



**INVITATION FOR BID
IFB #13-1745CD
FORT HAMER ROAD WATER MAIN CROSSING**

Manatee County, a political subdivision of the State of Florida, (hereinafter the "County") will receive sealed Bids from individuals, corporations, partnerships, and other legal entities organized under the laws of the State of Florida or authorized to conduct business in the State of Florida.

NON-MANDATORY INFORMATION CONFERENCE

In order to ensure that all prospective Bidders have sufficient information and understanding of the County's needs, an Information Conference will be held on: **Tuesday, October 8, 2013 at 10:00 AM** at the **Manatee County Administrative Center, Purchasing Division, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205..** Attendance is not mandatory, but is highly encouraged.

NOTE: **Article B.05 Inspection of Site (page 00020-2)** – All potential Contractors, it is mandatory that a site visit be performed at the location to familiarize yourselves with the full scope of the construction site.

DEADLINE FOR CLARIFICATION REQUESTS: **October 18, 2013 at 3:00 PM**
(Reference Bid Article A.06)

TIME AND DATE DUE: **October 30, 2013 at 3:00 PM**

Important Note: Lobbying is prohibited (reference Bid Article A.08).

FOR INFORMATION CONTACT:

Chris Daley-CPPB, Contract Specialist
(941) 749-3048, Fax (941) 749-3034
chris.daley@mymanatee.org
Manatee County Financial Management Department
Purchasing Division

AUTHORIZED FOR RELEASE: 

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SECTION 00010
INFORMATION TO BIDDERS

A.01 OPENING LOCATION

Sealed Bids will be **publicly opened** at **Manatee County Purchasing Division, 1112 Manatee Avenue West, Suite 803, Bradenton, Florida 34205** in the presence of County officials at the time and date stated, or soon thereafter. All Bidders or their representatives are invited to be present.

Any Bids received after the stated time and date will not be considered. It shall be the sole responsibility of the Bidder to have their Bid delivered to the Manatee County Purchasing Division for receipt on or before the stated time and date. If a Bid is sent by U.S. Mail, the Bidder shall be responsible for its timely delivery to the Purchasing Division. Bids delayed by mail shall not be considered, shall not be opened at the public opening, and arrangements shall be made for their return at the respondent's request and expense.

A.02 SEALED & MARKED

One original and two copies of your **signed Bid** shall be submitted in one **sealed** package, clearly marked on the outside "**Sealed Bid #13-1745CD, Fort Hamer Road Water Main Crossing**" with your company name.

Address package to: Manatee County Purchasing Division
1112 Manatee Avenue West, Suite 803
Bradenton, Florida 34205

A.03 SECURING OF DOCUMENTS

Complete individual copies of the Bidding documents for the project and/or products can be obtained, free of charge, at the Manatee County Public Works Department, 1022 26th Avenue East, Bradenton, FL 34208; (941) 708-7450, extension 7327 or 7334. Documents may be obtained between the hours of 8:00 AM and 4:00 PM Monday through Friday, with the exception of holidays. Complete set of the Bidding document must be used in preparing Bids. The County assumes no responsibility for errors and misinterpretations resulting from the use of incomplete sets of Bidding documents.

A.04 BID DOCUMENTS

Bids on <http://www.mymanatee.org>, Bid documents and the Notices of Source Selection related to those Bids are available for download in a portable document format (.PDF) file on the Manatee County web page on the Purchasing tab under "Bids." You may view and print these files using Adobe Acrobat software. You may download a free copy of this software (Adobe) from the Owner's web page if you do not have it.

A.04 BID DOCUMENTS (Continued)

Manatee County collaborates with the Manatee Chamber of Commerce on distributing solicitations using the RFP Tool web page on the Chambers website: <http://www.Manateechamber.com> to post Bid documents in a portable document format (.PDF) file. This step is in addition to the posting on Manatee County Government web pages.

Manatee County may also use an internet service provider to distribute Bids. A link to that service, <http://www.DemandStar.com>, is provided on this web site under the Tab "DemandStar". Participation in the DemandStar system is not a requirement for doing business with Manatee County.

Note: The County posts the Notice of Source Selection seven (7) calendar days prior to the effective date of the Award.

IT IS THE RESPONSIBILITY OF EACH CONTRACTOR, PRIOR TO SUBMITTING THEIR BID, TO CONTACT THE MANATEE COUNTY PURCHASING DIVISION (see contact information on page one of this document) TO DETERMINE IF ADDENDA WERE ISSUED AND TO MAKE SUCH ADDENDA A PART OF THEIR BID .

A.05 MODIFICATION OF BID SPECIFICATIONS

If a Bidder wishes to recommend changes to the Bid specifications, the Bidder shall furnish in writing, data and information necessary to aid the Owner in evaluating the request to modify the specifications. The Owner is not obligated to make any changes to the Bid specifications. Unless an addendum is issued, the Bid specifications shall remain unaltered. **Bidders must fully comply with the Bid specifications, terms, and conditions.**

A.06 DEADLINE FOR CLARIFICATION REQUESTS

October 18, 2013 at 3:00 PM shall be the deadline to submit all inquiries, suggestions, or requests concerning interpretation, clarification or additional information pertaining to the Invitation for Bids to the Manatee County Purchasing Division.

This deadline has been established to maintain fair treatment for all potential Bidders, while maintaining the expedited nature of the Economic Stimulus that the contracting of this Work may achieve.

A.07 CLARIFICATION & ADDENDA

Each Bidder shall examine all Invitation for Bid documents and shall judge all matters relating to the adequacy and accuracy of such documents. Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the Invitation for Bids shall be made through the Manatee County Purchasing Division. The County shall not be responsible for oral interpretations given by any County employee, representative, or others. The

A.07 CLARIFICATION & ADDENDA (Continued)

issuance of a written addendum is the only official method whereby interpretation, clarification or additional information can be given.

If any addenda are issued to this Invitation for Bid, the County will broadcast the addenda on the DemandStar distribution system to “Planholders” on this web service, and post the documents on the Purchasing Division’s web page at <http://www.mymanatee.org> which can be accessed by clicking on the “Purchasing” button and then clicking on the “Bids” button. It shall be the responsibility of each Bidder, prior to submitting their Bid, to contact Manatee County Purchasing (see contact on page 1) to determine if addenda were issued and to make such addenda a part of their Bid.

A.08 LOBBYING

After the issuance of any Invitation for Bid, prospective Bidders, or any agent, representative or person acting at the request of such Bidder shall not contact, communicate with or discuss any matter relating in any way to the Invitation for Bid with any officer, agent or employee of Manatee County other than the Purchasing Official or as directed in the Invitation for Bid. This prohibition includes the act of carbon copying officers, agents or employees of Manatee County on email correspondence. This requirement begins with the issuance of an Invitation for Bid, and ends upon execution of the final Contract or when the invitation has been canceled. Violators of this prohibition shall be subject to sanctions as provided in the Manatee County Purchasing Code of Law Chapter 2-26.

A.09 UNBALANCED BIDDING PROHIBITED

Manatee County recognizes that large and/or complex projects will often result in a variety of methods, sources, and prices. However, where in the opinion of the County such variation does not appear to be justified, given Bid specifications and industry and market conditions, the Bid will be presumed to be unbalanced. Examples of unbalanced Bids will include:

1. Bids showing omissions, alterations of form, additions not specified or required conditional or unauthorized alternate Bids.
2. Bids quoting prices that substantially deviate, either higher or lower, from those included in the Bids of competitive Bidders for the same line item unit costs.
3. Bids where the unit costs offered are in excess of or below reasonable cost analysis values.

A.09 UNBALANCED BIDDING PROHIBITED (Continued)

In the event the County determines that a Bid is presumed unbalanced, it will request the opportunity to, and reserves the right to, review all source quotes, Bids, price lists, letters of intent, etc., which the Bidder obtained and upon which the Bidder relied upon to develop the Bid. The County reserves the right to reject as non-responsive any presumptive unbalanced Bids where the Bidder is unable to demonstrate the validity and/or necessity of the unbalanced unit costs.

A.10 FRONT END LOADING OF BID PRICING PROHIBITED

Prices offered for performance and/or acquisition activities to occur early in the project schedule, such as mobilization; clearing and grubbing; or maintenance of traffic; that are substantially higher than pricing of competitive Bidders within the same portion of the project schedule, will be presumed to be front end loaded. Front end loaded Bids could reasonably appear to be an attempt to obtain unjustified early payments creating a risk of insufficient incentive for the Contractor to complete the Work or otherwise creating an appearance of an under-capitalized Bidder.

In the event the County determines that a Bid is presumed to be front end loaded, it will request the opportunity to, and reserves the right to, review all source quotes, Bids, price lists, letters of intent, etc., which the Bidder obtained and upon which the Bidder relied upon to develop the pricing or acquisition timing for these Bid items. The County reserves the right to reject as non-responsive any presumptive front end loaded Bids where the Bidder is unable to demonstrate the validity and/or necessity of the front end loaded costs.

A.11 WITHDRAWAL OF OFFERS

Contractors may withdraw offers as follows: a) Mistakes discovered before the opening of a solicitation may be withdrawn by written notice from the Bidder submitting the offer. This request must be received in the office designated for receipt of offers in the solicitation document prior to the time set for delivery and opening of the offers. A copy of the request shall be retained and the unopened offer returned to that Contractor. b) After the responses to a solicitation are opened or a selection has been determined, but before a Contract is signed, a Contractor alleging a material mistake of fact may be permitted to withdraw their offer if: (1) the mistake is clearly evident on the solicitation document; or (2) the Bidder submits evidence which clearly and convincingly demonstrates that a mistake was made. Request to withdraw an offer must be in writing and approved by the Purchasing Official.

A.12 IRREVOCABLE OFFER

Any Bid may be withdrawn up until the date and time set for opening of the Bid. Any Bid not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of ninety (90) days to sell to Manatee County the goods or services set forth in the attached specifications until one or more of the Bids have been duly accepted by the County.

A.13 BID EXPENSES

All expenses for making Bids to the County are to be borne by the Bidder.

A.14 RESERVED RIGHTS

The County reserves the right to accept or reject any and/or all Bids, to waive irregularities and technicalities, and to request resubmission. Also, the County reserves the right to accept all or any part of the Bid and to increase or decrease quantities to meet additional or reduced requirements of the County. Any sole response received by the first submission date may or may not be rejected by the County depending on available competition and current needs of the County. For all items combined, the Bid of the lowest responsive, responsible Bidder will be accepted, unless all Bids are rejected. The lowest responsible Bidder shall mean **that Bidder who makes the lowest Bid to sell goods and/or services of a quality which** meets or exceeds the quality of goods and/or services set forth in the attached specifications or otherwise required by the County, and who is fit and capable to perform the Bid as made.

To be responsive, a Bidder shall submit a Bid which conforms in all material respects to the requirements set forth in the Invitation for Bid. To be a responsible Bidder, the Bidder shall have the capability in all respects to perform fully the Contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. Also, the County reserves the right to make such investigation as it deems necessary to determine the ability of any Bidder to furnish the service requested. Information the County deems necessary to make this determination shall be provided by the Bidder. Such information may include, but shall not be limited to current financial statements, verification of availability of equipment and personnel, and past performance records.

A.15 APPLICABLE LAWS

Bidder must be authorized to transact business in the State of Florida. All applicable laws and regulations of the State of Florida and ordinances and regulations of Manatee County will apply to any resulting Agreement. Any involvement with any Manatee County procurement shall be in accordance with Manatee County Purchasing Ordinance as amended. Any actual or prospective Bidder who is aggrieved in connection with the solicitation or award of a Contract may protest to the Board of County Commissioners of Manatee County as required in Manatee County Code of Laws.

A.16 COLLUSION

By offering a submission to this Invitation for Bid, the Bidder certifies that he has not divulged, discussed or compared their Bid with other Bidder, and has not colluded with any other Bidder or parties to this Bid whatsoever. Also, Bidder certifies, and in the case of a joint Bid each party thereto certifies as to their own organization, that in connection with this Bid:

A.16 COLLUSION (Continued)

- a. any prices and/or cost data submitted have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other Bidder or with any competitor;
- b. any prices and/or cost data quoted for this Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder, prior to the scheduled opening, directly or indirectly to any other Bidder or to any competitor;
- c. no attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition;
- d. the only person or persons interested in this Bid, principal or principals is/are named therein and that no person other than therein mentioned has any interest in this Bid or in the Contract to be entered into; and
- e. no person or agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding or a commission, percentage, brokerage, or contingent fee excepting bona fide employees or established commercial agencies maintained by Bidder for purpose of doing business.

A.17 CODE OF ETHICS

With respect to this Bid, if any Bidder violates, directly or indirectly, the ethics provisions of the Manatee County Purchasing Ordinance and/or Florida criminal or civil laws related to public procurement, including but not limited to Florida Statutes Chapter 112, Part II, Code of Ethics for Public Officers and Employees, such Bidder will be disqualified from eligibility to perform the Work described in this Invitation for Bid, and may also be disqualified from furnishing future goods or services to, and from submitting any future Bids to supply goods or services to, Manatee County.

By submitting a Bid, the Bidder represents to the County that all statements made and materials submitted are truthful, with no relevant facts withheld. If a Bidder is determined to have been untruthful in its Bid or any related presentation, such Bidder will be disqualified from eligibility to perform the Work described in this Invitation for Bid, and may also be disqualified from furnishing future goods or services to, and from submitting any future Bids to supply goods or services to, Manatee County.

A.18 BID FORMS

Bids must be submitted on attached County forms, although additional pages may be attached. **Bidders must fully complete all pages of the Bid Forms. Bid Forms must be executed by an authorized signatory who has the legal authority to make the offer and bind the company. Bidders must fully comply with all Bid specifications, terms and conditions.** Failure to comply shall result in Contract default, whereupon, the defaulting Contractor shall be required to pay for any and all re-procurement costs, damages, and attorney fees as incurred by the County.

A.19 LEGAL NAME

Bids shall clearly indicate the legal name, address and telephone number of the Bidder. Bids shall be signed above the typed or printed name and title of the signer. The signer must have the authority to bind the Bidder to the submitted Bid.

A.20 PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES

A person or affiliate who has been placed on the State's convicted vendor list following a conviction for a public entity crime, as that term is defined in Florida Statute (F.S.) § 287.133, may not submit a Bid, Proposal, or reply on a Contract to provide any goods or services to a public entity; may not submit a Bid, Proposal, or reply on a Contract with a public entity for the construction or repair of a public building or public work; may not submit Bids, Proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a Contractor, Supplier, Subcontractor, or Consultant under a Contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in F.S. § 287.017 for CATEGORY TWO for a period of thirty-six (36) months following the date of being placed on the convicted list.

In addition, the Manatee County Code of Laws prohibits the award of any Contract to any person or entity who/which has, within the past five (5) years, been convicted of, or admitted to in court or sworn to under oath, a public entity crime or of any environmental law that, in the reasonable opinion of the Purchasing Official, establishes reasonable grounds to believe the person or business entity will not conduct business in a responsible matter. To insure compliance with the foregoing, the Code requires all persons or entities desiring to Contract with the County to execute and file with the Purchasing Official an affidavit, executed under the pain and penalties of perjury, confirming that person, entity and any person(s) affiliated with the entity, does not have such a record and is therefore eligible to seek and be awarded business with the County. In the case of a business entity other than a partnership or a corporation, such affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, such affidavit shall be executed by the general partner(s). A Public Contracting and Environmental Crimes Certification form is attached for this purpose.

A.21 DISCOUNTS

Any and all discounts must be incorporated in the prices contained in the Bid and not shown separately. The prices as shown on the Bid Form shall be the price used in determining Award.

A.22 TAXES

Manatee County is exempt from Federal Excise and State Sales Taxes. (F.E.T. Exempt Cert. No. 59-78-0089K; FL Sales Tax Exempt Cert. No. 85-8012622206C-6); therefore, the Contractor is prohibited from delineating a separate line item in his Bid for any sales or service taxes. Nothing herein shall affect the Contractor's normal tax liability.

A.23 DESCRIPTIVE INFORMATION

Unless otherwise specifically provided in the specifications, all equipment, materials and articles incorporated in the Work covered by this Contract shall be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in the specifications, reference to any equipment, material, article or patented process, by trade name, brand name, make or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition.

A.24 AMERICANS WITH DISABILITIES ACT

The Board of County Commissioners of Manatee County, Florida, does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the County's functions including one's access to, participation, employment, or treatment in its programs or activities. Anyone requiring reasonable accommodation for an **Information Conference** or **Bid Opening** should contact the person named on the first page of this Bid document at least twenty-four (24) hours in advance of either activity.

A.25 EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

In accordance with the provisions of Title VI of the Civil Rights Act of 1964 and Title 15, Part 8 of the Code of Federal Regulations, Manatee County hereby notifies all prospective offerors that they will affirmatively ensure minority business enterprises will be afforded full opportunity to participate in response to this advertisement and will not be discriminated against on the grounds of race, color or national origin in consideration for an Award of Contract.

A.26 MBE/WBE

The State of Florida, **Office of Supplier Diversity** provides the certification process and the database for identifying certified MBE/WBE firms. This service may be directly accessed at: <http://www.osd.dms.state.fl.us/iframe.htm>

If you have any questions regarding this State service, please contact their office at (850) 487-0915.

A.27 MATHEMATICAL ERRORS

In the event of multiplication/extension error(s), the unit price shall prevail. In the event of addition error(s) the extension totals will prevail. All Bids shall be reviewed mathematically and corrected, if necessary, using these standards, prior to additional evaluation.

A.28 DISCLOSURE

Upon receipt, all inquiries and responses to inquiries related to this Invitation for Bid becomes "Public Records", and shall be subject to public disclosure consistent with Chapter 119, Florida Statutes.

Bids become subject to disclosure thirty (30) days after the opening or if a notice of intended Award decision is made earlier than this time as provided by F.S. 119.071(1)(b). No announcement or review of the offer shall be conducted at the public opening.

Based on the above, the County will receive Bids at the date and time stated, and will make public at the opening the names of the business entities of all that submitted an offer and any amount presented as a total offer without any verification of the mathematics or the completeness of the offer.

If the County rejects all Bids and concurrently notices its intent to reissue the solicitation, the rejected Bids are exempt from public disclosure until such time as the County provides notice of an intended decision concerning the reissued solicitation or until the County withdraws the reissued solicitation. A Bid is not exempt for longer than 12 months after the initial notice rejecting all Bids.

NOTE: ANY OR ALL STATEMENTS CONTAINED IN THE FOLLOWING SECTIONS: BASIS OF AWARD, TERMS AND CONDITIONS OF THE CONTRACT, OR SPECIFICATIONS, WHICH VARY FROM THE INFORMATION TO BIDDERS, SHALL HAVE PRECEDENCE.

END OF SECTION A

SECTION 00020
BASIS OF AWARD

B.01 BASIS OF AWARD

Award shall be to the lowest, responsive, responsible Bidder meeting specifications and having the lowest Total Bid Price for **Bid "A"**, or the lowest Total Bid Price for **Bid "B"**, for the requirements listed on the Bid Form for the Work as set forth in this Invitation for Bid. Bid prices shall include costs for furnishing all labor, equipment and/or materials for the completion of the Work in accordance with and in the manner set forth and described in the Contract documents to the County's satisfaction within the prescribed time.

Two schedules for Completion of Work shall be considered. Each Bid for completion by the specified stated time shall be offered as a separate "Total Bid Price". The County has the sole authority to select the Bid based on the completion time which is in the best interest of the County. Only one Award shall be made.

NOTE: Inspection of the site is a pre-requisite to be considered for award of this Bid.

In evaluating Bids, the County shall consider the qualifications of the Bidders; and if required, may also consider the qualifications of the Subcontractors, Suppliers, and other persons and organizations proposed. County may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work.

Whenever two or more Bids are equal with respect to price, the Bid received from a local business shall be given preference in Award. Whenever two or more Bids which are equal with respect to price are received, and neither of these Bids are from a local business, the Award shall be determined by a chance drawing, coin toss, or similar tie-breaking method conducted by the Purchasing Division and open to the public.

B.02 SUBCONTRACTORS

Subcontractors shall be bound by the terms and conditions of this Contract insofar as it applies to their work, but this shall not relieve the prime Contractor from the full responsibility of the County for the proper completion of all Work to be executed under this Contract.

The employment of unauthorized aliens by any Contractor is considered a violation of Section 274 (e) of the Immigration and Employment Act. If the Contractor knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of this Agreement.

B.03 QUALIFICATIONS OF BIDDERS

No person who is not certified or registered as a General Contractor pursuant to Florida Statutes, Chapter 489 on the day the Bid is submitted, and who has continuously held that certification or registration for a period of at least three (3) consecutive years immediately prior to the day the Bid is submitted, may be qualified to bid on this project. In the event that a Bidder is a business organization, including a partnership, corporation, business trust or other legal entity as set forth in F.S. 489.119(2), then the Bidder shall only be qualified to bid on this project if: 1) the Bidder (the business organization) is on the day the Bid is submitted, and for at least three (3) consecutive years immediately prior to the day the Bid is submitted has been, in continuous existence, properly licensed and registered as required by Florida law; and 2) the Bidder, on the day the Bid is submitted, has a certified or registered Qualifying Agent, as required by F.S. 489.119, and that Qualifying Agent has been the same Qualifying Agent of the Bidder for a period of at least three (3) consecutive years immediately prior to the day the Bid is submitted.

The Contractor for the horizontal direction drill can either be the General Contractor for the project or a subcontractor. In either case, the driller's qualifications (refer to Section 02619 Article 1.04 of the Technical Specification Contract Documents) shall be included with the General Contractor's Bid. If a subcontractor is used to meet the driller qualification requirements, a different drilling subcontractor cannot be used without approval from the County.

A complete list of all Subcontractors proposed for any portion of the Work may be requested of any Bidder deemed necessary by the County. Subcontracts shall be awarded only to those Subcontractors considered satisfactory by the County.

B.04 PREPARATION OF CONTRACT

A written notice confirming Award or recommendation thereof will be forwarded to the successful Bidder accompanied by the required number of unsigned counterparts of the Agreement. Within ten (10) days thereafter, successful Bidder shall sign and deliver the required number of counterparts of the Agreement with any other required documents to County. (Note: Contract must be approved in accordance with the Manatee County Code of Laws, Chapter 2-26, and the Administrative Standards and Procedures Manual approved by the County Administrator).

B.05 INSPECTION OF SITE

Inspection of the site is a requirement to be considered for award of this Bid. Prior to submitting a Bid, each Bidder shall examine the site and all conditions thereon fully familiarizing themselves with the full scope of the project. Failure to become familiar with site conditions will in no way relieve the successful Bidder from the necessity of furnishing any materials or performing any Work that is required to complete the project in accordance with the plans and specifications. Site visit (s) shall be acknowledged in Section 00300, Bid Form page # 00300-1.

END OF SECTION B

SECTION 00030
GENERAL TERMS AND CONDITIONS OF THE CONTRACT

C.01 CONTRACT FORMS

The Agreement resulting from the acceptance of a Bid shall be in the form of the Agreement stated in this Bid.

C.02 ASSIGNMENT OF CONTRACT

Contractor shall not assign, transfer, convey, sublet or otherwise dispose of this Contract or of his right, title, or interest therein, or his power to execute such Contract, or to assign any monies due or to become due there under to any other person, firm or corporation unless first obtaining the written consent of the County. The giving of such consent to a particular Subcontractor assignment shall not dispense with the necessity of such consent to any further or other assignment.

C.03 COMPLETION OF WORK

The Work will be completed and ready for final inspection within the specified calendar days from the date the Contract time commences to run. Two Bids shall be considered, **Bid "A"** based on **410 calendar days** and **Bid "B"** based on **320 calendar days**. The County has the sole authority to select the Bid based on the completion time which is in the best interest of the County. Only one Award shall be made.

C.04 LIQUIDATED DAMAGES

If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will hinder its completion within the time specified, the County may seek damages. The actual damages for delay will be impossible to determine and in lieu thereof, the Contractor shall pay to the County the sum of **\$1914** as fixed, agreed, and liquidated damages for each calendar day of the delay until the Work is finally accepted by the County and the Contractor and his Surety shall be liable for the amount thereof.

C.05 PAYMENT

Contractor may apply for partial payment on monthly estimates, based on the amount of work done or completed in compliance with the provisions of the Contract. Contractor shall submit an application, on a standard pay application form provided or approved by the County, of an approximate estimate of the proportionate value of the Work done, items and locations of the Work performed up to and including the last day of the period then ending. The County will then review said estimate and make any necessary revisions so that the estimate can receive approval for payment. If the Contractor and the County do not agree on the approximate estimate of the proportionate value of the Work done for any pay period, the determination of the County will be binding. The amount of said estimate after deducting any required retainage and all previous payments shall be due and payable to the Contractor, twenty (20) business days if County is its own Engineer of Record (EOR) or twenty-five (25) business days if outside agent approval is required after the pay estimate has been approved by the agent for the County.

C.05 PAYMENT (Continued)

In accordance with the Prompt Payment Act, F.S. § 218.735(7), a Punch List shall be formulated.

Time allowed for development of punch list:

1. Awarded Contracts with an estimated cost of less than \$10 million will be within thirty (30) calendar days after reaching substantial completion. Substantial completion is defined as reaching beneficial occupancy or use.
2. Awarded Contracts with a cost of \$10 million dollars or more will be within thirty (30) calendar days OR if extended by Contract, up to sixty (60) calendar days after reaching substantial completion. Substantial completion is defined as reaching beneficial occupancy or use.

The final Contract completion date must be at least thirty (30) days after delivery of the list of items. If the list is not provided to the awarded Contractor by the agreed upon date, the Contract completion time must be extended by the number of days the County exceeds the delivery date.

It is the Contractor's responsibility for the care of the materials. Any damage to or loss of said materials is the full responsibility of the Contractor. Any periodical pay estimate signed by the Contractor shall be final as to the Contractor for any or all Work covered by the periodical pay estimate.

Any requests for payment of materials stored on site must be accompanied with a paid receipt. The Contractor warrants and guarantees that title to all work, materials and equipment covered by any application for payment, whether incorporated in the project or not, will pass to the County at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter referred to as "Liens").

The Contractor agrees to furnish an affidavit stating that all laborers, material men, and Subcontractors have been paid on the project for Work covered by the application for payment and that a partial or complete release of lien, as may be necessary, be properly executed by the material men, laborers, Subcontractors on the project for Work covered by the application for payment, sufficient to secure the County from any claim whatsoever arising out of the aforesaid Work.

When the Contractor has completed the Work in compliance with the terms of the Contract documents, he shall notify the County in writing that the project is ready for final inspection. The County will then advise the Contractor as to the arrangements for final inspection and what Work, if any, is required to prepare the project or a portion thereof for final inspection. When the County determines the project or portion thereof is ready for final inspection, the County shall perform same. Upon completion of final inspection, the County will notify Contractor of all particulars in which this inspection

C.05 PAYMENT (Continued)

reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. When all such errors have been corrected, a final re-inspection will be made. The process will be repeated until, in the opinion of the County, the project has been completed in compliance with the terms of the Contract documents.

When final acceptance has been made by the County, the County will make final payment of the Contract amount, plus all approved additions, less approved deductions and previous payments made. The Contract will be considered complete when all Work has been finished, the final inspection made, approved as-builts received, and the project finally accepted in writing by the County. The Contractor's responsibility shall then terminate except as otherwise stated.

C.06 RETAINAGE

A retainage of 10% of the total Work in place shall be withheld until 50% complete. After 50% completion, the retainage shall be reduced to 5% of the total Work in place until final completion and acceptance of the Work by the County. Upon final acceptance, the remaining retainage shall be included in the final payment.

C.07 WARRANTY AND GUARANTEE PROVISIONS

All work, materials, and equipment furnished as defined herein shall be guaranteed and warranted by the Contractor for a minimum period of three (3) years, unless otherwise specified, from final acceptance by the County to be free from defects due either to faulty materials or equipment or faulty workmanship.

All materials, equipment, and workmanship furnished and installed by the Contractor is warranted and guaranteed by the Contractor to meet the required standards and to accomplish the purposes and functions of the project as defined, detailed, and specified herein.

The County shall, following discovery thereof, promptly give written notice to the Contractor of faulty materials, equipment, or workmanship within the period of the guarantee and the Contractor shall promptly replace any part of the faulty equipment, material, or workmanship at his own cost. These warranty and guarantee provisions create no limitations on the County as to any claims or actions for breach of guaranty or breach of warranty that the County might have against parties other than the Contractor, and do not constitute exclusive remedies of the County against the Contractor.

C.08 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees for equipment or processes in conjunction with the equipment and/or services being furnished. Contractor shall defend all suits or claims for infringement of any patent, trademark or copyright, and shall save the County harmless from loss on account thereof, including costs and attorney's fees.

C.09 AUTHORIZED PRODUCT REPRESENTATION

The Contractor, by virtue of submitting the name and specifications of a manufacturer's product, will be required to furnish the named manufacturer's product. Failure to perform accordingly may, in the County's sole discretion, be deemed a breach of Contract, and shall constitute grounds for the County's immediate termination of the Contract.

C.10 REGULATIONS

It shall be the responsibility of the Bidder to assure compliance with any OSHA, EPA and/or other federal or State of Florida rules, regulations or other requirements, as each may apply.

C.11 CANCELLATION

Any failure of the Contractor to furnish or perform the Work (including, but not limited to, commencement of the Work, failure to supply sufficient skilled workers or suitable materials or equipment) in accordance with the Contract, the County may order the stop of the Work, or any portion thereof, until the cause for such order has been eliminated. If the Contractor persistently fails to perform the Work in accordance with the Contract, the County reserves the right to terminate the Contract and select the next qualified Bidder or re-advertise this procurement in part or in whole. The County reserves the right to cancel all or any undelivered or unexecuted portion of this Contract with or without cause.

C.12 INDEMNIFICATION

The Contractor covenants and agrees to indemnify and save harmless the County, its agents and employees, from and against all claims, suits, actions, damages, causes of action, or judgments arising out of the terms of the resulting Agreement for any personal injury, loss of life, or damage to the property sustained as a result of the performance or non-performance of services or delivery of goods; from and against any orders, judgments, or decrees, which may be entered against the County, its agents or employees; and from and against all costs, attorney's fees, expenses and other liabilities incurred in the defense of any such claim, suit or action, and the investigation thereof. Nothing in the Award, resulting Agreement, Contract or Purchase Order shall be deemed to affect the rights, privileges and immunities of the County as set forth in F.S. § 768.28.

C.13 MANUALS, SCHEMATICS, HANDBOOKS (IF APPLICABLE)

All manuals, schematics and handbooks shall be provided which are applicable to the equipment delivered. An operators manual, parts manual and technician manual must also be provided. Parts lists (manuals) must include OEM part numbers for items not manufactured by the Bidder. Contractor shall furnish two (2) copies of each.

C.14 INSURANCE

The Contractor will not commence Work under a Contract until all insurance under this section and such insurance coverage as might be required by the County has been obtained. The Contractor shall obtain, and submit to purchasing within ten (10) calendar days of request, at his expense, the following minimum amounts of insurance (inclusive of any amounts provided by an umbrella or excess policy):

a. Workers' Compensation/Employers' Liability

Part One - There shall be no maximum limit (other than as limited by the applicable statute) for liability imposed by Florida Workers' Compensation Act or any other coverage required by the Contract documents which are customarily insured under Part One of the standard Workers' Compensation Policy.

Part Two - The minimum amount of coverage required by the Contract documents which are customarily insured under Part Two of the standard Workers' Compensation Policy shall be:

(Each Accident)	<u>\$100,000</u>
(Disease-Policy Limit)	<u>\$500,000</u>
(Disease-Each Employee)	<u>\$100,000</u>

b. Commercial General Liability

The limits are to be applicable only to Work performed under this Contract and shall be those that would be provided with the attachment of the Amendment of Limits of Insurance (Designated Project or Premises) endorsement (ISO Form CG 25 03) a Commercial General Liability Policy with the following minimum limits.

General Aggregate:	
Products/Completed Operations Aggregate	<u>\$1,000,000</u>
Personal and Advertising Injury	<u>\$1,000,000</u>
Each Occurrence	<u>\$1,000,000</u>
Fire Damage (Any One Fire)	<u>\$Nil</u>
Medical Expense (Any One Person)	<u>\$Nil</u>

ADDITIONAL INSURED: Manatee County, a political subdivision of the State of Florida, shall be specifically named as additional insured on the Commercial General Liability Policy.

c. Business Auto Policy

Each Occurrence Bodily Injury and Property Damage Liability Combined	<u>\$300,000</u>
Annual Aggregate (if applicable)	<u>\$1,000,000</u>

ADDITIONAL INSURED: Manatee County, a political subdivision of the State of Florida, shall be specifically named as additional insured on the Business Auto Policy.

C.14 INSURANCE (Continued)

d. Pollution Liability

Each Occurrence Bodily Injury	<u>\$1,000,000</u>
Each Occurrence Property Damage	<u>\$1,000,000</u>

e. County's Protective Liability Coverage

The minimum Owner's Protective OPC Policy limits per occurrence and, if subject to an aggregate, annual aggregate to be provided by the Contractor shall be the same as the amounts shown above as the minimum per occurrence and general policy aggregate limits respectively required for the Commercial General Liability coverage. The limits afforded by the OPC Policy and any excess policies shall apply only to the County and the County's officials, officers, agents and employees and only to claims arising out of or in connection with the Work under this Contract.

f. Property Insurance

If this Contract includes construction of or additions to above ground buildings or structures, Contractor shall provide "**Builder's Risk**" insurance with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

g. Installation Floater

If this Contract does not include construction of or additions to above ground building or structures, **but does involve** the installation of machinery or equipment, Contractor shall provide an "**Installation Floater**" with the minimum amount of insurance to be 100% of the value of such addition(s), building(s), or structure(s).

h. Certificates of Insurance and Copies of Policies

Certificates of Insurance in triplicate evidencing the insurance coverage specified herein shall be filed with the Purchasing Official before operations are begun. The required certificates of insurance shall name the types of policy, policy number, date of expiration, amount of coverage, companies affording coverage, and also shall refer specifically to the Bid number and title of the project. All insurance policies required herein shall be issued by companies that are authorized to do business under the laws of the State of Florida and hold an A.M. Best rating of A- or better. Insurance, as specified herein, shall remain in force and effect for the duration of the project including any warranty periods.

i. **Complete Policies:** The entire and complete insurance policies required herein shall be provided to the County on request.

C.14 INSURANCE (Continued)

If the initial insurance expires prior to the completion of operations and/or services by the Contractor, renewal certificates of insurance and required copies of policies shall be furnished by the Contractor and delivered to the Purchasing Official thirty (30) days prior to the date of their expiration. Nothing herein shall in any manner create any liability of the County in connection with any claim against the Contractor for labor, services, or materials, or of Subcontractors; and nothing herein shall limit the liability of the Contractor or Contractor's sureties to the County or to any workers, suppliers, material men or employees in relation to this Contract.

- j. Certification Requirements – In order for the certificate of insurance to be accepted it must comply with the following:
1. The certificate holder shall be:
Manatee County Board of Commissioners, a political subdivision of the State of Florida
P.O. Box 1000
Bradenton, FL 34206-1000
 2. Certificate shall be mailed to:
Manatee County Purchasing Division
1112 Manatee Avenue West, Suite 803
Bradenton, FL 34205
Attn: Chris Daley-CPPB, Contract Specialist
- k. By way of its submission of a Bid hereto, Bidder:
1. Represents that Bidder maintains, and will maintain during the term of any Contract arising from this solicitation, insurance coverage from responsible companies duly authorized to do business in the State of Florida, as set forth in this solicitation; and
 2. Agrees that, upon County's request, appropriate evidence of the insurance requirements set forth in this solicitation will be produced by Bidder within ten (10) calendar days from the date of Notice of Intent to Award.
 3. Agrees that, insurance should not be cancelled without thirty (30) days notice to County and must be endorsed to provide same. Failure of Bidder to obtain and maintain proper amounts of insurance as called for herein shall constitute a material breach of Contract by successful Bidder.

C.15 BID BOND/CERTIFIED CHECK

By offering a submission to this Invitation for Bid, the Bidder agrees should the Bidder's Bid be accepted, **to execute the form of Contract and present the same to Manatee County for approval within ten (10) calendar days after notice of Intent to Award.** The Bidder further agrees that failure to execute and deliver said form of Contract **within ten (10) calendar days** will result in damages to Manatee County and as guarantee of payment of same a Bid Bond/Certified Check shall be enclosed within the submitted sealed Bid in the amount of five (5%) percent of the total amount of the Bid. The Bidder further agrees that in case the Bidder fails to enter into a Contract, as prescribed by Manatee County, the Bid Bond/Certified Check accompanying the Bid shall be forfeited to Manatee County as agreed liquidated damages. If the County enters into a Contract with a Bidder, or if the County rejects any and/or all Bids, accompanying bond will be promptly returned.

C.16 PERFORMANCE AND PAYMENT BONDS

The successful Bidder shall furnish surety bonds using the Public Construction Bond form prescribed in F.S. § 255.05, which is provided herein, as security for faithful performance of the Contract awarded as a result of this Bid and for the payment of all persons performing labor and/or furnishing material in connection therewith. Failure to provide the required bonds on the prescribed form may result in successful Bidder being deemed nonresponsive. Bonds must be in the form prescribed in F.S. § 255.05, and must not contain notice, demand or other terms and conditions, including informal pre-claim meetings, not provided for in F.S. § 255.05.

Surety of such bonds shall be in an amount equal to the Bid Award (100% each) issued by a duly authorized and nationally recognized surety company, authorized to do business in the State of Florida, satisfactory to this County. The attorney-in-fact who signs the bonds must file with the bonds, a certificate and effective dated copy of power-of-attorney. Performance and Payment Bonds shall be issued to Manatee County, a political subdivision of the State of Florida, within ten (10) calendar days after notification of Intent to Award.

In addition, pursuant to F.S. § 255.05(1)(b), prior to commencing Work, the Contractor shall be responsible and bear all costs associated to record the Performance and Payment Bond with the Manatee County Clerk of the Circuit Court. A certified copy of said recording shall be furnished to the Purchasing Division upon filing. Pursuant to F.S. § 255.05(1)(b), the County will make no payment to the Contractor until the Contractor has complied with this paragraph.

Furnishing of the recorded Performance and Payment Bonds shall be requisite to execution of a Contract with the County. Said Performance and Payment Bonds will remain in force for the duration of the Contract with the premiums paid by the Contractor. Failure of the successful Bidder to execute such Contract and to supply the required bonds shall be just cause for cancellation of the Award. The County may then contract with another acceptable Bidder or re-advertise this Invitation for Bid. If another Bidder is accepted, and notice given within ninety (90) days after the opening of the Bids, this acceptance shall bind the Bidder as though they were originally the successful Bidder.

C.16 PERFORMANCE AND PAYMENT BONDS (Continued)

Failure of the County at any time to require performance by the Contractor of any provisions set out in the Contract will in no way affect the right of the County, thereafter, to enforce those provisions.

C.17 NO DAMAGES FOR DELAY

No claim for damages or any claim other than for an extension of time shall be made or asserted against the County by reason of any delays. The Contractor shall not be entitled to an increase in the Total Contract Price or payment or compensation of any kind from the County or direct, indirect, consequential impact or other costs, expenses for damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference or hindrance from any cause whatsoever; provided, however, that this provision shall not preclude recovery or damages by the Contractor for hindrance or delays due solely to fraud, bad faith, or active interference on part of the County or its agents. Otherwise, the Contractor shall only be entitled to extensions of the Contract time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent specifically provided above.

C.18 NO INTEREST

Any monies not paid by the County when claimed to be due to the Contractor under this Contract shall not be subject to interest including prejudgment interest. Any monies not paid by the County when claimed to be due to the Contractor for damages awarded in the case of construction delays shall not be subject to prejudgment interest.

C.19 CONSTRUCTION OF CONTRACT

This Contract and the rights and responsibilities hereunder shall not be construed more strongly against either party, regardless of the extent to which such party may have participated in the preparation hereof.

C.20 BE GREEN

All Bidders are encouraged to use as many **environmentally preferable** "green" products, materials, supplies, etc. as possible in order to promote a safe and healthy environment. **Environmentally preferable are products or services that have a reduced adverse effect on the environment.** Provide detail of your organization's initiative and its ability to meet the goal of environmental sustainability.

C.21 FEDERAL REQUIREMENTS

This project is funded through the Recovery Zone Economic Development Bonds Act (Utilities 2010B RZEDB Bond-414) and subject to compliance with Federal Laws including, but not limited to, the **Davis-Bacon Act** as amended (40 U.S.C. 267a to a-7). The Federal Laws and U.S. Department of Labor Wage Rates applicable to this Contract are listed in the Federal Requirements section of this Invitation to Bid.

END OF SECTION C

SECTION 00100
BID SUMMARY

D.01 THE WORK

The Work included in this Bid consists of the construction of a new 24-inch and 30-inch potable water main connecting the north and south Manatee County potable water service areas. The main will run parallel to the future Fort Hamer Bridge over the Manatee River that will connect Upper Manatee River Road to the South to Fort Hamer Road to the North. The main will cross under the Manatee River. The project consists of approximately 2,800 LF of 30-inch HDPE water main installed via horizontal directional drill and approximately 5,400 LF of 24-inch ductile iron pipe installed via open cut. In addition, several existing developments along the route will be connected to the new transmission main with new 6-inch and 8-inch piping. The new water main will connect to existing water mains on each side of the Manatee River. The main will connect to the South at an existing 42-inch main located at Upper Manatee River Road near Winding Stream Way and connect to the North at an existing 24-inch main located near the intersection of Ft. Hamer Road and Mulholland Road. All the work under this contract is located in easements, rights-of-way, and property owned by Manatee County.

At the time these documents were prepared, Manatee County was still in the process of obtaining an easement for the property located between Sta 162+17± and Sta 165+75±. The Contractor shall not install the proposed pipeline in this area until directed to by the County.

The successful Contractor shall furnish all shop drawings, working drawings, labor, materials, equipment, tools, services and incidentals necessary to complete all Work required by these specifications.

The successful Contractor shall perform the Work complete, in place and ready for continuous service and shall include any repairs, replacements, and/or restoration required as a result of damages caused prior to acceptance by the Owner.

The successful Contractor shall furnish and install all materials, equipment and labor which is reasonably and properly inferable and necessary for the proper completion of the Work, whether specifically indicated in the Bid documents or not.

D.02 SUBCONTRACTORS, SUPPLIERS AND OTHERS

The identity of Subcontractors, Suppliers, and other persons and organizations (including those who are to furnish the principal items of material and equipment) may be requested by the County for each Bid item from any of the Bidders; and the Bidder shall respond within five (5) days after the date of such request. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, persons or organization if requested by County. If County, after due investigation, has reasonable objection to any proposed Subcontractor, supplier, other person or organization, County may, before the Notice of Award is given, request the apparent successful Bidder to submit an acceptable substitute without an increase in Contract price or Contract time.

D.02 SUBCONTRACTORS, SUPPLIERS AND OTHERS (Continued)

If apparent successful Bidder declines to make any such substitution, County may award the Contract to the next lowest qualified Bidder that proposes to use acceptable Subcontractors, Suppliers, and other persons who County does not make written objection to. Contractor shall not be required to employ any Subcontractor, Supplier, other person or organization who Contractor has reasonable objection to.

Subcontractors shall be bound by the terms and conditions of this Contract insofar as it applies to their work, but this shall not relieve the prime Contractor from the full responsibility to the County for the proper completion of all Work to be executed under this Contract.

D.03 BIDS

Bids are to be submitted in **triplicate, one original and two copies**, upon the County supplied forms. All blank spaces must be filled in as noted with amounts extended and totaled and no changes shall be made in the wording of the forms or in the items mentioned therein. In the event a change is made in your submittal, the Bidder shall write its initials by the change. Any Bid may be rejected which contains any omissions, alterations, irregularities of any kind, or which shall in any manner fail to conform to Bid requirements.

A Bid made by an individual, either in his/her own or proper person or under a trade or firm name, shall be executed under the individual's signature. If made by a partnership, the Bid shall be executed by two or more of the general partners. If made by a corporation, the Bid shall be executed by its President or other legally authorized corporate officer or agent.

D.04 EXAMINATION OF BID DOCUMENTS AND SITE

It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Bid documents thoroughly; (b) visit the site to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work; (c) consider federal, state, and local codes, laws, and regulations that may affect costs, progress, performance, or furnishing of the Work; (d) study and carefully correlate Bidder's observations with the Bid documents; and (e) notify County of all conflicts, errors, or discrepancies in the Bid document.

Each Bidder may, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies, and obtain any additional information and data which pertain to the physical conditions at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine his Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Bid documents. County will provide each Bidder access to the site to conduct such explorations and tests.

D.04 EXAMINATION OF BID DOCUMENTS AND SITE (Continued)

Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use by Contractor in performing the Work are identified in the Bid documents.

All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by County unless otherwise provided in the Bid documents.

D.05 MATERIALS AND WORKMANSHIP

All materials and apparatus required for this Work, except as specified otherwise, shall be new, of first class quality, and shall be furnished, delivered, connected and finished in every detail. Construction shall be prescribed by good industry practice and in accordance with manufacturer's recommendations for the type being installed.

Use skilled workman trained and experienced in the necessary trades and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this section.

D.06 REGULATIONS AND MATERIAL DISPOSAL

It shall be the responsibility of the Contractor to assure compliance with any OSHA, EPA, federal, state, and/or local rules, regulations or other requirements as each may apply.

D.07 PROJECT CLOSE-OUT

Clean construction site and remove any and all excess materials. Correct any damages to property that may have occurred as a result of installation and/or delivery. Repair and patch all surfaces cut for installation. The Contractor shall remedy any deficiencies promptly should the County determine any Work is incomplete or defective.

When the County determines the Work is acceptable in accordance with this Invitation for Bid, the Contractor shall provide the close out submittals, including but not necessarily limited to the following:

- 1 set Certificate of Warranties
- 1 set Manufacturer's Product Literature (when applicable)
- 1 set Project Record Drawings
- 1 set Subcontractor Information (when applicable)

D.08 DISCRETIONARY WORK

This Bid item entails minor increases (that may be directed by staff) 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 Bid documents. (This will not affect the requirement for change orders involving major modifications to the project.) Payment for all Work under this item shall be made only at the County's discretion in order to satisfactorily complete the project. 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.

D.09 PROGRESS REQUIREMENTS

All Work done under this Contract shall be done with a minimum of inconvenience to the private property owners in the area. The Contractor shall coordinate his Work with private property owners such that existing utility services are maintained and they have access to their property at all times.

END OF SECTION D

SECTION 00150

MANATEE COUNTY LOCAL PREFERENCE LAW AND VENDOR REGISTRATION

E.01 Vendor Registration

All vendors are encouraged to register with Manatee County using the on-line "Vendor Registration" web page on www.mymanatee.org.

Enclosed are a copy of the current Manatee County law that details the County's Local Preference and the County's definition of a local business.

If you assert that your firm meets the stated definition of a local business, we ask that in addition to registering on the County's web page, you fill out the attached "**Affidavit As To Local Business Form**" that is included in this section, have the completed document notarized, and mail the original to the following address: Manatee County Purchasing Division, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205.

Your cooperation in registering your business with Manatee County will enhance our opportunities to identify sources for goods and services, plus identify local businesses. This information is used for soliciting quotations up to \$250,000.00 and for competitive solicitations of larger purchases.

You will note that Manatee County collaborates with the Manatee Chamber of Commerce, posting Bids on www.manatee-chamber.com as well as using the same vendor categories for registration.

Our staff can assist you with your registration as needed. Our office hours are 8:00 A.M. to 5:00 P.M., Monday through Friday on regular business days. Please call (941) 749-3014 if you wish to have a Purchasing staff member assist you.

Quick steps to registration: **www.mymanatee.org**

A link to "Purchasing" is listed under "Quick Links" on page one of the County web site.

On the left hand side of the Purchasing web page, click on "Vendor Registration".

This will bring up the Vendor Registration form for on-line input. Please note that the definition of a "local business" changed on March 17, 2009. The web page will be updated to include the current law which has been provided in this section of the Bid.

Thank you for reviewing this information and considering registering your business with Manatee County. Registration is not mandatory; however, by taking the time to register, you are helping the County to provide timely notifications of Quotation, Bid and Proposal opportunities to your business.

E.02 Section 2-26-6. Local preference, tie Bids, **local business defined.**

- a) Whenever a responsible local business Bidder and a responsible non-local business Bidder are found, upon the opening of Bids, to have both submitted the lowest responsive Bid, the Bid of the local Bidder shall be awarded the Contract. Should more than one responsible local business Bidder match the responsible non-local business Bidder's lowest responsive Bid, or should no responsible local business Bidder match the lowest responsive Bid but two or more responsible non-local business Bidders submit lowest responsive Bids for equal amounts, then the Award of the Contract shall be determined by a chance drawing, coin toss, or similar tie-breaking method conducted by the Purchasing Division and open to the public. Any Bidders seeking to be recognized as local businesses for purposes of this local business preference provision may be required by the terms of the Bid announcement to certify they meet the definition of local business set forth in this section, and to register as a local business with the County in the manner prescribed by the County to facilitate the County's ability to track the Award of Contracts to local businesses and to allow the County to provide future notifications to its local businesses concerning other Bidding opportunities.
- b) Nothing herein shall be deemed to prohibit the inclusion of requirements with respect to operating and maintaining a local place of business in any Invitation for Bids when the Bidder's location materially affects the provisions of the services or supplies that are required by the invitation.
- c) **Local business is defined as a business legally authorized to engage in the sale of the goods and/or services to be procured, and which certifies within its Bid that for at least six (6) months prior to the announcement of the solicitation of Bids it has maintained a physical place of business in Manatee, Desoto, Hardee, Hillsborough, Pinellas or Sarasota County with at least one full-time employee at that location.**
- d) **Each solicitation for Bids made by the County shall contain terms expressly describing the local business preference policies of the County, and shall provide that by electing to submit a Bid pursuant to an Invitation for Bid, all Bidders are deemed to understand and agree to those policies.**
- e) For all Contracts for architecture, professional engineering, or other professional services governed by Florida Statute § 287.055, the Consultants' Competitive Negotiation Act, the County shall include the local business status of a firm among the factors considered when selecting which firms are "most highly qualified." In determining which firm is the "most qualified" for purposes of negotiating a satisfactory Contract, preference shall be given to a local business where all other relevant factors are equal.

E.02 Section 2-26-6. Local preference, tie Bids, **local business defined** (Continued)

- f) Local preference shall not apply to the following categories of Contracts:
1. Goods or services provided under a cooperative purchasing agreement or similar "piggyback" contract;
 2. Contracts for professional services subject to Florida Statute § 287.055, the Consultants' Competitive Negotiation Act, except as provided for in subsection (e) above;
 3. Purchases or Contracts which are funded, in whole or in part, by a governmental or other funding entity, where the terms and conditions of receipt of the funds prohibit the preference;
 4. Purchases or Contracts made pursuant to a non-competitive award process, unless otherwise provided by this section;
 5. Any Bid announcement which specifically provides that the general local preference policies set forth in this section are suspended due to the unique nature of the goods or services sought, the existence of an emergency as found by either the County Commission or County Administrator, or where such suspension is, in the opinion of the County Attorney, required by law.
- g) To qualify for local preference under this section, **a local business must certify to the County that it:**
1. Has not within the five (5) years prior to the Bid announcement admitted guilt or been found guilty by any court or state or federal regulatory enforcement agency of violation of any criminal law, or a law or administrative regulation regarding fraud;
 2. Is not currently subject to an unresolved citation or notice of violation of any Manatee County Code provision, except citations or notices which are the subject of a current legal appeal, as of the date of the Bid announcement;
 3. Is not delinquent in the payment of any fines, liens, assessments, fees or taxes to any governmental unit or taxing authority within Manatee County, except any such sums which are the subject of a current legal appeal.

Ref: Ordinance 09-21 and 09-23 **PASSED AND DULY ADOPTED** in open session, with a quorum present and voting, on the 17th day of March, 2009.

END OF SECTION E

**MANATEE COUNTY GOVERNMENT
AFFIDAVIT AS TO LOCAL BUSINESS
(Complete and Initial Items B-F)**

A. Authorized Representative

I, [name] _____, am the [title] _____ and the duly authorized representative of: [name of business] _____, and that I possess direct personal knowledge to make informed responses to these certifications and the legal authority to make this Affidavit on behalf of myself and the business for which I am acting; and by electing to submit a Bid pursuant to this Invitation for Bids, shall be deemed to understand and agree to the local business preference policies of Manatee County; and that I have the direct knowledge to state that this firm complies with all of the following conditions to be considered to be a local business as required by the Manatee County Code of Law, Section 2-26-6.

B. Place of Business: I certify that the above business is legally authorized to engage in the sale of goods and/or services and has a physical place of business in Manatee, DeSoto, Hardee, Hillsborough, Pinellas or Sarasota County with at least one (1) fulltime employee at that location. The physical address of the location which meets the above criteria is: _____ [Initial] _____

Business Phone Number: _____

Email Address: _____

C. Business History: I certify that business operations began at the above physical address with at least one fulltime employee on [date] _____ [Initial] _____

D. Criminal Violations: I certify that within the past five (5) years of the date of this Bid announcement, this business has not admitted guilt nor been found guilty by any court or local, state or federal regulatory enforcement agency of violation of any criminal law or administrative regulation regarding fraud. [Initial] _____

E. Citations or Code Violations: I certify that this business is not currently subject to any unresolved citation or notice of violation of any Manatee County Code provision, with the exception of citations or notices which are the subject of a legal current appeal within the date of this Bid announcement. [Initial] _____

F. Fees and Taxes: I certify that this business is not delinquent in the payment of fines, liens, assessments, fees or taxes to any governmental unit or taxing authority within Manatee County, with the exception of those which are the subject of a current legal appeal. [Initial] _____

Each of the above certifications is required to meet the qualification of "local business" under Manatee County Code of Laws, 2-26-6.

Signature of Affiant _____

STATE OF FLORIDA
COUNTY OF _____

Sworn to (or affirmed) and subscribed before me this ____ day of _____, 20____, by (name of person making statement).

(Notary Seal) Signature of Notary: _____

Name of Notary: (Typed or Printed) _____

Personally Known ____ OR Produced Identification ____ Type of Identification Produced _____

Submit executed copy to Manatee County Purchasing Division - 1112 Manatee Avenue West - Suite 803 - Bradenton, FL 34205

SECTION 00300
BID FORM
(SUBMIT IN TRIPLICATE)

For: IFB #13-1745CD- Fort Hamer Road Water Main Crossing

TOTAL BID PRICE (BID "A"): _____
Based on a Completion Time of 410 calendar days
TOTAL BID PRICE (BID "B"): _____
Based on a Completion Time of 320 calendar days

Two schedules for completion of the Work shall be considered. Each Bid for completion by the specified stated time shall be offered as a separate "Total Bid Price". The County has the sole authority to select the Bid based on the completion time which is in the best interest of the County. Only one Award shall be made.

We, the undersigned, hereby declare that we have carefully reviewed the Bid documents, and with full knowledge and understanding of the aforementioned herewith submit this Bid, meeting each and every specification, term, and condition contained in the Invitation for Bids, in its entirety.

We understand that the Bid package, in its entirety, including but not limited to, all specifications, terms, and conditions in their entirety shall be made a part of any Agreement or Contract between Manatee County and the successful Bidder. Failure to comply shall result in Contract default, whereupon, the defaulting Contractor shall be required to pay for any and all re-procurement costs, damages, and attorney fees as incurred by the County.

Communications concerning this Bid shall be addressed as follows: **(Complete all fields)**

BIDDER'S NAME: _____

MAILING ADDRESS: _____

TELEPHONE: (____) _____ FAX: (____) _____

EMAIL ADDRESS: _____

FL CONTRACTOR LICENSE# _____

LICENSE IN THE NAME OF: _____

STATE OF INCORPORATION _____ (if applicable)

I, _____ on [date] _____ attest that I have visited the project site(s) to familiarize myself with the full Scope of Work required for the Bid.

Acknowledge Addendum No. _____ Dated: _____ Acknowledge Addendum No. _____ Dated: _____

Acknowledge Addendum No. _____ Dated: _____ Acknowledge Addendum No. _____ Dated: _____

Acknowledge Addendum No. _____ Dated: _____ Acknowledge Addendum No. _____ Dated: _____

AUTHORIZED SIGNATURE(S): _____

Name and Title of Above Signer(s): _____

BID FORM

(Submit in Triplicate) Section 00300

FORT HAMER ROAD WATER MAIN CROSSING**Bid "A" Based on Completion Time of 410 Calendar Days**

PAY ITEM NO.	DESCRIPTION	UNITS	QTY.	BID PRICE PER UNIT (\$)	TOTAL BID PRICE (\$)
1	Mobilization/ Demobilization	LS	1	\$ _____	\$ _____
2	Ductile Iron Pipe Water Main				
a	6- Inch	LF	487	\$ _____	\$ _____
b	8- Inch	LF	585	\$ _____	\$ _____
c	24- Inch	LF	5,423	\$ _____	\$ _____
d	30- Inch	EA	10	\$ _____	\$ _____
3	Horizontal Directional Drill	LF	2,825	\$ _____	\$ _____
4	Pipeline Connection A- South End at Upper Manatee River Road	LS	1	\$ _____	\$ _____
5	Gate & Butterfly Valves				
a	6- Inch Gate Valve	EA	3	\$ _____	\$ _____
b	8- Inch Gate Valve	EA	2	\$ _____	\$ _____
c	24- Inch Butterfly Valve	EA	9	\$ _____	\$ _____
6	Fire Hydrant Assembly	EA	6	\$ _____	\$ _____
7	Air Release Valve Assembly				
a	ARV for 12-Inch and smaller water main	EA	2	\$ _____	\$ _____
b	ARV for 16-Inch and larger water main	EA	3	\$ _____	\$ _____
8	Jack and Bore				
a	14" Casing for 6-Inch DIP	LF	89	\$ _____	\$ _____
b	18" Casing for 8-Inch DIP	LF	64	\$ _____	\$ _____
9	Steel Casings by Direct Bury	LF	84	\$ _____	\$ _____
10	Clearing & Grubbing of HDD Work Area				
a	North of Manatee River	LS	1	\$ _____	\$ _____
b	South of Manatee River	LS	1	\$ _____	\$ _____
11	Sod Restoration Along Pipeline	LF	6,670	\$ _____	\$ _____

Bidder Name: _____

Authorized Signature: _____

BID FORM

(Submit in Triplicate) Section 00300

FORT HAMER ROAD WATER MAIN CROSSING

Bid "A" Based on Completion Time of 410 Calendar Days

PAY ITEM NO.		DESCRIPTION	UNITS	QTY.	BID PRICE PER UNIT (\$)	TOTAL BID PRICE (\$)
12		Sod Restoration Associated with HDD				
	a	North of Manatee River	LS	1	\$ _____	\$ _____
	b	South of Manatee River	LS	1	\$ _____	\$ _____
13		Road Restoration				
	a	Winding Stream Way- 24-inch DIP Install	LS	1	\$ _____	\$ _____
	b	Ft. Hamer Road- North 24-inch Connection	LS	1	\$ _____	\$ _____
14		Driveway Restoration				
	a	Shell Driveway	SY	100	\$ _____	\$ _____
	b	Asphalt Driveway	SY	200	\$ _____	\$ _____
	c	Concrete Driveway	SY	100	\$ _____	\$ _____
15		HDD Area Sound Barrier	LS	1	\$ _____	\$ _____
16		Remove Existing 8" Water main	LF	818	\$ _____	\$ _____
17		Double Water Service	EA	3	\$ _____	\$ _____
18		Miscellaneous Work and Cleanup	LS	1	\$ _____	\$ _____
19		DISCRETIONARY WORK (USED ONLY WITH COUNTY APPROVAL)				\$250,000.00
		TOTAL PRICE FOR BID "A" - Based on Completion Time of <u>410</u> Calendar Days				\$ _____

Bidder Name: _____

Authorized Signature: _____

BID FORM

(Submit in Triplicate) Section 00300

FORT HAMER ROAD WATER MAIN CROSSING**Bid "B" Based on Completion Time of 320 Calendar Days**

PAY ITEM NO.	DESCRIPTION	UNITS	QTY.	BID PRICE PER UNIT (\$)	TOTAL BID PRICE (\$)
1	Mobilization/ Demobilization	LS	1	\$ _____	\$ _____
2	Ductile Iron Pipe Water Main				
	a 6- Inch	LF	487	\$ _____	\$ _____
	b 8- Inch	LF	585	\$ _____	\$ _____
	c 24- Inch	LF	5,423	\$ _____	\$ _____
	d 30- Inch	EA	10	\$ _____	\$ _____
3	Horizontal Directional Drill	LF	2,825	\$ _____	\$ _____
4	Pipeline Connection A- South End at Upper Manatee River Road	LS	1	\$ _____	\$ _____
5	Gate & Butterfly Valves				
	a 6- Inch Gate Valve	EA	3	\$ _____	\$ _____
	b 8- Inch Gate Valve	EA	2	\$ _____	\$ _____
	c 24- Inch Buttefly Valve	EA	9	\$ _____	\$ _____
6	Fire Hydrant Assembly	EA	6	\$ _____	\$ _____
7	Air Release Valve Assembly				
	a ARV for 12-Inch and smaller water main	EA	2	\$ _____	\$ _____
	b ARV for 16-Inch and larger water main	EA	3	\$ _____	\$ _____
8	Jack and Bore				
	a 14" Casing for 6-Inch DIP	LF	89	\$ _____	\$ _____
	b 18" Casing for 8-Inch DIP	LF	64	\$ _____	\$ _____
9	Steel Casings by Direct Bury	LF	84	\$ _____	\$ _____
10	Clearing & Grubbing of HDD Work Area				
	a North of Manatee River	LS	1	\$ _____	\$ _____
	b South of Manatee River	LS	1	\$ _____	\$ _____
11	Sod Restoration Along Pipeline	LF	6,670	\$ _____	\$ _____

Bidder Name: _____

Authorized Signature: _____

BID FORM

(Submit in Triplicate) Section 00300

FORT HAMER ROAD WATER MAIN CROSSING

Bid "B" Based on Completion Time of 320 Calendar Days

PAY ITEM NO.	DESCRIPTION	UNITS	QTY.	BID PRICE PER UNIT (\$)	TOTAL BID PRICE (\$)
12	Sod Restoration Associated with HDD				
	a North of Manatee River	LS	1	\$ _____	\$ _____
	b South of Manatee River	LS	1	\$ _____	\$ _____
13	Road Restoration				
	a Winding Stream Way- 24-inch DIP Install	LS	1	\$ _____	\$ _____
	b Ft. Hamer Road- North 24-inch Connection	LS	1	\$ _____	\$ _____
14	Driveway Restoration				
	a Shell Driveway	SY	100	\$ _____	\$ _____
	b Asphalt Driveway	SY	200	\$ _____	\$ _____
	c Concrete Driveway	SY	100	\$ _____	\$ _____
15	HDD Area Sound Barrier	LS	1	\$ _____	\$ _____
16	Remove Existing 8" Water main	LF	818	\$ _____	\$ _____
17	Double Water Service	EA	3	\$ _____	\$ _____
18	Miscellaneous Work and Cleanup	LS	1	\$ _____	\$ _____
19	DISCRETIONARY WORK (USED ONLY WITH COUNTY APPROVAL)				\$250,000.00
	TOTAL PRICE FOR BID "B" - Based on Completion Time of <u>320</u> Calendar Days				\$ _____

Bidder Name: _____

Authorized Signature: _____

SWORN STATEMENT
THE FLORIDA TRENCH SAFETY ACT

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR BY AN OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This Sworn Statement is submitted with IFB No. 13-1745CD
2. This Sworn Statement is submitted by _____ whose business address is _____ and, if applicable, its Federal Employer Identification Number (FEIN) is _____. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement _____.
3. Name of individual signing this Sworn Statement is: _____, Whose relationship to the above entity is: _____.
4. The Trench Safety Standards that will be in effect during the construction of this project shall include, but are not limited to: Laws of Florida, Chapters 90-96, TRENCH SAFETY ACT, and OSHA RULES AND REGULATIONS 29 CFR 1926.650 Subpart P, effective October 1, 1990.
5. The undersigned assures that the entity will comply with the applicable Trench Safety Standards and agrees to indemnify and hold harmless the County and Engineer, and any of their agents or employees from any claims arising from the failure to comply with said standard.
6. The undersigned has appropriated the following costs for compliance with the applicable standards:

<u>Trench Safety Measure (Description)</u>	<u>Units of Measure (LF, SY)</u>	<u>Unit Quantity</u>	<u>Unit Cost</u>	<u>Extended Cost</u>
a. _____	_____	_____	\$ _____	_____
b. _____	_____	_____	\$ _____	_____
c. _____	_____	_____	\$ _____	_____
d. _____	_____	_____	\$ _____	_____

7. The undersigned intends to comply with these standards by instituting the following procedures:

THE UNDERSIGNED, in submitting this Bid, represents that they have reviewed and considered all available geotechnical information and made such other investigations and tests as they may deem necessary to adequately design the trench safety system(s) to be utilized on this project.

(AUTHORIZED SIGNATURE / TITLE)

SWORN to and subscribed before me this _____ day of _____, 20_____.

(Impress official seal)

Notary Public, State of Florida: _____

My commission expires: _____

SECTION 00430
CONTRACTOR'S QUESTIONNAIRE
(Submit in Triplicate)

The Bidder warrants the truth and accuracy of all statements and answers herein contained. (Attach additional pages if necessary.)

THIS QUESTIONNAIRE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID

1. License #: _____

License Issued to: _____

Date License Received (MM/DD/YR): _____

Company Name: _____

Company's Physical Address

City
_____ State of Incorporation, if applicable _____ (Zip Code)

(_____) _____ Telephone Number; (_____) _____ Fax Number

Email Address: _____

2. Bidding as an individual ___ a partnership: ___ a corporation; ___ a joint venture ___

3. If a partnership: list names and addresses of partners; if a corporation: list names of officers, directors, shareholders, and state of incorporation; if joint venture: list names and address of ventures' and the same if any venture are a corporation for each such corporation, partnership, or joint venture:

4. Your organization has been in business (under this firm's name) as a

For how many years? _____ Is this firm in bankruptcy? _____

Years holding a Certified General Contractors License

Years experience performing this type of project

(Attach a list of projects where this specific type of work was performed)

BIDDER: _____

4. (Continued)

Has license ever been suspended, revoked, removed or under investigation?

5. Describe and give the date and County of the last three government or private work of similar scope you've completed which are similar in cost, type, size, and nature as the one proposed (for a public entity), include contact name and phone number. Provide the budget, actual cost, size and summary of work for each project. Attach additional pages as necessary. (Note: If listing a Manatee County reference they should not be directly associated with this project)

6. Have you ever been assessed liquidated damages under a Contract during the past five (5) years? If so, state when, where (contact name, address and phone number) and why.

7. Have you ever failed to complete work awarded to you? Or provide projects not completed within Contract time. If so, state when, where (contact name, address, phone number) and why.

8. Have you ever been debarred or prohibited from bidding on a governmental entity's construction project? If yes, name the entity and describe the circumstances:

BIDDER: _____

9. What specific steps have you taken to examine the physical conditions at or contiguous to the site, including but not limited to, the location of existing underground facilities? Have you visited the site(s)? _____
Provide date(s) of site visit: _____

10. What specific physical conditions, including, but not limited to, the location of existing underground facilities have you found which will, in any manner, affect cost, progress, performance, or finishing of the Work?

11. Will you subcontract any part of this Work? If so, describe which major portion(s):

12. If any, list (with Contract amount) WBE/MBE to be utilized:

13. Provide the name, address, telephone number, and years of experience for the Horizontal Drilling Contractor to be used on this project, and include the names and resumes for the Drilling Supervisor and Drilling Fluid Specialist:

BIDDER: _____

14. Provide the dates and County of the five horizontal drill projects that the Drilling Contractor performed that comply with Section 02619 Article 1.04.B of the Contract Documents. Provide the budget, actual cost, size and summary of work for each project. Attach additional pages as necessary.

15. What equipment do you own to accomplish this Work? (A listing may be attached)

16. What equipment will you purchase/rent for the Work? (Specify which)

17. List the following in connection with the Surety which is providing the Bond(s):

Surety's Name: _____

Surety's Address: _____

Surety's Address: _____

Name, address and phone number of Surety's resident agent for service of process in Florida:

Phone: (_____) _____

Email _____

BIDDER: _____

SECTION 00491
PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES CERTIFICATION
SWORN STATEMENT PURSUANT TO ARTICLE V,
MANATEE COUNTY PURCHASING ORDINANCE

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to the Manatee County Board of County Commissioners by

_____ [Print individual's name and title]

_____ for _____ [print name of entity submitting sworn statement]

whose business address is _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:

I understand that no person or entity shall be awarded or receive a County Contract for public improvements, procurement of goods or services (including professional services) or a County lease, franchise, concession or management Agreement, or shall receive a grant of County monies unless such person or entity has submitted a written certification to the County that it has not:

- (1) been convicted of bribery or attempting to bribe a public officer or employee of Manatee County, the State of Florida, or any other public entity, including, but not limited to the Government of the United States, any state, or any local government authority in the United States, in that officer's or employee's official capacity; or
- (2) been convicted of an agreement or collusion among Bidders or prospective Bidders in restraint of freedom of competition, by agreement to bid a fixed price, or otherwise; or
- (3) been convicted of a violation of an environmental law that, in the sole opinion of the County's Purchasing Official, reflects negatively upon the ability of the person or entity to conduct business in a responsible manner; or
- (4) made an admission of guilt of such conduct described in items (1), (2) or (3) above, which is a matter of record, but has not been prosecuted for such conduct, or has made an admission of guilt of such conduct, which is a matter of record, pursuant to formal prosecution. An admission of guilt shall be construed to include a plea of nolo contendere; or
- (5) where an officer, official, agent or employee of a business entity has been convicted of or has admitted guilt to any of the crimes set forth above on behalf of such an entity and pursuant to the direction or authorization of an official thereof (including the person committing the offense, if he is an official of the business entity), the business shall be chargeable with the conduct herein above set forth. A business entity shall be chargeable with the conduct of an affiliated entity, whether wholly owned, partially owned, or one which has common ownership or a common Board of Directors. For purposes of this Form, business entities are affiliated if, directly or indirectly, one business entity controls or has the power to control another business entity, or if an individual or group of individuals controls or has the power to control both entities. Indicia of control shall include, without limitation, interlocking management or ownership, identity of interests among family members, shared organization of a business entity following the ineligibility of a business entity under this Article, or using substantially the same management, ownership or principles as the ineligible entity.

(Cont'd.)

Any person or entity who claims that this Article is inapplicable to him/her/it because a conviction or judgment has been reversed by a court of competent jurisdiction shall prove the same with documentation satisfactory to the County's Purchasing Official. Upon presentation of such satisfactory proof, the person or entity shall be allowed to contract with the County.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY CONTRACT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR THE COUNTY ADMINISTRATOR DETERMINES THAT **SUCH PERSON OR ENTITY HAS MADE FALSE CERTIFICATION.**

[Signature]

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me this ____ day of _____, 20____ by _____

Personally known _____ OR Produced identification _____
[Type of identification]

Notary Public Signature My commission expires _____

[Print, type or stamp Commissioned name of Notary Public]

Signatory Requirement - In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

SECTION 00500
**FORM OF AGREEMENT
BETWEEN THE
COUNTY OF MANATEE, FLORIDA
AND THE CONTRACTOR AS IDENTIFIED BELOW
ON THE BASIS OF A STIPULATED UNIT COST CONTRACT PRICE**

THIS AGREEMENT is made and entered into by and between the COUNTY OF MANATEE, a political subdivision of the State of Florida, hereinafter referred to as the "COUNTY" and **XXXXXXXXXXXXXX**, hereinafter referred to as the "CONTRACTOR," duly authorized to transact business in the State of Florida, with offices located at **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**.

ARTICLE 1. WORK

CONTRACTOR shall furnish all labor, materials, supplies, and other items required to complete the Work for **IFB #13-1745CD Fort Hamer Road Water Main Crossing** in strict accordance with Contract documents and any duly authorized subsequent addenda thereto, all of which are made a part hereof.

ARTICLE 2. COMPENSATION

As compensation to the CONTRACTOR, the COUNTY shall pay and the CONTRACTOR will accept as full consideration for the performance of all Work required by **IFB #13-1745CD Fort Hamer Road Water Main Crossing**, subject to additions and deductions as provided therein, the sum of **\$XXXXX** for Bid "**??**" based on a completion time of **??** calendar days.

ARTICLE 3. LIQUIDATED DAMAGES

Time is of the essence in this Agreement. As of the date of this Agreement, the damages that will be suffered by the County in the event of the Contractor's failure to timely complete the Work are impossible to determine. In lieu thereof, it is agreed that if the Contractor fails to achieve substantial completion of the Work within **??** calendar days of issuance of the Notice to Proceed (accounting, however, for any extensions of time granted pursuant to approved change orders), the Contractor shall pay to the County, as liquidated damages (and not as a penalty), the sum of **\$1914** per calendar

day for each day beyond ?? days until the Contractor achieves substantial completion. The County shall have the option of withholding said liquidated damages from any pay application(s) thereafter submitted by the Contractor. Alternatively, the Contractor shall immediately pay said sums to the County upon the County's demand for same.

ARTICLE 4. ENGINEER

The County of Manatee, Public Works Department, is responsible as the COUNTY and URS Corporation hereinafter referred to as "ENGINEER," designed this project and is responsible for technical/engineering reviews and decisions. The ENGINEER is a member of the COUNTY'S project management team which is collectively responsible in ensuring the Work is completed in accordance with the Contract documents.

All communications involving this project will be addressed to: Kent Bontrager, PE, Project Engineer II, Public Works Department and to the Engineer of Record, David Wilcox, PE, URS Corporation. All invoicing will be addressed to the attention of: Kent Bontrager, PE (address noted below) with invoice copies sent to David Wilcox, PE, URS Corporation (address noted below).

Manatee County Public Works Dept.
IFB# 13-1745CD
Attention: Kent Bontrager, PE
Project Engineer II
1022 26th Avenue East
Bradenton, Florida 34208
Phone (941) 708-7450 ext. 7331

URS Corporation
IFB# 13-17545CD
Attn: David Wilcox, PE
Project Manager
7650 W Courtney Cambell Causway
Tampa, Florida 33607
Phone (813) 286-1711

Where the terms ENGINEER and/or COUNTY are used in the Contract Documents, it shall mean the COUNTY'S project management team.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce COUNTY to enter into this Agreement, CONTRACTOR makes the following representations:

- 5.1 CONTRACTOR has familiarized itself with the nature and extent of the Bid documents, Work, site, locality and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 5.2 CONTRACTOR has studied carefully all drawings of the physical conditions upon which CONTRACTOR is entitled to rely.
- 5.3 CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies which pertain to the physical conditions at or contiguous to the site or which otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance or furnishing of the Work at the Contract price, within the Contract time and in accordance with the other terms and conditions of the Bid documents; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.
- 5.4 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Bid documents with respect to existing underground facilities at or contiguous to the site and assumes responsibility for the accurate location of said underground facilities. Any additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said underground facilities conducted by the CONTRACTOR will be done at the CONTRACTOR'S expense.

- 5.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Bid.
- 5.6 CONTRACTOR has given COUNTY written notice of all conflicts, errors or discrepancies that have been discovered in the Bid documents and the written resolution thereof by OWNER is acceptable to CONTRACTOR.
- 5.7 CONTRACTOR shall schedule and perform the Work subject to COUNTY'S approval and shall hold COUNTY harmless from all liabilities incurred due to CONTRACTOR'S failure to coordinate with the COUNTY.

ARTICLE 6. CONTRACT DOCUMENTS

The Contract documents which comprise the entire Agreement between COUNTY and CONTRACTOR concerning the Work consist of the following:

- 6.1 This Agreement and Bid document **IFB #13-1745CD**
- 6.2 Public Construction Bond Form and Insurance Certificate(s)
- 6.3 Drawings/Plans (not attached)
- 6.4 Addendum number ?? to ?? inclusive
- 6.5 CONTRACTOR'S Bid Form
- 6.6 Reports
- 6.7 The following, which may be delivered or issued after the effective date of the Agreement and are not attached hereto: all written change orders and other documents amending, modifying, or supplementing the Contract documents.

6.8 The documents listed in paragraphs above are attached to this Agreement (except as noted otherwise above). There are no Contract documents other than those listed above in this Article 6.

ARTICLE 7. MISCELLANEOUS

7.1 Terms used in this Agreement are defined in Article 1 of the General Conditions.

7.2 No assignment by a party hereto of any rights under or interest in the Contract documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignee from any duty or responsibility under the Contract documents.

7.3 COUNTY and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract documents.

AGREEMENT
IFB #13-1745CD

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed by their authorized representatives.

CONTRACTOR

By: _____

Print Name & Title of Signer

Date: _____

COUNTY OF MANATEE, FLORIDA

By: _____
Melissa M. Wendel, CPPO
Purchasing Official

Date: _____

**MANATEE COUNTY GOVERNMENT
PUBLIC CONSTRUCTION BOND**

Bond No. _____
(Enter bond number)

BY THIS BOND, We _____, located at _____, as
(Name of Contractor) (Address)

Principal and _____, a corporation, whose address is
(Name of Surety)

are bound to Manatee County, a political subdivision of the State of Florida, herein called County, in the sum of \$ _____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

WHEREAS, the Contractor has entered into Contract No. IFB #13-1745CD with the County for the project titled Fort Hamer Water Main Crossing, with conditions and provisions as are further described in the aforementioned Contract, which Contract is by reference made a part hereof for the purposes of explaining this bond.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs Contract No. IFB #13-1745CD, between Principal and County for construction of

Fort Hamer Water Main Crossing, the Contract being made a part of this bond by reference, at
(Title of Project)

the times and in the manner prescribed in the Contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the Work provided for in the Contract; and

3. Pays County all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that County sustains because of a default by Principal under the Contract; and

4. Performs the guarantee of all Work and materials furnished under the Contract for the time specified in the Contract, then this bond is void; otherwise it remains in full force.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes.

Any changes in or under the Contract documents and compliance or noncompliance with any formalities connected with the Contract or the changes does not affect Surety's obligation under this bond.

DATED ON _____.

CONTRACTOR AS PRINCIPAL

SURETY

Company Name

Company Name

Signature

Signature

Print Name & Title

Print Name & Title

(Corporate Seal)

(Corporate Seal)

AGENT or BROKER

Company Name

Address

Telephone

Licensed Florida Insurance Agent? Yes No

License #: _____

State of: _____

County of: _____

City of: _____

SECTION 00700
GENERAL CONDITIONS

ARTICLE 1. DEFINITIONS

Whenever used in the Bid documents, the following terms have the meaning indicated which are applicable to both the singular and plural thereof:

Addendum - Written or graphic instruments issued prior to the opening of Bids which clarify or change the Bidding documents or the Contract documents.

Agreement - The written Agreement between Owner and Contractor covering the Work to be performed; other Contract documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form accepted by the Project Representative which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract documents.

Award - Acceptance of the Bid from the person, firm, or corporation which in the Owner's sole and absolute judgment will under all circumstances best serve the public interest. Award shall be made in accordance with Manatee County Code of Laws.

Bid - The offer of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder - One who submits a Bid directly to the Owner, as distinct from a Sub-bidder, who submits a Bid to a Bidder.

Bidding Documents - Consists of the Invitation for Bid, which includes but is not limited to the Bid Form, drawings, technical specifications, terms and conditions, and the proposed Contract documents (including all addenda issued prior to receipt of Bids); and becomes a part of the Agreement.

Bonds - Performance and payment bonds and other instruments of security.

Change Order - A document recommended by the Project Representative which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract price or the Contract time, issued on or after the effective date of the Agreement.

Compensable Delay - Any delay beyond the control and without the fault or negligence of the Contractor resulting from Owner-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by Owner.

Contract Documents - The Agreement, addenda (which pertain to the Contract documents), Contractor's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award), the bonds, the specifications, special provisions and the drawings, together with all amendments, modifications and supplements issued on or after the effective date of the Agreement.

Contract Price - The monies payable by Owner to Contractor under the Contract documents as stated in the Agreement.

Contract Time - The number of days or the date stated in the Notice to Proceed for the completion of the Work.

Contractor - The person, firm or corporation with whom Owner has entered into an Agreement.

Days - All references to days are to be considered calendar days except as specified differently.

Defective - An adjective which when modifying the Work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the Contract documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract documents, or has been damaged prior to Project Representative's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner).

Discretionary – Payment for all Work that shall be made only at the Owner's discretion in order to satisfactorily complete the project in accordance with the plans and specifications.

Drawings - The drawings which show the character and Scope of Work to be performed and which have been prepared or approved by Engineer and are referred to in the Bidding and Contract documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective (date of execution).

Excusable Delay - Any delay beyond the control and without the negligence of the Contractor, the Owner, or any other Contractor caused by events or circumstances such as, but not limited to, acts of God or of the public enemy, fires, floods, freight embargoes, acts of government other than Owner or epidemics. Labor disputes and above average rainfall shall give rise only to excusable delays.

Field Order - A written order issued by Project Representative which orders minor changes in the Work, but which does not involve a change in the Contract price or the Contract time.

Float or Slack Time - The time available in the progress schedule during which an unexpected activity can be completed without delaying substantial completion of the Work.

Inexcusable Delay - Any delay caused by events or circumstances within the control of the Contractor, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight, or diligence on the part of the Contractor.

Non-prejudicial Delay - Any delay impacting a portion of the Work within the available total float or slack time and not necessarily preventing completion of the Work within the Contract time.

Notice of Award - The written notice to the successful Bidder stating Award has been approved by the Board of County Commissioners; or by the Purchasing Official in accordance with Manatee County Code of Laws, Chapter 2-26, Manatee County Purchasing Ordinance.

Notice of Intent to Award - The written notice to the apparent low Bidder stating Award has been recommended with final Award to be authorized by the Board of County Commissioners.

Notice to Proceed - Written notice by Owner (after execution of Contract) to Contractor fixing the date on which the Contract time will commence to run and on which Contractor shall start to perform (ten (10) days from date of such notice) Contractor's obligations under the Contract documents.

Owner - Manatee County, Florida, Board of County Commissioners.

Preconstruction Conference - Prior to starting the Work, a meeting scheduled by Owner with Contractor to review the Work schedules, to establish procedures for handling shop drawings and other submissions, for processing periodical pay estimates, and such other matters as may be pertinent to the project.

Prejudicial Delay - Any excusable or compensable delay impacting the Work and exceeding the total float available in the progress schedule, thus preventing completion of the Work within the Contract time unless the Work is accelerated.

Pre-operation Testing - All field inspections, installation checks, water tests, performance tests and necessary corrections required of Contractor to demonstrate that individual components of the Work have been properly constructed and do operate in accordance with the Contract documents for their intended purposes.

Project - The total construction of which the Work to be provided under the Contract documents may be the whole or a part as indicated elsewhere in the Contract documents.

Project Representative - The authorized representative of Owner who is assigned to the project or any part thereof.

Schedule of Values – Unit prices shall be established for this Contract by the submission of a schedule of values. The Contractor shall submit a schedule of values within ten (10) days of Notice to Proceed date. The schedule shall include quantities and prices of items equaling the Total Bid Price and will subdivide the Work into components in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work. Upon request of the County, the Contractor shall support the values with data which will substantiate their correctness.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.

Special Provisions: As required to define work or procedures not covered in the standard specifications, and as necessary to supplement or modify items in the standard specifications.

Specifications - Those portions of the Contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual or corporation having a direct contact with Contractor or with any other Subcontractor for the performance of a part of the Work at the site. Such person or firm has contractual relations with the Contractor, not with the Owner.

Substantial Completion - The Work (or a specified part thereof) has progressed to the point when, in the opinion of the Engineer as evidenced by Engineer's definitive certificate of substantial completion, it is sufficiently complete in accordance with Contract documents so that the Work can be utilized for the purposes for which it is intended; or if there be no such certificate issued, when final payment is due.

Successful Bidder - The lowest, responsible and responsive Bidder to whom an Award is made.

Supplier - A manufacturer, fabricator, supplier, distributor, material man or vendor.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments and any encasement containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or

other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work - Work to be paid for on the basis of unit prices.

Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract documents.

Work Directive Change - A written directive to Contractor, issued on or after the effective date of the Agreement and signed by Owner and recommended by Project Representative ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed or to emergencies. A work directive change may not change the Contract price or the Contract time; but is evidence that the parties expect that the change directed or documented by a work directive change will be incorporated in a subsequently issued change order following negotiations by the parties as to its effect, if any, on the Contract price or Contract time.

Written Amendment - A written amendment of the Contract documents, signed by Owner and Contractor on or after the effective date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly work related aspects of the Contract documents.

ARTICLE 2. PRELIMINARY MATTERS

Computation of Time: When time is referred to in the Contract documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or legal holiday, such day will be omitted from the computation.

2.1 The Contractor must submit a proposed schedule of the Work at the preconstruction conference. The purpose of this schedule is to enable the Owner to govern the Work, to protect the functions of the local government and its citizens and to aid in providing appropriate surveillance. The Owner shall have the right to reschedule Work provided such rescheduling is in accord with the remainder of terms of the Contract. The schedule shall show, as a minimum, the approximate dates on which each segment of the Work is expected to be started and finished, the proposed traffic flows during each month, the anticipated earnings by the Contractor for each month and the approximate number of crews and equipment to be used. The Owner, after necessary rescheduling and obtaining additional information for specific purposes, shall review and approve the schedule. The Contractor shall also forward to the Owner, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the Work under the Contract, in fabrication and in the field, stating the existing status, estimated time of completion and cause of delay, if

any. Together with the summary report, the Contractor shall submit any necessary revisions to the original schedule for the Owner's review and approval. In addition, more detailed schedules may be required by the Owner for daily traffic control.

- 2.2 A Notice to Proceed may be given at any time within thirty (30) days after the effective date of the Agreement. The Contract time will commence at the time specified in such notice. Contractor shall start to perform the Work on the date specified in the Notice to Proceed, but no Work shall be done at the site prior to the date on which the Contract time commences to run.
- 2.3 If at any time the materials and appliances to be used appear to the Owner as insufficient or improper for securing the quality of Work required or the required rate of progress, the Owner may order the Contractor to increase his efficiency or to improve the character of his Work and the Contractor shall conform to such an order. The failure of the Owner to demand any increase of such efficiency of any improvement shall not release the Owner from his obligation to secure the quality of Work or the rate of progress necessary to complete the Work within the limits imposed by the Contract. The Owner may require the Contractor to remove from the Work such employees as the Owner deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the Work is deemed to be contrary to the Owner's interest.
- 2.4 The Owner reserves the right to let other Contracts in connection with this Work. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and execution of their Work, and promptly connect and coordinate the Work with theirs.

ARTICLE 3. CONTRACT DOCUMENTS: INTENT, AMENDING, RE-USE

- 3.1 The Contract documents comprise the entire Agreement between Owner and Contractor concerning the Work. The Contract documents are complementary; what is called for by one is as binding as if called for by all. The Contract documents will be construed in accordance with the laws and ordinances of the State of Florida and Manatee County.

Should a conflict exist within the Contract documents, the precedence in ascending order of authority are as follows: 1) Standard Printed Contract Documents, 2) Special Conditions, 3) General Conditions, and 4) Drawings.

Note: Computed dimensions shall govern over scaled dimensions.

- 3.2 It is the intent of the Contract documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract documents. Any work, materials or equipment that may reasonably be inferred from the Contract documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or

equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract documents) shall be effective to change the duties and responsibilities of Owner, Contractor or Engineer, or any of their agents or employees from those set forth in the Contract documents.

3.3 The Contract documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.3.1 A Formal Written Amendment

3.3.2 A Change Order

3.3.3 Administrative Contract Adjustment (ACA)

3.3.4 A Work Directive Change

3.4 In addition, the requirements of the Contract documents may be supplemented and minor variations and deviations in the Work may be authorized in one or more of the following ways:

3.4.1 Discretionary Work – Field Directive

3.4.2 Engineer's approval of a Shop Drawing or sample

ARTICLE 4. CONTRACTOR'S RESPONSIBILITIES

4.1 Contractor shall keep on the Work at all times during its progress a competent resident superintendent; who shall be the 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.

4.2 Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract documents. Contractor shall at all times maintain good discipline and order at the site. 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 Contract documents, all Work at the site shall be performed during regular working hours and Contractor will not permit overtime work or the

performance of work on Saturday, Sunday or legal holiday without Owner's written consent given after prior notice to Engineer (at least seventy-two (72) hours in advance).

- 4.2.1 Contractor shall pay for all additional engineering charges to the Owner for any overtime work which may be authorized. Such additional engineering charges shall be a subsidiary obligation of Contractor and no extra payment shall be made by Owner on account of such overtime work. At Owner's option, overtime costs may be deducted from Contractor's monthly payment request or Contractor's retainage prior to release of final payment.
- 4.3 Unless otherwise specified, Contractor shall furnish and assume full responsibility for all bonds, insurance, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, 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.
- 4.4 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 applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instruction of the applicable supplier except as otherwise provided in the Contract documents.
- 4.5 Contractor shall be fully responsible to Owner for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect Contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract documents shall create any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of Owner to pay or to see to the payment of any monies due any such Subcontractor, Supplier or other person or organization.
- 4.6 Permits: Unless otherwise provided, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work.
- 4.7 During the progress of the Work, Contractor shall keep the premises free from accumulation 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 conditions all property not designated for alteration by the Contract documents.

- 4.8 Contractor shall not load nor 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.
- 4.9 Safety and Protection: Contractor shall comply with the Florida Department of Commerce Safety Regulations and any local safety regulations. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to:
- 4.9.1 all employees on the work and other persons and organizations who may be affected thereby;
- 4.9.2 all the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 4.9.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.
- 4.9.4 Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall provide and maintain all passageways, guard fences, lights and other facilities for the protection required by public authority or local conditions. Contractor shall provide reasonable maintenance of traffic way for the public and preservation of the Owner's business, taking into full consideration all local conditions. Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed.
- 4.10 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 or variations from the Contract documents have been caused thereby. If Owner

determines that a change in the Contract documents is required because of the action taken in response to an emergency, a work directive change or change order will be issued to document the consequences of the changes or variation.

4.11 For substitutes not included with the Bid, but submitted after the effective date of the Agreement, Contractor shall make written application to Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will also contain an itemized estimate of all costs and delays or schedule impacts that will result directly or indirectly from review, acceptance and provisions of such substitute, including costs of redesign and claims of other Contractors affected by the resulting change, all of which will be considered by the Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish at Contractor's expense, additional data about the proposed substitute. In rendering a decision, Owner/Engineer and Contractor shall have access to any available float time in the construction schedule. In the event that substitute materials or equipment not included as part of the Bid, but proposed after the effective date of the Agreement, are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall be credited to the Owner and an appropriate change order executed.

4.11.1 If a specific means, method, technique, sequence of procedure of construction is indicated in or required by the Contract documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to Engineer if Contractor submits sufficient information to allow Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract documents.

4.11.2 Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. Engineer will be the sole judge of acceptability and no substitute will be ordered, installed or utilized without Engineer's prior written acceptance which will be evidenced by either a change order or an approved shop drawing. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

4.11.3 Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for evaluating each proposed substitute submitted after the effective date of the Agreement and all costs resulting from any delays in the Work while the substitute was undergoing review.

- 4.12 The Contractor shall furnish, free of charge, all labor, stakes, surveys, batter boards for structures, grade lines and other materials and supplies and shall set construction stakes and batter boards for establishing lines, position of structures, slopes and other controlling points necessary for the proper prosecution of the construction work. Where rights-of-way, easements, property lines or any other conditions which make the lay-out of the project or parts of the project critical are involved, the Contractor will employ a competent surveyor who is registered in the State of Florida for lay-out and staking. These stakes and marks shall constitute the field control by and in accord with which the Contractor shall govern and execute the Work. The Contractor will be held responsible for the preservation of all stakes, marks and if for any reason any of the stakes or marks or batter boards become destroyed or disturbed, they will be immediately and accurately replaced by the Contractor.
- 4.13 The Contractor has, by careful examination, satisfied himself as to the nature and location of the Work and all other matters which can in any way affect the Work under this Contract, including, but not limited to details pertaining to boring, as shown on the drawings, are not guaranteed to be more than a general indication of the materials likely to be found adjacent to holes bored at the site of the Work, approximately at the locations indicated. The Contractor shall examine boring data, where available, and make his own interpretation of the subsoil investigations and other preliminary data, and shall base his Bid on his own opinion of the conditions likely to be encountered. In no event shall an extension of time be considered for any conditions that existed at the time of bidding, nor shall the Contractor receive extra compensation for completion of the project as intended by the drawings and in keeping with the Contact documents. No verbal agreement or conversation with any officer, agent or employee of the Owner, before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.
- 4.14 If the Contractor, in the course of the Work, finds that the drawings and/or Contract documents cannot be followed, he shall immediately inform the Owner in writing, and the Owner shall promptly check the accuracy of the information. Any work done after such discovery, until any necessary changes are authorized, will be done at the Contractor's risk.

ARTICLE 5. OWNER'S RESPONSIBILITIES

- 5.1 Owner shall furnish the data required of Owner under the Contract documents promptly and shall make payments to the Contractor within a reasonable time (no more than twenty (20) days) after the Work has been accepted by the Owner. The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract documents shall be determined by the Owner/Engineer. Standard County forms shall be utilized.

- 5.2 The Owner shall provide the lands upon which the Work under this Contract is to be done, except that the Contractor shall provide all necessary additional land required for the erection of temporary construction facilities and storage of his materials, together with right of access to same.
- 5.3 The Owner shall have the right to take possession of and use any completed portions of the Work, although the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract documents.

ARTICLE 6. CHANGES IN THE WORK

- 6.1 Without invalidating the Agreement and without notice to any Surety, Owner may, at any time, order additions, deletions or revisions in the Work. These will be authorized by a written amendment, a change order, or a work directive change. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract documents (except as otherwise specifically provided).
- 6.2 Contractor shall not be entitled to an increase in the Contract price or an extension of the Contract time with respect to any Work performed that is not required by the Contract documents as amended, modified and supplemented.
- 6.3 Owner and Contractor shall execute appropriate change orders (or written amendments) covering changes in the Work which are ordered by Owner, or which may be required because of acceptance of defective Work.
- 6.4 At any time Engineer may request a quotation from Contractor for a proposed change in the Work and within twenty-one (21) calendar days after receipt, Contractor shall submit a written and detailed proposal for an increase or decrease in the Contract price or Contract time for the proposed change. Engineer shall have twenty-one (21) calendar days after receipt of the detailed proposal to respond in writing. The proposal shall include an itemized estimate of all costs and time for performance that will result directly or indirectly from the proposed change. Unless otherwise directed, itemized estimates shall be in sufficient detail to reasonably permit an analysis by Engineer of all material, labor, equipment, subcontracts, overhead costs and fees, and shall cover all Work involved in the change, whether such Work was deleted, added, changed or impacted. Notwithstanding the request for quotation, Contractor shall carry on the Work and maintain the progress schedule. Delays in the submittal of the written and detailed proposal will be considered non-prejudicial.

ARTICLE 7. CHANGE OF CONTRACT PRICE

- 7.1 The Contract price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at his expense without change in the Contract price.
- 7.2 The Contract price may only be changed by change order or by a written amendment. Any claim for an increase or decrease in the Contract price shall be based on written notice delivered by the party making the claim to the other party. Notice of the amount of the claim with supporting data shall be delivered within ten (10) days from the beginning of such occurrence and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event.
- 7.3 The value of any Work covered by a change order or of any claim for an increase or decrease in the Contract price shall be determined in one of the following ways (at Owner's discretion):
- 7.3.1 Where the Work involved is covered by unit prices contained in the Contract documents, cost will be determined by application of such unit prices to the quantities of the items involved.
- 7.3.2 By mutual acceptance of lump sum.
- 7.3.3 On the basis of the cost of the Work, plus a 15% Contractor's fee for overhead and profit. (Contractor shall submit an itemized cost breakdown together with supporting data.)
- 7.4 Either Owner or Contractor may make a claim for an adjustment in the Contract price. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment under the following conditions:
- 7.4.1 If the total cost of a particular item of Unit Price Work amounts to 5% or more of the Contract price and the variation in the quantity of the particular item of Unit Price Work performed by Contractor differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and
- 7.4.2 If there is no corresponding adjustment with respect to any other item of Work; and
- 7.4.3 If a Contractor believes that it has incurred additional expense as a result thereof; or

7.4.4 If Owner believes that the quantity variation entitles it to an adjustment in the unit price; or

7.4.5 If the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

ARTICLE 8. CHANGE OF CONTRACT TIME

8.1 Contract time may only be changed by a change order or a written amendment. Any claim for an extension or shortening of the Contract time shall be based on written notice delivered by the party making the claim to the other party. Notice of the extent of the claim with supporting data shall be delivered within fifteen (15) days from detection or beginning of such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.

8.2 The Contract time will be extended in an amount equal to time lost due to delays beyond the control of Contractor. Such delays shall include, but not be limited to, acts or neglect by Owner or others performing additional Work; or to fires, floods, epidemics, abnormal weather conditions or acts of God.

8.3 All time limits stated in the Contract documents are of the essence.

ARTICLE 9. WARRANTY, TEST/INSPECTION, CORRECTION

9.1 Contractor warrants (for a minimum period of three (3) years or as otherwise stated herein) and guarantees to Owner that all Work will be in accordance with the Contract documents and will not be defective; that Owner, representatives of Owner, governmental agencies with jurisdictional interests will have access to the Work at reasonable time for their observation, inspecting and testing (Contractor shall give Engineer timely notice of readiness of the Work for all required approvals and shall assume full responsibility, including costs, in obtaining required tests, inspections, and approval certifications and/or acceptance, unless otherwise stated by Owner).

9.2 If any Work (including work of others) that is to be inspected, tested, or approved is covered without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice. Neither observations by Engineer nor inspections, tests, or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract documents.

9.3 If the Work is defective, or Contractor fails to supply sufficient skilled workers, or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract documents, Owner may order Contractor to stop the Work, or any portion thereof and terminate payments to the Contractor until the cause for such order has been eliminated. Contractor shall bear all direct, indirect and consequential costs for satisfactory reconstruction or removal and replacement with non-defective Work, including, but not limited to fees and charges of engineers, architects, attorneys and other professionals and any additional expenses experienced by Owner due to delays to other Contractors performing additional Work and an appropriate deductive change order shall be issued. Contractor shall further bear the responsibility for maintaining schedule and shall not be entitled to an extension of the Contract time and the recovery of delay damages due to correcting or removing defective Work.

9.3.1 If Contractor fails within seven (7) days after written notice to correct defective Work, or fails to perform the Work in accordance with the Contract documents, or fails to comply with any other provision of the Contract documents, Owner may correct and remedy any such deficiency to the extent necessary to complete corrective and remedial action. Owner may exclude Contractor from all or part of the site, take possession of all or part of the Work, Contractor's tools, construction equipment and machinery at the site or for which Owner has paid Contractor but which are stored elsewhere. All direct and indirect costs of Owner in exercising such rights and remedies will be charged against Contractor in an amount approved as to reasonableness by Engineer and a change order will be issued incorporating the necessary revisions.

9.3.2 If within three (3) years after the date of completion or such longer period of time as may be prescribed by laws or regulations 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 Owner and in accordance with Owner's written instructions, either correct such defective Work or if it has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not promptly comply with the terms of such instruction, Owner may have the defective Work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by Contractor.

ARTICLE 10. SUSPENSION/TERMINATION OF WORK

10.1 Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety (90) days by written notice to Contractor, which will fix the date on which Work will be resumed. Contractor shall be allowed an increase in the Contract price or an extension of the Contract

time, or both, directly attributable to any suspension if Contractor makes an approved claim therefore.

10.2 Owner may terminate the Contract if Contractor commences a voluntary case under any chapter of the Bankruptcy Code or any similar action by filing a petition under any other federal or state law relating to the bankruptcy or insolvency; if a petition is filed against the Contractor under any chapter of the Bankruptcy Code or similar relief under any other federal or state law; if Contractor persistently fails to perform the Work in accordance with the Contract documents; if Contractor disregards laws or regulations of any public body having jurisdiction or the Engineer; or otherwise violates in any substantial way any provisions of the Contract.

10.2.1 Owner may, after giving Contractor (and the Surety, if there is one) 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, construction equipment and machinery at the site and use the same to the full extent they could be used (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. In such case, Contractor shall not be entitled to receive any further payment beyond an amount equal to the value of material and equipment not incorporated in the Work, but delivered and suitably stored, less the aggregate of payments previously made. If the direct and indirect costs of completing the Work exceed the unpaid balance of the Contract price, Contractor shall pay the difference to Owner. Such costs incurred by Owner shall be verified by Owner and incorporated in a change order; but in finishing the Work, Owner shall not be required to obtain the lowest figure for the Work performed. Contractor's obligations to pay the difference between such costs and such unpaid balance shall survive termination of the Agreement.

10.3 If, through no act or fault of Contractor, 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 Engineer fails to act on any application or fails to pay Contractor any sum finally determined to be due; then Contractor may, upon seven (7) days written notice to Owner terminate the Agreement and recover from Owner payment for all Work executed, any expense sustained plus reasonable termination expenses. In lieu of terminating the Agreement, if Engineer has failed to act on any application of payment or Owner has failed to make any payment as aforesaid, Contractor may upon seven (7) days written notice to Owner stop the Work until payment of all amounts then due.

ARTICLE 11. CONTRACT CLAIMS

- 11.1 The rendering of a decision by Engineer with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by Owner or Contractor of such right or remedies as either may otherwise have under the Contract documents or by laws or regulations in respect of any such claim, dispute or other matter. No action, either at law or at equity, shall be brought in connection with any such claim, dispute or other matter later than thirty (30) days after the date on which Owner/Engineer has rendered such written decision in respect thereof. Failure to bring an action within said thirty (30) day period shall result in Engineer's decision being final and binding on the Contractor. In no event may any such action be brought after the time at which instituting such proceedings would be otherwise barred by the applicable statute of limitations.
- 11.2 Before bringing any action in court pertaining to any claim, dispute or other matter in question(s) arising out of or relating to the Contract documents or the breach thereof, or Engineer's final decision, except for claims which have been waived by the making and acceptance of final payment, the Contractor shall first submit written notice(s) of Contract claims to the Purchasing Official for a decision; within the earlier of sixty (60) days after the last date on which the Contractor provided any goods or services required by the Contract or after the date on which the Contractor knew or should have known such a claim existed. The Manatee County Code of Laws, Section 2-26-63, Contract Claims, details the requirements and process for such a claim.

ARTICLE 12. RESIDENT PROJECT REPRESENTATIVE - DUTIES, RESPONSIBILITIES

- 12.1 Resident Project Representative is Engineer/Owner's Agent, who will act as directed by and under the supervision of the Engineer, and who will confer with Owner/Engineer regarding his actions. Resident Project Representative's dealing in matters pertaining to the on-site Work shall, in general, be only with the Owner/Engineer and Contractor and dealings with Subcontractors shall only be through or with the full knowledge of Contractor.
- 12.2 Resident Project Representative will:
- 12.2.1 Review the progress schedule, schedule of shop drawing submissions and schedule of values prepared by Contractor and consult with Owner/Engineer concerning their acceptability.
 - 12.2.2 Attend preconstruction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with Owner/Engineer and notify those expected to attend in advance. Attend meetings and maintain and circulate copies of minutes thereof.

- 12.2.3 Serve as Owner/Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist him in understanding the intent of the Contract documents. As requested by Owner/Engineer, assist in obtaining additional details or information when required at the job site for proper execution of the Work.
- 12.2.4 Receive and record date of receipt of shop drawings and samples, receive samples which are furnished at the site by Contractor and notify Owner/Engineer of their availability for examination.
- 12.2.5 Advise Owner/Engineer and Contractor or his superintendent immediately of the commencement of any Work requiring a shop drawing or sample submission if the submission has not been approved by the Owner/Engineer.
- 12.2.6 Conduct on-site observations of the Work in progress to assist Owner/Engineer in determining if the Work is proceeding in accordance with the Contract documents and that completed Work will conform to the Contract documents.
- 12.2.7 Report to Owner/Engineer whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract documents, or does not meet the requirements of any inspections, tests or approvals required or if Work has been damaged prior to final payment; and advise Owner/Engineer when he believes Work should be corrected or rejected or should be uncovered of observation or requires special testing, inspection or approval.
- 12.2.8 Verify that tests, equipment and system 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 Engineer appropriate details relative to the test procedures and start-ups.
- 12.2.9 Accompany visiting inspectors representing public or other agencies having jurisdiction over the project; record the outcome of these inspections and report to Owner/Engineer.
- 12.2.10 Transmit to Contractor, Owner/Engineer's clarifications and interpretations of the Contract documents.
- 12.2.11 Consider and evaluate Contractor's suggestions or modifications in drawings or Contract Documents and report them with recommendations to Owner/Engineer.

- 12.2.12 Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of original Contract documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the Contract, Owner/Engineer's clarifications and interpretations of the Contract documents, progress reports and other project related documents.
- 12.2.13 Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions; list of visiting officials and representatives or manufacturers, fabricators, suppliers and distributors; daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures. Send copies to Owner/Engineer.
- 12.2.14 Record names, addresses and telephone numbers of all Contractors, Subcontractors and major Suppliers of materials and equipment.
- 12.2.15 Furnish Owner/Engineer periodic reports as required of progress of the Work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions.
- 12.2.16 Consult with Owner/Engineer in advance of scheduling major tests, inspections or start of important phases of the Work.
- 12.2.17 Report immediately the occurrence of any accident.
- 12.2.18 Review applications for payment with Contractor for compliance with the established procedure for their submission and forward them with recommendations to Owner/Engineer, 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.
- 12.2.19 During the course of the Work, verify that certificates, maintenance and operations manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed, and deliver this material to Owner/Engineer for his review prior to final acceptance of the Work.
- 12.2.20 Before Owner/Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- 12.2.21 Conduct final inspection in the company of Owner/Engineer and Contractor and prepare a final list of items to be completed or corrected.

12.2.22 Verify that all items on final list have been completed or corrected and make recommendations to Owner/Engineer concerning acceptance.

12.3 Except upon written instructions of Owner/Engineer, Resident Project Representative:

12.3.1 Shall not authorize any deviation from the Contract documents or approve any substitute materials or equipment;

12.3.2 Shall not exceed limitations on Owner/Engineer's authority as set forth in the Contract documents;

12.3.3 Shall not undertake any of the responsibilities of Contractor, Subcontractors or Contractor's superintendent, or expedite the Work;

12.3.4 Shall not 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;

12.3.5 Shall not advise on or issue directions as to safety precautions and programs in connection with the Work;

12.3.6 Shall not authorize Owner to occupy the project in whole or in part; and

12.3.7 Shall not participate in specialized field or laboratory tests.

ARTICLE 13. APPRENTICES

13.1 If successful Contractor employs apprentices, he shall be governed and comply with the provisions of F.S. § 446.011.

NOTE: The form of all submittals, notices, change orders and other documents permitted or required to be used or transmitted under the Contract shall be determined by the County. Standard County forms shall be utilized.

END OF SECTION

MAILING LABEL

Cut along the outside border and affix this label to your sealed Bid envelope to identify it as a "Sealed Bid". Be sure to include the name of the company submitting the Bid and the Bid due date and time where requested.

MAILING LABEL TO AFFIX TO OUTSIDE OF SEALED BID PACKAGE:

SEALED BID - DO NOT OPEN

CONTRACTOR: _____

SEALED BID NO: IFB #13-1745CD

BID TITLE: Fort Hamer Water Main Crossing

DUE DATE/TIME: _____ @ _____

SECTION A: COMPLIANCE WITH FEDERAL LAWS

A.01 FEDERAL REQUIREMENTS FOR CONSTRUCTION PROJECTS

- a) **Davis Bacon Act**, as amended (40 U.S.C. 267a to a-7) – **Contractor is required to comply with the Davis-Bacon Act** (40 U.S.C 276a to a-7) and as supplemented by Department of Labor regulations (29 CFR part 5, “Labor Standards Provisions Applicable to Contracts governing Federally Financed and Assisted Construction”). Under this Act, contractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of labor. In addition, contractors shall be required to pay wages not less than once a week. (*See Attachment A for Current Federal Wage Decision*); and
- b) **Contract Work Hours and Safety Standards Act** (40 U.S.C. 327 through 333) Contractor is required to comply with Sections 103 and 107 of the Contract Work Hours Safety Standards Act (40 U.S.C. 327-333), as supplemented by Department of Labor regulations (29 CFR, Part 5). Under Section 102 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than 1 ½ times the basic rate of pay for all hours worked in excess of 40 hours in the work week. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous; and
- c) **Copeland “Anti-Kickback” Act** (18 U.S.C. 874 and 40 U.S. 276c) Contractor is required to comply with the Copeland “Anti-Kickback” Act (18 USC 874), as supplemented by Department of Labor Regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled.

A.02 LABOR STANDARDS (PROJECTS OVER \$2,000)

The following Federal Labor Standards provisions are in effect and must be complied with by all contractors and Sub-Contractors. As before mentioned it is mandatory that these legislative acts are complied with. Specific reporting requirements include, but shall not be limited to the following:

- a) Federal Wage Decision for Manatee County in Florida. Per the Davis-Bacon Act, these are applicable prevailing federal wage rates for this project. There are no State prevailing wage rates. These wage rates will be compared against those posted by the U.S. Department of Labor. In the event the Federal Wage Decision has been updated, proposers will be notified in writing in accordance with the current *Federal Wage Decision (Ref. Attachment A)*; and
- b) United States Department of Labor, Payroll Form WH-347 (OMB Approval No. 1215-0149) with accompanying Statement of Compliance. Per the Davis-Bacon Act and the Copeland Act, the awarded contractor and its subcontractor's are required to submit weekly payrolls, being accompanied by the Statement of Compliance, bearing an original signature. (*See Attachment B for the current Payroll Form WH-347 with the accompanying Statement of Compliance*)

ATTACHMENT A

Federal Prevailing Wage Decisions

FEDERAL PREVAILING WAGE

General Wage Decision Number: FL130165 03/29/2013 FL165

Superseded General Decision Number: FL20120165

State: Florida

Construction Type: Heavy

County: Manatee County in Florida

Publication Date: 03/29/2013 – Modification Number 2

(SEE ATTACHED)

General Decision Number: FL130165 03/29/2013 FL165

Superseded General Decision Number: FL20120165

State: Florida

Construction Type: Heavy

County: Manatee County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Modification Number	Publication Date
0	01/04/2013
1	03/08/2013
2	03/29/2013

ELEC0915-003 12/01/2012

	Rates	Fringes
ELECTRICIAN.....	\$ 25.13	34%+\$0.25

ENGI0925-008 01/01/2012

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Crawler Cranes; Truck Cranes; Pile Driver Cranes; Rough Terrain Cranes; and Any Crane not otherwise described below...\$ 28.91		10.74
Hydraulic Cranes Rated 100 Tons or Above but Less Than 250 Tons; and Lattice Boom Cranes Less Than 150 Tons if not described below.\$ 29.91		10.74
Lattice Boom Cranes Rated at 150 Tons or Above; Friction Cranes of Any Size; Mobile Tower Cranes or Luffing Boom Cranes of Any Size; Electric Tower Cranes; Hydraulic Cranes Rated at 250 Tons or Above; and Any Crane Equipped with 300 Foot or More of Any Boom Combination.....\$ 30.91		10.74
Oiler.....\$ 22.38		10.74

IRON0397-006 07/01/2012

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 27.67	12.59

LABO0517-002 05/01/2008

	Rates	Fringes
LABORER: Grade Checker.....	\$ 17.20	5.47

* PAIN0088-008 09/01/2011

	Rates	Fringes
PAINTER: Brush, Roller and Spray.....	\$ 19.50	7.93

SUFL2009-161 06/24/2009

	Rates	Fringes
CARPENTER.....	\$ 14.95	2.92
CEMENT MASON/CONCRETE FINISHER...	\$ 14.77	3.50
LABORER: Common or General.....	\$ 10.90	0.38
LABORER: Landscape.....	\$ 7.25	0.00
LABORER: Pipelayer.....	\$ 13.75	2.06
LABORER: Power Tool Operator (Hand Held Drills/Saws, Jackhammer and Power Saws Only).....	\$ 10.63	2.20
OPERATOR: Asphalt Paver.....	\$ 11.59	0.00
OPERATOR: Backhoe Loader Combo.....	\$ 16.10	2.44
OPERATOR: Backhoe/Excavator.....	\$ 15.00	0.52
OPERATOR: Bulldozer.....	\$ 17.00	0.00
OPERATOR: Grader/Blade.....	\$ 16.00	2.84
OPERATOR: Loader.....	\$ 14.75	0.00
OPERATOR: Mechanic.....	\$ 14.32	0.00
OPERATOR: Roller.....	\$ 10.76	0.00
OPERATOR: Scraper.....	\$ 11.00	1.74
OPERATOR: Trackhoe.....	\$ 20.92	5.50
OPERATOR: Tractor.....	\$ 10.54	0.00

TRUCK DRIVER, Includes Dump

Truck.....	\$ 11.00	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 12.73	0.00
TRUCK DRIVER: Off the Road Truck.....	\$ 12.21	1.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

ATTACHMENT B
Payroll Form WH-347

U.S. Department of Labor

PAYROLL

Wage and Hour Division

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)



Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

Rev. Dec. 2008

NAME OF CONTRACTOR OR SUBCONTRACTOR ADDRESS PROJECT AND LOCATION PROJECT OR CONTRACT NO. OMB No.: 1235-0008 Expires: 01/31/2015

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS				(9) NET WAGES PAID FOR WEEK			
															FICA	WITH- HOLDING TAX	OTHER		TOTAL DEDUCTIONS		

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(i) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W., Washington, D.C. 20210

Date _____

I, _____ (Name of Signatory Party) _____ (Title) do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ on the _____

(Contractor or Subcontractor)

(Building or Work) _____; that during the payroll period commencing on the _____ day of _____, and ending the _____ day of _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____ from the full _____ (Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967, 76 Stat. 357, 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:
 (a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

— in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

— Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:	
NAME AND TITLE	SIGNATURE
THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.	

CONTRACT DOCUMENTS

FOR

Fort Hamer Road Water Main Crossing

Bid Submittal

PROJECT #404-6054770

August 2013

PROJECT OWNER:

County of Manatee, Florida
c/o Manatee County Purchasing Division
1112 Manatee Avenue West
Bradenton, Florida 34205
(941) 748-4501

PREPARED BY:

Engineering Division
Manatee County Public Works Department
1022 26th Avenue East
Bradenton, Florida 34208
(941) 708-7450

ADDITIONS & MODIFICATIONS PREPARED BY:

URS

URS Corporation
7650 W Courtney Campbell
Causeway, Suite 700
Tampa, Florida 33607
(813) 286-1711

Manatee County Fort Hamer Road Water Main Crossing

Engineer of Record

Civil Engineer:

URS Corporation

David A. Wilcox, PE
#34942

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Supplemental Information

Bentonite Spill Prevention and Management Plan

FDEP General Permit for Construction of Watermain Extension for PWS

FDEP Environmental Resource Permit (ERP)

ACOE Department of the Army Individual/Nationwide Permit

This specification includes by reference the Manatee County Utility Standards approved May 2011.

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01005 GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 SCOPE AND INTENT

A. Description

The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract.

B. Work Included

The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, shop drawings, working drawings and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all required permits necessary for the work, other than those permits such as the DEP permit and railroad permit which may have already been obtained. He shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the County, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all incidental costs. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.

The cost of incidental work described in these General Requirements, for which there are no specific Contract Items, shall be considered as part of the general cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made.

The Contractor shall be solely responsible for the adequacy of his workmanship, materials and equipment.

C. Public Utility Installations and Structures

Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes and all other appurtenances and facilities pertaining thereto.

The Contractor shall protect all installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the County. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor which are shown on the Plans or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as approved by the County. No separate payment shall be made for such protection or repairs to public utility installations or structures.

Public utility installations or structures owned or controlled by the County or other governmental body, which are required by this contract to be removed, relocated, replaced or rebuilt by the Contractor not identified in any separate bid item shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various contract items. No separate payment shall be made.

Where public utility installations or structures owned or controlled by the County or other governmental body are encountered during the course of the work, and are not indicated on the Plans or in the Specifications, and when, in the opinion of the County, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction, or such work may be ordered, in writing by the County, for the contractor to accomplish. If such work is accomplished by the utility having jurisdiction, it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be in accordance with the General and Supplemental General Conditions.

The Contractor shall give written notice to County and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight hours in advance of breaking ground in any area or on any unit of the work. This can be accomplished by making the appropriate contact with the "Sunshine State One-Call of Florida, Inc. Call Center ("Call Sunshine") and per all requirements provided for in the Florida Underground Facilities Damage Prevention and Safety Act (Florida Statutes, Title XXXIII, Chapter 556).

The maintenance, repair, removal, relocation or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the County.

1.02 PLANS AND SPECIFICATIONS

A. Plans

When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

B. Copies Furnished to Contractor

The Contractor shall furnish each of the subcontractors, manufacturers, and material men such copies of the Contract Documents as may be required for their work. Additional copies of the Plans and Specifications, when requested, may be furnished to the Contractor at cost of reproduction.

C. Supplementary Drawings

When, in the opinion of the County, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the County and five paper prints thereof will be given to the Contractor.

D. Contractor to Check Plans and Data

The Contractor shall verify all dimensions, quantities and details shown on the Plans, Supplementary Drawings, Schedules, Specifications or other data received from the County, and shall notify him of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions, as full instructions will be

furnished by the County, should such errors or omissions be discovered. All schedules are given for the convenience of the County and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

E. Specifications

The Technical Specifications consist of three parts: General, Products and Execution. The General Section contains General Requirements which govern the work. Products and Execution modify and supplement these by detailed requirements for the work and shall always govern whenever there appears to be a conflict.

F. Intent

All work called for in the Specifications applicable to this Contract, but not shown on the Plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.

The inclusion of the Related Requirements (or work specified elsewhere) in the General part of the specifications is only for the convenience of the Contractor, and shall not be interpreted as a complete list of related Specification Sections.

1.03 MATERIALS AND EQUIPMENT

A. Manufacturer

All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor shall request, in writing to the County, that the manufacturer or subcontractor deal directly with the County. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.

Any two or more pieces or material or equipment of the same kind, type or classification, and being used for identical types of services, shall be made by the same manufacturer.

B. Delivery

The Contractor shall deliver materials in ample quantities to insure the most speedy and uninterrupted progress of the work so as to complete the work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

C. Tools and Accessories

The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade

special tools and appliances which may be needed to adjust, operate, maintain or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.

Spare parts shall be furnished as specified.

Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and principal rating data.

D. Installation of Equipment.

The Contractor shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the work and to handle all emergencies normally encountered in work of this character.

Equipment shall be erected in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise by the County during installation. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.

The Contractor shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the County and made of ample size and strength for the purpose intended. Substantial templates and working drawings for installation shall be furnished.

The Contractor shall furnish all materials and labor for, and shall properly bed in non-shrink grout, each piece of equipment on its supporting base that rests on masonry foundations.

Grout shall completely fill the space between the equipment base and the foundation. All metal surfaces coming in contact with concrete or grout shall receive a coat of coal tar epoxy equal to Koppers 300M or provide a 1/32-inch neophrene gasket between the metal surface and the concrete or grout.

E. Service of Manufacturer's Engineer

The Contract prices for equipment shall include the cost of furnishing (as required by equipment specifications sections) a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents. After the equipment is placed in permanent operation by the County, such engineer or superintendent shall make all adjustments and tests required by the County to prove that such equipment is in proper and satisfactory operating condition, and shall instruct such personnel as may be designated by the County in the proper operation and maintenance of such equipment.

1.04 INSPECTION AND TESTING

A. General

Inspection and testing of materials will be performed by the County unless otherwise specified.

For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Three (3) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the County as a prerequisite for the acceptance of any material or equipment.

If, in the making of any test of any material or equipment, it is ascertained by the County that the material or equipment does not comply with the Contract, the Contractor will be notified thereof and he will be directed to refrain from delivering said material or equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the County.

Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.

The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the County formally takes over the operation thereof.

B. Costs

All inspection and testing of materials furnished under this Contract will be performed by the County or duly authorized inspection engineers or inspections bureaus without cost to the Contractor, unless otherwise expressly specified.

The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the Contract price.

Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the County for compliance. The Contractor shall reimburse the County for the expenditures incurred in making such tests on materials and equipment which are rejected for non-compliance.

C. Inspections of Materials

The Contractor shall give notice in writing to the County, at least two weeks in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the County will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that the inspection will be made at a point other than the point of manufacture, or he will notify the Contractor that inspection will be waived. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

D. Certificate of Manufacture

When inspection is waived or when the County so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

E. Shop Tests of Operating Equipment

Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the work until the County notifies the Contractor, in writing, that the results of such tests are acceptable.

The cost of shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

F. Preliminary Field Tests

As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments and replacements required. The furnishing Contractor shall assist in the preliminary field tests as applicable.

G. Final Field Tests

Upon completion of the work and prior to final payment, all equipment and piping installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.

The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment and instruments necessary for all acceptance tests, at no additional cost to the County. The Supplier shall assist in the final field tests as applicable.

H. Failure of Tests

Any defects in the materials and equipment or their failure to meet the tests, guarantees or requirements of the Contract Documents shall be promptly corrected by the Contractor. The decision of the County as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive. If the Contractor fails to make these corrections or if the improved materials and equipment, when tested, shall again fail to meet the guarantees of specified requirements, the County, notwithstanding its partial payment for work, and materials and equipment, may reject the materials and equipment and may order the Contractor to remove them from the site at his own expense.

In case the County rejects any materials and equipment, then the Contractor shall replace the rejected materials and equipment within a reasonable time. If he fails to do so, the County may, after the expiration of a period of thirty (30) calendar days after giving him

notice in writing, proceed to replace such rejected materials and equipment, and the cost thereof shall be deducted from any compensation due or which may become due the Contractor under his Contract.

I. Final Inspection

During such final inspections, the work shall be clean and free from water. In no case will the final pay application be prepared until the Contractor has complied with all requirements set forth and the County has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Document.

1.05 TEMPORARY STRUCTURES

A. Temporary Fences

If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall, at his own expense, if so ordered by the County, provide a suitable temporary fence which shall be maintained until the permanent fence is replaced. The County shall be solely responsible for the determination of the necessity for providing a temporary fence and the type of temporary fence to be used.

1.06 TEMPORARY SERVICES

A. First Aid

The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when people are employed on the work.

1.07 LINES AND GRADES

A. Grade

All work under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the County. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

B. Safeguarding Marks

The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of reestablishing them if disturbed, and bear the entire expense of rectifying work improperly installed due to not maintaining or protecting or removing without authorization such established points, stakes and marks.

The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, if required, shall bear the cost of reestablishing them if disturbed or destroyed.

C. Datum Plane

All elevations indicated or specified refer to the Mean Sea Level Datum of the NGVD 1929 Datum and/or NAVD 1988.

1.08 ADJACENT STRUCTURES AND LANDSCAPING

A. Responsibility

The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Plans, and the removal, relocation and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payments will be made therefore. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Plans and when, in the opinion of the County, additional work is deemed necessary to avoid interference with the work, payment therefore will be made as provided for in the General Conditions.

Contractor is expressly advised that the protection of buildings, structures, tunnels, tanks, pipelines, etc. and related work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility. Conditional inspection of buildings or structures in the immediate vicinity of the project which may reasonably be expected to be affected by the Work shall be performed by and be the responsibility of the Contractor.

Contractor shall, before starting operations, make an examination of the interior and exterior of the adjacent structures, buildings, facilities, etc., and record by notes, measurements, photographs, etc., conditions which might be aggravated by open excavation and construction. Repairs or replacement of all conditions disturbed by the construction shall be made to the satisfaction of the County. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the County.

Prior to the beginning of any excavations, the Contractor shall advise the County of all buildings or structures on which he intends to perform work or which performance of the project work will affect.

B. Protection of Trees

1. All trees and shrubs shall be adequately protected by the Contractor with boxes and otherwise and in accordance with ordinances governing the protection of trees. No excavated materials shall be placed so as to injure such trees or shrubs. Trees or shrubs destroyed by negligence of the Contractor or his employees shall be replaced by him with new stock of similar size and age, at the proper season and at the sole expense of the Contractor
2. Beneath trees or other surface structures, where possible, pipelines may be built in short tunnels, backfilled with excavated materials, except as otherwise specified, or the trees or structures carefully supported and protected from damage.
3. The County may order the Contractor, for the convenience of the County, to remove trees along the line or trench excavation. If so ordered, the County will obtain any permits required for removal of trees. Such tree removal ordered shall be paid for under the appropriate Contract Items.

C. Lawn Areas

Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be removed, it shall be carefully removed, and later replaced, or the area where sod has been removed shall be restored with new sod.

D. Restoration of Fences

Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the County. The cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract Item or items, or if no specific Item is provided therefore, as part of the overhead cost of the work, and no additional payment will be made therefore.

1.09 PROTECTION OF WORK AND PUBLIC

A. Barriers and Lights

During the prosecution of the work, the Contractor shall put up and maintain at all times such barriers and lights as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public, in accordance with state and local requirements.

B. Smoke Prevention

A strict compliance with ordinances regulating the production and emission of smoke will be required. No open fires will be permitted.

C. Noise

The Contractor shall eliminate noise to as great an extent as practicable at all times. Air compressing plants shall be equipped with silencers and the exhaust of all engines or other power equipment shall be provided with mufflers. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.

D. Access to Public Services

Neither the materials excavated nor the materials or plant used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves or manholes.

E. Dust prevention

The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the roads and/or construction areas sprinkled with water at all times.

1.10 CUTTING AND PATCHING

The Contractor shall do all cutting, fitting or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the County and in accordance with the Plans and Specifications. The work must be done by competent workmen skilled in the trade required by the restoration.

1.11 CLEANING

A. During Construction

During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the County, such material, debris, or rubbish constitutes a nuisance or is objectionable. The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops.

B. Final Cleaning

At the conclusion of the work, all equipment, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances.

The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished and new operating condition.

1.12 MISCELLANEOUS

A. Protection Against Siltation and Bank Erosion

1. The Contractor shall arrange his operations to minimize siltation and bank erosion on construction sites and on existing or proposed water courses and drainage ditches.
2. The Contractor, at his own expense, shall remove any siltation deposits and correct any erosion problems as directed by the County which results from his construction operations.

B. Protection of Wetland Areas

The Contractor shall properly dispose of all surplus material, including soil, in accordance with Local, State and Federal regulations. Under no circumstances shall surplus material be disposed of in wetland areas as defined by the Florida Department of Environmental Protection or Southwest Florida Water Management District.

C. Existing Facilities

The work shall be so conducted to maintain existing facilities in operation insofar as is possible. Requirements and schedules of operations for maintaining existing facilities in service during construction shall be as described in the Special Provisions.

D. Use of Chemicals

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01010 SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS/REQUIREMENTS INCLUDED

- A. The work included in this contract consists of the construction of a new 24-inch and 30-inch potable water main connecting the north and south Manatee County potable water service areas. The main will run parallel to the future Fort Hamer Bridge over the Manatee River that will connect Upper Manatee River Road to the South to Fort Hamer Road to the North. The main will cross under the Manatee River. The project consists of approximately 2,800 LF of 30-inch HDPE water main installed via horizontal directional drill and approximately 5,400 LF of 24-inch ductile iron pipe installed via open cut. In addition, several existing developments along the route will be connected to the new transmission main with new 6-inch and 8-inch piping. The new water main will connect to existing water mains on each side of the Manatee River. The main will connect to the South at an existing 42-inch main located at Upper Manatee River Road near Winding Stream Way and connect to the North at an existing 24-inch main located near the intersection of Ft. Hamer Road and Mulholland Road. All the work under this contract is located in easements, rights-of-way, and property owned by Manatee County.

At the time these documents were prepared, Manatee County was still in the process of obtaining an easement for the property located between Sta 162+17± and Sta 165+75±. The Contractor shall not install the proposed pipeline in this area until directed to by the County.

- B. Permits Provided by County

Manatee County will provide the following permits. It is the Contractor's responsibility to obtain any additional permits required to complete the project. The final permits are located in the Supplemental Information section at the end of the specifications. The Contractor shall review the permit requirements to ensure compliance. The Contractor shall be responsible for notifying the agencies prior to construction beginning, if/as required for each permit.

1. Environmental Resource Permit (ERP) - Florida Department of Environmental Protection (FDEP) Permit No. 41-0313161-001.
2. Department of the Army Nationwide Permit - Army Corp of Engineers (ACOE) Permit No. SAJ-2012-02201 (NW-JCM)
3. General Permit for Construction of Watermain Extension for PWS - Florida Department of Environmental Protection (FDEP) Permit No. 0133068-996-DSGP/02.

- C. Restrictions for Construction in Roadways

1. Construction of Connection A will temporarily remove from service 8-inch water mains back-feeding the Waterlefe subdivision and the south side of Upper Manatee River Road. Installation of the new 24-inch water main along Winding Stream Way will require closure of the road, which provides secondary access to Waterlefe. The Winding Stream Way roadway and the existing 8-inch water mains shall be returned to service as soon as possible. The Contractor has 60 days in which to install the

pipng from Connection A to the Isolation Valve at STA 108+80, perform pressure testing and bacteriological sampling, obtain FDEP clearance, and return the 8-inch lines to service. The Contractor has an additional 30 days to make Winding Stream Way accessible to traffic. The Contractor shall maintain temporary road surfaces, if utilized. Final road restoration must be completed within 30 days of FDEP clearance.

2. Access to Ft. Hamer Road must be maintained at all times. The 8-inch water line connection at Rive Isle Run and the 6-inch line connecting to Creole Court will be installed via jack and bore to eliminate Ft. Hamer Road closures. For installation of the 24-inch connection in Ft. Hamer Road at Mulholland Road, the west lane of Ft. Hamer Road must remain open at all times. It should be noted that the Contractor must maintain traffic control during the time when Ft. Hamer traffic is limited to one-lane. An MOT shall be prepared and executed per the notes on Sheets G-2 and C-12. The Contractor has 14 days in which to make the connection and provide a temporary asphalt road surface. The Contractor shall maintain temporary road surfaces. Final road restoration must occur within 14 days of FDEP clearance.
3. Installation of the 6-inch water line to Creole Court along an Emergency Access / Utility Easement will restrict secondary emergency access to the subdivision. The Contractor shall notify Mark Fransen of Manatee County R/W Inspections (941-737-4476) of the closure so that he can notify emergency departments that the drive will be inaccessible. The Contractor has 14 days in which to make the connection and provide a temporary asphalt driveway surface. Final driveway restoration must occur within 14 days of FDEP clearance.

- D. The Contractor shall furnish all shop drawings, working drawings, labor, materials, equipment, tools, services and incidentals necessary to complete all work required by these Specifications and as shown on the Contract Drawings.
- E. The Contractor shall perform the work complete, in place and ready for continuous service and shall include any repairs, replacements, and/or restoration required as a result of damages caused prior to acceptance by the County.
- F. The Contractor shall furnish and install all materials, equipment and labor which is reasonably and properly inferable and necessary for the proper completion of the work, whether specifically indicated in the Contract Documents or not.

1.02 CONTRACTS

Construct all the Work under a single contract.

1.03 WORK SEQUENCE

- A. All work done under this Contract shall be done with a minimum of inconvenience to the users of the system or facility. The Contractor shall coordinate his work with private property owners such that existing utility services are maintained to all users to the maximum extent possible.
- B. The Contractor shall, if necessary and feasible, construct the work in stages to accommodate the County's use of the premises during the construction period; coordinate the construction schedule and operations with the County's Representative.
- C. The Contractor shall, where feasible, construct the Work in stages to provide for public

convenience and not close off public use of any facility until completion of construction to provide alternative usage.

1.04 CONSTRUCTION AREAS

- A. The Contractor shall: Limit his use of the construction areas for work and for storage, to allow for:
1. Work by other Contractors.
 2. County's Use.
 3. Public Use.
- B. Coordinate use of work site under direction of County's Representative.
- C. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on the site.
- D. Move any stored products under the Contractor's control, which interfere with operations of the County or separate contractor.
- E. Obtain and pay for the use of additional storage of work areas needed for Contractor operations.

1.05 COUNTY OCCUPANCY

- A. It is assumed that portions of the Work will be completed prior to completion of the entire Work. Upon completion of construction of each individual facility, including testing, if the County, at its sole discretion, desires to accept the individual facility, the Contractor will be issued a dated certificate of completion and acceptance for each individual facility. The County will assume ownership and begin operation of the individual facility on that date and the three-year guaranty period shall commence on that date. The County has the option of not accepting the entire work as a whole until it is completed, tested and approved by the County.

1.06 PARTIAL COUNTY OCCUPANCY

The Contractor shall schedule his operations for completion of portions of the Work, as designated, for the County's occupancy prior to substantial completion of the entire work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01015 CONTROL OF WORK

PART 1 GENERAL

1.01 WORK PROGRESS

The Contractor shall furnish personnel and equipment which will be efficient, appropriate and adequately sized to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated in the Contract. If at any time such personnel appears to the County to be inefficient, inappropriate, or insufficient for securing the quality of work required for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character, or increase the personnel and equipment and the Contractor shall conform to such order. Failure of the County to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 PRIVATE LAND

The Contractor shall not enter or occupy private land outside of easements, except by permission of the affected property owner.

1.03 WORK LOCATIONS

Work shall be located substantially as indicated on the drawings, but the County reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.04 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the County may require special construction procedures such as limiting the length of open trench, prohibiting stacking excavated material in the street and requiring that the trench shall not remain open overnight.
- B. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be barricaded and well lighted at all times when construction is not in progress.

1.05 DISTRIBUTION SYSTEMS AND SERVICES

- A. The Contractor shall avoid interruptions to water, telephone, cable TV, sewer, gas, or other related utility services. He shall notify the County and the appropriate agency well in advance of any requirement for dewatering, isolating, or relocating a section of a utility, so that necessary arrangements may be made.
- B. If it appears that utility service will be interrupted for an extended period, the County may order the Contractor to provide temporary service lines at the Contractor's expense. Inconvenience of the users shall be kept to the minimum, consistent with existing conditions. The safety and integrity of the systems are of prime importance in scheduling

work.

1.06 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for the protection of all buildings, structures and utilities, public or private, including poles, signs, services to building utilities, gas pipes, water pipes, hydrants, sewers, drains and electric and telephone cables and other similar facilities, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operation shall be repaired by the Contractor at his expense.
- B. The Contractor shall bear full responsibility for obtaining locations of all underground structures and utilities (including existing water services, drain lines and sewers). Services to buildings shall be maintained and all costs or charges resulting from damage thereto shall be paid by the Contractor.
- C. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be a part of the work under the Contract and all costs in connection therewith shall be included in the unit prices established in the Bid.
- D. If, in the opinion of the County, permanent relocation of a utility owned by the County is required, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work as classified in the General Conditions. If relocation of a privately owned utility is required, the County will notify the utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the County and utility and shall have no claim for delay due to such relocation. The Contractor shall notify public utility companies in writing at least 48 hours (excluding Saturdays, Sundays and legal holidays) before excavating near their utilities.

1.07 TEST PITS

Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled by the Contractor immediately after the utility location and the surface shall be restored in a manner equal or better than the original condition. No separate payment will be made.

1.08 CARE AND PROTECTION OF PROPERTY

- A. The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition equal or better to that existing before the damage was done, or he shall make good the damage in another manner acceptable to the County.
- B. All sidewalks which are disturbed by the Contractor's operations shall be restored to their original or better condition by the use of similar or comparable materials. All curbing shall be restored in a condition equal to the original construction and in accordance with the best modern practice.
- C. Along the location of this work, all fences, walks, bushes, trees, shrubbery and other physical features shall be protected and restored in a thoroughly workmanlike manner unless otherwise shown on the drawings. Fences and other features removed by the

Contractor shall be replaced in the location indicated by the County as soon as conditions permit. All grass areas beyond the limits of construction which have been damaged by the Contractor shall be regraded and sodded to equal or exceed original conditions.

- D. Trees close to the work which drawings do not specify to be removed, shall be boxed or otherwise protected against injury. The Contractor shall trim all branches that are liable to damage because of his operations, but in no case shall any tree be cut or removed without prior notification to the County. All injuries to bark, trunk, limbs and roots of trees shall be repaired by dressing, cutting and painting according to approved methods, using only approved tools and materials.
- E. The protection, removal and replacement of existing physical features along the line of work shall be a part of the work under the Contract and all costs in connection therewith shall be included in the unit and/or lump sum prices established under the items in the Bid.

1.09 MAINTENANCE OF TRAFFIC

- A. Open pits, trenches, unpaved streets, debris, or other obstructions due to construction that will prevent the normal flow of traffic during an extended construction stoppage, for any reason, shall be minimized. In the event an extended construction stoppage is found to be necessary, Contractor shall, at his own expense, provide normal traffic flow during extended construction stoppage. Extended stoppage will be defined by the County.
- B. All excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary roadways, erect wheel guards or fences, or take other safety measures which are satisfactory to the County.
- C. Any changes to the traffic pattern require a Traffic Control Plan as detailed in section 01570 of this specification..

1.10 WATER FOR CONSTRUCTION PURPOSES

- A. In locations where public water supply is available, the Contractor may purchase water for all construction purposes.
- B. The Contractor shall be responsible for paying for all water tap fees incurred for the purpose of obtaining a potable water service or temporary use meter.

1.11 MAINTENANCE OF FLOW

The Contractor shall at his own cost, provide for the flow of sewers, drains and water courses interrupted during the progress of the work and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the County well in advance of the interruption of any flow.

1.12 CLEANUP

During the course of the work, the Contractor shall keep the site of his operations in as clean and neat a condition as is possible. He shall dispose of all residue resulting from the construction work and at the conclusion of the work, he shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations and shall leave the entire site of the work in a neat and orderly condition.

1.13 COOPERATION WITHIN THIS CONTRACT

- A. All firms or person authorized to perform any work under this Contract shall cooperate with the General Contractor and his subcontractors or trades and shall assist in incorporating the work of other trades where necessary or required.
- B. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the County.

1.14 PROTECTION OF CONSTRUCTION AND EQUIPMENT

- A. All newly constructed work shall be carefully protected from injury in any way. No wheeling or walking or placing of heavy loads on it shall be allowed and all portions injured shall be reconstructed by the Contractor at his own expense.
- B. All structures shall be protected in a manner approved by the County. Should any of the floors or other parts of the structures become heaved, cracked, or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by the Contractor, at his own expense and to the satisfaction of the County. If, in the final inspection of the work, any defects, faults, or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein, for at least the warranty period described in the Contract.
- C. Further, the Contractor shall take all necessary precautions to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the County.

1.15 CONSTRUCTION WITHIN RIGHT-OF-WAY

Where pipe lines are installed within FDOT right-of-way, all excavation backfill and compaction for the purpose of reconstructing roadways and/or adjacent slopes contiguous thereto shall be in accordance with FDOT or Manatee County Standards and Specifications, whichever is applicable. Contractor shall satisfy the authorized representative of the FDOT with respect to proper safety procedures, construction methods, required permitting, etc., within the FDOT right-of-way.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01030 SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 PERMITS

Upon notice of award, the Contractor shall immediately apply for all applicable permits not previously obtained by the County to do the work from the appropriate governmental agency or agencies. No work shall commence until all applicable permits have been obtained and copies delivered to the County. The costs for obtaining all permits shall be borne by the Contractor.

1.02 CONNECTIONS TO EXISTING SYSTEM

The Contractor shall perform all work necessary to locate, excavate and prepare for connections to the existing systems all as shown on the Drawings or where directed by the County. The cost for this work and for the actual connection shall be included in the price bid for the project and shall not result in any additional cost to the County. The termination point for each contract shall be as shown on the Contract Drawings.

1.03 RELOCATIONS

The Contractor shall be responsible for the coordination of the relocation of structures, including but not limited to light poles, power poles, signs, sign poles, fences, piping, conduits and drains that interfere with the positioning of the work as set out on the Drawings. No relocation of the items under this Contract shall be done without approval from the County.

1.04 EXISTING UNDERGROUND PIPING, STRUCTURES AND UTILITIES

- A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exists of the Contractor encountering various utility lines not shown on the Drawings. The Contractor shall exercise extreme care before and during excavation to locate and flag these lines as to avoid damage to the existing lines.
- B. It is the responsibility of the Contractor to ensure that all utility or other poles, the stability of which may be endangered by the close proximity of excavation, are temporarily stayed in position while work proceeds in the vicinity of the pole and that the utility or other companies concerned be given reasonable advance notice.
- C. The existing utility locations are shown without express or implied representation, assurance, or guarantee that they are complete or correct or that they represent a true picture of underground piping to be encountered. The Contractor shall be responsible for notifying the various utility companies to locate their respective utilities in advance of construction in conformance with all requirements provided for in the Florida Underground Facilities Damage Prevention and Safety Act (Florida Statutes, Title XXXIII, Chapter 556).
- D. The existing piping and utilities that interfere with new construction shall be rerouted as shown, specified, or required. Before any piping and utilities not shown on the Drawings are disturbed, the Contractor shall notify the County and shall provide suggestions on how best to resolve the issue.
- E. The Contractor shall exercise care in any excavation to locate all existing piping and utilities. All utilities which do not interfere with complete work shall be carefully protected

against damage. Any existing utilities damaged in any way by the Contractor shall be restored or replaced by the Contractor at his expense as directed by the County.

- F. It is intended that wherever existing utilities such as water, sewer, gas, telephone, electrical, or other service lines must be crossed, deflection of the pipe within recommended limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated in the Drawings. However, when in the opinion of the County this procedure is not feasible, he may direct the use of fittings for a utilities crossing as detailed on the Drawings. No deflections will be allowed in gravity sanitary sewer lines or in existing storm sewer lines.

1.05 SUSPENSION OF WORK DUE TO WEATHER

Refer to FDOT Standards and Specifications Book, Section 8.

1.06 HURRICANE PREPAREDNESS PLAN

- A. Within 30 days of the date of Notice to Proceed, the Contractor shall submit to the County a Hurricane Preparedness Plan. The plan should outline the necessary measures which the Contractor proposes to perform at no additional cost to the County in case of a hurricane warning.
- B. In the event of inclement weather, or whenever County shall direct, Contractor shall insure that he and his Subcontractors shall carefully protect work and materials against damage or injury from the weather. If, in the opinion of the County, any portion of work or materials is damaged due to the failure on the part of the Contractor or Subcontractors to protect the work, such work and materials shall be removed and replaced at the expense of the Contractor.

1.07 POWER SUPPLY

Electricity as may be required for construction and permanent power supply shall be secured and purchased by the Contractor.

1.08 SALVAGE

Any existing equipment or material, including, but not limited to, valves, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as salvage by the County and if so shall be protected for a reasonable time until picked up by the County. Any equipment or material not worthy of salvaging, as directed by the County, shall be disposed of by the Contractor at no additional cost.

1.09 DEWATERING

- A. The Contractor shall do all groundwater pumping necessary to prevent flotation of any part of the work during construction operations with his own equipment.
- B. The Contractor shall pump out water and wastewater which may seep or leak into the excavations for the duration of the Contract and with his own equipment. He shall dispose of this water in an appropriate manner.

1.10 ADDITIONAL PROVISIONS

- A. Before commencing work on any of the existing pipelines, structures or equipment, the Contractor shall notify the County, in writing, at least 10 calendar days in advance of the date he proposes to commence such work.
- B. The Contractor shall provide, at his own expense, all necessary temporary facilities for access to and for protection of, all existing facilities. The County's personnel must have ready access at all times to the existing facilities. The Contractor is responsible for all damage to existing structures, equipment and facilities caused by his construction operations and must repair all such damage when and as ordered by the County.

1.11 CONSTRUCTION CONDITIONS

The Contractor shall strictly adhere to the specific requirements of the governmental unit(s) and/or agency(ies) having jurisdiction over the work. Wherever there is a difference in the requirements of a jurisdictional body and these Specifications, the more stringent shall apply.

1.12 PUBLIC NUISANCE

- A. The Contractor shall not create a public nuisance including but not limited to encroachment on adjacent lands, flooding of adjacent lands, excessive noise or dust.
- B. Sound levels must meet Manatee County Ordinance #87-34, (which amends Ordinance 81-3, The Manatee County Noise Control Ordinance). Sound levels in excess of such ordinance are sufficient cause to have the work halted until equipment can be quieted to these levels. Work stoppage by the County for excessive noise shall not relieve the Contractor of the other portions of this specification.
- C. No extra charge may be made for time lost due to work stoppage resulting from the creation of a public nuisance.

1.13 WARRANTIES

- A. All material supplied under these Specifications shall be warranted by the Contractor and the manufacturers for a period of three (3) years. Warranty period shall commence on the date of County acceptance.
- B. The material shall be warranted to be free from defects in workmanship, design and materials. If any part of the system should fail during the warranty period, it shall be replaced at no expense to the County.
- C. The manufacturer's warranty period shall run concurrently with the Contractor's warranty or guarantee period. No exception to this provision shall be allowed. The Contractor shall be responsible for obtaining warranties from each of the respective suppliers or manufacturers for all the material specified under these contract specifications,
- D. In the event that the manufacturer is unwilling to provide a three-year warranty commencing at the time of County acceptance, the Contractor shall obtain from the manufacturer a four (4) year warranty starting at the time of equipment delivery to the job site. This four-year warranty shall not relieve the Contractor of the three-year warranty starting at the time of County acceptance of the equipment.

1.14 FUEL STORAGE & FILLING

- A. If the contractor is storing fuel on site, or doing his own fuel filling of portable equipment (other than hand-held equipment), he is responsible for any required response, clean-up or reporting required, at no additional cost to the county.
- B. The Contractor shall prepare and submit a fuel storage / spill abatement plan prior to start of construction if required.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01045 CUTTING AND PATCHING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall be responsible for all cutting, fitting and patching, including excavation and backfill, required to complete the work or to:
1. Make its several parts fit together properly.
 2. Uncover portions of the work to provide for installation of ill-timed work.
 3. Remove and replace defective work.
 4. Remove and replace work not conforming to requirements of Contract Documents.
 5. Provide penetrations of non-structural surfaces for installation of piping and electrical conduit.

PART 2 PRODUCTS

2.01 MATERIALS

Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of products, or performance of work.
- C. Report unsatisfactory or questionable conditions to County. Do not proceed with work until County has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value to integrity of affected portion of work.
- B. Provide devices and methods to protect other portions of project from damage.
- C. Provide protection from elements for that portion of the project which may be exposed by cutting and patching work and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- C. Fit and adjust products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

- D. Restore work which has been cut or removed; install new products to provide completed work in accordance with the requirements of the Contract Documents.
- E. Replace surfaces airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes.

END OF SECTION

SECTION 01050 FIELD ENGINEERING AND SURVEYING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall provide and pay for field surveying service required for the project.
- B. The Contractor shall furnish and set all necessary stakes to establish the lines and grades as shown on the Contract Drawings and layout each portion of the Work of the Contract.

1.02 QUALIFICATION OF SURVEYOR AND ENGINEER

All construction staking shall be conducted by or under the supervision of a Florida Registered Professional Surveyor and Mapper. The Contractor shall be responsible for the layout of all such lines and grades, which will be subject to verification by the County.

1.03 SURVEY REFERENCE POINTS

- A. Existing basic horizontal and vertical control points for the Project are designated on the Contract Drawings.
- B. Locate and protect all survey monumentation, property corners and project control points prior to starting work and preserve all permanent reference points during construction. All costs associated with the replacement of all survey monumentation, property corners and project control points shall be borne by the Contractor.

Make no changes or relocations without prior written notice to County.

Report to County when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

Require surveyor to replace project control points which may be lost or destroyed.

Establish replacements based on original survey control.

1.04 PROJECT SURVEY REQUIREMENTS

The Contractor shall establish temporary bench marks as needed, referenced to data established by survey control points.

1.05 RECORDS

The Contractor shall employ a Professional Engineer or Surveyor registered in the State of Florida to verify survey data and properly prepare record drawings per Section 01720.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01090 REFERENCE STANDARDS

PART 1 GENERAL

1.01 REQUIREMENTS

Abbreviations and acronyms used in Contract Documents to identify reference standards.

- A. Application: When a standard is specified by reference, comply with requirements and recommendations stated in that standard, except when requirements are modified by the Contract Documents, or applicable codes established stricter standards.
- B. Publication Date: The most recent publication in effect on the date of issue of Contract Documents, except when a specific publication date is specified.

1.03 ABBREVIATIONS, NAMES AND ADDRESSES OR ORGANIZATIONS

Obtain copies of reference standards direct from publication source, when needed for proper performance of work, or when required for submittal by Contract Documents.

AA	Aluminum Association 818 Connecticut Avenue, N.W. Washington, DC 20006
AASHTO	American Association of State Highway and Transportation Officials 444 North Capital Street, N.W. Washington, DC 20001
ACI	American Concrete Institute Box 19150 Reford Station Detroit, MI 48219
AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740
AISC	American Institute of Steel Construction 1221 Avenue of the Americas New York, NY 10020
AISI	American Iron and Steel Institute 1000 16th Street NW Washington, DC 20036
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329

ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
AWS	American Welding Society 2501 N.W. 7th Street Miami, FL 33125
CRSI	Concrete Reinforcing Steel Institute 180 North LaSalle Street, Suite 2110 Chicago, IL 60601
FDEP	Florida Department of Environmental Protection 3900 Commonwealth Blvd. Tallahassee, Florida 32399
FDOT	Florida Department of Transportation Standards Specifications for Road and Bridge Construction Maps & Publication Sales - Mail Station 12 605 Suwannee St. Tallahassee, FL 32399-0450
FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section (WFSIS) Washington Navy Yard, Bldg. 197 Washington, DC 20407
MCPW UTIL STD	Manatee County Utility Engineering 4410-B 66th St. W. Bradenton, FL 34210
MLSFA	Metal Lath/Steel Framing Association 221 North LaSalle Street Chicago, IL 60601
MMA	Monorail Manufacturer's Association 1326 Freeport Road Pittsburgh, PA 15238
NAAMM	National Association of Architectural Metal Manufacturers 221 North LaSalle Street Chicago, IL 60601
NEMA	National Electrical Manufacturer's Assoc. 2101 L Street N.W. Washington, DC 20037

OHSA Occupational Safety and Health Assoc.
5807 Breckenridge Pkwy., Suite A
Tampa, FL 33610-4249

PCA Portland Cement Association
5420 Old Orchard Road
Skokie, IL 20076

PCI Prestressed Concrete Institute
20 North Wacker Drive
Chicago, IL 60606

SDI Steel Door Institute
712 Lakewood Center North
Cleveland, OH 44107

SMACNA Sheet Metal and Air Conditioning Contractor's National Association
8224 Old Court House Road
Vienna, VA 22180

SSPC Steel Structures Painting Council
402 24th Street, Suite 600
Pittsburgh, PA 15213

SWFWMD Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604-6899

UL Underwriter's Laboratories, Inc.
333 Pfingston Road
Northbrook, IL 60062

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01150 MEASUREMENT AND PAYMENT**PART 1 GENERAL****1.01 SCOPE**

- A. The scope of this section of the Contract Documents is to further define the items included in each Bid Item in the Bid Form section of the Contract Documents. Payment will be made based on the specified items included in the description in this section for each bid item.
- B. All contract prices included in the Bid Form section will be full compensation for all shop drawings, working drawings, labor, materials, tools, equipment and incidentals necessary to complete the construction as shown on the Drawings and/or as specified in the Contract Documents to be performed under this Contract. Actual quantities of each item bid on a unit price basis will be determined upon completion of the construction in the manner set up for each item in this section of the Specifications. Payment for all items listed in the Bid Form will constitute full compensation for all work shown and/or specified to be performed under this Contract.

1.02 ESTIMATED QUANTITIES

The quantities shown are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. The County does not assume any responsibility for the final quantities, nor shall the Contractor claim misunderstanding because of such estimate of quantities. Final payment will be made only for satisfactorily completed quantity of each item.

1.03 WORK OUTSIDE AUTHORIZED LIMITS

No payment will be made for work constructed outside the authorized limits of work.

1.04 MEASUREMENT STANDARDS

Unless otherwise specified for the particular items involved, all measurements of distance shall be taken horizontally or vertically.

1.05 AREA MEASUREMENTS

In the measurement of items to be paid for on the basis of area of finished work, the lengths and/or widths to be used in the calculations shall be the final dimensions measured along the surface of the completed work within the neat lines shown or designated.

1.06 LUMP SUM ITEMS

Where payment for items is shown to be paid for on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum items. Lump sum contracts shall be complete, tested and fully operable prior to request for final payment. Contractor may be required to provide a break-down of the lump sum totals.

1.07 UNIT PRICE ITEM

Separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed, but required for satisfactory completion of the

work shall be considered to be included in the scope of the appropriate listed work items.

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work. Final payments shall not be requested by the Contractor or made by the County until as-built (record) drawings have been submitted and approved by the County.

1. Shop Drawings, Working Drawings.
2. Clearing, grubbing and grading except as hereinafter specified.
3. Trench excavation, including necessary pavement removal and rock removal, except as otherwise specified.
4. Dewatering and disposal of surplus water.
5. Structural fill, backfill, and grading.
6. Replacement of unpaved roadways, and shrubbery plots.
7. Cleanup and miscellaneous work.
8. Foundation and borrow materials, except as hereinafter specified.
9. Testing and placing system in operation.
10. Any material and equipment required to be installed and utilized for the tests.
11. Pipe, structures, pavement replacement, asphalt and shell driveways and/or appurtenances included within the limits of lump sum work, unless otherwise shown.
12. Maintaining the existing quality of service during construction.
13. Maintaining or detouring of traffic.
14. Appurtenant work as required for a complete and operable system.
15. Seeding and hydromulching.
16. As-built Record Drawings.

BID ITEM #1 - MOBILIZATION / DEMOBILIZATION

Measurement and payment for this Bid Item shall include full compensation for the required 100 percent (100%) Performance Bond, 100 Percent (100%) Payment Bond, all required insurance and permits for the project and the Contractor's mobilization and demobilization costs as shown in the Bid Form.

Mobilization shall be the preparatory work and operations in mobilizing for beginning work on the project; including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of temporary offices, storage buildings, safety equipment, first aid supplies, sanitary and other facilities, as required by the Contract and all applicable laws and regulations.

Demobilization shall be the work for removing temporary facilities from the project site and the approval of all as-built record drawings by the Engineer.

Payment for the mobilization/demobilization Bid Item shall not exceed 10 percent (10%) of the total Contract amount. Partial payments for this Bid Item will be made in accordance with the following schedule:

Percent of Original Contract Amount:	Percent Allowable Payment of Mobilization/ Demobilization Bid Item Price:
5	25
10	35
25	45
50	50
75	75
100	100

These payments will be subject to the standard retainage provided in the Contract. Payment of the retainage will be made after completion of the work and demobilization.

BID ITEM #2 - DUCTILE IRON PIPE WATER MAINS

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per the schedule of prices for furnishing and installing the listed diameter DIP water main pipe and fittings as shown on the Contract Drawings and listed in the Bid Form. Measurement and Payment shall be made for the actual length of the listed diameter pipe installed and will represent full compensation for all labor, materials, work area clearing and grubbing and tree removal as needed, excavation, including rock, dewatering, erosion and sedimentation control, bedding, furnish and installing pipe, fittings, restraining devices, thrust blocks where indicated on the drawings, concrete encasement, detection tape, polywrapping, tracer wire installation and testing, backfill, regrading of ditches, drainage pipe and structures restoration, offsetting existing 4-inch force main as shown on plans, connections to existing pipelines (except Connection A as described below in a separate Bid Item), compaction, grading, cleaning, testing and disinfection, maintenance of traffic (MOT), and equipment required to complete these Bid Items. No additional compensation will be made for excavation below the bottom of the pipe, for rock removal or bedding and backfill material, or for repair of any trench settlement.

- BID ITEM NO. 2a - 6-inch DIP
- BID ITEM NO. 2b - 8-inch DIP
- BID ITEM NO. 2c - 24-inch DIP
- BID ITEM NO. 2d - 30-inch DIP

BID ITEM #3 - HORIZONTAL DIRECTIONAL DRILL

Payment for all work included in this Bid Item shall be made at the applicable contract unit price bid for furnishing and installing 30-inch diameter HDPE Pipe via horizontal directional drilling (HDD) as shown on the Contract Drawings and listed in the Bid Form. Measurement and payment shall be made for the actual length of HDPE pipe installed as measured horizontally above the centerline of the pipe and will represent full compensation for all labor, materials, excavation (including rock), dewatering, drainage, tracer wires, tracer wire testing, fittings, joints and jointing materials, DI/HDPE mechanical joint adapters, labor, machinery, construction equipment, directional boring equipment, drilling fluids, launching and receiving pits, boring path report, exploratory pits, bracing, shoring, sheeting, bedding, backfilling and compaction, regrading, disposal of spoil and drilling fluids, hydrostatic testing, cleaning, testing and disinfection, erosion and sedimentation control, drilling fluid release monitoring and cleanup, and all other items necessary to complete this Bid Item. No additional compensation will be made for rock removal, backfill material or for repair of any trench settlement.

BID ITEM #4 - PIPELINE CONNECTION A - SOUTH END AT UPPER MANATEE RIVER ROAD

Payment for all work included in this Bid Item shall be at the applicable lump sum bid for the connection including furnishing and installing the DIP pipe and fittings and gate valve, as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, materials, excavation, including rock as necessary, dewatering, erosion and sedimentation control, sheeting and shoring, demolition and disposal of existing pipe and appurtenances, bedding, backfill, restraining devices, thrust blocks if shown on the drawings, polywrapping, detection tape, tracer wire installation and testing, tracer wire test station box, connections to existing pipelines, backfill, regrading, compaction, roadway restoration (if required), sodding, hydrostatic testing, cleaning, disinfection and testing, maintenance of traffic (MOT) (if required), and equipment required to complete these Bid Items. No additional compensation will be made for excavation below the bottom of the pipe, for rock removal or bedding and backfill material, or for repair of any trench settlement.

BID ITEM #5 - GATE & BUTTERFLY VALVES

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per each valve for furnishing and installing the listed diameter valve, box, cover, tag, installation and testing of tracer wire, tracer wire test station box, and concrete pad as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, material, excavation, including rock as necessary, bedding, backfill, compaction, cleaning, testing and disinfection and equipment required to complete these Bid Items.

BID ITEM NO. 5a - 6-inch Gate Valve
BID ITEM NO. 5b - 8-inch Gate Valve
BID ITEM NO. 5c - 24-inch Butterfly Valve

BID ITEM #6 - FIRE HYDRANT ASSEMBLY

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per each fire hydrant assembly, including hydrant lead, gate valve, box cover, concrete pads, tracer wire installation and testing, tracer wire test station box, restraining rods and/or thrust blocks, as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, materials, equipment, excavation, including rock, bedding, backfill, surface restoration, polywrapping, compaction, cleaning, testing and disinfection required to complete this Bid Item.

BID ITEM #7 - AIR RELEASE VALVE ASSEMBLY

Payment for all work included in this Bid Item shall be made at the applicable contract unit price bid for furnishing and installing the listed size air release valve assembly including the vent pipe, gate valve, concrete pad, cabinet, installation and testing of tracer wire, and tracer wire test box as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, material, excavation, including rock as necessary, bedding, backfill, compaction, surface restoration, cleaning, testing and disinfection and equipment required to complete these Bid Items.

BID ITEM NO. 7a - ARV for 12-inch and smaller water mains
BID ITEM NO. 7b - ARV for 16-inch and larger water mains

BID ITEM #8 - JACK & BORE

Payment for all work included in this Bid Item shall be made at the applicable contract unit price bid per linear foot for furnishing and installing the listed diameter steel casing, carrier pipe spacers, and end seals via Jack & Bore as shown on the contract drawings and listed in the Bid Form. Measurement and payment shall be made for the actual length of casing pipe installed and will represent full compensation for all labor, materials, excavation (including rock), dewatering, sheeting and shoring, machinery, pipe spacers, backfilling and compaction, surface restoration, and all other items necessary to complete this Bid Item. No additional compensation will be made for rock removal, backfill material or for repair of any trench settlement.

BID ITEM NO. 8a - 14-inch Jack & Bore for 6-inch DIP
BID ITEM NO. 8b - 18-inch Jack & Bore for 8-inch DIP

BID ITEM #9 - STEEL CASINGS BY DIRECT BURY

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per linear foot for furnishing and installing the 18-inch diameter steel casing for 8-inch DIP pipe to be installed via direct bury and carrier pipe spacers and end seals as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, material, excavation, including rock as necessary, bedding, backfill, compaction, and equipment required to complete this Bid Item.

BID ITEM #10 - CLEARING AND GRUBBING OF HDD WORK AREA

Payment for all work included in this Bid Item will be made at the applicable lump sum bid price for clearing and grubbing for areas required to perform the HDD crossing of the Manatee River in accordance with the specifications and as listed on the Bid Form. Payment shall represent full compensation for all labor, materials, necessary equipment, and incidentals necessary to remove trees and vegetation and to grade those work areas as needed to perform the HDD operation.

BID ITEM NO. 10a - North of Manatee River
BID ITEM NO. 10b - South of Manatee River

BID ITEM #11 - SOD RESTORATION ALONG PIPELINE

Payment for all work included in this Bid Item will be made at the applicable Contract unit price bid per linear foot of water main installed in vegetated areas for furnishing and installing sod for all areas disturbed by the Contractor, with the exception of the areas disturbed or cleared and grubbed for Connection A or the HDPE pipe installation by HDD. Payment shall represent full compensation for all labor, materials, necessary equipment, and incidentals necessary to complete the work, ready for approval and acceptance by the Engineer/Owner.

BID ITEM #12 - SOD RESTORATION ASSOCIATED WITH HDD

Payment for all work included in these Bid Items will be made at the applicable lump sum bid price for furnishing and installing sodding for restoration of the work areas associated with the horizontal directional drill (HDD) installation of the HDPE pipe under the Manatee River. Payment shall represent full compensation for all labor, materials, necessary equipment, and incidentals necessary to complete the work, ready for approval and acceptance by the Engineer/Owner.

BID ITEM NO. 12a - North of Manatee River

BID ITEM NO. 12b - South of Manatee River

BID ITEM #13- ROAD RESTORATION

Payment for all work included under this Bid Item will be made at the applicable lump sum bid price for road restoration installed, tested, complete and approved in accordance with the applicable specifications and details on the Contract Drawings. Payment shall represent full compensation for all labor, materials, necessary equipment, and incidentals necessary to complete the road restoration in accordance with the requirements of Manatee County ready for approval and acceptance by the Engineer/Owner.

BID ITEM NO. 13a - Winding Stream Way 24-inch DIP Installation

BID ITEM NO. 13b - Ft. Hamer Road at North 24-inch Connection

BID ITEM #14 - DRIVEWAY RESTORATION

Payment for all work included in these Bid Items will be made at the applicable Contract unit price bid per square yard of shell, asphaltic concrete, or concrete driveway restoration as listed on the Bid Form. Measurement of driveway restoration will be per the actual number of square yards replaced. Payment shall represent full compensation for all labor, materials and equipment for cutting the edges of existing driveways, compacting subgrade, furnishing and installing the shell, asphaltic concrete or concrete and all incidentals necessary to complete the driveway restoration as shown on the Contract Drawings and included in the Specifications, all ready for approval and acceptance by the Engineer/Owner.

BID ITEM NO. 14a - Shell Driveway Restoration

BID ITEM NO. 14b - Asphaltic Concrete Driveway Restoration

BID ITEM NO. 14c - Concrete Driveway Restoration

BID ITEM #15 - HORIZONTAL DIRECTIONAL DRILL AREA SOUND BARRIER

Payment for all work under this Bid Item shall be made at the applicable Contract lump sum bid price as shown on the Bid Form for furnishing, installing, and removing the sound barrier around the horizontal direction drill area as described in Specification Section 02619, Horizontal Directional Drilling and shown on Sheet C-4.

BID ITEM #16 - REMOVAL OF EXISTING 8-INCH WATER MAIN

Payment for all work included in this Bid Item will be made at the applicable Contract unit price bid per linear foot for removing existing 8-inch DIP water main as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, materials, excavation, dewatering, tree trimming and removal as necessary, removal and disposal of pipe, backfill, compaction, grading, necessary equipment, and incidentals necessary to complete the work, ready for approval and acceptance by the Engineer/Owner.

BID ITEM #17 - DOUBLE WATER SERVICES

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid for each service type for furnishing and installing the listed double water service lines, service saddles on water mains, corporation stops and valves, meter boxes tracer wire installation and testing, and installation of meters supplied by the COUNTY as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, material, equipment, excavation, including rock as necessary, bedding, backfill, compaction, surface restoration, cleaning, testing and disinfection required to complete these Bid Items.

BID ITEM #18 - MISCELLANEOUS WORK AND CLEANUP

Payment for all work included under this Bid Item shall be made at the Contract lump sum price bid listed in the Bid Form and shall represent full compensation for all labor, materials and equipment required to perform all the work as shown on the Contract Drawings and specified herein and any other miscellaneous work not specifically included for payment under other Bid Items obviously necessary to complete the Contract. Partial payments will be based on the breakdown of the Bid Item in accordance with the Schedule of Values submitted by the Contractor and approved by the Engineer. Payment shall also include full compensation for project photographs, project signs, rubbish removal, as-built record drawings, and any and all other items required to complete the project in accordance with Contract Documents.

BID ITEM #19 - DISCRETIONARY WORK

Payment for all work under this Bid Item and listed in the Bid Form shall be made only at the Owner's discretion in order to satisfactorily complete the project in accordance with the Plans and Specifications.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01152 REQUESTS FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Submit Applications for Payment to the Project Manager or as directed at the preconstruction meeting, in accordance with the Conditions of the Contract and Agreement between County and Contractor.

1.02 FORMAT AND DATA REQUIRED

- A. Submit payment requests in the form provided by the County with itemized data typed in accordance with the Bid Form.
- B. Provide construction photographs in accordance with Contract Documents.

1.03 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the County requires substantiating data, Contractor shall submit suitable information with a cover letter.
- B. Submit one copy of data and cover letter for each copy of application.

1.04 PREPARATION OF APPLICATION FOR FINAL PAYMENT

Fill in application form as specified for progress payments.

1.05 SUBMITTAL PROCEDURE

- A. Submit applications for payment at the times stipulated in the Agreement.
- B. Number: Three (3) copies of each application; all signed and certified by the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01153 CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 DEFINITION

- A. Change Order: Major change in contract scope or time that must be approved and executed by the Board before it becomes effective.
- B. Administrative Contract Adjustment: Minor change order under 10% of project cost or 20% time, does not have to be Board approved.
- C. Field Directive: Change to contract quantity that does not require a change of scope or time extension.

1.02 REQUIREMENTS INCLUDED

- A. The Contractor shall promptly implement change order procedures:
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of work done on a time-and-material/force account basis.
 - 3. Provide full documentation to County on request.
- B. The Contractor shall designate a member of the Contractor's organization who:
 - 1. Is authorized to accept changes to the Work.
 - 2. Is responsible for informing others in the Contractor's employ of the authorized changes into the Work.

1.03 PRELIMINARY PROCEDURES

- A. Project Manager may initiate changes by submitting a Request to Contractor. Request will include:
 - 1. Detailed description of the change, products, costs and location of the change in the Project.
 - 2. Supplementary or revised Drawings and Specifications.
 - 3. The projected time extension for making the change.
 - 4. A specified period of time during which the requested price will be considered valid.
 - 5. Such request is for information only and is not an instruction to execute the changes, nor to stop work in progress.
- B. Contractor may initiate changes by submitting a written notice to the Project Manager, containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of separate contractors.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.04 FIELD DIRECTIVE

- A. In lieu of a Change Order, the Project Manager may issue a Field Directive for the Contractor to proceed with additional work within the original intent of the Project.
- B. Field Directive will describe changes in the work, with attachments of backup information to define details of the change.
- C. Contractor must sign and date the Field Directive 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 to allow the County 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 documented.
 - 6. Overhead and profit.
 - 7. Justification for any change in Contract Time.
- C. Support each claim for additional costs and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal.
 - 1. Name of the County's authorized agent who ordered the work and date of the order.
 - 2. Date and time work was performed and by whom.
 - 3. Time record, summary of hours work and hourly rates paid.
 - 4. Receipts and invoices for:
 - a. Equipment used, listing dates and time of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.

1.06 PREPARATION OF CHANGE ORDERS

- A. Project Manager will prepare each Change Order.
- B. Change Order will describe changes in the Work, both additions and deletions, with attachments as necessary to define details of the change.
- C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.07 LUMP SUM/FIXED PRICE CHANGE ORDER

- A. Project Manager initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by the Contractor, or

requests from the County, or both.

- B. Once the form has been completed, all copies should be sent to Contractor for approval. After approval by Contractor, all copies should be sent to County for approval. The County will distribute executed copies after approval by the Board of County Commissioners.

1.08 UNIT PRICE CHANGE ORDER

- A. Contents of Change Orders will be based on, either:
 - 1. County's definition of the scope of the required changes.
 - 2. Contractor's Proposal for a change, as approved by the County.
 - 3. Survey of completed work.
- B. The amounts of the unit prices to be:
 - 1. Those stated in the Agreement.
 - 2. Those mutually agreed upon between County and Contractor.

1.09 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION

- A. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
- B. County will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- C. County will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- D. County and Contractor will 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 Application for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise sub schedules 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)

END OF SECTION

SECTION 01200 PROJECT MEETINGS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The County shall schedule the pre-construction meeting, periodic progress meetings and special meetings, if required, throughout progress of work.
- B. Representatives of contractors, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The Contractor shall attend meetings to ascertain that work is expedited consistent with Contract Documents and construction schedules.

1.02 PRE-CONSTRUCTION MEETING

- A. Attendance:
 - 1. County's Engineer.
 - 2. County's Project Manager
 - 3. Contractor.
 - 4. Resident Project Representative.
 - 5. Related Labor Contractor's Superintendent.
 - 6. Major Subcontractors.
 - 7. Major Suppliers.
 - 8. Others as appropriate.
- B. Suggested Agenda:
 - 1. Distribution and discussion of:
 - a. List of major subcontractors.
 - b. Projected Construction Schedules.
 - c. Coordination of Utilities
 - 2. Critical work sequencing.
 - 3. Project Coordination.
 - a. Designation of responsible personnel.
 - b. Emergency contact persons with phone numbers.
 - 4. Procedures and processing of:
 - a. Field decisions.
 - b. Submittals.
 - c. Change Orders.
 - d. Applications for Payment.

5. Procedures for maintaining Record Documents.
6. Use of premises:
 - a. Office, work and storage areas.
 - b. County's REQUIREMENTS.
7. Temporary utilities.
8. Housekeeping procedures.
9. Liquidated damages.
10. Equal Opportunity Requirements.
11. Laboratory testing.
12. Project / Job meetings: Progress meeting, other special topics as needed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01310 CONSTRUCTION SCHEDULE AND PROJECT RESTRAINTS

PART 1 GENERAL

1.01 GENERAL

- A. Construction under this contract must be coordinated with the County and accomplished in a logical order to maintain utilization and flow through existing facilities and public properties and rights-of-way and to allow construction to be completed within the time allowed by Contract Documents and in the manner set forth in the Contract.

1.02 CONSTRUCTION SCHEDULING GENERAL PROVISIONS

- A. No work shall be done between 7:00 p.m. and 7:00 a.m. nor on weekends or legal holidays without written permission of the County. However, emergency work may be done without prior permission.
- B. Night work may be established by the Contractor as regular procedure with the written permission of the County. Such permission, however, may be revoked at any time by the County if the Contractor fails to maintain adequate equipment and supervision for the proper execution and control of the work at night.
- C. Due to potential health hazards and requirements of the State of Florida and the U.S. Environmental Protection Agency, existing facilities must be maintained in operation.
- D. The Contractor shall be fully responsible for providing all temporary piping, plumbing, electrical hook-ups, lighting, temporary structure, or other materials, equipment and systems required to maintain the existing facility's operations. All details of temporary piping and temporary construction are not necessarily shown on the Drawings or covered in the Specifications. However, this does not relieve the Contractor of the responsibility to insure that construction will not interrupt proper facility operations.
- E. The Contractor shall designate an authorized representative of his firm who shall be responsible for development and maintenance of the schedule and of progress and payment reports. This representative of the Contractor shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the commitments of the Contractor's schedule.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. The Contractor shall submit a critical path schedule as described herein.
- B. The planning, scheduling, management and execution of the work is the sole responsibility of the Contractor. The progress schedule requirement is established to allow County to review Contractor's planning, scheduling, management and execution of the work; to assist County in evaluating work progress and make progress payments and to allow other contractors to cooperate and coordinate their activities with those of the Contractor.

2.02 FORM OF SCHEDULES

- A. Prepare schedules using the latest version of Microsoft Project, or other County approved software, in the form of a horizontal bar chart diagram. The diagram shall be time-scaled

and sequenced by work areas. Horizontal time scale shall identify the first work day of each week.

- B. Activities shall be at least as detailed as the Schedule of Values. Activity durations shall be in whole working days. In addition, man-days shall be shown for each activity or tabulated in an accompanying report.
- C. Diagrams shall be neat and legible and submitted on sheets at least 8-1/2 inches by 11 inches suitable for reproduction. Scale and spacing shall allow space for notations and future revisions.

2.03 CONTENT OF SCHEDULES

- A. Each monthly schedule shall be based on data as of the last day of the current pay period.
- B. Description for each activity shall be brief, but convey the scope of work described.
- C. Activities shall identify all items of work that must be accomplished to achieve substantial completion, such as items pertaining to Contractor's installation and testing activities; items pertaining to the approval of regulatory agencies; contractor's time required for submittals, fabrication and deliveries; the time required by County to review all submittals as set forth in the Contract Documents; items of work required of County to support pre-operational, startup and final testing; time required for the relocation of utilities. Activities shall also identify interface milestones with the work of other contractors performing work under separate contracts with County.
- D. Schedules shall show the complete sequence of construction by activities. Dates for beginning and completion of each activity shall be indicated as well as projected percentage of completion for each activity as of the first day of each month.
- E. Submittal schedule for shop drawing review, product data, and samples shall show the date of Contractor submittal and the date approved submittals will be required by the County, consistent with the time frames established in the Specifications.
- F. For Contract change orders granting time extensions, the impact on the Contract date(s) shall equal the calendar-day total time extension specified for the applicable work in the Contract change orders.
- G. For actual delays, add activities prior to each delayed activity on the appropriate critical path(s). Data on the added activities of this type shall portray all steps leading to the delay and shall further include the following: separate activity identification, activity description indicating cause of the delay, activity duration consistent with whichever set of dates below applies, the actual start and finish dates of the delay or, if the delay is not finished, the actual start date and estimated completion date.
- H. For potential delays, add an activity prior to each potentially delayed activity on the appropriate critical path(s). Data for added activities of this type shall include alternatives available to mitigate the delay including acceleration alternatives and further show the following: separate activity identification, activity description indicating cause of the potential delay and activity duration equal to zero work days.

2.04 SUPPORTING NARRATIVE

- A. Status and scheduling reports identified below shall contain a narrative to document the project status, to explain the basis of Contractor's determination of durations, describe the

Contract conditions and restraints incorporated into the schedule and provide an analysis pertaining to potential problems and practical steps to mitigate them.

- B. The narrative shall specifically include:
1. Actual completion dates for activities completed during the monthly report period and actual start dates for activities commenced during the monthly report period.
 2. Anticipated start dates for activities scheduled to commence during the following monthly report period.
 3. Changes in the duration of any activity and minor logic changes.
 4. The progress along the critical path in terms of days ahead or behind the Contract date.
 5. If the Monthly Status Report indicates an avoidable delay to the Contract completion date or interim completion dates as specified in the Agreement, Contractor shall identify the problem, cause and the activities affected and provide an explanation of the proposed corrective action to meet the milestone dates involved or to mitigate further delays.
 6. If the delay is thought to be unavoidable, the Contractor shall identify the problem, cause, duration, specific activities affected and restraints of each activity.
 7. The narrative shall also discuss all change order activities whether included or not in the revised/current schedule of legal status. Newly introduced change order work activities and the CPM path(s) that they affect, must be specifically identified. All change order work activities added to the schedule shall conform with the sequencing and Contract Time requirements of the applicable Change Order.
 8. Original Contract date(s) shall not be changed except by Contract change order. A revision need not be submitted when the foregoing situations arise unless required by County. Review of a report containing added activities will not be construed to be concurrence with the duration or restraints for such added activities; instead the corresponding data as ultimately incorporated into the applicable Contract change order shall govern.
 9. Should County require additional data, this information shall be supplied by Contractor within 10 calendar days.

2.05 SUBMITTALS

- A. Contractor shall submit estimated and preliminary progress schedules (as identified in the Terms and Conditions of the Contract and the General Conditions), monthly status reports, a start-up schedule and an as-built schedule report all as specified herein.
- B. All schedules, including estimated and preliminary schedules, shall be in conformance with the Contract Documents.
- C. The finalized progress schedule discussed in the Contract Documents shall be the first monthly status report and as such shall be in conformance with all applicable specifications contained herein.
- D. Monthly Status Report submittals shall include a time-scaled (days after notice to proceed) diagram showing all contract activities and supporting narrative. The initial detailed schedule shall use the notice to proceed as the start date. The finalized schedule, if concurred with by County, shall be the work plan to be used by the contractor for planning, scheduling, managing and executing the work.
- E. The schedule diagram shall be formatted as above. The diagram shall include (1) all detailed activities included in the preliminary and estimated schedule submittals, (2)

calendar days prior to substantial completion, (3) summary activities for the remaining days. The critical path activities shall be identified, including critical paths for interim dates, if possible.

- F. The Contractor shall submit progress schedules with each application for payment.

2.06 MONTHLY STATUS REPORTS

- A. Contractor shall submit detailed schedule status reports on a monthly basis with the Application for Payment. The first such status report shall be submitted with the first Application for Payment and include data as of the last day of the pay period. The Monthly Report shall include a "marked-up" copy of the latest detailed schedule of legal status and a supporting narrative including updated information as described above. The Monthly Report will be reviewed by County and Contractor at a monthly schedule meeting and Contractor will address County's comments on the subsequent monthly report. Monthly status reports shall be the basis for evaluating Contractor's progress.
- B. The "marked-up" diagram shall show, for the latest detailed schedule of legal status, percentages of completion for all activities, actual start and finish dates and remaining durations, as appropriate. Activities not previously included in the latest detailed schedule of legal status shall be added, except that contractual dates will not be changed except by change order. Review of a marked-up diagram by County will not be construed to constitute concurrence with the time frames, duration, or sequencing for such added activities; instead the corresponding data as ultimately incorporated into an appropriate change order shall govern.

2.07 STARTUP SCHEDULE

- A. At least 60 calendar days prior to the date of substantial completion, Contractor shall submit a time-scaled (days after notice to proceed) diagram detailing the work to take place in the period between 60 days prior to substantial completion, together with a supporting narrative. County shall have 10 calendar days after receipt of the submittal to respond. Upon receipt of County's comments, Contractor shall make the necessary revisions and submit the revised schedule within 10 calendar days. The resubmittal, if concurred with by County, shall be the Work Plan to be used by Contractor for planning, managing, scheduling and executing the remaining work leading to substantial completion.
- B. The time-scaled diagram shall use the latest schedule of legal status for those activities completed ahead of the last 60 calendar days prior to substantial completion and detailed activities for the remaining 60-day period within the time frames outlined in the latest schedule of legal status.
- C. Contractor will be required to continue the requirement for monthly reports, as outlined above. In preparing this report, Contractor must assure that the schedule is consistent with the progress noted in the startup schedule.

2.08 REVISIONS

- A. All revised Schedule Submittals shall be made in the same form and detail as the initial submittal and shall be accompanied by an explanation of the reasons for such revisions, all of which shall be subject to review and concurrence by County. The revision shall incorporate all previously made changes to reflect current as-built conditions. Minor changes to the approved submittal may be approved at monthly meetings; a minor change is not considered a revision in the context of this paragraph.

- B. A revised schedule submittal shall be submitted for review when required by County.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01340 SHOP DRAWINGS, PROJECT DATA AND SAMPLES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall submit to the County for review and approval: working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this section called data), and material samples (hereinafter in this section called samples) as are required for the proper control of work, including, but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.
- B. The Contractor is to maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting with the County. This log should include the following items:
1. Submittal description and number assigned.
 2. Date to County.
 3. Date returned to Contractor (from County).
 4. Status of Submittal (No exceptions taken, returned for confirmation or resubmittal, rejected).
 5. Date of Resubmittal and Return (as applicable).
 6. Date material released (for fabrication).
 7. Projected date of fabrication.
 8. Projected date of delivery to site.
 9. Projected date and required lead time so that product installation does not delay contact.
 10. Status of O&M manuals submitted.

1.03 CONTRACTOR'S RESPONSIBILITY

- A. It is the duty of the Contractor to check all drawings, data and samples prepared by or for him before submitting them to the County for review. Each and every copy of the Drawings and data shall bear Contractor's stamp showing that they have been so checked. Shop drawings submitted to the County without the Contractor's stamp will be returned to the Contractor for conformance with this requirement. Shop drawings shall indicate any deviations in the submittal from requirements of the contract Documents.
- B. Determine and verify:
1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with Specifications and indicate all variances from the Specifications.
- C. The Contractor shall furnish the County a schedule of Shop Drawing submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.
- D. The Contractor shall not begin any of the work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned to him, by the County, with No Exceptions Taken or Approved As Noted.

- E. The Contractor shall submit to the County all drawings and schedules sufficiently in advance of construction requirements to provide no less than twenty-one (21) calendar days for checking and appropriate action from the time the County receives them.
- F. All material & product submittals, other than samples, may be transmitted electronically as a pdf file. All returns to the contractor will be as a pdf file only unless specifically requested otherwise.
- G. The Contractor shall be responsible for and bear all cost of damages which may result from the ordering of any material or from proceeding with any part of work prior to the completion of the review by County of the necessary Shop Drawings.

1.04 COUNTY'S REVIEW OF SHOP DRAWINGS AND WORKING DRAWINGS

- A. The County's review of drawings, data and samples submitted by the Contractor shall cover only general conformity to the Specifications, external connections and dimensions which affect the installation.
- B. The review of drawings and schedules shall be general and shall not be construed:
 - 1. As permitting any departure from the Contract requirements.
 - 2. As relieving the Contractor of responsibility for any errors, including details, dimensions and materials.
 - 3. As approving departures from details furnished by the County, except as otherwise provided herein.
- C. If the drawings or schedules as submitted describe variations and show a departure from the Contract requirements which the County finds to be in the interest of the County and to be so minor as not to involve a change in Contract Price or time for performance, the County may return the reviewed drawings without noting any exception.
- D. When reviewed by the County, each of the Shop and Working Drawings shall be identified as having received such review being so stamped and dated. Shop Drawings stamped "REJECTED" and with required corrections shown shall be returned to the Contractor for correction and resubmittal.
- E. Resubmittals will be handled in the same manner as first submittals. On resubmittals, the Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, to revisions other than the corrections requested by the County on previous submissions. The Contractor shall make any corrections required by the County.
- F. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the County.
- G. The County shall review a submittal/resubmittal a maximum of three (3) times after which cost of review shall be borne by the Contractor. The cost of engineering shall be equal to the County's actual payroll cost.
- H. When the Shop and Working Drawings have been completed to the satisfaction of the County, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the County.
- I. No partial submittals shall be reviewed. Incomplete submittals shall be returned to the Contractor and shall be considered not approved until resubmitted.

1.05

SHOP DRAWINGS

- A. When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean Contractor's plans for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop Drawings shall consist of fabrication, drawings, setting drawings, schedule drawings, manufacturer's scale drawings and wiring and control diagrams. Cuts, catalogs, pamphlets, descriptive literature and performance and test data, shall be considered only as supportive to required Shop Drawings as defined above.
- B. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the County and shall bear the Contractor's stamp of approval and original signature as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval and original signature shall be returned to the Contractor for resubmission.
- C. Each Shop Drawing shall have a blank area 3-1/2 inches by 3-1/2 inches, located adjacent to the title block. The title block shall display the following:
1. Number and title of the drawing.
 2. Date of Drawing or revision.
 3. Name of project building or facility.
 4. Name of contractor and subcontractor submitting drawing.
 5. Clear identification of contents and location of the work.
 6. Specification title and number.
- D. If drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustment in the contract shall be implemented where appropriate. If the Contractor fails to describe such variations, he shall not be relieved of the responsibility of executing the work in accordance with the Contract, even though such drawings have been reviewed.
- E. Data on materials and equipment shall include, without limitation, materials and equipment lists, catalog sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.
- F. For all mechanical and electrical equipment furnished, the Contractor shall provide a list including the equipment name and address and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained.
- G. All manufacturers or equipment suppliers who proposed to furnish equipment or products shall submit an installation list to the County along with the required shop drawings. The installation list shall include at least five installations where identical equipment has been installed and have been in operation for a period of at least one (1) year.
- H. Only the County will utilize the color "red" in marking shop drawing submittals.

1.06 WORKING DRAWINGS

- A. When used in the Contract Documents, the term "working drawings" shall be considered to mean the Contractor's fabrication and erection drawings for structures such as roof trusses, steelwork, precast concrete elements, bulkheads, support of open cut excavation, support of utilities, groundwater control systems, forming and false work; underpinning; and for such other work as may be required for construction of the project.
- B. Copies of working drawings as noted above, shall be submitted to the County where required by the Contract Documents or requested by the County and shall be submitted at least thirty (30) days (unless otherwise specified by the County) in advance of their being required for work.
- C. Working drawings shall be signed by a registered Professional Engineer, currently licensed to practice in the State of Florida and shall convey, or be accompanied by, calculation or other sufficient information to completely explain the structure, machine, or system described and its intended manner of use. Prior to commencing such work, working drawings must have been reviewed without specific exceptions by the County, which review will be for general conformance and will not relieve the Contractor in any way from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error are assumed by the Contractor; the County and Engineer shall not have responsibility therefor.

1.07 SAMPLES

- A. The Contractor shall furnish, for the review of the County, samples required by the Contract Documents or requested by the County. Samples shall be delivered to the County as specified or directed. The Contractor shall prepay all shipping charges on samples. Materials or equipment for which samples are required shall not be used in work until reviewed by the County.
- B. Samples shall be of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of the product, with integrally related parts and attachment devices.
 - 2. Full range of color, texture and pattern.
 - 3. A minimum of two samples of each item shall be submitted.
- C. Each sample shall have a label indicating:
 - 1. Name of product.
 - 2. Name of Contractor and Subcontractor.
 - 3. Material or equipment represented.
 - 4. Place of origin.
 - 5. Name of Producer and Brand (if any).
 - 6. Location in project.
(Samples of finished materials shall have additional markings that will identify them under the finished schedules.)
 - 7. Reference specification paragraph.
- D. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the County. Review of a sample shall be only for the characteristics or use named in such and shall not be construed to change or modify any Contract requirements.

- E. Reviewed samples not destroyed in testing shall be sent to the County or stored at the site of the work. Reviewed samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the reviewed samples. If requested at the time of submission, samples which failed testing or were rejected shall be returned to the Contractor at his expense.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01370 SCHEDULE OF VALUES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall submit to the County a Schedule of Values allocated to the various portions of the work, within 10 days after date of Notice to Proceed.
- B. Upon request of the County, the Contractor shall support the values with data which will substantiate their correctness.
- C. The Schedule of Values shall be used only as the basis for the Contractor's Applications for Payment.

1.02 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Schedule of Values will be considered for approval by County upon Contractor's request. Identify schedule with:
 - 1. Title of Project and location.
 - 2. Project number.
 - 3. Name and address of Contractor.
 - 4. Contract designation.
 - 5. Date of submission.
- B. Schedule of Values shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.
- C. Follow the table of contents for the Contract Document as the format for listing component items for structures:
 - 1. Identify each line item with the number and title of the respective major section of the specification.
 - 2. For each line item, list sub values of major products or operations under item.
- D. Follow the bid sheets included in this Contract Documents as the format for listing component items for pipe lines.
- E. The sum of all values listed in the schedule shall equal the total Contract sum.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01380 CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall employ a competent photographer to take construction record photographs or perform video, recording including furnishing all labor, materials, equipment and incidentals necessary to obtain photographs and/or video recordings of all construction areas.
- B. Preconstruction record information shall consist of video recordings on digital video disks (DVD).
- C. Construction progress information shall consist of photographs and digital photographs on a recordable compact disc (CD-R).

1.02 QUALIFICATIONS

- A. All photography shall be done by a competent camera operator who is fully experienced and qualified with the specified equipment.
- B. For the video recording, the audio portion should be done by a person qualified and knowledgeable in the specifics of the Contract, who shall speak with clarity and diction so as to be easily understood.

1.03 PROJECT PHOTOGRAPHS

- A. Provide one print of each photograph with each pay application.
- B. Provide one recordable compact disc with digital photographs with each pay application.
- C. Negatives:
 - 1. All negatives shall remain the property of photographer.
 - 2. The Contractor shall require that photographer maintain negatives or protected digital files for a period of two years from date of substantial completion of the project.
 - 3. Photographer shall agree to furnish additional prints to County at commercial rates applicable at time of purchase. Photographer shall also agree to participate as required in any litigation requiring the photographer as an expert witness.
- D. The Contractor shall pay all costs associated with the required photography and prints. Any parties requiring additional photography or prints shall pay the photographer directly.
- E. All project photographs shall be a single weight, color image. All finishes shall be smooth surface and glossy and all prints shall be 8 inches x 10 inches.
- F. Each print shall have clearly marked on the back, the name of the project, the orientation of view, the date and time of exposure, name and address of the photographer and the photographers numbered identification of exposure.
- G. All project photographs shall be taken from locations to adequately illustrate conditions prior to construction, or conditions of construction and state of progress. The Contractor shall consult with the County at each period of photography for instructions concerning

views required.

1.04 VIDEO RECORDINGS

- A. Video, recording shall be done along all routes that are scheduled for construction. Video, recording shall include full, recording of both sides of all streets and the entire width of easements plus 10 feet on each side on which construction is to be performed. All video recording shall be in full color.
- B. A complete view, in sufficient detail with audio description of the exact location shall be provided.
- C. The engineering plans shall be used as a reference for stationing in the audio portion of the recordings for easy location identification.
- D. Two complete sets of video recordings shall be delivered to the County on digital video disks (DVD) for the permanent and exclusive use of the County prior to the start of any construction on the project.
- E. All video recordings shall contain the name of the project, the date and time of the video, recording, the name and address of the photographer and any other identifying information required.
- F. Construction shall not start until preconstruction video recordings are completed, submitted and accepted by the County. In addition, no progress payments shall be made until the preconstruction video recordings are accepted by the County.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01410 TESTING AND TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. County shall employ and pay for the services of an independent testing laboratory to perform testing specifically indicated on the Contract Documents or called out in the Specifications. County may elect to have materials and equipment tested for conformity with the Contract Documents at any time.
1. Contractor shall cooperate fully with the laboratory to facilitate the execution of its required services.
 2. Employment of the laboratory shall in no way relieve the Contractor's obligations to perform the work of the Contract.

1.02 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

- A. Laboratory is not authorized to:
1. Release, revoke, alter or enlarge on requirements of Contract Documents.
 2. Approve or accept any portion of the Work.
 3. Perform any duties of the Contractor.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel; provide access to Work and/or to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other material mixes which require control by the testing laboratory.
- D. Materials and equipment used in the performance of work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. Standard specifications for quality and workmanship are indicated in the Contract Documents. The County may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor and no extra charge to the County shall be allowed on account of such testing and certification.
- E. Furnish incidental labor and facilities:
1. To provide access to work to be tested.
 2. To obtain and handle samples at the project site or at the source of the product to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test samples.
- F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed due to insufficient notice, Contractor shall reimburse County for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- G. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required for the Contractor's convenience and as approved by the County.
- H. If the test results indicate the material or equipment complies with the Contract Documents, the County shall pay for the cost of the testing laboratory. If the tests and any subsequent retests indicate the materials and equipment fail to meet the requirements of the Contract Documents, the contractor shall pay for the laboratory costs directly to the testing firm or the total of such costs shall be deducted from any payments due the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01510 TEMPORARY AND PERMANENT UTILITIES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

The Contractor shall be responsible for furnishing all requisite temporary utilities, i.e., power, water, sanitation, etc. The Contractor shall obtain and pay for all permits required as well as pay for all temporary usages. The Contractor shall remove all temporary facilities upon completion of work.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code.
- B. Comply with Federal, State and Local codes and regulations and with utility company requirements.
- C. Comply with County Health Department regulations.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL

Materials for temporary utilities may be "used". Materials for electrical utilities shall be adequate in capacity for the required usage, shall not create unsafe conditions and shall not violate requirements of applicable codes and standards.

2.02 TEMPORARY ELECTRICITY AND LIGHTING

Arrange with the applicable utility company for temporary power supply. Provide service required for temporary power and lighting and pay all costs for permits, service and for power used.

2.03 TEMPORARY WATER

- A. The Contractor shall arrange with Manatee County Utilities Customer Service office to provide water for construction purposes, i.e., meter, pay all costs for installation, maintenance and removal, and service charges for water used.
- B. The Contractor shall protect piping and fitting against freezing.

2.04 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide sanitary facilities in compliance with all laws and regulations.
- B. The Contractor shall service, clean and maintain facilities and enclosures.

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall maintain and operate systems to assure continuous service.
- B. The Contractor shall modify and extend systems as work progress requires.

3.02 REMOVAL

- A. The Contractor shall completely remove temporary materials and equipment when their use is no longer required.
- B. The Contractor shall clean and repair damage caused by temporary installations or use of temporary facilities.

END OF SECTION

SECTION 01570 TRAFFIC REGULATION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall be responsible for providing safe and expeditious movement of traffic through construction zones. A construction zone is defined as the immediate areas of actual construction and all abutting areas which are used by the Contractor and which interfere with the driving or walking public.
- B. The Contractor shall remove temporary equipment and facilities when no longer required, restore grounds to original or to specified conditions.

1.02 TRAFFIC CONTROL

- A. The necessary traffic control shall include, but not be limited to, such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization and hand signaling devices. The Contractor shall be responsible for installation and maintenance of all devices and detour routes and signage for the duration of the construction period. The Contractor shall utilize the appropriate traffic plan from the FDOT Maintenance of Traffic Standards, Series 600 of the FDOT Roadway & Traffic Design Standards, Latest Edition.
- B. Should there be the necessity to close any portion of a roadway carrying vehicles or pedestrians the Contractor shall submit a Traffic Control Plan (TCP) at least 5 days before a partial or full day closure, and at least 8 days before a multi-day closure. TCP shall be submitted, along with a copy of their accreditation, by a certified IMSA or ATSA Traffic Control Specialist.
 - 1. At no time will more than one (1) lane of a roadway be closed to vehicles and pedestrians without an approved road closure from the County Transportation Department. With any such closings, adequate provision shall be made for the safe expeditious movement of each.
 - 2. All traffic control signs must be in place and inspected at least 1 day in advance of the closure. Multi-day closures notification signs shall be in place at least 3 days in advance of the closure. All signs must be covered when no in effect, and checked twice a day by the Worksite Traffic Supervisor when they are in effect.
- C. The Contractor shall be responsible for removal, relocation, or replacement of any traffic control device in the construction area which exists as part of the normal preconstruction traffic control scheme. Any such actions shall be performed by the Contractor under the supervision and in accordance with the instructions of the applicable highway department unless otherwise specified.
- D. The Contractor will consult with the County immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project.
- E. The Contractor shall provide ready access to businesses and homes in the project area during construction. The Contractor shall be responsible for coordinating this work with affected homeowners.
- F. When conditions require the temporary installation of signs, pavement markings and traffic barriers for the protection of workers and traffic, the entire array of such devices shall be depicted on working drawings for each separate stage of work. These drawings shall be

submitted to the County for review and approval prior to commencement of work on the site.

- G. Precast concrete traffic barriers shall be placed adjacent to trenches and other excavations deeper than six inches below the adjacent pavement surface.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01580 PROJECT IDENTIFICATION AND SIGNS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain County project identification signs.
- B. Remove signs on completion of construction.
- C. Allow no other signs to be displayed except for traffic control and safety.

1.02 PROJECT IDENTIFICATION SIGN (COUNTY)

- A. One painted sign, of not less than 32 square feet (3 square meters) area, with painted graphic content to include:
 - 1. Title of Project.
 - 2. Name of County.
 - 3. Names and titles of authorities as directed by County.
 - 4. Prime Contractor.
- B. Graphic design, style of lettering and colors: As approved by the County.
- C. Erect on the site at a lighted location of high public visibility, adjacent to main entrance to site, as approved by the County

1.03 INFORMATIONAL SIGNS

- A. Painted signs with painted lettering, or standard products.
 - 1. Size of signs and lettering: as required by regulatory agencies, or as appropriate to usage.
 - 2. Colors: as required by regulatory agencies, otherwise of uniform colors throughout project.
- B. Erect at appropriate locations to provide required information.

1.04 QUALITY ASSURANCE

- A. Sign Painter: Professional experience in type of work required.
- B. Finishes, Painting: Adequate to resist weathering and fading for scheduled construction period.

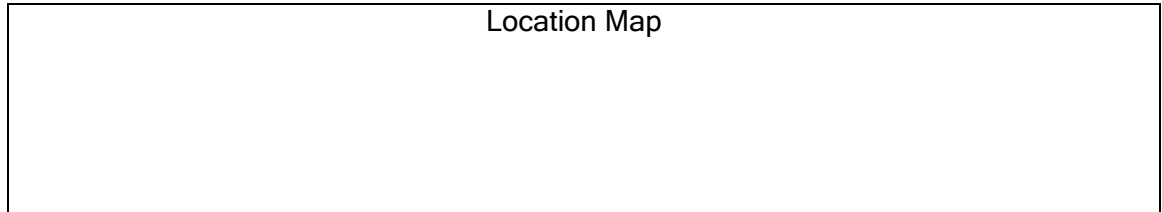
1.05 PUBLIC NOTIFICATION

- A. Door Hangers: The Contractor shall generate and distribute door hangers to all residents who will be impacted by project construction.
 - 1. Residents impacted include anyone who resides inside, or within 500 feet of project limits of construction.
- B. Door Hangers shall be distributed prior to start of construction of the project. Hangers shall be affixed to doors of residents via elastic bands or tape.

EXAMPLE:

PLEASE PARDON THE INCONVENIENCE WHILE THE ROADWAY IS BEING
RECONSTRUCTED IN YOUR NEIGHBORHOOD

This project consists of utility improvements and the reconstruction of ??? Boulevard
from U.S. ??? to ??? Street West. The project is expected to begin in August, 200X and
be completed in July 200X.



WE HOPE TO KEEP ANY INCONVENIENCE TO A MINIMUM. HOWEVER, IF YOU
HAVE ANY PROBLEMS, PLEASE CONTACT THE FOLLOWING:

- | | | |
|----|-------------------------------|---------------------|
| A. | Contractor | Project Manager |
| | Contractor Address | PM Address |
| | Contractor Phone (Site Phone) | PM Phone No. & Ext. |
| B. | Project Inspector | |
| | Inspector Phone Number | |

AFTER HOURS EMERGENCY NUMBER - (941) 747-HELP
THANK YOU FOR YOUR UNDERSTANDING AND PATIENCE
MANATEE COUNTY GOVERNMENT - PROJECT MANAGEMENT DEPT.

PART 2 PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and Framing: May be new or used, wood or metal, in sound condition structurally adequate to work and suitable for specified finish.
- B. Sign Surfaces: Exterior softwood plywood with medium density overlay, standard large sizes to minimize joints.
 - 1. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles.
- C. Rough Hardware: Galvanized.
- D. Paint: Exterior quality, as specified in the Contract Documents.

PART 3 EXECUTION

3.01 PROJECT IDENTIFICATION SIGN

- A. Paint exposed surface or supports, framing and surface material; one coat of primer and one coat of exterior paint.

- B. Paint graphics in styles, size and colors selected.

3.02 MAINTENANCE

The Contractor shall maintain signs and supports in a neat, clean condition; repair damages to structures, framing or sign.

3.03 REMOVAL

The Contractor shall remove signs, framing, supports and foundations at completion of project.

END OF SECTION

SECTION 01600 MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the work:
1. Conform to applicable specifications and standards.
 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the County.
 3. Manufactured and Fabricated Products:
 - a. Design, fabricate and assemble in accordance with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - c. Two or more items of the same kind shall be identical and manufactured by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 4. Do not use material or equipment for any purpose other than that for which it is specified.
 5. All material and equipment incorporated into the project shall be new.

1.02 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to County. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with County prior to proceeding. Do not proceed with work without clear instructions.

1.03 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site.
1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals and that products are properly protected and undamaged.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.04 SUBSTITUTIONS AND PRODUCT OPTIONS

Contractor's Options:

1. For products specified only by reference standard, select any product meeting that standard.
2. For products specified by naming one or more products or manufacturers and "or equal", Contractor must submit a request for substitutions of any product or manufacturer not specifically named in a timely manner so as not to adversely affect the construction schedule.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01620 STORAGE AND PROTECTION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Provide secure storage and protection for products to be incorporated into the work and maintenance and protection for products after installation and until completion of Work.

1.02 STORAGE

- A. Store products immediately on delivery and protect until installed in the Work, in accord with manufacturer's instructions, with seals and labels intact and legible.
- B. Exterior Storage
 - 1. Provide substantial platform, blocking or skids to support fabricated products above ground to prevent soiling or staining.
 - a. Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
 - b. Prevent mixing of refuse or chemically injurious materials or liquids.

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 not acceptable under requirements of these Contract Documents.
- B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.
 - 1. Equipment shall not be shipped until approved by the County. The intent of this requirement is to reduce on-site storage time prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the County.
 - 2. All equipment having moving parts such as gears, electric motors, etc. and/or instruments shall be stored in a temperature and humidity controlled building approved by the County until such time as the equipment is to be installed.
 - 3. All equipment shall be stored fully lubricated with oil, grease, etc. unless otherwise instructed by the manufacturer.
 - 4. Moving parts shall be rotated a minimum of once weekly to insure proper lubrication and to avoid metal-to-metal "welding". Upon installation of the equipment, the Contractor shall start the equipment, at least half load, once weekly for an adequate period of time to insure that the equipment does not deteriorate from lack of use.
 - 5. Lubricants shall be changed upon completion of installation and as frequently as

- required, thereafter during the period between installation and acceptance.
6. Prior to acceptance of the equipment, the Contractor shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guaranty the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.

1.04 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Provide coverings to protect finished surfaces from damage.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01700 CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the work.

1.02 SUBSTANTIAL COMPLETION

- A. The Contractor shall submit the following items when the Contractor considers the work to be substantially complete:
 - 1. A written notice that the work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the County shall make an inspection to determine the status of completion.
- C. Project record documents and operations and maintenance manuals must be submitted before the project shall be considered substantially complete.
- D. If the County determines that the work is not substantially complete:
 - 1. The County shall notify the Contractor in writing, stating the reasons.
 - 2. The Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the County.
 - 3. The County shall reinspect the work.
- E. When the County finds that the work is substantially complete:
 - 1. The Engineer shall prepare and deliver to the County a tentative Certificate of Substantial Completion (Manatee County Project Management Form PMD-8) with a tentative list of the items to be completed or corrected before final payment.
 - 2. The Engineer shall consider any objections made by the County as provided in Conditions of the Contract. When the Engineer considers the work substantially complete, he will execute and deliver to the County a definite Certificate of Substantial Completion (Manatee County Project Management Form PMD-8) with a revised tentative list of items to be completed or corrected.

1.03 FINAL INSPECTION

- A. When the Contractor considered the work to be complete, he shall submit written certification stating that:
 - 1. The Contract Documents have been reviewed.
 - 2. The work has been inspected for compliance with Contract Documents.
 - 3. The work has been completed in accordance with Contract Documents.
 - 4. The equipment and systems have been tested in the presence of the County's representative and are operational.
 - 5. The work is completed and ready for final inspection.
- B. The County shall make an inspection to verify the status of completion after receipt of

such certification.

- C. If the County determines that the work is incomplete or defective:
 - 1. The County shall promptly notify the Contractor in writing, listing the incomplete or defective work.
 - 2. The Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to County that the work is complete.
 - 3. The County shall reinspect the work.
- D. Upon finding the work to be acceptable under the Contract Documents, the County shall request the Contractor to make closeout submittals.
- E. For each additional inspection beyond a total of three (3) inspections for substantial and final completion due to the incompleteness of the work, the Contractor shall reimburse the County's fees.

1.04 CONTRACTOR'S CLOSEOUT SUBMITTALS TO COUNTY

- A. Project Record Documents (prior to substantial completion).
- B. Operation and maintenance manuals (prior to substantial completion).
- C. Warranties.
- D. Evidence of Payment and Release of Liens: In accordance with requirements of General and Supplementary Conditions.
- E. Certification letter from Florida Department of Transportation and Manatee County Department of Transportation, as applicable.
- F. Certificate of Insurance for Products and Completed Operations.
- G. Final Reconciliation, Warranty Period Declaration, and Contractor's Affidavit (Manatee County Project Management Form PMD-9).

1.05 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the County.
- B. Statement shall reflect all adjustments to the Contract Sum:
 - 1. The original Contract Sum.
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders
 - b. Unit Prices
 - c. Penalties and Bonuses
 - d. Deductions for Liquidated Damages
 - e. Other Adjustments
 - 3. Total Contract Sum, as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- C. Project Management shall prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.06 FINAL APPLICATION FOR PAYMENT

Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01710 CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Execute cleaning during progress of the work and at completion of the work, as required by the General Conditions.

1.02 DISPOSAL REQUIREMENTS

Conduct cleaning and disposal operations to comply with all Federal, State and Local codes, ordinances, regulations and anti-pollution laws.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the work, the site and adjacent properties free from accumulation of waste materials, rubbish and wind-blown debris, resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 DUST CONTROL

- A. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

3.03 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- C. Prior to final completion or County occupancy, Contractor shall conduct an inspection of

sight-exposed interior and exterior surfaces and all work areas to verify that the entire work is clean.

END OF SECTION

SECTION 01720 PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor shall maintain at the site for the County one record copy of:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. County's field orders or written instructions.
6. Approved shop drawings, working drawings and samples.
7. Field test records.
8. Construction photographs.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's field office apart from documents used for construction.

1. Provide files and racks for storage of documents.
2. Provide locked cabinet or secure storage space for storage of samples.

B. File documents and samples in accordance with CSI format.

C. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by the County.

1.03 MARKING DEVICES

A. Provide felt tip marking pens for recording information in the color code designated by the County.

1.04 RECORDING

A. Label each document "PROJECT RECORD" in neat large printed letters.

B. Record information concurrently with construction progress.

C. Do not conceal any work until required information is recorded.

D. Drawings; Legibly mark to record actual construction:

1. All underground piping with elevations and dimensions. Changes to piping location. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Actual installed pipe material, class, etc. Locations of drainage ditches, swales, water lines and force mains shall be shown every 200 feet (measured along the centerline) or alternate lot lines, whichever is closer. Dimensions at these locations shall indicate distance from centerline of right-of-way to the facility.

2. Field changes of dimension and detail.
3. Changes made by Field Order or by Change Order.
4. Details not on original contract drawings.
5. Equipment and piping relocations.
6. Locations of all valves, fire hydrants, manholes, water and sewer services, water and force main fittings, underdrain cleanouts, catch basins, junction boxes and any other structures located in the right-of-way or easement, shall be located by elevation and by station and offset based on intersection P.I.'s and centerline of right-of-way. For facilities located on private roads, the dimensioning shall be from centerline of paving or another readily visible baseline.
7. Elevations shall be provided for all manhole rim and inverts; junction box rim and inverts; catch basin rim and inverts; and baffle, weir and invert elevations in control structures. Elevations shall also be provided at the PVI's and at every other lot line or 200 feet, whichever is less, of drainage swales and ditches. Bench marks and elevation datum shall be indicated.
8. Slopes for pipes and ditches shall be recalculated, based on actual field measured distances, elevations, pipe sizes, and type shown. Cross section of drainage ditches and swales shall be verified.
9. Centerline of roads shall be tied to right-of-way lines. Elevation of roadway centerline shall be given at PVI's and at all intersections.
10. Record drawings shall show bearings and distances for all right-of-way and easement lines, and property corners.
11. Sidewalks, fences and walls, if installed at the time of initial record drawing submittal, shall be located every 200 feet or alternate lot lines, whichever is closer. Dimensions shall include distance from the right-of-way line and the back of curb and lot line or easement line.
12. Sanitary sewer mainline wyes shall be located from the downstream manhole. These dimensions shall be provided by on-site inspections or televising of the sewer following installation.
13. Elevations shall be provided on the top of operating nuts for all water and force main valves.
14. Allowable tolerance shall be ± 6.0 inches for horizontal dimensions. Vertical dimensions such as the difference in elevations between manhole inverts shall have an allowable tolerance of $\pm 1/8$ inch per 50 feet (or part thereof) of horizontal distance up to a maximum tolerance of ± 2 inch.
15. Properly prepared record drawings on mylar, together with two copies, shall be certified by a design professional (Engineer and/or Surveyor registered in the State of Florida), employed by the Contractor, and submitted to the County.

E. Specifications and Addenda; Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
2. Changes made by field order or by change order.

F. Shop Drawings (after final review and approval):

1. Five sets of record drawings for each process equipment, piping, electrical system and instrumentation system.

1.05 SUBMITTAL

- A. Prior to substantial completion and prior to starting the bacteria testing of water lines, deliver signed and sealed Record Documents and Record Drawings to the County. These will be reviewed and verified by the inspector. If there are any required changes or

additions, these shall be completed and the entire signed and sealed set resubmitted prior to final pay application.

- B. The Contractor shall employ a Professional Engineer or Surveyor registered in the State of Florida to verify survey data and properly prepare record drawings. Record drawings shall be certified by the professional(s) (Engineer or Surveyor licensed in Florida), as stipulated by the Land Development Ordinance and submitted on signed and sealed paper drawings, signed and dated mylar drawings together with an AutoCAD version on a recordable compact disk (CD).
- C. The CD shall contain media in AutoCad Version 2004 or later, or in any other CAD program compatible with AutoCad in DWG or DXF form. All fonts, line types, shape files or other pertinent information used in the drawing and not normally included in AutoCad shall be included on the media with a text file or attached noted as to its relevance and use.
- D. Accompany submittal with transmittal letter, containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each Record Document.
 - 5. Signature of Contractor or his authorized representative.

Note: The data required to properly prepare these record drawings shall be obtained at the site, at no cost to the County by the responsible design professional or his/her duly appointed representative. The appointed representative shall be a qualified employee of the responsible design professional or a qualified inspector retained by the responsible design professional on a project-by-project basis.

PART 2 STANDARDS

2.01 MINIMUM RECORD DRAWING STANDARDS FOR ALL RECORD DRAWINGS SUBMITTED TO MANATEE COUNTY

- A. Record drawings shall be submitted to at least the level of detail in the contract documents. It is anticipated that the original contract documents shall serve as at least a background for all record information. Original drawings in CAD format may be requested of the County.
- B. Drawings shall meet the criteria of paragraph 1.04 D above.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01730 OPERATING AND MAINTENANCE DATA

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile product data and related information appropriate for County's maintenance and operation of products furnished under Contract.

Prepare operating and maintenance data as specified in this and as referenced in other pertinent sections of Specifications.

- B. Instruct County's personnel in maintenance of products and equipment and systems.
- C. Provide three (3) sets of operating and maintenance manuals for each piece of equipment provided within this Contract.

1.02 FORM OF SUBMITTALS

- A. Prepare data in form of an instructional manual for use by County's personnel.

- B. Format:

1. Size: 8-1/2 inch x 11 inch
2. Paper: 20 pound minimum, white, for typed pages
3. Text: Manufacturer's printed data or neatly typewritten
4. Drawings:
 - a. Provide reinforced punched binder tab, bind in with text.
 - b. Fold larger drawings to size of text pages.
5. Provide fly-leaf for each separate product or each piece of operating equipment.
 - a. Provide typed description of product and major component parts of equipment.
 - b. Provide indexed tabs.
6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
 - a. Title of Project.
 - b. Identity of separate structures as applicable.
 - c. Identity of general subject matter covered in the manual.

- C. Binders:

1. Commercial quality three-ring binders with durable and cleanable plastic covers.
2. Maximum ring size: 1 inch.
3. When multiple binders are used, correlate the data into related consistent groupings.

1.03 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit three copies of complete manual in final form.

- B. Content for each unit of equipment and system, as appropriate:

1. Description of unit and component parts.
 - a. Function, normal operating characteristics and limiting conditions.
 - b. Performance curves, engineering data and tests.

- c. Complete nomenclature and commercial number of replaceable parts.
- 2. Operating Procedures:
 - a. Start-up, break-in, routine and normal operating instructions.
 - b. Regulation, control, stopping, shut-down and emergency instructions.
 - c. Summer and winter operating instructions.
 - d. Special operating instructions.
- 3. Maintenance Procedures:
 - a. Routine operations.
 - b. Guide to "trouble-shooting".
 - c. Disassembly, repair and reassembly.
 - d. Alignment, adjusting and checking.
- 4. Servicing and lubricating schedule.
 - a. List of lubricants required.
- 5. Manufacturer's printed operating and maintenance instructions.
- 6. Description of sequence of operation by control manufacturer.
- 7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
 - a. List of predicted parts subject to wear.
 - b. Items recommended to be stocked as spare parts.
- 8. As installed control diagrams by controls manufacturer.
- 9. Each contractor's coordination drawings.
 - a. As installed color coded piping diagrams.
- 10. Charts of valve tag numbers, with location and function of each valve.
- 11. List of original manufacturer's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.
- 12. Other data as required under pertinent sections of specifications.

C. Content, for each electric and electronic system, as appropriate:

- 1. Description of system and component parts.
 - a. Function, normal operating characteristics and limiting conditions.
 - b. Performance curves, engineering data and tests.
 - c. Complete nomenclature and commercial number of replaceable parts.
- 2. Circuit directories of panelboards.
 - a. Electrical service.
 - b. Controls.
 - c. Communications.
- 3. As-installed color coded wiring diagrams.
- 4. Operating procedures:
 - a. Routine and normal operating instructions.
 - b. Sequences required.
 - c. Special operating instructions.
- 5. Maintenance procedures:
 - a. Routine operations.
 - b. Guide to "trouble-shooting".
 - c. Disassembly, repair and reassembly.
 - d. Adjustment and checking.
- 6. Manufacturer's printed operating and maintenance instructions.
- 7. List of original manufacture's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.
- 8. Prepare and include additional data when the need for such data becomes apparent during instruction of County's personnel.

D. Prepare and include additional data when the need for such data becomes apparent during instruction on County's personnel.

- E. Additional requirements for operating and maintenance data: Respective sections of Specifications.

1.04 SUBMITTAL SCHEDULE

- A. Submit one copy of completed data in final form fifteen days prior to substantial completion.
 - 1. Copy will be returned after substantial completion, with comments (if any).
- B. Submit two copies of approved data in final form. Final acceptance will not be provided until the completed manual is received and approved.

1.05 INSTRUCTION OF COUNTY'S PERSONNEL

- A. Prior to final inspection or acceptance, fully instruct County's designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment and systems.
- B. Operating and maintenance manual shall constitute the basis of instruction.
 - 1. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01740 WARRANTIES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified warranties.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to County for review and transmittal.

1.02 SUBMITTAL REQUIREMENTS

- A. Assemble warranties and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Number of original signed copies required: Two each.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item.
 - 2. Firm, with name of principal, address and telephone number.
 - 3. Scope.
 - 4. Date of beginning of warranty or service and maintenance contract.
 - 5. Duration of warranty or service maintenance contract.
 - 6. Provide information for County's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty.
 - 7. Contractor, name of responsible principal, address and telephone number.

1.03 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8-1/2 inch x 11 inch punched sheets for standard 3-ring binder. Fold larger sheets to fit into binders.
 - 2. Cover: Identify each packet with typed or printed title "WARRANTIES". List:
 - a. Title of Project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 TIME OF SUBMITTALS

- A. Make submittals within ten days after date of substantial completion and prior to final request for payment.

- B. For items of work, where acceptance is delayed materially beyond date of substantial completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.05 SUBMITTALS REQUIRED

- A. Submit warranties and service and maintenance contracts as specified in respective sections of Specifications.
- B. Approval by the County of all documents required under this section is a pre-requisite to requesting a final inspection and final payment

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

DIVISION 2

SITE WORK

SECTION 02064 MODIFICATIONS TO EXISTING STRUCTURES, PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SCOPE OF WORK

Furnish all labor, materials, equipment and incidentals required to modify, alter and/or convert existing structures as shown or specified and as required for the installation of piping, mechanical equipment and appurtenances. Existing piping and equipment shall be removed and dismantled as necessary for the performance of facility alterations in accordance with the requirements herein specified.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall cut, repair, reuse, excavate, demolish or otherwise remove parts of the existing structures or appurtenances, as indicated on the Contract Drawings, herein specified, or necessary to permit completion of the work under this Contract. The Contractor shall dispose of surplus materials resulting from the above work in an approved manner. The work shall include all necessary cutting and bending of reinforcing steel, structural steel, or miscellaneous metal work found embedded in the existing structures.
- B. The Contractor shall dismantle and remove all existing equipment, piping, and other appurtenances required for the completion of the work. Where called for or required, the contractor shall cut existing pipelines for the purpose of making connections thereto. Anchor bolts for equipment and structural steel removed shall be cut off one inch below the concrete surface. Surface shall be finished as specified in the Contract Documents.
- C. At the time that a new connection is made to an existing pipeline, additional new piping, extending to and including a new valve, shall be installed. Pipe anchorage, if required, is part of the installation shall also be installed as directed by the County.
- D. No existing structure, equipment, or appurtenance shall be shifted, cut, removed, or otherwise altered except with the express approval of and to the extent approved by the County.
- E. When removing materials or portions of existing utility pipelines and/or structures or when making openings in walls and partitions, the Contractor shall take all precautions and use all necessary barriers and other protective devices so as not to damage the structures beyond the limits necessary for the new work, and not to damage the structures or contents by falling or flying debris. Unless otherwise permitted, line drilling will be required in cutting existing concrete.
- F. Materials and equipment removed in the course of making alterations and additions shall remain the property of the County, except that items not salvageable, as determined by the County, shall become the property of the Contractor to be disposed of by him off the work site at his own place of disposal. Operating equipment shall be thoroughly cleaned, lubricated, and greased for protection during prolonged storage.

- G. All alterations to existing utility pipes and structures shall be done at such time and in such manner as to comply with the approved time schedule. So far as possible before any part of the work is started, all tools, equipment, and materials shall be assembled and made ready so that the work can be completed without delay.
- H. All workmanship and new materials involved in constructing the alterations shall conform to the General Specifications for the classes of work insofar as such specifications are applicable.
- I. All cutting of existing concrete or other material to provide suitable bonding to new work shall be done in a manner to meet the requirements of the respective section of these Specifications covering the new work. When not covered, the work shall be carried on in the manner and to the extent directed by the Resident Project Representative.
- J. Surfaces of seals visible in the completed work shall be made to match as nearly as possible the adjacent surfaces.
- K. Non-shrink grout shall be used for setting wall castings, sleeves, leveling pump bases, doweling anchors into existing concrete and elsewhere as shown.
- L. Where necessary or required for the purpose of making connections, the Contractor shall cut existing pipelines in a manner to provide an approved joint. Where required, he shall use flanges, or provide Dresser Couplings, all as required.
- M. The Contractor shall provide flumes, hoses, piping and other related items to divert or provide suitable plugs, bulkheads, or other means to hold back the flow of water or other liquids, all as required in the performance of the work under this Contract.
- N. Care shall be taken not to damage any part of existing buildings or foundations or outside structures.

3.02 CONNECTING TO EXISTING PIPING AND EQUIPMENT

The Contractor shall verify exact location, material, alignment, joint, etc. of existing piping and equipment prior to making the connections called out in the Drawings. The verifications shall be performed with adequate time to correct any potential alignment or other problems prior to the actual time of connection. A Manatee County representative must be present for all tie-ins for a visual inspection.

3.03 REMOVAL AND ABANDONMENT OF ASBESTOS CEMENT PIPE AND APPURTENANCES

- A. All work associated with the removal or abandonment of existing asbestos cement pipe and appurtenances shall be performed by a licensed asbestos abatement contractor or subcontractor registered in the State of Florida. After removal of the facilities, all trenches shall be backfilled in accordance with the Contract Documents. The cost of disposing of the removed materials shall be borne by the Contractor.
- B. The asbestos abatement contractor or subcontractor shall contact the appropriate regulatory agencies prior to removal or abandonment of any asbestos material and shall obtain all required permits and licenses and issue all required notices. The Contractor shall be responsible for all fees associated with permits, licenses and notices to the governing regulatory agencies. An asbestos manifest form must accompany each and every shipment of such pipe or pipe material waste to the Manatee County Lena Road Landfill. Prior to each shipment, a minimum of 24 hours notice to the Landfill field office

(Phone #748-5543) is required.

- C. All work associated with removal or abandonment of asbestos cement pipe and appurtenances shall be performed in accordance with the standards listed below and all other applicable local, State, or Federal standards.
 - 1. Florida Administrative Code, Chapter 62-257, "Asbestos Program".
 - 2. National Emission Standards Hazardous Air Pollution (NESHAP), 40 CFR, Part 61, Subpart M, latest revision.
 - 3. Occupational Safety and Health Act, 29 CFR, 1910.1001 - Asbestos.
 - 4. Title 40 CFR, Part 763, Asbestos.
 - 5. Florida Statute Title XXXII, Chapter 469, Asbestos Abatement.

3.04 IN-PLACE GROUTING OF EXISTING PIPE

- A. Where water and wastewater utility pipes are to be abandoned in place, they shall be filled with a sand/cement grout as specified herein. When such pipes are constructed with asbestos cement materials, the abandonment activities shall be performed by a licensed asbestos abatement contractor as specified in these Specifications.
- B. Grout shall be injected within the pipe sections indicated on the Drawings. The ends of these sections shall be capped and/or plugged. The grouting program shall consist of pumping sand-cement grout with suitable chemical additives at pressures necessary to fill the pipe sections shown on the Drawings to prevent the potential for future collapse.
- C. The pump used for grouting should be a continuous flow, positive displacement model with a pugmill type mixing vat having a minimum shaft speed of 60 rpm and incorporated as an integral part of the equipment. Alternate equipment may be used subject to the approval of the County. The rate of pumping shall not exceed six (6) cubic feet per minute. The pumping pressures shall be in the range of 100 to 150 psi.
- D. The Contractor shall provide standpipes and/or additional means of visual inspection as required by the County to determine if adequate grout material has filled the entire pipe section(s). The Contractor shall make necessary provisions for the County's representative to monitor all grouting operations.
- E. All pipe to be abandoned shall be capped or plugged with a fitting or material that will prevent soil or other material from entering the pipe. All caps and plugs shall be subject to approval by the County.

END OF SECTION

SECTION 02100 SITE PREPARATION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section covers clearing, grubbing and stripping of the project site and/or along the pipeline route.
- B. The Contractor shall clear and grub all of the area within the limits of construction or as required, which includes, but is not limited to utility easements. The width of the area to be cleared shall be reviewed by the County prior to the beginning of any clearing.
- C. The Contractor's attention is directed to any Soil Erosion and Sediment Control Ordinances in force in Manatee County. The Contractor shall comply with all applicable sections of these ordinances.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CLEARING

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, trees shall be preserved as hereinafter specified unless otherwise designated by the County. Clearing operations shall be conducted so as to prevent damage to existing structures and installations and to those under construction, so as to provide for the safety of employees and others. Soil erosion control devices such as hay bales and silt fences shall be installed to satisfy all Federal, State and County requirements.

3.02 GRUBBING

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

In areas so designated, topsoil shall be stockpiled. Topsoil so stockpiled shall be protected until it is placed as specified. The County shall have the option to receive all excess topsoil materials. The Contractor shall pay all equipment and labor cost to deliver excess top soil material to a remote site chosen by the County within a five mile radius of the construction site. Should County not choose to receive any or all excess topsoil materials, the Contractor shall dispose of said material at no additional cost to County.

3.04 DISPOSAL OF CLEARED AND GRUBBED MATERIAL

The Contractor shall dispose of all material and debris from the clearing and grubbing operation by hauling such material and debris off site. 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 prices bid for the various classes of work.

3.05 PRESERVATION OF TREES

Those trees which are not designated for removal by the County shall be carefully protected from damage. The Contractor shall erect such barricades, guards and enclosures as may be considered necessary by him for the protection of the trees during all construction operation.

3.06 PRESERVATION OF DEVELOPED PRIVATE PROPERTY

- A. The Contractor shall exercise extreme care to avoid unnecessary disturbance of developed private property adjacent to proposed project site. Trees, shrubbery, gardens, lawns and other landscaping, which are not designated by the County to be removed, shall be replaced and replanted to restore the construction easement to the condition existing prior to construction.
- B. All soil preservation procedures and replanting operations shall be under the supervision of a nursery representative experienced in such operations.
- C. Improvements to the land such as fences, walls, outbuildings and other structures which of necessity must be removed, shall be replaced with equal quality materials and workmanship.
- D. The Contractor shall clean up the construction site across developed private property directly after construction is completed upon approval of the County.

3.07 PRESERVATION OF PUBLIC PROPERTY

The appropriate paragraphs of these Specifications shall apply to the preservation and restoration of public lands, parks, rights-of-way, easements and all other damaged areas. This includes, but is not limited to the trimming of trees damaged by contractor's equipment.

END OF SECTION

SECTION 02221 TRENCHING, BEDDING AND BACKFILL FOR PIPE

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment and incidentals necessary to perform all excavation, backfill, fill, grading, trench protection or other related work required to complete the piping work shown on the Drawings and specified herein. The work shall include, but not be limited to: vaults; duct conduit; pipe; roadways and paving; backfilling; required fill or borrow operations; grading; disposal of surplus and unsuitable materials; and all related work such as sheeting, bracing and dewatering.
- B. Prior to commencing work, the Contractor shall examine the site and review test borings if available, or undertake his own subsurface investigations and take into consideration all conditions that may affect his work.
- C. The Contractor is responsible for the protection of every tree which is scheduled to remain in the project area. This includes trees which may or may not be shown on the plans. Every tree shall be adequately protected in place at no additional cost to the County. This includes, but is not limited to protecting the root systems and adjusting grades as necessary for tree/root protection.

1.02 PROTECTION

- A. Sheeting and Bracing in Excavations:
 - 1. In connection with construction of underground structures, the Contractor shall properly construct and maintain cofferdams. These shall consist of: sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction and to protect adjacent structures, existing yard pipe and/or foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed.
 - 2. Trench sheeting for pipes: no sheeting is to be withdrawn if driven below, mid-diameter of any pipe and no wood sheeting shall be cut off at a level lower than one foot above the top of any pipe unless otherwise directed by the County. During the progress of the work, the County may direct the Contractor in writing to leave additional wood sheeting in place. If steel sheeting is used for trench sheeting, removal shall be as specified above, unless written approval is given for an alternate method of removal.
 - 3. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, utilities, existing piping, or property. Unless otherwise approved or indicated on the Drawings or in the Specification, all sheeting and bracing shall be removed after completion of the piping or structure, care being taken not to disturb or otherwise injure the pipeline or finished masonry. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools specifically made for that purpose, by watering, or as may otherwise be directed.
 - 4. The Contractor shall construct, to the extent he deems it desirable for his method of operation, the cofferdams and sheeting outside the neat lines of the pipeline trench or foundation unless otherwise indicated on the Drawings or directed by the County. Sheeting shall be plumb and securely braced and tied in position. Sheeting, bracing and cofferdams shall be adequate to withstand all pressures to

which the pipeline or structure will be subjected. Pumping, bracing and other work within the cofferdam shall be done in a manner to avoid disturbing any construction of the pipeline or the enclosed masonry. Any movement or bulging which may occur shall be corrected by the Contractor at his own expense so as to provide the necessary clearances and dimensions.

5. Drawings of the cofferdams and design computations shall be submitted to the County and approved prior to any construction. However, approval of these drawings shall not relieve the Contractor of the responsibility for the cofferdams. The drawings and computations shall be prepared and stamped by a Registered Professional Engineer in the State of Florida and shall be in sufficient detail to disclose the method of operation for each of the various stages of construction, if required, for the completion of the pipeline and substructures.

B. Dewatering, Drainage and Flotation

1. The Contractor shall construct and place all pipelines, concrete work, structural fill, bedding rock and limerock base course, in-the-dry. In addition, the Contractor shall make the final 24" of excavation for this work in-the-dry and not until the water level is a minimum of 6" below proposed bottom of excavation.
2. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavation and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fill, structure, or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
3. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
4. Wellpoints may be required for dewatering the soil prior to final excavation for deeper in-ground structures or piping and for maintaining the lowered groundwater level until construction has been completed to avoid the structure, pipeline, or fill from becoming floated or otherwise damaged. Wellpoints shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from wellpoints shall be continuous and standby pumps shall be provided.
5. The Contractor shall furnish all materials and equipment to perform all work required to install and maintain the proposed drainage systems for handling groundwater and surface water encountered during construction of structures, pipelines and compacted fills.
6. Where required, the Contractor shall provide a minimum of two operating groundwater observation wells at each structure to determine the water level during construction of the pipeline or structure. Locations of the observation wells shall be at structures and along pipelines as approved by the County prior to their installation. The observation wells shall be extended to 6 inches above finished grade, capped with screw-on caps protected by 24" x 24" wide concrete base and left in place at the completion of this Project.
7. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the County for approval. Such approval shall not relieve the Contractor of the responsibility for the satisfactory performance of the system. The Contractor shall be responsible for correcting any disturbance of natural bearing soils for damage to pipeline or structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.
8. As part of his request for approval of a dewatering system, the Contractor shall demonstrate the adequacy of the proposed system and wellpoint filter sand by means of a test installation. Discharge water shall be clear, with no visible soil

particles in a one quart sample. Discharge water shall not flow directly into wetlands or Waters of the State as defined by FDEP and SWFWMD.

9. During backfilling and construction, water levels shall be measured in observation wells located as directed by the County.
10. Continuous pumping will be required as long as water levels are required to be below natural levels.

PART 2 PRODUCTS

2.01 MATERIALS

A. General

1. Materials for use as fill and backfill shall be described below. For each material, the Contractor shall notify the County of the source of the material and shall furnish the County, for approval, a representative sample weighing approximately 50 pounds, at least ten calendar days prior to the date of anticipated use of such material.
2. Additional materials shall be furnished as required from off-site sources and hauled to the site.

B. Structural Fill

1. Structural fill in trenches shall be used below spread footing foundations, slab-on-grade floors and other structures as backfill within three feet of the below grade portions of structures.
2. Structural fill material shall be a minimum of 60 percent clean sand, free of organic, deleterious and/or compressible material. Minimum acceptable density shall be 98 percent of the maximum density as determined by AASHTO T-180. Rock in excess of 2-1/2" in diameter shall not be used in the fill material. If the moisture content is improper for attaining the specified density, either water shall be added or material shall be permitted to dry until the proper moisture content for compaction is reached.

C. Common Fill

1. Common fill material shall be free from organic matter, muck or marl and rock exceeding 2-1/2" in diameter. Common fill shall not contain broken concrete, masonry, rubble or other similar materials. Existing soil may be used to adjust grades over the site with the exception of the construction area.
2. Material falling within the above specification, encountered during the excavation, may be stored in segregated stockpiles for reuse. All material which, in the opinion of the County, is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials by the Contractor.

D. Crushed Stone

1. Crushed stone may be used for pipe bedding, manhole bases, as a drainage layer below structures with underdrains and at other locations indicated on the Drawings.
2. Crushed stone shall be size No. 57 with gradation as noted in Table 1 of Section 901 of Florida Department of Transportation, Construction of Roads and Bridges.

PART 3 EXECUTION

3.01 TRENCH EXCAVATION AND BACKFILLING

- A. Excavation for all trenches required for the installation of pipes and electrical ducts shall be made to the depths indicated on the Drawings and in such manner and to such widths as will give suitable room for laying the pipe or installing the ducts within the trenches.
- B. Rock shall be removed to a minimum 6" clearance around the bottom and sides of all the pipe or ducts being laid.
- C. Where pipes or ducts are to be laid in limerock bedding or encased in concrete, the trench may be excavated by machinery to or just below the designated subgrade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.
- D. Where the pipes or ducts are to be laid directly on the trench bottom, the lower part of the trenches shall not be excavated to grade by machinery. The last of the material being excavated manually, shall be done in such a manner that will give a flat bottom true to grade so that pipe or duct can be evenly supported on undisturbed material. Bell holes shall be made as required.
- E. Backfilling over pipes shall begin as soon as practicable after the pipe has been laid, jointed and inspected and the trench filled with suitable compacted material to the mid-diameter of the pipe.
- F. Backfilling over ducts shall begin not less than three days after placing concrete encasement.
- G. All backfilling shall be prosecuted expeditiously and as detailed on the Drawings.
- H. Any space remaining between the pipe and sides of the trench shall be packed full by hand shovel with selected earth, free from stones having a diameter greater than 2" and thoroughly compacted with a tamper as fast as placed, up to a level of one foot above the top of the pipe.
- I. The filling shall be carried up evenly on both sides with at least one man tamping for each man shoveling material into the trench.
- J. The remainder of the trench above the compacted backfill, as just described above, shall be filled and thoroughly compacted by rolling, ramming, or puddling, as the County may direct, sufficiently to prevent subsequent settling.

END OF SECTION

**SECTION 02223 EXCAVATION BELOW GRADE AND CRUSHED STONE OR SHELL
REFILL**

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. If in the opinion of the County, the material at or below the normal grade of the bottom of the trench is unsuitable for pipe or structure foundation, it shall be removed to the depth directed by the County and replaced by crushed stone or washed shell.

PART 2 PRODUCTS (NOT USED)

PART 3 MATERIALS

3.01 EXCAVATION AND DRAINAGE

- A. Whatever the nature of unstable material encountered or the groundwater conditions, trench stabilization shall be complete and effective.
- B. Should the Contractor excavate below the grade shown on the Contract drawings because of negligence or for his own convenience; due to failure in properly dewatering the trench; disturbs the subgrade before dewatering is sufficiently complete; he shall be directed by the County to excavate below grade. The work of excavating below grade and furnishing and placing the approved refill material shall be performed at the Contractor's expense.

3.02 REFILL

- A. Should the material at the level of trench bottom consist of fine sand, sand and silt or soft earth, the subgrade material shall be removed as directed by the County and the excavation shall be refilled with crushed stone or washed shell.

END OF SECTION

SECTION 02260 FINISH GRADING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall finish grade sub-soil.
- B. The Contractor shall cut out areas to receive stabilizing base course materials for paving and sidewalks.
- C. The Contractor shall place, finish grade and compact top soil.

1.02 PROTECTION

The Contractor shall prevent damage to existing fencing, trees, landscaping, natural features, bench marks, pavement and utility lines. Damage shall be corrected at no cost to the County.

PART 2 PRODUCTS

- A. Topsoil: Shall be friable loam free from subsoil, roots, grass, excessive amount of weeds or other organics, stones, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter. The Contractor may use topsoil stockpiles on site if they conform to these requirements.

PART 3 EXECUTION

3.01 SUB-SOIL PREPARATION

- A. The Contractor shall rough grade sub-soil systematically to allow for a maximum amount of natural settlement and compaction. Uneven areas and low spots shall be eliminated. Debris, roots, branches or other organics, stones, and sub-soil shall be removed by the Contractor and disposed of in a manner consistent with the latest Manatee County Standards as well as any affected regulatory agency. Should contaminated soil be found, the Contractor shall notify the County.
- B. The Contractor shall cut out areas to sub-grade elevation to stabilize base material for paving and sidewalks.
- C. The Contractor shall bring sub-soil to required profiles and contour grades gradually; and blend slopes into level areas.
- D. The Contractor shall slope the structure grade a minimum of two (2) inches in ten (10) feet unless indicated otherwise on the Drawings.
- E. The Contractor shall cultivate sub-grade to a depth of 3 inches where the topsoil is to be placed. He shall repeat cultivation in areas where equipment use has compacted sub-soil.
- F. The Contractor shall not make grade changes which causes water to flow onto adjacent lands.

3.02 PLACING TOPSOIL

- A. The Contractor shall place topsoil in areas where seeding, sodding and planting is to be

performed. He shall place from the following minimum depths, up to finished grade elevations:

1. 6 inches for seeded areas
2. 4-1/2 inches for sodded areas
3. 24 inches for shrub beds
4. 18 inches for flower beds

- B. The Contractor shall use topsoil in a dry state as determined by the County. He shall place the material during dry weather.
- C. The Contractor shall use fine grade topsoil eliminating rough and low areas to ensure positive drainage. He shall maintain levels, profiles and contours of the sub-grades.
- D. The Contractor shall remove stone, roots, grass, weeds, debris, and other organics or foreign material while spreading the material.
- E. The Contractor shall manually spread topsoil around trees, plants and structures to prevent damage which may be caused by grading equipment.
- F. The Contractor shall lightly compact and place the topsoil.

3.03 SURPLUS MATERIAL

- A. The Contractor shall remove surplus sub-soil and topsoil from site at his expense.
- B. The Contractor shall leave stockpile areas and entire job site clean and raked, ready for landscaping operations.

END OF SECTION

SECTION 02276 TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work specified in this Section consists of the design, provision, maintenance and removal of temporary erosion and sedimentation controls as necessary.
- B. Temporary erosion controls include, but are not limited to: grassing, mulching, netting, watering, and the reseeding of on-site surfaces and spoil and borrow area surfaces, interceptor ditches at ends of berms and other such work at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the County.
- C. Temporary sedimentation controls include, but are not limited to: silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which shall ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the County.
- D. The Contractor is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

1.02 REFERENCE DOCUMENTS

- A. Florida Building Code.
- B. FDEP/COE Dredge and Fill Regulations and/or Permit as applicable.
- C. SWFWMD Permit Regulations and/or Permit as applicable.
- D. Florida Stormwater, Erosion and Sedimentation Control Inspector's Manual.

PART 2 PRODUCTS

2.01 EROSION CONTROL

- A. Netting - fabricated of material acceptable to the County.
- B. Seed and sod.

2.02 SEDIMENTATION CONTROL

- A. Bales - clean, seed free cereal hay type.
- B. Netting - fabricated of material acceptable to the County.
- C. Filter stone - crushed stone conforming to Florida Dept of Transportation specifications.
- D. Concrete block - hollow, non-load-bearing type.
- E. Concrete - exterior grade not less than one inch thick.

PART 3 EXECUTION

3.01 EROSION CONTROL

A. Minimum procedures for grassing shall be:

1. Scarify slopes to a depth of not less than six inches and remove large clods, rock, stumps, roots larger than 1/2 inch in diameter and debris.
2. Sow seed within twenty-four (24) hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.
3. Apply mulch loosely and to a thickness of between 3/4-inch and 1-1/2 inches.
4. Apply netting over mulched areas on sloped surfaces.
5. Roll and water seeded areas in a manner which will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.

3.02 SEDIMENTATION CONTROL

A. The Contractor shall install and maintain silt dams, traps, barriers, and appurtenances as shown on the approved descriptions and working drawings. Deteriorated hay bales and dislodged filter stone shall be replaced by the Contractor at his expense.

3.03 PERFORMANCE

A. The Contractor, at his own expense, shall immediately take whatever steps are necessary to correct any deficiencies of the temporary erosion and sediment control measures employed if they fail to produce results or do not comply with the requirements of the State of Florida or any other federal, governmental or regulatory agency.

END OF SECTION

SECTION 02485 SEEDING AND SODDING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials and equipment necessary to satisfactorily return all construction areas to their original conditions or better.
- B. Work shall include furnishing and placing seed or sod, fertilizing, planting, watering and maintenance until acceptance by County.

1.02 RELATED WORK NOT INCLUDED

Excavation, filling and grading required to establish elevation shown on the Drawings are included under other sections of these Specifications.

1.03 QUALITY ASSURANCE

- A. It is the intent of this Specification that the Contractor is obliged to deliver a satisfactory stand of grass as specified. If necessary, the Contractor shall repeat any or all of the work, including grading, fertilizing, watering and seeding or sodding at no additional cost to the County until a satisfactory stand is obtained. For purposes of grassing, a satisfactory stand of grass is herein defined as a full lawn cover over areas to be sodded or seeded, with grass free of weeds, alive and growing, leaving no bare spots larger than 3/4 square yard within a radius of 8 feet.
- B. All previously grassed areas where pipelines are laid shall be sodded. All sodding and grassing shall be installed in accordance with these Specifications or as directed by the County.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Fertilizer: The fertilizer shall be of the slow-release type meeting the following minimum requirements: 12 percent nitrogen, 8 percent phosphorus, 8 percent potassium; 40 percent other available materials derived from organic sources. At least 50 percent of the phosphoric acid shall be from normal super phosphate or an equivalent source which will provide a minimum of two units of sulfur. The amount of sulfur shall be indicated on the quantitative analysis card attached to each bag or other container. Fertilizer shall be uniform in composition, dry and free flowing delivered to sites in original unopened containers bearing manufacturer's statement or guarantee.
- B. Seeding/Grassing: The Contractor shall grass all unpaved areas disturbed during construction which do not require sod. All grassing shall be completed in conformance with FDOT Specifications, Sections 570 and 981. The grassed areas shall be mulched and fertilized in accordance with FDOT Specifications, except that no additional payment will be made for mulching, fertilizing and/or watering.
- C. Sodding: Sod shall be provided as required on the construction drawings or at locations as directed by the County in accordance with Florida Department of Transportation, Specifications Section 575 and 981. The Contractor shall furnish bahia grass sod or

match existing sod. Placement and watering requirements shall be in accordance with FDOT Specifications Section 575, except that no additional payment will be made for placement and/or watering. This cost shall be included in the Contract price bid for sodding.

- D. Topsoil: Topsoil stockpiled during excavation may be used as necessary. If additional topsoil is required to replace topsoil removed during construction, it shall be obtained off site at no additional cost to the County. Topsoil shall be fertile, natural surface soil, capable of producing all trees, plants and grassing specified herein.
- E. Water: It is the Contractor's responsibility to supply all water to the site, as required during seeding and sodding operations and through the maintenance period and until the work is accepted. The Contractor shall make whatever arrangements that may be necessary to ensure an adequate supply of water to meet the needs for his work. He shall also furnish all necessary hose, equipment, attachments and accessories for the adequate irrigation of lawns and planted areas as may be required. Water shall be suitable for irrigation and free from ingredients harmful to plant life.

PART 3 EXECUTION

3.01 INSTALLATION

- A. When the trench backfill has stabilized sufficiently, the Contractor shall commence work on lawns and grassed areas, including fine grading as necessary and as directed by the County.
- B. Finish Grading: Areas to be seeded or sodded shall be finish graded, raked, and debris removed. Soft spots and uneven grades shall be eliminated. The County shall approve the finish grade of all areas to be seeded or sodded prior to seed or sod application.
- C. Protection: Seeded and sodded areas shall be protected against traffic or other use by placing warning signs or erecting barricades as necessary. Any areas damaged prior to acceptance by the County shall be repaired by the Contractor as directed by the County.

3.02 CLEANUP

Soil or similar materials spilled onto paved areas shall be removed promptly, keeping those areas as clean as possible at all times. Upon completion of seeding and sodding operations, all excess soil, stones and debris remaining shall be removed from the construction areas.

3.03 LANDSCAPE MAINTENANCE

- A. Any existing landscape items damaged or altered during construction by the Contractor shall be restored or replaced as directed by the County.
- B. Maintain landscape work for a period of 90 days immediately following complete installation of work or until County accepts project. Watering, weeding, cultivating, restoration of grade, mowing and trimming, protection from insects and diseases, fertilizing and similar operations as needed to ensure normal growth and good health for live plant material shall be included at no additional cost to the County.

3.04**REPAIRS TO LAWN AREAS DISTURBED BY CONTRACTOR'S OPERATORS**

Lawn areas planted under this Contract and all lawn areas damaged by the Contractor's operation shall be repaired at once by proper soil preparation, fertilizing and sodding, in accordance with these Specifications.

END OF SECTION

SECTION 02575 PAVEMENT REPAIR AND RESTORATION

PART 1 GENERAL

1.01 SCOPE OF WORK

The Contractor shall furnish all labor, materials, equipment, obtain County or State right-of-way permits and incidentals required and remove and replace pavements over trenches excavated for installation of water or sewer lines and appurtenances as shown on the Contract Drawings.

1.02 GENERAL

- A. The Contractor shall take before and after photographs.
- B. The Contractor shall repair in a manner satisfactory to the County or State, all damage done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipe lines, conduits, drains, catch basin, flagstones, or stabilized areas or driveways and including all obstructions not specifically named herein, which results from this Project.
- C. The Contractor shall keep the surface of the backfilled area of excavation in a safe traffic bearing condition and firm and level with the remaining pavement until the pavement is restored in the manner specified herein. All surface irregularities that are dangerous or obstructive to traffic are to be removed. The repair shall conform to applicable requirements of Manatee County Transportation Department requirements for pavement repair and as described herein, including all base, subbase and asphalt replacement.
- D. All materials and workmanship shall meet or exceed the County requirements and as called for in the Contract Documents and nothing herein shall be construed as to relieve the Contractor from this responsibility.
- E. All street, road and highway repair shall be made in accordance with the FDOT and County details indicated on the Drawings and in accordance with the applicable requirements and approval of affected County and State agencies.

PART 2 PRODUCTS

2.01 PAVEMENT SECTION

- A. Asphaltic concrete shall consist of asphalt cement, coarse aggregate, fine aggregate and mineral filler conforming to FDOT Type S-III Asphalt. Pavement replacement thickness shall match that removed but in no case shall be less than 1-1/2" compacted thickness. All asphalt concrete pavement shall be furnished, installed and tested in accordance with FDOT Specifications for Road and Bridge Construction.
- B. Asphalt or crushed concrete or approved equal base material shall be furnished and installed under all pavement sections restored under this Contract. Asphalt base shall have a minimum 6" compacted thickness, meet requirements for FDOT ABC III (Minimum Marshall Stability of 1000) and be furnished, installed and tested in accordance with the requirements of the FDOT Standards. Crushed concrete base shall be 10" minimum compacted thickness. Crushed concrete aggregate material shall have a minimum LBR of 140 compacted to 99% T-180 AASHTO density. Asphalt base and crushed concrete base are acceptable. Other bases shall be submitted for approval.

- C. Prime and tack will be required and applied in accordance with Section 300 - FDOT Specifications: Prime and Tack Coat for Base Courses.

PART 3 EXECUTION

3.01 CUTTING PAVEMENT

- A. The Contractor shall saw cut in straight lines and remove pavement as necessary to install the new pipelines and appurtenances and for making connections to existing pipelines.
- B. Prior to pavement removal, the Contractor shall mark the pavement for cuts nearly paralleling pipe lines and existing street lines. Asphalt pavement shall be cut along the markings with a rotary saw or other suitable tool. Concrete pavement shall be scored to a depth of approximately two (2) inches below the surface of the concrete along the marked cuts. Scoring shall be done by use of a rotary saw, after which the pavement may be broken below the scoring with a jackhammer or other suitable equipment.
- C. The Contractor shall not machine pull the pavement until it is completely broken and separated along the marked cuts.
- D. The pavement adjacent to pipe line trenches shall neither be disturbed or damaged. If the adjacent pavement is disturbed or damaged, irrespective of cause, the Contractor shall remove and replace the pavement. In addition, the base and sub-base shall be restored in accordance with these Specifications, Florida Dept. of Transportation Standard Specifications and as directed by the County.

3.02 PAVEMENT REPAIR AND REPLACEMENT

- A. The Contractor shall repair, to meet or exceed original surface material, all existing concrete or asphaltic pavement, driveways, or sidewalks cut or damaged by construction under this Contract. He shall match the original grade unless otherwise specified or shown on the Drawings. Materials and construction procedures for base course and pavement repair shall conform to those of the Florida Dept. of Transportation.
- B. The Contractor's repair shall include the preparation of the subbase and base, place and maintain the roadway surface, any special requirements whether specifically called for or implied and all work necessary for a satisfactory completion of this work. Stabilized roads and drives shall be finished to match the existing grade. Dirt roads and drives shall have the required depth of backfill material as shown on the Contract Drawings.
- C. The width of all asphaltic concrete repairs shall extend the full width and length of the excavation or to the limits of any damaged section. The edge of the pavement to be left in place shall be cut to a true edge with a saw or other approved method so as to provide a clean edge to abut the repair. The line of the repair shall be reasonably uniform with no unnecessary irregularities.

3.03 MISCELLANEOUS RESTORATION

Sidewalks or driveways cut or damaged by construction shall be restored in full sections or blocks to a minimum thickness of four inches. Concrete curb or curb and gutter shall be restored to the existing height and cross section in full sections or lengths between joints. RCP pipe shall be repaired or installed in accordance with manufacturer's specifications. Grassed yards, shoulders and parkways shall be restored to match the existing sections with grass sod of a type matching the existing grass.

3.04 SPECIAL REQUIREMENTS

The restoration of all surfaces, as described herein, disturbed by the installation of pipelines shall be completed as soon as is reasonable and practical. The complete and final restoration of both paved and shell stabilized roads within a reasonable time frame is of paramount importance. To this end, the Contractor shall, as part of his work schedule, complete the restoration of any area of road within five weeks after removing the original surface. Successful leak testing shall be performed prior to restoring any area of road. All restoration and replacement or repairs are the responsibility of the Contractor.

3.05 CLEANUP

After all repair and restoration or paving has been completed, all excess asphalt, dirt and other debris shall be removed from the roadways. All existing storm sewers and inlets shall be checked and cleaned of any construction debris.

3.06 MAINTENANCE OR REPAIR

All wearing surfaces shall be maintained by the Contractor in good order suitable for traffic prior to completion and acceptance of the work.

END OF SECTION

SECTION 02615 DUCTILE IRON PIPE AND FITTINGS**PART 1 GENERAL****1.01 SCOPE OF WORK**

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to install ductile iron pipe and restrained joint ductile iron pipe and cast iron or ductile iron restrained joint fittings, complete, as shown on the Drawings and specified in these Standards.
- B. Fittings are noted on the drawings for the Contractor's convenience and do not relieve him from laying and jointing different or additional items where required.
- C. The Contractor shall furnish all labor, materials, equipment and incidentals required to install push-on joint or restrained joint ductile iron pipe, complete as shown on the Drawings and Specifications.
- D. Newly installed pipe shall be kept clean and free of all foreign matter. All DI pipe installed underground shall be poly wrapped unless noted otherwise on the plans.

1.02 SUBMITTALS

- A. The Contractor shall submit to the County, within ten days after receipt of Notice to Proceed, a list of materials to be furnished, the names of the suppliers and the appropriate shop drawings for all ductile iron pipe and fittings.
- B. The Contractor shall submit the pipe manufacturer's certification of compliance with the applicable sections of the Specifications.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Ductile iron pipe shall conform to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51. Thickness of pipe shall be Class 50 or pressure Class 350. All pipe not buried shall be Class 53. All ductile iron pipe shall be clearly marked on the outside of the barrel to readily identify it from cast iron.
- B. Unrestrained joint pipe shall be supplied in lengths not to exceed 21 feet. Unless otherwise called for in the Contract Documents, unrestrained joint pipe shall be either the rubber-ring type push-on joint or standard mechanical joint pipe as manufactured by the American Cast Iron Pipe Company, U.S. Pipe and Foundry Company, or approved equal.
- C. All fittings shall be pressure rated for 350 psi and meet the requirement of AWWA C110 or AWWA C153 except flanged fittings shall be rated for 250 psi. Rubber gaskets shall conform to ANSI A21.11 for mechanical and push-on type joints for diameters up to 14" diameter. Gaskets for 16" diameter and larger pipe shall be EPDM (Ethylene-Propylene Dine Monomer) such as the "Fastite Gasket" of American Ductile Iron Pipe Co., or approved equal.
- D. Water Mains: All ductile iron pipe and fittings shall have a standard thickness cement lining on the inside in accordance with AWWA/ANSI C104/A21.4 and a coal tar enamel

coating on the outside. The coal tar enamel shall be in accordance with ANSI A21.4. All interior linings shall be EPA/NSF approved.

- E. Force Main: All ductile iron pipe and fittings shall have a factory applied fusion bonded epoxy or epoxy and polyethylene lining on the inside in accordance with manufacturer's specifications and a coal tar enamel coating on the outside. The coal tar enamel shall be in accordance with ANSI A21.4. The interior lining is to be based on manufacturer's recommendation for long-term exposure to raw sewage. It shall have a minimum ten year warranty covering failure of the lining and bond failure between liner and pipe.
- F. Restrained joints shall be provided at all horizontal and vertical bends and fittings, at casings under roads and railroads and at other locations shown on the Contract Drawings. Restrained joint pipe fittings shall be designed and rated for the following pressures: 350 psi for pipe sizes up to and including 24" diameter; 250 psi for pipe sizes 30" diameter and above.

Factory restrained joints such as Flex-Ring, manufactured by American Cast Iron Pipe Company, TR Flex manufactured by US Pipe, or an approved equal, are allowable.

Restrained joint designs which use gaskets with metal teeth shall not be allowed.

2.02 IDENTIFICATION

- A. Each length of pipe and each fitting shall be marked with the name of the manufacturer, size and class and shall be clearly identified as ductile iron pipe. All gaskets shall be marked with the name of the manufacturer, size and proper insertion direction.
- B. Pipe shall be poly wrapped blue for potable water mains, purple for reclaimed water mains and green for sewage force mains. All potable water pipe shall be NSF certified and copies of lab certification shall be submitted to the County.
- C. All above ground potable water mains and appurtenances shall be painted safety blue.

END OF SECTION

SECTION 02616 DISINFECTING POTABLE WATER PIPE LINES

PART 1 GENERAL

1.01 SCOPE OF WORK

The Contractor shall furnish all labor, materials, equipment and incidentals required to clean and disinfect potable water pipe lines. This work is required to place all types of pipe into service as potable water lines.

1.02 CLEANING WATER MAINS

At the conclusion of the work, the Contractor shall thoroughly clean all of the new pipes to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period per Section 02618.

1.03 DISINFECTING POTABLE WATER PIPE LINES

- A. All record drawing requirements must be submitted to the County prior to starting the bacteriological testing of the water lines.
- B. Prior to being placed in service, all potable water pipe lines shall be chlorinated in accordance with AWWA 651, "Standard Procedure for Disinfecting Water Main". The procedure shall meet Health Department requirements. The location of the chlorination and sampling points shall be determined by the County. Taps for chlorination and sampling shall be uncovered and backfilled by the Contractor as required.
- C. The general procedure for chlorination shall be to flush all dirty or discolored water from the lines, then introduce chlorine in approved dosages through a tap at one end while water is being withdrawn at the other end of the line. The chlorine solution shall remain in the pipe line for 24 hours.

Water for flushing, filling and disinfecting the new lines must be obtained without contaminating existing pipe lines. Water obtained from existing pipe lines for this purpose shall pass through an approved air gap or backflow prevention device.

- D. Following the chlorination period, all treated water shall be flushed from the lines at their extremities and replaced with water from the distribution system. Bacteriological sampling and analysis of the replacement water shall then be made by an approved laboratory or the Health Department in full accordance with the AWWA Manual C651. The line shall not be placed in service until the requirements of the State and County Public Health Department are met. Results of the bacteriological tests together with certified record drawings must be submitted to the Health Department (FDEP) within 30 days of the tests.
- E. Special disinfecting procedures when approved by the County, may be used where the method outlined above is not practical.

END OF SECTION

SECTION 02617 INSTALLATION AND TESTING OF PRESSURE PIPE

PART 1 GENERAL

1.01 INSTALLING PIPE AND FITTINGS

- A. The Contractor shall install all pipe in accordance with the recommendations of the pipe manufacturer and as specified herein.
- B. The Contractor shall take care in handling, storage and installation of pipe and fittings to prevent injury to the pipe or coatings. All pipe and fittings shall be examined before installation and pipe which is deemed to be defective by the County shall not be installed.
- C. The Contractor shall thoroughly clean and keep thoroughly clean, all pipe and fittings prior to during and after installation.
- D. The Contractor shall lay the pipe to the lines and grades shown on the Contract Drawings with bedding and backfill as shown on the Drawings or called out in the Contract Documents. Blocking under the pipe shall not be permitted except through casing sleeves.
- E. The Contractor shall keep the open ends of all pipe closed with a tightly fitting plug when installation is not in progress or the potential exists for dirt or debris to enter the pipe.
- F. The pipe or accessories shall not be dropped into the trench under any circumstances.
- G. The Contractor shall construct all water mains pursuant to the provisions of "Recommended Standards for Water Works", Part 8, incorporated by reference in Rule 17-555.330(3), F.A.C.
- H. As a marker for the Surveyor, a PVC pipe marker or 2" x 4" marker shall be inserted by the Contractor on the top of pipe for potable water mains, reclaimed water mains and sanitary force mains at intervals no greater than 200 feet apart and at locations where there is a substantial grade change. The pipe markers shall indicate the pipe diameter and shall be labeled PWM in "safety" blue, RWM in purple, and FM in green, for potable water mains, reclaimed water mains and sanitary force mains, respectively. As a marker for the Surveyor, a PVC pipe marker or 2" x 4" marker shall be inserted by the Contractor on the top of all pipe fittings (other than sanitary sewer service wyes, potable water saddles and reclaimed water saddles). The markers for fittings shall indicate the type of fitting and shall be labeled PWF in "safety" blue, RWF in purple, and FMF in green, for potable water fittings, reclaimed water fittings, and sanitary force main fittings, respectively. The Contractor is responsible for making the aforementioned markers available to the Surveyor. The Contractor shall field locate the mains and fittings when markers are not made available to the Surveyor.
- I. A PVC pipe marker or 2" x 4" marker shall be inserted by the Contractor at the beginning and end of each horizontal directional drill (HDD). The HDD Contractor shall provide a certified report and bore log indicating the horizontal and vertical location every 25 linear feet or less along the pipe.
- J. A 2" PVC pipe marker with a painted end cap shall be inserted by the Contractor at the ROW line indicating each individual new service location or stub out. The marker shall be a 6 foot length of PVC pipe inserted 2 feet into the ground and shall be painted "safety" blue for potable water, purple for reclaimed water, and green for sewer.

1.02 PROCEDURE FOR TESTING WATER LINES, FORCE MAINS AND RECLAIMED WATER LINES

- A. A 48-hour notice is needed prior to testing. A letter stating the reasons testing should be scheduled ahead of other jobs must accompany all emergency testing requests.
- B. County and Contractor must be present for all testing, except for testing tapping valves and sleeves.
- C. All pressure pipe lines shall remain undisturbed for 24 hours to develop complete strength at all joints. All pipe lines shall be subjected to a hydrostatic pressure test for two (2) hours at full working pressure, but not less than 180 psi for water/reclaimed (150 psi for force main). Maximum length of pipe to be tested at one time is 2,600 feet. If line is longer than 2,600 feet and cannot be sectioned in 2,600 feet (max.) lengths, the allowable leakage will be figured at 2,600 feet.
- D. Allowable leakage shall be determined by AWWA C600 table for hydrostatic tests. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof; to maintain the test pressure after the air in the pipe line has been expelled and the pipe has been filled with water.
- E. All digging on the job site in the right-of-way must be completed before any testing of water or sewer. Any digging or boring across water or sewer lines after they have been tested may result in a retest of the lines at the County's request.
- F. If any revisions or changes are made after initial testing, lines will be re-tested at the County's request.
- G. Disconnect water supply during test.
- H. All force mains will be tested from the valves in the valve vault at the lift station to the point of connection whether it be against a valve on another force main or into a manhole.
- I. All services to be aboveground during test. The services should be the correct length so they will be one (1) foot inside right-of-way line.
- J. All fire hydrant gate valves to be open during test.
- K. All visible leaks are to be repaired, regardless of the amount of leakage.
- L. Check gauge pressure periodically during test. If test pressure drops to 175 psi for water/reclaimed lines or to 145 psi for force mains during test, the line must be repumped back to 180 psi for water/reclaimed (150 psi force mains) and the amount of leakage measured. The test will continue on with the remaining time left. At the end of the test, the line must be repumped again back to 180 psi (150 psi for force main) and the amount of leakage measured and added to any previous leakage determined earlier in the test.
- M. After the line passes the test, the pressure will be blown off from the opposite end of line from the gauge location. Fire hydrants, services and end-of-line blow offs will be opened to demonstrate they were on line during the test.
- N. At end of test, the test gauge must return to zero. The pressure gauge must read 0 psi to a maximum of 300 psi in 5 psi increments.
- O. The section of line being tested must be identified on the charge sheet. The length and

size of pipe, the exact area being tested and the valves being tested against, must be identified. Use Station numbers if available.

- P. A punch list must be made at the end of all tests.
- Q. A copy of the charge sheet will be given to the County and the Contractor at the end of the test.

1.03 INSPECTION/TESTING PROCEDURE COVERING BORED PIPE LINES OR CASING AND CONDUITS INSTALLED ACROSS PREVIOUSLY TESTED AND/OR COUNTY ACCEPTED WATER AND SEWER PIPE WITHIN DEVELOPMENT PROJECTS UNDER ACTIVE CONSTRUCTION

- A. Prior to testing water and sewer lines, every effort will be made to install sleeves for underground utilities that will cross these water and sewer lines or services.
- B. Where it has not been possible to pre-install sleeves prior to testing and bores or conduits are required, it is the responsibility of the utility company and/or their Contractor performing the work to provide Manatee County Utility Operations Department or the Engineer of Record with accurate horizontal and vertical as-built information of the sleeves, bores and conduits installed by said utility company. This applies to all bores and conduits crossing water and sewer lines.
- C. Procedures to be followed for installation of conduits, pipe lines and bores that will cross, or be closer than 5'-0" horizontally and 18 inches vertically to, previously tested water and sewer lines that are still under the ownership of the developer/contractor.
 - 1. Notify the County and obtain the best as-built information available. Allow sufficient time for the County to field locate the existing pipe lines.
 - 2. Submit drawings of proposed location to the County and Manatee County Utility Operations Dept. Utility Locations Section for review.
 - 3. Obtain a County Right-of-Way Use Permit if the work area is within a dedicated area of right-of-way.
 - 4. Perform installation in the presence of a County representative. Call (941) 792-8811, ext. 5061 or ext. 5069 with at least two (2) working days notice.
 - 5. Submit two (2) copies of as-built information to the County to incorporate into the record drawings to be submitted to the County.
 - 6. Failure to follow steps 2) thru 5) will result in additional charges for retesting the previously tested water and sewer lines.
- D. Procedures to be followed for installation of conduits, pipe lines and bores crossing or closer than 5'-0" horizontally and 18 inches vertically to previously tested water and sewer lines that have been previously accepted by Manatee County:
 - 1. Obtain record drawing information from the County.
 - 2. If roadway has been dedicated to Manatee County, obtain Right-of-Way Use Permit and copy the Project Management Department Locations Section with proposed location drawing.
 - 3. Follow procedures in "Sunshine State One-Call", paying special attention to the requirements of Section VII.
- E. Should water or sewer lines be damaged during the bore pipe line or casing installation, the cost of any repairs and retesting will be paid for by the utility company that installed the bore. The actual clearance between a bored casing crossing a water or sewer pipe should not be less than 18 inches.

1.04 DETECTION

- A. Direct buried pipe shall have 3" detectable metallic tape of the proper color placed directly above the pipe and 12" below finished grade or 6" detectable tape between 12" and 24" below finished grade.
- B. Direct buried or horizontal directional drilled non-metallic pipe shall also have tracer wire installed along the pipe alignment. The tracer wire to be used shall be a solid, 10 gauge, high strength, copper clad steel wire with a polyethylene jacket of appropriate color manufactured by Copperhead Industries or Manatee County approved equal.

END OF SECTION

SECTION 02618 PIPELINE CLEANING

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to clean all new lines 4" and larger, and existing pipelines as specified in this specification and as indicated on the Drawings.
- B. This work shall include the furnishing and installation of all pig launching and retrieval devices and the appropriate pigs for the cleaning procedure, and all necessary excavations, shutdowns, fittings and valves required.

1.02 RELATED WORK

- A. The contractor is responsible for all necessary supply water.
- B. The contractor is responsible for all necessary bypass pumping.
- C. The contractor is responsible for the proper disposal of any materials removed from the pipe lines as a result of the cleaning procedure.

1.03 SUBMITTALS

- A. The Contractor shall submit prior to construction, a cleaning plan, Shop Drawings, and layout diagram for approval to the County.
- B. The Contractor shall submit to the County a list of materials to be furnished, and the names of suppliers.

1.04 QUALIFICATIONS

- A. The Contractor performing this work shall be fully qualified, experienced and equipped to complete this work expeditiously and in a satisfactory manner.
- B. The Contractor shall also be capable of providing crews as needed to complete this work without undue delay.
- C. The County reserves the right to approve or disapprove the Contractor, based on the submitted qualifications.

PART 2 PRODUCTS

2.01 GENERAL

- A. The contractor shall be responsible for furnishing pigs in sufficient numbers and sizes, of appropriate densities, coatings and configurations to properly clean the piping systems.
- B. All pigs used for the cleaning of sewer or reclaimed water lines shall not be used in the cleaning of potable water lines.

2.02 MATERIALS

- A. The pig launching and retrieval equipment shall be of the latest design and construction and shall include the means to maintain constant monitoring of the in-line flows and pressures of the system being cleaned and the constant location of the cleaning pigs in the system. Launching and retrieval systems shall be fabricated, designed and manufactured according to ANSI standards and capable of withstanding working pressures of 150 psi. Launching and receiving devices shall be sized one diameter larger than the system to which it will be attached with a minimum length of 2.5 times the diameter.
- B. The contractor shall have available for immediate use an electronic pig detector for use in the system being cleaned to provide a means of tracking the passage of the pig in the system to locate areas of potential or suspected blockage and other disparities in the system.
- C. The pig shall be constructed of elastomer polyurethane with an open cell construction and a density equal to or suitable for use in the piping system being cleaned. Pig configuration shall consist of a parabolic nose with a concave base and coated with a resilient surface material that will maintain a peripheral seal and will effectively clean the piping system without over abrading the interior pipe wall. Pig characteristics shall include the ability to navigate through 90 degree bends, 180 degree turns, bi-directional fittings, full port valves, reduce its cross sectional area and return to its original design configuration and be propelled by hydraulic pressure.

PART 3 EXECUTION

3.01 PIPELINE CLEANING

- A. The cleaning of the pipe line shall be done by the controlled and pressurized passage of a polyurethane pig of varying dimensions, coatings and densities as determined by the County through the piping system.
- B. A series of pigs shall be entered into the system at a point as near to the beginning as is logistically and mechanically feasible.
- C. A launching assembly shall be used as the entrance point for the pig. This assembly shall allow for the following:
 - 1. The entering of pigs into the system by providing the means to induce flow from an external source, independent of the flows and pressures immediately available from the system, on the back of the pig to develop sufficient pressure to force the pig through the system.
 - 2. A means to control and regulate the flow.
 - 3. A means to monitor the flows and pressures.
 - 4. A means to connect and disconnect from the system without any disruption to the operation of the system.
- D. The pig shall be removed or discharged from the system at a point as near to the end as is logistically and mechanically feasible.
- E. The contractor shall be responsible for the retrieval of the pig at the discharge point. This may include setting a trap that will not disrupt normal flow and operations but will capture the pig and any debris. A retrieval assembly may also be used but said assembly shall be able to connect and disconnect from the system without any disruption to the operation of

the system.

- F. Alternative launching and retrieval methods shall be done with the prior approval of the County.
- G. Any pig that cannot progress through the piping system shall be located by the contractor and removed by excavation of the pipe in order to remove the blockage. All pipe repairs shall be the responsibility of the contractor and shall be performed with as little disruption to the system as possible.
- H. Any increase in pressure that cannot be accounted for, i.e. fittings or valves or additional cleaning runs, shall be investigated, per the Engineers' approval, by locating the pig at the beginning of the increased pressure and excavating to determine the cause of the pressure increase. All pipe repairs shall be the responsibility of the contractor and shall be performed with as little disruption to the system as possible.
- I. Final flushing of the cleansed lines shall be performed after the last successful run of the pig as determined by the County. The contractor shall be responsible for all applicable flushing and disinfection requirements for potable water lines.

3.02 ACCEPTANCE

- A. The contractor shall maintain and provide a report at the end of the cleaning procedure containing the following:
 - 1. The pressures in the pipe during the pigging procedure.
 - 2. Any inline problems encountered during the procedure including all excavations with detailed locations, reason for the excavation and any corrective measures taken to the pipeline.
 - 3. A record of the pigs used, their sizes, styles and other pertinent information regarding what materials were used during the cleaning.
 - 4. An analysis of the condition of the pipeline before and after the cleaning procedure.

END OF SECTION

SECTION 02619 HORIZONTAL DIRECTIONAL DRILLING**PART 1 GENERAL****1.01 SCOPE**

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to procure, assemble, test and install all High Density Polyethylene (HDPE) pipe, fittings and appurtenances in the location as shown on the Drawings and specified in the Contract Documents by use of Horizontal Directional Drilling (HDD) methods. This includes retaining scientist / biologist, divers, or any other specialized personnel required in the event of a frac-out during construction and as required to comply with the permit conditions of approval.
- B. The Drawings show the Basis of Design for the HDD installation for this project. The entry and exit locations, minimum clearances, and horizontal location shown on the plan and profile drawings must be met by the installed pipe.
- C. Activities required for the HDD installation of HDPE pressure pipe, as shown on the Drawings and as specified herein, shall be performed in accordance with the conditions of the project permits complete with the conditions, attachments, exhibits and modifications for the FDEP ERP, ACOE Nationwide Permit, and FDEP General Permit for Construction of Watermain Extension for PWS as presented in the Supplemental Information at the end of these specifications.

1.02 GENERAL

- A. All existing structures, water and sewer lines, storm drains, utilities, pavements, driveways, sidewalks, signs, mail boxes, fences, trees, landscaping, and any other improvement or facility in the construction area that the Contractor disturbs for his own construction purposes shall be replaced to original condition at no additional cost to the County. Prior to performing any excavation work, the Contractor shall perform an underground utility location detection survey marking the surfaces with color-coded markings where utility lines are detected.
- B. All construction operations shall be performed in strict compliance with applicable noise ordinances. The current Manatee County Noise Ordinance exempts "usual noises of construction and operation of construction equipment between the hours of 7:00 AM and 8:00 PM," as well as the "performance of emergency work." Outside of these hours, standard noise ordinance levels of 60 dBA (7:00 AM to 10:00 PM) and 55 dBA (10:00 PM to 7:00 AM) shall be met at the property line of the noise source. (Section 2-21, Manatee Code of Ordinances) At a minimum, the Contractor shall utilize sound barriers around the work area to minimize disturbances to surrounding property owners. One week before the pullback of the pipe through the reamed hole, the Contractor shall provide notices to the adjacent homeowners as to when the pull will occur and the possibility of the work exceeding the exempt construction noise hours.
- C. All available information related to subsurface conditions including subsurface exploration borings performed at the site are included as an attachment to these Specifications.

1.03 TESTING

A. Soils

1. All excavations incidental to the progress of the work shall be backfilled and tested in accordance with the requirements of Manatee County Specification "Trenching, Bedding and Backfill for Pipe".
2. The uppermost 5 feet of backfill for entry and exit pits shall meet or exceed all the requirements for structural fill.

B. Pipe

1. All materials used for HDPE pipe shall be tested prior to installation in accordance with Specification Section 02620.
2. Hydrostatic Testing for HDPE Pipelines:

For pressure pipelines laid wholly using HDPE pipe, a modified hydrostatic test is required. In the modified test, the pipeline shall be cleaned, flushed, filled and vented, and otherwise prepared for testing similar to other types of pipeline materials; but, prior to the test, an initial expansion period at test pressure shall be allowed, during which the HDPE pipe shall be allowed to stretch and assume an equilibrium volume against the applied pressure. During the expansion period, make-up water shall be added to the pipeline to maintain the test pressure.

After the initial expansion period, the test shall commence, and shall proceed in accordance with the methods presented in Chapter 2, "Inspections, Tests and Safety Considerations" of the Handbook of Polyethylene Pipe, Plastics Pipe Institute, or using information provided by the pipe manufacturer for the material and class of pipe installed and conducted in accordance with ASTM F2164, unless otherwise approved by the County. In the event of a test failure, locate and repair the cause of the leakage and retest the pipeline. Repair all visible leaks regardless of the amount of leakage.

- a. Prior to installation in the bore hole, the partially assembled HDPE pipe sections or fully assembled HDPE pipe (depending on the assembly method selected) shall be pressure tested.
- b. After completion of the installation of the HDPE pipe, an additional pressure test of the entire pipe shall be completed.

WARNING: Pressure testing of pipe is intended to detect defects in pipe materials or joints, and if such defects are present and result in failure by rupture or leaks, the failures may cause personal injury to persons in proximity, or damage to property near the failure. The Contractor shall establish an approved test safety program prior to tests, including the use of pipe restraints and personnel exclusion zones.

C. Drilling Fluids

1. All drilling fluids shall be tested in accordance with American Petroleum Institute 13B-1: "Recommended Practice for Field Testing Water -Based Drilling Fluids".
2. The Contractor is responsible for maintaining the quality of the drilling fluids during all boring work and shall engage a testing laboratory to sample and monitor the fluids at regular intervals, comparing results to the approved mixture. Field

changes to the drilling fluids shall be approved by the drilling fluid specialist and the Engineer.

1.04 QUALIFICATIONS

- A. The Contractor for the horizontal direction drill can either be the General Contractor for the project or a subcontractor. In either case, the driller's qualifications (refer to 1.04, B below) shall be included with the General Contractor's Bid. If a subcontractor is used to meet the driller qualification requirements, a different drilling subcontractor cannot be used without approval from the County.
- B. The Contractor shall have experience successfully completing at least five (5) horizontal directional drill projects of at least 24-inch or larger diameter and at least 2,500 feet or longer in length of which three (3) directional drills were under major water bodies of at least 1500 feet. At least two (2) projects must be located in Florida.
- C. Pipe Manufacture: All pipe and fittings shall be furnished by a single manufacturer who is fully experienced, reputable and qualified in the manufacture of the items to be furnished for HDD pipeline construction.
- D. Drilling Supervisor: The Contractor shall provide a competent boring specialist who shall remain on the project site during the entirety of the directional boring operation. This includes, but is not limited to, drilling equipment mobilization and set-up, drilling fluid preparation, boring, back-reaming and pulling. The boring specialist shall have a minimum of five years' experience in supervising directional bores and must have been involved in at least two of the projects referenced in subsection 1.04.B.
- E. Pipe Segment Fusions: All pipe fusing equipment and methods shall be performed by specialists who are certified by the pipe manufacturer for such operations. The specialists responsible for thermal butt fusing plastic pipe shall have manufacturer certification for performing such work and a minimum of five years' experience performing this type of work. If no certification is available, written documentation of the required work experience shall be submitted for approval.
- F. Drilling Fluid Specialist: The personnel responsible for supervising the supply, mixing, monitoring fluid quality, pumping and re-circulation system proposed for the drilling fluid shall have a written certification issued by the Drilling Fluid manufacturer for performing such work and a minimum of five years' experience performing this type of work and must have been involved in at least two of the projects referenced in subsection 1.04.B. If no certification is available, written documentation of the required work experience for the proposed personnel shall be submitted for review and approval.

1.05 SUBMITTALS

Submit submittals in accordance with Section 01340, Shop Drawings, Project Data, and Samples and the following:

- A. With the Bid, provide documentation that the drilling contractor meets the qualifications listed above in subsection 1.04, B. Provide contact information for at least three (3) similar projects referenced in subsection 1.04.B as part of the bid submittal package.

- B. Drilling Materials
Detailed description including specifications and catalog cuts for:
1. Pipe, fittings, tanks and materials to be furnished for the drilling equipment, dewatering and local drainage including the names of the suppliers.
 2. Shop drawings and catalog data for all HDD equipment.
 3. Steering and tracking devices including specific tracer wire.
 4. The drilling fluid submittal shall include the ratio of mixture to water, including any additives, based on the Contractor's field observations prior to construction, knowledge and experience with drilling in similar conditions, and any soil data provided in the Contract Documents, which shall be verified by the drilling fluid specialist. Include MSDS sheets for drilling fluid compounds. Drilling fluids shall meet any and all permit requirements. Field changes to the drilling fluids shall be approved by the drilling fluid specialist and the Engineer.
- C. The HDPE pipe manufacturer's certification of compliance with the applicable sections of the Specifications.
- D. Submit a complete design for the proposed HDPE pipe including an analysis for pull-back forces, external loads including full hydrostatic pressure if empty, external forces due to borehole pressures, ovalization during pull-back, thermal stress while exposed to Sun-light, shortening after release of pull-back force, tensile stress during pull-back and bending stresses during pull-back. Indicate the maximum degree of radial bending allowed for the HDPE pipe when full and when empty (Radius bends shall be no less than 35 feet). These calculations shall also determine whether the carrier pipe needs to be filled with water before it is pulled through the bore hole. The calculations shall be signed & sealed by a professional engineer licensed in the State of Florida.
- E. Shop drawings for the specialized equipment to be used.
- F. Shop drawings for the breakaway swivel, including the method of setting the swivel's break point and set point to be used, along with the product pipe manufacturers pullback force recommended setting.
- G. A Bore Plan that includes the following:
1. Contact information and experience for the drilling fluid specialist.
 2. The number of passes the bore will include prior to the product pipe pull-back.
 3. The pilot bore and all reaming bore sizes including the final pullback with the product pipe.
 4. Drilling rod length in feet.
 5. The pilot bore, pre-ream bores (if any) and pullback production rate in minutes per (drilling) rod.
 6. The fluid pumping rate in gallons per minute for each drilling sequence.

7. Details of the entry and exit pit locations along with entry and exit angles for the bore, and coordination with the design profile.
 8. Pullback monitoring plan.
- H. Details of the Drill Head device including types of cutters suitable for the variable subsurface soil and rock conditions at the site, drilling fluid port arrangements, connection to drill rod and devices for location tracking.
 - I. Details of the Back Reaming device including types of cutters suitable for the variable subsurface soil and rock conditions at the site, drilling fluid port arrangements, connection to drill rod and devices for location tracking.
 - J. Site layout plan for entry and exit pit locations, drawn to scale, depicting the position of all required equipment, access points, existing facilities to remain in place, office trailers and storage sites.
 - K. Pipe assembly procedure, details of support devices, and staging area layout including methods to avoid interference with local streets, driveways, and sidewalks.
 - L. Details of pipe fusion procedures and copies of the Fusion Technician Qualification Certification.
 - M. Incident Reaction Contingency Plan: The Contractor shall prepare and submit for review and approval to the Engineer an Incident Reaction Plan that will describe in detail the actions and materials to be used in the event that the proposed and approved construction activity or progress is stopped, deviated, delayed or obstructed, or the materials fail to perform as intended. The plan shall consider a typical range of failure scenarios and describe the required and intended reactions that will restore the work to its intended design.

Regarding spills, the plan shall include, as a minimum, the prevention, monitoring and response activities presented in the Bentonite Spill Prevention and Management Plan included at the end of these specifications under Supplemental Information. These requirements are part of the FDEP Environmental Resource Permit for this project and must be followed.
 - N. Proposed construction schedule for all field activities.
 - O. All test reports for tests completed as required by these Specifications.
 - P. If nighttime drilling and/or boring is to occur, prepare and submit for approval a Night-Time Drilling Plan, detailing how the Contractor will minimize disturbances to residents.
 - Q. Submit a Noise Attenuation Plan including anticipated noise emanation for equipment and proposed attenuation, to ensure that applicable noise ordinances are met. At a minimum, the Contractor shall utilize sound barriers around the work area to minimize disturbances to surrounding property owners.
 - R. Submit a plan for pressure testing, flushing and pigging, and disinfecting the pipe, including the specifics of the proposed pig and measures proposed to protect personnel and property in the event of a pipe failure or rupture during the pressure testing.
 - S. Submit a Drill Fluid Disposal Plan.

- T. The Contractor is required to bring to the attention of the Engineer any known discrepancies with these specifications and the actual drilling methods that the Contractor will be performing. This shall be stated in writing to the Engineer no later than the pre-construction meeting.

PART 2 PRODUCTS

2.01 MATERIALS

- A. High Density Polyethylene (HDPE) Pressure Pipe of the size shown on the Plans shall comply with Manatee County Specification 02620, and ASTM D-3350 "Standard Specification for Polyethylene Plastics Pipe and Fittings Materials", Type III D (High Density, greater than 0.955 grams per cubic centimeter), 1,600 psi hydrostatic design basis. The pipe manufacturer shall submit documentation for all pipe being supplied to this project indicating date of manufacture, type and place of storage, shipping methods, dates of delivery to site, and all required testing data. Surface cuts or scratches greater than or equal to the maximum defect depth are not acceptable. The material shall be Natural color with UV stabilization.

Sections of pipe with defects including: cuts, notches, gouges or dents that are more than 0.50 inches in length and deeper than the maximum defect depth of 0.10 inches below the surrounding surface will be considered damaged and the defect will be cause for rejection of the pipe segment.

- B. Incidental materials that may or may not be used to install the product depending on field requirements are not paid for separately and will be included in the cost of the installed product.
- C. Drilling Fluids shall use a mixture of bentonite clay or other approved stabilizing agent mixed with water to create the drilling fluid for lubrication and soil stabilization within the bore hole. Vary the fluid viscosity to best fit the soil conditions encountered. The Contractor shall have appropriate additives for drilling fluid available for different soil conditions that may be encountered. Do not use any other chemicals or polymer surfactants in the drilling fluid without written consent from the Engineer. Certify to the Engineer in writing that any chemicals to be added are environmentally safe in the event of a spill or leak, and are not harmful or corrosive to the product pipe. Such certification shall include documentation from the pipe manufacturer that the fluids are harmless to the pipe or fused joints. Design parameters for drilling fluids shall include values for ph, chlorides, Marsh viscosity, and gel strength. Facilities on-site shall include an enclosed space and equipment for regular testing and monitoring of the fluid parameters.
- D. Identify the source of water for mixing the drilling fluid. Approvals and permits are required for obtaining water from such sources as streams, rivers, ponds or fire hydrants. Any water source used other than potable water may require a pH test. Water obtained from a fire hydrant in accordance with any required permit shall have an appropriate backflow prevention device and a meter to measure consumption. All costs associated with obtaining water from a hydrant are the sole responsibility of the contractor.
- E. Each tracer wire shall be a minimum of #4 gauge 19-strand braided copper wire and shall be pulled and secured to the top of the pipe with duct tape or 10-mil thickness polyethylene pressure sensitive tape at every joint and at 24-inch intervals. The tracer wire shall have minimum 30-mil polyethylene insulation rated UF or USE by Underwriter's

Laboratories. The plastic wire insulation shall be color coded blue (water), purple (reclaimed water) or green (sanitary sewer).

- F. Breakaway connectors shall be supplied by DCD Design & Manufacturing, Condux International, Inc. or approved equal.
- G. Two tension measurement devices shall be included in the pull-back string during installation of the product pipe to monitor forces being applied to the pipe. Real time logging of data readings is required.
- H. Provide sound attenuation for noise emanating from drilling equipment to ensure that applicable noise ordinances are met. In addition, at a minimum, provide a sound barrier around the drill-rig work area to minimize disturbances to surrounding homeowners. The sound barrier shall consist of panels that extend 2 feet higher than highest exhaust stack in the work area. The sound barrier panels shall be a minimum of 1-psf reinforced, loaded vinyl barrier with a minimum STC value of 27. The panels shall be installed per the manufacturer's recommendations. Sound barrier panels shall be as manufactured by Acoustical Surfaces, Inc. (952-466-8213), or equal.
- I. Materials to implement BMPs per the plans and permits shall be on-site and available at all times in the event of a spill.

PART 3 EXECUTION

3.01 REQUIREMENTS

Installation shall comply with the requirements and recommendations specified in ASTM F-1962 "Standard Guide for Use of Max-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacles, Including River Crossings", and as specified herein.

3.02 SITE CONDITIONS

- A. The Contractor shall prepare the project site including installation of all necessary facilities that will permit the assembly and installation of the HDPE pipe expeditiously. The Contractor shall evaluate and select one of the following methods for assembly of the pipe:
 - 1. The entire length of HDPE pipe shall be completely assembled with fused joints and tested on site prior to pull-back into the bore hole. The project site must be prepared for this activity. An organized design consisting of elevated supports shall be used to assemble the pipe in a relatively straight line, with no bends exceeding the design minimum value.
 - 2. The pipe may be assembled and tested in sections of lengths of at least 500 feet. Each assembled length of HDPE pipe must be completely connected with fused joints and pressure tested on site prior to pull-back of the section into the bore hole.

For both assembly methods, after completion of the installation of the HDPE pipe, an additional pressure test of the entire pipe shall be completed to check for leaks due to stresses applied to the pipe during pullback.

In either case, the assembled HDPE pipe shall be supported at intervals along its length with rollers or Teflon pads to minimize frictional forces when being pulled, to hold the pipe above the ground, and to avoid damage during installation. The Contractor shall allow for all traffic control, utility conflict and private property access issues in the evaluation of either method.

- B. Carry out excavation for side trenches, entry pit, exit pit, recovery pits, slurry sump pits, or any other excavation as specified in the Contract documents. Sump pits are required to contain drilling fluids if storage tanks or vacuum devices are not operated throughout the drilling operation, unless approved by the Engineer. Proposed details of all pits and pit linings must be submitted to the Engineer for review and approval.
- C. Within 48 hours of completing installation of the HDPE pipe, clean the work site of all excess slurry or spoils. The Contractor is responsible for the removal and final disposition of excess slurry and all spoil (excavated) materials. Ensure that the work site is restored to pre-construction conditions or as indicated on the plans.
- D. Exposure of product pipe to sunlight shall be limited to no more than 14 consecutive days unless approved by the Engineer.

3.03 DAMAGE RESTORATION & REMEDIATION

- A. Any damage to the site areas caused by heaving of ground surfaces, surface settlement, damage to or separation of pavement, escaping drilling fluid due to leaks in the boring hole (frac-out), or in the directional drilling operating equipment, shall be completely restored to the satisfaction of the Engineer at no extra cost.
- B. When required by the Engineer, provide detailed plans which show how damage to any roadway facility will be remedied. These details will become part of the Record Drawings Package. Remediation Plans must follow the same guidelines for development and presentation of the Record Drawings. When remediation plans are required, they must be approved by the Engineer before any work proceeds.
- C. For HDD operations that will be below waters of the State of Florida, the Contractor shall be responsible for any damage caused by the drilling operation, including, but not limited to, fracturing of soils on the channel bottom. Any cleaning of waterways and shore lines required by State or Federal directives due to the release of drilling fluids into State waters shall be at the Contractor's expense.

3.04 BASIS FOR REJECTION OF DIRECTIONAL BORE

The Engineer may reject any portion of the work that is deemed to be non-responsive to the Contract requirements or not in conformance with approved plans and submittals, and for other factors including the following:

- A. **Damaged Pipe**
When there is any indication that the installed HDPE pipe has sustained damage. In such an event, the Contractor shall stop all work, notify the Engineer and investigate the damage. The Engineer may require a pressure and / or mandrel test, sampling of water within the pipe or CCTV inspection of the installation at no additional cost to the County and shall have a County representative present during the test. Perform all testing within 24 hours of the reported damage unless otherwise approved by the Engineer. Furnish a copy of the test results and all tunnel bore logs to the Engineer for review and approval.

The Contractor may submit a proposal describing methods and materials to repair the damage. The Engineer is allowed up to 5 working days to approve the proposal or to determine if the product installation is not in compliance with the specifications.

B. Obstructions

If an obstruction is encountered during boring which prevents completion of the drilling in accordance with the design location and specification, the bore hole may be rejected, taken out of service and abandoned at the discretion of the Engineer. A new location shall be established and drilling shall re-commence.

C. Pull-back Failure

If the installed breakaway device should fail during pull back.

D. Lost Drilling Fluids

1. The Drilling Plan to be submitted and approved by the Engineer shall indicate the estimated amounts of drilling fluid that will be required for each stage of the drilling at each point of progress along the alignment. A sliding scale of the acceptable level of permissible fluid loss shall be established based on total volume of fluid in place. If significant volumes of the drilling fluid are lost during boring, back-reaming or during the pull-back of the HDPE pipe and the required levels cannot be restored within a reasonable timeframe, the bore may be required to be rejected.
2. If more than 50 cubic feet of fluid is used to fill an unknown void and required fluid levels cannot be maintained.

No pipe shall be pulled without visible flow of circulating drilling fluid in the pits.

E. Pipe Test Failure

If the installed pipe shall fail the hydraulic pressure test as specified.

F. Damaged Pipe

If at any time when the product is pulled back any exposed areas have a greater than allowable gouging or visible marring of the pipe.

G. Alignment Tolerance Exceeded

If the vertical and horizontal limits are not within tolerances, this may be cause for rejection of the bore.

H. Defective Work or Materials

Any other defect in material or workmanship which would affect the quality, performance, or installation life of the installed pipeline.

I. Excessive Excavation within Bore Hole

In the event that the perimeter of the bore hole has enlarged due to collapse of the surrounding soils, the Contractor shall evaluate the nature and extent of the collapse and report the event to the Engineer. This event can be detected when excessive fluid consumption in comparison to drilling progress is noted, and when excessive spoil material is generated in relation to planned drilling progress.

J. Remediation

All corrective action due to rejected bores shall be performed at the Contractor's expense to provide a satisfactory installed product. The Contractor shall submit to the Engineer a revised installation plan and procedure for approval before performing corrective actions

and resuming work. The Engineer may require non-compliant installations to be filled with flowable fill or to be completely removed at no additional cost to the County.

3.05 LOCATING AND TRACKING

- A. The Contractor shall use a wire line guidance system with a surface grid to ensure that the proposed installation is installed as intended. The surface grid shall consist of an energized wire coil laid-out and surveyed on the surface of the ground and bottom of the sub-aqueous sections of the drill path. The locating and tracking system must provide information on:
1. Clock and pitch information
 2. Depth
 3. Transmitter temperature
 4. Battery status
 5. Position (x,y)
 6. Azimuth, where direct overhead readings (walkover) are not possible (i.e. sub-aqueous)
 7. Data collected by the tracking system shall be logged on an approved report format showing dates and times for all readings. The report shall be signed by the Drilling Specialist.
- B. Ensure proper calibration of all equipment before commencing directional drilling operation; provide certification by an approved testing laboratory of calibration.
- C. Take and record alignment readings or plot points such that elevations on top of and offset dimensions from the center of the product to a permanent fixed feature (such as a local benchmark or bridge piers) are provided. Such permanent fixed feature must have prior approval of the Engineer. In addition to offsets from a permanent fixed feature, provide final path information in State Plane Coordinates (i.e., northings and eastings). Provide elevations and dimensions at all bore alignment corrections (vertical and horizontal) with a minimum distance between points of 10 feet. Provide a sufficient number of elevations and offset distances to allow an accurate plot of the vertical and horizontal alignment of the installed product.
- D. Installation Location Tolerances: It is expected that the drilling equipment proposed for use by the Contractor shall be of very high quality and shall be fully capable of maintaining an alignment for the drill hole that is in agreement with the alignment shown on the plans. The location of the initial bored hole shall be deemed acceptable by the Engineer if the deviations of the bore from the design alignment or approved adjustments do not exceed the following tolerances:
1. Profile:
 - a.) 2.0 feet within a length of 100 feet.
 - b.) No reverse curvature within 200 feet.
 - c.) Total deviation not to exceed 5 feet.
 2. Alignment:
 - a.) 3.0 feet within a length of 200 feet.
 - b.) No reverse curvature.
 - c.) Total deviation not to exceed 7.0 feet

- E. Remove all surface grid coil wires and associated installation equipment after the HDD installation is complete.

3.06 BORE HOLE DIAMETER

The Contractor shall propose and submit for approval to the Engineer the diameter of the bore hole proposed for the drilling. Minimize potential damage from soil displacement/settlement by limiting the ratio of the bore hole to the HDPE pipe size. The size of the final back reamer bit is recommended to be limited relative to the diameter of the HDPE pipe but no more than the outside diameter of the HDPE pipe plus eight inches, except as permitted in Section 3.09, G of these specifications.

3.07 EQUIPMENT REQUIREMENTS

- A. Ensure that appropriate equipment is provided to facilitate the installation as follows:

HDD Equipment				
System Description	Pipe Diameter Inches	Bore Length Feet	Torque Ft-Lbs	Thrust/Pull-back Force Lbs
HDD	18 and greater	> 2,000	> 10,000	> 70,000 But < 113,000

The HDD equipment selected by the Contractor shall be capable of drilling, steering, tracking, reaming and installing a length of pipeline that exceeds the design length by at least 200 linear feet, through all the subsurface conditions that may be present at the site.

- B. Match equipment to the size of pipe being installed. Obtain the Engineer’s approval for installations differing from the above chart. Ensure that the drill rod can meet the bend radius required for the proposed installation.
- C. All HDD equipment shall have a data logger to record pull back force during all pipe installations.
- D. All HDD equipment shall have a breakaway swivel properly attached to the HDPE pipe that will release if the pullback force exceeds the approved pulling force. If this occurs, the Contractor shall take the appropriate action described in the approved Incident Reaction Contingency Plan.

3.08 THRUST / PULLBACK REQUIREMENTS

The Contractor shall provide as part of the required working drawings submittal complete data regarding the operational and maximum thrust or pulling forces to be used for the initial drill head and back-reamer installations, and the final pull-back of the HDPE pipe. Gages or other measurement tools shall be used to monitor the forces being used.

Final pull-back of the HDPE pipe filled with water shall be made using pulling forces that do not exceed the pipe manufacturers or the Engineers approved rating. The Contractor shall consider the use of pipe vibration devices to assist in reducing the frictional forces between the pipe and the bore-hole wall. The use of forces in excess of those approved

may result in damage to the walls of the pipe if it is forced against hard objects or surfaces in the hole.

3.09 INSTALLATION

A. Drilling Fluids

The Contractor shall monitor the drilling fluid system including: recording the mix of water and additive material, initial fluid quantity required for the design bore hole, changes in quantity, pumping rate, pressures, viscosity and density during the pilot bore, back reaming and pipe installation. A system of tanks with accurate volume content gages shall be used for the drilling fluid. Drilling fluid to be re-cycled shall first be stripped of all spoil and held in a separate tank for re-measurement prior to re-introduction to the system. The volume measurements for the system shall be recorded every four hours and recorded values shall be compared to volumes calculated previously as required for the rate of progress. The comparison of actual vs. design values shall be entered on an Excel spreadsheet and when notable differences occur, the Contractor's Drilling Specialist shall execute approved procedures that were described in the Incident Reaction Contingency Plan. This procedure to monitor quantities of drilling fluids will determine adequate removal of soil cuttings and stability of the bore hole, and will detect the potential for sub-surface voids, frac-outs, pipe collapse, and other undesirable incidents. Approved working drawings shall indicate all conditions necessary for the proper disposition of drilling fluids and spoil in ways so that unnecessary inconvenience is minimized to other facility users. Erosion and sedimentation control measures shall be installed so as to prevent drilling mud from spilling out of the entrance / exit pits.

B. Pull-back

Pull-back of the pipeline shall only be performed after the drill hole has been reamed to the design size and after drill cuttings have been swept from the hole with pigging devices. The Contractor shall determine the pull-back rate in order to allow the removal of additional soil cuttings without building excess down-hole pressure and to avoid local heaving, or spills. Contain excess drilling fluids at entry and exit points until they are recycled and separated from excavated materials, or removed from the site or vacuumed during drilling operations. Ensure that entry and exit pits and storage tanks are of sufficient size to contain the expected return of drilling fluids and soil cuttings. The bored hole shall always be maintained full of drilling fluids for support of surfaces, and the fluid re-circulation equipment shall operate continuously until the HDPE pipe installation is completed and accepted by the Engineer. The HDPE pipe shall be inspected again for defects during pull-back immediately prior to installation.

C. Fluid Disposal

The Contractor shall dispose of all excess and waste drilling fluids in a manner acceptable to the appropriate local, state, or federal regulatory agencies, and as stipulated in permits or on approved working drawings.

1. When drilling in suspected contaminated ground, test the drilling fluid for contamination and appropriately dispose of it. Remove any excess material upon completion of the bore. If in the drilling process it becomes evident that the soil is contaminated, contact the Engineer immediately. Do not continue drilling without the Engineer's approval.
2. When re-circulated drilling fluid shows evidence of ground water or sea water intrusion into the bore hole, the Contractor shall take the appropriate action described in the approved Incident Reaction Contingency Plan.

- D. **Coordination**
The timing and close coordination of all boring processes is critical. Install the assembled, tested and approved HDPE pipe into the bore hole on a continuous basis after the bore is completed to take advantage of bore-hole wall “stand-up” time. Once pullback operations have commenced, the operation shall continue without interruption until the pipe is completely pulled into the borehole.
- E. **Pipe Support**
All prepared pipe that is being used for installation shall be adequately and properly supported off the ground along its entire length to avoid damaging the pipe material during pullback due to ground surface conditions. The supports shall be capable of safely carrying and restraining the pipe when it is filled with potable water.
- F. **Specialist**
The drilling fluid specialist shall remain on the project site during the entirety of the directional boring operation to ensure proper mixture and production of drilling fluids needed for the bore, and proper screening of spoils from the re-circulation fluid.
- G. **Reaming**
Upon successful completion of the pilot hole, true to line and grade, the borehole shall be reamed to the approved diameter greater than the outside diameter of the pipe being installed. Incremental increases in diameter of the reaming tool shall be used as needed until appropriate bore-hole size has been achieved. For bores with more than two radii of curvature (entrance and exit), the borehole in the area of the curves should be reamed up to 50 percent larger than the outside diameter of the carrier pipe. Pre-reaming must be accomplished with no product pipe attached to the reamer head. Pre-reaming combined with pull back of HDPE pipe attached is not permitted.
- H. **Pulling**
After reaming the borehole to the required diameter, the pipe shall be pulled through the hole. Pull pipe back in one continuous pull to avoid closure of the bore hole with stoppages for welding if required. The product pipe shall be completely filled with fresh water during pull-back. Water used during testing is acceptable. In front of the leading end of the pipe shall be a breakaway swivel and barrel reamer to deflect remaining cutting deposits and to further compact the borehole walls.
- I. **Circulation Rate**
The Contractor shall not attempt to ream at a rate greater than the drilling equipment and drilling fluid system are designed to safely handle spoil removal and fluid re-circulation.
- J. **Location**
Install the HDPE pipe such that its location can be readily determined by electronic designation after installation. Externally attach two (2) tracer wires as specified. Place wires at points on the pipe circumference at locations that are expected to encounter the least friction from the sides of the bore-hole. Connect any break in the conductor line before construction with an electrical clamp, or solder, and coat the connection with a rubber or plastic insulator to maintain the integrity of the connection from corrosion. Clamp connections must be made of brass or copper and of the butt end type with wires secured by compression. Soldered connections must be made by tight spiral winding of each wire around the other with a finished length minimum of 3 inches overlap. Tracking conductors must extend 2 feet beyond bore termini. Test conductors for electrical continuity after each splice is completed and before pull-back. Each conductor that passes must be identified

as such by removing the last 6 inches of the sheath. No deductions are allowed for failed tracking conductors. Upon completion of the directional bore, the Contractor shall demonstrate to the County that the wire is continuous and unbroken through the entire run of the pipe by providing full signal conductivity (including splices) when energizing for the entire run in the presence of the County Representative. If the wire is broken, the Contractor shall repair or replace it at no additional cost to the County, prior to continuing with the boring.

3.10 BORING PATH REPORT

- A. Furnish a Pilot Bore Path Report to the Engineer within 48 hours of completing the pilot bore hole. Upon receipt, the Engineer has 48 hours to review the data and state any objection before the Contractor begins reaming the pilot bore hole.
- B. Final Bore Path Report. Once the HDD is complete, provide a Final Bore Path Report to the Engineer. Include the following:
 - 1. Location of project, project name and number
 - 2. Name of person collecting data, including title, position and company name
 - 3. Investigation site location (Contract plans station number or reference to a permanent structure within the project right-of-way)
 - 4. Identification of the detection method used
 - 5. Elevations and offset dimensions of installed pipe as referenced to the drawings.
 - 6. State Plane Coordinates (i.e., northings and eastings) of installed pipe
 - 7. Data log of pullback force during product pipe installation
 - 8. Notations for all failed bores. Include length of pipe left in place and explanation of failed installation.

END OF SECTION

SECTION 02620 POLYETHYLENE (PE) PRESSURE PIPE**PART 1 GENERAL****1.01 SCOPE OF WORK**

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required to install high density polyethylene pressure pipe, fittings, and appurtenances as shown on the Drawings and specified in the Contract Documents and these Standards.
- B. Newly installed pipe shall be kept clean and free of all foreign matter and gouges.
- C. All pipe shall be correctly color coded / identified.

1.02 RELATED WORK

- A. Section 02616 - Disinfecting Potable Water Pipe Lines
- B. Section 02617 - Installation and Testing of Pressure Pipe
- C. Section 02619 - Horizontal Directional Drilling
- D. Section 02619 - Pipeline Cleaning
- E. Section 02640 - Valves and Appurtenances

1.03 QUALIFICATIONS

- A. All polyethylene pipe, fittings, and appurtenances shall be furnished by a single manufacturer who is fully experienced, reputable and qualified in the manufacture of the items to be furnished.

1.04 SUBMITTALS

- A. The Contractor shall submit to the Engineer, within ten days after receipt of Notice to Proceed, a list of materials to be furnished, the names of the suppliers and the appropriate shop drawings for all polyethylene pipe and fittings.
- B. The Contractor shall submit the pipe manufacturer's certification of compliance with the applicable sections of the Specifications.
- C. The Contractor shall submit shop drawings showing installation method and the proposed method and specialized equipment to be used.

PART 2 PRODUCTS**2.01 POLYETHYLENE PRESSURE PIPE**

- A. Polyethylene pipe 4" diameter and larger shall comply with the following:
 - 1. Manufactured from PE4710 high density polyethylene meeting ASTM D-3350 cell

classification of 445574 (formerly PE3408 meeting 345464C per ASTM D3350-02).

2. Dimension Ratio 9 (DR9).
3. Ductile-iron sizing system (DIPS).
4. Manufactured in accordance with AWWA C-906, "Polyethylene (PE) Pressure Pipe and Fittings 4 inch through 63 inch for Water Distribution".
5. Comply with NSF Standard 61.
6. DriscoPlex 4000 manufactured by Performance Pipe, or an approved equal.

2.02 JOINTS

- A. Where PE pipe is joined to PE pipe, it shall be by thermal butt fusion. Thermal fusion shall be accomplished in accordance with the written instructions of the pipe manufacturer and fusion equipment supplier. The Contractor installing thermal butt fused PE pipe shall have a minimum of five years' experience performing this type of work.
- B. Flanged joints, mechanical joints, and molded fittings shall be in accordance with AWWA C906. Fusion and mechanical connections are allowed, chemical (solvents, epoxies, etc.) are not allowed.

2.03 DETECTION

- A. Refer to Section 02619, Horizontal Directional Drilling, for tracer wire requirements.

2.04 IDENTIFICATION

- A. Pipe shall bear identification markings in accordance with AWWA C906.
- B. Pipe shall be color coded blue for water, purple (Pantone 522 C) for reclaimed water or green for pressure sewer using a solid pipe color or embedded colored stripes. Where stripes are used, there shall be a minimum of three stripes equally spaced.

PART 3 EXECUTION

3.01 INSTALLING POLYETHYLENE PRESSURE PIPE AND FITTINGS

- A. All polyethylene pressure pipe shall be installed as specified in Section 02619, Horizontal Directional Drilling. If directional bore is used, or if directed by the Owner/Engineer, the entire surface area of construction shall be surrounded by silt barriers during construction.

3.02 INSPECTION AND TESTING

All pipelines shall remain undisturbed for 24 hours to develop complete strength at all joints. All pipelines shall be subjected to a hydrostatic pressure and leak test as specified in Section 02619, Horizontal Directional Drilling.

END OF SECTION

SECTION 02640 VALVES AND APPURTENANCES

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 all valves and appurtenances as shown on the Drawings and as specified herein.
- B. All valves and appurtenances shall be of the size shown on the Drawings and, to the extent possible, all equipment of the same type on the Project shall be from one manufacturer.
- C. All valves and appurtenances shall have the name of the manufacturer and the working pressure for which they are designed cast in raised letters upon some appropriate part of the body.
- D. All valves shall have a factory applied, fusion bonded epoxy coating on interior and exterior unless noted otherwise in the plans or this specification.
- E. The equipment shall include, but not be limited to, the following:
 - 1. Gate valves (Sec. 2.01)
 - 2. Pressure Sustaining and Check Valves (Sec. 2.02)
 - 3. Ball Valves for PVC Pipe (Sec. 2.03)
 - 4. Butterfly Valves (Sec. 2.04)
 - 5. Plug Valves (Sec. 2.05)
 - 6. Valve Actuators (Sec. 2.06)
 - 7. Air Release Valves (Sec. 2.07)
 - 8. Valves Boxes (Sec. 2.08)
 - 9. Corporation Cocks (Sec. 2.09)
 - 10. Flange Adapter Couplings (Sec. 2.10)
 - 11. Flexible Couplings (Sec. 2.11)
 - 12. Hose Bibs (Sec. 2.12)
 - 13. Slow Closing Air and Vacuum Valves (Sec. 2.13)
 - 14. Surge Anticipator Valve (Sec. 2.14)
 - 15. Check Valves (Sec. 2.15)
 - 16. Hydrants (Sec. 2.16)
 - 17. Restraining Clamps (Sec. 2.17)
 - 18. Tapping Sleeves and Tapping Valves (Sec. 2.18)
 - 19. Single Acting Altitude Valves (Sec. 2.19)

1.02 DESCRIPTION OF SYSTEMS

All of the equipment and materials specified herein are intended to be standard for use in controlling the flow of potable water, reclaim water, wastewater, etc., depending on the applications.

1.03 QUALIFICATIONS

All of the types of valves and appurtenances shall be products of well-established

reputable firms who are fully experienced and qualified in the manufacture of the particular equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications as applicable. Valves shall be as covered under mechanical devices in Section 8 of ANSI/NSF Standard 61.

1.04 SUBMITTALS

- A. Submit to the County within 30 days after execution of the contract a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site.
- B. Complete shop drawings of all valves and appurtenances shall be submitted to the County for approval in accordance with the Specifications.

1.05 TOOLS

Special tools, if required for normal operation and maintenance shall be supplied with the equipment.

PART 2 PRODUCTS

2.01 GATE VALVES

- A. All buried valves shall have cast or ductile iron three (3) piece valve bodies.
- B. Where indicated on the drawings or necessary due to locations, size, or inaccessibility, chain wheel operators shall be furnished with the valves. Such operators shall be designed with adequate strength for the valves with which they are supplied and provide for easy operation of the valve. Chains for valve operators shall be galvanized.
- C. Where required, gate valves shall be provided with a box cast in a concrete slab and a box cover. Length of box shall include slab thickness. Box cover opening shall be for valve stem and nut. Valve wrenches and extension stems shall be provided by the manufacturer to actuate the valves. The floor box and cover shall be equal to those manufactured by Rodney Hunt Machine Company, Orange, Massachusetts, Clow, DeZurik or approved equal.
- D. Gate valves with 3"-20" diameters shall be resilient seated, manufactured to meet or exceed the requirements of AWWA C509 or C515 and UL/FM of latest revision and in accordance with the following specifications. Valves shall have an unobstructed waterway equal to or greater than the full nominal diameter of the valve.
- E. Wrench nut shall be provided for operating the valve.
- F. Valves shall be suitable for an operating pressure of 200 psi and shall be tested in accordance with AWWA C509 or C515. Mueller, Kennedy, M&H, and Clow are acceptable valves.
- G. All bonnet bolts, nuts and studs shall be stainless steel.

2.02 PRESSURE SUSTAINING AND CHECK VALVE

- A. Pressure sustaining and check valve shall be pilot operated diaphragm actuated valve

with cast iron body, bronze trim, and 125-pound flanged ends. The valve shall be hydraulically operated, diaphragm type globe valve. The main valve shall have a single removable seat and a resilient disc, of rectangular cross section, surrounded on three and a half sides. The stainless steel stem shall be fully guided at both ends by a bearing in the valve cover, and an integral bearing in the valve seat. It shall be sleeved at both ends with delrin. No external packing glands are permitted and there shall be no pistons operating the main valve or any controls. The valve shall be equipped with isolation cocks to service the pilot system while permitting flow if necessary. Main valve and all pilot controls shall be manufactured in the United States of America. Valve shall be single chamber type, with seat cut to 5 degrees taper.

- B. Valve shall maintain a minimum (adjustable) upstream pressure to a preset (adjustable) maximum. The pilot system shall consist of two direct acting, adjustable, spring loaded diaphragm valves.
- C. Valve shall be cast iron (ASTM A48) with main valve trim of brass (QQB-B-626) and bronze (ASTM B61). The pilot control valves shall be cast brass (ASTM B62) with 303 stainless steel trim. All ferrous surfaces inside and outside shall have a 2-part epoxy coating. Valve shall be similar in all respects to CLA-VAL Company, Model 692G-01ABKG, as manufactured by CLA-VAL Company, Winter Park, Florida, or similar pressure sustaining and check valve as manufactured by Golden Alderson; or approved equal.

2.03 BALL VALVES FOR PVC PIPE

- A. Ball valves for PVC pipe shall be of PVC Type 1 with union, socket, threaded or flanged ends as required. Ball valves shall be full port, full flow, all plastic construction, 150 psi rated with teflon seat seals and T-handles. PVC ball valves shall be as manufactured by Celanese Piping Systems, Inc., Wallace and Tiernan, Inc., Plastiline, Inc., or approved equal.
- B. All valves shall be mounted in such a position that valve position indicators are plainly visible when standing on the floor.

2.04 BUTTERFLY VALVES

- A. Butterfly valves shall conform to the AWWA Standard Specifications for Rubber Seated Butterfly Valves, Designated C504, except as hereinafter specified. Valves, except as specified hereinafter, shall be Class 150A or B, except that valves furnished downstream of the high service pumps shall be Class 250 and equal to those manufactured by Henry Pratt Company, DeZurik, Mueller, or approved equal. M&H/Kennedy/Clow are not generally approved equals. Ductile iron conforming to ASTM A536, Grade 65-45-12 shall be provided for all Class 250 valves. All valves shall be leak tested at 200 psi.
- B. The face-to-face dimensions of flanged end valves shall be in accordance with Table 1 of above mentioned AWWA Specification for short-body valve. Adequate two-way thrust bearings shall be provided. Flange drilling shall be in accordance with ANSI B16.1.
- C. Valve seats shall be an EPDM elastomer. Valve seats 24 inches and larger shall be field adjustable and replaceable without dismounting operator disc or shaft and without removing the valve from the line. All retaining segments and adjusting devices shall be of corrosion resistant material with stainless Nylock screws and be capable of the 1/8-inch adjustment. Valves 20 inches and smaller shall have bonded or mechanically restrained

seats as outlined in AWWA C 504. Where the EPDM seat is mounted on the valve body, the mating edge of the valve disc shall be 18-8 stainless steel or Nickel-Chrome, 80-20%. Where the EPDM seat is mounted on the valve disc, the valve body shall be fitted with an 18-8 stainless steel seat offset from the shaft, mechanically restrained and covering 360 degrees of the peripheral opening or seating surface.

- D. The valve body shall be constructed of ductile iron or close grain cast iron per ASTM A126, Class B with integrally cast hubs for shaft bearing housings of the through boss-type. Butterfly valves of the "wafer" or "spool" type will not be accepted.
- E. The valve shaft shall be turned, ground, and polished constructed of 18-8, ASTM A-276, Type 304 stainless steel and designed for both torsional and shearing stresses when the valve is operated under its greatest dynamic or seating torque. Shaft shall be of either a one piece unit extending full size through the valve disc and valve bearing or it may be of a stub shaft design. Shaft bearings shall be teflon or nylon, self-lubricated type.
- F. All valves shall be subject to hydrostatic and leakage tests at the point of manufacture. The hydrostatic test for Class 250 valves shall be performed with an internal hydrostatic pressure equal to 500 psi applied to the inside of the valve body of each valve for a period of five minutes. During the hydrostatic test, there shall be no leakage through the metal, the end joints or the valve shaft seal. The leakage test for the Class 250 valves shall be performed at a differential pressure of 230 psi and against both sides of the valve. No adjustment of the valve disc shall be necessary after pressure test for normal operation of valve. The Class 150 valves shall be tested in conformance with AWWA C-504.
- G. In general, the butterfly valve operators shall conform to the requirements of Section 3.8 of the AWWA Standard Specifications for Rubber Seated Butterfly Valves, Designation C504, insofar as applicable, and as herein specified.
- H. Gearing for the operators shall be totally enclosed in a gear case in accordance with paragraph 3.8.3 of the above mentioned AWWA Standard Specification.
- I. Operators shall be capable of seating and unseating the disc against the full design pressure of velocity, as specified for each class, into a dry system downstream and shall transmit a minimum torque to the valve. Operators shall be rigidly attached to the valve body.
- J. The manufacturer shall certify that the required tests on the various materials and on the completed valves have been satisfactory and that the valves conform with all requirements of this Specification and the AWWA standard.
- K. Where indicated on the Drawings, extension stems, floor stands, couplings, stem guides, and floor boxes as required shall be furnished and installed.

2.05 PLUG VALVES

- A. All plug valves shall be eccentric plug valves capable of sustaining 150 psi in either direction without leaking.

Exception: Single direction plug valves may be used if it is clearly demonstrated they will never be required to resist pressure in both directions either in service or during pipe line testing.

- B. Plug valves shall be tested in accordance with current AWWA Standard C-504-80 Section 5. Each valve shall be performance tested in accordance with paragraph 5.2 and shall be given a leakage test and hydrostatic test as described in paragraphs 5.3 and 5.4. Plug valves shall be Kennedy or Dezurik.
- C. Plug valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall be furnished with end connections as shown on the Plans. Flanged valves shall be faced and drilled to the ANSI 150 lb. standard. Mechanical joint ends shall be to the AWWA Standard C111-72. Bell ends shall be to the AWWA Standard C100-55 Class B. Screwed ends shall be to the NPT standard.
- D. Plug valve bodies shall be of ASTM A126 Class B Semi-steel, 31,000 psi tensile strength minimum in compliance with AWWA Standard C507-73, Section 5.1 and AWWA Standard C504-70 Section 6.4. Port areas for valves 20-inches and smaller shall be 80 percent of full pipe area. Valves 24 inch and larger shall have a minimum port area between 80 and 100 percent of full nominal pipe area. All exposed nuts, bolts, springs, washers, etc. shall be zinc or cadmium plated. Resilient plug facings shall be of Hycar or Neoprene.
- E. Plug valves shall be furnished with permanently lubricated stainless steel or oil-impregnated bronze upper and lower plug stem bushings. These bearings shall comply with current AWWA Standards.

2.06 VALVE ACTUATORS

- A. General
 - 1. All valve actuators shall conform to Section 3.8 of the AWWA Standard Specification and shall be either manual or motor operated.
 - 2. Actuators shall be capable of seating and unseating the disc against the full design pressure and velocity, as specified for each class, into a dry system downstream, and shall transmit a minimum torque to the valve. Actuators shall be rigidly attached to the valve body.
 - 3. Butterfly valve actuators shall conform to the requirements of Section 3.8 of the AWWA Standard specifications for Rubber Seated Butterfly Valves, Designated C504, insofar as applicable and as herein specified.
- B. Manual Actuators
 - 1. Manual actuators shall have permanently lubricated, totally enclosed gearing with handwheel and gear ratio sized on the basis of actual line pressure and velocities. Actuators shall be equipped with handwheel, position indicator, and mechanical stop-limiting locking devices to prevent over travel of the disc in the open and closed positions. They shall turn counter-clockwise to open valves. Manual actuators shall be of the traveling nut, self-locking type and shall be designed to hold the valve in any intermediate position between fully open and fully closed without creeping or fluttering. Actuators shall be fully enclosed and designed to produce the specified torque with a maximum pull of 80 pounds on the handwheel or chainwheel. Actuator components shall withstand an input of 450 foot pounds for 30" and smaller and 300 foot pounds for larger than 30" size valves at extreme actuator positions without damage. Valves located above grade shall have handwheel and position indicator, and valves located below grade shall be equipped with a two inch (2") square AWWA operating nut located at ground level and cast iron extension type valve box. Valve actuators shall conform to AWWA

C. Motor Actuators (Modulating)

1. The motor actuated valve controller shall include the motor, actuator unit gearing, limit switch gearing, limit switches, position transmitter which shall transmit a 4-20 mA DC signal, control power transformer, electronic controller which will position the valve based on a remote 4-20 milliamp signal, torque switches, bored and keywayed drive sleeve for non-rising stem valves, declutch lever and auxiliary handwheel as a self-contained unit.
2. The motor shall be specifically designed for valve actuator service using 480 volt, 60 Hertz, three phase power as shown, on the electrical drawings. The motor shall be sized to provide an output torque and shall be the totally enclosed, non-ventilated type. The power gearing shall consist of helical gears fabricated from heat treated alloy steel forming the first stage of reduction. The second reduction stage shall be a single stage worm gear. The worm shall be of alloy steel with carburized threads hardened and ground for high efficiency. The worm gear shall be of high tensile strength bronze with hobbled teeth. All power gearing shall be grease lubricated. Ball or roller bearings shall be used throughout. Preference will be given to units having a minimum number of gears and moving parts. Spur gear reduction shall be provided as required.
3. Limit switches and gearing shall be an integral part of the valve control. The limit switch gearing shall be made of bronze and shall be grease lubricated, intermittent type and totally enclosed to prevent dirt and foreign matter from entering the gear train. Limit switches shall be of the adjustable type capable of being adjusted to trip at any point between fully opened valve and fully closed valve.
4. The speed of the actuator shall be the responsibility of the system supplier with regard to hydraulic requirements and response compatibility with other components within the control loop. Each valve controller shall be provided with a minimum of two rotor type gear limit switches, one for opening and one for closing. The rotor type gear limit switch shall have two normally open and two normally closed contacts per rotor. Gear limit switches must be geared to the driving mechanism and in step at all times whether in motor or manual operation. Provision shall be made for two additional rotors as described above, each to have two normally open and two normally closed contacts. Each valve controller shall be equipped with a double torque switch. The torque switch shall be adjustable and will be responsive to load encountered in either direction of travel. It shall operate during the complete cycle without auxiliary relays or devices to protect the valve, should excessive load be met by obstructions in either direction of travel. The torque switch shall be provided with double-pole contacts.
5. A permanently mounted handwheel shall be provided for manual operation. The handwheel shall not rotate during electric operations, but must be responsive to manual operation at all times except when being electrically operated. The motor shall not rotate during hand operation nor shall a fused motor prevent manual operation. When in manual operating position, the unit will remain in this position until motor is energized at which time the valve operator will automatically return to electric operation and shall remain in motor position until handwheel operation is desired. This movement from motor operation to handwheel operation shall be accomplished by a positive declutching lever which will disengage the motor and motor gearing mechanically, but not electrically. Hand operation must be reasonably fast. It shall be impossible to place the unit in manual operation when the motor is running. The gear limit switches and torque switches shall be housed in a single easily accessible compartment integral with the power compartment of

the valve control. All wiring shall be accessible through this compartment. Stepping motor drives will not be acceptable.

6. The motor with its control module must be capable of continuously modulating over its entire range without interruption by heat protection devices. The system, including the operator and control module must be able to function, without override protection of any kind, down to zero dead zone.
7. All units shall have strip heaters in both the motor and limit switch compartments.
8. The actuator shall be equipped with open-stop-close push buttons, an auto-manual selector switch, and indicating lights, all mounted on the actuator or on a separate locally mounted power control station.
9. The electronics for the electric operator shall be protected against temporary submergence.
10. Actuators shall be Limatorque L120 with Modutronic Control System containing a position transmitter with a 4-20MA output signal or equal.

D. Motor Actuators (Open-Close)

1. The electronic motor-driven valve actuator shall include the motor, actuator gearing, limit switch gearing, limit switches, torque switches, fully machined drive sleeve, declutch lever, and auxiliary handwheel as a self-contained unit.
2. The motor shall be specifically designed for valve actuator service and shall be of high torque totally enclosed, nonventilated construction, with motor leads brought into the limit switch compartment without having external piping or conduit box.
 - (a) The motor shall be of sufficient size to open or close the valve against maximum differential pressure when voltage to motor terminals is 10% above or below nominal voltage.
 - (b) The motor shall be prelubricated and all bearings shall be of the anti-friction type.
3. The power gearing shall consist of helical gears fabricated from heat treated steel and worm gearing. The worm shall be carburized and hardened alloy steel with the threads ground after heat treating. The worm gear shall be of alloy bronze accurately cut with a hobbing machine. All power gearing shall be grease lubricated. Ball or roller bearings shall be used throughout.
4. Limit switches and gearing shall be an integral part of the valve actuator. The switches shall be of the adjustable rotor type capable of being adjusted to trip at any point between fully opened valve and fully closed valve. Each valve controller shall be provided with a minimum of two rotor type gear limit switches, one for opening and one for closing (influent valves require additional contacts to allow stopping at an intermediate position). The rotor type gear limit switch shall have two normally open and two normally closed contacts per toro. Additional switches shall be provided if shown on the control and/or instrumentation diagrams. Limit switches shall be geared to the driving mechanism and in step at all times whether in motor or manual operation. Each valve actuator shall be equipped with a double torque switch. The torque switch shall be adjustable and will be responsive to load encountered in either direction of travel. It shall operate during the complete cycle without auxiliary relays or devices to protect the valve should excessive load be met by obstructions in either direction of travel. Travel and thrusts shall be independent of wear in valve disc or seat rings.
5. A permanently mounted handwheel shall be provided for manual operation. The handwheel shall not rotate during electric operation except when being electrically operated. The motor shall not rotate during hand operation, nor shall a fused motor prevent manual operation. When in manual operating position, the unit will remain in this position until motor is energized at which time the valve actuator will

automatically return to electric operation and shall remain in motor position until handwheel operation is desired. Movement from motor operation to handwheel operation shall be accomplished by a positive declutching lever which will disengage the motor and motor gearing mechanically, but not electrically. Hand operation must be reasonably fast. It shall be impossible to place the unit in manual operation when the motor is running.

6. Valve actuators shall be equipped with an integral reversing controller and three phase overload relays, Open-Stop-Close push buttons, local-remote-manual selector switch, control circuit transformer, three-phase thermal overload relays and two pilot lights in a NEMA 4X enclosure. In addition to the above, a close coupled air circuit breaker or disconnect switch shall be mounted and wired to the valve input power terminals for the purpose of disconnecting all underground phase conductors.
7. The valve actuator shall be capable of being controlled locally or remotely via a selector switch integral with the actuator. In addition, an auxiliary dry contact shall be provided for remote position feedback.
8. Valve A.C. motors shall be designed for operation on a 480 volt, 3-phase service. Valve control circuit shall operate from a fuse protected 120 volt power supply.
9. Motor operators shall be as manufactured by Limitorque Corporation, Type L120 or approved equal.

2.07 AIR RELEASE VALVES

The air release valves for use in water or force mains shall be installed as shown on the Drawings. The valves shall have a cast iron body cover and baffle, stainless steel float, bronze water diffuser, Buna-N or Viton seat, and stainless steel trim. The fittings shall be threaded. The air release valves shall be Model 200A or 400A as manufactured by APCO Valve and Primer Corporation, Schaumburg, Illinois; or approved equal.

2.08 VALVE BOXES

- A. Buried valves shall have cast-iron three piece valve boxes or HDPE adjustable valve boxes. Cast iron valve boxes shall be provided with suitable heavy bonnets and shall extend to such elevation at or slightly above the finished grade surface as directed by the County. The barrel shall be two-piece, screw type, having a 5-1/4 inch shaft. The upper section shall have a flange at the bottom with sufficient bearing area to prevent settling and shall be complete with cast iron covers. Covers shall have WATER, SEWER, or RECLAIM, as applicable, cast into the top. Lids will be painted "safety" blue for potable, purple for reclaimed, and green for sanitary sewer.
- B. All valves shall have actuating nuts extended to within four (4) feet of the top of the valve box. All valve extensions will have a centering guide plate two (2) inches maximum below the actuating nut. The valve extension shall be fastened to the existing nut with a set screw. Valve boxes shall be provided with a concrete base and a valve nameplate engraved with lettering 1/8-inch deep as shown on the Drawings.
- C. HDPE adjustable valve boxes shall be one complete assembled unit composed of the valve box and extension stem. All moving parts of the extension stem shall be enclosed in a housing to prevent contact with the soil. Valve box assembly shall be adjustable to accommodate variable trench depths.
- D. The entire assembly shall be made of heavy wall high density polyethylene. All exterior components shall be joined with stainless steel screws. The valve box top section shall be

adaptable to fit inside a valve box upper section.

- E. The stem assembly shall be of a telescoping design that allows for variable adjustment length. The stem material shall be of plated steel square tubing. The stem assembly shall have a built-in device that keeps the stem assembly from disengaging at its fully extended length. The extension stem must be torque tested to 1000 foot pounds. Covers shall have WATER, SEWER or RECLAIMED clearly and permanently impressed into the top surface.

2.09 CORPORATION COCKS

Corporation cocks for connections to cast-iron, ductile iron or steel piping shall be all brass or bronze suitable for 180 psi operating pressure and similar to Mueller Co. H-10046 or approved equal by Clow Corp., and shall be of sizes required and/or noted on the Drawings.

2.10 FLANGE ADAPTER COUPLINGS

Flange adapter couplings shall be of the size and pressure rating required for each installation and shall be suitable for use on either cast iron or ductile iron pipe. They shall be similar or approved equal to Dresser Company, Style 128. All couplings shall have a sufficient number of factory installed anchor studs to meet or exceed a minimum test pressure rating of 230 psi minimum.

2.11 FLEXIBLE COUPLINGS

Flexible couplings shall be either the split type or the sleeve type as shown on the Drawings.

1. Split type coupling shall be used with all interior piping and with exterior pipings noted on the Drawings. The couplings shall be mechanical type for radius groove piping. The couplings shall mechanically engage and lock grooved pipe ends in a positive couple and allow for angular deflection and contracting and expansion.
2. Couplings shall consist of malleable iron, ASTM Specification A47, Grade 32510 housing clamps in two or more parts, a single chlorinated butyl composition sealing gasket with a "C" shaped cross-section and internal sealing lips projecting diagonally inward, and two or more oval track head type bolts with hexagonal heavy nuts conforming to ASTM Specification A 183 and A194 to assemble the housing clamps. Bolts and nuts shall be hot dipped galvanized after fabrication.
3. Victaulic type couplings and fittings may be used in lieu of flanged joints. Pipes shall be radius grooved as specified for use with the Victaulic couplings. Flanged adapter connections at fittings, valves, and equipment shall be Victaulic Vic Flange Style 741, equal by Gustin-Bacon Group, Division of Certain-Teed Products, Kansas City, Kansas, or approved equal.
4. Sleeve type couplings shall be used with all buried piping. The couplings shall be of steel and shall be Dresser Style 38 or 40, as shown on the Drawings, or equal. The coupling shall be provided with hot dipped galvanized steel bolts and nuts unless indicated otherwise.
5. All couplings shall be furnished with the pipe stop removed.
6. Couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe.
7. If the Contractor decides to use victaulic couplings in lieu of flanged joints, he shall be responsible for supplying supports for the joints.

2.12 HOSE BIBS

Hose bibs shall be 3/4" or 1" brass, polished chromium plated brass, with vacuum breaker as noted on the drawings.

2.13 SLOW CLOSING AIR AND VACUUM VALVES

- A. The Contractor shall furnish and install slow closing air and vacuum valves as shown on the Drawings which shall have two (2) independent valves bolted together. The air and vacuum valve shall have all stainless steel float, guided on both ends with stainless shafts. The air and vacuum valve seat shall be Buna-N to insure drop tight closure. The Buna-N seat shall be fastened to the cover stainless shoulder screws in a manner to prevent distortion of the seat. The float shall be guided at both ends with stainless steel bushings.
- B. The valve cover shall have a male lip designed to fit into the body register for accurate alignment of the float into the Buna-N seat. The valve cover shall have 250-pound class flanged outlet connection.
- C. The surge check valve shall be bolted to the inlet of the air and vacuum valve and consist of a body, seat, disc, and compression spring. A surge check unit shall operate on the interphase between the kinetic energy and relative velocity flows of air and water, so that after air passes through, and water rushes into the surge check, the disc starts to close, reducing the rate of flow of water into the air valve by means of throttling orifices in the disc to prevent water hammer in the air valves. The surge check orifices must be adjustable type for regulation in the field to suit operating conditions. Valve shall be rated for 250-pound class working pressure.
- D. The complete slow closing air and vacuum valve with air release valve shall have been flow tested in the field, substantiated with test data to show reduction of surge pressure in the valve. Flow test data shall be submitted with initial shop drawings for approval.
- E. Valve exterior to be painted Red Oxide, Phenolic TT-P86, Primer or approved equal for high resistance to corrosion.
- F. All materials of construction shall be certified in writing to conform to ASTM specifications as follows:

Air Valve Cover, Body, and Surge Check Body	Cast Iron	ASTM A48, Class 30
Float	Stainless Steel	ASTM A240
Surge Check Seat and Disc	Stainless Steel	ASTM A582
Air Valve Seat	Buna-N	
Spring	Stainless Steel	T302

2.14 SURGE ANTICIPATOR VALVES

- A. Surge anticipator valves shall be furnished for the pumping systems as shown on the Drawings. The valve shall be hydraulically operated, pilot controlled, and diaphragm or piston actuated. The main valve shall be cast iron conforming to ASTM A48 with bronze trim conforming to ASTM B61 and flanged ends conforming to ANSI B161.1. The main valve shall be globe type with a single removable seat and a resilient disc.
- B. The diaphragm actuated valve shall have a stainless steel stem guided at both ends by a bearing in the valve cover and an integral bearing surface in the seat. No external packing glands shall be permitted. The valve shall be fully serviceable without removing it from the line. The pilot system shall be of noncorrosive construction and provided with isolation cocks.
- C. The piston actuated valve shall operate on the differential piston principle. The valve piston shall be guided on its outside diameter. The valve shall be able to operate in any position and shall be fully serviceable without removing it from the line. The pilot system shall be provided with isolation cocks, and be of noncorrosive materials of construction.
- D. The valve shall be designed specifically to minimize the effects of water hammer, resulting from power failure at the pumping station, or from normal stopping and starting of pumping operators. The valve shall open hydraulically on a down surge, or low pressure wave created when the pump stops, remain open during the low pressure cycle in order to be open when the high pressure wave returns. The high pressure pilot shall be adjustable over a 20 to 200 psi range and the low pressure pilot shall be adjustable over a 15 to 75 psi range. The valve shall be the 250 Class.

2.15 CHECK VALVES

- A. Check valves for cast iron and ductile iron pipe lines shall be swing type and shall meet the material requirements of AWWA Specification C508. The valves shall be iron body, bronze mounted, single disc, 175 psi working water pressure and nonshock. Valves shall be as manufactured by Mueller, Clow, Kennedy, or M&H. Valves 8" and larger shall be air cushioned to reduce valve slam.
- B. When there is no flow through the line, the disc shall hang lightly against its seat in practically a vertical position. When open, the disc shall swing clear of the waterway.
- C. Check valves shall have bronze seat and body rings, extended bronze hinge pins and bronze nuts on the bolts of bolted covers. The interior and exterior of the valve body shall have a factory applied fusion bonded or 10 mil 2 part epoxy coating (Protecto 401 or approved equal).
- D. Valves shall be so constructed that disc and body seat may easily be removed and replaced without removing the valve from the line. Valves shall be fitted with an extended hinge arm with outside lever and weight. Weights provided and approved by the County shall be installed.

2.16 HYDRANTS

Hydrants shall be AVK Series 2780 Barrel (nostalgic style with stainless steel bolts) American Darling B-84-B or Mueller Super Centurian 250, or approved equal and shall conform to the "Standard Specification for Fire Hydrants for Ordinary Water Works

Service", AWWA C502, and UL/FM certified, and shall in addition meet the specific requirements and exceptions which follow:

1. Hydrants shall be according to manufacturer's standard pattern and of standard size, and shall have one 4-1/2" steamer nozzle and two 2-1/2" hose nozzles.
2. Hydrant inlet connections shall have mechanical joints for 6" ductile-iron pipe.
3. Hydrant valve opening shall have an area at least equal to that area of a 5-1/4" minimum diameter circle and be obstructed only by the valve rod. Each hydrant shall be able to deliver 500 gallons minimum through its two 2-1/2" hose nozzles when opened together with a loss of not more than 2 psi in the hydrants.
4. Each hydrant shall be designed for installation in a trench that will provide 5-ft. cover.
5. Hydrants shall be hydrostatically tested as specified in AWWA C502.
6. Hydrants shall be rated at 200 psi.
7. All nozzle threads shall be American National Standard.
8. Each nozzle cap shall be provided with a Buna N rubber washer.
9. Hydrants shall be so arranged that the direction of outlets may be turned 90 degrees without interference with the drip mechanism and without the mechanism obstructing the discharge from any outlet.
10. Hydrants must be capable of being extended without removing any operating parts.
11. Hydrants shall have bronze-to-bronze seatings as per AWWA C502-85.
12. Hydrant main valve closure shall be of the compression type opening against the pressure and closing with the pressure. The resilient seat material shall meet the requirements of AWWA C-509 and shall preferably be EPDM Elastomer.
13. Internal and below ground iron parts (bonnet, nozzle section and base) shall have a fusion bonded epoxy coating per AWWA C550. Aboveground external hydrant parts (cap, bonnet and nozzle section) shall be either epoxy coated together with a UV resistant polyester coating or have two shop coats of paint per AWWA C502. The lower stand pipe or barrel shall be protected with asphaltic coatings per AWWA C502.
14. Exterior nuts, bolts and washer shall be stainless steel. Bronze nuts may be used below grade.
15. All internal operating parts shall be removable without requiring excavation.

2.17 RESTRAINING CLAMPS

Restraining clamp assemblies as detailed in the drawings for use at hydrant connections to water mains, or at fittings where shown on the Drawings, shall be as manufactured by American Cast Iron Pipe, Star Pipe Products, U.S. Pipe; or approved equal.

2.18 TAPPING SLEEVES AND GATE VALVES

- A. Tapping valves shall meet the requirement of AWWA C500. The valves shall be flanged, shall be mechanical joint outlet with nonrising stem, designed for vertical burial and shall open left or counterclockwise. Stuffing boxes shall be the "O-ring" type. Operating nut shall be AWWA Standard 2" square for valves 2" and up. The valves shall be provided with an overload seat to permit the use of full size cutters. Gaskets shall cover the entire area of flange surfaces and shall be supplied with EPDM wedges up to 30" diameter.
- B. Tapping sleeves and saddles shall seal to the pipe by the use of a confined "O" ring gasket, and shall be able to withstand a pressure test of 180 psi for one hour with no leakage in accordance with AWWA C110, latest edition. A stainless steel 3/4" NPT test

plug shall be provided for pressure testing. All bolts joining the two halves shall be stainless steel and shall be included with the sleeve or saddle. Sleeves and saddles shall be protected from corrosion by being fusion applied epoxy coated, or be made of 18-8 Type 304 stainless steel. Saddle straps shall be 18-8 Type 304 stainless steel.

2.19 SINGLE ACTING ALTITUDE VALVES

A. Function

1. The altitude control valve shall be of the single acting type, closing off tightly when the water reaches the maximum predetermined level in the tank to prevent overflow; and opening to permit replenishing of the tank supply when the water level drops approximately 6" to 12" below the maximum level.
2. A hand operated valve in the power water line to the top of the piston shall permit adjustment of the speed of valve closing. The tank water level control shall be by means of a diaphragm operated, spring loaded, three way pilot which directs power water to or from the top of the main valve piston. The three way pilot shall be of bronze construction. The diaphragm surface exposed to the tank head shall be not less than 57 sq. inches. It shall be possible to adjust the spring above the diaphragm for water level control approximately 20% above or below the factory setting.

B. Description

1. The main valve shall operate on the differential piston principle such that the area on the underside of the piston is no less than the pipe area on the upper surface of the piston is of a greater area than the underside of the piston.
2. The valve piston shall be guided on its outside diameter by long stroke stationary Vee ports which shall be downstream of the seating surface to minimize the consequences of throttling. Throttling shall be done by the valve Vee ports and not the valve seating surfaces.
3. The valve shall be capable of operating in any position and shall incorporate only one flanged cover at the valve top from which all internal parts shall be accessible. There shall be no stems, stem guides, or spokes within the waterway. There shall be no springs to assist the valve operation.

C. Construction

1. The valve body shall be of cast iron ASTM A-126 with flanges conforming to the latest ANSI Standards. The valve shall be extra heavy construction throughout. The valve interior trim shall be bronze B-62 as well as the main valve operation.
2. The valve seals shall be easily renewable while no diaphragm shall be permitted within the main valve body.
3. All controls and piping shall be of non-corrosive construction.
4. A visual valve position indicator shall be provided for observing the valve piston position at any time.

D. Figure Number

The valves shall be the 20" Globe type (Fig. 3200-D) as manufactured by GA Industries of Mars, Pennsylvania, or approved equal.

PART 3 EXECUTION

3.01 INSTALLATION

- A. All valves and appurtenances shall be installed in the location shown, true to alignment and rigidly supported. Any damage occurring to the above items before they are installed shall be repaired to the satisfaction of the County.
- B. After installation, all valves and appurtenances shall be tested at least two hours at the working pressure corresponding to the class of pipe, unless a different test pressure is specified. If any joint proves to be defective, it shall be repaired to the satisfaction of the County.
- C. Install all floor boxes, brackets, extension rods, guides, the various types of operators and appurtenances as shown on the Drawings that are in masonry floors or walls, and install concrete inserts for hangers and supports as soon as forms are erected and before concrete is poured. Before setting these items, the Contractor shall check all plans and figures which have a direct bearing on their location and he shall be responsible for the proper location of these valves and appurtenances during the construction of the structures.
- D. Pipe for use with flexible couplings shall have plain ends as specified in the respective pipe sections.
- E. Flanged joints shall be made with high strength, low alloy Corten bolts, nuts and washers. Mechanical joints shall be made with mild corrosion resistant alloy steel bolts and nuts. All exposed bolts shall be painted the same color as the pipe. All buried bolts and nuts shall be heavily coated with two (2) coats of bituminous paint comparable to Inertol No. 66 Special Heavy.
- F. Prior to assembly of split couplings, the grooves as well as other parts shall be thoroughly cleaned. The ends of the pipes and outside of the gaskets shall be moderately coated with petroleum jelly, cup grease, soft soap or graphite paste, and the gasket shall be slipped over one pipe end. After the other pipe has been brought to the correct position, the gasket shall be centered properly over the pipe ends with the lips against the pipes. The housing sections then shall be placed. After the bolts have been inserted, the nuts shall be tightened until the housing sections are firmly in contact, metal-to-metal, without excessive bolt tension.
- G. Prior to the installation of sleeve-type couplings, the pipe ends shall be cleaned thoroughly for a distance of 8". Soapy water may be used as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about 6" from the end.
- H. Valve boxes with concrete bases shall be installed as shown on the Drawings. Mechanical joints shall be made in the standard manner. Valve stems shall be vertical in all cases. Place cast iron box over each stem with base bearing on compacted fill and the top flush with final grade. Boxes shall have sufficient bracing to maintain alignment during backfilling. Knobs on cover shall be parallel to pipe. Remove any sand or undesirable fill from valve box.

3.02 HYDRANTS

- A. Hydrants shall be set at the locations designated by the County and/or as shown on the Drawings and shall be bedded on a firm foundation. A drainage pit on crushed stone as shown on the Drawings shall be filled with gravel or crushed stone and satisfactorily compacted. During backfilling, additional gravel or crushed stone shall be brought up around and 6" over the drain port. Each hydrant shall be set in true vertical alignment and shall be properly braced. Concrete thrust blocks shall be placed between the back of the hydrant inlet and undisturbed soil at the end of the trench. Minimum bearing area shall be as shown on the plans. Felt paper shall be placed around the hydrant elbow prior to placing concrete. CARE MUST BE TAKEN TO INSURE THAT CONCRETE DOES NOT PLUG THE DRAIN PORTS. Concrete used for backing shall be as specified herein.
- B. When installations are made under pressure, the flow of water through the existing main shall be maintained at all times. The diameter of the tap shall be a minimum of 2" less than the inside diameter of the branch line.
- C. The entire operation shall be conducted by workmen thoroughly experienced in the installation of tapping sleeves and valves, and under the supervision of qualified personnel furnished by the manufacturer. The tapping machine shall be furnished by the Contractor if tap is larger than 12" in diameter.
- D. The Contractor shall determine the locations of the existing main to be tapped to confirm the fact that the proposed position for the tapping sleeve will be satisfactory and no interference will be encountered such as the occurrence of existing utilities or of a joint or fitting at the location proposed for the connection. No tap will be made closer than 30" from a pipe joint.
- E. Tapping valves shall be set in vertical position and be supplied with a 2" square operating nut for valves 2" and larger. The valve shall be provided with an oversized seat to permit the use of full sized cutters.
- F. Tapping sleeves and valves with boxes shall be set vertically or horizontally as indicated on the Drawings and shall be squarely centered on the main to be tapped. Adequate support shall be provided under the sleeve and valve during the tapping operation. Sleeves shall be no closer than 30" from water main joints. 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.

3.03 SHOP PAINTING

Ferrous surfaces of valves and appurtenances shall receive a coating of rust-inhibitive primer. All pipe connection openings shall be capped to prevent the entry of foreign matter prior to installation.

3.04 FIELD PAINTING

All metal valves and appurtenances specified herein and exposed to view shall be painted.

All above ground potable water main valves shall be painted safety blue.

3.05**INSPECTION AND TESTING**

Completed pipe shall be subjected to hydrostatic pressure test for two hours at 180 psi. All leaks shall be repaired and lines retested as approved by the County. Prior to testing, the pipelines shall be supported in an approved manner to prevent movement during tests.

END OF SECTION

SECTION 02999 MISCELLANEOUS WORK AND CLEANUP

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This Section includes items and operations which are not specified in detail as separate items, but may be sufficiently described as to the kind and extent of work involved. The Contractor shall furnish all labor, materials, equipment and incidentals necessary to complete all work under this Section.
- B. The work of this Section may include, but is not limited to the following:
1. Restoration of roads, sidewalks, driveways, curbing and gutters, fences, guardrails, lawns, shrubbery and any other existing items damaged or destroyed.
 2. Crossing utilities.
 3. Relocation of existing water, reclaim water, or sewer lines less than four inches diameter, water and sanitary sewer services, low pressure gas lines, telephone lines, electric lines, cable TV lines as shown on the Contract Drawings.
 4. Restoring easements (servitudes) and rights-of-way.
 5. Clean up.
 6. Incidental work (project photographs, testing, shop drawings, traffic control, record drawings, etc.).
 7. Excavation and Embankment - As defined in the Florida Department of Transportation Standard Specifications for Road and Bridge Construction (1991 Edition or latest revision).
 8. Stormwater and erosion control devices.

1.02 SUBMITTAL OF LUMP SUM BREAKDOWN

Contractor shall submit to the County, a breakdown of the lump sum bid for Miscellaneous Work and Cleanup Item in the Proposal within 10 days after date of Notice to Proceed.

1.03 WORK SPECIFIED UNDER OTHER SECTIONS

All work shall be completed in a workmanlike manner by competent workmen in full compliance with all applicable sections of the Contract Documents.

PART 2 PRODUCTS

2.01 MATERIALS

Materials required for this Section shall equal or exceed materials that are to be restored. The Contractor may remove and replace or reuse existing materials with the exception of paving.

PART 3 EXECUTION

3.01 RESTORING OF SIDEWALKS, ROADS, CURBING, FENCES AND GUARDRAILS

- A. The Contractor shall protect existing sidewalks & curbing. If necessary, sidewalks & curbing shall be removed from joint to joint and replaced after backfilling. Curbing

damaged during construction because of the Contractor's negligence or convenience, shall be replaced with sidewalks & curbing of equal quality and dimension at no cost to the County.

- B. At the locations necessary for the Contractor to remove, store and replace existing fences and guardrails during construction, the sections removed shall be only at the direction of the County. If any section of fence is damaged due to the Contractor's negligence, it shall be replaced at no cost to the County with fencing equal to or better than that damaged and the work shall be satisfactory to the County.
- C. Guardrails in the vicinity of the work shall be protected from damage by the Contractor. Damaged guardrails shall be replaced in a condition equal to those existing
- D. Road crossings shall be restored in accordance with the Contract Documents and current FDOT Standards. Compensation for road restoration shall be included under the Road Restoration Bid Item if specified or under Miscellaneous Cleanup if it is not specified.

3.02 CROSSING UTILITIES

This item shall include any extra work required in crossing culverts, water courses, drains, water mains and other utilities, including all sheeting and bracing, extra excavation and backfill, or any other work required or implied for the proposed crossing, whether or not shown on the Drawings.

3.03 RELOCATIONS OF EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES AND CABLE TV LINES

The Contractor shall notify the proper utility involved when relocation of these utility lines is required. The Contractor shall coordinate all relocation work by the utility so that construction shall not be hindered.

3.04 RESTORING THE EASEMENTS AND RIGHTS-OF-WAY

The Contractor shall be responsible for all damage to private property due to his operations. He shall protect from injury all walls, fences, cultivated shrubbery, pavement, underground facilities, including water, sewer and reclaimed water lines and services, or other utilities which may be encountered along the easement. If removal and replacement is required, it shall be done in a workmanlike manner, at his expense, so that the replacement are equivalent to that which existed prior to construction.

3.05 STORMWATER AND EROSION CONTROL DEVICES

The Contractor shall be responsible for, provide, and install all stormwater and erosion control devices necessary to insure satisfactory compliance with the Florida Department of Environmental Protection Stormwater, Erosion, and Sedimentation Control Inspector's Manual.

END OF SECTION

SUPPLEMENTAL INFORMATION

Bentonite Spill Prevention and Management Plan

**BENTONITE SPILL PREVENTION AND
MANAGEMENT PLAN**

***MINIMIZATION OF ENVIRONMENTAL IMPACT FROM
HDD DRILLING FLUIDS***

**Fort Hamer Road
Water Main Crossing**

for
Manatee County



by
URS Corporation Southern



August 2012

APPROVED

By sw_erp at 5:43 pm, Sep 28, 2012

**BENTONITE SPILL PREVENTION AND MANAGEMENT PLAN
MINIMIZATION OF ENVIRONMENTAL IMPACT FROM HDD DRILLING FLUIDS**

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By sw_erp at 5:43 pm, Sep 28, 2012

1.0 PURPOSE OF THE PLAN

This Bentonite Spill Prevention and Management Plan (Plan) has been prepared for the Horizontal Directional Drilling (HDD) operations for construction of the 30-inch water main crossing of the Manatee River at Fort Hamer Road in Manatee County, Florida. The purpose of this Plan is to establish monitoring and response criteria that will help minimize potential environmental effects of the HDD operation from the release of drilling fluids.

Part of the design process was to select an alignment that would minimize as much as practicable the potential for a release of drilling fluid. The geotechnical staff at URS conducted an extensive geotechnical investigation which included land and water based soil borings and geophysics for the proposed adjacent Fort Hamer Bridge project. Based on this data, a vertical alignment for the HDD crossing under the Manatee River was selected so that the pipeline would be within a clayey, low permeability soil layer. This material greatly reduces the potential migration of drilling fluids to the surface through an uncontrolled release (i.e., frac-out).

1.1 Overview

The HDD operation utilizes drilling fluids to facilitate the drilling of a bore-hole and installation of the pipes or various conduits by functioning as both a lubricant for the drilling tools and piping, as well as a stabilizer by forming a wall cake that exerts positive pressure on the drill hole wall. The increased pressure of the injected drilling fluid alone with the wall cake temporarily increases the hydro-static pressure within the bore-hole. The over-pressure condition, as long as it is maintained, ensures bore-hole stability.

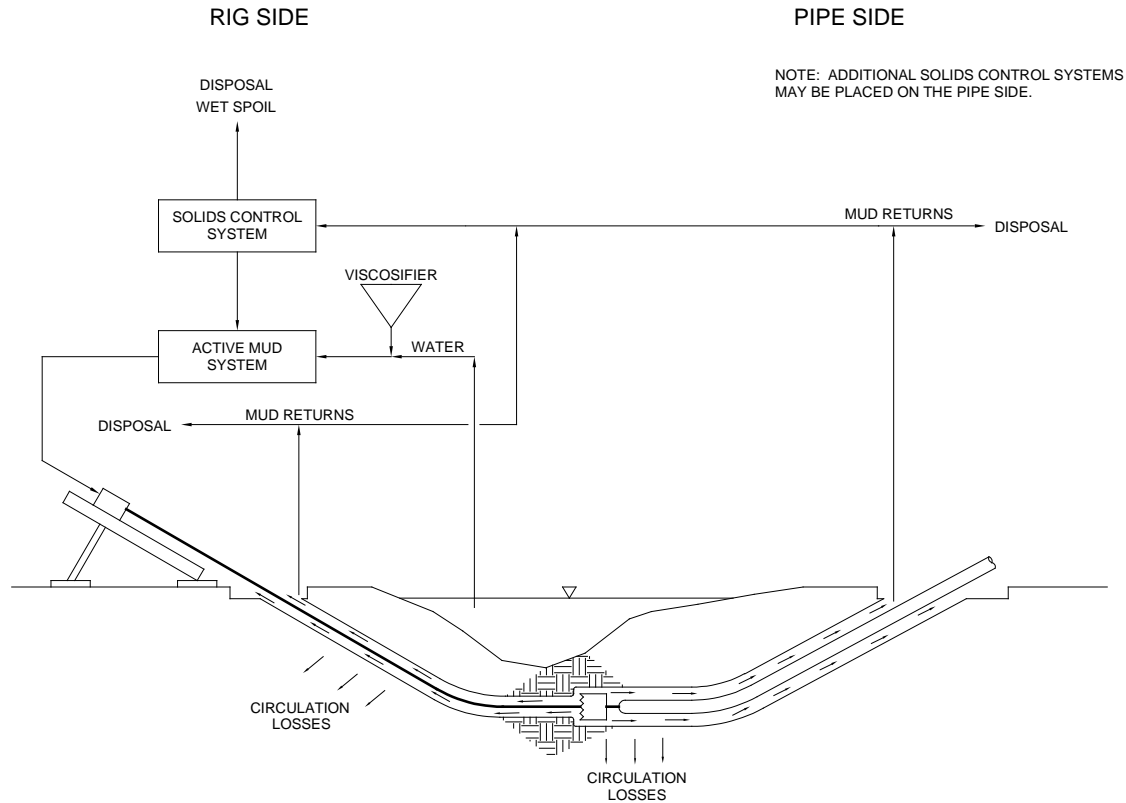
The drilling fluid is pumped down the inside of the bore pipe and exits through the drill head. The fluid then returns to the drill site through the annular space between the outside of the drill pipe and the inside of the bore-hole. The fluid returning to the bore site is called "returns". The drilling fluid will be bentonite, a naturally occurring clay. It is not a hazardous material as defined by the U.S. Environmental Protection Agency's characteristics of ignitability, corrosivity, reactivity, or commercial chemicals. In some cases inert, non-toxic loss of circulation materials (LCMs or polymers) may be added to the mixture.

A typical HDD drilling fluid flow circuit is illustrated schematically above. All stages of HDD involve circulating drilling fluid from equipment on the surface, through a drill pipe, and back to the surface through a drilled annulus. Drilling fluid returns collected at the entry and exit points are processed through a solids control system which removes spoil from the drilling fluid allowing the fluid to be reused. The basic method used by the solids control system is mechanical separation using shakers, desanders, and desilters. The excess spoil and drilling fluid are transported to, and disposed of, at an off-site approved disposal location permitted to receive such material.

Drilling fluid will flow in the path of least resistance. In the drilled annulus, the path of least resistance may be an existing fracture or fissure in the soil. When this happens, circulation can be lost or reduced. This is a common occurrence in pipeline installation by HDD and does not prevent completion. However, the environment may be impacted if the fluid inadvertently returns to the surface at a location on a waterway's banks or within a waterway.

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2.0 MINIMIZATION OF ENVIRONMENTAL IMPACT

Silt fence, hay bales and other BMP tools will be installed at the entry and exit holes for each HDD in order to protect wetlands and other sensitive areas from drilling mud runoff. In addition, BMPs (i.e., materials, spill prevention, and control) will be kept at the drilling site to protect against any inadvertent surface returns along the drill path.

The most effective way to minimize environmental impact associated with HDD drilling fluids is to maintain fluid circulation to the greatest extent practicable. Maintenance of fluid circulation will be the responsibility of the horizontal drilling contractor with oversight by the County Inspector.

It should be recognized, however, that restoration of circulation may not be practical or possible and that environmental impact will be minimized by completing crossing construction as soon as possible. Therefore, absent a threat to public health and safety or discharge of fluids into a wetland or waterway, and after the proper BMPs are employed to contain the drilling fluid, drilling operations will continue in the event of lost circulation if this is deemed to reduce the duration of construction operations.

3.0 HDD MONITORING OVERVIEW

The objective of the release monitoring program is to quickly identify the release of drilling fluids and determine the size, extent, and location of the release. This will be accomplished by monitoring the HDD equipment, drilling fluid pressures and returns, and by visual inspection. Visual inspections will be conducted by the environmental monitor from shore along the Manatee River, and by vessel as

deemed necessary. The environmental monitor shall have radio contact with the drilling operations during drilling / monitoring periods.

3.1 Visual Monitoring

On the land portion of the drilling operations, visual inspection of the route will be used to look for evidence that drilling fluid has surfaced. The monitor will keep track of the drill head position and will focus inspection activities in this immediate area and along the shoreline.

When the drill head reaches beyond the shore area, visual monitoring shall take place from the shore of the Manatee River and by vessel where applicable. The monitor will keep track of the drill head position and will focus visual inspection in this immediate area, as well as the previously drilled path. Alternately, the environmental monitor can be in the vessel that tracks the general position of the drill head, which will allow the monitor to be co-located in an attempt to identify releases. The site drilling monitor will choose the location that provides the best vantage point for observation.

3.2 Drilling Fluids Monitoring

Monitoring of the drilling fluid system will include: recording initial fluid quantity required for the design bore-hole, changes in quantity, pumping rate, and pressures during the pilot bore, as well as back reaming and pipe installation. The volume measurements for the system will be recorded every four hours and recorded values will be compared to volumes calculated previously as required for the rate of progress. The comparison of actual versus design values shall be entered on an Excel spreadsheet to look for notable differences indicating a possible release.

Re-circulated drilling fluid will be monitored for evidence of ground water or surface water intrusion into the bore-hole. Indicators of fluid intrusion are general in nature and would likely be noted as a “thinning” of the drilling mud. Monitoring of the drilling fluids is the responsibility of the Contractor and will be performed by the drilling fluids specialist.

4.0 TRAINING

Monitoring with respect to drilling fluids and other construction quality issues will be the responsibility of the County Inspectors. As part of this Plan, the Contractor will retain an environmental monitor and a drilling fluids specialist and provide appropriate training to his employees. The County Inspector on a HDD will be knowledgeable in HDD technology and will be on-site during drilling operations. The Contractor's performance, monitoring activities, observations (including viscosity and density readings), releases, and any visible signs of inadvertent drilling fluid returns will be documented.

Prior to the commencement of construction, the Contractor's personnel, including the environmental monitor, will attend an on-site training session. The training session will cover the following topics:

- an overview of the drilling operation as presented in the work plan,
- the details of this Bentonite Spill Prevention and Management Plan,
- proper Best Management Practices (BMPs) to be used to prevent a spill and in the event of a spill,
- the need for environmental protection,
- environmental resources located at or adjacent to the site,
- the need to monitor the HDD operation,
- lines of communication,

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By sw_erp at 5:43 pm, Sep 28, 2012

- lines of authority and responsibility,
- the information the Contractor will need to provide to the environmental monitor, and
- contact names and phone numbers of the appropriate individuals and agencies.

A representative of the Engineer and the County shall attend this training session for informational purposes, but the Contractor shall be solely responsible for all activities at the site.

5.0 RELEASE MONITORING AND OPERATING CONDITIONS

The keys to controlling a loss of fluids that may reach the surface and limiting a release into waters of the State are prevention, careful selection of the target layer for drilling, early detection, and quick response by the Contractor. This Plan identifies the activities to be monitored and appropriate response actions to be taken to ensure that any release of drilling fluid is minimized and contained. The Plan outlines a process of monitoring the drilling fluid in order to identify a loss-of-returns situation and to determine if there is a release to the surface. Specific measures to be taken to reduce the amount and likelihood of surfacing drilling fluid, and other actions to be taken, are stated below.

5.1 Prevention

During the drilling process, a loss of returns may be an indication that a release of drilling fluid has occurred. A release of drilling fluid from the bore-hole does not mean there will be a discharge of fluids to the surface or a release into waters of the State. In an effort to avoid and/or reduce losses should they occur, the following general parameters will be incorporated during the drilling process.

1. Position drilling construction area at an appropriate safe distance (minimum of 50 linear feet) from any environmentally sensitive areas (wetlands and surface waters). Proper BMPs (i.e., silt fence) will be installed to protect these areas.
2. Maintain adequate cover between the drill path and surface during the bore, except at entry and exit. For this project, the entire 2,000 feet of drill under the Manatee River is located approximately 50 feet below the substrate of the Manatee River within a clay layer. The remaining 800 feet of drill is located under the shore on each side of the river and will slope up to the drill pits at grade.
3. Adjust the thickness (percent solids or viscosity) of the drilling fluid mixture to match the substrate conditions.
4. Closely monitor drilling pressures and penetration rates so use of drilling fluid pressure will be optimum to penetrate the formation.

5.2 Early Detection

The environmental monitor will conduct monitoring operations in accordance with the following schedule of activities. The following table presents the operational measures and monitoring measures to be implemented given certain conditions and events. The current drilling condition will be categorized as Condition 1, 2 or 3 as described below in Table 5.2.

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Table 5.2 Operational and Monitoring Measures			
Condition	Status of Drilling Returns	Operational Measures to be Implemented	Monitoring Operations
1	Normal expected drilling fluid returns	Standard drilling procedures	<ul style="list-style-type: none"> - Visual inspection of bore path over land. - In channel, visual inspection from shore and by vessel as necessary.
2	Loss of normal expected drilling fluid	<p>The Contractor will take appropriate measures to attempt to restore returns. These may include:</p> <ul style="list-style-type: none"> - Modifying drilling fluid properties - Modifying pressure and volume - Advance or retreat pipe - Introduce LCMs according to manufacturer's instructions - Installing a "wash-over" pipe 	<ul style="list-style-type: none"> - Visual inspection of bore path over land. - In channel, visual inspection from shore and/or by vessel.
3	Drilling fluid release observed on land or in surface waters	<p>Drilling operations will cease and efforts will be initiated to locate and quantify the release as described in the monitoring operation and install proper BMPs. Contact proper regulatory agency (FDEP, Southwest District)¹ if a discharge occurs in a surface water.</p> <p>-The Contractor will take appropriate measures to reduce or eliminate the release. These may include:</p> <ul style="list-style-type: none"> - Modifying drilling fluid properties - Modifying pressure and volume - Advance or retreat pipe -Introduce LCMs or polymers according to manufacturer's instructions - Installing a "wash-over" pipe <p>If a Release is observed:</p> <ul style="list-style-type: none"> -Stop work. -Install proper BMPs to contain drilling fluid. -In the case of in-water discharges, contact appropriate regulatory agency (FDEP).¹ -Cleanup fluid and restore impacted areas after coordinating with regulatory agency (FDEP).¹ 	<ul style="list-style-type: none"> -Determine the location and extent of the drilling fluid release. -Continue with monitoring method that detected the release. -Commence in-water survey using vessel, if necessary. -Conduct shoreline survey for wash-up of drilling fluid. -Monitor returns and document in logs.

5.2.1 Condition 1: Routine Monitoring

Routine monitoring will apply when the drilling operations are proceeding within expected parameters. The routine monitoring will be conducted by the environmental monitor. This information will also be recorded in logs.

A) Operational Measures to be Implemented

The Contractor shall supply the following information to the environmental monitor at the completion of each joint of pipe. One joint of pipe is approximately 40 feet long.

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- Position of the drilling head relative to the drilling point of entry.
- Recording of the total volume of drilling fluid that has been pumped during the drilling operation.
- Comparison of the current total volume of drilling fluid used and the estimated current total volume of returns.
- Equipment breakdowns and repairs.
- Any abnormal drilling fluid pressure and the time and location of occurrence.
- The type and quantity of drilling fluid components being used.

B) Release Monitoring

During normal drilling conditions, the type of monitoring necessary will depend on the location of the drill head. Periodic visual inspection along the bore path of the terrestrial (upland) portion of the alignment will take place throughout the bore operation. As the bore advances beyond the waterline, monitoring will be conducted from the shoreline of the Manatee River and from a vessel, as appropriate.

5.2.2 Condition 2: Loss of Normal Expected Returns

A) Operations Program

This section will apply to the operation when a loss of normal expected returns is encountered. When normal expected returns are lost:

- The Contractor, in conjunction with the drilling fluids specialist, will notify the environmental monitor of the loss of returns.
- Drilling will cease if conditions indicate that other actions need to be taken in order to allow the Contractor to take those actions.
- The Contractor will inform the environmental monitor, Owner's representative, and Engineer of the measures he will implement in response to this condition. The measures that may be used include the following:
 - 1) **Modifying Drilling Fluid Properties:** The Contractor may determine that modification of the drilling fluid properties will aid in restoring the circulation. These modifications can take place in the form of altering the viscosity or gel strength of the drilling fluid.
 - a) **Viscosity:** Viscosity of the drilling fluid may be adjusted depending on the subsurface formation and materials encountered and other drilling conditions. Typical viscosity will range from 60 to 70 seconds viscosity as measured with a standard Marsh Funnel.
 - b) **Gel Strength:** The gel strength of the drilling fluid refers to the shear strength of the fluid as it sets. This characteristic can be modified slightly up or down depending on the drilling conditions in an effort to restore returns.
 - 2) **Advance or Retreat the Pipe:** If returns are lost, the Contractor may elect to advance or retreat the pipe in an effort to restore returns.

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- 3) Introduce LCMs: LCM introduction into the drilling fluid may be desirable at this point. The possibility of success using LCMs to restore returns will depend on the drilling and subsurface conditions at the time. If used, the LCMs will be used according to the manufacturer's recommendations. The supplier of each LCM has determined the most appropriate implementation technique for the material. The Contractor will carefully follow the supplier's recommendations to give the LCMs the best chance for success.
 - 4) Use of a Wash-over Pipe: The contractor may elect to install a wash-over pipe to ensure the drilling fluid will return to the drill site. The wash-over pipe is larger than the drill pipe and is installed through heavily fractured, less competent, or less dense formations. The annulus space between the drill pipe and the wash-over pipe allows the drilling fluid to return to the drill site.
- If returns are recovered, drilling will continue under Condition 1 status.

B) Release Monitoring

Once a loss of returns is identified, the environmental monitor will increase visual monitoring efforts. If the drill head has not passed beyond the water line, the environmental monitor will visually inspect on land and at the shoreline for a release of drilling fluid.

If the drill head has passed the waterline, the environmental monitor will visually inspect the water from shore, if adequate. If necessary for adequate monitoring, a vessel will be launched and the environmental monitor will continue visual inspections from the vessel. The monitor will focus on the area near the location of the end of the drill pipe and surrounding area.

5.2.3 Condition 3: Surface Release of Drilling Fluid

Upon detection of the release of drilling fluid, the status will elevate to Condition 3.

A) Operations Program

Once a drilling fluid release is detected at the surface, the same operations program shall be implemented as presented in Condition 2 with the addition of the following operational procedure:

- During any drilling shut-down period, the Contractor will be permitted to circulate drilling fluid on a two-hour cycle for a period of approximately 15 minutes to prevent the drilling equipment and pipe from seizing within the drilled bore-hole.

B) Release Monitoring

If inadvertent surface returns occur on the banks of the waterway or within uplands, it will be the responsibility of the horizontal drilling contractor to stop circulation and install BMPs to contain the drilling fluid prior to resuming with the drilling operation. After construction, the contractor will restore the disturbed area after contacting the appropriate regulatory agencies.

If inadvertent surface returns occur within a waterway, drilling will temporarily cease and the contractor will install booms, floating turbidity curtains, and/or other BMPs as necessary and practicable before

resuming the drilling. The returns will be monitored and documented. Any inadvertent surface return(s) that occurs within a waterway will be reported to the appropriate regulatory agency (FDEP). The use and installation of BMPs should not cause a health and safety or navigational hazard.

The monitoring method that detected the release will be continued. The location of the release will be noted and close visual inspection will continue.

6.0 CLEANUP AND RESPONSE

The Contractor shall clean-up and remediate the release of drilling fluid as appropriate. Immediately following detection of a drilling fluid release, the following actions will be taken.

6.1 Release in Wetlands and Surface Waters

Regional HDD experience indicates that through operating adjustment these discharges are typically limited, finite, and manageable. If inadvertent surface returns occur within a waterway, drilling will temporarily cease and the contractor will install booms, floating turbidity curtains, and/or other BMPs as necessary and practicable before resuming drilling. The returns will be monitored and documented. Any inadvertent surface return(s) that occurs within a waterway will be reported to the appropriate regulatory agency (FDEP). BMPs should not cause a health and safety or navigational hazard. If the use of BMPs may adversely affect health and safety and are not practicable, alternative cleanup methods may be applicable pending coordination and approval from the regulatory agency (FDEP).

Records of the location and duration of visible drilling fluid release shall be maintained by the environmental monitor and furnished to the agency during site inspections and upon completion of the work.

6.2 Release on Land

In the event a drilling fluid release occurs on land, the release will be immediately contained by using silt fencing, straw bales, sand bags, or a containment pit. The drilling fluid will be transferred manually or by pump back to the drill site for reuse or into a storage tank and removed from the site. After construction, the contractor will initiate restoration activities within the disturbed area after coordination and approval from the appropriate regulatory agency (FDEP).

¹ In the event of a spill, the Florida Department of Environmental Protection (FDEP), Southwest District Office, Temple Terrace, FL, Compliance and Enforcement Section, should be contacted immediately at 813-632-7600.

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By sw_erp at 5:43 pm, Sep 28, 2012

SUPPLEMENTAL INFORMATION

FDEP General Permit for Construction of Watermain Extension for PWS



Florida Department of
Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Bill Scott
Governor

Jennifer Clardy
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

August 7, 2012

Mr. Sia Mollanazar, Deputy Director Engineering Services
Manatee County
1022 26th Avenue East
Bradenton, FL 34208
sia.mollanazar@mymanatee.org

Re: General Permit for Construction of Water Main Extensions for Public Water Systems
Project: Ft. Hamer Road Water Main Crossing
FDEP Permit No.: 0133068-996-DSGP/02
PWS ID No.: 641-1132
County: Manatee


Dear Mr. Mollanazar:

The Department has received your Notice of Intent to Use the General Permit to construct a public water supply distribution system extension to serve existing development. This project consists of a new 6-inch, 8-inch, 24-inch, and 30-inch diameter water mains. No additional water will be provided by the Manatee County Utilities Department Public Water System. The Department received this Notice on July 10, 2012.

The Department has no objection to your use of a General Permit for the construction of a public water supply distribution system designed in accordance with the standards and criteria set forth in Rule 62-555.405, Florida Administrative Code (FAC). In accordance with Rules 62-4.530(1) and 62-555.405(1)(a), FAC, construction on this project shall not begin until at least 30 days after the receipt date (referenced above) of Application Form 62-555.900(7). All General Permits are subject to the general conditions of Rule 62-4.540, FAC, (enclosed) and Rules 62-555.405 and 62-555.345, FAC. The construction activity must conform to the description contained in your Notice of Intent to Use the General Permit. Any deviation will subject the permittee to enforcement action and possible penalties.

If you have any questions or comments, please contact Tammy McWade at (813) 632-7600, extension 370, or via email at tammy.mcwade@dep.state.fl.us.

Sincerely,


Gwen Shofner, P.E.
Manager
Potable Water Program

GS/ttm

Enclosures: General Conditions
Instructions for Clearance

cc: Dan Gray, Director, Manatee County, dan.gray@mymanatee.org
David A. Wilcox, P.E., URS Corporation, david.wilcox@urs.com

General Permit Conditions.

(1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

(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 the Department.

(3) As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither 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 is not 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 this permit.

(4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and 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, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

(6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and 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 and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- (a) Have access to and copy any records that must be kept under conditions of the permit;
- (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

(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 provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. 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 for revocation of this permit.

(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 may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

(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. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

(11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, F.A.C., 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 or a copy thereof shall be kept at the work site of the permitted activity.

(13) This permit also constitutes:

- (a) Determination of Best Available Control Technology (BACT)
- (b) Determination of Prevention of Significant Deterioration (PSD)
- (c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
- (d) Compliance with New Source Performance Standards

(14) The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold 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) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained 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:

- 1. the date, exact place, and time of sampling or measurements;
- 2. the person responsible for performing the sampling or measurements;
- 3. the dates analyses were performed;
- 4. the person responsible for performing the analyses;
- 5. the analytical techniques or methods used;
- 6. the results of such analyses.

(15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the 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 corrected promptly.

GENERAL PERMIT

INSTRUCTIONS FOR CLEARANCE

Requirements for clearance upon completion of projects are as follows:

1. 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. The portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications, if there are any deviations from said permit. (Note that it is necessary to submit a copy of only the portion of record drawings showing deviations and not a complete set of record drawings.)
3. Copies of satisfactory bacteriological analysis, taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, and in accordance with American Water Works Association (AWWA) Standard C 651-92 and with any additional requirements stipulated by the permitting engineer, as may be needed under special circumstances. The following sampling locations will be required for all General Permit clearances:
 - Connection point to an existing system and at the end point of the proposed addition; and
 - Every 1,200 feet on straight run of pipes.

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.

4. Copy of satisfactory pressure test results demonstrating compliance with AWWA Standard requirements.

For further clarification contact:

Gwen Shofner, P.E., Manager
DEP – Southwest District
Drinking Water Program
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

Phone: (813) 632-7600, extension 306
FAX: (813) 632-7671

SUPPLEMENTAL INFORMATION

**FDEP Environmental Resource Permit
(ERP)**



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

September 28, 2012

Manatee County
c/o Sia Mollanazar
1022 26th Avenue East
Bradenton, Florida 34208
(sia.mollanazar@mymanatee.org)

Dear Mr. Mollanazar:

Enclosed is the Environmental Resource Permit, DEP Project No. 41-0313161-001, issued pursuant to Part IV of Chapter 373, Florida Statutes, and Title 62, Florida Administrative Code.

Appeal rights for you and for any affected third party are described in the text of the permit along with conditions that must be met when authorized activities are undertaken.

You, as the applicant, are responsible for all aspects of permit compliance. You should therefore review this permit document carefully to ensure compliance with the general conditions and specific conditions contained herein.

Please be aware of permit General Condition number 11 which states: "At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department a written notification of commencement using an "Environmental Resource Permit Construction Commencement" notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date."

If you have any questions about this document, please contact me at (813) 632-7600, ext. 322.

Thank you for your participation in the permit process and in managing the natural resources of the State of Florida.

Sincerely,

Nwankaku Onwunli
Environmental Specialist II
Submerged Lands and Environmental
Resource Program
Southwest District

cc: David Wilcox, P.E., URS Corporation Southern, 7650 W. Courtney Campbell Causeway, Tampa, FL 33617, (david.wilcox@urs.com)
Susan Durrance, URS Corporation Southern, (susan.durrance@urs.com)

Enclosures:
Environmental Resource Permit with attachments (56 pages)



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Permittee/Authorized Entity:

Manatee County
c/o Sia Mollanazar, P.E.
1022 26th Avenue East
Bradenton, Florida 34208

Fort Hamer Road Water Main Installation

Authorized Agent:

URS Corporation Southern
c/o David Wilcox, P.E.
7650 West Courtney Campbell Causeway
Tampa, Florida 33607

Standard General Environmental Resource Permit

State-owned Submerged Lands Authorization – Granted

**U.S. Army Corps of Engineers Authorization – Separate Corps Authorization
Required**

Permit No.: 41-0313161-001

Permit Issuance Date: September 28, 2012
Permit Construction Phase Expiration Date: September 28, 2017



Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

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Secretary

Standard General Environmental Resource Permit

Permittee: Manatee County

Permit No: 41-0313161-001

Permit Issuance Date: September 28, 2012

Permit Construction Phase Expiration Date: September 28, 2017

AUTHORIZATIONS

Project Description

The permittee is authorized to install approximately 8,200 linear feet of water main within a 0.47-acre area, via open cut trench within existing upland cut roadside ditches (FLUCCS 510) and via horizontal directional drill (HDD) beneath the Manatee River (FLUCCS 510), a Class III Florida Waterbody. Open cut trenching will be completed under dry conditions. However, cofferdams, diversion pumps or temporary culverts may be used during construction to achieve a dry work area, as necessary. Mitigation is not required as the roadside ditches and HDD entry/exit pits will be restored to pre-construction grades and contours to allow for natural vegetative recruitment. Authorized activities are depicted on the attached project drawings.

This project consists of the installation of a 24-inch potable water pipe beginning at Upper Manatee River Road and Winding Stream Way where it will connect to an existing 42-inch water main. Approximately 1,400 linear feet of 24-inch pipe will be installed via open cut trench to a location approximately 600 feet south of the Manatee River. At this location, a 30-inch HDPE water main will be directionally-drilled approximately 50 feet below the bed of the Manatee River for a distance of approximately 2,800 linear feet, and then emerge in an upland construction staging area owned by Manatee County on the north side of the river. From this point, approximately 4,000 linear feet of 24-inch pipe will be installed by open trenching within the right-of-way located on the east side of Fort Hamer Road. The 24-inch pipe will tie into an existing 24-inch water main located at the intersection of Fort Hamer Road and Mulholland Road. Additionally, 6-inch and 8-inch water lines will be installed to connect to existing water mains along Winding Stream Way and Fort Hamer Road.

The project described above may only be conducted accordance with the terms, conditions and attachments contained in this permit. The issuance of this permit does not infer, nor guarantee, nor imply that future permits or modifications will be granted by the Department.

State-owned Submerged Lands Authorization

As staff to the Board of Trustees, the Department has reviewed the activity described below, and has determined that the activity qualifies for an exception to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, the exception is hereby granted, pursuant to subparagraph 18-21.005(1)(a), Florida Administrative Code (F.A.C.), to perform the activity on the specified submerged lands owned by the State of Florida. This exception is conditioned upon acceptance of and compliance with the specific conditions contained in this permit and the attached General Consent Conditions.

Federal Authorization

A copy of this permit has been sent to the U.S. Army Corps of Engineers (USACE). The USACE may require a separate permit. Failure to obtain any required federal permits prior to construction could subject you to enforcement action by that agency.

Coastal Zone Management

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

Water Quality Certification

This permit constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this project may be required by other federal, state or local entities, including the municipality/county in which the project is located. Please be sure to contact the local county building and environmental department to obtain these required authorizations. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

PROJECT LOCATION

The activities authorized by this permit begin at Upper Manatee River Road at Winding Stream Way and continues beneath the Manatee River to Fort Hamer Road at Mulholland Road, Bradenton, Sections 8, 17, 19, and 20, Township 34 South, Range 19 East, in Manatee County.

PERMIT CONDITIONS

The activities described herein must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**

- **The General State Lands Consent Conditions**
- **The limits, conditions, and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to commencing the authorized activities, and to ensure that the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor should also read and understand these conditions and drawings prior to commencing the authorized activities. Failure to comply with these conditions shall constitute grounds for revocation of the permit and appropriate enforcement action by the Department.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit.

SPECIFIC CONDITIONS

1. Submittals required herein (e.g., progress reports, as-built drawings, etc.) shall include the permittee's name and permit number (41-0313161-001) and shall be directed by e-mail to SW_ERP@dep.state.fl.us with a subject line of "Compliance: permit number 41-0313161-001" or by mail to:

Department of Environmental Protection
Southwest District
Submerged Lands and Environmental Resource Program
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

PRIOR TO CONSTRUCTION CONDITIONS (The permittee shall comply with the following conditions prior to commencement of any construction activities)

2. Best management practices for erosion control shall be implemented prior to construction commencement and shall be maintained at all times during construction to prevent siltation and turbid discharges in excess of State water quality standards (>29 NTU's above background, pursuant to Rule 62-302, F.A.C.). Methods may include, but are not limited to the use of staked hay bales, staked filter cloth, sodding, seeding, staged construction and the installation of turbidity screens around the immediate project site. Erosion control methods shall be implemented as depicted in the attached permit drawings.

CONSTRUCTION CONDITIONS

3. Wetland areas or waterbodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, sedimentation, siltation, scouring, excess turbidity, and/or dewatering. There shall be no discharge in violation of the water quality standards in Chapter 62-302, F.A.C. Turbidity/erosion controls shall be installed prior to clearing, excavation or placement of fill material, shall be maintained

until construction is completed, disturbed areas are stabilized, and turbidity levels have fallen to less than 29 NTU's above background. The turbidity and erosion control devices shall be removed within 14 days once these conditions are met.

4. In the event that cofferdams are used during construction to achieve a dry work space, the permittee shall ensure that upstream flooding does not occur.
5. In the event that cofferdams with diversion pumps or temporary culverts are used during construction to reroute the flow of water, the permittee shall ensure that there are proper erosion and sedimentation control measures in place at the outfall to prevent scouring within the ditches.
6. Areas of exposed soils shall be isolated from wetlands or other surface waters to prevent erosion and deposition of these soils into wetlands or other surface waters during construction and operation of permitted activities.
7. In the event that drilling fluid is released into the Manatee River, the attached Bentonite Spill Management Plan shall be implemented.
8. The following measures shall be taken immediately by the permittee when turbidity levels within waters of the State surrounding the project site violate state water quality standards exceed 29 NTUs above background:
 - a. Immediately cease work contributing to the water quality violation.
 - b. Stabilize exposed soils contributing to the violation. Modify the work procedures responsible for the violation, install additional turbidity containment devices and repair non-functioning turbidity containment devices.
 - c. Notify the Department within 24 hours of the time the violation is first detected.

CONSTRUCTION COMPLETION CONDITIONS (The permittee shall comply with the following conditions prior to the transfer to operation phase of the facility. All documentation required below shall be included with the permittee's request to transfer the project to the operation phase [Form No. 62-343.900(7), F.A.C.])

9. Within 14 days of construction completion, the permittee shall return all roadside ditches, HDD entry/exit pits and any other disturbed work areas to pre-construction grades and contours to allow for natural vegetative recruitment.
10. To demonstrate compliance with Specific Condition No. 9, the permittee shall submit two copies of signed, dated and sealed as-built drawings to the Department for review and approval within 30 days of completion of construction. The as-built drawings shall be based on the Department permitted construction drawings, which should be revised to reflect changes made during construction. Both the original design and constructed elevation must be clearly shown. The plans must be clearly labeled as "as-built" or

"record" drawings. Surveyed dimensions and elevations required shall be verified and signed, dated and sealed by a Florida registered surveyor or engineer. *As-builts shall be submitted to the Department regardless of whether or not deviations are present. In addition to the "As-built Certification" form; the permittee shall submit the "Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase" form as required in General Condition #13.*

The following information shall be verified on the as-built drawings from the engineering drawings signed and sealed by David A. Wilcox, P.E., #34942, on July 30, 2012:

<u>Plan View/Cross-Section</u>	<u>Drawing Number</u>
Plan and Profile	Sheet C-2 through Sheet C-4
Plan and Profile	Sheet C-6 through Sheet C15
Impacted Ditch Cross Sections	Sheet C-16

GENERAL CONDITIONS

1. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner that does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction and permanent control measures shall be completed within seven days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. Water quality data for the water discharged from the permittee's property or into the surface waters of the state shall be submitted to the Department as required by the permit. Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater by the American Public Health Association or Methods for Chemical Analyses of Water and Wastes by the U.S.

Environmental Protection Agency. If water quality data are required, the permittee shall provide data as required on volumes of water discharged, including total volume discharged during the days of sampling and total monthly volume discharged from the property or into surface waters of the state.

5. Department staff must be notified in advance of any proposed construction dewatering. If the dewatering activity is likely to result in offsite discharge or sediment transport into wetlands or surface waters, a written dewatering plan must either have been submitted and approved with the permit application or submitted to the Department as a permit modification prior to the dewatering event as a permit modification. The permittee is advised that the rules of the Southwest Florida Water Management District state that a water use permit may be required prior to any use exceeding the thresholds in Chapter 40D-2, F.A.C.
6. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has temporarily or permanently ceased.
7. Off site discharges during construction and development shall be made only through the facilities authorized by this permit. Water discharged from the project shall be through structures having a mechanism suitable for regulating upstream stages. Stages may be subject to operation schedules satisfactory to the Department.
8. The permittee shall complete construction of all aspects of the surface water management system, including wetland compensation (grading mulching, planting), water quality treatment features, and discharge control facilities prior to beneficial occupancy or use of the development being served by this system.
9. The following shall be properly abandoned and/or removed in accordance with the applicable regulations:
 - a. Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed well contractor.
 - b. Any existing septic tanks on site shall be abandoned at the beginning of construction.
 - c. Any existing fuel storage tanks and fuel pumps shall be removed at the beginning of construction.
10. All surface water management systems shall be operated to conserve water in order to maintain environmental quality and resource protection; to increase the efficiency of transport, application and use; to decrease waste; to minimize unnatural runoff from the property and to minimize dewatering of offsite property.

11. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department a written notification of commencement using an “Environmental Resource Permit Construction Commencement” notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date.
12. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the occupation of the site or operation of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government or other responsible entity.
13. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required “Environmental Resource Permit As-Built Certification by a Registered Professional” (Form No. 62-343.900(5), F.A.C.), and “Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase” (Form 62-343-900(7), F.A.C.). Additionally, if deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted.
14. This permit is valid only for the specific processes, operations and designs indicated on the approved drawings or exhibits submitted in support of the permit application. Any substantial deviation from the approved drawings, exhibits, specifications or permit conditions, including construction within the total land area but outside the approved project area(s), may constitute grounds for revocation or enforcement action by the Department, unless a modification has been applied for and approved. Examples of substantial deviations include excavation of ponds, ditches or sump areas deeper than shown on the approved plans.
15. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of the conditions herein, the Department determines the system to be in compliance with the permitted plans, and the entity approved by the Department accepts responsibility for operation and maintenance of the system. The permit may not be transferred to the operation and maintenance entity approved by the Department until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall request transfer of the permit to the responsible operation and maintenance entity approved by the Department, if different from the permittee. Until a transfer is approved by the Department pursuant to Section 62-343.110(1)(d), F.A.C., the permittee shall be liable for compliance with the terms of the permit.

16. Should any other regulatory agency require changes to the permitted system, the Department shall be notified of the changes prior to implementation so that a determination can be made whether a permit modification is required.
17. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations including a determination of the proposed activities' compliance with the applicable comprehensive plan prior to the start of any activity approved by this permit.
18. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40D-4 or Chapter 40D-40, F.A.C.
19. The permittee is hereby advised that Section 253.77, F.S., states that a person may not commence any excavation, construction, other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
20. The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.
21. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.
22. The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.
23. Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with Department rules, regulations and conditions of the permits.
24. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the Department and the Florida Department of State, Division of Historical Resources.

25. The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

AUTHORIZATION TO USE STATE OWNED LANDS

You are hereby granted authorization from the Submerged Lands and Environmental Resources Program, as staff to the Board of Trustees of the Internal Improvement Trust Fund, for the construction and operation of the proposed water main and associated activities, as shown and described herein, pursuant to Section 253.77, F.S., and Chapter 18-21, F.A.C. This authorization is subject to the following general proprietary conditions. Your rights pursuant to Chapter 120, F.S., are described in the enclosed notice.

GENERAL PROPRIETARY CONSENT CONDITIONS

(Chapter 18-21.004(7), F.A.C.)

1. Authorizations are valid only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use shall constitute a violation. Violation of the authorization shall result in suspension or revocation of the grantee's use of the sovereignty submerged land unless cured to the satisfaction of the Board.
2. Authorizations convey no title to sovereignty submerged land or water column, nor do they constitute recognition or acknowledgment of any other person's title to such land or water.
3. Authorizations may be modified, suspended or revoked in accordance with their terms or the remedies provided in Sections 253.04 and 258.46, F.S., or Chapter 18-14, F.A.C.
4. Structures or activities shall be constructed and used to avoid or minimize adverse impacts to sovereignty submerged lands and resources.
5. Construction, use, or operation of the structure or activity shall not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.
6. Structures or activities shall not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity shall be modified in accordance with the court's decision.
7. Structures or activities shall not create a navigational hazard.
8. Structures shall be maintained in a functional condition and shall be repaired or removed if they become dilapidated to such an extent that they are no longer functional. This shall not be construed to prohibit the repair or replacement subject to the provisions of Rule 18-21.005, F.A.C., within one year, of a structure damaged in a discrete event such as a storm, flood, accident, or fire.

9. Structures or activities shall be constructed, operated, and maintained solely for water dependent purposes, or for non-water dependent activities authorized under paragraph 18-21.004(1)(g), F.A.C., or any other applicable law.

NOTICE OF RIGHTS

This permit is hereby final unless a sufficient petition for an administrative hearing is timely filed under Sections 120.569 and 120.57 of the Florida Statutes as provided below. The procedures for petitioning for a hearing are set forth below.

Mediation is not available.

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. The petition must contain the information set forth below and 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.

Because the administrative hearing process is designed to re-determine final agency action on the application, the filing of a petition for an administrative hearing may result in a modification of the permit or even a denial of the application. If a sufficient petition for an administrative hearing or request for an extension of time to file a petition is timely filed, this permit automatically becomes only proposed agency action on the application, subject to the result of the administrative review process. Accordingly, the applicant is advised not to commence construction or other activities under this permit until the deadlines noted below for filing a petition for an administrative hearing, or request for an extension of time has expired.

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. 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. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

In the event that a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Any intervention 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.

In accordance with Rule 62-110.106(3) F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 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) of the Florida Statutes must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first.

Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing 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 of the Florida Statutes.

A petition that disputes the material facts on which the Department's action is based 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, 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; 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.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C. Under Sections 120.569(2)(c) and (d), F.S., a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed.

This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

Copies furnished to:

U.S. Army Corps of Engineers

James McLaughlin, Florida Fish and Wildlife Conservation Commission,
(james.mclaughlin@myfwc.com)

David Wilcox, P.E., URS Corporation Southern, 7650 W. Courtney Campbell Causeway,
Tampa, FL 33617, (david.wilcox@urs.com)

Susan Durrance, URS Corporation Southern, (susan.durrance@urs.com)
File

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit and authorization to use sovereignty submerged lands, including all copies, was mailed before the close of business on 9/28/12, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

ERobinson 9/28/12
Clerk Date

This permit constitutes an order of the Department. The applicant has the right to seek judicial review of the order under Section 120.68, F.S., by the filing of a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department. The applicant, or any party within the meaning of Section 373.114(1)(a), F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1), 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 final order is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



William L. Vorstadt
Program Administrator
Submerged Lands and Environmental
Resource Program
Southwest District

WLV/ko

Attachments:

Commencement notice /62-343.900(3) (1 page)
Annual status report/62-343.900(4) (1 page)
As-built certification/62-343.900(5) (1 page)
Transfer construction to operation phase/62-343.900(7) (1 page)
Application for transfer of an ERP /62-343.900(8) (1 page)
Project Drawings and Design Specifications, (26 pages)
Bentonite Spill Management Plan, (10 pages)
Surface Water Impacts Map, (1 page)

ENVIRONMENTAL RESOURCE PERMIT Construction Commencement Notice

Project:

Phase:

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit Number _____ has commenced / is expected to commence on _____ and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for surface Water Management System Construction.

PLEASE NOTE: If the actual construction commencement date is not known, Department staff should be so notified in writing in order to satisfy permit conditions.

Permittee or Authorized Agent

Title and Company

Date

Phone

Address

Environmental Resource Permit Annual Status Report

Florida Department of Environmental Protection

PERMIT NUMBER:

COUNTY:

PROJECT NAME:

PHASE:

The following activity has occurred at the above referenced porject during the past year, between June 1, _____ and May 30, _____.

<u>Permit Condition/Activity</u>	<u>% of Completion</u>	<u>Date of Anticipated Completion</u>	<u>Date of Completion</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use Additional Sheets As Necessary)

Benchmark Description (one per major control structure): _____

Print Name

Phone

 Permittee's or Aurtherized Agent's Signature

Title and Company

Date

This form shall be submitted to the above referenced Department Office during June of each year for activities whose duration of construction exceeds one year.

ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL

Permit Number:

Project Name:

I hereby certify that all components of this surface water management system have been built substantially in accordance with the approved plans and specifications and are ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning as designed when properly maintained and operated. These determinations are based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or Land Surveyor licensed in the State of Florida.

Name (please print)

Signature of Professional

Company Name

Florida Registration Number

Company Address

Date

City, State, Zip Code

Telephone Number

(Affix Seal)

Substantial deviations from the approved plans and specifications:

(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of the form to:

Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase

(To be completed and submitted by the operating entity)

Florida Department of Environmental Protection

It is requested that Department Permit Number _____ authorizing the construction and operation of a surface water management system for the below mention project be transferred from the construction phase permittee to the operation phase operating entity.

Project:

From: Name:
Address:
City: State: Zip:

To: Name:
Address:
City: State: Zip:

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity:

Name

Title:

Telephone:

Enclosure

- Copy of recorded transfer of title surface water management system
- Copy of plat(s)
- Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation.

APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION
OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM

Permit No. Date Issued Date Expires

FROM (Name of Current Permit Holder)

Mailing Address

City State Zip Code

Telephone:

Identification or Name of Facility/Surface Water Management System:

Phase of Facility/Surface Water Management System (if applicable):

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface-water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit.

Signature of the current permittee: _____

Title (if any): Date:

TO (Name of Proposed Permit Transferee):

Mailing Address:

City: State: Zip Code:

Telephone:

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface-water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project.

Signature of the applicant (Transferee):

Title (if any): Date:

Project Engineer Name (if applicable)

Mailing Address:

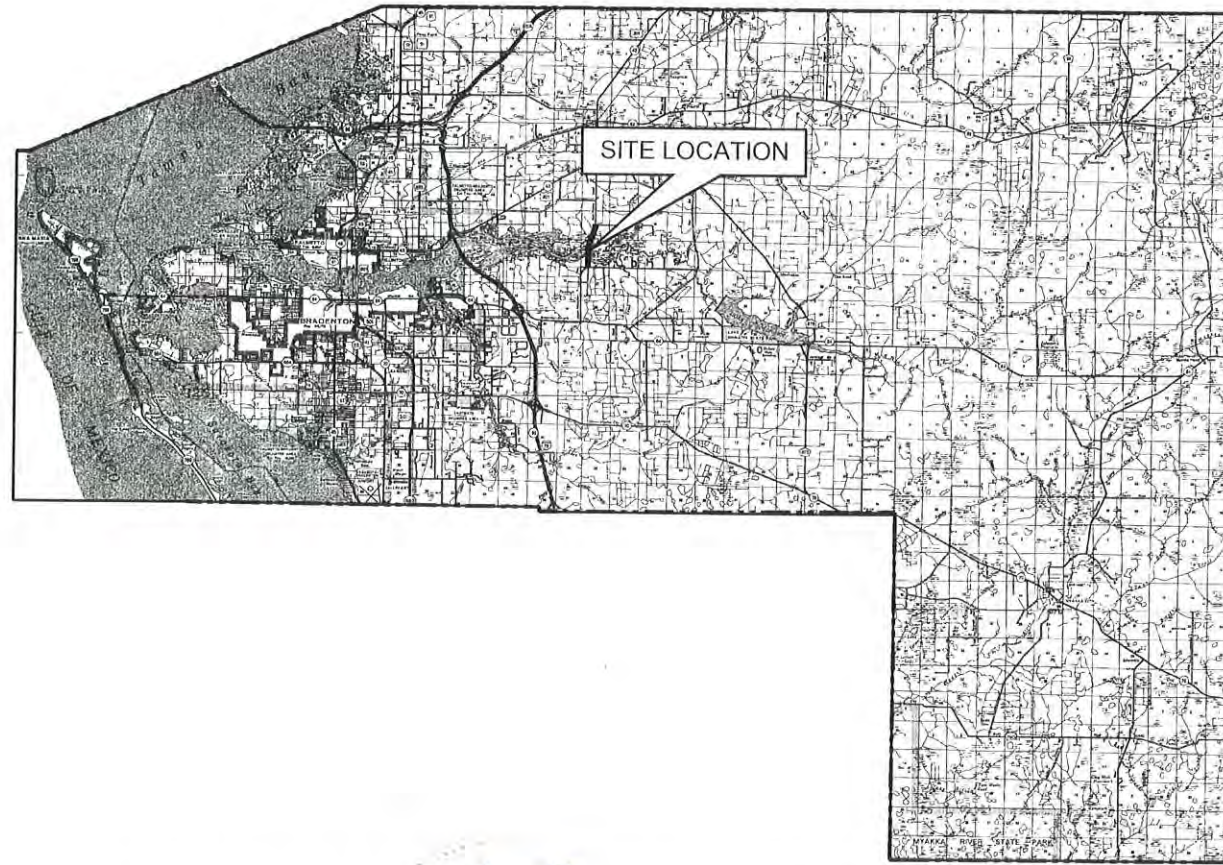
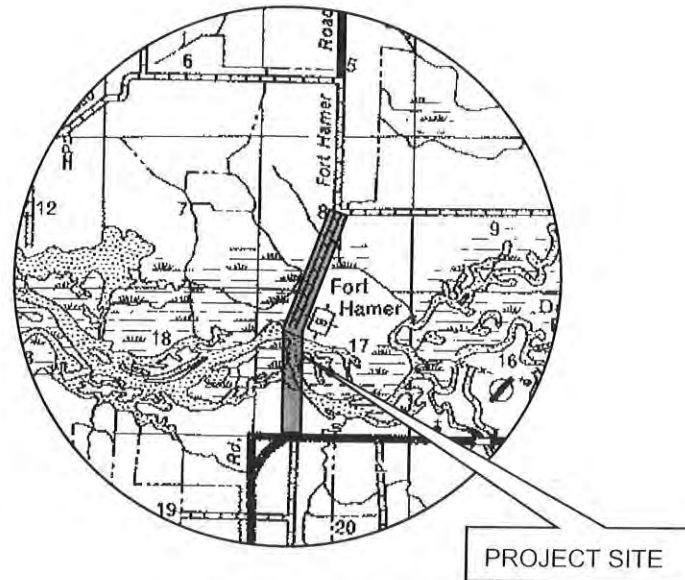
Telephone:



APPROVED
By sw_erp at 5:43 pm, Sep 28, 2012

MANATEE COUNTY, FLORIDA FT. HAMER ROAD WATER MAIN CROSSING PROJECT NO. 404-6054770

JUNE 2012
100% SUBMITTAL



VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

JUNE 2012 - 100% SUBMITTAL
FT. HAMER ROAD WATER MAIN CROSSING, MANATEE COUNTY PROJECT NO. 404-6054770

PLOTTED JULY 16, 2012 10:04 AM PLOTTED BY: TERENCE SONNENBERG
X:\MANATEE PROJECTS\12099609 FT. HAMER WM CROSSING - WAF 15\CADD\CADD\G-1 COVER SHEET.DWG

URS
7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION
REVISIONS			

URS JOB NUMBER
12009610
PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE:
July 16, 2012

David Wilcox
3/24/12
3/30/12
DAVID A. WILCOX
FLORIDA P.E. NO. 34942



FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

COVER SHEET

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION
G-1

PLOTTED JULY 16, 2012 10:04 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE PROJECTS\12009610 FT HAMER WM CROSSING - WAF 15\CADD\CADD-G-2 GENERAL NOTES AND INDEX TO SHEETS.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

GENERAL NOTES

- ELEVATIONS SHOWN ON THE PLANS REFERENCE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. - 1929). HORIZONTAL DATUM IS NORTH AMERICAN DATUM 1983/1999 ADJUSTED STATE PLANE COORDINATE SYSTEM (SPCS).
- LOCATION, ELEVATION, AND DIMENSIONS OF THE EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT TIME OF THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE UTILITY COMPANIES PRIOR TO CONSTRUCTION TO OBTAIN FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES. CALL SUNSHINE ONE CALL CENTER OF FLORIDA AT 1-800-432-4770 TO ARRANGE FIELD LOCATIONS. THE CONTRACTOR SHALL REPAIR ALL DAMAGES RESULTING FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
- THE CONTRACTOR SHALL COMPLY WITH ALL STATE, COUNTY, AND LOCAL ORDINANCES AND OBTAIN ANY NECESSARY WORK PERMITS THAT MAY BE REQUIRED PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE SUITABLE BORROW MATERIAL, APPROVED BY THE ENGINEER, AND INSTALL SAID MATERIAL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- OVERALL CLEAN UP SHALL BE ACCOMPLISHED BY THE CONTRACTOR IN ACCORDANCE WITH COUNTY STANDARDS OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL ENDEAVOR TO PROTECT PRIVATE PROPERTY. ANY DAMAGE CAUSED BY THE CONTRACTOR IN THE PERFORMANCE OF HIS WORK SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. PAYMENT SHALL NOT BE MADE FOR THIS WORK.
- ANY DAMAGE TO STATE, COUNTY, OR LOCAL ROADS CAUSED BY THE CONTRACTOR'S HAULING OR EXCAVATION EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY PROJECT ENGINEER. PAYMENT SHALL NOT BE MADE FOR THIS WORK.
- ANY U.S.C. AND G.S. MONUMENT WITHIN LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY: GEODETIC INFORMATION CENTER
ATTN.: MARK MAINTENANCE CENTER
ATTN.: N/CG-162
6001 EXECUTIVE BLVD. ROCKVILLE,
MARYLAND 20852 PH. (301)443-8319
- THE CONTRACTOR(S) PERFORMING TRENCH EXCAVATION ON THIS CONTRACT, SHALL COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S (OSHA) TRENCH EXCAVATION SAFETY STANDARDS, 29 C.F.R., S.1926.650, SUBPART P, INCLUDING ALL SUBSEQUENT REVISIONS OR UPDATES TO THE STANDARDS AS ADOPTED BY THE DEPARTMENT OF LABOR AND EMPLOYMENT SECURITY (DLES).
- UNLESS OTHERWISE SPECIFIED IN THE PLANS, EXISTING SOD, DISTURBED BY CONSTRUCTION, SHALL BE REPLACED IN KIND (OR BETTER, AS APPROVED BY THE COUNTY'S PROJECT MANAGER.)
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXCESS MATERIAL AND THE PROPER DISPOSAL OF THE SAME.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF THIS WORK PERFORMED IN THIS CONTRACT. THE CONTRACTOR IS TO "PROTECT IN PLACE" THE FACILITIES THAT ARE NOT TO BE RELOCATED AND/OR REMOVED, BUT ARE TO REMAIN IN PLACE.
- A STANDARD MINIMUM 18 INCHES OF VERTICAL CLEARANCE SHALL BE PRACTICED FOR WATER, GRAVITY SEWER, RECLAIMED WATER, STORM AND FORCE MAINS PIPES THAT CROSS. WHERE IT IS DEMONSTRATED AND THE COUNTY AGREES THAT STANDARD SEPARATIONS ARE NOT REALISTIC, OR WHERE MAINTENANCE OF A PIPE WOULD BE MADE MORE ACCESSIBLE THE COUNTY ENGINEER MAY APPROVE REDUCTIONS OF THE STANDARD SEPARATIONS AS FOLLOWS:
 - CLEARANCE FROM WATER TO FORCE MAIN, STORM, RECLAIMED WATER AND GRAVITY SEWER AND CLEARANCE FROM RECLAIMED WATER TO GRAVITY SEWER, WATER, FORCE MAIN AND STORM MAY BE REDUCED TO 6 INCHES WHEN THE WATER OR RECLAIMED WATER PIPE IS DI.
 - CLEARANCE FROM FORCE MAIN TO WATER AND RECLAIMED WATER MAY BE REDUCED TO 3 INCHES WHEN THE FORCE MAIN IS BELOW AND HAS A WATER TIGHT CASING PIPE.
 - CLEARANCE FROM RECLAIMED WATER TO WATER MAY BE REDUCED TO 3 INCHES WHEN THE RECLAIMED WATER IS BELOW AND HAS A WATER TIGHT CASING PIPE.
- A MINIMUM OF 10 FEET OF HORIZONTAL SEPARATION (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) IS REQUIRED BETWEEN WATER MAINS AND FORCE MAINS, AND BETWEEN WATER MAINS AND GRAVITY SEWER, AND BETWEEN WATER MAINS AND STORM SEWER, AND BETWEEN STORM SEWER AND GRAVITY SEWER. ALL OTHER COMBINATIONS OF WATER, GRAVITY SEWER, FORCE MAIN, RECLAIMED WATER AND STORM SEWER PIPES MUST HAVE 5 FEET OF SEPARATION AT A MINIMUM, EXCEPT FOR GRAVITY SEWER AND FORCE MAINS, WHICH SHALL HAVE A MINIMUM OF 3 FEET OF SEPARATION. IF NOT FEASIBLE, REFER TO CURRENT MANATEE COUNTY UTILITY STANDARDS SECTION 9.07 FOR ALLOWABLE EXCEPTIONS.
- ALL PROPOSED MAINS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.
- THE CONTRACTOR IS TO ADJUST OR RELOCATE ALL THE FACILITIES THAT FALL IN CONFLICT IN ACCORDANCE WITH COUNTY STANDARDS.
- ALL DUCTILE IRON PIPE SHALL BE POLY-WRAPPED.
- MAINTENANCE OF TRAFFIC WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL MEET FOOT SERIES 600 AND MUTCD STANDARDS. MOT PREPARER SHALL HAVE ATSSA OR EQUIVALENT CERTIFICATION. A COPY OF THE CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER ALONG WITH THE MOT FOR REVIEW AND APPROVAL PRIOR TO ANY CLOSURES. CONTRACTOR SHALL COORDINATE LANE AND ROAD CLOSURES WITH MARK FRANSEN OF MANATEE COUNTY R/W INSPECTIONS (941-737-4776). LANE AND ROAD CLOSURES WILL REQUIRE A "PCMS" BOARD FOR 14 DAYS PRIOR TO CLOSURE AND NOTIFICATION OF RESIDENTS. REFER TO SPECIFICATION SECTION 01010, SUMMARY OF WORK, FOR ADDITIONAL REQUIREMENTS FOR LANE AND ROAD CLOSURES.

- THE CONTRACTOR SHALL PROVIDE DETAILED RECORD DRAWINGS. ANY AND ALL EXPENSES INCURRED FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MISCELLANEOUS WORK AND CLEANUP. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APP SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS.
- ALL UTILITY CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITY STANDARDS.
- CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY STREETS, STORM SEWERS, AND WATERWAYS. IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR VEHICULAR TRAFFIC, THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES. THE MAINTENANCE OF EROSION CONTROL DEVICES AND THEIR COMPLETE REMOVAL ARE TO BE INCLUDED IN THE LUMP SUM BID PRICE.
- THE CONTRACTOR SHALL PROVIDE ROUTINE MAINTENANCE OF PERMANENT AND TEMPORARY EROSION CONTROL FEATURES UNTIL THE PROJECT IS COMPLETE AND ALL BARED SOILS ARE STABILIZED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE EXISTING DRAINAGE SYSTEM WITHIN THE LIMITS OF THE PROJECT AREA, FOR THE DURATION OF THE PROJECT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE WORK INVOLVED.
- PERIMETER OF ALL AREAS DISTURBED BY CONSTRUCTION MUST BE SURROUNDED BY SILT FENCE UNTIL RESTORATION IS COMPLETE.
- IMMEDIATELY FOLLOWING COMPLETION OF SLOPE CONSTRUCTION, THE FILL AREAS AND DISTURBED BANKS OF WETLANDS OR OTHER SURFACE WATERS SHALL BE STABILIZED WITH VEGETATION OR RIPRAP TO PREVENT EROSION. TEMPORARY EROSION CONTROLS FOR ALL EXPOSED SOILS WITHIN WETLANDS AND OTHER SURFACE WATERS SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS OF THE MOST RECENT CONSTRUCTION ACTIVITY. PREVENTION OF EROSION OF EXPOSED EARTH INTO WETLANDS AND OTHER SURFACE WATERS IS A CONSTRUCTION PRIORITY AND COMPLETED SLOPES SHALL NOT REMAIN UNSTABILIZED WHILE OTHER CONSTRUCTION CONTINUES.
- THIS PROJECT SHALL MEET WATER QUALITY STANDARDS FOR CLASS III WATERS C2-302, FAC (<29 NTUs)
- CONTRACTOR SHALL CREATE AND FOLLOW A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THEIR NPDES PERMIT.

DITCH IMPACT NOTES:

- ALL DITCHES SHALL BE RESTORED TO PRE-CONSTRUCTION CONTOURS AND ELEVATIONS.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL HAVE A LICENSED SURVEYOR VERIFY THE TOB AND TOS OF THE IMPACTED DITCHES SHOWN IN PROFILES OF SHEETS C-8, C-13, C-14, & C-15 AND CROSS SECTIONS SHOWN ON SHEET C-16. SUBMIT TO ENGINEER.
- AFTER RESTORATION, THE CONTRACTOR SHALL HAVE A LICENSED SURVEYOR PROVIDE RECORD DATA FOR THE RESTORED IMPACTED DITCHES SHOWN IN PROFILES OF SHEETS C-8, C-13, C-14, & C-15 AND CROSS SECTIONS SHOWN ON SHEET C-16. INCLUDE IN RECORD DRAWINGS AS REQUIRED PER ENVIRONMENTAL PERMITS.

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

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Sheet No	Sheet Title
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G-2	GENERAL NOTES AND INDEX TO SHEETS
G-3	SYMBOLS AND ABBREVIATIONS
G-4	SOIL BORING LOGS
G-5	SOIL BORING LOGS
G-6	HORIZONTAL CONTROL
CIVIL	
C-1	KEY SHEET
C-2	PLAN AND PROFILE
C-3	PLAN AND PROFILE
C-4	PLAN AND PROFILE
C-5	PLAN AND PROFILE
C-6	PLAN AND PROFILE
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C-16	IMPACTED DITCH CROSS SECTIONS
DETAILS	
D-1	CIVIL DETAILS
D-2	CIVIL DETAILS
D-3	MISCELLANEOUS DETAILS
D-4	MISCELLANEOUS DETAILS

UTILITY CONTACTS:

POWER: FLORIDA POWER AND LIGHT (941) 723-4430
1253 12th AVENUE EAST
PALMETTO, FLORIDA, 34221
ATTN: GREG COKER

PEACE RIVER ELECTRIC COOP (863) 767-4621
15105 59th AVENUE EAST
BRADENTON, FLORIDA, 34211
ATTN: DAVID McCLINTOCK

TELEPHONE: VERIZON (941) 906-6711
1701 RINGLING BLVD
SARASOTA, FLORIDA, 34236
ATTN: PATTI REID

GAS: TECO/PEOPLES GAS (941) 342-4006
8261 VICO COURT
SARASOTA, FLORIDA, 34240
ATTN: DANNY SHANAHAN

WATER/SEWER: MANATEE COUNTY UTILITIES

CABLE: BRIGHT HOUSE NETWORKS (941) 345-1348
5413 S.R. 64 EAST
BRADENTON, FLORIDA 34208
ATTN: TOM WRIGHT

URS
 7650 West Courtney Campell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610

PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG

FILE SAVE DATE:
July 16, 2012

DAVID A. WILCOX
349/30/12



FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

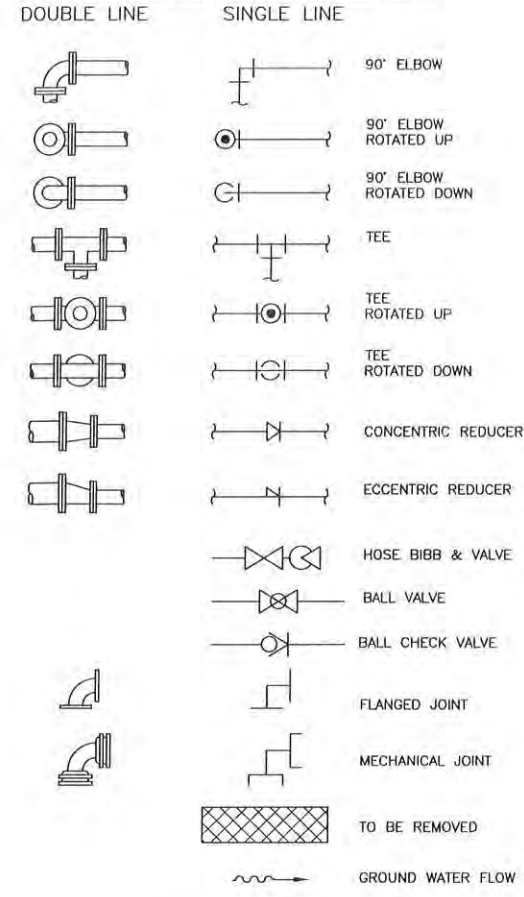
GENERAL NOTES AND INDEX TO SHEETS

PROJECT STATUS
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CONSTRUCTION

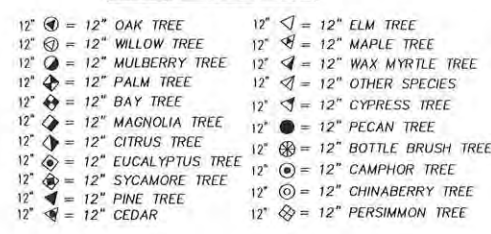
G-2

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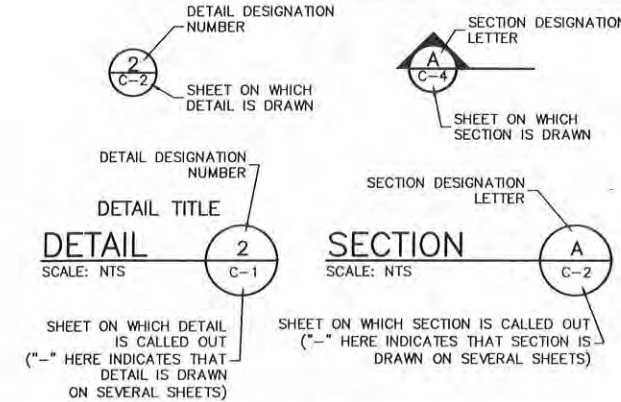
PIPE AND FITTING SYMBOLS



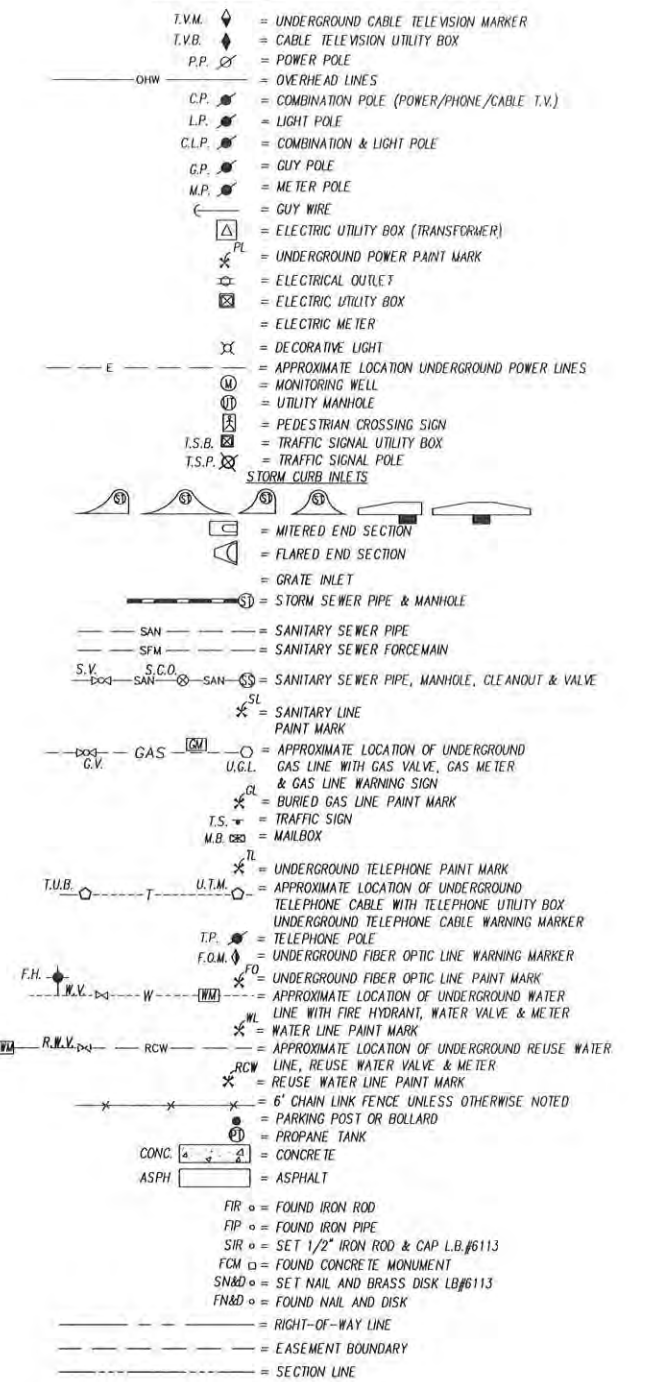
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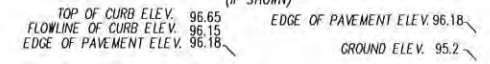
DETAIL & SECTION DESIGNATION



LEGEND OF SYMBOLS



TYPICAL SPOT ELEVATIONS (IF SHOWN)



ABBREVIATIONS:

#	NUMBER	LB	LICENSED BUSINESS NUMBER
A/C	AIR CONDITIONER	ID	INSIDE DIAMETER
AC	ASBESTOS CEMENT PIPE	IE	INVERT ELEVATION
ADDL	ADDITIONAL	INF	INFLUENT
ADJ	ADJUSTABLE	LF	LINER FEET
ADPT	ADAPTER	LT	LEFT
ALUM	ALUMINUM	MATL	MATERIAL
APPROX	APPROXIMATE (LY)	MAX	MAXIMUM
ARV	AIR RELEASE VALVE	MECH	MECHANICAL
ASPH	ASPHALT	MFD	MANUFACTURED
AUTO	AUTOMATIC	MFG	MANUFACTURING
AUX	AUXILIARY	MFR	MANUFACTURER
AVG	AVERAGE	MH	MANHOLE
BM	BENCHMARK	MIN	MINIMUM
BV	BALL VALVE	MISC	MISCELLANEOUS
BFV	BUTTERFLY VALVE	MJ	MECHANICAL JOINT
BLDG	BUILDING	NTS	NOT TO SCALE
BMP	BEST MANAGEMENT PRACTICE	OC	ON CENTER
BOT	BOTTOM	OD	OUTSIDE DIAMETER
CATV	CABLE TV	O/E	OR EQUAL
CHKD	CHECKED	OR	OFFICIAL RECORD BOOK
CI	CAST IRON	PE	PLAIN END
CL	CENTERLINE	PL	PROPERTY LINE
CL2	CHLORINE	PLS	PROFESSIONAL LAND SURVEYOR
CMP	CORRUGATED METAL PIPE	PP	POWER POLE
CMU	CONCRETE MASONRY UNITS	PROP	PROPOSED
CO	CLEAN OUT	PS	PUMP STATION
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONST	CONSTRUCTION	PV	PLUG VALVE
CPLG	COUPLING	PVC	POLYVINYL CHLORIDE PIPE
CTR	CENTER (ED)	PVMT	PAVEMENT
CV	CHECK VALVE	PW	POTABLE WATER
D	DRAIN	R	RADIUS
DEMO	DEMOLITION	R/W	RIGHT-OF-WAY
DEPT	DEPARTMENT	RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON	RCW	RECLAIMED WATER
DIA	DIAMETER	RED	REDUCER
DIAG	DIAGONAL	RMJ	RESTRAIN MECHANICAL JOINT
DIM	DIMENSION	RR	RAILROAD
DN	DOWN	RT	RIGHT
EA	EACH	RW	RAW WATER
ECC	ECCENTRIC	SAN	SANITARY
EFF	EFFLUENT	SCH	SCHEDULE
EL	ELEVATION	SHC	SODIUM HYPOCHLORITE
ELEV	ELEVATION	SHT	SHEET
EOP	EDGE OF PAVEMENT	SQR	SQUARE
EQ	EQUAL (LY)	SS	SANITARY SEWER
EQUIP	EQUIPMENT	SST	STAINLESS STEEL
ESMT	EASEMENT	STA	STATION
ETC	ETCETERA	STD	STANDARD
EW	EACH WAY	STL	STEEL
EXIST	EXISTING	SW	SOLVENT WELD
EXP	EXPANSION	SWLK	SIDEWALK
FDOT	FLORIDA DEPT OF TRANS	T&B	TOP AND BOTTOM
FH	FIRE HYDRANT	TBM	TEMPORARY BENCHMARK
FIG	FIGURE	TEL	TELEPHONE
FIN	FINISH (ED)	THD	THREADED
FLG	FLANGE	THK	THICK (NESS)
FLR	FLOOR	TYP	TYPICAL
FM	FORCE MAIN	UD	UNDERDRAIN
FRP	FIBERGLASS REINFORCED PIPE	VCP	VITRIFIED CLAY PIPE
FT	FOOT OR FEET	VERT	VERTICAL
GAL	GALLON	W/	WITH
GALV	GALVANIZED	WL	WATER LEVEL
GV	GATE VALVE	WM	WATERMAIN OR WATER METER
HB	HOSE BIBB	WV	WATER VALVE
HDD	HORIZONTAL DIRECTIONAL DRILL	WWM	WOVEN WIRE MESH
HDPE	HIGH DENSITY POLYETHYLENE	XFMR	TRANSFORMER
HORZ	HORIZONTAL		
HT	HEIGHT		

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

NO.	BY	DATE	DESCRIPTION

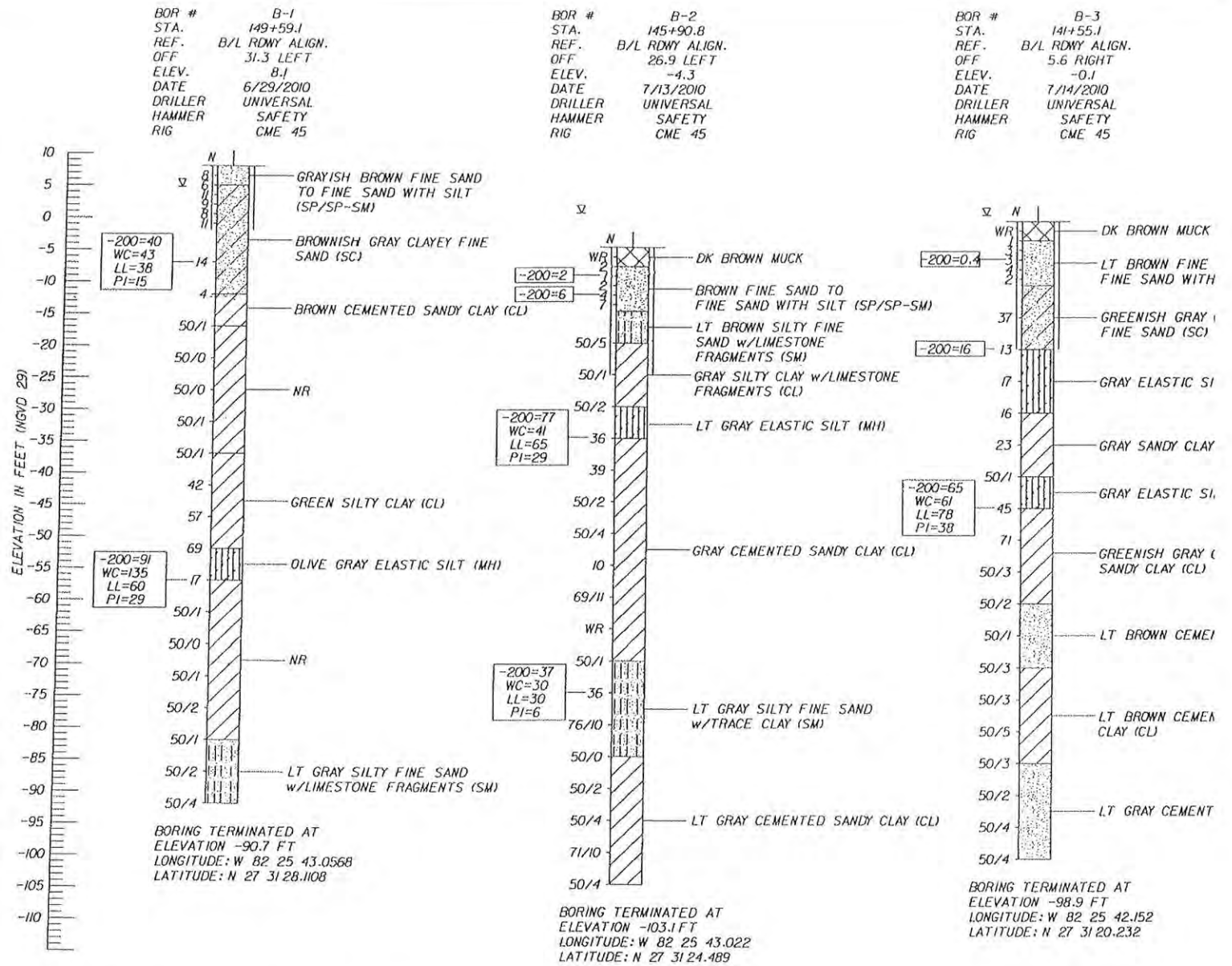
URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 June 21, 2012

FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

SYMBOLS AND ABBREVIATIONS
 G-3

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION

PLOTTED: JUL 15, 2012 10:04 AM PLOTTED BY: TERENCE SONNENBERG
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY



APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

SEE SHEET C-5 FOR BORING LOCATIONS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

URS
 MICHAEL R. SHARP, P.E.
 P.E. LICENSE NUMBER 41205
 URS CORPORATION, SOUTHERN
 7650 WEST COURTNEY CAMPBELL CAUSEWAY
 TAMPA, FLORIDA 33607-0862
 CERTIFICATE OF AUTHORIZATION 00000002

MANATEE COUNTY GO
 DRAWN BY: CMN 08/10
 CHECKED BY: SPK 08/10
 DESIGNED BY: SPK 08/10
 CHECKED BY: MFS 08/10
 MANATEE COUNTY,
 craig_jully

URS
 7650 West Courtney Campell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 May 18, 2012

MANATEE COUNTY
 FLORIDA
 DAVID A. WILCOX
 FLORIDA P.E. NO. 34942

FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION

SOIL BORING LOGS

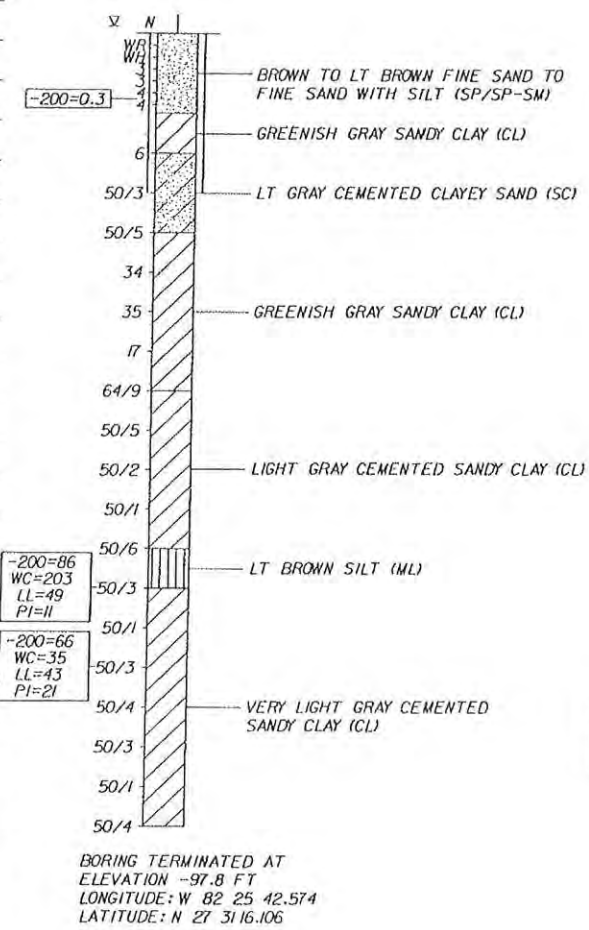
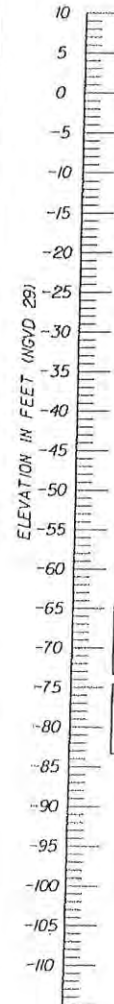
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 K:\MANATEE\PROJECTS\12009610\G-5 SOIL BORING LOGS.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 1" = 1' IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

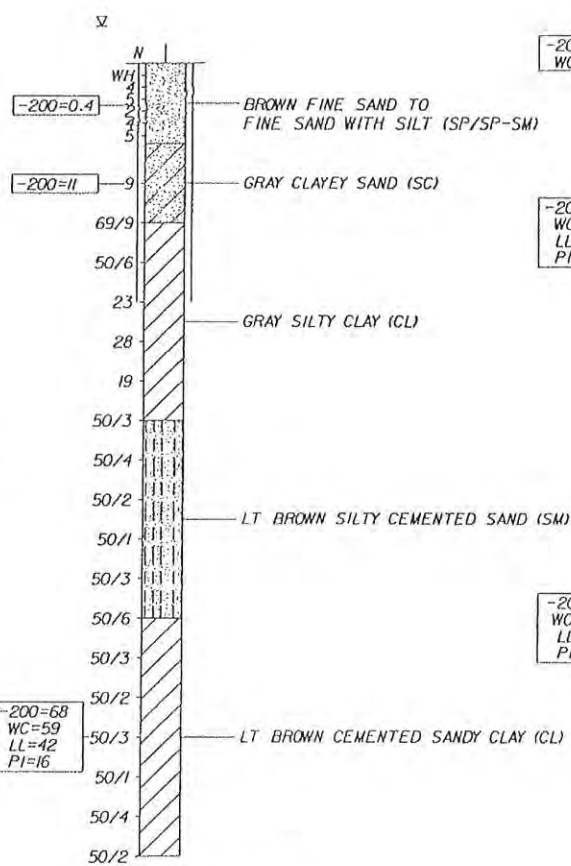
BOR # B-4
STA. 137+35.1
REF. B/L RDWY ALIGN.
OFF. 26.5 LEFT
ELEV. 1.0
DATE 7/16/2010
DRILLER UNIVERSAL
HAMMER SAFETY
RIG CME 45

BOR # B-5
STA. 132+72.2
REF. B/L RDWY ALIGN.
OFF. 44.8 RIGHT
ELEV. -2.6
DATE 7/15/2010
DRILLER UNIVERSAL
HAMMER SAFETY
RIG CME 45

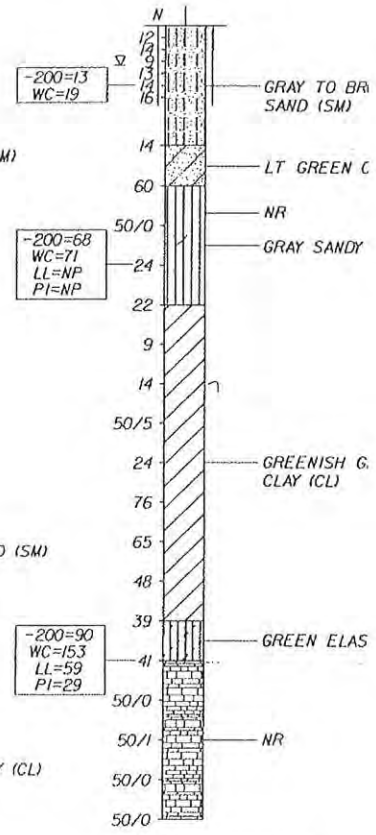
BOR # B-6
STA. 126+84.4
REF. B/L RDWY ALIGN.
OFF. 53.0 RIGHT
ELEV. 6.2
DATE 7/5/2010
DRILLER UNIVERSAL
HAMMER SAFETY
RIG CME 45



BORING TERMINATED AT
 ELEVATION -97.8 FT
 LONGITUDE: W 82 25 42.574
 LATITUDE: N 27 31 16.106



BORING TERMINATED AT
 ELEVATION -100.8 FT
 LONGITUDE: W 82 25 42.963
 LATITUDE: N 27 31 11.471



BORING TERMINATED AT
 ELEVATION -92.3 FT
 LONGITUDE: W 82 25 45.166
 LATITUDE: N 27 31 06.038

NOTE:
 LABORATORY TEST RESULTS WERE TYPICALLY ROUNDED
 TO THE NEAREST WHOLE NUMBERS.

ENVIRONMENTAL CLASSIFICATION:
 SUBSTRUCTURE CONCRETE: MODERATELY AGGRESSIVE (WATER RESIST.)
 SUBSTRUCTURE STEEL: MODERATELY AGGRESSIVE (SOIL pH=6.6)
 SUPERSTRUCTURE SLIGHTLY AGGRESSIVE

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

URS
 MICHAEL R. SHARP, P.E.
 P.E. LICENSE NUMBER 41205
 URS CORPORATION SOUTHERN
 7650 WEST COURTNEY CAMPBELL CAUSEWAY
 TAMPA, FLORIDA 33607-1452
 CERTIFICATE OF AUTHORIZATION 000000002

DRAWN BY: EMR DB/110
 CHECKED BY: SPK DB/110
 DESIGNED BY: SPK DB/110
 CHECKED BY: MRS MRS
 MANATEE COUNTY GOV
 MANATEE COUNTY, FL
 crolg.tully

SEE SHEET C-5 FOR BORING LOCATIONS



7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 May 18, 2012

DAVID A. WILCOX
 FLORIDA P.E. NO. 34942

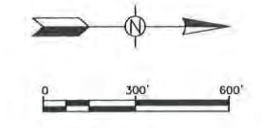


FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

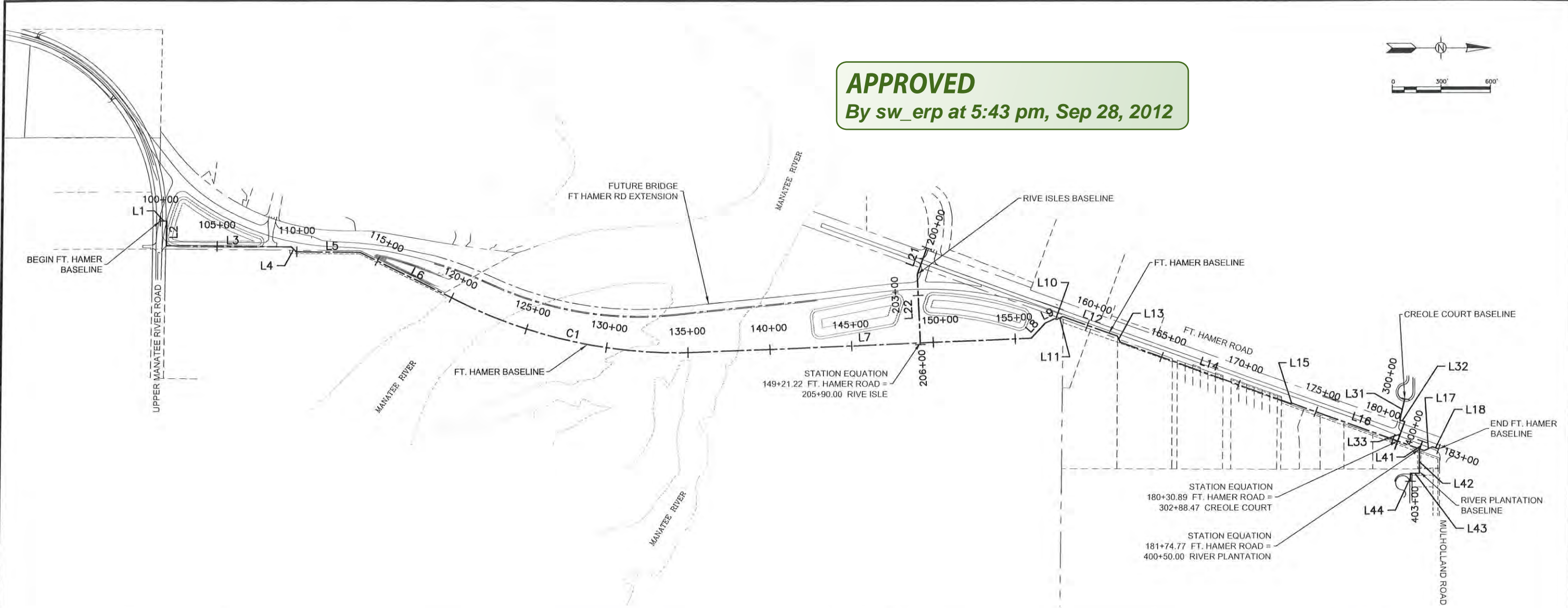
SOIL BORING LOGS

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION

G-5



APPROVED
By sw_erp at 5:43 pm, Sep 28, 2012



LINE TABLE -- FT. HAMER BASELINE

LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION
L1	40.00'	N0° 32' 09.44"E	N: 1156190.02 E: 516794.00	100+00.00	N: 1156230.02 E: 516794.37	100+40.00
L2	151.12'	S89° 30' 27.95"E	N: 1156230.02 E: 516794.37	100+40.00	N: 1156228.72 E: 516945.48	101+91.12
L3	761.91'	N0° 30' 29.30"E	N: 1156228.72 E: 516945.48	101+91.12	N: 1156990.60 E: 516952.24	109+53.03
L4	42.43'	N45° 30' 29.30"E	N: 1156990.60 E: 516952.24	109+53.03	N: 1157020.33 E: 516982.51	109+95.46
L5	386.43'	N0° 30' 29.30"E	N: 1157020.33 E: 516982.51	109+95.46	N: 1157408.74 E: 516985.93	113+81.88
L6	665.05'	N26° 32' 17.41"E	N: 1157408.74 E: 516985.93	113+81.88	N: 1158001.73 E: 517283.08	120+46.94
L7	2032.62'	N2° 27' 50.08"E	N: 1158001.73 E: 517283.08	120+46.94	N: 1161501.82 E: 517509.01	155+98.10
L8	125.10'	N47° 27' 50.08"W	N: 1161501.82 E: 517509.01	155+98.10	N: 1161586.39 E: 517416.83	157+23.20
L9	63.63'	N25° 06' 23.99"W	N: 1161586.39 E: 517416.83	157+23.20	N: 1161644.01 E: 517389.83	157+86.83
L10	12.73'	N19° 52' 11.64"E	N: 1161644.01 E: 517389.83	157+86.83	N: 1161655.98 E: 517394.16	157+99.56
L11	41.03'	N25° 06' 23.99"W	N: 1161655.98 E: 517394.16	157+99.56	N: 1161693.13 E: 517376.75	158+40.59
L12	352.41'	N19° 52' 11.64"E	N: 1161693.13 E: 517376.75	158+40.59	N: 1162024.57 E: 517496.53	161+93.00

LINE TABLE -- FT. HAMER BASELINE (CONT'D)

LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION
L13	40.84'	N65° 06' 24.23"E	N: 1162024.57 E: 517496.53	161+93.00	N: 1162041.76 E: 517533.58	162+33.85
L14	1103.77'	N19° 52' 11.64"E	N: 1162041.76 E: 517533.58	162+33.85	N: 1163079.82 E: 517908.73	173+37.62
L15	11.44'	N2° 36' 23.99"W	N: 1163079.82 E: 517908.73	173+37.62	N: 1163091.24 E: 517908.21	173+49.05
L16	855.16'	N19° 53' 36.01"E	N: 1163091.24 E: 517908.21	173+49.05	N: 1163895.37 E: 518199.20	182+04.21
L17	55.48'	N25° 06' 23.99"W	N: 1163895.37 E: 518199.20	182+04.21	N: 1163945.61 E: 518175.66	182+59.69
L18	40.31'	N19° 53' 36.01"E	N: 1163945.61 E: 518175.66	182+59.69	N: 1163983.51 E: 518189.38	183+00.00

CURVE TABLE -- FT. HAMER BASELINE

CURVE NO.	RADIUS	LENGTH	CHORD DIRECTION	START POINT	START STATION	END POINT	END STATION
C1	3000.00'	1518.55'	N12° 02' 13.66"E	N: 1158001.73 E: 517283.08	120+46.94	N: 1159471.08 E: 517596.39	135+65.48

LINE TABLE -- RIVE ISLES BASELINE

LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION
L21	170.45'	S69° 57' 50.08"E	N: 1160865.92 E: 516958.81	200+00.00	N: 1160807.52 E: 517118.95	201+70.45
L22	429.55'	N87° 32' 09.92"E	N: 1160807.52 E: 517118.95	201+70.45	N: 1160825.99 E: 517548.10	206+00.00

LINE TABLE -- CREOLE COURT BASELINE

LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION
L31	131.62'	S76° 43' 26.91"E	N: 1163776.00 E: 517893.37	300+00.00	N: 1163745.78 E: 518011.47	301+31.62
L32	31.23'	N19° 53' 36.01"E	N: 1163745.78 E: 518011.47	301+31.62	N: 1163775.14 E: 518022.10	301+62.85
L33	158.15'	S70° 06' 23.99"E	N: 1163775.14 E: 518022.10	301+62.85	N: 1163714.86 E: 518188.68	303+40.00

LINE TABLE -- RIVER PLANTATION BASELINE

LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION
L41	56.00'	S70° 06' 23.99"E	N: 1163884.70 E: 518142.17	400+00.00	N: 1163865.65 E: 518194.82	400+56.00
L42	141.80'	N90° 00' 00.00"E	N: 1163865.65 E: 518194.82	400+56.00	N: 1163865.65 E: 518336.62	401+97.80
L43	53.76'	S00° 00' 00.00"E	N: 1163865.65 E: 518336.62	401+97.80	N: 1163811.89 E: 518336.62	402+51.55
L44	48.45'	N90° 00' 00.00"E	N: 1163811.89 E: 518336.62	402+51.55	N: 1163811.89 E: 518385.07	403+00.00

PLOTTED: July 16, 2012 1:00:05 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE\PROJECTS\12090609 FT HAMER WM CROSSING - WAF 15\CADD\CADD-G-6 HORIZONTAL CONTROL.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

URS
7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610
PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE:
June 28, 2012

FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

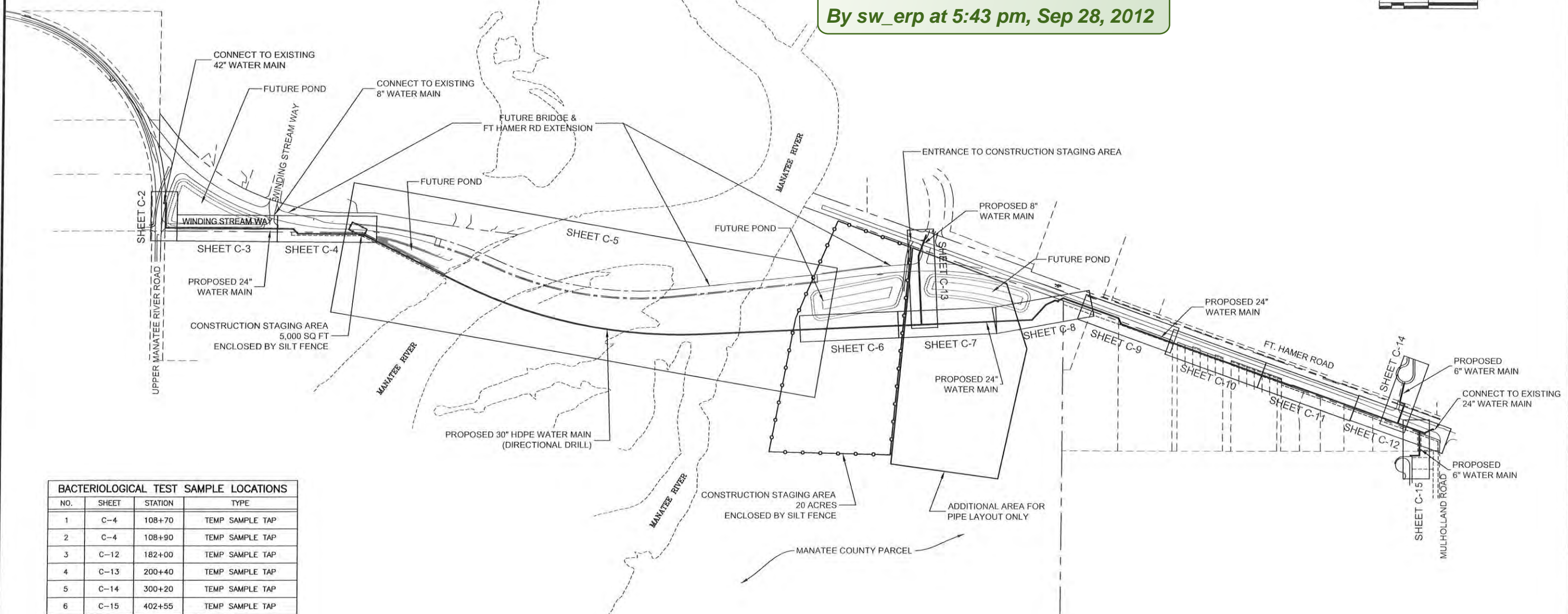
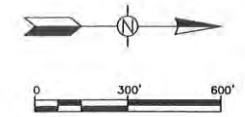
HORIZONTAL CONTROL

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION

G-6

PLOTTED July 16, 2012 10:05 AM PLOTTED BY: TERENCE SONNENBERG
 R:\MANATEE PROJECTS\12009609 FT HAMER WM CROSSING - WA# 15\CADD\CADD\C-1 KEY SHEET.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012



BACTERIOLOGICAL TEST SAMPLE LOCATIONS			
NO.	SHEET	STATION	TYPE
1	C-4	108+70	TEMP SAMPLE TAP
2	C-4	108+90	TEMP SAMPLE TAP
3	C-12	182+00	TEMP SAMPLE TAP
4	C-13	200+40	TEMP SAMPLE TAP
5	C-14	300+20	TEMP SAMPLE TAP
6	C-15	402+55	TEMP SAMPLE TAP



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NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 July 16, 2012

DAVID A. WILCOX
 FLORIDA P.E. NO. 34942

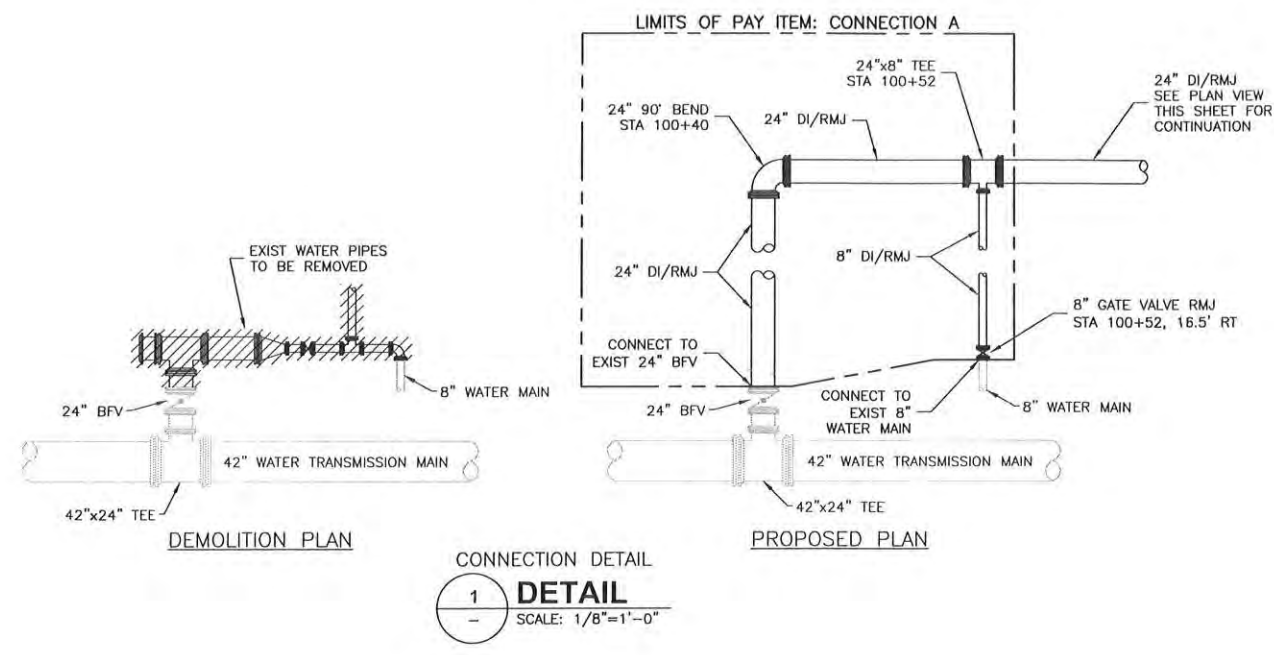


**FT. HAMER ROAD
 WATER MAIN CROSSING**
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

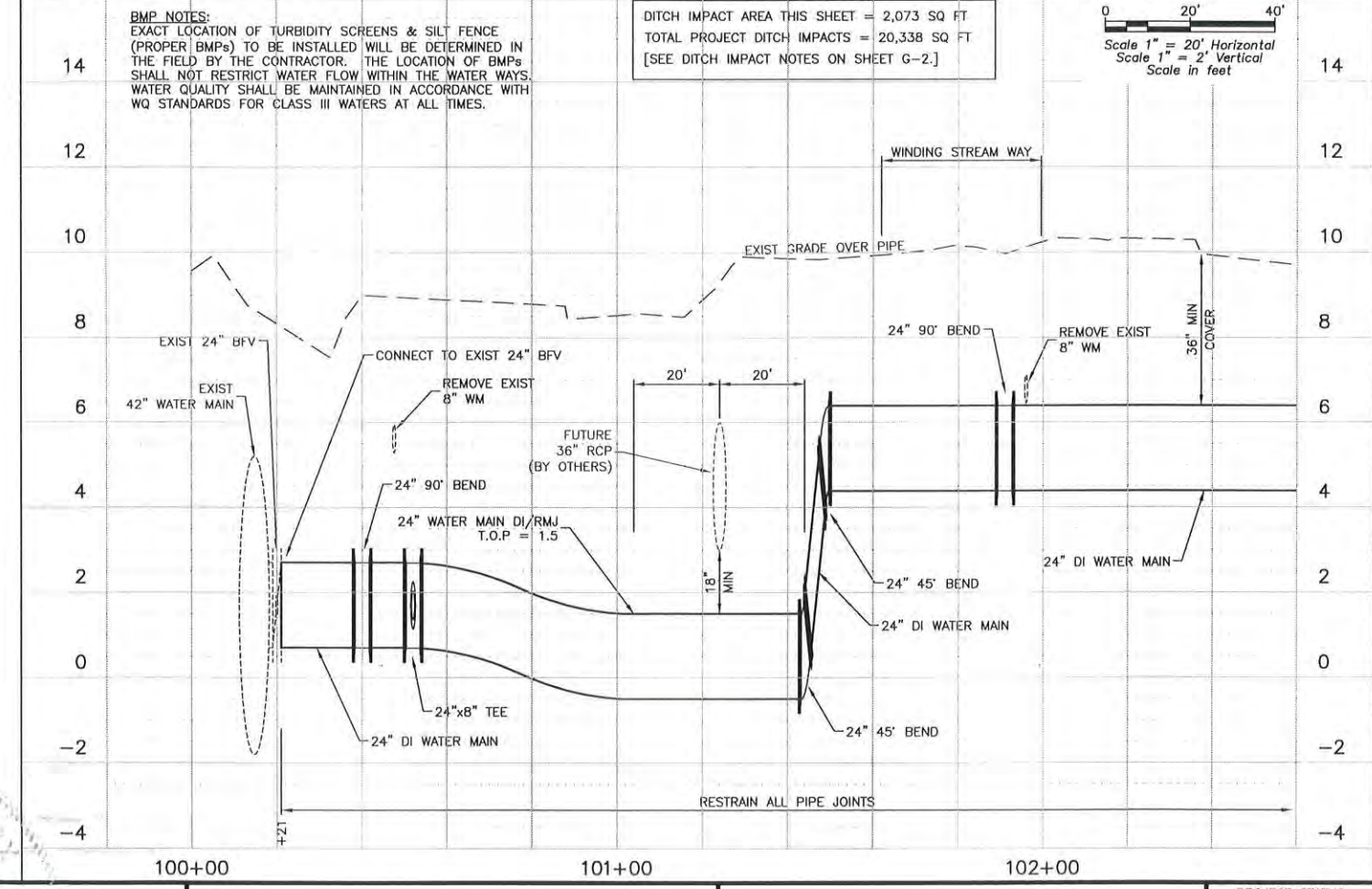
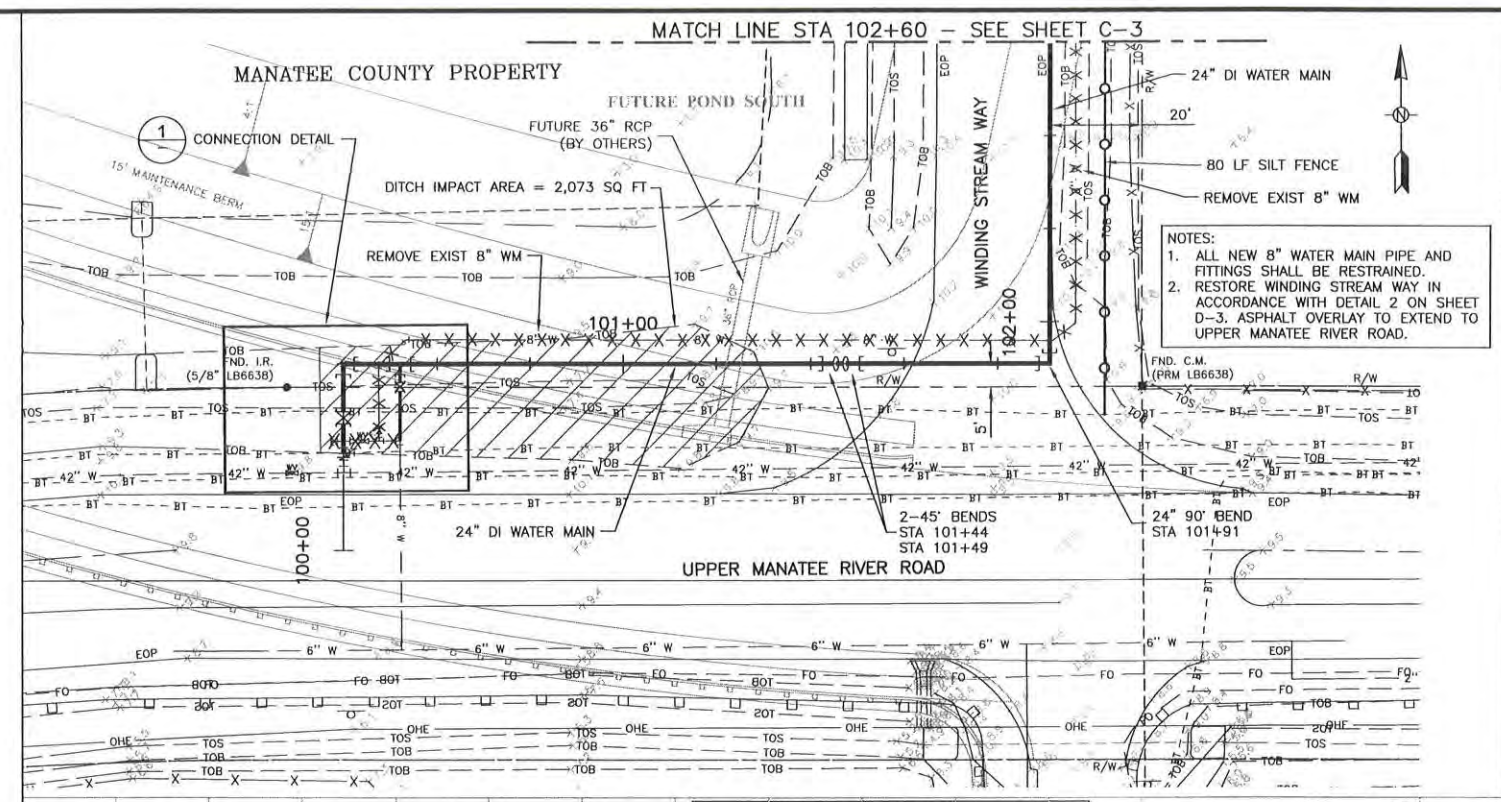
KEY SHEET
 PROJECT STATUS
 100% DESIGN
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 CONSTRUCTION

C-1

PLOTTED: July 16, 2012 10:07 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE PROJECTS\12009609 FT HAMER WM CROSSING - W\15\CADD\CADD\C-2 PLAN AND PROFILE.DWG
 VERIFY SCALES: BAR IS ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY
 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY



APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012



URS

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 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610

PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG

FILE SAVE DATE:
July 6, 2012

DAVID A. WILCOX
 FLORIDA P.E. NO. 34942



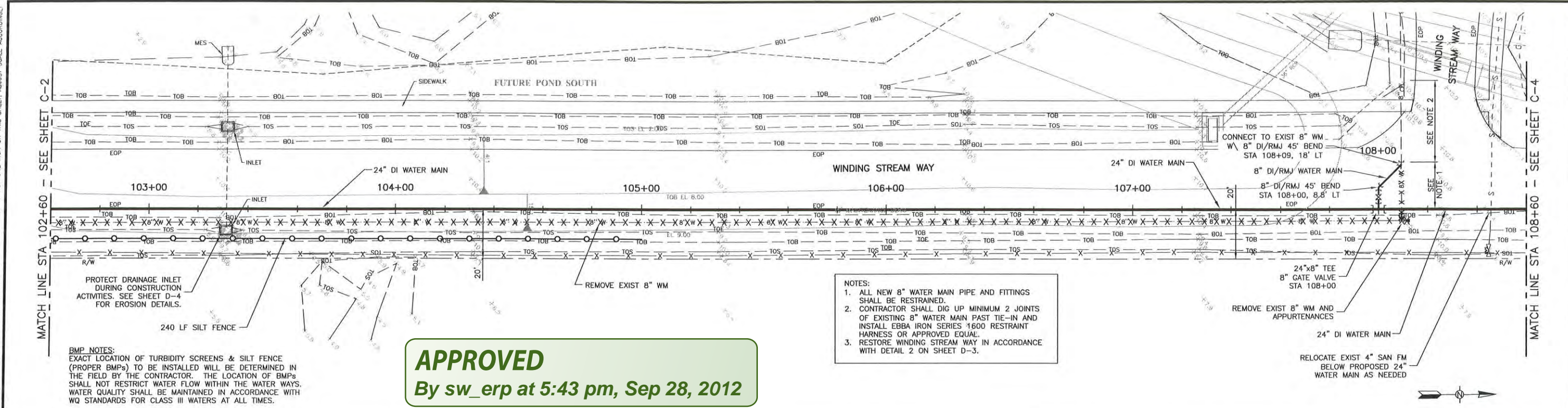
FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE

PROJECT STATUS
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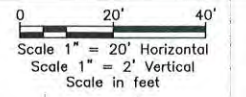
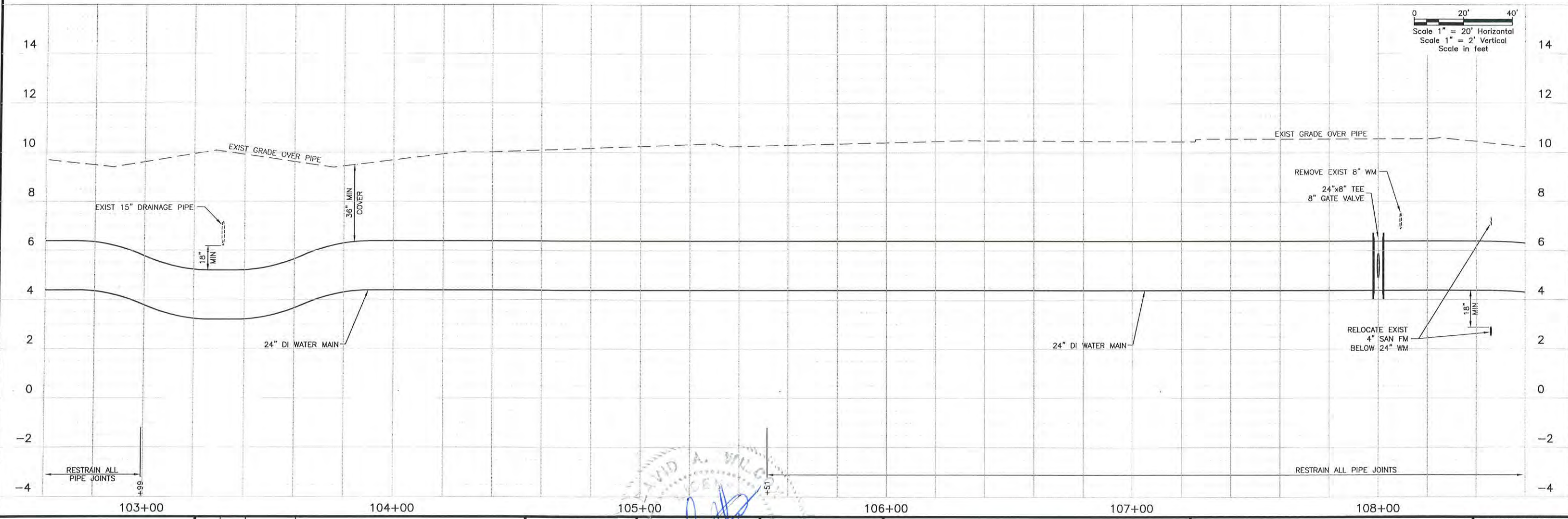
C-2

PLOTTED July 16, 2012 10:08 AM PLOTTED BY: TERENCE SONNENBERG
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 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.



APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

- NOTES:**
1. ALL NEW 8" WATER MAIN PIPE AND FITTINGS SHALL BE RESTRAINED.
 2. CONTRACTOR SHALL DIG UP MINIMUM 2 JOINTS OF EXISTING 8" WATER MAIN PAST TIE-IN AND INSTALL EBBA IRON SERIES 1600 RESTRAINT HARNESS OR APPROVED EQUAL.
 3. RESTORE WINDING STREAM WAY IN ACCORDANCE WITH DETAIL 2 ON SHEET D-3.



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 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 July 6, 2012

DAVID A. WILCOX
 FLORIDA P.E. NO. 34942



**FT. HAMER ROAD
 WATER MAIN CROSSING**
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE

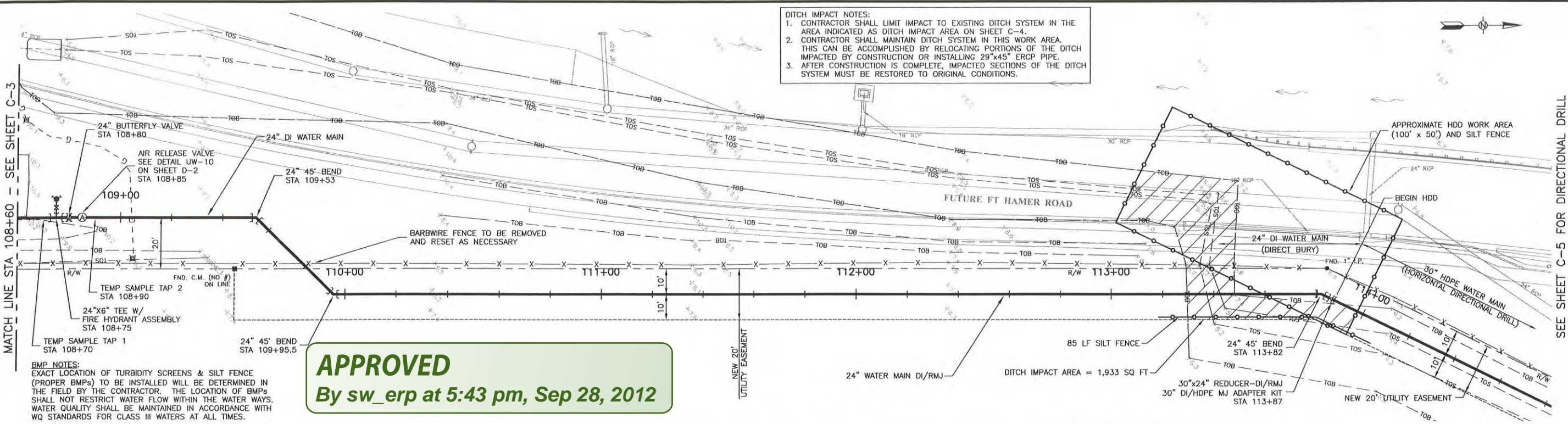
PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION

C-3

PLOTTED July 15, 2012 10:09 AM PLOTTED BY: TERENCE SONNENBERG
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 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

DITCH IMPACT NOTES:

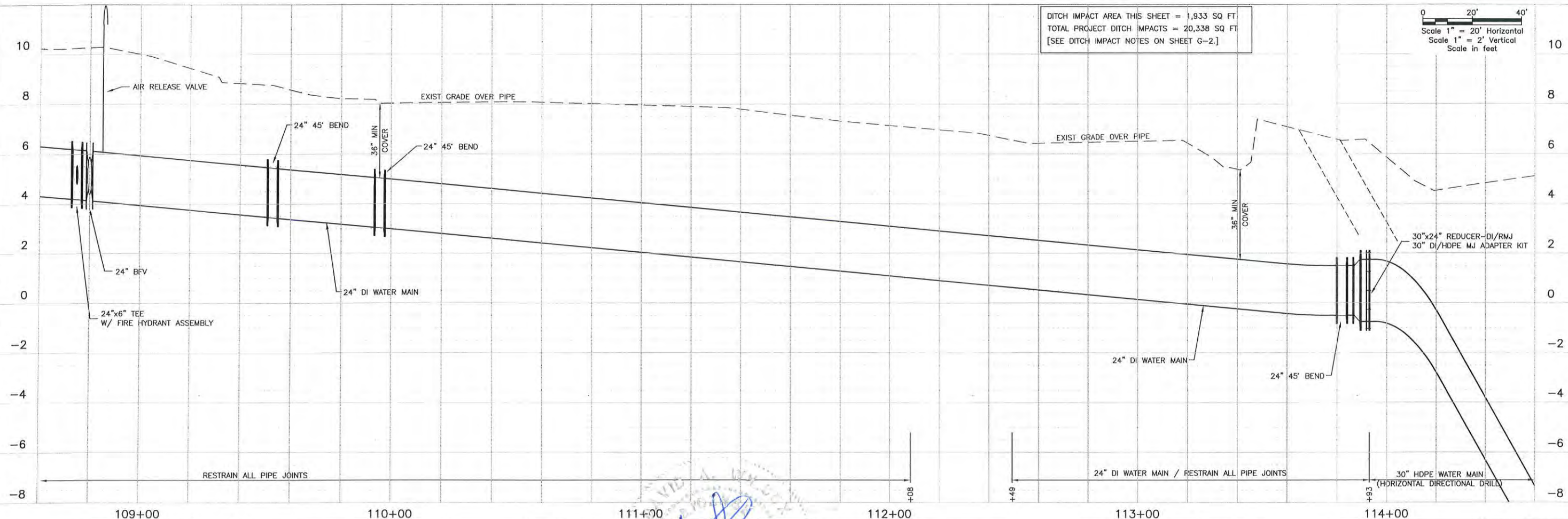
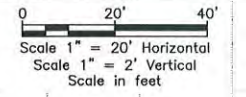
1. CONTRACTOR SHALL LIMIT IMPACT TO EXISTING DITCH SYSTEM IN THE AREA INDICATED AS DITCH IMPACT AREA ON SHEET C-4.
2. CONTRACTOR SHALL MAINTAIN DITCH SYSTEM IN THIS WORK AREA. THIS CAN BE ACCOMPLISHED BY RELOCATING PORTIONS OF THE DITCH IMPACTED BY CONSTRUCTION OR INSTALLING 29"x45" ERCP PIPE.
3. AFTER CONSTRUCTION IS COMPLETE, IMPACTED SECTIONS OF THE DITCH SYSTEM MUST BE RESTORED TO ORIGINAL CONDITIONS.



APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

BMP NOTES:
 EXACT LOCATION OF TURBIDITY SCREENS & SILT FENCE (PROPER BMPs) TO BE INSTALLED WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF BMPs SHALL NOT RESTRICT WATER FLOW WITHIN THE WATER WAYS. WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH WQ STANDARDS FOR CLASS III WATERS AT ALL TIMES.

DITCH IMPACT AREA THIS SHEET = 1,933 SQ FT
 TOTAL PROJECT DITCH IMPACTS = 20,338 SQ FT
 [SEE DITCH IMPACT NOTES ON SHEET G-2.]



URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

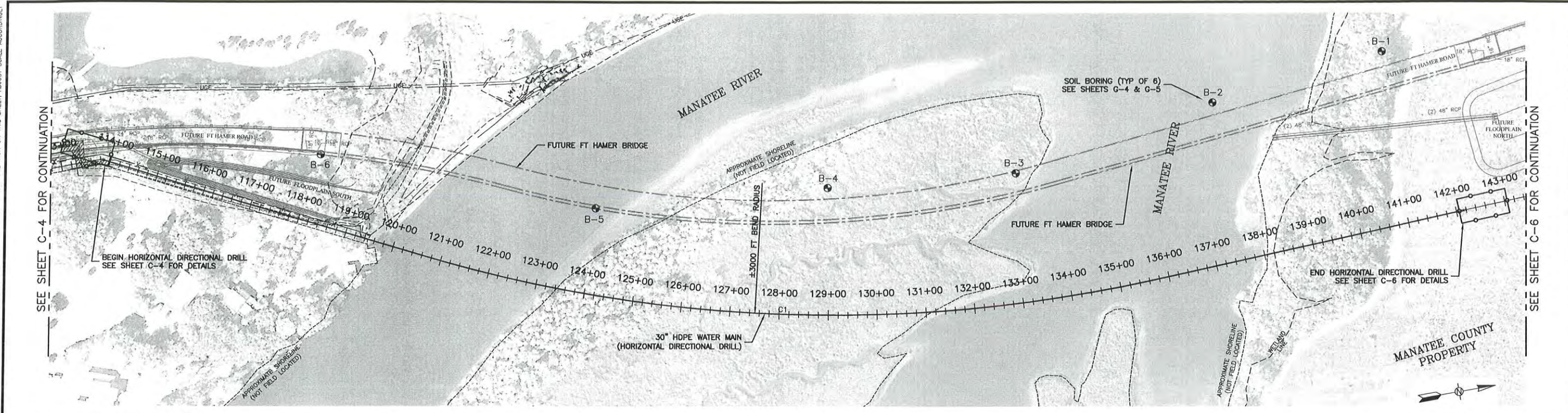
URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 July 6, 2012
 DAVID A. WILCOX
 FLO. P.E. NO. 34942



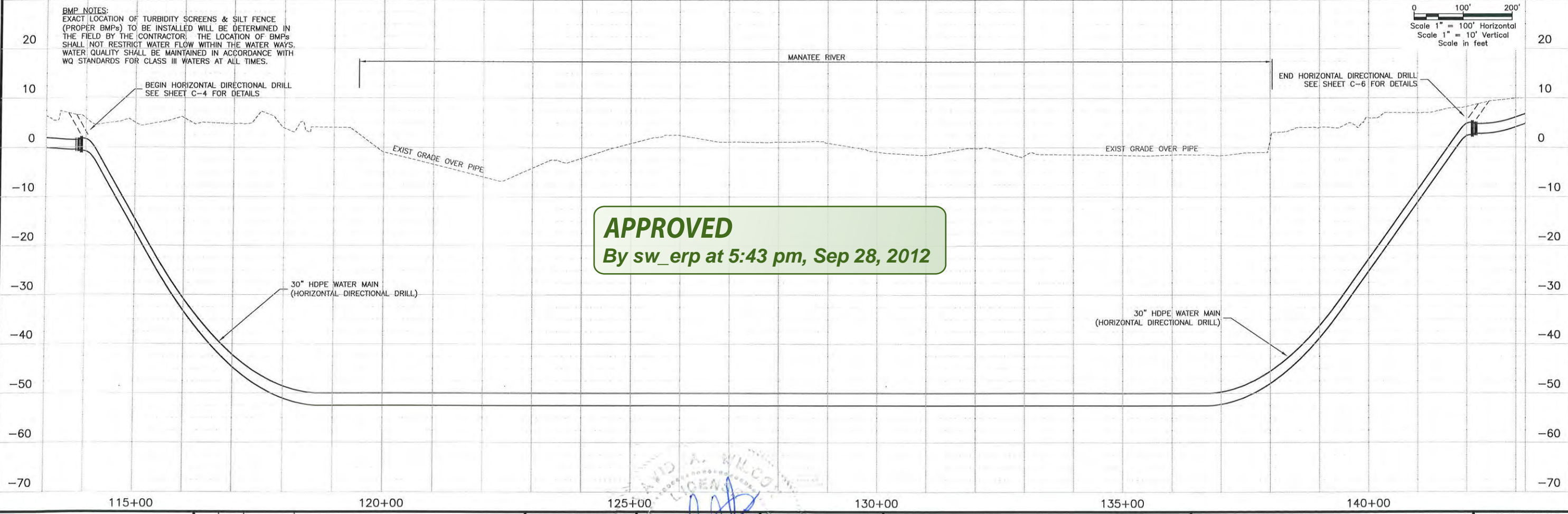
**FT. HAMER ROAD
 WATER MAIN CROSSING**
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE
 PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION
C-4

VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.



BMP NOTES:
 EXACT LOCATION OF TURBIDITY SCREENS & SILT FENCE (PROPER BMPs) TO BE INSTALLED WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF BMPs SHALL NOT RESTRICT WATER FLOW WITHIN THE WATER WAYS. WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH WQ STANDARDS FOR CLASS III WATERS AT ALL TIMES.



APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012

PLOTTED July 16, 2012 10:10 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE PROJECTS\12009610 FT HAMER WM CROSSING - WA# 16\CADD\CADD\C-5 PLAN AND PROFILE.DWG

URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION
REVISIONS			

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 June 21, 2012

DAVID A. WILCOX
 LICENSED PROFESSIONAL ENGINEER
 NO. 12009610
 DATE 9/28/12

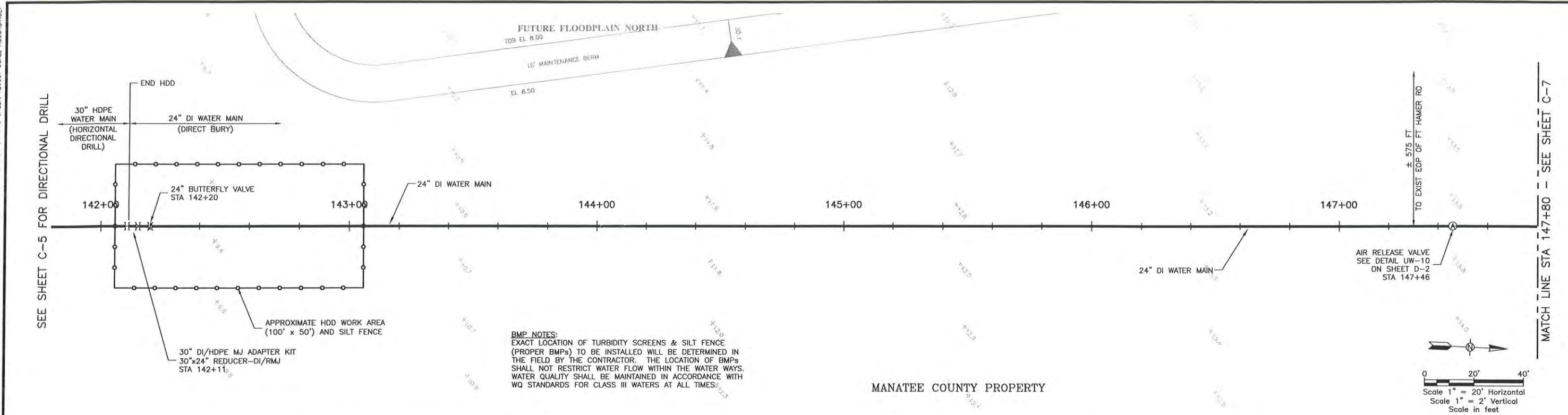


FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE
 C-5

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION

PLOTTED: JULY 16, 2012 10:11 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE PROJECTS\12098609 FT HAMER WM CROSSING - WAF 16\CADD\CADD-C-6 PLAN AND PROFILE.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.



BMP NOTES:
 EXACT LOCATION OF TURBIDITY SCREENS & SILT FENCE (PROPER BMPs) TO BE INSTALLED WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF BMPs SHALL NOT RESTRICT WATER FLOW WITHIN THE WATER WAYS. WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH WQ STANDARDS FOR CLASS III WATERS AT ALL TIMES.

MANATEE COUNTY PROPERTY

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012



URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
June 21, 2012

DAVID A. WILCOX
 FLORIDA P.E. NO. 34942



FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

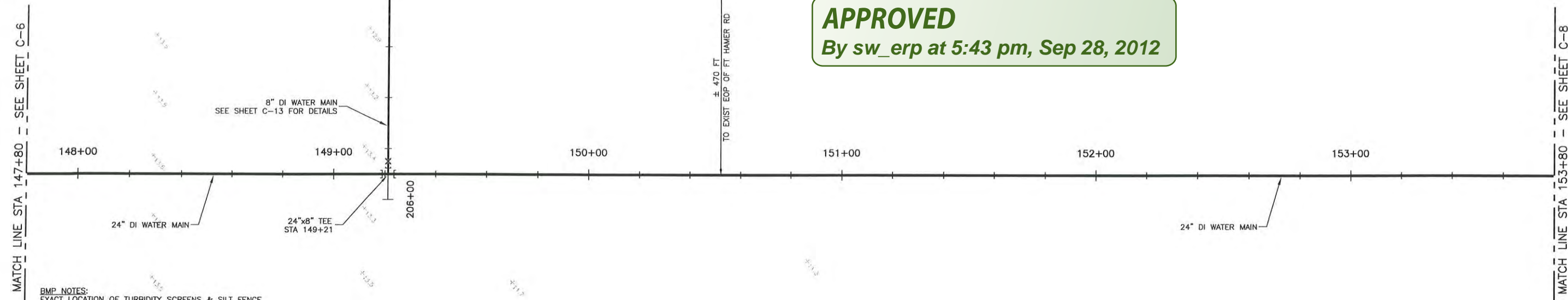
PLAN AND PROFILE

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION
 C-6

PLOTTED July 16, 2012 10:12 AM PLOTTED BY: TERENCE SONNENBERG
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 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

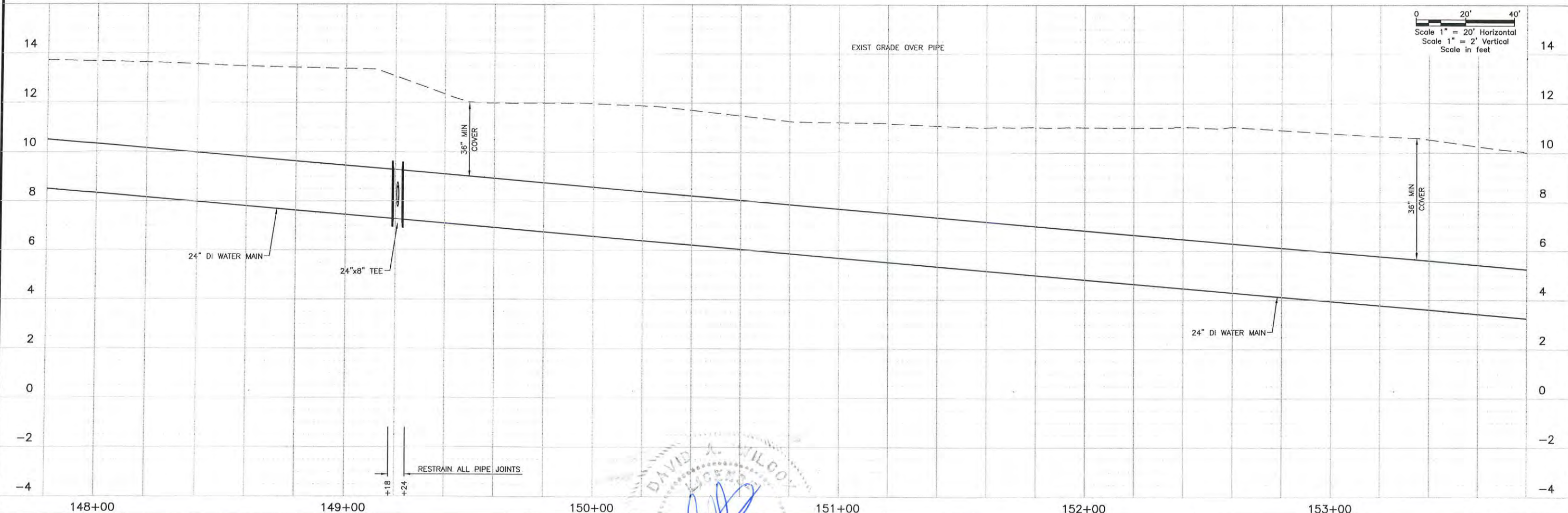
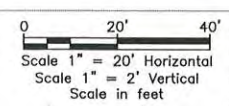
SEE SHEET C-13 FOR 8" DI WATER MAIN DETAILS

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012



BMP NOTES:
 EXACT LOCATION OF TURBIDITY SCREENS & SILT FENCE (PROPER BMPs) TO BE INSTALLED WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF BMPs SHALL NOT RESTRICT WATER FLOW WITHIN THE WATER WAYS. WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH WQ STANDARDS FOR CLASS III WATERS AT ALL TIMES.

MANATEE COUNTY PROPERTY



URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION
REVISIONS			

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 June 21, 2012

[Handwritten signature and date: 3/27/12]



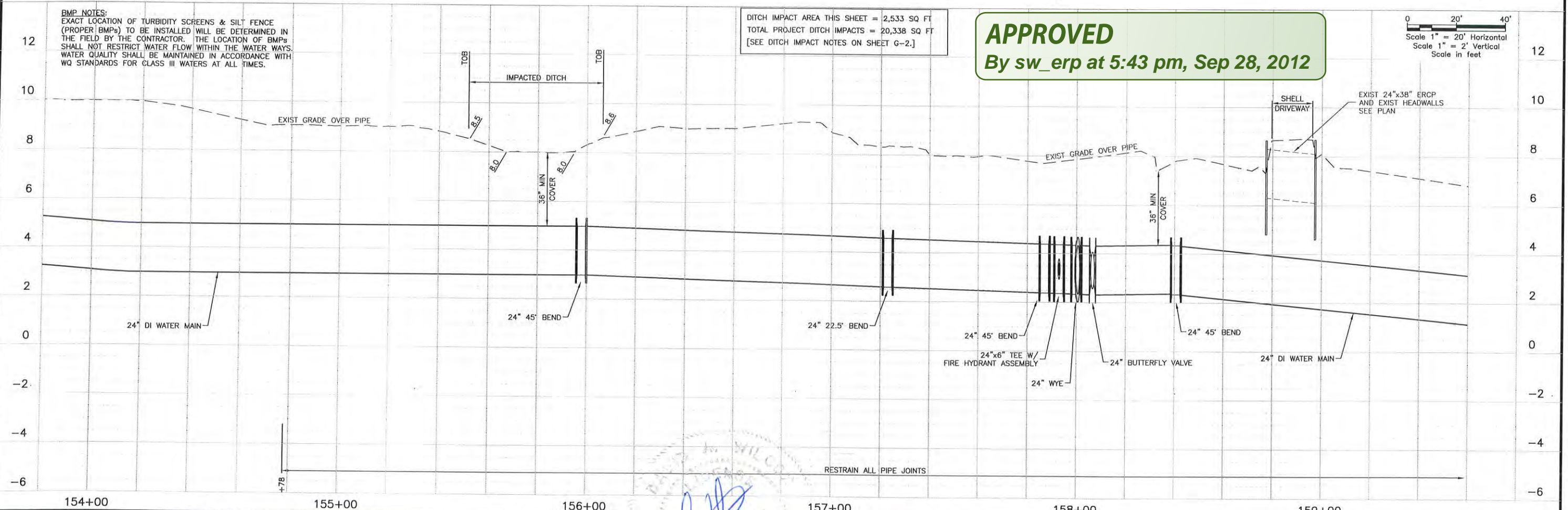
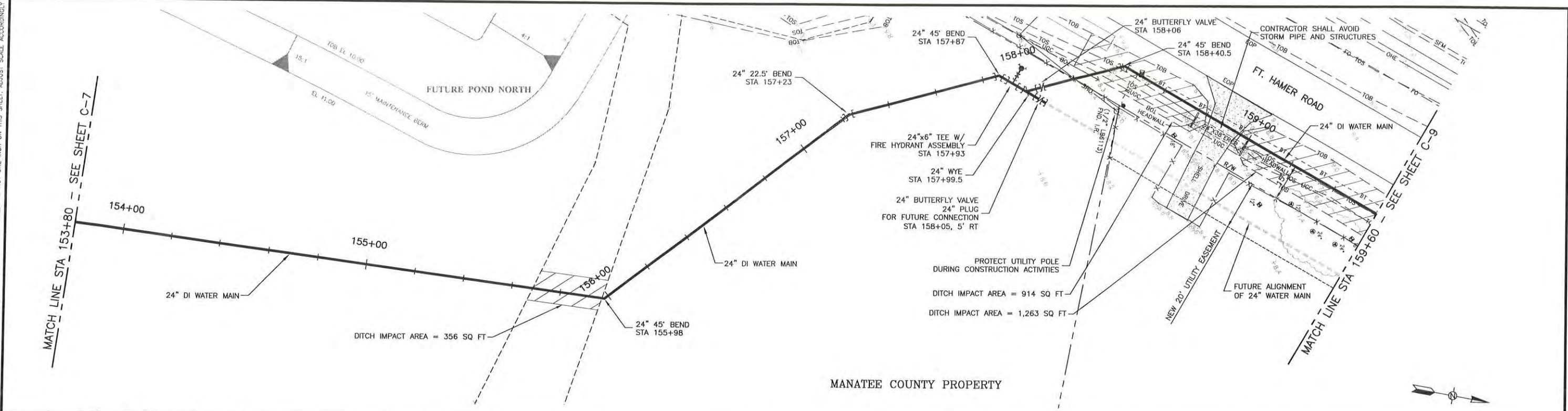
**FT. HAMER ROAD
 WATER MAIN CROSSING**
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE

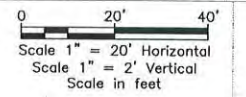
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DITCH IMPACT AREA THIS SHEET = 2,533 SQ FT
 TOTAL PROJECT DITCH IMPACTS = 20,338 SQ FT
 [SEE DITCH IMPACT NOTES ON SHEET G-2.]

BMP NOTES:
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URS JOB NUMBER 12009610
PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE: July 6, 2012

David Wilcox
 3/28/12



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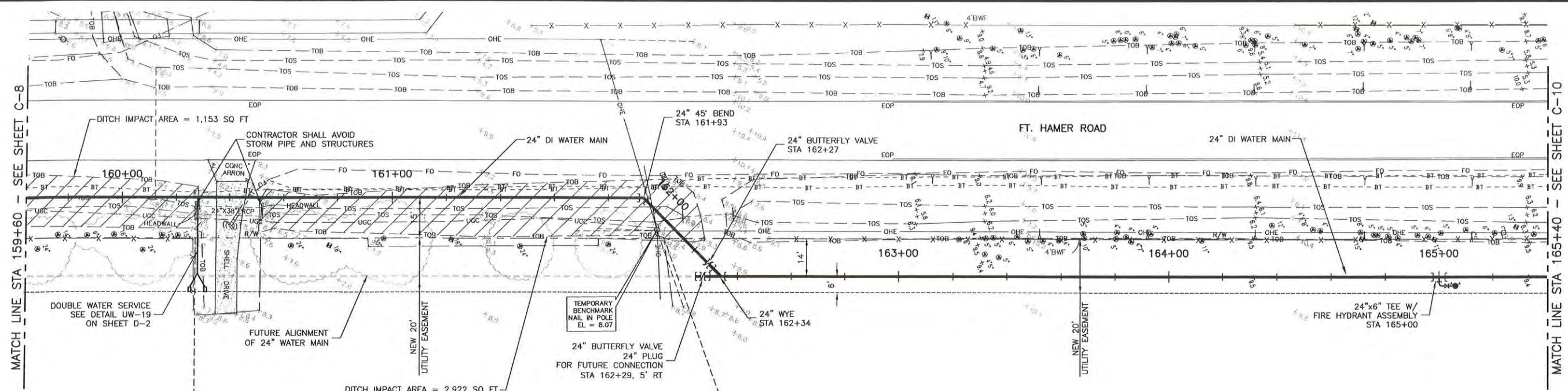
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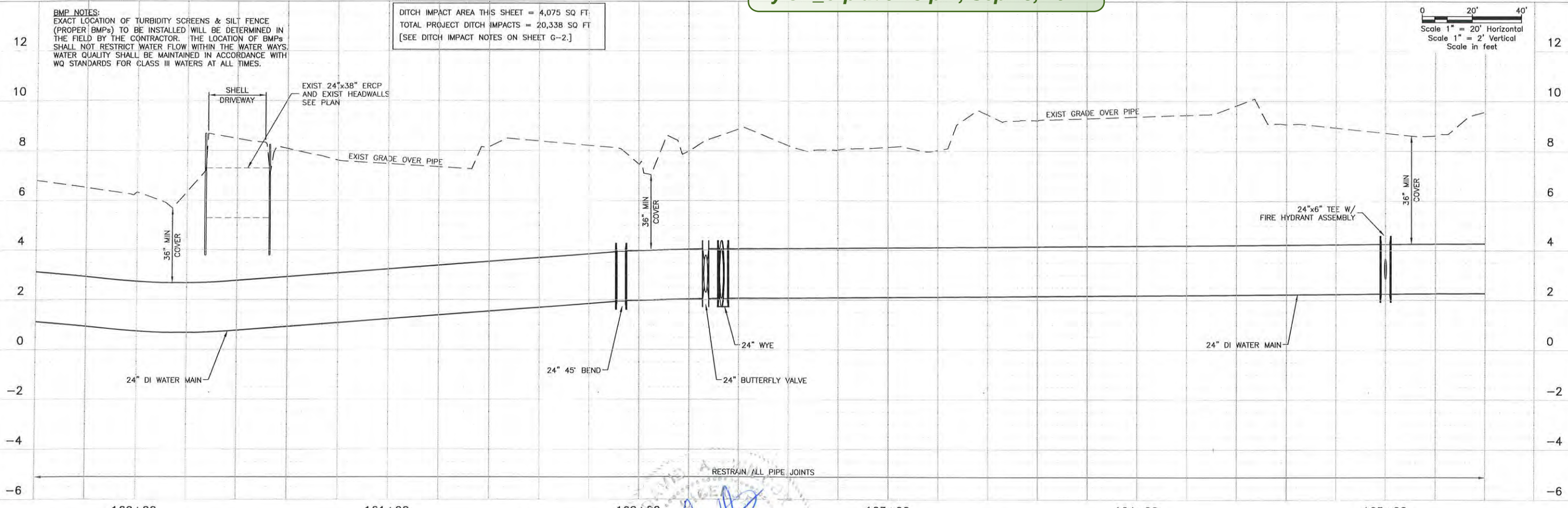
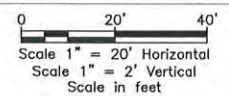
C-8

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 FILE SAVE DATE:
 July 6, 2012

Handwritten signature and date:
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 3/27/12

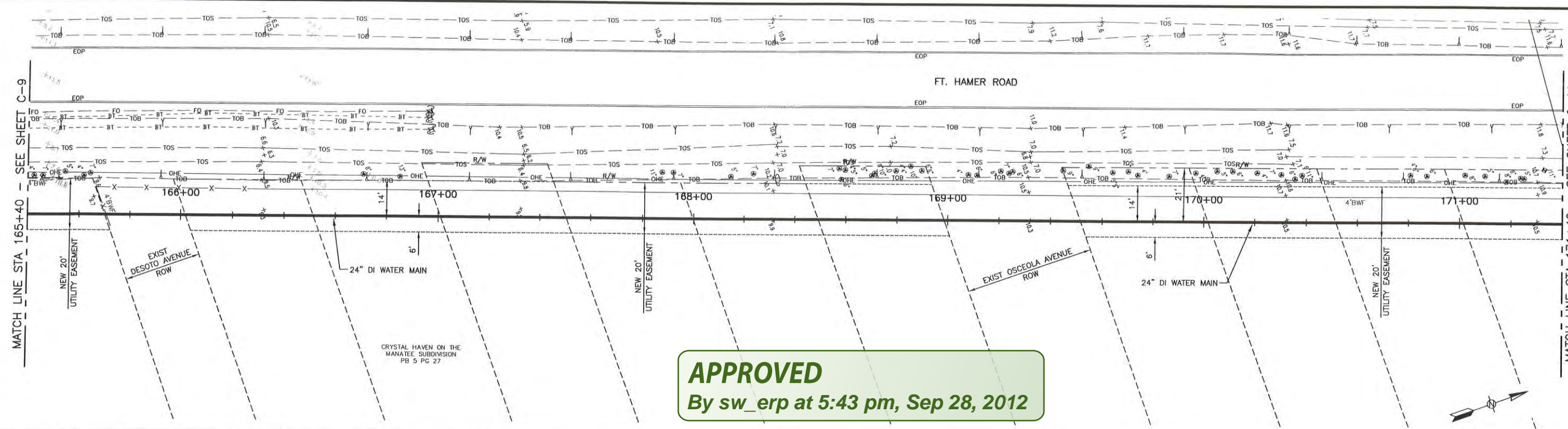


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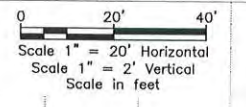
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BMP NOTES:
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12009610
PM: DAVID WILCOX
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DRW: TERRY SONNENBERG
FILE SAVE DATE:
June 21, 2012

DAVID A. WILCOX
FLORIDA P.E. NO. 34942

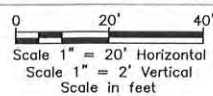
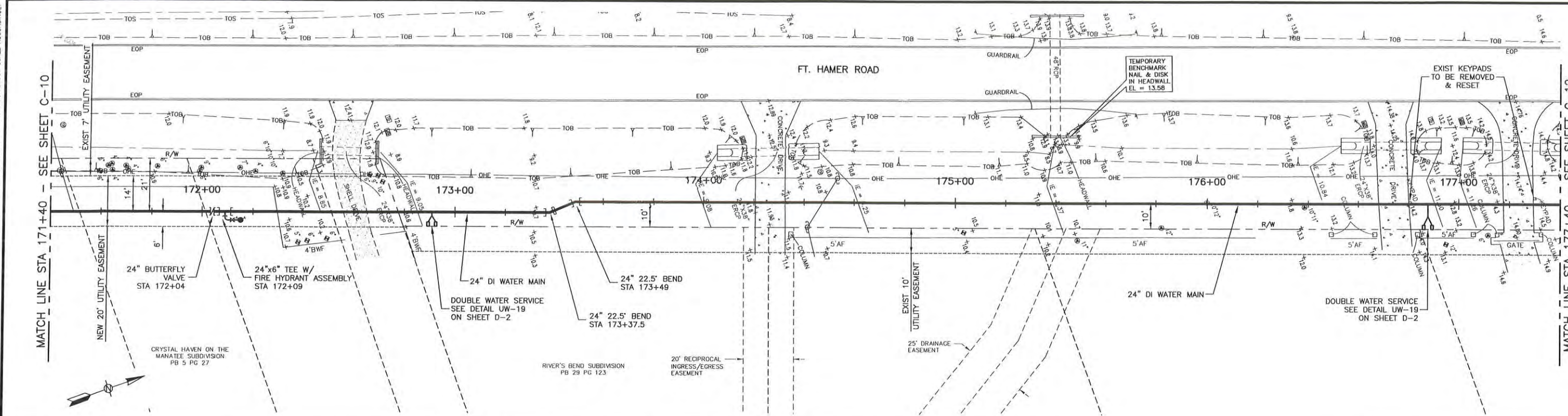


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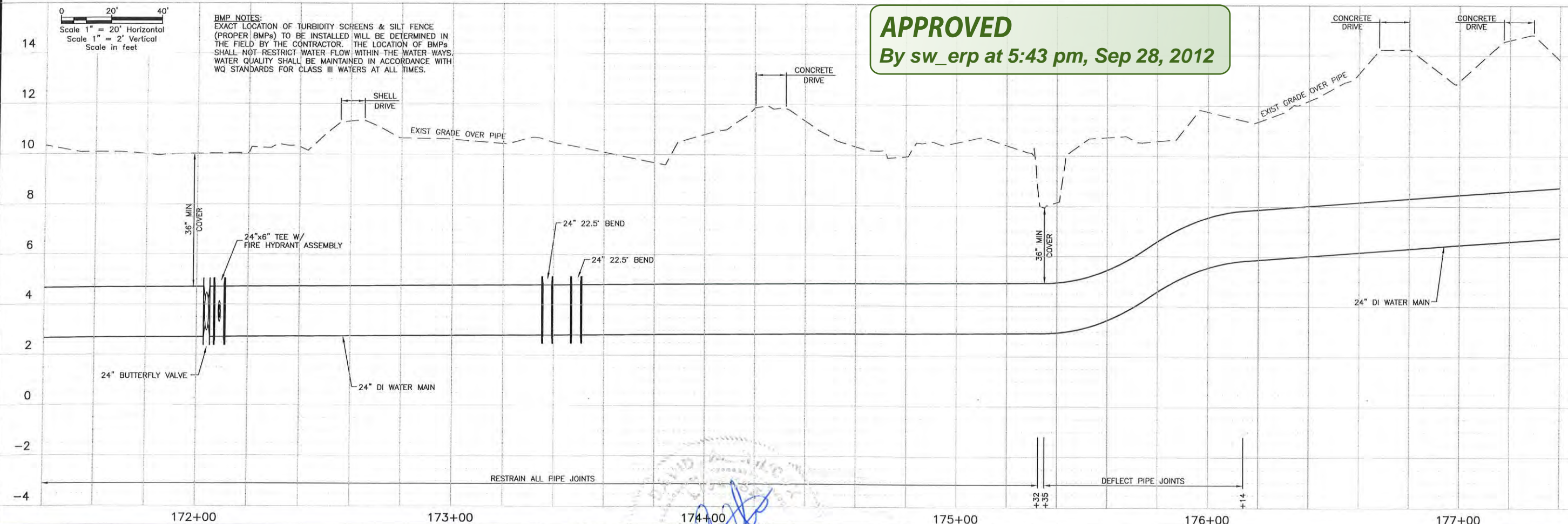
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DAVID A. WILCOX
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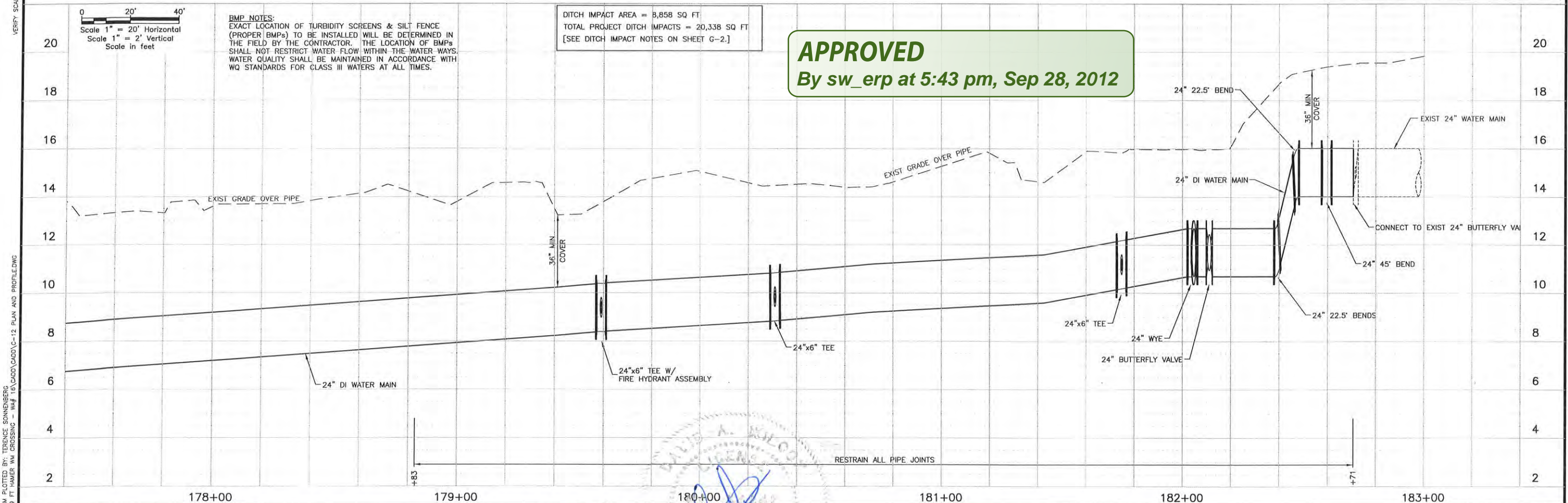
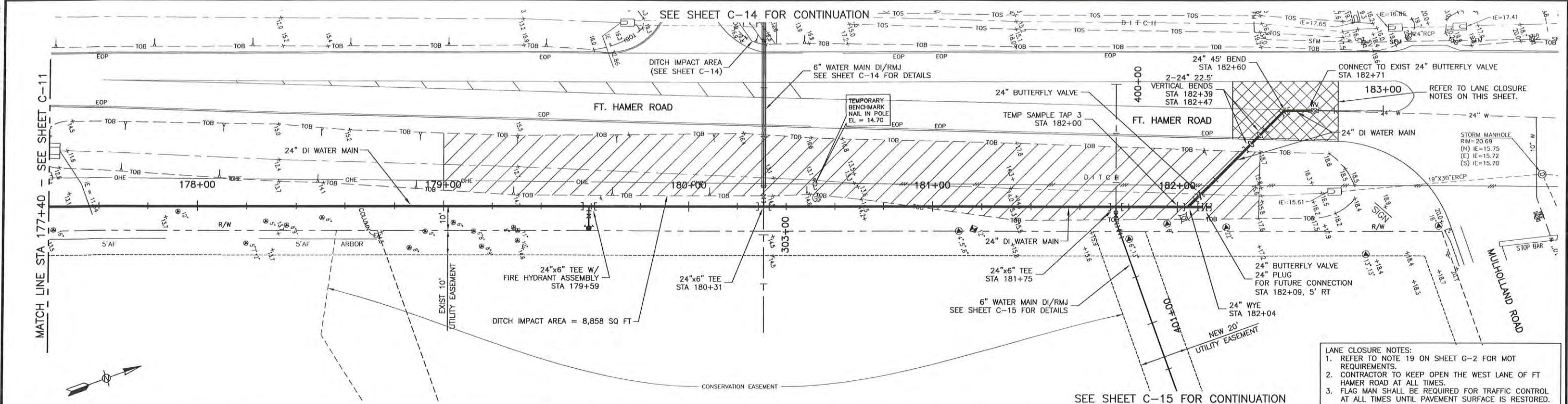
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 WATER MAIN CROSSING
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DITCH IMPACT AREA = 8,858 SQ FT
TOTAL PROJECT DITCH IMPACTS = 20,338 SQ FT
[SEE DITCH IMPACT NOTES ON SHEET G-2.]

- LANE CLOSURE NOTES:**
1. REFER TO NOTE 19 ON SHEET G-2 FOR MOT REQUIREMENTS.
 2. CONTRACTOR TO KEEP OPEN THE WEST LANE OF FT HAMER ROAD AT ALL TIMES.
 3. FLAG MAN SHALL BE REQUIRED FOR TRAFFIC CONTROL AT ALL TIMES UNTIL PAVEMENT SURFACE IS RESTORED.

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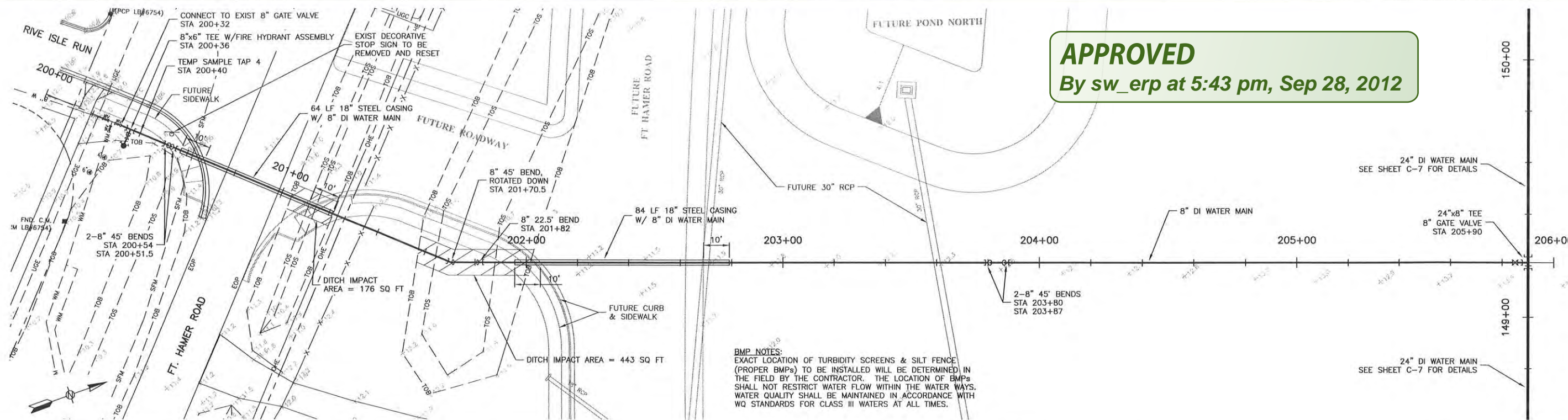
FT. HAMER ROAD
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PLAN AND PROFILE

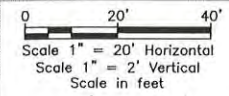
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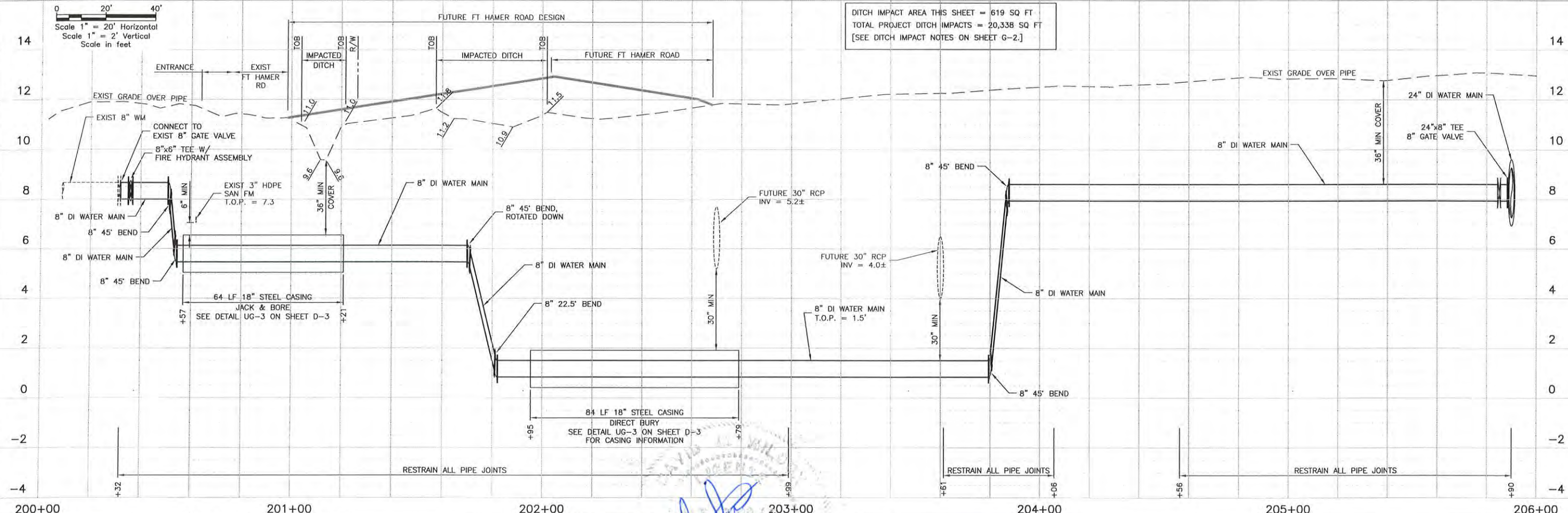
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DITCH IMPACT AREA THIS SHEET = 619 SQ FT
 TOTAL PROJECT DITCH IMPACTS = 20,338 SQ FT
 [SEE DITCH IMPACT NOTES ON SHEET G-2.]



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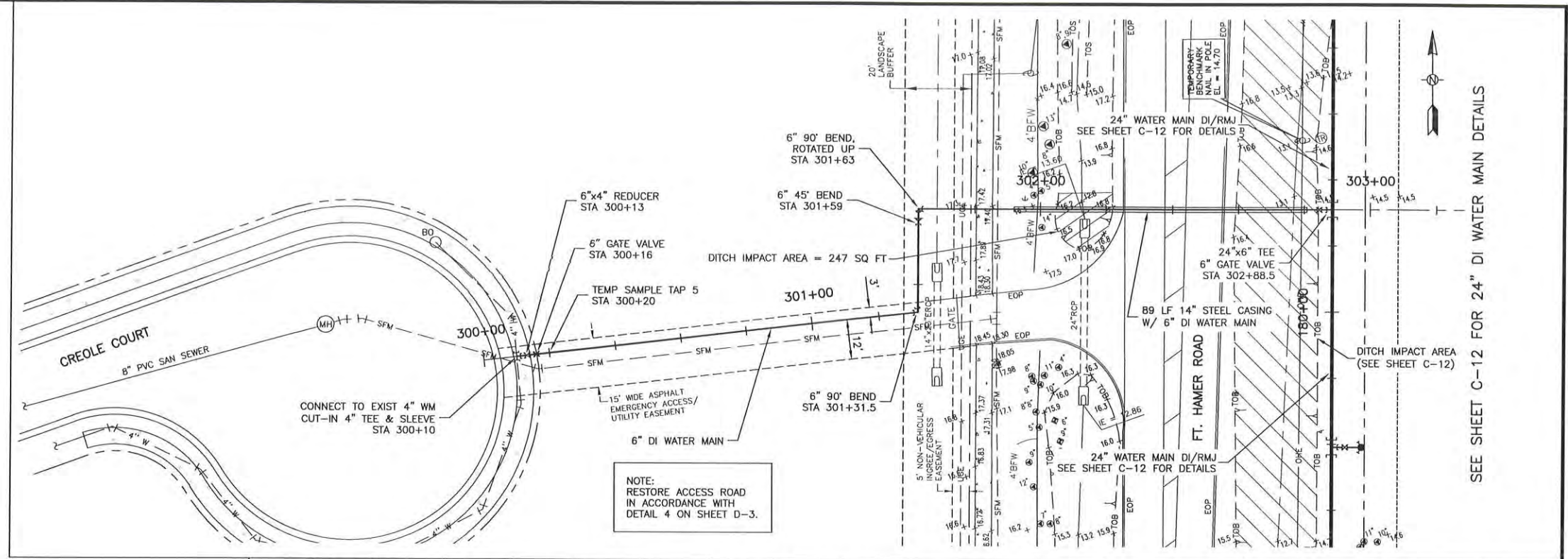
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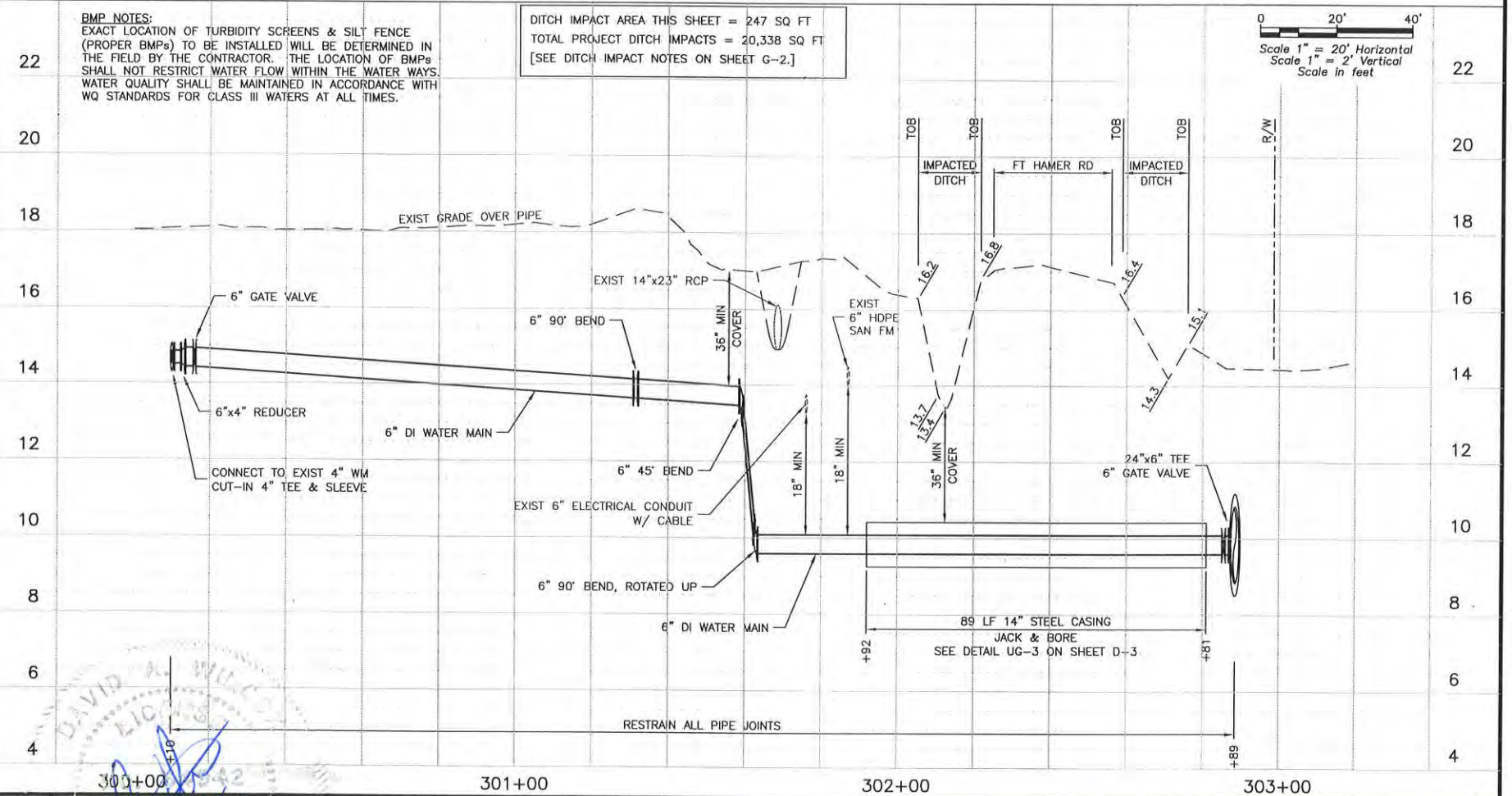
C-13

SEE SHEET C-7 FOR 24" DI WATER MAIN DETAILS

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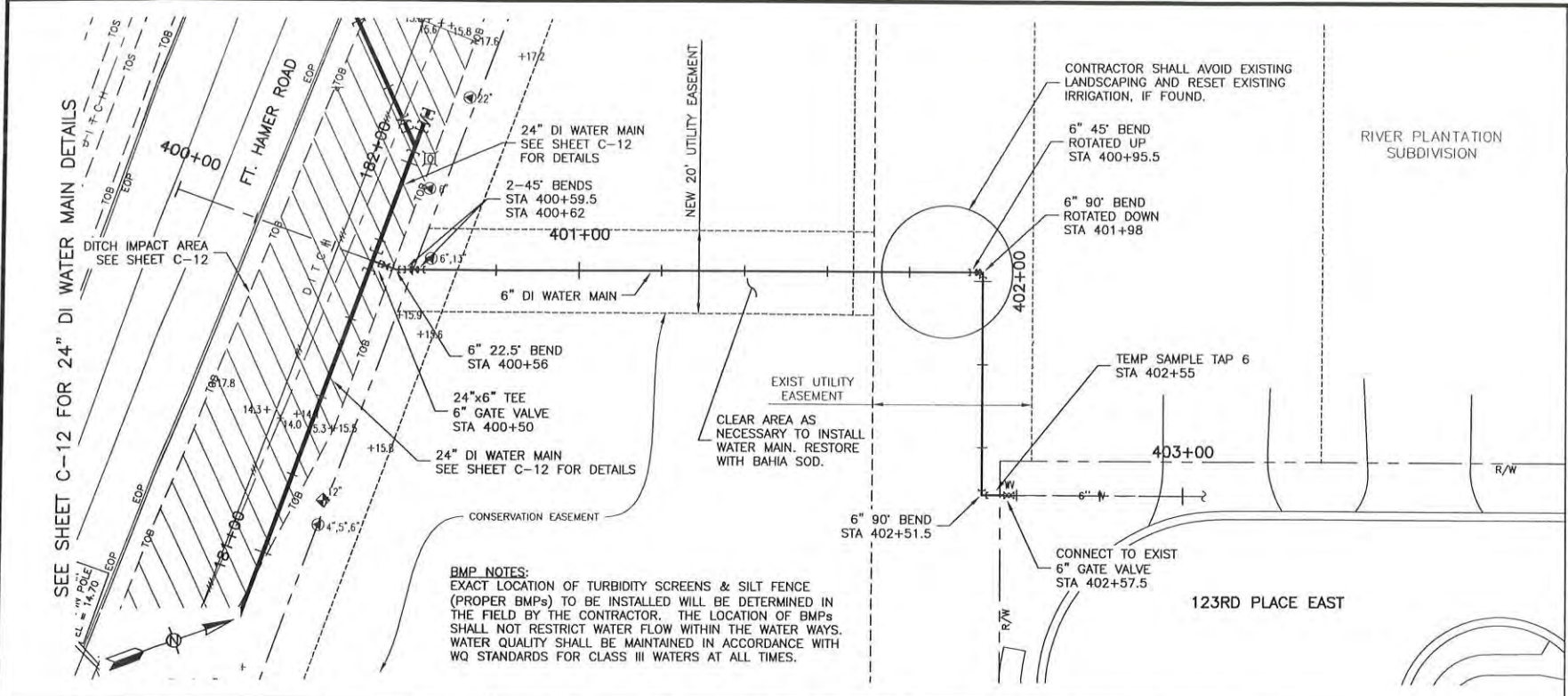


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MANATEE COUNTY, FLORIDA

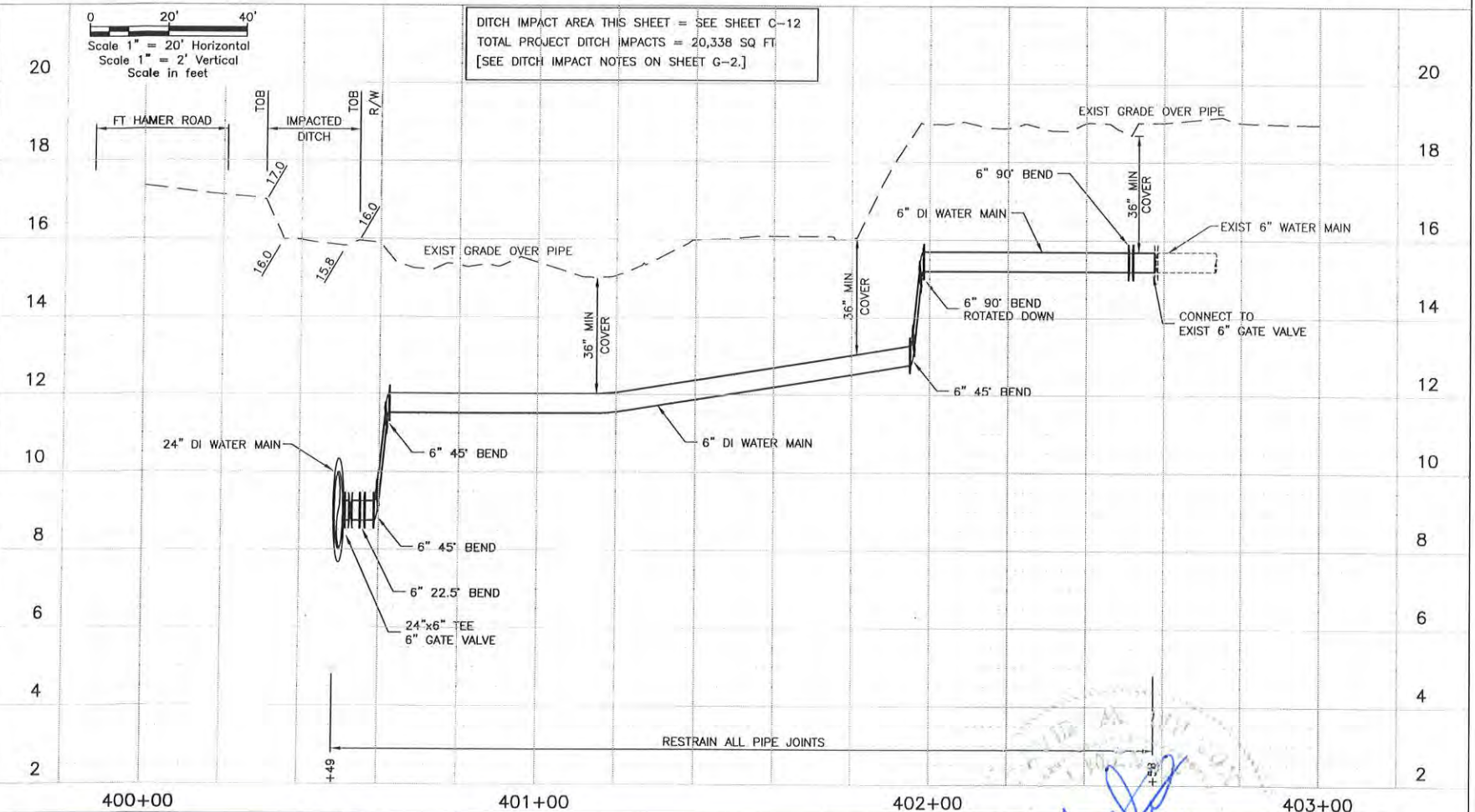
PLAN AND PROFILE
C-14

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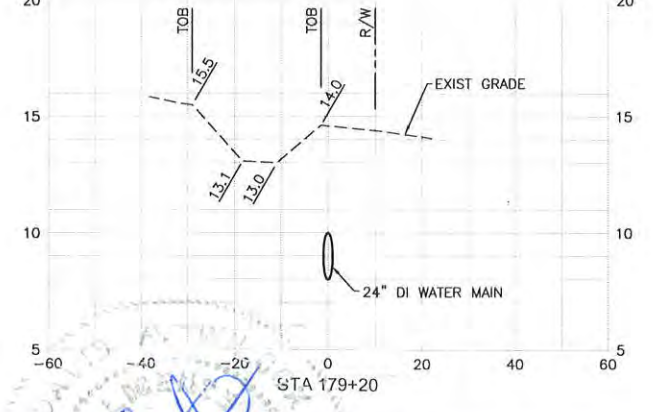
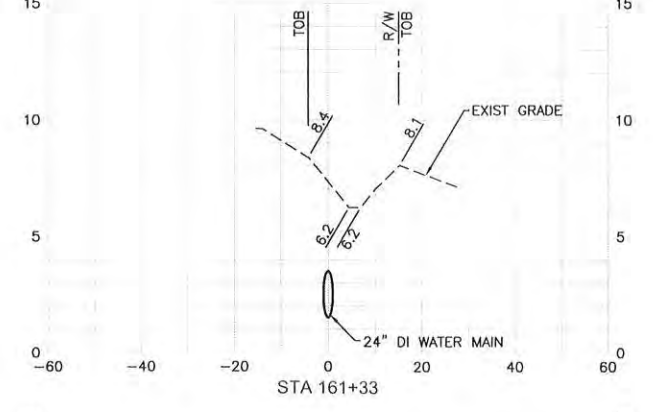
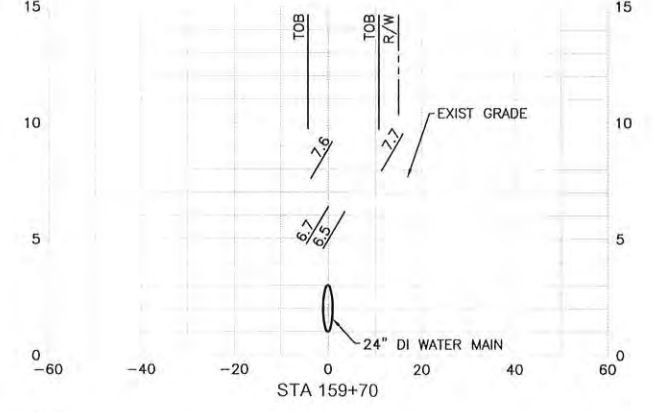
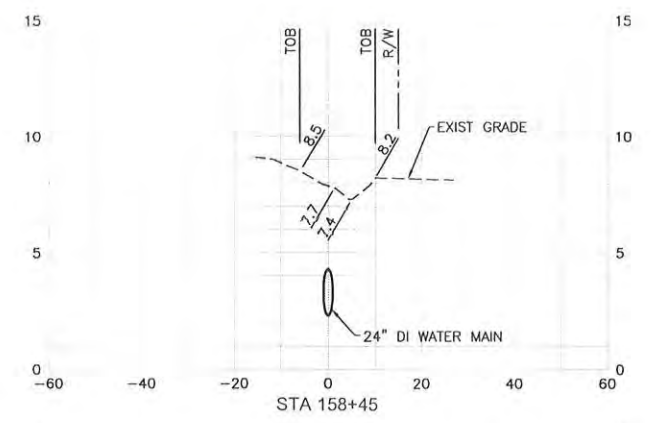
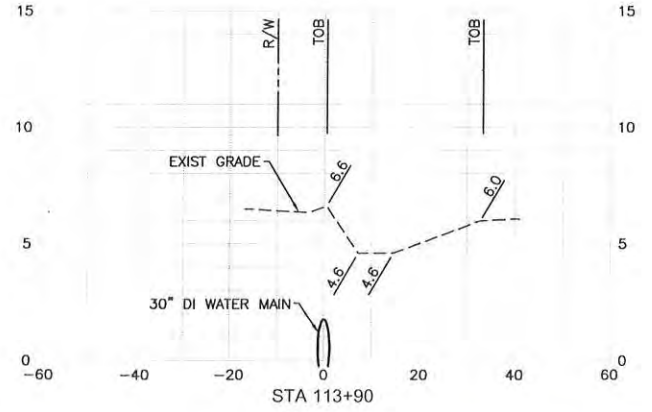
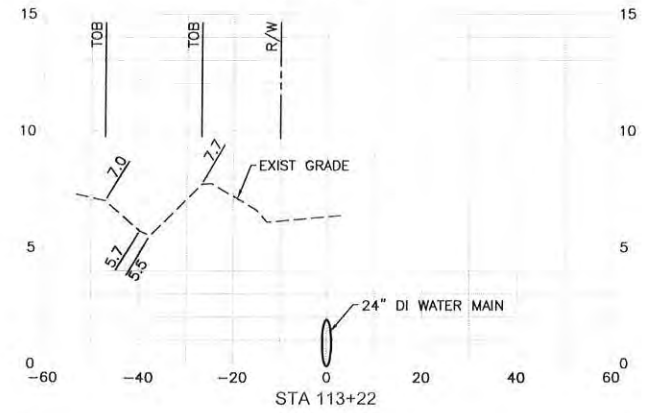
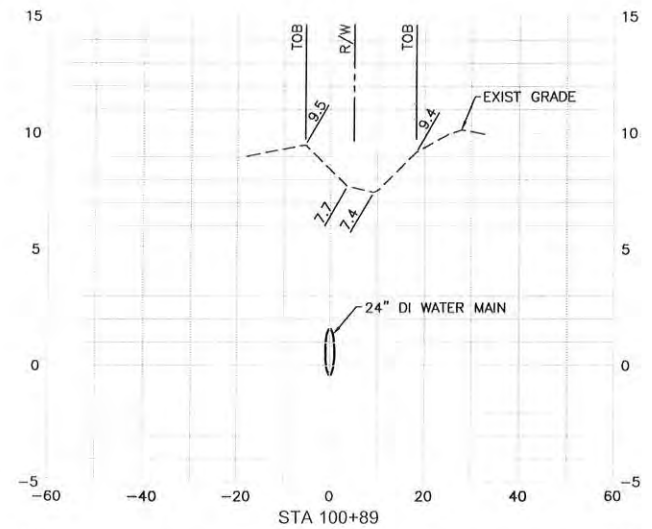
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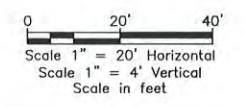
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NOTES:
 1. SEE DITCH IMPACT NOTES ON SHEET G-2.

APPROVED
 By sw_erp at 5:43 pm, Sep 28, 2012



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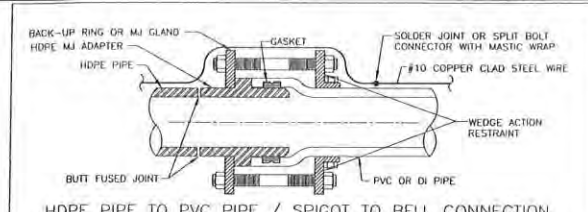
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 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

IMPACTED DITCH CROSS SECTIONS

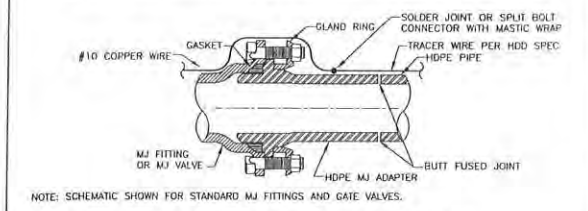
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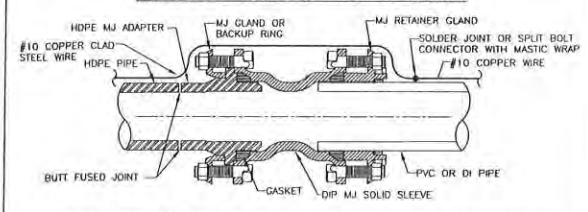
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HDPE PIPE TO PVC PIPE / SPIGOT TO BELL CONNECTION



HDPE PIPE TO MJ FITTING TRANSITION



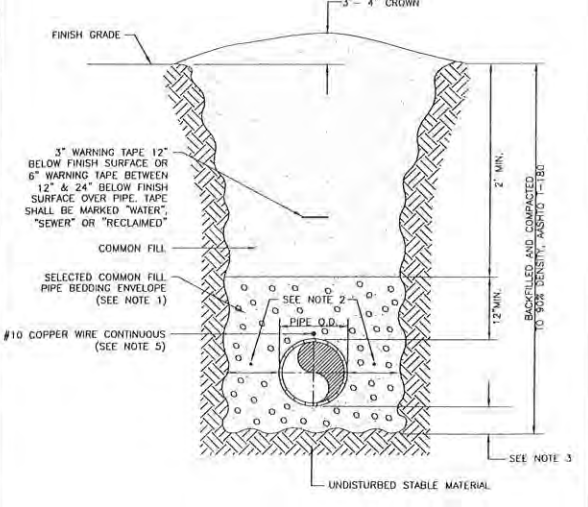
HDPE PIPE TO PVC PIPE SPIGOT TO SPIGOT CONNECTION

- 1. ONE #10 GAUGE EXTRA HIGH STRENGTH COPPER CLAD STEEL TRACER WIRE SHALL BE PULLED AND SECURED TO THE PIPE FOR PIPELINES THAT ARE INSTALLED BY TRENCHLESS HORIZONTAL DIRECTIONAL DRILLING METHODS, IN NON-DIRECTIONAL BORE (TRENCHES AND BORE & JACK) APPLICATIONS. A #10 GAUGE SOLID INSULATED COPPER WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRES SHALL HAVE A MINIMUM 30-MILS OF POLYETHYLENE INSULATION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

HDPE TO PVC OR DI PIPE ADAPTER UG-6
PAGE 106

- NOTES:
- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - 3. TYPICALLY 4" TO 6".
 - 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: WRT/NE 03/11
MAY 10, 2011
DATE OF APPROVAL

TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING UG-11
PAGE 111

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

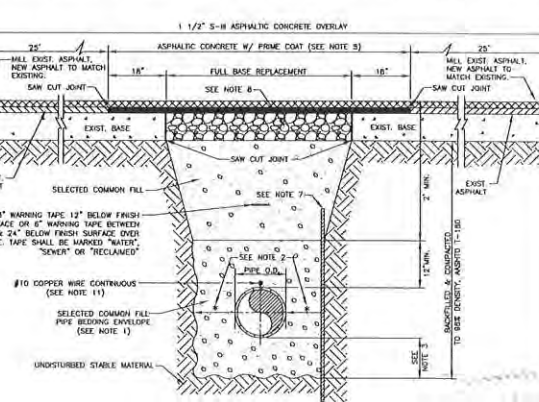
MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH				SIZE LENGTH				
24	90	38	18	K24 168	F20 132	K16 90	K12 60	K10 45	X8 30	X6 24	X4 18	214
20	78	32	16	K20 144	F18 108	K15 75	K12 54	X8 36	X6 27	X4 20	X3 15	184
16	66	27	13	K16 114	F15 90	K12 66	X8 42	X6 31	X4 21	X3 16	X2 12	151
12	52	22	10	K12 90	F12 72	X8 54	X6 40	X4 27	X3 20	X2 15	X1 10	118
10	44	18	9	K10 81	F10 63	X6 45	X4 33	X3 24	X2 18	X1 12	X0 9	100
8	37	15	7	K8 63	F8 54	X4 36	X3 27	X2 20	X1 15	X0 10	X0 7	83
6	29	12	6	X6 54	X4 36	X3 27	X2 20	X1 15	X0 10	X0 7	X0 5	63
4	21	9	4	X4 36	X3 27	X2 20	X1 15	X0 10	X0 7	X0 5	X0 4	45

- NOTES:
- 1. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
 - 2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTIONS OF PIPE.
 - 3. ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
 - 4. PIPE SIZES ARE GIVEN IN INCHES.
 - 5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
 - 6. LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
 - 7. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH ANNA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
 - 8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

RESTRAINED LENGTHS FOR PVC PIPE UG-8
PAGE 108

- NOTES:
- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - 3. TYPICALLY 4" TO 6".
 - 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5. ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
 - 6. MILL 2" BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCERNABLE "TRUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
 - 7. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
 - 8. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
 - 9. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
 - 10. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
 - 11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
 - 12. NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: WRT/NE 03/11
MAY 10, 2011
DATE OF APPROVAL

TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING UG-2
PAGE 102

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH				SIZE LENGTH				
36	142	59	28	K36 252	F30 189	K24 126	K18 94	K12 62	X8 46	X6 35	X4 24	453
30	124	51	25	K30 216	F24 162	K18 108	K12 76	X8 54	X6 40	X4 28	X3 21	391
24	106	44	21	K24 174	F18 135	K12 90	X8 63	X6 47	X4 33	X3 25	X2 18	327
20	92	38	18	K20 150	F15 112	X8 72	X6 54	X4 39	X3 29	X2 21	X1 15	280
16	77	32	15	K16 126	F12 94	X6 63	X4 47	X3 35	X2 26	X1 19	X0 14	231
12	61	25	12	K12 108	F10 81	X4 54	X3 40	X2 30	X1 22	X0 16	X0 12	181
10	52	22	10	K10 90	F8 72	X4 63	X3 47	X2 35	X1 25	X0 18	X0 14	153
8	44	18	9	X8 72	X6 54	X4 40	X3 33	X2 24	X1 18	X0 14	X0 10	128
6	34	14	7	X6 54	X4 36	X3 27	X2 21	X1 15	X0 11	X0 8	X0 6	98
4	24	10	5	X4 36	X3 27	X2 21	X1 15	X0 10	X0 7	X0 5	X0 4	68

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

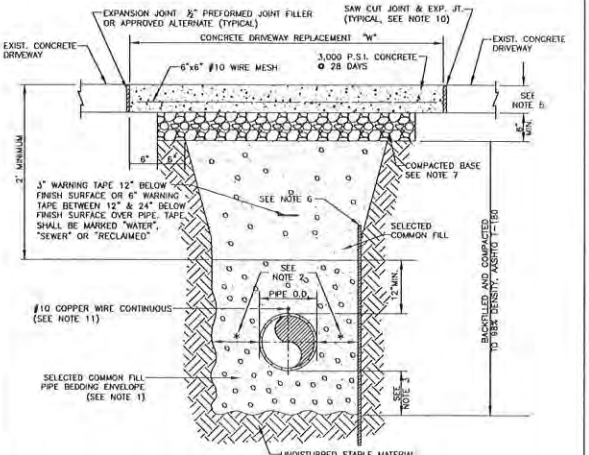
MAIN PIPE SIZE	HORIZ. BENDS			TEES				REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH				SIZE LENGTH				
36	100	42	20	K36 252	F30 189	K24 126	K18 94	K12 62	X8 46	X6 35	X4 24	185
30	88	37	18	K30 216	F24 162	K18 108	K12 76	X8 54	X6 40	X4 28	X3 21	162
24	75	31	15	K24 174	F18 135	K12 90	X8 63	X6 47	X4 33	X3 25	X2 18	135
20	65	27	13	K20 150	F15 112	X8 72	X6 54	X4 39	X3 29	X2 21	X1 15	116
16	54	22	11	K16 126	F12 94	X6 63	X4 47	X3 35	X2 26	X1 19	X0 14	96
12	43	18	9	K12 108	F10 81	X4 54	X3 40	X2 30	X1 22	X0 16	X0 12	75
10	37	15	7	K10 90	F8 72	X4 63	X3 47	X2 35	X1 25	X0 18	X0 14	63
8	30	13	6	X8 72	X6 54	X4 40	X3 33	X2 24	X1 18	X0 14	X0 10	53
6	24	10	5	X6 54	X4 36	X3 27	X2 21	X1 15	X0 11	X0 8	X0 6	41
4	17	7	3	X4 36	X3 27	X2 21	X1 15	X0 10	X0 7	X0 5	X0 4	29

- NOTE:
SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

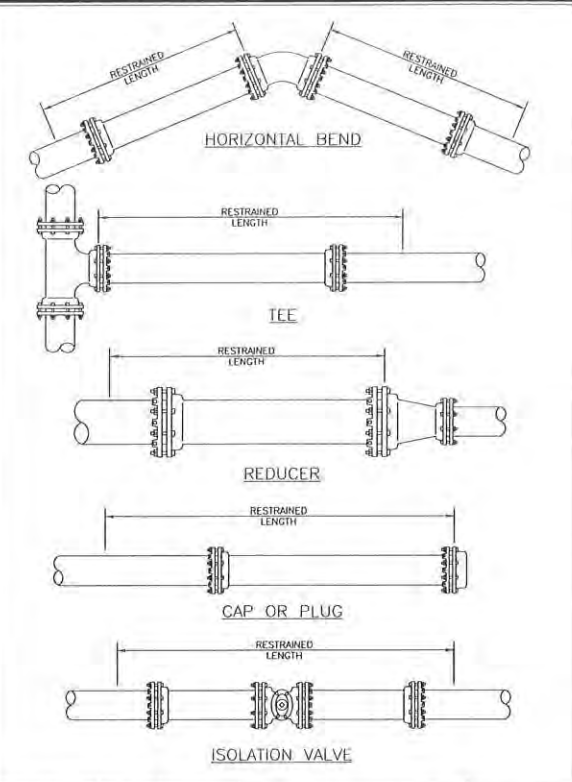
RESTRAINED LENGTHS FOR DIP UG-9
PAGE 109

- NOTES:
- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 - 3. TYPICALLY 4" TO 6".
 - 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
 - 6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
 - 7. BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
 - 8. DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
 - 9. IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (8" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
 - 10. IF THERE IS AN EXISTING JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
 - 11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



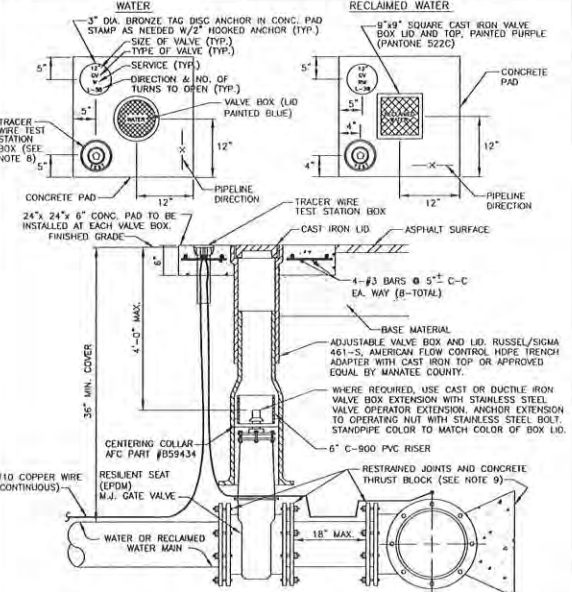
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING UG-14
PAGE 114



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

RESTRAINED LENGTHS FOR PIPE UG-10
PAGE 110



- NOTES:
- 1. "W" OR "RW" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "W" OR PURPLE DISC WITH "RW" AND A 1/8" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTING FROM THE DISC TO THE VALVE.
 - 2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
 - 3. WATER VALVES SHALL NOT BE PLACED IN HANDCAPPED RAMP.
 - 4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
 - 5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 - 6. FOR VALVES 15" AND LARGER, USE BUTTERFLY VALVES.
 - 7. PIPELINE DIRECTION TO BE IMPRESSED INTO NEWLY-POURED CONCRETE PAD.
 - 8. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX.
 - 9. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM THE FULL LENGTH SPECIFIED FOR TEES.
 - 10. BANGHAM & TAYLOR PUMPING FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE PIPES 2" CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
REV BY DATE: CLB/BR 11/10
MAY 10, 2011
DATE OF APPROVAL

GATE VALVE, BOX, LID AND TAG UW-2
PAGE 120

VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY
PLOTTED: July 16, 2012, 10:23 AM PLOTTED BY: TERENCE SONNENBERG
MANATEE PROJECTS\200909 FT HAMER W/CROSSING - W\10\GADSDEN\DW-1 CIVIL DETAILS.DWG

7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610

PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE:
June 22, 2012

DAVID A. WILCOX
FLORIDA P.E. NO. 34942

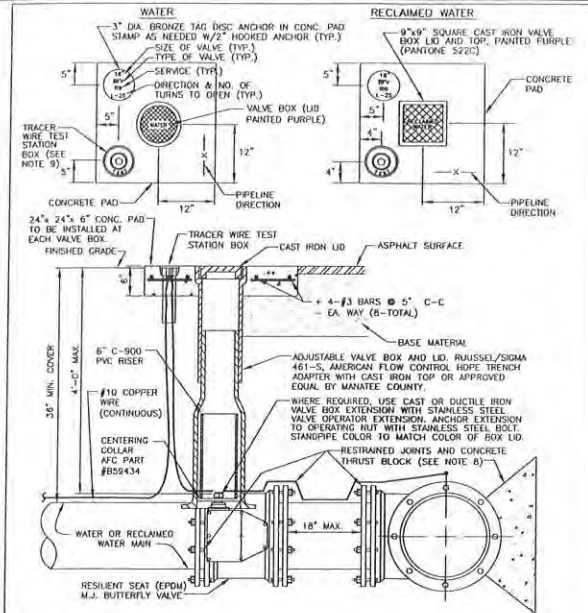
FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

CIVIL DETAILS

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION

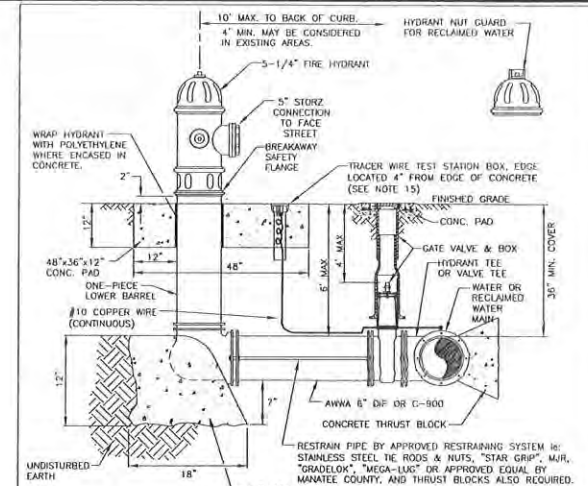
D-1

VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0.1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.



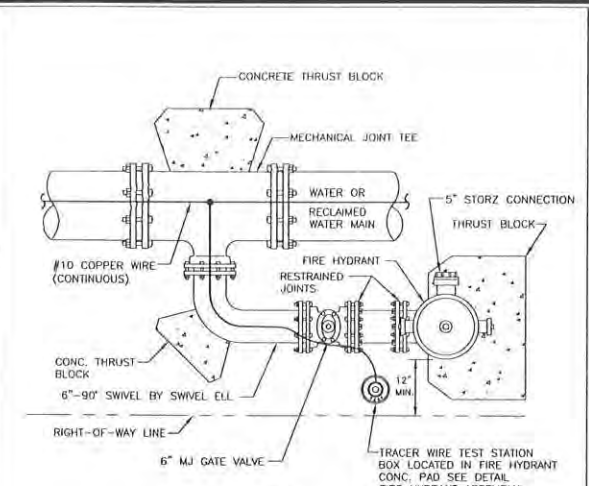
- NOTES: 1. 'W' or 'RW' to be impressed into the newly-poured concrete curb... 2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES...

MANATEE COUNTY PUBLIC WORKS DEPARTMENT BUTTERFLY VALVE, BOX, LID AND TAG UW-3 MAY 10, 2011 DATE OF APPROVAL



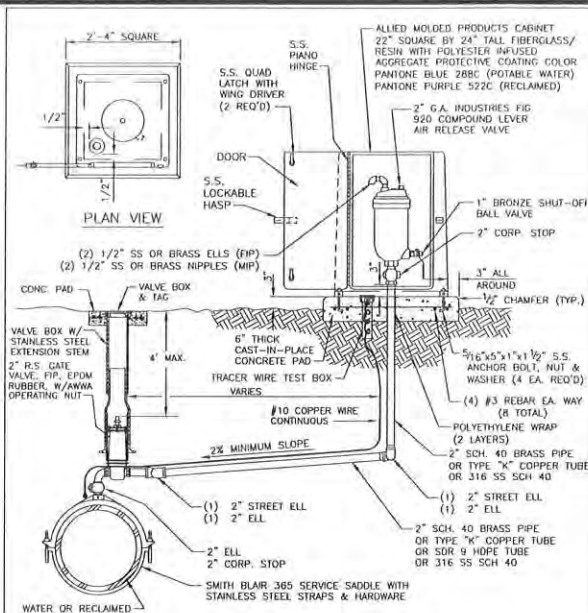
- NOTES: 1. WEEPHOLES SHALL BE EXCLUDED FROM THE FIRE HYDRANT. 2. FIRE HYDRANTS SHALL BE A MINIMUM OF 6' OFF OF PAVEMENT AND 10' MAX. FROM BACK OF CURB...

MANATEE COUNTY PUBLIC WORKS DEPARTMENT FIRE HYDRANT ASSEMBLY UW-5 MAY 10, 2011 DATE OF APPROVAL



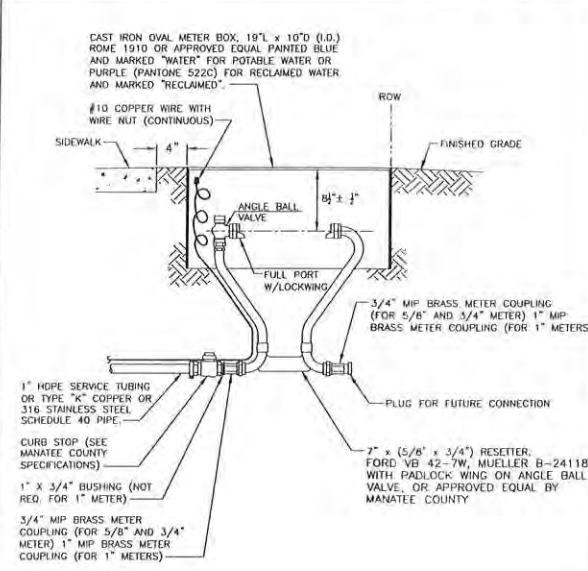
- NOTE: 1. THIS DETAIL FOR USE ONLY WHEN THE WATER MAIN IS LOCATED TOO CLOSE TO THE RIGHT-OF-WAY LINE TO USE THE FIRE HYDRANT ASSEMBLY DETAIL.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT FIRE HYDRANT WITH LOCKED 90° BEND UW-6 MAY 10, 2011 DATE OF APPROVAL



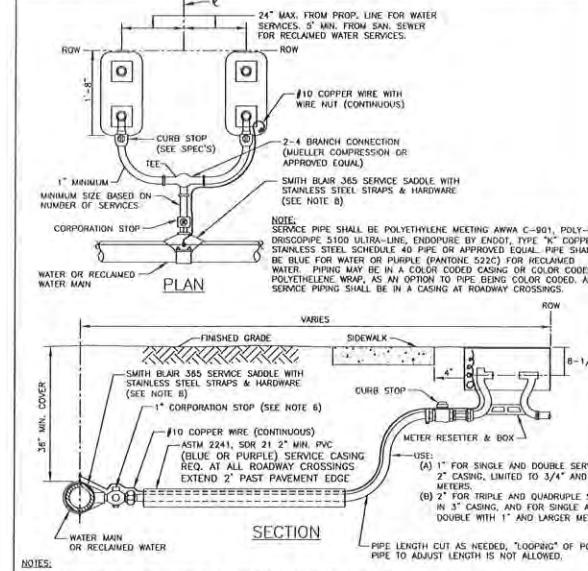
- NOTES: 1. AIR RELEASE VALVES TO BE INSTALLED AT HIGH POINTS ALONG WATER MAINS WHERE SPECIFICALLY INDICATED ON THE PLAN.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT AIR RELEASE ASSEMBLY FOR 16-INCH AND LARGER MAINS UW-10 MAY 10, 2011 DATE OF APPROVAL



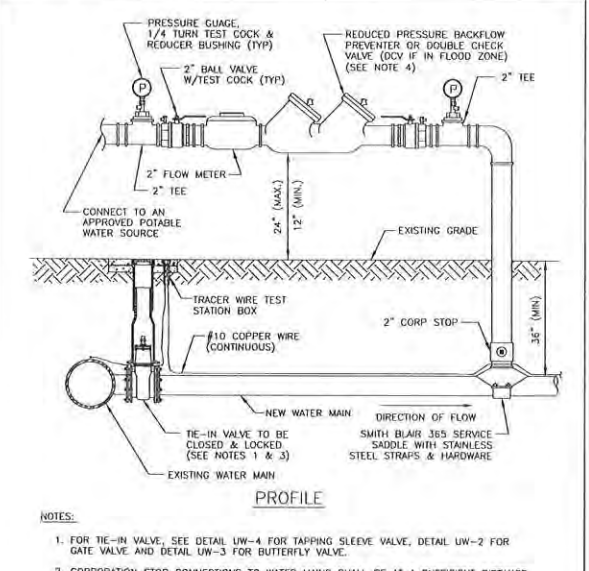
- NOTES: 1. FORD 40 SERIES RESETTERS VB43 AND VB44 OR EQUAL FOR 3/4" OR 1" METERS ALSO ALLOWED.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT METER BOX ASSEMBLY FOR 5/8" X 3/4", 3/4" & 1" METERS UW-17 MAY 10, 2011 DATE OF APPROVAL



- NOTES: 1. ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVALS OR WITHIN 2'-0" FROM BELL OR SPIGOT ENDS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT TYPICAL SERVICE CONNECTION UW-19 MAY 10, 2011 DATE OF APPROVAL



- NOTES: 1. FOR TIE-IN VALVE, SEE DETAIL UW-4 FOR TAPPING SLEEVE VALVE, DETAIL UW-2 FOR GATE VALVE AND DETAIL UW-3 FOR BUTTERFLY VALVE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT TEMPORARY JUMPER CONNECTION UW-21 MAY 10, 2011 DATE OF APPROVAL

- 1. A temporary jumper connection is required at all connections between existing active-potable water mains and proposed new water main improvements with the following exceptions: A. Projects that include a permanent backflow preventer at the right of way which is adjacent to the existing water main;

MANATEE COUNTY PUBLIC WORKS DEPARTMENT TEMPORARY JUMPER CONNECTION NOTES UW-22 MAY 10, 2011 DATE OF APPROVAL

URS logo and address: 7650 West Courtney Campbell Causeway, Suite 700, Tampa, Florida 33607

REVISIONS table with columns: NO., BY, DATE, DESCRIPTION

URS JOB NUMBER 12009610, PM: DAVID WILCOX, ENG: DAVID WILCOX, DRW: TERRY SONNENBERG, FILE SAVE DATE: June 22, 2012

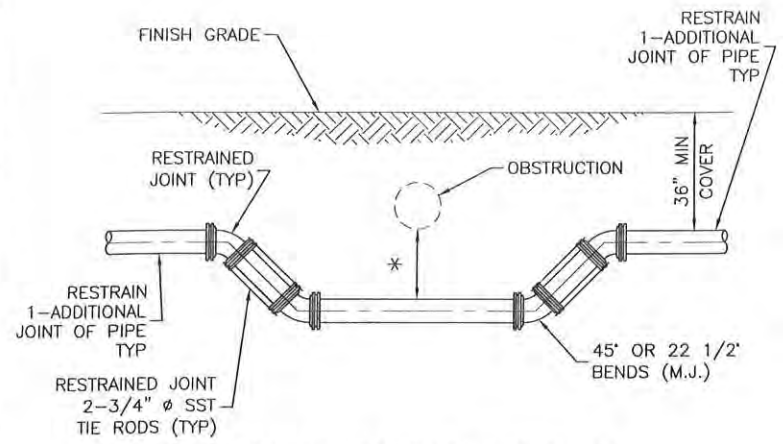


FT. HAMER ROAD WATER MAIN CROSSING FOR MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA

CIVIL DETAILS

PROJECT STATUS 100% DESIGN NOT FOR CONSTRUCTION D-2

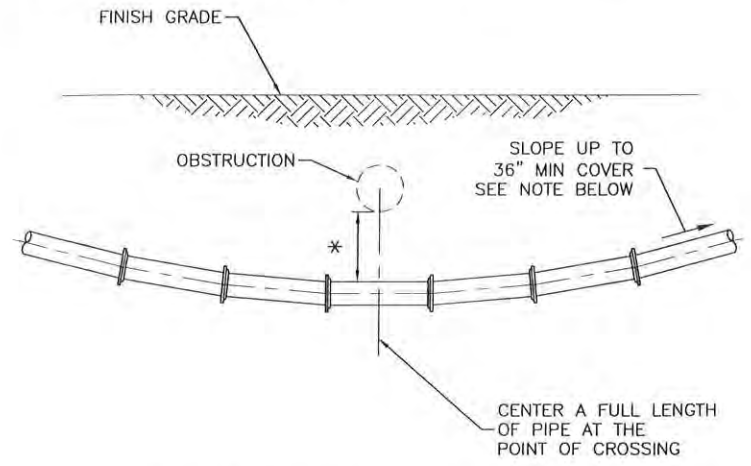
APPROVED
By sw_erp at 5:43 pm, Sep 28, 2012



SPECIAL UTILITY CROSSING - FITTING TYPE
NTS

* 18" MIN CLEARANCE REQUIRED FOR POTABLE WATER MAINS, RECLAIMED WATER MAINS, SANITARY GRAVITY SEWER PIPING, SANITARY FORCE MAINS, AND STORM WATER PIPES.

THE "FITTING TYPE" DETAIL SHOULD ONLY BE USED WHEN "DEFLECTION TYPE" DETAIL IS NOT POSSIBLE.

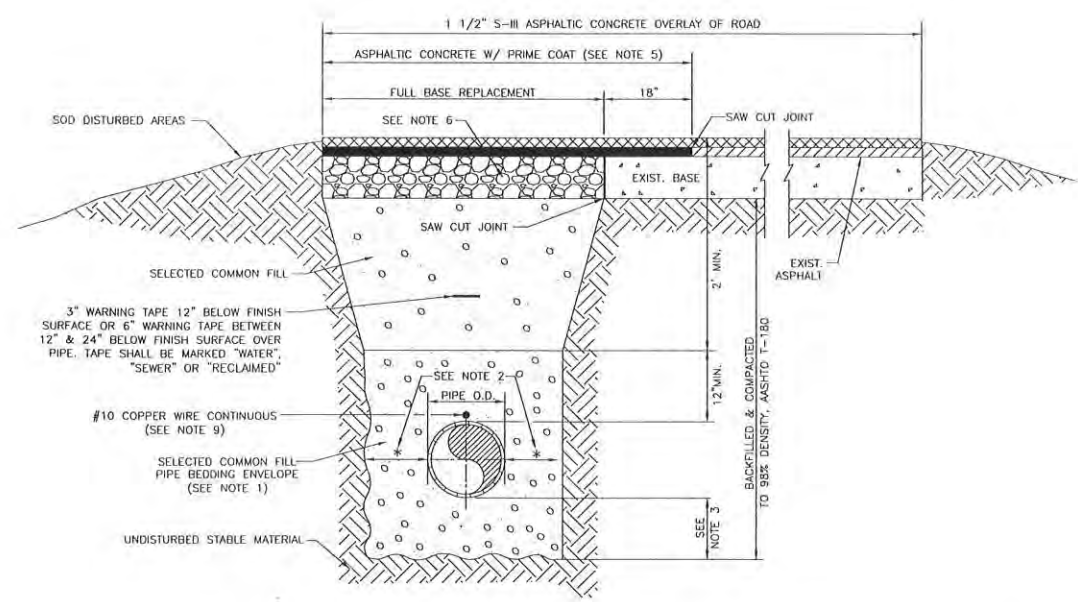


STANDARD UTILITY CROSSING - DEFLECTION TYPE
NTS

1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHERE EVER POSSIBLE.
2. CONSTRUCT STANDARD CROSSING USING 75% OF MANUFACTURERS MAXIMUM JOINT DEFLECTION (MAX).
3. TIE RODS SHALL BE STAINLESS STEEL.
4. TIE RODS MAY BE OMITTED WHEN OTHER APPROVED METHODS OF RESTRAINING ARE UTILIZED.
5. CONTRACTOR SHALL COORDINATE EXISTING PIPE RELOCATIONS AND SHUT DOWNS WITH PLANT PERSONNEL.

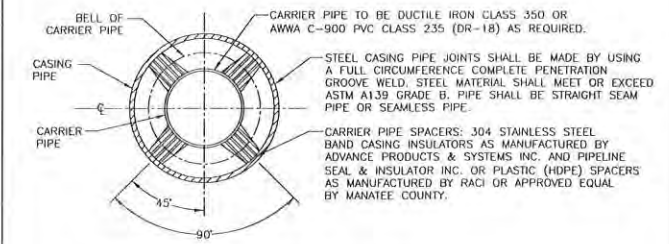
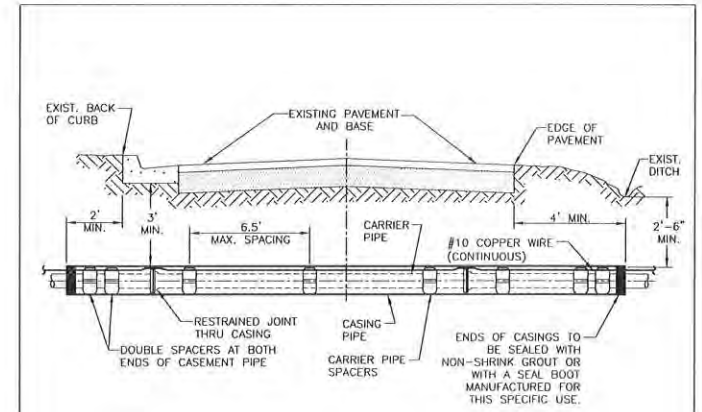
UTILITY CROSSING
1 DETAIL
SCALE: NTS

- NOTES:
1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
 3. TYPICALLY 4" TO 6".
 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 5. ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
 6. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
 7. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
 8. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
 9. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
 10. NOTES 5, THRU 10. ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



TRENCH WITH ASPHALT PAVEMENT RESTORATION ON WINDING STREAM WAY AND EMERGENCY ACCESS ROAD AT CREOLE COURT

2 DETAIL
SCALE: NTS



CARRIER SIZE & MINIMUM CASING SIZE	
CARRIER	4" 6" 8" 10" 12" 14" 16" 18" 20"
CASING	12" 14" 18" 20" 24" 30" 30" 36" 36"
CASING / WALL THICKNESS	0.188 0.188 0.250 0.250 0.344 0.406 0.406 0.406 0.406

- NOTES:
1. THE ENGINEER OF RECORD MAY SELECT LARGER CASING DIAMETERS.
 2. FOR JACK & BORE SPECIFICATIONS UNDER STATE ROADS AND RAILROADS REFER TO THE F.D.O.T. UTILITY ACCOMMODATION MANUAL, LATEST EDITION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		JACK & BORE CROSSING	UG-3
REV BY DATE CLB/GR 11/10	MAY 10, 2011 DATE OF APPROVAL		PAGE 103

PLOTTED July 16, 2012 10:24 AM PLOTTED BY: TERENCE SONNENBERG
 S:\MANATEE\PROJECTS\12009610-3 MISCELLANEOUS DETAILS.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

URS
7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610
PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE:
July 6, 2012

DAVID A. WILCOX
FLORIDA P.E. NO. 34942



FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

MISCELLANEOUS DETAILS

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION
D-3

EROSION AND SEDIMENT CONTROL NOTES

1. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES: THE SEQUENCE OF MAJOR ACTIVITIES SHALL BE FOLLOWED UNLESS THE CONTRACTOR CAN PROPOSE AN ALTERNATIVE THAT IS EQUAL OR BETTER AT CONTROLLING EROSION AND SEDIMENT AND IS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A DETAILED SEQUENCE OF CONSTRUCTION FOR ALL CONSTRUCTION ACTIVITIES.

1. PLACEMENT OF TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES
2. DEMOLITION
3. CLEARING, GRUBBING, EXCAVATION AND BACKFILLING
4. PLACEMENT OF SOD
5. REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES

2. THE FOLLOWING DISCUSSION DEFINES GENERAL GUIDELINES FOR THE SEQUENCE OF CONSTRUCTION AND THE USE OF STABILIZATION AND STRUCTURAL PRACTICES. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP)(IF APPLICABLE).

THE INTENT IS TO PREVENT SEDIMENT FROM LEAVING THE PROJECT BOUNDARIES WITH THE FOLLOWING TEMPORARY BEST MANAGEMENT PRACTICES.

1. TYPE III STAKED SILT FENCE IN ACCORDANCE WITH FDOT INDEX 102 AND FDOT STANDARD SPECIFICATION 104.
2. SOIL TRACKING PREVENTION DEVICE IN ACCORDANCE WITH FDOT INDEX 106.

3. ALL EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBANCE.

4. THE LOCATIONS OF THESE TEMPORARY CONTROLS ARE SHOWN ON THE PLANS. ADDITIONAL TEMPORARY CONTROLS SHALL BE INSTALLED AS REQUIRED OR AS DIRECTED BY THE ENGINEER.

5. THERE ARE NO PERMANENT EROSION AND SEDIMENT CONTROLS OTHER THAN THE STABILIZATION OF SURFACES DISTURBED DURING CONSTRUCTION. DISTURBED AREAS, OTHER THAN ROADWAY SURFACES, SHALL BE STABILIZED WITH SOD NOT MORE THAN 7 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED IN THAT PORTION OF THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THE USE OF ALL TEMPORARY EROSION CONTROL BEST MANAGEMENT PRACTICES.

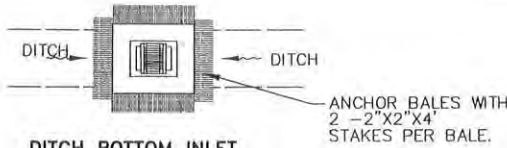
6. THE CONTRACTOR SHALL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES. ALL FERTILIZER, HYDROCARBON OR OTHER CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO THE EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER. NO SOLID MATERIALS SHALL BE DISCHARGED TO SURFACE WATERS OR WETLAND OR BURIED ON-SITE. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP (IF APPLICABLE).

7. A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS SHALL COLLECT ALL SANITARY WASTE FROM PORTABLE UNITS. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THIS PORTION OF THE SWPPP (IF APPLICABLE).

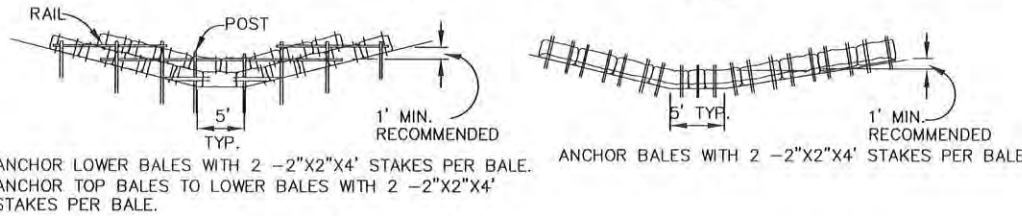
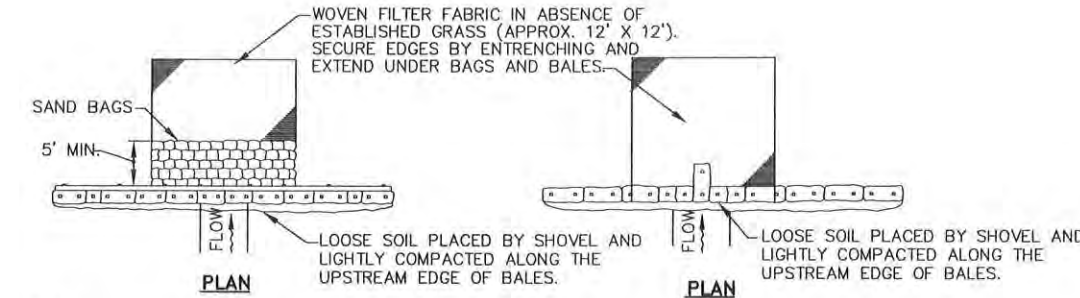
8. QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS OR WITHIN 24 HOURS OF THE END OF A RAINFALL THAT IS 0.25 INCHES OR GREATER. INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH WHERE SITES HAVE BEEN FINALLY STABILIZED.

1. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
2. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
3. SILT FENCES AND SOIL TRACKING PREVENTION DEVICES.

9. DAMAGED SILT FENCES TURBIDITY SCREENS, AND SOIL TRACKING PREVENTION DEVICES SHALL BE REPLACED IMMEDIATELY. SILT FENCES AND SOIL TRACKING PREVENTION DEVICES SHALL REMAIN UNTIL THE SITE HAS BEEN FULLY STABILIZED. THE CONTRACTOR SHALL NOT REMOVE SILT FENCES AND SOIL TRACKING PREVENTION DEVICES UNLESS THEY ARE DAMAGED AND NEED TO BE REPLACED. SILT FENCES AND SOIL TRACKING PREVENTION DEVICES WILL REMAIN INSTALLED AFTER CONSTRUCTION IS COMPLETE. SILT FENCES AND SOIL TRACKING PREVENTION DEVICES SHALL BE REMOVED FOLLOWING PROJECT COMPLETION AND SOIL STABILIZATION OR AS DIRECTED BY THE ENGINEER.

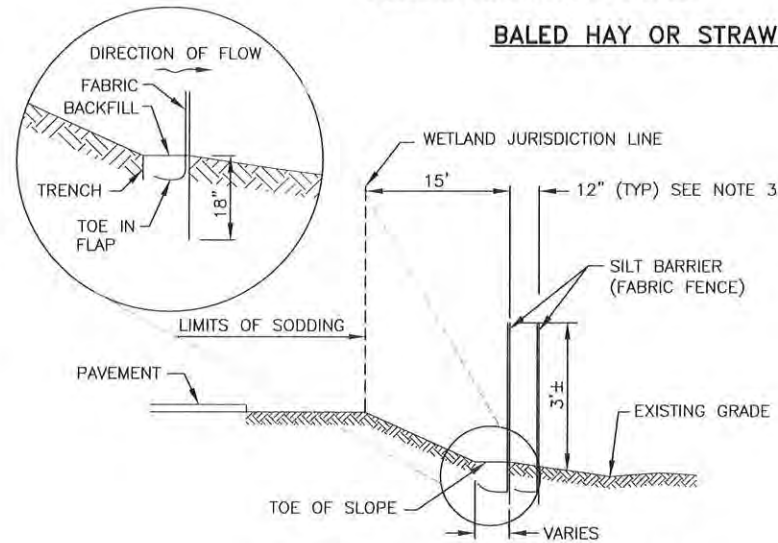


DITCH BOTTOM INLET
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



ELEVATION TYPE II **ELEVATION TYPE I**
BARRIER FOR UNPAVED DITCHES

BALED HAY OR STRAW BARRIERS AND SILT FENCE

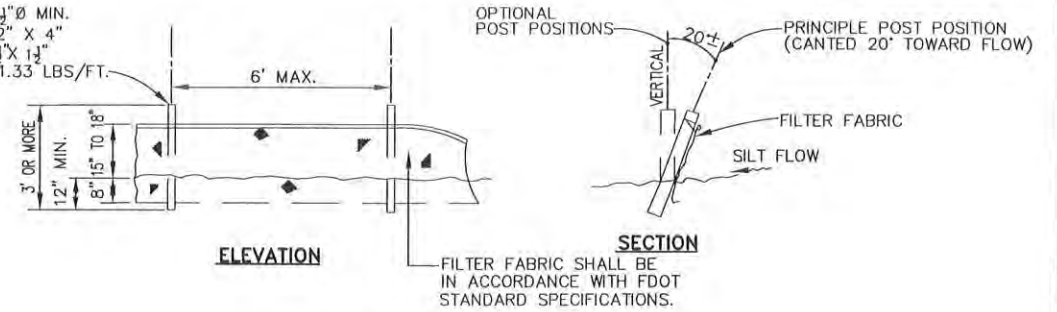


FABRIC FENCE SILT-BARRIER

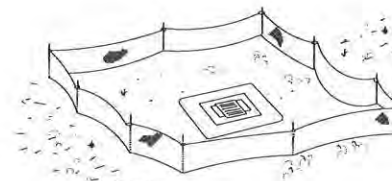
NOTES:

1. CONTRACTOR IS REQUIRED TO PREVENT ANY SEDIMENT TRANSPORT FROM THE PROJECT SITE ON TO ADJACENT PROPERTY. INSTALLATION OF EITHER BALED HAY OR FABRIC FENCE TYPE SILT BARRIER IS ACCEPTABLE. THE BARRIER MUST REMAIN IN PLACE UNTIL UPLAND VEGETATION IS ESTABLISHED.
2. BEFORE REMOVING SILT BARRIER, CONTRACTOR SHALL COLLECT AND DISPOSE OF ANY ACCUMULATED SILT.
3. SECOND ROW OF SILT FENCE TO BE PLACED IN WETLAND AREAS ONLY. IF 12" DISTANCE CANNOT BE MAINTAINED DUE TO TREES OR VEGETATION, SILT SCREEN SHALL BE PLACED AROUND PERIMETER OF VEGETATION TOWARD AREA OF CONSTRUCTION

POST OPTIONS:
WOOD 2 1/2" Ø MIN.
WOOD 2" X 4"
OAK 1 1/2" X 1 1/2"
STEEL 1.33 LBS/FT.



TYPE III SILT FENCE



TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS.

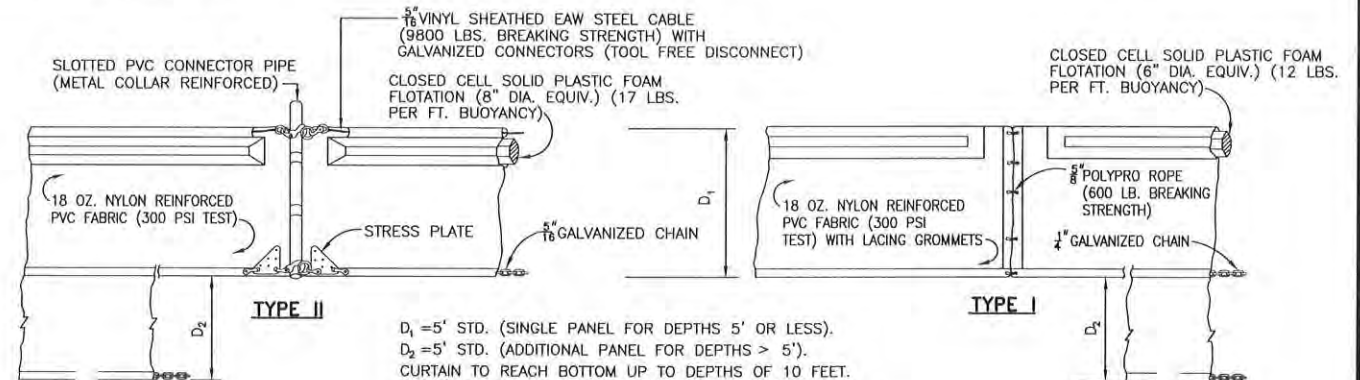


TYPE III SILT FENCE

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

APPROVED
By sw_erp at 5:43 pm, Sep 28, 2012



D₁ = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
D₂ = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5').
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET.
TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

NOTES:

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. TURBIDITY BARRIERS FOR FLOWING STREAMS SHALL BE ONE FLOATING THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE WILL BE AT THE CONTRACTORS OPTION.

FLOATING TURBIDITY BARRIERS

N.T.S.



7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610
PM: DAVID WILCOX
ENG: DAVID WILCOX
DRW: TERRY SONNENBERG
FILE SAVE DATE:
June 28, 2012

DAVID A. WILCOX
FLORIDA P.E. NO. 34942



FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

MISCELLANEOUS DETAILS

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION

D-4

PLOTTED JULY 16, 2012 10:24 AM PLOTTED BY: TERENCE SONNENBERG
 X:\MANATEE PROJECTS\12009610 FT HAMER WM CROSSING - WAF 16\CADD\CADD-4 MISCELLANEOUS DETAILS.DWG
 VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING 0 1 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY

**BENTONITE SPILL PREVENTION AND
MANAGEMENT PLAN**

***MINIMIZATION OF ENVIRONMENTAL IMPACT FROM
HDD DRILLING FLUIDS***

**Fort Hamer Road
Water Main Crossing**

for
Manatee County



by
URS Corporation Southern

URS

August 2012

APPROVED

By sw_erp at 5:43 pm, Sep 28, 2012

**BENTONITE SPILL PREVENTION AND MANAGEMENT PLAN
MINIMIZATION OF ENVIRONMENTAL IMPACT FROM HDD DRILLING FLUIDS**

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By sw_erp at 5:43 pm, Sep 28, 2012

1.0 PURPOSE OF THE PLAN

This Bentonite Spill Prevention and Management Plan (Plan) has been prepared for the Horizontal Directional Drilling (HDD) operations for construction of the 30-inch water main crossing of the Manatee River at Fort Hamer Road in Manatee County, Florida. The purpose of this Plan is to establish monitoring and response criteria that will help minimize potential environmental effects of the HDD operation from the release of drilling fluids.

Part of the design process was to select an alignment that would minimize as much as practicable the potential for a release of drilling fluid. The geotechnical staff at URS conducted an extensive geotechnical investigation which included land and water based soil borings and geophysics for the proposed adjacent Fort Hamer Bridge project. Based on this data, a vertical alignment for the HDD crossing under the Manatee River was selected so that the pipeline would be within a clayey, low permeability soil layer. This material greatly reduces the potential migration of drilling fluids to the surface through an uncontrolled release (i.e., frac-out).

1.1 Overview

The HDD operation utilizes drilling fluids to facilitate the drilling of a bore-hole and installation of the pipes or various conduits by functioning as both a lubricant for the drilling tools and piping, as well as a stabilizer by forming a wall cake that exerts positive pressure on the drill hole wall. The increased pressure of the injected drilling fluid alone with the wall cake temporarily increases the hydro-static pressure within the bore-hole. The over-pressure condition, as long as it is maintained, ensures bore-hole stability.

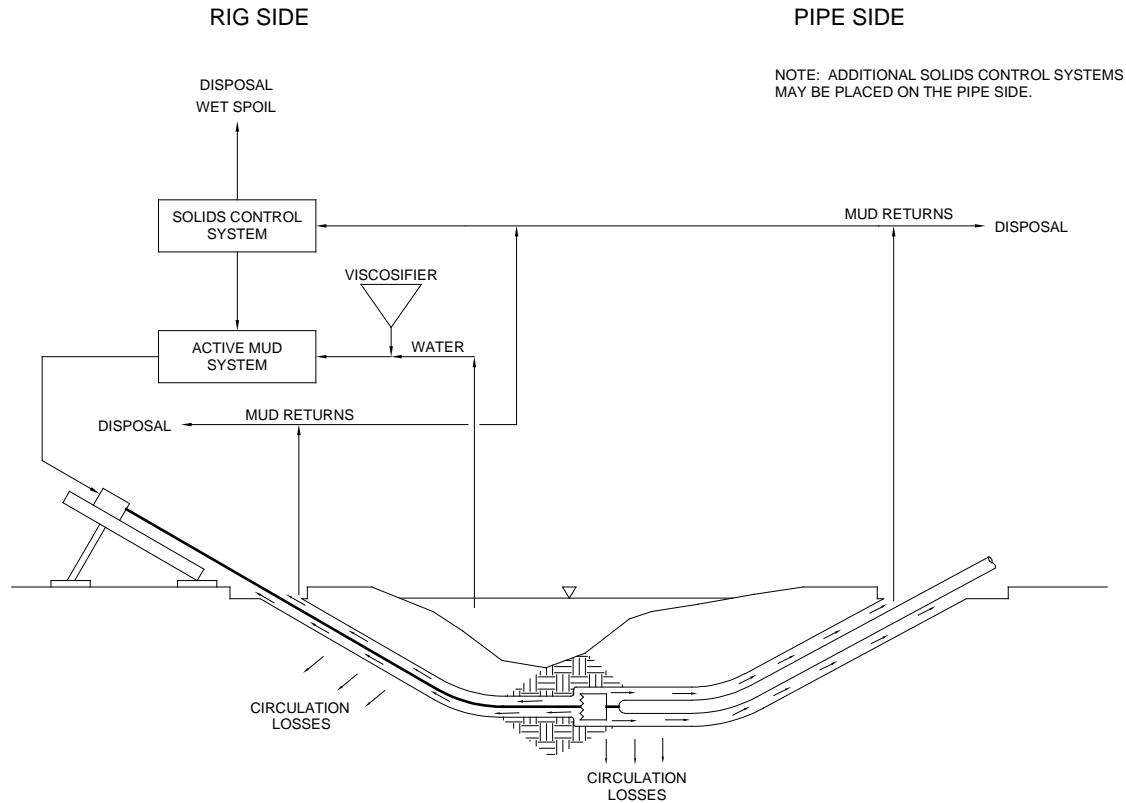
The drilling fluid is pumped down the inside of the bore pipe and exits through the drill head. The fluid then returns to the drill site through the annular space between the outside of the drill pipe and the inside of the bore-hole. The fluid returning to the bore site is called "returns". The drilling fluid will be bentonite, a naturally occurring clay. It is not a hazardous material as defined by the U.S. Environmental Protection Agency's characteristics of ignitability, corrosivity, reactivity, or commercial chemicals. In some cases inert, non-toxic loss of circulation materials (LCMs or polymers) may be added to the mixture.

A typical HDD drilling fluid flow circuit is illustrated schematically above. All stages of HDD involve circulating drilling fluid from equipment on the surface, through a drill pipe, and back to the surface through a drilled annulus. Drilling fluid returns collected at the entry and exit points are processed through a solids control system which removes spoil from the drilling fluid allowing the fluid to be reused. The basic method used by the solids control system is mechanical separation using shakers, desanders, and desilters. The excess spoil and drilling fluid are transported to, and disposed of, at an off-site approved disposal location permitted to receive such material.

Drilling fluid will flow in the path of least resistance. In the drilled annulus, the path of least resistance may be an existing fracture or fissure in the soil. When this happens, circulation can be lost or reduced. This is a common occurrence in pipeline installation by HDD and does not prevent completion. However, the environment may be impacted if the fluid inadvertently returns to the surface at a location on a waterway's banks or within a waterway.

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2.0 MINIMIZATION OF ENVIRONMENTAL IMPACT

Silt fence, hay bales and other BMP tools will be installed at the entry and exit holes for each HDD in order to protect wetlands and other sensitive areas from drilling mud runoff. In addition, BMPs (i.e., materials, spill prevention, and control) will be kept at the drilling site to protect against any inadvertent surface returns along the drill path.

The most effective way to minimize environmental impact associated with HDD drilling fluids is to maintain fluid circulation to the greatest extent practicable. Maintenance of fluid circulation will be the responsibility of the horizontal drilling contractor with oversight by the County Inspector.

It should be recognized, however, that restoration of circulation may not be practical or possible and that environmental impact will be minimized by completing crossing construction as soon as possible. Therefore, absent a threat to public health and safety or discharge of fluids into a wetland or waterway, and after the proper BMPs are employed to contain the drilling fluid, drilling operations will continue in the event of lost circulation if this is deemed to reduce the duration of construction operations.

3.0 HDD MONITORING OVERVIEW

The objective of the release monitoring program is to quickly identify the release of drilling fluids and determine the size, extent, and location of the release. This will be accomplished by monitoring the HDD equipment, drilling fluid pressures and returns, and by visual inspection. Visual inspections will be conducted by the environmental monitor from shore along the Manatee River, and by vessel as

deemed necessary. The environmental monitor shall have radio contact with the drilling operations during drilling / monitoring periods.

3.1 Visual Monitoring

On the land portion of the drilling operations, visual inspection of the route will be used to look for evidence that drilling fluid has surfaced. The monitor will keep track of the drill head position and will focus inspection activities in this immediate area and along the shoreline.

When the drill head reaches beyond the shore area, visual monitoring shall take place from the shore of the Manatee River and by vessel where applicable. The monitor will keep track of the drill head position and will focus visual inspection in this immediate area, as well as the previously drilled path. Alternately, the environmental monitor can be in the vessel that tracks the general position of the drill head, which will allow the monitor to be co-located in an attempt to identify releases. The site drilling monitor will choose the location that provides the best vantage point for observation.

3.2 Drilling Fluids Monitoring

Monitoring of the drilling fluid system will include: recording initial fluid quantity required for the design bore-hole, changes in quantity, pumping rate, and pressures during the pilot bore, as well as back reaming and pipe installation. The volume measurements for the system will be recorded every four hours and recorded values will be compared to volumes calculated previously as required for the rate of progress. The comparison of actual versus design values shall be entered on an Excel spreadsheet to look for notable differences indicating a possible release.

Re-circulated drilling fluid will be monitored for evidence of ground water or surface water intrusion into the bore-hole. Indicators of fluid intrusion are general in nature and would likely be noted as a “thinning” of the drilling mud. Monitoring of the drilling fluids is the responsibility of the Contractor and will be performed by the drilling fluids specialist.

4.0 TRAINING

Monitoring with respect to drilling fluids and other construction quality issues will be the responsibility of the County Inspectors. As part of this Plan, the Contractor will retain an environmental monitor and a drilling fluids specialist and provide appropriate training to his employees. The County Inspector on a HDD will be knowledgeable in HDD technology and will be on-site during drilling operations. The Contractor's performance, monitoring activities, observations (including viscosity and density readings), releases, and any visible signs of inadvertent drilling fluid returns will be documented.

Prior to the commencement of construction, the Contractor's personnel, including the environmental monitor, will attend an on-site training session. The training session will cover the following topics:

- an overview of the drilling operation as presented in the work plan,
- the details of this Bentonite Spill Prevention and Management Plan,
- proper Best Management Practices (BMPs) to be used to prevent a spill and in the event of a spill,
- the need for environmental protection,
- environmental resources located at or adjacent to the site,
- the need to monitor the HDD operation,
- lines of communication,

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By sw_erp at 5:43 pm, Sep 28, 2012

- lines of authority and responsibility,
- the information the Contractor will need to provide to the environmental monitor, and
- contact names and phone numbers of the appropriate individuals and agencies.

A representative of the Engineer and the County shall attend this training session for informational purposes, but the Contractor shall be solely responsible for all activities at the site.

5.0 RELEASE MONITORING AND OPERATING CONDITIONS

The keys to controlling a loss of fluids that may reach the surface and limiting a release into waters of the State are prevention, careful selection of the target layer for drilling, early detection, and quick response by the Contractor. This Plan identifies the activities to be monitored and appropriate response actions to be taken to ensure that any release of drilling fluid is minimized and contained. The Plan outlines a process of monitoring the drilling fluid in order to identify a loss-of-returns situation and to determine if there is a release to the surface. Specific measures to be taken to reduce the amount and likelihood of surfacing drilling fluid, and other actions to be taken, are stated below.

5.1 Prevention

During the drilling process, a loss of returns may be an indication that a release of drilling fluid has occurred. A release of drilling fluid from the bore-hole does not mean there will be a discharge of fluids to the surface or a release into waters of the State. In an effort to avoid and/or reduce losses should they occur, the following general parameters will be incorporated during the drilling process.

1. Position drilling construction area at an appropriate safe distance (minimum of 50 linear feet) from any environmentally sensitive areas (wetlands and surface waters). Proper BMPs (i.e., silt fence) will be installed to protect these areas.
2. Maintain adequate cover between the drill path and surface during the bore, except at entry and exit. For this project, the entire 2,000 feet of drill under the Manatee River is located approximately 50 feet below the substrate of the Manatee River within a clay layer. The remaining 800 feet of drill is located under the shore on each side of the river and will slope up to the drill pits at grade.
3. Adjust the thickness (percent solids or viscosity) of the drilling fluid mixture to match the substrate conditions.
4. Closely monitor drilling pressures and penetration rates so use of drilling fluid pressure will be optimum to penetrate the formation.

5.2 Early Detection

The environmental monitor will conduct monitoring operations in accordance with the following schedule of activities. The following table presents the operational measures and monitoring measures to be implemented given certain conditions and events. The current drilling condition will be categorized as Condition 1, 2 or 3 as described below in Table 5.2.

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Table 5.2 Operational and Monitoring Measures			
Condition	Status of Drilling Returns	Operational Measures to be Implemented	Monitoring Operations
1	Normal expected drilling fluid returns	Standard drilling procedures	<ul style="list-style-type: none"> - Visual inspection of bore path over land. - In channel, visual inspection from shore and by vessel as necessary.
2	Loss of normal expected drilling fluid	<p>The Contractor will take appropriate measures to attempt to restore returns. These may include:</p> <ul style="list-style-type: none"> - Modifying drilling fluid properties - Modifying pressure and volume - Advance or retreat pipe - Introduce LCMs according to manufacturer's instructions - Installing a "wash-over" pipe 	<ul style="list-style-type: none"> - Visual inspection of bore path over land. - In channel, visual inspection from shore and/or by vessel.
3	Drilling fluid release observed on land or in surface waters	<p>Drilling operations will cease and efforts will be initiated to locate and quantify the release as described in the monitoring operation and install proper BMPs. Contact proper regulatory agency (FDEP, Southwest District)¹ if a discharge occurs in a surface water.</p> <p>-The Contractor will take appropriate measures to reduce or eliminate the release. These may include:</p> <ul style="list-style-type: none"> - Modifying drilling fluid properties - Modifying pressure and volume - Advance or retreat pipe -Introduce LCMs or polymers according to manufacturer's instructions - Installing a "wash-over" pipe <p>If a Release is observed:</p> <ul style="list-style-type: none"> -Stop work. -Install proper BMPs to contain drilling fluid. -In the case of in-water discharges, contact appropriate regulatory agency (FDEP).¹ -Cleanup fluid and restore impacted areas after coordinating with regulatory agency (FDEP).¹ 	<ul style="list-style-type: none"> -Determine the location and extent of the drilling fluid release. -Continue with monitoring method that detected the release. -Commence in-water survey using vessel, if necessary. -Conduct shoreline survey for wash-up of drilling fluid. -Monitor returns and document in logs.

5.2.1 Condition 1: Routine Monitoring

Routine monitoring will apply when the drilling operations are proceeding within expected parameters. The routine monitoring will be conducted by the environmental monitor. This information will also be recorded in logs.

A) Operational Measures to be Implemented

The Contractor shall supply the following information to the environmental monitor at the completion of each joint of pipe. One joint of pipe is approximately 40 feet long.

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- Position of the drilling head relative to the drilling point of entry.
- Recording of the total volume of drilling fluid that has been pumped during the drilling operation.
- Comparison of the current total volume of drilling fluid used and the estimated current total volume of returns.
- Equipment breakdowns and repairs.
- Any abnormal drilling fluid pressure and the time and location of occurrence.
- The type and quantity of drilling fluid components being used.

B) Release Monitoring

During normal drilling conditions, the type of monitoring necessary will depend on the location of the drill head. Periodic visual inspection along the bore path of the terrestrial (upland) portion of the alignment will take place throughout the bore operation. As the bore advances beyond the waterline, monitoring will be conducted from the shoreline of the Manatee River and from a vessel, as appropriate.

5.2.2 Condition 2: Loss of Normal Expected Returns

A) Operations Program

This section will apply to the operation when a loss of normal expected returns is encountered. When normal expected returns are lost:

- The Contractor, in conjunction with the drilling fluids specialist, will notify the environmental monitor of the loss of returns.
- Drilling will cease if conditions indicate that other actions need to be taken in order to allow the Contractor to take those actions.
- The Contractor will inform the environmental monitor, Owner's representative, and Engineer of the measures he will implement in response to this condition. The measures that may be used include the following:
 - 1) **Modifying Drilling Fluid Properties:** The Contractor may determine that modification of the drilling fluid properties will aid in restoring the circulation. These modifications can take place in the form of altering the viscosity or gel strength of the drilling fluid.
 - a) **Viscosity:** Viscosity of the drilling fluid may be adjusted depending on the subsurface formation and materials encountered and other drilling conditions. Typical viscosity will range from 60 to 70 seconds viscosity as measured with a standard Marsh Funnel.
 - b) **Gel Strength:** The gel strength of the drilling fluid refers to the shear strength of the fluid as it sets. This characteristic can be modified slightly up or down depending on the drilling conditions in an effort to restore returns.
 - 2) **Advance or Retreat the Pipe:** If returns are lost, the Contractor may elect to advance or retreat the pipe in an effort to restore returns.

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- 3) Introduce LCMs: LCM introduction into the drilling fluid may be desirable at this point. The possibility of success using LCMs to restore returns will depend on the drilling and subsurface conditions at the time. If used, the LCMs will be used according to the manufacturer's recommendations. The supplier of each LCM has determined the most appropriate implementation technique for the material. The Contractor will carefully follow the supplier's recommendations to give the LCMs the best chance for success.
 - 4) Use of a Wash-over Pipe: The contractor may elect to install a wash-over pipe to ensure the drilling fluid will return to the drill site. The wash-over pipe is larger than the drill pipe and is installed through heavily fractured, less competent, or less dense formations. The annulus space between the drill pipe and the wash-over pipe allows the drilling fluid to return to the drill site.
- If returns are recovered, drilling will continue under Condition 1 status.

B) Release Monitoring

Once a loss of returns is identified, the environmental monitor will increase visual monitoring efforts. If the drill head has not passed beyond the water line, the environmental monitor will visually inspect on land and at the shoreline for a release of drilling fluid.

If the drill head has passed the waterline, the environmental monitor will visually inspect the water from shore, if adequate. If necessary for adequate monitoring, a vessel will be launched and the environmental monitor will continue visual inspections from the vessel. The monitor will focus on the area near the location of the end of the drill pipe and surrounding area.

5.2.3 Condition 3: Surface Release of Drilling Fluid

Upon detection of the release of drilling fluid, the status will elevate to Condition 3.

A) Operations Program

Once a drilling fluid release is detected at the surface, the same operations program shall be implemented as presented in Condition 2 with the addition of the following operational procedure:

- During any drilling shut-down period, the Contractor will be permitted to circulate drilling fluid on a two-hour cycle for a period of approximately 15 minutes to prevent the drilling equipment and pipe from seizing within the drilled bore-hole.

B) Release Monitoring

If inadvertent surface returns occur on the banks of the waterway or within uplands, it will be the responsibility of the horizontal drilling contractor to stop circulation and install BMPs to contain the drilling fluid prior to resuming with the drilling operation. After construction, the contractor will restore the disturbed area after contacting the appropriate regulatory agencies.

If inadvertent surface returns occur within a waterway, drilling will temporarily cease and the contractor will install booms, floating turbidity curtains, and/or other BMPs as necessary and practicable before

resuming the drilling. The returns will be monitored and documented. Any inadvertent surface return(s) that occurs within a waterway will be reported to the appropriate regulatory agency (FDEP). The use and installation of BMPs should not cause a health and safety or navigational hazard.

The monitoring method that detected the release will be continued. The location of the release will be noted and close visual inspection will continue.

6.0 CLEANUP AND RESPONSE

The Contractor shall clean-up and remediate the release of drilling fluid as appropriate. Immediately following detection of a drilling fluid release, the following actions will be taken.

6.1 Release in Wetlands and Surface Waters

Regional HDD experience indicates that through operating adjustment these discharges are typically limited, finite, and manageable. If inadvertent surface returns occur within a waterway, drilling will temporarily cease and the contractor will install booms, floating turbidity curtains, and/or other BMPs as necessary and practicable before resuming drilling. The returns will be monitored and documented. Any inadvertent surface return(s) that occurs within a waterway will be reported to the appropriate regulatory agency (FDEP). BMPs should not cause a health and safety or navigational hazard. If the use of BMPs may adversely affect health and safety and are not practicable, alternative cleanup methods may be applicable pending coordination and approval from the regulatory agency (FDEP).

Records of the location and duration of visible drilling fluid release shall be maintained by the environmental monitor and furnished to the agency during site inspections and upon completion of the work.

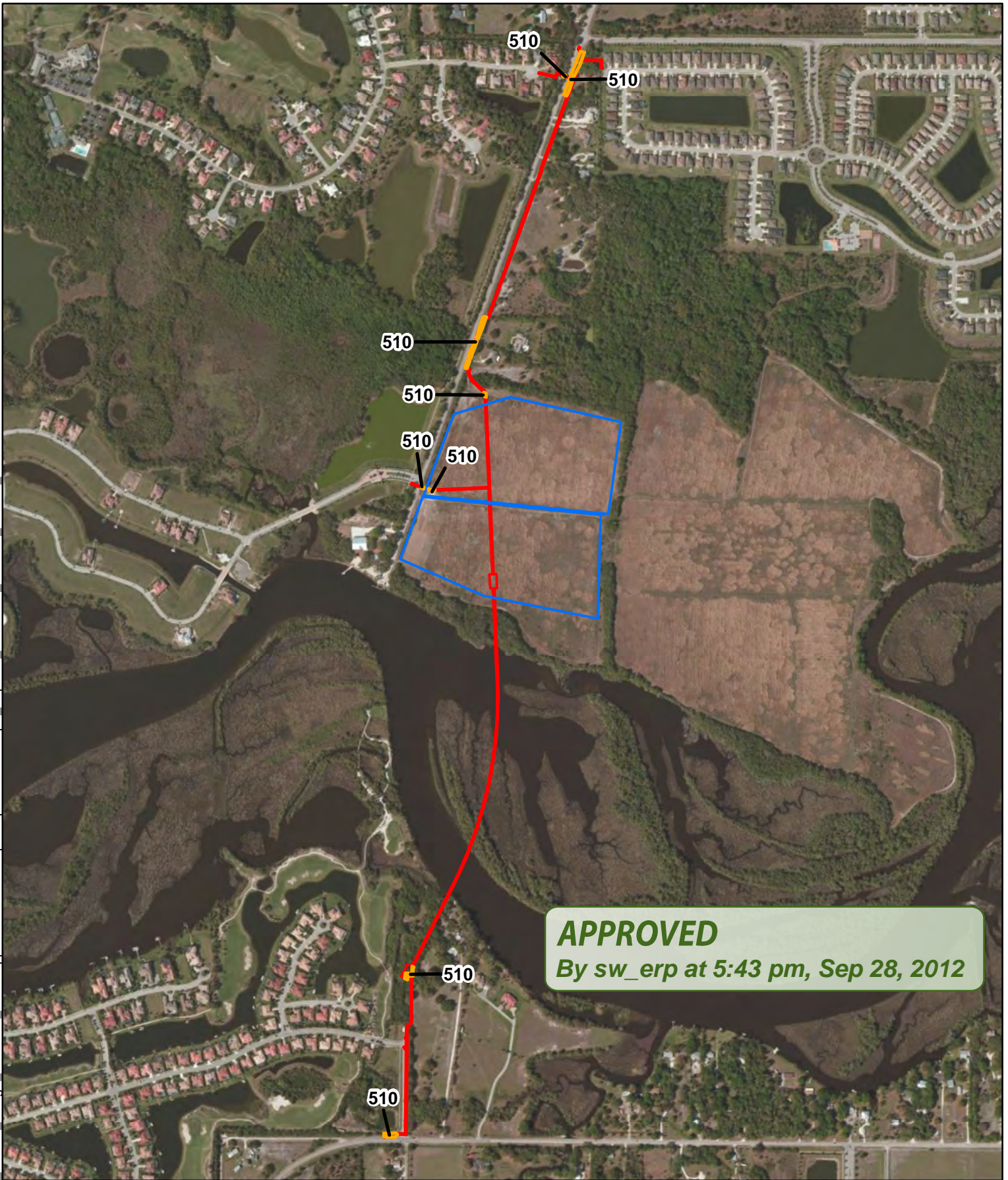
6.2 Release on Land

In the event a drilling fluid release occurs on land, the release will be immediately contained by using silt fencing, straw bales, sand bags, or a containment pit. The drilling fluid will be transferred manually or by pump back to the drill site for reuse or into a storage tank and removed from the site. After construction, the contractor will initiate restoration activities within the disturbed area after coordination and approval from the appropriate regulatory agency (FDEP).

¹ In the event of a spill, the Florida Department of Environmental Protection (FDEP), Southwest District Office, Temple Terrace, FL, Compliance and Enforcement Section, should be contacted immediately at 813-632-7600.




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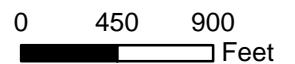


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Legend

-  Surface Waters/ Ditches
-  Pipe Impact Area
-  Work Staging Area

Manatee County
Ft. Hamer Road
Water Main Installation
Surface Water/ Ditch Impacts Map



SUPPLEMENTAL INFORMATION

ACOE Department of the Army Nationwide Permit



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
10117 PRINCESS PALM AVENUE, SUITE 120
TAMPA, FLORIDA 36610-8300

25 September 2012

REPLY TO
ATTENTION OF

Tampa Permits Section
SAJ-2012-02201 (NW-JCM)

Sia Mollanazar
Manatee County-Deputy Director, Engineering Services
1022 26th Avenue East
Bradenton, Florida 34208

Dear Sir/Madam:

Your application for a Department of the Army permit was received on 03 August 2012, and has been assigned number SAJ-2012-02201 (NW-JCM).

The proposed project consists of directional drilling under the Manatee River and open trenching in roadside drainage ditches located along Upper Manatee River Road and Ft. Hamer Road. Approximately 1400 linear feet of 24 inch pipe will be installed via open trench to a location approximately 600 feet south of the Manatee River. At this location, a 30-inch HDPE water main will be directionally-drilled approximately 50 feet below the bed of the Manatee River for a distance of approximately 2800 linear feet, exiting in an upland construction staging area on the north side of the river. From this point, approximately 4,000 linear feet of 24-inch pipe will be installed by open trenching within the ROW located on the east side of Ft. Hamer Rd. The entry and exit points are in uplands.

No permanent impacts to the roadside drainage ditches are proposed. The proposed project will temporarily impact a total of 0.47 acres of roadside drainage ditches, which will be restored to their existing grade. No surface water impacts are proposed to the Manatee River as entry and exit holes are within uplands on the south and north sides of the river.

The water main will cross under the Manatee River at a depth of approximately 50 feet below the bottom. The project is specifically positioned along Upper Manatee River Road at Winding Stream Road to Fort Hamer Road at Mullholland Road, in Sections 8,17,18,19,20, Township 34 South, Range 19 East, Pinellas County, Florida.

Latitude: 27.522264 North, Longitude: -82.429167 West

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP) Number 12. In addition, project specific conditions have been enclosed. This verification is valid until 25 September 2014. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory webpage to access web links to view the Final Nationwide Permits, Federal Register Vol. 77, dated February 21, 2012, the Corrections to the

Final Nationwide Permits, Federal Register 77, April 4, 2012, and the List of Regional Conditions. The website address is as follows:

<http://www.saj.usace.army.mil/Divisions/Regulatory/sourcebook.htm>.

Please be aware this web address is case sensitive and should be entered as it appears above. Once there you will need to click on "Nationwide Permits." These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP 12. Additionally, enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. No structure or work shall adversely affect or disturb properties listed in the National Register of Historic Places or those eligible for inclusion in the National Register. Prior to the start of work, the Applicant/Permittee or other party on the Applicant's/Permittee's behalf, shall conduct a search of known historical properties by contracting a professional archaeologist, contacting the Florida Master Site File at 850-245-6440 or SiteFile@dos.state.fl.us. The Applicant/Permittee can also research sites in the National Register Information System (NRIS). Information can be found at <http://www.cr.nps.gov/nr/research/>.

If, during the initial ground disturbing activities and construction work, there are archaeological/cultural materials unearthed (which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the permittee shall immediately stop all work in the vicinity and notify the Compliance and Review staff of

the State Historic Preservation Office at 850-245-6333 and the Corps Regulatory Project Manager to assess the significance of the discovery and devise appropriate actions, including salvage operations. Based, on the circumstances of the discovery, equity to all parties; and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7.

In the unlikely event that human remains are identified, they will be treated in accordance with Section 872.05, Florida Statutes; all work in the vicinity shall immediately cease and the local law authority, the State Archaeologist (850-245-6444), and the Corps Regulatory Project Manager shall immediately be notified. Such activity shall not resume unless specifically authorized by the State Archaeologist and the Corps.

3. This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. In Florida, projects qualifying for this NWP must be authorized under Part IV of Chapter 373 by the Department of Environmental Protection, a water management district under §. 373.069, F.S., or a local government with delegated authority under §. 373.441, F.S., and receive Water Quality Certification (WQC) and Coastal Zone Consistency Concurrence (CZCC) (or a waiver), as well as any authorizations required by the State for the use of sovereign submerged lands. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.
4. Reporting Address: All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, 10117 Princess Palm Avenue, Suite 120, Tampa, FL 33610-8300. The Permittee shall reference this permit number, SAJ-2012-02201(NW-JCM), on all submittals.
5. Commencement Notification: In accordance with Regional Condition 11 for Nationwide Permit 12, at least two weeks prior to the date of initiating the authorized work, the Permittee shall provide to the National Oceanic Atmospheric Administration and to the Corps a written notification of the date of commencement of work authorized by this permit. The Permittee shall notify the District Engineer at the letterhead address, attention Regulatory Division, and NOAA at Nautical Data Branch N/CS26, Station 7317, 1315 East-West Highway, Silver Springs, MD 20910-3282
6. As-Built Certification: Within 60 days of completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, the Permittee shall submit as-built drawings of the authorized work and a completed As-Built Certification Form to the Corps and to NOAA. The drawings shall be signed and sealed by a registered surveyor/engineer licensed by the State of Florida that certify the project is

constructed as authorized, and must include accurate (+/- 1 foot) depiction of the location and configuration of the completed activity in relation to mean high water of the navigable water and include a plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings (8.5"x11"). The drawing should show all "earth disturbance", including wetland impacts, water management structures, and any on-site mitigation.

In the event that the completed work deviates, in any manner, from the authorized work, the Permittee shall describe, on the As-Built Form, the deviations between the work authorized by the permit and the work as constructed. Please note that the description of any deviations on the As-Built Form does not constitute approval of any deviations by the Corps.

7. Wetland Avoidance/Minimization Areas: The Permittee shall avoid adverse effects to the onsite and adjacent wetlands, except as specifically noted, (As detailed on Project Drawings). These natural wetland areas were avoided as part of the permit application review process and therefore will not be disturbed by any dredging, filling, mechanized land clearing, agricultural activities, or other construction work whatsoever. The Corps reserves the right to deny review of any requests for future impacts to these natural wetland areas.
8. Erosion Control: Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the work area. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be stabilized using sod, degradable mats, barriers, or a combination of similar stabilizing materials to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work has been completed and the site has been stabilized.
9. Eastern Indigo Snake Protection Measures: The Permittee shall comply with U.S. Fish and Wildlife Service's "Standard Protection Measures for the Eastern Indigo Snake" dated February 12, 2004 and provided in an Attachment of this permit."

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Jessica C. McCaffrey by telephone at 813-769-7064.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit <http://per2.nwp.usace.army.mil/survey.html> and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Again, please be aware this web address is case sensitive and should be entered as it appears above.

Sincerely,



Jessica C McCaffrey
Project Manager, Tampa Permits Section

Enclosures:

Standard Protection Measures for the Eastern Indigo Snake
Project Plans
As-Built Certification Form
Transfer Request Form

Copy:

David Wilcox, URS Corporation Southern

GENERAL CONDITIONS

33 CFR PART 320-330

PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

1. The time limit for completing the work authorized ends on **date identified in the letter**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

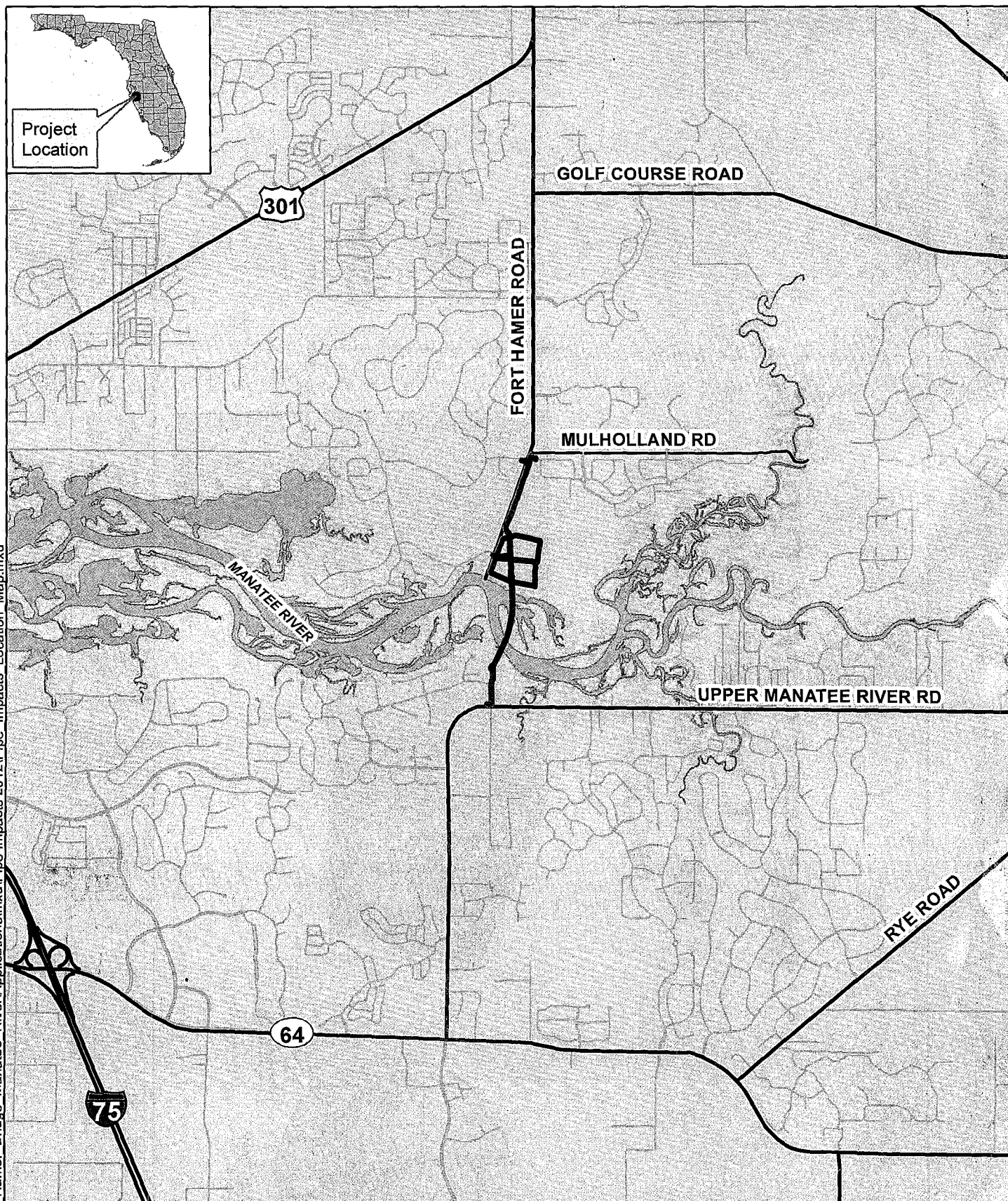
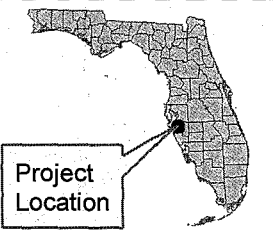
1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:
 - a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
 - b. instructions not to injure, harm, harass or kill this species;
 - c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
 - d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.

2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.


3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
 - a. any sightings of eastern indigo snakes and
 - b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004

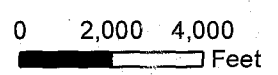
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Legend

 Pipe Impact Area

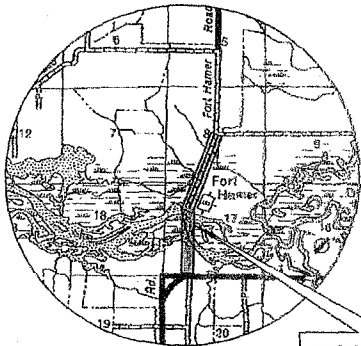
Manatee County
Ft. Hamer Road
Water Main Installation
Location Map





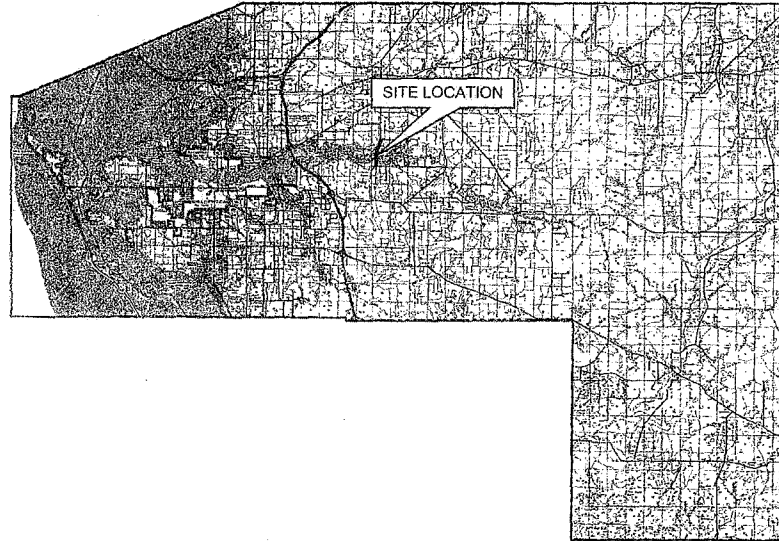
MANATEE COUNTY, FLORIDA FT. HAMER ROAD WATER MAIN CROSSING PROJECT NO. 404-6054770

JUNE 2012
100% SUBMITTAL

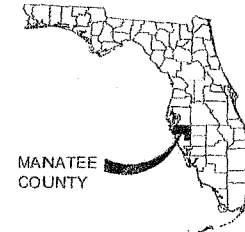


PROJECT SITE

PROJECT MAP
N.T.S.



SITE LOCATION



MANATEE
COUNTY

URS ENGINEERING, INC. 18, 2012, 1500 W. GORRISON AVENUE, SUITE 700, TAMPA, FLORIDA 33607
 MANATEE COUNTY PROJECT NO. 404-6054770 P. 1 OF 1 SHEET TOTAL SHEETS 100% SUBMITTAL

JUNE 2012 - 100% SUBMITTAL
 FT. HAMER ROAD WATER MAIN CROSSING, MANATEE COUNTY PROJECT NO. 404-6054770



7650 West Courtney Campbell Causeway
Suite 700
Tampa, Florida 33607
Ph: (813) 286-1711 Fax: (813) 286-6587
Florida Engineering Number: 060002

NO.	BY	DATE	DESCRIPTION
REVISIONS			

URS JOB NUMBER
12009510
PIE: DAVID WILCOX
ENG: DAVID WILCOX
ORW: TERRY SONNENBERG
FILE SAVE DATE:
July 16, 2012

David Wilcox
5/16/12

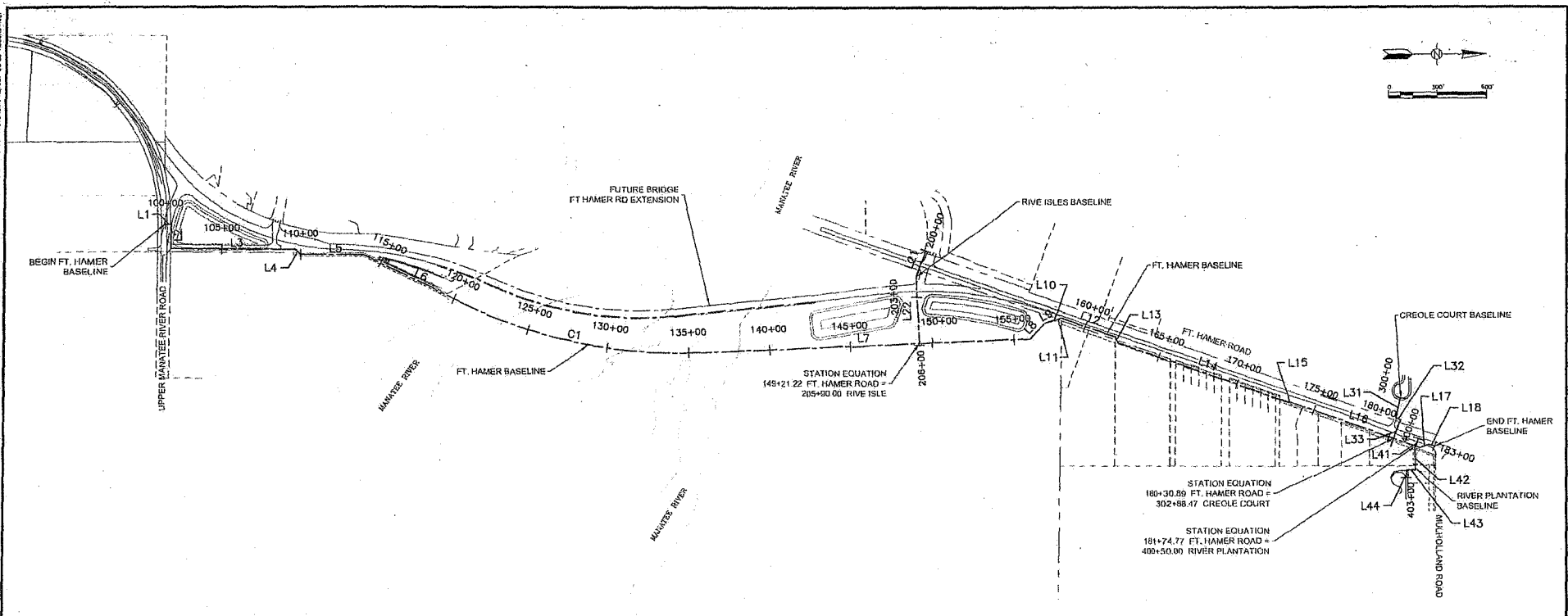


FT. HAMER ROAD
WATER MAIN CROSSING
FOR
MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

COVER SHEET

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION
G-1

URS PROJECT NUMBER: 12009610
 URS JOB NUMBER: 12009610
 URS PROJECT NAME: FT. HAMER ROAD WATER MAIN CROSSING
 URS PROJECT LOCATION: MANATEE COUNTY, FLORIDA
 URS PROJECT DATE: 06/28/2012
 URS PROJECT SCALE: AS SHOWN ON THIS SHEET
 URS PROJECT DRAWING NUMBER: 12009610-01



LINE TABLE - FT. HAMER BASELINE							
LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION	
L1	40.00'	N0° 32' 09.44"E	N: 1156190.02 E: 516784.00	100+00.00	N: 1156230.02 E: 516794.37	100+40.00	
L2	151.12'	S89° 30' 27.95"E	N: 1156230.02 E: 516794.37	100+40.00	N: 1156226.72 E: 516945.49	101+91.12	
L3	761.91'	N0° 30' 20.30"E	N: 1156226.72 E: 516945.49	101+91.12	N: 1156990.60 E: 516952.74	109+53.03	
L4	42.43'	N45° 30' 29.30"E	N: 1156990.60 E: 516952.74	109+53.03	N: 1157020.33 E: 516992.51	109+95.46	
L5	386.43'	N0° 30' 29.30"E	N: 1157020.33 E: 516992.51	109+95.46	N: 1157400.74 E: 516985.93	113+81.88	
L6	665.05'	N26° 32' 17.41"E	N: 1157400.74 E: 516985.93	113+81.88	N: 1158001.73 E: 517293.09	120+46.94	
L7	2032.62'	N2° 27' 50.08"W	N: 1158001.73 E: 517293.09	120+46.94	N: 1161501.32 E: 517509.01	125+98.10	
L8	125.10'	N47° 27' 50.08"W	N: 1161501.32 E: 517509.01	125+98.10	N: 1161844.01 E: 517389.83	127+23.20	
L9	63.63'	N25° 06' 23.99"W	N: 1161844.01 E: 517389.83	127+23.20	N: 1161655.98 E: 517394.16	127+86.83	
L10	12.73'	N19° 52' 11.64"E	N: 1161655.98 E: 517394.16	127+86.83	N: 1161655.98 E: 517394.16	127+99.56	
L11	41.03'	N23° 06' 23.99"W	N: 1161655.98 E: 517394.16	127+99.56	N: 1161693.13 E: 517376.75	128+40.59	
L12	352.41'	N19° 52' 11.64"E	N: 1161693.13 E: 517376.75	128+40.59	N: 1163204.57 E: 517496.53	131+93.00	

LINE TABLE - FT. HAMER BASELINE (CONT'D)							
LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION	
L13	40.84'	N85° 06' 24.23"E	N: 1162024.57 E: 517496.53	131+93.00	N: 1162041.76 E: 517533.96	132+33.85	
L14	1103.77'	N19° 52' 11.64"E	N: 1162041.76 E: 517533.96	132+33.85	N: 1163079.82 E: 517908.73	173+37.62	
L15	11.44'	N2° 36' 23.99"W	N: 1163079.82 E: 517908.73	173+37.62	N: 1163081.24 E: 517908.21	173+49.05	
L16	855.16'	N19° 53' 36.01"E	N: 1163081.24 E: 517908.21	173+49.05	N: 1163958.21 E: 518395.61	182+04.21	
L17	95.48'	N25° 06' 23.99"W	N: 1163958.21 E: 518395.61	182+04.21	N: 1163945.61 E: 518175.66	182+59.69	
L18	40.31'	N19° 53' 36.01"E	N: 1163945.61 E: 518175.66	182+59.69	N: 1163983.51 E: 518189.38	183+00.00	

CURVE TABLE - FT. HAMER BASELINE								
CURVE NO.	RADIUS	LENGTH	CHORD	DIRECTION	START POINT	START STATION	END POINT	END STATION
C1	3000.00'	1518.55'	N12° 02' 13.88"E		N: 1158001.73 E: 517293.09	120+46.94	N: 1159471.08 E: 517596.39	125+98.10

LINE TABLE - RIVE ISLES BASELINE							
LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION	
L21	170.45'	S89° 57' 50.08"E	N: 1160885.92 E: 518958.81	200+00.00	N: 1160807.92 E: 517118.95	201+70.45	
L22	429.55'	N87° 32' 09.82"E	N: 1160807.92 E: 517118.95	201+70.45	N: 1160935.59 E: 517548.10	206+00.00	

LINE TABLE - CREOLE COURT BASELINE							
LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION	
L31	131.62'	S76° 43' 28.91"E	N: 1163776.00 E: 517693.37	300+00.00	N: 1163745.78 E: 518011.47	301+31.62	
L32	31.23'	N19° 53' 36.01"E	N: 1163745.78 E: 518011.47	301+31.62	N: 1163753.74 E: 518022.10	301+62.85	
L33	158.15'	S70° 06' 23.99"E	N: 1163753.74 E: 518022.10	301+62.85	N: 1163714.86 E: 518168.68	303+40.00	

LINE TABLE - RIVER PLANTATION BASELINE							
LINE NO.	LENGTH	DIRECTION	START POINT	START STATION	END POINT	END STATION	
L41	56.00'	S70° 06' 23.99"E	N: 1163864.70 E: 518142.17	400+00.00	N: 1163865.99 E: 518194.82	400+56.00	
L42	141.80'	N90° 00' 00.00"E	N: 1163865.99 E: 518194.82	400+56.00	N: 1163865.99 E: 518335.62	401+97.80	
L43	53.76'	S00° 00' 00.00"E	N: 1163865.99 E: 518335.62	401+97.80	N: 1163811.89 E: 518335.62	402+51.55	
L44	48.45'	N90° 00' 00.00"E	N: 1163811.89 E: 518335.62	402+51.55	N: 1163811.89 E: 518385.07	403+00.00	

URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 206-1711 Fax: (813) 286-6507
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: FERRY SONNENBERG
 FILE SAVE DATE:
June 28, 2012

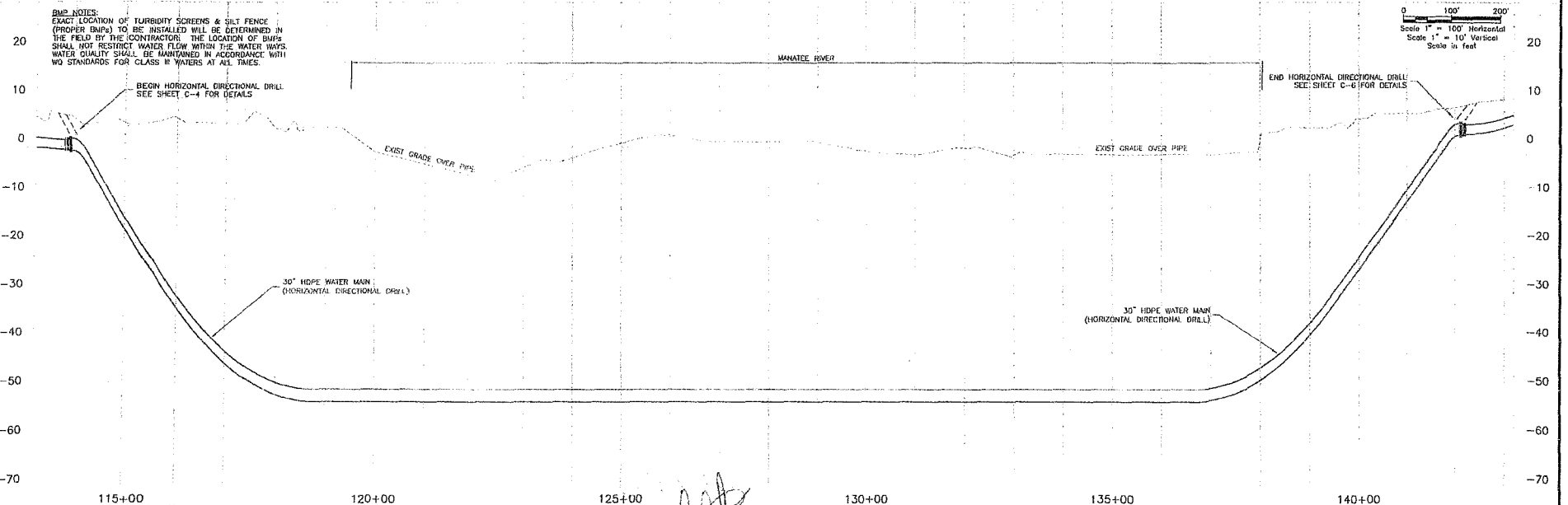
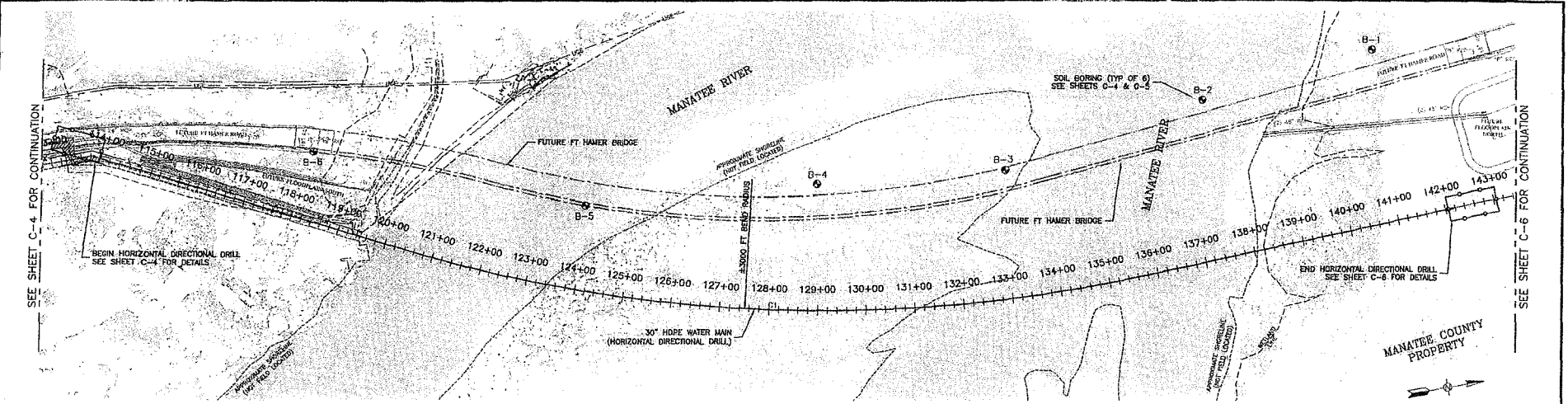
MANATEE COUNTY
 FLORIDA
 DAVID A. WILCOX
 LICENSE NO. 24942

FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

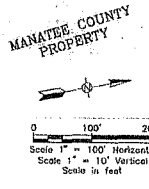
HORIZONTAL CONTROL

PROJECT STATUS
100% DESIGN
NOT FOR
CONSTRUCTION
G-6

VERTICAL SCALE BAR IS ONE INCH PER FEET. HORIZONTAL SCALE BAR IS ONE INCH PER 100 FEET. SEE SHEET C-4 FOR CONTINUATION. SEE SHEET C-6 FOR CONTINUATION.



BMP NOTES:
 EXACT LOCATION OF TURBIDITY SCREENS & SILT FENCE (PROPER BMPs) TO BE INSTALLED WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF BMPs SHALL NOT RESTRICT WATER FLOW WITHIN THE WATER WAYS. WATER QUALITY SHALL BE MAINTAINED IN ACCORDANCE WITH WQ STANDARDS FOR CLASS II WATERS AT ALL TIMES.



URS
 7650 West Courtney Campbell Causeway
 Suite 700
 Tampa, Florida 33607
 Ph: (813) 286-1711 Fax: (813) 286-6587
 Florida Engineering Number: 000002

NO.	BY	DATE	DESCRIPTION

URS JOB NUMBER
 12009610
 PM: DAVID WILCOX
 ENG: DAVID WILCOX
 DRW: TERRY SONNENBERG
 FILE SAVE DATE:
 June 21, 2012



FT. HAMER ROAD
 WATER MAIN CROSSING
 FOR
 MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA

PLAN AND PROFILE

PROJECT STATUS
 100% DESIGN
 NOT FOR
 CONSTRUCTION
 C-5

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Submit this form and one set of as-built engineering drawings to the U.S. Army Corps of Engineers, Special Projects and Enforcement Branch, 10117 Princess Palm Avenue, Suite 120, Tampa, Florida 33610. If you have questions regarding this requirement, please contact the Special Projects and Enforcement Branch at 904-232-3131.

1. Department of the Army Permit Number: SAJ-2012-02201 (NW-JCM)

2. Permittee Information:

Name _____

Address _____

3. Project Site Identification:

Physical location/address _____

4. As-Built Certification:

I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (Please type)

(FL, PR or VI) Reg. Number

Company Name

Address

City State ZIP

(Affix Seal)

Date

Telephone Number

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2012-02201 (NW-JCM)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)