.
- 6.8 LATE SUBMITTALS – Submittals received after the date and time of the opening will not be considered and will not be opened. It will be the Offeror’s responsibility to make arrangements for the return of their submittal at their expense.

## **7. PRICES, TERMS AND PAYMENT:**

Firm prices shall be bid F.O.B. requesting agency and include packing, handling and shipping charges fully prepaid by the vendor.

- 7.1 BID PRICE/MISTAKES: The bidder shall show in the proposal both the unit price and the total amount on items when indicated. In the event of discrepancy between the unit price and the extension, THE UNIT PRICE SHALL PREVAIL. Prices shall be extended in decimals.
- 7.2 INVOICING AND PAYMENT: The vendor shall be paid upon submission of proper certified invoices to the ordering agency at the prices stipulated on the contract. Invoices shall contain the purchase order number. **THE VENDOR SHALL ACCEPT NO ORDER WITHOUT A PURCHASE ORDER NUMBER FROM THE CONTRACTING ENTITY.** The City reserves the right to pay for purchases made under any agreement resulting from a solicitation through its Purchasing Card Program which utilizes VISA credit cards. Check or the ACH (Automated Clearing House) process may also be used if the City desires to select this form of payment. When payment is received utilizing the City credit card, an original invoice should not be mailed to the Finance Department. Only the credit card receipt is issued for this charge with the original receipt being provided with the delivery to the individual cardholder placing the order. **No surcharges will be accepted for the use of purchasing cards.**
- 7.3 TAXES: The purchase of certain items by the Contracting Entity are exempt from the payment of excise, transportation and sales tax imposed by the Federal, State and/or City governments. Such taxes must not be included in proposal prices. Upon request, applicable Federal Excise Exemption certificates will be furnished.

## **8. CONDITION AND PRICING:**

It is understood and agreed that any item offered or shipped as a result of this bid shall be new (current model at the time of this bid). All containers shall be suitable for storage or shipment and all prices shall include standard commercial packaging.

## **9. SAFETY STANDARDS:**

Unless otherwise stipulated in the bid, all manufactured items or fabricated assemblies shall comply with applicable requirements of occupational Safety and Health Act and any standards

## **10. MANUFACTURER'S NAME AND APPROVED EQUIVALENTS:**

Any manufacturer’s names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition unless otherwise indicated. The bidder may offer any brand for which he/she is an authorized representative, which meets or exceeds the bid specification for any item(s). If bids are based on equivalent products, indicate on the bid form the manufacturer's product name and reference number. Bidder shall submit with his/her proposal, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The bidder shall explain in detail the reason(s) why the proposed equivalent will meet the specifications and not be considered an exception thereto. Bids that do not comply with these requirements, are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form. The City's Procurement- Finance Department is to be notified of any proposed changes in (a) materials used, (b) manufacturing process, or (c) construction. However, changes shall not be binding upon the City unless evidenced by a Change Notice issued and signed by the Procurement- Finance Department or designated representative.

**11. DELIVERY:**

All prices shall be F.O.B. Destination, Venice, Florida. Delivery date and warranties must be written out and submitted with bids. Delivery dates, as specified, must be met.

**12. ADDITIONAL PURCHASES ("PIGGY-BACK") BY OTHER PUBLIC AGENCIES:**

The vendor, by submitting a bid, authorizes other Public Agencies to "Piggy-Back" or purchase equipment or services being proposed in this invitation to bid at prices bid unless otherwise noted on the proposal sheet.

**13. SUBMITTAL PREPARATION COST**

The City shall not be liable for any expense incurred in connection with preparation of a submittal to this document. Offerors should prepare a straightforward and concise description of the Offeror's ability to meet the requirements of this document.

**14. ACCURACY OF SUBMITTAL INFORMATION**

Any Offeror, who states in their submittal any information that is determined to be substantially inaccurate, misleading, exaggerated, or incorrect, shall be disqualified from consideration.

**15. LICENSES**

Licensed and Certified: Offeror's, both corporate and individual, must be fully licensed and certified for the type of work to be performed in the state of Florida at the time of submittal and during the entire Contract time.

**16. LOCAL PREFERENCE**

16.1 Unless otherwise noted in the solicitation, preference shall be given to a "local business" in the awarding of any Invitation to Bid (ITB), Request for Proposal (RFP) or Request for Qualifications (RFQ) in accordance with Section 2-217 of the City of Venice's Code. Local preference shall not apply to other types of solicitations unless explicitly stated in the subject solicitation.

16.2 "Local business" means the vendor has paid a local business tax to either Sarasota, Manatee, DeSoto or Charlotte County, whichever county the vendor is located, if applicable prior to bid submission that authorizes the vendor to provide the commodities or services to be purchased, and maintains a permanent physical business address located within the limits of either Sarasota, Manatee, DeSoto or Charlotte County from which the vendor operates or performs business, and at which at least one full time employee is located.

16.3 In addition, fifty percent (50%) or more of the employees based at the local business location must reside within Sarasota, Manatee, DeSoto or Charlotte County.

16.4 In the event the local office is not the primary location of the vendor, at least ten percent (10%) of the vendor's entire full-time employees must be based at the local office location. Alternatively, this requirement may be satisfied if at least one corporate officer, managing partner or principal owner of the vendor resides in Sarasota, Manatee, DeSoto or Charlotte County.

16.5 Offerors wishing to be given preference as a local business must submit **with their offer**, all of the Local Preference documentation identified in the "Required Forms Section" of the solicitation.

16.6 For local preference to be granted, the name of the company represented on the required forms must be the same as the name on the Local Preference documentation.

16.7 Information regarding Sarasota County's Local Business Tax can be found at [www.sarasotataxcollector.governmax.com](http://www.sarasotataxcollector.governmax.com).

16.8 In case of a proposal submitted by more than one entity, any one of those entities can qualify the proposal for the local preference. Sub-contractors or sub-consultants cannot qualify a proposal for local preference.

**17. POSTING OF NOTICE OF INTENT**

A notice of intent for award will be posted for review by interested parties in City Hall or on the City's website prior to submission through the appropriate approval process to the appropriate level for final approval of award.

**18. PUBLIC RECORDS/TABULATION**

Submittals are not public records, subject to the provisions of Florida State Statutes, Chapters 119 and 120, until such time as notice of a decision or intended decision is provided, or within thirty (30) days after the solicitation opening, whichever is earlier. A copy of the tabulation results will be forwarded upon receipt of a stamped, self-addressed envelope. An electronic tabulation will be posted on Demand Star at their Internet Website at <http://www.demandstar.com/>.

**19. RESERVED RIGHTS**

19.1 The City reserves the right to waive formalities in any submittal, and to reject any or all submittals in whole or in part, with or without cause and/or to accept the submittal that in the City's judgment will be in the best interest of the City. The City specifically reserves the right to reject any conditional submittal.

19.2 To the extent permitted by applicable state and federal laws and regulations, City reserves the right to reject any and all submittals, to waive any and all informalities not involving price, time or changes in the work with the Successful Offeror, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional submittals. Submittals will be considered

irregular and may be rejected, if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alterations, or irregularities of any kind.

19.3 City reserves the right to reject the submittal of any Offeror if the City believes that it would not be in the best interest of the City to make an award to that Offeror, whether because the submittal is not responsive or the Offeror is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by City.

19.4 The City reserves the right to terminate the contract with any vendor who fails to meet a deadline or shows incompetency.

## **20. INDEMNIFICATION/HOLD HARMLESS**

The Offeror shall defend, indemnify and hold the City, the City's representatives or agents, and the officers, directors, agents, employees, and assigns of each harmless for and against any and all claims, demands, suits, judgments, damages to persons or property, injuries, losses or expenses of any nature whatsoever arising directly or indirectly from or out of any negligent act or omission of the Offeror, its sub-consultants and their officers, directors, agents or employees; any failure of the elected firm to perform its services hereunder in accordance with generally accepted professional standards; any material breach of the elected firm representations as set forth in the proposal or any other failure of the elected firm's to comply with the obligations on its part to be performed under this contract.

## **21. PUBLIC ENTITY CRIMES/NON-COLLUSIVE AFFIDAVIT**

21.1 Each Offeror shall complete the Non-Collusive Affidavit and the Public Entity Crimes Form and shall submit the forms with the submittal. CITY considers the failure of the Offeror to submit these documents to be a major irregularity and may be cause for rejection of their submittal.

21.2 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 response on a contract to provide any goods or services to a public entity, may not submit a response on a contract with a public entity for the construction or repair of a public building or public work, may not submit responses on leases of real property to a public entity, may not be awarded or perform work as a Offeror, supplier, Sub-Offeror, 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 in Section 287, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

21.3 Termination for Cause: Any Agreement with the City obtained in violation of this Section shall be subject to termination for cause. A Sub-Offeror who obtains a subcontract in violation of this Section shall be removed from the Project and promptly replaced by a Sub-Offeror acceptable to the City.

## **22. GRATUITIES AND KICKBACKS**

22.1 Gratuities: It is unethical for any person to offer, give, or agree to give any employee or for any employee to solicit, demand, accept or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation of any part of program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, audit, or in any other advisory capacity in any proceeding or application, request for ruling, determination claim or controversy, or other particular matter, pertaining to any program requirement or an Agreement or subcontract, or to any solicitation or proposal therefore.

22.2 Kickbacks: It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a Sub-Offeror under a Contract to Offeror or higher tier Sub-Offeror any person associated therewith, as an inducement of the award of a subcontract or order.

22.3 Contract Clause: The prohibition against gratuities and kickbacks prescribed in this section shall be conspicuously set forth in every Contract and subcontract and solicitation therefore.

## **23. EQUAL EMPLOYMENT OPPORTUNITY**

Offeror shall be in compliance with Executive Order 11426 Equal Opportunity as amended by Executive Order 11375, and as supplemented by the Department of Labor Regulations as applicable.

## **24. TERMS FOR FEDERAL AID CONTRACTS**

The following terms apply to this contract which involves the expenditure of federal funds:

24.1 It is understood and agreed that all rights of the Department relating to inspection, review, approval, patents, copyrights, and audit of the work, tracing, plans specifications, maps data, and cost records relating to this Agreement shall also be reserved and held by authorized representatives of the United States of America.

24.2 It is understood and agreed that, in order to permit federal participation, no supplemental agreement of any nature may be entered into by the parties hereto with regard to the work to be performed hereunder without the approval of U.S.D.O.T., anything to the contrary in this Agreement notwithstanding.

24.3 COMPLIANCE WITH REGULATIONS: The Consultant shall comply with the regulations of the U.S. Department of Transportation relative to nondiscrimination in federally-assisted programs of the U.S. Department of Transportation (Title 49,

Code of Federal Regulation, Part 21, hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of the contract.

- 24.4 **NONDISCRIMINATION:** The Consultant, with regard to the work performed by him after award and prior to completion of the contract work, will not discriminate on the grounds of race, color, religion, sex or national origin in the selection and retention of Sub-Offerors, including procurements of material, and leases of equipment. The Consultant will not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the program set forth in Appendix B of the Regulations.
- 24.5 **SOLICITATIONS FOR SUBCONTRACTS, INCLUDING PROCUREMENTS OF MATERIALS AND EQUIPMENT:** In all solicitations made by competitive bidding or negotiation made by the Consultant for work to be performed under a subcontract, including procurements of materials and leases of equipment, each potential Sub-Offeree, supplier or lessor shall be notified by a consultant of the consultant's obligations under this contract and the regulations relative to nondiscrimination on the grounds of race, color religion, sex or national origin.
- 24.6 **INFORMATION AND REPORTS:** The Consultant will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department or U.S. Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of the Consultant is in the exclusive possession of another who fails or refuses to furnish this information, the Consultant shall certify to the Department, or the U.S. Department of Transportation, as appropriate, and shall set forth what efforts it has made to obtain the information.
- 24.7 **SANCTIONS OF NONCOMPLIANCE:** In the event of the Consultant's noncompliance with the nondiscrimination provisions of this contract, the State of Florida Department of Transportation shall impose such contract sanctions as it or the U.S. Department of Transportation may determine to be appropriate, including but not limited to,
1. withholding of payments to the Consultant under the contract until the Consultant complies and/or
  2. cancellation, termination or suspensions of the Contract, in whole or in part.
- 24.8 **INCORPORATION OR PROVISIONS:** The Consultant will include the provisions of Section 25.11, part 1 and 2 of the General Conditions in every subcontract, including procurements of materials and leases of equipment unless exempt by the Regulations, order, or instructions issued pursuant thereto. The Consultant will take such action with respect to any subcontract or procurement as the State of Florida Department of Transportation or the U.S. Department of Transportation may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that, in the event a Consultant becomes involved in, or is threatened with litigation with a Sub-Offeree or supplier as a result of such direction, the Consultant may request the State to enter into such litigation to protect the interests of the State, and, in addition, the Consultant may request the United States to enter into such litigation to protect the interests of the United States.
- 24.9 **INTEREST OF MEMBERS OF CONGRESS:** No member of or delegate to the Congress of the United States shall be admitted to any share or part of this contract or to any benefit arising therefrom.
- 24.10 **INTEREST OF PUBLIC OFFICIALS:** No member, officer, or employee of the public body or of a local public body during his tenure or for one year thereafter shall be any interest, direct or indirect, in this contract or the proceeds thereof. For purposes of this provision, public body shall include municipalities and other political subdivisions of States, and public corporations, boards, and commissions established under the laws of any State.
- 24.11 **PARTICIPATION BY MINORITY BUSINESS ENTERPRISES:** The Consultant shall agree to abide by statements in Paragraph (1) and (2) which follow. These statements shall be included in all subsequent agreements between the Consultant and any subconsultant or Offeror:
1. "Policy: It is the policy of the Department of Transportation that minority business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this agreement. Consequently, the MBE requirements of 49 CFR Part 23 apply to this agreement."
  2. "MBE OBLIGATION: The recipient or its Offeror agrees to ensure that minority business enterprises, as defined in 49 CFR Part 23, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal Funds provided under this agreement. In this regard, all recipients or Offerors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. In this regard, all recipients or Offerors shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that minority business enterprises have the maximum opportunity to compete for and perform contracts. Recipients and their Offerors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of DOT-assisted contracts."
- 24.12 It is mutually understood and agreed that the willful falsification, distortion or misrepresentation with respect to any facts related to the project(s) described in this Agreement is a violation of the Federal Law. Accordingly, United States Code, Title 18, Section 1020, is hereby incorporated by reference and made a part of this Agreement.

- 24.13 It is understood and agreed that if the Consultant at any time learns that the certification it provided the Department in compliance with CFR, Section 23.51, was erroneous when submitted or has become erroneous by reason changed circumstances, the Consultant shall provide immediate written notice to the Department. It is further agreed that the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transaction" as set forth in 49 CFR, Section 29.510, shall be included by the Consultant in all lower tier covered transactions and in all aforementioned federal regulation.
- 24.14 The Department hereby certifies that neither the Consultant nor the Consultant's representative have been required by the Department, directly or indirectly as an express or implied condition in connection with obtaining or carrying out this contract, to
- A. employ or retain, or agree to employ or retain, any firm or person, or
  - B. pay, or agree to pay, to any firm, person, or organization, any fee, contribution, donation, or consideration of any kind;
- 24.15 The Department further acknowledges that this agreement will be furnished to a federal agency, in connection with this contract involving participation of Federal-Aid funds, and is subject to applicable State and Federal Laws, both criminal and civil.
- 24.16 The Consultant hereby certified that it has not:
- A. employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for the above Offeror) to solicit or secure this contract;
  - B. agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out this contract; or
  - C. paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for the above Offeror) any fee contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract.
- 24.17 The Consultant further acknowledges that this agreement will be furnished to the State of Florida Department of Transportation and a federal agency in connection with this contract involving participation of Federal-Aid funds, and is subject to applicable State and Federal Laws, both criminal and civil.

**25. CONFLICT OF INTEREST**

No employee of an agency acting in his or her official capacity as a purchasing agent, or public officer acting in his or her official capacity, shall either directly or indirectly purchase, rent, or lease any realty, goods, or services for his or her own agency from any business entity of which the officer or employee or the officer's or employee's spouse or child is an officer, partner, director, or proprietor or in which such officer or employee or the officer's or employee's spouse or child, or any combination of them, has a material interest. Nor shall a public officer or employee, acting in a private capacity, rent, lease, or sell any realty, goods, or services to the officer's or employee's own agency, if he or she is a state officer or employee, or to any political subdivision or any agency thereof, if he or she is serving as an officer or employee of that political subdivision. The foregoing shall not apply to district offices maintained by legislators when such offices are located in the legislator's place of business or when such offices are on property wholly or partially owned by the legislator. This subsection shall not affect or be construed to prohibit contracts entered into prior to:

- October 1, 1975.
- Qualification for elective office.
- Appointment to public office.
- Beginning public employment

**26. DRUG FREE WORKPLACE:**

The City of Venice has adopted a policy in observation of the Drug Free Work Place Act of 1988. Therefore, it is unlawful to manufacture, distribute, disperse, possess, or use any controlled substance in the City of Venice workplace.

The City of Venice requests the attached Drug Free Workplace Affidavit to accompany your response. This form has been adopted by the City in accordance with the Drug Free Workplace Act. The City will not disqualify any respondent who does not concur with the affidavit. The Drug Free Workplace Affidavit is primarily used as tiebreaker when two or more separate entities have submitted proposals at the same price, terms and conditions.

**27. APPLICABLE LAWS**

Interested parties are advised that all City contracts and/or documentation pertinent to this solicitation are subject in full or in part to all legal requirements provided in applicable City Ordinances, State Statutes, and Federal Regulations. Uniform Commercial Code, Chapter 672, Florida State Statutes shall prevail, as the basis for contractual obligations between the Offeror and the City for any terms and conditions not specifically stated within the context of this contract.

**28. COMPETENT PERSONNEL**

All interested firms are to warrant that services shall be performed by skilled and competent personnel to the highest professional standards in this scope of work.

**29. EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- 29.1 Before delivering a submittal, each Offeror must (a) consider federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, or performance of the work, (b) study and carefully correlate the Offeror's observations with the solicitation documents; and notify the Procurement- Finance Department of all conflicts, errors and discrepancies, if any, in the solicitation documents.
- 29.2 The Offeror, by and through delivering a submittal, agrees that they shall be held responsible for having familiarized themselves with the nature and extent of any local conditions that may affect the services.

**30. SPECIFICATIONS**

- 30.1 The apparent silence of the specification 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 the Specifications shall be made on the basis of this statement.
- 30.2 For the purpose of evaluation, the Offeror must indicate any variance or exceptions to the stated Specifications, no matter how slight. Deviations should be explained in detail. Absence of variations and/or corrections will be interpreted to mean that the Offeror meets all the Specifications in every respect.

**31. CANCELLATION CLAUSE**

Failure to comply with any of the terms, conditions, specifications and/or service requirements will be just cause for termination of this contract by a thirty (30) day written notice of intent forwarded to the successful Offeror.

**32. ACCEPTING CONTENT OF PROPOSAL**

By delivering a submittal in response to this solicitation document, the Offeror certifies that they have fully read and understand the context of the solicitation document and have full knowledge of the scope, nature, and detailed requirements of services and/or commodities to be provided and performed. Submittals shall be returned in the sequential manner as requested in the "Submittal Format and Requirements" section of this solicitation.

**33. TAXES**

The negotiated cost shall include all freight, handling, delivery, surcharges or other incidental charges that may be required to provide the services or deliver the commodities. The City of Venice is exempt from the payment of Federal and State taxes, including sales tax. Your cost proposal shall not include sales tax to be collected from the City. The City's sales tax exemption is not available to you for items you purchase, regardless of whether these items will be transferred to the City.

**34. ASSIGNMENT**

- 34.1 Successful Offeror shall not assign, transfer or subject the Contract or its rights, title or interests or obligations therein without CITY'S prior written approval.
- 34.2 Violation of the terms of this paragraph shall constitute a breach of the Contract by Successful Offeror and CITY may, at its discretion, cancel the Contract and all rights, title and interest of Successful Offeror shall thereupon cease and terminate.

**35. SOLICITATION FORMS**

- 35.1 If the Proposer cannot meet a service or equipment requirement, then the phrase "not available" should be entered on the Proposal Form for that service requirement. In the case of a "not available" remark, the Offeror may offer an alternative service. Alternate submittals may be submitted for consideration. It will be at the City's sole discretion to accept or reject any and all alternate submittals received.
- 35.2 This solicitation presents the City's minimum requirements under present methods of operation. Responses to this request should address these requirements, but Offerors are encouraged to suggest any additional services or commodities, which in their opinion, would be in the best interest of the City.
- 35.3 Submittals may be delivered, which deviate from the requirements herein, providing that they are clearly identified as alternate submittals and providing further that it can be demonstrated that stated requirements are substantially improved or are not compromised or prejudiced by such deviations; and, that it would be clearly in the interest of the City that an alternative proposal be considered. Such alternative proposals will be provisionally accepted for consideration, subject to the reserved right of the City to make the determination whether the above stated conditions for alternate proposals have been satisfied and subject further to the reserved right of the City to accept or reject these proposals upon the basis of the determination.

**36. DISCLOSURE – PUBLIC OFFICER, PUBLIC EMPLOYEE OR ADVISORY BOARD MEMBER OF CITY**

- 36.1 Sections 112.313(3) and 112.313(7), Florida Statutes, prohibit any public officer, employee, or advisory board member of the City from holding any employment or contractual relationship with any business entity doing business with the City. Section 112.313(12) provides that a public officer, employee, or advisory board member will not be in violation of the prohibition if all three of the following conditions are met. The filing of the disclosure form with the Supervisor of Elections is the sole responsibility of the Proposer and must be filed prior to or at the time of submission of the proposal. A copy of the filed disclosure form shall be submitted as part of the proposal.

- 36.2 Bid is awarded under a sealed, competitive Proposal to lowest or best Proposer system. Advisory board member is required to, prior to or at the time of the submission of the proposal, file a statement with the Supervisor of Elections, disclosing his interest and the nature of the intended business. The form is entitled "Form 3A Interest in Competitive Proposal for Public Business," a copy of which is available from the City's Procurement- Finance Department.
- 36.3 The public officer, employee, or advisory board member, spouse, or child is required to have in no way used or attempted to use his influence to persuade a member of the City or any of its personnel to enter into such a contract other than by the mere submission of the proposal.
- 36.4 The public officer, employee, or advisory board member, spouse, or child is required to have in no way participated in the determination of the Bid specifications or the determination of the lowest or best Proposer.

**37. CIVIL RIGHTS**

- A. Nondiscrimination - In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332:

The CONSULTANT or SUBGRANTEE shall not discriminate on the basis of race, age, creed, disability, marital status, color, national origin, or sex in the performance of this contract. The CONSULTANT or SUBGRANTEE shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of (Florida Department of Transportation, the Federal Highway Administration, Federal Aviation Administration, the US Department of Energy, US Department of Justice, or Office of Housing and Urban Development) assisted contracts. Failure by the CONSULTANT or SUBGRANTEE to carry out these requirements is a material breach of this AGREEMENT, which may result in the termination of this AGREEMENT or such other remedy, as the City deems appropriate.

Each subcontract the CONSULTANT or SUBGRANTEE signs in regards to this federal aid PROJECT must include the assurance in this paragraph (see 49 CFR 26. 13(b)). The CONSULTANT or SUBGRANTEE agrees to comply with all applicable federal implementing regulations and other implementing requirements the Federal government may issue.

- B. Equal Employment Opportunity - The following equal employment opportunity requirements apply to this AGREEMENT:

(1) Race, Color, Creed, National Origin, Sex - In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the CONSULTANT or SUBGRANTEE agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the PROJECT.

The CONSULTANT or SUBGRANTEE agrees to take all reasonable steps to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following:

Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of payer other forms of compensation; and selection for training, including apprenticeship. In addition, the CONSULTANT or SUBGRANTEE agrees to comply with any implementing requirements the Federal government may issue.

(2) Age - In accordance with Section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 621 through 634 and Federal transit law at 49 U.S.C. § 5332, the CONSULTANT or SUBGRANTEE agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the CONSULTANT or SUBGRANTEE agrees to comply with any implementing requirements the Federal government may issue.

(3) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the CONSULTANT or SUBGRANTEE agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the CONSULTANT or SUBGRANTEE agrees to comply with any implementing requirements the Federal government may Issue.

(4) Access to Services for Persons with Limited English Proficiency - To the extent applicable and except to the extent that the Federal agency determines otherwise in writing, the CONSULTANT or SUBGRANTEE agrees to comply with the policies of Executive Order No. 13166, "Improving Access to Services for Persons with Limited English Proficiency," 42 U.S.C. § 2000d-1 note, and with the provisions of U.S. DOT Notice, "DOT Guidance to Recipients on Special Language Services to Limited English Proficient (LEP) Beneficiaries," 66 Fed. Reg. 6733 et seq., January 22, 2001. The City's LEP Plan is available in the Title VI/ADA plan at City facilities or may be viewed online at [www.venicegov.com](http://www.venicegov.com)

(5) Drug or Alcohol Abuse - Confidentiality and Other Civil Rights Protections - To the extent applicable, the CONSULTANT or SUBGRANTEE agrees to comply with the confidentiality and other civil rights protections of the Drug Abuse Office and

Treatment Act of 1972, as amended, 21 U.S.C. §§ 1101 et seq., with the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, as amended, 42 U.S.C. §§ 4541 et seq., and with the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 201 et seq., and any amendments to these laws.

(6) Other Nondiscrimination Laws - The CONSULTANT or SUBGRANTEE agrees to comply with all applicable provisions of other federal laws, regulations, and directives pertaining to and prohibiting discrimination, except to the extent the Federal Government determines otherwise in writing. The CONSULTANT or SUBGRANTEE also agrees to include these requirements in each subcontract financed in whole or in part with federal assistance, modified only if necessary to identify the affected parties.

### **38. BID PROTESTS**

In any case where a bidder wishes to protest either the results of or the intended disposition of any bid, the bidder must:

- 38.1 File a written notice to the City Manager of the bidder's intention to protest within one (1) business day of the bid opening or the City's declaration of intent with regard to the disposition. Upon receipt of a protest, the bid process shall be suspended until the protest procedure herein described has been completed.
- 38.2 Within five (5) days of filing the written notice of intent to protest, the protester shall file a formal written protest with the City Manager, acting as the bid protest officer, explaining in detail the nature of the protest and the grounds on which it is based. During this five-day period, the protester is encouraged to attempt to resolve the issue with the City's Finance Department.
- 38.3 The protester must include with the formal written protest a bid protest bond in the form of a certified check, cashier's check or money order made payable to the city in an amount equal to five percent (5%) of the lowest acceptable bid. The bond will be deposited with the Cashier's Office where it will be put into an account and the protester will receive a receipt.
- 38.4 Upon timely receipt of the formal written protest and protest bond, the City must:
  - (1) Issue formal findings of fact and a written decision with regard to the validity or non-validity of the formal written protest within ten (10) business days of the City's receipt of the protest.
  - (2) Within two (2) business days of receipt of the formal findings of fact and written decision, the City shall notify the protester of the decision of the bid protest officer. Such notification shall be transmitted via certified return receipt mail.
- 38.5 Should the protest be found to be without merit or validity, the bid protest bond shall be forfeited to the City in its entirety, and the bid process may resume. If a decision favorable in whole or in part to the protest is rendered, a check for the full amount of the bond will be returned to the protester.

### **39. SCRUTINIZED COMPANIES**

Pursuant to Section 287.135, F.S., a company that, at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, F.S., is ineligible for, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of \$1 million or more. Any contract with an agency or local governmental entity for goods or services of \$1 million or more entered into or renewed on or after July 1, 2011, must contain a provision that allows for the termination of such contract at the option of the awarding body if the company is found to have submitted a false certification as provided under Subsection 287.135(5), F.S., or has been placed on either of the aforementioned lists. The CITY agrees to comply with the requirements of Section 287.135, F.S. in connection with the implementation of the PROJECT.

## INSURANCE INFORMATION

Before performing any work, the Contractor shall procure and maintain, during the life of the Contract, insurance listed below. The policies of insurance shall be primary and written on forms acceptable to the City and placed with insurance carriers approved and licensed by the Insurance Department in the State of Florida and meet a minimum financial AM Best and Company rating of no less than A:VII. No changes are to be made to these specifications without prior written specific approval by the City.

1. The City of Venice is to be specifically included as an **ADDITIONAL INSURED**.
2. The City of Venice shall be named as Certificate Holder. *Please Note that the Certificate Holder should read as follows:*

The City of Venice  
401 W. Venice Avenue  
Venice, FL 34285

No City Division, Department, or individual name should appear on the certificate.  
**NO OTHER FORMAT WILL BE ACCEPTABLE.**

3. The “Acord” certification of insurance form shall be used.
4. Required Coverage
  - a) **Commercial General Liability:** including but not limited to bodily injury, property damage, contractual liability, products and completed operations, and personal injury with limits of not less than \$ 1,000,000 per occurrence, \$ 1,000,000 aggregate covering all work performed under this Contract. Include broad form property damage (provide insurance for damage to property under the care custody and control of the contractor)
  - b) **Business Auto Policy:** including bodily injury and property damage for all vehicles owned, leased, hired and non-owned vehicles with limits of not less than \$1,000,000 combined single limit covering all work performed under this Contract.
  - c) **Workers Compensation:** Contractor will provide Workers Compensation Insurance on behalf of all employees, including sub-contractors, who are to provide a service under this Contract, as required under Florida Law, Chapter 440, and Employers Liability with limits of not less than \$100,000 per employee per accident; \$500,000 disease aggregate; and \$100,000 per employee per disease.

- d) **Installation Floater/Installation Builders' Risk-Property Coverage:** Policy to cover direct physical loss or damage to materials, supplies, machinery, and equipment being installed, constructed or rigged by the contractor in conjunction with its installation or construction. All items involved in the project including drainage/water sewer pipes, etc. (as included in description of project) need to be insured for the total completed replacement value. Coverage should include perils of fire, theft, vandalism, windstorm/hail, collapse and transit, sewer backup, testing, equipment breakdown, waterborne property. Coverage shall start when the items to be installed are transported to City premises and remain in place until the interest of the contractors ceases or the City accepts possession whichever comes first. Coverage should apply to owned property and non-owned property in the contractor's care, custody and control. The installation coverage forms shall provide coverage for building materials and supplies at the construction site, in transit to the site and similar property intended for the construction project at other locations as necessary or because of lack of storage space at the construction site. Coverage should apply on a Primary basis and should include a Waiver of Subrogation. Contractor should be responsible for any deductibles.

5. Policy Form:

- a) All policies required by this Contract, with the exception of Workers Compensation, or unless specific approval is given by the City, are to be written on an occurrence basis, shall name the City of Venice, its Elected Officials, Officers, Agents, Employees as additional insured as their interest may appear under this Contract. Insurer(s), with the exception of Workers Compensation, shall agree to waive all rights of subrogation against the City of Venice, its Elected Officials, Officers, Agents, and Employees.
- b) Insurance requirements itemized in this Contract, and required of the Contractor, shall be provided on behalf of all subcontractors to cover their operations performed under this Contract. The Contractor shall be held responsible for any modifications, deviations, or omissions in these insurance requirements as they apply to subcontractors.
- c) Each insurance policy required by this Contract shall:
- (1) apply separately to each insured against whom claim is made and suit is brought, except with respect to limits of the insurer's liability;
  - (2) be endorsed to state that coverage shall not be suspended, voided or canceled by either party except after thirty (30) calendar days prior written notice by certified mail, return receipt requested, has been given to the City of Venice's Director of Administrative Services.
- d) The City shall retain the right to review, at any time, coverage form, and amount of insurance.
- e) The procuring of required policies of insurance shall not be construed to limit Contractor's liability nor to fulfill the indemnification provisions and requirements of this Contract.

- f) The Contractor shall be solely responsible for payment of all premiums for insurance contributing to the satisfaction of this Contract and shall be solely responsible for the payment of any deductible and/or retention to which such policies are subject, whether or not the City is an insured under the policy. In the event that claims in excess of the insured amounts provided herein are filed by reason of operations under the contract, the amount excess of such claims, or any portion thereof, may be withheld from any payment due or to become due to the Contractor until such time the contractor shall furnish additional security covering such claims as may be determined by the City.
- g) Claims Made Policies will be accepted for professional and hazardous materials and such other risks as are authorized by the City. All Claims Made Policies contributing to the satisfaction of the insurance requirements herein shall have an extended reporting period option or automatic coverage of not less than two years. If provided as an option, the Contractor agrees to purchase the extended reporting period on cancellation or termination unless a new policy is affected with a retroactive date, including at least the last policy year.
- h) Certificates of Insurance evidencing Claims Made or Occurrence form coverage and conditions to this Contract, as well as the City's Bid Number and description of work, are to be furnished to the City's Director of Administrative Services, 401 West Venice Avenue, Venice, FL 34285, ten (10) business days prior to commencement of work and a minimum of thirty (30) calendar days prior to expiration of the insurance policy.
- i) Notices of Accidents and Notices of Claims associated with work being performed under this Contract, shall be provided to the Contractor's insurance company and the City's Director of Administrative Services, as soon as practicable after notice to the insured.
- j) All property losses shall be payable to, and adjusted with, the City.

**END OF SECTION**

## **SPECIAL CONDITIONS**

### **1. Payment**

Retainage of 10 percent of each progress payment made to the contractor shall be withheld until final completion and acceptance of the project by the City of Venice for all construction services contracts exceeding \$200,000. Retainage shall not be withheld for construction services contracts of \$200,000 or less.

### **2. Stored Materials**

The City of Venice, at its discretion, will pay for stored materials which are safely stored on the project site in accordance with the manufacturer's or supplier's recommendations and in accordance with these Contract Documents. All requests for payment of stored materials shall be accompanied by a paid receipt indicating that the contractor has paid for the materials.

### **3. Warranty**

All work, materials and equipment furnished as defined herein shall be guaranteed and warranted by the Contractor for a minimum period of one (1) year, unless otherwise specified, from final acceptance by the City to be free from defects due either to faulty materials or equipment or faulty workmanship. If within one (1) year after the date of final completion or such longer period of time as may be prescribed by laws or regulation or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective work or remove it from the site and replace it with non-defective work. If Contractor does not promptly comply with the terms of such instruction, City may have the defective work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by the Contractor.

### **4. Stipulated Damages**

In the event that the work is not completed within the required time, then from the compensation otherwise to be paid to the Contractor, the City may retain the sum of one thousand five hundred thirty-two dollars (\$1,532.00) per day for each calendar day that the work remains uncompleted beyond the time limit, which sum shall represent the actual damage which the City will have sustained per day by failure of the Contractor to complete the work within the required time, said sum not being a penalty but being the

Revised 2/25/2015

stipulated damages the City will have sustained in the event of such default by the Contractor.

**END OF SECTION**

Revised 2/25/2015

**Required Forms List: ITB# 3010-15: Border Road Water Main Extension Re-bid**

- Proposal Bond
- Local Preference Form
- Qualifications Statement
- Trench Safety Acknowledgement
- Cooperative Procurement with Other Jurisdictions
- “Form- 3A” Interest in Competitive Bid for Public Business
- Indemnification/Hold Harmless
- FDEP & U.S. EPA Construction “Notices of Intent”
- Statement of References for Contractor
- Contractor’s Statement of Sub-Contractors
- Drug Free Workplace Certification
- Scrutinized Company Affidavit and Certification
- Non-Collusion Affidavit
- Public Entity Crime Information
- Bid Submittal Form

**Forms must be returned with each firm’s proposal.**

**Mark “N/A” if not applicable to your firm.**

**PROPOSAL BOND**

*\*Not to be completed if a certified check is submitted.*

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned,

\_\_\_\_\_ as Principal,

and \_\_\_\_\_ as Surety

are held and firmly bound unto the City of Venice, Florida, in the sum of

\_\_\_\_\_ \$\_\_\_\_\_, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the attached Proposal of Principal and Surety for work specified as:

\_\_\_\_\_

all as stipulated in said Proposal, by doing all work incidental thereto, in accordance with the plans and specifications provided heretofore, all within Sarasota County, is accepted and the bidder shall within ten (10) days after notice of said award, enter into a contract, in writing, and furnish the required Performance Bond with surety or sureties to be approved by the Director of Purchasing, this obligation shall be void; otherwise the same shall be in full force and virtue by law and the full amount of this Proposal Bond will be paid to the City as stipulated or liquidated damages.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

**Principal must indicate whether corporation, partnership, company, or individual.**

The person signing shall, in his own handwriting, sign the Principal's name, his own name, and his title. The person signing for a corporation must, by affidavit, show his authority to bind the corporation.

## **HOW DO I DETERMINE “LOCAL PREFERENCE”**

The following questions will help you determine local preference for your company.  
Please answer questions 1 through 4 **FIRST**. If you answer **NO** to any questions 1 through 4, local preference does **NOT** apply.  
**ONLY** if you answer **YES** to questions 1 through 4, may you proceed to question 5.  
If you answer **YES** to any questions 5 through 7, local preference applies.  
If you are unsure of how to answer any questions, please contact the City of Venice’s Purchasing Department at 941-486-2626.

### **Questions 1 – 4**

1. Have you paid a local business tax either to Sarasota, DeSoto or Charlotte County (Manatee County does not have a local business tax) authorizing your company to provide goods or services described in this solicitation ?

**YES** \_\_\_ If “yes”, proceed to question 2.

**NO** \_\_\_ If “no”, **STOP, local preference does not apply.**

\* If the name on the local business tax receipt is not the same as the name on the bid/solicitation submittal, local preference does not apply.

2. Does your company maintain a permanent physical business address located within the limits of Sarasota, Manatee, DeSoto or Charlotte County ?

**YES** \_\_\_ If “yes”, proceed to question 3.

**NO** \_\_\_ If “no”, **STOP, local preference does not apply.**

3. Does your local business office (identified in question 2) have a least one full time employee ?

**YES** \_\_\_ If “yes”, proceed to question 4.

**NO** \_\_\_ If “no”, **STOP, local preference does not apply.**

4. Do at least fifty percent (50%) of your company employees who are based in the local business location (identified in question 2) reside within Sarasota, Manatee, DeSoto or Charlotte County ?

**YES** \_\_\_ If “yes”, proceed to question 5.

**NO** \_\_\_ If no, **STOP, local preference does not apply.**

### **Questions 5 – 7**

5. Is your local business office (identified in question 2) the primary location (headquarters) of your company ?

**YES** \_\_\_ If “yes”, **STOP, local preference applies.**

**NO** \_\_\_ If “no”, proceed to question 6.

6. If the local business office (identified in question 2) is not the primary location of your company, are at least ten percent (10%) of your company’s entire full-time employees based at the local office location ?

**YES**  **If “yes”, STOP, local preference applies**  
**NO**  **If “no”, proceed to question 7**

7. If your local business office is not the primary location of your company, does at least one corporate officer, managing partner or principal owner of the company reside in Sarasota, Manatee, DeSoto or Charlotte County ?

**YES**  **If “yes”, STOP, local preference applies**  
**NO**  **If “no”, local preference does not apply.**

**QUALIFICATIONS STATEMENT**

The undersigned certifies under oath the truth and correctness of all statements and all answers to questions made hereinafter:

**SUBMITTED TO:** CITY OF VENICE  
Procurement- Finance Department  
401 W. Venice Avenue  
Venice, Florida 34285

**CHECK ONE:**  
 Corporation  
 Partnership  
 Individual  
 Joint Venture  
 Other

**SUBMITTED BY:**  
NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PRINCIPLE OFFICE: \_\_\_\_\_

State the true, exact, correct and complete legal name of the partnership, corporation, trade or fictitious name under which you do business and the address of the place of business.

The correct name of the Offeror is: \_\_\_\_\_

The address of the principal place of business is: \_\_\_\_\_

If the Offeror is a corporation, answer the following:

- a. Date of Incorporation: \_\_\_\_\_
- b. State of Incorporation: \_\_\_\_\_
- c. President's Name: \_\_\_\_\_
- d. Vice President's Name: \_\_\_\_\_
- e. Secretary's Name: \_\_\_\_\_
- f. Treasurer's Name: \_\_\_\_\_
- g. Name and address of Resident Agent: \_\_\_\_\_

If Offeror is an individual or partnership, answer the following:

- a. Date of Organization: \_\_\_\_\_
- b. Name, address and ownership units of all partners:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- c. State whether general or limited partnership: \_\_\_\_\_

If Offeror is other than an individual, corporation partnership, describe the organization and give the name and address of principals:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
If Offeror is operating under fictitious name, submit evidence of compliance with the Florida Fictitious Name Statute.

How many years has your organization been in business under its present business name?  
\_\_\_\_\_

a. Under what other former names has your organization operated?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ACKNOWLEDGEMENT**

State of \_\_\_\_\_

County of \_\_\_\_\_



SS.

On this the \_\_\_\_\_ day of \_\_\_\_\_, 2015, before me, the undersigned Notary Public of the State of \_\_\_\_\_, personally appeared \_\_\_\_\_ and (Name(s) of individual(s) who appeared before notary) whose name(s) is/are Subscribed to the within instrument, and he/she/they acknowledge that he/she/they executed it.

NOTARY PUBLIC  
SEAL OF OFFICE:

\_\_\_\_\_  
NOTARY PUBLIC, STATE OF \_\_\_\_\_

\_\_\_\_\_  
(Name of Notary Public: Print, stamp, or type as commissioned)

Personally known to me, or  Produced Identification: \_\_\_\_\_  DID take an oath, or  DID NOT take an oath

**TRENCH SAFETY ACT ACKNOWLEDGEMENT**

Bidder acknowledges that included in the various items of the proposal and in the total bid price, are costs for complying with the Florida Trench Safety Act (90-96 Laws of Florida) effective October 1, 1990. The bidder further identifies the costs to be summarized below:

Trench Safety Measure					
Description	Unit of Measure	Unit Quantity	Unit Cost	Extended Cost	
A.	_____	_____	_____	_____	
B.	_____	_____	_____	_____	
C.	_____	_____	_____	_____	
D.	_____	_____	_____	_____	
E.	_____	_____	_____	_____	
				<b>Total: \$</b>	_____

**Failure to complete the above may result in the bid being declared non-responsive.**

CONTRACTOR NAME: \_\_\_\_\_

BUSINESS NAME: \_\_\_\_\_

By: \_\_\_\_\_  
Signature of Authorized Representative

Date: \_\_\_\_\_

**COOPERATIVE PROCUREMENT WITH OTHER JURISDICTIONS**

The vendor, by submitting a bid, authorizes other Public Agencies to "Piggy-Back" or purchase equipment or services being proposed in this invitation to bid at prices bid unless otherwise noted on the proposal sheet.

Yes \_\_\_\_\_ No \_\_\_\_\_

**AUTHORIZED SIGNATURE**

By submission of the ITB, the undersigned certifies that:

1. He/She has not paid or agreed to pay any fee or commission, or any other thing of value contingent upon the award of this contract, to any City of Venice, Florida employee or official or to any current consultant to the City of Venice, Florida;
2. He/She has not paid or agreed to pay any fee or commission or any other thing of value contingent upon the award of this contract to any broker or agent or any other person;
3. The prices contained in this proposal have been arrived at independently and without collusion, consultation, communication or agreement intended to restrict competition.
4. He/She has the full authority of the Offeror or to execute the proposal and to execute any resulting contract awarded as the result of, or on the basis of, the proposal.

Authorized Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail address: \_\_\_\_\_

# FORM 3A INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS

LAST NAME — FIRST NAME — MIDDLE INITIAL			OFFICE / POSITION HELD
MAILING ADDRESS			AGENCY
CITY	ZIP	COUNTY	ADDRESS OF AGENCY

## WHO MUST FILE THIS STATEMENT

Sections 112.313(3) and 112.313(7), Florida Statutes, prohibit certain business relationships on the part of public officers and employees, their spouses, and their children. See Part III, Chapter 112, Florida Statutes, and/or the brochure entitled "A Guide to the Sunshine Amendment and Code of Ethics for Public Officers and Employees" for more details on these prohibitions. However, Section 112.313(12), Florida Statutes, provides certain limited exemptions to the above-referenced prohibitions, including one where the business is awarded under a system of sealed, competitive bidding; the public official has exerted no influence on bid negotiations or specifications; AND where disclosure is made, prior to or at the time of the submission of the bid, of the official's or his spouse's or child's interest and the nature of the intended business. This form has been promulgated by the Commission on Ethics for such disclosure, *if and when applicable* to a public officer or employee.

## INTEREST IN COMPETITIVE BID FOR PUBLIC BUSINESS *(Required by § 112.313(12)(b), Fla. Stat.)*

1. The competitive bid to which this statement applies has been / will be (strike one) submitted to the following government agency:		
2. The person submitting the bid is:	NAME ▼	POSITION ▼
3. The business entity with which the person submitting the bid is associated is:		
4. My relationship to the person or business entity submitting the bid is as follows:		
5. The nature of the business intended to be transacted in the event that this bid is awarded is as follows:		
a. The realty, goods, and / or services to be supplied specifically include: _____		
_____		
b. The realty, goods, and / or services will be supplied for the following period of time: _____		
c. Will the contract be subject to renewal without further competitive bidding? <input type="checkbox"/> Yes <input type="checkbox"/> No. If so, how often?		
6. Additional comments:		
7. SIGNATURE	DATE SIGNED	DATE FILED

## FILING INSTRUCTIONS

If you are a state officer or employee required to disclose the information above, please file this form with the Department of State in Room 316, R.A. Gray Building, 500 South Bronough Street, Tallahassee, Florida 32399-0250. If you are an officer or employee of a political subdivision of this state and are subject to this disclosure, please file the statement with the Supervisor of Elections of the county in which the agency in which you are serving has its principal office.

NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES §112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$10,000.

CE FORM 3A — REV. 1-95

**INDEMNIFICATION/HOLD HARMLESS**

The elected firm shall (if required by City) defend, indemnify and hold the City, the City's representatives or agents, and the officers, directors, agents, employees, and assigns of each harmless for and against any and all claims, demands, suits, judgments, damages to persons or property, injuries, losses or expenses of any nature whatsoever (including attorneys' fees at trial at appellate level) arising directly or indirectly from or out of any negligent act or omission of the elected firm, its Sub-Offerors and their officers, directors, agents or employees; any failure of the elected firm to perform its services hereunder in accordance with generally accepted professional standards; any material breach of the elected firm's representations as set forth in the proposal or any other failure of the elected firm to comply with the obligations on its part to be performed under this contract.

I, \_\_\_\_\_, being an authorized representative of the firm of \_\_\_\_\_ located at City \_\_\_\_\_, State \_\_\_\_\_, Zip Code \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_. Having read and understood the contents above, hereby submit accordingly as of this Date, \_\_\_\_\_, 2015.

\_\_\_\_\_  
Please Print Name

\_\_\_\_\_  
Signature

This signed document shall remain in effect for a period of one (1) year from the date of signature or for the contract period, whichever is longer.

**CITY OF VENICE, FLORIDA**  
**FDEP & U.S. EPA CONSTRUCTION NOTICES OF INTENT (NOI)**

The undersigned bidder acknowledges the requirement of the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) which have published the rules for NPDES General Permits for stormwater discharges from construction sites and said bidder agrees to assist the owner in the preparation of these permits and associated plans. The bidder acknowledges that he has taken these permits and associated construction costs into account in the preparation of his lump sum bid. These permits are mandated under Section 402(p) of the Clean Water Act for “Stormwater Discharge from Construction Activities (including clearing, grading, and excavation activities) that result in the disturbance of five (5) or more acres total land area, including areas that are part of a larger common plan of development or sale.” The EPA has published summary guidance for: “Developing Prevention Plans and Best Management Practices” (EPA 833-R-92-001, October 1992).

The EPA permit format is a *Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity to be covered under a NPDES Permit*, and it is to be submitted according to the NOI instructions. The Stormwater Pollution Prevention Plan which must accompany the NOI must be signed by authorized representatives of the contractor and subcontractors as well as the facility Owner. Copies of the EPA NOI must be provided to state and local agencies who have issued stormwater management, grading, or land alteration permits or approvals.

An NOI must also be submitted to the Florida Department of Environmental Protection, NPDES Stormwater Notices Center, MS 2510, 2600 Blair Stone Road, Tallahassee, FL 32399. FDEP forms may be downloaded from the State’s web site <http://www.dep.state.fl.us/water/stormwater/npdes/> or phone 850-921-9870 if you have questions.

Acceptance of the bid to which this certification and disclosure applies in no way represents the Owner or its Representative has evaluated and thereby determined that the information is adequate to comply with the applicable U.S. EPA or FDEP requirements nor does it in any way relieve the contractor of its sole responsibility to comply with the applicable U.S. EPA and FDEP requirements, including inspection of all control measures at least once each week and following any storm (rainfall) event of 0.5 inches or greater and maintaining reports of each inspection.

Bidder (Company): \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

**BY SIGNATURE BELOW OF AUTHORIZED REPRESENTATIVE, CONTRACTOR ACKNOWLEDGES RECEIPT OF A COPY OF CITY ORDINANCES 95-12 and 96-09 AND AGREES TO ABIDE BY THE REQUIREMENTS OF SAID ORDINANCES.**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed name/title:

## ORDINANCE 95-12

AN ORDINANCE OF THE CITY OF VENICE, FLORIDA, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 9, HEALTH AND SANITATION, ARTICLE IV, DISPOSAL OF EXCRETA, SECTION 9-71, DISCHARGE OF RAW SEWAGE INTO STORMWATER; DELETING ARTICLE V, PROHIBITED STORMWATER DISCHARGES; ADDING CHAPTER 19, WATER AND SEWERS, ARTICLE VI, STORMWATER QUALITY; DELETING CHAPTER 15, STREETS AND SIDEWALKS, ARTICLE IV, EXCAVATIONS, SECTION 15-53, STORM DRAINAGE AND POLLUTION; PROVIDING FOR CONFLICT WITH OTHER ORDINANCES; PROVIDING FOR A SEVERABILITY CLAUSE AND PROVIDING AN EFFECTIVE DATE.

**WHEREAS**, control of stormwater runoff is necessary from individual lots that do not require a permit from the Southwest Florida Water Management District and requiring compliance with the provisions of the Clean Water Act 33 U.S.C.1251 et.seq., as amended by the Water Quality Act of 1987; and

**WHEREAS**, the City is desirous of complying with its U.S. Environmental Protection Agency National Pollutant Discharge Elimination System Permit and its Stormwater Master Plan, therefore, stormwater runoff and any discharge to the City storm sewer system will be closely monitored and regulated; and

**WHEREAS**, the control of stormwater runoff is the responsibility of each individual property owner; and

**WHEREAS**, the City is desirous of controlling stormwater runoff and insuring compliance with the Comprehensive Plan.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA:**

SECTION 1. Chapter 9, Water and Sewers, Article IV, Disposal of Excreta, Section 9-71, Discharge of Raw Sewage into Storm Sewer, is amended to read as follows:

**Sec. 9-71. Discharge of raw sewage into storm sewer.**

It shall be unlawful for any person to discharge raw sewage or to discharge the effluent of and from any septic tank into the storm sewer system of the city or to construct or maintain any system of drainage, pipes, conduits or other apparatus whereby raw sewage or the effluent of and from any septic tank shall or may be discharged into or through the storm sewer system of the city.

SECTION 2. Chapter 9, Water and Sewers, Article V, Prohibited Stormwater Discharges, is deleted in its entirety.

SECTION 3. Chapter 19, Water and Sewers, Article VI, Stormwater Quality is added to read as follows:

### **ARTICLE VI. STORMWATER QUALITY**

**Sec. 19-141. Definitions.**

As used in this article "industrial stormwater" means stormwater runoff from a site with industrial activities, as defined under 40 CFR Section 122.26(a)(14) U.S. Environmental Protection Agency regulation.

As used in this article "construction sites" refers to all sites.

As used in this article, "illicit discharge" is any discharge of anything other than stormwater to the municipal separate storm sewer system (MS4) or the waters of the State of Florida or the United States.

As used in this article "industrial wastewater" refers to liquids used by an entity in their course of business, that if discharged to the MS4, would degrade the quality of stormwater.

**Sec. 19-142. Disposal of industrial stormwater discharges.**

The following types of discharges to the municipal separate storm sewer of the city must be controlled as indicated.

(1) **Industrial wastewater/illicit discharge:** Industrial wastewater/illicit discharge may not be discharged to the city's municipal separate storm sewer system.

(2) **Industrial stormwater:** As required to comply with NPDES regulations, the quality of industrial stormwater which is discharged through the city's municipal separate storm sewer system may be subject to regulation or permitting, and any violation of such regulation or permit may be subject to an order to immediately cease such discharge.

**Sec. 19-143. Runoff stormwater and Best Management Practice (BMPs) for construction sites.**

BMPs shall be implemented as necessary, to insure that all discharges from construction activities are in compliance with the City of Venice EPA/NPDES Stormwater Permit and the Stormwater Master Plan, or the SWFWMD Permit or EPA's NPDES Construction Activity General Permit, whichever is most stringent in its requirements.

**Best Management Practices include but are not limited to, the following requirements:**

- (a) All site grading shall be conducted in such a manner that all stormwater management facilities located adjacent to the site are not altered in any way which will diminish their designated flow or pollutant removal capacity or the shape of the drainage facility.
- (b) Maintenance of vegetative buffers or use of a silt fence and/or staked hay bales which minimize erosion and retain sediment on site, shall be implemented prior to any construction activities taking place at sites which discharge to surface water or the municipal separate storm sewer system (MS4). These controls, when utilized, shall be secured and properly maintained during construction activities until the site has been stabilized with sod and/or seed and mulch. A double silt fence may be required as an additional measure to insure that discharges from the site are in compliance with water quality standards as established by the EPA/NPDES Stormwater Permit. Undisturbed vegetative buffers shall be maintained intact to the maximum extent possible to reduce erosion and the discharge of sediment from stormwater runoff. All areas of exposed soil shall be stabilized within 72 hours of attaining final grade.
- (c) Storm sewer systems (eg. inlets, pipes and ditches, etc.) adjacent to the site must be protected by a silt fence and/or staked hay bales during construction, to keep solids from entering conveyance systems.
- (d) Vehicles such as concrete or dump trucks and other construction equipment shall not be washed at locations where the runoff will flow directly into a lake, wetland, watercourse or stormwater conveyance system. Special areas must be designated for washing vehicles. In all new subdivisions, a wash area may be established by the owner/developer which can be used by the site contractor and home builders. If established, wash areas shall be located where the wash water will spread out and evaporate or infiltrate directly into the ground, or where the runoff can be collected in a temporary holding or seepage basin. Gravel or rock bases are recommended for temporary holding or seepage basins, to minimize mud generation. Underdrains shall be installed where infiltration basins are provided as required by the owner/developer's engineer or the Southwest Florida Water Management District. Upon completion of the project, the wash areas shall be graded and stabilized and any trash or waste shall be collected and disposed of properly.
- (e) Fuel, chemicals, cements, solvents, paints, topsoil, or other potential water pollutants shall be stored in areas where they will not cause runoff pollution. Toxic chemicals and materials, such as pesticides, paints, and acids, must be stored in accordance with manufacturer's guidelines. Groundwater resources shall be protected from leaching by placing a plastic mat, packed clay, tar paper, or other impervious material on any areas where toxic liquids are to be opened and stored.
- (f) A minimum of one permitted driveway must be established prior to construction and shall be used as the only access for ingress/egress during construction in order to provide minimum disturbance of drainage facilities and vegetative cover on site.

**Sec. 19-44. Owner responsibility for stormwater runoff.**

- (a) The control of stormwater runoff is the responsibility of each individual property owner.
- (b) Any property owner constructing or causing to be constructed any building which requires an elevated slab and the elevation of the building pad is higher than that of adjoining properties, will control stormwater runoff during construction. Likewise, any property that is filled more than twelve inches above the adjacent property must provide additional control measures for stormwater during construction. Upon completion of the work, all stormwater runoff shall flow to its natural preconstruction drainage swale, ditch, etc., or be retained in a retention or detention pond(s) designed and constructed for that purpose.
- (c) For any construction where the elevation of the building pad or site fill will be higher than adjoining properties, construction plans certified by a professional engineer registered with the State of Florida, retained by the property owner, will be provided to the City prior to issuance of a building permit.
- (d) Any single lot not covered under Southwest Florida Water Management District rules, exceeding forty-five percent in impervious coverage (including buildings, drives, sidewalks, patios, etc.) shall require stormwater retention facilities to be designed by a Florida registered engineer. The design is to meet the City of Venice EPA/NPDES Permit requirements for quantity and quality of treatment.
- (e) The property owner's engineer will be required to certify to the City Engineer that construction was completed in accordance with the certified plans, prior to issuance of a Certificate of Occupancy.

(f) All improvements to property affecting stormwater drainage must be done in compliance with the City's Comprehensive Plan.

**Sec. 19-145. Illicit discharges.**

It shall be unlawful for any person to discharge anything other than stormwater into the city's municipal separate storm sewer system whether such discharges occur through piping connections, runoff, exfiltration, infiltration, seepage, or leaks. No person may maintain, use, or establish any direct or indirect connection to any storm sewer owned by the city that results in any discharge in violation of any provision of federal, state, city, or other law or regulation. This provision is retroactive to January 1, 1995, and applies to connections made prior to the effective date of this provision, regardless of whether made under a permit, or other authorization, or whether permissible under laws or practices applicable or prevailing at the time the connection was made.

No materials other than those composed entirely of stormwater shall be disposed of, dumped, or spilled into the city's municipal separate storm sewer system, whether such materials are in a solid or liquid form.

**Sec. 19-146. Inspections.**

It shall be the duty of the city engineer or designee to carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance with this article.

SECTION 4. Chapter 15, Streets and Sidewalks, Article IV, Excavations, Section 15-53, Storm Drainage and Pollution, is deleted in its entirety.

SECTION 5. To the extent of any conflict between the provisions of this Ordinance, and any other Ordinance, Resolution, or Agreement of the City of Venice, Florida, the provisions of this Ordinance shall prevail.

SECTION 6. Severability. If for any reason a provision of this Ordinance or the application thereof to any person, group of persons, or circumstances is held invalid, the invalidity shall not effect 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 the Ordinance are severable.

SECTION 7. Effective Date. This Ordinance shall take effect immediately upon its adoption, as required by law.

**PASSED BY THE COUNCIL OF THE CITY OF VENICE, FLORIDA, THIS 23RD DAY OF MAY, 1995.**

First Reading: May 9, 1995 - Final Reading: May 23, 1995 - ADOPTION: May 23, 1995

ATTEST: /s/LORI STELZER, CMC, CITY CLERK                      /S/ MERLE L. GRASER, MAYOR

I, LORI STELZER, City Clerk of the City of Venice, Florida, a municipal corporation in Sarasota County, Florida, do hereby certify that the foregoing is a full and complete, true and correct copy of an Ordinance duly adopted by the Venice City Council, at a meeting thereof duly convened and held on the 23rd day of May, 1995, a quorum being present.

WITNESS my hand and the official seal of said City this 24th day of May, 1995.

/S/ LORI STELZER, CMC, CITY CLERK Approved as to form: /S/ ROBERT C. ANDERSON, CITY ATTORNEY

**ORDINANCE 96-09**

AN ORDINANCE OF THE CITY OF VENICE, FLORIDA, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 19, WATER AND SEWERS, ARTICLE VI, STORMWATER QUALITY, SECTION 19-141, DEFINITION FOR INDUSTRIAL STORMWATER, SECTION 19-146, INSPECTIONS, PROVIDING FOR CONFLICT WITH OTHER ORDINANCES; PROVIDING FOR A SEVERABILITY CLAUSE AND PROVIDING AN EFFECTIVE DATE.

**WHEREAS**, the City of Venice is responsible for the conservation, management, protection, control, use and enhancement of stormwater within its corporate limits, and for the acquisition, management, maintenance, extension, and improvement of the stormwater systems in the City; and

**WHEREAS**, the Environmental Protection Agency/National Pollutant Discharge Elimination System (EPA/NPDES) permit requires certain amendments to the existing Ordinance and extension of inspection authority on private properties.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA:**

**SECTION 1.** Chapter 19, Water and Sewers, Article VI, Stormwater Quality, Section 19-141, Definition, for Industrial Stormwater is amended to read as follows:

**Sec. 19-141. Definitions.**

As used in this article, "industrial stormwater" means stormwater runoff from a site with industrial activities, as defined under 40 CFR Section 122.26 (a) (b) (14), U.S. Environmental Protection Agency regulation.

**SECTION 2.** Chapter 19, Water and Sewers, Article VI, Stormwater Quality, Section 19-146, Inspections, is amended to read as follows:

**Sec. 19-146. Inspections.**

It shall be the duty of the city engineer or designee to carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance with this article. The city engineer or his duly authorized agents may enter at all reasonable times in or upon any private or public property for the purpose of inspecting and investigating conditions and practices which may be a violation of this ordinance, regulation or permit. The city engineer may, whenever necessary, make an inspection of construction sites to enforce any of the provisions of this ordinance, regulation or permit issued hereunder, or whenever an authorized official has reasonable cause to believe there exists any condition constituting a violation of this ordinance, regulation or permit issued hereunder. The city engineer shall inspect the work and shall require the owner to obtain services to provide adequate on-site inspection. If the city engineer finds that eroded soils are leaving the construction site, the city engineer may direct the owner(s) or his agents or his contractor on the site by written order to install any and all erosion controls that are deemed necessary to prevent said soil erosion from migrating off site. Notwithstanding the existence or pursuit of any other remedy, the City may maintain an action in its own name in any court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of this ordinance.

**SECTION 3.** To the extent of any conflict between the provisions of this Ordinance, and any other Ordinance, Resolution, or Agreement of the City of Venice, Florida, the provisions of this Ordinance shall prevail.

**SECTION 4.** Severability. If for any reason a provision of this Ordinance or the application thereof to any person, group of persons, or circumstances is held invalid, the invalidity shall not effect 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 the Ordinance are severable.

**SECTION 5.** Effective Date. This Ordinance shall take effect immediately upon its adoption, as required by law.

**PASSED BY THE COUNCIL OF THE CITY OF VENICE, FLORIDA, THIS 26TH DAY OF MARCH, 1996.**

First Reading: March 12, 1996 - Final Reading: March 26, 1996 - ADOPTION: March 26, 1996

ATTEST: /s/LORI STELZER, CMC, CITY CLERK

/S/ MERLE L. GRASER, MAYOR

I, LORI STELZER, City Clerk of the City of Venice, Florida, a municipal corporation in Sarasota County, Florida, do hereby certify that the foregoing is a full and complete, true and correct copy of an Ordinance duly adopted by the Venice City Council, at a meeting thereof duly convened and held on the 26th day of March, 1996, a quorum being present.

WITNESS my hand and the official seal of said City this 27th day of March, 1996.

/S/ LORI STELZER, CMC, CITY CLERK Approved as to form: /S/ ROBERT C. ANDERSON, CITY ATTORNEY.

**STATEMENT OF REFERENCES**  
**FOR CONTRACTOR**

NAME OF CONTRACTOR: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_

How many years have you been engaged in the business under the present firm name? \_\_\_\_\_

List previous business experience: \_\_\_\_\_

\_\_\_\_\_

List at least three construction references:

(1) Person to contact: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Date work performed: \_\_\_\_\_

(2) Person to contact: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Date work performed: \_\_\_\_\_

(3) Person to contact: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Date work performed: \_\_\_\_\_

(4) Person to contact: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Date work performed: \_\_\_\_\_

**CONTRACTOR'S STATEMENT OF  
SUB-CONTRACTORS TO BE USED FOR THIS WORK**

NAME OF CONTRACTOR: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_

LIST SUBCONTRACTORS TO BE USED IN THE PROJECT:

(1) Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Phase of Work Sublet: \_\_\_\_\_

(2) Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Phase of Work Sublet: \_\_\_\_\_

(3) Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Phase of Work Sublet: \_\_\_\_\_

(4) Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Phase of Work Sublet: \_\_\_\_\_

## **DRUG FREE WORKPLACE CERTIFICATION**

If identical tie bids exist, preference will be given to the vendor who submits a certification with their bid/proposal certifying they have a drug-free workplace in accordance with Section 287.087, Florida Statutes. The drug-free workplace preference is applied as follows:

**IDENTICAL TIE BIDS:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids, which are equal with respect to price, quality, and service, are received by the State or by any political subdivision 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.

As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

- 1) This firm publishes 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) This firm informs 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) This firm gives 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), this firm notifies 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) This firm imposes a sanction on or requires 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) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

---

Contractor's Name Signature

**SCRUTINIZED COMPANY AFFIDAVIT AND CERTIFICATION**

State of \_\_\_\_\_ }  
County of \_\_\_\_\_ } SS.

Florida Statutes §287.135 (2013) prohibits local governments from contracting with Scrutinized Companies for contracts valued at one million dollars (\$1,000,000.00) or greater, subject to certain exceptions.

Before me, the undersigned authority, personally appeared:

\_\_\_\_\_ who, being first duly sworn, deposes and says that:

1. I am the \_\_\_\_\_ (*Owner, Partner, Officer, Representative or Agent*) of \_\_\_\_\_ that has submitted the attached proposal (“Bidder”).
2. I am fully informed respecting the Bidder.
3. I have read and am familiar with the requirements of Florida Statutes §287.135 (2013).
4. The Bidder is not on the Scrutinized Companies with Activities in Sudan list or the Scrutinized Companies with Activities in Iran Petroleum Energy Sector list as defined in Florida Statutes §215.473, nor does it have business operations in Cuba or Syria, and is therefore eligible to submit this bid or proposal.
5. Under penalties of perjury, I declare that I have examined this affidavit and certification and to the best of my knowledge and belief, it is true, correct, and complete.

Signed, sealed and delivered this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

By: \_\_\_\_\_  
—

Sworn to and subscribed before me this \_\_\_ day of \_\_\_\_\_, 2015, by \_\_\_\_\_ who  is personally known to me or  has produced his/her driver's license as identification.

\_\_\_\_\_  
Notary Public - State of \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Commission No: \_\_\_\_\_

**NON-COLLUSIVE AFFIDAVIT**

State of \_\_\_\_\_ }  
County of \_\_\_\_\_ } SS.

\_\_\_\_\_ being first duly sworn, deposes and says that:

1. He/she is the \_\_\_\_\_, (Owner, Partner, Officer, Representative or Agent) of \_\_\_\_\_ the Offeror that has submitted the attached Proposal;
2. He/she is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;
3. Such Proposal is genuine and is not a collusive or sham Proposal;
4. Neither the said Offeror nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Offeror, firm, or person to submit a collusive or sham Proposal in connection with the Work for which the attached Proposal has been submitted; or have in any manner, directly or indirectly sought by agreement or collusion, or have in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any Offeror, firm, or person to fix the price or prices in the attached Proposal or of any other Offeror, or to fix any overhead, profit, or cost elements of the Proposal price or the Proposal price of any other Offeror, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposal Work.

Signed, sealed and delivered in the presence of:

\_\_\_\_\_  
 \_\_\_\_\_  
 By: \_\_\_\_\_  
 \_\_\_\_\_  
 (Printed Name)  
 \_\_\_\_\_  
 (Title)

**ACKNOWLEDGEMENT**

State of \_\_\_\_\_  
County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2015, before me, the undersigned Notary Public of the State of \_\_\_\_\_, personally appeared \_\_\_\_\_ and (Name(s) of Individual(s) who appeared before notary) whose name(s) in/are Subscribed to the written instrument, and he/she/they acknowledge that he/she/they executed it.

NOTARY PUBLIC  
 SEAL OF OFFICE: \_\_\_\_\_  
 NOTARY PUBLIC, STATE OF \_\_\_\_\_  
 \_\_\_\_\_  
 (Name of Notary Public: Print, stamp, or type as commissioned)

Personally known to me, or  Produced Identification: \_\_\_\_\_  DID take an oath, or  DID NOT take an oath

**PUBLIC ENTITY CRIME INFORMATION**

A person or affiliate who has been placed on the State of Florida’s convicted vendor list following a conviction for a public entity crime may not submit a BID/ITB proposal on a contract to provide any goods or services to a public entity, may not submit a response on a contract with a public entity for services in 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, Sub-Contractor, or Contractor under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in **Section 2876.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.**

I, \_\_\_\_\_, being an authorized representative of the firm of \_\_\_\_\_, located at City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_, have read and understand the contents of the Public Entity Crime Information and of this formal BID/ITB package, hereby submit our proposal accordingly.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Federal ID#: \_\_\_\_\_

**NO BID RESPONSE**

**IMPORTANT:** If you choose not to submit a bid for the attached “Invitation To Bid,” please complete and return this form only on/before bid closing date. Failure to respond will result in your company being negatively registered as non-responsive. In the event five (5) “no responses” are posted, you will be automatically dropped from our mailing list for future solicitations for the described product/service.

Thank you for taking this opportunity to help us update and improve the solicitation process.

Bid Open/Close Date: **August 26, 2015 at 2:00 PM**

Bid Number: **3010-15**

Description: **Border Road Water Main Extension Re-bid**

Contact: Jon Mayes, Procurement- Finance Dept.

Please check the appropriate response. We respectfully submit “No bid” for the following reason(s):

- 1. We are unable to meet the required delivery date
- 2. We cannot provide a product to meet the required specifications.
- 3. We no longer provide the requested product.
- 4. We do not represent the required brand name product.
- 5. The bid closing date does not allow adequate time to prepare a response.
- 6. The specifications are too restrictive.
- 7. We have chosen not to do business with the City
- 8. Other (feel free to provide our response on your company letterhead.)

Company Name \_\_\_\_\_ Vendor No. \_\_\_\_\_

Authorized Signature \_\_\_\_\_

Print Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_ Telephone No. \_\_\_\_\_

**Bid Form**  
**Border Road Water Main Extension**

BID ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	POTABLE WATER MAINS AND FITTINGS				
1a	12" PVC (C-900 DR-18 Class 150) Potable Water Main and Fittings	LF	1695	\$	\$
1b	12" PVC (C-900 DR-18 Class 150) R.J. Potable Water Main and Fittings	LF	2033	\$	\$
2	HORIZONTAL DIRECTIONAL DRILL				
2a	12" FPVC (C-900 DR-18 Class 150) [North Auburn Road]	LF	365	\$	\$
2b	12" FPVC (C-900 DR-18 Class 150) [Interstate 75]	LF	1103	\$	\$
2c	12" FPVC (C-900 DR-18 Class 150) [Storm Culverts Crossing (Twin 19" X 30")]	LF	209	\$	\$
2d	12" FPVC (C-900 DR-18 Class 150) [Storm Culverts Crossing (Triple 19" X 30")]	LF	420	\$	\$
2e	12" FPVC (C-900 DR-18 Class 150) [Jacaranda Boulevard]	LF	179	\$	\$
3	JACK AND BORE				
3a	24" Steel Casing and 12" PVC [Border Road]	LF	52	\$	\$
4	FIRE HYDRANT ASSEMBLIES	EA	6	\$	\$
5	AUTO FLUSHER ASSEMBLIES	EA	1	\$	\$
6	GATE VALVES				
6a	10-inch Gate Valve, MJ, with Box	EA	1	\$	\$
6b	12-inch Gate Valve, MJ, with Box	EA	11	\$	\$
7	SIDEWALK RESTORATION	SY	1221	\$	\$
8	DRIVEWAY RESTORATION	EA	3	\$	\$
9	OWNER'S ALLOWANCE	LS	1		\$25,000.00
<b>SUBTOTAL (Bid Items 1 - 9)</b>					<b>\$</b>
10	MOBILIZATION AND DEMOBILIZATION [≤ 5% of Subtotal]	LS	1		\$
<b>TOTAL BASE BID PRICE</b>					
<b>TOTAL BASE BID PRICE (WRITTEN IN WORDS)</b>					

**Bid Form (Continued)**  
**Border Road Water Main Extension**

**I Contractor Qualification (Section 1.07, 5a) Provide 2 Examples of Each**

*Trenchless installation of underground piping using horizontal directional drilling methods of minimum twelve inch (12") diameter FPVC potable water pressure pipe. Twelve hundred (1,200) linear feet (LF) or greater.*

Project Example 1

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

Project Example 2

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

**II Contractor Qualification (Section 1.07, 5b) Provide 2 Examples of Each**

*Construction of underground potable water pressure pipe systems of minimum twelve inch (12") diameter PVC (Polyvinyl Chloride) pipe. Three thousand (3,000) linear feet (LF) or greater.*

Project Example 1

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

Project Example 2

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

**Bid Form (Continued)**  
**Border Road Water Main Extension**

**III Contractor Qualification (Section 1.07, 5c) Provide 2 Examples of Each**

*Trenchless installation of underground piping using Jack and Bore methods of minimum twenty-four inch (24") diameter steel casing. Fifty (50) linear feet (LF) or greater.*

Project Example 1

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

Project Example 2

Contractor/SubContractor Performing Work: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Owner/Client: \_\_\_\_\_  
Owner/Client Project Manager and Number: \_\_\_\_\_  
Construction Date: \_\_\_\_\_  
Project Description including details related  
to the qualifications: \_\_\_\_\_  
\_\_\_\_\_

Bidder shall use additional sheets in the same format as above if additional space is needed or if qualifications for an additional Subcontractor is provided.

**Bids not including the above information shall not be considered.**

**THIS BID MADE BY AND ON BEHALF OF:**

**Company:** \_\_\_\_\_

**Address:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Fax #:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**BY:** \_\_\_\_\_

Authorized Signature

**PRINT:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

(SEAL)

## Border Road Water Main Extension

# Technical Specifications



Prepared for:  
City of Venice Utilities Department

Prepared by:  
Stantec Consulting Services Inc.



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Stephen C. MacEachern, P.E.  
FL Registered Professional Engineer No. 76020

July, 2015

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Division 01 - General Requirements

<u>SECTION</u>	<u>TITLE</u>
01005	Special Provisions
01010	Summary of Work
01025	Measurement and Payment
01026	Applications for Payment
01027	Change Order Procedures
01040	Contract Coordination
01045	Cutting and Patching
01200	Preconstruction, Project Meetings
01310	Progress Schedules
01340	Shop Drawings, Product Data and Samples
01380	Color Audio-Video Pre-Construction Records
01400	Quality Control
01560	Temporary Controls
01610	Transportation and Handling
01620	Storage and Protection
01630	Product Options and Substitutions
01701	Contract Closeout Requirements
01720	Project Record Documents
01730	Operation and Maintenance Manuals
01740	Warranties and Bonds
01750	Spare Parts and Maintenance Manuals

Division 02 - Site Work

<u>SECTION</u>	<u>TITLE</u>
02050	Environmental Protection
02070	Selective Demolition
02100	Site Preparation
02140	Dewatering
02160	Excavation Support
02230	General Excavating, Filling and Backfilling
02300	Directional Drilling
02521	Sidewalks
02616	Polyvinyl Chloride (PVC) and Fusible PVC Pipe (FPVC) For Pressure Service
02645	Hydrants
02660	Ductile Iron (DI) Pipe
02664	Piping General Requirements
02932	Topsoil and Seeding
02933	Sodding
02990	Miscellaneous Work and Clean Up

Division 03 – Concrete

<u>SECTION</u>	<u>TITLE</u>
03100	Concrete Formwork
03200	Concrete Reinforcement
03250	Concrete Accessories
03300	Cast-In-Place Concrete
03370	Concrete Curing
03410	Precast Concrete Structures

Division 09 – Finishes

<u>SECTION</u>	<u>TITLE</u>
09901	Surface Preparation and Shop Prime Painting
09902	Field Painting

Division 15 – Mechanical

<u>SECTION</u>	<u>TITLE</u>
15050	Valves

APPENDIX

<u>SECTION</u>	<u>TITLE</u>
Appendix A:	Geotechnical Report
Appendix B	Permits

# Technical Specifications

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## SECTION 01005

### SPECIAL PROVISIONS

#### PART 1 GENERAL

##### 1.01 CONTRACTOR'S RESPONSIBILITIES

###### A. Supervision and Superintendence

1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for all means, methods, techniques, sequences and procedures of construction, for providing adequate safety precautions, for coordinating all portions of the Work under the Contract Documents, and for enforcement of order and cooperation among CONTRACTOR's employees and all Subcontractors and Suppliers and others having a Sub-agreement for a part of the Work. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.
2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to ENGINEER except under extraordinary circumstances. OWNER may, at its sole discretion, require replacement of the superintendent, in which case CONTRACTOR shall submit an acceptable replacement at no increase in Contract Price nor extension in Contract Time. The superintendent shall be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR. Whenever the superintendent is not present on any particular part of the Work where the ENGINEER may desire to inform the CONTRACTOR relative to interpretation of the plans and specifications or regarding disapproval or rejection of materials or work performed, the ENGINEER may so inform the foreman or other workers in charge of the particular part of the work in reference to which the information is given. Information so given shall be as binding as if given to the superintendent.
3. The superintendent and similar authorized representatives of any Subcontractor, Supplier or other person or organization shall attend all meetings pertaining to the Work, as requested by OWNER or ENGINEER.

###### B. Personnel and Working Hours

1. CONTRACTOR shall at all times maintain good discipline and order at the site.
2. CONTRACTOR shall provide competent, qualified personnel to survey and lay out the work (in accordance with any additional provisions included in the General Requirements) and perform construction as required by the Contract Documents. CONTRACTOR is fully responsible to provide a sufficient number of skilled workers and supervisory personnel to perform the Work and insure that the Work is completed within the Contract Time. Failure to fully man the Project with supervisory personnel and skilled workers shall be cause for termination of CONTRACTOR.
3. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all Work at the site shall be performed during normal working hours, and

CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any Holiday without OWNER's written consent given after prior written notice to ENGINEER. Normal working hours shall be defined as the CONTRACTOR's normal eight hour working period occurring between the hours beginning at 7:00 a.m. and ending at 6:00 p.m., exclusive of Saturdays, Sundays, or Holidays. Work during other than normal working hours may be scheduled by CONTRACTOR if he first obtains written permission from OWNER, however the periods between 7:00 p.m. and 7:00 a.m. weekdays and 7:00 p.m. and 9:00 a.m. weekends or legal holidays shall be excluded.

The OWNER observes the following holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Day after Thanksgiving, Christmas Eve and Christmas Day. Holidays falling on Saturday will be observed Friday, holidays falling on Sunday will be observed Monday.

4. OWNER shall be entitled to deduct from the Contract Price, by issuing a Change Order, OWNER's extra costs incurred in connection with CONTRACTOR's performance of WORK during hours other than normal working hours. Such costs may include, but shall not be limited to, ENGINEER'S charges to OWNER while acting as OWNER's representative (including charges outside of normal working hours for Construction Manager and Field Representatives), OWNER's costs incurred in the performance of OWNER's responsibilities as set forth in the Contract Documents, and other related costs.

C. Apprentices

CONTRACTOR's utilization of apprentices shall conform to the provisions of Florida Statutes Chapter 446.

D. CONTRACTOR's Responsibilities for Furnishing

Unless otherwise specified in the Contract Documents, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, ventilation, cooling, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

E. Items of Material or Equipment

1. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment.

All materials and equipment shall be handled, stored, applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of OWNER's or ENGINEER's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work.

2. Manufacturers' or Suppliers' warranties for all materials, products and equipment to be furnished by CONTRACTOR and to be incorporated into the completed Work shall be furnished to OWNER through CONTRACTOR.

3. CONTRACTOR shall obtain from Suppliers of all materials, products and equipment, complete information as to any special condition or restriction to be applied in the use of these items. Should the manner or method of installation, specified performance or test results as set forth in the Specifications be contrary to the manufacturer's recommendations for use of the product, CONTRACTOR shall notify ENGINEER in writing of such conflict as soon as reasonably possible, but no later than the time of Shop Drawing submittal including those products. Failure to provide such written notice before proceeding with the Work affected thereby shall be certification by CONTRACTOR that the Specification requirements will be met by the materials, products and equipment, and that the cost and time required to perform or complete the Work affected thereby have been included in the Contract Price and in the schedule for the performance of the Work within the Contract Time.
4. Data submitted on all equipment shall include complete operation and maintenance instructions (including preventive maintenance and operating requirement data) and parts lists in sufficient detail to facilitate ordering replacements. Such submittals shall conform to any additional requirements provided in the General Requirements.

F. Concerning Subcontractors, Suppliers and Others

1. CONTRACTOR shall not award Work to Subcontractors in excess of 50 percent of the Contract Price without prior written approval of OWNER. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including but not limited to those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. A Subcontractor, Supplier or other person or organization identified in writing to OWNER and ENGINEER by CONTRACTOR prior to the Notice of Award and not objected to in writing by OWNER or ENGINEER prior to the Notice of Award will be deemed acceptable to OWNER or ENGINEER. Acceptance of any Subcontractor, Supplier or other person or organization by OWNER or ENGINEER shall not constitute a waiver of any right of OWNER or ENGINEER to reject defective Work by CONTRACTOR or any Subcontractor, Supplier or any other person or organization. If OWNER or ENGINEER after due investigation has reasonable objection to any Subcontractor, Supplier or other person or organization proposed by CONTRACTOR after the Notice of Award, CONTRACTOR shall submit an acceptable substitute. Such Subcontractor, Supplier person or organization shall neither commence nor continue Work after OWNER or ENGINEER objects to said entity. In the event that any such reasonable objection and acceptable substitute will cause additional expense or extend performance of the Work, or part thereof, beyond the Contract Time for the Work, or part thereof, CONTRACTOR may make a request for an adjustment in Contract Price or Contract Time. However, any changes in Contract Price made under this paragraph shall exclude any adjustments for any increases in CONTRACTOR's costs in connection with an increase in Contract Time resulting from the reasonable objection and acceptable substitute submitted pursuant to this paragraph. In any such case, the extension in Contract Time so granted, if any, shall be CONTRACTOR's sole and exclusive remedy for delay, disruption, interference, hindrance and costs thereto. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization against whom CONTRACTOR has reasonable objection.
2. CONTRACTOR shall give prompt written notice to OWNER with copy to ENGINEER as to the identity and qualifications of any Subcontractor, Supplier or other person or organization to whom CONTRACTOR intends to award Work that was not previously

identified in accordance with the Instructions to Bidders, and of CONTRACTOR's intent to remove or replace a Subcontractor, Supplier or other person.

3. CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and Suppliers and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that CONTRACTOR is responsible for the acts and omissions of persons directly employed by CONTRACTOR. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or Supplier or other person or organization having a Sub-agreement with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment due any Subcontractor, Supplier or other person or organization, except as may otherwise be required by law.

OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done. No Subcontractor, Supplier or other person or organization shall be a third party beneficiary of this Contract.

4. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade. The divisions of the Specifications are complementary, and anything mentioned or shown in a division of the Specifications or in a specific trade Drawing shall be of like effect as if shown in all divisions of the Specifications and in all Drawings. In addition to other requirements in the Contract Documents, Shop Drawings of a specific trade shall be compared to and coordinated with those from other trades by CONTRACTOR before submission to ENGINEER.
5. All Work performed for CONTRACTOR by a Subcontractor, Supplier or other person or organization will be pursuant to an appropriate Sub-agreement between CONTRACTOR and the Subcontractor, Supplier or other person or organization which specifically binds the Subcontractor, Supplier or other person or organization to the applicable terms and conditions of the Contract Documents for the benefit of OWNER.
6. If requested in writing by OWNER, CONTRACTOR shall deliver to OWNER a copy of each Sub-agreement with a Subcontractor, Supplier or other person or organization performing a part of the Work within seven (7) days of OWNER's request.

#### G. Patent Fees and Royalties

1. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work, and its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, it shall remain the responsibility of CONTRACTOR to assume all costs incident to the use in the performance of the Work or the incorporation in the Work of said invention, design, process, product or device.
2. Whenever CONTRACTOR is required or desires to use any design, device, material or process covered by letters, patent, trademark or copyright, the right for such use shall be provided for by suitable legal agreements with the patentee or owner, and a copy of this

Agreement shall be filed with ENGINEER. However, whether or not such agreement is made or filed as noted, CONTRACTOR and CONTRACTOR's surety in all cases shall indemnify and hold harmless and defend OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including but not limited to charges of engineers, architects, other professionals and attorneys' fees and attorneys' fees on appeal and all costs of defense or appeal) arising out of any infringement of letters, trademark, patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

#### H. Permits

1. Unless otherwise provided in the Contract Documents, CONTRACTOR shall obtain and pay for all construction permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids. CONTRACTOR shall pay all charges of utility service companies for utilities service to accomplish the Work. If CONTRACTOR fails to obtain or renew any permit or license required by this paragraph, OWNER has the option of stopping or suspending the work or terminating the CONTRACTOR's services or procuring any permit or license directly. OWNER shall be entitled to deduct OWNER's resultant costs from the Contract Price by issuing a Change Order. CONTRACTOR shall meet all requirements of all permits and licenses.

The permits required to be obtained by the CONTRACTOR include but not limited to the following are:

City of Venice Site Preparation Permit (fee waived)  
Sarasota County Right of Way Use Permit (Bonding)  
Generic Permit for Stormwater Discharge from Large And Small Construction Activities

2. OWNER has obtained the following permits:

FDEP ERP Verification of Exemption	– File No. 58-0330908-001
Florida Department of Health Water Construction Permit	– Permit No.: 0124807-163
Sarasota County Right-of-Way Use Permit	– Permit No.: 14 162622 00BW
Florida Department of Transportation Utility Permit	– Permit No.: 2015-H-194-3

An US Army Corps of Engineers permit is not necessary for this project.

3. The CONTRACTOR shall perform the Work in strict compliance with the conditions of the permits.

#### I. Laws and Regulations

1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the Work. If CONTRACTOR observes that the Contract Documents are at variance therewith, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Change Order. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary

to such Laws or Regulations and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom. CONTRACTOR shall indemnify and hold harmless OWNER for all claims, fines, damages, losses and expenses (including but not limited to charges of engineers, architects, other professionals and attorneys' fees and attorneys' fees on appeal and all costs of defense or appeal) arising out of CONTRACTOR's failure to comply with the terms of this paragraph.

2. CONTRACTOR shall pay all sales, consumer, use and other taxes required to be paid by it in accordance with the Laws and Regulations of the place of the Project.

J. Emergencies

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give OWNER prompt written notice if CONTRACTOR believes that any significant changes in the Work have resulted because of the action taken in response to an emergency. If OWNER determines that changes are required, OWNER shall authorize the changes by Change Order or Change Request. If the emergency was not due to the fault or negligence of CONTRACTOR, or any Subcontractor or Supplier or anyone for whose acts any of them may be liable and the changes cause an increase or decrease in CONTRACTOR's cost or the time required to perform any part of the Work, OWNER shall make an adjustment in Contract Price or Contract Time.

K. Continuing the Work

CONTRACTOR shall carry on the Work and maintain the Progress Schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as CONTRACTOR and OWNER may otherwise agree in writing. Suspension of the Work by CONTRACTOR during any dispute or disagreement with OWNER shall entitle OWNER to terminate the CONTRACT for cause, except as otherwise provided in Paragraph 1.06.

L. Indemnity

1. To the fullest extent permitted by law, CONTRACTOR shall indemnify, hold harmless and defend (provide and pay for legal defense) OWNER, ENGINEER and their consultants, and each of their directors, officers, agents, and employees from and against all claims, damages, losses, expenses, and other costs, including costs of defense and attorneys' fees, and cost and attorney's fees on appeal, arising in any manner out of, or resulting from, or in connection with the performance of the Work, both on and off the job site, provided that any of the foregoing (1) is attributable to personal injury, bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (2) is caused in whole or in part by any act or omission of CONTRACTOR, any Subcontractor, any Supplier, anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them may be liable, regardless of whether or not caused in part by any act or omission of a party indemnified hereunder.
2. In any and all claims against the indemnified parties by any employee of CONTRACTOR, any Subcontractor, any Supplier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under paragraphs 1.01.L.1 and 1.01.L.4 shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable, by or for

CONTRACTOR, or any Subcontractor, or any supplier, or other person under workers' compensation acts, disability benefit acts, or other employee acts.

3. The obligations of CONTRACTOR under paragraphs 1.01.L.1 and 1.01.L.4 shall not extend to the liability of ENGINEER and their consultants, and each of their directors, officers, employees, and agents arising out of, or resulting from, or in connection with the preparation or approval of maps, Drawings, opinions, reports, surveys, designs or specifications, providing that the foregoing were the sole and exclusive cause of the loss, damage, or injury.
4. CONTRACTOR shall also indemnify and hold harmless and defend (provide and pay for legal defense) OWNER and ENGINEER and their consultants, and each of their directors, officers, employees, and agents from and against all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs (including costs and attorney's fees on appeal), which any of them may incur with respect to the failure, neglect, or refusal of CONTRACTOR to faithfully perform the Work and/or the CONTRACTOR's obligations under the Agreement. Such costs, expenses, and damages shall include all costs including attorneys' fees and costs and attorneys' fees and costs on appeal incurred by the indemnified parties in any lawsuit to which they are a party.
5. At OWNER's sole option and utilizing attorneys agreeable to OWNER, CONTRACTOR shall defend all suits or claims as set out in this paragraph 1.01.L.
6. In the event that OWNER incurs costs contrary to this indemnification agreement, OWNER shall be entitled to deduct these costs from the Contract Price by issuing a Change Order.

M. Progress of the Work

1. If ENGINEER determines that CONTRACTOR is failing to maintain progress of the Work in accordance with the Progress Schedules and the General Requirements, CONTRACTOR shall take steps as may be necessary to improve his progress, and ENGINEER may require him to increase his work force, or hours, or days of work, or the amount of construction plant or all of them, and to submit to ENGINEER for approval such supplementary schedule or schedules as may be deemed necessary to demonstrate the manner in which the requisite progress will be regained and maintained, all without additional cost to OWNER.
2. Failure of CONTRACTOR to comply with the requirements of ENGINEER under this Article shall be grounds for determination by ENGINEER that CONTRACTOR is not prosecuting the Work with such diligence as will insure completion within the time specified. ENGINEER will then so inform OWNER. OWNER may thereupon suspend the Work or terminate CONTRACTOR's services should CONTRACTOR fail to comply with the above paragraph.

N. CONTRACTOR Not Agent of OWNER

CONTRACTOR shall perform all Work under this Agreement as an Independent Contractor and shall not be considered an agent of OWNER, nor shall CONTRACTOR's Subcontractors or Suppliers or employees be considered agents of OWNER. CONTRACTOR and not OWNER shall be solely responsible to any and all Subcontractors and Suppliers and all those employed by them for their costs, expenses, fees and profits, if any, in performing the Work.

O. Inspection and Audit

1. OWNER shall have access to the Work and the right to audit all of CONTRACTOR's books, ledgers, records, correspondence, instructions, drawings, receipts, vouchers, memoranda, and other documents pertinent to all Cost and Pricing Data used by Contractor in the determination of CONTRACTOR'S Bid for the Work, in pricing, negotiating or costing Work covered by a Change Order, Change Request or claim, or otherwise relating to the Work, and CONTRACTOR shall preserve and make available at CONTRACTOR's office at all reasonable times all such records for a period of five (5) years after Final Payment.
2. In the event of termination, the records relating to the Work, or part thereof, affected by such termination shall be made available for five (5) years after the termination. Records pertaining to claims, to litigation or the settlement of claims arising under or relating to the performance of the Work shall be made available until disposition of such appeals, litigation, or claims.
3. CONTRACTOR shall insert a provision containing all the requirements of paragraph 1.01.O, including this paragraph 1.01.O.3, in all Sub-agreements between CONTRACTOR and Subcontractors or Suppliers or other persons, altering the paragraph only as necessary to identify properly the contracting parties.

P. Truth-In-Negotiation

1. CONTRACTOR warrants that all bid line items are true, complete and accurate and include all costs, overhead, profit and all other amounts associated with such items and may be relied upon by OWNER when making additions or deductions to the Contract Price. CONTRACTOR further warrants that all Cost and Pricing Data provided to ENGINEER and OWNER during the term of the Agreement shall be complete, accurate and current when provided. Should there be any changes in the Cost and Pricing Data previously submitted, the CONTRACTOR shall notify and provide the new information to ENGINEER and OWNER immediately. OWNER shall be entitled to issue an appropriate Change Order to adjust the Contract Price and Contract Time on account of corrections to inaccurate or incomplete information provided by CONTRACTOR.
2. Despite any provisions in the Contract Documents to the contrary, any amounts paid by OWNER to CONTRACTOR in excess of what it is entitled under the Contract Documents shall be reimbursed by CONTRACTOR to OWNER. The making of Final Payment to Contractor shall not be a waiver of OWNER's right to reimbursement from Contractor nor shall it discharge Contractor's obligation to refund the overpayment. The terms of paragraph 1.01.P shall survive the OWNER's making Final Payment.
3. CONTRACTOR shall insert a provision containing all the requirements of paragraph 1.01.P, including this paragraph 1.01.P.3, in all Sub-agreements between CONTRACTOR and Subcontractors or Suppliers or other persons, altering the paragraph only as necessary to identify properly the contracting parties.

Q. Correspondence

All CONTRACTOR's correspondence shall have identification numbers assigned by CONTRACTOR. The identification numbers shall be sequential and assigned chronologically such that each CONTRACTOR's submission can be individually identified by reference to the assigned identification number. The numbering system must be approved by ENGINEER. Any correspondence not so identified may not be accepted by ENGINEER.

R. Protection of Historical Properties

1. CONTRACTOR shall comply with Florida's Archives and Historical Act (Florida Statutes Chapter 267) and the regulations of the local historic preservation board as applicable and protect against the potential loss or destruction of significant historical or archaeological data, sites, and properties in connection with the Work.
2. CONTRACTOR shall be responsible for reporting immediately to the governmental entity or agency with jurisdiction any archaeological features which are encountered or unearthed during the performance of the Work, and for protecting same to the satisfaction of such governmental entity or agency. CONTRACTOR shall absorb all related delay, extension or acceleration costs, however caused, except that if OWNER and CONTRACTOR believe the delays require an extension in Contract Time, OWNER shall authorize the necessary change in Contract Time only.

S. Responsibility for Connecting to Existing Services and Utilities

At all points where the Work constructed by CONTRACTOR connects to existing utilities and services, the actual Work of making the necessary connection to the existing service or utility shall be arranged for by CONTRACTOR at no expense to OWNER (unless specifically indicated otherwise).

Services and utilities included within (but not limited to) this responsibility are roads, ditches, electrical, sewer, mechanical utilities, water, reuse, fencing, etc. Connections shall be made at a time that will result in the least possible interference with existing services.

T. Additional Provisions

1. CONTRACTOR shall be responsible for preparing and delivering to ENGINEER, on a daily basis, reports recording labor and equipment available and utilized, and materials and equipment received each day, on a form acceptable to ENGINEER. If CONTRACTOR fails to submit reports daily, ENGINEER may withhold approval of any Application for Payment until such time as CONTRACTOR submits the required information. CONTRACTOR shall make available any such records as requested by ENGINEER to verify that the reports are accurate.
2. CONTRACTOR shall submit to ENGINEER at the beginning of each work shift, a list of specific items requiring final inspection, monitoring, or witnessing by ENGINEER.

1.02 WORK BY OTHERS

A. Related Work At Site

1. OWNER may perform other work at the site by OWNER's own forces, provide for or allow other work to be performed by other owners, or let other direct contracts for other work. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work.
2. CONTRACTOR shall afford each owner and contractor (or OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the

Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make it integrate properly with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The Contractor is not entitled to exclusive use of the site.

3. If any part of CONTRACTOR's Work depends for proper execution or results upon the work of OWNER or any such other contractor or owner, CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR's failure to so report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in the other work. Wherever Work to be performed by CONTRACTOR is dependent upon the work of any separate contractor, CONTRACTOR shall: (1) coordinate his Work with the dependent work; (2) provide necessary dependent data and requirements; (3) supply and/or install items to be built into dependent work of others; (4) make provisions for dependent work; (5) check and verify dependent dimensions of previously placed work; (6) notify ENGINEER of previously placed dependent work or dependent dimensions which are unsatisfactory or will prevent a satisfactory installation of any such Work; and (7) not proceed with any such Work until any unsatisfactory dependent conditions have been corrected. Installation of Work by CONTRACTOR or by a Subcontractor in any given area shall constitute acceptance by CONTRACTOR or by such Subcontractor of all previously placed dependent work, subject to the exceptions previously noted.
4. If OWNER contracts with others for the performance of other work at the site, the person or organization with the authority and responsibility for coordination of the activities among the various prime contractors may be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility may be itemized, and the extent of such authority and responsibilities may be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, coordination with other prime contractors will be the responsibility of each prime contractor and neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

#### B. Mutual Duties and Responsibilities

1. Should CONTRACTOR cause damage to the work or property of any separate contractor or owner performing work at or contiguous to the site, or should any claim arising out of CONTRACTOR's performance of Work at or contiguous to the site be made by any separate contractor or utility owner against CONTRACTOR, OWNER, ENGINEER, CONTRACTOR shall promptly attempt to settle with such separate contractor or utility owner by agreement, or to otherwise resolve the dispute at equity or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, hold harmless, defend and indemnify OWNER, ENGINEER, DESIGN ENGINEER, and their consultants, directors, officers, agents, and employees from and against all claims, damages, losses, costs and expenses (including attorney's fees and attorney's fees on appeal) arising directly, indirectly or consequentially out of any action, legal or equitable, or resulting from damage to the Work of others caused by CONTRACTOR's performance of the Work.
2. Should any separate contractor or owner cause damage to the Work or property of CONTRACTOR, or should the performance of work by any separate contractor or owner at or contiguous to the site give rise to any other claim by CONTRACTOR,

CONTRACTOR shall promptly attempt to settle with such separate contractor or owner by agreement, or to otherwise resolve the dispute at equity or at law. CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, DESIGN ENGINEER, or their consultants directors, officers, agents, and employees or permit any action against them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability or recover damages from OWNER, ENGINEER, DESIGN ENGINEER or their consultants, directors, officers, agents, or employees on account of these.

3. In the event that OWNER incurs costs contrary to the provisions of this paragraph, OWNER will be entitled to deduct these costs from the Contract Price by using a Change Order.

C. Extensions in Contract Time

1. If CONTRACTOR is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor or entity performing work at the site noted in the Contract Documents, CONTRACTOR may request an extension in Contract Time; if OWNER believes that the delay requires an adjustment in Contract Time, OWNER shall authorize the necessary extension of Contract Time. However, an extension in Contract Time(s), if so granted, shall be CONTRACTOR's sole and exclusive remedy with respect to OWNER, ENGINEER, and their consultants, agents and employees for any delay, disruption, interference, extension, acceleration or hindrance and associated costs, however caused, resulting from delays caused by others performing other work at the site.
2. The OWNER does not include an allowance for delays caused by the effects of inclement weather in establishing the Contract Time. The OWNER will consider an extension of contract time that is related to weather only when rains or inclement weather conditions are due to rainfall over and above the norm for the City of Venice. The norm will be based on US Weather Bureau statistics for the last 10 years. The CONTRACTOR will be required to demonstrate in its notice to the OWNER, the impact on the critical path of the construction schedule to justify the extension of time.

D. Contract Time Coordination

1. CONTRACTOR shall give prompt written notice to OWNER, ENGINEER and any other affected contractor(s) whenever CONTRACTOR anticipates a conflict in Contract Time(s) related to or simultaneous with associated contract time (s) in the work of others. Within seven (7) days thereafter, CONTRACTOR shall be required to deliver to ENGINEER proposed actions to either (a) prevent an adverse effect on the Progress Schedule of the other contractors arising from delays to the Work, or (b) prevent or overcome an adverse effect on the Progress Schedule for the Work arising from delays from another contract.
2. When Work is performed out of sequence and ahead of interfacing work, CONTRACTOR shall be responsible for taking reasonable steps to minimize damage or loss to the Work which may be caused by others during the performance of their work, including (but not limited to) furnishing written notice to ENGINEER and to the other contractors that Work has been performed out of sequence and ahead of interfacing work.
3. When work by others is performed out of sequence and ahead of interfacing Work, the said work shall be considered as if it had been shown on the Contract Documents. CONTRACTOR shall be responsible for protecting said work and shall replace, repair or otherwise settle with others any and all damage caused as a result of the performance of

work out of sequence unless CONTRACTOR had no actual knowledge thereof or could not reasonably have known thereof.

### 1.03 OWNER'S RESPONSIBILITIES

#### A. General

1. OWNER shall generally issue all communications to CONTRACTOR through the Construction Manager.
2. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer whose status under the Contract Documents shall be that of the former ENGINEER.
3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due as provided in Section 01026.
4. OWNER's duties in respect of providing lands and easements and engineering surveys to establish reference points, and identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications are set forth in Paragraph 1.05.
5. OWNER will issue unilaterally or negotiate, at its discretion, Change Orders and Change Requests as provided in Section 01027.
6. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in Article 13.
7. OWNER may allow its consultants, agents, attorneys, employees, and others access to the site. CONTRACTOR shall cooperate with OWNER in allowing such access.

### 1.04 ENGINEER'S STATUS DURING CONSTRUCTION

#### A. OWNER'S Representative

1. ENGINEER will be OWNER's representative during the construction of the Work. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

#### B. Visits to Site

1. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents.

#### C. Project Representation

OWNER may furnish a Construction Manager and/or Project Representative(s) to represent the OWNER and observe the performance of the Work.

#### D. Duties, Responsibilities and Limitations of Authority of Construction Manager:

1. Construction Manager or Project Representative will act as directed by the OWNER and will confer with ENGINEER regarding his activities. Construction Manager, if assigned, will perform the duties and responsibilities described herein with the assistance of Project Representative(s). If a Construction Manager is not assigned, the duties of the Construction Manager will be assumed by the Project Representative(s). ENGINEER shall generally issue all communications to CONTRACTOR through Construction Manager, including but not limited to communications directed to CONTRACTOR, from OWNER through ENGINEER. CONTRACTOR shall generally issue all communications to OWNER, ENGINEER through Construction Manager or Project Representative.
2. Construction Manager will: provide instructions to Project Representative(s) on procedures to be followed and schedule inspections of the Work; review daily inspection reports prepared by Project Representative(s); prepare draft Field Orders, Change Requests or Change Orders as required and review them with Project Representative(s), ENGINEER or OWNER, as applicable.
3. Construction Manager or Project Representative will attend meetings with CONTRACTOR, such as the Preconstruction Conference, Project Meetings and any other Project related meetings and review and circulate copies of minutes thereof.
4. Construction Manager will serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent, to assist in understanding the intent of the Contract Documents, and will serve as OWNER's liaison with CONTRACTOR when CONTRACTOR's operations affect OWNER's on-site operations, and when additional information is required from OWNER for proper execution of the Work.
5. Construction Manager will advise CONTRACTOR, through or with the assistance of Project Representative(s), of the commencement of any Work requiring a Shop Drawing or sample, when it is observed that a submittal has not been reviewed by ENGINEER.
6. Construction Manager will conduct on-site observations of the Work in progress and receive Project Representative(s)'s observation comments and non-conformance reports, to determine if the Work is proceeding in accordance with the Contract Documents.
7. Construction Manager will notify CONTRACTOR of disapproval or rejection of Work whenever Construction Manager or ENGINEER believe that any Work is defective, and will notify CONTRACTOR whether defective Work is to be corrected, or replaced.
8. Construction Manager will notify CONTRACTOR of any Work that is to be uncovered for observation, testing inspection or approval.
9. Construction Manager will accompany, through or with the assistance of Project Representative(s), visiting inspectors representing governmental or other agencies having jurisdiction over the Project, and record the results of the inspections and report to ENGINEER.
10. Construction Manager will transmit to CONTRACTOR clarifications and interpretations as issued by ENGINEER.
11. Construction Manager will consider and evaluate CONTRACTOR's proposed variations and the changes in the Work or the Contract Documents and report such proposals and evaluations to ENGINEER. Construction Manager will communicate decisions on such proposals to CONTRACTOR as issued by ENGINEER or OWNER.

12. Construction Manager will report promptly to ENGINEER and OWNER upon gaining knowledge of the occurrence of any accident at the site.
  13. Construction Manager will prepare reports of the progress of the Work and of CONTRACTOR's compliance with the Progress Schedule.
  14. Construction Manager will consult as appropriate with ENGINEER in advance of scheduled major tests, inspections or the commencement of important phases of the Work.
  15. Construction Manager will review and evaluate CONTRACTOR's Application for Payment and advise ENGINEER accordingly.
  16. Construction Manager will review and evaluate CONTRACTOR's notice that CONTRACTOR considers the Work (or part thereof) substantially complete and advise ENGINEER accordingly.
  17. Construction Manager will observe whether all items on lists of items to be completed prior to Final Payment have been completed and make recommendations to ENGINEER concerning Acceptance.
  18. During the course of the Work, the Construction Manager will verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and deliver this material to ENGINEER.
  19. Construction Manager will not: (1) authorize any variation or change in the Work or in the Contract Documents or approve any equivalent material or equipment; (2) exceed the limitations of Construction Manager's authority as set forth in this document; (3) undertake any of the responsibilities of CONTRACTOR, Subcontractors or CONTRACTOR's superintendent, or expedite the Work; (4) inspect, advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents; (5) inspect, advise on or issue directions as to safety precautions and programs in connection with the Work; (6) certify Substantial Completion of the Work; or (7) participate in specialized field or laboratory tests.
- E. Duties, Responsibilities and Limitations of Authority of Project Representative(s)
1. As requested by Construction Manager, Project Representative(s) will assist in obtaining from OWNER additional details or information, when required at the job site for proper execution of the Work.
  2. Project Representative(s) will advise Construction Manager and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample submission if he observes that a submittal(s) has not been reviewed by ENGINEER.
  3. Project Representative(s) will conduct on-site observations of the Work in progress to assist Construction Manager in determining if the Work is proceeding in accordance with the Contract Documents and that completed Work will substantially conform to the Contract Documents.

4. Project Representative(s) will notify CONTRACTOR and report to Construction Manager for review and possible disapproval or rejection by ENGINEER or Construction Manager whenever he believes that any Work is defective.
5. Project Representative(s) will notify CONTRACTOR and report to Construction Manager for determination of necessary action by ENGINEER or Construction Manager when he believes Work should be uncovered for observation, testing, inspection or approval.
6. Project Representative(s) will verify that tests, equipment and systems start-ups and operating and maintenance instructions are conducted as required by the Contract Documents and in the presence of the required personnel and that CONTRACTOR maintains adequate records thereof; observe, record and report to Construction Manager appropriate details relative to the test procedures and start-ups.
7. Project Representative(s) will report to Construction Manager when clarifications and interpretations of the Contract Documents are needed or requested.
8. Project Representative(s) will keep a diary recording hours on the job site, weather conditions, data relative to questions of extras or deductions, lists of visiting officials and representatives of Suppliers, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Project Representative(s) will summarize such information on the daily inspection report and submit copies to Construction Manager.
9. Project Representative(s) will assist Construction Manager with record keeping as directed by Construction Manager.
10. Project Representative(s) will report immediately to OWNER, ENGINEER and Construction Manager upon gaining knowledge of the occurrence of any accident.
11. Project Representative(s) will assist Construction Manager with the review and evaluation of CONTRACTOR's Application for Payment, noting particularly their relation to the schedule of values, Work completed, and materials and equipment delivered at the site but not incorporated in the Work.
12. Project Representative(s) will prepare draft lists of items to be completed or corrected (punch lists) as directed by Construction Manager.
13. Project Representative(s) will not: (1) authorize any variation or change in the Work or in the Contract Documents or approve any equivalent material or equipment; (2) exceed the limitations of Field Representative(s)'s authority as set forth in this document; (3) undertake any of the responsibilities of CONTRACTOR, Subcontractors or CONTRACTOR's superintendent, or expedite the Work; (4) inspect, advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents; (5) inspect, advise on or issue directions as to safety precautions and programs in connection with the Work; (6) certify Substantial Completion of the Work; or (7) participate in specialized field or laboratory tests.

F. Clarifications and Interpretations

ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as

ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

G. Authorized Variations in Work

ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents and required to produce the intended result. These may be accomplished by a Field Order and will be binding on CONTRACTOR who shall perform the Work involved promptly.

H. Rejecting Defective Work

ENGINEER will have authority to disapprove or reject Work at any time during the construction of the Work, which ENGINEER believes to be defective. ENGINEER will also have authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed. When CONTRACTOR has been notified by ENGINEER of disapproval or rejection of defective Work, CONTRACTOR shall take immediate action to correct or replace same.

I. Determinations of Quantities and Classifications of Unit Price Work

Project Representative or Construction Manager will determine the actual quantities of each classification of Unit Price Work. Project Representative or Construction Manager will review with CONTRACTOR, Project Representative or Construction Manager's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Project Representative or Construction Manager's written decisions thereon will be final and binding upon CONTRACTOR, unless, with seven (7) days after the date of any such decision, CONTRACTOR delivers to OWNER written notice of a claim.

J. Decisions on Disputes

ENGINEER will be the initial interpreter of the requirements of the Contract Documents, and in such capacity will render initial determinations in respect of the acceptability of the Work thereunder. Unless otherwise provided in the Contract Documents, notices, proposals or other matter relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render within a reasonable time. ENGINEER's written determination thereon shall be final and binding on CONTRACTOR unless CONTRACTOR delivers to OWNER written notice of a claim within seven (7) days of receipt of such decision.

K. Limitations on ENGINEER's Responsibilities

1. ENGINEER's authority to act under this Article or elsewhere in the Contract Documents nor any decision or determination made by ENGINEER in good faith to exercise or not to exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.
2. Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used to describe requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be

solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).

The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of this Article.

3. ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.
4. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

#### 1.05 AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

##### A. Availability of Lands

1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements, and those other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. Any additional lands, rights-of-way and easements not furnished by OWNER that CONTRACTOR deems necessary, including but not limited to requirements for temporary construction facilities, access and egress, or for storage, shall be obtained by CONTRACTOR at no increase in Contract Price or extension in Contract Time, and CONTRACTOR shall confine his operations to those areas furnished or obtained at its expense.
2. CONTRACTOR shall obtain permits and written approvals (and submit copies to OWNER before utilization of those areas) from the appropriate governmental entity or property owner(s), for use of lands not furnished by OWNER; and for all lands which include borrow pits, waste and disposal areas, such permits and approvals shall specify their treatment during and at completion of construction.
3. Access to municipal structures, hydrants, valves, manholes, fire alarms, etc., shall not be obstructed by CONTRACTOR. CONTRACTOR is to make no connections to or operate valves on water mains or otherwise interfere with the operation of the water system, without first giving written notice to and securing written approval from the appropriate governmental entity.

##### B. Physical Conditions (Including Underground Facilities)

1. The Contract Documents may identify reports of explorations and tests of subsurface conditions at the site, and those drawings of physical conditions in or relating to existing surface and subsurface structures or Underground Facilities which are at or contiguous to the site, that have been utilized by ENGINEER in preparation of the Contract Documents. Said reports, tests and drawings are provided for information only, and are not part of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data in those reports or drawings, but not upon nontechnical data, interpretations or opinions, or for their completeness for CONTRACTOR's purposes. Except as indicated in the preceding sentence and in Paragraphs 4.4 and 4.5, CONTRACTOR shall have full

responsibility for physical conditions, and Underground Facilities shown or indicated in the Contract Documents.

2. The information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. OWNER or ENGINEER shall not be responsible for the accuracy or completeness of any such information or data, and CONTRACTOR shall have full responsibility for reviewing and checking all such information and data.
3. Unless it prejudices Work already excavated and uncovered, CONTRACTOR shall schedule layout, excavation and uncovering of Work or Underground Facilities a sufficient time in advance to allow ENGINEER's review, and the possible amending or supplementing of the Contract Documents.

C. Differing Physical Conditions (including Underground Facilities)

CONTRACTOR shall immediately, after becoming aware thereof, and before the conditions are disturbed (except in a case of an emergency), notify ENGINEER in writing of any subsurface or latent physical conditions, or Underground Facilities, encountered at or contiguous to the site which differ materially from those indicated in the Contract Documents; Underground Facilities not shown or indicated in the Contract Documents encountered at or contiguous to the site; unknown physical conditions encountered or uncovered at or contiguous to the site, of an unusual nature, differing materially from those ordinarily encountered at or contiguous to the site which differ materially from those indicated in the Contract Documents; unknown physical conditions encountered or uncovered at or contiguous to the site, of an unusual nature, differing materially from those ordinarily encountered and not generally recognized as inherent in Work of the character provided for in the Contract Documents.

D. Resolution of a Report of Differing Physical Conditions

1. Promptly after receipt of notice from CONTRACTOR, ENGINEER will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests, and advise OWNER in writing of his findings and conclusions. Until such time when CONTRACTOR resumes the affected Work (and at all times thereafter), CONTRACTOR shall be responsible for the safety and protection of the affected Work.
2. If OWNER, with the advice of ENGINEER, concludes that the conditions do materially differ, and that the Contract Documents need to be amended, OWNER will, without invalidating the Agreement, by duly executed Change Order or Change Request, order the necessary changes in the Work, as long as OWNER has not exercised its rights to terminate the Agreement.

Upon receipt of that order, CONTRACTOR shall promptly proceed or continue with the Work involved pursuant to the conditions stated in the order.

3. If OWNER, with the advice of ENGINEER, concludes that the Contract Documents need to be supplemented only, appropriate minor deviations in the Work will be authorized by a Change Request duly executed by OWNER or a Field Order issued by ENGINEER. OWNER's determination that the Contract Documents do not need to be amended shall be final and binding on CONTRACTOR unless CONTRACTOR delivers to OWNER written notice of a claim within seven (7) days of receipt of notification of that decision.

4. If any change in the Work required due to differing physical conditions causes an increase or decrease in CONTRACTOR's cost of or the time required for the performance of all or part of the Work, OWNER shall make an adjustment in Contract Price or Contract Time, subject to the provisions of this Section, and Section 01027.
5. If the Contract Documents necessitate amending to order changes in the Work due to Underground Facilities, whether they be shown or indicated or newly discovered, OWNER will authorize the required changes in the Work, including any necessary adjustments in Contract Price, by Change Order or Change Request. If those Underground Facilities cause or will cause delays in the performance or extend completion of all or part of the Work, CONTRACTOR shall absorb all related delay, extension or acceleration costs, however caused; except that, if OWNER and CONTRACTOR believe that the delays require a change in Contract Time, OWNER will authorize the necessary change in Contract Time. However, an extension in Contract Time, when and if so granted shall be CONTRACTOR's sole and exclusive remedy with respect to OWNER for any delay, disruption, interference, extension or hindrance and associated costs, however caused, resulting from variance in the location or configuration of Underground Facilities shown or indicated, or from newly discovered Underground Facilities.
6. No proposal by CONTRACTOR for an adjustment under this Article, nor claim by CONTRACTOR for an adjustment on account of differing physical conditions, shall be allowed unless CONTRACTOR has given the written notice required in Paragraph 1.05.C.

E. Special Requirements for Underground Facilities

CONTRACTOR shall have full responsibility: a) for locating any and all Underground Facilities shown or indicated as to depth and alignment in advance of excavation; b) for identifying the owner of any newly discovered Underground Facility and promptly notifying that owner and ENGINEER of that discovery; c) for shoring, blocking, and protecting Underground Facilities shown, indicated or discovered; d) for coordination of the Work with the owners of all Underground Facilities shown, indicated or discovered; e) for repairing any damage done to the satisfaction of those owners, to the extent that the damage was due to CONTRACTOR's failure to adhere to the requirements of this paragraph or paragraph 1.05.B.2, or to the fault or negligence of CONTRACTOR; and f) for the safety and protection of any affected Work, and for repairing any damage done to the Work. All costs involved, and time required to perform these responsibilities shall be considered as having been included in the Contract Price and in the CONTRACTOR's schedule for the performance of the Work within the Contract Times, even if the Contract Documents need amending to authorize minor deviations or changes in the Work due to those Underground Facilities.

F. Reference Points

1. OWNER shall provide the engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of ENGINEER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

2. CONTRACTOR shall promptly, after becoming aware thereof and before performing any affected Work (except in a case of an emergency), notify OWNER in writing of any reference points which in CONTRACTOR's judgment need correction to enable CONTRACTOR to proceed with the proper performance of the Work.
3. In resolving a report of differing reference points, CONTRACTOR shall adhere to the procedures, assume the duties and responsibilities, and accept the conditions outlined in paragraph 1.05.D in all respects.

#### 1.06 SUSPENSION OF WORK AND TERMINATION

##### A. OWNER May Stop the Work

If the Work is defective and the CONTRACTOR has been notified by ENGINEER or OWNER, or if CONTRACTOR fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, or if CONTRACTOR fails to supply sufficient supervisory personnel or skilled workmen or suitable materials or equipment, or if CONTRACTOR fails to obtain, maintain or renew insurance in conformance with the Contract Documents in a form acceptable to OWNER, or if any insurance company CONTRACTOR has obtained insurance from declares bankruptcy or is declared bankrupt, or if CONTRACTOR fails to prosecute the Work without endangering persons or property, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated. OWNER's order to stop the Work may be communicated through ENGINEER or by OWNER. This right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER or ENGINEER to exercise this right for the benefit of CONTRACTOR or any other party. CONTRACTOR shall bear all direct, indirect, and consequential costs of such order to stop the Work (including but not limited to fees and charges of engineers, attorneys and other professionals, any additional expenses incurred by OWNER due to delays to others performing work under a separate contract with OWNER, and other obligations), and CONTRACTOR shall further bear the responsibility for maintaining the Progress Schedule and shall not be entitled to any extension of Contract Time or increase in the Contract Price. OWNER shall be entitled to deduct any expenses so incurred from the Contract Price by issuing a Change Order.

##### B. Suspension for Convenience

1. Without invalidating the Agreement, and without notice to any surety, OWNER may, at any time, order CONTRACTOR in writing to stop, delay or interrupt Work for such a period of time as OWNER may deem appropriate. Upon receipt of that order, CONTRACTOR shall immediately proceed in accordance with any specific provisions or instructions, protect and maintain the Work, and make reasonable and diligent efforts to mitigate costs associated with the suspension order.
2. If any suspension of Work under this paragraph causes an increase or decrease in CONTRACTOR's cost or the time required to perform or complete any part of the Work, OWNER shall make a change in Contract Price or Contract Time, as provided in Section 01027; except that no change in Contract Price or Contract Time will be made for any suspension of Work to the extent that performance would have been suspended anyhow by causes not meeting the criteria in Section 01027, or for which an adjustment is provided or excluded under any other provision of the Contract Documents.

##### C. Termination for Cause

1. OWNER may upon the occurrence of any one or more of the following events terminate the services of CONTRACTOR:

- a. If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;
  - b. If CONTRACTOR admits in writing an inability to pay its debts generally as they become due;
  - c. If CONTRACTOR fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers, sufficient supervisory personnel, or suitable materials or equipment or failure to adhere to the Progress Schedules);
  - d. If CONTRACTOR discontinues prosecution of the Work or any portion thereof;
  - e. If CONTRACTOR allows any final judgment against it to remain unsatisfied for a period of ten days;
  - f. If CONTRACTOR disregards laws, policies, court orders, or administrative directives, etc. of any governmental body, agency or court having jurisdiction;
  - g. If CONTRACTOR disregards the authority of ENGINEER;
  - h. If CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents; or
  - i. If CONTRACTOR fails to promptly pay Subcontractors, Suppliers, Material, Men, Laborers, etc.
2. As it is recognized that if CONTRACTOR is adjudged bankrupt or makes a general assignment for the benefit of creditors or if a receiver is appointed on account of its insolvency, such could impair or frustrate CONTRACTOR's performance of the Work, therefore it is agreed that upon occurrence of any such event, OWNER shall be entitled to request CONTRACTOR or its successor to provide adequate assurance of future performance in accordance with the terms and conditions of the Contract Documents. Failure to provide said adequate assurance within seven (7) days of the delivery of the request shall entitle OWNER to terminate CONTRACTOR. In all events pending receipt of adequate assurance of performance and actual performance in accordance herewith, OWNER shall be entitled to proceed with the Work with its own forces or with their contractors on a time and material or other appropriate basis the cost of which will be back charged against CONTRACTOR. OWNER shall be entitled to deduct these costs from the Contract Price by issuing a Change Order.
3. OWNER may, after giving CONTRACTOR and surety seven (7) days written notice, and to the extent permitted by laws and regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all

materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. CONTRACTOR shall assign all of its interest in any or all Sub-Agreements to OWNER upon OWNER's request. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs including costs for appellate proceedings) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. If CONTRACTOR leaves the site at any time during the seven day period, OWNER shall have the right to secure the site to protect the property from damage and to insure the health and safety of the public.

4. Notwithstanding the above notice period, in the event of an emergency, the OWNER may take over the site and perform any or all of the activities set out above immediately. OWNER shall provide notice of such takeover within 24 hours after its occurrence.
5. Where CONTRACTOR's services have been terminated by OWNER, the termination shall not affect any rights of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment due CONTRACTOR by OWNER will not release CONTRACTOR from liability.
6. OWNER may, at its sole discretion, permit CONTRACTOR to continue to perform work when CONTRACTOR is in default, however caused. Such a decision by OWNER shall in no way operate as a waiver on the part of OWNER of any of its rights under the Contract Documents.

#### D. Termination for Convenience

1. OWNER may, without prejudice to any other right or remedy, terminate this Contract in whole or in part at any time for its convenience by giving CONTRACTOR and surety seven (7) days written notice. OWNER shall have the right, in that event, to take over any or all of CONTRACTOR's materials, (whether stored on or off site) supplies, equipment, Sub-Agreements or other obligations to complete the Work and CONTRACTOR shall assign them to OWNER upon OWNER's request. CONTRACTOR shall proceed to complete any part of the Work, as directed by OWNER, and shall settle all its claims and obligations under the Agreement.
2. In any such termination for the convenience of OWNER, CONTRACTOR shall be paid for Work completed in accordance with the Contract Documents prior to receipt of the notice of termination, and for reasonable termination settlement costs relating to commitments which had become firm prior to the termination; however, payment to CONTRACTOR will exclude any and all anticipated supplemental costs, administrative expenses, overhead, and profit on uncompleted Work. CONTRACTOR shall justify its claims as requested by OWNER with thorough, accurate records and data.
3. If, after notice of Termination for Cause of CONTRACTOR, it is determined that CONTRACTOR was not in default, the termination shall be deemed to have been for the convenience of OWNER. In such event CONTRACTOR may recover from OWNER payment in accordance with paragraph 1.06.D.2.

E. CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, or a Subcontractor or their agents or employees or any other person for whose acts they may be responsible, the Work is suspended for a period of more than ninety (90) days by OWNER or under an order of court or other public authority, or Project Representative fails to act on any Application for Payment within forty-five (45) days after it is submitted, or OWNER fails for forty-five (45) days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven (7) days written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if Project Representative has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven (7) days' notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. Except as specifically provided in this paragraph, these provisions shall not relieve CONTRACTOR of the obligation under paragraph 1.01.K to carry on the Work in accordance with the Progress Schedule and without delay during disputes and disagreements with the OWNER.

1.07 CONTRACTOR QUALIFICATIONS

The OWNER must protect itself by limiting exposure to unproven and unqualified and/or inexperienced Contractors to assure the long-term service of the OWNER'S system. The OWNER has, therefore, established standards for Contractor expertise and experience as follows:

1. The CONTRACTOR must provide a minimum of two (2) project references for each of the criteria listed below.
2. Each project reference must have been successfully completed in the last ten (10) years preceding the bid opening.
3. All criteria do not need to be satisfied by each submitted project reference, however all criteria must have been satisfied two (2) times by the submitted project references.
4. The project references may have been self-performed with CONTRACTOR'S employees or performed by a subcontractor who is part of the CONTRACTOR'S team for this project.
5. The Contractor qualification requirements include the following criteria:
  - a. Trenchless installation of underground piping using horizontal directional drilling methods of minimum twelve inch (12") diameter FPVC potable water pressure pipe. Twelve hundred (1,200) linear feet (LF) or greater.
  - b. Construction of underground potable water pressure pipe systems of minimum twelve inch (12") diameter PVC (Polyvinyl Chloride) pipe. Three thousand (3,000) linear feet (LF) or greater.
  - c. Trenchless installation of underground piping using Jack and Bore methods of minimum twenty-four inch (24") diameter steel casing. Fifty (50) linear feet (LF) or greater.

END OF SECTION

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## SECTION 01010

### SUMMARY OF WORK

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Description of Work.
- B. Contract type.
- C. Work sequence.
- D. Use of premises.

##### 1.02 DESCRIPTION OF WORK

- A. Installation of approximately 3,730 linear feet of 12-inch PVC water main by open cut, approximately 2,280 linear feet of 12-inch fusible PVC water main by horizontal directional drill, and approximately 55 linear feet of 12-inch PVC carrier pipe in a 24-inch steel casing by jack and bore.
- B. Installation of appurtenances including, but not limited to, eleven (11) 12-inch gate valves, one (1) 10-inch gate valve, six (6) fire hydrants, and one (1) automatic flushing device.
- C. Connection to an existing water main and testing of the entire system.
- D. Erosion and siltation controls along with the provisions of the Best Management Practices (BMP) shown in the Contract Documents.
- E. Maintenance of traffic; both vehicular and pedestrian.
- F. Maintenance of flow in the water mains to which this project is connecting.
- G. Concrete sidewalk and driveway restoration.
- H. Restoration of areas disturbed by construction.

##### 1.03 USE OF PREMISES

- A. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by Laws and Regulations, rights-of-way, permits and easements or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such property, or to the owner or occupant thereof or of any other property, caused or alleged to have been caused by or incident to the execution of this Work. CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify, defend and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including but not limited to charges of engineers, architects and other professionals, and attorneys' fees and attorneys' fees on appeal and all costs of defense or appeal) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR's performance of the Work.

- B. Notwithstanding the designation of Contract limits or the indication of temporary fences or barricades, the provisions of the Contract Documents governing certain phases or portions of the Work, such as trenching and landscaping, may require that certain operations be carried out beyond such limits. Those operations, if required beyond such designated limits, shall be scheduled in such a manner as to cause or occasion a minimum of inconvenience or disturbance to or interference with the normal operation of OWNER abutters and the public. CONTRACTOR shall obtain OWNER's prior approval and all necessary approvals from others, governmental entities and utility companies for such operations, and prosecute such operations expeditiously and restore the affected property to its original condition immediately upon completion of such operations, unless otherwise specified in the Contract Documents. All those areas on which temporary driveways or walks are routed shall be restored to their original condition, immediately when normal routing can be reinstated, unless otherwise specified in the Contract Documents. Pumping, draining and control of surface and groundwater shall be carried out so as to avoid endangering the Work or any adjacent facility or property, or interrupting, restricting or otherwise infringing or interfering with the use thereof.
- C. Except as specifically arranged with the owners of adjacent premises, CONTRACTOR shall avoid any encroachment on adjacent premises. It is specifically agreed that CONTRACTOR shall repair and make good any damage to adjacent premises or improvements thereon caused by its operation, including any damage or loss to the tenant of such adjoining premises or to the owners thereof, whether to buildings, stocks of merchandise, trade fixtures, or otherwise.
- D. During the progress of the Work, and as directed by the OWNER or its representatives, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.
- E. CONTRACTOR shall not load or permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

#### 1.04 SEQUENCE OF WORK

- A. The CONTRACTOR shall begin work no later than 14 calendar days after receipt of Notice to Proceed, and shall diligently prosecute the same completion to the expiration of the following schedule.
  - 1. The Contractor shall obtain substantial completion within 150 calendar days from the issuance of the Notice to Proceed. The final completion shall be 180 calendar days, from the Notice to Proceed, for all Work (except warranty items) in accordance with the Contract Documents.
  - 2. The CONTRACTOR shall prepare an approximate overall Schedule for review and approval by the OWNER prior to beginning construction. Along with the Schedule, the CONTRACTOR shall also prepare and submit for a review; a sequence of work, and a maintenance-of-traffic plan.

#### PART 2 PRODUCTS

Not used

#### PART 3 EXECUTION

Not used

END OF SECTION

Feb-15

## SECTION 01025

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.01 PROCEDURES

- A. For unit price items, the CONTRACTOR shall be paid for the actual amount of work accepted during the period of construction. After the Work is completed and before final payment is made, the Project Representative shall make final measurements to determine the quantities of the various items of work accepted as the basis for final payment.
- B. Measurement and Payment for Lump Sum bid items will be made based on a percentage of completion, as approved by the OWNER and recommended by the ENGINEER, on a monthly basis for the Lump Sum bid item listed on the Bid Form of the Contract Documents.
- C. All units of measurement shall be standard United States convention as applied to the individual items of work as specified and as interpreted by the Project Representative.
- D. At the end of each week's work, the CONTRACTOR's superintendent or other authorized representative of the CONTRACTOR may meet with the Project Representative and determine the quantities of unit price and/or lump sum price work accomplished and/or completed during the work day.
- E. Once each month the CONTRACTOR will prepare and sign an Application for Payment, and submit the original and five (5) copies for review and signature of the Project Representative. These completed forms will provide the basis upon which payment will be made to the CONTRACTOR.

##### 1.02 SCOPE OF PAYMENT

- A. Payments to the CONTRACTOR will be made for the actual quantities of the contract unit price items performed and accepted in accordance with the Contract Documents. Upon completion of construction, if these actual quantities show either an increase or decrease from the quantities given in the Bid, the contract unit prices will still prevail, except as provided in the General Conditions, Supplementary Conditions or Special Conditions.
- B. No payment of any Application for Payment or of any retained percentage shall relieve the CONTRACTOR of his obligation to repair or replace any defective parts of the construction or to be responsible for all damage due to such defects during the construction period or the one-year correction period.

##### 1.03 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. All partial invoices and payments shall be subject to correction in the final Application for Payment.

##### 1.04 PAYMENT FOR MATERIAL DELIVERED

- A. No payment shall be made for materials delivered and not installed, unless specifically agreed upon by the OWNER prior to delivery of such materials.

#### PART 2 PRODUCTS

Not used

## PART 3 EXECUTION

### 3.01 PAY ITEMS

- A. Potable Water Main and Fittings (Bid Item No. 1): Payment for furnishing and installing potable water main pipes and fittings will be made at the Contract unit price per linear foot for the pipe in place, pressure tested, and disinfected. This item includes all labor, equipment, tools and materials for clearing and grubbing, proper disposal of trees, bushes, concrete sidewalks and driveways. Also includes all necessary pipe fittings, pipe coatings and linings, vertical deflections, spacers, the furnishing and laying of the pipe, signs, maintenance of traffic, dewatering, compaction, pipe bedding, backfilling, sheeting, restrained joint piping, detectable tape, tracer wire, clamps, harnessing, plugs and caps, adapters, excavation of all material encountered, including rock, backfill, compaction, compaction testing, replacement of items disturbed by construction, including, but not limited to, grass, sod, sidewalks, driveways, landscaping, mailboxes, culverts, storm sewers, miter end sections, and other surface materials not specifically designated in the Bid, stubs for future connections, connection to existing water mains, coordination and scheduling with the Owner, clean-up, disinfection, flushing, temporary jumpers, temporary facilities for testing and sampling, pipe tests, and water samples. Pipe measured to the nearest foot along the centerline including the lengths of valves and fittings. Measure linear footage horizontally. Pipe installed within casing pipe is not included in this item. Payment will be made at seventy-five percent of the Contract unit price for pipe and fittings installed, backfilled and compacted. Pipe and fittings will be considered ninety percent complete following satisfactory pressure testing, and one hundred percent complete following disinfection and satisfactory bacteriological testing.
- B. Horizontal Directional Drill (Bid Item No. 2): Payment for furnishing and installing potable water main of the selected pipe material by horizontal directional drilling at the locations indicated will be made at the Contract unit price per linear foot for the pipe in place, pressure tested, disinfected, pigged and flushed. This item includes all labor, equipment, tools, and materials to install the listed diameter of fusible PVC (FPVC, polyvinylchloride, AWWA C900) water main by directional drilling method. Measurement and Payment shall be made for the actual horizontally measured length of the selected diameter and pipe material installed and will represent full compensation for all labor, materials, tools, directional boring operations, excavation, bedding, backfill, compaction, compaction testing, temporary facilities for testing and sampling, water samples, and butt fused adapters, as necessary, to transition from one pipe material to another. Fittings to connect to pipe installed by open cut are to be included in Part B above (Bid Item No. 2). Pipe measured to the nearest foot along the horizontal plan between the limits shown on the plans. If minimum radius or installation require that the beginning and end of the directional drill to be extended, the extension will be paid for at the unit price of Part B above (Bid Item No. 2).
- C. Jack and Bore (Bid Item No. 3): Payment for furnishing and installing casing and carrier pipe by the jack and bore method will be made at the appropriate Contract unit price per linear foot for casing and carrier pipe, of the sizes and materials indicated, in place. Jack and bore limits are from one end of the casing to the other. This item includes all labor, equipment, tools and materials for furnishing and installing the casing and carrier pipe, including equipment setup and removal, dewatering, clearing and grubbing, excavation for jacking and receiving pits, boring and jacking the casing pipe, welding, carrier pipe, joint restraint, casing spacers, casing seals, backfilling, compaction, removal and replacement of grass, sod, shrubs, pavement, driveways, culverts and storm sewers, mailboxes, sidewalks and other surface materials not specifically designated in the Bid, cleanup, testing and all other work for a complete installation.

- D. Fire Hydrant Assemblies (Bid Item No. 4): Payment for the furnishing and installing of fire hydrant assemblies will be made at the Contract unit price for each fire hydrant assembly acceptably installed, adjusted to grade, painted, and ready for use. This item includes all labor, equipment, tools and materials for furnishing and installing fire hydrants with all necessary pipe, fittings, connections, joint restraints, thrust blocks, slabs, valves, valve boxes, excavation, pipe bedding, dewatering, road reflectors, compaction, removal and replacement of grass, sod, shrubs, pavement, driveways, culverts and storm sewers, mailboxes, sidewalks and other surface materials not specifically designated in the Bid, cleanup, testing and all other work for a complete installation.
- E. Auto Flusher Assembly (Bid Item No. 5): Payment for furnishing and installing an automatic flushing assembly will be made at the Contract unit price per automatic flushing assembly acceptably installed. This item includes all labor, equipment, tools and materials for furnishing and installing an automatic flushing assembly on an end-of-line fire hydrant, including flow meter, automatic flushing device, piping, connections, security collars, pipe stand, and splash pad.
- F. Gate Valves (Bid Item No. 6): Payment for furnishing and installing valves will be made at the appropriate Contract unit price per valve of the size indicated acceptably installed, exclusive of valves installed as part of fire hydrant assemblies. This item includes the valve, valve box, vault or housing, concrete work, operators, incidentals, and all necessary labor, equipment, tools and materials for installation, including valve stem, valve box extensions and adjustments. This item also includes the installation of base material below the valve in accordance with the detail shown in the Construction Documents
- G. Sidewalk Restoration (Bid Item No. 7): Payment for the restoration of concrete sidewalks will be made at the contract unit price per square yard of 4" thick fibrous reinforced concrete sidewalk properly installed in areas where the existing sidewalk is removed for the installation of the water main. This item includes all labor, equipment, tools, materials, maintenance of traffic, compaction, compaction testing, replacement of items disturbed by construction, including, but not limited to, grass, sod, landscaping, mailboxes, culverts, storm sewers, miter end sections, other surface materials not specifically designated in the Bid, and all other work incidental to the sidewalk restoration, as required to complete per details, and shall only apply to locations indicated on the drawings. The Contractor shall match the existing sidewalk grade. The Owner will not pay for sidewalk that the Contractor could have saved using reasonable care and precautions or for sidewalk damaged by directional drilling activities. Payment shall not include restoration of driveways. The cost of driveway restoration shall be paid under Item 9.
- H. Driveway Restoration (Bid Item No. 8): Payment for the restoration of concrete driveways will be made at the contract unit price for each concrete driveway restored in areas where it is removed for the installation of the water main. The restored driveways shall be 6" thick fibrous reinforced concrete and shall match the dimensions of the driveway being replaced. This item includes all labor, equipment, tools, materials, maintenance of traffic, compaction, compaction testing, replacement of items disturbed by construction, including, but not limited to, grass, sod, landscaping, mailboxes, culverts, storm sewers, miter end sections, other surface materials not specifically designated in the Bid, and all other work incidental to the driveway restoration, as required to complete per details, and shall only apply to locations indicated on the drawings. The Contractor shall match the existing driveway grade. The Owner will not pay for driveway restoration that the Contractor could have saved using reasonable care and precautions or for driveways damaged by directional drilling activities.
- I. Owner's Allowance (Bid Item No. 9): The Bid Item entails minor increases to existing bid item quantities or minor modification items not bid which were unforeseen and necessary during the construction to provide a safe, complete project in accordance with the Bid Documents. Authorization for use of any of this Bid Item shall be made by the City of Venice in writing prior to performing the associated work. In general, this item is for unanticipated conflicts and/or design

changes required during construction which are necessary to complete the project without changing the initial Scope of Work and without costly delays.

- J. Mobilization and Demobilization (Bid Item No. 10): Payment for mobilization and demobilization shall be made at the contract lump sum price for mobilization and demobilization. This price shall be full compensation for all costs incurred for preparatory work and operations including, but not limited to those necessary for the movement of personnel, equipment and supplies to and from the project site; cleanup and incidentals to the project site; the establishment of facilities necessary for work on the project; fees for bonds, insurance and permits; and all other work and operations including submittals and obtaining construction permits, which must be performed prior to beginning work on the various items. The lump sum price shall be equal to or less than to five percent (5%) of the total of all other Bid Items (Measurement and Payment Bid Items 1 - 9). Payment for mobilization/demobilization will be payable in the first partial payment at 75% of the contract lump sum price for mobilization and the balance payable in the final project close-out payment.

END OF SECTION

**SECTION 01026**

**APPLICATIONS FOR PAYMENT**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Procedures for preparation and submittal of Applications for Payment.

**1.02 FORMAT**

- A. CONTRACTOR shall use the Application for Payment included at the end of this section or alternate form approved by Project Representative.
- B. For each item, by specification section number and title, provide a column for listing:

- 1. Item Number.
- 2. Description of Work.
- 3. Scheduled Value.
- 4. Previous Applications.
- 5. Work in Place.
- 6. Stored Materials.
- 7. Authorized Change Orders.
- 8. Total Work Completed.
- 9. Materials Stored to Date of Application.
- 10. Percentage of Completion.
- 11. Balance to Finish.
- 12. Retainage.

For specification sections covering more than one production or work item, list each item separately as a sub-listing to the section.

- C. Submit format to be used to Project Representative for review and approval a minimum of 10 days prior to the first Application for Payment.

**1.03 PREPARATION OF APPLICATIONS**

- A. Review application with Project Representative.
- B. Type required information and execute certification by signature of authorized officer.
- C. Submit each payment application to the Project Representative for approval and submission to OWNER for payment.
- D. Use data on accepted Schedule of Values. Provide dollar value in each column for each line item for portion of Work performed and for stored materials.

- E. The value of each Application for Payment shall be equal to the total value of the work performed to date, less an amount retained, and less payments previously made and amounts withheld in accordance with this Section.
- F. When payment to CONTRACTOR is made for stored material and equipment, delivered and suitably stored at the site or at another location agreed to in writing, CONTRACTOR shall submit invoices marked paid by the Supplier with the Application for Payment following payment to CONTRACTOR documenting that CONTRACTOR has paid for said materials and equipment, or the previously paid amount shall be deducted from remaining payments or retainage for stored materials and equipment not so properly documented. The suppliers' invoices shall clearly indicate the project for which material and equipment have been supplied. In no event shall the quantity of material and equipment submitted for payment be in excess of the actual final installed quantity. OWNER may deduct from the final Application for Payment amounts paid CONTRACTOR for material and equipment not finally installed in the Work.
- G. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount the same as for an original item of Work.
- H. Prepare Application for Final Payment as specified in Section 01701.

#### 1.04 SUBMITTAL PROCEDURES

- A. Submit four (4) copies of each Application for Payment on a monthly basis.
- B. Applications for Payment submitted more frequently than on a monthly basis will not be considered.
- C. Submit progress photos with each Application for Payment corresponding to the work completed and included in the Application for Payment. The photos shall include a caption describing the work being performed and the station where the photo was taken.

#### 1.05 SUBSTANTIATING DATA

- A. When Project Representative requires substantiating information, submit data justifying line item amounts in question.
- B. Provide one (1) copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

#### PART 2 PRODUCTS

Not used

#### PART 3 EXECUTION

Not used



CONTRACTOR's Certification:

The undersigned CONTRACTOR certifies that (1) all previous progress payments from OWNER on account of work done under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered by prior Application for Payment numbered 1 through \_\_\_\_ inclusive; and (2) title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment, free and clear of all liens, claims, security interests and encumbrances (except as covered by Bond acceptable to OWNER).

Dated \_\_\_\_\_, 19\_\_

CONTRACTOR

By

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated \_\_\_\_\_, 19\_\_.

ENGINEER

By

*EJCDC No. 1910-8-E (1983 Edition)  
Prepared by the Engineer's Joint Contract Documents and endorsed by The Associated General  
Contractors of America.*

## SECTION 01027

### CHANGE ORDER PROCEDURES

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Promptly implement change order procedures.
  - 1. Provide full written data required to evaluate the time and associated costs of changes.
  - 2. Maintain detailed records of work done on a time-and-material basis.
  - 3. Provide full documentation to Project Representative.

##### 1.02 DEFINITIONS

- A. Change Order: A written instrument issued on or after the Effective Date of the Agreement, which when duly executed by OWNER amends the Contract Documents to provide for changes in the Work or in the provisions of the Contract Documents, or changes in Contract Price or Contract Time, or any combination thereof.
- B. Work Directive Change: A written order to the CONTRACTOR, signed by OWNER and Project Representative, which amends the Contract Documents as described, and authorizes CONTRACTOR to proceed with a change which affects the Contract Price or the Contract Time, for inclusion in a subsequent Change Order.
- C. Field Order: The Project Representative may issue, as required, a written order, instructions, or interpretations, signed by Project Representative making minor changes in the Work not involving a change in Contract Price or Contract Time.

##### 1.03 PRELIMINARY PROCEDURES

- A. OWNER may initiate changes by submitting a proposal request to CONTRACTOR. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress. Request will include:
  - 1. Detailed description of the change, products, and location of the change in the Project.
  - 2. Supplementary or revised Drawings and Specifications.
  - 3. The projected time span for making the change, and a specific statement as to whether overtime work is, or is not, authorized.
  - 4. A specific period of time during which the requested price will be considered valid.
- B. CONTRACTOR may initiate changes by submitting a written notice to OWNER, containing:
  - 1. Description of the proposed changes.
  - 2. Statement of the reason for making the changes.
  - 3. Statement of the effect on the Contract Price and the Contract Time.
  - 4. Statement of the effect on the work of subcontractors or other contractors.
  - 5. Documentation supporting any change in Contract Price and/or Contract Time.

1.04 WORK DIRECTIVE CHANGE

- A. In lieu of proposal request, OWNER and Project Representative may issue a Work Directive Change ordering the CONTRACTOR to proceed with a change for subsequent inclusion in a Change Order.
- B. The Work Directive Change will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in the Contract Price and/or Contract Time.
- C. OWNER will sign and date the Work Directive Change as authorization for the CONTRACTOR to proceed with the changes.
- D. CONTRACTOR may sign and date the Work Directive Change to indicate agreement with the terms therein.

1.05 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data including labor, equipment, overhead and profit to allow Project Representative to evaluate the quotation.
- B. On request provide additional data to support time and cost computations:
  - 1. Labor required.
  - 2. Equipment required.
  - 3. Products required.
    - a. Recommended source of purchase and unit cost.
    - b. Quantities required.
  - 4. Taxes, insurance and bonds.
  - 5. Credit for work deleted from Contract, similarly detailed and documented.
  - 6. Overhead and profit.
  - 7. Justification for any change in Contract Time. Justification shall include a revised project schedule identifying the impact of the change.
- C. Support each claim for additional costs, and for work done on a time-and-material basis, with documentation as required for a lump-sum proposal, plus additional information:
  - 1. Name of the OWNER'S authorized agent who ordered the work, and date of the order.
  - 2. Dates and times work was performed, and by whom.
  - 3. Time record, summary of hours worked, and hourly rates paid (Certified Payroll).
  - 4. Receipts and invoices for:
    - a. Equipment used, listing dates and times of use, and hourly rates.

- b. Products used, listing of quantities and receipted bills.
- c. Subcontractors billings and description of work performed.
- D. Document requests for substitutions for Products as specified in Section 01630.

#### 1.06 PREPARATION OF CHANGE ORDERS

- A. Project Representative will prepare each Change Order.
- B. Form: Change Order: Form included in SPECIFICATIONS.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- D. Change Order will provide an accounting of the adjustment in the Contract Price and/or Contract Time.

#### 1.07 LUMP-SUM OR FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
  - 1. Project Representative's proposal request and CONTRACTOR'S responsive proposal as mutually agreed between OWNER and CONTRACTOR.
  - 2. CONTRACTOR'S proposal for a change, as recommended by ENGINEER.
- B. OWNER will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.
- C. CONTRACTOR shall sign and date the Change Order to indicate agreement with the terms therein.

#### 1.08 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
  - 1. Project Representative's definition of the scope of the required changes.
  - 2. CONTRACTOR'S proposal for a change, as recommended by ENGINEER.
  - 3. Measurement of completed work.
- B. The amounts of the unit prices to be:
  - 1. Those stated in the Agreement.
  - 2. Those mutually agreed upon between OWNER and CONTRACTOR.
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the Work:
  - 1. OWNER will sign and date the Change Order as authorization for CONTRACTOR to proceed with the changes.
  - 2. CONTRACTOR shall sign and date the Change Order to indicate agreement with the terms therein.

D. When quantities of the items cannot be determined prior to start of the Work:

1. OWNER and Project Representative will issue a Work Directive Change directing CONTRACTOR to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
2. At completion of the change, Project Representative will determine the cost of such work based on the unit prices and quantities used. CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
3. OWNER will sign and date the Change Order as authorization.
4. CONTRACTOR shall sign and date the Change Order to indicate agreement with the terms therein.

1.09 TIME AND MATERIAL WORK DIRECTIVE CHANGE AND CHANGE ORDER

- A. OWNER will issue a Work Directive Change directing CONTRACTOR to proceed with the changes.
- B. At completion of the change, CONTRACTOR shall submit itemized accounting and supporting data as provided in paragraph 1.05 Documentation of Proposals and Claims.
- C. Project Representative will recommend the allowable cost of such work.
- D. OWNER will sign and date the Change Order as authorization.
- E. CONTRACTOR shall sign and date the Change Order to indicate their agreement therewith.

1.10 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Price.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise subschedules to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

**CHANGE ORDER**

**Project:** \_\_\_\_\_ **Owner's Contract No.:** \_\_\_\_\_

**Date of Issuance:** \_\_\_\_\_ **Effective Date:** \_\_\_\_\_

**Owner:** \_\_\_\_\_

**Contractor:** \_\_\_\_\_ **Engineer:** \_\_\_\_\_

The Contractor is directed to make the following changes in the Contract Documents.

*Description:* \_\_\_\_\_

*Attachments:* \_\_\_\_\_

<b>Change in Contract Price:</b>	<b>Change in Contract Times:</b>
Original Contract Price:  \$ _____	Original Contract Times: _____ Substantial Completion: _____ Completion: _____  Days or Dates
Contact Price prior to this Change Order \$ _____	Contact Time prior to this Change Order Substantial Completion: _____ Completion for final payment: _____
Net Increase/Decrease of this Change Order \$ _____	Net Increase/Decrease of this Change Order Days _____
Contact Price with all approved Change Orders  \$ _____	Contact Times with all approved Change Orders Substantial Completion: _____ Completion: _____  Days or Dates

**Recommended:**

**Approved:**

**Accepted:**

By: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Engineer (Authorized Signature)

Owner (Authorized Signature)

Contractor (Authorized Signature)

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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**SECTION 01040**

**CONTRACT COORDINATION**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Coordination of Work required by the Contract.

**1.02 DESCRIPTION**

- A. Coordinate scheduling, submittals, and work of the various sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.

**1.03 MEETINGS**

- A. Hold coordination meetings and preinstallation conferences with personnel and subcontractors to assure coordination of Work.

**1.04 COORDINATION OF SUBMITTALS**

- A. Schedule and coordinate submittals as specified in Section 01340.
- B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing equipment in service.
- C. Coordinate requests for substitutions from all subcontractors to assure compatibility of space, of operating elements, and effect on work of other sections.

**1.05 COORDINATION OF CONTRACT CLOSEOUT**

- A. Coordinate completion and cleanup of work in preparation for Substantial Completion.
- B. After OWNER occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, in a manner that minimizes disruption of OWNER'S activities.
- C. Assemble and coordinate closeout submittals specified in Section 01701.

**1.06 COORDINATION WITH OTHER CONTRACTORS**

- A. Cooperate with other contractors working within the same site or on adjacent sites.
- B. Coordinate the Work of this Contract with other contractors so as not to interfere with or hinder the progress or completion of the work being performed by other contractors.

**PART 2 PRODUCTS**

Not used

**PART 3 EXECUTION**

Not used

END OF SECTION

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**SECTION 01045**  
**CUTTING AND PATCHING**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Cutting and patching included in the Work.

**1.02 DESCRIPTION**

- A. Execute cutting, fitting, and patching to complete Work, and to:
  - 1. Fit the several parts together, to integrate with other work.
  - 2. Uncover work to install ill-timed work.
  - 3. Remove samples of installed work for testing.
  - 4. Provide openings for penetrations of mechanical and electrical work.

**1.03 SUBMITTALS**

- A. Submit written notice to Project Representative in advance of cutting or alteration which affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather-exposed or moisture-resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight-exposed elements.
  - 5. Work of OWNER or separate contractor.
- B. Include the following in written notice:
  - 1. Identification of Project.
  - 2. Location and description of affected work.
  - 3. Necessity for cutting or alteration.
  - 4. Description of proposed work, and products to be used.
  - 5. Alternatives to cutting and patching.
  - 6. Date and time work will be executed.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Those required for original installation.
- B. For any change in materials, submit request for substitution in accordance with Section 01630.

### PART 3 EXECUTION

#### 3.01 INSPECTION

- A. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- B. After uncovering, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

#### 3.02 PREPARATION

- A. Provide supports to assure structural integrity of surroundings. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by work; maintain excavations free of water.

#### 3.03 PERFORMANCE

- A. All cutting and patching work shall be performed by, and shall be the responsibility of the CONTRACTOR. Subcontractors are not responsible for any cutting or patching under this Contract.
- B. Execute work using methods which avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
- C. Restore work with new products in accordance with requirements of Contract Documents.
- D. Fit work airtight and/or watertight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- E. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

## SECTION 01050

### FIELD ENGINEERING

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. The CONTRACTOR shall provide and pay for field engineering and survey service required. Such work shall include survey work to establish existing and/or proposed lines and grades and to locate and layout site boundary's, project control, site improvements, structures, controlling lines and levels and all other survey required for the construction of the work. Also included are such engineering services as are specified or required to execute the CONTRACTOR's construction methods. Surveyors shall be licensed professionals registered in the State of Florida.
- B. The accuracy of any method of staking shall be the responsibility of the CONTRACTOR. All surveying for vertical and horizontal control shall be the responsibility of the CONTRACTOR.
- C. The CONTRACTOR shall be held responsible for the preservation of all stakes and marks. If any stakes or marks are carelessly or willfully disturbed by the CONTRACTOR, the CONTRACTOR shall not proceed with any work until he has established such points, marks, lines and elevations as may be necessary for the prosecution of the work.

##### 1.02 SURVEY REFERENCE POINTS

- A. Existing basic horizontal and vertical control points for the project are those designated on the drawings. The CONTRACTOR shall locate and protect control points prior to starting site work and shall preserve all permanent reference points during construction. In working near any permanent property corners or reference markers, the CONTRACTOR shall use care not to remove or disturb any such markers. In the event that markers must be removed or are disturbed due to the proximity of CONSTRUCTION work, the CONTRACTOR shall have them referenced and reset by a Florida Registered Land Surveyor and Mapper.

##### 1.03 PROJECT SURVEY REQUIREMENTS

- A. The CONTRACTOR shall engage the services of a Florida Registered Land Surveyor and Mapper to establish all lines and grades on the Drawings necessary to fully construct the work in accordance with Section 5J-17, Florida Administrative Code (F.A.C.).
- B. The Registered Land Surveyor and Mapper shall establish and stake all Right-of-Way adjacent to construction at 100' intervals on tangents, 50' intervals on curves and at all changes in direction.
  - 1. The Registered Land Surveyor shall utilize current right-of-way maps, plats, and property deeds, all being of public record, in conjunction with existing monumentation to establish the existing right-of-way lines and utility easement boundaries.
- C. The Registered Land Surveyor and Mapper shall establish a temporary benchmark system in accordance with Section 5J-17, F.A.C. and shall provide a written list to the CONTRACTOR for his use.
- D. The CONTRACTOR shall provide a Record Drawing Survey of all pipelines installed in the project, signed and sealed by a Florida Registered Surveyor and Mapper. As a minimum, the Record Drawing Survey shall provide at a minimum:

1. Top of pipe elevation at every 100 feet;
  2. Top of pipe elevation at any grade change or direction changes;
  3. Top of pipe and top elevations of all utilities at utility crossings where the proposed utility crosses above or below other utilities;
  4. Top elevation and location of all underground appurtenances (bends, fittings, valves, service saddles, etc.);
  5. Location of all above grade appurtenances (ARV enclosures, hydrants, valves, etc.);
  6. Two-point swing ties (maximum distance of two hundred feet (200')), measured from permanent reference points such as power or telephone poles, manholes, storm structures, fire hydrant bonnets shall be provided for all conflicts, crossings, and underground appurtenances.
  7. GPS coordinates shall be provided for all underground and above grade appurtenances.
  8. Coordinate and swing tie data shall be provided in tabular format on the applicable drawings sheet. The data table shall also include the corresponding appurtenance elevation;
  9. All other surveying as required to show that the work has been completed to the lines and grades shown on the Drawings and Contract Documents.
- E. The Record Drawings shall reflect all field deviations and/or plan modifications.
- F. GPS coordinates shall be survey accuracy and shall conform to the requirements of Section 5J-17-6, F.A.C., pursuant to Chapter 472.

#### 1.04 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as construction progresses. Survey notes indicating the information and measurements used in establishing locations and grades shall be kept in notebooks and furnished to the OWNER with the Record Drawings.

#### 1.05 SUBMITTALS

- A. Submit names and address of Surveyor to the OWNER.
- B. Submit six (6) full sized 24"x36" and three (3) half sized 11"x17" sets of Record Drawings, signed and sealed by the Registered Land Surveyor.
- C. Submit two (2) CD-ROMS of the record drawing surveys in Adobe pdf and AUTOCAD 2007 or later format.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

Feb-15

## SECTION 01200

### PRECONSTRUCTION/PROJECT MEETINGS

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. General
- B. CONTRACTOR participation in preconstruction conferences.
- C. CONTRACTOR participation in progress meetings.

##### 1.02 General

The CONTRACTOR along with appropriate subcontractors shall attend Project Meetings requested by the Project Representative for the purpose of discussing and resolving matters concerning the various elements of the Work. Representatives attending such meetings shall have the authority to bind their respective entities to any decisions made.

##### 1.03 PRECONSTRUCTION CONFERENCE

- A. Project Representative will schedule preconstruction conference within 15 days after Notice of Award.
- B. Attendance: OWNER, ENGINEER, state and/or federal agency representatives, local authorities and CONTRACTOR.
- C. Agenda:
  - 1. Submittal of executed bonds and insurance certificates.
  - 2. Execution of Contract.
  - 3. Distribution of Contract Documents.
  - 4. Submittal of list of subcontractors, list of products proposed for installation (in accordance with Section 01630), schedule of values, and progress schedule.
  - 5. Designation of responsible personnel.
  - 6. Submittal of list of products proposed for substitution.
  - 7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal requests, change orders, and Contract closeout procedures.
  - 8. Certified payroll requirements for CONTRACTOR and Subcontractors.
  - 9. Scheduling and critical work sequencing.
  - 10. Coordination with other contracts and/or work.
  - 11. Use of premises by OWNER and CONTRACTOR.
  - 12. Construction facilities and controls provided by CONTRACTOR.
  - 13. Construction facilities and controls provided by OWNER.

14. Temporary utilities provided by OWNER.
15. Field engineering.
16. Major equipment deliveries and priorities.
17. Project inspection.
18. Labor requirements.
19. Requirements of railroads, highway departments, other agencies and utility companies.
20. Rights-of-way and easements.
21. Emergency preparedness.
22. Security and housekeeping procedures.
23. Payments to CONTRACTOR.
24. Procedures for testing.
25. Procedures for maintaining record documents.
26. Requirements for start-up of equipment.
27. Inspection and acceptance of equipment put into service during construction period.
28. Substantial completion of Work.
29. Final completion of Work.

1.04 PROGRESS MEETINGS

- A. Project Representative will schedule and administer progress meetings at least once per month throughout progress of the Work.
- B. Project Representative will make physical arrangements for meetings, prepare agenda, notify CONTRACTOR as to whether Subcontractor's or supplier's representatives should attend, preside at meetings, record minutes, and distribute copies of minutes to participants within two (2) weeks after meeting.
- C. Attendance: CONTRACTOR'S Superintendent or authorized representative, representatives of major subcontractors and suppliers; Project Representative; and other representatives as appropriate to agenda topics for each meeting.
- D. Tentative Agenda:
  1. Review of Work progress.
  2. Review of progress schedule.
  3. Delivery schedules.
  4. Submittals.
  5. Pending changes and substitutions.

6. Payrolls.
7. Subcontractor's progress.
8. Other items affecting progress of Work.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

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## SECTION 01310

### PROGRESS SCHEDULES

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of construction Progress Schedules and periodic updating using a Critical Path Method Schedule.

##### 1.02 FORMAT

- A. Prepare schedules as a horizontal bar chart or network with separate bar or node for each major portion of Work or operation, identifying first work day of each week and identifying each portion of the Work that is critical to timely project completion.
- B. Sequence of Listings: The chronological order of the start of each item of Work.
- C. Scale and Spacing: Provide space for notations and revisions.
- D. Sheet Size: Multiple of 11 x 17 inches.

##### 1.03 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction. Activities shall as a minimum include the bid items from the Bid Form or an explanation why a bid item is not included as an activity.
- B. Identify each item by major specification section number.
- C. Identify work of separate stages, and other logically grouped activities.
- D. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the last day of each month.
- E. A separate schedule of submittal dates for shop drawings, product data and samples, and dates reviewed submittals will be required by the OWNER.
- F. Coordinate content with requests for payment of completed work.
- G. CONTRACTOR shall not manipulate float time which results in a schedule that varies substantially from the contract time allowed in these Contract Documents.

##### 1.04 REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.

- B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken or proposed and its effect.

1.05 SUBMITTALS

- A. Submit initial schedules at the preconstruction conference. After review, resubmit required revised data within ten (10) days.
- B. Submit revised progress schedules for review with each Application for Payment.
- C. Submit six (6) copies: three (3) of which will be retained by OWNER; the other three (3) copies will be returned to the CONTRACTOR.

1.06 DISTRIBUTION

- A. Distribute copies of reviewed schedules to job site file, Sub Contractors, suppliers, and other concerned entities.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

## SECTION 01340

### SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Procedures for submittals.
- B. Schedule of submittals.

##### 1.02 SHOP DRAWINGS

- A. Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of drawings by reference to sheet number, detail and schedule of Contract Documents. The CONTRACTOR shall use and complete the transmittal form included at the end of this Section.
- B. Identify field dimensions; show relation to adjacent or critical features or Work or products.
- C. Minimum Sheet Size: 11 x 17 inches or multiples of 8-1/2 x 11 inches.
- D. Electronic file copies of each shop drawing shall be submitted for review. The electronic copies shall be clear and legible. Each submittal item shall be assembled in separate files.

##### 1.03 PRODUCT DATA

- A. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances. Provide Material Safety Data Sheets required by OSHA for all chemicals to be supplied under this Contract. Submittals made without the required transmittal form which clearly identifies the respective specification section number for which the submittal is being made will be returned without review. It is the CONTRACTOR'S responsibility to make clearly identified submittals.
- B. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.
- C. Provide manufacturer's preparation, assembly, delivery, storage, installation, start up, adjusting, and finishing instructions.
- D. If similar or identical submittal material can be submitted under more than one specification section, the CONTRACTOR shall make separate clearly identified submittals for each specification section. Submittal materials for any specification section shall be complete for that section; partial submittals are unacceptable.

##### 1.04 SAMPLES

- A. Submit full range of manufacturer's standard finishes, except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Project Representative's selection.
- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Acceptable samples which may be used in the Work are indicated in the specification section.

- D. Label each sample with identification required for transmittal letter.
- E. Provide field samples of finishes at Project, at location acceptable to Project Representative, as required by individual specification sections. Install each sample complete and finished. Acceptable finishes in place may be retained in completed work.
- F. Those provisions of paragraph 1.03 which relate to submittal identification and completeness are applicable for sample submittal.

#### 1.05 CONTRACTOR REVIEW

- A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
- B. Coordinate submittals with requirements of Work and of Contract Documents.
- C. Sign and date each sheet of shop drawings and product data, and each sample label to certify compliance with requirements of Contract Documents. Notify Project Representative in writing at time of submittal, of any deviations from requirements of Contract Documents.
- D. Do not fabricate or ship products or begin work which requires submittals until return of submittal that ENGINEER has reviewed.
- E. CONTRACTOR shall check and verify all field measurements and shall be responsible for prompt submission of all shop & working drawings so there shall be no delay in the Work.
- F. CONTRACTOR shall be responsible for the delays and/or additional expenses that result from the CONTRACTOR'S failure to submit a complete submittal and/or to identify portions of the submittal that do not conform to the specifications.

#### 1.06 SUBMITTAL REQUIREMENTS

- A. Transmit submittals with required submittal form included herewith, in accordance with the Progress Schedule and in such sequence to avoid delay in the Work.
- B. Apply CONTRACTOR'S stamp, signed certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents.
- C. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
  - 1. Finishes which involve OWNER selection of colors, textures, or patterns.
  - 2. Associated items which require correlation for efficient function or for installation.
- D. Submit electronic file copies of the shop drawings. Electronic copies of the shop drawing review will be returned to the CONTRACTOR.
- E. Submit six (6) copies of product data; three (3) copies which will be retained by Project Representative upon review; the other three (3) copies will be returned to the CONTRACTOR.
- F. Submit number of samples required by individual specification sections.
- G. Submit to Project Representative using transmittal form provided in this Section. Identify Project by title and number. Identify work and product by specification section and paragraph number. Project Representative will designate a submittal number upon receipt.

- H. Review by Project Representative of any deviation in material, workmanship or equipment proposed subsequent to approval of the shop drawings, samples or design data shall be requested in writing by the CONTRACTOR.

#### 1.07 RESUBMITTALS

- A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.

#### 1.08 ENGINEER REVIEW

- A. ENGINEER will respond to submittals with reasonable promptness.
- B. Submittals reviewed will be returned stamped with a uniform, self-explanatory action stamp, appropriately marked with submittal action.
- C. ENGINEER's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to the accuracy of other matters that may be contained in the submittals, including but not limited to such matters as dimensions, quantities, performance of equipment and systems designed by CONTRACTOR, engineering design furnished by CONTRACTOR, CONTRACTOR's means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence, or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto, the correctness of which shall remain the sole responsibility of CONTRACTOR. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
- D. ENGINEER's review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 1.06.B.

#### 1.09 DISTRIBUTION

- A. Duplicate and distribute reproductions of shop drawings, copies of product data, and samples, which bear ENGINEER'S stamp to job site file, Record Documents file, subcontractors, suppliers, other affected contractors, and other entities requiring information.

#### 1.10 SCHEDULE OF SUBMITTALS

- A. Shop drawings, product data and sample submittals shall be made in a timely and logical fashion taking into account work scheduling and job progress.
- B. It is the CONTRACTOR'S responsibility to prepare, coordinate, and review all submittals prior to delivery to Project Representative. The Project Representative will review each submittal and the first resubmittal at no cost to the CONTRACTOR. The CONTRACTOR shall reimburse the OWNER for all reasonable costs associated with the ENGINEER'S, and his consultants, review of each subsequent resubmittal.

#### 1.11 REVIEW QUALIFICATION

- A. Regardless of corrections made or acceptance of such drawings by the Project Representative, the CONTRACTOR will nevertheless be responsible for the accuracy of such drawings and for

their conformity to the Contract Documents. The CONTRACTOR shall notify the Project Representative in writing of any deviations at the time he furnishes such drawings.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

SUBMITTAL FORM  
(TO BE USED AS A COVER TO EACH SUBMITTAL)

Date \_\_\_\_\_

1. The attached submittal covers materials or equipment specified under

Specification Section No. \_\_\_\_\_, titled \_\_\_\_\_ and  
Drawing No. \_\_\_\_\_, titled \_\_\_\_\_.

No other specification sections or drawings related to this submittal.

2. This submittal covers material or equipment that is: (circle one):

a. in full compliance with that specified

b. in compliance with that specified except for the attached minor deviations:

(Identify the minor deviations with particularity. If the ENGINEER determines these deviations to be other than minor, the submittal will be rejected and the CONTRACTOR must submit a request for substitute materials or equipment. ENGINEER'S REVIEW AND ACCEPTANCE OF SHOP DRAWINGS OR SAMPLES SHALL NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR EXPRESSLY BRINGS EACH VARIATION TO THE ENGINEER'S ATTENTION AND ENGINEER HAS GIVEN WRITTEN ACCEPTANCE OF EACH SUCH VARIATION BY A SPECIFIC WRITING).

3. Certification

Signed \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

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## SECTION 01380

### COLOR AUDIO-VIDEO PRECONSTRUCTION RECORD

#### PART 1 GENERAL

##### 1.01 SCOPE

- A. Prior to commencing work, the CONTRACTOR shall have a continuous color audio-video electronic media site recording taken along the entire length of the project to serve as a record of preconstruction conditions. The electronic media used shall be consistent with the latest available audio-video technology and approved by the ENGINEER.

##### 1.02 CONSTRUCTION SCHEDULE

- A. Electronic media site recordings shall not be made more than fifteen (15) calendar days prior to construction. No construction shall begin prior to review and approval of the site recordings covering the construction area by the OWNER.

##### 1.03 PROFESSIONAL ELECTROGRAPHERS (VIDEOGRAPHERS)

- A. The CONTRACTOR shall engage the services of a professional electrographer. The color audio-video site recordings shall be prepared by a responsible commercial firm known to be skilled and regularly engaged in the business of preconstruction color audio-video site documentation.
- B. The OWNER shall have the authority to reject all or any portion of a site recording not conforming to specifications and order that it be redone at no additional charge. The CONTRACTOR shall reschedule unacceptable coverage within five (5) calendar days after being notified. The OWNER shall designate those areas, if any, to be omitted from or added to the audio-video coverage. All site recordings and written records shall become the property of Owner.

#### PART 2 PRODUCTS

##### 2.01 GENERAL

- A. A total audio-video site recording system and the procedures employed in its use shall be such as to produce a finished project that will fulfill the technical requirements of the project. The video portion of the recording shall produce bright sharp, clear pictures with accurate colors and shall be free from distortion or any other form of picture imperfection. All video recordings shall, by electronic means, display on the screen the time of day, the month, day and year of the recording. This time and date information must be continuously and simultaneously generated with the actual recording. The audio portion of the recording shall produce the commentary of the camera operator with proper clarity and be free from distortion.

##### 2.02 EQUIPMENT

- A. Camera: The color video camera used in the Electronic media site recordings shall be of Industrial Grade, consistent with the current standards and approved by the ENGINEER.
- B. Recorder: The recording shall be made with an Industrial Grade recorder, consistent with the current standards and approved by the ENGINEER.
- C. Electronic Media: The electronic media shall be an Industrial Grade media, consistent with the current standards and approved by the ENGINEER. The electronic media shall be new and thus shall not have been used for any previous recording.
- D. Electronic media site recordings playback compatibility: The recordings shall be compatible for

playback with any American TV Standard electronic media player.

### PART 3 EXECUTION

#### 3.01 COVERAGE

- A. The recordings shall contain coverage of all surface features within the construction zone of influence. These features shall include, but not be limited to, all roadways, pavement, retention ponds, railroad tracks, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, landscaping, trees, and fences. Of particular concern shall be the existence or non-existence of any faults, fractures or defects. Electronic media coverage shall be limited to one side of the street at one time and shall include all surface conditions located within the zone of influence supported by appropriate audio description. Panning, zoom-in and zoom-out rates shall be sufficiently controlled to maintain a clear view of the object.

#### 3.02 AUDIO RECORDING

- A. Accompanying the video recording of each electronic media presentation shall be a corresponding and simultaneously recorded audio recording. This audio recording, exclusively containing the commentary of the camera operator shall assist in viewer orientation and in any needed identification, differentiation, clarification, or objective description of the features being shown in the video portion of the recording. The audio recording shall also be free from any conversation between the camera operator and any other production technicians.

#### 3.03 ELECTRONIC MEDIA INDEXING

- A. All electronic media site recordings shall be permanently labeled and shall be properly identified by electronic media site recording number and project title.
- B. Electronic media site recordings log: Each electronic media site recording shall have a log of that recording's contents. The log shall describe the various segments of coverage contained on that recording e.g., the names of the streets or easements, coverage beginning and end, directions of coverage, video unit counter numbers, Engineering stationing numbers when possible, and the date of recording.

#### 3.04 TIME OF EXECUTION

- A. Visibility: All recording shall be performed during time of good visibility; no recording shall be done during periods of significant precipitation, mist or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subject and to produce sharp, bright video recordings of those subjects.

#### 3.05 CONTINUITY OF COVERAGE

- A. In order to insure the continuity of coverage, the coverage shall consist of a single continuous unedited recording which begins at one end of a particular construction area; however, where coverage is required in areas not accessible by conventional wheeled vehicles and smooth transport of the recording system is not possible, such coverage shall consist of an organized interrelated sequence of recordings at various positions along that proposed construction area e.g., wooded easement area. Such coverage shall be obtained by walking or by a special conveyance approved by the OWNER.

#### 3.06 COVERAGE RATES

- A. The average rate of travel during a particular segment of coverage shall be directly proportional to the number, size and value of the surface features within that construction area's zone of influence.

### 3.07 CAMERA OPERATION

- A. Camera Height and Stability: When conventional wheeled vehicles are used as conveyances for the recording system, the vertical distance between the camera lens and the ground shall not exceed ten (10) feet. The camera shall be firmly mounted such that transport of the camera during the recording process will not cause an unsteady picture.
- B. Camera Control: Camera pan, tilt, zoom-in and zoom-out rate shall be sufficiently controlled such that recorded objects shall be clearly viewed during audio-video playback. In addition, all other camera and recording system controls, such as lens focus and aperture, video level, pedestal, chroma, white balance and electrical focus shall be properly controlled or adjusted to maximize picture quality.
- C. Viewer Orientation Techniques: The audio and video portions of the recording shall maintain viewer orientation. To this end, overall establishing views of all visible house and business addresses shall be utilized. In areas where the proposed construction location will not be readily apparent to the electronic media viewer, highly visible yellow flags shall be placed, by the CONTRACTOR, in such a fashion as to clearly indicate the proposed center line of construction.

END OF SECTION

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**SECTION 01400**

**QUALITY CONTROL**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. General quality control.
- B. Manufacturers' field services.

**1.02 QUALITY CONTROL, GENERAL**

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

**1.03 WORKMANSHIP**

- A. Comply with industry standards except when more restrictive tolerances, more rigid standards, or more precise workmanship are specified.
- B. Perform work using persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

**1.04 MANUFACTURERS' INSTRUCTIONS**

- A. Comply with manufacturer's printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, as appropriate.
- B. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from Project Representative before proceeding.

**1.05 MANUFACTURERS' CERTIFICATES**

- A. As required by individual specification sections, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

**1.06 TESTING**

- A. Perform tests as required by individual specification sections, and submit test results.
- B. The CONTRACTOR shall be responsible for coordination and payment for all specified tests.

**PART 2 PRODUCTS**

Not used

**PART 3 EXECUTION**

Not used

END OF SECTION

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## SECTION 01560

### TEMPORARY CONTROLS

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. General Requirements
- B. Temporary Utilities
- C. Temporary Construction
- D. Barricades and Enclosures
- E. Fences
- F. Security
- G. Temporary Controls
- H. Traffic Regulation

##### 1.02 GENERAL REQUIREMENTS

- A. Plant and Facilities: Furnish, install, maintain and remove all false work, scaffolding, ladders, hoistways, braces, pumping plants, shields, trestles, roadways, sheeting, centering forms, barricades, drains, flumes, and the like, any of which may be needed in the construction of any part of the Work and which are not herein described or specified in detail. The CONTRACTOR shall accept responsibility for the safety and efficiency of such works and for any damage that may result from their failure or from their improper construction, maintenance or operation.
- B. First Aid: Maintain a readily accessible, completely equipped first aid kit at each location where work is in progress.
- C. Safety Responsibility: Accept sole responsibility for safety and security at the site. Indemnify and hold harmless the OWNER and the OWNER's Authorized Representatives, including the ENGINEER, for any safety violation, or noncompliance with governing bodies and their regulations, and for accidents, deaths, injuries, or damage at the site during occupancy or partial occupancy of the site by CONTRACTOR's forces while performing any part of the Work.
- D. Hazard Communication: Furnish two copies of the CONTRACTOR's Hazard Communication Program required under OSHA regulations before beginning on site activities. Furnish two copies of amendments to Hazard Communications Program as they are prepared.

##### 1.03 TEMPORARY UTILITIES

- A. Water: Provide all necessary and required water without additional cost, unless otherwise specified. If necessary, provide and lay water lines to the place of use; secure all necessary permits; pay for all taps to water mains and hydrants and for all water used at the established rates.
- B. Light and Power: Provide without additional cost to the OWNER temporary lighting and power facilities required for the proper construction and inspection of the Work. If, in the ENGINEER's opinion, these facilities are inadequate, do NOT proceed with any portion of the Work affected thereby. Maintain temporary lighting and power until the Work is accepted.

- C. Heat: Provide temporary heat, whenever required, for work being performed during cold weather to prevent freezing of concrete, water pipes, and other damage to the Work or existing facilities.
- D. Sanitary Facilities: Provide sufficient sanitary facilities for construction personnel. Prohibit and prevent nuisances on the site of the Work or on adjoining property. Discharge any employee who violates this rule. Abide by all environmental regulations or laws applicable to the Work.
- E. Connections to Existing Utilities:
  - 1. Unless otherwise specified or indicated, make all necessary connections to existing facilities including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electricity. In each case, obtain permission from the OWNER or the owning utility prior to undertaking connections. Protect facilities against deleterious substances and damage.
  - 2. Thoroughly plan in advance all connections to existing facilities. Have on hand at the time of undertaking the connections, all material, labor and required equipment. Proceed continuously to complete connections in minimum time. Arrange for the operation of valves or other appurtenances on existing utilities, under the direct supervision of the owning utility.

#### 1.04 TEMPORARY CONSTRUCTION

- A. Bridges: Design and place suitable temporary bridges where necessary for the maintenance of vehicular and pedestrian traffic. Assume responsibility for the sufficiency and safety of all such temporary work or bridges and for any damage which may result from their failure or their improper construction, maintenance, or operation. Indemnify and save harmless the OWNER and the OWNER's representatives from all claims, suits or actions, and damages or costs of every description arising by reason of failure to comply with the above provisions.

#### 1.05 BARRICADES AND ENCLOSURES

- A. Protection of Workmen and Public: Effect and maintain at all times during the prosecution of the Work, barriers and lights necessary for the protection of Workmen and the Public. Provide suitable barricades, lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the Work causes obstructions to normal traffic, excavation sites, or constitutes in any way a hazard to the public.
- B. Barricades and Lights:
  - 1. Protect all streets, roads, highways, excavations and other public thoroughfares which are closed to traffic; use effective barricades which display acceptable warning signs. Locate barricades at the nearest public highway or street on each side of the blocked section.
  - 2. Statutory Requirements: Install and maintain all barricades, signs, lights, and other protective devices within highway rights-of-way in strict conformity with applicable statutory requirements by the authority having jurisdiction.

#### 1.06 FENCES

- A. Existing Fences: Obtain written permission from the OWNER prior to relocating or dismantling fences which interfere with construction operations. Reach agreements with the fence owner as to the period the fence may be left relocated or dismantled. Install adequate gates where fencing must be maintained. Keep gates closed and locked at all times when not in use.
- B. Restoration: Restore all fences to their original or better condition and to their original location on completion of the Work.

## 1.07 SECURITY

### A. Provide a project security program, to:

1. Protect the Work, stored products and construction equipment from theft and vandalism.
2. Protect premises from entry by unauthorized persons.
3. Initiate security program promptly after job mobilization.
4. Maintain security program throughout construction period, until OWNER occupancy or OWNER acceptance precludes the need for CONTRACTOR security.

### B. Preservation of Property:

1. Preserve from damage, all property along the line of the Work, in the vicinity of or in any way affected by the Work, the removal or destruction of which is not called for by the Drawings. Preserve from damage, public utilities, trees, lawn areas, building monuments, fences, pipe and underground structures, and public streets. Whenever damages occur to such property, immediately restore to its original condition. Costs for such repairs are incidental to the Contract.
2. In case of failure on the part of the CONTRACTOR to restore property or make good on damage or injury, the OWNER may, upon 24 hours written notice, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any moneys due or which may become due the CONTRACTOR under this Contract. If removal, repair or replacement of public or private property is made necessary by alteration of grade or alignment authorized by the OWNER and not contemplated by the Contract Documents, the CONTRACTOR will be compensated, in accordance with the General Conditions, provided that such property has not been damaged through fault of the CONTRACTOR or the CONTRACTOR's employees.

### C. Public Utility Installations and Structures:

1. Public utility installations and structures include all poles, tracks, pipes, wires, conduits, vaults, manholes, and other appurtenances and facilities, whether owned or controlled by public bodies or privately owned individuals, firms or corporations, used to serve the public with transportation, gas, electricity, telephone, storm and sanitary sewers, water, or other public or private utility services. Facilities appurtenant to public or private property which may be affected by the Work are deemed included hereunder.
2. The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. Existing public utility installations and structures are indicated on the Drawings only to the extent such information was made available to, or found by, the ENGINEER in preparing the Drawings. These data are not guaranteed for completeness or accuracy, and the CONTRACTOR is responsible for making necessary investigations to become fully informed as to the character, condition, and extent of all public utility installations and structures that may be encountered and that may affect the construction operations.
3. Contact utility locating service sufficiently in advance of the start of construction to avoid damage to the utilities and delays to the completion date.
4. Remove, replace, relocate, repair, rebuild, and secure any public utility installations and structures damaged as a direct or indirect result of the Work under this Contract. Costs for such work are incidental to the Contract. Be responsible and liable for any consequential damages done to or suffered by any public utility installations or structures. Assume and

accept responsibility for any injury, damage, or loss which may result from or be consequent to interference with, or interruption or discontinuance of, any public utility service.

5. Repair or replace any water, electric, sewer, gas, or other service connection damaged during the Work with no addition to the Contract price.
  6. At all times in performance of the Work, employ proven methods and exercise reasonable care and skill to avoid unnecessary delay, injury, damage, or destruction to public utility installations and structures. Avoid unnecessary interference with, or interruption of, public utility services. Cooperate fully with the owners thereof to that end.
  7. Give written notice to the owners of all public utility installations and structures affected by proposed construction operations, sufficiently in advance of breaking ground in any area or on any unit of the Work, to obtain their permission before disrupting the lines and to allow them to take measures necessary to protect their interests. Advise the Chiefs of Police, Fire and Rescue Services of any excavation in public streets or the temporary shut-off of any water main. Provide at least 24-hour notice to all affected property owners whenever service connections are taken out of service.
- D. Work on Private Property: Work on this project will require operations on private property, rights of way or easements. The OWNER has secured the appropriate easements or rights of entry from the affected property owners. Comply with all easement or rights of entry provisions including the following:

No work proposed to take place on private property with this project.

Conduct operations along rights-of-way and easements through private property to avoid damage to the property and to minimize interference with its ordinary use. Upon completion of the Work through such property, restore the surface and all fences or other structures disturbed by the construction as nearly as possible to the preconstruction conditions. Do not remove any material from private property without the consent of the property owner or responsible party in charge of such property. Save the OWNER harmless from any claim or damage arising out of or in connection with the performance of work across and through private property.

- E. Miscellaneous Structures: Assume and accept responsibility for all injuries or damage to culverts, building foundations and walls, retaining walls, or other structures of any kind met with during the prosecution of the Work. Assume and accept liability for damages to public or private property resulting therefrom. Adequately protect against freezing all pipes carrying liquid.
- F. Protection of Trees and Lawn Areas:
1. Protect with boxes, trees and shrubs, except those ordered to be removed. Do not place excavated material so as to cause injury to such trees or shrubs. Replace trees or shrubs destroyed by accident or negligence of the CONTRACTOR or CONTRACTOR's employees with new stock of similar size and age, at the proper season, at no additional cost to the OWNER.
  2. Leave lawn areas in as good condition as before the start of the Work. Restore areas where sod has been removed by seeding or sodding.
- G. Exclusion of Persons
1. Persons not properly authorized or identified shall be excluded from site.
  2. Provide control of all persons and vehicles entering and leaving Project site. Require display of proper identification by each person.

## 1.08 TEMPORARY CONTROLS

### A. Construction Cleaning:

1. Keep the site of the Work and adjacent premises free from construction materials, debris, and rubbish. Remove this material from any portion of the site if such material, debris, or rubbish constitutes a nuisance or is objectionable.
2. Remove from the site all surplus materials and temporary structures when they are no longer needed.
3. Neatly stack construction materials when not in use. Promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.
4. Properly store volatile wastes in covered metal containers and remove from the site daily.
5. Do not bury or burn on the site or dispose of into storm drains, sanitary sewers, streams, or waterways, any waste material. Remove all wastes from the site and dispose of in a manner complying with applicable ordinances and laws.

### B. Smoke Prevention:

1. Strictly observe all air pollution control regulations.
2. Open fires will be allowed only if permitted under current ordinances.

### C. Noises:

1. Maintain acceptable noise levels in the vicinity of the Work. Limit noise production to acceptable levels by using special mufflers, barriers, enclosures, equipment positioning, and other approved methods.
2. Supply written notification to the OWNER sufficiently in advance of the start of any work which violates this provision. Proceed only when all applicable authorizations and variances have been obtained in writing.

### D. Dust Control:

1. Take measures to prevent unnecessary dust. Keep earth surfaces exposed to dusting moist with water or a chemical dust suppressant. Cover materials in piles or while in transit to prevent blowing or spreading dust.
2. Adequately protect buildings or operating facilities which may be affected adversely by dust. Protect machinery, motors, instrument panels, or similar equipment by suitable dust screens. Include proper ventilation with dust screens.

E. Temporary Drainage Provisions:

1. Provide for the drainage of stormwater and any water applied or discharged on the site in performance of the Work. Provide adequate drainage facilities to prevent damage to the Work, the site, and adjacent property.
2. Supplement existing drainage channels and conduits as necessary to carry all increased runoff from construction operations. Construct dikes as necessary to divert increased runoff from entering adjacent property (except in natural channels), to protect the OWNER's facilities and the Work, and to direct water to drainage channels or conduits. Provide ponding as necessary to prevent downstream flooding.
3. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

- F. Pollution: Prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities. Do not permit sanitary wastes to enter any drain or watercourse other than sanitary sewers. Do not permit sediment, debris, or other substances to enter sanitary sewers. Take reasonable measures to prevent such materials from entering any drain or watercourse.

1.09 TRAFFIC REGULATION

- A. Parking: Provide and maintain suitable parking areas for the use of all construction workers and others performing work or furnishing services in connection with the Contract, to avoid any need for parking personal vehicles where they may interfere with public traffic or construction activities.
- B. Access: Conduct Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private, give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when the CONTRACTOR has obtained permission from the owner or tenant of private property, or from the authority having jurisdiction over the public property involved, to obstruct traffic at the designated point.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

## SECTION 01610

### TRANSPORTATION AND HANDLING

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Providing expeditious transportation and delivery of undamaged products to project site, and on a schedule to avoid delay of the Work or work of other contractors.
- B. Providing equipment and personnel at the site to unload and handle products in a manner to avoid damage to products.

##### 1.02 DELIVERY

- A. Arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with work, OWNER'S use of premises, and conditions at site.
- C. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
- D. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

#### PART 2 PRODUCTS

Not used

#### PART 3 EXECUTION

##### 3.01 PRODUCT HANDLING

- A. Immediately upon delivery, inspect shipment to assure:
  - 1. Product complies with requirements of Contract Documents and reviewed submittals.
  - 2. Quantities are correct.
  - 3. Containers and packages are intact, labels are legible.
  - 4. Products are properly protected and undamaged.
- B. Expedite replacement of damaged products.
- C. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.
- D. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- E. Handle products by methods to prevent bending or over stressing.
- F. Lift heavy components only at designated lifting points.

END OF SECTION

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## SECTION 01620

### STORAGE AND PROTECTION

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Providing secure storage and protection for products to be incorporated into the Work, and maintaining and protecting products after installation and until completion of the Work.

##### 1.02 STORAGE

- A. CONTRACTOR shall be responsible for providing areas for storage of materials and equipment.
- B. Store and protect products immediately on delivery. Store products in accordance with the manufacturer's instructions, with seals and labels intact and legible.
- C. Store products subject to damage by elements in substantial weather tight enclosures.
  - 1. Maintain temperatures within ranges required by manufacturer's instructions.
  - 2. Provide humidity control for sensitive products, as required by manufacturer's instructions.
  - 3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.
- D. Exterior Storage:
  - 1. Provide substantial platforms, blocking or skids to support fabricated products above ground and to prevent soiling or staining. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
  - 2. Store loose granular materials on solid surfaces such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.
    - a. Provide surface drainage to prevent flow or ponding of rainwater.
    - b. Prevent mixing of refuse or chemically injurious materials or liquids.
- E. Arrange storage in manner to provide easy access for inspection.

##### 1.03 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
  - 1. State of storage facilities is adequate to provide required conditions.
  - 2. Required environmental conditions are maintained on continuing basis.
  - 3. Surfaces of products exposed to elements are not adversely affected. Any weathering of products, coatings and finishes is unacceptable under requirements of Contract Documents.
- B. Any product damaged because of improper storage or protection shall be unacceptable for installation, shall be removed from the site, and shall be replaced at the CONTRACTOR's expense.

##### 1.04 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection when no longer needed, prior to completion of Work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Lawns and Landscaping: Prohibit traffic of any kind across planted lawn and landscaped areas.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

## SECTION 01630

### PRODUCT OPTIONS AND SUBSTITUTIONS

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR'S options in selection of products.
- B. Products list.
- C. Requests for substitution of products.

##### 1.02 CONTRACTOR OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Submit data substantiating that product meets those standards in accordance with Section 01340, if required.
- B. Products Specified by Naming One or More Manufacturers with a Substitution Paragraph: Furnish the product of a named manufacturer or submit a request for substitution for products of any manufacturer not specifically named.
- C. Products Specified by Naming One Manufacturer with No Substitution Paragraph: Furnish specified equipment, no substitution permitted.

##### 1.03 PRODUCTS LIST

- A. At preconstruction conference submit three (3) copies of a list of major products which are proposed for installation, including name of manufacturer. The CONTRACTOR will not be allowed a substitution for products not identified on this list.
- B. Tabulate products by specification section number, title, and paragraph number.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

##### 1.04 LIMITATIONS ON SUBSTITUTIONS

- A. Many sections of these specifications are based on specific manufacturer recommendations. Subject to paragraph 1.02, use of these recommendations does not and is not intended to exclude equal equipment of other manufacturers. The specifications serve only as a guide to minimum quality and performance.

##### 1.05 REQUESTS FOR SUBSTITUTIONS

- A. Requests for substitutions not made in strict conformance with this paragraph will be unacceptable and will be rejected by the OWNER without review.
- B. Submit separate request for each substitution using the form included at the end of this Section. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- C. Identify product by specification sections and paragraph numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List the fabricators and suppliers as appropriate.
- D. Submit product data as specified in Section 01340.

- E. List similar projects using product, dates of installation, and names of ENGINEER and OWNER.
- F. Submit itemized comparison of proposed substitution with specified product, listing variations, and reference to Specification section and paragraph numbers.
- G. Submit quality and performance comparison between proposed substitution and the specified product.
- H. Submit itemized cost data comparing proposed substitution with specified product, and amount of net change to Contract Price.
- I. List availability of maintenance services and replacement materials.
- J. State effect of substitution on construction schedule, and changes required in other work or products.
- K. A substitute product may be considered equal to the product identified in the Specifications if (1) its use is not restricted by paragraph 1.02; (2) it is at least equal in quality, durability, appearance, strength and design; (3) it will perform at least equally the function imposed by the general design for the work being contracted for or the material being purchased; and (4) it conforms substantially, even with deviations, to the detailed requirements for the product in said Specifications.

#### 1.06 REDESIGN

- A. Redesign of any portion of the work affected by the substitution and coordination of installation of the substitution shall be the responsibility of the CONTRACTOR. There shall be no increase in Contract Price for redesign due to substitution of products.

#### 1.07 CONTRACTOR REPRESENTATION

- A. Submission of a request for substitution constitutes a representation that CONTRACTOR has personally investigated proposed product and has determined that it is equal to or superior in all respects to specified product. The Project Representative, however, will make such determination based on the CONTRACTOR'S request under paragraph 1.05.
- B. CONTRACTOR shall provide, as a minimum, the same warranty for substitution as required for the product specified.
- C. CONTRACTOR shall coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.
- D. CONTRACTOR certifies that the cost data presented is complete and includes all related costs under this Contract except the ENGINEER'S redesign costs.
- E. CONTRACTOR waives claims for additional costs related to substitution which subsequently become apparent.

#### 1.08 SUBMITTAL PROCEDURES

- A. After preconstruction conference, submit six (6) copies of request for substitution.
- B. Project Representative will respond to CONTRACTOR'S requests for substitutions with reasonable promptness.
- C. Project Representative will notify CONTRACTOR, in writing, of decision to accept or reject requested substitution.
- D. For accepted products, submit shop drawings, product data, and samples in accordance with Section

01340.

- E. Submit with request such drawings as are necessary to define the redesign necessary to accommodate product substitution. Drawings shall be stamped by a professional engineer registered in the State where the work under this Contract is located, and for the engineering disciplines affected by the substitution.

## PART 2 PRODUCTS

Not used.

## PART 3 EXECUTION

### 3.01 INSTALLATION

- A. Installation of substitutions shall not be done unless written acceptance of OWNER has been given.

SUBSTITUTION REQUEST FORM

Date: \_\_\_\_\_

1. Name of product to be substituted: \_\_\_\_\_

2. Name of product requested as substitute: \_\_\_\_\_

3. Specification Section Reference: \_\_\_\_\_  
Drawing Number Reference: \_\_\_\_\_

4. Attach Product Data to this form.

5. List similar projects using this product:

	<u>Project</u>	<u>Date of Installation</u>	<u>Engineer</u>	<u>Owner</u>
i.	_____	_____	_____	_____
ii.	_____	_____	_____	_____
iii.	_____	_____	_____	_____

6. Attach itemized comparison by Specification Paragraph.

7. State effect of substitution on:

- i. Construction Schedule: \_\_\_\_\_
- ii. Project Cost: \_\_\_\_\_
- iii. Changes Required in Other Work: \_\_\_\_\_

8. Contractor Representations:

- i. Contractor has complied with Section 01630 in its entirety.
- ii. Contractor has personally investigated proposed substitution and has determined that it is equal or superior in all respects to the project specified.
- iii. Contractor will provide same warranty as required for the specified product, as a minimum.
- iv. Contractor will coordinate installation of accepted substitution making such changes as may be required for the Work to be complete in all respects.
- v. Contractor certifies that the cost data presented is complete and includes all related costs under the Contract except for Engineer's redesign costs.
- vi. Contractor waives all claims for additional costs related to substitution which subsequently become apparent.

- vii. Contractor agrees to pay all reasonable fees of the Engineer and other consultants in making an evaluation of this substitution request whether such request is ultimately accepted or not.

9. Certification:

Signed \_\_\_\_\_  
Title \_\_\_\_\_  
Company \_\_\_\_\_  
(Contractor)

END OF SECTION

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**SECTION 01701**

**CONTRACT CLOSEOUT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Administrative provisions for Contract closeout.

**1.02 REQUIREMENTS FOR CLOSEOUT**

- A. Neither the final payment nor the remaining retained percentage shall become due until the CONTRACTOR submits to the Project Representative:
  - 1. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the OWNER might in any way be responsible, have been paid or otherwise satisfied.
  - 2. Data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent, and in such form as may be designated by the OWNER. If any 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 any resulting lien. If any such lien remains unsatisfied after all payments are made, the CONTRACTOR shall refund to the OWNER all monies that the latter may be compelled to pay in discharging such lien, including all costs and attorney's fees.
- B. Additional requirements for Project closeout shall include submittal, (if not previously submitted) of the following:
  - 1. Project Record Documents: In accordance with Section 01720.
  - 2. Operation and Maintenance Data: In accordance with Section 01730.
  - 3. Warranties and Bonds: In accordance with Section 01740.
  - 4. Spare Parts and Maintenance Materials: In accordance with Section 01750.
  - 5. Evidence of payment and release of liens in accordance with conditions of the Contract.
  - 6. Consent of Surety to final payment.

**PART 2 PRODUCTS**

Not used.

**PART 3 EXECUTION**

Not used.

END OF SECTION

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**SECTION 01720**

**PROJECT RECORD DOCUMENTS**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Maintaining and submitting record documents and samples.

**1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES**

- A. Maintain at the site for OWNER one record copy of:

- 1. Contract Drawings.
- 2. Specifications.
- 3. Addenda.
- 4. Change Orders and other modifications to the Contract.
- 5. Accepted shop drawings, product data, and samples.
- 6. Field test records.
- 7. Inspection certificates.
- 8. Manufacturers' certificates.
- 9. Manufacturers' operating and maintenance manuals.
- 3. EPA Stormwater Management Pollution Prevention Plans.

- B. Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage for record documents and samples.

- C. Label and file record documents and samples in accordance with section number listings in Table of Contents of this Specification. Label each document "PROJECT RECORD" in neat, large, printed letters.

- D. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.

- E. Keep record documents and samples available for inspection by Project Representative.

**1.03 RECORDING**

- A. Record information on a set of black line drawings.

- B. Use felt tip marking pens, maintaining separate colors for each major system, for recording information.

- C. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

- D. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements and located using GPS.
    - a. Record Drawings shall be provided. Locations shall be surveyed by a Professional Surveyor and Mapper, licensed in the State of Florida. The requirements for the record drawings shall be in accordance with Section 01050.
  2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
  3. Field changes of dimensions and details.
  4. Changes made by modifications.
  5. Details not on original Contract Drawings.
  6. References to related shop drawings and modifications.
- E. Specifications: Legibly mark each item to record actual construction, including:
1. Manufacturer, trade name and catalog number of each product actually installed, particularly optional items and substitute items.
  2. Changes made by addenda or modifications.
- F. Other Documents: Maintain manufacturer's certifications, inspection certifications, and field test records, required by individual Specification sections.
- 1.04 STORMWATER POLLUTION PREVENTION PLANS
- A. In accordance with EPA Guidelines, maintain records on stormwater management controls and inspections. Prepare an inspection and maintenance plan that corresponds to the sequencing of major activities.
- Reference Document: U.S. EPA Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-005, September, 1992.
- B. Provide for inspection of silt fencing and erosion control measures once every seven days or after each rainfall event.
- C. Keep a record of these inspections in the field office. Note any changes to best management practices shown on the drawings.
1. Record the amount of rainfall on a daily basis.
  2. Dates when major grading activities occur.
  3. Dates when construction activities temporarily cease.
  4. Dates when construction activities permanently cease.
  5. Report any release of reportable quantities of oil or hazardous materials.
- D. Update and change the stormwater Pollution Prevention Plan as necessary to address any change in design or construction operation.
- E. Submit a sample of the report format to be used.

1.05 SUBMITTALS

- A. At Contract closeout, deliver record documents and samples as specified in Section 01701, to Project Representative for use in the preparation of Project Record Drawings.
- B. Transmit with cover letter in duplicate, listing:
  - 1. Date.
  - 2. Project title and number.
  - 3. CONTRACTOR'S name, address, and telephone number.
  - 4. Number and title of each Record Document.
  - 5. Signature of CONTRACTOR or authorized representative.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

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## SECTION 01730

### OPERATION AND MAINTENANCE MANUALS

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Obtaining and compiling product data, equipment manufacturer's data and related information required for maintenance of products.
- B. Preparing operation and maintenance data and instructions for systems and equipment.
- C. Schedule of required submittals.

##### 1.02 QUALITY ASSURANCE

- A. Prepare instructions and data using personnel experienced in maintenance and operation of described products.

##### 1.03 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8-1/2 x 11 inch three-ring binders with hardback, cleanable, plastic covers; "D-ring" type. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title "OPERATION AND MAINTENANCE INSTRUCTIONS"; list title of Project and identify equipment covered by manual.
- D. Arrange content by section numbers and provide Table of Contents.
- E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

##### 1.04 CONTENTS (EACH VOLUME)

- A. Table of Contents: Provide title of Project; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of subcontractors, manufacturers and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relationship of component parts of equipment and systems. Show control and flow diagrams. Do not show operation and maintenance requirements on Project Record Documents.
- E. Typed Text: Prepare as required to supplement product data. Provide logical sequence of instructions for each procedure. Incorporate manufacturer's instructions for delivery, storage,

assembly, installation, start-up, adjusting, finishing, operation and maintenance.

#### 1.05 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture-protection and Weather-exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual Specification sections.

#### 1.06 MANUFACTURER'S MANUALS FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include a description of unit or system, and component parts. Give function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data, tests, and certifications where appropriate and complete nomenclature and commercial number of replaceable parts, where applicable.
- B. Panel Board Circuit Directories: Provide electrical service characteristics and name of load on each branch circuit breaker.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting and balancing instructions. Provide servicing and lubrication schedule, and list of lubricants required.
- E. Controls: Provide the following:
  - 1. Sequence of operation.
  - 2. Original parts list, illustrations, assembly drawings, and diagrams required for maintenance.
  - 3. As-installed control diagrams.
  - 4. CONTRACTOR'S coordination drawings, with as-installed color coded piping diagrams.
  - 5. Charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
  - 6. As-installed color coded wiring diagrams.
- F. Additional Requirements: As specified in individual Specification sections.

#### 1.07 SUBMITTALS

- A. Submit master list of operation and maintenance manuals to be submitted, arranged by specification section numbers, prior to submitting individual manuals. Submit three (3) copies of a draft Operation and Maintenance Manual for equipment and component parts within 30 days after shop drawing

acceptance. Manuals shall include all materials complying with the presentation and format requirements of this section. One (1) copy will be returned with ENGINEER'S comments.

- B. Submit four (4) copies of revised manual in final form complying with ENGINEER'S comments within 30 days from the return of the reviewed manual. One (1) copy of the final manual will be returned.

#### 1.08 SCHEDULE OF SUBMITTALS

- A. Operation and Maintenance Manuals conforming to this specification section and individual specification sections, shall be submitted for the following equipment.
- B. The following schedule is not all inclusive of individual sections requiring operation and maintenance manuals. The CONTRACTOR remains responsible for operation and maintenance manuals for equipment both on the schedule and not on the schedule but called for in the individual specification sections.

<u>Section Number</u>	<u>Equipment Description</u>
<b>02645</b>	<b>Hydrants</b>
<b>02645</b>	<b>Automatic Flushing Device</b>
<b>15050</b>	<b>Gate Valves</b>

#### PART 2 PRODUCTS

Not used

#### PART 3 EXECUTION

Not used

END OF SECTION

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## SECTION 01740

### WARRANTIES AND BONDS

#### PART 1 GENERAL

##### 1.01 REQUIREMENTS INCLUDED

- A. Preparing and submitting of warranties and bonds.

##### 1.02 FORM OF SUBMITTALS

- A. Bind in commercial quality 8-1/2 x 11 inch, "D-ring" type three-ring side binders, with hardback, cleanable, plastic covers.
- B. Label cover of each binder with typed or printed title "WARRANTIES AND BONDS", with title of Project; name, address and telephone number of CONTRACTOR; and name of responsible principal.
- C. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Contract Documents, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- D. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

##### 1.03 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible subcontractors, suppliers, and manufacturers within ten (10) days after completion of the applicable item of work. Except for items put into use with OWNER'S permission, leave date of beginning of time of warranty open until the date of substantial completion is determined. All warranty coverage shall be extended directly to the benefit of the OWNER.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

##### 1.04 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with OWNER'S permission, submit documents within ten (10) days after acceptance.
- B. Make other submittals within ten (10) days after date of substantial completion, prior to final application for payment.
- C. For items of Work when acceptance is delayed beyond date of substantial completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

**SECTION 01750**

**SPARE PARTS AND MAINTENANCE MATERIALS**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Procedures for storing, handling, and delivering spare parts and maintenance materials.

**1.02 PRODUCTS REQUIRED**

- A. Provide quantities of products, spare parts, maintenance tools, and maintenance materials specified in individual sections to be provided to OWNER, in addition to that required for completion of Work.

**1.03 STORAGE, MAINTENANCE**

- A. Store spare parts and maintenance materials with products to be installed in the Work, in accordance with Section 01620.
- B. After delivery of spare parts and maintenance materials to site, maintain products in same space and condition as products to be installed in the Work.
- C. Maintain spare parts in original containers with labels intact and legible, until delivery to OWNER.

**1.04 DELIVERY**

- A. Coordinate with OWNER: Deliver and unload spare parts and maintenance materials at Project site and obtain receipt prior to final payment.
- B. Deliver all spare parts and maintenance materials for portions of Project accepted and occupied by OWNER prior to substantial completion. Obtain receipt when delivered.

**PART 2 PRODUCTS**

Not used

**PART 3 EXECUTION**

Not used

END OF SECTION

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## SECTION 02050

### ENVIRONMENTAL PROTECTION

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Furnish all labor, material and services needed to insure adequate erosion and sediment control measures.

##### 1.02 REFERENCE STANDARDS

- A. Current rules and regulations relating to storm water management and erosion control of Southwest Florida Water Management District and Florida Department of Environmental Protection.
- B. Current rules and regulations relating to storm water management and erosion control of the Environmental Protection Agency.

##### 1.03 COMPLY

- A. All work shall comply with the measures shown on the plans and all conditions of the construction permit from Southwest Florida Water Management District, Florida Department of Environmental Protection, U.S. Army Corps of Engineers, the Environmental Protection Agency, and any other agency having jurisdiction, as applicable.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. All materials shall be in accordance with the descriptions herein and/or as shown on the drawings.
  - 1. Hay Bales: Securely tied baled hay, or synthetic hay, as acceptable to the agencies having jurisdiction, at least 14 inches by 18 inches by 30 inches long.
  - 2. Silt Barrier: Filter fabric shall be in accordance with Florida Department of Transportation Standard Specifications for Road & Bridge Construction, Section 985.
  - 3. Silt Curtain: Shall be sufficient size and constructed of material to control siltation of waters. Recommended silt curtain is Mark II or Mark III, manufactured by American Boom & Barrier Corp. Port Canaveral, FL or approved equal.
  - 4. Temporary Seeding: Mixture of seed for temporary use shall be supplied to Project Representative for approval.

#### PART 3 EXECUTION

##### 3.01 EARTH MOVING ACTIVITIES

- A. The Contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the work area. Except where clearing is required for permanent work, for approved construction roads or for excavation operations, all trees, native shrubbery and vegetation shall be preserved and shall be protected from damage which may be caused by the Contractor's construction operations and equipment.

- B. The first stage of earth moving activity shall be confined to the excavation of the stormwater facility.
- C. Topsoil should be taken from the construction areas and should be stockpiled for reuse in finished grading. Stockpiles should be placed so as not to add any additional sediment to the construction. The stockpiles should be mulched and/or seeded when exposed beyond thirty (30) days.
- D. Graded areas are to be seeded and/or sodded within 30 days following earth moving procedures. If the time of year is not conducive for permanent seeding, a temporary mulch and/or seeding should be used.
- E. Temporary diversion berms and/or barriers shall be removed only after the construction of those areas directed to the berms and/or barriers have been completed.

### 3.02 FILLS

- A. Land to be cut or filled should be cleared of trees, stumps, roots, brush, boulders, sod and debris.
- B. Fill areas should be scarified, keyed and drained.
- C. Fill material should be free of sod, roots or other decomposable material.
- D. The placing and spreading of fill material should be started at the lowest point.
- E. Generally, a 6:1 slope should be used unless specific engineering data shows a steeper slope is stable. Slopes of 4:1 or flatter are desirable for erosion control and maintenance.
- F. Fills should be seeded and/or mulched immediately upon completion of earth placement.
- G. Water management systems should be provided to prevent water concentration and eroding the face of slope. Keep surface water off the face of the slope.

### 3.03 CUTS

- A. Diversions should be constructed at top of slopes prior to cutting operations to convey water from face of slope.
- B. Steepness of cuts will depend on soil type and design; however, cut slopes of 4:1 or flatter are desirable for erosion control and stability.
- C. Cut slopes should be benched to provide access for seeding and mulching equipment.
- D. Cut slopes should be seeded and/or mulched immediately after removal of earth.

### 3.04 PERMANENT STORMWATER BASINS

Not Used

### 3.05 MAINTENANCE

- A. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.
- B. After grading is completed and areas are seeded and/or sodded, visual inspections should be made on a routine basis. Any damage to the berm shall be repaired at once and re-sodded and/or re-seeded. If the level of water is being maintained over the expected withdraw down time,

the outfall system shall be cleaned and repaired. Areas shall be mowed and maintained by the Contractor until the project is closed out and accepted by the OWNER.

### 3.06 HAYBALES & SILT BARRIERS

- A. Haybales or silt barriers shall be utilized for the control of erosion. They shall be placed in areas shown on the plans, along protective areas, and at points that may be a source of erosion. It shall be the CONTRACTOR'S responsibility to place control facilities as needed. The Engineer may require additional protection if it is felt that there is a potential for damage due to erosion.
1. Haybales: Each bale shall be staked. Bales shall be inspected and if required, replacements shall be made on a daily basis. It shall be the CONTRACTOR'S responsibility to maintain the haybales.
  2. Silt Barrier: Barriers may be used instead of hay bales. Fabric to be a minimum of eight (8") inches below existing grade; fabric shall extend 15 to 18 inches above grade; stakes shall be driven a minimum of twelve (12") inches below grade. CONTRACTOR shall be responsible for the maintenance of the silt barriers.
  3. Damage and Repair: Repair all damages caused by soil erosion or construction equipment at or before the end of each work day.

END OF SECTION

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**SECTION 02070**  
**SELECTIVE DEMOLITION**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Demolishing designated structures, utilities, fixtures and equipment.
- B. Minor demolition for remodeling.
- C. Removing and disposing of materials off site in accordance with local, state and federal regulations.

**1.02 COORDINATION**

- A. Coordinate work of trades and schedule demolition, alterations and renovation work using procedures and methods to expedite completion of the Work.

**1.03 EXISTING CONDITIONS**

- A. Conduct work to minimize interference with adjacent building areas and other facility unit processes. Maintain protected egress and access at all times.

**PART 2 PRODUCTS**

**2.01 REMOVED MATERIALS**

- A. The CONTRACTOR shall remove all equipment, fixtures, machinery, materials, etc., necessary to accomplish the Work except those items noted or shown that the OWNER will remove. All equipment, fixtures, machinery, materials, etc., removed under this Section shall become the property of the CONTRACTOR unless otherwise noted.
- B. Materials which are indicated to be reused shall be turned over to the trade whose work includes the particular material with designated materials turned over to the OWNER.
- C. Remove all other materials from the site. Dispose of materials in accordance with federal, state, and local regulations.

**2.02 PRODUCTS FOR PATCHING, EXTENDING AND MATCHING**

- A. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work. Generally Contract Documents will not define products or standards of workmanship present in existing construction; CONTRACTOR shall determine products by inspection and any necessary testing, and workmanship by use of the existing as a sample of comparison.
- B. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed as necessary to make Work complete and shall be not less than that specified for new work in the applicable Sections.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Take precautions to guard against movement or settlement of existing work; provide bracing or shoring necessary in connection therewith; be responsible for safety and support of such work; be liable for any such movement or settlement and any damage or injury caused thereby or resulting

therefrom.

- B. Protect buildings and their contents from damage due to weather at all times, providing all necessary temporary enclosures to accomplish this protection.
- C. Coordinate with appropriate utility companies, when applicable, prior to initiating work.
- D. Provide, erect and maintain temporary barriers and security devices.
- E. Protect existing items which are not to be altered.

### 3.02 EXECUTION

- A. Assign the work of moving, removal, cutting and patching, to CONTRACTOR'S qualified personnel. Perform the work in a manner to cause least damage to each type of work, and provide means of returning surfaces to same appearance of new work.
- B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.
- C. Replace or repair any damage done to any other property on or off premises by reason of required work.
- D. Provide proper shoring and bracing to prevent settlement or damage to adjacent structures.
- E. If at any time the safety of adjacent structures or equipment appears to be endangered, cease operations; notify the ENGINEER and take precautions to support such structures or equipment; do not resume operations until permission has been granted. Any and all supports necessary to safeguard or prevent movement or settlement shall be installed prior to resuming operations. The CONTRACTOR shall assume full responsibility and expense for the adequacy of such supports.
- F. Ensure that all mechanical piping and ducts and electrical conduit and wires that would be interrupted during the work are turned off, and locked out, valved out, or disconnected before starting work.
- G. Openings in existing buildings shall be made using temporary partitions as are necessary to prevent dust or dirt being transmitted to existing areas. Maintain this protection until such time as no further contamination is possible.
- H. Keep dust, dirt and debris to a minimum.
- I. Relocate materials and equipment where possible so as to avoid damage.
- J. Disconnect utilities. Cap as required. Identify disconnected utilities and indicate locations of disconnected utilities on Project Record Documents.
- K. Install temporary partitions to allow building occupancy.
- L. Remove materials to be re-installed or retained in a manner to prevent damage. Store and protect in accordance with requirements of Section 01620.
- M. Notify ENGINEER immediately of any contaminated, vermin infested, dangerous or hazardous materials encountered and remove and properly dispose of materials in accordance with local, state and federal health, safety and environmental regulations.
- N. Remove contents of buried tanks located within demolition area. Remove underground tanks, components and piping from site.

- O. Backfill open pits and holes caused as a result of demolition.
- P. Rough grade and compact areas affected by demolition to finish site grades and contours.

3.03 DEBRIS

- A. All debris shall be removed as it accumulates and shall not be stored or permitted to accumulate on site. Remove all debris at the end of each working day.
- B. Burning of debris will not be permitted.

3.04 PATCHING

- A. Patch and extend existing work using skilled tradesmen who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work in the applicable sections.
- B. Patch and replace with matching material any portion of an existing finished surface which is found to be damaged, lifted, discolored, or shows other imperfections.
  - 1. Provide adequate support of substrate prior to patching the finish.
  - 2. Refinish patched portions of painted or coated surfaces that will produce compatible uniform color and texture over entire surface.
  - 3. When existing surface finish cannot be matched, refinish entire surface to nearest intersection.
- C. When new work abuts or finishes flush with existing work, make a smooth and workmanlike transition. Patched work shall match existing adjacent work in texture and appearance so that the patch or transition is invisible at a distance of five feet.
- D. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

END OF SECTION

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## SECTION 02100

### SITE PREPARATION

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. This Section covers clearing, grubbing and stripping along the construction sites, complete as specified herein.
- B. The CONTRACTOR shall clear and grub all of the area within the limits of construction or as required. The area to be cleared shall be established by the ENGINEER prior to the beginning of any clearing.
- C. All trees noted as to be removed shall first be root pruned prior to removal. All such trees shall be relocated as determined by the OWNER. All trees noted to be retained shall be protected from damage during construction.

##### 1.02 RELATED REQUIREMENTS

- A. The Contract Documents include, but are not limited to, the following:
  - 1. Seeding is included in Section 02933.

#### PART 2 PRODUCTS

Not Used

#### PART 3 EXECUTION

##### 3.01 CLEARING

- A. The surface of the ground, for the area to be cleared and grubbed, shall be completely cleared of all timber, brush, stumps, roots, grass, weeds, rubbish and all other objectionable obstructions resting on, or protruding through, the surface of the ground. However, those trees which are designated by the ENGINEER shall be preserved as hereinafter specified. Clearing operations shall be conducted so as to prevent damage to existing structures and installations, and to those under construction, and so as to provide for the safety of employees and others. Clearing for structures shall consist of topsoil and vegetation removal.

##### 3.02 GRUBBING

- A. Grubbing shall consist of the complete removal of all stumps, roots larger than 1-1/2 inches in diameter, matted roots, brush, timber, logs and any other organic or metallic debris not suitable for foundation purposes, resting on, under or protruding through the surface of the ground to a depth of 18 inches below the subgrade. All depressions excavated below the original ground surface for, or by the removal of, such objects, shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface.

##### 3.03 STRIPPING

- A. In areas so designated, top soil shall be stockpiled. Topsoil so stockpiled shall be protected until it is placed as specified. Any topsoil remaining after all work is in place shall be disposed of by the CONTRACTOR on site as directed by the Engineer.

3.04 DISPOSAL OF CLEARED AND GRUBBED MATERIAL

- A. Dispose of all material and debris from the clearing and grubbing operation by hauling such material and debris away to an approved landfill. Disposal by burning or burial will not be permitted. The cost of disposal (including hauling) of cleared and grubbed material and debris shall be considered a subsidiary obligation of the CONTRACTOR, the cost of which shall be included in the Contract prices.

END OF SECTION

## SECTION 02140

### DEWATERING

#### PART 1 GENERAL

##### 1.01 SYSTEM PERFORMANCE REQUIREMENTS

- A. Dewatering shall include all necessary control and disposal of groundwater on a continual basis during construction.
- B. Dewatering shall include the lowering of the groundwater table to relieve any hydrostatic head that could cause a decrease in the stability of the excavated subgrade. It shall also include the intercepting of seepage which could otherwise emerge from the slope or sides of excavations which could cause a decrease in the stability of the excavated subgrade or the slopes or sides of the excavations.

##### 1.02 ADDITIONAL PROVISIONS

- A. Provide, operate and maintain any dewatering system required to lower and control groundwater levels and groundwater hydrostatic pressure during the construction of the Work as required by this Section and the Contract Documents. The CONTRACTOR shall assume full responsibility and expense for the adequacy of the dewatering system with no additional time for performance.
- B. Remove and dispose of water resulting from activities described in paragraph 1.02 A. Provide siltation settling basins for all discharges from dewatering systems. Submit plan of settling basins and discharge facilities for review by OWNER prior to dewatering system installation. Review by OWNER does not relieve the CONTRACTOR of responsibility for complying with all regulatory requirements.
- C. All construction dewatering shall be contained onsite, at specified locations, and allowed to infiltrate the soil unless Florida Department of Environmental Protection (FDEP) permitting is obtained for offsite discharge. All dewatering effluent shall be routed to a temporary sediment sump prior to discharge to wetlands, other surface waters, or offsite. The general process of the dewatering system if depicted herein shall be adhered to during construction, although the actual layout of the system may be constructed as dictated by field conditions.
- D. If it is necessary to discharge dewatering effluent off site, then coverage under the FDEP "Generic Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity" must be obtained by the CONTRACTOR. Should contamination in excess of the thresholds for Generic Permitting be found in the required sampling, an "Individual Permit for Wastewater Discharge" is required. The CONTRACTOR shall bear all responsibility and costs for obtaining the applicable permit for discharge of de-watering effluent and for complying with the permit conditions.
- E. Remove dewatering systems and equipment when no longer required.

#### PART 2 PRODUCTS

Not used.

#### PART 3 EXECUTION

##### 3.01 EXECUTION

- A. The dewatering system shall be capable of developing an excavated subgrade relieved of any hydrostatic pressure that could cause a decrease in the stability of the excavated subgrade and which will provide the necessary groundwater control for the proper performance required for

completion of the Work.

- B. The dewatering system shall not cause damage to newly constructed or existing properties, buildings, utilities and other work due to the loss of support from incompletely drained soils or from removal of soil particles resulting from the dewatering system operation.
- C. Dewatering facilities shall be located where they will not cause interference with work performed by others.
- D. If the dewatering system utilized by the CONTRACTOR causes or threatens to cause damage to new or existing facilities, the dewatering system shall be modified at no additional cost to the OWNER. The CONTRACTOR shall be responsible for, and shall repair all damage caused by the dewatering system operation at no additional cost to the OWNER and at no additional time for performance.
- E. Dispose of subsurface water collected in a manner which conforms to all applicable local and state ordinances, statutes and laws.
- F. Maintain continual and complete effectiveness of the dewatering system operation to provide a firm, stable, excavated subgrade at all times as required for proper performance of the Work.
- G. Provide dewatering necessary to maintain the groundwater table below the level of backfill as it is being placed.

### 3.02 JOB CONDITIONS

- A. Erosion Control: Provide adequate protection from erosion from any of the dewatering operations utilized during the course of the construction. Any damage, disruption or interference to newly constructed work or existing properties, buildings, structures, utilities and/or other work resulting directly or indirectly from dewatering operations conducted under this Contract shall be remedied by the CONTRACTOR, at no cost to the OWNER.
- B. Treatment of Dewatering Operations Discharges: Provide such additional treatment devices as may be required to meet the provisions of the Contract. This may include the construction of sumps and/or settling basins, stone rip-rap, silt fences or other requirements. The treatment devices shall be later removed and/or filled in with acceptable backfill material, and restored to original conditions once they are no longer needed, at no additional cost to the OWNER.
- C. Upon completion of dewatering activities, all equipment and pipes shall be removed. All holes shall be properly filled to grade.

END OF SECTION

## SECTION 02160

### EXCAVATION SUPPORT

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Designing, furnishing, installing and maintaining excavation support systems for the following:
  - 1. Excavation for structures.
  - 2. Trench excavation.
- B. Removing excavation support systems.
- C. Complying with local, state and federal safety regulations.

##### 1.02 REFERENCE STANDARDS

- A. ASTM A328 - Steel Sheet Piling.
- B. NFPA - National Forest Products Association.

##### 1.03 SYSTEM DESCRIPTION

- A. Excavation support systems shall include soldier piles, trench boxes, wood sheeting and steel sheeting, including bracing members such as walers, struts, shores, lagging, and tieback anchors and all other system members.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. Wood: Tongue and groove; #3 common Douglas Fir or Hemlock; or Utility Grade Southern Pine; NFPA grading.
- B. Steel: ASTM A328.
- C. Trench Boxes: Fabricated steel.

#### PART 3 EXECUTION

##### 3.01 EXECUTION

- A. The CONTRACTOR shall be totally responsible for the means and methods of excavation and for the design and construction of the excavation support systems.
- B. The support system shall be designed for the maximum loads that will occur during construction.
- C. Excavation support systems shall be constructed to support all vertical and lateral loads and other surcharge loads imposed on the system during construction including earth and groundwater pressures, utility and construction loads in order to provide safe construction of the permanent structures and prevent movement and/or damage to adjacent soil, buildings, structures and utilities.
- D. Do not brace to concrete unless authorized by the ENGINEER, and if concrete has reached its design strength as determined by compressive test of representative concrete cylinders which have

been cured on site for a period of at least 14 days.

- E. Do not embed any part of excavation support system in the Work. Do not construct sleeves or openings in the structures to permit bracing through the structures unless authorized by the ENGINEER.
- F. Do not perform excavations in unstable earth. Unstable earth shall be stabilized with excavation support systems before excavation proceeds.
- G. Monitor all excavations as a means of detecting movement of adjacent soil, buildings, structures and utilities. Where movement or damage is observed, the CONTRACTOR shall immediately cease excavation operations and correct such deficiency in the excavation support system that allowed for movement or damage and repair all damage at no additional cost to the OWNER and at no additional time for performance.
- H. The CONTRACTOR shall be responsible for, and shall repair all damage resulting from his excavations at no additional cost to the OWNER and at no additional time for performance.

### 3.02 SHEETING LEFT-IN-PLACE

- A. Cut off all sheeting left-in-place at least three feet below the ground surface, whether such sheeting is ordered left in place by the ENGINEER or is left in place for the convenience of the CONTRACTOR.

END OF SECTION

## SECTION 02230

### GENERAL EXCAVATING, FILLING AND BACKFILLING

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Excavating topsoil and stockpiling topsoil for later use.
- B. Saw cutting pavement and excavating pavement.
- C. Placing excavating and fill materials for utilities.
- D. Backfilling excavations with common fill materials.
- E. Placing common fill materials for bringing site to subgrade.
- F. Complying with compaction requirements.
- G. Removing and disposal of excess topsoil and subsoil, excavated unsuitable material, and excavated pavement, rock, boulders, solid rubble masonry and Portland cement concrete off site.
- H. Grading and rough contouring the site to the cut limits required for construction.

##### 1.02 REFERENCE STANDARDS

- A. ASTM C33 - Concrete Aggregates.
- B. ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates.
- C. ASTM D75 - Sampling Aggregates.
- D. ASTM D1556 - Test for Density of Soil in Place by the Sand Cone Method.
- E. ASTM D1557 - Tests for Moisture - Density Relations of Soils and Soil- Aggregate Mixtures, Using 10-lb Rammer and 18-inch Drop: (Modified Proctor).
- F. ASTM D2922 - Tests for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- G. Florida Department of Transportation Standard Specifications for Road & Bridge Construction, latest edition.

##### 1.03 TESTING

- A. Tests and analysis of materials will be performed in accordance with latest ASTM Standards.
- B. The CONTRACTOR shall be responsible for coordinating and paying for all specified tests.
- C. The testing contractor shall carry out density tests to determine compaction of backfill spaced as required by the agencies having jurisdiction, or at a minimum of one in every 300 feet of trench cut per lift and shall include a test at the spring line of the pipe.

## PART 2 PRODUCTS

### 2.01 MATERIALS, GENERAL

- A. Topsoil: Friable, fertile, natural, free-draining loam typical of the locality; free of subsoil, roots, grass, sticks, weeds, clay, sod lumps, debris and stones larger than ¾-inch in maximum dimension.
- B. Unsuitable Material: Cut or broken pavement, debris, concrete or other rubble, organic materials; muck, peat; rock over 6 inches in maximum dimension; or any material which in the opinion of the OWNER will not provide sufficient support or maintain the completed construction in a stable condition.

### 2.02 COMMON FILL MATERIALS

- A. Subsoil: Material excavated on site which is friable, natural soil composed of sand, or silty sand; free from debris, concrete or other rubble, organic matter, muck, peat, excavated rock and boulders over 3 inches in maximum dimension.
- B. Additional Fill: Imported material which is friable, natural soil composed of sand, or silty sand; free from debris, concrete or other rubble, organic matter, muck, peat, excavated rock and boulders of 3 inches in maximum dimension.

### 2.03 FILTER FABRIC

- A. Filter fabric shall be FDOT D-2. Substitution of a product equal or better quality, detail, function and performance may be proposed for substitution when approved by the OWNER.

### 2.04 TRENCH BACKFILL MATERIAL

- A. Suitable Backfill Material - Material suitable for backfill in a properly dewatered trench shall not be expansive nor have high organic content, shall be free of debris, lumps and clods, and shall meet the following requirements:

1. Maximum liquid limit shall not exceed 12 as determined by ASTM D423.
2. Maximum plasticity index shall not exceed 35 as determined by ASTM D424.
3. Not more than 10% of weight shall be finer than 74 micron (No. 200) U.S. Standard Sieve.

Broken concrete shall not be used. Fill material containing limerock shall have sufficient sand to fill the voids in the limerock. No stones or rocks larger than three inches (3") in diameter will be permitted in any backfill. Material placed within one foot (1') of piping and appurtenances or in the upper six inches (6") of fills and backfills shall not contain any stones or rocks larger than one inch (1") in diameter.

Existing backfill material may be used only if it meets the above-mentioned requirements.

- B. Concrete for Trench Backfill (flowable fill)

1. Ready-Mix Flowable Fill or Controlled Low Strength Material (CLSM) may be substituted as an alternative to compacted soil, with the approval of the ENGINEER or if shown on the plans. Applications for the material include beddings, encasements, and closures for tanks and pipes, and general backfill applications for trenches and abutments. Flowable fill shall be designed to be excavateable.
2. Excavateable flowable fill shall have an ultimate compressive strength that must be less than 200 psi at 28 days.

- C. Imported Topsoil - Imported topsoil shall be suitable sandy loam from an approved source, which possesses friability and a high degree of fertility. It shall be free of clods, roots, gravel, and other inert material. It shall be free of quack grass, horsetail, and other noxious vegetation and seed. The organic content shall be not less than 1%.
  
- D. Foundation Material or Bedding Rock - Foundation material or bedding rock shall be used for bedding of pipe and/or manholes as indicated on the Drawings. Crushed stone shall consist of hard, durable, sub-angular particles of proper size and gradation, and shall be free from organic material, wood, trash, sand, loam, clay, excess fines and other deleterious materials. The stone shall conform to the requirements of ASTM C33, Size No. 57 (3/4 inch rock) and be graded within the following limits:

<u>U.S. Sieve Size</u>	<u>Percent Finer by Weight</u>
2-inch	100
1-inch	95 to 100
1/2-inch	25 to 100
No. 4	0 to 10
No. 8	0 to 5

### PART 3 EXECUTION

#### 3.01 PREPARATION

- A. Request available information on existing utilities and structures from Sunshine State One Call (811).
- B. Identify required lines, levels, contours, and datum.
- C. Identify known underground utilities. Stake and flag locations.
- D. Identify and flag surface and aerial utilities.
- E. Notify utility companies to locate and temporarily support, remove, and/or relocate utilities, the cost of which shall be borne by the CONTRACTOR.

#### 3.02 PROTECTION

- A. Protect trees, shrubs, lawns, and other features remaining as a portion of final landscaping.
- B. Protect existing structures to remain.
- C. Protect pavement, both for access and parking that is to remain.
- D. Protect surrounding roadways.
- E. Protect bench marks, existing structures, fences, stone walls, sidewalks, paving, and curbs from equipment and vehicular traffic.
- F. Protect above and below grade utilities which are to remain.
- G. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation.

### 3.03 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, landscaped, or graded, and stockpile. Remove excess topsoil not being reused from site. Topsoil suitable for reuse shall be in conformance with paragraph 2.01 A. Stockpiled topsoil shall be protected from erosion.

### 3.04 PAVEMENT EXCAVATION

- A. All pavement shall be cut with saws or acceptable power tools prior to removal.
- B. Excavate pavement within the limits shown on the Drawings.
- C. Keep excavated pavement separate from topsoil and subsoil stockpiles.
- D. Remove and dispose of pavement excavated from site.

### 3.05 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be landscaped or graded to the limits shown on the Drawings.
- B. Excavate subsoil required for structures, utilities and other work to the limits necessary or as shown on the Drawings.
- C. Stockpile excavated material to be reused and remove and dispose of unsuitable subsoil and excess subsoil not being reused, off site. Subsoil suitable for reuse shall be in conformance with paragraph 2.02 A. Stockpiled subsoil shall be protected from erosion.
- D. Remove all muck, peat and other unsuitable material within trench limits or where structures are to be located. If unsuitable material exists at limits of excavation shown on Drawings, obtain excavation authorization from OWNER prior to removal of material. Unauthorized excavation of unsuitable material will not be considered for payment. Excavated unsuitable material shall be replaced with backfill material as specified.
- E. Notify OWNER of unexpected subsurface conditions, discovery of unknown utilities or concealed conditions, and discontinue affected work in area until notified to resume work. Unexpected subsurface conditions do not include those conditions identified in the Contract Documents.
- F. Slope sides of excavation to satisfy OSHA and State Trench Safety requirements or install excavation support systems.
- G. Excavations shall not interfere with normal 45 degree bearing influence of any foundation.
- H. Grade top perimeter of excavations to prevent surface water run-off into excavation.
- I. When excavation through roots is necessary, cleanly cut roots.
- J. Correct unauthorized excavation at no cost to OWNER. Backfill with material acceptable to the OWNER.
- K. Maintain bottom of all excavations stable, dry and free of water on a continual basis in accordance with Section 02140 - DEWATERING.

### 3.06 BACKFILLING PREPARATION FOR UTILITIES

- A. Brace walls and slabs of structures to support surcharge forces and construction loads to be imposed by backfilling operations.

- B. Remove all water and debris from excavations and trenches before placing pipe bedding or foundation material.
- C. Compact subgrade surfaces disturbed by construction operations to density requirements for backfill material. Do not place bedding, foundation material or backfill on porous, unstable or unsuitable subgrade.

### 3.07 BEDDING AND BACKFILLING FOR UTILITIES

- A. Bedding and backing of utilities shall be in conformance with the specifications.
- B. Backfill excavations and trenches to depths, contours and elevations required.
- C. Each layer of backfill shall be compacted to the specified density the same day it is placed.
- D. Maintain optimum moisture content of backfill materials to attain required compaction density.
- E. Fill that is too wet for proper compaction shall be disced, harrowed or otherwise dried to proper moisture content for compacting to the required density. If the fill material cannot be dried within 48 hours of placement, it shall be removed and replaced with drier fill.
- F. Fill that is too dry for proper compaction shall be watered uniformly over the surface of the loose layer. Sufficient water shall be added to allow compaction to the required density.
- G. Employ placement and compaction methods that will not disturb or damage Work or existing structures or utilities. Disturbed or damaged Work, structures or utilities shall be repaired at no additional cost to the OWNER and at no additional time for performance.
- H. Do not backfill against unsupported foundation walls or before required concrete strength has been achieved. Backfill simultaneously on each side of unsupported foundation walls.
- I. Backfilling shall be performed as required to avoid interference with contractor's or subcontractor's Work.
- J. Grade backfill to provide a smooth surface which will readily shed water and provide positive drainage. Areas to receive compacted fill shall be graded to prevent ponding of surface water runoff.

### 3.08 BACKFILLING TOLERANCES

- A. Top Surface of Backfilling or Subgrade: Plus or minus one inch.

### 3.09 COMPACTION

- A. The maximum density at optimum moisture content for bedding and backfill materials shall be determined in accordance with ASTM D1557 (Modified Proctor).
- B. All bedding and backfill materials shall be compacted to the density shown in paragraph 3.10 - FILL.
- C. Testing density of soil in place (compaction) will be performed in accordance with ASTM D1556, ASTM D2167, or ASTM D2922. If tests indicate compacted bedding and/or backfill does not meet specified requirements, remove, replace and retest at no additional cost to OWNER and at no additional time for performance.

### 3.10 FILL

- A. Fill material shall be evaluated and approved by the OWNER prior to its placement on-site.
- B. Fill shall be placed in lifts not exceeding twelve (12) inches in loose depth and shall be thoroughly compacted. In embankment areas or retention/detention areas, lifts shall not exceed eight (8) inches in loose depth and shall be thoroughly compacted to 95% of modified proctor. Compaction in areas to receive floor slabs or pavement shall be to a minimum of 98% of modified proctor.

Compaction in general fill (non-structure) areas shall be to a minimum of 95% of modified proctor.

- C. Prior to placement of fill, the entire ground surface shall be scarified to a depth of six inches in such a manner that the fill material will bond with the existing earth material. Sprinkling shall be performed as necessary to develop a uniform dense compaction. Under no conditions shall fill material be placed on earth surfaces which are muddy.
- D. Fill material shall be free of roots, organic material, rubbish or debris. However, fill material may contain shoulder rocks or masonry material not over six inches in size, if well distributed, and not within the top twelve inches.
- E. In lawn area, fill is to be within four inches of finished grade. Subgrade for paved areas shall be filled as required and compacted, ready to receive base material.
- F. Finish grade with four inches of loamy topsoil, clean, free from all debris, stones over ¾ inches in size or rubbish of any nature. Use stripped topsoil and, if necessary, furnish and place additional topsoil to meet finished grade. Final grades shall be approved by OWNER.
- G. During the rough grading operations, site filling shall be accomplished in accordance with the following:
  - 1. Within the building and under exterior concrete and bituminous paving such as sidewalks, parking areas and drives, fill shall be deposited in horizontal layers not to exceed twelve (12") inches thick and be compacted and tested in accordance with the following paragraphs:
    - a. Each layer of fill shall be uniformly rolled with suitable equipment, as approved by the OWNER. Provide shoring and bracing for all walls, retaining walls, piping, piers, etc., which may be damaged or displaced by rolling. Fill adjacent to areas inaccessible to large equipment and rollers shall be compacted with machine tampers.
    - b. Moisture content of the fill shall be that at which maximum consolidation can be obtained as determined by the laboratory test for optimum moisture content. Where areas are not of proper moisture content as determined by field tests, add water to provide the desired moisture percentage determined by the laboratory test.
    - c. Densities of fill in place shall be not less than herein before specified. Each layer shall be compacted to the satisfaction of the OWNER and verified with field tests before next layer is laid. Test reports shall clearly indicate the exact location of all testing (vertical and horizontal).
    - d. Areas excavated after compaction and approval of fill shall be backfilled and tested in the same manner as specified herein.
  - 2. Controlled Compaction Tests
    - a. Laboratory determination of optimum moisture content for available fill to obtain maximum

compaction.

- b. Field tests of compacted fill for moisture content and dry unit weight of compacted soil.
  - c. Field density compaction test for density of soil in place.
  - d. Determination of L.B.R.
3. The following is the frequency of testing required for all fill and backfill material.
- a. Building Areas  

One density test every 2,500 s.f. of building area, per 12 inch lift of installed material. Compact each layer to not less than 98% maximum density (ASTM D-1557) modified proctor.
  - b. On-Site Pavements  

Subgrade:  
  
One density test every 4,500 s.y. compacted to not less than 98% maximum density (ASTM D-1557) modified proctor.

Subbase:  
  
One density test every 1,000 s.y. compacted to not less than 98% maximum density (ASTM D-1557), with limerock bearing ratio of 40 for flexible pavements, 20 for rigid. One LBR test every 4,500 s.y. or change in material.

Base Course:  
  
One density test every 1,000 s.y. compacted to not less than 98% maximum density (ASTM D-1557) with limerock bearing ratio of 100 or above. One LBR test every 4,500 s.y. or change in material.
  - c. Pipe or Utilities Backfill  

One density test every 12 inch lift between each pipe run starting at the spring line of the pipe; spaced as required by the agencies having jurisdiction, or maximum spacing between tests 250 feet. One density test at each road crossing. Compact backfill to not less than 98% maximum density (ASTM D-1557) modified proctor, as per agencies having jurisdiction requirements.
- H. Foundation Stabilization for Pipe - Foundation stabilization material shall be required as specified in the plans or as directed by the OWNER'S representative. When, in the opinion of the OWNER's representative, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below the flow line of the pipe, as directed by the OWNER. Backfill the trench to specified pipe grade with the foundation stabilization material. If the trench is properly dewatered, suitable backfill material may be used for stabilization. Crushed rock shall be used when a dry trench cannot be obtained. Place the foundation stabilization material over the full width of the trench and compact in layers not exceeding six inches (6") deep to the required grade.
- I. Backfill in Trenches - Backfilling of trenches will not be allowed until the work has been reviewed by the ENGINEER and the ENGINEER indicates that backfilling may proceed. Any work covered up or concealed without the knowledge or consent of the ENGINEER may be required to be

uncovered or exposed at no cost to the OWNER.

Pipeline trenches shall be backfilled with a select backfill material to a level twelve inches (12") above the top of the pipe. Such material shall be placed in six-inch (6") layers, and compacted to the densities specified herein. Only hand operated mechanical compacting equipment shall be used within six inches (6") of the installed pipe. After the select backfill has been placed as specified above, and after all excess water has completely drained from the trench, backfilling of the remainder of the trench may proceed. The remainder of the backfill shall be placed in horizontal layers, the depth of which shall not exceed the ability of the compaction equipment employed, and in no event shall exceed a depth of twelve inches (12"). No lift shall be placed until satisfactory compaction has been achieved on the preceding lift. Each layer shall be moistened, tamped, rolled, or compacted to the densities specified below:

Location of Use of Fill	Percentage of Maximum Density
Backfill beneath paved areas, roadways, or driveways. (Backfill beneath roadways, or driveways shall be inclusive of any backfill within 7 feet from edge of pavement unless specified otherwise by governing Public Works Department).	98% AASHTO T-180
Backfill beneath structures, hydraulic structures.	98% AASHTO T-180
Backfill not beneath paved areas or structures.	95% AASHTO T-180
Backfill around structures but not below paved areas.	95% AASHTO T-180

If more stringent compaction requirements are given in any other documentation applicable to the work being performed, those requirements will apply.

Materials utilized for backfill and compaction shall be within 2% of optimum moisture as determined by the applicable proctor test. Moisture content with greater than 2% variance from optimum will be permitted only if it can be demonstrated satisfactory compaction is being achieved.

Flooding or puddling with water to consolidate backfill is not acceptable.

Magnetic location tape with a minimum width of two and one half inches (2-1/2") is to be laid directly above the pipe and eighteen inches (18") below the ground surface. Tape is to be of color and marking to correspond to the piping laid. Tape ends are to be spliced together so as to produce a continuous length of location tape. Continuous #12 AWG copper tracing wire shall be attached to the top of the pipe.

All well point holes that will be under parking, driveway or roadway surfaces shall be backfilled with concrete immediately after pulling the well points. All other well point holes shall be backfilled with FDOT No. 89 stone immediately after pulling the well points, unless specified to do otherwise.

- J. Concrete Encasement - Concrete encasement will be used only as directed by the ENGINEER or shown on the drawings.

### 3.11 GRADING

- A. Grading Areas to be and Seeded or Sodded:

1. Perform all rough grading required to attain the elevations indicated on the Drawings or as required.
2. Grade to elevations shown on the Drawings or as required for landscaping. Remove all material, including rock and boulders to a point at least 4 inches below the finished grade of landscaped areas to be and seeded and/or sodded.
3. Remove all ruts and other uneven surfaces by surface grading.

B. Grading Areas to be Paved or Surfaced:

1. Perform all rough grading, including shaping, sloping, and any work necessary to prepare the subgrades of all roadways, walks and parking areas. Subgrade shall be brought to the bottom elevation of the base course under paved or surfaced areas.
2. Accomplish all grading within the slope and grade lines as indicated on the Drawings or as necessary to accomplish the Work, unless otherwise authorized in writing by the OWNER. The roadway shall be graded to full cross section width at subgrade before placing any type of subbase or pavement except that partial width construction may be permissible where necessary for the maintenance of traffic.
3. Slope grade away from structures.
4. Make gradual changes in grade. Slopes shall transition gradually into level areas.
5. Grade all areas completely and remove and dispose of all excess excavated, bedding and backfill materials from site. Backfill to original grade or as indicated herein or on the Drawings. Deviations and settlement shall be corrected at no cost to the OWNER and at no additional time for performance.

3.12 FIELD QUALITY CONTROL

- A. All subgrades must be inspected and accepted by the OWNER prior to proceeding with Work. Sufficient time must be allowed for the OWNER to observe and to have any necessary tests performed on the subgrade.

END OF SECTION

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## SECTION 02300

### DIRECTIONAL DRILLING

#### PART 1 GENERAL

##### 1.01 DESCRIPTION OF REQUIREMENTS

- A. The CONTRACTOR shall provide all necessary tools, materials and equipment to successfully complete the installation of directionally drilled piping as specified herein and shown on the drawings. The CONTRACTOR shall be responsible for the final constructed product, and for furnishing the qualified labor and supervision necessary for this method of construction.
- B. The CONTRACTOR shall furnish all items necessary to perform the horizontal directional drilling operation and construct the pipe to the lines and grade shown on the drawings.
- C. Boring must use techniques of creating or directing a borehole along a predetermined path to a specified target location. This must involve use of mechanical and hydraulic deviation equipment to change the boring course and must use instrumentation to monitor the location and orientation of the boring head assembly along a predetermined course, as further described in this specification.
- D. Drilling must be accomplished with fluid-assisted mechanical cutting. Boring fluids shall be a mixture of bentonite and water or polymers and additives. Bentonite sealants and water will be used to lubricate and seal the mini-tunnel. It is mandatory that minimum pressures and flow rates be used during drilling operation as not to fracture the sub-grade material around and or above the bore.
- E. The mobile drilling system shall utilize small diameter fluid jets to fracture and mechanical cutters to cut and excavate the soil as the head advances forward.
- F. Steering shall be accomplished by the installation of an offset section of drill stem that causes the cutterhead to turn eccentrically about its centerline when it is rotating. When steering adjustments are required, the cutterhead offset section is rotated toward the desired direction of travel and the drill stem is advanced forward without rotation.
- G. The mobile drilling system must be capable of being launched from the surface at an inclined angle and drilling a 2" to 3" diameter pilot hole. The pilot hole will then be enlarged with reamers as required to achieve the completed directional drill bore hole diameter.
- H. The path of the pilot hole shall be monitored during drilling by taking downhole survey readings at intervals not to exceed 10 feet. These readings shall be used to calculate the horizontal and vertical coordinates of the downhole probe as it progresses along the pilot hole. Calculations shall be performed according to API Bulletin D20. Recorded data and calculations from downhole surveys shall include, but not be limited to the following items:
  - 1. Course length. The distance between two downhole surveys as measured along the drilled path.
  - 2. Measured distance. The total distance of a downhole survey from the entry point as measured along the drilled path; also the summation of the course lengths.
  - 3. Inclination. The angle at which the downhole probe is projecting from the vertical axis at a particular downhole survey point; vertically downward corresponds to zero degrees.
  - 4. Azimuth. The angle at which the downhole probe is projecting in the horizontal plane at a particular downhole survey point; magnetic north corresponds to zero degrees.
  - 5. Station. The horizontal position of a downhole survey measured from an established horizontal control system.

6. Elevation. The vertical position of a downhole survey measured from an established vertical control system.
7. Right. The distance of a downhole survey from the design path reference line; positive values indicate right of the reference line while negative values indicate left of the reference line.
- I. In addition to a magnetic downhole survey system, a surface monitoring system, such as TruTracker (or equivalent) shall be used to determine the location of the downhole probe during pilot hole drilling. The TruTracker locates the downhole probe by inducing a magnetic field in a surface coil of known location. The probe senses its location relative to this magnetic field and communicates this information to the surface. Prior to drilling, the coil shall be laid out on the ground surface and its corners accurately surveyed.
- J. Regardless of the tolerance achieved, no pilot hole will be accepted if it will result in any of the pipeline being installed in violation of Construction Right-of-Way or Easement restrictions. Concern for adjacent utilities and/or structures takes precedence over the listed tolerances. Listing of tolerances does not relieve the HDD CONTRACTOR of responsibility for safe operations or damage to adjacent utilities and structures.
- K. Notwithstanding the Directional Tolerance stated above, curves shall be drilled at a radius equal to or greater than that shown on the drawings. The drilled radius will be calculated over any three joint (range 2 drill pipe) segment using the following formula:

$$R_{\text{drilled}} = (L_{\text{drilled}}/A) * 57.32$$

Where:

$R_{\text{drilled}}$  = drilled radius over  $L_{\text{drilled}}$

$L_{\text{drilled}}$  = length drilled, no less than 75 feet and no greater than 100 feet.

A = total change in angle over  $L_{\text{drilled}}$

- L. At the completion of pilot hole drilling, the HDD CONTRACTOR shall provide a tabulation of coordinates, referenced to the drilled entry point, which accurately describe the location of the pilot hole. The location of the entry point shall be tied to the construction plans.
- M. A swivel shall be used to connect the pull section to the reaming assembly to minimize torsional stress imposed on the section. The pull section shall be supported on rollers as it proceeds during pull back so that it moves freely.
- N. The composition of all drilling fluids proposed shall be submitted for approval. No fluid will be approved or utilized that does not comply with permit requirements and environmental regulations. The HDD CONTRACTOR shall be responsible for obtaining, transporting and storing any water required for drilling fluids.
- O. The HDD CONTRACTOR shall maximize the recirculation of drilling fluid surface returns. The HDD CONTRACTOR shall provide solids control and fluid cleaning equipment of a configuration and capacity that can process surface returns and produce a drilling fluid suitable for reuse.
- P. The HDD CONTRACTOR shall employ his best efforts to maintain full annular circulation of drilling fluids. Drilling fluid returns at locations other than the entry and exit points shall be minimized. In the event that annular circulation is lost, the HDD CONTRACTOR shall take steps to restore circulation. The HDD CONTRACTOR will develop a plan for how to contain an inadvertent release of drill mud. While it is important not to delay or encumber the ongoing HDD operations, the plan should include:
  1. Methods for rapid detection (method and frequency of monitoring the HDD alignment).
  2. Sustained inventory of containment materials (silt curtain, hay bales, sand bags, excavation tools, etc.).

3. Identify a length of time before clean-up begins.
4. List regulatory agencies which should be notified.

#### 1.02 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials (AASHTO).
- B. Occupational Safety and Health Administration (OSHA).
- C. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction Section 555 – Directional Bore
- D. American Water Works Association (AWWA)
  1. C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution
  2. C905 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm), for Water Transmission and Distribution
  3. C906 - Polyethylene (PE) Pressure Pipe and Fittings 4 In. (100 mm) Through 63 In. (1,600 mm) for Water Distribution and Transmission

#### 1.03 DEFINITIONS

- A. CONTRACTOR's Construction Drawings. Shall be defined as drawings by which the CONTRACTOR proposes to construct, operate, build, etc., the referenced item. The submission of these drawings shall be required for the sole purpose of providing the sufficient details to verify that the CONTRACTOR's work in progress is in accordance with the intent of the design.

#### 1.04 SUBMITTALS

- A. The ENGINEER will base the review of submitted details and data on the requirements of the completed work, safety of the work in regards to the public, potential for damage to public or private utilities and other existing structures and facilities, and the potential for unnecessary delay in the execution of the work. Such review shall not be construed to relieve the CONTRACTOR in any way of his responsibilities under the contract. CONTRACTOR shall not commence work on any items requiring CONTRACTOR's construction drawings or other submittals until the drawings and submittals are reviewed and accepted by the ENGINEER.
- B. The Contractor shall:
  1. Submit for review complete construction drawings and/or complete written description identifying details of the proposed method of construction, a drill plan, and the sequence of operations to be performed during construction, as required by the method of HDD excavation approved. The drawings and descriptions shall be sufficiently detailed to demonstrate to the ENGINEER whether the proposed materials and procedures will meet the requirements of this specification. CONTRACTOR shall submit arrangement drawings and technical specifications of the machine and trailing equipment (including any modifications), three-year experience record with this type of machine and a copy of the manufacturer's operation manual for the machine.
  2. Contractor's construction drawings shall be submitted on the following items.
    - a. Complete details of the equipment, methods and procedures to be used, including but not limited to primary lining installation, timing of installation in relation to the excavation plan

and sequence, bulkheads, etc.

- b. Grouting techniques, including equipment, pumping procedures, pressure grout types, mixtures and plug systems.
  - c. Method of controlling line and grade of excavation.
  - d. Details of cuttings & drilling fluid removal, including equipment type, number, and disposal location.
  - e. Proposed contingency plans for critical phases and areas of directional drilling.
- C. Quality Control Methods. At least 10 days prior to the start of directional drilling, CONTRACTOR shall submit a description of his quality control methods he proposes to use in his operations to the ENGINEER. The submittal shall describe:
1. Procedures for controlling and checking line and grade.
  2. Field forms for establishing and checking line and grade.
- D. Safety. Procedures including, but not limited to, monitoring for gases encountered shall be submitted.
- E. Hazardous chemical list as well as all MSDS and technical data sheets.
- F. A plan for loss of drilling fluids (a "Frac Out Plan"). A sample Frac Out Plan is presented in the Appendix. This sample plan is an example of the detail and completeness required of the CONTRACTORs submittal and is not the plan for this project. The CONTRACTOR must prepare the Frac Out Plan for this project and submit it for the approval of the ENGINEER.

#### 1.05 DESIGN CRITERIA

- A. Compatibility of Methods.
1. The methods of excavation, lining, and groundwater control shall be compatible.
- B. In the event these specifications conflict with referenced standards, the most stringent shall apply.

#### 1.06 JOB CONDITIONS

- A. Safety Requirements
1. Perform work in a manner to maximize safety and reduce exposure of men and equipment to hazardous and potentially hazardous conditions, in accordance with applicable safety standards.
  2. Whenever there is an emergency or stoppage of work which is likely to endanger the excavation or adjacent structures, operate a full work force for 24 hours a day, including weekends and holidays, without intermission until the emergency or hazardous conditions no longer jeopardize the stability and safety of the work.
- B. Air Quality.
1. Conduct directional drilling operations by methods and with equipment, which will positively control dust, fumes, vapors, gases or other atmospheric impurities in accordance with applicable safety requirements.

1.07 PERMITS

- A. Obtain any and all other permits required for prosecution of the work.

PART 2 PRODUCTS

2.01 GENERAL

- A. Refer to Section 02616 of these Project Specifications for HDPE pipe material.
- B. All directional bores shall be Fusible PVC meeting the requirements of AWWA C900 or C905 with DR-18 minimum, or HDPE meeting the requirements of AWWA C906 with DR-11 minimum, or equal.
- C. Pipe shall be color-coded by the pipe manufactured during fabrication indicating appropriate service.
- D. CONTRACTOR shall install a single (unspliced) length of #12 reinforced composite tracer wire with directional drilled Fusible HDPE pipe for location purposes. Tracer wire shall be HDPE covered hi-carbon-steel-core copper wire as manufactured by Copperhead Industries, LLC, Monticello, MN or Approved Alternate. Tracer wire shall be securely attached to each end of the directionally drilled pipe and intermittently as needed.

PART 3 EXECUTION

3.01 GENERAL

- A. The CONTRACTOR shall be responsible for his means and methods of directional drilling construction and shall ensure the safety of the work, the CONTRACTOR's employees, the public, and adjacent property, whether public or private.
- B. CONTRACTOR should anticipate that portions of the drilled excavation will be below the groundwater table and/or under waterways.
- C. Comply with all local, state and federal laws, rules and regulations at all times to prevent pollution of the air, ground and water.
- D. Directional boring must be completed between the hours of 8:00 A.M. and 3:00 P.M.

3.02 EQUIPMENT

- A. Diesel, electrical, or air-powered equipment will be acceptable, subject to applicable federal and state regulations.
- B. Any method or equipment that the CONTRACTOR can demonstrate will produce the specified results will be considered, with the following limitations:

Equipment with less than the following minimum capacities will not be approved:

- Pull capacity – 40,000 pounds.
- Torque – 15,000 ft-lbs.
- Mud pump capacity 200 gpm.
- Mud mixing system suitable for anticipated flow rates.
- Drill pipe and downhole tooling exceeding the rig capacity (including nondestructive testing certificates).

- C. CONTRACTOR shall employ equipment that will be capable of handling the various anticipated ground conditions. In addition, the equipment shall:
  - 1. Be capable of minimizing loss of ground ahead of and around the machine and providing satisfactory support of the excavated face at all times.
  - 2. Provide a system to indicate whether the amount of earth material removed is equivalent to that displaced by the advance of the machine such that the advance rate may be controlled accordingly.
- D. Provide adequate secondary containment for any and all portable storage tanks.

### 3.03 DIRECTIONAL DRILLING DATA

- A. Daily logs of construction events and observations shall be submitted on at least the following:
  - 1. Location and elevation of significant soil strata boundaries and brief soil descriptions.
  - 2. Jacking pressures and torsional forces, if applicable.
  - 3. Depths shall be recorded at a maximum of every ten (10) feet.

### 3.04 CONTROL OF THE DRILL LINE AND GRADE

- A. Construction Control.
  - 1. The CONTRACTOR shall establish and be fully responsible for the accuracy of his own control for the construction of the entire project, including structures, drill line and grade.
  - 2. The CONTRACTOR's control points shall be established sufficiently far from the drilling operation not to be affected by construction operations.
  - 3. The CONTRACTOR shall maintain daily records of alignment and grade and shall submit three copies of these records to the ENGINEER. However, the CONTRACTOR remains fully responsible for the accuracy of his work and the correction of it, as required.
  - 4. The CONTRACTOR shall check his control for the bore alignment against an above ground undisturbed reference at least once for each rod length of bore constructed, or more often as needed or directed by the ENGINEER. CONTRACTOR shall furnish a "Directional Bore Log" for each bore completed within seven (7) days of performing the bore.

### 3.05 DISPOSAL OF EXCESS MATERIAL

- A. Where such effort is necessary, cost for groundwater control during the course of the drilling work shall be included in the unit contract price for the work.
- B. Dewatering required during the course of the project to lower water table, to remove standing water, surface drainage seepage, or to protect ongoing work against rising waters or floods shall be considered incidental to the work being performed.
- C. CONTRACTOR shall remove all puddled bentonite (drillers mud) and dispose of off-site in a legal manner, at no additional cost to the OWNER.

END OF SECTION

**SECTION 02521**

**SIDEWALKS**

**PART 1 GENERAL**

1.01 WORK INCLUDED

- A. Furnishing materials, equipment and incidentals required to construct and/or restore sidewalks.
- B. Construction and restoration of sidewalks.
- C. Where part of an existing walk has been damaged by the CONTRACTOR, the entire width of the walk shall be removed and replaced at no additional cost to the OWNER. Patch work will not be accepted.

1.02 REFERENCE STANDARDS

- A. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction section 522.

**PART 2 PRODUCTS**

2.01 GENERAL

- A. Foundation shall be provided in accordance with FDOT, Section 522-4.

2.02 PORTLAND CEMENT CONCRETE SIDEWALKS

- A. Concrete: All work under this section shall be of Class I Concrete, as specified in FDOT Section 346.
- B. Expansion Joints: All work under this section shall be of Class I Concrete, as specified in FDOT Section 522-5 and joint filler shall meet FDOT Section 932-1.1.
- C. Contraction Joints: All work under this section shall be either open type or sawed. Open type joints shall comply with FDOT Section 522-5.2.2 and sawed joints shall to FDOT Section 522-5.2.3 and shall be constructed every five (5) feet.
- D. Detectable Warnings: Detectable warning devices on sidewalks shall be in accordance with FDOT Section 527.

**PART 3 EXECUTION**

3.01 GENERAL

- A. The sub-grade shall be properly shaped and thoroughly compacted. The sub-base, placed to a minimum depth of six inches (6"), shall be properly compacted to 98% of AASHTO T-180 density.
- B. Before a sidewalk is opened to general use, the space on each side of the sidewalk shall be backfilled to the required elevation with top fill, firmly compacted to 85% of maximum dry density as determined by the Modified Proctor Method (ASTM D1557) and neatly graded.

3.02 PORTLAND CEMENT CONCRETE SIDEWALKS

- A. Forms: Approved forms shall be of wood or metal and shall extend for the full depth of the concrete. All forms shall be straight or curved as required, free from warp, of sufficient strength to resist the pressure of the concrete without springing and shall be cleaned and oiled before installing. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until

their removal.

B. The concrete shall be thoroughly compacted and screeded to the desired grade before finishing.

C. Finishing:

1. Before the concrete has taken its initial set, it shall be tested for waves or irregularities with a straight-edge 10 feet long. . Any unevenness of 1/4-inch or more, or more than 1/8-inch on a five-foot transverse section, either above or below the general contour of the surface shall be immediately remedied. The surface shall be finished with a wooden float. No plastering will be permitted. The edges shall be rounded with an edger having a radius of 1/2-inch.
2. The surface of the sidewalk, after the floating and screeding process is completed, shall be finished in accordance with FDOT Section 522-7.

D. Joints:

1. Unless otherwise indicated on the plans or directed by the ENGINEER, expansion joints shall be placed every 50 feet.
2. Expansion joints shall be formed around all appurtenances such as manholes, utility poles and other obstructions extending into and through the sidewalk. Preformed joint filler 1/2-inch thick shall be installed in these joints. Expansion joint filler of the thickness indicated shall be installed between concrete sidewalks and any fixed structure such as building or bridge. This expansion joint material shall extend for the full depth of the sidewalk.
3. Between the expansion joints the sidewalk shall be divided at intervals of five (5) feet by dummy joints formed by a jointing tool to provide grooves approximately 3/16-inch wide and extending to at least 1/3 of the depth of the sidewalk.
4. When the sidewalk is constructed next to a concrete or granite curb, asphalt treated felt shall be placed between sidewalk and curb for the depth of the sidewalk.

E. Curing: Concrete curing shall be as provided in FDOT Section 520-8.

F. Detectable Warnings: Provide Detectable Warning devices on newly constructed and/or existing concrete curb ramps in accordance with the Americans with Disabilities Act Accessibility Guidelines Section 4.29.2 and FDOT Section 527.

**END OF SECTION**

## **SECTION 02616**

### **POLYVINYL CHLORIDE PIPE (PVC) AND FUSIBLE PVC PIPE (FPVC) FOR PRESSURE SERVICE**

#### **PARTS 1 GENERAL**

##### **1.01 WORK INCLUDED**

- A. Furnishing pipe for water, sewer, and reclaimed water distribution systems.
- B. Furnishing all valves, hydrants and miscellaneous appurtenances.
- C. Installation.
- D. Testing and disinfection.

##### **1.02 REFERENCE STANDARDS**

- A. Current Department of Environmental Protection Rules and Regulations relating to water, sewer and/or reclaimed water distribution systems and force mains.

##### **1.03 COMPLY**

- A. All excavation and backfilling shall be in conformance with pertinent sections of this Specification.
- B. All Contract Documents reflecting water, sewer and reclaimed water line location, and details.

##### **1.04 SUBMITTALS**

- A. Submit shop drawings and product data. Each submittal shall consist of six (6) sets of information.
- B. Submit manufacturer's recommendations for pipe jointing and laying.
- C. No later than two weeks prior to commencing operations, submit to the OWNER for approval, a description of operations, including equipment to be used, qualifications of personnel, traffic control, maintenance of flow and method of protecting existing utilities.

##### **1.05 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Pipe shall be unloaded and inspected in accordance with the manufacturer's instructions.
- B. Pipe and fittings stored on the site shall be stored in the protective unit packages provided by the manufacturer. If packages need to be opened, the pipe shall be stored on a flat surface and not in direct contact with the ground. Do not stack higher than four (4) feet. Keep inside of pipe and fittings free from dirt and debris. Care shall be exercised to avoid compression damage or deformation to the pipe.
- C. All pipe and fittings that are stored shall be covered to provide protection from the sunlight.
- D. Handle all material carefully at all times. Any pipe or fitting having a crack or which has received a severe blow shall be marked rejected and immediately be removed from the work.

## PARTS 2 PRODUCTS

### 2.02 PVC PIPE

- A. Polyvinyl chloride (PVC) pressure pipe four (4) inches or larger shall conform to the requirements of American Water Works Association (AWWA) C900, or AWWA C905, with outside diameter equal to that of standard ductile iron pipe and dimension ratio of DR 25, DR 18, or DR 14, unless otherwise noted. PVC pipe shall be colored to designate its end use: blue for water mains, purple for reuse water mains and green for sewage force mains. Pipe size and thickness shall be as shown on the drawings.
- B. PVC pipe smaller than four (4) inches shall be Schedule 40, meeting ASTM D1785 or ASTM D2665, Schedule 80, meeting ASTM D1785, or PVC pressure rated pipe conforming to the requirements of ASTM D2241 SDR 21, as shown on the drawings.
- C. PVC pipe shall be as manufactured by JM Eagle, or approved equal.

### 2.02 FUSIBLE PVC

- A. Fusible polyvinylchloride (FPVC) pressure pipe shall conform to AWWA C900 or AWWA C905, and/or ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable. The outside diameter shall be equal to that of standard ductile iron pipe and dimension ratio of DR 25, DR 18, or DR 14, unless otherwise noted. Testing shall be in accordance with AWWA standards for all pipe types.
- B. Rework material shall be allowed per AWWA C900 and AWWA C905 standards.
- C. FPVC pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
- D. FPVC pipe shall be manufactured in a standard 20', 30' or 40' nominal length.
- E. FPVC pipe shall be colored to designate its end use: blue for water mains, purple for reuse water mains and green for sewage force mains.
- F. FPVC shall be as manufactured by Underground Solutions, Inc., or approved equal.

### 2.03 PIPE JOINTS

- A. Pipes four (4) inches in diameter or larger shall have an integral bell formed with a race designed to accept the gasket in accordance with AWWA C900. The spigot end shall have a bevel and a stop mark on the outside diameter to indicate proper insertion depth. Provision shall be made for expansion and contraction at each joint.
- B. Pipes with nominal diameters of less than four (4) inches may have either compression joints as described herein or solvent-welded joints. Solvent cements shall be as specified in AWWA C900. Jointing shall be in strict accordance with the pipe manufacturer's direction.
- C. When assembled, the gasket shall be compressed radically on the pipe spigot so as to effect a positive seal under all combinations of joint tolerances and is the only element depended upon to make the joint flexible and watertight.
- D. All surfaces of the joint upon or against which the gasket may bear shall be smooth, free of cracks, fractures, or imperfections that could adversely affect the performance of the joint.

2.04 FUSION JOINTS

- A. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The CONTRACTOR shall follow the pipe supplier's written guidelines for this procedure. Fusing operations shall be performed only by technicians approved by the pipe manufacturer.

2.05 GASKETS

- A. The gasket shall be molded to a circular form and to the proper cross section and shall consist of a vulcanized high grade elastomeric compound conforming to AWWA C-900, Elastomeric Seals for joining plastic pipe.

1. Quality Control Test Requirements

The manufacturer shall take adequate measures in the production of PVC pipe, couplings and solvent cements to assure product compliance with the requirements of AWWA C-900. All of the tests specified in Section 3 of AWWA C-900 shall be performed at the intervals indicated therein.

2. Hydrostatic Proof-Test

The manufacturer shall pressure test all pipe and couplings in accordance with Section 3.3 of AWWA C-900.

2.06 PIPE FITTINGS

- A. All fittings four (4) inches in diameter and larger shall be ductile iron with mechanical joints and shall conform to American National Standards Institute (ANSI) A-21.53 (AWWA C-153) for short body fittings with a 350 psi pressure rating for fittings.

2.07 JOINT LUBRICANT

- A. The joint lubricant shall have been tested and approved for potable water service. No lubricant shall be used that will harbor bacteria or damage the rings.

2.08 THRUST BLOCKING MATERIALS

- A. The proportions and mix design shall be such that the concrete will develop a minimum compressive strength of 3,000 psi at 28 days.
- B. The use of high-early cement will be required to allow hydrostatic testing five (5) days following the installation of the thrust blocking.

2.09 MECHANICAL PIPE JOINT RESTRAINTS

- A. Mechanical pipe joint restraints shall include strapping logs, tie rods, retainer glands, joint harnesses, split clamping rings, threaded flanges and other mechanical restraints approved by the OWNER. All mechanical restraint systems shall be capable of preventing movement of the pipe and withstanding the thrust in pounds for various line sized as follows:

Nominal Pipe Diameter (inches)	Thrust (lbs force)
2	750
3	1,500
4	2,700
6	6,000
8	10,400

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10	16,800
12	24,000

#### 2.10 PVC PIPE RESTRAINTS

- A. Restraint rings for C-900 PVC pipe bells shall be made of ductile iron components. All ductile iron shall conform to ASTM A536. A split ring shall be used behind the bell and a serrated restraint ring shall be used to grip the pipe. A sufficient number of bolts shall be used to connect the bell ring and the pipe ring. The combination shall have a minimum working pressure rating of 150 psi. The restraint shall be the Series 1600 as produced by the EBAA Iron, Inc., Romac 600 Series, or approved equal.

#### 2.11 MANUFACTURE OF PIPE

- A. The inside and the outside surface of each length of pipe shall be free from nicks, scratches, and other surface defects and blemishes. The pipe shall be homogeneous throughout, free of any bubbles, voids, or inclusions.
- B. The jointing areas of the barrel of each length of pipe shall be free from dents and gouges.

#### 2.13 INSPECTION OF THE PLANT

- A. Inspection by the OWNER or his representative shall not relieve the responsibility to furnish material performing in all respects to requirements of this specification.
- B. If plant inspection is requested by the OWNER, the manufacturer shall notify the OWNER in advance of the date, time, and place of testing of the pipe, in order that the OWNER may be represented at the test.
- C. The OWNER's inspector shall have free access to those parts of the manufacturer's plant that are involved in work performed under this specification. The manufacturer shall afford the inspector, without charge, all reasonable facilities for determining whether the pipe meets the requirements of this Specification.

### PART 3 EXECUTION

#### 3.01 PIPE UNLOADING AT THE SITE

- A. Inspect each shipment of pipe and fittings and make provision for a timely replacement of any damaged material. Unload by hand or use canvas slings to avoid scratching the pipe. Do not slide or drag PVC pipe over an abrasive surface. Pipe with deep scratches shall be replaced with new pipe and removed from the site.
- B. Stack pipe no higher than four (4) feet and provide support for the pipe barrel to prevent bending of the pipe. Pipe stockpiled for more than thirty (30) days shall be covered to protect it from the sun's rays. Provide for air circulation through the stockpile.
- C. Store rubber rings in a cool, dark place out of the direct rays of the sun.

#### 3.02 DISTRIBUTING PIPE ALONG THE TRENCH

- A. Distribute pipe by hand. Do not drop or drag pipe. Distribute sufficient pipe for one day's work, and place with bell end in the direction of pipe laying. Prevent dirt and contaminants from entering the pipe.

3.03 ASSEMBLING THE PIPE

- A. Closely follow the manufacturer's recommended procedure for cleaning, setting the ring, lubricating the spigot end of pipe, and assembling.

3.04 MAKING SPECIAL JOINTS

- A. Follow manufacturer's recommended procedure, and use only the recommended tools for cutting and beveling.

3.05 PLACING PIPE IN TRENCH

- A. Pipe that is assembled prior to placing in the trench shall be carefully fed by hand (or with the use of approved equipment) on the pipe bed.
- B. Provide pockets in the pipe bed material to accommodate bell ends and eliminate a concentration of load at these points.

3.06 PREVENTING TRENCH WATER FROM ENTERING PIPE

- A. When pipe laying is not in progress, close the open ends of pipe with a watertight plug and allow no water or other objectionable materials to enter the pipe.

3.07 WATER/SEWER CLEARANCE REQUIREMENTS

- A. Vertical Clearance at Crossings: Gravity sewers or force main crossings under water mains shall be laid to provide a minimum vertical distance of 12 inches between the invert of the upper pipe and the crown of the lower pipe. The crossing shall be arranged so that the sewer joints and water joints will be equidistant from the point of crossing with no less than 10 feet between any two joints. Where the minimum 12-inch separation cannot be maintained, one (1) full length of DR14 C900 pipe shall be installed centered at the point of crossing.

Where there is no alternative to sewer pipes crossing over water mains, the pipes shall be centered at the crossing as indicated above, and the water main shall be placed in full length of DR14 C900 pipe shall be installed centered at the point of crossing. Adequate structural support shall be provided for the sewer to prevent damage to the water main.

- B. Horizontal Separation Between Parallel Lines:

1. GRAVITY SEWERS shall be installed at least 6 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 6 foot separation, the water main shall be installed in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so that the bottom of the water main is at least 12 inches above the top of the sewer, and the water and sewer joints shall be staggered.
2. FORCE MAINS shall be installed at least 6 ft. horizontally from any existing or proposed water main.

3.08 SANITARY SEWER/RECLAIMED WATER & POTABLE WATER/RECLAIMED WATER SEPARATIONS

- A. When the reclaimed water line is transporting water for public access irrigation the maximum obtainable separation of reclaimed water lines and domestic water lines shall be practiced. A minimum horizontal separation of three (3) feet (outside to outside) shall be maintained between reclaimed water lines and either potable water mains or sewage collection lines. A 6-inch minimum vertical separation shall be maintained at crossings.

- B. When the reclaimed water line is transporting water for non-public access irrigation the reclaimed water main shall be treated like a sanitary sewer, and a 3 ft. horizontal and 12-inch vertical separation shall be maintained between the reclaimed water main and all existing or proposed potable water mains. No minimum separation is required between the reclaimed water main and sanitary sewers, other than that necessary to ensure structural integrity and protection of the lines themselves.

NOTE: When it is impossible to obtain proper horizontal and vertical separations as stipulated above, FDEP may allow deviation on a case-by-case basis if supported by data from the design ENGINEER. Approval for the deviation must be obtained prior to construction.

### 3.09 VALVES AND FITTINGS

- A. Valves, fittings, plugs and caps shall be set and jointed to pipe in the manner specified in Section 02660. Buried valves shall be installed in the manner specified in Section 15050. Valves shall be firmly set on a foundation or footing of solid concrete or stone, not less than one cubic foot in volume, which shall have been placed on firmly compacted ground.
- B. The height of the valve and its supporting foundation shall conform to the height of the connecting pipe so there will be no strain on the joints.

### 3.10 PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS

- A. Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the CONTRACTOR shall:
  - 1. Field verify location, size, piping material and piping system of the existing pipe.
  - 2. Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
  - 3. Have installed all temporary pumps and/or pipes in accordance with established connection plans.
- B. Unless otherwise approved, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

### 3.11 HYDROSTATIC TESTS OF PRESSURE PIPE

- A. After the pipe has been laid, and after inspection by the OWNER, all newly laid PVC pipe shall be subjected to a hydrostatic pressure test in accordance with AWWA C605. The CONTRACTOR shall perform a hydrostatic pre-test to provide reasonable assurance of acceptance prior to performance of the OWNER witnessed test. Upon accomplishing a successful pre-test, the CONTRACTOR shall contact the OWNER at least 48 hours prior to the test. The OWNER shall be present during all tests.
- B. Slowly fill the pipe with water and allow it to stand for 24 hours. Expel all air from the pipe. Apply and maintain the specified test pressure. If necessary, the test pressure can be maintained by additional pumping for the specified time. The test pressure shall be calculated for the point of lowest elevation, or as specified by the OWNER and ENGINEER. The pump suction shall be in a barrel or similar device, or metered so that the amount of water required to maintain the test pressure may be measured accurately.
- C. Tapping tees shall be tested at 150 psi for 15 minutes before the tap is made and separate from the testing of the main lines and service connections.
- D. Each pressure test shall be a minimum of two (2) hours according to the following, unless otherwise directed by the OWNER:

1. Leakage shall be defined as the quantity of water necessary to hold the specified test pressure for the duration of the test period. No pipe installation will be accepted if the leakage is greater than the number of gallons per hour as determined by the following formula:

$$L = \frac{SD\sqrt{P}}{148,000}$$

L = allowable leakage, in gallons per hour.  
S = length of pipe tested, in feet.  
D = nominal pipe diameter, in inches.  
P = average test pressure, in psi (gauge).

2. Test service connection pipe by either testing in conjunction with the main at the test pressure required for the main, or by testing at the normal hydrostatic main pressure after the main has been completely installed and tested. Inspect visually for leaks and repair any leaks before backfilling. Duration of the test shall be at 15 minutes.
3. Pressure pipe containing FPVC piping in any section shall be tested as follows:
  - a. Test all pressure pipe sections (valve/cap to valve/cap) constructed of PVC and ductile iron piping at a 150 psi test pressure with the allowable loss as already described. The allowable leakage shall be calculated using the length of pipe containing joints, the FPVC length of pipe shall not be included.
  - b. Sections (valve/cap to valve/cap) containing FPVC only shall be tested at a 150 psi test pressure. If the pressure remains steady for two hours, no leakage is indicated.

### 3.12 DISINFECTION (Potable Water Only)

- A. Before main disinfection, the main shall be filled to eliminate air pockets and flushed to remove particulates. The flushing velocity in the main shall not be less than 2.5 ft/sec. unless the OWNER determines that conditions do not permit the required flow. 48 hours advance notice to the City of Venice Utilities Department (941-480-3333) is required for water needed for flushing.
- B. Disinfecting of water mains must follow ANSI/AWWA 651 and must be witnessed by City Utilities, 48 hour advance notice is required (941-480-3333). Disinfection Plan to be submitted to City Utilities Department for review and approval prior to scheduling disinfection.

### 3.13 BACTERIOLOGICAL TESTING (Potable Water Only)

- A. Chlorinated water shall be flushed from the main until measured levels of chlorine leaving the main are no higher than background levels prevailing in the system.
- B. A neutralizing agent shall be applied to the chlorinated discharge if there is a question as to whether this discharge will damage the environment.
- C. Bacterial samples shall be collected at the end of each line and along the main as directed by the OWNER. At least one sample shall be collected from each new main or branch.
- D. Samples will be taken on two consecutive days by Florida Department of Health (FDOH) personnel, or certified laboratory if approved by FDOH, in the presence of the OWNER's representative. The CONTRACTOR shall schedule sampling. The CONTRACTOR shall contact the OWNER'S representative at least 48 hours prior to chlorination.

- E. If bacteriological results do not show an absence of total coliform at all sample stations for two consecutive days, the CONTRACTOR will be required to rechlorinate and flush the line at no additional cost to the OWNER.

END OF SECTION

## SECTION 02645

### HYDRANTS

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Furnishing hydrants and appurtenances.
- B. Furnishing tool kit.
- C. Installation.

##### 1.02 REFERENCE STANDARDS

- A. AWWA C502 - Dry-Barrel Fire Hydrants.

##### 1.03 SUBMITTALS

- A. Submit Shop Drawings and product data in accordance with Section 01340.

#### PART 2 PRODUCTS

##### 2.01 ACCEPTABLE MANUFACTURERS

- A. Hydrants
  - 1. Mueller Super Centurian Model A423 or American B84BV.
- B. Automatic Flushing Device
  - 1. Hydrants at dead ends shall have an automatic flushing device, water meter, and sample tap.
  - 2. Flushing device shall have a 2-1/2" NST swivel connection, 2" solenoid valve rated for 150 psi, and a stand-alone controller. The controller shall be programmable without the need to connect a second device, and have a minimum capability of twelve (12) possible flushing cycles per day for up to six (6) hours for each flush. Device shall operate on 9-volt battery.
  - 3. Flushing device shall be housed in an aluminum, lockable enclosure with perforated floor to diffuse flushing water. Enclosure shall be powder coated to match hydrant.
  - 4. Flushing device shall be Kupferle Eclipse #9700 or approved equal.
- C. Substitutions: Products of equal quality, detail, function and performance may be proposed for substitution by following the procedures in Section 01630.

##### 2.02 MATERIALS

- A. Hydrants:
  - 1. Meet or exceed requirements of AWWA C502.
  - 2. Inlet connection shall be 6-inch, mechanical joint.
  - 3. Valve opening shall be 5-1/4 inches minimum.
  - 4. Barrel ID shall be 7 inches minimum. Barrel shall have an integrally cast flange which attaches to

the hydrant shoe.

5. Depth of bury shall be 5'-0" minimum, unless otherwise shown on the Drawings.
  6. Shall be dry barrel type. Drains shall be plugged with removable drain plugs.
  7. Outlets - Shall have two 2-1/2-inch hose nozzles, one 4-1/2-inch pumper nozzle, National Standard thread with chained caps.
  8. Operating nut shall be pentagon, 1-1/2-inch, open left (counterclockwise).
  9. Shall have square valve rods and bronze to bronze sub-seats.
  10. Hydrants shall have safety breakaway construction.
  11. All bolts shall be SS (Bonnet, Safety Flange, Shoes).
  12. Hydrant assembly shall include gate valve.
- B. Tool Kit: One (1) complete tool kit including hydrant wrench, cap screw wrench, seat wrench, bottom plate wrench, and brass sleeve.

### PART 3 EXECUTION

#### 3.01 INSTALLATION

- A. Hydrants shall be set at the location shown and bedded in 8-inches of #57 stone or equivalent. Each hydrant shall be set in true vertical alignment and properly braced. All nuts and bolts located below finish grade shall be given a heavy bituminous coating after installation.
- B. A drainage pit, three feet in diameter and two feet deep below and to the rear of the hydrant, shall be filled with pea stone and compacted.
- C. Restrained Joints shall be used between tee and hydrant.
- D. Hydrant shall be bagged until mains pass.
- E. The Contractor shall paint the hydrant with "Safety Yellow", Benjamin Moore Urethane Alkyd Gloss Enamel #M2215, or equal.
- F. No hydrant shall be backfilled until directed by the ENGINEER. During backfilling, additional pea stone shall be placed to a point 6 inches above the drain port.
- G. Where directed by the ENGINEER, the CONTRACTOR shall install plugs in the hydrant drain ports.

END OF SECTION

## SECTION 02660

### DUCTILE IRON PIPE AND FITTINGS FOR PRESSURE PIPE

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Furnishing ductile iron pipe and fittings
- B. Installation
- C. Testing
- D. Disinfection

##### 1.02 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI) ANSI A21.4 / American Water Works Association (AWWA) AWWA C104 - Cement-Mortar Lining for Ductile Iron and Gray Iron Pipe and Fittings for Water.
- B. ANSI A21.10/AWWA C110 - Ductile Iron and Gray Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids.
- C. ANSI A21.11/AWWA C111 - Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.
- D. ANSI A21.51/AWWA C151 - Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids.
- E. ANSI A21.16/AWWA C116 – Ductile Iron Compact Fittings
- F. AWWA C600 - Installation of Ductile Iron Water Mains and Their Appurtenances.
- G. AWWA C651 - Disinfecting Water Mains.
- H. ANSI A21.50/AWWA C150 - Ductile Iron Pipe, thickness classification.

##### 1.03 SUBMITTALS

- A. Submit Shop Drawings and product data in accordance with Section 01340.

##### 1.04 QUALITY ASSURANCE

- A. Provide thoroughly trained and experienced personnel who are completely familiar with and adequately equipped for the work in this Section. Follow the MANUFACTURER's recommendation and these specifications for standard installation procedures for pipes and fittings.

#### PART 2 PRODUCTS

##### 2.01 DUCTILE IRON PIPE

- A. Size: As shown in the Contract Documents.
- B. Minimum thickness class: ANSI A21.51/AWWA C151 Class 52 and pressure rated 350 psi, unless otherwise shown in the Contract Documents. All flanged pipe shall be Class 53.

- C. Lining: For water: cement lined minimum 1/8-inch thick, ANSI A21.4/AWWA C104. For sewer or reuse: ceramic-epoxy lined (equal to Protecto 401).
- D. Coating: Seal coating inside and outside, ANSI A21.4/AWWA C104 (water). Seal coating outside (sewer).
- E. Joint: Push-on unless otherwise shown in the Contract Documents, ANSI A21.51/AWWA C151.
- F. Gaskets: ANSI A21.11/AWWA C111 (water). ANSI A21.53/AWWA C153 (sewer).
- G. Maximum length: 20 feet.

#### 2.02 DUCTILE IRON/GRAY IRON FITTINGS

- A. Size: As shown in the Contract Documents.
- B. Minimum pressure rating: 350 psi, ANSI 21.16/AWWA C116.
- C. Coating: Fusion bonded epoxy coating inside and outside, ANSI A21.4/AWWA C104 (water). Fusion bonded epoxy coating inside and outside (sewer).
- D. Joint: Mechanical joint with retainer gland, unless otherwise shown in the Contract Documents, ANSI A21.51/AWWA C151.
- E. Gaskets: ANSI A21.11/AWWA C111.

#### 2.03 FLANGED JOINTS

- A. All flanged joints shall be 125 lb standard with neoprene rubber gaskets, minimum 1/8-inch thick.

#### 2.04 IDENTIFICATION

- B. Each pipe length and fitting shall be clearly marked with:
  - 1. Manufacturer's name and trademark.
  - 2. Nominal pipe size.
  - 3. Material designation.
  - 4. Intended use designation:
    - a. Blue stripe for potable water mains.
    - b. Purple stripe for reuse water mains.
    - c. Green stripe for sanitary sewer force mains.

#### 2.05 POLYETHYLENE WRAP

- A. Ductile iron pipe will be fully encased in an 8-mil polyethylene sleeve, in accordance with ANSI A21.5, Method A, at locations designated on the Plans. Polyethylene material shall conform with American Society for Testing and Materials (ASTM) standard Specification D 1248-68. CONTRACTOR shall verify quantities to be ordered.

## 2.06 FLANGE ADAPTERS

- A. Restrained flange adapters shall be used in lieu of threaded or welded flanged spool pieces, unless specified otherwise. Flange adapters shall be made of ductile iron conforming to ASTM A536 and have flange bolt circles that are compatible with ANSI/AWWA C115/A21.15. Restraint for the flange adapter shall consist of a plurality of individually actuated gripping wedges to maximize restraint capability. Torque limiting actuating screws shall be used to ensure proper initial set of the gripping wedges. The flange adapters shall be capable of deflection during assembly or permit lengths of pipe to be field cut to allow a minimum of 0.6" gap between the end of the pipe and the mating flange without affecting the integrity of the seal. For PVC pipe, the flange adapters will have a pressure rating equal to the pipe. For Ductile Iron Pipe, the flange adapter shall have a safety factor of 2:1 minimum. The flange adapter shall be the SERIES 2100 MEGAFLANGE adapter as produced by EBAA Iron, Inc., or Approved Alternate.

## 2.07 PIPE RESTRAINTS

- A. Megalugs, Romac Gripper Rings, or Approved Alternate per restraint joint schedule.

## PART 3 EXECUTION

### 3.01 GENERAL

- A. Pipe and fittings shall be handled with care to ensure that the pipe and fittings are in sound, undamaged condition. Particular care shall be taken to prevent damage to pipe coating and lining.
- B. The CONTRACTOR shall furnish slings, straps and/or other approved devices to support the pipe when it is lifted. Pipe and fittings shall not be dropped from trucks onto the ground or into the trench. Transporting pipe and fittings from storage areas shall be restricted to operations which will not cause damage to the pipe or lining.
- C. All pipe and fittings shall be examined before laying and no pipe or fittings shall be installed which are found to be defective. Damaged pipe coatings and/or lining, shall be repaired as approved or directed by the OWNER.
- D. Any pipe showing a distinct crack with no evidence of incipient fracture beyond the limits of the visible crack, if approved, may have the cracked portion cut off by, and at the expense of, the CONTRACTOR before the pipe is laid so that the pipe used is sound. The cut shall be made in the sound portion of the barrel at least 12 inches from the visible limit of the crack.
- E. If any defective pipe is discovered after it has been laid, the CONTRACTOR shall remove the defective pipe and replace it with sound pipe at no additional cost to the OWNER.

### 3.02 CONTROL OF ALIGNMENT AND GRADE

- A. Easement and property and other control lines necessary for locating the Work as well as elevations and bench marks used in the design of the Work are shown in the Contract Documents. The CONTRACTOR shall use this information to set line and use a level or transit to set grade.
- B. The use of string levels, hand levels, carpenter's levels or other similar devices for transferring grade or setting pipe are not permitted.
- C. During construction provide the OWNER, at his request, all reasonable and necessary materials, opportunities, and assistance for setting stakes and making measurements, including the furnishing of one or two rodmen as needed at intermittent times.
- D. CONTRACTOR shall not proceed until he has made timely request of the OWNER for, and has

received from him, such controls and instructions as may be necessary as Work progresses. Work shall be done in strict conformity with such controls and instructions.

- E. The CONTRACTOR shall carefully preserve bench marks, reference points and stakes, and in case of willful, careless, or accidental destruction by his own men, he will be responsible for the resulting expense to re-establish such destroyed control data and shall be responsible for any mistakes or delay that may be caused by the loss or disturbance of such control data.
- F. Maintain good alignment in laying pipe. The deflection at joints shall not exceed 90% the MANUFACTURER's recommended limit. Provide fittings, if required, in addition to those shown in the Contract Documents when pipe crosses utilities encountered when excavating the trench. Use solid sleeves only where approved by OWNER.

### 3.03 INSTALLING PIPE AND FITTINGS

- A. The CONTRACTOR shall have on the job site with each pipe laying crew, all the proper tools to handle and cut the pipe.
- B. All pipe and fittings shall be thoroughly cleaned before laying and shall be kept clean until installed.
- C. Pipe shall be laid in the dry trench conditions. At no time shall water in the trench be permitted to flow into the pipe. At any time that Work is not in progress, or the trench is unattended, the end of the pipe shall be suitably closed to prevent the entry of animals, earth, water etc. using watertight expandable plugs.
- D. Lay pipe and fittings in accordance with the requirements of AWWA C600, except as provided herein.
- E. Excavation shall conform to Section 02231 - Trenching, Bedding, and Backfill for Pipe.
- F. As soon as excavation has been completed to the proper depth the pipe bed shall be prepared as follows:
  - 1. Pipe Laid on Undisturbed Subgrade: Manually excavate for pipe bells and along the trench bottom as necessary to provide a uniform bearing surface along the entire length of the pipe barrels.
  - 2. Pipe Laid on Bedding Material: Place and compact bedding materials, as specified in specifications for pipe bedding, to the elevation necessary to bring the pipe to grade. The compacted material shall be shaped so that the bottom quadrant of the pipe rests firmly on the bedding for the entire length of pipe barrels. Suitable holes shall be dug for bells or couplings to provide ample space for jointing pipe.
- G. When ledge is encountered in the bottom of the trench, pipe shall be bedded on a layer of crushed gravel having a minimum thickness of six (6) inches. Blocking is not permitted.
- H. Each pipe section shall be placed into position on the pipe bed in such a manner and by such means required to avoid injury to persons, any property or the pipe.
- I. Permanent blocking under the pipe is not permitted except where a concrete cradle is required, in which case precast concrete blocks shall be used.
- J. Jointing shall conform to the MANUFACTURER'S instructions and appropriate ASTM Standards.
- K. Any debris, tools etc. shall be removed from the pipe.
- L. Place bedding material in accordance with Section 02231.

- M. After placement of the bedding material the pipe shall be checked for alignment and grade. If the pipe has been properly installed, the CONTRACTOR may refill or backfill the remainder of the trench in conformance with Section 02231 and details shown in the Contract Documents.
- N. At the end of each day's work or at other intervals, the OWNER, with the CONTRACTOR will inspect the pipe installation. Unsatisfactory work shall be dug up and reinstalled to meet the requirements of the Contract Documents with no additional time allowed for completion of the Work and at no additional cost to the OWNER.
- O. When cutting of pipe is required, the cutting shall be done by machine (power cutter) without damage to the pipe or cement lining. Cut ends shall be smooth and at right angles to the axis of the pipe. Pipe ends to be used with a rubber gasket joint shall be beveled and filed or ground smoothly to conform to a manufactured spigot end.
- P. Install concrete thrust blocks at all fittings and other locations, as directed by the OWNER. Minimum bearing area shall be as shown in the Contract Documents. Joints shall be protected by felt roofing paper prior to placing concrete. Place concrete against undisturbed material, and do not cover joints, bolts or nuts, or place concrete so as it interfere with the subsequent removal of any fitting. Provide wooden side forms for thrust blocks.
- Q. Valve and hydrant tees shall be utilized at all hydrant installations. Hydrant and valve tees shall have an integrally attached, rotatable gland which, after bolting to valve or adjoining fitting, the joint is effectively restrained from separation.

#### 3.04 JOINTING DUCTILE IRON PIPE (PUSH-ON TYPE)

- A. Make push-on joints in strict accordance with the MANUFACTURER's instructions. Lay pipe with bell ends looking ahead. Insert a rubber gasket in the groove of the bell end of the pipe and clean and lubricate the joint surfaces. The plain end of the pipe to be entered shall then be inserted in alignment with the bell of the pipe to which it is to be jointed and pushed home with a bar and block. Two continuity brass wedges shall be installed in each push-on joint.

#### 3.05 JOINTING MECHANICAL JOINT FITTINGS

- A. Mechanical joints at valves, fittings and where designated, shall be in accordance with ANSI A21.11/AWWA C111 Appendix A - Notes on Installation of Mechanical Joints and the instructions of the MANUFACTURER. To assemble the joints in the field, thoroughly clean the joint surfaces and rubber gasket with soapy water before tightening the bolts. Tightening torque for bolts shall be 75-90 ft-lbs. Under no condition shall extension wrenches or pipe over handle or ordinary ratchet wrenches be used to secure greater leverage. After installation, apply a bituminous coating to bolts and nuts. A retainer gland instead of a common follower gland shall be used whenever mechanical joints are used.
- B. Restrain joints with Megalugs, Romac Gripper rings or Approved Alternate, per restraint joint schedule.

#### 3.06 FLANGED JOINTS

- A. Tighten bolts in flanged joints alternately and evenly as specified for mechanical joints. Apply a bituminous coating to bolts and nuts for buried joints.
- B. Exposed joints and pipe shall be painted in accordance with Section 09902.

### 3.07 WATER/SEWER CLEARANCE REQUIREMENTS

- A. Vertical Clearance at Crossings: Gravity sewers or force main crossings under water mains shall be laid to provide a minimum vertical distance of 12 inches between the invert of the upper pipe and the crown of the lower pipe. The crossing shall be arranged so that the sewer joints and water joints will be equidistant from the point of crossing with no less than 10 feet between any two joints. Where the minimum 12-inch separation cannot be maintained, one (1) full length of ductile iron pipe shall be installed centered at the point of crossing.

Where there is no alternative to sewer pipes crossing over water mains, the pipes shall be centered at the crossing as indicated above, and the water main shall be placed in full length of ductile iron pipe shall be installed centered at the point of crossing. Adequate structural support shall be provided for the sewer to prevent damage to the water main.

- B. Horizontal Separation Between Parallel Lines:

1. GRAVITY SEWERS shall be installed at least 6 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 6 foot separation, the water main shall be installed in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so that the bottom of the water main is at least 12 inches above the top of the sewer, and the water and sewer joints shall be staggered.
2. FORCE MAINS shall be installed at least 6 ft. horizontally from any existing or proposed water main.

### 3.08 SANITARY SEWER/RECLAIMED WATER & POTABLE WATER/RECLAIMED WATER SEPARATIONS

- A. When the reclaimed water line is transporting water for public access irrigation the maximum obtainable separation of reclaimed water lines and domestic water lines shall be practiced. A minimum horizontal separation of three (3) feet (outside to outside) shall be maintained between reclaimed water lines and either potable water mains or sewage collection lines. A 6-inch minimum vertical separation shall be maintained at crossings.
- B. When the reclaimed water line is transporting water for non-public access irrigation the reclaimed water main shall be treated like a sanitary sewer, and a 3 ft. horizontal and 12-inch vertical separation shall be maintained between the reclaimed water main and all existing or proposed potable water mains. No minimum separation is required between the reclaimed water main and sanitary sewers, other than that necessary to ensure structural integrity and protection of the lines themselves.

NOTE: When it is impossible to obtain proper horizontal and vertical separations as stipulated above, FDEP may allow deviation on a case-by-case basis if supported by data from the design ENGINEER. Approval for the deviation must be obtained prior to construction.

### 3.09 HYDROSTATIC TESTS OF PRESSURE PIPE

- A. After the pipe has been laid, and after inspection by the OWNER, all newly laid ductile iron pipe shall be subjected to a hydrostatic pressure test in accordance with AWWA C600. The Contractor shall perform a hydrostatic pre-test to provide reasonable assurance of acceptance prior to performance of the OWNER witnessed test. Upon accomplishing a successful pre-test, the CONTRACTOR shall contact the OWNER at least 48 hours prior to the test. The OWNER shall be present during all tests.
- B. Slowly fill the pipe with water and allow it to stand for 24 hours. Expel all air from the pipe. Apply and maintain the specified test pressure. The test pressure may be maintained by adding makeup water through the pressure test pump if necessary. The test pressure shall be calculated for the point of lowest elevation, or as specified by the OWNER. The pump suction shall be in a

barrel or similar device, or metered so that the amount of water required to maintain the test pressure may be measured accurately.

- C. Tapping tees shall be tested at 150 psi for 15 minutes before the tap is made and separate from the testing of the main lines and service connections.
- D. Each pressure test shall be a minimum of two (2) hours according to the following, unless otherwise directed by the OWNER:
  - 1. Leakage shall be defined as the quantity of water necessary to hold the specified test pressure for the duration of the test period. No pipe installation will be accepted if the leakage is greater than the number of gallons per hour as determined by the following formula:

$$L = \frac{SD\sqrt{P}}{148,000}$$

L = allowable leakage, in gallons per hour.

S = length of pipe tested, in feet.

D = nominal pipe diameter, in inches.

P = average test pressure, in psi (gauge).

- 2. Test service connection pipe by either testing in conjunction with the main at the test pressure required for the main, or by testing at the normal hydrostatic main pressure after the main has been completely installed and tested. Inspect visually for leaks and repair any leaks before backfilling. Duration of the test shall be at 15 minutes.
  - 3. Pressure pipe containing polyethylene piping in any section shall be tested as follows:
    - a. Test all pressure pipe sections (valve to valve) constructed of PVC and ductile iron piping at a 150 psi test pressure with the allowable loss as already described.
    - b. Sections (valve to valve) containing polyethylene piping shall be tested at a 150 psi test pressure. The test pressure shall initially be advanced to 50 psi. The pressure should then be advanced in gradual additions until the test pressure is achieved. The test pressure should be maintained for three hours to allow for pipe expansion, adding water as necessary. Immediately after the three hour expansion period, test pressure should be reduced to 140 psi and addition of water stopped. If the pressure remains steady (within 7 psi) for one hour, no leakage is indicated.
- 3.10 DISINFECTING (water mains only)
- A. Before main disinfection, the main shall be filled to eliminate air pockets and flushed to remove particulates. The flushing velocity in the main shall not be less than 2.5 ft/sec. unless the OWNER determines that conditions do not permit the required flow. 48 hours advance notice to the City of Venice Utilities Department (941-480-3333) is required for water needed for flushing.
  - B. Disinfecting of water mains must follow ANSI/AWWA 651 and must be witnessed by City Utilities, 48 hour advance notice is required (941-480-3333). Disinfection Plan to be submitted to City Utilities Department for review and approval prior to scheduling disinfection.
- 3.11 BACTERIOLOGICAL TESTING (Potable Water Only)
- A. Chlorinated water shall be flushed from the main until measured levels of chlorine leaving the main are no higher than background levels prevailing in the system.
  - B. A neutralizing agent shall be applied to the chlorinated discharge if there is a question as to

whether this discharge will damage the environment.

- C. Bacterial samples shall be collected at the end of each line and along the main as directed by the OWNER. At least one sample shall be collected from each new main or branch.
- D. Samples will be taken on two consecutive days by Florida Department of Health (FDOH) personnel, or certified laboratory if approved by FDOH, in the presence of the OWNER's representative. The CONTRACTOR shall schedule sampling. The CONTRACTOR shall contact the OWNER'S representative at least 48 hours prior to chlorination.
- E. If bacteriological results do not show an absence of total coliform at all sample stations for two consecutive days, the CONTRACTOR will be required to rechlorinate and flush the line at no additional cost to the OWNER.

END OF SECTION

## SECTION 02664

### PIPING - GENERAL REQUIREMENTS

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. This section specifies the basic administrative and testing requirements for piping. Specific piping materials, systems, and related installation and testing requirements are specified in other Sections of Division 2.

##### 1.02 RELATED REQUIREMENTS

- A. The Contract Documents include, but are not limited to, the following related requirements:
  - 1. Piping materials and systems are included in other Sections of Division 2.
  - 2. Valves are included in Section 15050.
  - 3. Piping specialties are included in Section 02616 and 02660.

##### 1.03 SUBMITTALS

- A. General submittals for piping and piping systems are listed below. Submittals shall be in accordance with Section 01340. It is not intended that all submittals listed below be provided for all piping materials and systems. Refer to individual System or Piping Sections for specific submittals.
- B. Shop Drawings and Product Data
  - 1. Piping layouts in full detail.
  - 2. Location of pipe hangers and supports.
  - 3. Location and type of backup block or device to prevent joint separation.
  - 4. Large scale details of wall penetrations and fabricated fittings.
  - 5. Schedules of all pipe, fittings, special castings, couplings, expansion joints, and other appurtenances.
  - 6. Catalog cuts of joints, couplings, harnesses, expansion joints, gaskets, fasteners and other accessories.
  - 7. Brochures and technical data on coatings and linings and proposed method for application and repair.
- C. Samples
- D. Design Data
- E. Test Reports
  - 1. Copies of certified shop tests showing compliance with appropriate standard.
  - 2. Copies of all field test reports, signed by CONTRACTOR and ENGINEER.
- F. Manufacturers Installation (or application) instructions

- G. Statement of Qualifications
- H. Manufacturers Field Report
- I. Warranties

#### 1.04 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
- B. American National Standards Institute (ANSI)
  - 1. ANSI B16.5 - Pipe Flanges and Flange Fittings
  - 2. ANSI B31.1 - Power Piping
- C. American Welding Society (AWS)
  - 1. AWS B3.0 - Welding Procedure and Performance Qualifications
- D. American Water Works Association (AWWA)
  - 1. AWWA Manual M11 - Steel Pipe - A Guide for Design and Installation
- E. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

#### 1.05 QUALITY ASSURANCE

- A. All materials shall be new and unused.
- B. Install piping to meet requirements of local codes.
- C. Provide MANUFACTURER'S certification that materials meet or exceed minimum requirements as specified. Reference to standards such as ASTM and ANSI shall apply to those versions in effect at the time of bid opening.
- D. Coordinate dimensions and drilling of flanges with flanges for valves, pumps and other equipment to be installed in piping systems. Bolt holes in flanges to straddle vertical centerline.
- E. Reject materials contaminated with gasoline, lubricating oil, liquid or gaseous fuel, aromatic compounds, paint solvent, paint thinner, and acid solder.
- F. Pipe-joint compound, for pipe carrying flammable or toxic gas, must bear approval of Underwriters' Laboratories or Factory Mutual Engineering Division.
- G. Unless otherwise specified, pressures referred to in all Piping Sections are expressed in pounds per square inch gage above atmospheric pressure, PSIG, and all temperature is expressed in degrees Fahrenheit.

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. During loading, transportation and unloading, take care to prevent damage to pipes and coating. Carefully load and unload each pipe under control at all times. Place skids or blocks under each pipe in the shop and securely wedge pipe during transportation to ensure no injury to pipe and lining.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Specific piping materials and appurtenances are specified in the respective Piping or System Sections.
- B. All materials in contact with potable water shall bear the NSF seal.
- C. General installation materials shall be as specified below.
  - 1. Unions shall be brass or bronze unions for joining nonferrous pipe; malleable brass or bronze-seated iron or steel unions for joining ferrous pipe; PVC unions for joining PVC pipe; CPVC unions for joining CPVC pipe.
  - 2. Flanged Joints. Bolt and nuts, Type 304 stainless steel, bolt number and size same as flange standard; studs - same quality as machine bolts; 1/16-in thick rubber gaskets with cloth insertions; rust-resistant coatings.
  - 3. Temporary Plugs shall be standard plugs or caps which are suitable for permanent service.
  - 4. Flexible Connections shall be flanged spool type, 180 degree F maximum service, single filled arch with synthetic rubber tube and cover, steel-ring reinforced synthetic fiber carcass, with flanges drilled to 150-lb ANSI B16.5 Standard. Steel retaining rings, control rods and compression sleeves shall be provided where shown and as required for the working pressure of the system in which the joint is installed. All flexible joints shall be rated for the working pressure of the system in which they are installed.
- D. Pipe Identification
  - 1. Identification tape shall be installed for all buried potable water lines, raw potable water lines, and wastewater force mains in accordance with the manufacturer's installation instructions and as specified herein.
  - 2. Identification tape shall be manufactured of polyethylene with a minimum thickness of 4-mils and shall have a 1-mil thick metallic foil core. The tape shall be highly resistant to alkalis, acids and other destructive agents found in soil. Tape width shall be 3 inches and shall have background color, imprinted with black letters as indicated on the drawings. Tape shall be placed no less than 18 inches above the pipe.
  - 3. Identification tape shall be "Terra Tape" as manufactured by Reef Industries, Inc., Houston, TX., (800) 231-6074, Allen Systems Inc., Wheaton, IL (800) 323-1749, or approved equal.
  - 4. In addition to identification tape, a continuous #12 AWG copper wire shall be attached to the top of water, force, and reclaimed water mains at 20-foot intervals. Insulation shall be color-coded to indicate what the pipe carries: Blue for potable water main, green for sewer, and purple for reclaimed water.

## PART 3 EXECUTION

### 3.01 GENERAL

- A. All dirt, scale, weld splatter, water and other foreign matter shall be removed from the inside and outside of all pipe and sub-assemblies prior to installing.
- B. All pipe joints and connections to equipment shall be made in such a manner as to produce a minimum of strain at the joint.

- C. Install piping in a neat manner with lines straight and parallel or at right angles to walls or column lines and with risers plumb. All work shall be accomplished using recognized methods and procedures of pipe fabrication and in accordance with the latest revision of applicable ANSI Standards, ASME Codes and Pipe Fabrication Institute Standards.
1. Use full length of pipe except where cut lengths are necessary. Do not spring or deform piping to make up joints.
  2. Pipe shall be cut square, not upset, undersize or out of round. Ends shall be carefully reamed and cleaned before being installed. Bending of pipe is not permitted. Use fittings for all changes in direction.
  3. Do not use bushings except where specifically approved by the ENGINEER. Reducers shall be eccentric to provide for drainage from all liquid-bearing lines and facilitate air removal from water lines.
  4. Verify the locations and elevations of any existing piping and manholes before proceeding with work on any system. Any discrepancies between the information shown on the Drawings and the actual conditions found in the field shall be reported at once to the ENGINEER. No claim for extra payment will be considered if the above provision has not been complied with.
  5. Where lines of lower service rating tie into services or equipment of higher service rating the isolation valve between the two shall conform to the higher rating.
  6. Mitering of pipe to form elbow is not permitted.
  7. All piping interiors shall be thoroughly cleaned after installation and kept clean by approved temporary closures on all openings until the system is put in service. Closures should be suitable to withstand the hydrostatic test.
  8. End caps on pre-cleaned pipe shall not be removed until immediately before assembly. All open ends shall be capped immediately after completion of installation.
- D. Unions
1. Unions screwed or flanged shall be provided where indicated and in the following locations even if not indicated.
    - a. In long runs of piping to permit convenient disassembly for alterations or repairs.
    - b. In by-passes around equipment.
    - c. In connections to tanks, pumps and other equipment between the shut-off valve and the equipment.
    - d. In connections on both sides of traps, controls, and automatic control valves.

### 3.02 UNIONS

- A. Use unions to allow dismantling of pipe, valves, and equipment.

### 3.03 WELDING

- A. Welding in accordance with ANSI Standard B31 and AWS B3.0.
- B. Install welding fittings on all welded lines. Make changes in direction and intersection of lines with welding fittings. Do not miter pipes to form elbows or notching of straight runs to form tees, or any

similar construction. Do not employ welder who has not been fully qualified in above specified procedure and so certified by approved welding bureau or similar locally recognized testing authority.

### 3.04 FLANGED JOINTS

- A. Make flanged joints with bolts; bolt studs with nut on each end; or studs with nuts where one flange is tapped. Use number and size of bolts conforming to same ANSI Standard as flanges. Before flanges pieces are assembled, remove rust resistant coating from machined surfaces, clean gaskets and smooth all burrs and other defects. Make up flanged joints tight, care being taken to prevent undue strain upon valves or other pieces of equipment.

### 3.05 SLEEVE COUPLINGS

- A. Install tierods, pipe clamps or bridles when sleeve type couplings or fittings are used in piping system where indicated, and at changes in direction or other places as necessary, to prevent joints from pulling apart under pressure. Use bridles and tierods at least 3/4-in in diameter, except where tierods replace flange bolts of smaller size, in which case fit with nut on each side of pair of flanges. Joint harnessing shall conform, as a minimum, to the requirements for the bolts and tie bolt lugs as set forth in AWWA Manual M11.

### 3.06 WALL SLEEVE SEALS

- A. Use expandable rubber segmented sealing device with corrosion- resistant fasteners to make watertight the annular space between pipe and sleeve. Determine the required inside diameter of each individual wall opening or sleeve to fit the pipe and seal to assure a watertight joint as recommended by the manufacturer, before ordering, fabricating or installing. Install pipe concentrically through wall sleeve. Install and tighten seal per MANUFACTURER'S instructions.

### 3.07 TESTING

- A. Test all pipelines for water/gas tightness as specified in the Piping or System sections. Furnish all labor, testing plugs or caps, pressure pumps, pipe connections, gages, and all other equipment required. Testing shall be performed in accordance with one or more of the testing procedures appended to this Section as specified in each Piping or System Section. All testing shall be performed in the presence of the ENGINEER.
- B. Repair faulty joints or remove defective pipe and fittings and replace as approved by the ENGINEER. Retest.

END OF SECTION

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**SECTION 02932**

**TOPSOIL AND SEEDING**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Furnishing, preparing, and spreading topsoil, fertilizer, lime, seed and mulch.

**PART 2 MATERIALS**

**2.01 TOPSOIL**

- A. Topsoil shall conform with Section 162-2 of the Florida Department of Transportation Specifications, latest edition. It shall be reasonably free from subsoil, stumps, roots, brush, stones (2" or more in diameter), clay lumps or similar objects. The topsoil and or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 8.0. The organic content shall be not less than 1%.

**2.02 SEED**

- A. Grass seed shall conform with Section 981 of the Florida Department of Transportation Specifications, latest edition. The seed mix shall be 20 parts Bermuda Grass Seed and 80 parts Pensacola Bahia Grass Seed.

**2.03 LIME**

- A. Lime shall be ground dolomite limestone, designated for agricultural use.

**2.04 FERTILIZER**

- A. Fertilizer shall be standard commercial fertilizers containing 12% nitrogen, 8% phosphoric acid, 8% potassium, in conformance with Section 982 of the Florida Department of Transportation Specifications, latest edition. The fertilizers shall meet the specified requirements of the applicable State and Federal laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon.

**2.05 MULCH**

- A. Mulch shall conform with Section 981 of the Florida Department of Transportation Specifications, latest edition.

**PART 3 EXECUTION**

**3.01 PREPARATION OF AREA**

- A. Before applying fertilizer and limestone, areas to be seeded shall be rolled or otherwise cleared of stones larger than 2" in any diameter, sticks and other debris which might interfere with sowing of seed, growth of grass or subsequent maintenance of grass covered areas.

**3.02 PLACING TOPSOIL**

- A. Topsoil shall be evenly spread on the prepared area to a uniform depth of 4", after compaction. Spreading shall not be done when the ground or topsoil is excessively wet or otherwise in a condition detrimental to the work. Spreading shall be carried on so that seeding operations can proceed with a minimum of soil preparation or tilling. After spreading, any large stiff clods and

hard lumps shall be broken with a pulverizer or by other effective means and all stones or rocks (2" or more in diameter), roots litter, or any foreign material shall be raked up and disposed of by the contractor. The topsoil surface shall conform to the required lines, grades and cross sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

3.03 PLACING SEED, LIME, FERTILIZER AND MULCH

- A. The rate and method of application of lime, fertilizer, seed, and mulch will be as recommended by the supplier.

3.04 MAINTENANCE OF SEEDED AREAS

- A. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work. The contractor has the responsibility to establish a good stand of grass of uniform color and density to the satisfaction of the ENGINEER.

3.05 DISPOSAL OF WASTE MATERIALS

- A. The Contractor shall legally dispose of all waste materials, (i.e. roots, stumps, brush, stones, clay lumps, etc) generated during the processing of the on-site topsoil.

END OF SECTION

**SECTION 02933**

**SODDING**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

**PART 2 MATERIALS**

**2.01 SOD**

- A. Sod furnished by the Contractor shall be Argentine Bahia and shall have a good cover of living or growing grass. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials which might be detrimental to the development of the sod or to future maintenance.

**2.02 LIME**

- A. Lime shall conform to the requirements of Section 02932.

**2.03 FERTILIZER**

- A. Fertilizer shall conform to the requirements of Section 02932.

**2.04 WATER**

- A. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

**2.05 SOIL FOR REPAIRS**

- A. The soil for fill and topsoiling of areas to be repaired shall conform to the requirements of Section 02932.

**PART 3 EXECUTION**

**3.01 PREPARING THE GROUND SURFACE**

- A. Preparation shall conform to the requirements of Section 02932.

**3.02 APPLYING FERTILIZER AND GROUND LIMESTONE**

- A. The rate and method of application of lime and fertilizer shall be as recommended by the supplier.

### 3.03 OBTAINING AND DELIVERING OF SOD

- A. After inspection and approval of the source of sod by the Engineer, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or trips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (45 cm), but of such length as may be readily lifted without breaking, tearing, or loss of soil.

The sod shall be transplanted with 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, the protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

### 3.04 LAYING SOD

- A. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge, and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1 vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 square inch (18 square millimeter.) The pegs shall be driven flush with the surface of the sod.

### 3.05 WATERING

- A. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be depth moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner which will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

### 3.06 ESTABLISHING TURF

- A. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Engineer.

3.07 REPAIRING

- A. When the surface has become bullied or otherwise damaged during the period covered by this contract, the affected area shall be repaired to re-establish the grade and the condition of the soil, as directed by the Engineer, and shall then be sodded as specified in 3.04.

END OF SECTION

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SECTION 02990

MISCELLANEOUS WORK AND CLEAN UP

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Furnishing all labor, materials, equipment and incidentals required to do all miscellaneous work and cleaning up not otherwise specified including, but not limited to, the following:
  - 1. Cleaning up the construction site.
  - 2. Disposing of material and debris.
  - 3. The extra work of crossing existing sewers, drains, electrical and telephone conduits and water mains.
  - 4. Miscellaneous work associated with connecting to existing utilities.
  - 5. Disconnecting, plugging and abandoning the existing piping including all excavation, backfill, concrete plugs and surface restoration items.
  - 6. Installing and removal of temporary chlorine injection points.
  - 7. Furnishing, installing and removing project signs.
  - 8. All other work incidental to completing the project.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.01 CLEANUP

- A. CONTRACTOR shall remove all construction material, excess excavation, equipment or other debris remaining on the construction site as a result of construction operations and shall render the site of the work in a neat and orderly condition at least equal to that which existed prior to the start of construction.
- B. Dispose of all materials and debris off-site in accordance with local, state and federal regulations.

3.02 INCIDENTAL WORK

- A. Do all incidental work not otherwise specified but obviously necessary to the proper completion of the Contract as specified and as shown on the Drawings.

END OF SECTION

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## SECTION 03100

### CONCRETE FORMWORK

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Furnishing and installing formwork for cast-in-place concrete, including falsework, shoring, bracing, and anchorage.
- B. Providing openings for other affected work.
- C. Furnishing and installing form accessories.
- D. Stripping forms.

##### 1.02 REFERENCE STANDARDS

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ACI 347 - Recommended Practice for Concrete Formwork.
- C. PS 1 - Construction and Industrial Plywood.
- D. Florida Department of Transportation Specifications.

##### 1.03 SYSTEM REQUIREMENTS

- A. Design, and construct formwork, falsework, shoring, and bracing to meet all loads during placement and curing, so that cast-in-place concrete conforms to required finishes, shapes, lines, and dimensions.
- B. Provide for inserts, openings, sleeves and other penetrations and embedments.

##### 1.04 QUALITY ASSURANCE

- A. Construct and erect concrete formwork and falsework in accordance with ACI 301 and ACI 347.

##### 1.05 SCHEDULING

- A. Formwork shall be completed at least 24 hours in advance of placing concrete.
- B. Notify Project Representative when interim phases of formwork installation are reached and upon completion of formwork.

#### PART 2 PRODUCTS

##### 2.01 FORM MATERIALS

- A. Plywood: Sound, undamaged sheets with straight edges.
- B. Glass Fiber Fabric Reinforced Plastic Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Lumber: All form lumber shall be in accordance with ACI 347.

- D. Steel: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

## 2.02 FORMWORK ACCESSORIES

- A. Form Ties: Removable metal of fixed length; cone type, 1-1/4 inch maximum diameter; 1 inch break back dimension; and waterproofing washer. Wire ties and wood spreaders not permitted.
- B. Form Release Agent: Colorless material which will not stain concrete; nor absorb moisture; nor impair natural bonding or color characteristics of coating intended for use on concrete.
- C. Fillets for Chamfered Corners: Wood strips or rigid plastic type; 1 inch x 1 inch size unless otherwise shown on the Drawings; maximum possible lengths.
- D. Dovetail Anchor Slots: Galvanized steel; easily removed foam filler; bent tab anchors; securable to concrete formwork.
- E. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; of strength and type to maintain formwork in place while placing concrete.

## PART 3 EXECUTION

### 3.01 INSPECTION

- A. Verify lines, levels, and dimensions before proceeding with formwork.

### 3.02 PREPARATION

- A. Remove loose material from bottom of earth forms prior to placing concrete.
- B. Minimize form joints. Make joints sufficiently tight to prevent loss of mortar.
- C. Arrange and assemble formwork to permit dismantling and stripping without damaging concrete during formwork removal.
- D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

### 3.03 ERECTION

- A. Provide bracing to ensure stability of formwork.
- B. Erect falsework to support work during progress of construction. Strengthen formwork supports that may be overstressed by construction loads.
- C. Provide temporary vertical and horizontal ports in formwork to facilitate cleaning and inspection of forms and reinforcement, and placement of bonding agent. Locate openings at bottom of forms to allow water to drain. Close ports with tight fitting panels, flush with inside face of forms, neatly fitted so that joints will not be apparent in exposed concrete surfaces.
- D. Provide chamfer strips on external corners of beams.
- E. Construct formwork to maintain tolerances in accordance with ACI 301.

### 3.04 APPLICATION OF FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's instructions. Apply prior

to placing reinforcing steel, anchoring devices, and embedded items.

- B. Do not apply form release agent where concrete surfaces are scheduled to receive special finishes which may be affected by agent. Soak contact surfaces of untreated forms with clean water and keep surfaces wet prior to placing concrete.

### 3.05 INSERTS, EMBEDMENTS, AND OPENINGS

- A. Provide formed openings where required for work embedded in or passing through concrete.
- B. Coordinate work of all trades in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Install accessories level and plumb and in accordance with manufacturer's instructions. Secure inserts, embedments and formed penetrations to prevent displacement.

### 3.06 FORM REMOVAL

- A. Notify Project Representative prior to removing formwork.
- B. Do not remove forms and shoring or bracing until concrete has sufficient strength to support its own weight, and construction loads that are within design limits, which may be imposed upon it. Load supporting forms may be removed when concrete has attained 75 percent of required 28 day compressive strength.
- C. Reshore structural members as required to permit successive construction.
- D. Do not damage concrete surfaces during form removal.

### 3.07 CLEANING

- A. Clean forms to remove foreign matter before erection proceeds.
- B. After erection, remove water and debris through cleanout ports.

END OF SECTION

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## SECTION 03300

### CAST-IN-PLACE CONCRETE

#### PART 1 GENERAL

##### 1.01 WORK INCLUDED

- A. Cast-in-place concrete as shown on the Drawings or specified herein, including but not limited to:
  - 1. Building frame members, foundation walls and supported slabs.
  - 2. Slabs on grade.
  - 3. Equipment pads, pole bases, site structures, etc.
  - 4. Concrete toppings.
  - 5. Field cast samples.
  - 6. Admixtures, bonding agents and adhesives.

##### 1.02 REFERENCE STANDARDS

- A. AASHTO T26 - Quality of Water to be used in Concrete.
- B. ACI 211 - Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete.
- C. ACI 301 - Structural Concrete for Buildings.
- D. ACI 305 - Recommended Practice for Hot Weather Concreting.
- E. ACI 306 - Recommended Practice for Cold Weather Concreting.
- F. ACI 318 - Building Code Requirements for Reinforced Concrete.
- G. ACI SP-15 - Field Reference Manual Publication (ACI 301).
- H. ASTM C31 - Making and Curing Concrete Test Specimens in the Field.
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C39 - Compressive Strength of Cylindrical Concrete Specimens.
- K. ASTM C40 - Organic Impurities in Fine Aggregates for Concrete.
- L. ASTM C42 - Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
- M. ASTM C94 - Ready-Mixed Concrete.
- N. ASTM C138 - Unit Weight, Yield and Air Content (Gravimetric) of Concrete.
- O. ASTM C143 - Slump of Portland Cement Concrete.
- P. ASTM C150 - Portland Cement.
- Q. ASTM C172 - Sampling Fresh Concrete.

- R. ASTM C192 - Making and Curing Concrete Test Specimens in the Laboratory.
- S. ASTM C231 - Air Content of Freshly Mixed Concrete by the Pressure Method.
- T. ASTM C494 - Chemical Admixtures for Concrete.
- U. Truck Mixer Manufacturer's Bureau - Truck Mixer and Agitating Standards.
- V. Florida Department of Transportation Specifications

#### 1.03 SUBMITTALS

- A. Submit the following data in accordance with Section 01340:
  - 1. Name, address and telephone number of concrete supplier and the batching plant.
  - 2. Concrete design mix, material test reports and other data required under paragraph 1.06 - DESIGN MIXES.
  - 3. Methods for conveying and placing concrete.
  - 4. Transit-mix delivery slips.
  - 5. Gradations of aggregates.
  - 6. Catalog cuts, technical data and manufacturers' recommendations on quantities and use of admixture.
  - 7. Copies of water analyses, if required under paragraph 2.05 - MIXING WATER.
  - 8. Reports of inspections and tests at the concrete batching plant.
  - 9. Certified records of the weights of all materials batched and furnished for the Work.
  - 10. Catalog cuts, technical data and manufacturers' recommendations on quantities, use and applications of adhesives, hardeners, and other materials proposed for use.
  - 11. Drawings showing locations of all proposed construction joints.
  - 12. Description of hot and cold weather practices to be employed.

#### 1.04 QUALITY ASSURANCE

- A. The CONTRACTOR shall have, and be completely familiar with, a copy of the Field Reference Manual Publication SP-15 (ACI 301) at the job site during construction. To obtain ACI publications, write:
  - American Concrete Institute
  - P.O. Box 19150
  - Detroit, Michigan 48219
- B. Provide at least one person who shall be present at all times during the execution of this portion of the Work and who shall be thoroughly trained and experienced in placing the types of concrete specified and who shall direct all work performed under this Section.
- C. For finishing of exposed concrete, use only thoroughly trained and experienced concrete finishers.

- D. Comply with all recommendations and requirements of ACI Publication ACI 318.
- E. Perform Work in accordance with ACI 301.
- F. To further insure uniform consistency, coloring, finish, and quality, all aggregates, cement, water and other ingredients shall each be obtained from the same source for the duration of the Project.
- G. Provide proper facilities at the concrete batch plant and at the construction site for Project Representative or his testing laboratory consultant to secure samples, to inspect ingredients and processes used in batching, methods of delivering; and, for securing and curing sample test cylinders at the site.
- H. Provide tests and analysis of materials in accordance with the latest ASTM Standards.
- I. The cost of testing will be included in the general cost of all work.

#### 1.05 DESIGN MIXES

- A. At least 35 days prior to the initial placement of concrete, submit concrete design mixes to Project Representative for his acceptance. Except where otherwise specified, the design of mixes shall be in accordance with ACI 211.
- B. If the adopted mix fails to produce concrete meeting the requirements for strength and placability, Project Representative may order additional cement or adjustments to mix proportions.

#### 1.06 FIELD CAST SAMPLES

- A. Field cast samples shall be provided in accordance with Section 01340.
- B. Cast field sample in formwork specified in Section 03100.
- C. Use specified concrete.
- D. Use concrete reinforcement complying with Section 03200.
- E. Obtain acceptance of surface finish.

#### 1.07 ENVIRONMENTAL REQUIREMENTS

- A. Only place concrete when environmental conditions are satisfactory. Do not place concrete when conditions may adversely affect the placing, finishing or curing of concrete, or its strength.

#### 1.08 SCHEDULING

- A. Formwork and steel reinforcing installation shall be completed at least 24 hours in advance of placing concrete.
- B. Notify Project Representative upon completion of formwork and completion of steel reinforcing installation.
- C. Notify Project Representative at least 24 hours in advance of placing concrete.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Specification includes references to designated manufacturers to illustrate minimum acceptable requirements for products.
- B. Substitutions: Products of equal or better quality, detail, function and performance may be proposed for substitution by following the procedures in Section 01630.

2.02 CONCRETE

- A. Unless otherwise specified, all concrete exposed to weather, or in structures to contain water or sewage shall be a minimum of 4000 psi concrete. Sidewalks shall be a minimum 3000 psi concrete. Fill concrete shall be a minimum 2500 psi concrete. All other concrete shall be a minimum of 3500 psi concrete.
- B. Concrete shall conform to the following requirements:

Min. 28-Day Compressive Strength (psi)	4,000	3,500	3,000	2,500
Max. Water-Cement Ratio (lb./lb.)	0.44	0.51	0.59	0.67
Min. Cement Factor (Sacks/C.Y.)	5.8	5.5	5.3	5.0
Entrained Air Content (%)	4-6	4-6	2-5	2-5
Slump (Inches)	3-5	3-5	3-5	3-5

2.03 CEMENT

- A. Portland Cement - ASTM C150, Type II unless otherwise specified.
- B. Use of air-entraining cement is prohibited. Other types of cements are prohibited without the prior review and acceptance by Project Representative.
- C. Use only one brand of cement. Color variations which affect the appearance of exposed concrete are unacceptable.

2.04 AGGREGATES

- A. Fine Aggregate - ASTM C33.
- B. Coarse Aggregate - ASTM C33, 3/4-inch maximum size for structural concrete.

2.05 ADMIXTURES

- A. Air Entraining: "Darex AEA," by W.R. Grace or equal.
- B. Water Reducing Retarder: ASTM C494, "Plastiment" by Sika Chemical Corporation or "Pozzolith 322N" by Master Builders, or equal. Quantity of retarder to be added per sack of cement shall be as recommended by the approved manufacturer as required for actual ambient or mix temperatures.
- C. Water Reducing: "WRDA with Hycol" by W.R. Grace or equal.
- D. No other admixtures are permitted without the prior review and acceptance by Project Representative.
- E. Admixtures shall be compatible with one another and with aggregates, cement, finishing materials, and other materials which may be affected.

2.06 MIXING WATER

- A. Water shall be fresh, clean, potable and in accordance with AASHTO T26.

2.07 BONDING AGENTS

- A. Epoxy Adhesive: "SIKADUR HI-MOD" by Sika Chemical Corp., "A-H Poly-epoxy Bonding" by Anti-Hydro International, Inc., or equal.

2.08 FLOOR HARDENER

- A. Wet Applied: "Lapidolith" manufactured by Sonneborn or "Hornolith" by A. C. Horn, or equal.
- B. Dry Shake: Premixed "Mastercron" manufactured by Master Builders or "Harcot Redi-Mixed" manufactured by Sonneborn, or equal.

2.09 CONCRETE MORTAR

- A. Concrete mortar shall have the following proportions:

Portland Cement: 1 part  
Hydrated Lime or Lime Putty: 0 to 0.1 part  
Fine Aggregate: 2-1/4 to 3 times the sum of the volumes of the cementitious materials.

- B. The fine aggregate shall have the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8 inch	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	2 - 10

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect all formwork and verify that it has been properly set and is ready for the placement of concrete.
- B. Verify that all reinforcing has been properly set and secured and that items to be embedded in, built-in, or passed through concrete are at their proper locations and elevations.
- C. Before placing concrete, verify that all piping, conduits and other work to be installed within concrete or below slabs on grade have been installed and have received and passed all required tests and inspections.

3.02 PREPARATION

- A. Remove all wood and wood scraps, sawdust, hardened concrete, construction debris, and other foreign materials from and between forms and from other areas in which concrete will be placed.
- B. Remove water from forms and excavations and divert flows of water to avoid washing over, under or through freshly deposited concrete.

- C. Earth subgrades to receive concrete shall be clean, undisturbed surfaces, free from mud, debris and standing or running water.
- D. Rock subgrades shall be approximately level and sufficiently rough for satisfactory bond with the concrete. Clean out faults and seams and clean rock surfaces of coatings and materials which may reduce bonding of the concrete to the rock.
- E. Prepare previously placed concrete by cleaning surfaces of set concrete and apply sand-cement grout or bonding agent in accordance with paragraph 3.09 - BONDING.
- F. At locations where new concrete is dowelled to existing work, drill holes of twice dowel diameter at a 30° downward angle in existing concrete, clean hole thoroughly with compressed air, fill hole with epoxy grout, and insert steel dowels into grout filled hole.
- G. Thoroughly clean concrete transporting and handling equipment. Prepare runways for wheeled equipment. Wheeled equipment shall not run upon, nor shall runways or supports bear upon, reinforcing steel or fresh concrete.
- H. Verify that environmental conditions are and will remain satisfactory throughout the period when concrete will be placed, finished, and cured.
- I. Should Project Representative permit the placement of concrete during inclement weather, store required protective materials on site and use as required.
- J. Verify all scheduling to ensure that the concrete will be placed continuously, without delay or interruption.
- K. Verify that Project Representative has completed all tests and inspections prior to placement of concrete.

### 3.03 BUILT-IN ITEMS

- A. General: Make all necessary provisions for the forming and setting of all items to be built into concrete work. Locate items so that they will not impair the strength or stability of any structural member.
- B. Pipe and Conduit in Slabs: In structural slabs less than 4 inches thick, pipes or conduits having an outside diameter (OD) over 1 inch are prohibited. In structural slabs 4 inches and thicker, the OD shall not exceed 1-3/8 inches. Where pipe and conduit are permitted in the slab, the center-to-center spacing shall not be closer than 3 x OD and in no case, less than 2 inches clear.
- C. Junction Boxes in Slabs: Junction boxes are not permitted in slabs less than 4 inches thick. Junction boxes in slabs 4 inches and thicker shall not exceed 4-1/2 inches in width and length, and 2 inches in depth. When placed flush with the bottom in the middle half of the span of slabs, the boxes shall be separated by at least 6 inches of concrete. When placed outside the middle half of the span, they shall be separated by at least 2 inches of concrete.
- D. Openings in Slabs: Provide openings and depressions in slabs to the sizes and at the locations shown on the Drawings.

### 3.04 MIXING CONCRETE

- A. All cast-in-place concrete shall be transit-mix concrete in accordance with ASTM C94.
- B. Do not mix or agitate batches of greater volume than maximum capacities on the mixer manufacturer's rating plate.
- C. Mix or agitate at drum speeds within rating plate tolerances.

- D. Continue mixing until a uniform concrete is produced, using between 70 to 100 revolutions of the drum. The use of concrete which is not uniformly mixed in 15 minutes or less, is prohibited.
- E. When Type II cement is used, elapsed time between initial contact of the cement with water and the completed discharge of the batch at the Project site shall not exceed 1-1/2 hours or 300 revolutions of the drum, whichever comes first. Reduce the above limits when conditions result in quick-stiffening of the concrete, or when directed by Project Representative.
- F. Retempering of concrete is not permitted.

### 3.05 PLACING CONCRETE

- A. Weather Conditions: Do not place concrete when weather conditions are not suitable for the proper placing, finishing or curing of the concrete. Unless otherwise accepted by Project Representative, place concrete only during dry weather. In the event of sudden rainstorms, cover exposed, freshly placed concrete and protect from damage. When cold or hot weather concreting is authorized by Project Representative, comply with paragraph 3.06 - COLD WEATHER PLACEMENT and paragraph 3.07 - HOT WEATHER PLACEMENT.
- B. Consistency and Quality of Concrete: Mix, transport and place concrete so as to maintain proper consistency, to avoid segregation, and to insure placement in final position before initial set takes place. Retempering of concrete is prohibited. Control the rate of placement so that the concrete remains plastic and flows readily into spaces between the reinforcing bars, and can be worked into corners and around inserts without forming voids.
- C. Conveying and Placing Concrete: Convey concrete to the forms as rapidly as practicable, utilizing methods which will not cause segregation or loss of ingredients. Free fall from mixer or truck to conveyance shall not exceed 3 feet. When placing concrete in final position, the free fall shall not exceed 5 feet. Place concrete in horizontal layers approximately 2 feet thick and avoid the formation of cold joints and poorly bonded sections between layers. The horizontal distribution of concrete by spading or vibration is prohibited.
- D. Vibration: Unless otherwise specified or directed by Project Representative, vibrate all reinforced concrete. Use only approved mechanical vibrators operated by experienced operators. Apply vibrators at uniformly spaced points not further apart than the visible effectiveness of the machine. Vibrate concrete sufficiently to produce satisfactory consolidation without causing segregation. Do not use vibrators to transport concrete in the forms or insert them into lower layers of concrete that have begun to set.
- E. At least 48 hours shall elapse before depositing new concrete against previously placed concrete.
- F. All slabs on grade shall be placed in alternate panels not exceeding 900 square feet.

### 3.06 COLD WEATHER PLACEMENT

- A. Do not place concrete when the ambient temperature is below 40°F., nor when concrete is likely to be subjected to freezing temperatures before end of the curing period.

### 3.07 HOT WEATHER PLACEMENT

- A. Do not place concrete when the temperature of the concrete is 85°F. or greater, or the ambient temperature is above 90°F.
- B. When hot weather placement of the concrete is authorized in writing by ENGINEER, comply with the recommended practices of ACI 305.

### 3.08 CONSTRUCTION JOINTS

- A. General: The approximate locations of construction joints are indicated on the Drawings. Submit shop drawings of proposed locations and methods of forming joints with reinforcing steel shop drawing submittal. Locate joints such that the strength and appearance of the structure is not impaired. Make provisions for the transferring of shear and other forces through construction joints.
- B. Maximum Spacing of Joints: Unless otherwise accepted by ENGINEER, the distance between construction joints shall not exceed the following:
  - 1. Walls and Grade Beams - Thirty (30) feet.
  - 2. Foundation Slabs and Slabs on Grade - Thirty (30) feet.
  - 3. Structural Slabs - Twenty-five (25) feet.
- C. Foundation Slabs and Slabs on Grade: Reinforcing steel shall be continuous through construction joints and adequately supported above the subgrade.

### 3.09 BONDING

- A. Construction Joints: Before depositing new concrete against concrete which has set, clean surfaces of the set concrete, remove laitance, foreign matter and loose particles, and thoroughly retighten the forms against the previously placed concrete. At vertical joints, coat the surfaces of set concrete with a sand-cement grout (1:3 mix). At horizontal surfaces, place a 1/2-inch minimum thick coat of sand-cement grout. Place new concrete before the grout attains initial set.
- B. Existing Concrete Surfaces: Before depositing new concrete against existing concrete surfaces, thoroughly clean existing surfaces of all foreign matter and loose particles by sandblasting and coat them with an epoxy adhesive in accordance with the manufacturer's instructions.

### 3.10 CURING CONCRETE

- A. Cure concrete in accordance with Section 03370.

### 3.11 PATCHING CONCRETE

- A. General: As soon as forms are removed, patch and repair tie holes and other surface defects.
- B. Epoxy Coated Surfaces: Patching of surfaces to receive epoxy coatings is specified in paragraph 3.13 - FINISHING FORMED SURFACES.
- C. Preparation: Do not do any patching until all honeycomb and laitance have been removed to solid concrete. If chipping is necessary, chip areas to be patched to a depth of at least 1 inch, with edges regular and perpendicular to the surface, or slightly undercut. Thoroughly wet the prepared areas, including the area 6 inches all around each prepared area, just before applying the patching mortar.
- D. Mortar: Mortar for patching shall be of the same materials and proportions used for the concrete, except that the coarse aggregate shall be omitted and a sufficient amount of white cement shall be substituted for the grey cement in order to produce a patch whose color matches the color of the surrounding surfaces. Mortar shall not have less than 1 part cement to 3 parts sand. Keep mixing water to a minimum. Retemper mortar, without addition of water, by occasional mixing to prevent setting. Using mortar which has begun to set or is more than 1 hour old is not permitted.
- E. Application of Mortar: Thoroughly compact mortar into place and screed to leave the patch slightly higher than the adjacent surface. Leave undisturbed for one to two hours to permit initial

shrinkage before being finally finished to match adjoining work. Patches exceeding 1 inch in depth shall be filled to within 1 inch of the surface and, after sufficient time has elapsed for shrinkage, final patching shall proceed. Keep all patches wet for at least 5 days.

- F. Tie Holes: Except where surfaces will be epoxy coated, solidly fill with mortar all holes left by bolts or ties. Holes passing entirely through the wall shall be filled from the inside face with a device that will force mortar through to the outside face, using a stop held at the outside face to insure complete filling. Holes not passing entirely through walls shall be packed full. Strike off excess mortar flush with adjacent surface.

### 3.12 FINISHING CONCRETE SLABS

- A. General: Surfaces shall be brought to accurate lines and levels to receive subsequent finishes.
- B. Monolithic Finish: All floor surfaces, including floor surfaces of channels tanks and structures, shall be given a monolithic finish as follows:
  1. Deposit concrete and bring to approximate final grade. Bring surface to required grade using a straight edge.
  2. Leveling:
    - a. Provide slab depressions where required.
    - b. Where floor drains or gutters are indicated and where floor slopes are required, slope slabs uniformly to provide an even fall for drainage.
    - c. Unless otherwise indicated on the Drawings, make all slabs even and uniform in appearance and, where no slope is required, level within plus or minus 1/8 inch in ten feet.
  3. Float and trowel the concrete after it has sufficiently set so water and excess fine material is not brought to the surface.
  4. Do not sprinkle dry cement or mixture of dry cement and sand on the surface to absorb moisture.
  5. The surfaces shall be given a minimum of two steel trowelings, the last to be by hand. The finished surface shall be free of trowel marks.
  6. Where required on loading ramps and in traffic areas, surfaces shall be steel troweled to a smooth, even surface, followed by brooming with a fiber-bristle brush in a direction transverse to the main traffic direction.
  7. When no keyway is required at the construction joints between walls and base mats, the concrete surface is to be roughened by applying non-toxic surface retarder immediately after placement of base mat and removing retarder after 24 hours with medium water pressure.

### 3.13 FINISHING FORMED SURFACES

- A. Rough Form Finish: Concrete surfaces below grade and other surfaces not exposed to view after construction, shall have fins and rough edges removed. All tie holes and defects shall be patched in accordance with paragraph 3.11 - PATCHING CONCRETE. All channels and other surfaces used to convey liquids shall be provided with a smooth finish, whether or not it may be exposed to view.
- B. Smooth Form Finish: Provide a smooth finish on all exterior and interior surfaces exposed to view after construction and on surfaces of channels which will convey a liquid or solid material. As soon

as forms are removed, grind all fins and rough edges smooth with adjacent surfaces and patch all voids and tie holes in accordance with paragraph 3.11 - PATCHING CONCRETE.

- C. Grout Cleaned Finish: Thoroughly wet and brush on a cement grout composed of 1 part cement to 2 parts fine sand, mixed with water to the consistency of heavy cream. Cement shall be light colored to produce a finish matching the color of the concrete. Thoroughly rub grout over the entire area with clean burlap or a sponge rubber float to fill pits and voids completely. While the grout is still plastic, rub the surfaces with a dry mix of the grout until no materials remain on the surface, except within pits and voids. The grouting operation for an area shall be completed the day it is started.
- D. Surfaces to Receive Epoxy Coatings: Remove oil and grease, and any curing compounds and other materials which are incompatible with or may adversely affect the bonding of the epoxy coatings. Prepare the concrete surfaces as specified for smooth form finish. Refer to Division 9 for additional surface preparation requirements.

### 3.14 FIELD QUALITY CONTROL

- A. General: All concrete will be sampled, tested and evaluated in accordance with the following paragraphs.
- B. The CONTRACTOR will be responsible for scheduling the following tests:
  - 1. Sampling Fresh Concrete: Taking all samples in accordance with ASTM C172, except that samples of fresh concrete shall be taken from the middle third of each batch.
  - 2. Recording Temperature-Weather: During the placement of all concrete, to maintain a record of the date, time, outside air temperature, temperature of concrete as delivered and after placement, and weather (calm, windy, clear, cloudy, etc.). During cold weather placement, also record temperatures (for 3 days at 8-hour intervals) at several points within enclosures and on concrete surface, corners, and edges in sufficient number to shown highest and lowest concrete temperatures.
  - 3. Slump Test: Testing each batch of concrete in accordance with ASTM C143 and when additional water is added.
  - 4. Compressive Strength: Making and curing one set of four 6 inch diameter 12 inch cylinders in accordance with ASTM C31 for each 50 cubic yards of concrete placed with at least one set made for each day's placement of concrete. For each set of four test cylinders, one cylinder shall be tested in accordance with ASTM C39 at 7 days, two at 28 days and, if any of the 28-day cylinders are unsatisfactory, the remaining cylinder shall be tested at 42 days.
  - 5. Sampling and Testing: An approved testing laboratory will perform the compressive strength tests, determine the concrete density, and perform concrete corings.
- C. Evaluation and Acceptance of Concrete Work:
  - 1. If test cylinders are lost or destroyed, or if test cylinder test results yield low compressive strengths, or for other reasons Project Representative questions the adequacy of placed concrete, the concrete shall be cored and tested in accordance with ASTM C42.
  - 2. As a minimum, the requirements of ACI 301 shall be met before the work can be considered satisfactory. In the event that the concrete does not meet the requirements of these specifications, the CONTRACTOR shall bear all costs associated with retesting as required by the ENGINEER.

### 3.15 PROTECTION

- A. Protect concrete from damage due to sun, rain, flowing water, frost, weather and mechanical injury.
- B. Maintain concrete temperature at a minimum of 50°F. for not less than 3 days and do not expose concrete to a temperature below 40°F. for a minimum of 7 days after placement.
- C. Finished floors which will not be subsequently finished with tile, carpeting or other topping, shall be covered with a non-absorbent paper, weighing 35 pounds per 100 square feet, or polyethylene sheeting not less than 4 mils thick. Lay paper or sheeting in as large sheets as practicable, with joints lapped at least 4 inches and sealed. Leave covering in place for at least 2 weeks. Areas subject to traffic shall be further protected by means of boardwalks.

### 3.16 CORRECTING SURFACE DEFECTS

- A. All exposed concrete walls shall be finished smooth, aesthetically pleasing, uniform in color and appearance and free from depressions, sags, holes, trowel marks, bumps, projections and other surface imperfections. CONTRACTOR shall perform all repairs, replacements and corrective work which may be required to attain a finish acceptable to Project Representative, including grinding or painting if necessary.

END OF SECTION

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**SECTION 03370**  
**CONCRETE CURING**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. Concrete curing materials and methods.

**1.02 REFERENCE STANDARDS**

- A. ACI 301 - Structural Concrete for Buildings.
- B. ASTM D2103 - Polyethylene Film and Sheeting.

**1.03 SUBMITTALS**

- A. Submit product data in accordance with Section 01340.
- B. Submit manufacturer's instructions for installation and use.

**1.04 QUALITY ASSURANCE**

- A. Conform to requirements of ACI 301.

**1.05 ENVIRONMENTAL REQUIREMENTS**

- A. Maintain environmental requirements as per ACI 301.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Water: Clean and not detrimental to concrete.
- B. Absorptive mat: Burlap fabric of clean, roll goods.
- C. Polyethylene film: ASTM D2103, 4-mil thick, clear color.

**PART 3 EXECUTION**

**3.01 INSPECTION**

- A. Verify concrete surfaces are ready for curing.

**3.02 CURING CONCRETE**

- A. General: Cure concrete by any of the following methods or combinations thereof. Augment these methods, or adopt additional protective measures, when required to compensate for changes in humidity, temperature, wind, or other conditions. Minimum curing period shall be 7 days.
- B. Water Curing: Water curing during cold weather concreting is not permitted. Water curing is mandatory for all channels, tanks and structures which will contain a liquid. Keep concrete surfaces wet continuously by covering with water, by continuous fog spraying, or by covering with burlaps, cotton mats, or other acceptable material thoroughly saturated with water and kept wet by intermittent hosing. Protect water cured concrete against freezing for the entire curing period

specified.

- C. Curing Compounds: The use of curing compounds is not permitted during hot weather concreting; when they are incompatible with subsequent coatings; and, on waterworks projects when they may release pollutants, contaminants, or toxic materials.
- D. Waterproof Paper and Sheeting: Slabs, mats and other horizontal surfaces may be covered with non-staining reinforced Kraft paper, polyethylene sheeting not less than 4-mil thick, or Kraft paper coated with not less than 2-mil thick polyethylene sheeting. Completely cover surfaces, with edges and ends lapped at least 4-inches and sealed with a mastic or pressure-sensitive tape. Secure sheeting to avoid displacement. Immediately repair tears or holes appearing during the curing period.

END OF SECTION

## SECTION 09901

### SURFACE PREPARATION AND SHOP PRIME PAINTING

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. The contractor shall furnish all labor, materials, equipment and incidentals required for the surface preparation and application of shop primers on ferrous metals, excluding stainless steels, as specified herein.

##### 1.02 RELATED WORK (REQUIREMENTS)

- A. The Contract Documents include, but not limited to:
  - 1. Finish painting is included in Section 09902.

##### 1.03 SUBMITTALS

- A. Submit to the Engineer, as provided in Section 01340 for shop drawings, manufacturer's specifications and data on the proposed primers and detailed surface preparation, application procedures and dry film thicknesses, and complete schedule of paints.
- B. Submit representative physical samples of the proposed primers, if required by the Engineer.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. Submerged Surfaces - Shop primer for ferrous metals which will be submerged or which are subject to splash action or which are specified to be considered submerged service shall be sprayed with one coat of Tnemec 66 Red, primer, dry film thickness 3.5 to 4.5 mils by Tnemec Co.
- B. Non-Submerged Surfaces - Spray apply one coat of Tnemec 66 Red primer, dry film thickness 3.0 to 4.0 mils by Tnemec Co., Carboline, Valspar, Benjamin Moore, or equal.
- C. Non-Primed Surfaces - Gears, bearings surfaces and other similar surfaces obviously not to be painted shall be given a heavy shop coat of grease or other suitable rust-resistant coating. This coating shall be maintained as necessary to prevent corrosion during all periods of storage and erection and shall be satisfactory to the Engineer up to the time of the final acceptance test.
- D. Compatibility of Coating Systems - Shop priming shall be done with primers that are guaranteed by the manufacturer to be compatible with their corresponding primers and finish coats specified in Section 09902 for use in the field and which are recommended for use together.

#### PART 3 EXECUTION

##### 3.01 APPLICATION

- A. Surface Preparation and Priming
  - 1. Non-submerged components scheduled for priming, as defined above, shall be blast cleaned in accordance with SSPC-SP-6, Commercial Grade, immediately prior to priming. Submerged components scheduled for priming, as defined above, shall be blast cleaned in accordance with SSPC-SP-10.

2. Surfaces shall be dry and free of dust, oil, grease and other foreign material before priming.
3. Shop prime in accordance with approved manufacturer's recommendations.

B. Non-Primed Surfaces

1. Apply approved coating per manufacturer's recommendations.

END OF SECTION

## **SECTION 09902**

### **FIELD PAINTING**

#### **PART 1 GENERAL**

##### **1.01 SCOPE OF WORK**

- A. The contractor shall furnish all materials, labor, equipment and incidentals required to perform all the painting necessary to complete this contract in its entirety.
- B. It is the intent of these Specifications to paint all exposed structural and miscellaneous steel; mechanical and electrical equipment, operators, posts, conveying systems, pipe, fittings and valves; electrical conduit and appurtenances; all as specified in the attached painting schedules and all other work obviously required to be painted unless otherwise specified. Minor items not mentioned in the schedule of work shall be included in the work of this Section where they come within the general intent of the specifications as stated herein.
- C. The following items will not be painted:
  - 1. Non-ferrous metals and stainless steels, unless specifically noted otherwise.
  - 2. Packing glands and other adjustable parts and name plates of mechanical equipment.
  - 3. Mechanical equipment which has been finished painted in the factory as specified in Divisions 11 and 15.

##### **1.02 RELATED WORK (REQUIREMENTS)**

- A. The Contract Documents include, but not limited to:
  - 1. Valve identification is shown on the Drawings.
  - 2. Shop priming and surface preparation of equipment and piping (except copper piping) are specified in Section 09901 and included in the respective Section with the item to be primed.

##### **1.03 SUBMITTALS**

- A. Submit to the Engineer, as provided in 01340 for shop drawings, manufacturer's specifications, data, and complete schedule of paints.
- B. Submit color cards for initial color selections.

#### **PART 2 PRODUCTS**

##### **2.01 MATERIALS**

- A. All painting materials shall be by the Tnemec Company, Inc.; Carboline; Sika, Valspar Co.; Benjamin Moore; or equal. The painting schedule has been prepared on the basis of Tnemec products (unless otherwise noted) and Tnemec recommendations for application. No brand other than those named will be considered for approval unless the brand and type of paint proposed for each item in the following schedule together with sufficient data substantiated by certified tests conducted at no expense to the Owner, to demonstrate its equality to the paint(s) named is submitted to the Engineer in writing. The type and number of tests performed shall be subject to the Engineer's approval.
- B. All painting materials shall be delivered in unbroken packages, bearing the manufacturer's brand and name. They shall be used without adulteration and mixed, thinned and applied in strict accordance with manufacturer's directions for the applicable materials and surface.
- C. Shop priming shall be done with primers that are guaranteed by the manufacturer to be compatible

with the finish paints to be used. Refer to Section 09901 for special primers.

- D. No paint containing lead will be allowed. Oil shall be pure boiled linseed oil.
- E. Materials shall be in full compliance with the requirements of pertinent codes and fire regulations. Proper containers outside of the buildings shall be provided and used for painting wastes and no plumbing fixture shall be used for this purpose.

## 2.02 COLOR CODING FOR PIPES AND EQUIPMENT

- A. The color code establishes, defines and assigns a definite color for each process system. All elements which are an integral part of the system, that is originating from the equipment and/or supplying the equipment shall be painted between and up to, but not including, the fixed flanges nor the flexible conduit connections on the equipment. Valves and fittings shall be painted in the color of the main body of the pipe. Stainless steel bolts, washers, and nuts shall not be painted.
- B. All pipes and equipment shall be painted according to Color Schedule attached. Elements which are not listed on the Schedule will be assigned a color by the Engineer and shall be treated as an integral part of the Contract.
- C. All hanger saddles and pipe support floor stands shall be painted the same color and with the same paint as the pipe it supports unless made of stainless steel. Stainless steel components shall not be painted.

## PART 3 EXECUTION

### 3.01 PREPARATION OF SURFACES

- A. All surfaces to be painted shall be prepared as specified herein and shall be dry and clean before painting.
- B. All metal welds, blisters, etc, shall be ground and sanded smooth. All pits and dents shall be filled and all imperfections shall be corrected so as to provide a smooth surface for painting. All rust, loose scale, oil, tar and asphalt bearing coatings, grease and dirt shall be removed by use of approved solvents, wire brushing, grinding or sanding.
- C. Concrete surfaces shall have been finished as specified in Section 03310.
- D. All PVC pipe and other plastic matrix surfaces to be painted shall be lightly sanded and cleaned of residue before painting.
- E. Galvanized surfaces shall have all oxidation and foreign material removed before painting by SSPC SP-1, Solvent Cleaning using an approved V.O.C. compliant method.

### 3.02 PAINTING SCHEDULE

- A. All colors will be selected by the Owner based on the color schedule herein.
- B. The following types of paints by Tnemec Co. have been used as a basis for the paint schedule:
  - 1. Hi-build Epoxoline (Series 66) - polyamide cured epoxy
  - 2. Endura-Shield (Series 73) - aliphatic acrylic polyurethane.

- C. The following surfaces shall have the types of paint scheduled below applied at the minimum dry film thickness (DFT) in mils per coat noted:
1. Exterior non submerged ferrous metals, previously primed with red primer.  
1 coat Series 66 gray (4.0 DFT), 1 coat Series 73 green (3.0 DFT)
  2. Submerged ferrous metals and ferrous metals subject to submersion or splashing, previously primed with red primer. Surface shall be lightly sanded or abraded before application of finish coats. 2 coats Series 66 total (6.0 DFT): first coat gray, second coat green.

### 3.03 WORKMANSHIP

#### A. General

1. At the request of the Engineer, samples of the finished work prepared in strict accordance with these Specifications shall be furnished and all painting shall be equal in quality to the approved samples. Finished areas shall be adequate for the purpose of determining the quality of workmanship. Experimentation with color tints shall be furnished to the satisfaction of the Engineer where standard chart colors are not satisfactory.
2. Protection of furniture and other movable objects, equipment, fittings and accessories shall be provided throughout the painting operation. Canopies of lighting fixtures shall be loosened and removed from contact with surface, covered and protected and reset upon completion. Remove all electric plates, surface hardware, etc, before painting, protect and replace when completed. Mask all machinery name plates and all machined parts not receiving a paint finish. Dripped or spattered paint shall be promptly removed. Lay drop cloths in all areas where painting is being done to adequately protect flooring and other work from all damage during the operation and until the finished job is accepted.
3. On metal surfaces apply each coat of paint at the rate specified by the Manufacturer to achieve the minimum dry mil thickness required. If material has thickened or must be diluted for application by spray gun, the coating shall be built up to the same film thickness achieved with undiluted material. One gallon of paint as originally furnished by the manufacturer shall not cover a greater area when applied by spray gun than when applied unthinned by brush. Deficiencies in film thickness shall be corrected by the application of an additional coat(s). On masonry, application rates will vary according to surface texture; however, in no case shall the manufacturer's stated coverage rate be exceeded. On porous surfaces, it shall be the painter's responsibility to achieve a protective and decorative finish either by decreasing the coverage rate or by applying additional coats of paint.

#### B. Field Priming

1. Steel members, metal castings, mechanical and electrical equipment and other metals which are shop primed before delivery at the site will not require a prime coat on the job. All piping and other bare metals to be painted shall receive one coat of primer before exposure to the weather, and this prime coat shall be the first coat as specified in the painting schedule.
2. Equipment which is specified to receive a baked-on enamel finish or other factory finish shall not be field painted unless the finish has been damaged in transit or during installation. Surfaces that have been shop painted and have been damaged, or where the shop coat or coats of paint have deteriorated, shall be properly cleaned and retouched before any successive painting is done on them in the field. All such field painting shall match as nearly as possible the original finish.
3. Equipment shipped with a protective shop painting coat or coats shall be touched up to the satisfaction of the Engineer with primers as recommended by the manufacturer of the finish paint.

C. Field Painting

1. All painting at the site shall be designated as Field Painting and shall be under the direct and complete control of the Contractor and only skilled painters and specialists, where required, shall be used on the work.
2. All paint shall be at room temperature before applying, and no painting shall be done when the temperature is below 50° F, in dust-laden air, when rain is falling, or until all traces of moisture have completely disappeared from the surface to be painted.
3. Painting shall be continuous and shall be accomplished in an orderly manner so as to facilitate inspection. Materials subject to weather shall be primed coated as quickly as possible. Surfaces of exposed members that will be inaccessible after erection shall be cleaned and painted before erection.
4. All painting shall be performed by approved methods with number of coats modified as required to obtain the total dry film thickness specified. Spray painting shall be performed specifically by methods submitted and as approved by the Engineer.
5. All surfaces to be painted as well as the atmosphere in which painting is to be done shall be kept dry by heating and ventilation, if necessary, until each coat of paint has hardened. Any defective paint shall be scraped off and repainted in accordance with the Engineer's approval.
6. Before final acceptance of the work, all damaged surfaces of paint shall be cleaned and repainted as approved by the Engineer.

3.04 CLEANUP

- A. At all times keep the premises free from accumulation of waste material and rubbish caused by employees or work.
- B. Upon completion, remove all paint where it has been spilled, splashed, or spattered on all surfaces.

PAINT AND COLOR CODING SCHEDULE

<u>Piping and Legend</u>	<u>Color</u>
Waste	Green
Potable Water	Blue
Hydrants	Safety Yellow (Benjamin Moore #P2215)

END OF SECTION

## SECTION 15050

### VALVES

#### PART 1 GENERAL

##### 1.01 SCOPE OF WORK

- A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required and install complete and ready for operation and test all buried and non-buried valves as shown in the Construction Documents.
- B. The equipment shall include, but not be limited to, the following. **However, all items specified herein may not be included in this project.**
  - 1. Valve Actuators – General
  - 2. Butterfly Valves for Air Service
  - 3. Gate Valves
  - 4. Resilient Seated Gate Valves
  - 5. Corporation Stops
  - 6. Air Release Valves

##### 1.02 RELATED REQUIREMENTS

- A. The Contract Documents include, but are not limited to, the following related requirements:
  - 1. Pipeline appurtenances, including the following; however, all items may not be included in this project:
    - a. Unions
    - b. Flanged Joints
    - c. Plugs and Caps
    - d. Miscellaneous Adaptors
    - e. Vents and Drains
    - f. Service Clamps
    - g. Cleanouts
    - h. Quick-Connect Couplings
    - i. Flexible Connectors
    - j. Expansion Joints
    - k. Harnessing and Restraints

I. Pressure Gages

2. Pipe hangers, supports and anchorage.
3. Valve tags requirements are shown in the Contract Documents and/or Part 3 Execution of the specification.
4. Painting is included in Sections 09901 and 09902.
5. Certain appurtenances for individual types of pipe or systems are specified with the specific type of pipe or system. However, additional items are specified in this Section.
6. Certain items similar to those specified in this Section may be specified to be furnished and installed with individual equipment or systems. In case of a conflict, those individual equipment or system requirements shall govern.

1.03 SUBMITTALS

- A. Submit materials required to establish compliance with these specifications in accordance with Section 01340. Submittals shall include the following:
  1. Certified drawings showing all important details of construction and dimensions.
  2. Descriptive literature, bulletins and/or catalogs of the equipment.
  3. The total weight of each item.
  4. A complete bill of materials.
  5. Additional submittal data, where noted with individual pieces of equipment.
- B. Test Reports
  1. Provide certified hydrostatic test data, per MANUFACTURER'S standard procedure or MSS-SP-61 for all valves.
- C. Certificates
  1. For each valve specified to be manufactured, tested and/or installed in accordance with AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.

1.04 MANUFACTURER'S INSTALLATION AND APPLICATION DATA

- A. Operating and Maintenance Data
  1. Operating and maintenance instructions shall be furnished to the OWNER as provided in Section 01730. The instructions shall be prepared specifically for this installation and shall include all required cuts, drawings, equipment lists, descriptions and other information required to instruct operating and maintenance personnel unfamiliar with such equipment.
  2. Provide equipment warranties in accordance with Section 01740.

1.05 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)

1. ASTM A48 - Specification for Gray Iron Castings.
  2. ASTM A126 - Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
  3. ASTM A159 - Specification for Automotive Gray Iron Castings.
  4. ASTM A240 - Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels.
  5. ASTM A276 - Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
  6. ASTM A436 - Specification for Austenitic Gray Iron Castings.
  7. ASTM A536 - Specification for Ductile Iron Castings.
  8. ASTM B30 - Specification for Copper-Base Alloys in Ingot Form.
  9. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings
- B. American Water Works Association (AWWA)
1. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
  2. AWWA C500 - Gate Valves, 3-in Through 48-in NPS, for Water and Sewage Systems
  3. AWWA C504 - Rubber-Seated Butterfly Valves
  4. AWWA C507 - Ball Valves 6-in Through 48-in
  5. AWWA C509 - Resilient-Seated Gate Valves, 3-in Through 12-in NPS, for Water and Sewage Systems
- C. AWWA C511 - Reduced Pressure Principle Backflow Prevention Assembly
1. AWWA C540 - Power-Actuating Devices for Valves and Sluice Gates
  2. AWWA C550 - Protective Interior Coatings for Valves and Hydrants
  3. AWWA C800 - Underground Service Line Valves and Fittings
- D. American National Standards Institute (ANSI)
1. ANSI B2.1 - Specifications, Dimensions, Gauging for Taper and Straight Pipe Threads (except dry seals).
  2. ANSI B16.1 - Cast Iron Pipe Flange and Flanged Fittings Class 25, 125, 250 and 800
  3. ANSI B16.10 - Face-to-Face and End-to-End Dimensions of Valves
  4. ANSI B16.104 - Butterfly Valves
- E. American Iron and Steel Institute (AISI)

- F. Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS)
  - 1. MSS-SP-61 - Pressure Testing of Steel Valves.
  - 2. MSS-SP-67 - Butterfly Valves.
  - 3. MSS-SP-70 - Cast Iron Gate Valves, Flanged and Threaded Ends.
  - 4. MSS-SP-72 - Ball Valves with Flanged or Butt-Welding Ends for General Services.
  - 5. MSS-SP-78 - Cast Iron Plug Valves, Flanged and Threaded Ends.
  - 6. MSS-SP-80 - Bronze Gate, Globe, and Angle Valves.
  - 7. MSS-SP-82 - Valve Pressure Testing Methods
  - 8. MSS-SP-98 - Protective Epoxy Coatings for Interior of Valves and Hydrants.
- G. National Electrical MANUFACTURERS Association (NEMA)
- H. Underwriters Laboratories (UL)
- I. Factory Mutual Insurance (FM)
- J. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

#### 1.06 QUALITY ASSURANCE

##### A. Qualifications

- 1. Valves and appurtenances shall be products of well established firms who are fully experienced, minimum 10 years, reputable and qualified in the manufacture of the particular equipment to be furnished.
- 2. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these specifications as applicable.
- 3. All units of the same type shall be the product of one MANUFACTURER.

##### B. Certifications

- 1. The MANUFACTURER shall furnish an affidavit of compliance with Standards referred to herein as specified in paragraph 1.03C. Refer to Part 3.03 for testing required for certain items in addition to that required by referenced standards.
- 2. Inspection of the units may also be made by the OWNER or ENGINEER after delivery. The equipment shall be subject to rejection at any time due to failure to meet any of the specification requirements, even though submittal data may have been accepted previously. Equipment rejected after delivery shall be marked for identification and shall be removed from the job site.

#### 1.07 SYSTEM DESCRIPTION

- A. All of the equipment and materials specified herein is intended to be standard for use in controlling the flow of wastewater, sludges, reclaimed water, potable water, air or chemicals, depending on the individual systems, as noted in the Construction Documents.
- B. Valves, appurtenances and miscellaneous items shall be installed as shown in the Contract Documents so as to form complete workable systems.

#### 1.08 DELIVERY, STORAGE AND HANDLING

- A. Reference is made to Section 01620 for additional information.
- B. Packing and Shipping
  - 1. Care shall be taken in loading, transporting and unloading to prevent injury to the valves, appurtenances, or coatings. Equipment shall not be dropped. All valves and appurtenances shall be examined before installation and no piece shall be installed which is found to be defective. Any damage to the coatings shall be repaired as acceptable to the OWNER or ENGINEER.
  - 2. Prior to shipping, the ends of all valves shall be acceptably covered to prevent entry of foreign material. Covers shall remain in place until after installation and connecting piping is completed.
    - a. All valves 3-in and larger shall be shipped and stored on site until time of use with wood or plywood covers on each valve end.
    - b. Valves smaller than 3-in shall be shipped and stored as above except that heavy cardboard covers may be used on the openings.
    - c. Rising stems and exposed stem valves shall be coated with a protective oil film which shall be maintained until the valve is installed and put into use.
    - d. Any corrosion in evidence at the time of acceptance by the OWNER shall be removed, or the valve shall be removed and replaced.
- C. Storage and Protection
  - 1. Special care shall be taken to prevent plastic and similar brittle items from being directly exposed to the sun, or exposed to extremes in temperature, to prevent deformation. See the individual piping specifications and MANUFACTURER's information for further requirements.

#### 1.09 MAINTENANCE

- A. Special tools and the MANUFACTURER's standard spare parts, if required for normal operation and maintenance, shall be supplied with the equipment in accordance with Section 01730 and where noted, as specified herein.
- B. Provide all special tools required for normal maintenance. Tools shall be packaged in a steel case, clearly and indelibly marked on the exterior to indicate equipment for which tools are intended.
- C. Provide to the OWNER a list of all spare and replacement parts with individual prices and location where they are available. Prices shall remain in effect for a period of not less than one year after start-up and final acceptance.

## 1.10 WARRANTY

- A. Provide equipment warranty as per Section 01740.

## PART 2 PRODUCTS

### 2.01 MATERIALS AND EQUIPMENT - GENERAL

- A. Reference is made to Division 01 for additional requirements, including nameplates, provisions for temporary pressure gages, protection against electrolysis and anchor bolts.
- B. The use of a MANUFACTURER's name and/or model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- C. Valves and appurtenances shall be of the size shown in the Construction Documents and when possible, equipment of the same type shall be identical and from one MANUFACTURER.
- D. Valves and appurtenances shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard referenced, cast in raised letters or indelibly marked upon some appropriate part of the body.
- E. Unless otherwise noted, items shall have a minimum working pressure of 150 psi or be of the same working pressure as the pipe they connect to, whichever is higher and suitable for the pressures noted where they are installed.
- F. Joints, size and material - unless otherwise noted or required by the OWNER:
  - 1. Except where noted, all joints referred to herein shall be of the same type, nominal diameter, material and with a minimum rating equal to the pipe or fittings they are connected to.
  - 2. Valves and appurtenances shall be of the same nominal diameter as the pipe or fittings they are connected to.
  - 3. All valves exposed to view, or in vaults.
    - a. 3-in and smaller - threaded ends
    - b. 4-in and larger - flanged ends.
- G. Provide all special adaptors as required to ensure compatibility between valves, appurtenances and adjacent pipe.
- H. Valves and actuators located outdoors but not within a building; within maximum 2-ft above liquid; in vaults; or where otherwise noted shall be especially designed for submerged service where water may completely submerge the valve and operator. All other units shall be as a minimum weather tight.

### 2.02 VALVE ACTUATORS - GENERAL

- A. See the previous Article for submergence requirements.
- B. The valve MANUFACTURER shall supply and integrally, rigidly mount all actuators, including any type of manual or powered actuators, on valves at the factory. The valves and their individual actuators shall be shipped as a unit.
- C. Unless otherwise noted, valves shall be manually actuated; nonburied valves shall have an operating wheel, handle or lever mounted on the operator; buried valves and those with operating

nuts shall have a non-rising stem with an AWWA 2-in nut. At least two tee handles shall be provided for all operating nuts.

- D. Except as otherwise shown in the construction Documents or specified herein, all valves 3-in diameter or larger, with the valve center line located 7-ft or more above the operating floor, shall be provided with chain wheel operators complete with chain guides and hot dipped galvanized steel chain, which loop within 4-ft of the operating floor.
- E. All actuators shall be capable of moving the valve from the full open to full close position and in reverse and holding the valve at any position part way between full open or closed.
- F. Each operating device shall have cast on it the word "OPEN" and an arrow indicating the direction of operation.
- G. Floor boxes for operating nuts recessed in concrete shall be standard cast iron type, cast-in-place, with fastening top by Clow or Approved Alternate.
- H. Stem guides shall be of the adjustable wall bracket type, bronze bushed, with maximum spacing of 10-ft as manufactured by Mueller, or Approved Alternate. Extended operating nuts and/or stems shall have universal joints and pin couplings, if longer than 10-ft and a rating of at least five times the maximum operating torque. Stem adaptors shall be provided.
- I. Gear Actuators
  - 1. Unless otherwise noted, gear actuators shall be provided for the following: all valves of larger than 8-in nominal diameter; all buried valves with operating shaft mounted horizontally (butterfly, etc.); where specified and/or indicated in the Contract Documents; where manual operator effort is greater than 80 ft-lbs rim pull.
  - 2. Gear actuators shall be of the worm or helical gear type with output shaft perpendicular to valve shaft, having a removable hand wheel mounted on the output shaft. Unless noted they shall conform to AWWA C504, but except with butterfly valves, need not be certified.
  - 3. Actuators shall be capable of being removed from the valve without dismantling the valve or removing the valve from the line.
  - 4. Gearing shall be machine-cut steel designed for smooth operation. Bearings shall be permanently lubricated, with bronze bearing bushings provided to take all thrusts and seals and to contain lubricants. Housings shall be sealed to exclude moisture and dirt, allow the reduction mechanisms to operate in lubricant and be of the same material as the valve body.
  - 5. Manual operator input effort to the handwheel shall be a maximum of 40 ft-lbs for operating the valve from full open to full close, under any conditions. Gear actuators shall indicate valve position and have adjustable stops. Maximum handwheel size shall be 24-in diameter.
- J. Additional valve actuators are included with the individual valve types.
- K. All position indication and direction of opening arrows shall be embossed, stamped, engraved, etched or raised decals.
- L. Unless otherwise noted, all valves larger than 3-in nominal diameter shall be provided with position indicators at the point of operation.

2.03 GATE VALVES (2-1/2-IN AND SMALLER)

- A. Gate valves 2-1/2-in diameter and smaller shall have flanged, screwed, or solder ends as required and shall be brass, or bronze, or Type 304 stainless steel (SS) solid wedge, union bonnet, rising-stem gate valves such as Figures 47 and 48 as manufactured by Jenkins Brothers or equal products as manufactured by Crane; Lunkenhiemer or Approved Alternate.
- B. All water valves 2-1/2-in and 3-in unless noted otherwise, shall be brass body gates and shall be Hammond 1B-647 or Approved Alternative.

2.04 GATE VALVES (3-IN AND LARGER)

A. General Requirements.

- 1. Unless otherwise specified below, these requirements shall apply to all gate valves.
- 2. Gate valves shall meet the requirements of AWWA C500 and AWWA C509 as applicable to the type of valve specified.
- 3. Buried and submerged valves shall be furnished with mechanical joints and stainless steel hardware; non-rising stem design.
- 4. Exposed valves shall be furnished with Class 125 flanged ends; provide valves with outside screw and yoke.
- 5. All-metal valves shall be manufactured of ASTM A126 Cast Iron, Class B, with bronze mounting design.
- 6. Rising stem valves shall be sealed with adjustable and replaceable packing; valve design must permit packing replacement under operating system pressures with only moderate leakage.
- 7. Non-rising stem valves shall use a double O-ring stem seal, except that packing shall be used where geared operators are required.
- 8. Except as otherwise specified, valves shall be rated for the following working water pressures:

<u>Valve Size</u>	<u>Pressure (psig)</u>
3-in to 12-in	150
14-in to 20-in	150
24-in and greater	150

All valve bodies shall be hydrostatically tested to at least twice the rated working water pressure. In addition, valves shall be seat-tested, bi-directional at the rated working pressure, with seat leakage not to exceed one fluid ounce per inch of valve diameter per hour. Provide certificates of testing.

- 9. Flanged valves to have face-to-face dimensions per ANSI B16.1 and flanges per ANSI B16.10.
- 10. Exposed valves 16-in and larger to have valve by-pass.
- 11. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.

12. Exposed valves 16-in and greater indicated for horizontal stem installation shall be furnished with rollers, tracks and scrapers and enclosed bevel gear grease case.
13. Provide geared operator and chain wheel, chain and chain guides for valves with hand wheel centerline more than 7-ft above operating level.
14. All valves shall be marked per AWWA Standards, including name of MANUFACTURER, valve size and working pressure and year of manufacture.
15. Unless otherwise indicated, valves 12-in and smaller shall be capable of installation in the vertical or horizontal position, sealing in both directions at the rated pressure.
16. Valve operation shall be counterclockwise. Provide permanent label showing "OPEN" and arrows.
17. Resilient wedge valves shall be coated, interior and exterior, with fusion bonded epoxy per ANSI/AWWA C550 and NSF61 certified.

B. Valve Applications

1. Valves for Water and Reclaimed Water Service, resilient wedge design manufactured by Mueller, American Valve, or equal.
2. At the CONTRACTOR's option and unless otherwise indicated, any of the listed valves may be used, at no additional cost to the OWNER.

C. Valve Requirements

1. Resilient Seated (Resilient Wedge)
  - a. Conform to AWWA C509. Also UL and FM approved.
  - b. Internal and external epoxy coating of valve body, including bonnet, per AWWA C550.
  - c. Gate shall be encapsulated with material which is designed for contact with liquid flowing through the valve. It shall be bonded and vulcanized in accordance with ASTM B429 Method B.
  - d. No recesses in valve body.

D. Buried Valves

1. Conform to the requirements above, except mechanical joint bell ends per AWWA C111.
2. All exposed valve hardware (nuts, bolts, washers, etc.) including bonnet, bonnet cover, stuffing box, gear adaptor and joints shall be Type 304 stainless steel.
3. Non-rising stem design, double O-ring seals for non-geared valves and shall incorporate packing for geared valves.
4. Provide valve box, 2-in operating nut and extension stem and stem cover.
5. Buried valves shall be covered with sufficient soil to allow construction of a 2' x 2' x 6" concrete slab and valve box in accordance with the detail presented in the Contract

Documents. Valve box base shall be cut off if required where clearance is insufficient. The cut off end of the valve box shall be coated with epoxy.

6. Grade around valve box slab shall be level within a 4-ft square area. Soil surface shall slope uniformly from the level portion at 5 horizontal to one vertical until it shall meet existing or proposed grade.
7. Buried valves in corrosive soils shall be fully encased with an 8-mil polyethylene wrap. Polyethylene material shall conform to ASTM Standard specification D1248. Polyethylene wrap shall be a flat sheet passed under then over the valve and bringing it together around the body of the valve. Make seams by bringing the edges of the polyethylene sheet together, folding over twice and taping them down. Tape the polyethylene securely at the valve stem. Care should be taken to prevent bolts from penetrating the wrap.

#### E. Tapping Valves and Sleeves

1. Tapping valves shall comply with the same requirements as resilient seated gate valves or double revolving disc gate valves except they shall have the flanged end and port opening modified for tapping service. Valves shall be capable of passing a full nominal sized cutter without damage to the valve. The tapping sleeve shall be gray cast iron or ductile iron mechanical joint type with the outlet flange conforming to MSS-SP-60.
2. All water valves, 4-in and larger, shall be iron body gates, bronze trim, flanged ends, O.S. & Y. pattern, solid wedge, rising spindle, Mueller or Approved Alternate.
3. Installations shall be made under pressure and the flow of water through the existing main shall be maintained at all times.
4. Thrust blocks shall be provided behind all tapping sleeves. Proper tamping of supporting earth around and under the valve and sleeve is mandatory. After completing the tap, the valve shall be flushed to ensure that the valve seat is clean.
5. All exposed bolts, washers, and nuts shall be 304 stainless steel.
6. Buried valve body and sleeves shall be coated with bitumastic.

#### F. Linestops and Sleeves

1. All linestop sleeves, outlet or nominal pipe size 14-in and larger, shall be of carbon steel construction, ASTM A283 GR-C or ASTM A-36 steel, with a 304SS cover and clamping bolts. Clamping nuts shall be coated to prevent galling of fasteners. All carbon steel materials shall have a fusion bonded epoxy coating in accordance with AWWA C213. Linestop completion plug shall be retained in the outlet by either threading it into place or by locking pins. The linestop completion plug shall be of carbon steel construction, ASTM A563 GR 65-45-12 or ASTM A-36 or of an Approved Alternate material.
2. Linestops shall be inserted in the direction of flow to provide drip tight stoppers.
3. Make connection to new pipe with permanent valves on same day as demolition to minimize spillage.

### 2.05 CORPORATION STOPS

- A. Corporation stops shall be of bronze or brass and shall be designed and manufactured in accordance with AWWA C800, except as modified herein.

- B. Corporation stops shall have Mueller inlet threads except that corporation stops for use with service clamps shall have Iron Pipe Straight (IPS) threads. Where corporation stops are used with plastic pipe, a brass companion flange shall be provided on the outlet of each corporation stop.

## 2.06 AIR RELEASE VALVES

- A. Air release valves or combination air valves shall be provided in water, force, and reclaimed water mains where indicated on the drawings.
- B. Valves may be installed on top of the main, or offset as conditions allow. Valves shall be free to discharge, and shall not be submerged.
- C. When installed on top of the main, the valve shall be in a 4 ft. minimum diameter manhole with eccentric frame and cover. The valve shall be installed opposite the frame opening to allow access.
- D. When offset, the valve shall be installed in an above ground stainless steel, lockable enclosure of the size indicated on the drawings.
- E. Automatic air release valves for wastewater shall have an elongated cast iron body and be designed to operate while pressurized to allow air from a force main to escape through the air release orifice. After entrained air escapes through the orifice the orifice shall be closed by a needle mounted on a compound lever mechanism attached to a float, preventing wastewater from escaping. The air release orifice will then remain closed until enough air accumulates to open the valve and the cycle automatically repeats. The compound lever mechanism shall be manufactured of Delrin with stainless steel linkage, the needle shall be Buna N and the float, float rod and other internal parts shall be stainless steel. The valve shall be furnished with a 2 inch Type 306 S.S. inlet shut off valve, a one inch blow off valve, a 1/2 inch Type 306 S.S. outlet shut off valve, quick disconnect couplings for backflushing and 6 feet of backflushing hose with a quick disconnect coupling. Interior and exterior surface of the valve shall be coated with fusion bonded epoxy. Automatic air release valve shall be an APCO Model ARS 400, Valmatic Model 48, or equal.
- F. Combination air valves for water and wastewater shall be infinitely variable automatic air and vacuum valves designed to allow escape of air for an operating range of 0 – 250 psi, close watertight when liquid enters the valve, allow air to enter in the event of a vacuum, and inhibit with roll-on diaphragm and spring mechanism. When the sealing device is closed, an air cushion is trapped between the fluid and sealing area, and a polyethylene mud deflector prevents contact between fluid and the sealing area. The valve body and spindle spring shall be 316 stainless steel, and designed to facilitate disassembly for cleaning and maintenance. The float shall be Delrin. The valve seat and all working parts shall be of corrosion resistant materials. Valves shall be equipped with the necessary attachments to permit backflushing without dismantling the valve. Valves shall be H-tec Model 986. The CONTRACTOR shall indicate use for water or wastewater to the valve supplier. Valves for water use shall be NSF certified.

## 2.07 SURFACE PREPARATION AND SHOP COATINGS

- A. Notwithstanding any of these specifications, all coatings and lubricants in contact with potable water shall be NSF certified as acceptable for use with that fluid.
- B. If not specified herein, coatings shall comply with the requirements of Section 09901. In case of a conflict, the requirements of this Section govern.

- C. If the MANUFACTURER's requirement is not to require finished coating on any interior surfaces, then MANUFACTURER shall so state and no interior finish coating will be required, if acceptable to the OWNER.
- D. Unless the body is stainless steel, the exterior surface of various parts of valves, operators, floor-stands and miscellaneous piping shall be thoroughly cleaned of all scale, dirt, grease or other foreign matter and thereafter one shop coat of an approved rust-inhibitive primer as specified in Section 09901 shall be applied in accordance with the instructions of the paint MANUFACTURER or other primer compatible with the finish coat provided.
- E. Unless otherwise noted, interior ferrous surfaces of all valves shall be given a shop finish of fusion bonded epoxy in accordance with AWWA C550 with a minimum thickness of 4 mil. (except cast stainless steel body valves).
- F. Ferrous surfaces obviously not to be painted shall be given a shop coat of grease or other suitable rust-resistant coating. Mounting surfaces shall be especially coated with a rust preventative.
- G. Special care shall be taken to protect uncoated items and plastic items, especially from environmental damage.

#### 2.08 FACTORY INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. Factory inspection, testing and correction of deficiencies shall be done in accordance with the referenced Standards and as noted herein.
- B. See Division 1 for additional requirements. Also refer to Part 1.03.C of this Section, especially for required submission of test data to the OWNER.
- C. In addition to all tests required by the referenced Standards, the following shall also be factory tested:
  - 1. Pressure regulating valves shall be factory tested at the specified pressures and flows.
  - 2. The non-cavitating butterfly valves, to demonstrate its non-cavitating capabilities.
  - 3. All types of air and vacuum valves.

## PART 3 EXECUTION

### 3.01 INSTALLATION - GENERAL

- A. All valves and appurtenances shall be installed per the MANUFACTURER's instructions in the locations shown, true to alignment and rigidly supported. Any damage to the above items shall be repaired to the satisfaction of the OWNER before they are installed.
- B. Install all brackets, extension rods, guides, the various types of operators and appurtenances as shown in the Contract Documents. Before setting these items, the CONTRACTOR shall check all Contract Document drawings and figures which have a direct bearing on their location. The CONTRACTOR shall be responsible for the proper location of valves and appurtenances during the construction of the Work.
- C. All materials shall be carefully inspected for defects in construction and materials. All debris and foreign material shall be cleaned out of openings, etc. All valve flange covers shall remain in place until connected piping is in place. All operating mechanisms shall be operated to check their proper functioning and all nuts and bolts checked for tightness. Valves and other equipment which do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost to the OWNER.
- D. Where installation is covered by a Referenced Standard, installation shall be in accordance with that Standard, except as herein modified, and the CONTRACTOR shall certify such. Also note additional requirements in other parts of this specification.
- E. Unless otherwise noted, joints for valves and appurtenances shall be made up utilizing the same procedures as specified under the applicable type connecting pipe joint and all valves and other items shall be installed in the proper position as recommended by the MANUFACTURER. CONTRACTOR shall be responsible for verifying MANUFACTURER'S torquing requirements for all valves.

### 3.02 INSTALLATION OF MANUAL OPERATIONAL DEVICES

- A. Unless otherwise noted, all operational devices shall be installed with the units of the factory, as shown in the Contract Documents or as acceptable to the OWNER to allow accessibility to operate and maintain the item and to prevent interference with other piping, valves and appurtenances.
- B. For manually operated valves 3-in in diameter and smaller, valve operators and indicators shall be rotated to display toward normal operation locations.
- C. Floor boxes, valve boxes, and extension stems shall be installed vertically centered over the operating nut, with couplings as required and the elevation of the box top shall be adjusted to conform with the elevation of the finished floor surface or grade at the completion of the Contract. Boxes and stem guides shall be adequately supported during concrete pouring to maintain vertical alignment.

### 3.03 INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. See also Division 1. Take care not to over pressure valves or appurtenances during pipe testing. If any unit proves to be defective, it shall be replaced or repaired to the satisfaction of the OWNER.
- B. Functional Test: Prior to lift station startup, all items shall be inspected for proper alignment, quiet operation, proper connection and satisfactory performance. All units shall be operated

continuously while connected to the attached piping for at least 8 hours, without vibration, jamming, leakage, or overheating and perform the specified function.

- C. The various pipe lines in which the valves and appurtenances are to be installed are specified to be field tested. During these tests any defective valve or appurtenance shall be adjusted, removed and replaced, or otherwise made acceptable to the OWNER.
- D. Various regulating valves, strainers, or other appurtenances shall be tested to demonstrate their conformance with the specified operational capabilities and any deficiencies shall be corrected or the device replaced or otherwise made acceptable to the OWNER.

#### 3.04 IDENTIFICATION OF VALVES

- A. All valves shall be designated by distinguishing numbers and/or letters on required chart(s) and/or diagram(s). The CONTRACTOR shall install approved brass tags for all designated items with numbers and/or letters on the tags corresponding to those on the chart(s) and/or diagram(s).
- B. Each above ground valve identification tag to be minimum 19 gauge polished brass: 2-inch diameter. Each tag shall designate appropriate service (1/4 inch stamped black-filled letters) and appropriate valve number (1/2 inch stamped black-filled number).
- C. Tags shall be securely fastened to valves with approved stainless steel screws or rivets, or brass jack chain, in a manner to permit easy reading.
- D. A 3" diameter brass disc engraved with identification data as shown on the details shall be provided for each buried valve. Brass disc shall be cast into the concrete valve box pad as shown on the details.
- E. CONTRACTOR shall prepare piping flow diagrams (or re-use those in the Contract Documents) indicating valve numbers, service, normal position, etc., of each valve. Diagrams shall be mounted on an ornamental iron frame with hinged plexiglass face for wall mounting in each room or area.
- F. The requirements for valve identification specified above apply equally to all valves installed under this and under other sections of these specifications.

#### 3.05 CLEANING

- A. All items (including valve interiors) shall be cleaned prior to installation, testing, disinfection and final acceptance.

#### 3.06 DISINFECTION

- A. Disinfection of valves and appurtenances on all potable water lines and where otherwise noted, shall be as specified for adjacent piping.

END OF SECTION

**APPENDIX A**  
**Geotechnical Report**

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# TIERRA

June 18, 2014

Stantec Consulting Services, Inc.  
5172 Station Way  
Sarasota, Florida 34223

Attn: Mr. Douglas R. Young, P.E.

**RE: Report of Geotechnical Engineering Services  
Border Road Water Main Extension  
Sarasota County, Florida  
Tierra Project No. 6511-14-013**

Mr. Young:

Tierra, Inc. has completed the geotechnical engineering study for the above referenced project. The results of the study are provided herein.

Should there be any questions regarding the report, please do not hesitate to contact our office at (813) 989-1354. Tierra would be pleased to continue providing geotechnical services throughout the implementation of the project. We look forward to working with you and your organization on this and future projects.

Respectfully Submitted,

**TIERRA, INC.**



V. Seth Collie, E.I.  
Geotechnical Engineer Intern



Michael T. Jordan, P.E.  
Senior Engineer  
Florida License No. 56102



Kevin H. Scott, P.E.  
Senior Geotechnical Engineer  
Florida License No. 65514

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<b>LABORATORY TESTING</b> .....	<b>4</b>
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## APPENDIX

Table 1 - Summary of USDA Soil Survey Information  
Boring Location Plan (3 Sheets)  
Soil Profiles (2 Sheets)

## PROJECT DESCRIPTION

### Project Information

It is our understanding that the project consists of the design and construction a 12-inch diameter pipe that will run adjacent to Border Road from Jacaranda Blvd approximately 6,000 feet west to the connection point just west of Auburn Road. A majority of the water main is anticipated to be installed by open cut trench methods except when the water main crosses under Interstate 75 using horizontal directional drill (HDD) techniques.

### Scope of Services

The objective of our study was to obtain information concerning subsurface conditions at the site to base engineering estimates and recommendations in each of the following areas:

1. General location and description of potentially deleterious materials discovered in the borings which may interfere with construction progress and pipe installation/performance, including unsuitable backfill, bedding material or surficial organics.
2. Identification of groundwater levels and estimate of seasonal high groundwater table.

In order to meet the preceding objectives, we provided the following services:

1. Reviewed published soils and topographic information. This published information was obtained from the "Venice, Florida" Quadrangle Map published by the United States Geological Survey (USGS) and the Soil Survey of Sarasota County, Florida, published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).
2. Executed a program of subsurface exploration consisting of borings, subsurface sampling, and field testing.
3. Visually classified the samples in the laboratory using the Unified Soil Classification System (USCS) and the AASHTO Soil Classification System. Identified soil conditions at each boring location and conducted laboratory testing on select samples to confirm our visual classifications.
4. Collected groundwater level measurements. Estimated Seasonal High Groundwater levels.

5. Prepared this formal engineering report that summarizes the course of study pursued, the field data generated, subsurface conditions encountered and our engineering recommendations in each of the pertinent topic areas.

The scope of our services did not include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, groundwater, or air, on or below or around this site. The scope of our services did not include determination of the potential for sinkhole activity. Any statements in this report or on the boring logs regarding odors, colors, unusual or suspicious items or conditions are strictly for the information of our client.

## **SITE AND SUBSURFACE CONDITIONS**

### **General Site Information**

Based on the “Venice, Florida” United States Geological Survey (USGS) Quadrangle Map, the natural ground elevations along the project alignment is on the order of +15 feet, National Geodetic Vertical Datum of 1929 (NGVD 29).

Land use in the project area typically consists of commercial developments, residential developments, and grasslands.

### **Sarasota County Soil Survey**

Based on a review of the Soil Survey for Sarasota County published by the USDA NRCS, it appears that there are five (5) primary soil-mapping units noted along the project. The general soil properties as described in the Soil Survey are presented in **Table 1** in the **Appendix**.

It should be noted that information contained in the USDA NRCS Soil Survey may not be reflective of current subsurface conditions particularly if recent development in the project vicinity has modified existing soils or surface/subsurface drainage.

### **Subsurface Conditions**

Prior to commencing our subsurface explorations, a boring location plan was developed based on project information provided by Stantec. The subsurface conditions along the alignment of the proposed water main were explored using nine (9) SPT borings performed to a depth of approximately 20 feet below existing site grades. In addition, Tierra performed four (4) 40-foot SPT borings along the alignment of the proposed water main where directional drilling is proposed at Interstate 75.

The borings were located in the field using hand-held Global Positioning System (GPS) equipment. Generally, the borings were performed at the proposed boring locations. When not possible, due to access or utility constraints, the boring locations were altered and the

relocated GPS coordinates were recorded on the field boring logs. The approximate boring locations are presented on the **Boring Location Plan Sheets** in the **Appendix**.

The SPT borings were performed with the use of a drill rig using Bentonite Mud drilling procedures. The soil sampling was performed in general accordance with American Society for Testing and Materials (ASTM) Test Designation D-1586 titled "Penetration Test and Split-Barrel Sampling of Soils." The initial 4 feet of the SPT borings were manually augered to verify utility clearance. Thereafter, SPT resistance N-values were recorded and soil samples were collected continuously from a depth of 4 feet to a depth of 10 feet and at intervals of 5 feet thereafter. The soil samples were classified in the field and transported to our laboratory for review.

The soil strata encountered in the borings performed at the proposed project site are summarized in the following table:

Stratum Number	Soil Description	AASHTO Symbol	USCS Symbol
1	Light Gray to Dark Brown Fine SAND to SAND with Silt	A-3	SP/SP-SM
2	Pale Brown to Dark Gray Silty SAND	A-2-4	SM
3	Light Gray to Green Gray Silty-Clayey to Clayey SAND, Occasionally with Weathered Limestone	A-2-4/ A-2-6	SM-SC/SC
4	Light Gray to Green Gray Sandy SILT to Silty CLAY, Occasionally with Weathered Limestone	A-6/A-7	ML/CL
5	Weathered LIMESTONE	-- <sup>(1)</sup>	-- <sup>(1)</sup>
6	Light Gray to Dark Gray SAND with Shell to Shelly SAND	A-3/A-1-b	SP/GP

<sup>(1)</sup> USCS and AASHTO Soil Classification Systems do not include a classification for Limestone.

The subsurface soil stratification is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The soil profiles included in the **Appendix** should be reviewed for specific information at individual boring locations. These profiles include soil descriptions, stratifications, and penetration resistances. The stratifications shown on the boring profiles represent the conditions only at the actual boring location. Variations did occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.

### Groundwater Information

The groundwater table was measured at depths ranging from approximately 5 to 7 feet below the existing ground surface. The encountered groundwater levels are presented on **Sheets 4 and 5** in the **Appendix**.

Based on the subsurface conditions encountered and information reported in the USDA Soil Survey, it is estimated the SHGWT will be at a depth of 1 to 1½ feet below the existing ground surface along the project alignment.

It should be noted that groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect will also occur in which higher groundwater levels are normally recorded in rainy seasons.

## LABORATORY TESTING

### General

Representative soil samples collected from the SPT borings performed along the project were classified and stratified in general accordance with the USCS and AASHTO Soil Classification Systems. Our classification was based on visual observations, using the results from the laboratory testing as confirmation. The following tests were conducted on soils samples obtained from our borings:

- Fines Content Analyses - The fines content analyses were conducted in general accordance with the AASHTO test designation T-088 (ASTM test designation D-1140).
- Atterberg Limits – The liquid limit and plastic limit tests (“Atterberg Limits”) were conducted in general accordance with the AASHTO test designations T-089 and T-090 respectively (ASTM test designation D-4318).
- Natural Moisture Content – The moisture content tests were conducted in general accordance with the AASHTO test designation T-265 (ASTM test designation D-2216).
- Organic Content - The organic content tests were conducted in general accordance with the AASHTO test designation T-267 (ASTM test designation D-2974).

The results of the laboratory tests are presented on the **Soil Profiles Sheets** in the **Appendix**.

## EVALUATION AND RECOMMENDATIONS

### General

Tierra recommends utilizing the applicable City, County and/or FDOT Specifications for construction of the proposed pipeline. The following report sections provide our recommendations for site preparation and construction considerations.

It should be noted that if final design criteria deviates from what is stated in this report, Tierra should be given the opportunity to review the new information and amend our recommendations, if necessary.

### Drainage and Groundwater Concerns

As mentioned above, the groundwater table was measured at depths ranging from approximately 5 to 7 feet below the existing ground surface. The groundwater levels presented in this report are the levels that were measured at the time of our field activities. Fluctuation should be anticipated. We recommend that the Contractor determine the actual groundwater levels at the time of the construction to determine groundwater impact on his construction procedure. Care should be given to open excavations and site grading to minimize ponding of surface water.

### On-Site Soil Suitability

The suitability of the soil for reuse along the project should be evaluated against the project engineering fill requirements. Variations in the subsurface stratifications should be expected between borings. Fill should be placed in accordance with the applicable City, County and/or FDOT Specifications.

Based on the results of the of the field exploration, it appears that the existing sandy soils (strata 1, 2, 3 and 6) will provide adequate support for the proposed water main. If buried organic soils, debris, or unsuitable material are encountered during construction, they should be removed and replaced with suitable fill soils.

Stratum 4 (ML/CL, A-6/A-7) soils are plastic and are not suitable to be used as backfill due to difficulty in obtaining compaction. If Statum 4 is encountered during pipeline installation, it should be removed and replaced in accordance with the applicable City, County and/or FDOT Specifications.

Due to the fines contents (% passing the No. 200 sieve) the materials from Strata 2 and 3 are likely to retain excess moisture and be difficult to dry and compact.

Stratum 6 (SP/GP) soils consist of sand with shell to shelly sand. This material typically has high permeable rates. If it is encountered below the ground water table during trench excavations it will be difficult to dewater. Conversely if Strata 6 is encountered during horizontal drilling operations higher than normal circulation losses can be expected.

In the area of the HDD limestone was encountered within two of the borings at a depth of about 33 feet. If the boring profile extends into the limestone the contractor should be prepared to include nonconventional drill techniques and equipment to complete the borehole and bid accordingly.

## **Backfill**

All materials to be used for fill or backfill should be evaluated and, if necessary, tested by Tierra prior to placement to determine if they are suitable for the intended use. Suitable fill materials should consist of material in accordance with applicable City, County and/or FDOT Specifications and be free of rubble, organics, debris and other unsuitable material.

## **REPORT LIMITATIONS**

The analyses, conclusions and recommendations contained in this report are professional opinions based on the site conditions and project layout described herein and further assume that the conditions observed in the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions elsewhere on the site are the same as those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory borings are observed or appear to be present beneath excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary.

If there is a substantial lapse in time between the submittal of this report and the start of work at the site, or if conditions or project layout are changed due to natural causes or construction operations at or adjacent to the site, we recommend that this report be reviewed to determine the applicability of conclusions and recommendations considering the changed conditions and time lapse.

This report was prepared for the exclusive use of Stantec and their client for evaluating the design of the project as it relates to the geotechnical aspects discussed herein. It should be made available to prospective contractors for information on factual data only and not as a warranty of subsurface conditions included in this report. Unanticipated soil conditions may require that additional expense be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

## APPENDIX

Table 1 – Summary of USDA Soil Survey Information

Boring Location Plan (3 Sheets)

Soil Profiles (2 Sheets)

**TABLE 1**  
**SUMMARY OF USDA SOIL SURVEY**  
**SARASOTA COUNTY, FLORIDA**

USDA Map Symbol and Soil Name	Soil Classification				pH	Seasonal High Water Table	
	Depth (in)	USCS	AASHTO	Permeability (in/hr)		Depth (feet)	Months
(10) EauGallie	0-6	SP, SP-SM	A-3	6.0 - 20.0	4.5-6.0	0.5-1.5	June-Sept
	6-22	SP, SP-SM	A-3	6.0 - 20.0	4.5-6.0		
	22-44	SM, SP-SM	A-2-4, A-3	0.6 - 6.0	4.5-6.5		
	44-48	SP, SP-SM	A-2-4, A-3	6.0 - 20.0	4.5-7.8		
	48-66	SC, SC-SM, SM	A-2-4, A-2-6	0.1 - 0.6	4.5-7.8		
	66-80	SC, SC-SM, SM	A-2-4, A-2-6	0.6 - 6.0	4.5-7.8		
(10) Myakka	0-6	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5	0.5-1.5	June-Sept
	6-24	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
	24-42	SM, SP-SM	A-2-4, A-3	0.6 - 6.0	3.5-6.5		
	42-80	SP, SP-SM	A-3	6.0 - 20.0	3.5-6.5		
(12) Felda	0-3	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.8	0.0	June-Dec
	3-22	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.8		
	22-60	SC, SC-SM, SM	A-2-4, A-2-6	0.6 - 6.0	6.1-7.8		
	60-80	SP, SP-SM	A-2-4, A-3	6.0 - 20.0	6.1-8.4		
(22) Holopaw	0-4	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.3	0.0	June-Dec
	4-50	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.3		
	50-66	SC-SM, SM	A-2-4	0.2 - 2.0	5.1-8.4		
	66-80	SM, SP-SM	A-2-4	6.0 - 20.0	5.1-8.4		
(31) Pineda	0-8	SP, SP-SM	A-3	6.0 - 20.0	4.5-7.3	0.0-1.0	June-Nov
	8-22	SP, SP-SM	A-3	6.0 - 20.0	4.5-7.3		
	22-36	SP, SP-SM	A-3	6.0 - 20.0	4.5-7.3		
	36-48	SC, SC-SM, SM	A-2-4, A-2-6	0.1 - 0.2	5.1-8.4		
	48-80	SM, SP, SP-SM	A-2-4, A-3	2.0 - 6.0	5.6-8.4		
(36) Pople	0-4	SP, SP-SM	A-3	2.0 - 20.0	5.6-7.8	0.0-1.0	June-Nov
	4-17	SP, SP-SM	A-3	2.0 - 20.0	5.6-7.8		
	17-28	SP, SP-SM	A-3	2.0 - 20.0	7.4-8.4		
	28-56	SC, SC-SM	A-2-4, A-2-6	0.1 - 0.2	7.4-8.4		
	56-80	SM, SP, SP-SM	A-2-4, A-3	0.2 - 2.0	7.4-8.4		

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Consultants

Legend

 APPROXIMATE LOCATION OF SPT BORING

Notes

BASE MAP PROVIDED BY STANTEC

File Name: \_\_\_\_\_  
 Dwn. Chkd. Dsgn. YY.MM.DD

Permit-Seal

Client/Project

**CITY OF VENICE BORDER ROAD WATER  
 MAIN EXTENSION  
 VENICE, FL**

Title

**BORDER ROAD  
 BORING LOCATION PLAN**

Project No.

**6511-14-013**

Drawing No.

Scale

**NOTED**

Sheet

Revision

1 of 5



## BORING LOCATION PLAN



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 APPROXIMATE LOCATION OF SPT BORING

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Client/Project

**CITY OF VENICE BORDER ROAD WATER  
 MAIN EXTENSION  
 VENICE, FL**

Title

**BORDER ROAD  
 BORING LOCATION PLAN**

Project No.	Scale
<b>6511-14-013</b>	<b>NOTED</b>
Drawing No.	Sheet
	Revision



# BORING LOCATION PLAN



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 APPROXIMATE LOCATION OF SPT BORING

Notes

BASE MAP PROVIDED BY STANTEC

File Name: \_\_\_\_\_  
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Permit-Seal

Client/Project

**CITY OF VENICE BORDER ROAD WATER  
 MAIN EXTENSION  
 VENICE, FL**

Title

**BORDER ROAD  
 BORING LOCATION PLAN**

Project No.	Scale
<b>6511-14-013</b>	<b>NOTED</b>
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	Revision



**BORING LOCATION PLAN**



# SOIL PROFILES

# LEGEND



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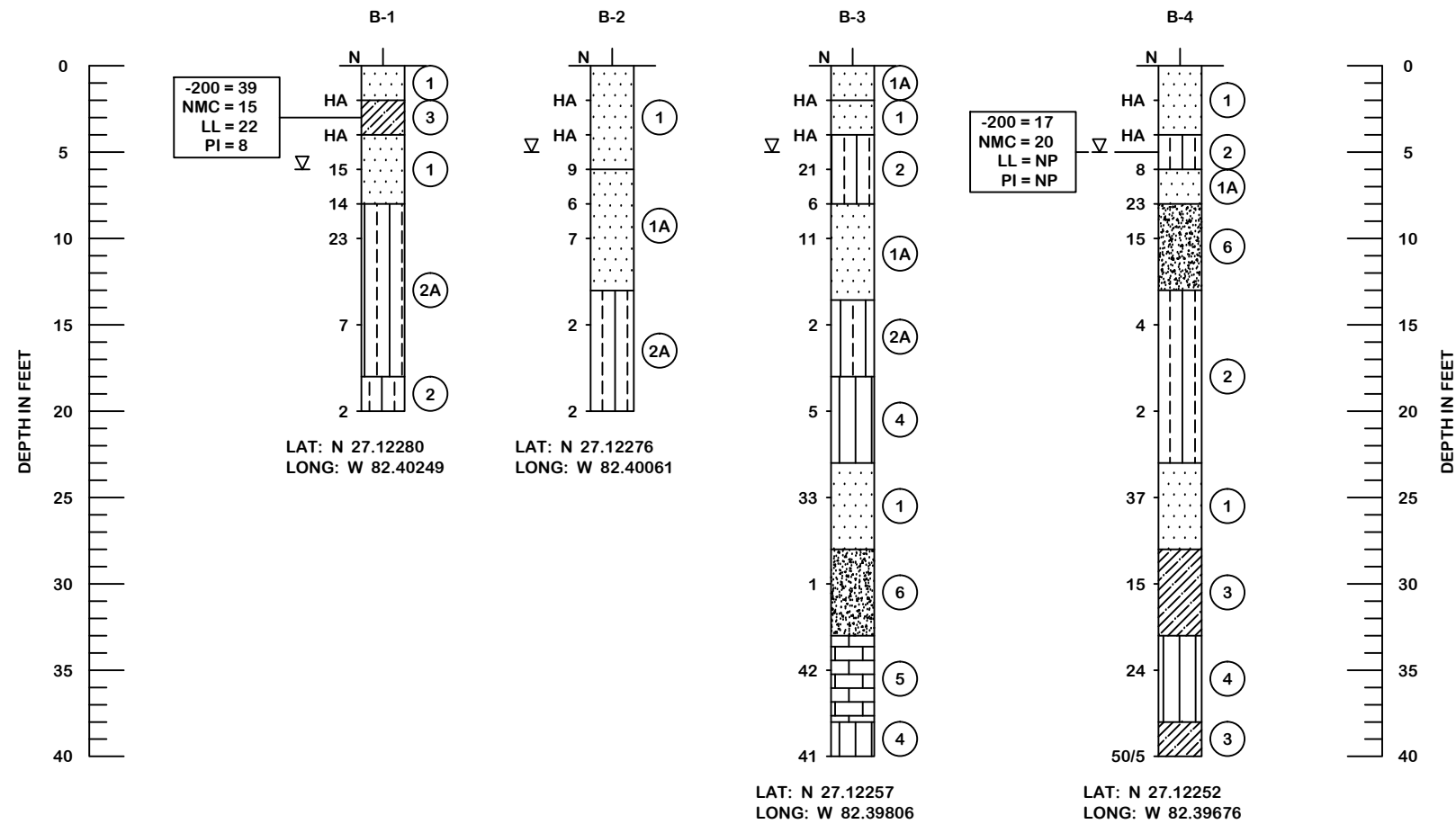
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Client/Project  
**CITY OF VENICE BORDER ROAD WATER  
 MAIN EXTENSION  
 VENICE, FL**

Title  
**BORDER ROAD  
 SOIL PROFILES**

Project No. 6511-14-013 Scale NOTED  
 Drawing No. \_\_\_\_\_ Sheet \_\_\_\_\_ Revision \_\_\_\_\_



- 1 LIGHT GRAY TO DARK BROWN FINE SAND TO SAND WITH SILT (SP/SP-SM) [A-3]
  - 2 PALE BROWN TO DARK GRAY SILTY SAND (SM) [A-2-4]
  - 3 LIGHT GRAY TO GREEN GRAY SILTY-CLAYEY TO CLAYEY SAND, OCCASIONALLY WITH WEATHERED LIMESTONE (SM-SC/SC) [A-2-4/A-2-6]
  - 4 LIGHT GRAY TO GREEN GRAY SANDY SILT TO SILTY CLAY, OCCASIONALLY WITH WEATHERED LIMESTONE (ML/CL) [A-6/A-7]
  - 5 WEATHERED LIMESTONE
  - 6 LIGHT GRAY TO DARK GRAY SAND WITH SHELL TO SHELLY SAND (SP/GP) [A-3/A-1-b]
- A - TRACE SHELL
- ▽ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION
- N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW
- A-3 AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- 50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCES
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- OC ORGANIC CONTENT (%)
- LL LIQUID LIMIT (%)
- PI PLASTICITY INDEX (%)
- NP NON PLASTIC

NOTE: SPT BORINGS PERFORMED UTILIZING A SAFETY HAMMER.

# SOIL PROFILES

# LEGEND



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Permit-Seal

Client/Project

CITY OF VENICE BORDER ROAD WATER MAIN EXTENSION VENICE, FL

Title

BORDER ROAD SOIL PROFILES

Project No.

6511-14-013

Drawing No.

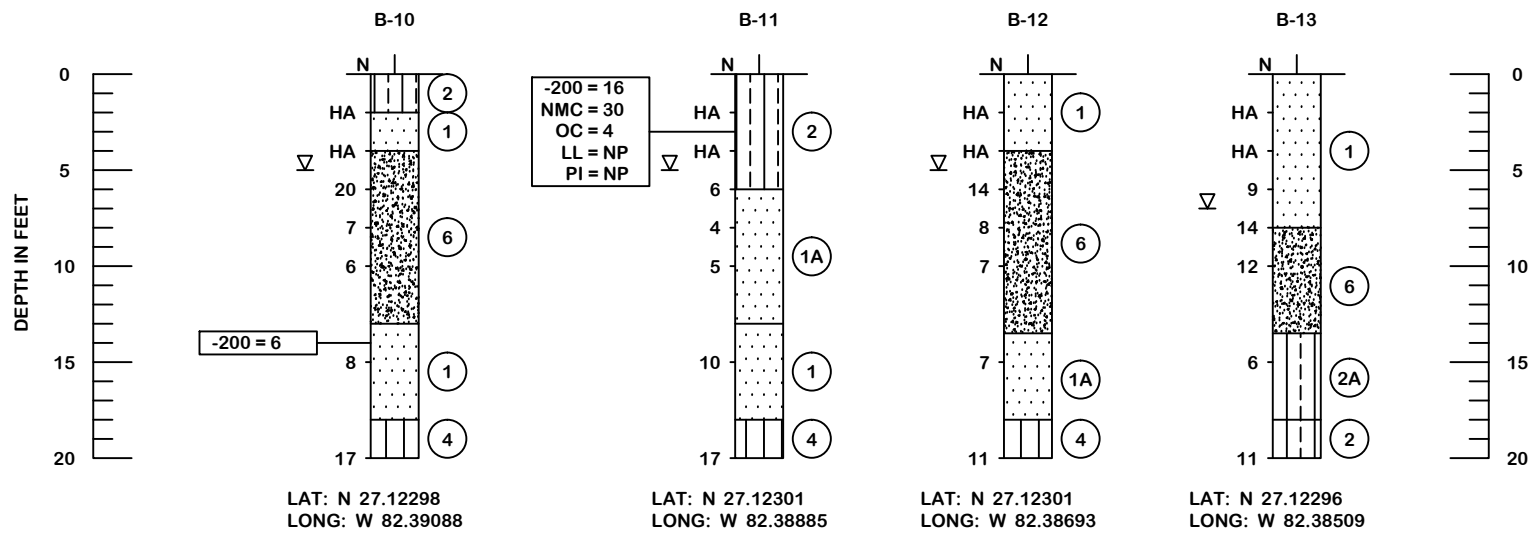
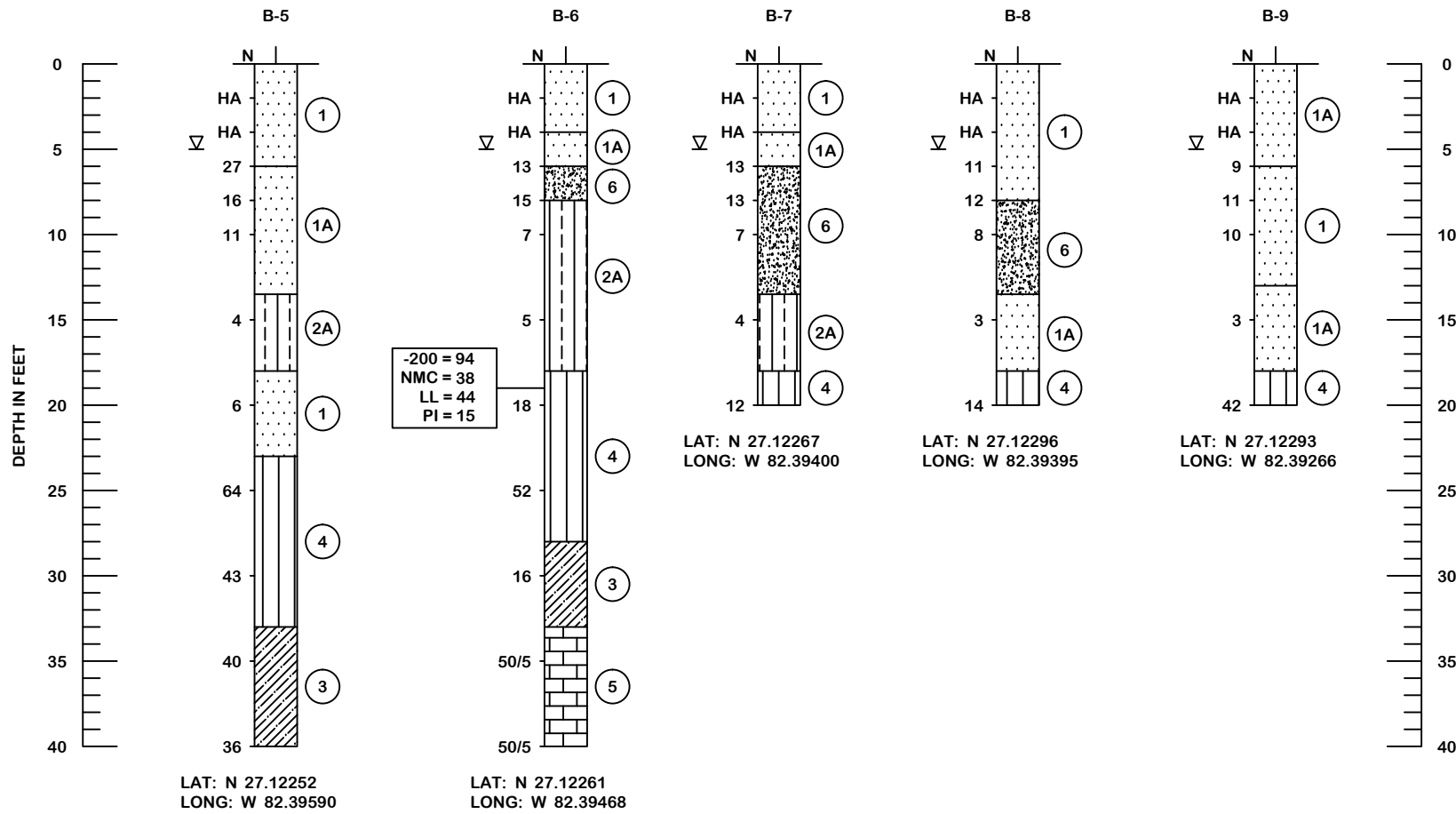
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- 1 LIGHT GRAY TO DARK BROWN FINE SAND TO SAND WITH SILT (SP/SP-SM) [A-3]
- 2 PALE BROWN TO DARK GRAY SILTY SAND (SM) [A-2-4]
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- 4 LIGHT GRAY TO GREEN GRAY SANDY SILT TO SILTY CLAY, OCCASIONALLY WITH WEATHERED LIMESTONE (ML/CL) [A-6/A-7]
- 5 WEATHERED LIMESTONE
- 6 LIGHT GRAY TO DARK GRAY SAND WITH SHELL TO SHELLY SAND (SP/GP) [A-3/A-1-b]

- A - TRACE SHELL
- ▽ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION
- N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW
- A-3 AASHTO GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.
- 50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCES
- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- OC ORGANIC CONTENT (%)
- LL LIQUID LIMIT (%)
- PI PLASTICITY INDEX (%)
- NP NON PLASTIC

NOTE: SPT BORINGS PERFORMED UTILIZING A SAFETY HAMMER.

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS-RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

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## **APPENDIX B**

### PERMITS

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**Florida Department of Health**  
**General Permit for Construction of Water Main**  
**Extensions for PWSs'**

**Mission:**

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



**Vision:** To be the Healthiest State in the Nation

**Rick Scott**  
Governor

**John H. Armstrong, MD, FACS**  
State Surgeon General & Secretary

December 2, 2014

### Notification of Acceptance of Use of a General Permit

Permittee:  
City of Venice  
Len Bramble, Utilities Director  
401 West Venice Avenue  
Venice, FL 34285

[lbramble@Venicegov.com](mailto:lbramble@Venicegov.com)

**Permit Number:** 0124807-163  
**Issue Date:** 12/02/14 WD 1901-14-010  
**Expiration Date:** 12/02/19  
**County:** Sarasota  
**Project Name:** Border Road Water Main Extension  
**Water Supplier:** City of Venice  
**PWS ID:** 658-1901

Dear Mr. Bramble:

On 11/18/2014, the Florida Department of Health received a "Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs" [DEP Form No. [62-555.900\(7\)](#)], under the provisions of Rule [62-4.530](#) and Chapter [62-555](#), Florida Administrative Code (F.A.C.). The proposed project includes approximately 6000 LF of 12 inch water main installed along Border Road in Venice, Florida.

Based upon the submitted Notice and accompanying documentation, this correspondence is being sent to advise that the Department does not object to the use of such general permit at this time. Please be advised that the permittee is required to abide by Rule [62-555.405, F.A.C.](#), all applicable rules in Chapters [62-4](#), [62-550](#), [62-555](#), F.A.C., and the General Conditions for All General Drinking Water Permits (found in [62-4.540, F.A.C.](#)).

The permittee shall comply with all sampling requirements specific to this project. These requirements are attached for review and implementation.

Pursuant to Rule [62-555.345, F.A.C.](#), the permittee shall submit a certification of construction completion [DEP Form No. [62-555.900\(9\)](#)] to the Department and obtain approval, or clearance, from the Department before placing any water main extension constructed under this general permit into operation for any purpose other than disinfection or testing for leaks.

Within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service in total by the Department, both the permittee and the proposed permittee shall sign and submit an application for transfer of the permit using Form [62-555.900\(8\), F.A.C.](#), with the appropriate fee. The permitted construction is not authorized past the 30-day period unless the permit has been transferred.

City of Venice  
Len Bramble, Utilities Director

DEP File No.: 0124807-163  
WD: 1901-14-010

This permit will expire five years from the date of issuance. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project, per Rule [62-4.030, F.A.C.](#)

Sincerely



Brian C. Dietz, P.E.  
Professional Engineer III

cc: Steven C. MacEachern, P.E./Stantec

**A Civil Penalty May Be Incurred  
if this project is placed into operation before obtaining a clearance from this office.**

Requirements for clearance upon completion of projects are as follows:

**1) Clearance Form**

Submission of a fully completed Department of Environmental Protection (DEP) Form [62-555.900\(9\)](#) *Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation*.

**2) Record Drawings**

Submission of the portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications.

**3) Bacteriological Results**

Copies of satisfactory bacteriological analysis (a.k.a. Main Clearance), taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, in accordance with Rules [62-555.315\(6\)](#), [62-555.340](#), and [62-555.330](#), F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:

- Connection to an existing system (1)
- The end point of the proposed addition (1)
- Any water lines branching off a main extension
- Every 1,200 feet on straight runs of pipe (3)

Each location shall be sampled on two consecutive days, with sample points and chlorine residual readings clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

For further clarification contact:  
Brian C. Dietz, P.E.  
Florida Department of Health in Sarasota County  
1001 Sarasota Center Blvd  
Sarasota, FL 34240  
941-861-6133  
[brian\\_dietz@doh.state.fl.us](mailto:brian_dietz@doh.state.fl.us)

**All main clearances are to be scheduled with the Sarasota County Health Department, Office of Environmental Health per Florida Statutes 403.862. Sample points will be reviewed prior to main clearances.**

**All water lines will be disinfected in accordance with AWWA C651-99 with the chlorinated water being sampled by a utility inspector. Introduction of the disinfection shall be witnessed by a utility inspector. All sample taps shall be non-threaded. Any sampling location that is a fire hydrant requires prior approval by this Department and the Utility.**

**All water mains will be pressure-tested in accordance with AWWA C600 Pipe Laying Section and test being witnessed by the Utility.**

**4) Pressure Test Results**

Copy of satisfactory pressure test results demonstrating compliance with AWWA Standard requirements.

City of Venice  
Len Bramble, Utilities Director  
401 West Venice Avenue  
Venice, FL 34285

Permit/Cert. Site: 0124807-163  
WD: 1901-14-010  
Date of Issue: December 2, 2014  
Expiration Date: December 2, 2019  
Project: Border Road Water Main Extension

#### GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727 or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, or its agent, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by this department.
3. As provided is in Subsections 403.08(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution or contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.
6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:
  - a. Having access to and copying any records that must be kept under the conditions of the permittee;
  - b. Inspecting the facility, equipment, practices, or operations regulated or require under this permit; and
  - c. Sampling or monitoring any substances or parameters at any locations reasonably necessary to assure compliance with this permit or department rules.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:
  - a. a description of and cause of non-compliance; and
  - b. the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

City of Venice  
Len Bramble, Utilities Director  
401 West Venice Avenue  
Venice, FL 34285

Permit/Cert. Site: 0124807-163  
WD: 1901-14-010  
Date of Issue: December 2, 2014  
Expiration Date: December 2, 2019  
Project: Border Road Water Main Extension

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, and may be used by the department as evidence in any enforcement case arising; under the Florida Statutes or department rules, except where such use is prescribed by Section 403.73 and 403.111, Florida Statutes.
10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.
11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.
12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.
13. This permit also constitutes:
  - \*Determination of Best Available Control Technology (BACT)
  - \*Determination of Prevention of Significant Deterioration (PSD)
  - \*Certification of Compliance with State Water Quality Standards
  - \*Compliance with New Source Performance Standards
14. The permittee shall comply with the following monitoring and record keeping requirements:
  - a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.
  - b. The permittee shall retain at the facility or other location designated by this permit, records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample measurement, report or application unless otherwise specified by department rule.
  - c. Records of monitoring information shall include:
    - \*the date, exact place, and time of sampling or measurements;
    - \*the person responsible for performing the sampling or measurements;
    - \*the date(s) analyses were performed;
    - \*the person responsible for performing the analyses;
    - \*the analytical techniques or methods used; and
    - \*the results of such analyses.
15. When requested by the department, the permittee shall within a reasonable time furnished any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SARASOTA COUNTY PLANNING AND DEVELOPMENT SERVICES  
RIGHT-OF-WAY USE PERMIT  
PERMIT NO. 14 162622 00 BW

Applicant: CITY OF VENICE UTILITIES (  
Applicant Address: 200 N WARFIELD AV VENICE FL 34285  
Applicant Phone: 9414682788 24 Hr Emergency Phone: (941) 486-2770

Project Type: WATER & SEWER TIE-INS

Work Location: BORDER RD

Reference File:

Process: RIGHT OF WAY REVIEW Process Status : APPROVED

Description: INSTALL POTABLE WATER TRANSMISSION MAIN

Conditions: NO SPECIAL PROVISION STIPULATIONS

Subject to the Sarasota County Land Development Regulations and the General Provisions noted hereof, which have been carefully read and understood to form a part of this permit, and any Special Provision stipulations:

1. **Land Development Services MUST be notified at least 24 hours prior to commencement of construction operations. Fax notification to North County (941) 861-6431 or South County (941) 861-3282, as applicable.**

**Inspector: Steve Brendel Phone Number: 941-539-2272**

2. All construction and restoration must meet those requirements determined applicable by Sarasota County before work will be deemed complete and before applicant will be released from said responsibility or posted bond returned.
3. The applicant declares that all existing aerial and underground utilities have been located and the appropriate utilities notified of the proposed work.
4. All required sketches, plans and cross-sections covering details of this work shall be attached to and become a part of this permit. Any changes made to the drawings or stipulations made thereon must be approved and shall become part of the permit. A copy of all required sketches, plans, cross-sections and any subsequent changes to these must be retained at the job site and an additional copy filed with Land Development Services.
5. Prior to construction the applicant receiving the permit shall make all necessary provisions for the accomodation and convenience of traffic and shall take safety measures, including the placing and display of caution signs and signals as required by the Manual on Uniform Traffic Control Devices for Streets and Highways. The applicant shall further prevent obstructions or conditions, which are or may become dangerous to the traveling public. The authority to close off a street or an easement in its entirety rests entirely with the County Engineer.
6. The applicant shall notify all Sarasota County Emergency Personnel, Sarasota Herald Tribune and the Sarasota County School Board Bus System and shall install a signboard notifying the public prior to any street closing (after approval by the County Engineer).
7. Fire hydrants shall be left accessible at all times.
8. All pavement repairs shall be effected under the direct supervision of Land Development Services.
9. Existing utility services shall not be disrupted without the specific authority of the concerned utility and public notification by newspapers or the airways that said disruption shall occur. Repairs determined to be of an emergency nature are not subject to the notification procedure.
10. The flow of stormwater within drainage facilities shall remain unimpeded. Adequate measures will be taken to prevent pollution in the area from run-off, and pollution of the air from dust, during the course of construction and restoration.
11. Any public or private property, which is used or affected by a project, will be maintained and preserved from damage during the operation, and restored to its original condition upon completion or cessation of work.
12. It is expressly stipulated that any permit issued is a license for permissive use only and that the placing of facilities upon public property pursuant to the issuance of a permit shall not operate or create or to vest any property rights in a permit holder and that said holder may be required to make, at their own expense, any changes, alterations or replacement as necessitated by changed conditions.
13. All suits, actions or claims of whatever nature, which may arise, occasioned whether directly or indirectly by the work permitted or the special privileges granted hereunder, shall be assumed by the applicant. The Board of County Commissioners and all its officers, agents and employees shall be indemnified and held harmless.
14. Land Development Services reserves the right to revoke and permit issued without other formality than notifying the applicant to this effect.
15. **NOTICE: This Right of Way Use Permit will become invalid on the expiration date. If an extension is necessary, the request, along with a check in the amount of \$100.00 must be submitted 10 days prior to the expiration date or this permit will become invalid and a Stop Work Order may be placed on the project. If a Stop Work Order is issued, a fee in the amount of \$300.00 will be required to have it removed.**

Authorized By

Date of Issuance: 12/03/2014

Expiration Date: 12/03/2015

Final Inspection Date: \_\_\_\_\_

By Inspector: \_\_\_\_\_

**Florida Department of Environmental Protection  
Environmental Resource Permit Exemption**



# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

South District Office  
P.O. Box 2549  
Fort Myers, FL 33902-2549  
[SouthDistrict@dep.state.fl.us](mailto:SouthDistrict@dep.state.fl.us)

RICK SCOTT  
GOVERNOR

CARLOS LOPEZ-CANTERA  
LT. GOVERNOR

HERSCHEL T. VINYARD JR.  
SECRETARY

## VIA ELECTRONIC MAIL

December 18, 2014

City of Venice Utilities  
c/o Stephen MacEachern, Stantec  
ADDRESS  
CITY, STATE ZIP  
[Stephen.MacEachern@stantec.com](mailto:Stephen.MacEachern@stantec.com)

Re: Sarasota County - ERP  
File No. 58-0330908-001

Dear MacEachern:

On **November 18, 2014**, we received your request for verification of exemption to perform the following activities:

Dig temporary trenches for installation of potable water pipeline at southwest side of intersection at North Auburn road and Edmondson road running east along Border road and terminating on north side of Border road to the west of Jacaranda road in City of Venice, Sarasota County.

Your request has been reviewed to determine whether it meets the requirements for any of three kinds of authorization that may be necessary for work in wetlands or waters of the United States. The kinds of authorization are (1) regulatory authorization, (2) proprietary authorization (related to state-owned submerged lands), and (3) federal authorization. The authority for review and the outcomes of the reviews are listed below. Please read each section carefully. Your project **may not** have qualified for all three forms of authorization. If your project did not qualify for one or more of the authorizations, refer to the specific section dealing with that authorization for advice on how to obtain it.

### 1. Regulatory Review -VERIFIED

Based on the information submitted, the Department has verified that the activities as proposed are exempt, under Chapter 62-330.050,(14)(f), Florida Administrative Code, from the need to obtain a regulatory permit under part IV of Chapter 373 of the Florida Statutes.

This exemption verification is based on the information you provided the Department and the statutes and rules in effect when the information was submitted. This verification will expire after one year, and will not be valid at any other time if site conditions materially change, the project design is modified, or the statutes or rules governing the exempt activity are amended. However, the activity may still be conducted without further notification to or verification from the Department after the one-year expiration of this verification, provided: 1) the project design does not change; 2) site conditions do not materially change; and 3) there are no changes to the statutes or rules governing the exempt activity. In the event you need to re-verify the exempt status for the activity after the one-year expiration of this verification, a new application and verification fee will be required. Any substantial modifications to the project design should be submitted to the Department for review, as changes may result in a permit being required.

**2. Authorization to use state-owned (sovereign) submerged lands -NOT REQUIRED**

The activity does not appear to be located on sovereign submerged lands, and does not require further authorization under chapter 253 of the Florida Statutes, or chapters 18-20 or 18-21 of the Florida Administrative Code.

Authority for review - Chapter 253, F. S., and Chapter 18-21, F.A.C., F.A.C., and Section 62-330.075, F.A.C. as required.

**3. SPGP Review - NOT REQUIRED**

Based on the information contained in your permit application and provided the work is done in accordance with your project drawings, U.S. Army Corps of Engineers (Corps) authorization will not be required. This Federal determination is valid for two years unless your Florida Department of Environmental Protection authorization expires earlier, in which case this determination also expires. This Federal determination is not valid for subsequent modification or changes to your project and will need to be re-evaluated. This determination does not obviate your requirement to obtain any other Federal, State, or local permits that may be necessary for your project. In addition, your project site may contain species protected by the Endangered Species Act (ESA) of 1972, as amended. You should contact your local U.S. Fish and Wildlife Service (FWS) office to determine if Federally listed species or their habitat are present on your project site.

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State

Programmatic General Permit”, Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

### **Additional Information**

This letter does not relieve you from the responsibility of obtaining other federal, state, or local authorizations that may be required for the activity.

Please retain this letter. The activities may be inspected by authorized state personnel in the future to insure compliance with appropriate statutes and administrative codes. If the activities are not in compliance, you may be subject to penalties under Chapter 373, F.S., and Chapter 18-14, F.A.C.

### **NOTICE OF RIGHTS**

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice.

#### Petition for Administrative Hearing

A person whose substantial interests are affected by the Department’s action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency’s file or identification number, if known;
- (b) The name, address, any email address, any facsimile number, and telephone number of the petitioner; the name, address, and telephone number of the petitioner’s representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner’s substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency’s proposed action;

(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

#### Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

#### Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

#### Mediation

Mediation is not available in this proceeding.

### FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when the order is filed with the Clerk of the Department.

### Judicial Review

Any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with

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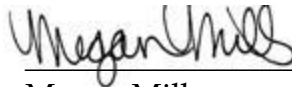
the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Thank you for applying to the Submerged Lands and Environmental Resource Program. If you have any questions, please contact Jonathan Guinn by telephone at (239) 344-5650 or by e-mail at [jonathan.guinn@dep.state.fl.us](mailto:jonathan.guinn@dep.state.fl.us). When referring to this project, please reference the file number listed above.

Executed in Lee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

Sincerely,



Megan Mills  
Environmental Administrator  
Submerged Lands and Environmental  
Resources Program  
South District

**Attachments:**

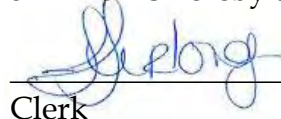
Attachment A\_62-330.051(14)(f)  
28 project drawing(s)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this document, including all copies, was mailed before the close of business on December 18, 2014, to the above listed person(s).

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52(7), F.S., with the designated Department clerk, receipt of which is hereby acknowledged.

  
Clerk

December 18, 2014  
Date

**62-330.051 Exempt Activities.**

(14) Utilities –

11. Work is conducted in compliance with subsection 62-330.050(9), F.A.C.

(f) Excavation or dredging of temporary trenches to install utilities such as communication cables, water lines, and electrical lines, provided:

1. Material is not deposited within wetlands or other surface waters other than that needed to backfill the trench to restore ground to pre-work grades;

2. Backfilling is completed within 24 hours of disturbance; and

3. Work is conducted in compliance with subsection 62-330.050(9), F.A.C.

RECEIVED Nov 18, 2014  
South District DEP

EXEMPT  
File Number:  
58-0330908-001

# CITY OF VENICE, FLORIDA

## CONSTRUCTION DRAWINGS

### FOR

# BORDER ROAD

# WATER MAIN EXTENSION

**INDEX OF PLANS**

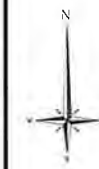
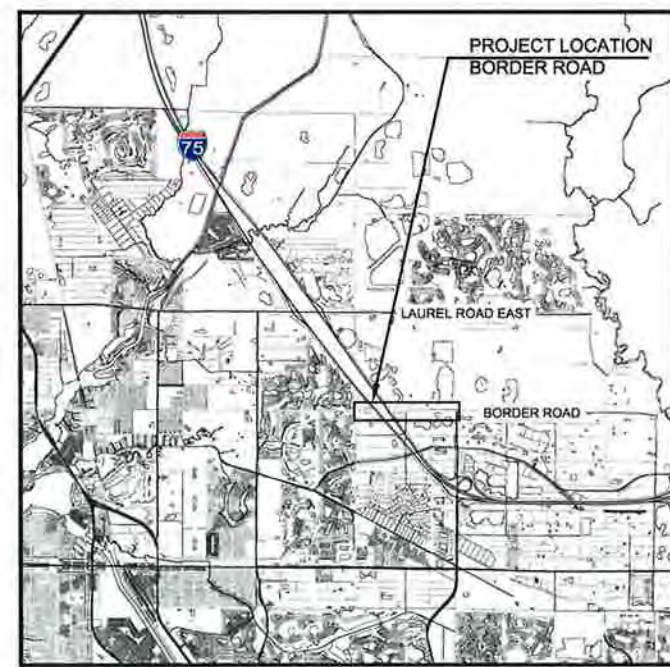
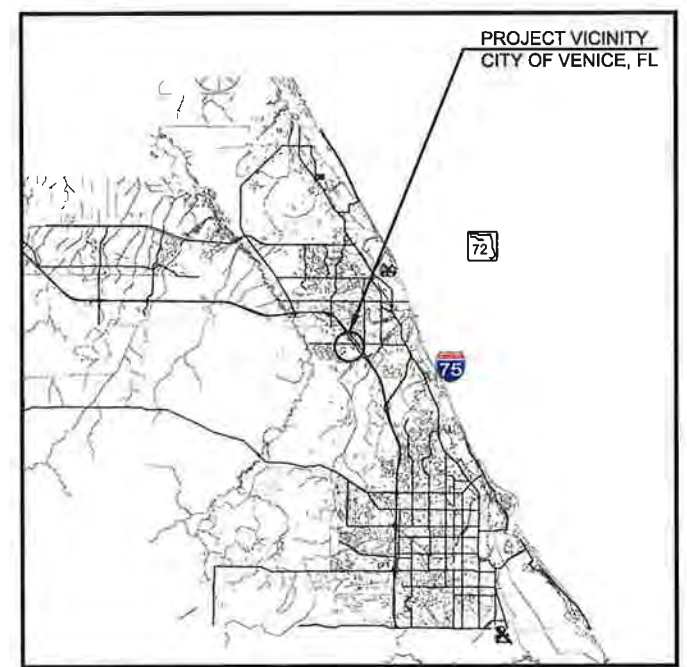
SHEET No.	SHEET DESCRIPTION
1	COVER SHEETS
2	GENERAL NOTES AND LEGEND
3	KEY SHEET
4-19	PLAN AND PROFILE
20	JACK & BORE CROSSING AND SECTIONS
21-25	STANDARD DETAILS
26	BEST MANAGEMENT PRACTICES
27-28	TRAFFIC CONTROL PLANS



**City Of Venice**  
**Utilities Department**  
200 North Warfield Avenue  
Venice FL 34285  
Ph. 941-480-3333  
Fax 941-486-2629

**VENICE CITY COUNCIL**

- JOHN HOLIC ..... MAYOR
- EMILIO CARLESIMO ..... VICE MAYOR
- JIM BENNETT ..... COUNCIL MEMBER
- BOB DANIELS ..... COUNCIL MEMBER
- JEANETTE GATES ..... COUNCIL MEMBER
- KIT MCKEON ..... COUNCIL MEMBER
- DAVID SHERMAN ..... COUNCIL MEMBER
- EDWARD F. LAVALLEE ..... CITY MANAGER



PLANS PREPARED BY:



Stantec Consulting Services Inc.  
5172 Station Way  
Sarasota, FL U.S.A.  
34233  
Tel. 941.365.5500  
Fax. 941.366.1922  
www.stantec.com  
Florida Certification No. 27013

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

**PERMIT PLANS**



ENGINEER OF RECORD:  
STEPHEN C. MACEACHERN, P.E.

DATE: 11/17/14

**STANTEC PROJECT NO. 177310466**  
**NOVEMBER 2014**

Stantec  
5172 Station Way  
Sarasota, FL 34233  
Tel. 941.365.5500  
www.stantec.com  
Florida Certificate No. 27013  
Copyright Reserved

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultants

Legend

Notes

Revision By Appd YY.MM.DD

Issued By Appd YY.MM.DD

File Name:

Permit-Seal  
STEPHEN C. MacEachern, P.E.  
FLORIDA LICENSE No. 76020

11/17/14

Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
GENERAL NOTES AND LEGEND

Project No.  
177310466

Scale  
N/A

Drawing No.

Sheet

Revision

2 of 28

0

GENERAL NOTES

- THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. EXTREME CAUTION IS TO BE USED WHEN EXCAVATING, AS THE NUMBER AND LOCATION OF EXISTING UTILITIES HAVE NOT BEEN VERIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE AND VERIFY ANY AND ALL EXISTING UTILITIES SHOWN AND NOT SHOWN. THE CONTRACTOR SHALL CONTACT SARASOTA COUNTY DOT, UTILITY COMPANIES, AND SUNSHINE STATE ONE-CALL NO FEWER THAN 72 HOURS PRIOR TO EXCAVATION FOR FIELD LOCATION OF UTILITIES. ALL COORDINATION AND REQUIRED UTILITY COMPANY TEMPORARY PROTECTION SHALL BE AT THE CONTRACTOR'S EXPENSE. INDIVIDUAL WATER SERVICES AND ASSOCIATED METER BOXES ARE NOT SHOWN ON THE PLANS.
- EXISTING UTILITIES AND PROPERTY, WHETHER SHOWN OR NOT SHOWN ON THE PLAN SHEETS, DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL WORK ON THE PROJECT SITE SHALL BE DONE BETWEEN THE HOURS OF 8:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY UNLESS PRIOR APPROVAL IS OBTAINED IN WRITING FROM THE ENGINEER. NO WORK SHALL BE DONE ON HOLIDAYS UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER.
- ALL PROPERTY LINE MARKERS (IRON PINS, CONCRETE MONUMENTS, ETC.) DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO RESET PROPERTY MARKERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING AND CONSTRUCTION PERMITS AS REQUIRED FOR CONSTRUCTION. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PERMITS AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COORDINATE ALL INSPECTIONS REQUIRED BY THE PERMITS AND CONTRACT DOCUMENTS.
- WHERE RELOCATION OR INTERRUPTION OF ANY EXISTING UTILITIES ARE REQUIRED, CONTRACTOR SHALL NOTIFY ENGINEER AND UTILITY OWNER NO FEWER THAN 3 BUSINESS DAYS IN ADVANCE TO COORDINATE EITHER ISOLATION OF THE LINE OR TEMPORARY CONNECTION INSTALLATION WHERE ISOLATION IS NOT PRACTICAL. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL MATERIALS REQUIRED IF OWNER DETERMINES THAT TEMPORARY CONNECTION INSTALLATION IS NECESSARY. IN THE CASE OF RELOCATING TELEMETRY OR ANY FIBER OPTIC CABLES, CONTRACTOR SHALL BE RESPONSIBLE FOR SUCCESSFUL TESTING BEFORE PLACING CABLES BACK IN OPERATION.
- THE EXISTING WATER MAINS MUST BE KEPT OPERATIONAL AT ALL TIMES UNTIL THE RELOCATED MAINS ARE PLACED IN SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND TEMPORARY MEASURES REQUIRED TO MAINTAIN CONTINUOUS OPERATION.
- ALL WORK SHALL CONFORM TO LATEST REQUIREMENTS OF THE CITY OF VENICE.
- QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY THE CITY OF VENICE. THE CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCIES IN QUANTITIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, PERMITS, AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER AT THE PROJECT SITE AT ALL TIMES AS THE WORK PROGRESSES. THE CONTRACTOR OR HIS DESIGNATED REPRESENTATIVE SHALL RECORD ON ONE SET OF REPRODUCIBLE DRAWINGS ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT BY OFF-SETS AND TIES TO PERMANENT STRUCTURES, EACH SEWER, WATER, ELECTRIC, GAS, COMMUNICATION AND OTHER UTILITIES.

- THESE RECORD DRAWINGS MUST BE CERTIFIED BY THE FLORIDA REGISTERED PROFESSIONAL ENGINEER WHO PREPARED AND SEALED THE PLANS. THE RECORD DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT OF ALL WATER, SEWER, AND EFFLUENT REUSE LINES, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, PUMP STATIONS, SERVICE CONNECTIONS, METER BOXES AND/OR PADS, AND OTHER PERTINENT STRUCTURES, PIPELINE RUNS IN EXCESS OF 100' WITHOUT FITTINGS SHALL INCLUDE VERTICAL ALIGNMENT INFORMATION AT 100' INTERVALS. SAID ALIGNMENT SHALL BE TIED TO PERMANENT IMPROVEMENTS, SUCH AS ROADWAY CENTERLINES, RIGHTS-OF-WAY, AND BUILDING AND PROPERTY CORNERS, AND SHALL BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. THE CONTRACTOR SHALL COORDINATE WITH THE PROFESSIONAL LAND SURVEYOR FOR INSTALLATION OF ANY NECESSARY APPURTENANCES ON BURIED UTILITIES TO FACILITATE THE SURVEY AFTER CONSTRUCTION IS COMPLETED. THE CITY OF VENICE SHALL WITHHOLD FINAL ACCEPTANCE OF THE PROJECT UNTIL THE REQUIREMENT FOR RECORD DRAWINGS AND RELATED RECORDS HAS BEEN MET. RECORD DRAWINGS WITHOUT DETAILED FIELD VERIFIED HORIZONTAL AND VERTICAL LOCATIONS OF ALL FACILITIES SHOWN WILL BE REJECTED.
- A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE ANY WORK OR ORDERING OF MATERIALS MAY BEGIN.
  - THE CITY OF VENICE SHALL BE NOTIFIED 3 BUSINESS DAYS PRIOR TO CONTRACTOR MOBILIZATION FOR THE PROJECT.
  - ALL WORK AND/OR MATERIALS WHICH DO NOT CONFORM TO THE CITY OF VENICE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
  - ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE ENGINEER AND THE CITY OF VENICE IS SUBJECT TO RE-EXCAVATION, REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT ON THE PROJECT AT ALL TIMES DURING CONSTRUCTION TO SATISFY THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO COMPLETE WORK.
  - THE CONTRACTOR SHALL PROVIDE ACCESS TO THE SITE AT ALL TIMES FOR INSPECTION BY THE CITY OF VENICE, THEIR DESIGNEE, THE ENGINEER, AND REGULATORY AGENCIES TO OBSERVE PROJECT CONSTRUCTION.
  - ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH AT ALL TIMES DURING THE PROGRESS OF THE PROJECT.
  - THE CONTRACTOR SHALL UTILIZE APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BALES) DURING ALL PHASES OF CONSTRUCTION AND GRADING. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE "NOTICE OF INTENT" AND "NOTICE OF TERMINATION" IN COMPLIANCE WITH NPDES PERMIT REQUIREMENT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORMWATER POLLUTION PREVENTION PLAN.
  - IN THE EVENT THAT A HARD LIMESTONE FORMATION IS ENCOUNTERED, MAKING IT IMPOSSIBLE TO EXCAVATE TO THE DEPTH REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR MAY BE ALLOWED TO REDUCE THE PIPE COVER TO NOT LESS THAN THIRTY (30) INCHES WHILE MAINTAINING THE REQUIRED THICKNESS OF BEDDING UNDER THE PIPE. SUCH DEVIATION FROM THE PLANS MUST BE APPROVED BY THE CITY OF VENICE AND THE ENGINEER PRIOR TO ANY CONSTRUCTION THAT DEVIATES FROM THE CONTRACT DOCUMENTS. IF A MINIMUM OF TWO FEET OF COVER CAN NOT BE ATTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHODS OF CONSTRUCTION, OR PIPE PROTECTION, WHICH SHALL FIRST BE APPROVED BY THE CITY OF VENICE AND THE ENGINEER, AT NO ADDITIONAL COST TO THE CITY.
  - ANYTHING NOT SHOWN ON THESE DRAWINGS, DISCOVERED BY THE CONTRACTOR, SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER, AND SHALL NOT CONSTITUTE AN EXTRA UNLESS APPROVED BY THE ENGINEER AND THE CITY OF VENICE.
  - THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY CONCERNING ANY CONFLICTS WITH UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.
  - TRAFFIC MUST BE MAINTAINED AT ALL TIMES PER SARASOTA COUNTY DEPARTMENT OF TRANSPORTATION (SCDOT) AND PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  - ALL PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, AND OTHER IMPROVEMENTS, REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND/OR REPAIRED WITH SAME TYPE AND QUALITY OF MATERIAL AT THE CONTRACTOR'S EXPENSE UNLESS DIRECTED OTHERWISE BY THE CITY OF VENICE AND THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION TO ITS ORIGINAL CONDITION, OR BETTER.
  - WITHIN THE FDOT RIGHT-OF-WAY, ALL DISTURBED AREAS SHALL BE SOODED IN ACCORDANCE WITH FDOT SPECIFICATIONS. AREAS THAT ARE CLASSIFIED AS DRAINAGE DITCHES SHALL RECEIVE SOD. ANY OTHER UNIMPROVED AREAS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION.

- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
- THE CONTRACTOR SHALL ENSURE THAT ALL FRAMES, COVERS VALVE BOXES, METER BOXES AND MANHOLES, WHETHER EXISTING OR INSTALLED AS PART OF THIS PROJECT, ARE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF GRADING, PAVING OR RELATED CONSTRUCTION. ALL VALVE PADS SHALL BE POURED IN PLACE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (EXPOSED OR UNEXPOSED) THAT MAY BE IMPACTED BY THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING POWER/TELEPHONE COMPANIES AND ARRANGING TO HAVE UTILITIES POLES HELD AND/OR GUY WIRES REMOVED AND REPLACED, IF NECESSARY FOR CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITIES NEAR THE PROJECT AREA AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE NOTIFYING SUNSHINE STATE ONE CALL (811).
- FDOT IS CONSTRUCTING INTELLIGENT TRANSPORTATION SYSTEM FACILITIES IN THE I-75 RIGHT OF WAY. THE CONTRACTOR SHALL CONTACT FDOT REGARDING THE FACILITY LOCATIONS. FDOT IS NOT A MEMBER OF SUNSHINE STATE ONE CALL.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY.
- THE CONTRACTOR SHALL BE FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND TO ABIDE BY THEM AS COVERED UNDER THE FLORIDA TRENCH SAFETY ACT.

LEGEND

○ = 5/8"x 18" IRON ROD SET "LB#043"  
 ◻ = FOUND CHISEL SQUARE  
 ⊙ = BENCH MARK

— = RIGHT-OF-WAY  
 --- = PROPERTY LINE  
 - - - = EDGE OF PAVEMENT  
 - · - · = EDGE OF WALK/CONCRETE (OR PAVER BRICK WALK)  
 - · - · - · = BURIED TELEVISION  
 - · - · - · - · = BURIED FIBER OPTIC  
 - · - · - · - · - · = BURIED TELEPHONE  
 - · - · - · - · - · - · = BURIED ELECTRIC  
 - · - · - · - · - · - · - · = OVERHEAD ELECTRIC  
 - · - · - · - · - · - · - · - · = GAS MAIN  
 - · - · - · - · - · - · - · - · - · = SANITARY SEWER  
 - · - · - · - · - · - · - · - · - · - · = FORCE MAIN  
 - · - · - · - · - · - · - · - · - · - · - · = STORM DRAIN  
 - · - · - · - · - · - · - · - · - · - · - · - · = RECLAIMED WATER MAIN  
 - · - · - · - · - · - · - · - · - · - · - · - · - · = WATER MAIN  
 - · - · - · - · - · - · - · - · - · - · - · - · - · - · = BURIED SIGNAL  
 - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · = PROPOSED WATER MAIN (OPEN CUT)  
 - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · = PROPOSED WATER MAIN (HDD)  
 - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · - · = TOP OF BANK

⊠ = TRAFFIC CONTROL BOX  
 ⊡ = IRRIGATION CONTROL BOX  
 ⊙ = SPRINKLER HEAD  
 ⊙ = MONITOR WELL  
 ⊙ = FIRE HYDRANT  
 ⊙ = METER POLE  
 ⊙ = YARD DRAIN  
 ⊙ = FLOOD LIGHT  
 ⊙ = SIGN  
 ⊙ = TELEVISION CABLE RISER  
 ⊙ = TELEPHONE RISER/METER  
 ⊙ = TELEPHONE MANHOLE  
 ⊙ = GAS RISER/METER  
 ⊙ = ELECTRICAL PANEL  
 ⊙ = ELECTRIC MANHOLE  
 ⊙ = ELECTRICAL HAND HOLE  
 ⊙ = ELECTRICAL TRANSFORMER PAD  
 ⊙ = ELECTRIC RISER  
 ⊙ = LIGHT POST  
 ⊙ = TRAFFIC LIGHT POLE  
 ⊙ = UTILITY POLE  
 ⊙ = CONCRETE UTILITY POLE  
 ⊙ = GUY ANCHOR  
 ⊙ = PEDESTRIAN CROSSING  
 ⊙ = MAIL BOX

⊠ = STORM INLET  
 ⊙ = STORM MANHOLE  
 ⊙ = SANITARY MANHOLE  
 ⊙ = CLEAN OUT  
 ⊙ = VALVE BOX  
 ⊙ = METER  
 ⊙ = FIRE DEPT CONNECTION  
 ⊙ = LIGHT POLE  
 ⊙ = PROPOSED GATE VALVE  
 ⊙ = PROPOSED REDUCER  
 ⊙ = PROPOSED FIRE HYDRANT ASSEMBLY  
 ⊙ = PROPOSED AIR RELEASE VALVE

×22.22 DENOTES AN ELEVATION IN FEET WITH THE X BEING THE LOCATION OF THE ELEVATION  
 ⊗ ⊗ WETLAND/OSW

⊙10" = AUSTRALIAN PINE  
 ⊙10" = BANYON  
 ⊙10" = BRAZILIAN PEPPER  
 ⊙10" = BAY  
 ⊙10" = CHINABERRY  
 ⊙10" = CEDAR  
 ⊙10" = CITRUS  
 ⊙10" = ELM  
 ⊙10" = FIG TREE  
 ⊙10" = LOQUAT  
 ⊙10" = MAPLE  
 ⊙10" = MYRTLE  
 ⊙10" = OAK  
 ⊙10" = ORNAMENTAL  
 ⊙10" = PALM  
 ⊙10" = PINE  
 ⊙10" = PUNK  
 ⊙10" = ROSEWOOD

⊙ = SHRUB  
 ⊙10" = UNKNOWN  
 ⊙10" = WILLOW

VVH UTILITY LOCATIONS (VERIFICATION OF VERTICAL & HORIZONTAL) (FIELD DATE: 05/29/14) -SUE NOTES (TRUCK 117, BOOK 716)

VVH NUMBER	UTILITY TYPE	TOP UTILITY ELEVATION	UTILITY DESCRIPTION	LOCATION	VVH NUMBER
101	10" PVC WM (BLUE) (CITY OF VENICE)	11.8'	WATER MAIN	N=1014013.33, E=525633.16	101
102	4" PVC FDC (GREY) (VERIZON)	10.8'	VERIZON	N=1014011.24, E=525668.67	102
103	LINK SIZE PVC ROW (WHITE) (CITY OF VENICE)	10.5'	RECLAIMED WATER	N=1014011.41, E=525667.75	103
104	18" RCP (STORM DRAIN)	11.0'	STORM DRAIN	N=1014014.59, E=525588.34	104
105	4" PVC BT #2 (PINK) (VZ)	10.5'	VERIZON	N=1013996.85, E=525744.07	105
106	BT (BURIED TELEPHONE) (VERIZON)	3.7'±	VERIZON	N=1013989.64, E=528331.88	106
107	LINK SIZE STEEL GAS MAIN (TECO)	5.7'±	TECO	N=1014053.41, E=529189.40	107
108	DEBURRED ELECTRIC DUCT RUN (FPL) (COULD NOT VERIFY DEPTH)	10.2'	FPL	N=1014052.83, E=529795.83	108
109	10" PVC SANITARY FORCE MAIN (CITY OF VENICE)	11.3'±	FORCE MAIN	N=1014083.76, E=531110.90	109
110	ROW (CITY OF VENICE)	8.8'±	BRINE LINE	N=1014083.93, E=531125.85	110
111	24" WM (CITY OF VENICE)	9.0'±	WATER MAIN	N=1014083.67, E=531132.30	111
112	LINK	11.2'±	UNKNOWN	N=1014084.08, E=531118.25	112
113	10" PVC WM (BLUE) (CITY OF VENICE)	12.0'	WATER MAIN	N=1014022.17, E=525211.90	113

(\*INDICATES ELECTRONIC DISTANCE. COULD NOT VERIFY)

ENVIRONMENTAL PROTECTION  
 FLORIDA  
**EXEMPT**  
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 58-0330908-001

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SHEET 4 SHEET 5 SHEET 6 SHEET 7/8 SHEET 9/10 SHEET 11/12 SHEET 13 SHEET 14 SHEET 15 SHEET 16 SHEET 17 SHEET 18 SHEET 19

0+00 5+00 10+00 15+00 20+00 25+00 30+00 35+00 40+00 45+00 50+00 55+00 60+00 65+00

NORTH AUBURN ROAD

INTERSTATE 75

CLERMONT ROAD

BORDER ROAD

JACARANDA BLVD

Revision	By	Appd.	YY.MM.DD

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Permit-Seal  
STEPHEN C. MACEACHERN, P.E.  
FLORIDA LICENSE No. 76020

11/17/14  
Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION  
VENICE, FL

Title  
KEY SHEET

Project No. 177310466	Scale 1"=250'
Drawing No.	Sheet 3 of 28
Revision 0	



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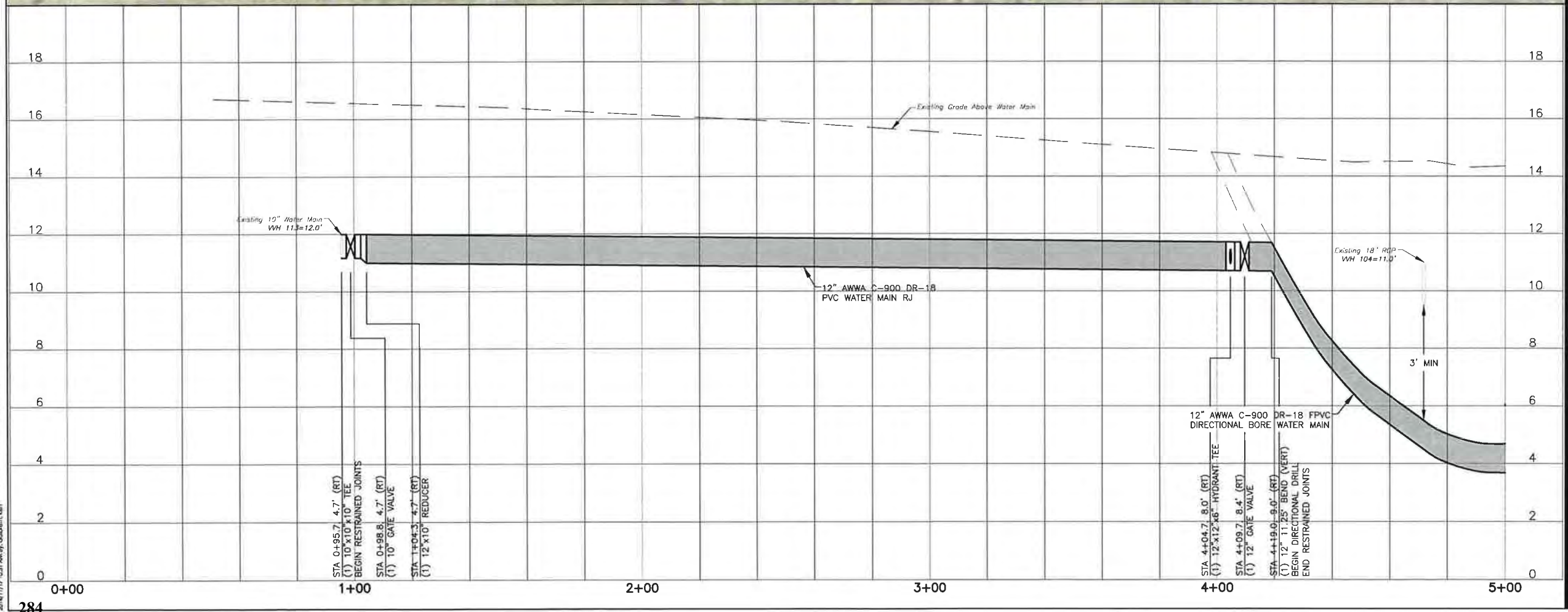
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Notes

- THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
- 6" TEE TO BE CUT IN. PVC SPOOL PIECE TO BE INSTALLED WITH CAST IRON COMPRESSION REPAIR SLEEVE.
- A TEMPORARY JUMPER TO BE USED AT CONNECTION. (SEE DETAIL SHEET 24)
- 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.



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Client/Project  
CITY OF VENICE  
BORDER ROAD WATER MAIN CONSTRUCTION  
VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 0+00 TO 5+00

Project No. 177310466  
Scale 1"=20'

Drawing No. 4 of 28  
Sheet 0  
Revision



284 ORIGINAL SHEET - A&D



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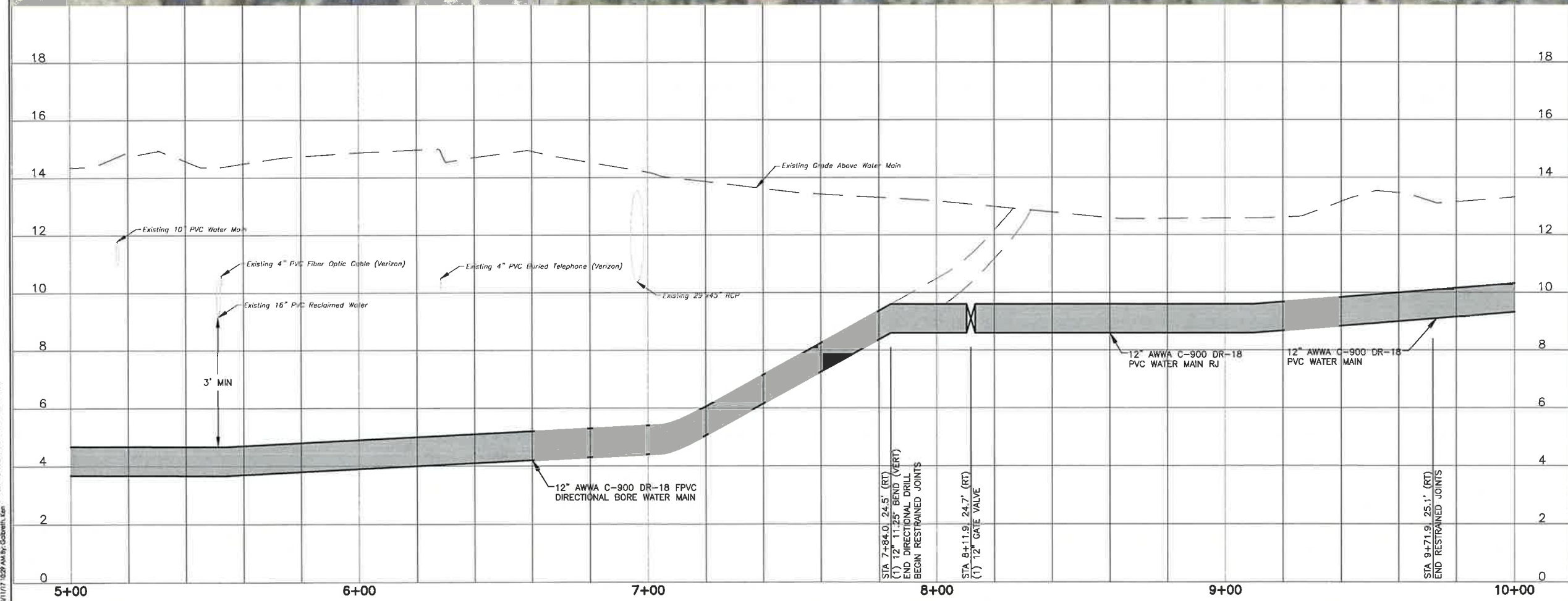
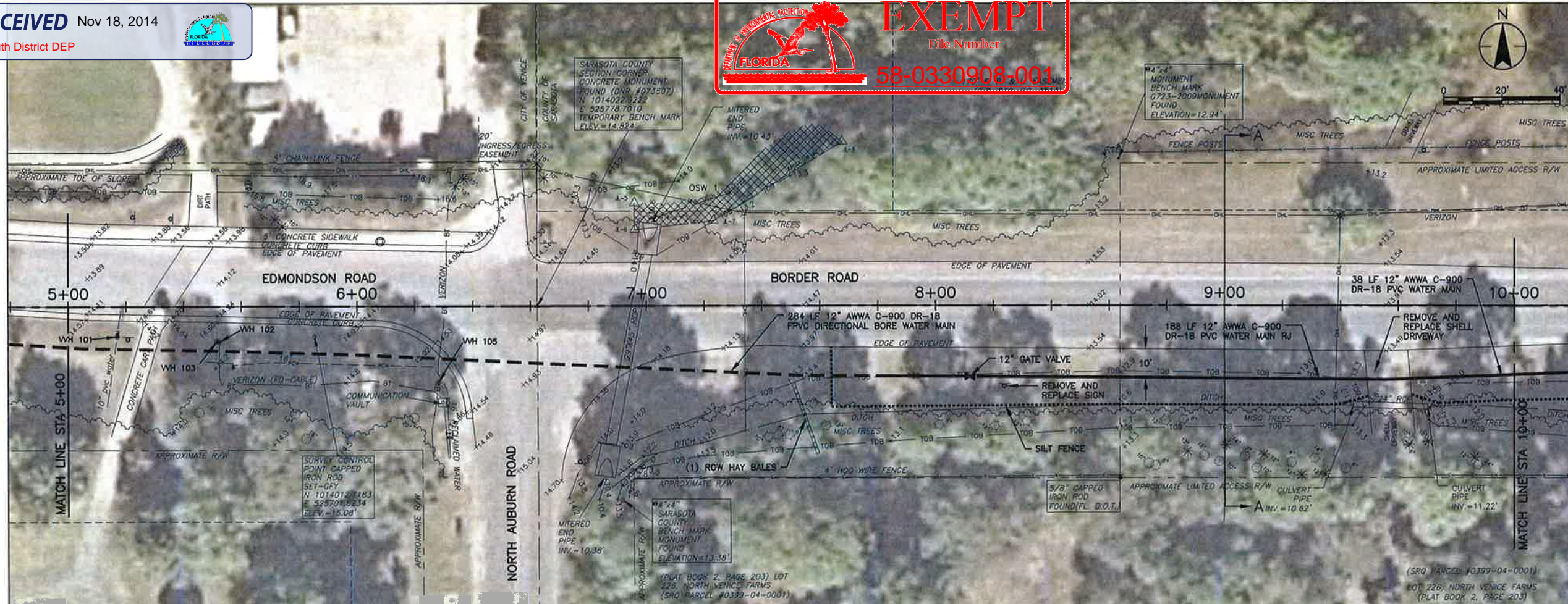
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Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN REVISION  
VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 5+00 TO 10+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet 5 of 28 Revision 0

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Notes

1. THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
2. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.
3. DEFLECT MAIN UNDER EXISTING VERIZON LINE.
4. THE CONTRACTOR SHALL CLEAR AND LEGALLY DISPOSE OF THE VEGETATION/BRUSH ENCOUNTERED IN THE DITCH WHERE THE WATER MAIN IS TO BE INSTALLED. THE DITCH SHALL BE RETURNED TO ITS PRECONSTRUCTION GRADE AND SODED OR SEEDED.

Revision By Appd. YJ.MJL.DD

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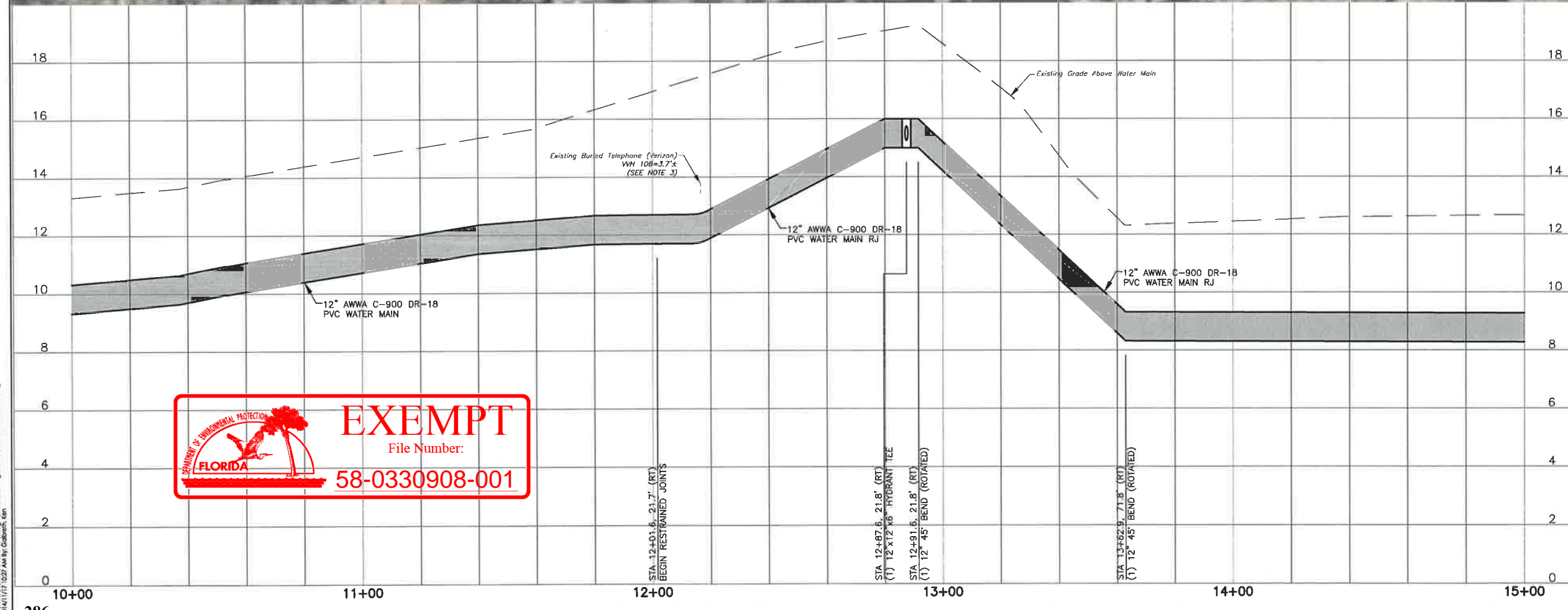
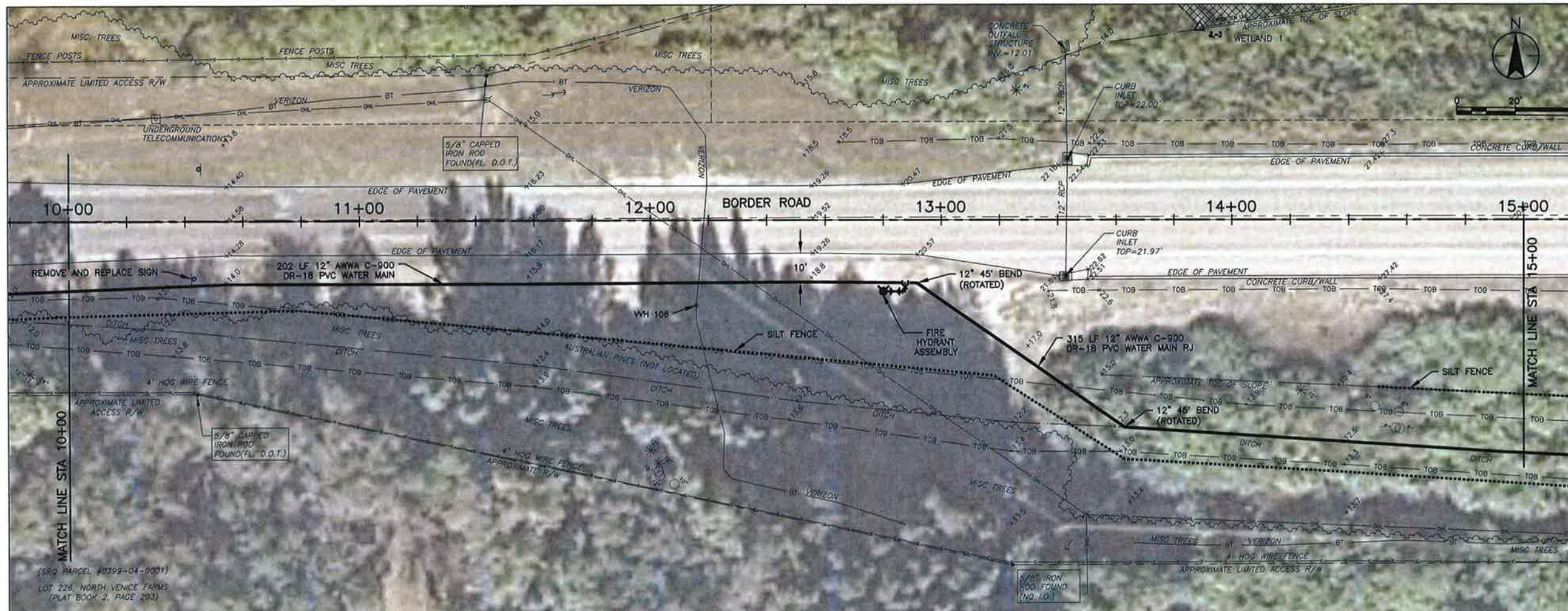
BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

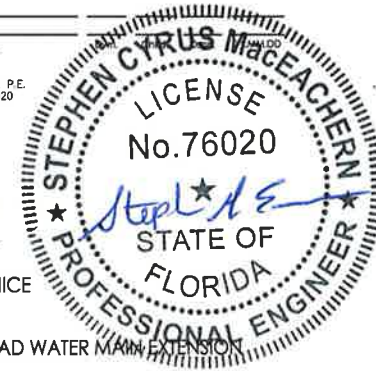
Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 10+00 TO 15+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet 6 of 28 Revision 0



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File Number:  
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Consultants

Legend

Notes

- 1. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.

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 CITY OF VENICE

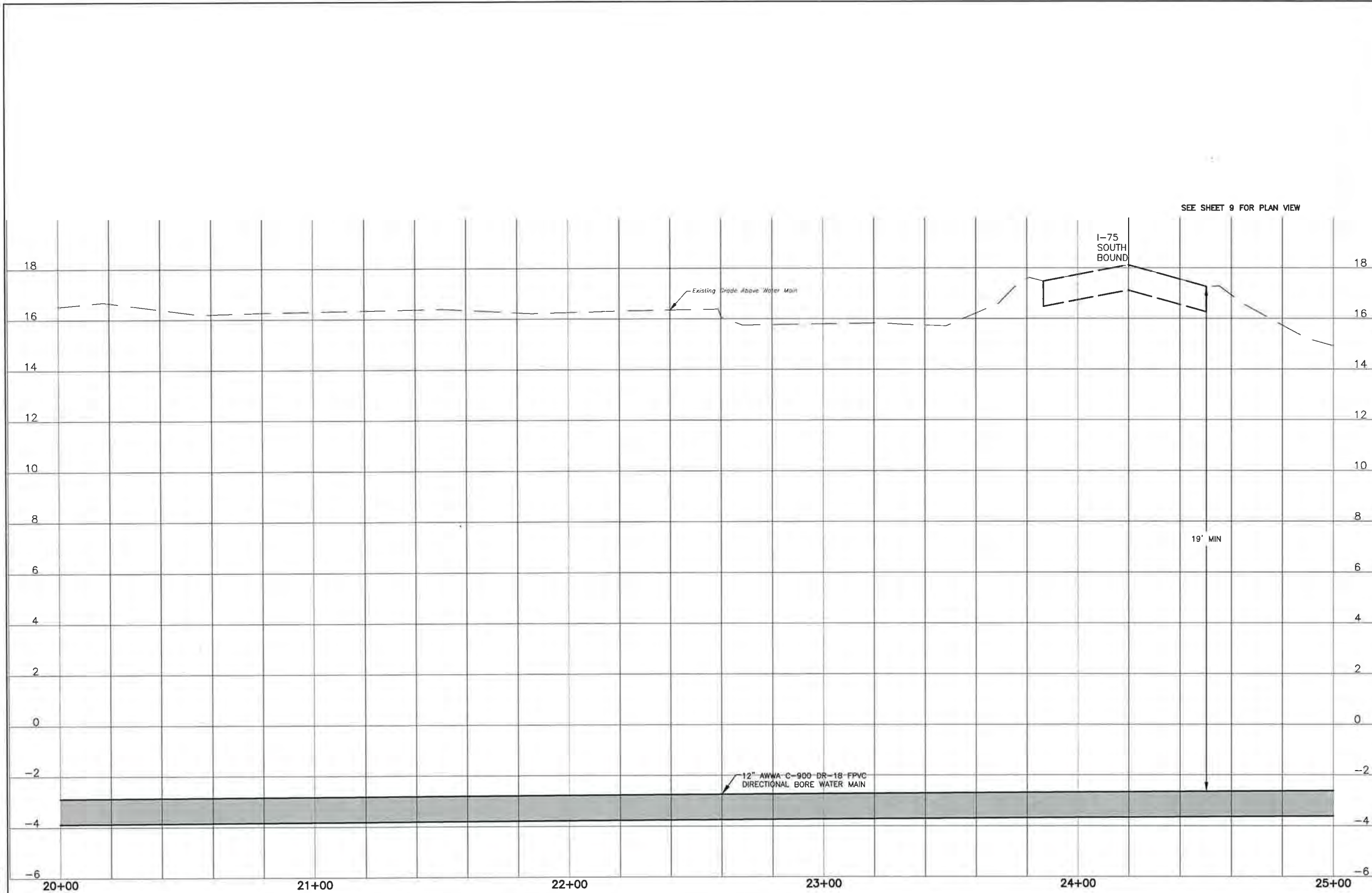
BORDER ROAD WATER MAIN/EXTENSION

VENICE, FL

Title  
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 PLAN  
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Project No. 177310466 Scale 1"=20'

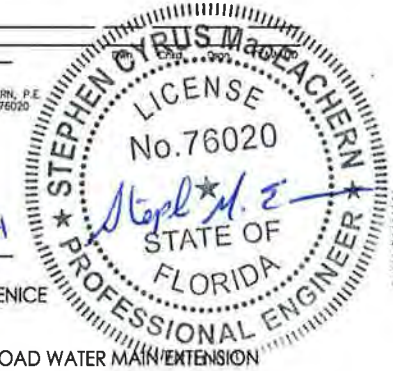
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1. THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
2. JACK AND BORE PLAN AND PROFILE SHOWN ON SHEET 20.
3. THE CONTRACTOR SHALL CLEAR AND LEGALLY DISPOSE OF THE VEGETATION/BRUSH ENCOUNTERED IN THE DITCH WHERE THE WATER MAIN IS TO BE INSTALLED. THE DITCH SHALL BE RETURNED TO ITS PRECONSTRUCTION GRADE AND SODDED OR SEEDED.

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CITY OF VENICE

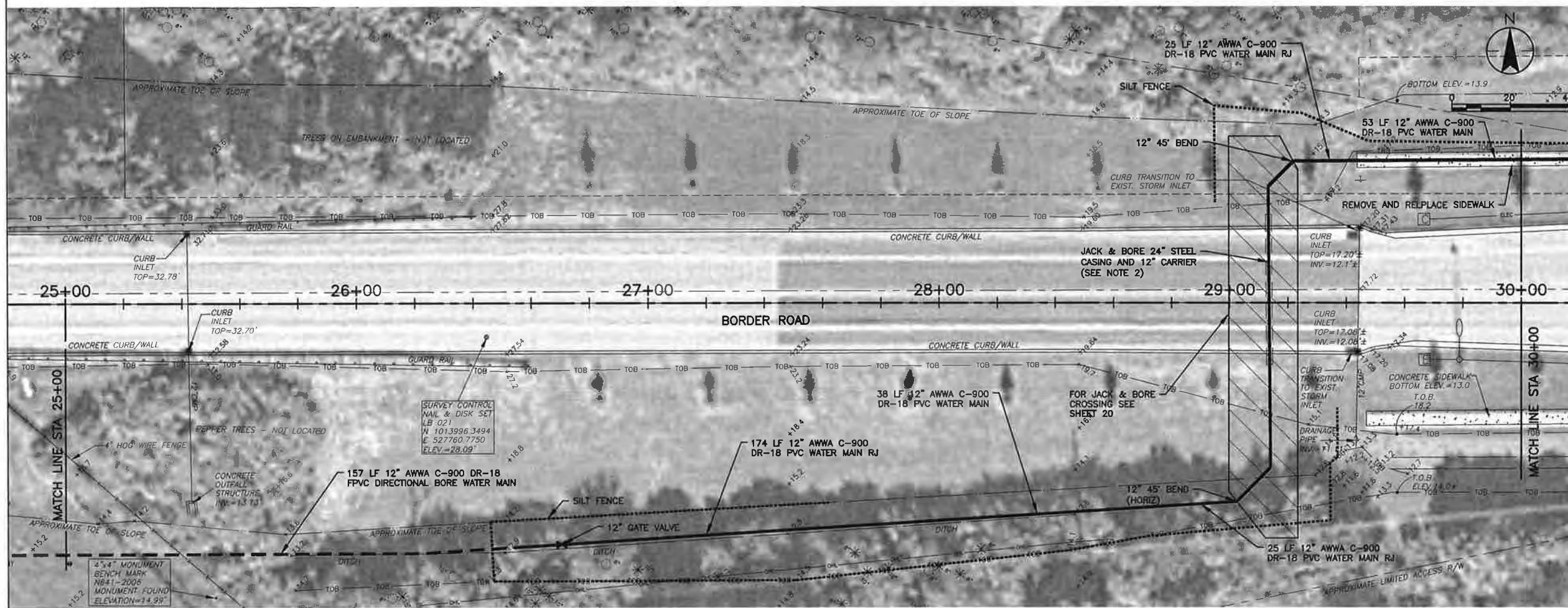
BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

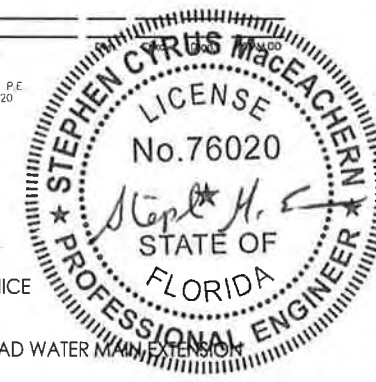
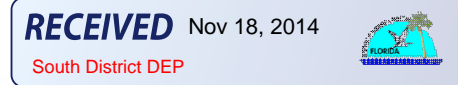
Title  
BORDER ROAD  
PLAN  
STA 25+00 TO 30+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet 11 of 28 Revision 0



SEE SHEET 12 FOR PROFILE



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Legend

Notes

- 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.

Revision \_\_\_\_\_ By \_\_\_\_\_ Appd \_\_\_\_\_ YY.MM.DD

Issued \_\_\_\_\_ By \_\_\_\_\_ Appd \_\_\_\_\_ YY.MM.DD

File Name: \_\_\_\_\_ Dwn \_\_\_\_\_

Permit-Seal  
 STEPHEN C. MACEACHERN, P.E.  
 FLORIDA LICENSE No. 76020

11/17/14

Client/Project  
 CITY OF VENICE

BORDER ROAD WATER MAIN SYSTEM

VENICE, FL

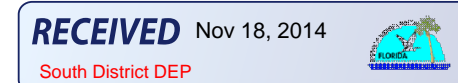
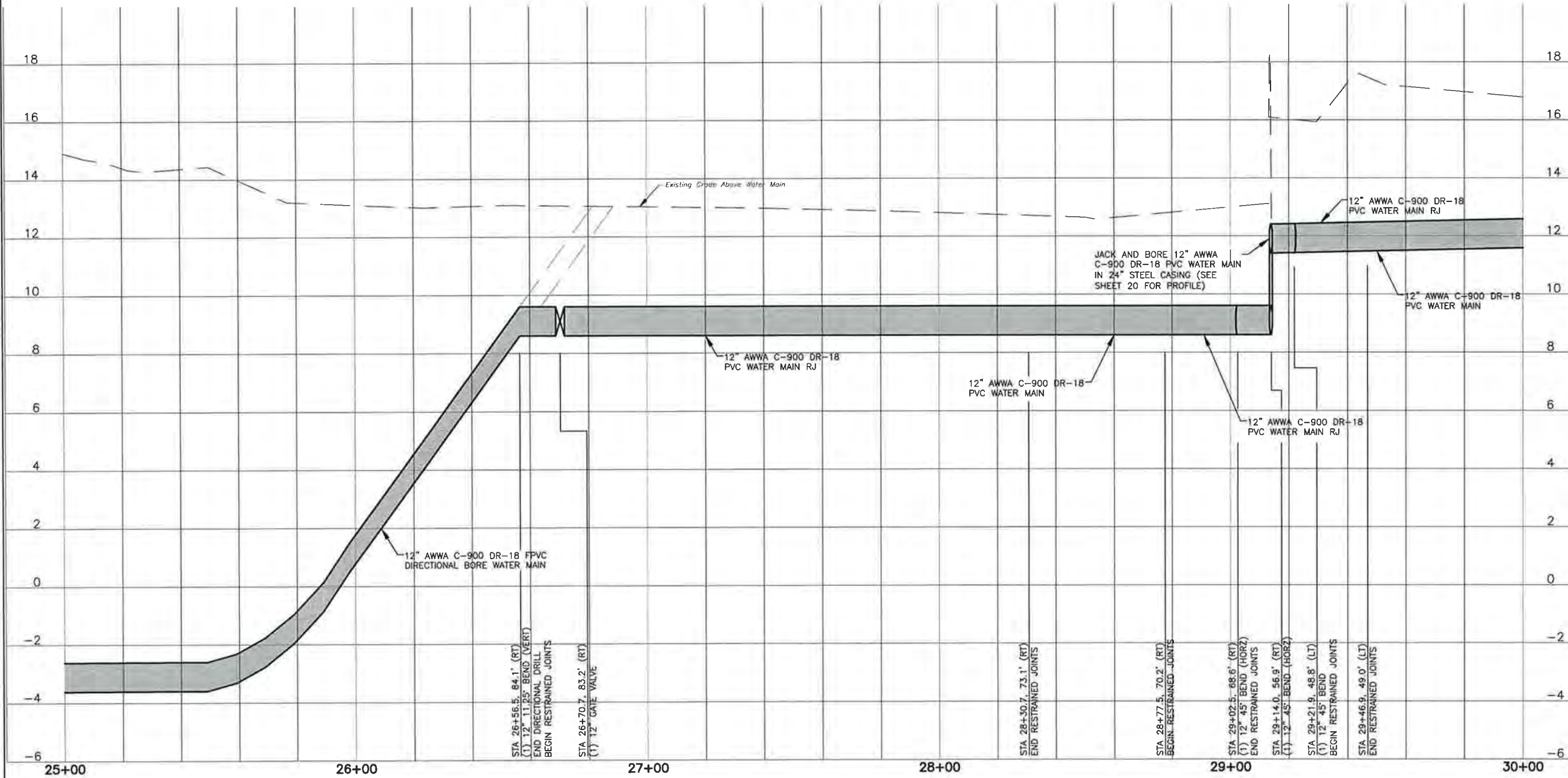
Title  
 BORDER ROAD  
 PROFILE  
 STA 25+00 TO 30+00

Project No. 177310466 Scale 1"=20'

Drawing No. \_\_\_\_\_ Sheet \_\_\_\_\_ Revision 0



SEE SHEET 11 FOR PLAN VIEW



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**58-0330908-001**

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Revision	By	Appd.	YY/MM/DD

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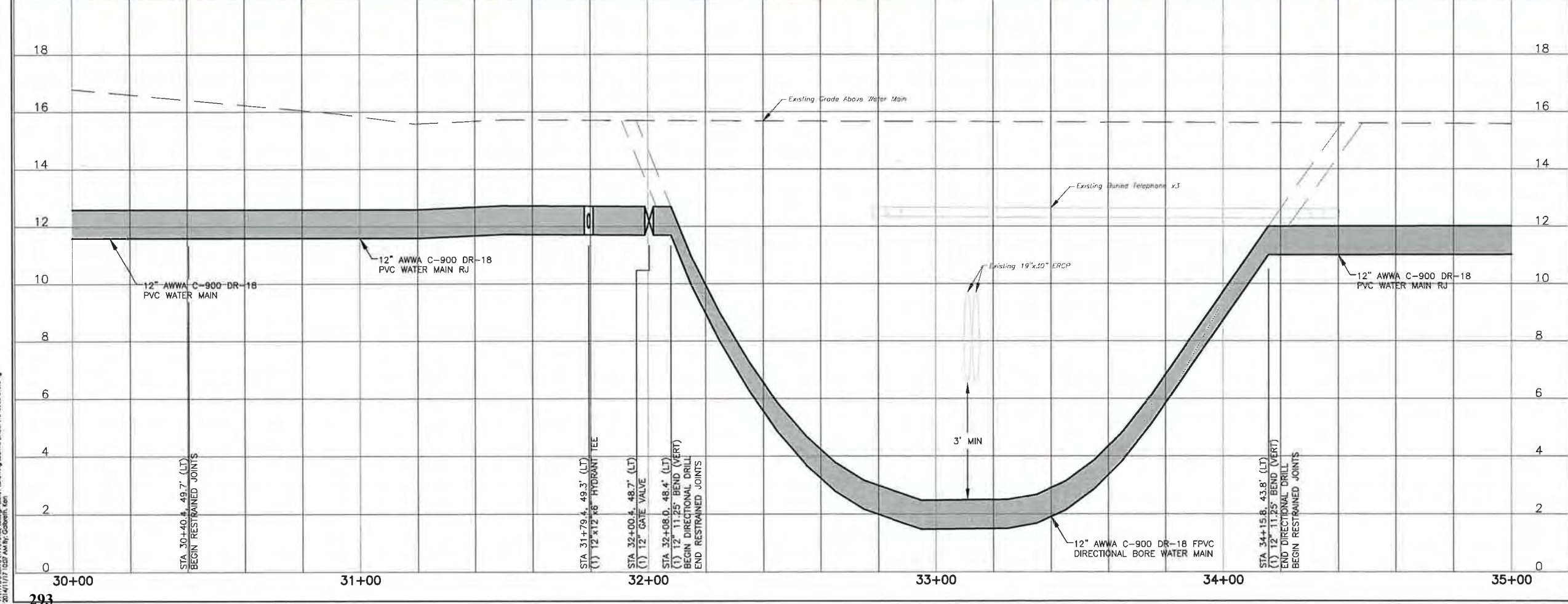
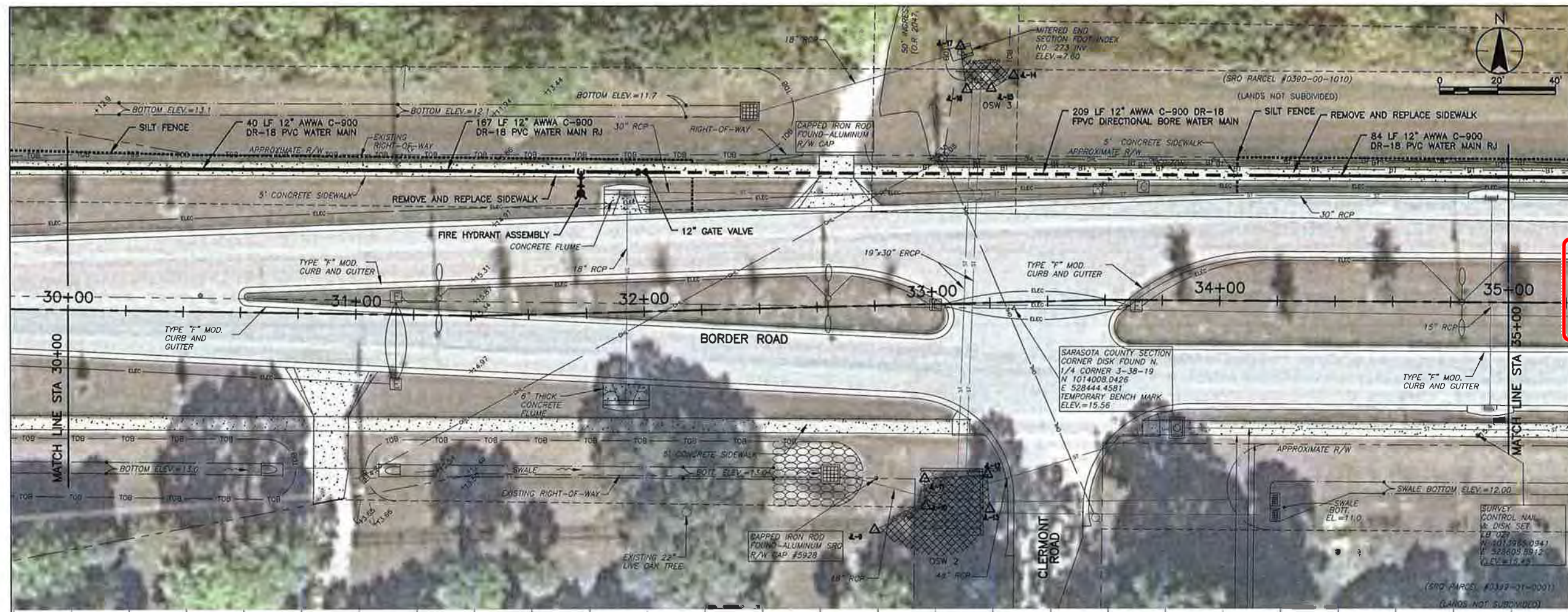
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11/17/14

Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN  
 VENICE, FL

Title  
 BORDER ROAD  
 PLAN AND PROFILE  
 STA 30+00 TO 35+00

Project No. 177310466  
 Drawing No. 293  
 Scale 1"=20'  
 Sheet 13 of 28  
 Revision 0



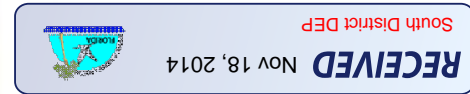
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2. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.

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File Name:

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 STEPHEN C. MacEACHERN  
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11/17/14

Client/Project  
 CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

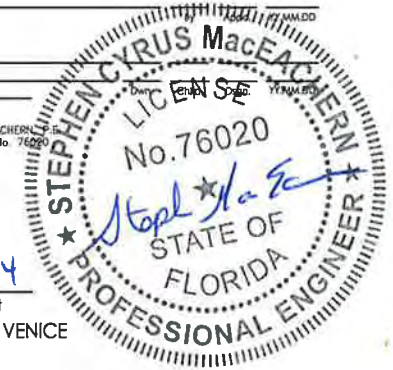
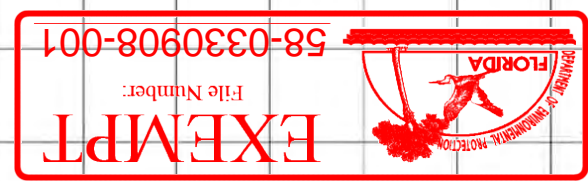
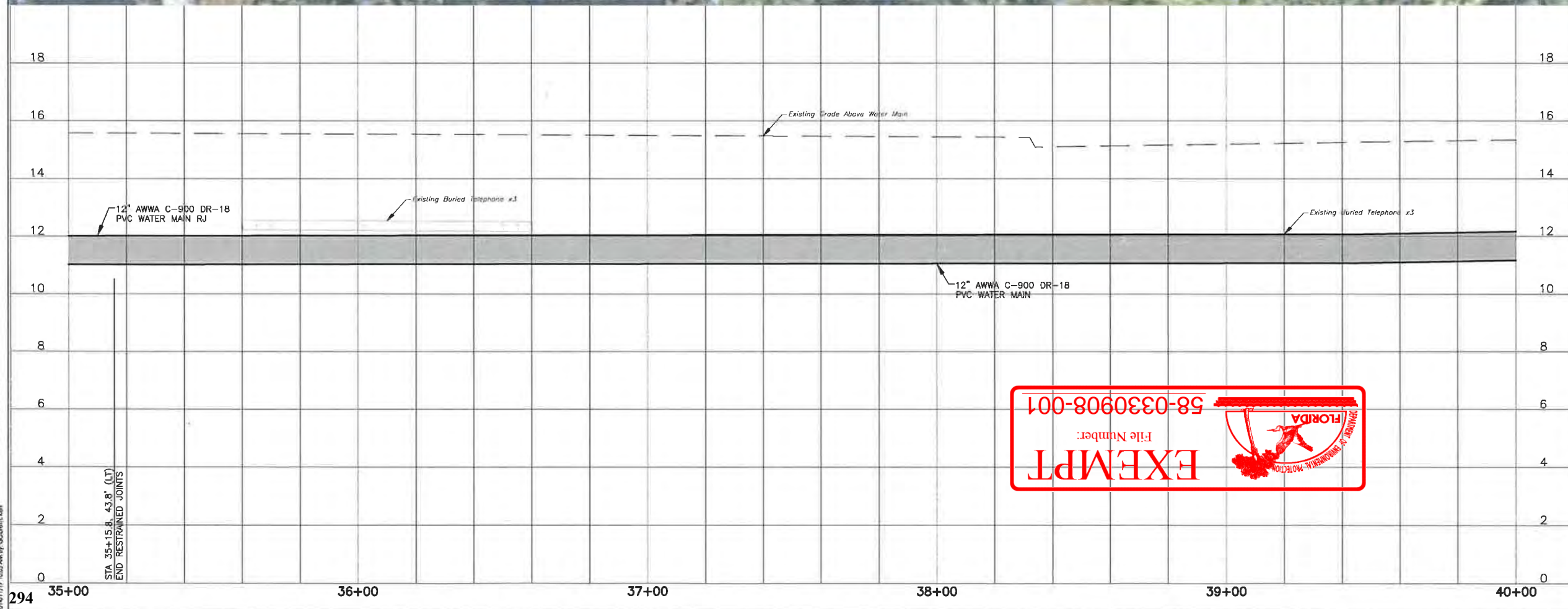
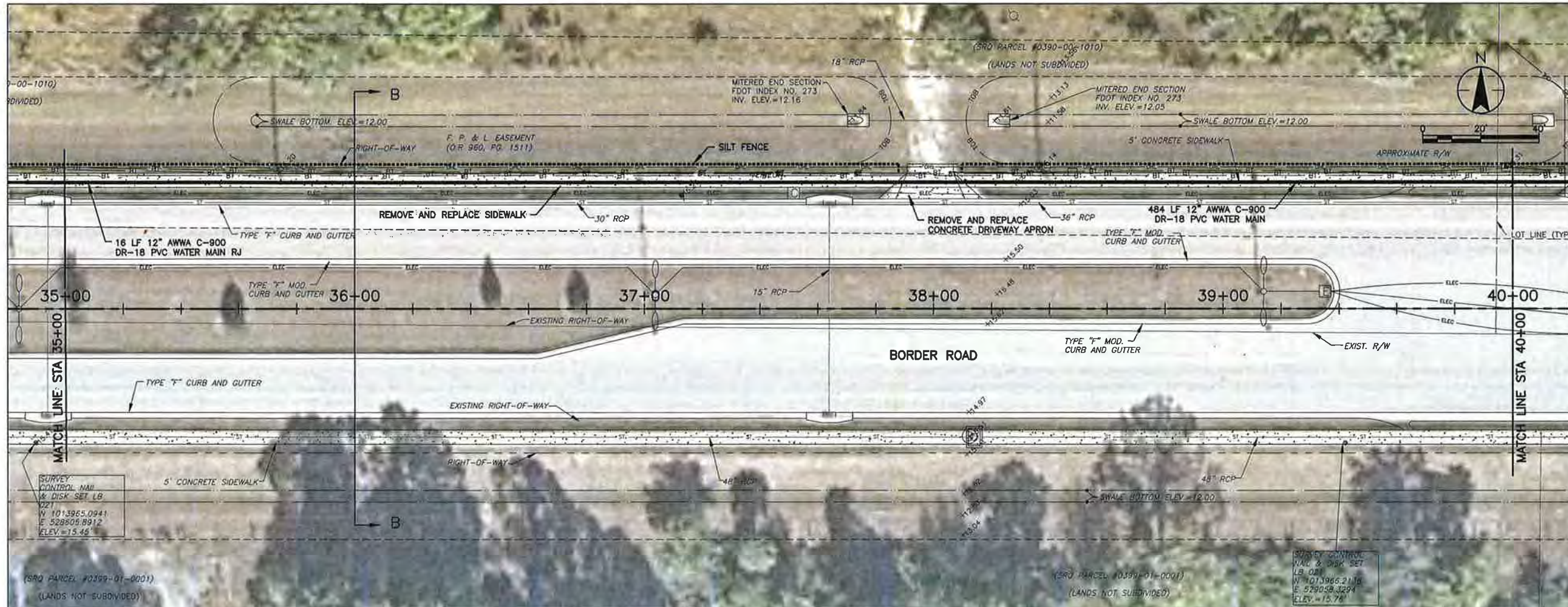
VENICE, FL

Title  
 BORDER ROAD  
 PLAN AND PROFILE  
 STA 35+00 TO 40+00

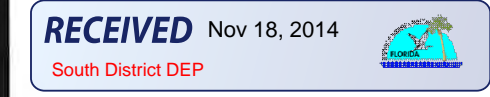
Project No. 177310466 Scale 1"=20'

Drawing No. Sheet Revision

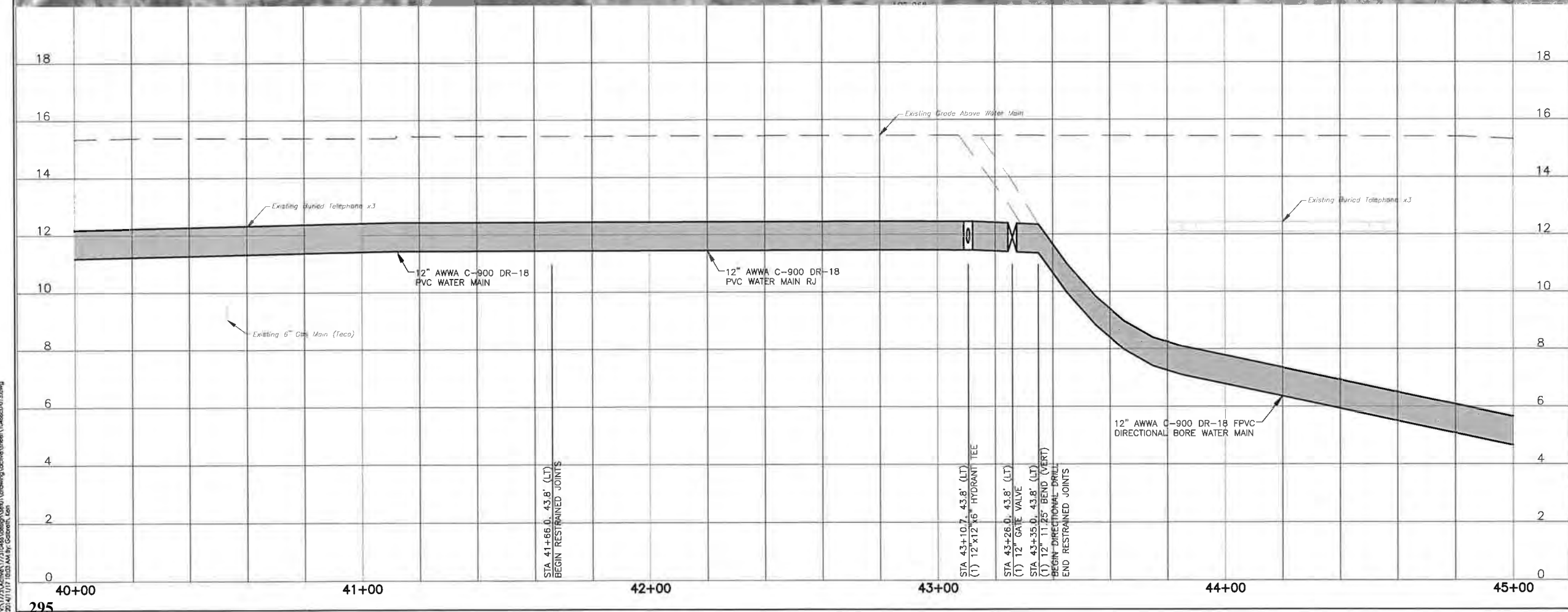
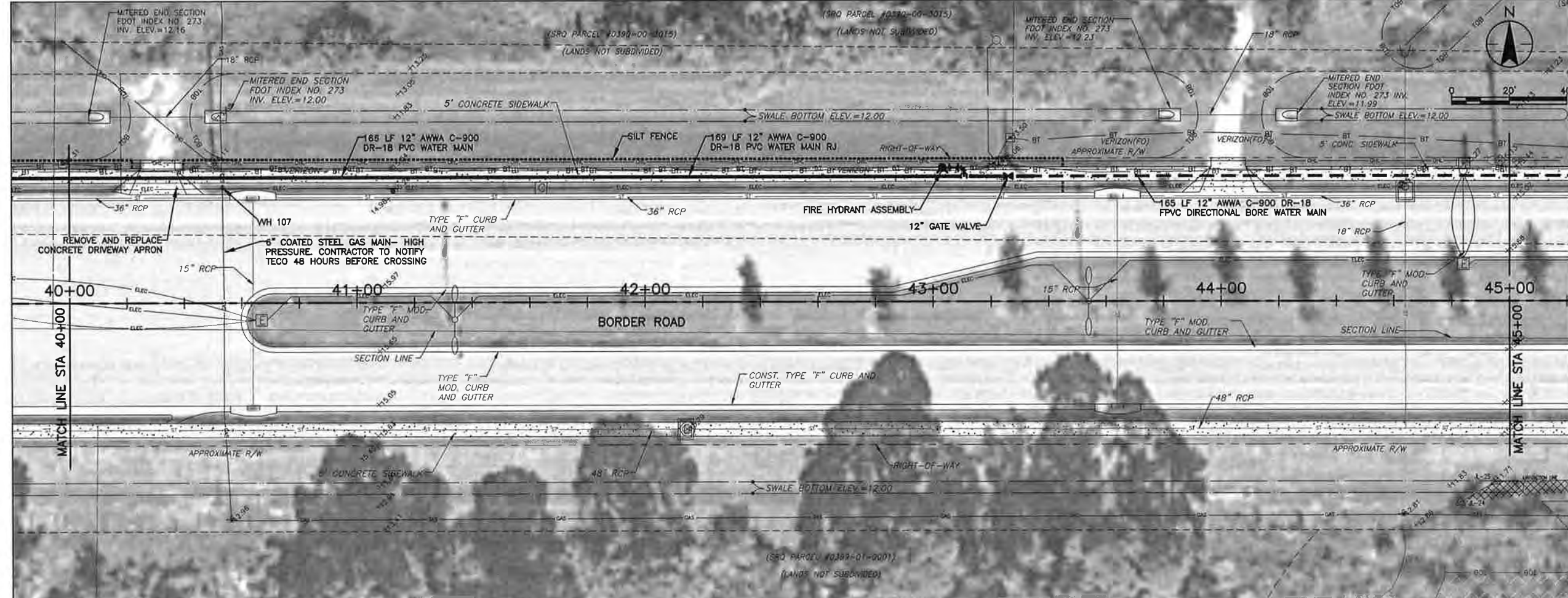
14 of 28 0



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 2014/11/17 10:52 AM BY: G020111



1. THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
2. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.
3. FIRE HYDRANT TO BE LOCATED BETWEEN BACK OF SIDEWALK AND R/W.



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11/17/14

Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 40+00 TO 45+00

Project No. 177310466	Scale 1"=20'
Drawing No. 15 of 28	Sheet 0
	Revision 

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Revision	By	Appd.	YY.MM.DD

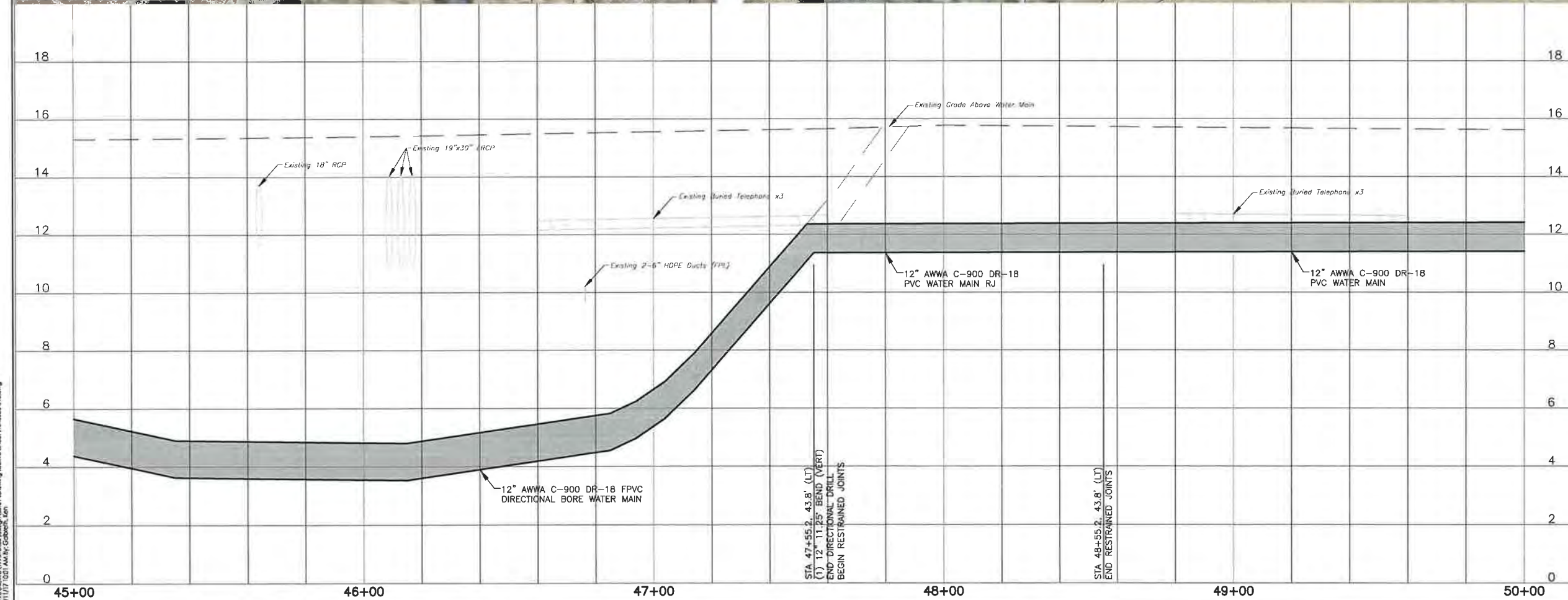
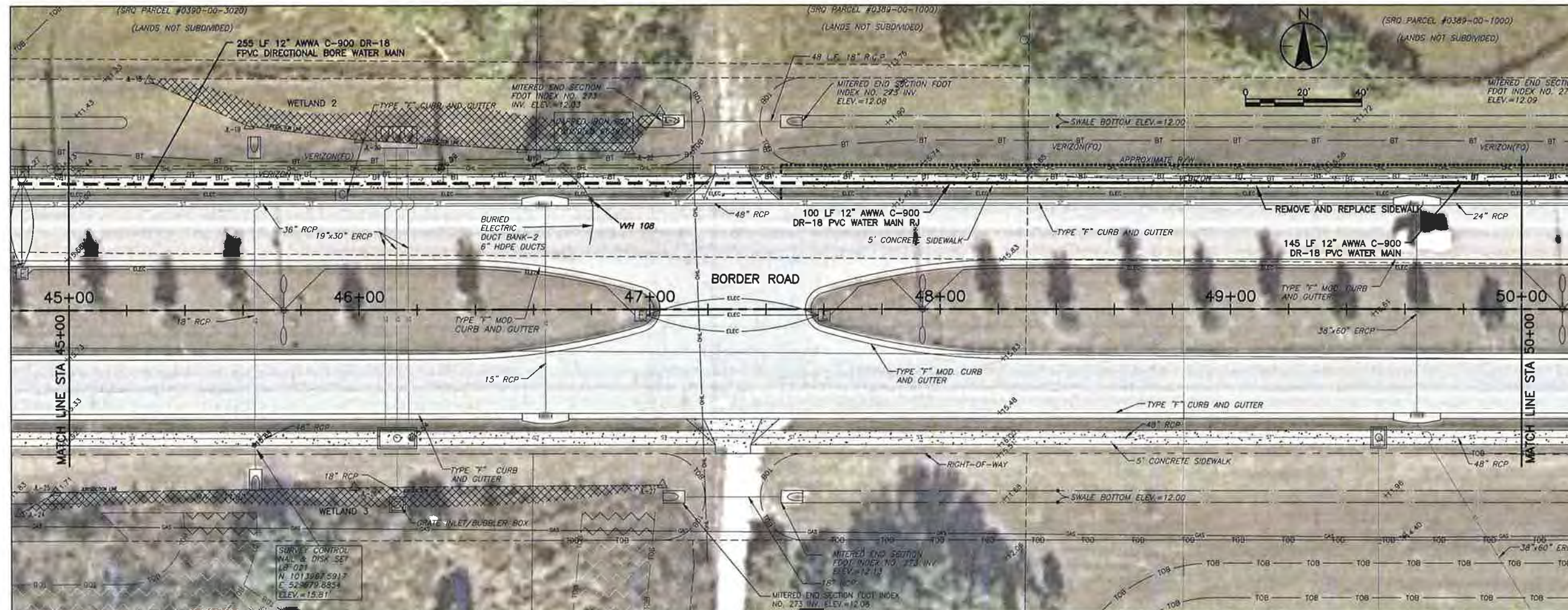
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11/17/14

Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN EXTENSION

VENICE, FL  
 Title  
 BORDER ROAD  
 PLAN AND PROFILE  
 STA 45+00 TO 50+00

Project No. 177310466 Scale 1"=20'  
 Drawing No. Sheet 16 of 28 Revision 0



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 2014/11/17 10:11 AM By: Gabeon, Ken





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Client/Project  
CITY OF VENICE

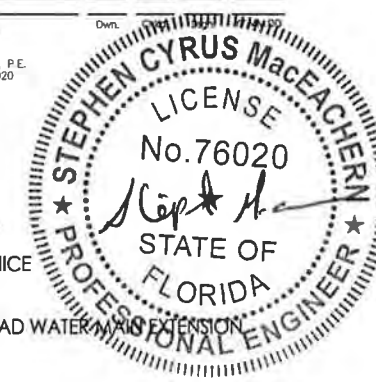
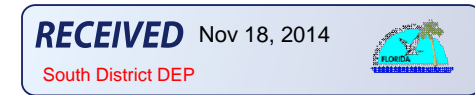
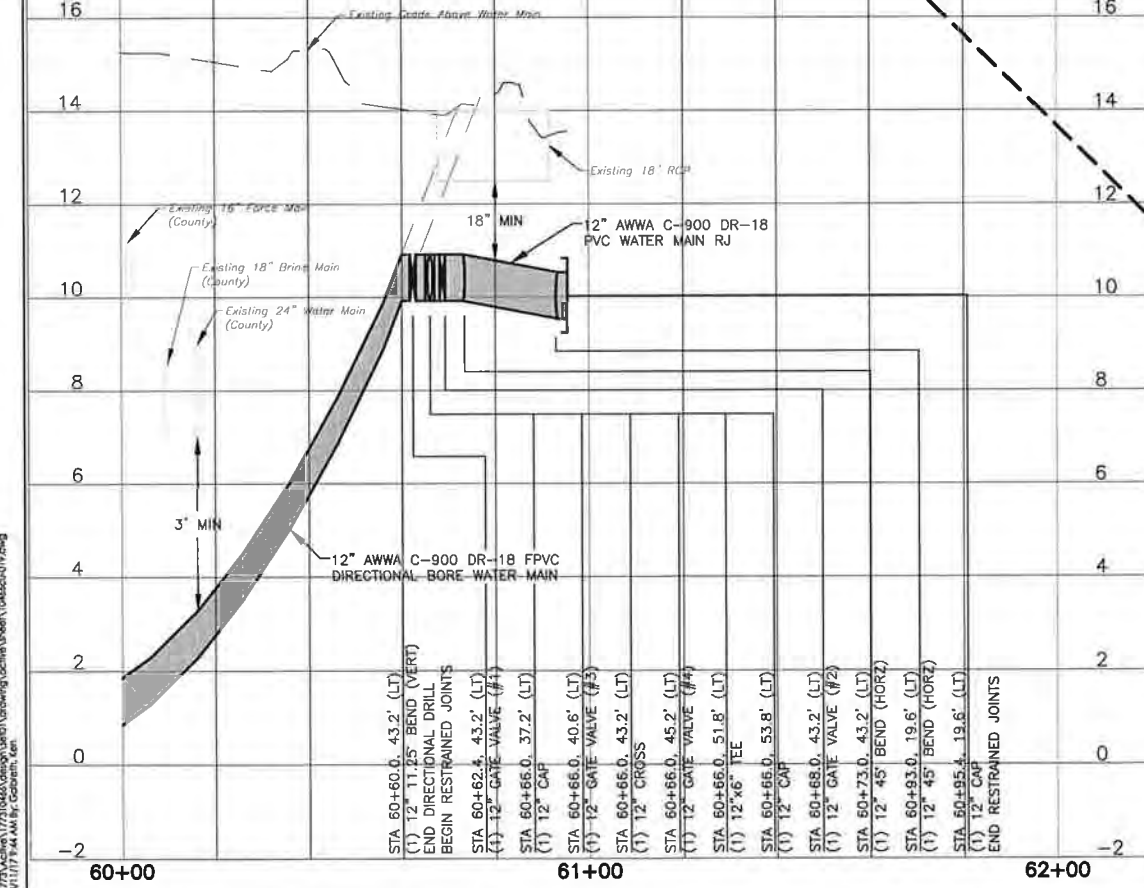
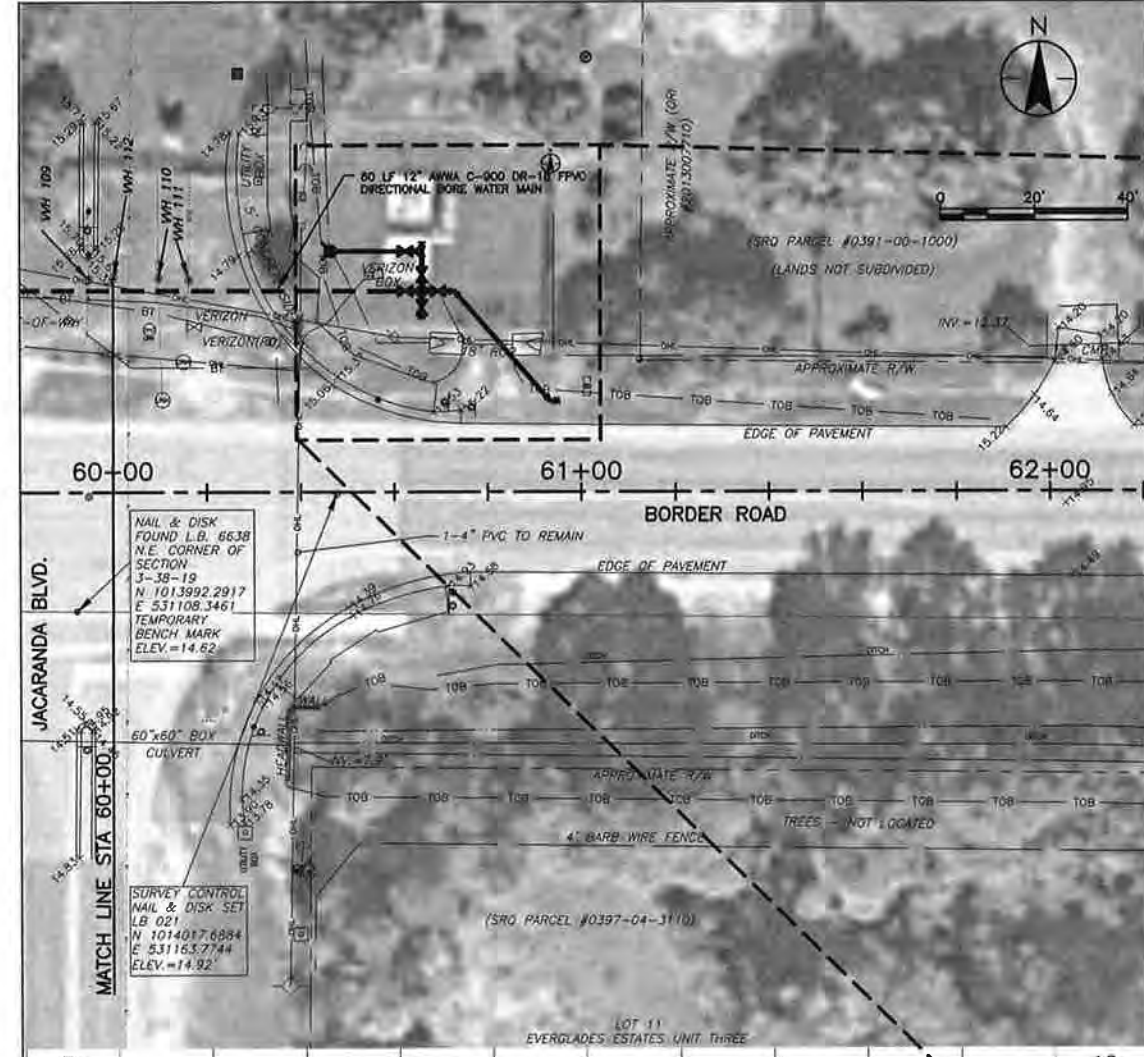
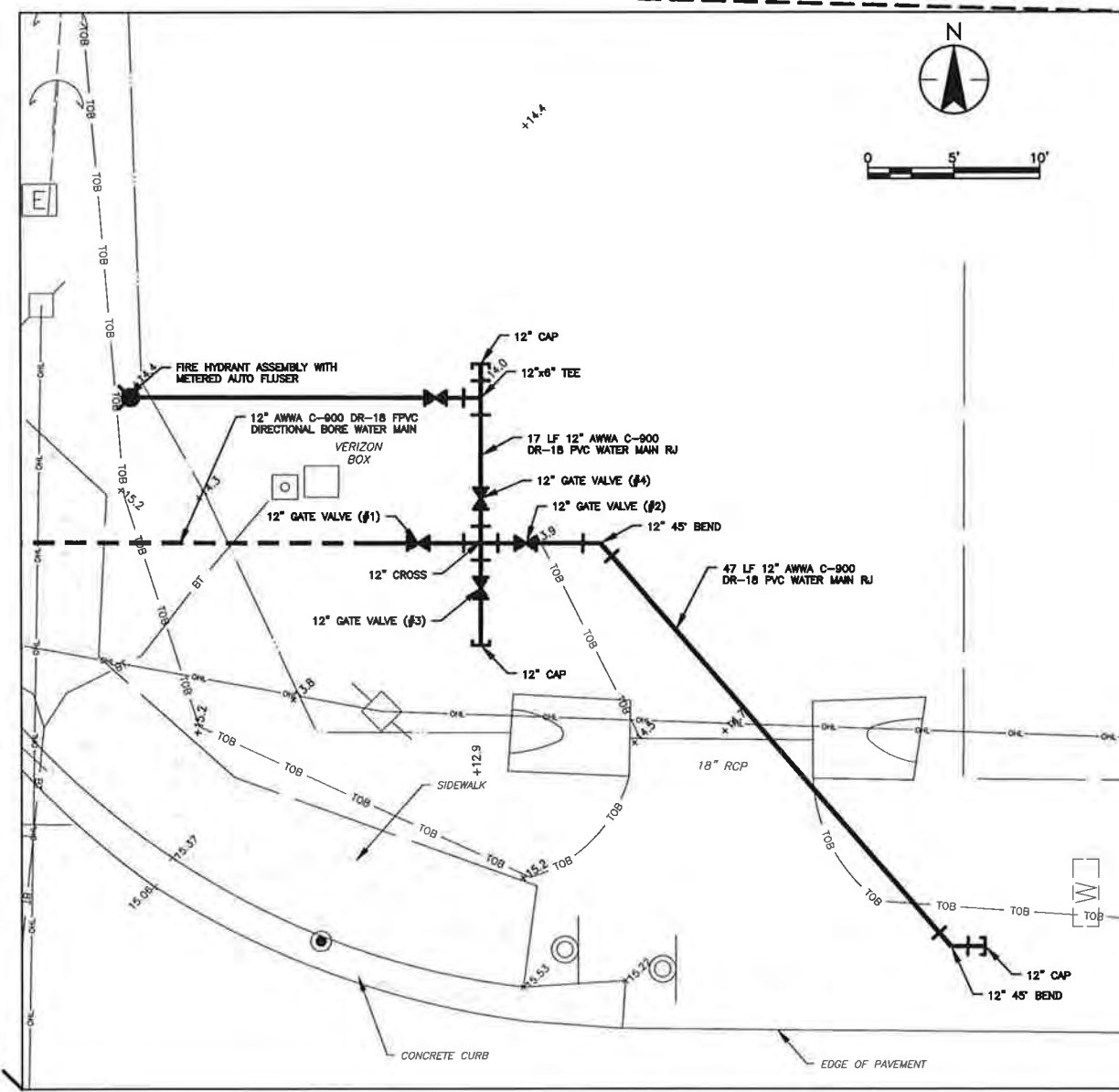
BORDER ROAD WATER MAINS EXTENSION

VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 60+00 TO 62+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet 19 of 28 Revision 0



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Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
BORDER ROAD  
JACK & BORE CROSSING  
AND SECTIONS

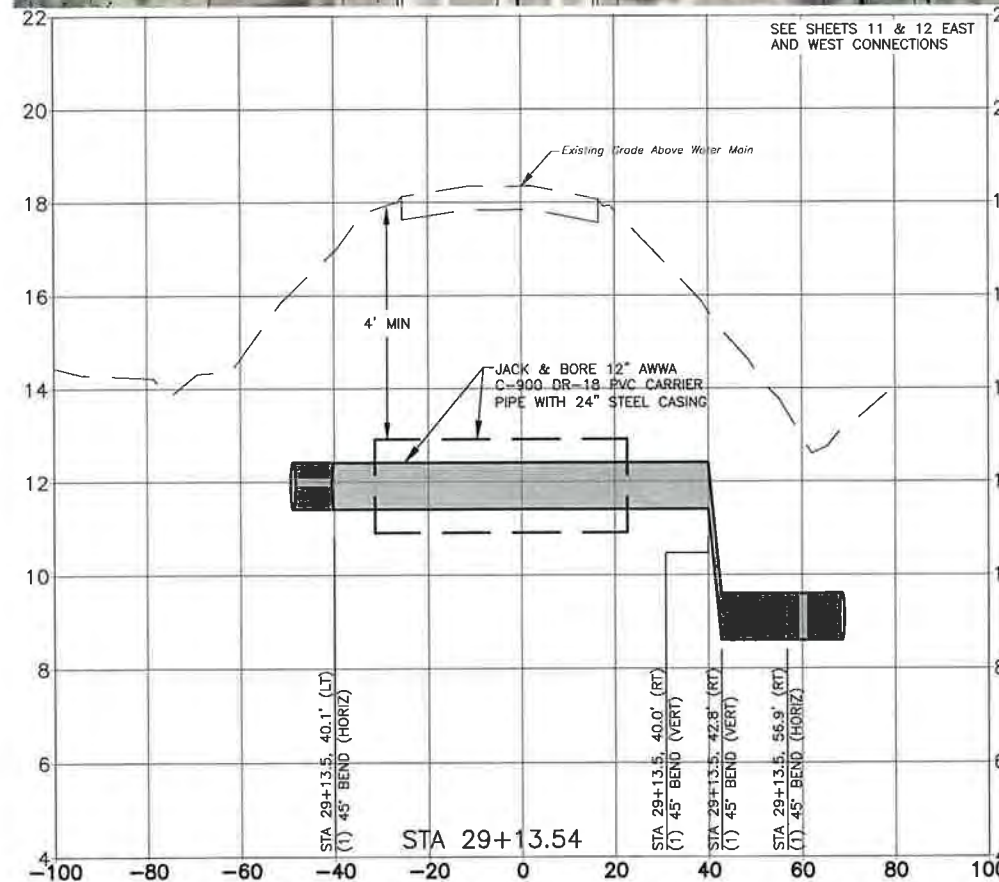
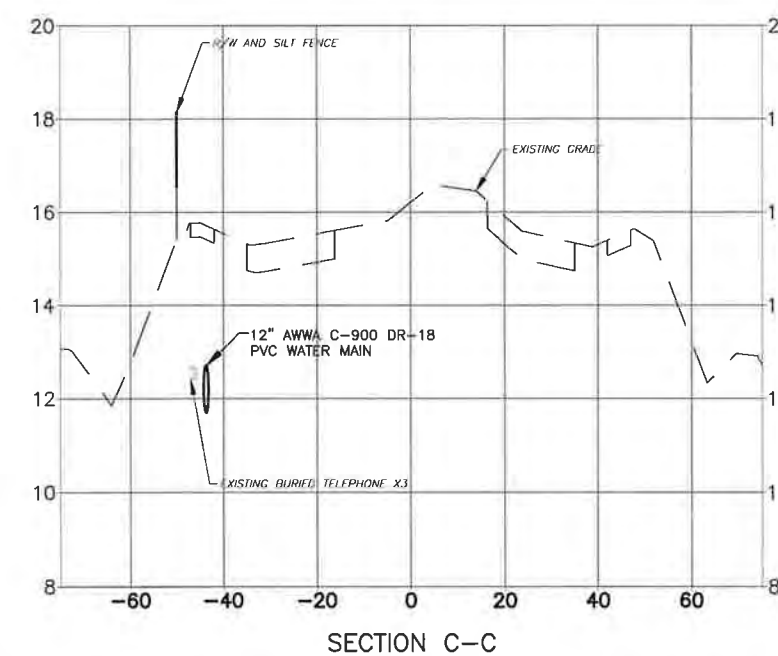
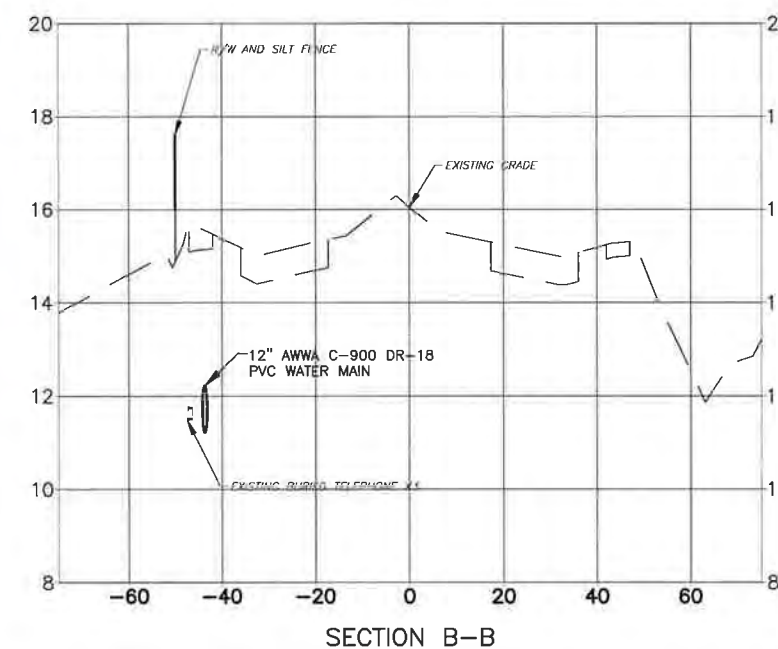
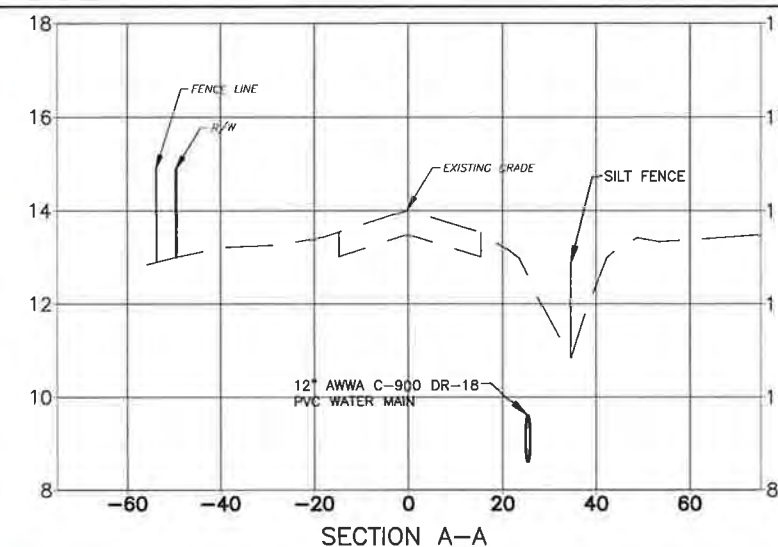
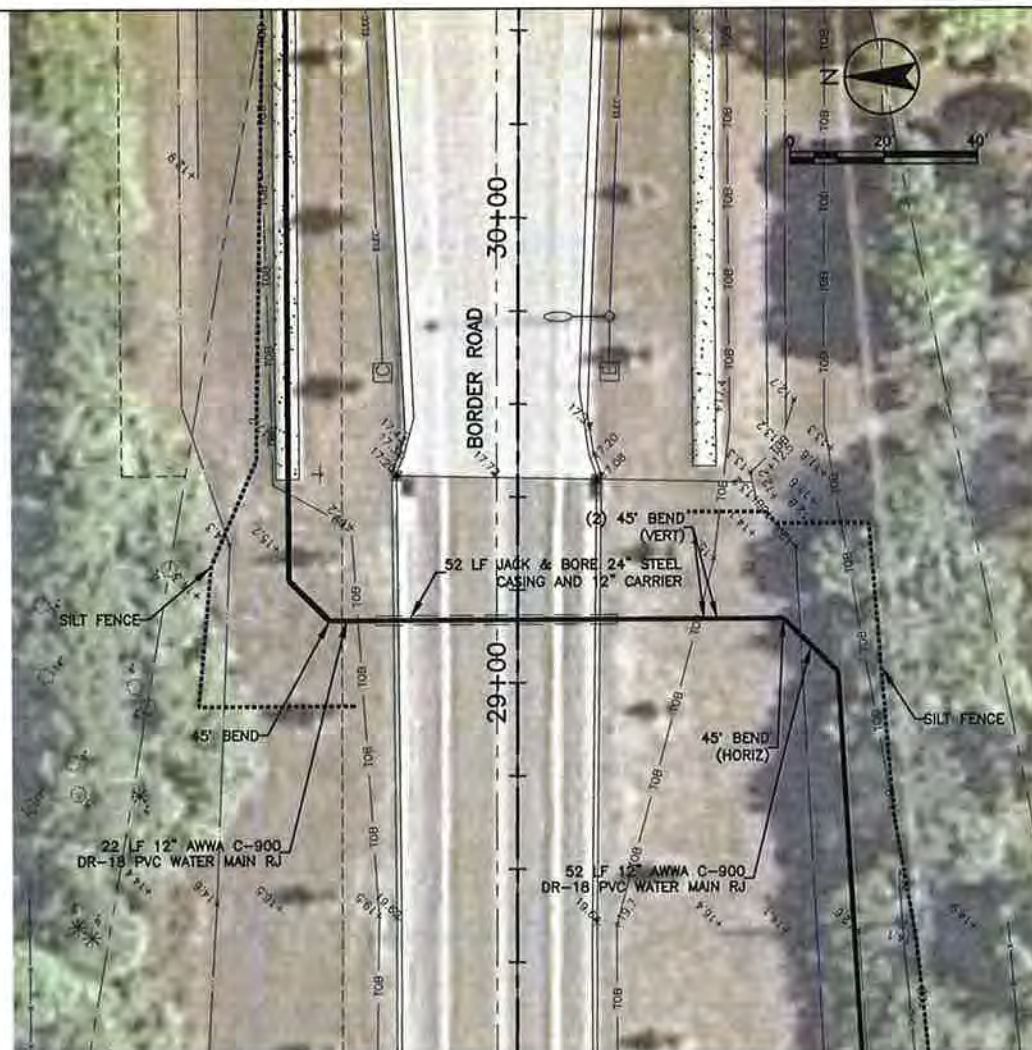
Project No.  
177310466

Scale  
1"=20'

Drawing No. Sheet Revision

20 of 28

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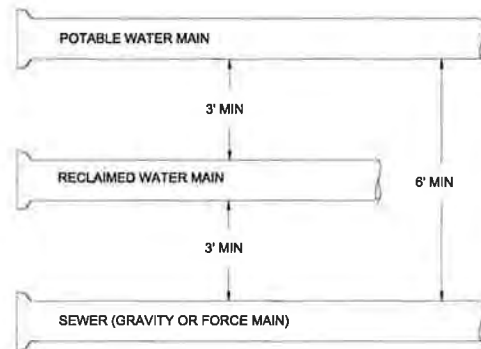


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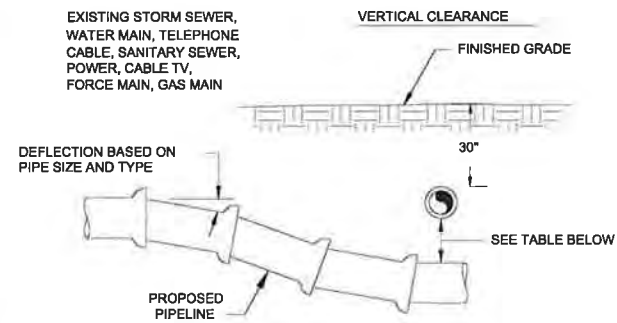




**MINIMUM HORIZONTAL SEPARATION DISTANCES (FT)**

(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

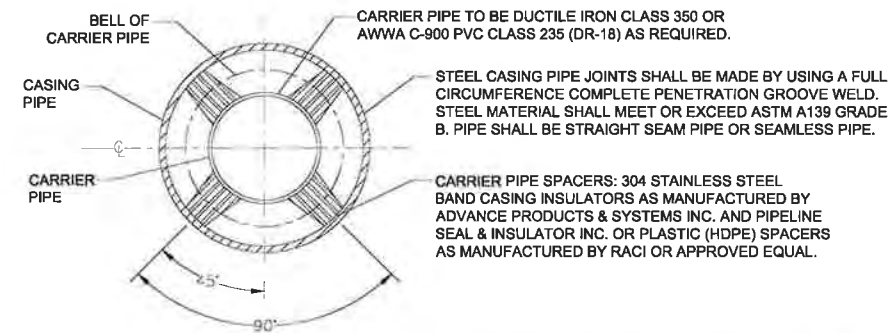
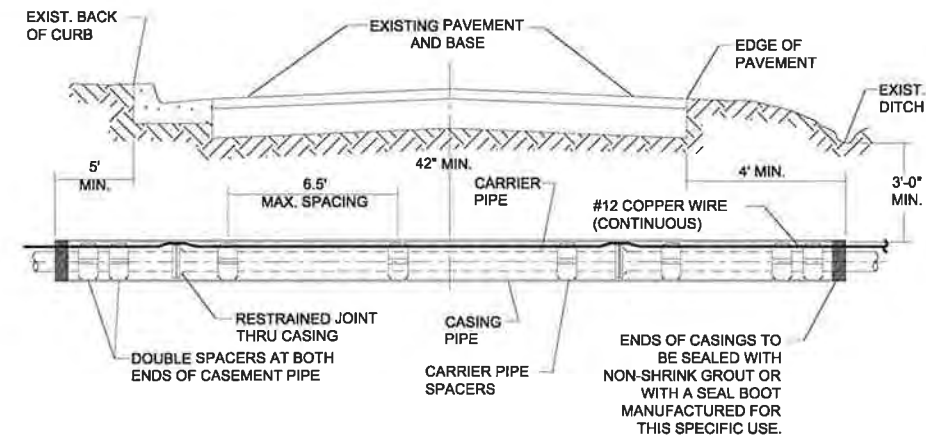
	WATER MAIN	FORCE MAIN	SANITARY SERVICE	REUSE MAIN	STORM WATER	OTHER UTILITIES (TELEPHONE, CABLE, ETC.)
WATER MAIN	3	6	6	3	3	3
FORCE MAIN	6	3	3	3	3	3
SANITARY SEWER	6	3	3	3	3	3
REUSE MAIN	3	3	3	3	3	3
STORM WATER	3	3	3	3	3	3
OTHER UTILITIES	3	3	3	3	3	3



**MINIMUM VERTICAL SEPARATION DISTANCES (IN)**

(OUTSIDE OF PIPELINE TO OUTSIDE OF PIPELINE)

	WATER MAIN	FORCE MAIN	SANITARY SERVICE	REUSE MAIN	STORM WATER	OTHER UTILITIES (TELEPHONE, CABLE, ETC.)
WATER MAIN	6	12	12	6	6	6
FORCE MAIN	12	6	6	6	6	6
SANITARY SEWER	12	6	6	6	6	6
REUSE MAIN	6	6	6	6	6	6
STORM WATER	6	6	6	6	6	6
OTHER UTILITIES	6	6	6	6	6	6



CARRIER SIZE & MINIMUM CASING SIZE		4"	6"	8"	10"	12"	14"	16"	18"	20"
CARRIER		12"	14"	18"	20"	24"	30"	30"	36"	36"
CASING		0.188	0.188	0.250	0.250	0.344	0.406	0.406	0.406	0.406
CASING / WALL THICKNESS										

**NOTES:**

- 1.) THE ENGINEER OF RECORD MAY SELECT LARGER CASING DIAMETERS. SEE PLAN SHEETS.
- 2.) FOR JACK & BORE SPECIFICATIONS UNDER STATE ROADS AND RAILROADS REFER TO THE F.D.O.T. UTILITY ACCOMMODATION MANUAL, LATEST EDITION.

**NOTES:**

- 1.) MAXIMUM JOINT DEFLECTION SHALL BE 90% OF MANUFACTURER'S RECOMMENDATION.
- 2.) WHEREVER POSSIBLE, THE STRATIGRAPHY OF UTILITIES SHALL PLACE SANITARY SEWER AND SEWER FORCE MAINS BELOW RECLAIMED MAINS AND BELOW WATER MAINS, RESPECTIVELY. WHERE WATER MAINS ARE ABOVE GRAVITY SEWERS OR WASTEWATER FORCE MAINS, A VERTICAL CLEARANCE OF 6 INCHES IS ACCEPTABLE.
- 3.) ACCEPTABLE VARIANCES
  - A. WHERE HORIZONTAL SEPARATION CANNOT BE MAINTAINED, C900 DR14 PVC PIPE SHALL BE USED FOR ONE OF THE PIPELINES.
  - B. WHERE VERTICAL CLEARANCE CANNOT BE MAINTAINED, ONE FULL LENGTH OF DR14 C900 PIPE SHALL BE INSTALLED CENTERED AT THE POINT OF CROSSING.
  - C. WHERE 30" MINIMUM DEPTH OF COVER CANNOT BE MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL UPGRADE MAY BE REQUIRED, AT THE DISCRETION OF THE CITY ENGINEER.
- 4.) NO WATER PIPE SHALL PASS THROUGH, OR COME IN CONTACT WITH ANY PART OF A SANITARY MANHOLE OR STORMWATER STRUCTURE.

**18 UTILITY CONFLICT DETAILS**

**19 JACK & BORE DETAIL**



- 1) ALL PIPE FITTINGS SHALL BE COMPACT, DUCTILE IRON.
- 2) ALL APPLICATIONS (RAW, POTABLE, REUSE, SEWER) SHALL BE FUSION BONDED EPOXY COATED INSIDE AND OUT.
- 3) ALL FITTINGS SHALL MEET ANS/AWWA C118/A21.16 STANDARDS.

**20 PIPE FITTINGS**

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File Name:

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STEPHEN E. MacEACHERN, P.E.  
FLORIDA LICENSE No. 76020

11/17/14  
Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
STANDARD DETAILS

Project No.  
177310466 Scale

Drawing No. Sheet Revision

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MINIMUM LENGTH (FT) OF FORCE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTING										
FITTING	PIPE SIZE (INCHES)									
	4	6	8	10	12	16	18	20	24	
45 BEND:	H	6	9	12	14	18	21	23	25	29
	VU	4	6	7	9	10	13	15	16	19
	VD	12	20	28	32	37	48	53	28	68
22.5 BEND:	H	3	4	6	7	8	10	11	12	14
	VU	2	3	4	4	5	6	7	8	9
	VD	7	10	13	15	18	23	26	28	33
11.25 BEND:	H	2	2	3	3	4	5	5	6	7

MINIMUM LENGTH (FT) OF WATER OR REUSE MAIN TO BE RESTRAINED ON EACH SIDE OF FITTING										
FITTING	PIPE SIZE (INCHES)									
	4	6	8	10	12	16	18	20	24	
90 BEND:	H	23	33	43	51	60	76	83	90	104
	VD	22	30	40	48	56	72	80	87	102
45 BEND:	H	10	14	18	21	25	31	34	37	43
	VU	6	8	11	13	16	20	22	24	28
	VD	22	30	40	48	56	72	80	87	102
22.5 BEND:	H	5	7	8	10	12	15	17	18	21
	VU	3	4	5	6	7	10	11	12	14
	VD	10	15	19	23	27	35	38	42	49
11.25 BEND:	H	2	3	4	5	6	7	8	9	10
	VD	7	10	13	15	18	23	26	28	33
PLUGS:		52	73	96	115	136	174	193	211	246

ABBREVIATIONS: H=HORIZONTAL, VU=VERTICAL UP, VD=VERTICAL DOWN.

NOTES:

- FOR TEE OR REDUCER FITTINGS SUBMIT RESTRAINED JOINT LENGTH CALCULATIONS TO CITY ENGINEER FOR REVIEW AND APPROVAL, USING THE ASSUMPTIONS LISTED
- RESTRAINED JOINT LENGTH FOR WATER AND REUSE MAINS BASED ON TEST PRESSURE OF 150 PSI. RESTRAINED JOINT LENGTH FOR FORCE (SEWER) MAINS BASED ON TEST PRESSURE OF 100 PSI. CALCULATIONS WERE MADE USING EBAA IRON SOFTWARE (AVAILABLE AT WWW.EBAA.COM) AND THE FOLLOWING ASSUMPTIONS: GRANULAR MATERIAL (GM) SOIL TYPE, TRENCH TYPE 3, BURY DEPTH OF 3 FT, AND SAFETY FACTOR OF 2 TO 1. IF FIELD CONDITIONS DIFFER FROM ABOVE ASSUMPTIONS EOR SHALL PROVIDE CALCULATIONS BASED ON ACTUAL CONDITIONS.
- RESTRAINED JOINT SHALL BE USED ON ALL JOINTS FROM ANY MAIN TEE TO ANY FIRE HYDRANT ASSEMBLY.
- THRUST BLOCKS WILL NOT BE ACCEPTED, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

**21 PRESSURE MAIN RESTRAINED JOINT TABLES**

21

Improving Our Infrastructure

**Venice**  
City on the Gulf

John Holc, Mayor  
Emilio Cartesimo, Vice Mayor

City Council:

Jim Bennett  
Bob Daniels  
Je anette Gates  
Kit McKeon  
David Sherman

**(Project Name)**

Project Completion Date:

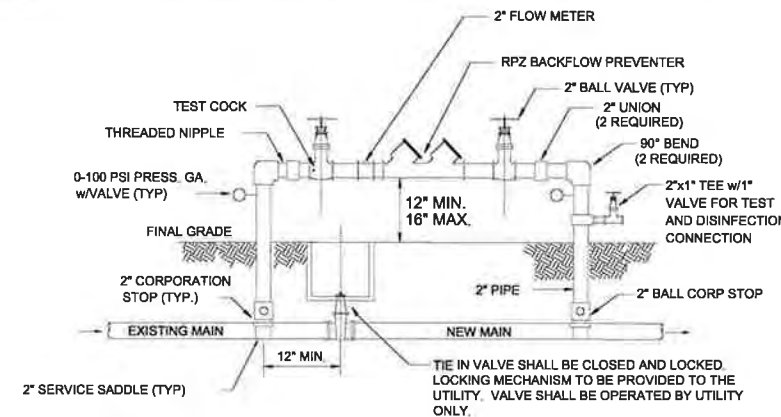
Construction Cost: \$(X,XXX)

Contractor:

Engineer:

**23 4'x8' CONSTRUCTION PROJECT SIGN DETAIL**

23



NOTES

- PROVIDE TEMPORARY PIPE SUPPORTS AS REQUIRED
- DO NOT USE GALVANIZED PIPE OR ACCESSORIES

- A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
- THE TIE IN VALVE SHALL BE CLOSED AND LOCKED BEFORE CONSTRUCTION OF THE NEW WATER MAIN.
- THE DETAIL SHOWN IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MIN. VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP), SARASOTA HEALTH DEPARTMENT, AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTION OF THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651. SWAB OR SPRAY THE EXTERIOR OF THE MAIN TO BE TAPPED AND THE TAPPING SADDLE WITH 1% HYPOCHORITE SOLUTION.
- FLUSHING OF 10" DIAMETER AND LARGER WATER MAINS MAY BE DONE THROUGH THE TIE-IN UNDER VERY CONTROLLED CONDITIONS. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
  - THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF UTILITY PERSONNEL AND THE ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO TIE-IN. VALVES WHICH ARE NOT WATERTIGHT SHALL BE REPLACED, OR NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.
  - THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP/HEALTH DEPARTMENT PERMIT.
    - FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXIST WATER MAINS.
    - ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.
    - PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT. THE PRESSURE IN THE EXISTING MUST NOT DROP BELOW 35 PSI. THE PRESSURE DROP ACROSS THE VALVE MUST BE GREATER THAN 10 PSI - OPEN ONLY A FEW TURNS AS APPROPRIATE.
  - THE TIE IN VALVE SHALL BE OPENED BY UTILITY PERSONNEL ONLY. THE CONTRACTOR SHALL COORDINATE FLUSHING WITH THE UTILITY. THE TIE IN VALVE SHALL BE CLOSED AND LOCKED IMMEDIATELY AFTER FLUSHING AND REMAIN LOCKED UNTIL THE WATER MAIN HAS BEEN CLEARED FOR USE BY THE AUTHORITY HAVING JURISDICTION.
  - UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
- ONCE INSTALLED AND PRIOR TO PLACED INTO SERVICE, THE RP2 BACKFLOW PREVENTION ASSEMBLY SHALL BE TESTED AND TAGGED BY AN APPROVED CERTIFIED BACKFLOW ASSEMBLY TECHNICIAN.
- ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTIONS DEVICE, FITTINGS AND VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**22**

**TEMPORARY JUMPER CONNECTION**



NOTE:

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND UPON COMPLETION OF THE WORK, REMOVE TWO (2) PROJECT SIGNS IN ACCORDANCE WITH THE FORMAT PROVIDED BY THE CITY OF VENICE UTILITY DEPARTMENT. THE SIGN SHALL BE MADE OF EXTERIOR GRADE PLYWOOD, 4'x8' IN SIZE. THE CONTRACTOR SHALL USE TWO (2) TREATED 4'x4' WOOD POSTS TO INSTALL THE SIGN IN THE LOCATION TO BE DETERMINED BY THE CITY OF VENICE UTILITY DEPARTMENT. PREVIOUSLY USED WOOD IS NOT ACCEPTABLE. A COLORED DRAFT OF THE SIGN IMAGE IS TO BE SUBMITTED TO THE CITY OF VENICE UTILITY DEPARTMENT FOR APPROVAL PRIOR TO PRINTING THE SIGNS.

Revision	By	Appd.	YY.MM.DD

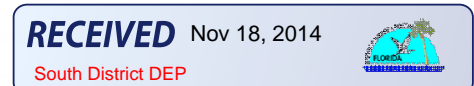
Issued	By	Appd.	YY.MM.DD

Permit-Seal  
STEPHEN C. MACEACHERN, P.E.  
FLORIDA LICENSE No. 76020

11/17/14  
Client/Project  
CITY OF VENICE  
BORDER ROAD WATER MAIN EXTENSION

VENICE, FL  
Title  
STANDARD DETAILS

Project No.	Scale	
177310466		
Drawing No.	Sheet	Revision
	25 of 28	0





Stantec  
 5172 Station Way  
 Sarasota, FL 34233  
 Tel. 941.365.5500  
 www.stantec.com  
 Florida Certificate No. 27013

Copyright Reserved  
 The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.  
 The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultants

Legend

- WORK ONE OPEN CUT
- WORK ZONE HDD
- SIGN

Notes

Revision	By	Appd.	YY.MM.DD

Issued \_\_\_\_\_ By \_\_\_\_\_ Appd. \_\_\_\_\_ YY.MM.DD

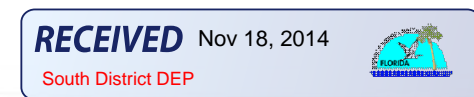
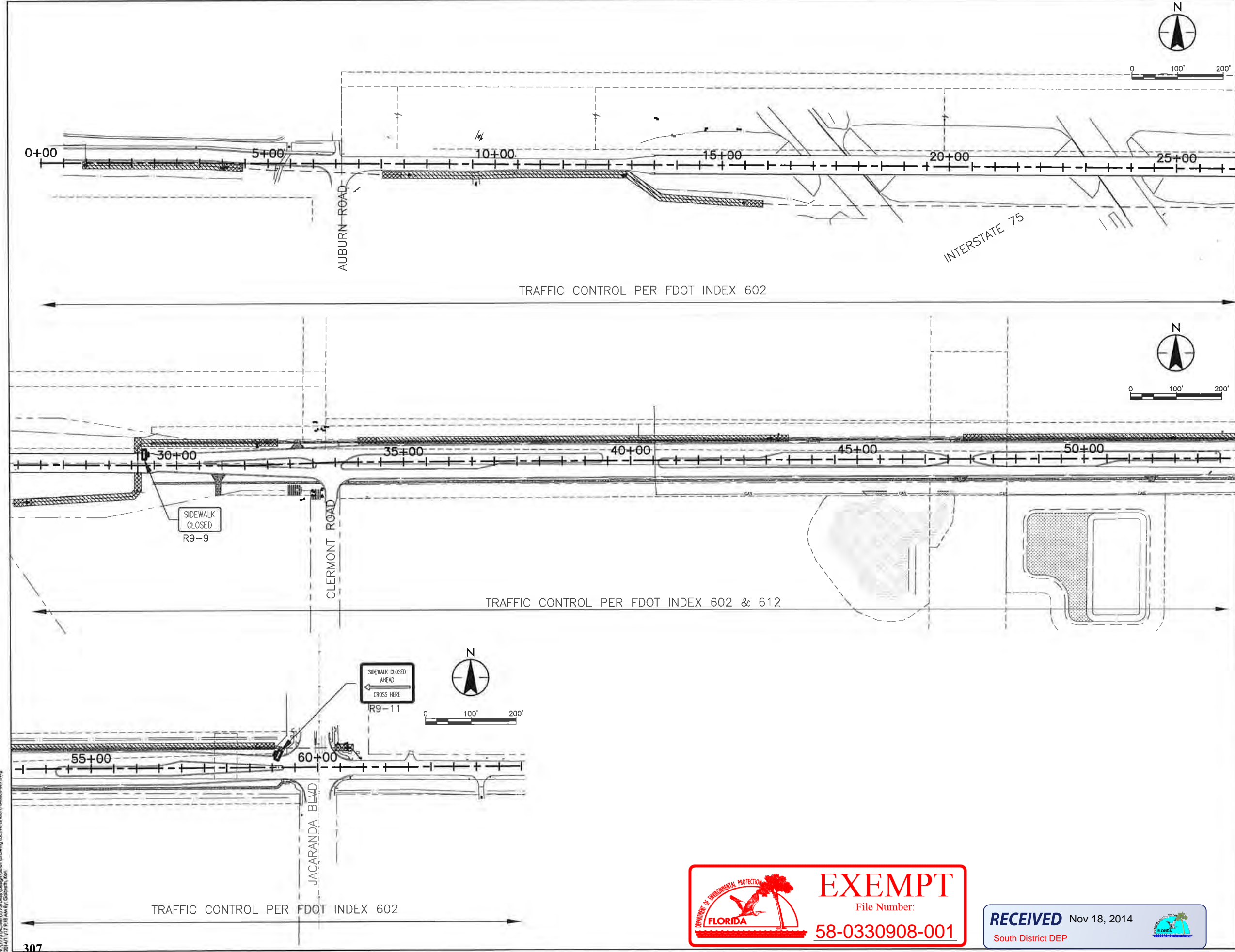
Permit-Seal  
 STEPHEN C. MACEACHERN, P.E.  
 FLORIDA LICENSE No. 76020

11/17/14  
 Client/Project  
 CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION  
 VENICE, FL

Title  
 TRAFFIC CONTROL PLANS

Project No. 177310466	Scale 1"=100'
Drawing No. 27 of 28	Revision 0



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 2014/11/17 9:18 AM BY: Coburn, Ken  
 307 ORIGINAL SHEET - AND 0

Consultants

Legend

Notes

MAINTENANCE OF TRAFFIC NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN. TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DESIGN STANDARD INDEXES (600 SERIES), THE CURRENT EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. IN CASE OF DISCREPANCY BETWEEN THESE NOTES AND THE FDOT OR MUTCD PUBLICATIONS, THE FDOT PUBLICATIONS SHALL GOVERN.
3. THE TRAFFIC CONTROL PLAN SHALL BE BASED ON DESIGN STANDARD INDEX NUMBER 602, 612 AND 660
4. THE CONTRACTOR SHALL BE COGNIZANT OF WHERE THE PIPE USED FOR THE HORIZONTAL DIRECTIONAL DRILLING IS STAGED. THE CONTRACTOR SHALL COORDINATE STAGING TO NOT BLOCK PROPERTY OWNER(S) ACCESS OR PROVIDE THE PROPERTY OWNER(S) AT LEAST 72 HOURS NOTICE PRIOR TO ANY ACCESS BLOCKAGE. IN CASES WHERE DRIVEWAY ACCESS IS BLOCKED, THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNER(S) ON INGRESS/EGRESS ISSUES.
5. PROVISIONS FOR TRAFFIC DISRUPTIONS WHICH ARE NOT ANTICIPATED IN THE TRAFFIC CONTROL PLAN, BUT ARE NECESSARY TO CONSTRUCT THE PROJECT, SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL 72 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFE MAINTENANCE OF PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES DURING THE DURATION OF THE PROJECT.
7. THE CONTRACTOR SHALL REMOVE OR COVER ANY EXISTING OR PROPOSED SIGNS AND SHALL REMOVE ANY EXISTING, TEMPORARY, OR REMOVABLE MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL PLANS WHEN THE CONFLICT NO LONGER EXISTS, THE CONTRACTOR SHALL RESTORE THE SIGNS OR PAVEMENT MARKINGS TO THEIR ORIGINAL CONDITIONS OR PROPOSED POSITION FOR THE NEXT PHASE. REMOVAL OF EXISTING AND/OR TEMPORARY PAVEMENT MARKINGS WHICH ARE CONFLICTING OR MISLEADING SHALL BE ACCOMPLISHED BY MILLING AND/OR ASPHALT OVERLAY. USE OF PAINT (BLACK OR OTHER COLORS) TO COVER EXISTING AND/OR TEMPORARY PAVEMENT MARKINGS IS NOT ACCEPTABLE.
8. EXISTING SIGNS AND MARKINGS WHICH DO NOT CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE MAINTAINED UNTIL THEY NO LONGER FULFILL A NEED AS DETERMINED BY THE ENGINEER OR UNTIL THEY ARE REPLACED WITH NEW TRAFFIC CONTROL DEVICES.
9. CERTIFIED MAINTENANCE OF TRAFFIC (MOT) SUPERVISORS SHALL BE AVAILABLE TO THE PROJECT AT ALL TIMES WHEN THE CONTRACTOR IS WORKING AND SHALL BE ON CALL FOR EMERGENCIES WHEN THE CONTRACTOR IS NOT WORKING. ALL WORK SHALL CEASE WHEN THE MOT SUPERVISOR IS NOT IN CONTROL OF THE MOT.
10. CAUTION SHOULD BE EXERCISED WHILE RELOCATING EXISTING SIGNS SO AS TO PREVENT DAMAGE TO SIGNS. IF THE SIGNS ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
11. OPEN TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE WHERE PROPERTY ACCESS IS NOT AFFECTED. ALL TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING AT PROPERTY ACCESS POINTS BY THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. AS AN OPTION, PROPERLY ANCHORED VEHICULAR BEARING PLATES MAY BE INSTALLED TO PROVIDE SAFE CROSSINGS.
12. FOR DROP-OFFS WITHIN THE RIGHT-OF-WAY, THE CONTRACTOR'S ATTENTION IS DIRECTED TO STANDARD INDEX 600, SHEET 10 OF 13.
13. FOR GROUND OBSTRUCTIONS, INCLUDING INTERFACE BETWEEN UNEVEN PAVEMENTS SUBJECT TO VEHICULAR TRAFFIC AND/OR BARRIER PLACEMENT, CONSTRUCT ASPHALT APRON IN ACCORDANCE WITH INDEX 600, SHEET 10 OF 13.
14. AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP-OFF ADJACENT TO PEDESTRIAN TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE TRAVEL PATH OR SHALL BE PROTECTED WITH BARRICADES, TEMPORARY BARRIER WALL, OR APPROVED HANDRAIL.
15. WHERE PEDESTRIAN PATHWAYS EXIST WITHIN THE PROJECT LIMITS, PEDESTRIAN, BICYCLES, AND WHEELCHAIR TRAFFIC SHALL BE MAINTAINED ON AT LEAST ONE SIDE OF THE PROJECT AT ALL TIMES. THE TRAVEL PATH SHALL BE A MINIMUM OF 5 FEET WIDE WITH A SMOOTH AND WATERPROOF SURFACE THAT IS NOT SLICKED AND SHOULD BE RAMPED AS NECESSARY FOR CONTINUITY, THE CONTRACTOR IS REFERRED TO FDOT STANDARD INDEX 660
16. PEDESTRIANS, BICYCLES, AND WHEELCHAIR TRAFFIC SHALL BE GUIDED AND MAINTAINED USING APPROVED WARNING LIGHTS, SIGNING, AND CHANNELIZATION DEVICES. SUCH CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FDOT SPECIFICATIONS AND THE MUTCD SECTIONS ON WORK ZONE TRAFFIC CONTROL. ADA REQUIREMENTS MUST BE MAINTAINED.
17. CROSSWALKS AND PEDESTRIAN WALK ROUTES MAY BE ADJUSTED AS APPROVED BY THE ENGINEER TO FACILITATE CONSTRUCTION.
18. MAINTENANCE OF TRAFFIC SIGNING LOCATIONS ARE APPROXIMATE AND MAY BE VERIFIED AS DEEMED NECESSARY BY THE ENGINEER TO AVOID STREETS, DRIVEWAYS OR OTHER CONFLICTS. MINIMUM SIGNING DISTANCES SHALL BE MAINTAINED DURING CONSTRUCTION
19. TRAFFIC CONTROL SIGNS SHALL BE INSTALLED PER THE PROJECT PLANS AND MEET THE COLOR SCHEME SPECIFIED IN STANDARD INDEX 600 SHEET 8 OF 13 AND THE MUTCD. ALTERNATE MEANS OF INSTALLING SIGNS, PAVEMENT MARKINGS AND RPM'S MUST BE REVIEWED AND APPROVED BY THE ENGINEER.

Revision	By	Appd.	YY.MM.DD

Issued By Appd. YY.MM.DD

File Name:

Permit-Seal  
STEPHEN C. MacEACHERN, P.E.  
FLORIDA LICENSE No. 756020

11/17/14

Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
TRAFFIC CONTROL PLANS

Project No. 177310466 Scale

Drawing No. Sheet 28 of 28 Revision 0



RECEIVED Nov 18, 2014

South District DEP



**Florida Department of Transportation**  
**Utility Permit**

UTILITY PERMIT

PERMIT NO.: 2015-H-19A-3		SECTION NO.: 17075		STATE ROAD I-75	COUNTY Sarasota
FDOT construction is proposed or underway.		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Financial Project ID:	
Is this work related to an approved Utility Work Schedule?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, Document Number:	
PERMITTEE:	City of Venice Utilities Department c/o Len Bramble, P.E.				
ADDRESS:	401 West Venice Avenue		TELEPHONE NUMBER: (941) 480 - 3333		
CITY/STATE/ZIP:	Venice, FL, 34285				
The above PERMITTEE requests permission from the State of Florida Department of Transportation, hereinafter called the FDOT, to construct, operate and maintain the following: A 12-inch potable Water Main along Border Road that will cross under the I-75 Right-of-Way. The water main will be installed in the I-75 right-of-way using trenchless installation methods.					
FROM: MP 23.380R			TO: MP 23.457L		
Submitted for the PERMITTEE by: Name and Company (Typed or Printed Legibly)	Contact Information Address/Telephone/E-Mail (if applicable)		Signature	Date	
Stephen MacEachern, P.E. Project Engineer Stantec Consulting Services Inc. stephen.maceachern@stantec.com	5172 Station Way Sarasota, FL 34233 (941) 225-6177		<i>Stephen M. Ea</i>	11/8/2015	

- The Permittee declares that prior to filing this application, the location of all existing utilities that it owns or has an interest in, both aerial and underground, are accurately shown on the plans and a letter of notification was mailed on February 14, 2014 to the following utilities known to be involved or potentially impacted in the area of the proposed installation:  
Utility Coordination Meeting was held on July 29, 2014
- The local Maintenance or Resident Engineer, hereafter referred to as the FDOT Engineer, shall be notified a minimum of forty eight (48) hours in advance prior to starting work and again immediately upon completion of work. The FDOT's Engineer is Albert Rosenstein, P.E., located at 1840 61st Street, Sarasota, FL 34243, Telephone Number (941) 359-7300. The Permittee's employee responsible for MOT is Stephen MacEachern, P.E., Telephone Number (941) 225-6177 (This name may be provided at the time of the forty eight (48) hour advance-notice prior to starting work).
- All work, materials, and equipment shall be subject to inspection and approval by the FDOT Engineer.
- All plans and installations shall conform to the requirements of the FDOT's UAM in effect as of the date this permit is approved by FDOT, and shall be made a part of this permit. This provision shall not limit the authority of the FDOT under Paragraph 8 of this Permit.
- This Permittee shall commence actual construction in good faith within 30 days after issuance of permit, and shall be completed within 365 days after the permitted work has begun. If the beginning date is more than sixty (60) days from the date of permit approval, the Permittee must review the permit with the FDOT Engineer to make sure no changes have occurred to the Transportation Facility that would affect the permitted construction.
- The construction and maintenance of such utility shall not interfere with the property and rights of a prior Permittee.
- It is expressly stipulated that this permit is a license for permissive use only and that the placing of utilities upon public property pursuant to this permit shall not operate to create or vest any property right in said holder, except as provided in executed subordination and Railroad Utility Agreements.
- Pursuant to Section 337.403, Florida Statutes, any utility placed upon, under, over, or along any public road or publicly owned rail corridor that is found by FDOT to be unreasonably interfering in any way with the convenient, safe, or continuous use, or maintenance, improvement, extension, or expansion, of such public road or publicly owned rail corridor shall, upon thirty (30) days written notice to the utility or its agent by FDOT, be removed or relocated by such utility at its own expense except as provided in Section 337.403(1), Florida Statutes, and except for reimbursement rights set forth in previously executed subordination and Railroad Utility Agreements, and shall apply to all successors and assigns for the permitted facility.
- It is agreed that in the event the relocation of said utilities are scheduled to be done simultaneously with the FDOT's construction work, the Permittee will coordinate with the FDOT before proceeding and shall cooperate with the FDOT's contractor to arrange the sequence of work so as not to delay the work of the FDOT's contractor, defend any legal claims of the FDOT's contractor due to delays caused by the Permittee's failure to comply with the approved schedule, and shall comply with all provisions of the law and the FDOT's current UAM. The Permittee shall not be responsible for delay beyond its control.
- In the case of non-compliance with the FDOT's requirements in effect as of the date this permit is approved, this permit is void and the facility will have to be brought into compliance or removed from the R/W at no cost to the FDOT, except for reimbursement rights set forth in previously executed subordination and Railroad Utility Agreements. This provision shall not limit the authority of the FDOT under Paragraph 8 of this Permit.
- It is understood and agreed that the rights and privileges herein set out are granted only to the extent of the State's right, title and interest in the land to be entered upon and used by the Permittee, and the Permittee will, at all times, and to the extent permitted by law, assume all risk of and indemnify, defend, and save harmless the State of Florida and the FDOT from and against any and all loss, damage, cost or expense arising in any manner on account of the exercise or attempted exercises by said Permittee of the aforesaid rights and privileges.
- During construction, all safety regulations of the FDOT shall be observed and the Permittee must take measures, including placing and the display of safety devices that may be necessary in order to safely conduct the public through the project area in accordance with the Federal MUTCD, as amended by the UAM.
- Should the Permittee be desirous of keeping its utilities in place and out of service, the Permittee, by execution of this permit acknowledges its present and continuing ownership of its utilities located between \_\_\_\_\_ and \_\_\_\_\_ within the FDOT's R/W as set forth above. Whenever the Permittee removes its facilities, it shall be at the Permittee's sole cost and expense. The Permittee, at its sole expense, shall promptly remove said out of service utilities whenever the FDOT determines said removal is in the public interest.
- In the event contaminated soil is encountered by the Permittee or anyone within the permitted construction limits, the Permittee shall immediately

**UTILITY PERMIT**

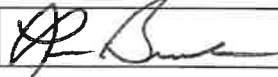

cease work and notify the FDOT. The FDOT shall notify the Permittee of any suspension or revocation of the permit to allow contamination assessment and remediation. Said suspension or revocation shall remain in effect until otherwise notified by FDOT

- 15. For any excavation, construction, maintenance, or support activities performed by or on behalf of the FDOT, within its RW, the Permittee may be required by the FDOT or its agents to perform the following activities with respect to a Permittee's facilities: physically expose or direct exposure of underground facilities, provide any necessary support to facilities and/or cover, de-energize or alter aerial facilities as deemed necessary for protection and safety.
- 16. Pursuant to Section 337.401(2), Florida Statutes, the permit shall require the permit holder to be responsible for damage resulting from the issuance of the permit. The FDOT may initiate injunctive proceedings as provided in s.120.69 to enforce provisions of this subsection or any rule or order issued or entered into pursuant thereto.
- 17. Pursuant to Section 337.402, Florida Statutes, when any public road or publicly owned rail corridor is damaged or impaired in any way because of the installation, inspection, or repair of a utility located on such road or publicly owned rail corridor, the owner of the utility shall, at his or her own expense, restore the road or publicly owned rail corridor to its original condition before such damage. If the owner fails to make such restoration, the authority is authorized to do so and charge the cost thereof against the owner under the provisions of s.337.404.
- 18. The Permittee shall comply with all provisions of Chapter 556, Florida Statutes, Underground Facilities Damage Prevention and Safety Act.
- 19. Special FDOT instructions:

If a lane closure is within the project limits, the Permittee MUST notify DBI Services 48 hours prior to a lane closure to allow DBI Services to inform the motoring public. If no lane closure is required Please call 48 hours in advanced of starting work. Failure to call may result in a delay to begin work.

It is understood and agreed that commencement by the Permittee is acknowledgment and acceptance of the binding nature of all the above listed permit conditions and special instructions.

- 20. By receipt of this permit, the Permittee acknowledges responsibility to comply with Section 119.07, Florida Statutes.
- 21. By the below signature, the Permittee hereby represents that no change to the FDOT's standard Utility Permit form, as incorporated by reference into Rule 14-46.001, for this Utility Permit has been made which has not been previously called to the attention of the FDOT (and signified to by checking the appropriate box below) by a separate attached written document showing all changes and the written and dated approval of the FDOT Engineer. Are there attachments reflecting change/s to the standard form?  NO  YES If Yes, \_\_\_\_\_ pages are attached.

<b>PERMITTEE</b>	Len Bramble, P.E. Utilities Director, City of Venice	<b>SIGNATURE</b>		<b>DATE:</b>	11-3-14
	<b>Name &amp; Title of Authorized Permittee or Agent (Typed or Printed Legibly)</b>				
<b>APPROVED BY:</b>				<b>ISSUE DATE:</b>	1/20/15
	<b>District Maintenance Engineer or Designee</b>				

**UTILITY PERMIT FINAL INSPECTION CERTIFICATION**

<b>DATE:</b>	
<b>DATE WORK STARTED:</b>	
<b>DATE WORK COMPLETED:</b>	
<b>INSPECTED BY:</b>	
(Permittee or Agent)	
<b>CHANGE APPROVED BY:</b>	<b>DATE:</b>
<b>District Maintenance Engineer or Designee</b>	

I the undersigned Permittee do hereby CERTIFY that the utility construction approved by the above numbered permit was inspected and installed in accordance with the approved plans made a part of this permit and in accordance with the FDOT's current UAM. All plan changes have been approved by the FDOT's Engineer and are attached to this permit. I also certify that the work area has been left in as good or better condition than when the work was begun.

<b>PERMITTEE:</b>	<b>SIGNATURE:</b>	<b>DATE:</b>
<b>Name &amp; Title of Authorized Permittee or Agent (Typed or Printed Legibly)</b>		

CC: District Permit Office  
Permittee

## Border Road Water Main Extension

### Existing Utilities:

Timothy Hochuli  
941-408-5468  
City Of Venice Utilities Dept.  
200 N Warfield Ave  
Venice, FL 34289

Tracy Stern  
800-868-9554  
Florida Power & Light  
2900 Catherine St  
Palatka, FL 32177

Joe Lesmerises  
813-627-8343  
Verizon Florida Inc  
1909 Us Hwy. 301 N  
Tampa, FL 33619

Danny Shanahan  
941-342-4006  
Teco - Peoples Gas- Sarasota  
8261 Vico Ct  
Sarasota, FL 34240

Mark Richmond  
Sarasota County Traffic  
Po Box 8  
Sarasota, FL 34230-0008

Patti Brooks  
941-650-3803  
Sarasota County Utilities  
1001 Sarasota Center Blvd.  
Sarasota, FL 34240

Gary Hill  
941-342-3578  
Comcast Calbevision Of West Florida  
5205 Fruitville Rd  
Sarasota, FL 34232



**Stantec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Tim Hochuli**  
City of Venice Utilities Department  
200 N. Warfield Avenue  
Venice, FL 34289

Dear Mr. Hochuli,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "D. Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

**Attachment: Maps**

---



**Stanlec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Tracy Stern**  
Florida Power & Light  
2900 Catherine Street  
Palatka, FL 32177

Dear Ms. Stern,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "D. Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

**Attachment: Maps**

---



**Stantec Consulting Services Inc.**

5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 13, 2014  
File: 177310466

**Attention: Joe Lesmerises**  
Verizon Florida Inc.  
1909 US Highway 301 N  
Tampa, FL 33619

Dear Mr. Lesmerises,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "D. R. Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

**Attachment: Maps**

---



**Stantec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Danny Shanahan**  
TECO Peoples Gas - Sarasota  
8261 Vico Court  
Sarasota, FL 34240

Dear Mr. Shanahan,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "DR Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

Attachment: Maps

---



**Stantec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Mark Richmond**  
Sarasota County Traffic  
PO Box 8  
Sarasota, FL 34230-0008

Dear Mr. Richmond,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "DR Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

**Attachment: Maps**

---



**Stantec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Patti Brooks**  
Sarasota County Utilities  
1001 Sarasota Center Boulevard  
Sarasota, FL 34240

Dear Ms. Brooks,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "DRY".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

Attachment: Maps

---



**Stantec Consulting Services Inc.**  
5172 Station Way  
Sarasota FL 34233  
Tel: (941) 365-5500  
Fax: (941) 366-1922

February 14, 2014  
File: 177310466

**Attention: Gary Hill**  
Comcast Cablevision of West Florida  
5205 Fruitville Road  
Sarasota, FL 34232

Dear Mr. Hill,

**Reference: Border Road Water Main Extension**

Our client, the City of Venice, desires to extend a 12-inch water main along Edmondson and Border Roads from approximately 600 feet west of N. Auburn Road to Jacaranda Boulevard. A route study is being performed to determine the water main alignment.

Information obtained from Sunshine 811 indicates that you have facilities in the area being considered for the water main alignment. Please mark your facilities on the attached maps and return them to me at your earliest convenience.

Thank you for your help. Please contact me if you have any questions.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink, appearing to read "DR Young".

Douglas R Young, P.E.  
Senior Project Manager  
Phone: (941) 225-6172  
Fax: (941) 366-1922  
Doug.Young@stantec.com

**Attachment: Maps**

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FLORIDA DEPARTMENT OF TRANSPORTATION  
Stormwater Pollution Control Reminder

• *Stormwater Management*

Contact your local municipality and/or the Southwest Florida Management District.  
Barrow (863) 534-1448

Venice (Sarasota) (941) 278-7396

Fort Myers (Sarasota) (941) 278-7396

- Fort Myers is also part of South Florida Water Management District (800) 432-2045.

• *Used Oil recycling*

Contact the Florida Department of Environmental Protection at (813) 744-6100 or your local automotive parts store.

• *Hazardous Waste Disposal*

Contact the Florida Department of Environmental Protection at (813) 744-6100.

• *Spill Reporting*

State Warning Point (800) 320-0519

Federal Response Center (800) 424-8802

• *Pesticides & Fertilizers*

Contact your Local County Agricultural Extension Service.

Charlotte (941) 764-4340

Collier (239) 353-4244

Desoto (863) 993-4846

Glades (863) 946-0244

Hardee (863) 773-2164

Hendry (863) 674-4094

Highlands (863) 402-5540

Lee (239) 461-7500

Manatee (941) 722-4524

Okeechobee (863) 763-6469

Polk (863) 519-8677

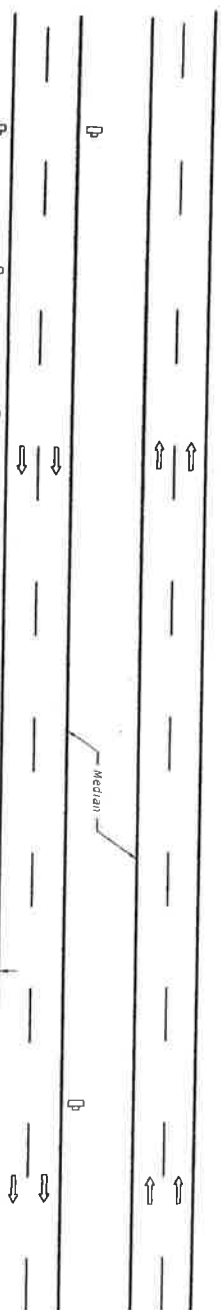
Sarasota (941) 316-1000

LET'S WORK TOGETHER TO KEEP OUR ENVIRONMENT CLEAN...

AND INVEST IN FLORIDA'S FUTURE



LAST REVISION 07/01/07	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	MULTILANE, WORK ON SHOULDER	INDEX NO. 612	SHEET NO. 1 of 1
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**DISTANCE BETWEEN SIGNS**

Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

\* 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

**Table I  
Device Spacing**

Speed (mph)	Max. Distance Between Devices (ft.)		
	Cones or Tubular Markers	Type I or Type II Barricades or Vertical Panels or Drums	Tangent
25	25	25	50
30 to 45	25	50	30
50 to 70	25	50	50

**GENERAL NOTES**

- If the work operation encroaches on the through traffic lanes or when four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), a flagger shall be provided and a FLAGGER sign shall be substituted for the WORKERS sign. The flagger shall be positioned at the point of vehicle entry or departure from the work area.
- This TCZ plan also applies to work performed in the median more than 2' but less than 15' from the edge of travelway.
- When work is being performed on a multilane undivided roadway the signs normally mounted in the median (as shown) shall be omitted.
- WORKERS signs to be removed or fully covered when no work is being performed.
- SHOULDER work sign may be used as an alternate to the WORKER symbol sign.
- When a side road intersects the roadway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ indexes.
- For general TCZ requirements and additional information, refer to Index No. 600.

**DURATION NOTES**

- Signs and channelizing devices may be omitted if all of the following conditions are met:
  - Work operations are 60 minutes or less.
  - Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

**Table II  
Taper Length - Shoulder**

Speed (mph)	1/4 L (ft.)			Notes
	8'	10'	12'	
25	28	35	42	W/S = 60
30	40	50	60	
35	55	68	82	L=W/S
40	72	90	107	
45	120	150	180	L=W/S
50	133	167	200	
55	147	183	220	L=W/S
60	160	200	240	
65	173	217	260	L=W/S
70	187	233	280	

<sup>B</sup> minimum shoulder width

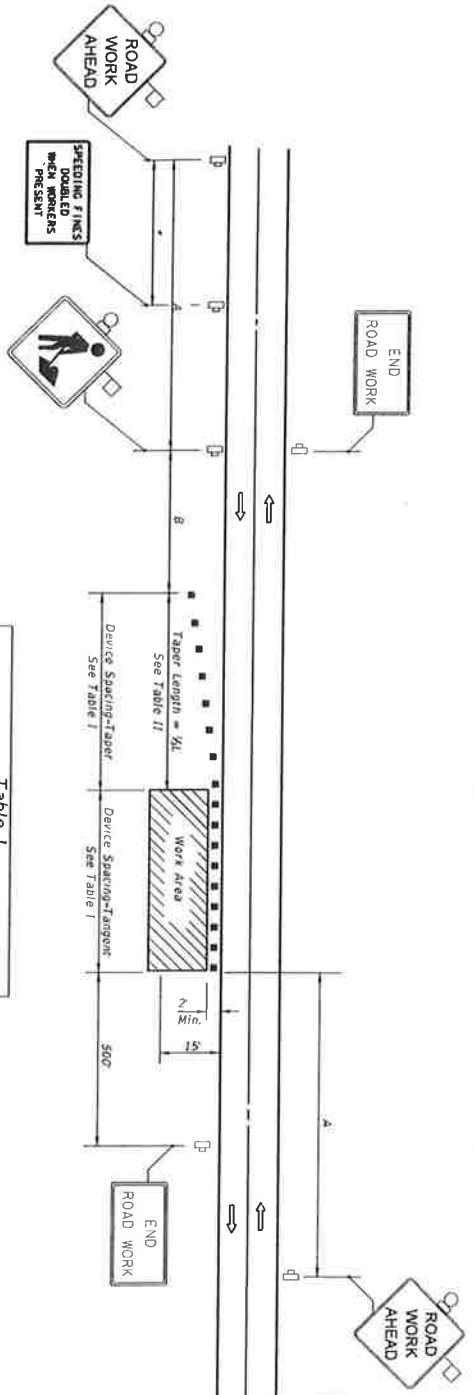
<sup>1/4</sup>L = length of shoulder taper in feet

w = width of total shoulder in feet (combined paved and unpaved width)

S = posted speed limit (mph)

**CONDITIONS**

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCOACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.



**DISTANCE BETWEEN SIGNS**

Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

\*Midway between signs.

**Table 1**

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers	Type I or Type II Barricades or Vertical Panels or Doms	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

**Table 11**

Speed (mph)	1/4 L (ft)			Notes
	8'	10'	12'	
25	28	35	42	L=WS* 60
30	40	50	60	
35	55	68	82	L=WS* 60
40	72	90	107	
45	120	150	180	L=WS
50	133	167	200	
55	147	183	220	L=WS
60	160	200	240	
65	173	217	260	L=WS
70	187	233	280	

**SYMBOLS**

- Work Area
- Sign With 18" x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Lane Identification + Direction of Traffic

**GENERAL NOTES**

1. When four or more work vehicles enter the through traffic lanes in a one hour period or less (excluding establishing and terminating the work area), the advanced FLAGGER sign shall be substituted for the WORKERS sign. For location of flaggers and FLAGGER signs, see Index No. 603.
2. SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign only on the side where the shoulder work is being performed.
3. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TTC indexes.
4. For general TCZ requirements and additional information, refer to Index No. 600.

**DURATION NOTES**

1. Signs and channelizing devices may be omitted if all of the following conditions are met:
  - a. Work operations are 60 minutes or less.
  - b. Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

**CONDITIONS**

WHERE ANY VEHICLE EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRUSH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

LAST REVISION 07/01/12	DESCRIPTION: REVISION	INDEX NO. 602	SHEET NO. 1 of 1
		FDOT 2014 <b>DESIGN STANDARDS</b> <b>TWO-LANE, TWO-WAY, WORK ON SHOULDER</b>	

PERMIT VOID UNLESS DOT SARASOTA OPERATIONS OFFICE NOTIFIED 48 HOURS IN ADVANCE OF STARTING WORK.  
PHONE: (941) 359-7300

IF A LANE CLOSURE IS WITHIN THE PROJECT LIMITS, THE PERMITTEE MUST NOTIFY THE DEPARTMENT 14 DAYS PRIOR TO A LANE CLOSURE TO ALLOW THE DEPARTMENT TO INFORM THE MOTORING PUBLIC. FAILURE TO CALL MAY RESULT IN A DELAY TO BEGIN WORK.

IF NO CLOSURES ARE REQUIRED THE SARASOTA OPERATIONS OFFICE MUST BE NOTIFIED 48 HOURS IN ADVANCE OF STARTING WORK. FAILURE TO CALL MAY RESULT IN A DELAY TO BEGIN WORK.

LANE CLOSURES AND OTHER WORK MAY BE RESTRICTED BY THE FDOT DUE TO HEAVY TRAFFIC AND POTENTIAL BACKUPS CAUSED BY THIS CONSTRUCTION. NIGHT WORK MAY BE REQUIRED.

DISTRICT ONE LANE CLOSURE POLICY MAY REQUIRE WORK TO BE PERFORMED DURING NIGHT TIME HOURS DUE TO LANE ANALYSIS AND/OR LANE RESTRICTIONS.

APPLICANT IS RESPONSIBLE FOR NOTIFYING OWNERS OF ALL EXISTING AERIAL AND BURIED UTILITIES OF PROPOSED DRIVEWAY AND RESOLVING ANY CONFLICTS BEFORE CONSTRUCTION BEGINS.

IN ACCORDANCE WITH FLORIDA STATUS 335.18 PERMITTEE SHALL BE REQUIRED TO BEAR THE COST OF FUTURE ACCESS MODIFICATIONS, TRAFFIC CONTROL DEVICES OR OTHER IMPROVEMENTS, WHEN DETERMINED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION TO BE IN CONJUNCTION WITH ACCEPTED ENGINEERING PRACTICES.

ALL CONSTRUCTION AND/OR MAINTENANCE ON THE DEPARTMENT'S RIGHT-OF-WAY SHALL CONFORM TO THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) THE DEPARTMENT'S ROADWAY AND TRAFFIC DESIGN STANDARDS AND BRIDGE CONSTRUCTION.

PERMITTEE/CONTRACTOR MUST WAIT 30 DAYS TO ALLOW ASPHALT FRICTION COURSE TO CURE BEFORE PLACING THERMOPLASTIC STRIPING.

OUR REVIEW COMMENTS ARE NOT INCLUDED TO BE INCLUSIVE OF ALL ERRORS AND OMISSIONS. OUR COMMENTS ARE ALSO NOT INTENDED TO AFFECT THE SCOPE OF WORK OR TO BE CONTRARY TO FHWA POLICY, FDOT DESIGN CRITERIA OR SOUND ENGINEERING PRACTICE. THE CONSULTANT/ENGINEER IS SOLELY RESPONSIBLE FOR THE TECHNICAL ACCURACY, ENGINEERING JUDGEMENT, AND QUALITY OF HIS WORK.

ALL CONTRACTORS AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH PERMITTED M.O.T. PLAN.

SOD ALL PORTIONS OF DISTURBED RIGHT-OF-WAY.

NOTE: ALL ABOVE GROUND APPURTENANCES TO BE LOCATED AT RIGHT-OF-WAY LINE.

DENSITY REPORTS ARE TO BE SUBMITTED PRIOR TO PLACEMENT OF PAVEMENT.

"PRIOR TO EXCAVATING CONTACT THE CLERK OF THE CIRCUIT COURT FOR POSSIBLE GASOLINE CONFLICT."

THE APPLICANT SHALL NOT, DURING AND AFTER COMPLETION OF PERMITTED CONSTRUCTION, INTRODUCE ANY FORM OR METHOD OF SITE DRAINAGE DISCHARGE INTO THE DRAINAGE FACILITIES ON THE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY OR EASEMENT. ANY DISCHARGE SHALL BE IN VIOLATION OF THIS PERMIT.

"PERMITTEE IS CAUTIONED THAT UTILITIES MAY BE LOCATED WITHIN THE CONSTRUCTION AREA."

IT IS THE RESPONSIBILITY OF THE PERMITTEE TO DETERMINE AND COMPLY WITH ALL COUNTY AND MUNICIPAL ORDINANCES THAT ARE RELATIVE TO THE CONSTRUCTION OR OTHER ACTIVITY DESCRIBED ON THIS PERMIT AND ARE MORE STRINGENT THAN DEPARTMENT OF TRANSPORTATION REQUIREMENTS.

N.P.D.E.S. REQUIRES THAT STORM WATER CONTROL MEASURES BE IMPLEMENTED ON ANY PROJECT ON PUBLIC TRANSPORTATION FACILITY RIGHTS-OF-WAY INCLUDING, BUT NOT LIMITED TO MEASURES DESCRIBED IN F.D.O.T. STANDARD DESIGN INDEX DRAWING NUMBERS 102, 103 AND 104.

"IF CONSTRUCTION, RECONSTRUCTION, REPAIR OR MAINTENANCE ACTIVITY NECESSITATES THE CLOSING OF ONE OR MORE TRAVEL LANES OF ANY ROAD ON THE STATE PRIMARY, COUNTY ROAD OR CITY STREET SYSTEM, FOR A PERIOD OF TIME EXCEEDING TWO HOURS, THE PARTY PERFORMING SUCH WORK WILL BE RESPONSIBLE TO GIVE NOTICE TO THE APPROPRIATE LOCAL LAW ENFORCEMENT AGENCY WHICH HAS JURISDICTION WHERE SUCH ROAD IS LOCATED PRIOR TO COMMENCING WORK ON THIS PROJECT"  
335.15 F.S.91, 336.048 F.S.91



# CITY OF VENICE, FLORIDA

## CONSTRUCTION DRAWINGS

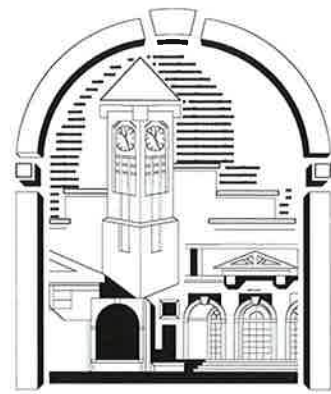
### FOR

# BORDER ROAD

# WATER MAIN EXTENSION

#### INDEX OF PLANS

SHEET No.	SHEET DESCRIPTION
1	COVER SHEETS
2	GENERAL NOTES AND LEGEND
3	KEY SHEET
4-19	PLAN AND PROFILE
20	JACK & BORE CROSSING AND SECTIONS
21-25	STANDARD DETAILS
26	BEST MANAGEMENT PRACTICES
27-28	TRAFFIC CONTROL PLANS

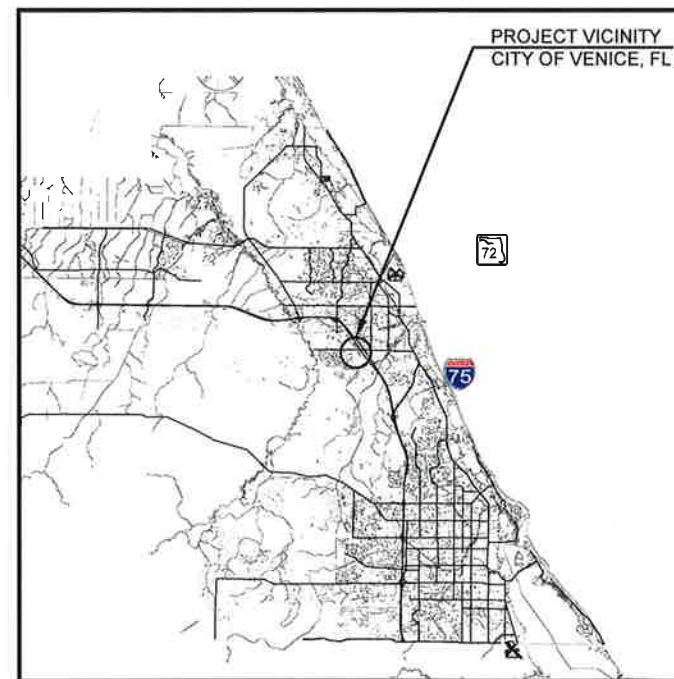


**City Of Venice  
Utilities Department**  
200 North Warfield Avenue  
Venice FL 34285

Ph. 941-480-3333  
Fax 941-486-2629

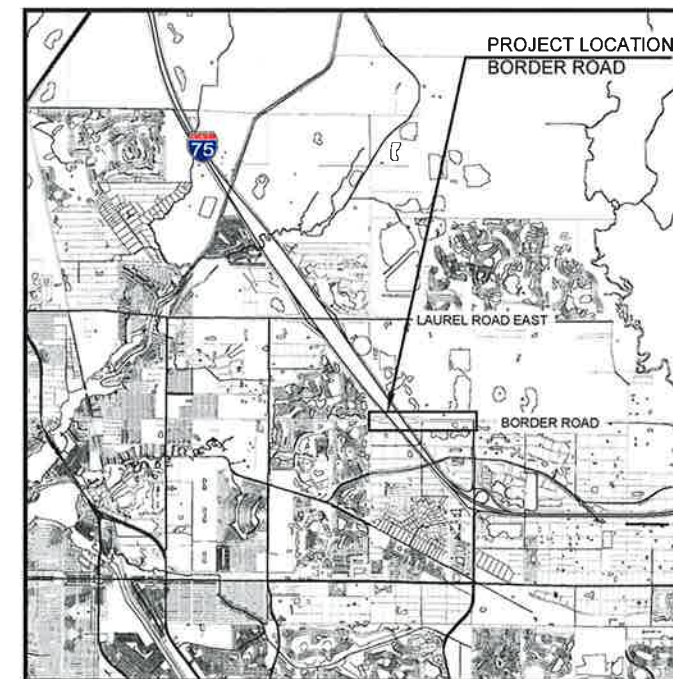
#### VENICE CITY COUNCIL

JOHN HOLIC .....	MAYOR
EMILIO CARLESIMO .....	VICE MAYOR
JIM BENNETT .....	COUNCIL MEMBER
BOB DANIELS .....	COUNCIL MEMBER
JEANETTE GATES .....	COUNCIL MEMBER
KIT MCKEON .....	COUNCIL MEMBER
DAVID SHERMAN .....	COUNCIL MEMBER
EDWARD F. LAVALLEE .....	CITY MANAGER



VICINITY MAP

0 30000' 60000'



LOCATION MAP

0 5000' 10000'

PLANS PREPARED BY:



Stantec Consulting Services Inc.

5172 Station Way  
Sarasota, FL U.S.A.  
34233

Tel. 941.365.5500  
Fax 941.366.1922  
www.stantec.com

Florida Certification No. 27013

ATTENTION IS DIRECTED TO THE FACT THAT  
THESE PLANS MAY HAVE BEEN REDUCED IN  
SIZE BY REPRODUCTION. THIS MUST BE  
CONSIDERED WHEN OBTAINING SCALED DATA.

**100% PLANS**



*Steph M. E.*  
P.E. NO.: 76020  
DATE: 1/8/15

ENGINEER OF RECORD:  
STEPHEN C. MACEACHERN, P.E.

STANTEC PROJECT NO. 177310466  
NOVEMBER 2014

Stantec  
5172 Station Way  
Sarasota, FL 34233  
Tel. 941.365.5500  
www.stantec.com  
Florida Certificate No. 27013

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Consultants

Legend

Notes

ADD NOTE 33	ML	14.12.22
Revision	By	Appd. YY MM.DD

Issued	By	Appd. YY MM.DD
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File Name: \_\_\_\_\_

Permit Seal  
STEPHEN C. MACEACHERN  
FLORIDA LICENSE NO. 76020



Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
GENERAL NOTES AND LEGEND

Project No.	Scale
177310466	N/A

Drawing No.	Sheet	Revision

GENERAL NOTES

- THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. EXTREME CAUTION IS TO BE USED WHEN EXCAVATING, AS THE NUMBER AND LOCATION OF EXISTING UTILITIES HAVE NOT BEEN VERIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE AND VERIFY ANY AND ALL EXISTING UTILITIES SHOWN AND NOT SHOWN. THE CONTRACTOR SHALL CONTACT SARASOTA COUNTY DOT, UTILITY COMPANIES, AND SUNSHINE STATE ONE-CALL NO FEWER THAN 72 HOURS PRIOR TO EXCAVATION FOR FIELD LOCATION OF UTILITIES. ALL COORDINATION AND REQUIRED UTILITY COMPANY TEMPORARY PROTECTION SHALL BE AT THE CONTRACTOR'S EXPENSE. INDIVIDUAL WATER SERVICES AND ASSOCIATED METER BOXES ARE NOT SHOWN ON THE PLANS.
  - EXISTING UTILITIES AND PROPERTY, WHETHER SHOWN OR NOT SHOWN ON THE PLAN SHEETS, DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
  - ALL WORK ON THE PROJECT SITE SHALL BE DONE BETWEEN THE HOURS OF 8:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY UNLESS PRIOR APPROVAL IS OBTAINED IN WRITING FROM THE ENGINEER. NO WORK SHALL BE DONE ON HOLIDAYS UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER.
  - ALL PROPERTY LINE MARKERS (IRON PINS, CONCRETE MONUMENTS, ETC.) DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO RESET PROPERTY MARKERS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING AND CONSTRUCTION PERMITS AS REQUIRED FOR CONSTRUCTION. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PERMITS AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COORDINATE ALL INSPECTIONS REQUIRED BY THE PERMITS AND CONTRACT DOCUMENTS.
  - WHERE RELOCATION OR INTERRUPTION OF ANY EXISTING UTILITIES ARE REQUIRED, CONTRACTOR SHALL NOTIFY ENGINEER AND UTILITY OWNER NO FEWER THAN 3 BUSINESS DAYS IN ADVANCE TO COORDINATE EITHER ISOLATION OF THE LINE OR TEMPORARY CONNECTION INSTALLATION WHERE ISOLATION IS NOT PRACTICAL. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL MATERIALS REQUIRED IF OWNER DETERMINES THAT TEMPORARY CONNECTION INSTALLATION IS NECESSARY. IN THE CASE OF RELOCATING TELEMETRY OR ANY FIBER OPTIC CABLES, CONTRACTOR SHALL BE RESPONSIBLE FOR SUCCESSFUL TESTING BEFORE PLACING CABLES BACK IN OPERATION.
  - THE EXISTING WATER MAINS MUST BE KEPT OPERATIONAL AT ALL TIMES UNTIL THE RELOCATED MAINS ARE PLACED IN SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND TEMPORARY MEASURES REQUIRED TO MAINTAIN CONTINUOUS OPERATION.
  - ALL WORK SHALL CONFORM TO LATEST REQUIREMENTS OF THE CITY OF VENICE.
  - QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY THE CITY OF VENICE. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCIES IN QUANTITIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.
  - THE CONTRACTOR SHALL KEEP AND MAINTAIN ONE RECORD COPY OF ALL CONTRACT DOCUMENTS, REFERENCE DOCUMENTS AND ALL TECHNICAL DOCUMENTS SUBMITTED IN GOOD ORDER AT THE PROJECT SITE AT ALL TIMES. AS THE WORK PROGRESSES, THE CONTRACTOR OR HIS DESIGNATED REPRESENTATIVE SHALL RECORD ON ONE SET OF REPRODUCIBLE DRAWINGS ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL RECORD THE EXACT LOCATION OF ALL CHANGES IN VERTICAL AND HORIZONTAL ALIGNMENT BY OFF-SETS AND TIES TO PERMANENT STRUCTURES, EACH SEWER, WATER, ELECTRIC, GAS, COMMUNICATION AND OTHER UTILITIES.
- THESE RECORD DRAWINGS MUST BE CERTIFIED BY THE FLORIDA REGISTERED PROFESSIONAL ENGINEER WHO PREPARED AND SEALED THE PLANS. THE RECORD DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL ALIGNMENT OF ALL WATER, SEWER, AND EFFLUENT REUSE LINES, VALVES, TEES, BENDS, REDUCERS, HYDRANTS, PUMP STATIONS, SERVICE CONNECTIONS, METER BOXES AND/OR PADS, AND OTHER PERTINENT STRUCTURES. PIPELINE RUNS IN EXCESS OF 100' WITHOUT FITTINGS SHALL INCLUDE VERTICAL ALIGNMENT INFORMATION AT 100' INTERVALS. SAID ALIGNMENT SHALL BE TIED TO PERMANENT IMPROVEMENTS, SUCH AS ROADWAY CENTERLINES, RIGHTS-OF-WAY, AND BUILDING AND PROPERTY CORNERS, AND SHALL BE CERTIFIED BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF FLORIDA. THE CONTRACTOR SHALL COORDINATE WITH THE PROFESSIONAL LAND SURVEYOR FOR INSTALLATION OF ANY NECESSARY APPURTENANCES ON BURIED UTILITIES TO FACILITATE THE SURVEY AFTER CONSTRUCTION IS COMPLETED. THE CITY OF VENICE SHALL WITHHOLD FINAL ACCEPTANCE OF THE PROJECT UNTIL THE REQUIREMENT FOR RECORD DRAWINGS AND RELATED RECORDS HAS BEEN MET. RECORD DRAWINGS WITHOUT DETAILED FIELD VERIFIED HORIZONTAL AND VERTICAL LOCATIONS OF ALL FACILITIES SHOWN WILL BE REJECTED.
- A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE ANY WORK OR ORDERING OF MATERIALS MAY BEGIN.
  - THE CITY OF VENICE SHALL BE NOTIFIED 3 BUSINESS DAYS PRIOR TO CONTRACTOR MOBILIZATION FOR THE PROJECT.
  - ALL WORK AND/OR MATERIALS WHICH DO NOT CONFORM TO THE CITY OF VENICE SPECIFICATIONS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
  - ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE ENGINEER AND THE CITY OF VENICE IS SUBJECT TO RE-EXCAVATION, REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT ON THE PROJECT AT ALL TIMES DURING CONSTRUCTION TO SATISFY THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO COMPLETE WORK.
  - THE CONTRACTOR SHALL PROVIDE ACCESS TO THE SITE AT ALL TIMES FOR INSPECTION BY THE CITY OF VENICE, THEIR DESIGNEE, THE ENGINEER, AND REGULATORY AGENCIES TO OBSERVE PROJECT CONSTRUCTION.
  - ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH AT ALL TIMES DURING THE PROGRESS OF THE PROJECT.
  - THE CONTRACTOR SHALL UTILIZE APPROPRIATE TURBIDITY CONTROL DEVICES (E.G. SILT FENCES, HAY BALES) DURING ALL PHASES OF CONSTRUCTION AND GRADING. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE "NOTICE OF INTENT" AND "NOTICE OF TERMINATION" IN COMPLIANCE WITH NPDES PERMIT REQUIREMENT. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORMWATER POLLUTION PREVENTION PLAN.
  - IN THE EVENT THAT A HARD LIMESTONE FORMATION IS ENCOUNTERED, MAKING IT IMPOSSIBLE TO EXCAVATE TO THE DEPTH REQUIRED UNDER THIS CONTRACT, THE CONTRACTOR MAY BE ALLOWED TO REDUCE THE PIPE COVER TO NOT LESS THAN THIRTY (30) INCHES WHILE MAINTAINING THE REQUIRED THICKNESS OF BEDDING UNDER THE PIPE. SUCH DEVIATION FROM THE PLANS MUST BE APPROVED BY THE CITY OF VENICE AND THE ENGINEER PRIOR TO ANY CONSTRUCTION THAT DEVIATES FROM THE CONTRACT DOCUMENTS. IF A MINIMUM OF TWO FEET OF COVER CAN NOT BE ATTAINED, THE CONTRACTOR SHALL PROVIDE OTHER METHODS OF CONSTRUCTION, OR PIPE PROTECTION, WHICH SHALL FIRST BE APPROVED BY THE CITY OF VENICE AND THE ENGINEER, AT NO ADDITIONAL COST TO THE CITY.
  - ANYTHING NOT SHOWN ON THESE DRAWINGS, DISCOVERED BY THE CONTRACTOR, SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER, AND SHALL NOT CONSTITUTE AN EXTRA UNLESS APPROVED BY THE ENGINEER AND THE CITY OF VENICE.
  - THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY CONCERNING ANY CONFLICTS WITH UTILITIES/STRUCTURES ARISING DURING CONSTRUCTION OF ANY FACILITIES SHOWN ON THESE DRAWINGS.
  - TRAFFIC MUST BE MAINTAINED AT ALL TIMES PER SARASOTA COUNTY DEPARTMENT OF TRANSPORTATION (SCDOT) AND PER FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  - ALL PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, AND OTHER IMPROVEMENTS, REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AND/OR REPAIRED WITH SAME TYPE AND QUALITY OF MATERIAL AT THE CONTRACTOR'S EXPENSE UNLESS DIRECTED OTHERWISE BY THE CITY OF VENICE AND THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL AREAS AFFECTED BY THE CONSTRUCTION TO ITS ORIGINAL CONDITION, OR BETTER.
  - WITHIN THE FDOT RIGHT-OF-WAY, ALL DISTURBED AREAS SHALL BE SODDED IN ACCORDANCE WITH FDOT SPECIFICATIONS. AREAS THAT ARE CLASSIFIED AS DRAINAGE DITCHES SHALL RECEIVE SOD. ANY OTHER UNIMPROVED AREAS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION.

- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
- THE CONTRACTOR SHALL ENSURE THAT ALL FRAMES, COVERS VALVE BOXES, METER BOXES AND MANHOLES, WHETHER EXISTING OR INSTALLED AS PART OF THIS PROJECT, ARE ADJUSTED TO FINISHED GRADE UPON COMPLETION OF GRADING, PAVING OR RELATED CONSTRUCTION. ALL VALVE PADS SHALL BE POURED IN PLACE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (EXPOSED OR UNEXPOSED) THAT MAY BE IMPACTED BY THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING POWER/TELEPHONE COMPANIES AND ARRANGING TO HAVE UTILITIES POLES HELD AND/OR GUY WIRES REMOVED AND REPLACED, IF NECESSARY FOR CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITIES NEAR THE PROJECT AREA AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE NOTIFYING SUNSHINE STATE ONE CALL (811).
- FDOT IS CONSTRUCTING INTELLIGENT TRANSPORTATION SYSTEM FACILITIES IN THE I-75 RIGHT OF WAY. THE CONTRACTOR SHALL CONTACT FDOT REGARDING THE FACILITY LOCATIONS. FDOT IS NOT A MEMBER OF SUNSHINE STATE ONE CALL.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY.
- THE CONTRACTOR SHALL BE FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND TO ABIDE BY THEM AS COVERED UNDER THE FLORIDA TRENCH SAFETY ACT.
- THE MAXIMUM PULL BACK REAMER FOR THE PROPOSED 12" FPVC PIPE IS AN 18" REAMER.

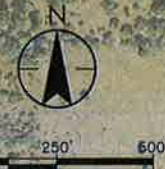
LEGEND

- = 5/8" x 18" IRON ROD SET "LB#043"
- ◻ = FOUND CHISEL SQUARE
- ⊕ = BENCH MARK
- = RIGHT-OF-WAY
- - - = PROPERTY LINE
- - - = EDGE OF PAVEMENT
- - - = EDGE OF WALK/CONCRETE (OR PAVEMENT BRICK WALK)
- BFO = BURIED TELEVISION
- BT = BURIED FIBER OPTIC
- ELEC = BURIED TELEPHONE
- ELEC = BURIED ELECTRIC
- OE = OVERHEAD ELECTRIC
- GAS = GAS MAIN
- SN = SANITARY SEWER
- FM = FORCE MAIN
- SD = STORM DRAIN
- RCW = RECLAIMED WATER MAIN
- WM = WATER MAIN
- TRAF = BURIED SIGNAL
- = PROPOSED WATER MAIN (OPEN CUT)
- = PROPOSED WATER MAIN (HDD)
- TOB = TOP OF BANK
- △10" = AUSTRALIAN PINE
- △10" = BANYAN
- ★10" = BRAZILIAN PEPPER
- ⊙10" = BAY
- ⊙10" = CHINABERRY
- ⊙10" = CEDAR
- ⊙10" = CITRUS
- ⊙10" = ELM
- ⊙10" = FIG TREE
- ⊙10" = LOQUAT
- ⊙10" = MAPLE
- ⊙10" = MYRTLE
- ⊙10" = OAK
- ⊙10" = ORNAMENTAL
- ⊙10" = PALM
- ⊙10" = PINE
- ⊙10" = PUNK
- ⊙10" = ROSEWOOD
- NOTE: SIZE OF TRUNK DIAMETER IS DETERMINED AT 4.5' ABOVE GROUND SURFACE AND IS SHOWN ADJOINING THE SYMBOL IN INCHES.
- ⊠ = TRAFFIC CONTROL BOX
- ⊠ = IRRIGATION CONTROL BOX
- ⊠ = SPRINKLER HEAD
- ⊠ = MONITOR WELL
- ⊠ = FIRE HYDRANT
- ⊠ = METER POLE
- ⊠ = YARD DRAIN
- ⊠ = FLOOD LIGHT
- ⊠ = SIGN
- ⊠ = TELEVISION CABLE RISER
- ⊠ = TELEPHONE RISER/METER
- ⊠ = TELEPHONE MANHOLE
- ⊠ = GAS RISER/METER
- ⊠ = BURIED TELEVISION
- ⊠ = BURIED FIBER OPTIC
- ⊠ = BURIED TELEPHONE
- ⊠ = BURIED ELECTRIC
- ⊠ = ELECTRICAL RISER
- ⊠ = LIGHT POST
- ⊠ = SANITARY SEWER
- ⊠ = FORCE MAIN
- ⊠ = STORM DRAIN
- ⊠ = UTILITY POLE
- ⊠ = CONCRETE UTILITY POLE
- ⊠ = GUY ANCHOR
- ⊠ = PEDESTRIAN CROSSING
- ⊠ = MAIL BOX
- ⊠ = STORM INLET
- ⊠ = STORM MANHOLE
- ⊠ = SANITARY MANHOLE
- ⊠ = CLEAN OUT
- ⊠ = VALVE BOX
- ⊠ = METER
- ⊠ = FIRE DEPT. CONNECTION
- ⊠ = LIGHT POLE
- ⊠ = PROPOSED GATE VALVE
- ⊠ = ELECTRICAL PANEL
- ⊠ = PROPOSED REDUCER
- ⊠ = PROPOSED FIRE HYDRANT ASSEMBLY
- ⊠ = PROPOSED AIR RELEASE VALVE
- X22.22 DENOTES AN ELEVATION IN FEET WITH THE X BEING THE LOCATION OF THE ELEVATION
- ⊠ WETLAND/OSW

VVH UTILITY LOCATIONS (VERIFICATION OF VERTICAL & HORIZONTAL) (FIELD DATE: 05/29/14) -SUE NOTES (TRUCK 117, BOOK 719)

VVH NUMBER	UTILITY TYPE	TOP UTILITY ELEVATION	UTILITY DESCRIPTION	LOCATION	VVH NUMBER
101	10" PVC WM (BLUE) (CITY OF VENICE)	11.8'	WATER MAIN	N=1014013.33, E=525633.16	101
102	4" PVC FOC (GREY) (VERIZON)	10.6'	VERIZON	N=1014011.24, E=525688.67	102
103	UNK SIZE PVC ROW (WHITE) (CITY OF VENICE)	10.5'	RECLAIMED WATER	N=1014011.41, E=525687.75	103
104	18" RCP (STORM DRAIN)	11.0'	STORM DRAIN	N=1014014.59, E=525688.34	104
105	4" PVC BT #2 (PINK) (VZ)	10.5'	VERIZON	N=1013996.05, E=525744.07	105
106	BT (BURIED TELEPHONE) (VERIZON)	3.7±	VERIZON	N=1013999.64, E=526331.86	106
107	UNK SIZE STEEL GAS MAIN (TECO)	5.7±	TECO	N=1014053.41, E=529169.40	107
108	BURIED ELECTRIC DUCT RUN (FPL) (COULD NOT VERIFY PRESS)	10.2'	FPL	N=1014052.63, E=529795.83	108
109	18" RW (SANITARY FORCE MAIN) (CITY OF VENICE)	11.3±	FORCE MAIN	N=1014063.76, E=531110.88	109
110	ROW (CITY OF VENICE)	8.6±	BROW LINE	N=1014063.93, E=531125.85	110
111	24" WM (CITY OF VENICE)	9.0±	WATER MAIN	N=1014063.67, E=531132.30	111
112	UNK	11.2±	UNKNOWN	N=1014064.08, E=531116.25	112
113	10" PVC WM (BLUE) (CITY OF VENICE)	12.0'	WATER MAIN	N=1014022.17, E=52521190	113

(\*INDICATES ELECTRONIC DISTANCE, COULD NOT VERIFY)



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Legend

Notes

SHEET 4    SHEET 5    SHEET 6    SHEET 7/8    SHEET 9/10    SHEET 11/12    SHEET 13    SHEET 14    SHEET 15    SHEET 16    SHEET 17    SHEET 18    SHEET 19

0+00    5+00    10+00    15+00    20+00    25+00    30+00    35+00    40+00    45+00    50+00    55+00    60+00    65+00

NORTH AUBURN ROAD

INTERSTATE 75

CLERMONT ROAD

BORDER ROAD

JACARANDA BLVD

Revision	By	Appd.	YY.MM.DD

File Name: \_\_\_\_\_

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11/3/15



Client/Project  
 CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

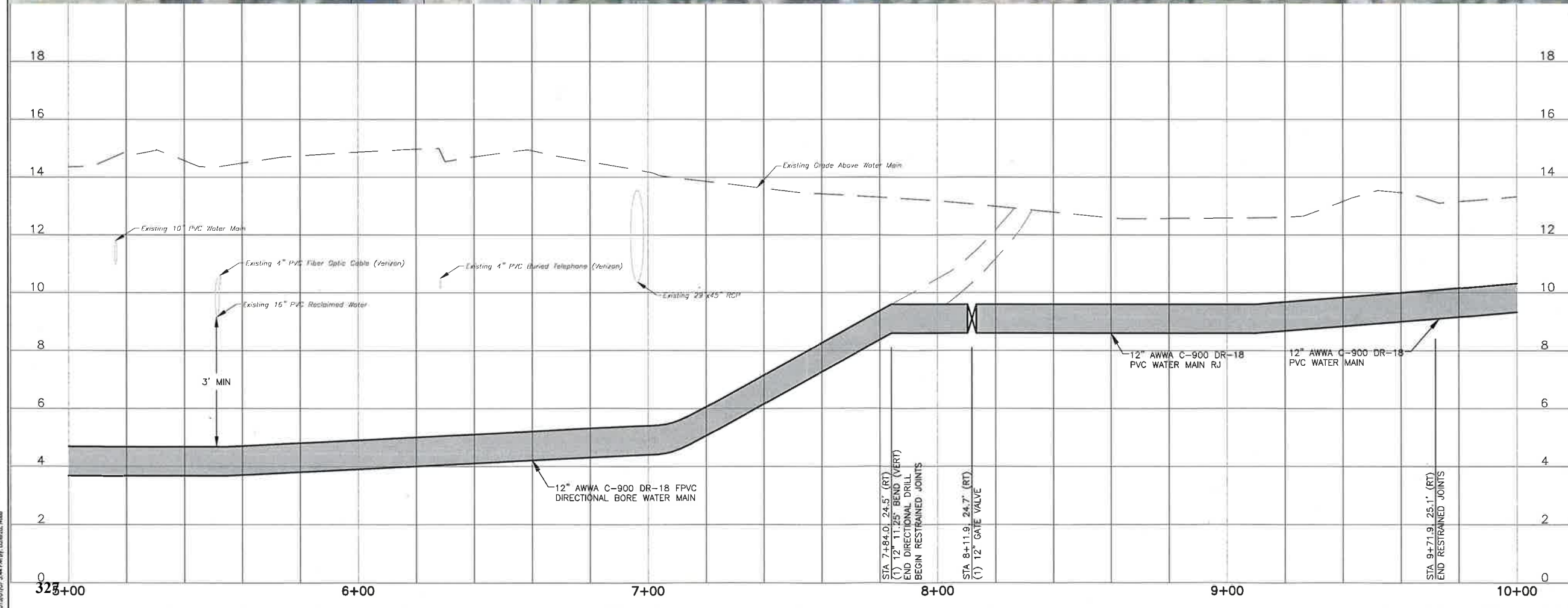
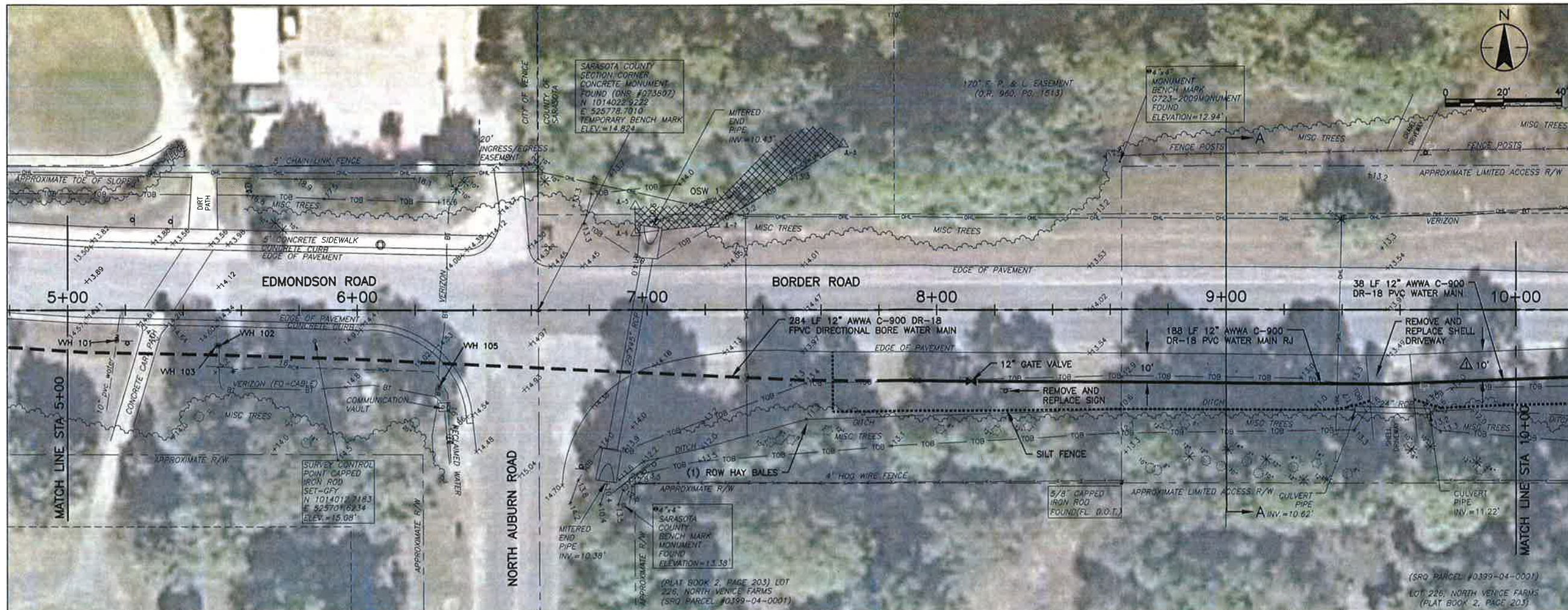
VENICE, FL

Title  
 KEY SHEET

Project No. 177310466    Scale 1"=250'

Drawing No. \_\_\_\_\_    Sheet \_\_\_\_\_    Revision \_\_\_\_\_

1. THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
2. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.



Revision	By	Appd.	YY.MM.DD
ADD DIMENSIONS	ML		14.12.22

Issued	By	Appd.	YY.MM.DD

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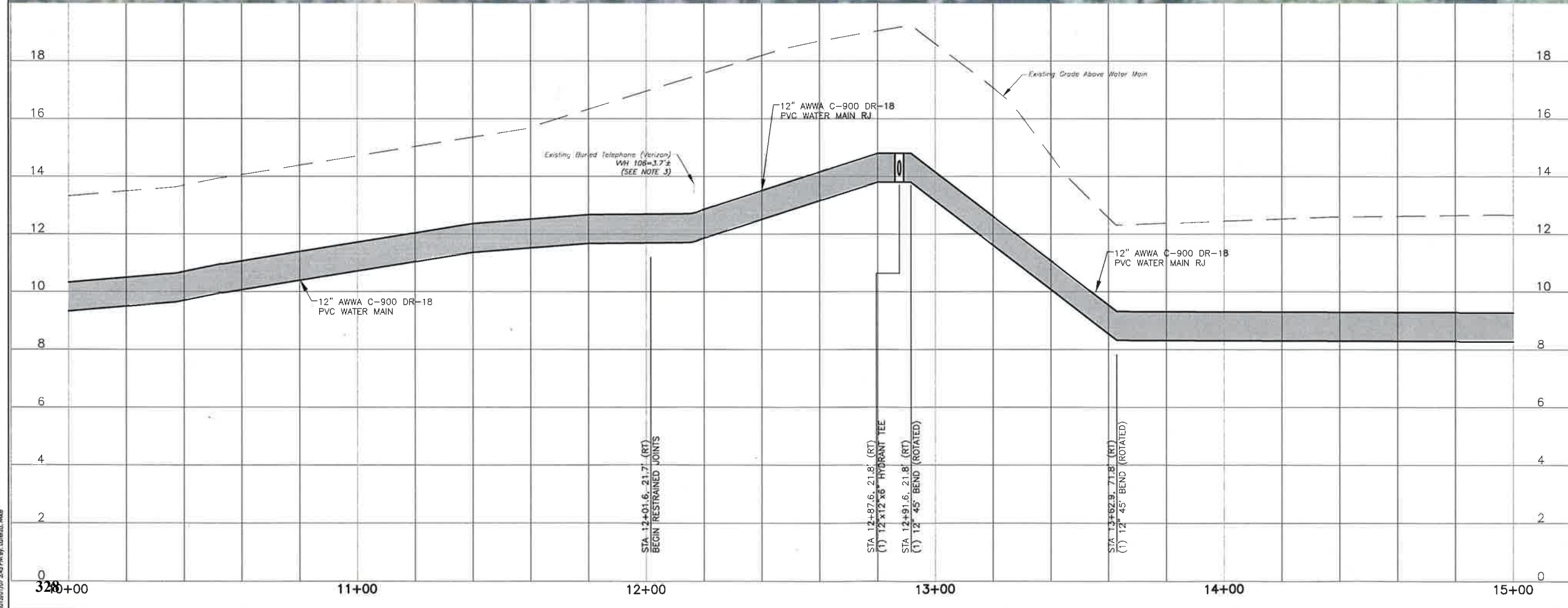
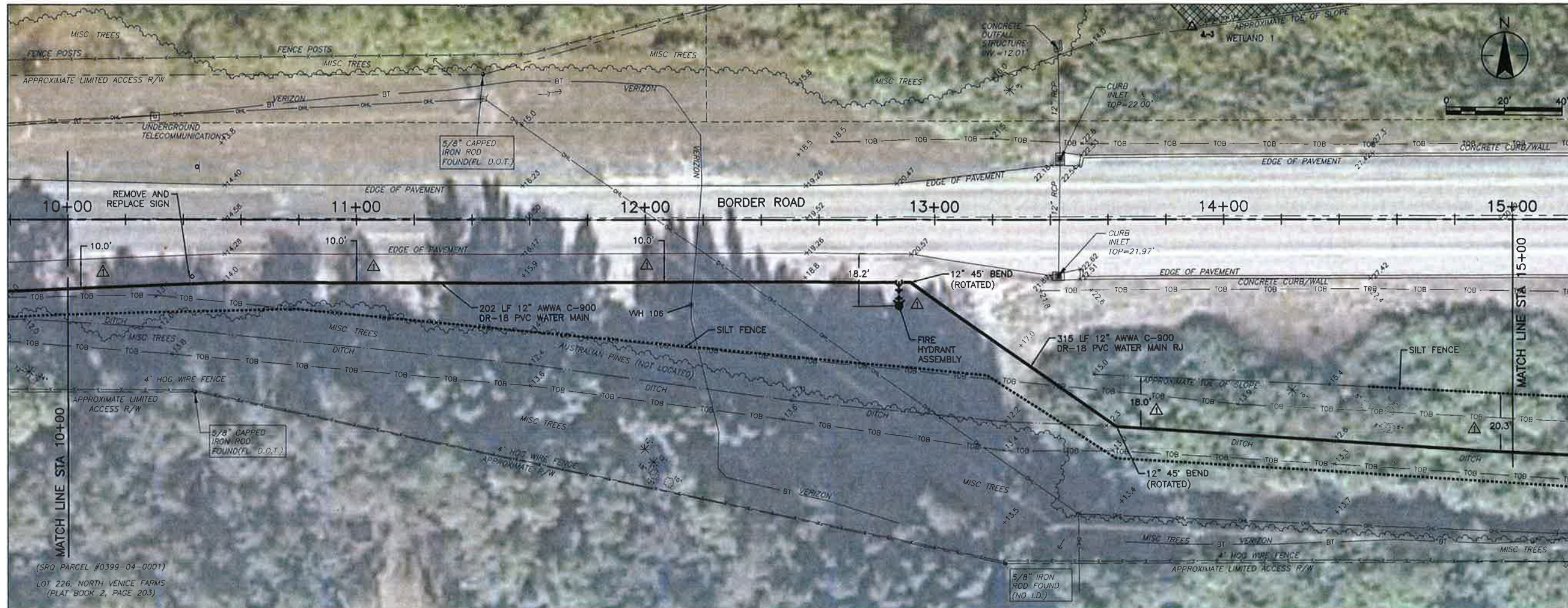


Client/Project  
CITY OF VENICE  
BORDER ROAD WATER MAIN EXTENSION  
VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 5+00 TO 10+00

Project No.	Scale	
177310466	1"=20'	
Drawing No.	Sheet	Revision
	5 of 28	0

1. THESE DRAWINGS ARE FOR WATER MAIN CONSTRUCTION ONLY. OTHER FEATURES ARE SHOWN FOR REFERENCE ONLY.
2. 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.
3. DEFLECT MAIN UNDER EXISTING VERIZON LINE.
4. THE CONTRACTOR SHALL CLEAR AND LEGALLY DISPOSE OF THE VEGETATION/BRUSH ENCOUNTERED IN THE DITCH WHERE THE WATER MAIN IS TO BE INSTALLED. THE DITCH SHALL BE RETURNED TO ITS PRECONSTRUCTION GRADE AND SODDED OR SEEDED.



Revision	By	Appd.	YY.MM.DD
△ MOVED HYDRANT/ADD DIMS	ML		14.12.22

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11815  
STEPHEN CYRUS MACEACHERN  
LICENSE No. 76020  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

Client/Project  
CITY OF VENICE  
BORDER ROAD WATER MAIN EXTENSION  
VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 10+00 TO 15+00

Project No. 177310466	Scale 1"=20'
Drawing No.	Sheet 6 of 28
Revision 0	

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  2. THE CONTRACTOR SHALL CLEAR AND LEGALLY DISPOSE OF THE VEGETATION/BRUSH ENCOUNTERED IN THE DITCH WHERE THE WATER MAIN IS TO BE INSTALLED. THE DITCH SHALL BE RETURNED TO ITS PRECONSTRUCTION GRADE AND SODDED OR SEEDED.

Revision	By	Appd.	YY.MM.DD
ADD DIMS/FDOT I.T.S. CONDUIT	ML		14.12.22

Issued By Appd. YY.MM.DD

File Name: \_\_\_\_\_

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 PROFESSIONAL ENGINEER

Client/Project  
 CITY OF VENICE

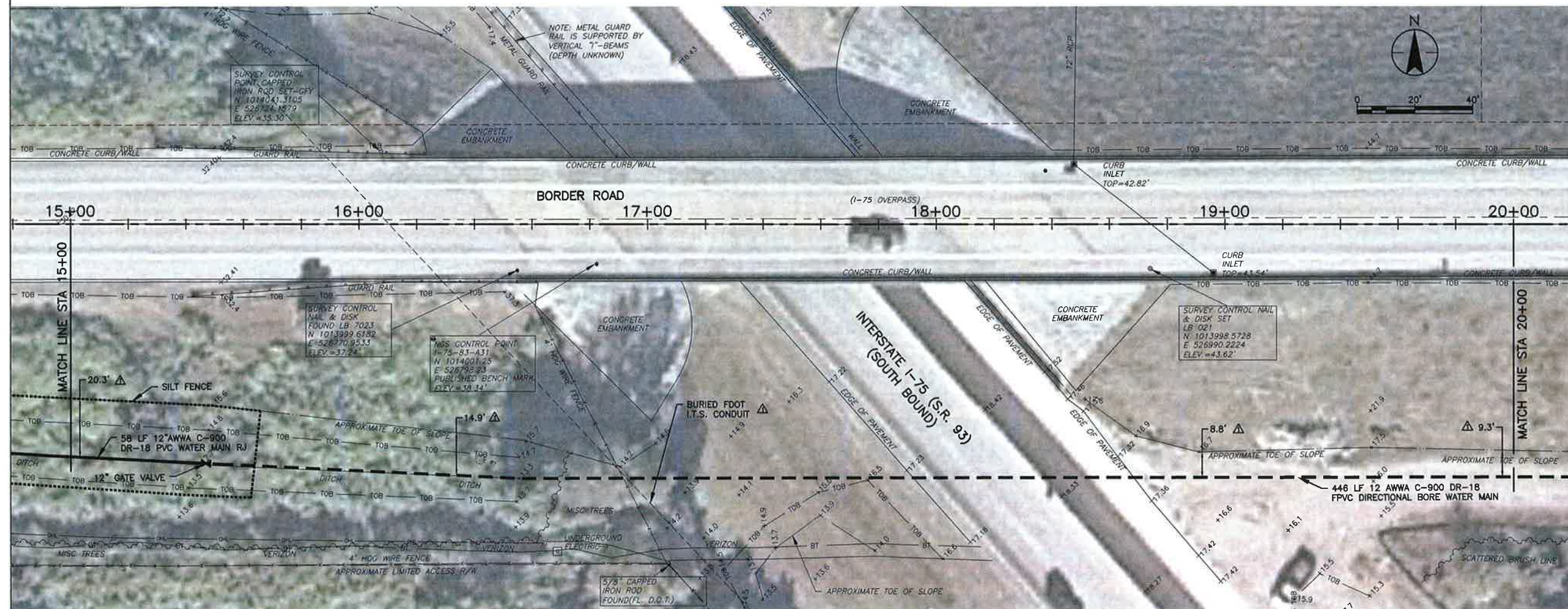
BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
 BORDER ROAD  
 PLAN  
 STA 15+00 TO 20+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet 7 of 28 Revision 0



SEE SHEET 8 FOR PROFILE

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1	ML		14.12.22

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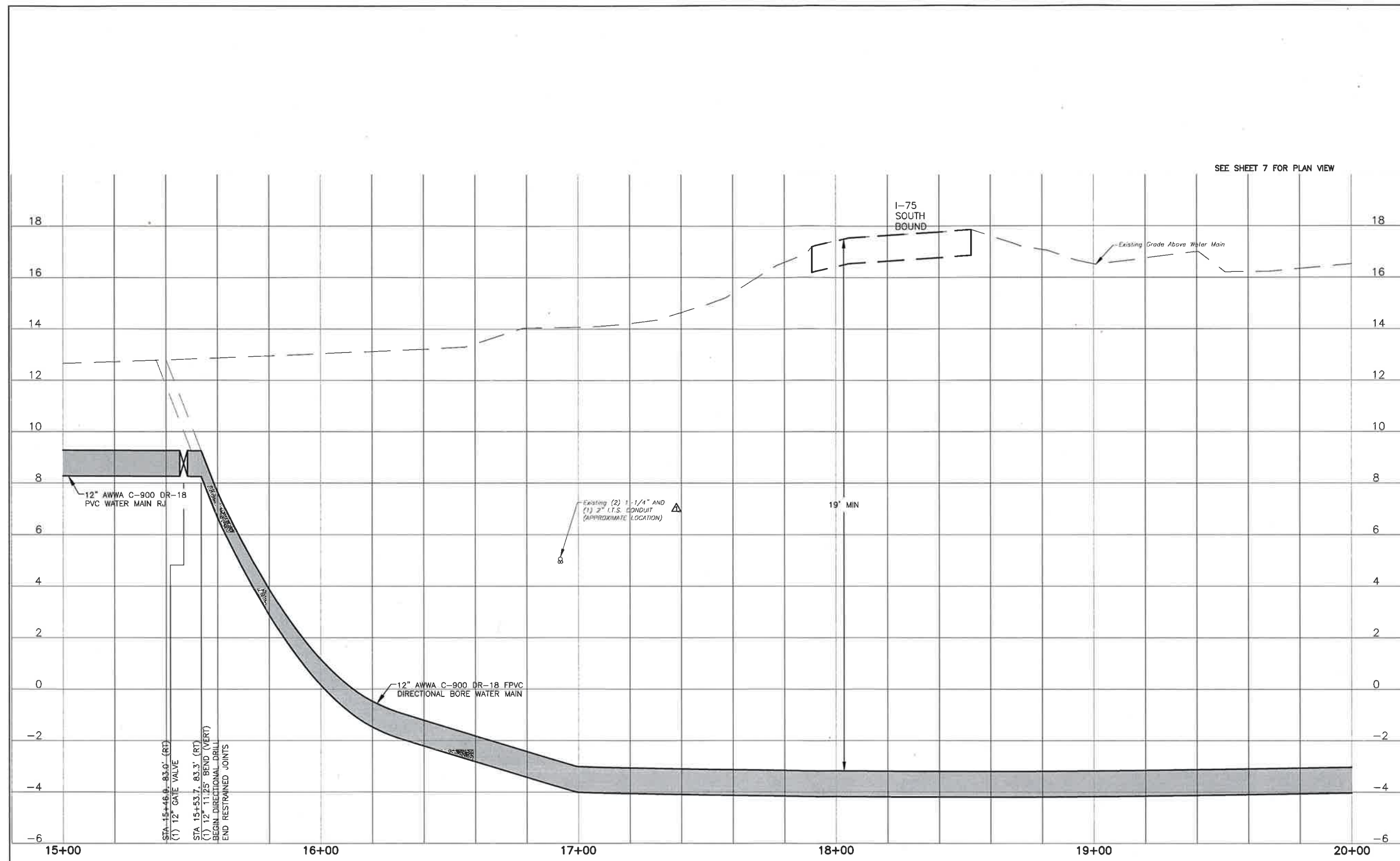
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Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN EXTENSION  
 VENICE, FL

Title  
 BORDER ROAD  
 PROFILE  
 STA 15+00 TO 20+00

Project No. 177310466 Scale 1"=20'  
 Drawing No. Sheet Revision



SEE SHEET 7 FOR PLAN VIEW

I-75 SOUTH BOUND

Existing Grade Above Water Main

12" AWWA C-900 DR-18 PVC WATER MAIN R.J.

Existing (2) 1-1/4" AND (1) 2" I.T.S. CONDUIT (APPROXIMATE LOCATION)

19" MIN

12" AWWA C-900 DR-18 FPVC DIRECTIONAL BORE WATER MAIN

STA-15+46.0 - 83.0' (RT) (1) 12" GATE VALVE  
 STA 15+53.7 - 83.3' (RT) (1) 12" 11.25' BEND (VERT) BEGIN DIRECTIONAL DRILL END RESTRAINED JOINTS

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Legend

Notes

- 36" MINIMUM COVER UNLESS SHOWN OTHERWISE.

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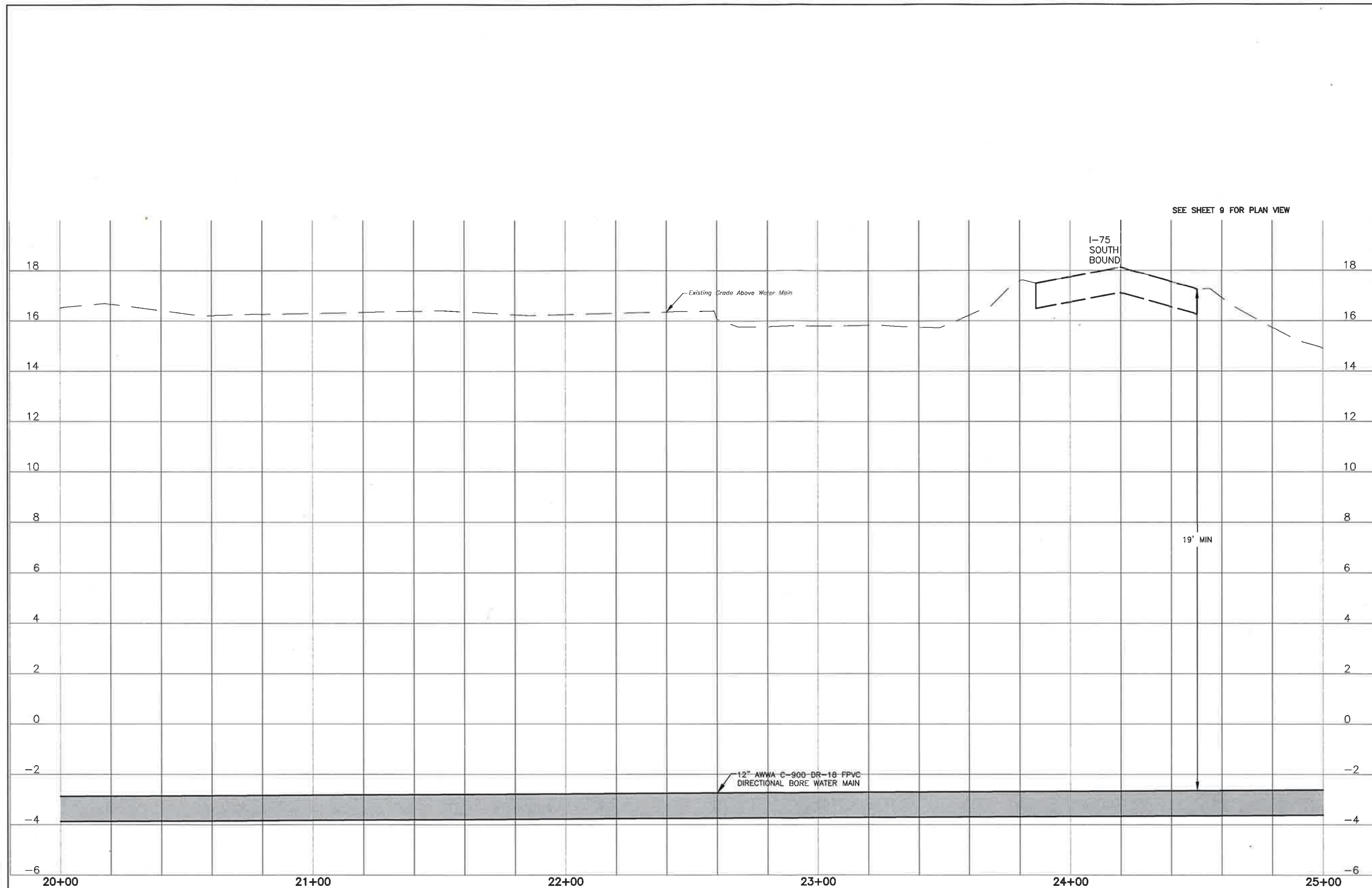
Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN EXTENSION  
 VENICE, FL

Title  
 BORDER ROAD  
 PLAN  
 STA 20+00 TO 25+00

Project No. 177310466 Scale 1"=20'

Drawing No. Sheet Revision

10 of 28 0



SEE SHEET 9 FOR PLAN VIEW

I-75  
 SOUTH  
 BOUND

Existing Grade Above Water Main

12" AWWA C-900 DR-18 FPVC  
 DIRECTIONAL BORE WATER MAIN

19' MIN

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File Name: \_\_\_\_\_

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 BORDER ROAD WATER MAIN EXTENSION

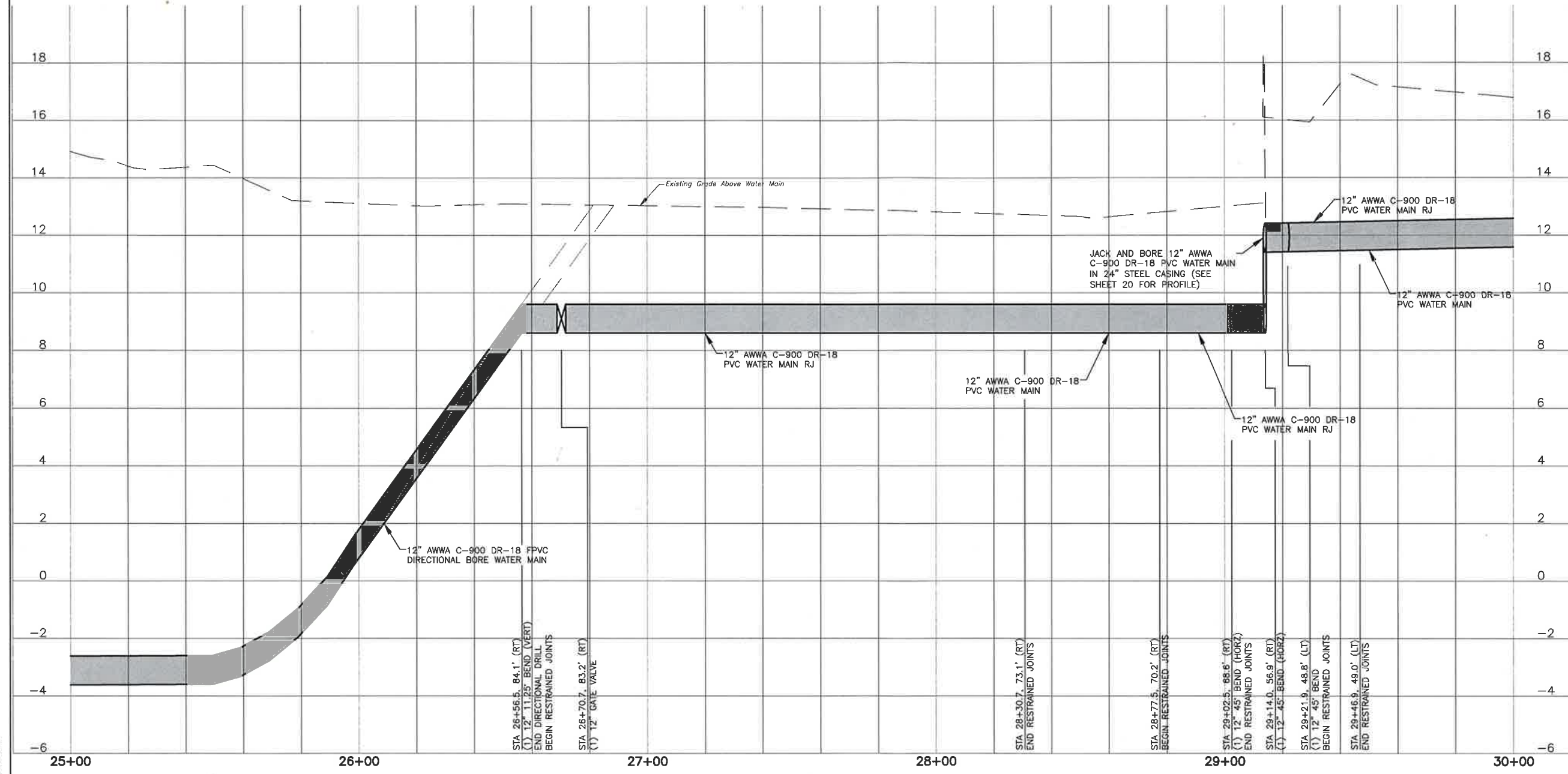
VENICE, FL

Title  
 BORDER ROAD  
 PROFILE  
 STA 25+00 TO 30+00

Project No. 177310466 Scale 1"=20'

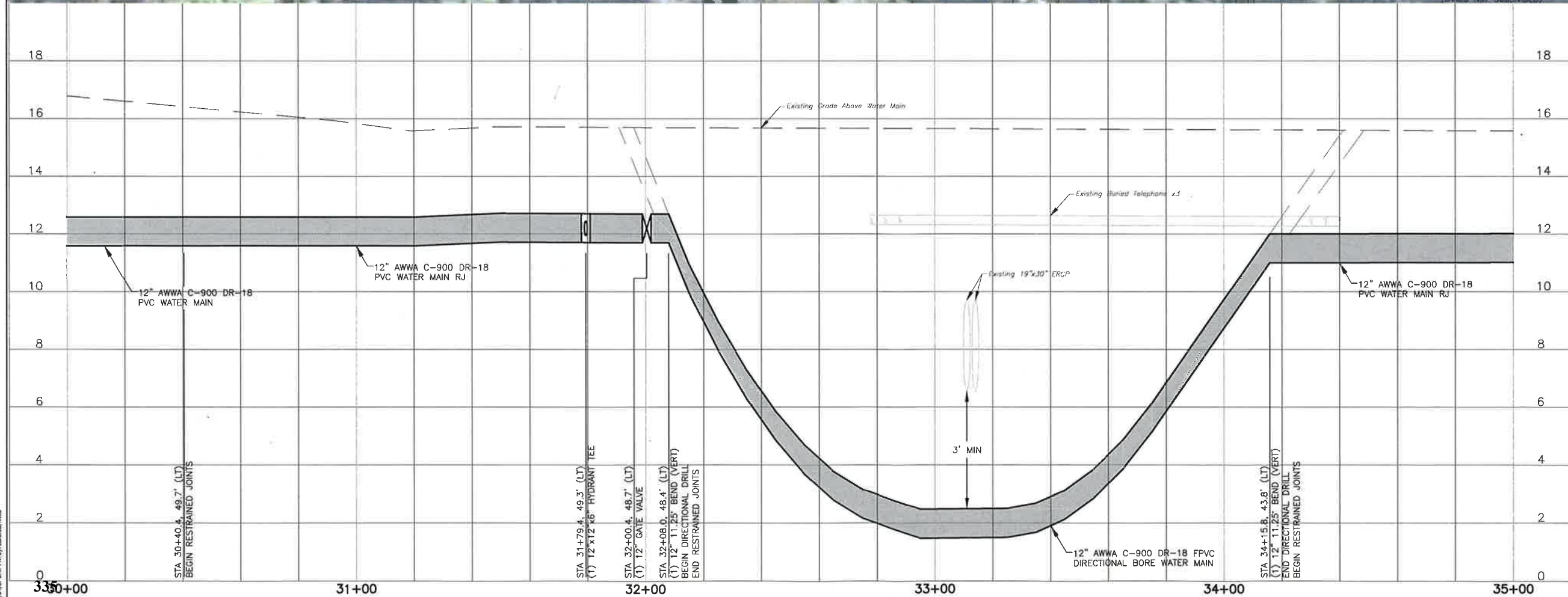
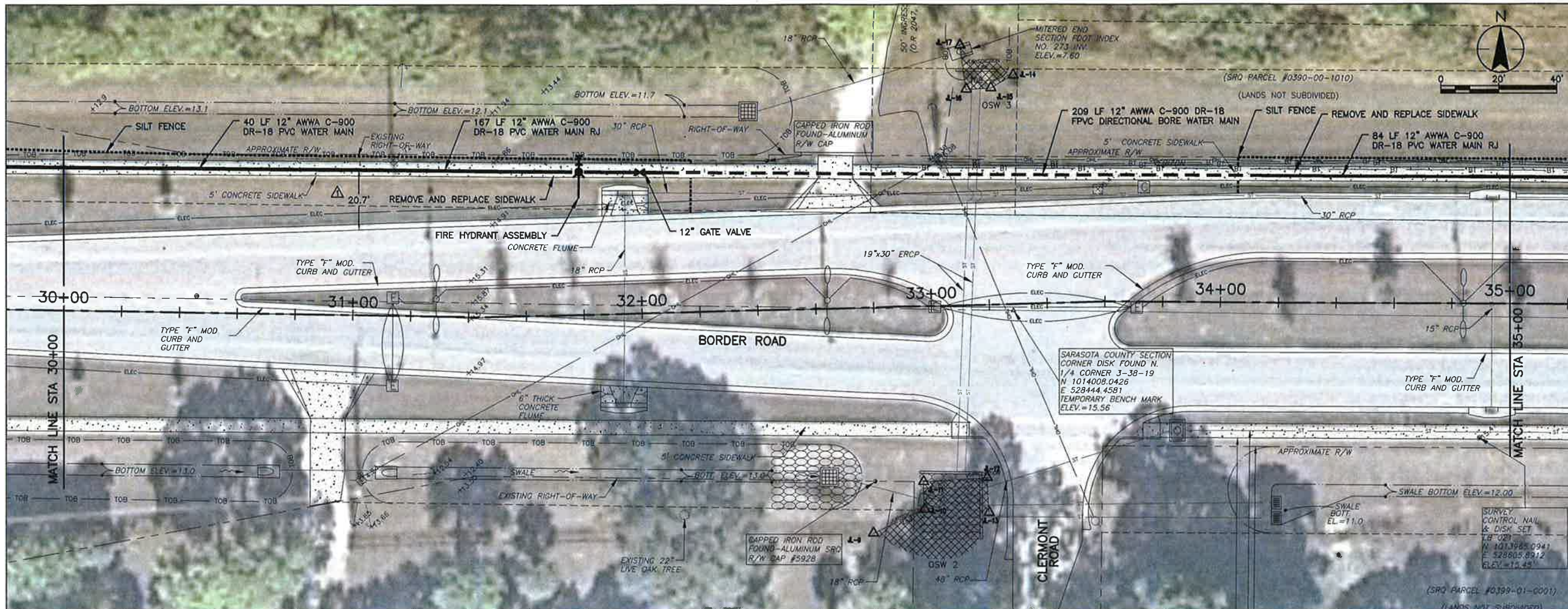
Drawing No. Sheet 12 of 28 Revision 0

SEE SHEET 11 FOR PLAN VIEW



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Revision	By	Appd.	YY.MM.DD
ADDED DIMENSIONS	ML		14.12.22

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Client/Project  
CITY OF VENICE

BORDER ROAD WATER MAIN EXTENSION

VENICE, FL

Title  
BORDER ROAD  
PLAN AND PROFILE  
STA 30+00 TO 35+00

Project No. 177310466 Scale 1"=20'

Drawing No. \_\_\_\_\_ Sheet \_\_\_\_\_ Revision \_\_\_\_\_

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Revision	ML	By	Appd.	YY.MM.DD
ADDED DIMS/STA NUMBERS				14.12.22

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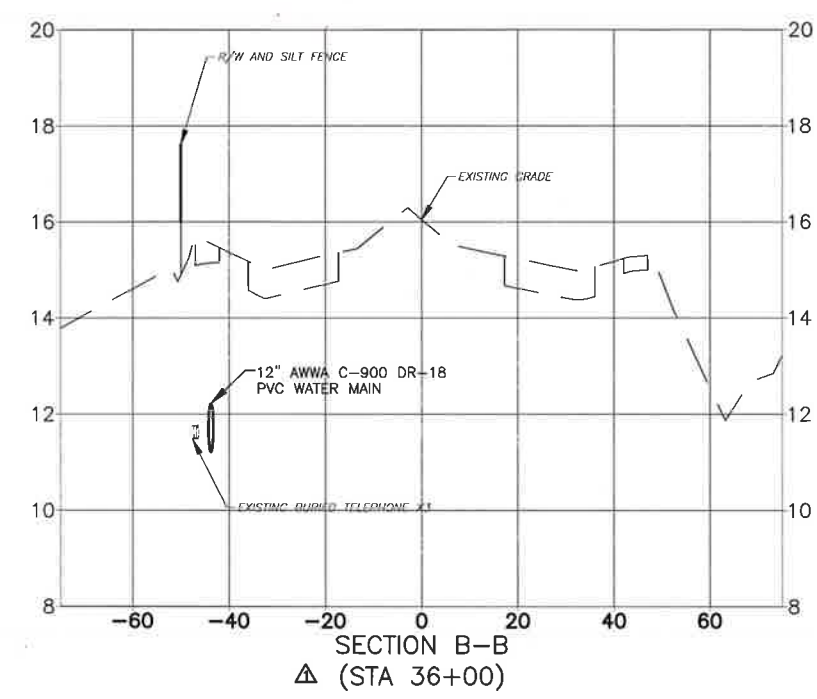
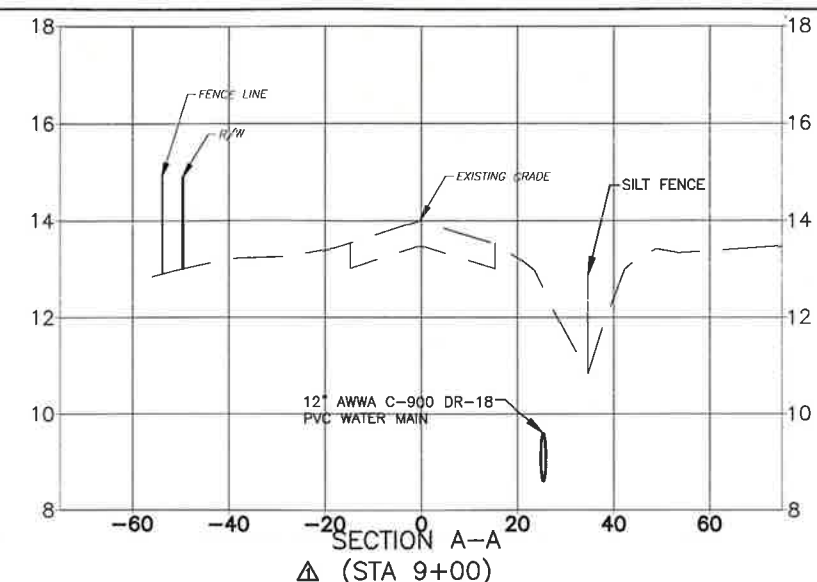
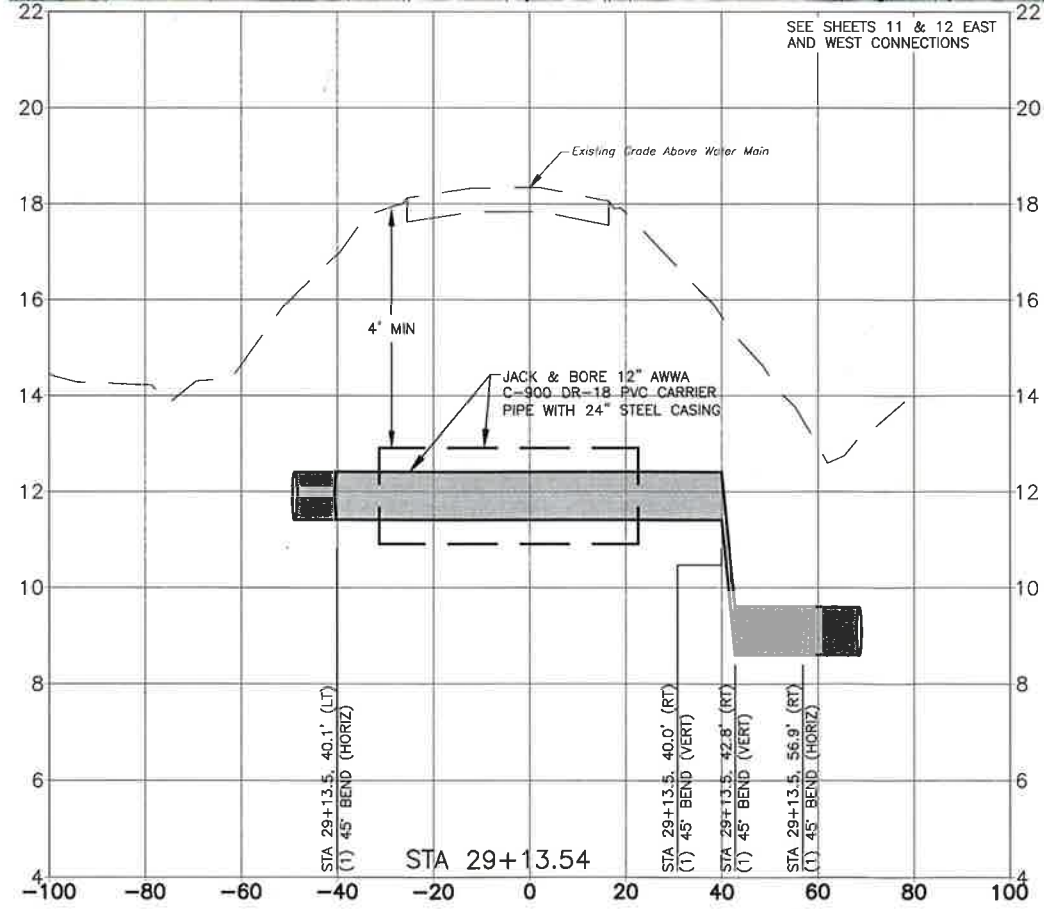
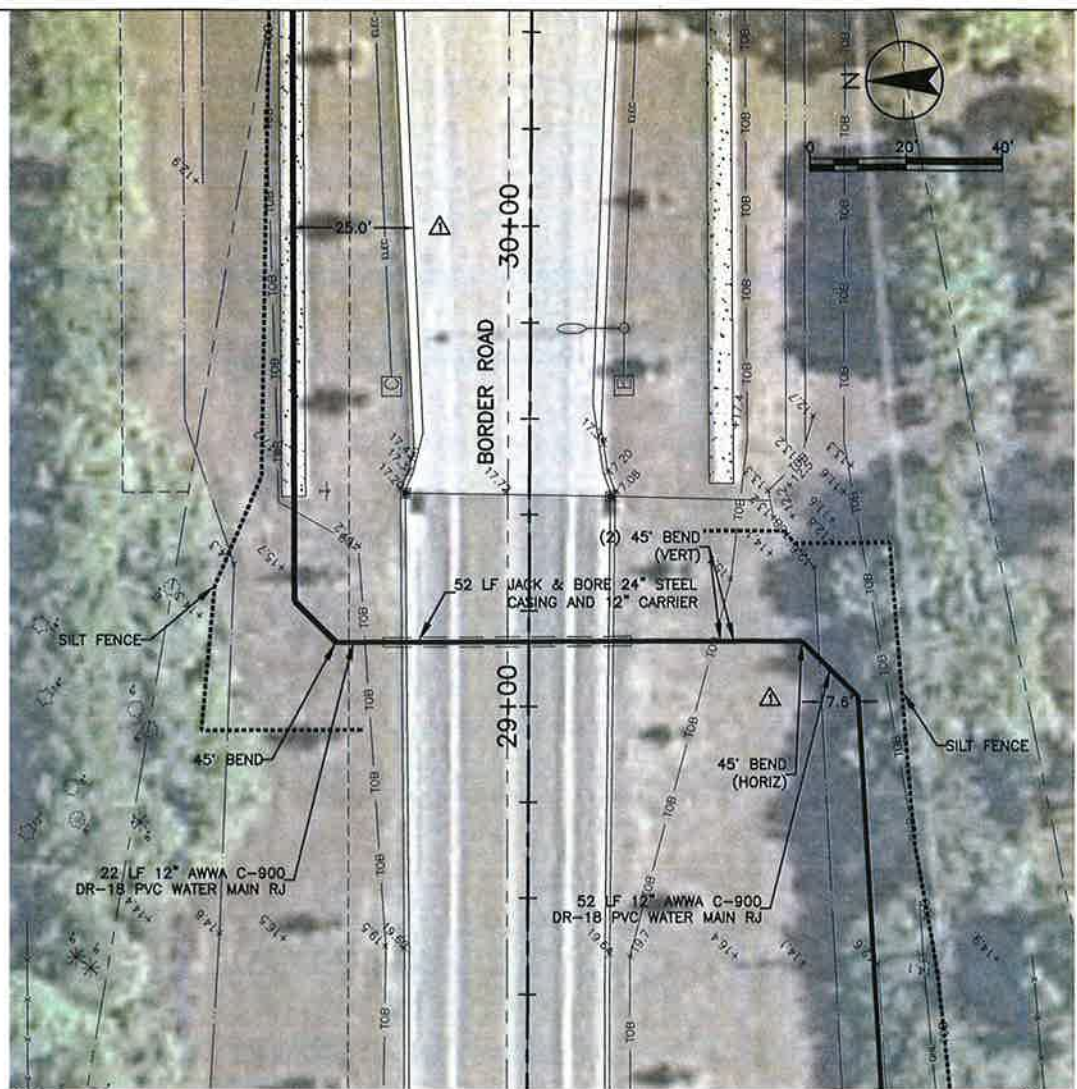
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11815  
 LICENSE No. 76020  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN EXTENSION  
 VENICE, FL

Title  
 BORDER ROAD JACK & BORE CROSSING AND SECTIONS

Project No. 177310466 Scale 1"=20'  
 Drawing No. \_\_\_\_\_ Sheet \_\_\_\_\_ Revision \_\_\_\_\_















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Legend

- WORK ONE OPEN CUT
- WORK ZONE HDD
- SIGN

Notes

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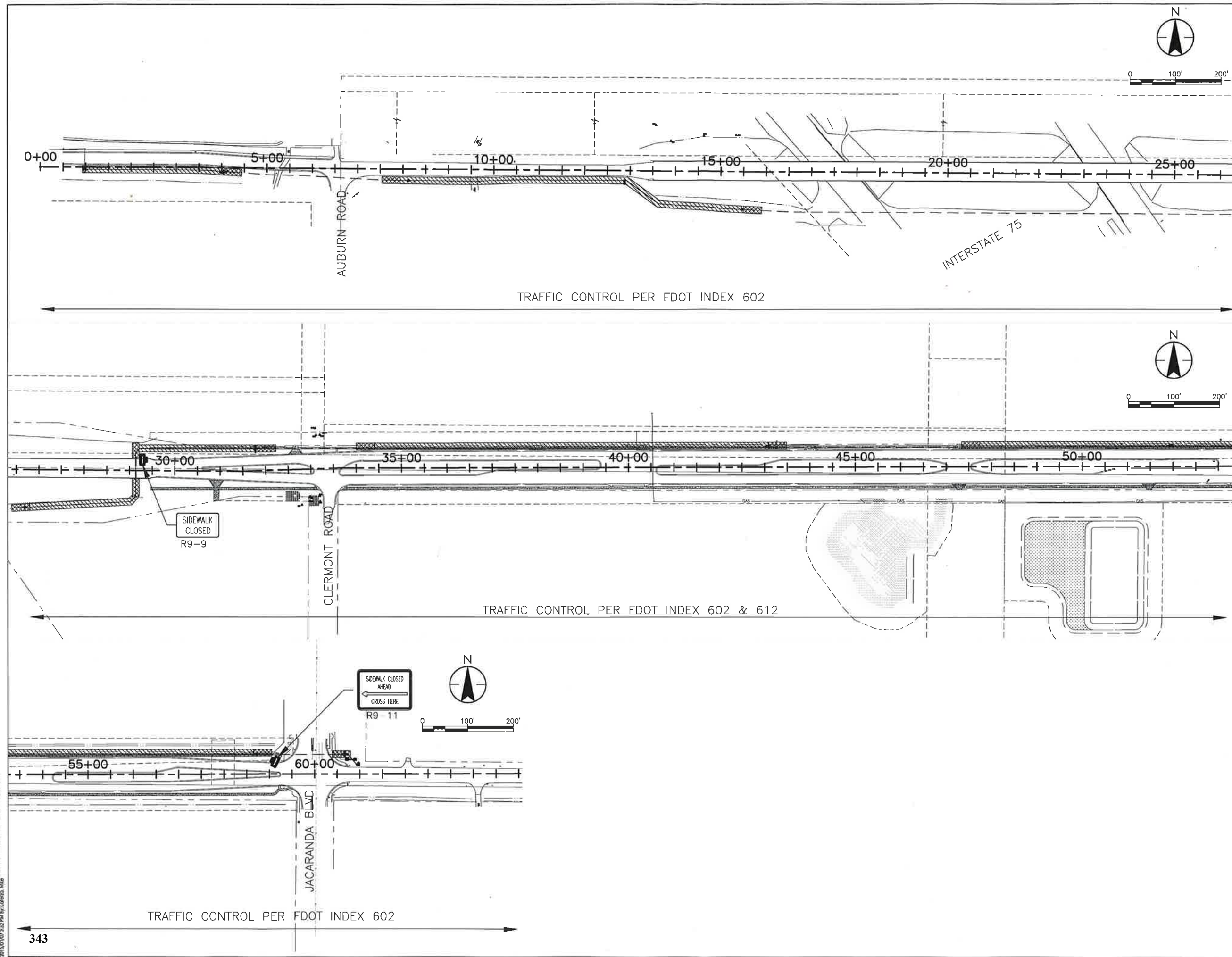
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11/8/15  
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 STATE OF FLORIDA  
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 Client/Project  
 CITY OF VENICE  
 BORDER ROAD WATER MAIN EXTENSION  
 VENICE, FL

Title  
 TRAFFIC CONTROL PLANS

Project No. 177310466	Scale 1"=100'
Drawing No.	Sheet 27 of 28
Revision 0	



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 ORIGINAL SHEET - ANS 0



## CONTRACT

THIS CONTRACT, pursuant to City Council approval granted on \_\_\_\_\_, is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2015, by and between the City of Venice, Florida, hereinafter referred to as the City, and \_\_\_\_\_, hereinafter referred to as the Contractor.

### W I T N E S S E T H:

THAT FOR and in consideration of the mutual covenants and obligations hereafter set forth, the parties hereto agree as follows:

(1) The Contract Documents consist of this Contract, Performance and Payment Bonds attached hereto as composite Exhibit A and, the City's Invitation to **Bid #3010-15: Border Road Water Main Extension Re-bid**, including: standard general conditions, supplemental conditions, special conditions, technical specifications, drawings, Contractor's bid proposal for ITB #2997-14, all of which are incorporated herein by reference. All of the Contract Documents are made a part of this Contract.

(2) The Contractor shall perform all the work required by the Contract Documents and shall include installation of the listed items per the bid specifications.

(3) The work to be performed under this Contract shall be completed within **One Hundred Eighty (180)** days of the issuance of the Notice to Proceed by the City.

(4) The City shall pay the Contractor for the performance of the work, in accordance with Exhibit B, subject to the terms and conditions of the Contract Documents and any written change orders, the contract sum not to exceed: \_\_\_\_\_ **Dollars & xx/100s** (\$ \_\_\_\_\_).

(5) Time is of the essence in this contract. In the event that the work is not completed within the required time as specified in Section 3 herein, then from the compensation otherwise to be paid to the Contractor, the City may retain the sum of **One Thousand Five Hundred and Thirty-Two Dollars (\$ 1,532.00) per day** for each calendar day that the work remains incomplete beyond the time limit, which sum shall represent the actual damage which the City will have sustained per day by failure of the Contractor to complete the work within the required time, said sum not being a penalty but being the stipulated damages the City will have sustained in the event of such default by the Contractor.

(6) In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, sex, religion, color, or national origin. The aforesaid provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees or applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the non-discrimination clause. The Contractor further agrees to insert the foregoing provisions in all contracts hereunder, including contracts or agreements with labor unions and/or workers' representatives, except subcontracts for standard commercial supplies or raw

materials.

(7) Contractor must secure and maintain any and all permits and licenses required to complete the work under this Contract, unless the Contract Documents provide otherwise.

(8) Throughout the term of this Contract the Contractor must maintain insurance in at least the amounts and coverage required as shown in Exhibit C. The Contractor must provide a Certificate of Insurance to the City evidencing such coverage prior to issuance of the Notice to Proceed by the City.

(9) Pursuant to applicable Florida law, Contractor's records associated with this Contract may be subject to Florida's public record laws, Florida Statutes 119.01, *et seq*, as amended from time to time. Contractor shall comply with all public records obligations set forth in such laws, including those obligations to keep, maintain, provide access to, and maintain any applicable exemptions to public records, and transfer all such public records to the City at the conclusion of this Contract, as provided for in Section 119.0701, Florida Statutes.

(10) Contractor shall indemnify, pay the cost of defense, including attorneys' fees, and hold harmless the City from all suits, actions, or claims of any kind brought on account of any injuries or damages received or sustained by any person or property by or from the Contractor or in consequence of any neglect in safeguarding the work; or by the use of any unacceptable materials related to the work; or on account of any act or omission, neglect or misconduct of the Contractor; or on account of any claim or amounts received under the "Workers' Compensation Law" or any other laws or ordinances, except only such injury or damage as shall have been caused by the negligence of the City. The first ten dollars (\$10.00) of compensation received by the Contractor represents specific consideration for this indemnification obligation.

(11) Contractor shall be responsible for compliance with the requirements under Chapter 556, Florida Statutes, the "Underground Facility Damage Prevention and Safety Act." Contractor's obligations to defend, indemnify, and hold harmless the City, as provided for under Section 10 of this Contract, shall specifically apply to any violations alleged against the City under the Underground Facility Damage Prevention and Safety Act related to the performance of the work under this Contract. Contractor acknowledges that included in the various items of the proposal and in the total bid price, are costs for complying with the Florida Trench Safety Act (90-96 Laws of Florida) effective October 1, 1990.

(12) Termination. This Contract may be terminated by the City without cause, by giving thirty (30) days prior written notice to contractor of the intention to cancel. or with cause at any time contractor fails to fulfill or abide by any of the terms or conditions specified. Failure of contractor to comply with any of the provisions of this agreement shall be considered a material breach of contract and shall be cause for immediate termination of the agreement at the discretion of the city. This Contract may be terminated by the Contractor only by mutual consent of both parties. If this Contract is terminated before performance is completed, the Contractor shall be paid only for that work satisfactorily performed for which costs can be substantiated.

(13) The laws of the State of Florida shall govern all provisions of this Contract. Venue for any dispute shall be Sarasota County, Florida. If any court proceeding or other action occurs

between the parties as a result of this Contract or any other document or act required by this Contract, the prevailing party shall be entitled to recover attorney's fees and all court costs, including attorney's fees and court costs incurred in any pre-trial, trial, appellate, and/or bankruptcy proceedings, as well as, attorney's fees and costs incurred in determining entitlement to and reasonableness of fees and costs.

(14) This Contract and the Contract Documents constitute the entire agreement of the parties and may not be changed or modified, except by a written document signed by both parties hereto. This Contract shall be binding upon the successors and assigns of the parties.

IN WITNESS WHEREOF, the parties to the agreement have hereunto set their hands and seals and have executed this agreement, the day and year first above written.

(SEAL)

ATTEST:

CITY OF VENICE  
IN SARASOTA COUNTY, FLORIDA

\_\_\_\_\_  
CITY CLERK

BY: \_\_\_\_\_  
MAYOR JOHN HOLIC

ATTEST:

\_\_\_\_\_  
(Contractor Name)

\_\_\_\_\_  
Signed by (typed or printed)

BY: \_\_\_\_\_  
\_\_\_\_\_  
Signed by (typed or printed)

Approved as to Form and Correctness

\_\_\_\_\_  
David Persson, City Attorney

## **EXHIBIT A**

### **SURETY BONDS**

At the time of executing the Contract Documents, the successful proposer shall append to this sheet separate performance and payment bonds each equal to one-hundred percent (100%) of the contract amount. Said bonds become an integral part of these Contract Documents and shall meet the following requirements:

1. Surety bonds submitted shall be written by a surety company that is approved by the City Finance Director and authorized to do business in the State of Florida, shall be accompanied by evidence of the authority of the issuing agent, and shall be on a form to be approved by the City Attorney. No bond in an amount greater than \$5,000 required by the City Charter, the Ordinances of The City of Venice, or the laws of the State of Florida shall be approved by the City Finance Director unless the surety company executing the bond is listed by the United States Treasury Department as being approved for writing bonds for Federal projects and its current list in an amount not less than the amount of the bond tendered to The City of Venice.

2. Both the separate payment and performance bonds shall be in the general form of AIA documents A311. Additionally, the payment bond shall state as follows:  
“This bond is issued in compliance with Section 255.05, Florida Statutes (1994 Supp.), as may be amended. A claimant, except a laborer, who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 45 days after beginning to furnish labor, materials, or supplies for the prosecution of the work, furnish the contractor with a notice, that he intends to look to the bond for protection. A claimant who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 90 days after performance of the labor or after complete delivery of the materials or supplies, or with respect to rental equipment, within 90 days after the date that the rental equipment was last on the job site available for use, deliver to the contractor and to the surety written notice of the performance of the labor or delivery of the materials or supplies and of the nonpayment. No action for the labor, materials, or supplies may be instituted against the contractor or the surety unless both notices have been given. No action shall be instituted against the contractor or the surety on the payment bond or the payment provisions of a combined payment and performance bond after 1 year from the performance of the labor or completion of delivery of the materials or supplies. A claimant may not waive in advance his right to bring an action under the bond against the surety. In any action brought to enforce a claim against a payment bond under this section, the prevailing party is entitled to recover a reasonable fee for the services of his attorney for trial and appeal or for arbitration, in an amount to be determined by the court, which fee must be taxed as part of his costs, as allowed in equitable actions.”

**GIVE THIS INFORMATION TO YOUR SURETY TO AID IN  
PREPARATION OF BONDS**

**PUBLIC WORKS PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS:

THAT \_\_\_\_\_, as Principal, hereinafter called Contractor; and \_\_\_\_\_, a corporation of the State of Florida, as surety, hereinafter called Surety, are held and firmly bound unto the City of Venice as Obligee, hereinafter called the City, in the amount of (\$\_\_\_\_\_) \_\_\_\_\_ /100's, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated the \_\_\_\_\_ day of \_\_\_\_\_, 2015, entered into a Contract with the City for the following described project: **ITB# 3010-15: Border Road Water Main Extension Re-bid** which contract is by reference incorporated herein and made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly make payments to all persons supplying Contractor labor, materials and supplies, used directly or indirectly by the said Contractor or Subcontractors in the prosecution of the work provided for in said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in anywise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED FURTHER, that this Bond is issued pursuant to Section 255.05, Florida Statutes, and reference is hereby made to the notice and time limitations in said statute for making claims against this Bond.

PROVIDED FURTHER, that any suit under this Bond must be instituted before the expiration of one (1) year from the performance of the labor or completion of delivery of the materials or supplies.

PROVIDED FURTHER, no right of action shall accrue on this Bond to or for the use of any person or corporation other than the City named herein and those persons or corporations provided for by Section 255.05, Florida Statutes, their heirs, executors, administrators, successors or assigns.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 2015.

IN THE PRESENCE OF:

CONTRACTOR

\_\_\_\_\_

BY: \_\_\_\_\_

INSURANCE COMPANY

BY: \_\_\_\_\_  
Agent and Attorney-in-Fact

SAMPLE

## PUBLIC WORKS PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT \_\_\_\_\_, as Principal, hereinafter called Contractor; and \_\_\_\_\_, a corporation of the State of Florida, as surety, hereinafter called Surety, are held and firmly bound unto the City of Venice as Obligee, hereinafter called the City, in the amount of (\$ \_\_\_\_\_) & \_\_\_\_\_/100's, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated the \_\_\_\_\_ day of \_\_\_\_\_, 2015, entered into a contract with the City of Venice for the following described project: **ITB# 3010-15: Border Road Water Main Extension Re-bid** which contract is by reference incorporated herein and made a part hereof, and is hereinafter referred to as the contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Contractor shall promptly and faithfully perform the Contract during the original term thereof and any extensions thereof which may be granted by the City with or without notice to the Surety and during any guarantee or warranty period, including the obligation to correct any latent defects not discovered until after acceptance of the project by the City, and if he shall satisfy all claims and demands incurred under said Contract and shall fully indemnify and save harmless the City, its agents, Engineer and employees from all losses, damages, expenses, costs and Attorney's Fees, including appellate proceedings which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, whenever Contractor shall be, and declared by the City to be in default under the Contract, the City having performed its obligations thereunder, the Surety may promptly remedy the default or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions; or
- (2) Obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions and upon determination by the City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion, less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph, shall mean the total

amount payable by the City to Contractor under the Contract and any amendments thereto, less the amount properly paid by the City to the Contractor.

PROVIDED FURTHER, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Contract Documents accompanying the same shall in any waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Contract Documents.

PROVIDED FURTHER, any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due; except that, when the action involves a latent defect, suit must be instituted within four (4) years from the time the defect is discovered or should have been discovered with the exercise of due diligence.

PROVIDED FURTHER, no right of action shall accrue on this bond to or for the use of any person or corporation other than the City, its successors or assigns.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, AD., 2015.

IN THE PRESENCE OF:

CONTRACTOR

\_\_\_\_\_  
BY: \_\_\_\_\_

INSURANCE COMPANY

BY: \_\_\_\_\_  
Agent and Attorney-in-Fact

**EXHIBIT B**

[Bid Form & Schedule added here]

SAMPLE

## EXHIBIT C

Before performing any work, the Contractor shall procure and maintain, during the life of the Contract, insurance listed below. The policies of insurance shall be primary and written on forms acceptable to the City and placed with insurance carriers approved and licensed by the Insurance Department in the State of Florida and meet a minimum financial AM Best and Company rating of no less than A:VII. No changes are to be made to these specifications without prior written specific approval by the City.

1. The City of Venice is to be specifically included as an **ADDITIONAL INSURED**.
2. The City of Venice shall be named as Certificate Holder. *Please Note that the Certificate Holder should read as follows:*

*The City of Venice  
401 W. Venice Avenue  
Venice, FL 34285*

No City Division, Department, or individual name should appear on the certificate. **NO OTHER FORMAT WILL BE ACCEPTABLE.**

3. The “Acord” certification of insurance form shall be used.
4. Required Coverage
  - a) **Commercial General Liability:** including but not limited to bodily injury, property damage, contractual liability, products and completed operations, and personal injury with limits of not less than \$ 1,000,000 per occurrence, \$ 1,000,000 aggregate covering all work performed under this Contract. Include broad form property damage (provide insurance for damage to property under the care custody and control of the contractor)
  - b) **Business Auto Policy:** including bodily injury and property damage for all vehicles owned, leased, hired and non-owned vehicles with limits of not less than \$1,000,000 combined single limit covering all work performed under this Contract.
  - c) **Workers Compensation:** Contractor will provide Workers Compensation Insurance on behalf of all employees, including sub-contractors, who are to provide a service under this Contract, as required under Florida Law, Chapter 440, and Employers Liability with limits of not less than \$100,000 per employee per accident; \$500,000 disease aggregate; and \$100,000 per employee per disease.
  - d) **Installation Floater/Installation Builders’ Risk–Property Coverage:** Policy to cover direct physical loss or damage to materials, supplies, machinery, and equipment being installed, constructed or rigged by the contractor in conjunction with its installation or construction. All items involved in the project including drainage/water sewer pipes, etc. (as included in description of project) need to be insured for the total completed replacement value. Coverage should include perils of fire, theft, vandalism, windstorm/hail, collapse and transit, sewer backup, testing, equipment breakdown, waterborne property. Coverage shall start when the items to be installed are transported to City premises and remain in place until the interest of the contractors ceases or the City accepts possession whichever comes first Coverage should

apply to owned property and non-owned property in the contractor's care, custody and control. The installation coverage forms shall provide coverage for building materials and supplies at the construction site, in transit to the site and similar property intended for the construction project at other locations as necessary or because of lack of storage space at the construction site. Coverage should apply on a Primary basis and should include a Waiver of Subrogation. Contractor should be responsible for any deductibles.

#### 5. Policy Form:

- a) All policies required by this Contract, with the exception of Workers Compensation, or unless specific approval is given by the City, are to be written on an occurrence basis, shall name the City of Venice, its Elected Officials, Officers, Agents, Employees as additional insured as their interest may appear under this Contract. Insurer(s), with the exception of Workers Compensation, shall agree to waive all rights of subrogation against the City of Venice, its Elected Officials, Officers, Agents, and Employees.
- b) Insurance requirements itemized in this Contract, and required of the Contractor, shall be provided on behalf of all subcontractors to cover their operations performed under this Contract. The Contractor shall be held responsible for any modifications, deviations, or omissions in these insurance requirements as they apply to subcontractors.
- c) Each insurance policy required by this Contract shall:
  - (1) apply separately to each insured against whom claim is made and suit is brought, except with respect to limits of the insurer's liability;
  - (2) be endorsed to state that coverage shall not be suspended, voided or canceled by either party except after thirty (30) calendar days prior written notice by certified mail, return receipt requested, has been given to the City of Venice's Director of Administrative Services.
- d) The City shall retain the right to review, at any time, coverage form, and amount of insurance.
- e) The procuring of required policies of insurance shall not be construed to limit Contractor's liability nor to fulfill the indemnification provisions and requirements of this Contract.
- f) The Contractor shall be solely responsible for payment of all premiums for insurance contributing to the satisfaction of this Contract and shall be solely responsible for the payment of any deductible and/or retention to which such policies are subject, whether or not the City is an insured under the policy. In the event that claims in excess of the insured amounts provided herein are filed by reason of operations under the contract, the amount excess of such claims, or any portion thereof, may be withheld from any payment due or to become due to the Contractor until such time the contractor shall furnish additional security covering such claims as may be determined by the City.
- g) Claims Made Policies will be accepted for professional and hazardous materials and such other risks as are authorized by the City. All Claims Made Policies contributing to the satisfaction of the insurance requirements herein shall have an extended reporting period option or automatic coverage of not less than two years. If provided as an option, the Contractor agrees to purchase the extended reporting period on cancellation or termination unless a new policy is affected with a retroactive date, including at least the last policy year.
- h) Certificates of Insurance evidencing Claims Made or Occurrence form coverage and

conditions to this Contract, as well as the City's Bid Number and description of work, are to be furnished to the City's Director of Administrative Services, 401 West Venice Avenue, Venice, FL 34285, ten (10) business days prior to commencement of work and a minimum of thirty (30) calendar days prior to expiration of the insurance policy.

- i) Notices of Accidents and Notices of Claims associated with work being performed under this Contract, shall be provided to the Contractor's insurance company and the City's Director of Administrative Services, as soon as practicable after notice to the insured.
- j) All property losses shall be payable to, and adjusted with, the City.

SAMPLE