

Purchasing Division

INVITATION TO BID (ITB)

18-013

LAKE BLUE WATERLINE REPLACEMENT PROJECT

December 2017



**LAKE BLUE WATERLINE REPLACEMENT PROJECT
ITB 18-013**

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Note: This Table of Contents is for convenience only. Its accuracy is not guaranteed and is not to be considered as part of the Contract Documents.

**HIGHLANDS COUNTY BOARD OF
COUNTY COMMISSIONERS*****Purchasing Division*****SECTION 00030
INVITATION TO BID
ITB 18-013**

The Board of County Commissioners ("Board") of Highlands County, Florida ("County") will receive sealed Bids in the Highlands County Purchasing Division ("Purchasing Division") for:

ITB NO. 18-013 LAKE BLUE WATERLINE REPLACEMENT PROJECT

Construction Documents may be obtained by downloading from our website: www.hcbcc.net, or by contacting the Purchasing Division: Jamee Soto, Buyer I; 600 South Commerce Avenue., Sebring, Florida 33870; Phone: 863-402-6526; Fax: 863-402-6735; or Email: jasoto@hcbcc.org.

A PRE-BID meeting will be held at 2:00 P.M. on Wednesday, January 10th, 2018, in the Engineering Conference Room at 600 S. Commerce Ave., Sebring, FL. 33870. The purpose of this meeting is to provide a forum where the Bidders can familiarize themselves with the Specifications of the Project with County staff and the Engineer. This meeting is not mandatory and the public is invited to attend this meeting.

Bidders will have until 5:00 P.M. on Tuesday, January 16, 2018 to submit Requests for Information to the Purchasing Division. The County will review the questions and issue Addendums, if necessary

Each submittal shall include one (1) original, one (1) exact paper copy and one (1) exact electronic copy (CD or thumb drive) of the Bid submission packet. **BIDS MUST BE DELIVERED to the Purchasing Division, 600 South Commerce Avenue, Sebring, FL 33870 so as to reach that office no later than 3:00 P.M., Tuesday, January 30th, 2018**, at which time they will be opened. The public is invited to attend this meeting. Bid envelopes must be sealed and marked with the ITB number and name so as to identify the enclosed Bid. Bids received later than the date and time as specified will be rejected. The Board will not be responsible for the late deliveries of Bids that are incorrectly addressed, delivered in person, by mail or any other type of delivery service. One or more County Commissioners may be in attendance at the Pre-Bid meeting.

The Board reserves the right to reject any or all Bids or any parts thereof, to waive any and all informalities, or to re-advertise for Bids. The determination of this Award, if an Award is made, will be made to the most responsive and responsible Bidder whose Bid and qualifications indicate that the Award will be in the best interest of the County. The Board reserves the right to waive irregularities in the Bid. The Board specifically reserves the right to take the Bidder's past performance with the Board and others into consideration in determining if the Bidder and its Bid is responsible, qualified, and most advantageous to the County.

A Bidder must submit a Bid on all Work to receive consideration. A Bid Bond or Cashier's Check in an amount of five percent (5%) of the Bid must be included on Bids over one hundred thousand dollars (\$100,000.00). If the successful Bid is greater than two hundred thousand dollars (\$200,000.00), a Public Construction Bond will be required. The Bidder must be a Licensed General Contractor in the State of Florida. The Bid must be accompanied by evidence of Bidder's qualifications to do business in the State of Florida, in accordance with Chapter 489, Florida Statutes.

The proposed scope will include:

Furnish all labor, materials, equipment, management, administration, supervision, insurance coverage, and any other facilities and services necessary to successfully construct, start-up, and warranty the completed Project. The major items of construction are summarized below:

- 1.0) Construct, disinfect, and test approximately 10,045 lineal feet of 6" PVC water line and 5,255 lineal feet of 8" PVC water line; including directional bores as shown on the Construction Plans.
- 2.0) Provide County and the Town of Lake Placid with warranties, guarantees, lien releases, as-built drawings, etc.;
- 3.0) Warranty the completed project for one (1) year and provide services as required during the one (1) year warranty period.

All work for the Project shall be constructed in accordance with the Construction Documents, which consists of, but are not limited to the Construction Plans, Project Manual (which includes the Instructions to Bidders, Bid Proposal, Agreement, General Conditions, Supplementary Conditions, Special Provisions, Technical Specifications, and other supporting Documents and Information), and all Addenda. The Board also reserves the right to contact Bidders via telephone or in writing to clarify inconsistent, inaccurate, or confusing information regarding the proposal submitted. The County reserves the right to modify the contract/agreement documents post bid opening based on appropriate negotiations.

Bids will be received for the Project as set forth in the Bid Form and related documents. If the Contract is awarded, the Board shall award same within 60 calendar days after opening of Bids, by written notice to the successful Bidder.

Any Bid received after the date and time specified will not be considered, and no Bidder may withdraw his/her Bid for a period of 60 days after the scheduled closing time for receipt of Bids. All Bids must be firm bids for a period of 60 calendar days after the time set for the opening of Bids.

Bidders are hereby notified that the Construction Agreement will include Davis-Bacon Labor provisions and Section 3 for Contractors requirements.

The Board does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the Board's functions, including one's access to, participation, employment or treatment in its programs or activities. Anyone requiring reasonable accommodation as provided in the Americans with Disabilities Act or Section 286.26, Florida Statutes, should contact Ms. Pamela Rogers, ADA Coordinator at: 863-402-6509 (Voice), or via Florida Relay Service 711, or by e-mail: progers@hcbcc.org. Requests for CART or interpreter services should be made at least 24 hours in advance to permit coordination of the service.

SECTION 00100**INSTRUCTIONS TO BIDDERS****1.0) DEFINED TERMS**

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract (EJCDC No. C-700) (2007 Edition) have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term "Successful Bidder" means the lowest, qualified, responsible and responsive Bidder to whom Owner (on basis of Owner's evaluation as hereinafter provided) makes an award. The term "Contract Documents" or "Construction Documents" means the Construction Drawings, Project Manual (which includes the Bidding Documents and Specifications), and all Addenda issued prior to receipt of Bids. The term "Bidding Documents" includes all the items listed in Division '00'.

2.0) COPIES OF CONTRACT DOCUMENTS

1. Complete sets of the Contract Documents may be obtained from the County's website (www.hcbcc.org) or from the Purchasing Division at 600 S. Commerce Ave, Sebring, Fl. 33870. Contract Documents cannot be returned for a refund.
2. Complete sets of Construction Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
3. Owner and Engineer in making copies of Contract Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3.0) DISQUALIFICATION OF BIDDERS

1. Bidders who do not hold a current valid General Contractor and/or Utility and Excavation license issued by the State of Florida will be disqualified.
2. Only one Bid from an individual, firm or partnership, or corporation under the same or different names will be considered for the construction of the Project.
3. Should it appear to Owner that any Bidder is interested in more than one Bid for the work contemplated, all Bids in which such Bidder is interested will be rejected.
4. Should there be any reasonable grounds for Owner believing that a collusion or combination exists between Bidders, all Bids may be rejected and all such Bidders or participants in such combination or collusion will not be considered in the future Bids for the same work.
5. No Bid will be considered unless accompanied by a Bid guarantee or good faith deposit in the amount and in the form specified in the Invitation to Bid, and/or Advertisement for Bids.

4.0) EXAMINATION OF CONTRACT DOCUMENTS AND SITE

1. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract 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 Laws and Regulations that may affect cost, progress, performance or furnishing of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify the Purchasing Division of all conflicts, errors, omissions, or discrepancies in the Contract Documents. Future claims by Contractor for such deficiencies will not be recognized as valid.
2. Reference is made to the Supplemental Conditions (Sections 00800 and 00805) for identification of:
 - A. Applicable wage rate decision for this Project.
 - B. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the accuracy of the technical data contained in such reports but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for the purposes of bidding or construction.
 - C. Those drawings of physical conditions in or relating to existing surface and subsurface conditions (except Underground Facilities) which are at or contiguous to the site which have been utilized by Engineer in preparation of the Contract Documents. Bidder may rely upon the accuracy of the technical data contained in such drawings, but not upon the completeness thereof for the purposes of bidding or construction.

Copies of such reports and drawings will be made available by Engineer, through the Purchasing Division, to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which Bidder is entitled to rely as provided in Paragraphs 4.2.B and 4.2.C are incorporated therein by reference. Such technical data has been identified and established in the Supplementary Conditions.
3. Information and data reflected in the Contract Documents with respect to underground Facilities at or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.
4. Before submitting a Bid, each Bidder will, 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 (surface, subsurface and Underground Facilities) 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 its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

5. On request in advance, Owner will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.
6. 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 Contract 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 Owner unless otherwise provided in the Contract Documents.
7. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4.0, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions for performance and furnishing of the Work.

8. **CONTRACTOR'S COOPERATION – E-Verify**

The Owner will require of Contractor provide proof of legal working status of Contractor and/ or Contractor's employees and sub-contractors and their employees who are awarded this bid. Employers may avail themselves to E-Verify to help employer verify employment eligibility of new and existing hires and the validity of their Social Security numbers. Davis-Bacon Rules may apply. The Owner will require as part of the response to a bid solicitation, that the successful bidder shall complete and submit an "Affidavit Certification Immigration Laws". The Owner reserves the right to revoke bid award if Contractor does not allow for Contractor and employee verification and subcontractor and their employees verification prior to commencement of work and/or hires illegal workers after commencement of work within the service area. The Owner is not responsible in any way; for any Federal, State or local legal repercussions the Contractor may incur as a result of employee verifications.

5.0) INTERPRETATIONS AND ADDENDA

1. All questions about the meaning or intent of the Contract Documents are to be directed to the Purchasing Division. The Owner also reserves the right to contact bidders, telephonically or in writing, to clarify inconsistent, inaccurate, or confusing information regarding the proposal submitted. Interpretations or

clarifications considered necessary by Engineer in response to such questions will be issued by Addenda. Addendum will be posted on the Board's website. Questions received after the Request for Information deadline may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

2. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

6.0) BID SECURITY

1. Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of the Bidder's Total Base Bid price and in the form of a certified check or a Bid Bond (on form attached) issued by a surety amount meeting the Owner's requirements.
2. The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within ten (10) days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders will be returned within thirty (30) days after Bid Opening, unless Bid is under serious consideration. The Bid security may be retained by Owner until the earlier of the seventh (7th) day after the Effective Date of the Agreement or the 91st day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7.0) BONDS

1. The Bid Bond and Public Construction Bond shall be executed by a corporate surety authorized to do business in the State of Florida and be named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department, and A.M. Best rated A-8 or better. All bonds signed by an agent must be accompanied by a certified copy of authority to act and indicate that they are licensed to do business in the State of Florida. All Bonds shall be in the form prescribed by the Contract Documents, except as provided otherwise by Laws or Regulations.
2. Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their power of attorney.

8.0) CONTRACT TIME

The numbers of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Time) are set forth in the Bid Form and the Agreement.

9.0) LIQUIDATED DAMAGES

Provisions for liquidated damages are set forth in the Agreement.

10.0) SUBSTITUTE OR "OR-EQUAL" ITEMS

1. Items not on the Schedule of Manufactures and Supplies (Section 00450) are to be submitted with the Bid Form:

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraphs 6.05 of the General Conditions, as amended in the Supplementary Conditions, and may be supplemented in the General Requirements, Section 01600.

2. Items on the Schedule of Manufactures and Supplies to be submitted with the Bid Form:

The materials and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by Engineer prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or Work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Engineer's decision of approval or disapproval of a proposed substitution shall be final. If Engineer approves any proposed substitution, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

3. Refer to Division 1, Section 01600, Material and Equipment.

11.0) SUBCONTRACTOR, SUPPLIERS AND OTHER

1. Each Bid shall identify all Subcontractors, Suppliers and other persons and organizations listed in the Bid Form. The apparent Successful Bidder and the next two (2) lowest Bidders shall within seven (7) days after the Bid opening submit to Owner a list of all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. Such lists shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person or organization. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, Owner or Engineer may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 (B) of the General Conditions.

2. No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.
3. Procedures for approval of other Subcontractors after execution of the Agreement are described in the General Conditions.

12.0) BID FORM

1. The Bid Form is included with the Bidding Documents.
2. All blanks on the Bid Form must be completed in ink or by typewriter.
3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.
4. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

5. All names must be typed or printed below the signature.
6. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
7. The address and telephone number for communications regarding the Bid must be shown.
8. Bids must be priced on a stipulated price basis for the base contract.
9. The Bid price shall include overhead and profit.

13.0) SUBMISSION OF BIDS

1. Bids shall be submitted at the time and place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title, and name and address of the Bidder and accompanied by the Bid security and all other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.
2. Prospective Bidders may obtain a copy of the Bidding Documents from the County's website (www.hcbcc.org) or from the Purchasing Division at 600 S. Commerce Ave., Sebring, FL 33870. Bidders must submit one (1) original, one (1) exact paper copy and one (1) exact electronic copy (CD or thumb drive) of the following are to be completed and submitted with the Bid:

Bid Form
Bid Security
Statement of Bidder Qualifications
Subcontractor List
Schedule of Manufacturers and Suppliers
Non-Collusion Affidavit of Prime Bidder
Non-Collusion Affidavit of Subcontractor (if applicable)
Certificate pursuant to Section 287.133, Florida Statutes
Certificate pursuant to Section 287.134, Florida Statutes
Certificate pursuant to Section 287.135, Florida Statutes
Certificate pursuant to Section 287.087, Florida Statutes
Certification Regarding Equal Employment Opportunity
Drug-free Workplace Form
Trench Safety Compliance Form

14.0) MODIFICATION AND WITHDRAWAL OF BIDS

1. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where the Bids are to be submitted at any time prior to the opening of the Bids.

2. If within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

15.0) OPENING OF BIDS

Bids will be opened and (unless obviously non-responsive) read aloud publicly. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

16.0) BIDS TO REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance for sixty (60) days after the day of the Bid opening, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

17.0) AWARD OF CONTRACT

1. The Owner reserves the right to reject any or all bids, to waive any and all informalities, or to re-advertise for Bids. Award, if made, will be to the low, responsible and qualified Bidder whose Bid is responsive to the invitation and is most advantageous to the Owner, price and other factors considered, unless Owner rejects all Bids. The Owner specifically reserves the right to take the Bidder's past performance with the Owner and others into consideration in determining if the Bidder and its Bid is responsible, qualified, and most advantageous to the Owner. The Owner reserves the right to reject all Bids and to waive minor irregularities or omissions not involving price.
2. Discrepancies between amounts written in words and figures will be resolved in favor of the written amount. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
3. The Bids must comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form.
4. The attention of Bidders is particularly called to: (A) Time is of the essence on this Project and the completion times given in the Project Manual; and (B) The requirements and conditions of employment which must be observed. The Owner is an Equal Opportunity Employer.
5. If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within sixty (60) days after the day of the Bid opening.
6. Prior to award of the Contract, Owner may require Bidder to submit an analysis or price breakdown of any lump sum items of the Bid.

7. Each bidder agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, and the respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

18.0) CONTRACT SECURITY

Paragraph 5.01 of the General Conditions, these Instructions, and the Supplementary Conditions set forth Owner's requirements as to Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required Public Construction Bond.

19.0) SIGNING OF AGREEMENT

Owner shall issue a Notice of Award to the Successful Bidder. Within ten (10) days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds. Within ten (10) days thereafter Owner shall deliver one (1) fully signed counterpart to Contractor.

END OF SECTION

**SECTION 00250
GENERAL TERMS AND CONDITIONS
FOR CONSTRUCTION PROJECTS
ITB 18-013**

- A. All Bidding Documents shall become the property of the County.
- B. Compliance with Florida Statutes Section 287.087, on Drug Free Workplace, Section 287.133, Florida Statutes, on Public Entity Crimes, Section 287.134, Florida Statutes, on Discrimination, and Section 287.135, Florida Statutes, Prohibiting Contracting with Scrutinized Companies is required.

FLORIDA STATUTES

Section 287.087, Florida Statutes. Preference to businesses with drug-free workplace programs.

In order to have a drug free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893, Florida Statutes, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

NOTE: PLEASE INCLUDE YOUR "DRUG FREE" WORKPLACE STATUS CERTIFICATION (Section 00493 of this ITB) WITH YOUR BID FORM.

Section 287.133, Florida Statutes. Public entity crime; denial or revocation of the right to transact business with public entities:

(2)(a) A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, 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 Section 287.017, Florida Statutes for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

NOTE: PLEASE INCLUDE YOUR SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES (Section 00490 of this ITB) WITH YOUR BID FORM.

Section 287.134, Florida Statutes. Discrimination; denial or revocation of the right to transact business with public entities:

(2)(a) An entity or affiliate who has been placed on the discriminatory vendor list 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.

NOTE: PLEASE INCLUDE YOUR CERTIFICATION PURSUANT TO SECTION 287.134, FLORIDA STATUTES, ON DISCRIMINATION; DENIAL OR REVOCATION OF THE RIGHT TO TRANSACT BUSINESS WITH PUBLIC ENTITIES (Section 00491 of this ITB) WITH YOUR BID FORM.

Section 287.135, Florida Statutes. Prohibition against contracting with scrutinized companies:

(2) A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of \$1 million or more if at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, the company:

- (a) Is on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, or is engaged in a boycott of Israel;
- (b) Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, Florida Statutes.
- (c) Is engaged in business operations in Cuba or Syria.

(5) At the time a company submits a bid or proposal for a contract or before the company enters into or renews a contract with an agency or governmental entity for goods or services of \$1 million or more, the company must certify that the company is not participating in a boycott of Israel, on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or that it does not have business operations in Cuba or Syria.

NOTE: PLEASE INCLUDE YOUR CERTIFICATION PURSUANT TO SECTION 287.135, FLORIDA STATUTES, PROHIBITING CONTRACTING WITH SCRUTINIZED COMPANIES (Section 00492 of this ITB) WITH YOUR BID FORM.

- C. Bids are due and must be received in accordance with the instructions given in the Section 00100 of this ITB.
- D. Owner will not reimburse Bidder(s) for any costs associated with the preparation and submittal of any Bid.
- E. Bidders, their agents and associates shall NOT solicit any County official. Bidders, their agents and associates shall NOT contact any County official other than the Purchasing Division for additional information and clarification. See Section 00030 for contact information.
- F. Due care and diligence has been exercised in the preparation of this ITB and all information contained herein is believed to be substantially correct; however, the responsibility for determining the full extent of the service required rests solely with those making response. Neither Owner nor its representatives shall be responsible for any error or omission in the Bids submitted, nor for the failure on the part of the Bidders to determine the full extent of the exposures.
- G. All timely responses meeting the specifications set forth in this ITB will be considered. However, Bidders are cautioned to clearly indicate any deviations from these specifications. The terms and conditions contained herein are those desired by Owner and preference will be given to those Bids in full or substantially full compliance with them.
- H. Each Bidder is responsible for full and complete compliance with all laws, rules and regulations including those of the Federal Government, the State of Florida and the County of Highlands. Failure or inability on the part of the Bidder to have complete knowledge and intent to comply with such laws, rules and regulations shall not relieve the Bidder from its obligation to honor its Bid and to perform completely in accordance with its Bid.
- I. County, at its discretion, reserves the right to waive minor informalities or irregularities in any Bids, to reject any and all Bids in whole or in part, with or without cause, and to accept that Bid, if any, which in its judgment will be in its best interest.
- J. Award will be made to the Bidder whose Bid is determined to be the most advantageous to Owner, taking into consideration those Bids in compliance with the requirements as set forth in this ITB. The Board reserves the right to reject any and all Bids for any

reason or make no Award whatsoever or request clarification of information from the Bidders.

- K. Any interpretation, clarification, correction or change to this ITB will be made by written addendum issued by the Purchasing Division. Any oral or other type of communication concerning this ITB shall not be binding.
- L. Bids must be signed by an individual of the Bidder's organization legally authorized to commit the Bidder to the performance of the product(s) and/or service(s) contemplated by this ITB.
- M. The insurance requirements of this ITB must be satisfied before delivery of goods and performance of services.
- N. If submitting a Bid for more than one ITB, each Bid must be in a separate envelope and correctly marked. Only one (1) Bid per project will be accepted from any person, corporation or firm. Modifications will not be accepted or acknowledged.
- O. If the successful Bid is greater than two hundred thousand dollars (\$200,000.00), a Public Construction Bond will be required. **Awarded Bidder must record Public Construction Bond at the Clerk's Recording Department and comply with Section 255.05, Florida Statutes.** All Bonds must be in a form acceptable to Owner and County Attorney.
- P. Each Bid must contain proof of enrollment in E-Verify.
- Q. Board policy prohibits any County employee or members of their family from receiving any gift, benefit, and/or profit resulting from any contract or purchase. Board policy also prohibits acceptance of gifts of any kind other than advertising novelties valued less than ten dollars (\$10.00).
- R. Late Bids will not be accepted under any circumstances. If Bids received after the scheduled time of the Bid Opening Meeting, the Bidder will be contacted for disposition. The Purchasing Division, at the Bidder's expense, can return the unopened envelope, or, at the Bidder's request, in writing, can destroy it.
- S. Electronically submitted Bids and faxed Bids will not be accepted. Any blank spaces on the required Bid Form or the absence of required submittals or signatures may cause the Bid to be declared non-responsive.
- T. The County is not responsible for correcting any errors or typos made on the Bid response. Incorrect calculations may cause the Bid to be declared non-responsive.
- U. Minority Owned and Women owned businesses must submit a copy of the certificate to receive credit.
- V. The Bidder shall comply with the Florida Sales and Use Tax Law as it may apply to this Contract. The quoted amount(s) shall include any and all Florida Sales and Use Tax payment obligations required by Florida Law of the successful Bidder and/or its Subcontractors or material suppliers.

- W. Public Records: Any material submitted in response to this ITB will become Public Record pursuant to Section 119(1)(b) and (c), Florida Statutes.
- X. All pages included in or attached by reference to this ITB shall be called and constitute the Invitation to Bid.

END OF SECTION

DIVISION 00

BIDDING AND CONTRACT REQUIREMENTS

SECTION 00300

BID FORM

PROPOSAL FOR

HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

PROJECT: Lake Blue Water Main Replacement Project

FROM: _____

(hereinafter called "BIDDER")

TO: Highlands County Board of County Commissioners
600 S. Commerce Ave.
Sebring, Florida 33870
(hereinafter called "OWNER")

DETAILED UNIT BID PROPOSAL, WITH BID CONDITIONS AND TERMS**1.0) GENERAL**

1. The BIDDER, in compliance with the Invitation to Bid for the construction of the Lake Blue Water Main Replacement Project (the Project) and having examined the Drawings and Specifications with related documents and the site of the proposed work, and being familiar with all the conditions affecting the construction of the proposed Project, including site conditions and the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.
2. BIDDER agrees to perform all the work described and shown on the Drawings, completed, tested, and ready for use by the OWNER for the following amounts. All amounts are to be shown in both words and figures. In case of discrepancy the amount in words shall govern. Errors in the multiplication of the Unit Bid Price by the number of units will be resolved in favor of the correct extended Computed Total Amount. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. All prices given below shall encompass furnishing, installing, and constructing the complete item, including labor, materials, installation, testing, complete and ready for use by the OWNER and accepted by the OWNER. Work incidental to completing each item of work shall be included in the unit cost for that item.
3. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with the OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
4. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the day of Bid opening.
5. BIDDER hereby agrees to commence work under this Contract within ten (10) calendar days after the date of the written "Notice to Proceed" from the OWNER and to fully complete the Project within the time schedule given in paragraphs 1.7 and 1.8 herein. BIDDER recognizes that time is of the essence to complete this Project and that County will suffer financial loss if the Work is not substantially complete within the Contract Time, plus any extensions thereof allowed in accordance with the Conditions of the Contract. BIDDER also recognizes and acknowledges the delays, expense, and difficulties involved in proving and contesting, in a legal or arbitration proceeding, the actual loss suffered by the

OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof in any proceeding, BIDDER agrees that if OWNER accepts BIDDER's Bid and contracts with BIDDER to perform the Work pursuant to this ITB that BIDDER will pay the OWNER as liquidated damages for delay (but not as a penalty) **One Thousand Dollars (\$1,000.00)** for each calendar day that expires after the times specified herein for completion until the Work is both substantially complete and final Project completion has been achieved.

6. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
- (a) BIDDER has examined copies of, and is thoroughly familiar with, all the Contract Documents and of the following Addenda (receipt of all which is hereby acknowledged):

No. _____ Dated _____ No. _____ Dated _____
No. _____ Dated _____ No. _____ Dated _____
 - (b) BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, all local conditions and all Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
 - (c) BIDDER has studied carefully all drilling logs, reports, and drawings of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and accepts the determination set forth in the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which BIDDER is entitled to rely.
 - (d) BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies (in addition to or to supplement those referred to in (c) above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as BIDDER 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 Contract Documents, including specifically the provisions of paragraph 4.02 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by BIDDER for such purposes.
 - (e) BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the

accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities are or will be required by BIDDER in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.03 of the General Conditions.

- (f) BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
 - (g) BIDDER has given OWNER written notice to the Purchasing division of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
 - (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other BIDDER to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other BIDDER or over the OWNER.
- 7. **SUBSTANTIAL COMPLETION:** BIDDER agrees to have the Project Substantially complete, as defined in Section 1.01 of the Standard General Conditions **within 150 days of the Notice to Proceed.**
 - 8. **FINAL PROJECT COMPLETION:** BIDDER agrees to complete all Project construction and Punch List inspection deficiencies, if any, required for final approval by the ENGINEER and final payment by the OWNER within 30 days of achieving substantial completion.
 - 9. Each bidder agrees to waive any claim it has or may have against the OWNER, the Architect/Engineer, and the respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

2.0) BASE BID PROPOSAL: BIDDER WILL COMPLETE THE WORK FOR THE FOLLOWING PRICES(S):

- Note: (a) Quantities are not guaranteed and are solely for the purpose of comparison of Bids and determination of initial Contract Price. Final payment will be based on actual quantities.

- (b) There is no separate bid item for the BIDDER's profit and `soft' costs, such as: insurance; bonds; management and administrative overhead; on site construction offices (with equipment); survey layout; etc. The costs of these items shall be included pro rata in each bid item.
- (c) There is no separate bid item for fill. If any fill is required, the cost of this item shall be included pro rata in each bid item.

BIDDER agrees to furnish all materials, equipment, tools, and labor and to perform all work reasonably necessary for, and incidental to, the construction of the Project. Project is to be Complete in every respect and consist of, a fully operational water system within the limits of the Contract Drawings, including all, but not limited to: mobilization/demobilization; permits; insurance; sampling and testing; pipe installation; start-up; As-Built Drawings; one year warranty services; and all other miscellaneous appurtenances and work as shown on the Drawings, described in the Contract Documents, completed, tested, ready for operation and use, and accepted by the OWNER for the prices given below.

3.0) SCHEDULE OF PRICES:

WATER MAIN IMPROVEMENTS					
No.	Description	Unit	Unit Price	Amount	Total Price \$
1.0	Mobilization	LS		1	
2.0	Maintenance of Traffic	LS		1	
3.0	Clearing and Grubbing	LS		1	
4.0	6" Resilient Wedge Gate Valves	EA		17	
5.0	8" Resilient Wedge Gate Valves	EA		14	
6.0	6" C-900 Water Main Piping (including installation, appurtenances, and site restoration)	LF		8,467	
7.0	8" C-900 Water Main Piping (including installation, appurtenances, and site restoration)	LF		5,318	

WATER MAIN IMPROVEMENTS					
No.	Description	Unit	Unit Price	Amount	Total Price \$
8.0	8" HDPE Water Main Piping and Directional Bores (including installation, appurtenances, bores, and site restoration)	LF		351	
9.0	10" HDPE Water Main Piping and Directional Bores (including installation, appurtenances, bores, and site restoration)	LF		525	
10.0	Service Connections without Meter Assembly Relocation: Contractor to perform all work reasonably necessary (labor, materials, site restoration, coordination) to connect new water service lines between new water mains and existing water meters located in right of way	LF		81	
11.0	Service Connections with Meter Assembly Relocation: Contractor to perform all work reasonably necessary (labor, materials, site restoration, coordination) to relocate existing meter assemblies behind residences to right of way in front of residences and connect new water main to relocated water main assemblies	EA		93	
12.0	Long Water Service Bores: Contractor to perform all work reasonably necessary (labor, materials, site restoration, coordination) to construct 2" HDPE directional bores to connect new water main to water services across streets	LS		45	

WATER MAIN IMPROVEMENTS					
No.	Description	Unit	Unit Price	Amount	Total Price \$
13.0	Water Meter Box Assemblies (5/8" water meter, corp stop, meter box, appurtenances, includes materials and installation)	EA		10	
14.0	Wet Taps (including installation, appurtenances, and site restoration)	EA		1	
15.0	Fire Hydrants Assembly (including valves, appurtenances, installation, testing, etc.)	EA		12	
16.0	Cleaning, Disinfection, and Testing of water main piping	LS		1	
17.0	Davis-Bacon Compliance Administration (including but not limited to weekly submittal of certified payrolls, time allowance for on site employee interviews, management of subcontractors for adherence to Davis-Bacon requirements, obtain additional classifications, obtain wage determinations when necessary from the Department of Labor, and records retention)	LS		1	
18.0	Demobilization	LS		1	
	BID TOTAL This is the sum of all the above individual cost items and shall total the lump sum base bid.:			\$	

WATER MAIN IMPROVEMENTS					
No.	Description	Unit	Unit Price	Amount	Total Price \$
	WRITTEN BID AMOUNT (SPELL OUT)				

	_____ DOLLARS				
	_____ CENTS				

4.0) OTHER MATTERS

1. The Contractor's bid prices delineated herein shall include all labor, materials, overhead, profit, fees, bonds, insurance, and all other costs to cover the finished work of the several kinds called for.
2. BIDDER understands that the OWNER reserves the right to reject any or all Bids and to waive any and all informalities.
3. If the BIDDER's presentation given in the foregoing schedule of prices is obviously unbalanced, this may be sufficient cause for rejection of the entire Proposal, whether or not such Bid is the lowest submitted.
4. The Contract Documents and all papers required by it and submitted herewith, and the Agreement and all papers made a part thereof by its terms, are hereby made part of this Proposal.
5. The undersigned BIDDER hereby represents and warrants as follows:
 - (a) That the BIDDER has visited and examined the site of the work and has carefully examined the Contract Documents and all questions related thereto have been satisfactorily answered;
 - (b) The BIDDER has made or caused to be made examinations, investigations, explorations, and tests and studies of such reports and related data in addition to those available from the Contractor as he deems necessary for the proper performance of the Work at the bid Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents, and no additional examinations, investigations, tests, reports, or similar data are, or will be, required by BIDDER for such purposes.

- (c) That the BIDDER has constructed similar projects, is qualified to perform the work, and holds current and valid licenses and/or certifications for performance of the work;
 - (d) That the BIDDER is of lawful age and that no officer, agent, or employee of the OWNER or Engineer is personally interested, directly or indirectly, in this Proposal and the accompanying Agreement or the compensation to be paid hereunder;
 - (e) That the BIDDER is not in arrears to the OWNER, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the OWNER;
 - (f) That this Proposal is made without connection with any person, firm, or corporation making a Proposal for the same work, and is in all respects fair, and without collusion or fraud. Attached hereto is an Affidavit in proof that the undersigned has not entered into a Collusive Agreement with any person in respect to this Bid or any other Bid or the submitting of Bids for the Contract for which this Bid is submitted; and
 - (g) That the BIDDER has complied with all of the terms and conditions set forth in the Contract Documents.
6. The BIDDER agrees that this Bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving Bids.
7. Upon receipt of the OWNER's written notice of the acceptance of this Bid, the BIDDER will, within ten (10) days, execute the formal Agreement attached, and deliver a Surety Bond or Bonds as required by the Project Manual. The Bid Security is attached in the sum of (*)
- (*) Either (A) Write the amount of the check or Bond which must be at least five (5) percent of the total of all of the Contract Items included the Base Bid as given in Item 1.0 of the Bid Proposal; or (B) Write in the Words "FIVE (5) percent of the Base Bid as given in Item 1.0 of this Bid Proposal."
8. In the event the Contract and Bonds and all related documents are not executed and delivered to the OWNER within the time set forth above, the Bid Security will be forfeited to the OWNER as liquidated damages for the delay and additional expense to the OWNER caused thereby.
9. Communication concerning this Bid shall be addressed to the Purchasing Division.
10. The terms used in the Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

5.0) DOCUMENTS:

1. The following documents are attached to and made a condition of this Bid:
 - a) Bid Form
 - a) Bid Security (in the form of a Bid Bod or Certified Check)
 - b) Statement of Bidder Qualifications
 - c) Subcontractor List
 - d) Schedule of Manufacturers and Suppliers
 - e) Non-Collusion Affidavit of Prime Bidder
 - f) Non-Collusion Affidavit of Subcontractor (if applicable)
 - g) Certificate pursuant to Section 287.133, Florida Statutes
 - h) Certificate pursuant to Section 287.134, Florida Statutes
 - i) Certificate pursuant to Section 287.135, Florida Statutes
 - j) Certificate pursuant to Section 287.087, Florida Statutes
 - k) Certification Regarding Equal Employment Opportunity
 - l) Drug-free Workplace Form
 - m) Trench Safety Compliance Form

SUBMITTED on _____, 20__.

Contractor's License Number _____ for the State of
_____.

SUBMITTED BY:

AN INDIVIDUAL

By _____
(Individual's Name)

doing business as _____

Business address: _____

Phone No.: _____ Fax No.: _____

A PARTNERSHIP

By _____
(Firm Name)

(general partner)

Business Address: _____

Phone No.: _____ Fax No.: _____

A CORPORATION

By _____
(Corporation name)

(state of incorporation)

By _____
(name of person authorized to sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No.: _____ Fax No.: _____

A JOINT VENTURE

By _____
(Name)

(Address)

By _____
(Name)

(Address)

Phone No.: _____ Fax No.: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above).

END OF SECTION

SECTION 00420**STATEMENT OF BIDDER'S QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

- 1) Name of Bidder.
- 2) Permanent main office address, and telephone and fax number.
- 3) When organized.
- 4) If a corporation, where incorporated.
- 5) How many years have you been engaged in the contracting business under your present firm or trade name?
- 6) Contracts on hand: (show amount of each contract and the appropriate anticipated dates of completion.)

	<u>Project</u>	<u>Location</u>	<u>Notice to Proceed Date</u>	<u>Completion Date</u>
1)				
2)				
3)				
4)				

-
- 5)
- 6)
- 7)
- 7) General character of work performed by your company.
- 8) Have you ever failed to complete any work awarded to you? (If yes, explain)
- 9) Have you ever defaulted on a Contract? (If yes, explain)
- 10) List your major equipment available for this Contract.
- 11) Experience in construction work similar to this Project (table attached).
- 12) Background and experience of the principal members of your organization, including the officers. (Attach Resumes)
- 13) List the number of full time employees permanently employed by Contractor in the Contractor's local office by personnel category.

	<u>Labor Classification</u>	<u>Number of Employees</u>
1)	_____	_____
2)	_____	_____
3)	_____	_____
4)	_____	_____
5)	_____	_____
6)	_____	_____
7)	_____	_____
8)	_____	_____
9)	_____	_____
10)	_____	_____

- 14) Credit available: \$ _____
- 15) Give bank reference: _____

- 16) Will you, upon request, furnish a detailed financial statement and furnish any other information that may be required by the Owner (Yes/No)
- 17) Provide a copy of all current, valid construction related licenses you hold (attach).
Note: Bidders who do not hold a current valid General Contractor and/or Utility and Excavation license issued by the State of Florida will be disqualified.
- 18) The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated at _____, this _____
day of _____, 20_____

By _____

Title _____

State of _____)

County of _____)

_____, being duly sworn, deposes and says that he
is _____ of _____

and that the answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____ day of _____ 20_____,

Notary Public, State of Florida at Large

My Commission Expires:

PROJECT EXPERIENCE SUMMARY TABLE (Question 11)

Ref. No.	Project Name/Size/Location	Description of Work Performed	Date Completed	Approx. Cost (\$ x 1,000)	Client Name,Contact Person, Address, Phone

Section 00435**SUBCONTRACTOR LIST****SUB-CONTRACTORS:**

The Bidder hereby states that it proposes, if awarded the Contract, to use the following subcontractors on this project, unless change is approved by the Engineer: (List below all proposed subcontractors and trade specialties). The Contractor shall not execute an Agreement with any subcontractor or permit any sub-contractor to perform any work included in this Contract until it has submitted a Non-Collusion Affidavit from the subcontractor in substantially the form included herein (Section 00481), a letter from the subcontractor certifying they will comply with the Davis-Bacon Act, and has received written approval of such subcontractor from the OWNER. If work is to be performed by the BIDDER (prime Contractor), it shall so indicate.

<u>Item</u>	<u>Subcontractor Firm & Address</u>	<u>M/WBE (YES/NO)</u>
Earthwork

Geotechnical Testing

Directional Drilling

Jack and Bore

<u>Item</u>	<u>Subcontractor Firm & Address</u>	<u>M/WBE YES/NO)</u>
Piping

Sodding and Site Restoration

Roadwork and Paving

Other(s) (Describe):

END OF SECTION

SECTION 00450**SCHEDULE OF MANUFACTURERS AND SUPPLIERS**

(To Be Submitted By All Bidders)

The Contract Documents are based upon the equipment or products available from the manufacturers/suppliers as listed on the following page(s) herein. This list is provided for convenience and is not inclusive of all products. The Contract Documents provide for alternate manufacturers and suppliers whose equipment or product may be deemed equivalent in quality. Each Bidder must indicate which manufacturer/supplier he intends to use for each item of equipment listed. No change shall be allowed by Contractor of any material manufacturer listed after receipt of Bids unless the manufacturer so listed cannot furnish materials meeting the specifications.

If a Bidder desires to propose an alternate supplier/manufacturer, he may write in the name of such alternates in the space provided, but he must nevertheless also provide the non-alternate listed suppliers/manufacturers.

If the proposed alternate supplier is determined to be "not equal/equivalent" by the Engineer, the Bidder must use the indicated supplier. If the Bidder fails to indicate which listed supplier/manufacturer he intends to use if an alternate is rejected, he must use one of the suppliers listed.

For any alternate supplier accepted by the owner, the Contract Price will be reduced by the deductive amount stated. However, the Contract Price will not be adjusted for any alternate supplier rejected.

Each proposed alternate will be evaluated in accordance with the Contract Documents.

The deductive amount specified for alternate suppliers/manufacturers will not be used in determining the successful Bidder. Wherever an alternate supplier is proposed, the Contractor must insert the lump sum amount to be deducted from the Contract Price if the alternate supplier is eventually approved. Alternates will be considered by Owner and Engineer only after award of the contract and this in no way provides assurance of acceptability.

In addition to the Contractor's reimbursement of Engineering costs for review of proposed alternates as stipulated in the Contract Documents, the Contractor shall also reimburse the Owner for any other costs directly attributable to the change in suppliers, such as additional field trips for the Engineer, additional review and inspection costs, etc.

ITEM/DESCRIPTION	MANUFACTURER/SUPPLIER		DEDUCT AMOUNT
PVC Pipe (C900)	____ ____ ____ ____ ____ ____	J-M National (NAPCO) Diamond Plastic Corporation CertainTeed Freedom Plastics, Inc. Other: _____	\$ _____
Air Combination Valves	____ ____	Val-Matic Other: _____	\$ _____
Inflow Preventers	____ ____	Val-Matic Other: _____	\$ _____
Vault Frame and Cover for Air Release/Vacuum Relief Valves	____ ____	U.S. Foundry Other: _____	\$ _____
Gate Valves	____ ____ ____ ____	Mueller Clow American Flow Control Other: _____	\$ _____
Valve Boxes	____ ____ ____ ____	Tyler Russell U.S. Foundry Other: _____	\$ _____
Fire Hydrants	____ ____ ____ ____ ____	Mueller American Flow Control Kennedy Clow Other: _____	\$ _____
Directional Bore Piping	____ ____ ____ ____	HDPE (ASTM D 1248) Driscopipe Plexico JM Eagle Other: _____	\$ _____

ITEM/DESCRIPTION	MANUFACTURER/SUPPLIER		DEDUCT AMOUNT
Tapping Sleeves	___	U.S. Pipe	\$ _____
	___	Mueller	
	___	Tyler	
	___	Waterous	
	___	Clow Corporation	
	___	M & H	
	___	American	
	___	Other: _____	
Tracer Wire	___	Underground Feeder	\$ _____
	___	Pro-Trace	
	___	Other: _____	

END OF SECTION

SECTION 00480**NON-COLLUSION AFFIDAVIT OF PRIME BIDDER**

State of _____)
County of _____) ss.

_____, being first duly sworn, deposes and says that:

1) He/She is _____ of _____, the Bidder that has submitted the attached Bid: **Lake Blue Water Main Replacement Project**.

2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

3) Such Bid is genuine and is not a collusive or sham Bid;

4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid Price or the Bid Price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Highlands County Board of County Commissioners, Florida (Local Public Agency) or any person interested in the proposed Contract; and

5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

(Title) _____

Subscribed and sworn to before me this _____ day of _____ 20__

Notary Public, State of Florida at Large
My Commission expires:

END OF SECTION

SECTION 00481**NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR**

The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he has submitted a non-collusion affidavit from the subcontractor in substantially the form shown below and has received written approval of such subcontractor from the Local Public Agency.

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR**(To be submitted by the Successful Bidder)**

State of _____)

) ss.

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He is _____ of _____

_____ hereinafter referred to as the "Subcontractor";

(2) He is fully informed respecting the preparation and content the Subcontractor's Proposal submitted by the Subcontractor to _____

_____, the Contractor for certain work in connection with the:

Lake Blue Water Main Replacement Project

(3) Such Subcontractor's Proposal is genuine and is not a collusive or sham proposal;

(4) Neither the Subcontractor nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other bidder, firm or person to submit a collusive or sham Proposal in connection with such Contract or to refrain from submitting a proposal in connection with such Contract, or has in any manner, directly or indirectly, sought by unlawful agreement or connivance with any other Bidder, firm or person to fix the price or prices in said Subcontractor's Proposal, or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Highlands County Board of County Commissioners, Florida (Local Public Agency) or any person interested in the proposed Contract; and

(5) The price or prices quoted in the Subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed)
(Title)

Subscribed and sworn to before me

this _____ day of _____, 20__

(Title)

My Commission expires _____

END OF SECTION

SECTION 00490**SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

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

1. This sworn statement is submitted to the Highlands County Board of County Commissioners

by _____
[print individual's name and title]

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

whose business address is

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

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:
1. A predecessor or successor of a person convicted of a public entity crime; or
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be

a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or any entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. The above-named business entity and I have been informed in this invitation to bid that Section 287.133(2)(a), Florida Statutes, provides that a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, 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 Section 287.017, Florida Statutes, for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.
7. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. [indicate which statement applies.]

_____ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agent who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement or the name of the convicted person or affiliate on the convicted vendor list. The name of the convicted person or affiliate is _____. A copy of the final order of the Division of Administrative Hearings is attached to this Sworn Statement.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Signature: _____

Print Name: _____

Print Title: _____

On _____ day of _____, 20____.

State of Florida

County of _____

Sworn and subscribed before me in the State and County first mentioned above on the _____ day of _____, 20____.

Signature:

Print Name:

(AFFIX NOTARY SEAL)

Notary Public, State

of _____

Commission No. _____

My Commission Expires: _____

SECTION 00491
CERTIFICATION PURSUANT TO SECTION 287.134, FLORIDA STATUTES
DISCRIMINATION; DENIAL OR REVOCATION OF THE RIGHT TO TRANSACT BUSINESS
WITH PUBLIC ENTITIES

ITB 18-013

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____

[Print individual's name and title]

for _____

[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____

and

whose Federal Employer Identification Number (FEIN) is _____
(hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder has not been placed on the discriminatory vendor list by the Department of Management Services.

**THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.134, FLORIDA STATUTES, AND IS,
UPON DELIVERY, A PUBLIC RECORD.**

Print Name: _____ Date: ____/____/____

STATE OF FLORIDA
COUNTY OF _____

The foregoing Certification was sworn to before me this ____ day of _____, 20____, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Signature: _____

Print Name: _____

Notary Public, State of _____

Commission No. _____

My Commission Expires: _____

**SECTION 00492
CERTIFICATION PURSUANT TO SECTION 287.135, FLORIDA STATUTES
ITB 18-013**

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____
[Print individual's name and title]

for _____
[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____
and

whose its Federal Employer Identification Number (FEIN) is _____
(hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder is not on the Scrutinized Companies that Boycott Israel list created pursuant to Section 215.4725, Florida Statutes, is not participating in a boycott of Israel, is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List and that it does not have business operations in Cuba or Syria.

THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.135(5), FLORIDA STATUTES, AND IS, UPON DELIVERY, A PUBLIC RECORD.

Print Name: _____

STATE OF _____
COUNTY OF _____

The foregoing Certification was sworn to before me this ____ day of _____, 20__, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

(AFFIX NOTARY SEAL)

Print Name: _____
Notary Public, State of Florida
Commission No. _____
My Commission Expires: _____

SECTION 00493
CERTIFICATION PURSUANT TO SECTION 287.087, FLORIDA STATUTES
PREFERENCE TO DO BUSINESS WITH DRUG FREE WORKPLACE PROGRAMS
ITB 18-013

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

1. This sworn statement is submitted to the HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS

by _____

[Print individual's name and title]

for _____

[Print name and state of incorporation or other formation of the entity submitting this sworn statement]

whose business address is _____

and

whose Federal Employer Identification Number (FEIN) is _____
(hereinafter referred to as "Bidder")

2. CERTIFICATION

Bidder hereby certifies that at the time of its Bid the Bidder has a drug free workplace program in place. The program meets the requirements of Section 287.087, Florida Statutes.

**THIS CERTIFICATION IS MADE PURSUANT TO SECTION 287.087, FLORIDA STATUTES, AND IS,
UPON DELIVERY, A PUBLIC RECORD.**

Print Name: _____ Date: ____/____/____

STATE OF FLORIDA

COUNTY OF _____

The foregoing Certification was sworn to before me this ____ day of _____, 20____, by _____, as _____, the duly authorized officer of _____, on its behalf, who is either personally known to me [] or has produced _____ as identification [].

Signature: _____

Print Name: _____

(AFFIX NOTARY SEAL)

Notary Public, State of _____

Commission No. _____

My Commission Expires: _____

SECTION 00500
FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the ____ day of _____, 20____, by and between Highlands County, a political subdivision of the State of Florida (hereinafter called OWNER) and [name of contractor](hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents.

The Project for which the Work under the Contract Documents is generally described as follows:

Highlands County Board of County Commissioners - Lake Blue Water Main Replacement Project

Article 2. ENGINEER

The Engineer for construction of the Work is Joseph R. Barber, P.E., FL PE License #50734, Town Engineer, Town of Lake Placid, 311 West Interlake Blvd., Lake Placid, FL 33852, Telephone Number (863) 699-3747, e-mail address lputilities@mylakeplacid.org, who is hereinafter referred to as ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

The Project has been designed by: Envisors, a Pennoni Company, 2105 Dundee Road, Winter Haven, FL 33884.

Article 3. CONTRACT TIME

- 3.1 The Notice to Proceed will be issued by the OWNER and the CONTRACTOR agrees to commence construction within ten (10) calendar days of the Notice to Proceed.
- 3.2 SUBSTANTIAL COMPLETION: Bidder agrees to have the Project substantially complete within **150 days of the Notice to Proceed**.
- 3.3 FINAL PROJECT COMPLETION: Bidder agrees to complete all Project construction and Punch List inspection deficiencies, if any, required for final approval by the Engineer and final payment by the OWNER within thirty (30) days of achieving substantial completion.
- 3.4 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER will suffer financial loss, if the Work is not completed within the times specified in paragraphs 3.2 and 3.3 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize that additional delays, expenses and difficulties would be experienced if the OWNER had to prove in a lawsuit proceeding the amount of actual losses suffered by the OWNER as the result of the work not being completed on time. Accordingly, instead of requiring such proof,

OWNER and CONTRACTOR agree to accept that as liquidated damages for delay (but not as a penalty), that CONTRACTOR shall pay the OWNER **One Thousand Dollars (\$1,000.00)** for each calendar day that expires after the times specified in paragraph 3.2 and 3.3 for completion until the Project is both substantially complete and fully complete, ready for use, and accepted by the OWNER.

Article 4. CONTRACT PRICE

- 4.1 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds as follows in accordance with the Unit Price and final constructed quantities stipulated in the Bid Proposal (copy attached hereto and made a part of this Agreement), and is identified in the Notice to Proceed, the total sum of \$_____.

Article 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in the form provided in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided therein. All payments shall be made in accordance with the OWNER's Prompt Payment Policy and the Florida Prompt Payment Act, Sections 255.0705 through 255.078, Florida Statutes.

- 5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Application for Payment as recommended by ENGINEER. All progress payments will be on the basis of the progress of the Work measured by the schedule of values established in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements. Monthly progress payments during construction will be made for all work completed and materials stored on site, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with Paragraph 14.02 of the General Conditions. Payment for materials not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in Paragraph 14.02 of the General Conditions shall be based upon 90% of CONTRACTOR's cost provided however, that no payment for material and equipment not incorporated in the Work shall exceed 75% of the amount payable on account of such materials when incorporated in the Work.
- 5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with Section 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in Section 14.07 of the General Conditions.

Article 6. TAXES AND DIRECT MATERIAL PURCHASE PROCEDURE

- 6.1 OWNER is exempt from payment of sales and compensating use taxes of the State of Florida and of cities and counties thereof on all materials to be incorporated into the Work.
- 6.2 CONTRACTOR shall provide assistance to OWNER for Direct Purchases to enable OWNER to purchase tangible personal property needed for this Project which OWNER intends to purchase in order to realize savings of sales tax on all tangible personal property needed for this Project. CONTRACTOR will recommend direct

purchases for items where those direct purchases will result in significant tax savings to OWNER. OWNER will either accept or reject CONTRACTOR's recommendations, and purchases will be made according to OWNER's decision. OWNER retains the absolute right, with or without CONTRACTOR's recommendation, to purchase any or all tangible personal property needed for this Project.

- 6.3. CONTRACTOR will provide detailed scoping and pricing for purchase orders with a minimum value of Five Thousand Dollars (\$5,000.00), in harmony with the Subcontractors to OWNER for the incorporation in OWNER's purchase orders.
- 6.4. OWNER will issue purchase orders within three (3) workdays from the date of receipt of requisition, directly to the vendors and provide a copy of each purchase order to CONTRACTOR.
- 6.5. CONTRACTOR will be responsible for the materials until they are incorporated into the Project and will purchase and/or have ample Builder's Risk Insurance for the direct purchased materials.
- 6.6. CONTRACTOR will issue a deductive subcontract adjustment to the Subcontractor which will account for the value of the material and the sales tax as it pertains to that Subcontractor's contract. All subcontracts shall include a clause incorporating, by reference, the provisions of this Paragraph 6.6.
- 6.7. As the material is delivered to the jobsite, the Subcontractor will sign off on the delivery receipt/invoice for the material delivered, store and secure the material adequately at the Site, and forward the invoice to CONTRACTOR who will review, approve and forward the invoice to OWNER's Representative for approval and processing.
- 6.8. OWNER will draft a check for the approved invoice amount and mail that check directly to the vendor. A list of the check numbers with related dates of issue, names of vendors, amounts paid, and paid invoice numbers will be forwarded to CONTRACTOR in order that CONTRACTOR can accurately track payment.
- 6.9. CONTRACTOR and OWNER are encouraged to take advantage of all discounts available.
- 6.10. OWNER will issue to CONTRACTOR a deductive Change Order in the amount of the direct purchased materials. The amount equal to the sales tax which would have been paid if those materials had been purchased by CONTRACTOR will be credited to OWNER through a Contingency line item on the pay application's schedule of values, and the Contract Price specified in Article 4 of the Agreement shall be reduced by an amount equal to the amounts paid directly by OWNER for direct purchases made pursuant to this Article, plus an amount equal to the sales tax that would have been paid if those materials had been purchased by CONTRACTOR.

Article 7. CONTRACTOR'S REPRESENTATIONS

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

-
- 7.1 CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect the cost, progress, performance or furnishing of the Work.
- 7.2 CONTRACTOR has studied carefully all reports of explorations and test of subsurface conditions and drawings of physical conditions which are identified or not identified in the Supplementary Condition as provided in paragraph 4.02 of the General Conditions, and accepts the determination set forth in the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which CONTRACTOR is entitled to rely.
- 7.3 CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies (in addition to or supplement to those referred to in paragraph 7.2 above) which pertain to the subsurface or physical conditions at or contiguous to the site or 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 Contract Documents, including specifically the provisions of paragraph 4.02 of the General Conditions, and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.
- 7.4 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.03 of the General Conditions.
- 7.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 7.6 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

Article 8. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1 This Agreement (pages 1 to 7, inclusive).
- 8.2 Exhibits to this Agreement.
- 8.3 Performance and Payment Bond.

-
- 8.4 Notice of Award (Section 00841).
- 8.5 Notice to Proceed (Section 00842).
- 8.6 Certificates of Insurance.
- 8.7 Contractor's Bid.
- 8.8 General Conditions (Section 00700).
- 8.9 Supplementary Conditions (Section 00800 and 00805).
- 8.10 Special Provisions (Section 00810).
- 8.11 Project Manual bearing the general title: "**Highlands County Board of County Commissioners - Lake Blue Water Main Replacement Project**" with technical specifications as listed in Table of Contents thereof.
- 8.12 Drawings, consisting of the Cover sheet and sheets numbered 2 through _____, with each sheet bearing the following general title: "**Highlands County Board of County Commissioners - Lake Blue Water Main Replacement Project**"
- 8.13 Addenda:
- | <u>No.</u> | <u>Date</u> |
|------------|-------------|
| — | — |
- 8.14 Change Orders Subsequently Approved by the OWNER and CONTRACTOR.
- 8.15 All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to paragraphs 3.04 of the General Conditions.

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.04 of the General Conditions.

Article 9. MISCELLANEOUS

- 9.1 Terms used in this Agreement which are defined in Article 1, of the General Conditions will have the meanings indicated unless modified elsewhere in the Project Manual.
- 9.2 No assignment by a party hereto of any rights under or interests 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, moneys that may become due and moneys 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 assignor from any duty or responsibility under the Contract Documents.

- 9.3 OWNER 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.

Article 10. OTHER PROVISIONS

The Davis-Bacon Federal Labor Standards and Buy American provisions are to be adhered to as part of the Construction Agreement.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. The OWNER will retain both originals and a certified copy of this Agreement will be delivered to CONTRACTOR and to ENGINEER.

This Agreement will be effective on _____, 20____, unless earlier rescinded by the OWNER pursuant to its right to do so per the Notice of Award dated _____.

OWNER:

CONTRACTOR:

HIGHLANDS COUNTY, a political subdivision
of the State of Florida

By its Board of County Commissioners

By _____ By _____
R. Greg Harris, Chairman

Attest _____ Attest _____

Robert W. Germaine, Clerk

Address for giving notices:

Address for giving notices:

600 S. Commerce Ave.
Sebring, Florida 33870

(If CONTRACTOR is a corporation, attach evidence of authority to sign.)

CONTRACTOR'S CERTIFICATION

I, _____, certify that I am the
_____ of the corporation named as
Contractor herein, that _____ who signed this Agreement on
behalf of the Contractor was
then _____
of said corporation; that said Agreement was duly signed for and in behalf of said corporation by
authority of its governing body, and is within the scope of its corporate powers.

(SEAL)

Name

Date

SECTION 00600
PUBLIC CONSTRUCTION BOND
(Section 255.05(3), Florida Statutes)

Bond No. _____

BY THIS BOND, we, _____, whose principal business address and phone number are _____ (_____), as Principal and _____, whose principal business address and phone number are _____ (_____), as Surety, are bound to Highlands County, a political subdivision of the State of Florida, herein called Owner, whose principal business address and telephone number are 600 South Commerce Avenue, Sebring, Florida 33870 (863-402-6500), in the sum of _____ (\$_____), for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Contract dated _____, between Principal and Owner for construction of the LAKE BLUE WATER MAIN REPLACEMENT PROJECT; PROJECT NO. _____ that Contract being made a part of this Bond by reference, at the times and in the manner prescribed in the Contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, services, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in that Contract; and
3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Principal under that Contract; and
4. Performs the Principal's guarantee of all work and materials furnished under that Contract for the time specified in that 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) and (10), Florida Statutes.

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

Dated _____, 20____.

AS SURETY:

CONTRACTOR, AS PRINCIPAL:

By: _____ By: _____
(As Attorney in Fact)

Title: _____

INSTRUCTIONS FOR PUBLIC CONSTRUCTION BOND

1. A good and sufficient Public Construction Bond, in the penal sum of not less than one hundred percent (100%) of the Contract Price, with a Surety Company satisfactory to the County, will be required of Contractor guaranteeing that the Contract, including the various guarantee periods thereunder will be faithfully performed; and that Contractor will promptly make payment to all persons supplying Contractor labor, materials, supplies and services used directly or indirectly by Contractor in the prosecution of the work provided for in the Contract.
2. The Surety Company furnishing this Bond shall be authorized to do business in the State of Florida, shall be in compliance with the provisions of the Florida Insurance Code, shall have twice the minimum surplus and capital required by the Florida Insurance Code, and shall hold a currently valid certificate of authority issued by the United States Department of Treasury pursuant to Title 31, Sections 9304-9308, of the United States Code. Surety Company must have a rating of not less than "A-X" by the latest edition of the KEY RATING GUIDE as published by A.M. Best Company, A.M. Best Road, Oldwick, NJ 08858.
3. The Attorney-in-Fact (Resident Agent) who executes the Public Construction Bond on behalf of the Surety Company must attach a notarized copy of his or her power-of-attorney as evidence of his or her authority to bind the Surety Company on the date of execution of the bonds. All signatures must be original. No copied or facsimile signatures will be accepted. All Contracts, Public Construction Bond, and respective powers-of-attorney will have the same date.
4. In the event the Surety Company becomes unsatisfactory to the County, County may at its discretion, require from Contractor an additional or new bond in the same or lessor penal sum, satisfactory to the County, and to be conditioned as above required. Upon Contractor's failure to furnish such additional or new bond within ten (10) days from the date of written notice to do so, all payments under the Contract will be withheld until such additional bond is furnished.

END OF SECTION

SECTION 00661**CERTIFICATION BY PROPOSED PRIME OR SUBCONTRACTOR
REGARDING EQUAL EMPLOYMENT OPPORTUNITY****INSTRUCTIONS**

Name of Prime Contractor

This certification is required pursuant to Executive Order 11246, Part II, Section 203(b), (30 F. R. 12319-25). Any Bidder or prospective contractor, or any of the proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous Contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or Subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

CONTRACTOR'S CERTIFICATION

Contractor's Name: _____

Address: _____

1. Bidder has participated in a previous contract or subcontract, subject to the Equal Opportunity Clause:

YES _____ NO _____

2. Compliance Reports were required to be filed in connection with such contract or subcontract:

YES _____ NO _____

If YES, state what reports were filed and with what agency.

3. Bidder has filed all compliance reports due under applicable instructions.

YES _____ NO _____

4. If answer to item 3 is NO, please explain in detail on reverse side of this certification.

The Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and the he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any Contract resulting from acceptance of this Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated by explicit directive or are, in fact, segregated on the basis of race, color, or religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed Subcontractors for specific time periods) he will obtain identical certification from proposed Subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provision of the Equal Opportunity clause, and that he will retain such certifications in his files.

Certification - The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law - U.S. Code, Title 18, Section 1001.)

Name and Title of Signer (Please Type)

Signature

Date

SECTION 00670**PREFERENCE FOR DRUG-FREE WORKPLACE**

PREFERENCE FOR DRUG-FREE WORKPLACE: Whenever two or more bids which are equal with respect to price, quality, and service are received, preference shall be given to a bid received from a business that certifies that it has implemented a drug-free workplace program in accordance with Section 287.087, Florida Statutes. In order to receive preference, a signed certification of compliance must be submitted with the bid response.

DRUG-FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

_____ does:

Name of Business

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of or plea of guilty or nolo contendere to any violation of Chapter 1893 or of any controlled substance law of the United States or any state for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this form complies fully with the above requirements.

Bidder's Signature

Date

SECTION 00671**TRENCH SAFETY COMPLIANCE**

THE INFORMATION ON THIS FORM SHOULD BE TYPED OR CLEARLY PRINTED.

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

Bidder acknowledges that he is solely responsible for complying with the Florida Trench Safety Act (Act) and Occupational Safety and Health Administrations excavation safety standard 29 CFR 1926.650-.652 (Subpart P as amended). Bidder further acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. The bidder further identifies the costs of compliance as summarized herein.

1. This Sworn Statement is submitted with Bid No. _____ for _____
_____(Project).
2. This Sworn Statement is submitted by _____,
whose business address is _____
and (if applicable) its Federal Employer Identification Number (FEIN) is _____.
3. My name is _____
4. The undersigned assures that the entity will comply with the applicable Trench Safety Standards and agrees to indemnify and hold harmless the OWNER, CONSTRUCTION MANAGER and ENGINEER, and any of their agents or employees from any claims arising from the failure to comply with said standard.
5. The undersigned has appropriated \$ _____ (Total Cost)
for trenches to be excavated over 5' deep for compliance with the applicable standards and intends to comply by instituting the following procedures:

Ref. No.	Trench Safety Measure (Description)	Units of Measure (LF, SY)	Quantity of Units	Unit Cost	Extended Cost

TSC-1/26

6. The undersigned has appropriated \$ _____ (Total Cost) for compliance with shoring safety requirements and intends to comply by instituting the following procedures:

Ref. No.	Trench Safety Measure (Description)	Units of Measure (LF, SY)	Quantity of Units	Unit Cost	Extended Cost
Total Cost					

7. The undersigned, in submitting this Bid, represents that he has reviewed and considered all available geotechnical information and made such other investigations and tests as he may deem necessary for adequate design of the trench (and shoring) safety system(s) he will utilize on this project.
8. Failure to complete the above may result in the bid being declared non-responsive. The costs indicated herein are provided to comply with the Act and shall not constitute grounds for any additional compensation to that listed for the separate line items of the Bid Form.

(Contractor)

(Signature)

(Title)

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority, _____ who, after first being sworn by me, affixed his/her signature in the space provided on this _____ day of _____, 20__

NOTARY PUBLIC

My Commission Expires:

____ Personally Known to Me or
____ Produced Identification
Type of I.D. _____

**Engineers Joint Documents Committee
Design and Construction Related Documents
Instructions and License Agreement**

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SECTION 00700

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Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

General:

You may not sublicense, assign, or transfer this license except as expressly provided in this Agreement. Any attempt otherwise to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is void.

This Agreement shall be governed by the laws of the State of Virginia. Should you have any questions concerning this Agreement, you may contact EJCDC by writing to:

Arthur Schwartz, Esq.
General Counsel
National Society of Professional Engineers
1420 King Street
Alexandria, VA 22314

Phone: (703) 684-2845
Fax: (703) 836-4875
e-mail: aschwartz@nspe.org

You acknowledge that you have read this agreement, understand it and agree to be bound by its terms and conditions. You further agree that it is the complete and exclusive statement of the agreement between us which supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY**1.01 *Defined Terms***

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer 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 Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and

furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive 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 Times.

1.02 *Terminology*

- A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or

- b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
- c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

- 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. 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 labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 - 1. A Field Order;
 - 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 - 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 - 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

- A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or

resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably 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.

- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, 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 performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *“Or-Equal” Items:* If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
2. *Substitute Items:*
 - a. If in Engineer’s sole discretion an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
 - b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
 - c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
 - d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,

- b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, 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 which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* 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.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the

Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 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.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

- 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION**9.01** *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefore as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. 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).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefore as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The

opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers'

compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the

actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E 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.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If

the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to 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, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
1. repair such defective land or areas; or
 2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**14.01 Schedule of Values**

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

- c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
- 3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
- 4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
- 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- A. 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 Owner no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefore.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefore. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection 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.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 Final Completion Delayed

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's repeated disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. 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
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of 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 on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Community Development Block Grant Contractor Requirements

**HIGHLANDS COUNTY
COMMUNITY DEVELOPMENT BLOCK GRANT
NEIGHBORHOOD REVITALIZATION**

**FUNDED BY THE FLORIDA DEPARTMENT OF ECONOMIC
OPPORTUNITY (FDEO)**

Grant Construction Contract Requirements

CDBG No. 16DB-OK-07-38-01-N04

2014 CDBG Improvements

**Labor, Wage, Sign, MBE/WBE Goals and Other Grant-Specific
Requirements**



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OVERVIEW OF CONTRACTOR REQUIREMENTS

A) DAVIS BACON AND OTHER WAGE/LABOR REQUIREMENTS

- **Certified Payrolls** – sample provided – required with pay request – must cover pay period – “**no activity**” **reports are required** when no work occurs
- **Labor Interviews** – Conducted randomly by Guardian for **all employees & sub employees** – **contractor must notice Guardian in writing 72 hours before subs on site**
- **Authorization to Make Deductions** – use form provided for prime and subs
- **Subcontractors – Payroll and Authorizations Apply – Prime Responsible**
- **When Classification is Not Covered** - Additional Classifications – Use Form Provided – **Discuss w/ Guardian First**
- Refer to Wage Determination – Before Payroll
- Call When in Doubt
- Notice to Employees w/ **Wage Decision Must be Posted in Visible Place**

B) MBE/WBE HIRING EFFORTS AND DOCUMENTATION

- Refer to Supplemental Conditions and MBE/WBE Goals
- Must Show Evidence of Solicitation of Minority/Women Owned Subcontractors and Suppliers
 - Forms of Evidence:
 - **Subcontractor and vender list with MBE/WBE Firms**
 - Ad and or emails and or letters return/receipt soliciting MBE Firms
 - Similar documentation with approval – call us

C) PAY ESTIMATES/REQUESTS

- Review by Owner/Engineer & Administrator Before Approval
- Payrolls and Authorizations Matching Period Required Before Approval

D) CHANGE ORDERS

- All Parties Must Approve

E) DISCLOSURE OF SUBCONTRACTORS REQUIRED

- List Showing Services Provided, Contact Name, Address, Phone, Fax, and Contract Amount for Each
- Provide copy to Guardian and when there are changes

F) CDBG SUPPLEMENTAL CONDITIONS

- Termination for Convenience
- Federal Acts and Laws Affecting the Work
- Binding these Requirements to the Agreement

G) ADDITIONAL SPECIFIC REQUIREMENTS FOR CONTRACTOR/SUBCONTRACTOR

- WMBE Solicitations
- Section 3 Solicitations
- E-Verify

H) CDBG SIGN REQUIREMENTS (OPTION TO POST WAGE DECISIONS, NOTICES HERE)

I) SECTION 3 REQUIREMENTS

- Complete report even if all negative (no Section 3 Beneficiaries)
- The Prime can be a Section 3 business if local with local employees
- Section 3 LMI Beneficiaries live/conduct business in service area – local lower income **employees or local subs with 30% of employees local can be** **Section 3 it is important to consult w/Guardian and report**

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Subcontracting Requirements

Specific Requirements for Subcontractors

- (A)** The Owner is responsible for ensuring that the contractor(s) cause(s) appropriate provisions to be inserted in all subcontracts to bind subcontractors to all CDBG contract requirements.
- (B)** Each subcontractor must agree to comply with all applicable Federal, State, and local requirements in addition to those set forth in this section.
- (C)** Work performed by any contractor listed as debarred, ineligible, suspended or indebted to the United States from contractual dealings with Federal government departments will be ineligible for reimbursement wholly or partially from CDBG.
- (D)** All subcontracts in excess of \$10,000 shall include, or incorporate by reference, the equal opportunity clause of Executive Order 11246 (see page 36).
- (E)** All subcontracts must contain a nondiscrimination clause.
- (F)** Each subcontract must contain a requirement for compliance with the Davis-Bacon and related acts (see page 46).
- (G)** Each subcontractor must submit weekly payroll records and a weekly statement of compliance. These documents should be submitted to the prime contractor. The subcontractor can satisfy this requirement by submitting a properly executed Department of Labor Form WH-347.
- (H)** Each subcontract with every subcontractor must contain a clause committing the subcontractor to employment of local labor to the maximum extent possible.

Labor Standards Overview

A. OVERVIEW

1. The Davis-Bacon Act (DBA) applies to all construction contracts over \$2,000, unless the programs authorizing legislation contains exceptions.
 - a. The DBA requires that all workers or mechanics working on covered projects be paid minimum hourly wages and fringe benefits according to the wage decision(s) applicable to that contract.
 - b. Work done by a local government's own employees (force account) is not subject to DBA.
 - c. If **any** portion of a contract requires DBA, then all work performed under that contract is subject to DBA.
 - d. In the CDBG program, only rehabilitation of residential property containing less than 8 units is exempt from DBA.
2. Additionally, contractors must comply with the Contract Work Hours and Safety Standards Act (CWHSSA) and the Copeland (Anti-Kickback).
 - a. The CWHSSA requires that, for any project in which the prime contract exceeds \$100,000, workers be paid one and one-half times their normal hourly rate for any hours worked in excess of 40 hours weekly, based on a workweek of seven consecutive days.
 - b. The Copeland Act prohibits any person from inducing a worker, on a federally funded project, to give up any part of the compensation to which the worker is entitled.

B. WAGE DECISIONS

1. Under DBA, construction work is categorized as Residential, Building, Heavy, Water and Sewer, or Highway work. Each construction contract to which DBA applies must contain the wage decision for the appropriate category (or categories) based on the work required by the contract.
2. A separate wage decision for a category is not required if the value of work (as bid) in that category does not exceed 20% of the total "as bid" construction cost. (Note that the actual bid cost, not the estimated cost, determines whether a separate wage decision is used.)
3. If more than one wage decision is used, the payrolls must reflect which wage decision is applicable unless all workers are paid at least the highest hourly rate possible under either wage decision.

C. LOCAL GOVERNMENT MONITORING DURING CONSTRUCTION

1. During project construction, the local government or its representative will monitor compliance with the DBA, CWHSSA, and Copeland Act by reviewing payrolls of the contractor and all subcontractors.
2. The DBA applies to laborers and mechanics working on any project when the prime contract exceeds \$2,000.
 - a. The DBA does not apply to supervisory staff, provided at least 80% of their time during the work week is spent performing supervisory tasks. Otherwise, they are subject to the DBA during that workweek.

- b. "Self-employed owners" are not exempt from the DBA and must submit a payroll report reflecting the hours worked on the project, the type of work being performed, and that they are the owner. Hourly rates do not need to be reported if this information is not known, but the amount of the subcontract should be indicated.
 - c. "Supply" contracts are also not subject to the DBA. (A supply contract furnishes only equipment, materials or supplies which involves no or only "incidental" construction at the project site. Construction is "incidental" if it does not exceed 13% of the contract or subcontract price and there is documentation to support this.
- 3. During project construction, the local government or its representative will also conduct interviews with the contractor's and subcontractors' workers to verify the accuracy of the payrolls.
 - a. Interviews must cover a representative sample (between 15% and 20%) of each classification used by the contractor/subcontractor.
 - b. On-site interviews will be conducted whenever possible, but mail interviews may be conducted if on-site interviews cannot be performed.
 - c. Any discrepancies between the interviews and payrolls must be resolved in a timely manner which, to the extent possible, shields the identity of the worker(s) involved.
- 4. If a contractor/subcontractor is required to pay a cumulative total of more than \$100 in back wages during the contract period, the local government is required to submit an enforcement report to FDEO.
 - a. Any corrective actions by a contractor must be documented in the project files. For back wages over \$10, there must be a copy of the front of the wage restitution check and a signed acknowledgment from the worker that the check was received, including the amount received.
 - b. If there are overtime violations, the local government must assess liquidated damages of \$10 per day per worker who should have received overtime but did not.

D. FDEO MONITORING

- 1. The FDEO will typically monitor when construction is between 60-80% complete.
- 2. During monitoring, special attention is given to the following areas:
 - a. payrolls, particularly from subcontractors, are being submitted and reviewed in a timely manner;
 - b. all classifications are included in the wage decision or have been conformed/added with FDEO/DOL approval;
 - c. any helper/trainee/apprentice classifications are in accordance with regulations for these titles;
 - d. signed authorizations are on file for any worker with "other" deductions;
 - e. interviews have been conducted with workers of the prime contractor and any subcontractors;
 - f. if more than one decision was used, the payrolls distinguish which wage decision is being used for each worker; and
 - g. the wage decision is posted in a conspicuous location at the project site.

E. TYPICAL LABOR STANDARDS MONITORING PROBLEMS

1. Inappropriate use of “apprentice”, “trainee”, and “helper” classifications.
2. Use of a classification which is not in the wage decision or is vague (“operator”).
3. Failure to obtain subcontractor payrolls.
4. Lack of signed authorizations for workers with “other” deductions.
5. Lack of interviews, including not covering enough classifications or not interviewing subcontractors.
6. “Salaried” workers covered by DBA not treated as an hourly worker for regular and overtime purposes.
7. Using one wage decision when two are required based on value of work in each category.
8. If two wage decisions are used, and workers are not paid the higher hourly rate possible for that classification, payrolls fail to reflect which wage decision(s) is applicable to which worker.
9. Whenever owner works on site, it must be reflected in a payroll time sheet. Title must also reflect working title, such as electrician, plumber, etc.

Common Questions Regarding Davis Bacon

Common Questions Regarding Davis Bacon

The wage determination applicable to my project does not contain a class of workers which is needed to complete construction. Can a worker classification and wage rate be added to an existing wage determination? After contract award, a contractor shall submit to the owner, the addition of any needed classification of laborers or mechanics not listed in the wage determination, together with the proposed wage rates and fringe benefits conformable to the wage determination. Such an action requires the concurrence of the employees or their representative and the owner, and the Wage and Hour Division of the U.S. Department of Labor (USDOL) must approve of the action. An additional classification action is not valid unless the USDOL Department had approved it. If a dispute exists, the matter must be referred to the Wage and Hour Division for resolution, together with the view of all interested parties and the recommendation of the owner.

The owner shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. The owner will approve the classification and the proposed wage rate and fringe benefits only when the following criteria have been met:

- The work to be performed by the classification requested is not performed by any classification in the wage determination; and
- The classification is utilized in the area by the construction industry; and
- The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
- There is evidence of agreement on the classification and proposed wage rate among the parties involved; and
- The request does not involve wage rates for apprentices or trainees.

If the officer believes that these criteria are not met, the classification or wage rate may not be approved but shall be referred to the Wage and Hour Division for resolution of dispute.

All conformance notices submitted to USDOL will be responded to in writing within 30 days of receipt. These responses either approve or deny the request or inform the submitting agency that additional time will be required. Failure to receive a response does not constitute approval. If a response is not received, the Wage and Hour Division must be contacted directly. Every conformance request is analyzed to verify that the criteria for approval are complied with.

How do workers on a construction site know that a project is covered by the Davis-Bacon Act? How do they know the prevailing wage to which they are entitled? The wage determination (including any additional classifications and wage rates conformed) and a Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen. The WH-1321 poster may be obtained at no charge from offices of the Wage and Hour Division.

Once construction has begun, are the workers' wage rates affected when the wage determination for the area in which the project is located is changed? As a general rule, the wage determination incorporated into a bid solicitation and related contract award establishes the minimum wage rates and fringe benefits which must be paid for the entire term of the contract.

Is it possible for more than one wage schedule to apply to contract specifications? Construction projects are generally classified as either Building, Heavy, Highway or Residential for purposes of issuing wage determinations. Wage schedules for one or more of these construction categories may have application to construction items contained in a proposed construction project. Guidelines for the selection of proper wage schedules are set forth in All Agency Memoranda Nos. 130 (March 17, 1978) and 131 (July 14, 1978). Any questions regarding the application of these guidelines to a particular project, or any disputes regarding the application of the wage schedules issued for the various construction categories are to be referred to the Wage and Hour Division, together with relevant information, including a complete description of the project and area practice.

As the owner, what is my obligation when the wage determinations applicable to a construction project contain multiple wage schedules? It is the responsibility of the owner to advise contractors which schedule shall be applied to the various construction items in the bid specifications. Because of the complexities in the application of multiple schedules (see Question 4 above), the owner should consult with the Wage and Hour Division to resolve any questions.

Can apprentices, trainees, and/or helpers work on project covered by the Davis-Bacon or related Acts and what wage rates must they be paid? A person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or a person in the first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been properly certified to be eligible for probationary employment as an apprentice may work on such projects.

Trainees employed must be persons registered in construction occupation under a program which has been approved in advance by the U.S. Department of Labor, Employment and Training Administration, as meeting its standards for on-the-job training programs and which have been so certified by that Administration. Note that information on wage rates paid to apprentices and trainees is not solicited nor do the wage determinations issued include apprenticed classifications. Similarly, their addition through the additional classification procedure (conformance) is neither necessary nor appropriate. On projects funded by the Federal Aid Highway Act, apprentices and trainees certified by the Secretary of Transportation are not covered by Davis-Bacon labor standards.

The proper wage rates to be paid to apprentices and trainees are those specified by the particular programs in which they are enrolled, expressed as a percentage of the journeyman rate on the wage determination. In the event employees reported as apprentices or trainees on a covered project have not been properly registered within the meaning of the Regulations and the contract stipulations, or are utilized at the job site in excess of the ratio to journeymen permitted under the approved program, they must be paid the applicable wage rates for laborers and mechanics employed on the project performing the kind or classification of work they actually performed, regardless of work classifications which may be listed on the submitted payrolls and regardless of their level of skill.

Under existing regulations, helper classifications are not listed in wage determinations or approved as an additional classification unless certain criteria are present: 1) the use of helpers is an established prevailing practice; 2) the duties of the helper are clearly defined and distinct from the duties of the journeyman classification; 3) their duties are distinct from the duties of the laborers, and 4) the "helper" is not synonymous with "trainee" in an informal training program. Helpers can only be employed on a Davis-Bacon project at wage rates less than those specified for a given craft classification if the applicable wage determination lists a prevailing wage for a particular helper classification or if the particular helper classification has been approved as an additional classification. In the event employees, improperly classified as helpers regardless of their level of skill, are employed on a covered project, they must be paid the applicable wage rates for laborers and mechanics employed on the project performing the kind or classification of work they actually performed.

What wage rates must be paid to supervisory employees (foreman, general foremen, superintendents, etc.) employed on a covered project? The wage rates for bona fide supervisory employees are not regulated under the Davis-Bacon and related Acts since their duties are primarily administrative or executive in nature rather than those of laborers or mechanics. However, such employees who devote more than 20 percent of their time during a workweek to mechanic or laborer duties are laborers and mechanics for the time so spent, and must be paid the appropriate wage rates specified in the wage determination. Employees who are bona fide executive, administrative, or professional employees as defined under the Fair Labor Standards Act at 29 CFR Part 541 are not covered by the Davis-Bacon Act.

What records shall contractors and subcontractors submit to the owner? Each contractor and subcontractor performing construction work on the project shall submit copies of their payroll records for employees working on the project as soon as practicable after each payroll. It is the responsibility of the prime contractor to include a copy of the Davis-Bacon wage determination in each construction subcontract and to ensure that subcontractors submit payroll records.

What is the responsibility of the owner for monitoring contractor and subcontractor compliance with Davis-Bacon requirements? The owner shall ensure that the wage determination is posted at the job site and that payroll records are submitted on a timely basis.

Payroll records should be reviewed to verify that the minimum wage rates for each classification are being paid. Random private interviews of a few employees of the prime contractor and each on-site subcontractor should be conducted monthly to determine type of work performed, classification, and hourly rate. Answers should be verified for agreement with payroll records. If payroll records or interviews indicate that minimum rates possibly are not being paid or that employee classification may be inappropriate based on work performed, the owner should contact the nearest Wage and Hour Division office for possible further investigation by that office.

Please clarify the “in whole or in part” application of the Davis-Bacon Act regulations to construction contracts. The Davis-Bacon Act will apply to a contract if two conditions are met. First, the contract amount must exceed \$2000. This amount is for the total contract, not just that portion involving federal funds. Second, the contract work must be subject to the Davis-Bacon Act by the authorizing legislation of the federal programs involved. If a construction contract involves more than one federal program, the applicability of the Davis-Bacon Act under each federal program must be reviewed. If the Davis-Bacon Act is applicable under one program, then the entire contract must comply with the Act's requirements even if that program's portion of the total contract cost is very small. Also, please note that the Davis-Bacon Act regulations use only the term “contract.” Confusion arises from the use of “contract” and “project” interchangeably. The Davis-Bacon Act applies to contracts. A project may have more than one contract. It is possible that the Davis-Bacon Act will apply to one contract but not another, based on the two-part test described above.

In monitoring for overtime, is the local government required to determine hours worked by an employee on other projects? The local government cannot require the contractor to submit payroll information from other projects. If the payroll being reviewed shows that an employee did not work more than 40 hours in the week, overtime is not an issue.

OTHER IMPORTANT DAVIS BACON DETAILS

1. The DOL will not consider any “helper” classifications, apparently due to no funding for staff needed to do this. A contractor should not even bother to submit a request for the “helper” classification. (If the worker does not qualify for classification as “apprentice” or “trainee,” the most likely option is to use the full “trade” classification unless the contractor can show that another classification, such as “laborer,” is more appropriate. But a “laborer” should not be using specialized tools of a trade.)
2. For deductions requiring DOL approval, DOL typically responds in just a few days and approval is usually given if 29 CFR 3 is met. Once a type of deduction is approved, the approval is good for one year for all federally-funded projects by the contractor.
3. Payroll deductions, beyond those listed in the regulation (29 CFR 3) as “permissible with USDOL approval,” may still be made without USDOL approval if the deductions do not reduce the worker's pay (including any applicable fringe) below the minimum in the wage decision.
4. A worker's pay is considered to be in compliance with the wage decision if the total of hourly rate and any fringe benefits received equals at least the total minimum amount in the wage decision, regardless of the distribution between cash hourly rate and fringe benefits. (Example: If a wage decision requires \$6 per hour and no fringe benefits, employer is in compliance by paying \$5 hourly in cash and \$1 in fringe benefits.)
5. A contractor's work week must be seven consecutive days. This is to preclude a contractor from changing his work week in a way to avoid overtime.
6. Owners are not exempt from the Davis-Bacon Act if they work on the project site.

Notice to Employees

**The following “NOTICE TO ALL EMPLOYEES”
MUST be posted on the Job Site**

NOTICE TO ALL EMPLOYEES

Working on Federal or Federally Financed Construction Projects

MINIMUM WAGES

You must be paid not less than the wage rate in the schedule posted with this Notice for the kind of work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 a week. There are some exceptions.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, contact the Contracting Officer listed below:

Clinton Howerton, Jr., P.E.
County Engineer
Highlands County
(863) 402-6877

or you may contact the nearest office of the Wage and Hour Division, U.S. Department of Labor. The Wage and Hour Division has offices in several hundred communities throughout the country. They are listed in the U.S. Government section of most telephone directories under: U.S. Department of Labor Employment Standards Administration.



**First Wage Decision
(Davis Bacon Requirement)
(INSERTED AFTER
FDEO ISSUES)**

General Decision Number: FL170136 01/06/2017 FL136

Superseded General Decision Number: FL20160136

State: Florida

Construction Type: Heavy

County: Highlands County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017

* PAIN0088-007 08/01/2014

	Rates	Fringes
PAINTER: Brush and Spray.....	\$ 19.50	8.83

SUFL2009-132 06/24/2009		

	Rates	Fringes
LABORER: Common or General.....	\$ 8.19	0.00
LABORER: Pipelayer.....	\$ 11.58	0.00
OPERATOR: Backhoe/Excavator.....	\$ 12.25	1.33
OPERATOR: Bulldozer.....	\$ 13.30	1.92
OPERATOR: Loader.....	\$ 14.13	1.94
TRUCK DRIVER: Distributor, Dump, Lowboy and Tandem.....	\$ 14.00	0.00

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

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this

contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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 a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which

these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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
20

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.

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END OF GENERAL DECISION

☐

Form Required to Add an Additional Classification to the Wage Decision

Employee/Employer Wage-Scale Agreement

Grantee: **Highlands County**

Date: _____

Contract No: **16DB-OK-07-38-01-N04**

Construction Contract Execution Date: _____

Wage Decision: _____

Project Description: **2014 CDBG Improvements**

Whereas, Highlands County has been unable to obtain a specific wage rate from the Department of Labor (DOL)/Department of Economic Opportunity (FDEO), in the wage decision for this project for the classification of Heavy or Highway, and because it also appears that there are no readily available similar positions that could be reclassified under the initial wage decision, and whereas 29 CFR Part 5.5 (a)(I)(ii) allows the rate for a classification under these circumstances to be set by mutual agreement among the employee(s), the employer, and the jurisdiction, subject to approval by HUD/DOL;

Therefore by mutual consent the parties and persons signed below agree to an hourly rate of \$_____ and fringe benefit rate of \$_____ (may be included in hourly rate), for the above classification while acknowledging full compliance with all other federal labor standards requirements.

Employee

Employer (If Corporation, must be Officer)

Date

Date

Local Government Official

Date

Note: Use one form for each affected employee.

Authorization to Make Deductions (Form)

NOTE: The contractor is required to maintain a copy of this authorization form for EVERY DEDUCTION other than those for Federal and State withholding taxes and Federal social security taxes. The only exception is that of court ordered deductions. In this case, a copy of the court order must be on file.

This form need only be completed once for all payroll periods. If, however, any new deductions occur, a new form must be completed.

AUTHORIZATION TO MAKE OTHER DEDUCTIONS

I, _____, hereby authorize my
employer, _____, to make deductions, not
otherwise listed as permissible deductions in 29 CFR, on wages earned while employed
on the
following project:

PROJECT NUMBER: **16DB-OK-07-38-01-N04**

PROJECT NAME: **2014 CDBG Improvements**

PROJECT LOCATION: **Highlands County**

These deductions are voluntary and are authorized for the purpose of

_____ not to exceed (\$ _____).
amount

Employee

Witness

Date

Date

PERMISSIBLE PAYROLL DEDUCTIONS

The following payroll deductions may be made without requesting approval from the State of Florida (employee authorization or other documentation may still be required, however. Please consult with your program administrator on all payroll deductions.):

- (a) Any deduction made in compliance with the requirements of Federal, State, or local law, such as Federal or State withholding income taxes and Federal social security taxes.
- (b) Any deduction of sums previously paid to the employee as a bona fide prepayment of wages when such prepayment is made without discount or interest. A "bona fide prepayment of wages" is considered to have been made only when cash or its equivalent has been advanced to the person employed in such manner as to give him complete freedom of disposition of the advanced funds.
- (c) Any deduction of amounts required by court process to be paid to another, unless the deduction is in favor of the contractor, subcontractor, or any affiliated person, or when collusion or collaboration exists.
- (d) Any deduction constituting a contribution on behalf of the person employed to funds established by the employer or representatives of employees, or both, for the purpose of providing either from principal or income, or both, medical or hospital care, pensions or annuities on retirement, death benefits, compensation for injuries, illness, accidents, sickness, or disability, or for insurance to provide any of the foregoing, or unemployment benefits, vacation pay, savings accounts, or similar payments for the benefit of employees, their families and dependents: (1) The deduction is not otherwise prohibited by law; (2) it is either: (I) voluntarily consented to by the employee in writing and in advance of the period in which the work is to be done and such consent is not a condition either for the obtaining of or for the continuation of employment, or (ii) provided for in a bona fide collective bargaining agreement between the contractor or subcontractor and representatives of its employees; (3) no profit or other benefit is otherwise obtained, directly or indirectly, by the contractor or subcontractor or any affiliated person in the form of commission, dividend, or otherwise; and (4) the deduction shall serve the convenience and interest of the employee.
- (e) Any deduction contributing toward the purchase of United States Savings bonds when voluntarily authorized by the employee.
- (f) Any deduction requested by the employee to enable him to repay loans to or to purchase shares in credit unions organized and operated in accordance with Federal and State credit union statutes.
- (g) Any deduction voluntarily authorized by the employee for the making of contributions to Community Chests, United Givers Funds, and similar charitable organizations.
- (h) Any deduction voluntarily authorized by the employee for the making of contributions to governmental or quasi-governmental agencies, such as the American Red Cross.
- (i) Any deductions to pay regular union initiation fees and membership dues, not including fines or special assessments: Provided, however, that a collective bargaining agreement between employee provided for such deductions and the deductions are not otherwise prohibited by law.
- (j) Any deduction not more than for the "reasonable cost" of board, lodging, or other facilities meeting the requirements of section 3 (M) of the Fair Labor Standards Act of 1938, as amended, and Part 531 of Title 29, Code of Federal Regulations. When such a deduction is made, the additional records required under Section 516.27 (a) of Title 29, Code of Federal Regulations, shall be kept.

Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees (Form)

**CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE
TO SUPERVISE PAYMENTS OF EMPLOYEES**

Project Name: **2014 CDBG Improvements**

Date: _____

Location: **Highlands County**

Project No.: **16DB-OK-07-38-01-N04**

(I) (We) hereby certify that (I am) (we are) (the prime contractor) (the subcontractor) for

_____ in connection with construction of
(Specify "General Construction," "Plumbing," "Roofing," etc.)

the above-mentioned Project, and that (I) (we) have appointed _____,

whose signature appears below, to supervise the payment of (my) (out) employees beginning

_____, 20____: That he/she is in a position to have full knowledge of

the facts set forth in the payroll documents and in the statement of compliance required by the so-called

Kick-Back Statue which he is to execute with (my) (our) full authority and approval until such time as (I)

(we) submit to the _____ a new certificate appointing
(Administering agency – County)

some other person for the purposes herein above stated.

(Identifying Signature of Appointee)

Attest (if required):

(Name of Firm or Corporation)

(Signature)

By: _____
(Signature)

(Title)

(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Kick-Back Statute.

Sample Payroll Form

PAYROLL
(For Contractor's Optional Use; See Instruction, Form WH-347
Inst.)

NAME OF CONTRACTOR <input type="checkbox"/>			OR SUBCONTRACTOR <input type="checkbox"/>			ADDRESS														
PAYROLL NO.			FOR WEEK ENDING			PROJECT AND LOCATION					PROJECT OR CONTRACT NO.									
(1) NAME, ADDRESS, AND SOCIAL SECURITY NUMBER OF EMPLOYEE	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	O T · O R S T ·	(4) DAY AND TIME								(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK
				HOURS WORKED EACH DAY											FICA	WITH- HOLDI NG TAX			OTHER	
			o																	
			s																	
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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 _____, 19____, and ending the ____ day of _____, 19____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
been or will be made wither 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 wither directly or indirectly
from the full wages earned by any person, other than permissible deductions as defined in Regulations,
Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48
Stat, 948, 63 Stat. 108, 72 State 967; 76 State 357; 40 U.S.C. 276c), and de-scribed 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 no 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 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..	

U.S. DEPARTMENT OF LABOR
Wage and Hour Division

INSTRUCTIONS FOR COMPLETING THE PAYROLL FORM, WH-347

General: The use of WH-347, payroll form, is not mandatory. This form has been made available for the convenience of contractors and subcontractors required by their Federal or Federally-aided construction-type contracts and subcontracts to submit weekly payrolls. Properly filled out, this form will satisfy the requirements of Regulations, Parts 3 and 5 (29 CFR, Subtitle A) as to payrolls submitted in connection with contracts subject to the Davis-bacon and related Acts.

This form meets needs resulting from the amendment of the Davis-Bacon Act to include fringe benefits provisions. Under this amended law, the contractor is required to pay not less than fringe benefits as predetermined by the Department of Labor, in addition to payment of not less than the predetermined rates. The contractor's obligation to pay fringe benefits may be met either by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

This payroll provides for the contractor's showing in the face of the payroll all monies paid to the employees, whether as basic rates or as cash in lieu of fringes and provides for the contractor's representation in the statement of compliance on the rear of the payroll of payment to others of fringes required by the contract and not paid as cash on lieu of fringes. Detailed instructions concerning the preparation of the payroll follow:

Contractor or Subcontractor: Fill in your firm's name and check appropriate box.

Address: Fill in your firm's address.

Column 1 - Name, Address, and Social Security number of Employee: The employee's full name and Social Security number must be shown on each weekly payroll submitted. The employee's address must also be shown on the payroll covering the first week in which the employee works on the project. The address need not be shown on subsequent weekly payrolls unless the address changes.

Column 2 - Withholding Exemptions: This column is merely inserted for the employer's convenience and is not a requirement of Regulations, parts 3 and 5.

Column 3 - Work Classifications: List classification descriptive of work actually performed by employees. Consult classifications and minimum wage schedule set forth in contract specification. If additional classification are deemed necessary, see Contracting Officer or Agency representative. Employee may be shown as having worked in more than one classification provided accurate breakdown of hours so worked is maintained and shown on submitted payroll by use of separate line entries.

Column 4 - Hours Worked: On all contracts subject to the Contract Work Hours and Safety Standard Act enter as overtime hours all hours worked in excess of 40 hours a week. (Section 1241(a), Public Law 99-145 (99 Stat. 734) eliminated language applying the statutory overtime requirements to a workday of eight hours, effective January 1, 1986.)

Column 5 - Total: Self-explanatory.

Column 6 - Rate of Pay, including Fringe Benefits: In straight time box, list actual hourly rate paid the employee for straight time worked plus any cash in lieu of fringes paid the employee. When recording the straight time hourly rate, any cash paid in lieu of fringes may be shown separately from the basic rate, e.g., \$5.00/50. This is of assistance in correctly computing overtime. See "Fringe Benefits" below. Payment of not less than time and one-half the basic or regular rate paid is required for overtime under the Contract Work Hours and Safety Standards Act. In addition to paying not less than the predetermined rate for the classification in which the employee works, the contractor shall pay to approved plans, funds, or programs or shall pay as cash in lieu of fringes amounts predetermined as fringe benefits in the wage decision made part of the contract. See "FRINGE BENEFITS" below.

FRINGE BENEFITS - Contractors who pay all required fringe benefits: A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor shall continue to show on the face of the payroll the basic cash hourly rate and overtime rate paid to employees just as has always been done. Such a contractor shall check paragraph 4(a) of the statement on the reverse of the payroll to indicate payment of approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exceptions shall be noted in Section 4(c).

Contractors who pay no fringe benefits: A contractor who pays no fringe benefits shall pay to the employee and insert the straight time hourly rate column of the payroll, an amount not less than the predetermined rate of each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash and paid in lieu of fringes, the overtime rate shall not be less than the sum of the basic predetermined rate, plus the half-time premium on basic or regular rate, plus the required cash in lieu of fringes at the straight time rate. In addition, the contractor shall check paragraph 4(b) of the statement on the reverse of the payroll to indicate payment of fringe benefits in cash directly to the employees. Any exceptions shall be noted in Section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid as cash in lieu of fringes and the hourly amount paid to plans, funds, or programs as fringes. The contractor shall pay, and shall show the payment to each such employee for all hours (unless otherwise provided by applicable determination) worked on Federal or Federally assisted project an amount not less than the predetermined rate plus cash in lieu of fringes as shown in Section 4(c). The rate paid and amount of cash paid in lieu of fringe benefits per hour should be entered in column 6 on the payroll. See paragraph on "Contractors who pay no fringe benefits" for computation of overtime rate.

Column 7 - Gross Amount Earned: Enter gross amount earned on this project. If part of the employee's weekly wage was earned on projects other than the project described on this payroll, enter in column 7 first the amount earned on the Federal or Federally assisted project and then the gross amount earned during the week on all projects.

Column 8 - Deductions: Five columns are provided for showing deductions made. If more than five deductions should be involved, use first 4 columns; show the balance of deductions under "Other" column; show actual total under "Total Deductions" column; and in the attachment to the payroll describe the deductions contained in the "Other" column. All deductions must be in accordance with the provisions of the Copeland Act Regulations, 29 CFR Part 3. If the employee worked on other jobs in addition to this project, show actual deductions for the weekly gross wage, but indicate that deductions are based on the gross wages.

Column 9 - Net Wages Paid for Week: self-explanatory.

Totals - Space has been left at the bottom of the columns so that totals may be shown if the contractor so desires.

Statement Required by Regulations, Parts 3 and 5: While this form need not be notarized, the statement on the back of the payroll is subject to the penalties provided by 18 U.S.C. 1001, namely, possible imprisonment for 5 years or \$10,000.00 fine or both. Accordingly, the party signing this required statement should have knowledge of the facts represented as true.

Space has been provided between items (1) and (2) of the statement for describing deductions made. If all deductions made are adequately described in the "Deduction" column above, state "See Deductions column in this payroll." See paragraph entitled "FRINGE BENEFITS" above for instructions concerning filling out paragraph 4 of the statement.

Form WH - 347 Inst.
Rev. Sept. 1

Section 3 Questions and Forms

Section 3 - Economic Opportunities

What is Section 3?

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that helps foster local economic development, neighborhood economic improvement, and individual self-sufficiency. The Section 3 program requires that recipients of certain HUD financial assistance, to the greatest extent feasible, provide job training, employment, and contracting opportunities for low- or very-low income residents in connection with projects and activities in their neighborhoods.

Download Section 3 information from HUD's website: <http://www.hud.gov/offices/fheo/section3/section3.cfm>

How does Section 3 promote self- sufficiency?

Section 3 is a starting point to obtain job training, employment and contracting opportunities. From this integral foundation coupled with other resources comes the opportunity for economic advancement and self-sufficiency.

- Federal, state and local programs
- Advocacy groups
- Community and faith-based organizations

How does Section 3 promote homeownership?

Section 3 is a starting point to homeownership. Once a Section 3 resident has obtained employment or contracting opportunities they have begun the first step to self-sufficiency.

Who are Section 3 residents?

Section 3 residents are:

- Public housing residents or
- Persons who live in the area where a HUD-assisted project is located and who have a household income that falls below HUD's low-mod income limits.

Determining Income Levels

- Low income is defined as 80% or below the median income of that area.
- Very low income is defined as 50% or below the median income of that area.

What is a Section 3 business concern?

A business that:

- Is 51 percent or more owned by Section 3 residents;
- Employs Section 3 residents for at least 30 percent of its full-time, permanent staff; or
- Provides evidence of a commitment to subcontract to Section 3 business concerns, 25 percent or more of the dollar amount of the awarded contract.

What programs are covered?

Section 3 applies to HUD-funded Public and Indian Housing assistance for development, operating, and modernization expenditures.

Section 3 also applies to certain HUD-funded Housing and Community Development projects that complete housing rehabilitation, housing construction, and other public construction.

What types of economic opportunities are available under Section 3?

- **Job training**
- **Employment**
- **Contracts**

Any employment resulting from these expenditures, including administration, management, clerical support, and construction, is subject to compliance with Section 3.

Examples of Opportunities include:

- Accounting
- Architecture
- Appliance repair
- Bookkeeping
- Bricklaying
- Carpentry
- Carpet Installation
- Catering
- Cement/Masonry
- Computer/Information
- Demolition
- Drywall
- Electrical
- Elevator Construction
- Engineering
- Fencing
- Florists
- Heating
- Iron Works
- Janitorial
- Landscaping
- Machine Operation
- Manufacturing
- Marketing
- Painting
- Payroll Photography
- Plastering
- Plumbing
- Printing Purchasing
- Research
- Surveying
- Tile setting
- Transportation
- Word processing

Section 3 is a provision of the Housing and Urban Development (HUD) Act of 1968 that promotes local economic development, neighborhood economic improvement, and individual self-sufficiency.

The **Section 3** program requires that recipients of certain HUD financial assistance, to the greatest extent possible, provide job training, employment, and contract opportunities for low- or very-low income residents in connection with projects and activities in their neighborhoods.

More about Section 3:

- 24 CFR 135
- Section 3 Summary Report

Requirement of the Florida Small Cities and Disaster Recovery CDBG Programs

Any recipient of CDBG funds that has an open grant must report Section 3 activities to the Department by July 31 each year using the Section 3 Summary Report form. The reports received from grant recipients will be summarized by the Department and submitted to HUD with the Annual Performance Report. The following information may assist you in completing the Section 3 Summary Report form:

- Section 3 persons are individuals from households with low or very low income. The Section 8 income limits are used to define low income. Section 3 is “race and gender” neutral.
- If CDBG funds are used for one of the covered activities – housing rehab, housing construction or public construction – a report must be completed.
 - If the funds awarded to a contractor are under \$200,000, no activity needs to be reported. If the funds awarded to a subcontractor are under \$100,000, no activity needs to be reported.
 - If a local government hires an employee that will have any oversight or administrative responsibilities relating to the covered activities, the local government should report Section 3 activity.
- A permanent employee may be an employee hired for full time work on a temporary basis or an employee hired for full time work on the job site whether temporary or permanent.
- Grant recipients and the contractors they work with should attempt to provide employment opportunities to Section 3 persons or businesses when possible. (Job announcements, bid language, etc., may reference that priority will be given to Section 3 persons or businesses.)
 - Grant recipients are not required to set numerical goals nor are they required to have a Section 3 plan. This, however, does not exempt a local government from the requirement to attempt to make economic opportunities available for Section 3 persons or businesses within the area.
- The area or jurisdiction is typically the county or the region surrounding the work to be paid for with CDBG funding OR the county or region nearest to the address of the recipient. Grant recipients may want to give preference to Section 3 individuals or businesses having the same zip code as a way of show preference.
- Grant recipients will have to work closely with contractors in order to be able to report on Section 3 activities. The Department provides a form that contractors may complete to provide information regarding their Section 3 activities.
- When contractors submit bids, they should state whether or not it will be necessary for them to employ an additional workers. If a contractor believes that additional employees may be necessary, they should indicate in the bid that they will give preference to hiring low income persons within the area.
- Individuals who have been receiving public assistance may meet the definition of Section 3.

- Any contract reported on the Contractual Obligations and Minority Business Enterprise report that is reflected as a Section 3 business should be reported on during the fiscal year in which the contract was awarded.
- The exclusion for minor rehab does not typically apply to CDBG since the housing unit is usually brought up to the local building code. Minor rehab consists of replacing broken windows, fixing a leaking roof, and other such repairs.



Section 3 Participation Report (Construction Prime Contractor)

April, 2015

Local Government: _____ CDBG Contract #: _____

This form must be completed by the prime contractor for any construction contract over \$100,000. Voluntary reporting for contracts under \$100,000 is encouraged.

Contractor's Name: _____

Contractor's DUNS Number: _____ Contract Amount: \$ _____

1. Does the business qualify as a "Section 3 Business Concern" because	
a) It is at least <u>51% owned</u> by Section 3 residents*, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
b) At least 30% of its <u>permanent full-time employees</u> are	
i) Currently Section 3 residents*, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
ii) Were Section 3 residents* within first three years of employment, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
c) Will at least 25% (dollar value) of construction subcontracts (no material/supplies/equipment vendors unless they are also installing same) be to businesses meeting (a) or (b) above?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes , list any Section 3 subcontractors and subcontract amount:	
Subcontractors	Subcontract Amount
	\$
	\$
	\$
2. Will the contractor be hiring any additional staff (office or field) for this project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
• If yes , what types of jobs will be filled, and how many additional hires are estimated in each job type?	

***Section 3 resident means:**

- (1) A public housing resident; or
- (2) An individual who resides in the metropolitan area or nonmetropolitan county in which the section 3 covered assistance is expended, and who is:
 - (i) *A low-income person*, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act defines this term to mean families (including single persons) whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families; or
 - (ii) *A very low-income person*, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)) defines this term to mean families (including single persons) whose incomes do not exceed 50 per centum of the median family income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 50 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.
- (3) A person seeking the training and employment preference provided by section 3 bears the responsibility of providing evidence (if requested) that the person is eligible for the preference.

Note: This contract is funded with federal funds, and this information is required for construction contracts over \$100,000 for reporting purposes. See Section 3 portion of **CDBG Supplemental Conditions for Construction Projects** for additional information.

**Section 3 Participation Report
(Construction Subcontractor)**

April, 2015

Local Government: _____ CDBG Contract #: _____

This form must be completed by construction subcontractors when the prime contract is at least \$100,000. (Do not include the cost of equipment or material supplies unless you are installing also.) Voluntary reporting is encouraged when the prime contract is under \$100,000.

Subcontractor's Name: _____

Subcontractor's DUNS Number: _____ Subcontract Amount: \$ _____

1. Does the business qualify as a "Section 3 Business Concern" because	
a) It is at least <u>51% owned</u> by Section 3 residents*, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
b) At least 30% of its <u>permanent full-time employees</u> are	
i) Currently Section 3 residents*, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
ii) Were Section 3 residents* within first three years of employment, or	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Will the subcontractor be hiring any additional staff (office or field) for this project?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
• If yes , what types of jobs (e.g., laborer, equipment operator) will be filled, and how many additional hires are estimated in each job type?	

***Section 3 resident means:**

- (1) A public housing resident; or
- (2) An individual who resides in the metropolitan area or nonmetropolitan county in which the section 3 covered assistance is expended, and who is:
 - (i) A **low-income person**, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act defines this term to mean families (including single persons) whose incomes do not exceed 80 per centum of the median income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 80 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families; or
 - (ii) A **very low-income person**, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)) defines this term to mean families (including single persons) whose incomes do not exceed 50 per centum of the median family income for the area, as determined by the Secretary with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 50 per centum of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.
- (3) A person seeking the training and employment preference provided by section 3 bears the responsibility of providing evidence (if requested) that the person is eligible for the preference.

Note: This contract is funded with federal funds, and this information is required for reporting purposes for projects costing over \$100,000. See Section 3 portion of **CDBG Supplemental Conditions for Construction Contracts** for additional information.

Debarment Certification



**Certification Regarding Debarment, Suspension, and Other
Responsibility Matters (Primary Covered Transactions)**

April, 2015

Recipient: _____ Contract Number: _____

Name of Company Selected as a Prime Contractor: _____

DUNS Number: _____

- 1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Authorized Signature

Date

Name Typed

Title

Street Address

City, State, Zip

(24 CFR 24.510 and 24 CFR, Part 24, Appendix A)



**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion (Subcontractor)**

April, 2015

Recipient: _____ Contract Number: _____

Name of Subcontractor: _____

DUNS Number: _____

Lower Tier Covered Transactions

- (1) The prospective lower tier participant certifies, by submission of this document, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to the above statement, the prospective participant shall attach an explanation to this form.

Authorized Signature

Date

Name Typed

Title

Street Address

City, State, Zip

(24 CFR 24.510 and 24 CFR, Part 24, Appendix A)

CDBG Supplemental Conditions

The supplemental conditions contained in this section are intended to cooperate with, to supplement, and to modify the general conditions and other specifications. In case of disagreement with any other section of this contract, the Supplemental Conditions shall govern.

- (1) 1. Termination (Cause and Convenience)
- (2) 2. Access to Records
- (3) 3. Retention of Records
- (4) 4. Remedies
- (5) 5. Environmental Compliance (Clean Air Act and Clean Water Act)
- (6) 6. Energy Efficiency
- (7) 7. Special Equal Opportunity Provisions
- 8. Conflict of Interest
- 9. Utilization of Minority and Women's Businesses
- 10. Federal Labor Standards Provisions (Davis-Bacon, Copeland, and Contract Work Hours Act)
- (8) 11. Guidance to Contractor for Compliance with Labor Standards Provisions
- (9) 12. E-Verify

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1. Termination (Cause and Convenience)

- A. This contract may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this contract through no fault of the terminating party, provided that no termination may be effected unless the other party is given:
 - (1) not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate; and
 - (2) an opportunity for consultation with the terminating party prior to termination.
- B. This contract may be terminated in whole or in part in writing by the local government for its convenience, provided that the other party is afforded the same notice and consultation opportunity specified in I(a) above.
- C. If termination for default is effected by the local government, an equitable adjustment in the price for this contract shall be made, but
 - (l) no amount shall be allowed for anticipated profit on unperformed services or other work, and
 - (2) any payment due to the contractor at the time of termination may be adjusted to cover any additional costs to the local government because of the contractor's default.

If termination for convenience is effected by the local government, the equitable adjustment shall include a reasonable profit for services or other work performed for which profit has not already been included in an invoice.

For any termination, the equitable adjustment shall provide for payment to the contractor for services rendered and expenses incurred prior to receipt of the notice of intent to terminate, in addition to termination settlement costs reasonably incurred by the contractor relating to commitments (e.g., suppliers, subcontractors) which had become firm prior to receipt of the notice of intent to terminate.
- D. Upon receipt of a termination action under paragraphs (a) or (b) above, the contractor shall (1) promptly discontinue all affected work (unless the notice directs otherwise) and (2) deliver or otherwise make available to the local government all data, drawings, reports specifications, summaries and other such information, as may have been accumulated by the contractor in performing this contract, whether completed or in process.

- E. Upon termination, the local government may take over the work and may award another party a contract to complete the work described in this contract.
- F. If, after termination for failure of the contractor to fulfill contractual obligations, it is determined that the contractor had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the local government. In such event, adjustment of the contract price shall be made as provided in paragraph (c) above.

2. Access to Records

The local government, the Florida Department of Economic Opportunity, the U.S. Department of Housing and Urban Development, the Comptroller General of the United States, the Chief Financial Officer of the State of Florida, the Auditor General of the State of Florida, the Florida Office of Program Policy Analysis and Government Accountability, and any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the contractor which are directly pertinent to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

3. Retention of Records

The contractor shall retain all records relating to this contract for six years after the local government makes final payment and all other pending matters are closed.

4. Remedies

Unless otherwise provided in this contract, all claims, counter-claims, disputes and other matters in question between the local government and the contractor, arising out of or relating to this contract, or the breach of it, will be decided by arbitration, if the parties mutually agree, or in a Florida court of competent jurisdiction.

5. Environmental Compliance

If this contract exceeds \$100,000, the contractor shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 USC 1857(h)), section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, and U.S. Environmental Protection Agency regulations (40 CFR Part 15). The contractor shall include this clause in any subcontracts over \$100,000.

6. Energy Efficiency

The contractor shall comply with any mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

7. Special Equal Opportunity Provisions

A. Activities and Contracts Not Subject to Executive Order 11246, as Amended

(Applicable to Federally assisted construction contracts and related subcontracts \$10,000 and under.)

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- (2) The contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer seeking forth the provisions of this nondiscrimination clause. The contractor shall state that all qualified applicants be considered without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

- (3) Contractors shall incorporate foregoing requirements in all subcontracts.

**B. Executive Order 11246, as Amended (through 2014), Section 202 Equal Opportunity Clause
(Applicable to contracts/subcontracts above \$10,000)**

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information."
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a

result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

(C) Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246). (Applicable to contracts/subcontracts exceeding \$10,000.)

- (a) The Offerer's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- (b) The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Female participation: 6.9% (statewide)

Minority participation (See Appendix at CDBG-25 for goals for each county)

These goals are applicable to all Contractor's construction work (whether or not it is federally-assisted) performed in the covered area. If the Contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established on the geographic area where the contract resulting from his solicitation is to be performed. The hours of minority and female employment or training must be substantially uniform throughout the length of the contract and in each trade the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- (c) The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
- (d) As used in this Notice, and in the contract resulting from the solicitation, the "covered area" is the county in which the contract work is being undertaken.

(D) 41 CFR 60-4.3. Equal Opportunity Clauses

- (a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all nonconstruction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of this part and in construction subcontracts in excess of \$10,000 necessary in whole or in part to the performance of nonconstruction Federal contracts and subcontracts covered under the Executive order.

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

1. As used in these specifications:
 - A. **“Covered area” means the geographical area described in the solicitation from which this contract resulted;**
 - B. “Director” means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - C. “Employer identification number” means the Federal Social Security number used on the Employer’s quarterly Federal Tax Return, U. S. Treasury Department Form 941.
 - D. “Minority” includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Island); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor’s or subcontractor’s failure to take good faith efforts to achieve the Plan goals and timetables.
4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7.A. through P. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally-assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor’s obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- (a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.**
- (b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- (c) Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the contractor may have taken.
- (d) Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.
- (e) Develop on-the-job training opportunities and/or participate in training programs for the areas which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7.(b) above.
- (f) Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.**
- (g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (h) Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
- (i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female recruitment students and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- (j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's work force.
 - (k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR 60-3.
 - (l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - (m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.
 - (n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - (o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - (p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 7.(a) through (p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7.(a) through (p) of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
9. A single goal for minorities and separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out sections and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensively as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its effort to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the

implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance and upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

E. Certification of Non-Segregated Facilities (Contracts over \$10,000)

The contractor does not maintain or provide for its employees any segregated facilities at any of its establishments, and does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The contractor certifies further that it will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, "segregated facilities" mean any waiting rooms, work areas, rest rooms and wash rooms, restaurants, and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

The contractor further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that it will retain such certifications in its files; and that it will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods) .

F. Civil Rights Act of 1964

Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

G. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the grounds of race, color, national original, religion or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

H. "Section 3" Compliance in the Provision of Training, Employment and Business Opportunities

- (1) The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 USC 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

- (2) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.
- (3) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (4) The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.
- (5) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.
- (6) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- (7) With respect to work performed in connection with Section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 USC 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

I. Section 503 Handicapped (Contracts \$2,500 or more)

- (1) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- (2) The Contractor agrees to comply with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (3) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (4) The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

- (5) The contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or their contract understanding, that the contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.
- (6) The contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

Additional Specific Requirement for Contractors/Subcontractors – Sec 3 solicitations

As noted elsewhere in this document, the U.S. Department of Housing and Urban Development (HUD) and the Florida Department of Economic Opportunity (FDEO) consider the hiring of Section 3 individuals (either low or very-low income persons according to HUD guidelines) as an extremely important goal of all Community Development Block Grant (CDBG) funded projects. Thus, during monitoring visits, DEO will expect to find documentation from both prime contractor and subcontractors that effort was made to reach Section 3 individuals for any new hiring for this CDBG-funded project. Heartland Workforce – Highlands County Career Center offices are an excellent resource to use in reaching out to find possible Section 3 hires. Local offices can be found on the web at: <http://careercenteroffices.com/center/325/heartland-workforce-highlands-onestop-career-center/>. Again, you must document your contacts with this or any other employment office that you might use. Make copies of and keep all emails pertaining to your communications with these employment offices. Also, make copies for the grantee. Any questions concerning this requirement can be directed to your grant contact at the local government or the grantee's consultant. On occasion, individuals living in the area of the project may contact you or your employees at the project site. If you do hire such individuals, just make a memorandum for the files describing the circumstances, such as when and who was contacted and date hired. There is also a Section 3 self-certification form that will be required. Contact your grantee or the consultant.

J. Age Discrimination in Employment Act of 1967, as Amended

It shall be unlawful for an employer-

- (1) to fail or refuse to hire or to discharge any individual or otherwise discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's age;
- (2) to limit, segregate, or classify his employees in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's age; or
- (3) to reduce the wage rate of any employee in order to comply with this chapter.

K. Title II of the Genetic Information Nondiscrimination Act of 2008 (GINA)

- (1) Under Title II of the Genetic Information Nondiscrimination Act, it is illegal to discriminate against employees or applicants because of genetic information. Employers are prohibited from using genetic information in making employment decisions. GINA restricts employers and other entities covered by Title II (employment agencies, labor organizations and joint labor-management training and apprenticeship programs - referred to as "covered entities") from requesting, requiring or purchasing genetic information, and strictly limits the disclosure of genetic information.

The law forbids discrimination on the basis of genetic information when it comes to any aspect of employment, including hiring, firing, pay, job assignments, promotions, layoffs, training, fringe benefits, or any other term or condition of employment.

- (2) "Genetic information" includes information about an individual's genetic tests and the genetic tests of an individual's family members, as well as information about the manifestation of a disease or disorder in an individual's family members (i.e. family medical history). Family medical history is included in the definition of genetic information because it is often used to determine whether someone has an increased risk of getting a disease, disorder, or condition in the future.

8. Conflict of Interest of Officers or Employees of the Local Jurisdiction, Members of the Local Governing Body, or Other Public Officials

No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who exercises any function or responsibility with respect to this contract, during his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

9. Utilization of Minority and Women Firms (M/WBE)

The contractor shall take all necessary affirmative steps to assure that M/WBE firms are utilized when possible as suppliers and/or subcontractors, as applicable. Prior to contract award, the contractor shall document efforts to utilize M/WBE firms, including identifying what firms were solicited as suppliers and/or subcontractors, as applicable. Information regarding certified M/WBE firms can be obtained from:

- Florida Department of Management Services, Office of Supplier Diversity,
- Florida Department of Transportation (construction services, particularly highway),
- Minority Business Development Center in most major cities, and
- Local government M/WBE programs in many large counties and cities.

A firm recognized as an M/WBE by any of the above agencies is acceptable for the CDBG program.

Additional Specific Requirement for Contractor/Subcontractors – WMBE solicitations

The State of Florida Department of Economic Opportunity (FDEO) has advised in its recent monitorings that the grantee and its contractors and subcontractors are required to solicit for woman and minority businesses (WMBE) when hiring for Community Development Block Grant (CDBG) activities. Additionally, FDEO has advised that the State has a website that has lists of WMBE certified firms by County that should be used when this solicitation is carried out. FDEO has also advised that the grantee, contractors and subcontractors should use not only the list for the County in which the project is taking place but all adjoining counties as well. Following this page, you will find that list. You are advised to use this list to create a mass-mailing email to send your Invitation to Bid/Request for Proposal or whatever document you use to advise firms that you have a project that you are looking for firms to bid on. You should require a return reply and keep a copy of the sent email and replies. Copies should also be sent to the grantee. Any questions concerning this requirement can be directed to your grant contact at the local government or the grantee's consultant.

10. Federal Labor Standards Provisions

(Davis-Bacon Act, Copeland Act, and Contract Works Hours & Safety Standards Act) The Project to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

- A. (1) (a) Minimum Wages. All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than

quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- (b) (i) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits; therefore, only when the following criteria have been met:
 - (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (ii) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, employment Standards Administration, U. S. Department of Labor, Washington, D. C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)
- (iii) In the event that the Contractor, the laborers or mechanics to be employed in the Classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designed for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that the additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)
- (iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (b)(ii) or (iii) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (d) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or

program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

- (2) Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD, or its designee may, after written notice to the contractor, sponsor, applicant, or owners, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017).

- (b) (i) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owners, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(I). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U. S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).
- (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5 (a)(3)(I) and that such information is correct and complete;
 - (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (iii) The weekly submission of a properly executed certification set forth on the reverse side of Option Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph A(3)(b)(ii) of this section
- (iv) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

- (c) The contractor or subcontractor shall make the records required under paragraph A(3)(a) of this section available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

(4) (a) Apprentices and Trainees.

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U. S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with the determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved

- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the

U. S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any

trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) **Equal Employment Opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
 - (5) **Compliance with Copeland Act Requirements.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.
 - (6) **Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contract shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.
 - (7) **Contract Termination, Debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
 - (8) **Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3 and 5 are herein incorporated by referenced in this contract.
 - (9) **Disputes Concerning Labor Standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U. S. Department of Labor (USDOL) set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the USDOL, or the employees or their representatives.
 - (10) (a) **Certification of Eligibility.** By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.
 - (b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.
 - (c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 USC 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, USC, "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of ... influencing in any way the action of such Administration ... makes, utters or publishes any statement, knowing the same to be false ... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."
 - (11) **Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this contract to his employer.
- B. **Contract Work Hours and Safety Standards Act.** As used in the paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.
- (3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

- (1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
- (2) The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54.83 State 96).
- (3) The contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

11. Guidance to Contractor for Compliance with Labor Standards Provisions

A. Contracts with Two Wage Decisions

If the contract includes two wage decisions, the contractor, and each subcontractor who works on the site, must submit either two separate payrolls (one for each wage decision) or one payroll which identifies each worker twice and the hours worked under each wage decision. One single payroll, reflecting each worker once, may be submitted provided the Contractor uses the higher rate in the wage decisions for each identical job classification. However, where a job classification is not listed in a wage decision and is needed for that portion of the work, the classification **must** be added to the wage decision. A worker may not be paid at the rate for a classification using the hourly rate for that same classification in another wage decision. After the additional classification is approved, the contractor may pay the higher of the two rates and submit one payroll, if desired.

B. Complying with Minimum Hourly Amounts

- (1) The minimum hourly amount due to a worker in each classification is the total of the amounts in the "Rates" and "Fringe Benefits" (if any) columns of the applicable wage decision.
- (2) The contractor may satisfy this minimum hourly amount by any combination of cash and bona fide fringe benefits, regardless of the individual amounts reflected in the "Rates" and "Fringe Benefits" columns.
- (3) A contractor payment for a worker which is required by law is not a fringe benefit in meeting the minimum hourly amount due under the applicable wage decision. For example, contractor payments for FICA or unemployment insurance are not a fringe benefit; however, contractor payments for health insurance or retirement are a fringe benefit. Generally, a fringe benefit is bona fide if (a) it is available to most workers and (b) involves payments to a third party.
- (4) The hourly value of the fringe benefit is calculated by dividing the contractor's annual cost (excluding any amount contributed by the worker) for the fringe benefit by 2080. Therefore, for workers with overtime, an additional payment may be required to meet the minimum hourly wages since generally fringe benefits have no value for any time worked over 40 hours weekly. (If a worker is paid more than the minimum rates required by the wage decision, this should not be a problem. As long as the total wages received by a worker for straight time equals the hours worked times the minimum hourly rate in the wage decision, the requirement of the Davis-Bacon and Related Acts has been satisfied.)

C. Overtime

For any project work over 40 hours weekly, a worker generally must be paid 150% of the actual hourly cash rate received, not the minimum required by the wage decision. (The Davis-Bacon and related acts only establish minimum rates and does not address overtime; the Contract Work Hours Act contains the overtime requirement and uses "basic rate of pay" as the base for calculation, not the minimum rates established by the Davis-Bacon and related acts.)

D. Deductions

Workers who have deductions, not required by law, from their pay must authorize these deductions in writing. The authorization must identify the purpose of each deduction and the amount, which may be a specific dollar amount or a percentage. A copy of the authorization must be submitted with the first payroll containing the deduction. If deducted amounts increase, another authorization must be submitted. If deducted amounts decrease, no revision to the original authorization is needed. Court-ordered deductions, such as child support, may be identified by the responsible payroll person in a separate document. This document should identify the worker, the amount deducted and the purpose. A copy of the court order should be submitted.

E. Classifications Not Included in the Wage Decision

If a classification not in the wage decision is required, please advise the owner's representative in writing and identify the job classification(s) required. In some instances, the State agency may allow the use of a similar classification in the wage decision.

Otherwise, the contractor and affected workers must agree on a minimum rate, which cannot be lower than the lowest rate for any trade in the wage decision. Laborers (including any subcategory of the laborer classification) and truck drivers are not considered a trade for this purpose. If the classification involves a power equipment operator, the minimum cannot be lower than the lowest rate for any power equipment operator in the wage decision. The owner will provide forms to document agreement on the minimum rate by the affected workers and contractor.

The USDOL must approve the proposed classification and rate. The contractor may pay the proposed rate until the USDOL makes a determination. Should the USDOL require a higher rate, the contractor must make wage restitution to the affected worker(s) for all hours worked under the proposed rate.

F. Supervisory Personnel

Foremen and other supervisory personnel who spend at least 80% of their time supervising workers are not covered by the Davis-Bacon and Related Acts. Therefore, a wage decision will not include such supervisory classifications and their wages are not subject to any minimums under the Davis-Bacon and Related Act or overtime payments under the Contract Work Hours and Safety Standards Act. However,

foremen and other supervisory personnel who spend less than 80% of their time engaged in supervisory activities are considered workers/mechanics for the time spent engaged in manual labor and must be paid at least the minimum in the wage decision for the appropriate classification(s) based on the work performed.

G. Sole Proprietorships/Independent Contractors/Leased Workers

The nature of the relationship between a prime contractor and a worker does not affect the requirement to comply with the labor standards provisions of this contract. The applicability of the labor standards provisions is based on the nature of the work performed.

If the work performed is primarily manual in nature, the worker is subject to the labor standards provisions in this contract. For example, if John Smith is the owner of ABC Plumbing and performs all plumbing work himself, then Mr. Smith is subject to the labor standards provisions, including minimum wages and overtime. His status as "owner" is irrelevant for labor standards purposes.

If a worker meets the IRS standards for being an independent contractor, and is employed as such, this means that the worker must submit a separate payroll as a subcontractor rather than be included on some other payroll. The worker is still subject to the labor standards provisions in this contract, including minimum wages and overtime.

If a contractor or subcontractor leases its workers, they are subject to the labor standards provisions in this contract, including minimum wages and overtime. The leasing firm must submit payrolls and these payrolls must reflect information required to determine compliance with the labor standards provisions of this contract, including a classification for each worker based on the nature of the work performed, number of regular hours worked, and number of overtime hours worked.

H. Apprentices/Helpers

A worker may be classified as an apprentice **only if participating in a federal or state program**.

Documentation of participation must be submitted. Generally, the apprentice program specifies that the apprentice will be compensated at a percentage of the journeyman rate. For Davis-Bacon Act purposes, the hourly rate cannot be lower than the percentage of the hourly rate for the classification in the applicable wage decision.

If the worker does not participate in a federal or state apprentice program, then the worker must be classified according to duties performed. This procedure may require classification in the "trade" depending on tools used, or as a laborer if specialized tools of the trade are not used. The contractor may want to consult with the Wage and Hour Division of the U.S. Department of Labor located in most large cities regarding the appropriate classification.

Presently, no worker may be classified as a "helper". As with apprentices not participating in a formal apprentice program, the worker must be classified according to duties performed and tools used.

12. E-Verify

Contractors and subcontractors performing work funded by CDBG subgrants are required to enroll in the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees that they hire during the term of their contracts under Executive Order 11-116, signed by the Governor of Florida on May 27, 2011.

- (a) E-Verify is an Internet-based system that allows businesses to determine the eligibility of their employees to work in the United States. A contractor or subcontractor that has not signed up for E-Verify and executed a memorandum of understanding with the Department of Homeland Security can enroll in the E-Verify system on the Department of Homeland Security's website listed below:

<http://www.uscis.gov/e-verify/e-verify-enrollment-page>

- (b) Contractors and subcontractors shall enroll in the E-Verify system prior to hiring any new employee after the effective date of their contracts to perform work on CDBG-funded projects. The address for obtaining an Employer Memorandum of Understanding is:

http://www.uscis.gov/sites/default/files/USCIS/Verification/E-Verify/E-Verify_Native_Documents/MOU_for_E-Verify_Employer.pdf

- (c) The Department of Homeland Security offers tutorials and other assistance at the web address below:

<http://www.uscis.gov/e-verify/you-start>

Additional Specific Requirement for Contractors/Subcontractors – Employment Eligibility Verification

Executive Order 11-116, signed May 27, 2011, by the Governor of Florida, requires Department of Economic Opportunity (DEO) contracts in excess of nominal value to expressly require recipients to utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by recipient during the Agreement term. All prime contracts under the Agreement also requires that contractors and subcontractors performing work or providing services pursuant to the Agreement utilize the E-Verify system to verify the employment eligibility of all new employees hired by the contractors and subcontractors during the term of the contract.

E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of all new employees hired to work in the United States after the effective date of the required Memorandum of Understanding (MOU). There is no charge to employers to use E-Verify. The Department of Homeland Security's E-Verify system can be found at:

http://www.dhs.gov/files/program/gc_1185221678150.shtm

If recipient does not have an E-Verify MOU in effect, recipient must enroll in the E-Verify system prior to hiring any new employee after the effective date of the Agreement.

Appendix Minority Participation Goals

These are the goals, by county, for meeting the minority participation portion of Section 7-B(2)(b) of the CDBG Supplemental Conditions. These are contractor workforce goals, not goals for subcontracting to minority and women firms. Solicitation of minority and women firms as subcontractors is a separate federal requirement which the contractor must document compliance with.

<u>Tampa-St. Petersburg Area</u>	<u>Percentage</u>
Hillsborough, Pinellas, Pasco	17.9
Charlotte, Citrus, Collier, DeSoto,.....	17.1
Hardee, Hernando, & Highlands (all seven counties)	
Lee	15.3
Manatee	15.9
Polk	18.0
Sarasota.....	10.5

<u>Tallahassee Area</u>	
Leon, Wakulla	24.3
Calhoun, Franklin, Gadsden, Jackson,.....	29.5
Jefferson, Liberty, Madison, & Taylor (all eight counties)	

<u>Pensacola - Panama City Area</u>	
Bay	14.1
Escambia, Santa Rosa	18.3
Gulf, Holmes, Okaloosa,	15.4
Walton, & Washington (all five counties)	

<u>Jacksonville Area</u>	
Alachua	20.6
Baker, Clay, Duval, Nassau, & St. Johns	21.8
Bradford, Columbia, Dixie, Gilchrist.....	22.2
Hamilton, Lafayette, Levy, Marion, Putnam, Suwannee, & Union (all 11 counties)	

<u>Orlando - Daytona Beach Area</u>	<u>Percentage</u>
Volusia	15.7
Brevard.....	10.7
Orange, Osceola, & Seminole (all three counties)	15.5
Flagler, Lake, & Sumter (all three counties)	14.9

<u>Miami - Fort Lauderdale Area</u>	
Dade.....	39.5
Broward.....	15.5
Palm Beach.....	22.4
Glades, Hendry, Indian River, Monroe,	30.4
Okeechobee, Martin, & St. Lucie (all seven counties)	

LIST OF MBE FIRMS BY COUNTY

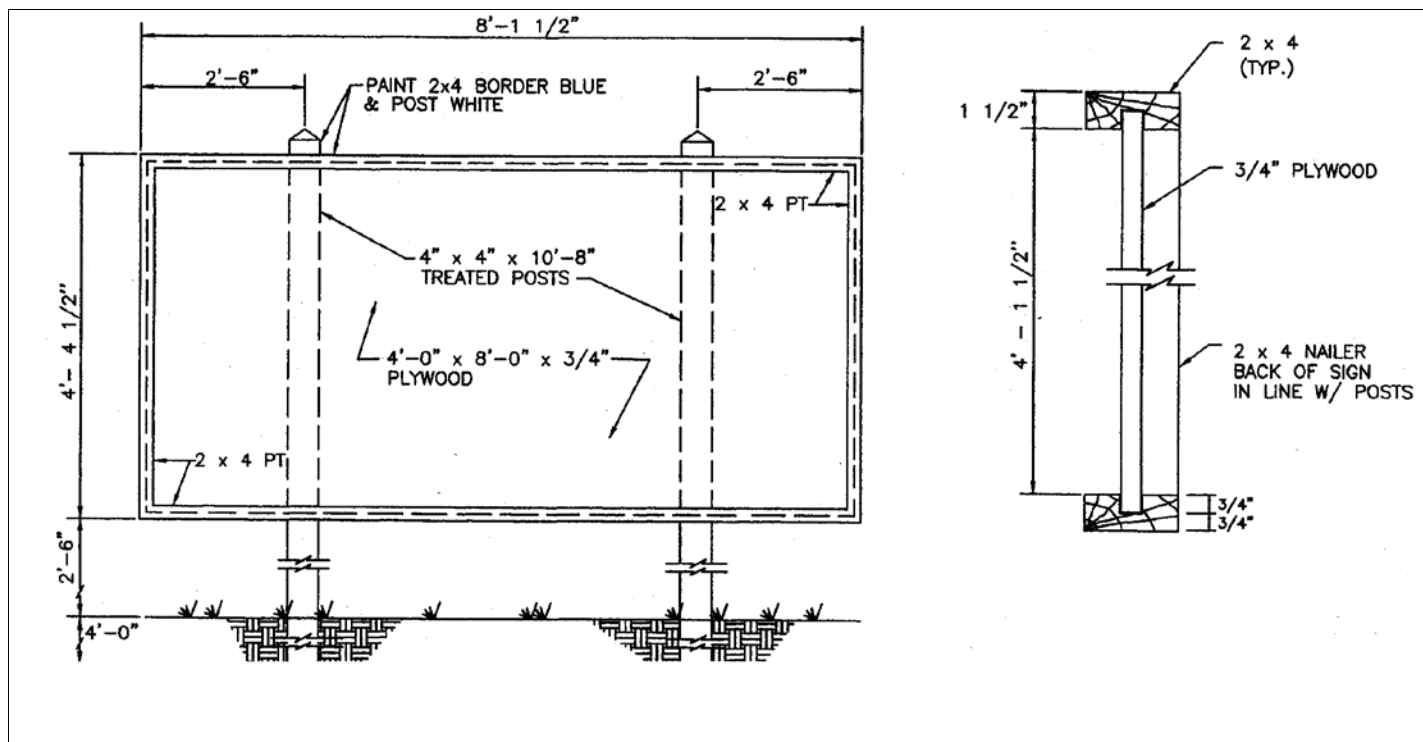
Name	Contact	Address	City	State	Postal Code	County	Email	Phone
Chuck Westberry Electrical Contractor, Inc.	Chuck Westberry	102 Moon Ranch Rd.	Sebring	FL	33870	Highlands	chuck@chuckwestberry.com	863-385-9501
Delta Sebring, Inc.	Dawn Balsamo	526 Park Street	Sebring	FL	33870	Highlands	dbalsamo@deltasebrinc.com	863-314-6032
The Carol Group Inc.	Carol Howard	712 Sunset Pointe Drive	Lake Placid	FL	33852	Highlands	carolannh2o@gmail.com	941-662-0184
Absolute Temperature Controls llc	cosmas allen	116 hillcrest dr	davenport	FL	33897	Polk	absolutetemperaturecontrols@gmail.com	407-362-8170
Advertising Solutions And Printing, LLC	Nikki Smith	3191 Recker Highway	Winter Haven	FL	33880	Polk	nikki@asapone.com	863-291-6807
AirQuest Environmental, Inc.	Traci-Anne Boyle	6851 SW 45 ST	Davie	FL	33314	Broward	orders@AirQuestInc.com	954-792-4549
AirQuest Environmental, Inc.	Traci-Anne Boyle	2000 S Florida Avenue	Lakeland	FL	33803	Polk	orders@airquestinc.com	954-792-4549
Albe Stamp & Engraving	Gail Martin	2020 S. Combee Rd.	Lakeland	FL	33801	Polk	albestamp@aol.com	863-667-0778
All Earth Landscaping	Lasheka Ware	1868 Emily Dr	Winter Haven	FL	33884	Polk	AllEarthLandscaping@gmail.com	863-298-6796
Americoat Corporation	Shrikant Desai	POBOX2228	EATON PARK	FL	33840	Polk	AMERICOATUSA@YAHOO.COM	863-667-1035
AnointedHandz Cleaning Service LLC	Janan Hamilton	2557 Everleth Dr	Lakeland	FL	33810	Polk	anointedhandz@tampabay.rr.com	863-206-4128
ARTIS ENTERPRISES LLC	JOHN ARTIS	937 BLOOMINGDALE DR.	DAVENPORT	FL	33897	Polk	ARTISENTERPRISELCC@GMAIL.COM	517-505-1048
Atline Electric Services LLC	Lois Capers	2316 Hamlet Circle	Lakeland	FL	33810	Polk	atlineelectric@yahoo.com	863-934-1337
Auburndale Fruit Co., Inc	Jennifer Helms	4970 Lake Lowery Rd	Lake Alfred	FL	33850	Polk	jhelms@auburndalefruit.com	863-956-1600
AVON MODULAR	Alan de Zayas	1074 South Florida Avenue	Lakeland	FL	33803	Polk	avonmodular@tampabay.rr.com	866-434-6889
AVON MODULAR	Alan de Zayas	1074 South Florida Avenue	Lakeland	FL	33803	Polk	avonmodular@tampabay.rr.com	866-434-6889
Avon Modular,LLC.	Alan B deZayas	1074 S Florida Av.	Lakeland	FL	33803	Polk	avonmodular@tampabay.rr.com	866-434-6889
AWC Pool Remodeling Inc	Charles Wilson	P.O. BOX 4059	WINTER HAVEN	FL	33885	Polk	coolshade2@verizon.net	863-293-8701
AWC Pool Remodeling Inc	Charles Wilson	P.O. BOX 4059	Winter Haven	FL	33881	Polk	coolshade2@verizon.net	863-293-8701
AWC Pool Remodeling, Inc.	Charles Wilson, Sr	549 Avenue T NE	Winter Haven	FL	33881	Polk	coolshade2@verizon.net	863-293-8701
Blackmon Roberts Group, Inc.	Sylvia Blackmon-Roberts	902 South Florida Avenue,	Lakeland,	FL	33803	Polk	sylvia@blackmonroberts.com	863-802-1280
Clark Environmental, Inc.	Megan Hall	755 Prairie Industrial Pkwy	Mulberry	FL	33860	Polk	mhall@clarkenvironmental.com	863-425-4884
Clark/Nikdel, Inc.	Melea Gernert	62 4th Street NW	Winter Haven	FL	33881	Polk	melea@nikdel.com	863-299-9980
CO Services LLC	Michael Covington	P.O. Box 1500	Eagle Lake	FL	33839	Polk	rconsult-mike@tampabay.rr.com	863-877-0595
CO Services LLC	Michael Covington	12 W Eagle Ave	Eagle Lake	FL	33839	Polk	mikec@coservicesllc.com	863-877-0595
Collins Survey Consulting LLC	Dianne Collins	5915 Lake Luther Rd	Lakeland	FL	33805	Polk	dcollins@collinsurvey.com	863-937-9052
Compass Real Estate Consulting Inc.	Shawn Wilson	120 East Pine Street	Lakeland	FL	33801	Polk	shawn@shawnwilson.com	863-688-3614
Computer Merchandise Corporation	Tim McNabb	P.O. Box 6129	Lakeland	FL	33807-6129	Polk	contactus@cmcddata.com	863-644-0617
Deans Environmental Services LLC	Kyle Dean	2126 Whispering Trails Blvd	Winter Haven	FL	33884	Polk	deank8859@aol.com	863-595-8255
Digitech of Lakeland, Inc. dba Digitech Graphics	Barbara Balingit	3020 Winter Lake Road	Lakeland	FL	33803	Polk	barbara@dtechgraphics.com	863-668-8770
Document Advantage Corporation	Jana Wiggins	6039 Cypress Gardens Blvd	Winter Haven	FL	33884	Polk	jana.wiggins@docuantage.com	863-326-6360
Douglass Screen Printers, Inc.	Debbie Carrigan	2710 New Tampa Hwy	Lakeland	FL	33815	Polk	dcarrigan@dsp-cando.com	800-888-8545
DUFFY AND LEE COMPANY	EDITH DUFFY	3333 S W 13TH AVENUE	FT. LAUDERDALE	FL	33315	Broward	DUFFYLEE@AOL.COM	954-467-1288
DUFFY AND LEE COMPANY	EDITH DUFFY	4960 LAKE LAND COMMERC	LAKE LAND	FL	33805	Polk	DUFFYLEE@AOL.COM	954-467-1288
E & A Cleaning, Inc.	Jeremiah Johnston	529 W. Brannen Rd.	Lakeland	FL	33813	Polk	eacleaning@verizon.net	863-644-4927
Engineered Design Services LLC	Craig McKenzie	2028 Shepherd Road #207	Mulberry	FL	33860	Polk	craigmckenzie@edsengineers.com	863-354-3026
Exclusive Contractors, Inc.	Liz Burse	277 S. 10th avenue	Bartow	FL	33830	Polk	roadcontractor2@yahoo.com	863-559-1039
Exclusive Contractors, Inc.	Liz Burse	277 S. 10th avenue	Bartow	FL	33830	Polk	roadcontractor2@yahoo.com	863-559-1039
F & F Case Management, Inc	Jane Nolte-Wiener	PO Box 6900	Lakeland	FL	33807	Polk	jan5444@aol.com	800-282-9101
F & F Case Management, Inc	Jane Nolte-Wiener	PO Box 6900	Lakeland	FL	33807	Polk	jan5444@aol.com	800-282-9101
Fisher's Landscape Maintenance	Michael Fisher	923 Jere Circle	Lakeland	FL	33801-3023	Polk	33801302@tampabay.rr.com	863-665-3982
Florida General Coatings, Inc.	Valeria Nyaga-Ileri	5933 Velvet Loop	Lakeland	FL	33811	Polk	nyaga@tampabay.rr.com	863-698-4587
Full Circle Concrete Core Drilling LLC	Thomas Creelman	4482 Creekside Dr.	Mulberry	FL	33860	Polk	fullcircledrilling@gmail.com	813-704-5910
FURTAH, INC	CINDY ADAMS	1350 E Main Street Suite C1	Bartow	FL	33831	Polk	cadams@mbamedi-test.com	863-533-7484
Gallies Enterprise, Inc	Basil Gallimore	425 Rio grande Court	Kissimmee	FL	34759	Polk	galliesride@gmail.com	866-611-5471
GLT OFFICE SUPPLY, INC	BRENDA WISE	P.O. Box 3829	Lakeland	FL	33802-3829	Polk	bjwise2@gltooffice.com	800-393-9473
Gulf Coast Avionics Corporation	Rick Garcia	3650 Drane Field Rd.	Lakeland	FL	33811	Polk	RG122260@aol.com	863-709-9714
Heart of Gold Senior Services	lisa wade	209 fern rd	winter haven	FL	33880	Polk	heartofgoldsrsvs@yahoo.com	863-595-8927
Human Capital Resources and Concepts Inc	Marnice Miller	128 Palmetto Ave NW	Lakeland	FL	33881	Polk	marnice.miller@hcrconcepts.com	3013510724
Hydro Solutions Consulting LLC	Roberto Beltran	3616 Harden Blvd	Lakeland	FL	33803	Polk	RBeltransr@Hydrosc.com	863-559-2472
Hydro Solutions Consulting LLC	Roberto Beltran	3616 Harden Blvd	Lakeland	FL	33803	Polk	RBeltransr@Hydrosc.com	863-559-2472
IMPERIAL TESTING & ENGINEERING	AL MCGHIN	3905 KIDRON RD	LAKE LAND	FL	33811-1293	Polk	al@imperialtesting.com	863-647-2877
International Sun Travel Agency, Inc.	Blanche Bryant	705 East Main Street	Bartow	FL	33830	Polk	blanche@intlsun.webmail.com	863-533-0511

Investments by Lizzie, Inc.	Lizzie Wilson	702 El Paseo Drive	Lakeland	FL	33805	Polk	investbiblically1@gmail.com	8634305855
Jack Harris Design	Jack Harris	1074 South Florida Av.	Lakeland	FL	33881	Polk	jackharrisdesign@yahoo.com	863-877-5902
Jarrett Gordon Ford, Inc.	Anthony Gordon	2600 Access Rd N.W.	Davenport	FL	33897	Polk	anthonygordon@jarrettford.com	863-422-1167
JD HealthCare Partners, LLC	Darrell Contreras	1644 Skinner Street	Lakeland	FL	33801	Polk	invoice@jdhealthcarepartners.com	863-797-9917
Jerue Logistics Solutions, LLC	Stephanie Johnson	20 3rd Street SW	Winter Haven	FL	33807	Polk	sjohnson@jerue.com	863-607-5616
Jerue Logistics Solutions, LLC	Stephanie Johnson	3200 Flightline Dr. Ste. 101	Lakeland	FL	33811	Polk	sjohnson@jerue.com	863-607-5616
KAY-LOU LLC	Sheri Jenkins	1207 Greenvue Dr	Lakeland	FL	33805	Polk	kay.lou.llc@gmail.com	813-312-4279
Kyra Solutions, Inc. (formerly known as Kyra Info1	Rupal Patel	4454 Florida National Drive	Lakeland	FL	33813	Polk	rpatel@kyrasolutions.com	863-686-2271
Kyra Solutions, Inc. (formerly known as Kyra Info1	Rupal Patel	4454 Florida National Drive	Lakeland	FL	33813	Polk	rpatel@kyrasolutions.com	863-686-2271
Landmark Civil Services LLC	julie garrard	5578 commercial blvd	winter haven	FL	33880	Polk	julieg@garrardinc.com	863-967-3992
LMR Construction, Inc.	Luis Montanez	997 Dawes Rd	Frostproof	FL	33843	Polk	lmr_montanez@hotmail.com	863-635-4651
Mabe Production and Installation, Inc.	Lorraine Mabe	924 Fairlane Drive	Lakeland	FL	33809	Polk	lorraine@mabepro.com	863-859-2354
MCD Geosciences and Engineering, Inc.	Heather Cain	331 S. First Street	Lake Wales	FL	33853	Polk	hcain@sinkhole-expert.com	863-676-2600
MDM Services, Inc.	Dhivy Sathianathan	1055 Kathleen Road	Lakeland	FL	33805	Polk	dhivy@mdmservices.com	863-646-9130
Mercurial, LLC	Karyn Barker	1109 Lake Point Terrace	Lakeland	FL	33813	Polk	bids@mercurialcreative.com	863-712-6007
Mercurial, LLC	Karyn Barker	41 Orange Avenue	Rockledge	FL	32955	Brevard	bids@mercurialcreative.com	863-712-6007
Multicultural Marketing Services, Inc.	Emma Lawson	P. O. Box 2713	Haines City	FL	33845	Polk	eglawson@hotmail.com	863-422-8849
Multicultural Marketing Services, Inc.	Emma Lawson	P. O. Box 2713	Haines City	FL	33845	Polk	eglawson@hotmail.com	863-422-8849
Office Furniture Depot	Joanne Boles	2440 U.S. Highway 98, N.	Lakeland	FL	33805	Polk	j.boles@officefurnituredepot.com	863-682-3450
Office Furniture Depot	Joanne Boles	2440 U.S. Highway 98, N.	Lakeland	FL	33805	Polk	j.boles@officefurnituredepot.com	863-682-3450
One Source Solutions Logistics LLC	Karen Johnson	PO Box 93163	Lakeland	FL	33804	Polk	OSSLogisticsllc@gmail.com	813-344-7532
Parry's Lawn & Landscape, Inc.	Tiffany Parry	P.O. Box 2810	Lakeland	FL	33806	Polk	thp@parrysland.com	863-937-4733
Patel, Greene, & Associates, PLLC	Hiren Patel	555 West Main Street	Bartow	FL	33830	Polk	hiren@patelgreene.com	863-533-7317
PATRIOT SUPPLIERS	WILLIAM MOREY	1424 Royal Forest Loop	Lakeland	FL	33811	Polk	cmorey3742@aol.com	863-712-0534
patriot suppliers	William Morey	1424 Royal Forest Loop	Lakeland	FL	33811	Polk	cmorey3742@aol.com	863-712-0534
Perpetual Technology Solutions	Connie Nickerson	2525 Drane Field Rd Ste 10	Lakeland	FL	33811	Polk	connie.nickerson@pt-solutions.com	863-644-1120
Perpetual Technology Solutions	Connie Nickerson	2525 Drane Field Road	Lakeland	FL	33811	Polk	connie.nickerson@pt-solutions.com	863-644-1120
Perpetual Technology Solutions	Connie Nickerson	2525 Drane Field Rd. Suite 10	Lakeland	FL	33811	Polk	connie.nickerson@pt-solutions.com	863-644-1120
Phoslab Environmental Services Inc.	George Fernandez	806 w.beacon rd.	lakeland	FL	33803	Polk	georgeaf@phoslab.com	863-682-5897
Platinum Services Group, LLC	Rene LaPorte	561 Harriswod Ct	Davenport	FL	33837	Polk	Rene@psgfla.com	321-284-6889
Premiere Commercial Furniture & Design, LLC	Vicki White	160 Fitzgerald Road	Lakeland, FL	FL	33813	Polk	vicki.white@pcf-d.com	863-648-2000
ProPlus Products, Inc.	Holly Lyle	PO Box 426	bowling Green	FL	33834	Polk	purchase@proplusproducts.com	863-375-2487
Pyramid Fasteners	Theresa Pickard	620 South First Avenue	Bartow	FL	33830	Polk	PyramidFas@aol.com	863-533-0875
Rita Temporaries Inc dba Rita Staffing	Rich Hames	PO Box 6955	Lakeland	FL	33807	Polk	rhames@ritastaffing.com	863-646-5021
Robby's Septic Tank Service, Inc.	Beverly McLauchlin	9158 Hall Road	Lakeland	FL	33809-1507	Polk	mcllauchlinb@tampabay.rr.com	863-858-6293
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S.E. McDonough & Associates, Inc.	Susan McDonough	4921 Southfork Drive	Lakeland	FL	33813	Polk	sema@tampabay.rr.com	863-709-0590
Seminole Brand Development	Allison Lee	650 Avenue R S.W.	Winter Haven	FL	33880	Polk	alee@sempride.com	863-294-3577
Seminole Brand Development LLC	Connie West	P O Box	Winter Haven	FL	33882	Polk	cwest@sempride.com	863-299-3755
SLS Publications, LLC	Lori Madden	5050 Ralston Road	Lakeland	FL	33811	Polk	info@sbspublishings.com	863-648-2614
SPRINGER CONSTRUCTION INC	Brandon Shelley	2622 Lonhorn Dr.	LAKELAND, FLO	FL	33801	Polk	brandon@springerconstructionco.com	863-899-9171
STAG Industries LLC	Michelle Stagner	5718 Yates Road	Lakeland	FL	33811	Polk	michellestag@gmail.com	863-646-4572
T GREGORY CONSTRUCTION, INC	Gregory Bell	2204 2nd Street N.E.	Winter Haven	FL	33881	Polk	tbell@tggregoryconstruction.com	863-294-6003
T GREGORY CONSTRUCTION, INC	Gregory Bell	2204 2nd Street N.E.	Winter Haven	FL	33881	Polk	tbell@tggregoryconstruction.com	863-294-6003
The A. D. Morgan Corporation	Rebecca Smith	716 N. Renellie Dr.	Tampa	FL	33609	Hillsborough	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	109 King Street	Cocoa	FL	32922	Brevard	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	2411 Manatee Avenue W	Bradenton	FL	34205	Manatee	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	1661 Williamsburg Square	Lakeland	FL	33806	Polk	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	3405 SW College Road	Ocala	FL	34474	Marion	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	716 N. Renellie Dr.	Tampa	FL	33609	Hillsborough	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	109 King Street	Cocoa	FL	32922	Brevard	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	2411 Manatee Avenue W	Bradenton	FL	34205	Manatee	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	1661 Williamsburg Square	Lakeland	FL	33806	Polk	mpilger@admorgan.com	813-832-3033
The A. D. Morgan Corporation	Rebecca Smith	3405 SW College Road	Ocala	FL	34474	Marion	mpilger@admorgan.com	813-832-3033

The Bush Global Group Corporation	Marshall Bush	1384 East MLK Drive	Bartow	FL	33830-5226	Polk	marshallb@bushglobalgroup.com	407-655-9776
The Bush Global Group Corporation	Marshall Bush	1032 E. MLK Drive	Bartow	FL	33830	Polk	marshallb@bushglobalgroup.com	407-655-9776
The Hampton Educational Services Group, Inc.	Celeste Hamilton	313 Dolphin Way	Kissimmee	FL	34759	Polk	thehampton_group@yahoo.com	305-332-3097
TMJ Construction	mercia Burt	935 Tangelo Circle	Bartow	FL	33831	Polk	tmjconstruction@rocketmail.com	863-559-5868
TMJ Construction	mercia Burt	935 Tangelo Circle	Bartow	FL	33831	Polk	tmjconstruction@rocketmail.com	863-559-5868
WATTS CONSTRUCTION, INC.	NICOLE WATTS	123 Lesall Drive, West	Haines City	FL	33844	Polk	nickiwatts@aol.com	863-412-1039
WATTS CONSTRUCTION, INC.	NICOLE WATTS	123 Lesall Drive, West	Haines City	FL	33844	Polk	nickiwatts@aol.com	863-412-1039
Xcellent Xteriors	ryan edrington	4146 shade tree ln	lakeland	FL	33812	Polk	lakelandpressurewashing@gmail.com	863-838-6850
Xtremely Clean Janitorial Service, LLC.	Wanda Barton	po box 1434	Highland City	FL	33846	Polk	xtremelycleanjanitorialservice@gmail.com	863-660-9199
Hardee County Disposal, Inc.	Sophia Bonjokian	P.O. Box 606	Wauchula	FL	33873	Hardee	sbonjokian@yahoo.com	863-773-6079
WD Environmental Inc.	Charlotte Terrell	1013 Briarwood Drive	Wauchula	FL	33873	Hardee	charlotteterrell@earthlink.net	863-781-6971

CDBG SIGN REQUIREMENTS

2 1/2" spaces	<p>HIGHLANDS COUNTY</p> <p>2014 NEIGHBORHOOD REVITALIZATION</p> <p>W</p> <p>SEWER AND DRAINAGE IMPROVEMENT PROJECT, PHASE II</p> <p>FLORIDA COMMUNITY DEVELOPMENT BLOCK GRANT</p>	3" letters
	<p>BOARD OF COUNTY COMMISSIONERS</p> <p>→ R. GREG HARRIS, CHAIR ←</p> <p>→ JAMES L. BROOKS, VICE CHAIR ←</p> <p>→ DON ELWELL, RON HANDLEY ←</p> <p>→ JACK L. RICHIE ←</p>	2" letters
2" spaces	<p>COUNTY ADMINISTRATOR: RANDAL E. VOSBURG</p>	1 1/2" letters
	<p>CONTRACTOR: (INSERT NAME, ADDRESS, NUMBER)</p>	
<p>(NAME HERE)</p> <p>ENGINEER</p> <p>(ADDRESS HERE)</p>	<p>1 1/2" (WITH 1" SPACES)</p>	<p>GUARDIAN CRM, INC</p> <p>GRANTS MANAGER</p> <p>DADE CITY, FLORIDA</p>
	<p>EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER</p>	1" letters



1.0. EMPLOYMENT ELIGIBILITY VERIFICATION.

The Immigration Reform and Control Act of 1986 prohibits employers from knowingly hiring illegal workers. The Contractor shall only employ individuals who may legally work in the United States – either U.S. citizens or foreign citizens who are authorized to work in the U.S. The Contractor shall use the U.S. Department of Homeland Security's E-Verify Employment Eligibility Verification system (<http://www.uscis.gov/portal/site/uscis>) to verify the employment eligibility of:

- all persons employed by the Contractor, during the term of this Agreement, to perform employment duties within Florida; and,
- all persons (including subcontractors) assigned by the Contractor to perform work pursuant to this Agreement.

The Contractor shall include the following provisions in all subcontracts it enters into for the performance of work under the Agreement with the County for the Lake Blue Water Main Replacement Project:

- (a) Prior to executing a contract, each contractor shall certify that, at the time of the certification, it does not knowingly employ or contract with an illegal alien who will perform work under the contract and that the contractor will participate in the e-verify program in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the contract.

The Sponsor agrees that it will enroll and participate in the federal E-Verify Program for Employment Verification under the terms provided in the "Memorandum of Understanding" governing the program. The Sponsor further agrees to provide to the Department, within thirty (30) days of the effective date of this Agreement, documentation of such enrollment in the form of a copy of the E-Verify "Edit Company Profile" screen", which contains proof of enrollment in the E-Verify Program (this page can be accessed from the "Edit Company Profile" link on the left navigation menu of the E-Verify employer's homepage).

- (b) The contractor shall not:
- (1) Knowingly employ or contract with an illegal alien to perform work under the contract;
or
 - (2) Enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under the contract.
- (c) Each contract shall also include the following provisions:
- (1) A provision stating that the contractor has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under the contract through participation in the e-verify program;

-
- (2) A provision that prohibits the contractor from using the e-verify program procedures to undertake pre-employment screening of job applicants while the contract is being performed and that otherwise requires the contractor to comply with any and all federal requirements related to use of the e-verify program including, by way of example, all program requirements related to employee notification and preservation of employee rights;
 - (3) A provision that, if the contractor obtains actual knowledge that a subcontractor performing work under the contract knowingly employs or contracts with an illegal alien, the contractor shall be required to:
 - a. Notify the subcontractor and the County within three (3) days that the contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and
 - b. Terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required pursuant to sub-subparagraph a. of this subparagraph (3) the subcontractor does not stop employing or contracting with the illegal alien; except that the contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.
 - (4) A provision that requires the contractor to comply with any reasonable request by the Department of Labor, County or auditor made in the course of an investigation that is being undertaken pursuant to the authority established in the County's funding agreement.
- (d) If a contractor violates a provision of the contract required pursuant to subsections (b) or (c) of this section, the County may terminate the contract for a breach of the contract. If the contract is so terminated, the contractor shall be liable for actual and consequential damages to the County. Any such termination of a contract due to a violation of this section may also, at the discretion of any County department or agency responsible for soliciting contract bids and proposals, constitute grounds for disqualifying the violator from submitting bids or proposals for future contracts with the County.

**CONTRACTOR EMPLOYMENT ELIGIBILITY
VERIFICATION AFFIDAVIT AND AGREEMENT**

The Highlands County Board of County Commissioners (County) and Contractor agree that compliance with the Immigration Reform and Control Act of 1986 are conditions of the Agreement for the physical performance of services for the Lake Blue Water Main Replacement Project project.

By executing this affidavit, the undersigned contractor verifies its compliance with the Immigration Reform Control Act, stating affirmatively that the individual, firm, or corporation which is contracting with the County has registered with and is participating in the federal work authorization program known as "E-Verify", web address <https://e-verify.uscis.gov/enroll> operated by the United States Citizenship and Immigration Services Bureau of the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with the Highlands County Board of County Commissioners, contractor will secure from such subcontractor(s) similar verification of compliance. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the Highlands County Board of County Commissioners at the time the subcontractor(s) is retained to perform such service.

By signing below, the Contractor certifies that:

1. The Contractor does not and will not knowingly employ or contract with an illegal alien who will perform work under the contract and that the contractor will participate in the e-verify program in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the contract.

As proof of enrollment the Contractor has attached to this affidavit, documentation of such enrollment in the form of a copy of the E-Verify "Edit Company Profile" screen", which contains proof of enrollment in the E-Verify Program (this page can be accessed from the "Edit Company Profile" link on the left navigation menu of the E-Verify employer's homepage).

2. The Contractor will not enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under the contract.
3. All contracts with subcontractors will contain the provisions contained in Section 00802 Employment Eligibility Verification contained in the Project Manual.
4. The contractor has not used/will not use the e-verify program procedures to undertake pre-employment screening of job applicants while the contract is being performed and will comply with any and all federal requirements related to use of the e-verify program

including, by way of example, all program requirements related to employee notification and preservation of employee rights.

5. If the contractor obtains actual knowledge that a subcontractor performing work under the contract knowingly employs or contracts with an illegal alien, the contractor shall be required to:
 - a. Notify the subcontractor and the County within three (3) days that the contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and
 - b. Terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required the subcontractor does not stop employing or contracting with the illegal alien; except that the contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.
6. The contractor will comply with any reasonable request by the Department of Labor, County or auditor made in the course of an investigation that is being undertaken pursuant to the authority established in the County's funding agreement.

E-Verify Employment Eligibility Verification User Identification Number

Name of Contractor

Signature of Authorized Officer or Agent of Contractor

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent of Contractor

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE ____ DAY OF _____, 20____.

Notary Public

My Commission Expires: _____

SECTION 00805
SUPPLEMENTARY CONDITIONS

1.0 INTRODUCTION:

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. EJCDC C-700, 2007 ed.) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

2.0 GENERAL CONDITIONS - REVISIONS AND/OR CLARIFICATIONS:

SC-1.01 The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (No. EJCDC C-700, 2002 ed.) have the meanings assigned to them in the General Conditions. The term 'Project Manual' is used interchangeably with the term 'Specifications' throughout the contract documents.

SC-2. Delete Paragraph 2.02. of the General Conditions in its entirety and insert the following in its place:

"Copies of Documents:

- 2.2. After the award of the Contract, the Owner will furnish the Contractor with one (1) complete set of the Contract Documents for execution of the work at no cost. Additional sets of the Project Manual and Drawings and/or individual pages or sheets of the Project Manual or Drawings will be furnished by the Engineer upon Contractor's request and at the Contractor's expense which will be the Engineer's standard charges for printing and reproduction."

SC-4.02 Add the following new paragraphs immediately after Paragraph 4.02B:

- C. In the preparation of Drawings and Specifications, Engineer relied upon the following reports of explorations and tests of subsurface conditions at the Site:

N/A

- D. Copies of reports and drawings itemized in SC-4.02.C that are not included with Bidding Documents and that may be examined at Owner's office during business hours are the following:

N/A

These reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely as identified and established above are incorporated therein by reference. Contractor is not entitled to rely upon other information and data utilized by Engineer in the preparation of Drawings and Specifications.

Contractor is also required to visit the Site to become familiar with and satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work. This is to involve an alert, heads-up, eyes-open, reasonable examination of the area and the conditions under which the Work is to be performed (see GC-4.03.C.2.b).

SC-5.01. Delete Paragraph 5.01.A. of the General Conditions in its entirety and insert the following in its place:

- A. Contractor shall furnish a payment and performance bond in an amount at least equal to the Contract Price, in complete satisfaction of the provisions of Section 255.05, Florida Statutes, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. The form of the payment and performance bond shall be in the form of the Pubic Construction Bond provided by Owner in Section 00600 of the ITB issued by Owner for construction of the Work. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws and Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract. Contractor shall record that bond in the Public Records of Highlands County, Florida, as required by Section 255.05(1), Florida Statutes.

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

- C. Contractor shall have and maintain in full force and effect the following insurance during the Term of this Contract and shall furnish to County Certificates of Insurance documenting that insurance coverage has been obtained which meets the following requirements:
 - 1. Workers' Compensation. Contractor shall have and maintain workers' compensation insurance for all employees for statutory limits in compliance with Laws and Regulations. This insurance policy must include Employer's Liability with a limit of \$100,000 each accident, \$500,000 disease (policy Limit), and \$100,000 disease (each employee).
 - 2. Commercial General Liability. Occurrence Form Required: Contractor shall have and maintain commercial general liability (CGL) insurance with a limit of not less than \$3,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project in the amount of \$3,000,000. Products and completed operations aggregate shall be \$3,000,000. CGL insurance shall be written on an occurrence form and shall include bodily injury and property damage liability for premises, operations, independent contractors, products and completed operations, contractual liability, broad form property damage and property damage resulting from explosion, collapse or underground (x, c, u) exposures, personal injury, and advertising injury. Fire damage liability shall be included at \$100,000.

3. Commercial Auto Liability Insurance. Contractor shall have and maintain commercial automobile liability insurance with a limit of not less than \$3,000,000 combined single limit per occurrence for bodily injury and property damage liability. That insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos). The policy shall be endorsed to provide contractual liability coverage.
4. Umbrella Excess Liability - Contractor may satisfy the required minimum liability limits with an Umbrella or Excess Liability policy. Contractor agrees to endorse Owner and its elected officials, agents, employees, and volunteers, in the manner required by Paragraph 6.03.K.7, as Additional Insureds unless the Umbrella provides "follow form" provisions of the underlying policies. This must be confirmed in writing on the Certificate of Insurance.
5. Deductibles/Retentions - Contractor is responsible for any expenses or costs below deductibles applicable to any policies. The Contractor's self-insured retention or deductible per line of coverage shall not exceed \$50,000.00 without the permission of the Owner.
6. Formal Certificates of Insurance shall be delivered by Contractor to Owner upon execution of the Agreement. Certificates of Insurance shall be signed by a person authorized by that insurer to bind coverage on its behalf. All Certificates of Insurance must be on file with and approved by Owner before commencement of any Work activities.
7. The formal insurance certificates shall name "Highlands County, a political subdivision of the State of Florida and its elected officials, agents, employees and volunteers" as "Additional Insureds" on all policies except Workers' Compensation. Additional Insureds status for Completed Operations must be provided without time limitation or for a minimum of 5 years following completion of the Project.
8. These are minimum requirements which are subject to modification in response to high hazard operations. Owner reserves the right to require Contractor to provide and pay for any other insurance coverage Owner deems necessary, depending upon the possible exposure to liability.
9. The policies of insurance shall be written on forms acceptable to Owner and placed with insurance carriers authorized by the Insurance Department in the State of Florida and meet a minimum financial AM Best company rating of no less than "A- Excellent: FSC VII.
10. All policies must include Waiver of Subrogation and any liability aggregate limits shall apply "Per Jobsite"/Per Job Aggregate. All liability insurance shall be Primary and Non-Contributory. Each Certificate of Insurance shall confirm in writing that these provisions apply.

- D. Contractor shall require each Subcontractor to have and maintain the insurance required by Paragraph 5.04.C. This requirement may be modified by Owner by written instrument on a case by case basis, in its sole discretion. All Contractor's subcontractors shall be required to include Owner and Contractor as additional insured on their General Liability Insurance policies. It is the responsibility of the Contractor to ensure that all Subcontractors comply with all insurance requirements. In the event that subcontractors used by the Contractor do not have insurance, or do not meet the insurance limits, Contractor shall indemnify and hold harmless the Owner for any claim in excess of the subcontractors' insurance coverage.
- E. Contractor shall provide the Owner with a certified copy of each policy applicable to this Agreement followed thereafter by an annual Certificate of Insurance satisfactory to the Owner to evidence such coverage before any work commences. Such certificates will provide that there shall be no termination, non-renewal, modification or expiration of such coverage without ten (10) days prior written notice to the Owner. Notice of cancellation shall be sent via certified mail to both of the following:

Highlands County Board of County Commissioners
600 S. Commerce Ave.
Sebring, Florida 33870

Joseph R. Barber, P.E.
311 West Interlake Blvd.
Lake Placid, Florida 33852

The Owner shall be named as an additional insured on all Contractor policies related to the project, excluding worker's compensation. The policies shall contain a waiver of subrogation as against the Owner. All insurance coverage shall be written with an insurer having an A.M. Best Rating of at least the "A" category of VIII.

- F. The Contractor shall not be relieved of or excused from the obligation to obtain and maintain such insurance amounts and coverages.
- G. Owner may, at its sole discretion, purchase such insurance at Contractor's expense provided that the Owner shall have no obligation to do so and if the Owner shall do so, it shall not relieve Contractor of its obligation to obtain insurance.
- H. The Contractor shall not commence work under this Agreement until all insurance required as stated herein has been obtained and such insurance has been approved by the Owner.
- I. Any failure by the Contractor to comply with the provisions of this Paragraph 5.04, the Owner may, as its option, on notice to the Contractor, suspend the work for cause until there is full compliance.

SC-5.05. Delete Paragraph 5.05. of the General Conditions in its entirety.

SC-5.06. Delete Paragraph 5.06. of the General Conditions in its entirety and insert the following in its place:

5.06. Property Insurance.

- A. The Contractor shall purchase and maintain until final payment property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in these Supplementary Conditions or required by Laws and Regulations). This insurance shall include the interests of the Owner, the Contractor, subcontractors, the Engineer, and the Engineer's consultants in the Work (all of whom shall be listed as insured or additional insured parties), shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in these Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance, the Contractor shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment. These policies of insurance required to be purchased and maintained by the Contractor in accordance with this Paragraph 5.06.A. shall comply with the requirements of Paragraph 5.06.C. of the General Conditions.
- B. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- C. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 506 to protect the interests of Contractor, Subcontractors, or others in the Work. The risk of loss will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage in addition to that required in Paragraph 5.06.A. each may purchase and maintain it at the purchaser's own expense.

SC-6.20 Provisions of the Contract Documents provides for indemnification of OWNER and others by CONTRACTOR. Each such provision shall be separately subject to a maximum liability of \$10,000,000.

SC-11.03 For purposes of Paragraph 11.03.D.1. of the General Conditions, "materially and significantly" shall be defined as a variation of $\pm 15\%$.

SC-13.06 Add a new Subparagraph 13.06.C. as follows:

"The CONTRACTOR shall not be entitled to an extension of the Contract Time for correcting or removing defective Work."

- SC-14.02. Amend the last sentence of Paragraph 14.02.C. of the General Conditions to read as follows:

"OWNER shall, within thirty-one days of presentation to OWNER of the Application for Payment with ENGINEER's recommendation, pay CONTRACTOR the amount recommended."

- SC-14.07. Add a new paragraph immediately after Paragraph 14.07.3. of the General Conditions to read as follows:

14.07.4. "Notwithstanding any other provision of these Contract Documents to the contrary, OWNER and ENGINEER are under no duty or obligation whatsoever to any vendor, materials provider, subcontractor, laborer or other party to ensure that payments due and owing by the CONTRACTOR to any of them are or will be made. Such parties shall rely only on the CONTRACTOR's surety bonds for remedy of nonpayment by CONTRACTOR."

- SC-16.01. Add a new Paragraph 16.01.D. of the General Conditions to read as follows:

16.01.D. "Disputes between OWNER and CONTRACTOR shall be arbitrated only if and to the extent agreed to by the parties at the time each dispute arises. The CONTRACTOR will carry on the Work and maintain the progress schedule during any dispute, regardless of how resolved, unless otherwise mutually agreed in writing between OWNER and CONTRACTOR."

- SC-16.01. Add a new Paragraph 16.01.E. of the General Conditions to read as follows:

16.01.E. Dispute resolution mediation may be conducted by the parties voluntarily first. Mediation shall be conducted in Highlands County, Florida by a mediator certified to conduct mediation in the Tenth Judicial Circuit Court in and for Highlands County, Florida. Further mediation shall be conducted in accordance with the Florida Rules of Civil Procedure and Florida Law.

- SC-17.03. Add the following sentence to the end of Paragraph 17.03. in the General Conditions:

"All representations, warranties, and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement. Also, the obligation of the CONTRACTOR to maintain the Work until Initiation of Operation shall survive final payment and termination and completion of this Agreement."

3.0 GENERAL CONDITIONS - ADDITIONS:

3.1 Venue Provision: Venue for any action arising under this Agreement shall be in the state courts in and for Highlands County, Florida.

3.2 Integration Clause: This Agreement constitutes the entire understanding of the parties and there are no representations, warranties, covenants or undertakings other than those expressly set forth herein. No amendments, modifications, or changes to this Agreement shall be binding upon the parties unless in writing and executed by all parties hereto with the same formality as this Agreement.

3.3 Attorneys' Fees and Costs: In the event of a dispute arising under this Agreement, including either parties' right to indemnification, whether or not a lawsuit or other proceeding is filed, the prevailing party shall be entitled to recover its reasonable attorneys' fees and costs, including attorneys' fees and costs incurred in litigating entitlement to attorneys' fees and costs, as well as in determining or quantifying the amount of recoverable attorneys' fees and costs. The reasonable costs to which the prevailing party is entitled shall include costs that are taxable under any applicable statute, rule or guideline, as well as non-taxable costs, including, but not limited to, costs of investigation, copying costs, electronic discovery costs, telephone charges, mailing and delivery charges, information technology support charges, consultant and expert witness fees, travel expenses, court reporter fees, and mediator fees, regardless of whether such costs are otherwise taxable.

END OF SECTION

SECTION 00841**NOTICE OF AWARD FORM**

[name of contractor]
[street address]
[city], [state] [zip code]

Owner: Highlands County Board of County Commissioners
Project: Lake Blue Water Main Replacement Project

Date of Bid Opening: [date]

You are notified that your bid dated [bid date], for the above Project has been considered, and the OWNER expects to award you a contract for this Project:

The Contract Price of your contract is [bid price spelled out] ([bid price]).

Two (2) copies of each of the following proposed Contract Documents (except Project Manual and Drawings) accompany this Notice of Award:

- Construction Agreement
- Notice of Award

You must comply with the following conditions precedent to the award of the contract within ten (10) days of the date of the Notice of Award.

1. You must deliver to the OWNER two (2) fully executed counterparts of the Agreement.
2. You must deliver with the executed Agreement two (2) completed original documents with original signatures on the Payment and Performance Bond in the form specified in the Bidding Documents.
3. You must provide in writing the correct name and address of the surety which is providing the Public Construction Bond and the correct name and address of the surety's resident agent for service of process in Florida.
4. You must deliver with the executed Agreement two (2) completed, with original signatures, Certificates and Endorsements of Insurance in the form specified in the Bidding Documents.

Failure to comply with these conditions within the time specified will entitle the OWNER to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited.

Within ten (10) days after you comply with these conditions, the OWNER will return to you one (1) certified copy of the fully executed Agreement with the Contract Documents attached.

OWNER:

ACCEPTANCE OF AWARD:

(Contractor)

(Authorized Signature)

(Address)

(Title)

(Authorized Signature Acknowledge
Receipt of Notice)

(Printed Title)

(Printed Date)

Copy to Envisors
(Use Certified Mail, Return Receipt Requested)

SECTION 00842**NOTICE TO PROCEED FORM**

To: [name of contractor]
[street address]
[city], [state] [zip code]

Date: [date]

RE: NOTICE TO PROCEED ON PROJECT

Owner: Highlands County Board of County Commissioners

Project: Lake Blue Water Main Replacement Project

Dear Sir/Madam:

You are notified that the Contract Time under the above contract will commence to run on **[contract commence date]**. On that date you are to start performing the Work and to comply with your obligations under the Contract Documents. Based on the Contract Time stated in the Agreement, we calculate that the date Final Completion is **[final completion date]**.

Work at the site must be started by **[work start date]** as indicated in the Contract Documents.

Enclosed is one (1) set of Drawings and one (1) bound copy of the Project Manual containing:

Bidding and Contracting Requirements and Documents
General Requirements
Technical Specifications

BY ENGINEER:

Joseph R. Barber, P.E.

311 West Interlake Blvd.
Lake Placid, FL 33852

BY CONTRACTOR:

(Contractor)

(Address)

(863) 699-3737

(Telephone)

(Telephone)

(Fax)

(Fax)

lpubtilities@mylakeplacid.com

(e-mail)

(e-mail)

(Authorized Signature)

(Authorized Signature
Acknowledge of Receipt of Notice)

(Title)

(Title)

(Date)

(Date)

BY OWNER:

Highlands County Government Center

600 S. Commerce Ave..
Sebring, Florida 33870

(Authorized Signature)

(863) 402-6500

(Telephone)

(Title)

(Fax)

(Date)

purchasing@hcbcc.org

(e-mail)

NOTE: Contractor To Return Executed Original To Owner

SECTION 00843**CHANGE ORDER FORM**

Owner: Highlands County Board of County Commissioners
Project: Lake Blue Water Main Replacement Project

CHANGE ORDER NO. _____

DATE OF ISSUANCE: _____ CONTRACTOR: _____

EFFECTIVE DATE: _____ ENGINEER: Joseph R. Barber, P.E.

OWNER'S CONTRACT NO.: _____

The following changes are hereby made to the Contract Documents:

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price	Original Contract Times
\$	Substantial Completion: Ready for final payment: _____ days or dates
Net changes from previous Change Orders No.____ to No.____	Net change from previous Change Orders No.____ to No.____
\$ N/A	N/A days
Contract Price prior to this Change Order	Contract Times prior to this Change Order
\$	Substantial Completion: Ready for final payment:
Net Increase (decrease) of this Change Order	Net Increase (decrease) of this Change Order
\$	working days
Contract Price with all approved Change Orders	Contract Times with all approved Change Orders
\$	Substantial Completion: Ready for final payment:

CHANGES ORDERED:

- I. GENERAL: This change order is necessary to cover changes in the work to be performed under this Contract. The General Conditions, Supplementary Conditions, Specifications and all parts of the Project Manual listed in Article 1, Definitions, of the General Conditions apply to and govern all work under this change order.

Change Order No. _____

- II. REQUIRED CHANGES:
-
-
-
-
-
-
-
-

- III. JUSTIFICATION:
-
-
-
-
-
-
-
-

- IV. PAYMENT:
-
-
-
-
-
-
-
-

V. APPROVAL AND CHANGE AUTHORIZATION:

.....

.....

.....

.....

.....

.....

.....

.....

Acknowledgments:

The aforementioned change, and work affected thereby, is subject to all provisions of the original contract not specifically changed by this Change Order; and,

It is expressly understood and agreed that the approval of the Change Order shall have no effect on the original contract other than matters expressly provided herein.

Change Order Request by:

Change(s) Ordered by:

APPROVED BY:

ACCEPTED BY:

Joseph R. Barber, P.E.
(Engineer)

.....
(Contractor)

By: _____
(Authorized Signature) (Date)

(Authorized Signature) (Date)

(Title)

(Title)

APPROVED BY:

(Owner)

By: _____
(Authorized Signature) (Date)

END OF SECTION

SECTION 00845

SCHEDULE OF VALUES

Contractor: _____

Pay Estimate No. _____ Owner: Highlands County Board of County Commissioners, Florida

Project: Lake Blue Water Main Replacement Project

For Period Ending _____ Prepared by _____ Page ___ of ___

A	B	C	D	E	F	G		H		I
Item	Description	Bid Quantity	Units	Unit Price	Bid Amount	Complete Through Last Period		Complete Through This Period		Value of Items Completed
						Qty.	%	Qty.	%	

A	B	C	D	E	F	G		H		I
Item	Description	Bid Quantity	Units	Unit Price	Bid Amount	Complete Through Last Period		Complete Through This Period		Value of Items Completed
						Qty.	%	Qty.	%	
						Subtotals				

A	B	C	D	E	F	G		H		I
Item	Description	Bid Quantity	Units	Unit Price	Bid Amount	Complete Through Last Period		Complete Through This Period		Value of Items Completed
						Qty.	%	Qty.	%	

A	B	C	D	E	F	G		H		I
Item	Description	Bid Quantity	Units	Unit Price	Bid Amount	Complete Through Last Period		Complete Through This Period		Value of Items Completed
						Qty.	%	Qty.	%	
						Subtotals				

END OF SECTION

SECTION 00849**CONTRACTOR'S FINAL RELEASE OF LIEN**

Being first duly sworn, I state that I am _____ of _____, a _____ corporation, which is authorized to do business under the laws of Florida, and is the Contractor on the Contract described as: _____, hereinafter referred to as the "Contract" dated the _____ day of _____, 20____; that I am duly authorized to make this statement and Final Release of Lien for the Contractor by resolution of the Board of Directors of the Contractor; that I know of my own knowledge the Contract has been complied with in every particular by the Contractor and that all parts of the work have been approved by the Engineer and Highlands County, a political subdivision of the State of Florida; that there are no bills remaining unpaid for labor, material or otherwise, in connection with the Contract and work, and that there are no suits pending against the Contractor or anyone in connection with the work done and materials furnished or otherwise under the Contract. I further state that the final estimate which has been submitted to Highlands County, a political subdivision of the State of Florida simultaneously with the making of this statement constitutes all claims and demands against Highlands County, a political subdivision of the State of Florida on account of the Contract or otherwise, and the acceptance of the sum specified in that final estimate will operate as a full and final release and discharge of Highlands County, a political subdivision of the State of Florida from any further claims, demands or compensation by Contractor under the Contract. I further state that all guarantees under the Contract shall be in full force from the date of this release as provided in the Contract Documents.

Name of corporation
State of Incorporation _____

By: _____
Print Name: _____
Print Title: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____ 20____, by _____, as _____ of _____, who is personally known to me ☐ or who has produced _____ as identification ☐ and who did not take an oath.

Print Name: _____
Notary Public, State of Florida
My Commission Expires: _____

CONSENT TO PAYMENT

We, the _____ having heretofore executed a Public Construction Bond for the above-mentioned Contractor for the Project described in the Contract referenced in the Contractor's Final Release of Lien on page 00849-1 of this document in the sum of _____ dollars (\$_____), hereby agree that Highlands County, a political subdivision of the State of Florida may make payment of the final estimate, excluding the warranty retainage, if any, to the Contractor. The remaining one (1) year warranty retainage of \$_____ will be paid at the end of the one (1) year warranty period after all warranty items have been addressed.

It is fully understood that the granting of the right to Highlands County, a political subdivision of the State of Florida to make payment of the final estimate to the Contractor shall in no way relieve the surety company of its obligations under its bond, as set forth in the Specifications, Contract and Bond pertaining to the above Project.

IN WITNESS WHEREOF, THE _____ has caused this instrument to be executed on its behalf by its _____ and/or its duly authorized attorney in fact, and its corporate seal to be hereunto affixed, all of this _____ day of _____, A.D., 20____.

Surety Company

Attorney in Fact

(Power of Attorney must be attached if executed by Attorney in Fact)

STATE OF FLORIDA
COUNTY OF _____

Before me the undersigned authority, personally appeared to me well known as the person described in and who executed the foregoing Consent to Payment in the name of _____ and/or _____ purpose therein expressed and that he had due and legal authority to execute the same on behalf of said _____, a corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal at _____ this _____ day of _____, 20____.

Print Name: _____
Notary Public, State of Florida
My Commission Expires: _____

END OF SECTION

SECTION 00850**FIELD ORDER**

OWNER: Highlands County Board of County Commissioners No. Copies _____
ENGINEER: Joseph R. Barber, P.E. No. Copies _____
CONTRACTOR: [name of contractor] No. Copies _____ FIELD ORDER
FIELD _____ No. Copies _____ NO. _____
OTHER: _____ No. Copies _____

PROJECT DATA

NAME: Lake Blue Water Main
Replacement Project
LOCATION: Sebring, Florida
OWNER: Highlands County Board of
County Commissioners
OTHER: _____

CONTRACT DATA

NUMBER: _____
DATE: _____
DRAWING NO: _____
SPECIFICATION SECTION: _____

TO: (Contractor)

.....
.....
.....
.....
.....

You are hereby directed to execute promptly this Field Order which interprets the Contract Documents or orders minor changes in the Work without change in Contract Sum or Contract Time.

If you consider that a change in Contract Sum or Contract Time is required, please submit your itemized proposal to the Engineer immediately and before proceeding with this Work. If your proposal is found to be satisfactory and in proper order, this Field Order will in that event be superseded by a Change Order.

Description (of interpretation or change):
.....
.....
.....
.....

Attachments (listing of attached documents that support description):

1. Contractor Request for Information No.:.....
2.
3.
4.
5.

Joseph R. Barber, P.E.

PROJECT NO: LAKP1501

BY: _____

DATE: _____

END OF SECTION

SECTION 00851

CONTRACTOR'S REQUEST FOR INFORMATION (RFI)

OWNER: Highlands County Board of County Commissioners No. Copies _____

ENGINEER: Joseph R. Barber, P.E. No. Copies _____ CONTRACTOR

CONTRACTOR: _____ No. Copies _____ REQUEST FOR

FIELD _____ No. Copies _____ INFORMATION

OTHER: _____ No. Copies _____ NO. _____

PROJECT DATA

CONTRACT DATA

NAME: Lake Blue Water Main
Replacement Project
 LOCATION: Sebring, Florida
 OWNER: Highlands County Board of
County Commissioners
 OTHER: _____

NUMBER: _____

DATE: _____

DRAWING NO: _____

SPECIFICATION SECTION: _____

QUESTION:

[illegible]

BY: _____ DATE: _____

REPLY:

[illegible]

BY: _____ DATE: _____

END OF SECTION

SECTION 00852

CONSTRUCTION ACCIDENT REPORT

OWNER:	<u>Highlands County Board of</u>	County Commissioners	No. Copies	_____
ENGINEER:	<u>Joseph R. Barber, P.E.</u>	No. Copies	_____	CONSTRUCTION
CONTRACTOR:	<u>[name of contractor]</u>	No. Copies	_____	ACCIDENT
FIELD	_____	No. Copies	_____	REPORT
OTHER:	_____	No. Copies	_____	NO. _____

PROJECT DATA

NAME: Lake Blue Water Main
Replacement Project

LOCATION: Sebring, Florida

OWNER: Highlands County Board of
County Commissioners

ENGINEER: Joseph R. Barber, P.E.

CONTRACTOR: _____

SUBCONTRACTOR: _____

OTHER: _____

ACCIDENT INFORMATION

Accident Date: _____ Time: _____
Name(s) of Injured or Deceased: _____

Describe what occurred:

NOTE: Use other side or attach additional sheets as required.

Name & Address of Witnesses:

Employer's Name & Address:

Employee's Name & Address:

Where treated (Name & Address):

Attach sketch and/or photographs if applicable.

Send original to County, with copy to Engineer
Immediately.

Signed

END OF SECTION

SECTION 00853**RELEASE AND AFFIDAVIT**

COUNTY OF _____

STATE OF FLORIDA

Before me, the undersigned authority, personally appeared

_____, who after being duly sworn, deposes and says:

(1) In accordance with the Contract Documents and in consideration of \$_____ paid, _____ ("Contractor") releases and waives for itself and its subcontractors, materialmen, successors and assigns, all claims demands, damages, costs and expenses, whether in contract or in tort, against the Highlands County Board of County Commissioners ("COUNTY") its County Commission, officers, employees and agents relating in any way to the performance of the Agreement between Contractor and COUNTY, dated _____, _____, for the period from _____ to _____.

(2) Contractor certifies for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which COUNTY might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

(3) Contractor agrees to indemnify, defend and save harmless COUNTY its County Commission, officers, employees and agents from all demands or suits, actions, claims of liens or other charges filed or asserted against the County arising out of the performance by Contractor of the Work covered by this Release and Affidavit.

(4) This Release and Affidavit is given in connection with Contractor's [monthly/final] Application for Payment No. _____.

CONTRACTOR:

By: _____ (signature of the executive officer)

Its: _____ (title of the executive officer)

Date: _____

Witnesses

[Corporate Seal]

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____,
_____, by _____, as _____ of
_____, a _____ corporation, on behalf of the
corporation. He/she is personally known to me or has produced _____
_____ as identification and did (did not) take an oath.

My Commission Expires: _____
(Signature of Notary)

Name: _____
(Legibly Printed)

(AFFIX OFFICIAL SEAL) Notary Public, State of _____

Commission No.: _____

END OF SECTION

SECTION 00861

WORK DIRECTIVE FORM

OWNER:	<u>Highlands County Board of</u>	County <u>Commissioners</u>	No. Copies _____	
ENGINEER:	<u>Joseph R. Barber, P.E.</u>		No. Copies _____	WORK _____
CONTRACTOR:	<u>[name of contractor]</u>		No. Copies _____	DIRECTIVE _____
FIELD	_____		No. Copies _____	NO. _____
OTHER:	_____		No. Copies _____	

PROJECT DATA

NAME: Lake Blue Water Main
Replacement Project
LOCATION: Sebring, Florida
OWNER: Highlands County Board of
County Commissioners
CONTRACTOR: [name of contractor]

CONTRACT DATA

NUMBER: _____
DATE: _____
DRAWING NO: _____
SPECIFICATION SECTION: _____

TO: (Contractor)

You are directed to proceed promptly with the following change(s):

Description:

Purpose of Work Directive Change:

If a claim is made that the above change(s) have affected Contract Price or Contract Time, any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

- [] Time and materials
- [] Unit prices
- [] Cost plus fixed fee
- [] Other

Estimated increase (decrease) in Contract Price \$

If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Time:

- [] Contractor's records
[] Engineer's records
[] Other

Estimated increase (decrease) in Contract Times.

Substantial Completion _____ days;
Ready for final payment _____ days.

If the change involves an increase, the estimated times are not to be exceeded without further authorization.

RECOMMENDED:

AUTHORIZED:

BY: _____
(Engineer)BY: _____
(Owner)Attachments (listing of attached documents that support description):

1. Contractor Request for Information No.:
2. Request for Proposal for Proposed Change (RFP) No.:
3.
4.
5.

END OF SECTION

SECTION 00862**DAILY CONSTRUCTION REPORT**

THIS REPORT IS TO BE PREPARED BY THE CONTRACTOR
AND SUBMITTED TO THE CITY AND ENGINEER

OWNER: HIGHLANDS COUNTY BOARD OF COUNTY COMMISSIONERS
 No. Copies _____ DAILY
 ENGINEER: Joseph R. Barber, P.E. No. Copies _____ CONSTRUCTION
 CONTRACTOR: _____ No. Copies _____ REPORT
 FIELD _____ No. Copies _____ DAYS FROM
 OTHER: _____ No. Copies _____ NOTICE TO
 PROCEED _____

PROJECT DATA

NAME: LAKE BLUE WATER MAIN
REPLACEMENT PROJECT
 LOCATION: HIGHLANDS COUNTY
 OWNER: HIGHLANDS COUNTY BOARD
OF COUNTY COMMISSIONERS
 CONTRACTOR: _____

CONTRACT DATA

NUMBER: _____
 DATE: _____
 DRAWING NO: _____
 SPECIFICATION SECTION: _____

1. WEATHER

☐ Sunny ☐ Overcast
☐ Cloudy ☐ Windy

Temp. Range

AM _____°F
 PM _____°F

Precipitation

Type:
 Duration:

2. GROUND CONDITIONS

☐ Saturated ☐ Dry
☐ Frozen ☐ Wet but workable

Time

Work Started:
 Work Stopped:

3. RECORD OF LABOR

Contractor	Type	No.	Hrs.	Contractor	Type	No.	Hrs.

4. EQUIPMENT ONSITE

Contractor	Type	Model	Hrs.	Use

5. MATERIAL RECEIVED

Received By	Type	Quantity	Supplier	Use

6. DESCRIPTION OF WORK PERFORMED

END OF SECTION

SECTION 00863**CHANGE PROPOSAL SUMMARY FORM**

OWNER:	<u>Highlands County Board of County Commissioners</u>	No. Copies	_____
ENGINEER:	<u>Joseph R. Barber, P.E.</u>	No. Copies	_____
CONTRACTOR:	_____	No. Copies	_____
FIELD	_____	No. Copies	_____
OTHER:	_____	No. Copies	_____

CHANGE
PROPOSAL
SUMMARY
NO. _____

PROJECT DATA**CONTRACT DATA**

NAME: Lake Blue Water Main
Replacement Project
 LOCATION: Sebring, Florida
 OWNER: Highlands County Board of
County Commissioners
 CONTRACTOR: _____

NUMBER: _____
 DATE: _____
 DRAWING NO: _____
 SPECIFICATION SECTION: _____

REFERENCE: Work Directive No. _____ RFP No. _____
 Field Order No. _____ Other _____

DESCRIPTION:

PRICING INFORMATION

1. DIRECT LABOR	Skill/Trade	Man hours	Rate	Cost
1.A. Production Labor	_____	_____	_____	_____
1.B. Supervision	_____	_____	_____	_____
[] Foreman	_____	_____	_____	_____
[] Superintendent	_____	_____	_____	_____
1.C. Field Engineering	_____	_____	_____	_____
1.D. Expenses	_____	_____	_____	_____
				Subtotal(1)

2. MATERIALS & EQUIPMENT

	Description	Quantity	Unit Price	Cost
2.A.	Incorporated in Work			
2.B.	Consumed in Performance			
2.C.	Direct Costs			
2.D.	Bonds, Insurance			

Subtotal(2)

3. TOTAL LABOR, MATERIALS & EQUIPMENT

_____	+	_____	=	_____
Subtotal (1)		Subtotal (2)		Total

END OF SECTION

SECTION 00864

REQUEST FOR PROPOSAL FOR PROPOSED CHANGE FORM

OWNER:	<u>Highlands County Board of County Commissioners</u>	No. Copies _____	
ENGINEER:	<u>Joseph R. Barber, P.E.</u>	No. Copies _____	REQUEST FOR
CONTRACTOR:	_____	No. Copies _____	PROPOSAL
FIELD	_____	No. Copies _____	FOR PROPOSED
OTHER:	_____	No. Copies _____	CHANGE (RFP)
			NO. _____

PROJECT DATA

CONTRACT DATA

NAME: _____
LOCATION: _____
OWNER: _____
CONTRACTOR: _____

NUMBER: _____
DATE: _____
DRAWING NO: _____
SPECIFICATION SECTION: _____

TO: (Contractor)

Provide the undersigned a proposal for the following change in the work within seven (7) calendar days after receipt of this request. The written proposal must clearly delineate the scope of the proposed change in work providing an itemized estimate of time and all material and labor (by trade), subcontract and overhead costs and fees. Any amount claimed for subcontracts must be similarly supported.

Description of change in work:

[illegible]

Change Order Type: (Deletion) (Addition) (Revision)

Constraints of Change:

Initiated by:

Proposal must be received by: _____ (seven days from date below)

Attachments (listing of attached documents that support description):

1. Contractor Request for Information No.:.....
2.
3.
4.
5.

Joseph R. Barber, P.E.

PROJECT NO.: LAKP1501

Issued By: _____

DATE: _____

END OF SECTION

PROJECT FORMS

<u>Form</u>	<u>Title</u>
F-1	Application and Certificate for Payment
F-2	Materials and Equipment Stored On-site
F-3	Shop Drawing Submittal
F-4	Substitution Request
F-5	Pollution Prevention Plan Certification
F-6	NPDES Permit Notice of Intent For Contractor's Signature For Owner's Signature
F-7	NPDES Permit Notice of Termination For Contractor's Signature
F-8	Stormwater Pollution Prevention Construction Inspection Report
F-9	(Deleted)
F-10	Water and Force Main Pressure Test Reports Ductile Iron Pipe HDPE Pipe PVC Pipe
F-11	(Deleted)
F-12	Certificate of Completed Demonstration
F-13	Certificate of Substantial Completion
F-14	Certificate of Final Completion
F-15	Contractor's Report of Minority/Women's Business Enterprise Participation
F-16	Directional Bore Log

SAMPLE

FORM F-1: APPLICATION AND CERTIFICATE FOR PAYMENT

TO (Owner): _____
ADDRESS: _____

Application No.: _____ Owner Bid File No.: _____
Period From: _____ Thru _____ Owner Contract No.: _____
Contractor's Job No.: _____

PROJECT: _____

Application Date: _____ Page No.: _____ of _____

CONTRACTOR: _____

CONTRACTOR-S CERTIFICATION:
The undersigned CONTRACTOR certifies that:

- (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of Contractor incurred in connection with Work covered by prior Applications for Payment Numbered 1 through _____ inclusive;
- (2) title to all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all liens, claims, security interest and encumbrances (except such as are covered by Bond acceptable to OWNER indemnifying OWNER against any such lien, claim, security interest or encumbrance); and
- (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective as that term is defined in the Contract Documents.

CONTRACTOR: _____

By: _____
(Authorized Signature)

(Typed Name & Title)

Date: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

PROFESSIONAL: JOSEPH R. BARBER, P.E. _____

By: _____
(Authorized Signature)

(Typed Name & Title)

Date: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

OWNER: By: _____
(Authorized Signature)

Date: _____

Fund/Account No.: _____

Location Code: _____

Original Contract Amount	
Net Change by Change Order	
Contract Amount to Date	
Total Complete and Stored to Date	
Less _____ % Retainage	
Less Previous Payments	
Amount Due this Application	
Balance to Finish, Plus Retainage	

CHANGE ORDER SUMMARY			
Change Orders approved in previous months by Owner		ADDITIONS	DEDUCTIONS
TOTAL			
Approved this Month			
Number	Date Approved		
TOTALS			
Net change by Change Orders			

STATE OF _____ COUNTY OF _____
SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY OF _____, 20____
NOTARY PUBLIC _____
MY COMMISSION EXPIRES _____

APPLICATION AND CERTIFICATE FOR PAYMENT NO. _____

ITEM DESCRIPTION	CONTRACTOR'S SCHEDULE OF VALUES				WORK COMPLETED	
	Unit Price	Unit	Quantity	Amount	Quantity	Amount
PART B						
ADDITIVE ALTERNATIVES						
CHANGE ORDER #1						
CHANGE ORDER # _____						
SUBTOTAL						
TOTAL			\$			
					TOTAL COMPLETED	
					Stored Materials On Site	
					Subtotal	
					Less % Retainage	
					Less Previous Payments	
					AMOUNT DUE	

MATERIALS AND EQUIPMENT STORED ON-SITE

Preparer _____
(signature & typed name)

[illegible]

Review of this shop drawing is limited to general design concepts and general compliance with the information in the project plans and specifications only, and is not intended to be a verification of total material required or that all items required are shown. Review shall not relieve the contractor from responsibility of details of design, dimension, job conditions, construction means and methods, coordination with other trades, or any other requirements of the plans, specifications, or contract. Any notations on this shop drawing made by Envisors, shall not be construed to authorize additional work or cost. Review of design calculations and drawings prepared by specialty engineers is limited to design intent and does not constitute a detailed check of calculations, nor does it relieve the specialty engineers from the responsibility of the detailing of the specialty component or system.

FORM F-4

SUBSTITUTION REQUEST

PROJECT: Lake Blue Water Main Replacement Project

TO: Joseph R. Barber, P.E.

DATE: _____

CONTRACTOR HEREBY REQUESTS ACCEPTANCE OF THE FOLLOWING PRODUCT OR SYSTEMS AS A SUBSTITUTION IN ACCORD WITH PROVISIONS OF DIVISION ONE OF THE SPECIFICATIONS:

1. SPECIFIED PRODUCT OR SYSTEM:

Generic Description: _____

Specification Section No. _____ Art. _____ Para. _____

2. SUPPORTING DATA:

____Product data for proposed substitution is attached (description of product, reference standards, performance and test data).

____Sample attached. ____Sample will be sent if requested.

3. PRODUCT OR SYSTEM QUALITY COMPARISON:

SPECIFIED PRODUCT	SUBSTITUTION
-------------------	--------------

Name, brand:

Catalog No.:

Manufacturer:

Vendor:

Significant

Variations:

Maintenance Service Available Locally: ____Yes ____No

Spare Parts Source:

4. EFFECT OF SUBSTITUTION:

Affects other parts of Work: ____No__Yes

Explain: _____ (Attach additional sheets as necessary.)

Substitution changes Contract Time: Add/Deduct ____days.

Savings or credit to Owner if accepted: \$_____

5. PREVIOUS INSTALLATIONS:

Attach list of local similar projects on which proposed substitution was used, dates of installations, and contact name and telephone number.

FORM F-4 (Continued)

6. STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENT: I/we have investigated the proposed substitution and:

- a. believe that it is equal or superior in all respects to specified product, except as stated above; and
- b. will provide the same warranty as specified for specified product; and
- c. have included complete cost data and implications of the substitution; and
- d. will pay redesign and special inspection costs caused by the use of this product; and
- e. will pay additional costs to other contractors caused by the substitution; and
- f. will coordinate the incorporation of the proposed substitution in the Work; and
- g. will modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning; and
- h. waive future claims for added cost to the Contract caused by the substitution; and
- i. agree to pay to the Owner or Architect/Engineer the standard hourly rate per hour for cost of Architect/Engineer to evaluate and review the proposed substitution.

Name and Title: _____ Date: _____

Signature: _____

ENVISORS= REVIEW AND ACTION:

☐ Substitution not accepted:

☐ Resubmit with additional information:

☐ Substitution is accepted.

☐ Substitution is accepted, with the following comments:

By: _____ Date: _____

OWNER=S APPROVAL:

☐ Substitution is accepted.

☐ Substitution is accepted, with the following comments:

By: _____ Date: _____

FORM F-5

POLLUTION PREVENTION PLAN CERTIFICATION (By Owner)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Date: _____

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature	Company	Responsible for
_____ Date: _____		
_____ Date: _____		
_____ Date: _____		

FORM F-6

NPDES PERMIT NOTICE OF INTENT

For Contractor's Signature



NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (RULE 62-621.300(4), F.A.C.)

This Notice of Intent (NOI) form is to be completed and submitted to the Department before use of the Generic Permit for Stormwater Discharge From Large and Small Construction Activities provided in Rule 62-621.300(4), F.A.C. The type of project or activity that qualifies for use of the generic permit, the conditions of the permit, and additional requirements to request coverage are specified in the generic permit document [DEP Document 62-621.300(4)(a)]. **The appropriate generic permit fee, as specified in Rule 62-4.050(4)(d), F.A.C., shall be submitted with this NOI in order to obtain permit coverage. Permit coverage will not be granted without submittal of the appropriate generic permit fee.** You should familiarize yourself with the generic permit document and the attached instructions before completing this NOI form. **Please print or type information in the appropriate areas below.**

I. IDENTIFICATION NUMBER: Project ID _____

II. APPLICANT INFORMATION:

A. Operator Name:		
B. Address:		
C. City:	D. State:	E. Zip Code:
F. Operator Status:	G. Responsible Authority:	
	H. Phone No.:	

III. PROJECT/SITE LOCATION INFORMATION:

A. Project Name:		
B. Project Address/Location:		
C. City:	D. State:	E. Zip Code:
F. County:	G. Latitude: ° ' " Longitude: ° ' "	
H. Is the site located on Indian lands? <input type="checkbox"/> Yes <input type="checkbox"/> No		I. Water Management District:
J. Project Contact:		K. Phone No.:

IV. PROJECT/SITE ACTIVITY INFORMATION:

A. Indicate whether Large or Small Construction (check only one):		<input type="checkbox"/> Large Construction (Project will disturb five or more acres of land.)	
		<input type="checkbox"/> Small Construction (Project will disturb one or more acres but less than five acres of land.)	
B. Approximate total area of land disturbance from commencement through completion of construction: _____ Acres			
C. SWPPP Location		<input type="checkbox"/> Address in Part II above <input type="checkbox"/> Address in Part III above <input type="checkbox"/> Other address (specify below)	
D. SWPPP Address:			
E. City:		F. State:	G. Zip Code:
H. Construction Period		Start Date:	Completion Date:

V. DISCHARGE INFORMATION

A. MS4 Operator Name (if applicable):
B. Receiving Water Name:

VI. CERTIFICATION¹:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title (Type or Print):

Signature: _____

Date Signed: _____

¹ Signatory requirements are contained in Rule 62-620.305, F.A.C.

INSTRUCTIONS – DEP FORM 62-621.300(4)(b)
**NOTICE OF INTENT (NOI) TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE
AND SMALL CONSTRUCTION ACTIVITIES**

Who Must File an NOI:

Federal law at 40 CFR Part 122 prohibits the point source discharge of pollutants, including the discharge of stormwater associated with large construction activities as defined at 40 CFR 122.26(b)(14)(x) or small construction activities as defined at 40 CFR 122.26(b)(15), to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. Under the State of Florida's authority to administer the NPDES stormwater program at 403.0885, F.S., operators that have stormwater discharge associated with large or small construction activities to surface waters of the State, including through a Municipal Separate Storm Sewer System (MS4), must obtain coverage either under a generic permit issued pursuant to Chapter 62-621, F.A.C., or an individual permit issued pursuant to Chapter 62-620, F.A.C.

Where to File NOI:

NOIs for coverage under this generic permit must be sent to the following address:

NPDES Stormwater Notices Center, MS #2510
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Permit Fee:

Permit fees for large and small construction activities to be covered under the generic permit are specified in Rule 62-4.050(4)(d), F.A.C. The appropriate generic permit fee (either for large or small construction activities) must be submitted along with the completed NOI in order to obtain coverage under the generic permit. **Generic permit coverage will not be granted without payment of the appropriate permit fee.**

The permit fee shall be paid by either check or money order made payable to: "Florida Department of Environmental Protection"

Part I – Identification Number

Enter the project's DEP identification number (generic permit coverage number) if known. If an ID number has not yet been assigned to this project (i.e., if this is a new project), leave this item blank.

Part II – Applicant Information

Item A.: Provide the legal name of the person, firm, contractor, public organization, or other legal entity that owns or operates the construction activity described in this NOI. The operator is the legal entity that has authority to control those activities at the project necessary to ensure compliance with the terms and conditions of the generic permit.

Items B. – E.: Provide the complete mailing address of the operator, including city, state, and zip code.

Item F.: Enter the appropriate one letter code from the list below to indicate the legal status of the operator:

F = Federal; S = State; P = Private; M = Public (other than federal or state); O = Other

Items G. – H.: Provide the name and telephone number (including area code) of the person authorized to submit this NOI on behalf of the operator (e.g., Jane Smith, President of Smith Construction Company on behalf of the operator, Smith Construction Company; John Doe, Public Works Director on behalf of the operator, City of Townsville; etc.). This should be the same person as indicated in the certification in Part VI.

Part III – Project/Site Location Information

Items A. – E.: Enter the official or legal name and complete street address, including city, state, and zip code of the project. Do not provide a P.O. Box number as the street address. If it lacks a street address, describe the project site location (e.g., intersection of State Road 1 and Smith Street).

Item F.: Enter the county in which the project is located.

Item G.: Enter the latitude and longitude, **in degrees-minutes-seconds format**, of the approximate center of the project.

Item H.: Indicate whether the project is located on Indian lands.

Item I.: Enter the appropriate five or six letter code from the list below to indicate the Water Management District the project is located within:

NFWFMD = Northwest Florida Water Management District
SRWMD = Suwannee River Water Management District
SFWMD = South Florida Water Management District
SWFWMD = Southwest Florida Water Management District
SJRWMD = St. John's River Water Management District

Items J. – K.: Give the name, title, and telephone number (including area code) of the project contact person. The project contact is the person who is thoroughly familiar with the project, with the facts reported in this NOI, and who can be contacted by the Department if necessary.

Part IV – Project/Site Activity Information:

Item A.: Check the appropriate box to indicate whether the project involves large construction activity or small construction activity. **Check one box only.**

“Large Construction Activity” means construction activity that results in the disturbance of five (5) or more acres of total land area. Large construction activity also includes the disturbance of less than five acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more.

“Small Construction Activity” means construction activity that results in the disturbance of equal to or greater than one (1) acre and less than five (5) acres of total land area. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one acre and less than five acres.

Item B.: Provide the approximate total area of land disturbance in acres that the project will involve from commencement of construction through completion.

Items C. - G.: Indicate the location where the Stormwater Pollution Prevention Plan (SWPPP) can be viewed. Provide the address where the SWPPP can be viewed if other than as provided in Parts II or III of the NOI. **Note that to be eligible for coverage under the generic permit, the SWPPP must have been prepared prior to filing this NOI.**

Item H.: Enter the estimated construction start and completion dates in the MM/DD/YY format.

Part V – Discharge Information

Item A.: If stormwater from the project discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., City of Tallahassee MS4, Orange County MS4, FDOT MS4, etc.). If stormwater from the project does not discharge to an MS4 but rather discharges to surface waters of the State, leave this item blank or indicate “N/A” and skip to Item B of this part. **Please note that if the project discharges stormwater to an MS4, you must provide the MS4 operator with a copy of the completed NOI.**

Item B.: If the project discharges stormwater to surface waters of the State, and not to an MS4, enter the name of the receiving water body to which the stormwater is discharged. Please provide the first named water body to which the stormwater from the project is discharged (e.g., Cypress Creek, Tampa Bay, unnamed ditch to St. Johns River, Tate’s Hell Swamp, etc.).

Part VI – Certification

Type or print the name and official title of the person signing the certification. Please note that this should be the same person as indicated in Item II.G. as the Responsible Authority. Sign and date the certification.

Section 403.161, F.S., provides severe penalties for submitting false information on this application (NOI) or any reports or records required by a permit. There are both civil and criminal penalties, in addition to the revocation of permit coverage for submitting false information.

Rule 62-620.305, F.A.C., requires that the NOI and any reports required by the permit to be signed as follows:

- A. For a corporation, by a responsible corporate officer as described in Rule 62-620.305, F.A.C.;
- B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or,
- C. For a municipality, state, federal or other public facility, by a principal executive officer or elected official.

FORM F-7

NPDES PERMIT NOTICE OF TERMINATION

For Contractor's Signature



NOTICE OF TERMINATION OF GENERIC PERMIT COVERAGE (RULE 62-621.300(6), F.A.C.)

This form is to be completed and submitted to the Department to terminate coverage under the Generic Permit for Stormwater Discharge From Construction Activities that Disturb Five or More Acres of Land provided in Rule 62-621.300(4), F.A.C., and the Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity provided in Rule 62-621.300(5), F.A.C. Instructions for completing this form are attached. **Please print or type information in the appropriate areas below.**

I. PERMIT INFORMATION:

A. Generic Permit Coverage Number (Facility/Project ID):		
B. Reason for Termination:	<input type="checkbox"/> Check here if you are no longer the operator of the facility/project.	<input type="checkbox"/> Check here if the stormwater discharge is being terminated.

II. PERMITTEE INFORMATION:

A. Operator Name:		
B. Address:		
C. City:	D. State:	E. Zip Code:
F. Responsible Authority:		G. Phone No.:

III. FACILITY/PROJECT INFORMATION:

A. Name:		
B. Address/Location:		
C. City:	D. State:	E. Zip Code:
F. County:	G. Latitude: ° ' "	Longitude: ° ' "

IV. CERTIFICATION¹:

I certify under penalty of law that all stormwater discharges associated with industrial activity from the identified facility or activity that are authorized by the referenced State of Florida generic permit have been eliminated or that I am no longer the operator of the facility or activity. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge stormwater associated with industrial activity under this generic permit, and that discharging pollutants in stormwater associated with industrial activity to surface waters of the State is unlawful unless authorized by a permit issued pursuant to 403.0885, F.S. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit.

Name and Official Title (Type or Print):
--

Signature: _____

Date Signed: _____

¹ Signatory requirements are contained in Rule 62-620.305, F.A.C.

INSTRUCTIONS – DEP FORM 62-621.300(6)
NOTICE OF TERMINATION (NOT) OF GENERIC PERMIT COVERAGE

Who May File an NOT:

Permittees who are presently covered under the Generic Permit for Stormwater Discharge From Construction Activities that Disturb Five or More Acres of Land provided in Rule 62-621.300(4), F.A.C., the Multi-Sector Generic Permit for Stormwater Discharge Associated with Industrial Activity provided in Rule 62-621.300(5), F.A.C., or an EPA-issued National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with industrial activity may submit a Notice of Termination (NOT) when their facility or activity no longer has any stormwater discharges associated with industrial activity as defined at 40 CFR 122.26(b)(14), or when they are no longer the operator of the facility or activity.

For construction activities, elimination of all stormwater discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all stormwater discharges associated with industrial activity from the construction site that are authorized under the generic permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Where to File NOT:

NOTs for termination of coverage under this generic permit must be sent to the following address:

NPDES Stormwater Notices Center, MS #2510
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Part I – Permit Information

Item A.: Enter the generic permit coverage number (DEP Facility/Project ID number) for the facility/project.

Item B.: Indicate the reason for termination of permit coverage.

Part II – Permittee Information

Item A.: Provide the legal name of the entity (operator) to which permit coverage was granted.

Items B. – E.: Provide the complete mailing address of the operator, including city, state, and zip code.

Items F. – G.: Provide the name and telephone number (including area code) of the person authorized to submit this application on behalf of the operator. This should be the same person as indicated in the certification in Part IV.

Part III – Facility/Project Information

Items A. – E.: Enter the official or legal name and complete street address, including city, state, and zip code of the facility/project site. Do not provide a P.O. Box number as the street address. If it lacks a street address, describe the facility/project site location (e.g., intersection of State Road 1 and Smith Street).

Item F.: Enter the county in which the facility/project site is located.

Item G.: Enter the latitude and longitude of the approximate center of the facility/project site.

Part IV – Certification

Type or print the name and official title of the person signing the certification. Sign and date the certification.

Section 403.161, F.S., provides severe penalties for submitting false information on this application (NOT) or any reports or records required by a permit. There are both civil and criminal penalties for submitting false information.

Rule 62-620.305, F.A.C., requires that the application (NOT) be signed as follows:

- A. For a corporation, by a responsible corporate officer as described in Rule 62-620.305, F.A.C.;
- B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or,
- C. For a municipality, state, federal or other public facility, by a principal executive officer or elected official.

FORM F-8

(Weekly or after 0.10 in. rain)

RECEIVED A COPY OF THIS
INSPECTION REPORT ON:

[illegible]

*See site map for drainage areas. Site may include borrow sources, haul roads, contractor's yard, stockpiles, etc.

INITIAL HERE TO CERTIFY PROJECT WAS IN COMPLIANCE WITH THE NPDES STORMWATER POLLUTION PREVENTION PLAN AND GENERAL PERMIT ON THE ABOVE INSPECTION DATE.

Contractor Signature _____

CONTROL MEASURE CODES

1. Temporary Grassing
2. Permanent Plant, Sod, or Seed
3. Temporary Mulching
4. Artificial Covering
5. Buffer Zone
6. Preserve Natural Resource
7. Silt Fence
8. Hay Bales
9. Sand Bagging
10. Berms
11. Diversion, Interceptor, or Perimeter Ditches
12. Flumes
13. Pipe Slope Drain
14. Ditch Liner
15. Rock Bed at Construction End
16. Timber Bed at Construction End
17. Rib Rap
18. Sediment Trap
19. Sediment Basin
20. Storm Inlet Sediment Trap

Condition Codes

- | | |
|----|--------------------|
| U | Upgrade needed |
| R | Replacement Needed |
| M | Maintenance Needed |
| C | Clearing needed |
| I | Increase measures |
| S | Stable (no action) |
| O1 | Other: _____ |
| O2 | Other: _____ |
| O3 | Other: _____ |

FALSIFYING INFORMATION ON THIS INSPECTION REPORT IS A VIOLATION OF FEDERAL LAW SUBJECT TO SEVERE FINES AND PENALTIES.

FORM F-10

WATER AND FORCE MAIN PRESSURE TEST REPORTS

Ductile Iron Pipe

HDPE Pipe

PVC Pipe

Water and Force Main Pressure Test Report (DIP Pipe)

Project Name: _____

Approval Number: _____ Location: _____

Test Date: _____

Starting Time of Test: _____ Starting Pressure (150 PSI min.)
in PSI: _____Ending Time of Test: _____ Ending Pressure in
PSI: _____Duration of Test (Minutes): _____ (120 Minimum) Average Test Pressure in
PSI: _____

Computation for Allowable Leakage	Pipe Diameter (Use separate column for each pipe size)				
	1	2	3	4	5
D = Diameter of tested pipe, inches					
S = Length of tested pipe, feet					
P = Average test pressure, psig					
Allowable pipe leakage (gal/hr) $L = (S \cdot D \cdot (P^{1/2})) / 133,200$					
N = Number of closed valves in tested pipe					
Allowable valve leakage (gal/hr) $V = 0.0078 \cdot D \cdot N$					
Allowable Leakage (gal/hr) $T1 = L + V$					
Allowable Leakage (gallons) $T2 = 2 \cdot T1$					

Total Allowable Leakage equals Sum of Columns 1+2+3+4+5 = _____ gallons.

Measured Leakage (Test) = _____ gallons.

The above test (does) / (does not) meet the requirements.

Remarks: _____

Test Witnessed By: Inspector: _____

Engineer: _____

Utility/Contractor: _____

Water and Force Main Pressure Test Report (HDPE Pipe)

Project Name: _____

Approval Number: _____ Location: Sta. _____ To Sta. _____

Test Date: _____

Starting Time of Initial Expansion Period		Starting Pressure (psi):	
Ending Time of Initial Expansion Period		Ending Pressure (psi):	
Starting Time of Expansion Test		Starting Pressure (psi):	
30 Minutes		Pressure (psi)	
60 Minutes		Pressure (psi)	
90 Minutes		Pressure (psi)	
105 Minutes		Pressure (psi)	
Ending Time of Expansion Test		Ending Pressure (psi)	
Duration of Expansion Test (Minutes) (120 Minutes min.)		Average Expansion Test Pressure (psi):	

Expansion Test

Allowable Loss for Expansion	Pipe Diameter (Use separate column for each pipe size)				
	1	2	3	4	5
D = Diameter of pipe (inches)					
S = Length of tested pipe					
L _E = Allowable Expansion Loss (see Table 1)					

Total Allowable Expansion Loss equals Sum of Columns 1+2+3+4+5 = _____ gallons.

Measured Expansion Loss = _____ gallons.

The above test (does) / (does not) meet the requirements.

The line pressure loss (has) / (has not) stabilized at end of testing.

Remarks: _____

Test Witnessed By: Inspector: _____

Engineer: _____

Utility/Contractor: _____

Water and Force Main Pressure Test Report (HDPE Pipe)

Project Name: _____

Approval Number: _____ Location: Sta. _____ To Sta. _____

Test Date: _____

Starting Time of Test #2 _____ Starting Pressure (psi): _____ (150 psi min.)

Ending Time of Test #2 _____ Ending Pressure (psi): _____ (150 psi min.)

Duration of Test # 2 = T (Hours) _____ (2 minimum) Average Test #2 Pressure (psi): _____

TEST #2

Computation for Allowable Leakage (Test #2)	Pipe Diameter (Use separate column for each pipe size)				
	1	2	3	4	5
D = Diameter of tested pipe (inches)					
J = Number of mechanical joints					
S = Equivalent length of tested pipe (feet) = (20) x(J)					
P = Average test pressure (psig)					
Allowable pipe leakage (gal/hr) $Q = (S \cdot D^3 \cdot (P^{1/2})) / 148,000$					
Allowable Leakage (gallons) $Q_{TOTAL} = T \cdot Q$					

Total Allowable Leakage equals Sum of Columns 1+2+3+4+5 = _____ gallons.

Measured Leakage (Test #2) = _____ gallons.

The above test (does) / (does not) meet the requirements.

Remarks: _____

Test Witnessed By: Inspector: _____

Engineer: _____

Utility/Contractor: _____

TABLE 1

**Allowance for Expansion
(U.S. Gallons / 100 Feet of Pipe)**

Nominal Pipe Size (Inches)	1 Hour Test	2 Hour Test	3 Hour Test
3	0.10	0.15	0.25
4	0.13	0.25	0.40
5	0.30	0.60	0.90
8	0.50	1.0	1.5
10	0.75	1.30	2.10
11	1.0	2.0	3.0
12	1.1	2.3	3.4
14	1.4	2.8	3.2
16	1.7	3.3	5.0
18	2.2	4.3	6.5
20	2.8	5.5	8.0
22	3.5	7.0	10.5
24	4.5	8.8	13.3
28	5.5	11.1	16.8
32	7.0	14.3	21.5
36	9.0	18.0	27.0
40	11.0	22.0	33.0
48	15.0	27.0	43.0

*These allowances only apply to the test period and not in the initial expansion phase.

Water and Force Main Pressure Test Report (PVC Pipe)

Project Name: _____

Approval Number: _____ Location: _____

Test Date: _____

Starting Time of Test: _____ Starting Pressure (150 PSI min.)
in PSI: _____Ending Time of Test: _____ Ending Pressure in
PSI: _____Duration of Test = T (Hours): _____ (2 Minimum) Average Test Pressure in
PSI: _____

Computation for Allowable Leakage	Pipe Diameter (Use separate column for each pipe size)				
	1	2	3	4	5
D = Diameter of tested pipe, inches					
L = Length of pipe section being tested, ft					
P = Average test pressure, psig					
Allowable pipe leakage (gal/hr) $Q = (L \cdot D \cdot (P^{1/2})) / 148,000$					
Allowable Leakage (gallons) $Q_{TOTAL} = T \cdot Q$					

Total Allowable Leakage equals Sum of Columns 1+2+3+4+5 = _____ gallons.

Measured Leakage (Test) = _____ gallons.

The above test (does) / (does not) meet the requirements.

Remarks: _____

Test Witnessed By: Inspector: _____

Engineer: _____

Utility/Contractor: _____

FORM F-12

CERTIFICATE OF COMPLETED DEMONSTRATION

____ OWNER: <u>Highlands County Board of County Commissioners</u>	No. Copies ____
____ ENGINEER: <u>Joseph R. Barber, P.E.</u>	No. Copies ____
____ CONTRACTOR: _____	No. Copies ____
____ FIELD RPR: _____	No. Copies ____
____ OTHER: _____	No. Copies ____

PROJECT NAME

Lake Blue Water Main Replacement Project

NOTE TO CONTRACTOR:

Submit five (5) copies of all information listed below for checking at least one week before scheduled demonstration of the Work. After all information has been approved by the Engineer, give the Owner a Demonstration of Completed Systems as specified and have the Owner sign five copies of this form. After this has been done, a written request for a final inspection of the system shall be made.

MEMORANDUM:

This memo is for the information of all concerned that the Owner has been given a demonstration of completed work covered under this Specification Section. This conference consisted of the system operation, a tour on which the project was explained and demonstrated, and the following items were given to the Owner:

- (a) Prints showing actual 'As-Built' conditions.
- (b) A demonstration of the System in operation and of the maintenance procedures which will be required.

FORM F-12

CERTIFICATE OF COMPLETED DEMONSTRATION

(Continued)

(Name of Contractor)

By:

(Authorized Signature, Title & Date)

(Name of Subcontractor)

By:

(Authorized Signature, Title & Date)

Demonstration & Instruction in Operation Received:

(Name of Owner)

By:

(Authorized Signature, Title & Date)

FORM F-13

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: Lake Blue Water Main Replacement Project

Owner's Project No.: _____

Contract Date: _____ 20 _____ Notice to Proceed Date: _____ 20 _____

Completion Date: _____ 20 _____

The Work to which this certificate applies has been inspected by the authorized representatives of the County, Contractor, and Professional, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on _____ 20 _____. This Certificate of Substantial Completion applies to all Work under the Contract Documents.

A tentative list of items to be completed and corrected is attached hereto for final completion of contract requirements. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by the Contractor within _____ calendar days of the above date of substantial completion declared by the Contractor.

This certificate does not constitute an acceptance of the Work not in accordance with the Contract Documents or is it a release of Contractor's obligations to complete the Work in accordance with the Contract Documents. Signatories agree the project is substantially complete as of the date of signature such that the project can and will function as intended and that the attached tentative list represents deficient items requiring correction/completion prior to final completion and that this list will be amended as the Professional and Project Manager deem necessary for compliance with the Contract Documents.

Contractor: _____

By: _____

(Authorized Signature)

(Typed Name & Title)

Date: _____

Professional: Joseph R. Barber, P.E.

By: _____

(Authorized Signature)

(Typed Name & Title)

Date: _____

Owner: _____

(Authorized Signature)

By: _____

(Typed Name & Title)

Date: _____

FORM F-14

CERTIFICATE OF FINAL COMPLETION

Project: Lake Blue Water Main Replacement Project

Owner's Project No.: _____

Contract Date: _____ 20 _____ Notice to Proceed Date: _____ 20 _____

Completion Date: _____ 20 _____

The Work to which this certificate applies has been inspected by the authorized representatives of the County, Contractor, and Professional, and that Work is hereby declared to be finally complete in accordance with the Contract Documents on _____ 20 _____. This Certificate of Final Completion applies to all Work under the Contract Documents.

All punch list items have been completed and corrected for compliance with Contract Documents. This certificate constitutes acceptance of Work as specified and intended in the Contract Documents. Contractor retains responsibility and obligation to the County for warranty Work arising after admission and acceptance of final completion. The warranty period shall begin on the day of formal Board approval of release of all retainage, final payment, and acceptance of Work. Signatories agree the project is finally complete as of the date of signature such that the project is in complete compliance with Contract Documents and authorized Change Orders.

Contractor: _____

By: _____
(Authorized Signature)

(Typed Name & Title)

Date: _____

Professional: Joseph R. Barber, P.E.

By: _____
(Authorized Signature)

(Typed Name & Title)

Date: _____

Owner: _____
(Authorized Signature)

By: _____
(Typed Name & Title)

Date: _____

FORM F-15

PROJECT NUMBER: _____

**CONTRACTOR'S REPORT OF
MINORITY/WOMEN'S BUSINESS ENTERPRISE PARTICIPATION**

Project Name: _____ Month of _____, 201 _____
General Contractor: _____
Contact Person: _____ Telephone: _____
Address: _____
Amount of Contract: \$ _____ MBE %: _____ WBE %: _____

MBE/WBE Information: Circle either MBE or WBE and Complete Form.

MBE/WBE Firm Name: _____ Contact Person: _____
Date of Award: _____ Contract Value: \$ _____
Completed-to-Date: \$ _____ Paid-to-Date: \$ _____
Work Description: _____ Telephone #: _____
Comments: _____

MBE/WBE Firm Name: _____ Contact Person: _____
Date of Award: _____ Contract Value: \$ _____
Completed-to-Date: \$ _____ Paid-to-Date: \$ _____
Work Description: _____ Telephone #: _____
Comments: _____

MBE/WBE Firm Name: _____ Contact Person: _____
Date of Award: _____ Contract Value: \$ _____
Completed-to-Date: \$ _____ Paid-to-Date: \$ _____
Work Description: _____ Telephone #: _____
Comments: _____

MBE/WBE Firm Name: _____ Contact Person: _____
Date of Award: _____ Contract Value: \$ _____
Completed-to-Date: \$ _____ Paid-to-Date: \$ _____
Work Description: _____ Telephone #: _____
Comments: _____

Attach additional pages as required.

General Contractor's Signature: _____ Date: _____
For questions or further information please contact David Courson at (850) 245-8358.

NOTE: Please submit with construction disbursement requests for payment on all projects using federal funds.

Form F-16: Directional Bore Log

Project Name: _____

Project No.: _____

Contractor: _____

Size/Material: _____ " DR

Date Installed: _____

Start/Stop Time: _____

Plan Sheet No.: _____

Bore Location: Sta. _____

Bore Direction: _____

Rod (ft)	Depth	Pull Back Pressure	Comments
10			
20			
30			
40			
50			
60			
70			
80			
90			
100			
110			
120			
130			
140			
150			
160			
170			
180			
190			
200			
210			
220			
230			
240			
250			
260			
270			
280			
290			
300			

Rod (ft)	Depth	Pull Back Pressure	Comments
310			
320			
330			
340			
350			
360			
370			
380			
390			
400			
410			
420			
430			
440			
450			
460			
470			
480			
490			
500			
510			
520			
530			
540			
550			
560			
570			
580			
590			
600			

Note: The depth and measurements on this sheet are for "As-Built" purposes only. Accuracy cannot be guaranteed due to varying field conditions and electronic equipment being used. Any future excavation in these areas will require a Sunshine One Call ticket and potholing to visually verify depths and locations.

Signature of Contractor's Reviewer

Date

DIVISION 01

GENERAL REQUIREMENTS

SECTION 01000**GENERAL REQUIREMENTS****PART 1 GENERAL****1.1 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. The summary of the work is presented in Section 01010.
- B. Requirements Included:
 - 1. The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all required permits. 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 Owner, 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 costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.
 - 2. 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 therefore.
 - 3. The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials and equipment, prior approval of the Engineer notwithstanding.
- C. Public Utility Installations and Structures:
 - 1. Public utility installations and structures shall be understood to include all poles, tracks, pavement, pipes, wires, conduits, house service

connections, vaults, manholes and all other appurtenances and facilities pertaining thereto whether owned or controlled by the Owner, other governmental bodies or privately owned by individuals, firms or corporations, used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work shall be deemed included hereunder.

2. The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface based on the most reliable data available to the Engineer. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, depth, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.
3. The Contractor shall protect all public utility 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 Engineer. The Contractor shall so arrange his operations as to avoid any damage to these facilities. 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 Drawings or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as directed by the Engineer. No separate payment shall be made for such protection or repairs to public utility installations or structures.
4. Public utility installations or structures owned or controlled by the Owner or other governmental body which are shown on the Drawings to be removed, relocated, replaced or rebuilt by the Contractor 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 therefore.
5. Where public utility installations or structures owned or controlled by the Owner or other governmental body are encountered during the course of the work, and are not indicated on the Drawings or in the Specifications and when, in the opinion of the Engineer, 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 Engineer, 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 paid for as extra work as provided in the General Conditions.

6. The Contractor shall, at all times in performance of the work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of public utility services, and shall cooperate fully with the owners thereof to that end.
7. All Owner and other governmental utility departments and other owners of public utilities which may be affected by the work will be informed in writing by the Owner within two weeks after the execution of the Contract or Contracts covering the work. Such notice will set out, in general, and direct attention to, the responsibilities of the Owner and other governmental utility departments and other owners of public utilities for such installations and structures as may be affected by the work and will be accompanied by one set of Drawings and Specifications covering the work under such Contract or Contracts.
8. In addition to the general notice given by Owner, the Contractor shall give written notice to Owner 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.
9. 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 Owners of such utilities.

1.2 CONTRACT DOCUMENTS (BIDDING AND CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS) DRAWINGS AND PROJECT MANUAL

A. Drawings:

1. The Drawings referred to in the Contract Documents bear the general project name and number as shown in the Notice to Bidders (Advertisement).

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

B. Copies Furnished to Contractor:

1. After the Contract has been executed, the Contractor will be furnished one (1) complete set of reproducible blackline drawings (24 inches by 36 inches) and one (1) copy of the Project Manual (Contract Requirements and Specifications) and all addenda.
2. 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. All copies of the Contract Documents shall be printed from the reproducible sets furnished to the Contractor. All costs of reproduction and printing shall be borne by the Contractor.

C. Supplementary Drawings:

1. When, in the opinion of the Engineer, 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 Engineer and the Contractor will be furnished one (1) complete set of applicable reproducible blackline drawings (24 inches by 36 inches) and one (1) copy of the applicable Specifications.
2. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Drawings. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the Owner or compensation therefore to the Contractor shall be subject to the terms of the Agreement.

D. Contractor to Check Drawings and Data:

1. The Contractor shall verify all dimensions, quantities and details shown on the Drawings, Supplementary Drawings, schedules, Specifications or other data received from the Engineer, 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 there from 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 Engineer, should such errors or omissions be discovered.

2. All schedules are given for the convenience of the Engineer 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:
1. All work called for in the Specifications applicable to this Contract, but not shown on the Drawings 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 Drawings 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.
 2. 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. In the event of inconsistencies in the requirements of the Drawings and Specifications, the more expensive will be required.

1.3 MATERIALS

A. Manufacturer:

1. The names of proposed manufacturers, suppliers and dealers who are to furnish materials, fixtures, or other fittings shall be submitted to the Engineer for approval, as early as possible, to afford proper investigation and checking. Such approval must be obtained before Shop Drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of

good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

2. All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor shall request, in writing to the Engineer, that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.
3. Any two or more pieces of material of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.

B. Delivery:

1. 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.
2. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

1.4 INSPECTION AND TESTING

A. General:

1. Inspection and testing of materials will be provided by the Contractor unless otherwise specified.
2. The inspection and testing shall be performed by a Florida licensed engineering/testing firm experienced in this type of work.
3. The Contractor shall notify the Engineer and Owner of the firms he intends to use. The Engineer or Owner may accept or reject the firm. If rejected, the process will begin anew.
4. For tests specified to be made by the Owner, 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. Five copies of the reports shall be submitted and authoritative certification thereof must be

furnished to the Owner as a prerequisite for the acceptance of any material.

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

B. Costs:

1. All inspection and testing of materials furnished under this Contract will be provided by the Contractor, unless otherwise expressly specified.
2. Materials submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the Contractor for compliance. The Contractor shall reimburse the Owner for the expenditures incurred in making such tests of materials which are rejected for non-compliance.

C. Inspection of Materials:

1. The Contractor shall give notice in writing to the Owner, sufficiently 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 Owner 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.
2. 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:

1. When inspection is waived or when the Owner so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificate of Manufacture that the materials to be used in the work

have been manufactured and tested in conformity with the Contract Documents.

2. 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. Failure of Tests:

1. Any defects in the materials or their failure to meet the tests, guarantees or requirements of the Contract Documents shall be promptly corrected by the Contractor by replacements or otherwise. The decision of the Owner as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive.
2. If the Contractor fails to make these corrections or if the improved materials, when tested, shall again fail to meet the guarantees or specified requirements, the Owner, notwithstanding its partial payment for work, and materials, may reject the materials and may order the Contractor to remove them from the site at his own expense.
3. In case the Owner rejects any materials, then the Contractor shall replace the rejected materials within a reasonable time. If he fails to do so, the Owner 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 the cost thereof shall be deducted from any compensation due or which may become due the Contractor under his Contract.

- F. Final Inspection: During such final inspections, the work shall be clean and free from water. Thereafter all structures and pipes intended to hold water shall be filled with water and tested. In no case will the final estimate be prepared until the Contractor has complied with all requirements set forth and the Owner has made the final inspection with the Contractor of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Documents.

1.5 TEMPORARY STRUCTURES

A. Temporary Fences:

1. If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall provide a suitable temporary fence at his own expense.
 2. The Engineer shall be solely responsible for the determination of the necessity for approving a temporary fence and the type of temporary fence to be used.
- B. Responsibility for Temporary Structures: In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the Owner from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

1.6 TEMPORARY SERVICES

- A. Accident Prevention:
1. Precautions shall be exercised at all times for the protection of person and property. The safety provisions of applicable laws, as well as building and construction codes shall be observed.
 2. The Contractor shall comply with the U.S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596), and under Section 107 of the contract Work Hours and Safety Standards Act (PL 9 1-54), except where state and local safety standards exceed the federal requirements and except where state safety standards have been approved by the Secretary of Labor in accordance with provisions of the Occupational Safety and Health Act, shall be complied with.
- B. 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 men are employed on the work.

1.7 LINES AND GRADES

- A. Grade:
1. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings, or as given by the

Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

2. The Engineer will establish bench marks and base line controlling points. Reference marks for lines and grades as the work progresses will be located to cause as little inconvenience to the progression of the work as possible.
3. The Contractor shall so place excavation and other materials as to cause no inconvenience in the use of the reference marks provided. He shall remove any obstructions placed by him contrary to this provision.

B. Surveys:

1. The Contractor shall furnish and maintain, at his own expense, stakes and other such materials for setting project control points.
2. The Contractor shall check the Owner's permanent reference points by such means as he may deem necessary and, before using them, shall call the Engineer's attention to any inaccuracies.
3. The Contractor shall, at his own expense, establish all working or construction lines and grades as required from the Owner's permanent reference marks set by the Owner, and shall be solely responsible for the accuracy thereof. He shall, however, be subject to the check and review of the Owner.

C. Safeguarding Marks:

1. 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 to removing without authorization such established points, stakes and marks.
2. 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.

1.8 ADJACENT STRUCTURES AND LANDSCAPING

A. Responsibility:

1. 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.
2. 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 Drawings, and the removal, relocation and reconstruction of such items called for on the Drawings or specified shall be included in the various Contract Items and no separate payments will be made therefore.
3. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Drawings and when, in the opinion to avoid interference with the work, payment therefore will be made as provided for extra work in the General Conditions.
4. 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.
5. 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.
6. 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 Owner. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the Owner.
7. Prior to the beginning of any excavations, the Contractor shall advise the Owner 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 outside the construction area shall be adequately protected by the Contractor with boxes or 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 its 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 Owner may order the Contractor, for the convenience of the Owner, to remove trees along the line or trench excavation. If so ordered the Owner will obtain any permits required for removal of trees.
- C. Lawn Areas: Lawn areas shall be left in as good of 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 in the manner described in the Workmanship and Materials section.
1. 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.
 2. 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 Owner.
 3. 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.

1.9 PROTECTION OF WORK AND PUBLIC

A. Barriers and Lights:

1. 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.
 2. 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.
- B. Smoke Prevention: Strict compliance with ordinances regulating the production and emission of smoke will be required.
- C. Noise:
1. 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 gasoline motors or other power equipment shall be provided with mufflers.
 2. 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.
 3. Except in the event of an emergency, no work shall be done between the hours of 5:00 p.m. and 7:00 a.m., Monday through Friday and on Saturdays, Sundays and legal holidays without written permission of the Owner. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the Owner shall be obtained before starting such items of the work.
- 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 and 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

- A. 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 Engineer and in accordance with the Drawings and Specifications.

- B. The work must be done by competent workmen skilled in the trade required by the restoration.

1.11 CLEANING

- A. During Construction:

1. 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 Owner and Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.
2. The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops. Contractor shall be responsible and liable for all spillage and incur all associated costs including, but not limited to, costs related to repair and maintenance resulting from damages thereof.

- B. Final Cleaning:

1. At the conclusion of the work, all erection plant, 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.
2. The Contractor shall thoroughly clean all materials installed by him and shall deliver such materials undamaged in a bright, clean, polished and new operation condition.

1.12 MISCELLANEOUS

- A. Protection Against Siltation and Bank Erosion:

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

- B. Protection of Wetland Areas:

1. The Contractor shall not disturb any wetlands.

2. The Contractor shall properly dispose of all surplus material, including soil, in accordance with Local, State and Federal regulations.
 3. Under no circumstances shall surplus material be disposed of in wetland areas as defined by the Florida Department of Environmental Protection.
- 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 Specific Provisions.
- D. Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfection, 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.
- E. Cooperation With Other Contractors and Forces:
1. During progress of work under this Contract, it may be necessary for other contractors and persons employed by the Owner to work in or about the project.
 2. The Owner reserves the right to put such other contractors to work and to afford such access to the site of the Work to be performed hereunder at such times as the Owner deems proper.
 3. The Contractor shall not impede or interfere with the work of such other contractors engaged in or about the Work and shall so arrange and conduct his work that such other contractors may complete their work at the earliest date possible.
- F. Construction shall be conducted and shall result in construction of the improvements of this project in full accordance with the conditions of the permits granted for the project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01010
SUMMARY OF WORK

PART 1 GENERAL

1.1 LOCATION OF WORK

- A. The proposed project is located northeast of the Town of Lake Placid, Florida. The proposed location is east of US 27, between Lake Blue and Lake Clay, and Lagrow Rd and Lakeview Rd.

1.2 DESCRIPTION OF WORK

- A. This contract is for the Contractor related permitting, construction, testing, start-up, and warranty work and other work related to the Lake Blue Water Main Replacement Project as shown on the Drawings and described in the Specifications. A summary of the work to be performed is described in the Invitation To Bid.
- B. Contractor acknowledges the location of existing water main piping shown on the drawings may vary from the existing conditions shown on the drawings, and the contractor shall be required to make reasonable deviations from the design to construct a fully operational system as intended by the design. Contractor shall perform these types of design modifications at no additional cost to the owner for similar construction work efforts.

1.3 WORK BY OWNER

- A. Owner will contract with Engineer (Envisors) to provide Construction Engineering and periodic construction observation services.

1.4 WORK BY CONTRACTOR

- A. The Contractor shall furnish all labor, materials, equipment, tools, services and incidentals reasonably necessary to complete all of the work required as shown on the details and specified.
- B. The Contractor shall complete the work, in place, ready for continuous service, and shall include repairs, testing, disinfection, building permit, cleanup, replacements, and restoration required as a result of damages caused during construction.
- C. All material, equipment, skills, tools and labor which is reasonably and properly inferable and necessary for the proper completion of the work, in a substantial manner and in compliance with the requirements stated or implied by the Specifications or Details, shall be furnished and installed by the Contractor without

- additional compensation, whether specifically indicated in the Contract Documents or not.
- D. The Contractor shall comply with all municipal, county, state, federal laws, rules, guidelines, and codes which are applicable to the work.
 - E. The Contractor shall pay for all retesting as a result of the original test samples failing to meet the specification requirements.
 - F. The Contractor shall have a superintendent on site at all times work is being performed by the Contractor or subcontractors. The superintendent does not have to be on site during the maintenance of the Contractor's equipment.
 - G. Contractor may obtain water from the Owner at the Owner's standard rate of charges. Contractor to obtain flow meter from Owner. Contractor to provide an approved backflow preventer and all piping required to utilize the water.
 - H. Contractor shall not employ any subcontractors against whom the Owner or Engineer may have reasonable objection. The name, address and experience of proposed subcontractors shall be submitted by the Contractor to Engineer for Engineer's review prior to any work being performed by the subcontractor.

1.5 CONTRACTOR USE OF SITE

- A. Access to Site: Limited to public rights-of-way.
- B. Working Period: On site work by Contractor is limited to 7:00 A.M. to 5:00 P.M., Monday through Friday, excluding holidays such as July 4th, Independence Day, Labor Day, Thanksgiving Day and following Friday, Christmas Day, and New Year's Day. If the Contractor desires to work during time outside the Working Period, prior written permission of Owner must be obtained, and if Owner grants permission, Contractor must pay all Owner's associated costs, such as engineering, observation, and testing.
- C. Utility Outages and Shutdown: Prior approval by Owner and minimized in duration.
- D. Safety Precautions: Smoking only in designated areas as approved by Owner and Engineer.
- E. The Contractor shall assume full responsibility for the protection and safekeeping of products and materials at the job site. If additional storage or work areas are required, they shall be obtained by the Contractor at no additional cost to the Owner.

1.6 SITE CONDITIONS

- A. The Contractor shall be responsible for having determined to his satisfaction, prior to the submission of his Bid, the conformation of the ground, the character and quality of the substrate, the types and quantities of materials to be encountered, the

nature of the ground water conditions, the execution of the work, the general and local conditions and all other matters which can, in any way, affect the work under this Contract. No claim for extras based on substrate or ground water table conditions will be allowed.

1.7 WORK SEQUENCE

- A. The Contractor shall establish his work sequence based on the use of personnel to facilitate completion of design, permitting, construction, and testing within the specified Contract Time.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01025**MEASUREMENT AND PAYMENT****PART 1 GENERAL****1.1 PAYMENTS**

- A. Payments to the Contractor shall be made on the basis of the Bid Items as full and complete payment for furnishing all Material, labor, tools and equipment, and for performing all operations necessary to complete the Work included in the Contract Documents. Such compensation shall also include payments for any loss or damages arising directly or indirectly from the Work, or from any discrepancies between the actual quantities of work and those shown in the Contract Documents, or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the final acceptance by the Owner.
- B. The price stated in the Bid Form include all costs and expenses for taxes, labor, equipment, Material, commissions, transportation charges and expenses, patent fees and royalties, labor for handling Material during inspection, together with any and all other costs and expenses for performing and completing the Work, as shown on the Plans and specified herein. The basis of payment for Bid Items at the price shown in the Bid Form shall be in accordance with its description of the item in this section and as related to the Work specified and shown on the Drawings. Unit prices where used will be applied to actual quantities furnished and installed in conformance with the Contract Documents.
- C. The Contractor's attention is called to the fact that the quotations for the various items of Work are intended to establish a total price for completing the Work in its entirety. The cost of Work for which there is not a separate Bid Item shall be included in a related Bid Item, or shall be distributed over all Bid Items, such that the bid for the project reflects the total price for completing the Work in its entirety.
- D. The Owner will have the right to issue one or more Change Orders prior to Final Payment which will reconcile actual quantities furnished and accepted with the estimated quantities found in the Bid Form. Force Account work performed may be included in the Change Orders.
- E. Payment of any Bid Item, in part or in full, prior to Final Payment, shall not be regarded as acceptance of that item.
- F. The Contractor's attention is called to the fact that the estimated quantities appearing in the Bid Form consist of the Engineer's best opinion of what will be required to complete the Work as designed. Neither the Owner nor the Engineer guarantee the accuracy or exactness of the figures. The actual quantities will be determined during, and upon completion, of construction, based upon the measurements herein described. Substantial differences may exist between the estimated quantities and the actual quantities. The estimated quantities are not a guarantee of the magnitude of Work. For Unit Price bid items, because the

Contractor's compensation will be based upon actual completed quantities, his actual level of compensation will vary from the Total Amount Bid or Contract Sum. The Owner reserves the right to authorize additional amounts of any or all of the Bid Items, and to reduce or totally eliminate any of the Bid Items, without affecting the Contract Unit Price Bid for that Bid or for any other Bid Items.

- G. All existing grades shown on the drawings are approximate and the Contractor is responsible to field verify all grades.
- H. The Contractor shall have the duty of reporting overpayment on any item, immediately upon his discovery of same.
- I. The Owner will have the right to deduct for overpayment of any item, when discovery of overpayment is made, and to adjust the amounts due the Contractor accordingly.
- J. The Owner will have the right to require the Contractor to excavate and expose any item which was covered after installation for the purpose of measuring, testing, or inspecting the item; and the Contractor shall comply with such request. No separate or additional payment will be made for this work. The Contractor shall, when accepted or directed to by the Owner, restore and repair the Work in conformance to the Contract Documents.
- K. Work performed beyond the Contract requirements, shall be approved and accepted before payment may be made. Mere knowledge by the Owner or the Engineer that the Contractor has performed a task shall not constitute approval or acceptance of the task for the purpose of payment, and the Owner will not be under obligation to pay for the task.
- L. The Owner reserves the right to request of the Contractor, and Contractor shall promptly provide a breakdown of any of the Lump Sum Bid Items. The breakdown shall consist of labor, equipment, and the cost of material for the Bid Item or the various components included within the Bid Item.
- M. Lump Sum items have been established for various portions of the work. The term "Lump Sum" shall mean complete payment for the unit of work described. Where the unit measurement is described as "Lump Sum", the unit shall include all necessary appurtenances and incidentals required to complete the unit of work. Measurement of the lump sum work will not be made. However, the completed portion of work will be estimated on a percent complete basis for purposes of monthly payment estimates.
- N. Unit Price Items have been established for various portions of the work. For these items of work, the quantity of work completed will be determined by actual measurement of work in place on the basis of the specified unit of measure. Incidentals or appurtenances not indicated as separate pay items but required to complete a particular unit of work shall be included within the unit price. The basis of payment for an item at the unit price bid shall be in general accordance with the description of that item in this section.

1.2 MEASUREMENT

- A. Progress payments for Lump Sum Bid Items will be considered on a percent completed basis and based on the breakdown of the Lump Sum Bid Item provided by Contractor. The Contractor shall estimate the value of the work performed, subject to the review and acceptance by the Engineer.
- B. The Contractor's surveyor will obtain the field data to be used in calculating the earthwork volumes. The Contractor shall submit quantities for payment, with calculations, for the Owner's review and approval, in accordance with the Contract Documents.
- C. The Owner will review these calculations prior to making payments. The Contractor shall give the Owner access to all field data, calculations, and computations. In the event of discrepancies or the need for additional field data to confirm quantities, the Contractor shall be responsible for the additional surveying cost.
- D. Prior to submitting his first requisition for payment, the Contractor shall secure the Owner's concurrence on the methods and procedures for making field measurements and the manner in which calculations will be performed in preparation of progress and final payment estimates.
- E. Quantity estimates, field measurements, certifications, and related backup information that is submitted in support of payment request will be considered by the Owner as having been prepared by the Contractor, even when prepared by or submitted on behalf of the Contractor by others.
- F. Earthwork quantities that result from unauthorized over excavations, unauthorized overfilling, or from under filling will not be considered for payment. These operations include excess volumes removed from on-site excavations, additional cover or clean fill material required to-fill excess cuts, or to fill embankments that do not meet the base grade requirements.
- G. The value of furnished materials, for which partial progress or full payment is made during the course of the Work, that remain unused at the closing of the Contract, shall be deducted from the amounts due the Contractor in the Final Payment.
- H. Payment between the "beginning and end" of directional bores will be for the length of pipe required to clear the applicable obstacles and tie into lines at the depth specified in the plans. Payment will specifically exclude the length of pipe required between the entry/exit locations and the "beginning and end" points, respectively, of the directional bores and the cost for this additional pipe shall be included in the Contractor's unit bid price.

- 1.3 PAYMENT ITEMS: PAYMENT WILL BE MADE BASED ON THE ITEMIZED BID PROPOSAL, OR AS SPECIFIED IN THE SCHEDULE OF VALUES APPROVED BY THE ENGINEER.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01027
APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope of Work: Submit Applications for Payment to the Engineer in accordance with schedule established by Conditions of the Contract and Agreement between Owner and Contractor.
- B. Related Requirements Described Elsewhere:
 - 1. Agreement between Owner and Contractor.
 - 2. Progress Payments, Retainages and Final Payment: Conditions of the Contract.
 - 3. Schedules: Section 01327
 - 4. Schedule of Values: Section 01370
 - 5. Construction Photographs: Section 01380
 - 6. Contract Closeout: Section 01700
 - 7. Project Record Documents: Section 01720

1.2 FORMAT REQUIRED

- A. Submit applications for payment on the Application and Certificate for Payment Form provided in the Project Manual.
- B. Provide itemized data of format, schedules, line items, and values specified on the Application and Certificate for Payment Form. The Contractor shall use the item descriptions and contract values included in the schedule of values approved and accepted by the Engineer as a basis for preparation of the Application for Payment Form.
- C. Construction Photographs: Only preconstruction photographs will be required on this project. (See Section 01380)

1.3 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form:
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal or application.

2. Fill in percent complete for each activity and dollar values to agree with respective percents.
 3. Execute certification with signature of a responsible officer of Contractor.
- B. Continuation Sheets:
1. Fill in total list of all scheduled component items of work, with item number and scheduled dollar value for each item.
 2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored. Round off values to nearest dollar, or as specified for Schedule of Values.
 3. List each Change Order executed prior to date of submission, at the end of the continuation sheets. List by Change Order Number, and description, as for an original component item of work.
 4. To receive approval for payment on component material stored on site, submit copies of the original invoices with the Application and Certificate for Payment.
 5. As provided for in the Application and Certificate for Payment Form, the Contractor shall certify, for each current pay request, that all previous progress payments received from the Owner, under this Contract, have been applied by the Contractor to discharge in full all obligations of the Contractor in connection with Work covered by prior Applications for Payment, and all materials and equipment incorporated into the Work are free and clear of all liens, claims, security interest and encumbrances. Contractor shall attach to each Application and Certificate for Payment like affidavits by all Subcontractors.

1.4 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. Contractor shall submit suitable information, with a cover letter identifying:
1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
- B. Submit one (1) copy of data and cover letter for each copy of application.

- C. The Contractor is to maintain an updated set of drawings to be used as record drawings in accordance with Section 01720: Project Record Documents. As a prerequisite for monthly progress payments, the Contractor is to exhibit the updated record drawings for review by the Owner and the Engineer.
- D. Each monthly application for payment shall incorporate the corresponding “monthly progress status report”, shop drawing log, and updated construction schedule, prepared in accordance with the requirements of Section 01310: Progress Schedules.
- E. As a prerequisite for payment, the Contractor shall submit a duly executed letter from surety consenting to payment due and progress to date.
- F. Contractor shall attach to each Application for Payment affidavits and/or partial releases of liens from all subcontractors certifying for each current pay request, that all previous progress payments received from the Owner, under this Contract, have been applied by the Contractor to discharge in full all obligations of the Contractor in connection with Work covered by prior Applications for Payment, and all materials and equipment incorporated into the Work are free and clear of all liens, claims, security interest and encumbrances.
- G. An executed Contractor’s Report of Minority/Women’s Business Enterprise Participation Form (F-15) shall be included with each pay application. The Contractor shall still submit the Contractor’s Report (F-15) with the project information identified and the form executed with each payment application regardless of Minority/Women’s Business Enterprise Participation.

1.5 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in application form as specified for progress payments. Provide information as required by the General Conditions and Section 01700: Contract Closeout.
- B. Furnish evidence of completed operations and insurance in accordance with the General Conditions.

1.6 SUBMITTAL PROCEDURE

- A. Submit applications for Payment to the Engineer at the time stipulated in the Agreement, or as agreed to at the pre-construction meeting. Review the percents complete with the Engineer and resolve any conflicts or discrepancies.
- B. No partial submittals will be reviewed. Incomplete submittals will be returned to the Contractor for resubmittal. All required information and photos required shall be submitted at one time as a package to facilitate processing.
- C. Number of copies for each Application for Payment: Five (5) copies plus additional copies for Contractor’s needs.

- D. When the Engineer finds the Application and Certificate for Payment Form is properly completed and correct, he will execute the Certificate for Payment and transmit the forms to the Owner, with copy to the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01028
CHANGES IN THE WORK

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- A. Comply with applicable provisions of Conditions of Contract and agreement between Owner and Contractor.

1.2 SUBMITTALS

- A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in Contractor's employ of changes in the Work.

1.3 DEFINITIONS

- A. Change Order: See General Conditions.
- B. Construction Change Authorization: Written order to Contractor, signed by Owner and Engineer, which amends Contract Documents as described, and authorizes Contractor to proceed with change which affects Contract Sum or Contract Time, for inclusion in subsequent Change Order. (PCO #)
- C. Engineer's Field Order: Written order, instructions, or interpretations, signed by Engineer, making minor changes in Work not involving change in Contract Price or extension of the Contract Time.

1.4 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. Provide data to support computations including:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.

- D. Support each request for additional cost for work done on a time and material basis, with additional information including:
 - 1. Origin and date of request.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for product, equipment, and subcontracts, similarly documented.

1.5 PRELIMINARY PROCEDURES

- A. Owner or Engineer may submit to the Contractor a change proposal request which includes detailed description of change with supplementary or revised Drawings and Specifications, the projected time for executing the change, and the period of time during which the requested price will be considered valid.
- B. Contractor may initiate a change by submittal of a request to Engineer describing the proposed change with a statement of the reason for the change, and the effect on Contract Sum and Contract Time with full documentation and a statement of the effect on Work of separate contractors.

1.6 CONSTRUCTION CHANGE AUTHORIZATION

- A. Engineer may issue a Change Authorization Form, signed by the Owner, instructing Contractor to proceed with a change in the Work, for inclusion in a subsequent Change Order.
- B. Promptly execute the change in Work.

1.7 LUMP SUM CHANGE ORDER

- A. The Change Order will be based on Change Proposal Request and Contractor's lump sum quotation.

1.8 UNIT PRICE CHANGE ORDER

- A. For pre-determined unit prices and quantities, Change Proposal Request/Change Order will be executed on a lump sum basis.
- B. For unit costs or quantities of units of work which are not predetermined, execute Work under a not-to-exceed Change Proposal Request. Changes in Contract Sum or Contract time will be computed as specified for time and material Change Order.

1.9 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits in the General Conditions.

- B. Engineer will determine the change allowable in Contract Sum and Contract Time as provided in the General Conditions.

1.10 EXECUTION OF CHANGE ORDERS

- A. Engineer will prepare all Change Orders and will issue Change Orders for signatures of parties as provided in General Conditions.

1.11 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum as shown on Change Order.
- B. Promptly revise Progress Schedules to reflect any change in Contract Time, revise subschedules to adjust times for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

END OF SECTION

SECTION 01040**COORDINATION****PART 1 GENERAL****1.1 PRECONSTRUCTION MEETING**

- A. Prior to commencement of work, a preconstruction meeting will be held in compliance with the applicable provisions of Section 01200 and elsewhere herein, for the purpose of clarifying the administrative procedures for prosecution of the work and explaining any requirements of the Contract Documents which are not understood.

1.2 COORDINATION OF DRAWINGS AND SPECIFICATIONS

- A. Before execution of Work, review all Drawings and Specifications and immediately report to the Engineer, in writing, all errors, discrepancies, and/or omissions discovered and submit one set of Contract Documents marked in red pencil clearly indicating the discrepancies.
- B. Where variances occur between Drawings and Specifications, between large scale drawings over small scale, or within either document itself, include the item or arrangement of better quality, greater quantity, or higher cost in Bid Price. Engineer will have final decision regarding item and manner in which the work is to be installed.
- C. Where such variances are encountered, notify Engineer for interpretation or decision before proceeding with the work, and such interpretation or decision will be final.
- D. Compare Drawings and verify the figures before laying out work. The Contractor will be held responsible for conflicts which might have been avoided by such verification.
- E. Drawings are diagrammatic and indicate general arrangement of systems and work included in the Contract.
 - 1. Follow Drawings in laying out the work and check Drawings of various trades to verify spaces in which work is to be installed.
 - 2. Notify Engineer where space conditions appear inadequate before proceeding.
 - 3. If directed by Engineer, make reasonable modifications in layout as needed to prevent conflict with work of various trades or for proper execution of work, without extra charge.

1.3 COORDINATION OF THE WORK

- A. Coordinate construction activities of the various trades and disciplines to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify that characteristics and elements of interrelated operating equipment are compatible. Coordinate work of various trades having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Mechanical/Electrical:
 - 1. Coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on Drawings.
 - 2. Follow routing shown for pipes, ducts, and conduits, as closely as practicable.
- D. Seal penetrations through floors, walls, and ceilings.

1.4 COORDINATION RESPONSIBILITIES

- A. Subcontractor Coordination:
 - 1. Insure subcontractors are knowledgeable of all provisions of Division I, General Requirements, and are responsible for conforming to applicable requirements and instructions stated.
 - 2. Assume responsibility for administering Work performed by subcontractors in accordance with Division 1, General Requirements.
- B. Installation Sequencing:
 - 1. Examine materials and installations performed by other trades before starting next stage or adjacent work.
 - 2. Immediately correct unsatisfactory conditions which hinder or restrict correct installation of next stage or adjacent work.
 - 3. Start of next stage or adjacent work will be construed as acceptance of previous or adjacent work whether or not conditions are satisfactory.
 - 4. Any work requiring subsequent removal or replacement due to unsatisfactory or defective work shall be at no expense to the Owner.

1.5 PROJECT SIGNS

- A. Subject to prior approval of Engineer and Owner as to size, design, type and location, and local regulations, temporary signs may be erected by the Contractor and Subcontractor for purposes of identification and for controlling traffic.

- B. Furnish, erect, and maintain such signs as may be required by Safety Regulations or as necessary to safeguard life and property.

END OF SECTION

SECTION 01045
CUTTING AND RESTORATION

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope of Work: Contractor shall be responsible: (A) For obtaining approvals from all governmental and private entities for all cutting and restoration; and (B) For all cutting, fitting and restoration, including attendant excavation and backfill, required to complete the Work or to:
1. Make 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. Remove samples of installed work as specified for testing.
 6. Provide routine penetrations of non-structural surface for installation of piping and electrical conduit.
 7. Otherwise complete the Project.
- B. Related Requirements Described Elsewhere:
1. Summary of Work: Section 01010.
 2. Site Work: Division 2.

1.2 SUBMITTALS

- A. Submit a written request to the Engineer fifteen (15) days prior to executing any cutting or alteration which affects:
1. Work of the Owner or any separate contractor.
 2. Structural value or integrity of any element of the Project.
 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 4. Efficiency, operational life, maintenance or safety of operational elements.
 5. Visual qualities of sight-exposed elements.

- B. Request Shall Include:
1. Identification of the Project.
 2. Description of affected work.
 3. The necessity for cutting, alteration or excavation.
 4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
 5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 6. Alternatives to cutting and patching.
 7. Cost proposal, when applicable.
 8. Written permission of any separate contractor whose work will be affected.
- C. Submit written notice to the Engineer designating the date and time the work will be uncovered.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.1 INSPECTION

- A. Inspect 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 the Engineer in writing; do not proceed with work until the Engineer has provided further instructions.

3.2 PREPARATION

- A. Provide adequate temporary support and restraint as necessary to assure structural strength or 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.

3.3 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. Employ original installer or fabricator to perform cutting and restoration for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01050**FIELD ENGINEERING AND SURVEYING****PART 1 GENERAL****1.1 DESCRIPTION**

- A. Scope of Work: Provide and pay for field engineering service for Project.
 - 1. Survey work required in execution of Work.
 - 2. Civil, structural or other professional engineering services specified or required to execute Contractor's construction methods.
 - 3. The method of field staking for the construction of the work shall be at the option of the Contractor. The Owner has provided the engineering surveys necessary to establish reference points which in his judgment are necessary to enable the Contractor to proceed with his work.
 - 4. The accuracy of any method of staking shall be the responsibility of the Contractor. All engineering for vertical and horizontal control shall be the responsibility of the Contractor.
 - 5. The Contractor shall be held responsible for the preservation of all stakes and marks. If any stakes or marks are carelessly or willfully disturbed by the Contractor, the Contractor shall not proceed with any work until he has reestablished such points, marks, lines and elevations as may be necessary for the prosecution of the work.
 - 6. The Contractor shall retain the services of a registered land surveyor licensed in the State of Florida to identify existing control points and to maintain a survey during construction.
- B. Related Requirements Described Elsewhere:
 - 1. Conditions of the Contract.
 - 2. Summary of Work: Section 01010.
 - 3. Project Record Documents: Section 01720.

1.2 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Qualified engineer or registered land surveyor, acceptable to the Owner and the Engineer.
- B. Registered professional engineer of the discipline required for the specific service on the Project, currently licensed in the State of Florida.

1.3 SURVEY REFERENCE POINTS

- A. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice to the Engineer.
 - 2. Report to the Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace Project control points which may be lost or destroyed at no additional cost to the Owner. Establish replacement based on original survey control.

1.4 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of two (2) permanent bench marks on site, referenced to data established by survey control points.
 - 1. Record locations, with horizontal and vertical data, on Project Record Documents.
- B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means.
 - 1. Site improvements:
 - a. Stakes for grading, fill, and topsoil replacement.
 - b. Utility slopes and invert elevations.
 - 2. Batter boards for structure.
 - 3. Building foundation, column locations, and floor levels.
 - 4. Controlling lines and levels required for mechanical and electrical trades.
- C. From time to time, verify layouts by same methods.

1.5 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.
- B. At end of the project, submit a certified site survey at 1 inch equals 20 feet scale on reproducible tracing sheets 24 inches by 36 inches and on CD, the As-Built condition of the project, including building corners and location of all new structures and elevations of stormwater facilities, pavement areas, sidewalks, finished floors, vaults, and above grade piping.

- C. At the end of the project, submit a certified survey at the same scale as the Engineer's line drawings indicating elevations and stationing at 100-foot pipe increments and at all valve and fitting locations.

1.6 SUBMITTALS

- A. Submit name and address of surveyor and professional engineer to the Engineer.
- B. On request of the Engineer, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance with the Contract Documents, or if not in conformance, certify as to variances from the Contract Documents.
- D. Submit drawings showing locations of all structures constructed. This drawing shall be included with the Project Record Documents.
- E. Submit information in accordance with Item 1.5.B herein.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01065**PERMITS AND FEES****PART 1 GENERAL**

- A. The Contractor shall obtain all permits and licenses related to constructing this Project as provided in the General Conditions except as otherwise provided herein. The Contractor shall also, if in effect and applicable at the date of bid opening, pay any governmental agency charges and inspection fees required for the prosecution of the work. If the Contractor desires connection of utility services (telephone or electricity) to perform the work, or to serve a field office, he will be responsible for securing the necessary permits and any connection or disconnection charges involved.
- B. Permits by Owner: The Owner has permits with the following agencies:
 - 1. Polk County: Permit and approvals related to construction in County right-of-way;
 - 2. FDEP: Public water transmission system construction permit; and
- C. The Contractor shall adhere to all permit requirements as contained in permits obtained by the Owner.

END OF SECTION

SECTION 01070**ABBREVIATIONS AND SYMBOLS****PART 1 GENERAL****1.1 REFERENCED STANDARDS**

- A. Any reference to published specifications or standards of any organization or association shall comply with the requirements of the specification or standard which is current on the date of Advertisement to Bid. In case of a conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.
- B. In case of conflict between the referenced specifications or standards and the Contract Documents, the Contract Documents shall govern.

1.2 ABBREVIATIONS

AMCA	Air Moving and Conditioning Association
ANSI	American National Standard Institute
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ARI	American Refrigeration Institute
ASA	American Standards Association (Now ANSI)
ASAHC	American Society of Architectural Hardware Consultants
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSCBC	American Standard Safety Code for Building Construction American Association of State Highway Transportation Officials
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge

AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Bureau
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Institute of America (formerly SCPI)
CDA	Copper Development Association
CFS	Cubic Feet Per Second
CMAA	Crane Manufacturers Association of America
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard
D/B or D-B	Design Build
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
DOT Spec	Standard Specification for Road and Bridge Construction Florida Department of Transportation
E/A	Engineer and/or Architect
EDA	Economic Development Association
EEI	Edison Electric Institute
EPA	Environmental Protection Agency
FCI	Fluid Control Institute
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation

Fed Spec	Federal Specification
FPS	Feet Per Second
FS	Federal Standards
GPM	Gallons Per Minute
HMI	Hoist Manufacturers Institute
HP	Horsepower
HSBII	Hartford Steam Boiler Inspection and Insurance Co.
ID	Inside Diameter
IEEE	Institute of Electrical and Electronic Engineers
IFI	Industrial Fasteners Institute
IPCEA	Insulated Power Cable Engineers Association
IPS	Iron Pipe Size
MGD	Million Gallons Per Day
MHI	Materials Handling Institute
MMA	Monorail Manufacturers Association
NBFU	National Board of Fire Underwriters
NBHA	National Builders' Hardware Association
NBS	National Bureau of Standards
NCSA	National Crushed Stone Association
NCSPA	National Corrugated Steel Pipe Association
NEC	National Electrical Code
NECA	National Electrical Contractors' Association
NEMA	National Electrical Manufacturers' Association
NFPA	National Fire Protection Association
NLA	National Lime Association

NPC	National Plumbing Code
NPT	National Pipe Threads
NSC	National Safety Council
NSF	National Sanitation Foundation
OD	Outside Diameter
OSHA	U.S. Department of Labor, Occupational Safety and Health Act
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PS	United States Products Standards
PSI	Pounds per Square Inch
PSIA	Pounds per Square Inch Absolute
PSIG	Pounds per Square Inch Gauge
RPM	Revolutions Per Minute
SAE	Society of Automotive Engineers
SDI	Steel Decks Institute
SFWMD	South Florida Water Management District
SJI	Steel Joists Institute
SJRWMD	St. Johns River Water Management District
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSI	Scaffolding and Shoring Institute
SSPC	Steel Structures Painting Council
SSPC	Structural Steel Painting Council
STA	Station (100 feet)
SWFWMD	Southwest Florida Water Management District
TDH	Total Dynamic Head

TH Total Head

UL Underwriter's Laboratories, Inc.

USASI or United States of America Standards Institute

Additional abbreviations and symbols are shown on the Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01091**REFERENCE SPECIFICATIONS****PART 1 GENERAL****1.1 GENERAL**

- A. Applicable Publications. Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of or omission from said standards or requirements.
- B. Assignment of Specialists. In certain instances, specification text requires (or implies) that specific work is to be assigned to specialist or expert entities who must be engaged for the performance of the Work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work. They are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of Work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of Contract requirements remains with the Contractor.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all Work specified herein shall conform to or exceed the requirements of such referenced documents which are not in conflict with the requirements of these Specifications or applicable codes.
- B. References herein to "Building Code" shall mean the Florida Building Code (FBC). The latest edition of the code as approved and used by the local agency as of the date of award as adopted by the agency having jurisdiction shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.
- C. In case of conflict between codes, reference standards, Drawings, and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the Engineer for clarification and directions prior to ordering or providing any materials or labor. The Contractor shall bid the most stringent requirements.

- D. Applicable Standard Specifications. The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01100**SPECIAL PROJECT PROCEDURES****PART 1 GENERAL****1.1 PIPE LOCATIONS**

- A. All pipes shall be located as generally indicated on the Drawings; however, the Engineer reserves the right to make such modifications in locations as may be found desirable to provide a 'better' design and to avoid interference with existing structures, or for other reasons. Where fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.

1.2 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 workers.

1.3 TEST PITS

- A. Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled by the Contractor. Test pits shall be backfilled immediately after their purpose has been satisfied and maintained in a manner satisfactory to the Engineer. The costs for such test pits shall be borne by the Contractor.

1.4 JURISDICTIONAL DISPUTE

- A. It shall be the responsibility of the Contractor to pay all costs that may be required to perform any of the Work shown on the Drawings or specified herein in order to avoid any work stoppages due to jurisdictional disputes. The basis for subletting Work in question, if any, shall conform with precedent agreements and decisions on record with the Building and Construction Trades Department, AFL-CIO, dated June, 1973, including any amendments thereto.

1.5 INCLEMENT WEATHER

- A. In the event of inclement weather, or whenever the Engineer directs; the Contractor shall, and shall cause subcontractors to protect carefully the Work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any portion of work or materials have been damaged or injured by reason of failure on the part of the Contractor or any subcontractors to so protect the Work, such Work and materials shall be removed and replaced at the expense of the Contractor.

1.6 COORDINATION OF WORK

- A. The Contractor shall cooperate fully so as to eliminate or minimize the creation of conflicts. Adjustments from time to time may be required in the Contractor's work location and/or schedule provided a reasonable notice is given by the Owner or Engineer.

1.7 USE OF PUBLIC STREETS

- A. The use of public streets and roads shall be such as to provide a minimum of an inconvenience to the public and to other traffic. Any earth or other excavated materials spilled from trucks shall be removed by the Contractor and the streets and roads cleaned to the satisfaction of the Owner.

1.8 TRAFFIC

- A. All safety precautions shall be taken and all traffic controls be furnished satisfactory to the City, Polk County, Florida Department of Transportation, and/or other government agencies having jurisdiction, where partial or complete obstruction of highways, roadways, streets, drives or sidewalks is required in the performance of the Work.

1.9 CHEMICALS

- A. All chemicals used during project construction, or furnished for project operations, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of the State Department of Health, Florida Department of Environmental Protection and if required, also the EPA or USDA. Use of all such chemicals and disposal of residue shall be in strict conformance with the manufacturer's instructions or recommended use procedures.

1.10 SAFETY AND HEALTH REGULATIONS

- A. The Contractor shall comply with the Department of Labor Safety & Health Regulations for construction promulgated under the Occupational Safety & Health Act of 1970 (PL 91-596), and under Section 107 of the Contract Work Hours & Safety Standards Act (PL 91-54).
- B. All equipment furnished and installed under this Contract shall comply to Part 1910, Occupational Safety & Health Standards & Amendments thereto.
- C. The Contractor shall comply with the Florida Trench Safety Act (90-96, Florida Law).

1.11 STATE AND FEDERAL PERMITS

- A. Construction in Florida Department of Transportation rights-of-way, wetlands and navigable water bodies will be governed by applicable State and Federal permits. All conditions set forth on the permits shall be a part of the Contract **and they shall be attached by addendum.**

1.12 INSPECTION

- A. The authorized representatives and agents of the Environmental Protection Agency and Controlling State and Local Pollution Control Agencies shall be permitted to inspect all work, material, payrolls, personnel records, invoices of materials, and any other relevant data and records. The Owner and Engineer shall be permitted access to any work area for the inspection of work and materials. **The Owner may, at the Contractor's expense, order the uncovering or removal of any finished work if circumstances indicate faulty work or materials were used in the original installation.** The Owner and Engineer shall also be permitted to inspect material invoices, payrolls or any other relevant data or records as may be necessary or required to satisfy the requirements of the Contract.

1.13 ENVIRONMENTAL PROTECTION

A. General:

1. Contractor shall comply with all Federal, State and Local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter. In the event of conflict between such laws and regulations and the requirements of the Specifications, the more restrictive requirements shall apply. Environmental protection requirements specified in other Sections shall be considered as supplementing the requirements in this Section.
2. Failure of the Contractor to fulfill any of the requirements of this Section may result in the Owner ordering the stopping of construction operations.
3. Failure on the part of the Contractor to perform the necessary measures to control erosion, siltation, and pollution will result in the Owner notifying the Contractor to take such measures. In the event that the Contractor fails to perform such measures within 24 hours after receipt of such notice, the Owner may stop the Work as provided above, or may proceed to have such measures performed by others. The cost of such work performed by others plus related fees by the Engineer will be deducted from monies due the Contractor on his Contract.
4. All erosion and pollution control features installed by the Contractor shall be acceptably maintained by the Contractor during the time that construction work is being done.
5. Repair or replace damaged or inoperative erosion and pollution control devices as directed by the Engineer or the Owner's Representative.
6. Where there is a high potential for erosion and possible water pollution, the Contractor shall not expose, by his construction methods or procedures, an

area of erosive land at any one time larger than the minimum amount required for the proper and efficient construction operation. If the exposure of any incomplete work corresponding to the exposure period required for erosion is anticipated, temporary protective measures shall be taken to prevent the erosion or collapse of land in that immediate construction area.

- B. Erosion and Pollution Control Schedule: At or prior to the preconstruction conference, the Contractor shall submit to the Owner for his information, three (3) copies of his erosion and pollution control work schedule. This schedule shall show the time relationship between phases of the Work which must be coordinated to reduce erosion and pollution, and shall describe construction practices and temporary control measures which will be used to minimize erosion and pollution. The schedule shall also show the Contractor's proposed method of erosion control on haul roads and borrow and material pits, and his plan for disposal of waste materials or other sources of pollution. Maps or other documents may also be required to show the proposed final surface gradient of proposed borrow pits, soil type base course pits, and waste areas. No work shall be started until the erosion and pollution controls schedules and methods of operations have been submitted to the Owner for his information.
- C. Air Pollution Controls:
1. Contractor shall control dust caused by his operations in the construction of the Project, including but not specifically limited to the following:
 - a. Clearing, grubbing, and stripping.
 - b. Excavation and placement of embankment.
 - c. Cement and aggregate handling.
 - d. Limerock stabilization.
 - e. Use of haul roads.
 - f. Sandblasting or grinding.
 2. Contractor shall control air pollution from the following causes in constructing the project.
 - a. Volatiles escaping from asphalt and cutback materials.
 - b. Use of herbicides or fertilizers.
 3. Control of dust and other air pollutants by the Contractor shall include:
 - a. Exposing the minimum area of land.
 - b. Applying temporary mulch with or without seeding.

- c. Use of water sprinkler trucks.
 - d. Use of covered haul trucks.
 - e. Use of stabilizing agents in solution.
 - f. Use dust palliatives and penetration asphalt on temporary roads.
 - g. Use of wood chips in traffic and work areas.
 - h. Use of vacuum-equipped sandblasting systems.
 - i. Use of plastic sheet coverings.
 - j. Restricting the application rate of herbicides to recommended dosage. Materials shall be covered and protected from the elements. Application equipment and empty containers shall not be rinsed and discharged so as to pollute a stream, river, lake, pond, water impoundment, or the ground water.
 - k. Relay of operations until climate or wind conditions dissipate or inhibit the potential pollutants.
- D. Open Burning of Combustible Wastes: No open burning of combustible waste materials or vegetation shall be permitted. All waste materials shall be removed from the site or within public rights-of-way and disposed in a legal manner.
- E. Permanent and Temporary Water Pollution Control (Soil Erosion):
- 1. Sufficient precautions shall be taken during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other polluting materials harmful to humans, fish, or other life, into the supplies and surface waters of the State. Control measures must be adequate to assure that turbidity in the receiving water will not be increased more than allowed by the State or controlling agency. Such measures may consist of construction of berms, dikes, dams, drains and sediment basins, or use of fiber mats, woven plastic filter cloths, gravel, mulches, quick growing grasses, sod, bituminous spray and other erosion control devices or methods approved by the State or controlling agency.
 - 2. The Contractor shall not be permitted frequent fording of live streams with construction equipment; therefore, temporary bridges or other structures shall be used wherever such crossings adversely affect sediment levels and an appreciable number of stream crossings are necessary.
 - 3. The Contractor shall promptly clear all waterways and drainage patterns of false work, piling, debris, or other obstructions placed during construction work and not a part of the finished work.

4. The Contractor shall remove and dispose of silt accumulations as directed by the Engineer or the Owner's Representative.
 5. If new and additional erosion control structures are to be installed, under this project, to prevent possible future erosion as a result of work under this contract, they shall be constructed concurrently with the other work, as early as possible, and as conditions permit.
- F. Noise Control: The Contractor shall provide adequate protection against objectionable noise levels caused by the operation of construction equipment in order to comply with all current local and state ordinances and these Specifications. Sound levels shall be measured at the exterior of the nearest exterior wall of the nearest residence or building. Levels at construction equipment shall not exceed 85 dBA at any time. Sound levels in excess of allowable values are sufficient cause to have the work halted until equipment can be quieted to these levels. Work stoppage by the Engineer or Owner for excessive noise shall not relieve the Contractor of the other portions of this Specification including, but not limited to completion dates and bid amounts.

1.14 TREE AND SHRUB PROTECTION AND TRIMMING

- A. Contractor shall exercise care to protect all trees and shrubs designated to remain. Trees and shrubs outside construction limits shall remain and shall be protected and where damaged, restored to original condition. Contractor shall obtain approval from the Owner prior to removing any trees. Trees damaged within construction limits due to negligence shall be restored to original condition.
- B. Tree limbs which interfere with construction operations and are approved for pruning shall be neatly cut with sharp pruning instruments; do not break or chop. Pruning operations shall be extended to restore the natural shape of the entire tree or shrub. Do not allow fires under or adjacent to trees or other plants which are to remain.
- C. Contractor shall protect tree and shrub root systems. Do not store construction materials, debris or excavated materials beyond construction limits. Do not permit vehicles or construction equipment beyond the limits of utility line construction. Restrict foot traffic to prevent excessive compaction of soil over root system. Excavated material shall be stockpiled away from tree drip lines as approved by the Engineer. Protect tree and shrub root systems from damage due to noxious materials in solution caused by run-off or spillage during construction operations, or drainage from stored materials. Protect root systems from flooding, erosion or excessive wetting resulting from dewatering operations. Excavate within the drip line of trees only when approved by the Engineer. Where trees are designated to remain within the limits of construction and trenching for utilities is required within tree drip lines, cut roots with sharp pruning instruments; do not break or chop. Paint roots over 2" caliper with approved tree pruning compound.

- D. Trees damaged by construction operations shall be repaired promptly after damage occurs to prevent progressive deterioration of damaged trees. Removed trees, branches, roots and other excess materials shall be removed from the construction site to an approved landfill at the expense of the Contractor.

1.15 SITE CLEANUP AND RESTORATION

- A. The Contractor shall keep the working area free at all times of tools, materials and equipment not essential to the progress of the Work. Debris, waste materials, and rubbish shall be properly disposed of and not allowed to accumulate. If the Contractor should fail to do this, the Owner will make the necessary arrangements to effect the cleanup by others and will back charge the cost to the Contractor. If such action becomes necessary on the part of and in the opinion of the Owner, the Owner will not be responsible for the inadvertent removal of material which the Contractor would not have disposed of had he effected the required cleanup.
- B. Where material or debris has washed or flowed into or been placed in watercourses, ditches, gutters, drains, catch basins, or elsewhere as result of the Contractor's operations, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the Work, and the ditches, channels, drains etc., kept in a clean and neat condition.
- C. On or before the completion of the Work, the Contractor shall, unless otherwise especially directed or permitted in writing, tear down and remove all temporary buildings and structures built by him; shall remove all temporary works, tools, and machinery or other construction equipment furnished by him; shall remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around portable restrooms, houses, and other buildings used by him; shall remove all rubbish from any grounds he has occupied; and shall leave the roads and all parts of the premises and adjacent property affected by his operations, in a neat and satisfactory condition.
- D. The Contractor shall restore the entire project site to its original or better condition, with the exception of any area(s) designated for alteration by the Contract Documents. The Contractor shall restore or replace; when and as directed, any public or private property damaged by his work, equipment, or employees to a condition at least equal to that existing immediately prior to the beginning of operations. To this end the Contractor shall do as required all necessary highway or driveway, walk, and landscaping work. Suitable materials, equipment, and methods shall be used for such restoration.
- E. The Contractor shall thoroughly clean all materials and equipment installed by him and his subcontractors and on completion of the Work shall deliver it undamaged and in fresh and new appearing condition.

1.16 LAWS AND REGULATIONS

- A. It shall be the responsibility of the Contractor to give all notices and comply with all the laws, rules, regulations, ordinances, etc., that may be applicable at the time the Work is started on the project. Should the Contractor discover that the Drawings or Specifications are contradictory to, or in variance with the above, he shall notify the Engineer immediately, in writing, in order that any required changes or modifications can be made. It is not the Contractor's responsibility to make certain that the Drawings and Specifications are in non-compliance with all of the above; however, should Contractor be aware of any existing discrepancy, or have reason to believe such may exist and performs work without proper notice to the Engineer, the Contractor shall be responsible for any cost involved in making the necessary alterations or corrections.

1.17 CONTRACTOR'S USE OF PREMISES

- A. All project construction work will be accomplished on the Owner's property, public rights-of-way or within temporary construction easements and the Contractor shall confine his activity to those designated areas. The Contractor shall not enter upon private property for any reason without securing prior permission from the property owner. Such permission, including any stipulations, shall be in writing and a copy shall be delivered to the Engineer prior to the Contractor's entry or occupation of the subject property. This requirement will be rigidly enforced, particularly with regard to the utilization of vacant areas adjacent to the work site for the storage of materials or parking equipment.
- B. The Contractor shall perform his work in such manner that he will not damage adjacent public or private property. Any damage to existing physical structures or utility services shall be repaired or restored promptly at no expense to the Owner.
- C. The Contractor shall avoid damage to and preserve all existing vegetation (grass, shrubs, trees, etc.) on or near the work area which do not, within reason, interfere with construction. The Contractor will be responsible for and required to replace or restore all such vegetation damaged or destroyed at no cost to the Owner. The Contractor will also be responsible for any unauthorized cutting or damage to trees, shrubs, etc., and also damage caused by careless operation of equipment, storage of materials and rutting or tracking of grass by equipment.
- D. The Contractor shall conduct access, hauling, filling, and storage operations as specified herein and as shown on the Drawings.
 - 1. On-site borrow areas are designated as follows: Suitable material, as approved by Engineer, from excavations for project structures. Any additional borrow material required shall be provided by the Contractor from **off-site**.
 - 2. On-site spoil areas will **become property of the Contractor** and are to be disposed off-site.

- E. Construct all fill areas so runoff will not flood improved areas.
- F. All connections to existing piping systems shall be made as shown or indicated on the Drawings after consultation, cooperation, and coordination with the Owner. Some such connections may have to be made during off-peak hours (late night or early morning hours). The Contractor shall give a minimum of 72 hours notice to the Owner when tie-ins with the existing plant utilities are required.
- G. For major utility pipeline tie-ins and relocations, the Contractor shall submit a detailed Plan of Action for review and approval by the Owner and the Engineer. No major utility relocation or tie-ins shall proceed until the Plan of Action for that Work is approved.

1.18 HAZARDOUS LOCATIONS

- A. The Contractor shall be responsible for identification of hazardous locations, appropriate construction methods, and all other safety issues.

1.19 ADDITIONAL PROVISIONS

- A. The Contractor shall provide at his own cost all necessary temporary facilities for access to, and for protection of, all existing structures. 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 Owner or Engineer.

1.20 MAINTENANCE OF SERVICE REQUIREMENTS

- A. During construction of the new facilities, the Owner will be responsible for operation of the existing facilities until they are taken over by the Contractor for modification, demolition, or abandonment.
- B. In order to provide uninterrupted water service, the Contractor shall provide temporary piping and/or pumping facilities as necessary to complete the work. The design of such systems shall be the responsibility of the Contractor; however, such systems shall be subject to approval by the Engineer. The Contractor shall submit detailed drawings and descriptions of the temporary facilities to the Engineer for approval at least thirty (30) days prior to the installation of any temporary facilities.
- C. If the Contractor's operations disrupt water service, except for such brief periods as expressly permitted and required, the Contractor shall immediately make all repairs, and do all work necessary, to restore service to the satisfaction of the Engineer at no additional cost to the Owner. Such work shall progress continuously to completion on a 24-hour per day, 7-day per week basis. The Contractor shall provide the services of emergency repair crews on call 24 hours per day.
- D. The Contractor shall submit a written request to perform any connections to existing piping that will require all or part of the water treatment plant to be taken off-line. The Contractor shall submit the written request a minimum of 72 hours before the

proposed work will be performed, detail the sequence of work and time required for the connections, and receive written approval by the Owner and Engineer. Connections to existing piping that will require all or part of the water treatment plant to be taken off-line will be performed during low flow conditions, which are defined by the Owner.

- E. Service to any customer shall not be disrupted for more than 6 continuous hours. Prior to disrupting service to any customer, said customer shall be notified 24 hours in advance of said disruption, in writing.
- F. Any fines or other damages caused by not maintaining water service as specified above shall be the responsibility of the Contractor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01200
PROJECT MEETINGS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. The Engineer will schedule and administer a preconstruction conference, periodic construction progress meetings, and specially called meetings throughout the progress of the work.
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Preside at meetings.
- 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.
- D. Related Work Described Elsewhere:
 - 1. Progress Schedule and Report.
 - 2. Shop Drawings, Working Drawings and Samples.
 - 3. Project Record Documents.

1.2 PRECONSTRUCTION CONFERENCE

- A. A preconstruction conference shall be scheduled by the Engineer.
- B. Location: The location of the conference shall be a central site, convenient for all parties, designated by the Engineer.
- C. Attendance Requested:
 - 1. Owner's representative.
 - 2. Resident project representative (RPR).
 - 3. Engineer and his professional consultants.
 - 4. Contractor's representative.
 - 5. Subcontractor's representative.

6. Supplier's representative.
 7. Others, as appropriate.
 8. Permitting agencies.
- D. Suggested Agenda:
1. Project schedule.
 2. Critical work sequencing: Relationships and coordination with other contracts and/or work and continuing site operation.
 3. Major equipment deliveries and priorities.
 4. Project coordination and control.
 5. Procedures and processing of: -
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change orders.
 - e. Applications for payment.
 6. Submittal of Shop Drawings.
 7. Adequacy of distribution of Contract Documents.
 8. Procedures for maintaining Record Documents.
 9. Use of premises:
 - a. Office, work and storage areas.
 - b. Owner's requirements.
 - c. Access and traffic control.
 10. Construction facilities, controls and construction aids.
 11. Temporary utilities.
 12. Safety and first aid procedures.
 13. Check of required Bond and Insurance certifications.

14. Completion time for contract and liquidated damages.
15. Request for extension of contract time.
16. Request for a weekly job meeting for all involved.
17. Security procedures.
18. Procedures for making partial payments.
19. Guarantee on completed work.
20. Equipment to be used.
21. Staking of work.
22. Project inspection.
23. Labor requirements.
24. Laboratory testing of material requirements.
25. Inventory of material stored on site provisions.
26. Requirements of railroads, highway departments, and other organizations.
27. Rights-of-way and easements.
28. Housekeeping procedures.
29. Liquidated damages.
30. Posting of signs.
31. Pay request submittal dates.
32. Equal opportunity requirements.
33. Permits.
34. Other business relating to Work.

1.3 PROGRESS MEETINGS

- A. Regular periodic construction progress meetings will be scheduled unless more frequent meetings are required. The progress meetings will be held approximately monthly as requested by the Engineer or Owner.
- B. Meetings shall be held as required by progress of the work.

- C. Location of the meetings: RPR's Field Office, or at other locations selected by the Engineer.
- D. Attendance:
 - 1. Engineer and his professional consultants (as needed).
 - 2. Contractor.
 - 3. Owner's representative.
 - 4. Subcontractors (as appropriate to the agenda).
 - 5. Suppliers (as appropriate to the agenda).
 - 6. Others (as appropriate).
- E. Suggested Agenda:
 - 1. Review approval of minutes of previous meeting.
 - 2. Review of work progress since previous meeting.
 - 3. Field observations, problems, and conflicts.
 - 4. Problems which impede the Construction Schedule.
 - 5. Review of off-site fabrication and delivery schedules.
 - 6. Corrective measures and procedures to regain projected schedule.
 - 7. Revisions to Construction Schedule.
 - 8. Progress schedule during succeeding work period.
 - 9. Coordination of schedules.
 - 10. Shop Drawing submittals.
 - 11. Maintenance of quality standards.
 - 12. Pending changes and substitutions.
 - 13. Review proposed changes for:
 - a. Effect on Construction Schedule and on completion date.
 - b. Effect on other contracts of the Project.
 - 14. Other business.

- 15. Construction Schedule.
- 16. Critical/long-lead items.
- F. The Contractor shall attend construction progress meetings and shall study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics regarding progress of the work.
- G. The Contractor is to provide a current submittal log at each progress meeting in accordance with Section 01340.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01327**SCHEDULES****PART 1 GENERAL****1.1 PROGRESS SCHEDULE**

- A. Contractor shall submit a detailed bar chart schedule of the proposed construction operations before Work is started. The progress schedule shall indicate the sequence of the Work, the time of starting and completing each part, the time for making connections to existing piping and facilities, the time for piping and facility shut down and the time for road, ditch and creek crossings. The schedule will contain at least a line item for each item in the Bid Proposal or in Section 01370, Schedule of Values, whichever is more detailed.
- B. Revise the schedule monthly to reflect changes in the progress of the Work. Submit revised schedule with monthly pay application.
- C. A progress report shall be furnished to the Engineer with each application for a progress payment. If the work falls behind schedule, Contractor shall take steps to get the project back on schedule and complete the Work within the contract time.
- D. Each progress report shall include sufficient narrative to describe current and anticipated delaying factors, their effect on the construction schedule, and proposed corrective actions. Any Work report complete, but which is not readily apparent to Engineer, must be substantiated with satisfactory evidence.
- E. Each progress report shall also include three prints of the accepted graphic schedule marked to indicate actual progress.

1.2 SHOP DRAWING SCHEDULE

The preliminary schedule of shop drawing, product data, samples, and submittals required by the General Conditions shall be a table listing the specific shop drawing, product data, sample and submittal with a corresponding date or range of dates less than one week long on which, or during which, the specific item will be submitted to the Engineer.

1.3 ADDITIONAL SCHEDULES

- A. Submit additional schedules showing when the O&M manuals and record drawings will be delivered.
- B. Submit a schedule for the pre-operational testing and start up of the facilities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01340

SHOP DRAWINGS, WORKING DRAWINGS, AND SAMPLES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. The Contractor shall submit to the Engineer for review and approval, such working drawings, shop drawings, test reports and data, on materials, material samples materials list, certificates and affidavits as required for 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. Within ten (10) calendar days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer a complete materials list of preliminary data on items for which Shop Drawings are to be submitted. Included in this materials list shall be the names of all proposed suppliers furnishing specified items. Review of this list by the Engineer shall in no way expressed or implied relieve the Contractor from submitting complete Shop Drawings and providing materials fully in accordance with the Specifications.
- C. The Contractor shall maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting with the Owner and the Engineer. This log shall include the following items:
 - 1. Submittal-Description and Number assigned.
 - 2. Date submitted to Engineer.
 - 3. Date returned to Contractor (from Engineer).
 - 4. Status of Submittal (Reviewed, Not Reviewed, Rejected).
 - 5. Date of Resubmittal and Return (as applicable).
 - 6. Projected date of delivery to site.
 - 7. Specification Section.
 - 8. Drawings Sheet Number.

1.2 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall check all drawings, data and samples prepared by or for him before submitting them to the Engineer for review. Each and every copy of the drawings and data shall bear Contractor's stamp and signature showing that they have been so checked and by affixing the stamp that they comply to the Contract Documents unless exceptions are given. Shop drawings submitted to the Engineer

- without the Contractor's stamp and signature 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. If the Contractor takes exception to the specifications, the Contractor shall note the exception in the letter of transmittal to the Engineer. Shop drawing submittals shall not be used as a vehicle for requesting approval of substitute or alternative materials. Substitution requests will be considered only when submitted in accordance with Section 01600.
- B. The Contractor shall stamp each shop drawing with a standard stamp. The stamp will verify the Contractor has reviewed the information included in the shop drawing. In addition, the stamp will note any variation from the Contract Documents. The Contractor's stamp shall be submitted to the Engineer for acceptance fourteen (14) days prior to construction or submittal of shop drawings. The Engineer will only review shop drawings which have an Engineer-accepted stamp (See Figure 01340-1).
 - C. The Contractor shall determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with Specifications.
 - 5. Conformance with drawings and details.
 - D. The Contractor shall furnish the Engineer a schedule of Shop Drawings submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials. This schedule shall indicate those that are critical to the progress schedule.
 - E. The Contractor shall not begin any work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned by the Engineer, with no exceptions.
 - F. The Contractor shall submit to the Engineer all drawings and schedules sufficiently in advance of construction requirements to provide no less than thirty (30) calendar days for checking and appropriate action from the time the Engineer receives them. No extension of contract time will be authorized because of failure to transmit submittals to the engineer sufficiently in advance of the work to permit processing.
 - G. All submittals shall be accompanied by a transmittal letter prepared in duplicate containing the following information:
 - 1. Date.
 - 2. Project Title and Number.

3. Contractor's name and address.
 4. The number of each Shop Drawing, Product Data, and Sample submitted (ex: SUB-0001).
 5. Notification of deviations from Contract Documents.
 6. Submittal Log Number conforming to Specification Section Numbers.
- H. The Contractor shall submit four (4) copies of descriptive or product data submittals to complement shop drawings for the Engineer plus the number of copies which the Contractor requires returned. The Engineer will retain four (4) sets. All blueprint shop drawings shall be submitted with one (1) set of mylar reproducibles and four (4) sets of prints. The Engineer will review the blueprints and return to the Contractor the set of marked-up mylar reproducibles with appropriate review comments. All blueprint shop drawings, when practical, shall be 24 inch by 36 inch in size.
- I. The Contractor shall be responsible for and bear all costs 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 Engineer of the necessary shop drawings.

1.3 ENGINEER'S REVIEW OF SHOP DRAWINGS

- A. The Engineer's review of drawings, data and samples submitted by the Contractor will include only general conformity with the design concept of the Project and with the information given in the contract documents. The Engineer's review and exceptions, if any, will not constitute approval of dimensions, quantities, and details of the material or item shown.
- B. The review of drawings and schedules will 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 Engineer, except as otherwise provided herein.
- C. If the drawings or schedules as submitted describe variations per paragraph (1.04.E), and show a departure from the Contract requirements which Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or time for performance, the Engineer may return the reviewed drawings without noting an exception.
- D. When reviewed by the Engineer, each of the Shop Drawings will be identified as having received such review, being so stamped and dated. Shop Drawings stamped "REVISE AND RESUBMIT" and with required corrections shown will 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 corrections requested by the Engineer on previous submissions. The Contractor shall make any corrections required by the Engineer.
- 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 Engineer.
- G. Shop drawings and submittal data shall be reviewed by the Engineer for each original submittal and first and second resubmittal; thereafter review time for subsequent resubmittals shall be charged to the Contractor in accordance with the terms of the Engineer's Agreement with the Owner.
- H. When the Shop Drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.
- I. No partial submittals will be reviewed. Submittals not complete will be returned to the Contractor for resubmittal. Make all submittals in groups containing all associated items as indicated in specific Specifications Sections. All drawings, schematics, supplier's product data, certifications and other shop drawing submittals required shall be submitted at one time as a package to facilitate interface checking.

1.4 SHOP DRAWINGS

- A. When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean Contractor's plans for materials which become an integral part of the Project. These drawings shall be complete and detailed. Shop Drawings shall consist of setting and schedule drawings and supplier's scale drawings. Descriptive literature, and performance and test data, shall be considered only as supportive to required Shop Drawings as defined above.
- B. Supplier's diagrams, illustrations and other standard descriptive data shall be clearly marked to identify pertinent materials, product or models. Delete information which is not applicable to the Work by striking or cross-hatching.
- C. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission. The Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to the Engineer that the Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

- D. 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. Project Title and Number.
 2. Name of project material.
 3. Number and title of the shop drawing.
 4. Date of shop drawing or revision.
 5. Name of Contractor and subcontractor submitting drawing.
 6. Name of Supplier.
 7. Separate detailer when pertinent.
 8. Specification title and number.
 9. Specification Section.
 10. Application Contract Drawing Number.
- E. If drawings show variations from Contract requirements for any reason, 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, they shall not be relieved of the responsibility for executing the work in accordance with the Contract.
- F. Data on materials and include, without limitation, materials lists, catalog data sheets, cuts, materials of construction and similar descriptive material. Materials lists shall give, for each item thereon, the name and location of the supplier, trade name, catalog reference, size and all other pertinent data.
- G. All suppliers who proposed to furnish products shall submit an installation list to the Engineer along with the required shop drawings. The installation list shall include at least five (5) installations where identical material has been installed and has been in operation for a period of at least one (1) year.
- H. Only the Engineer will utilize the color "red" in marking shop drawing submittals.

1.5 WORKING DRAWINGS

- A. When used in the Contract Documents, the term "working drawings" shall be considered to mean the Contractor's plan for temporary structures such as support of open cut excavation, utilities, ground water control systems, false work and any other work as may be required for construction but is not an integral part of the Project.

- B. Copies of working drawings as noted in paragraph 1.05 A. above shall be submitted to the Engineer for information only, not review, where required by the Contract Documents or requested by the Engineer, and shall be submitted at least thirty (30) calendar days (unless otherwise specified by the Engineer) 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. Review of working drawings by the Engineer 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 Owner and Engineer shall have no responsibility therefore.
- D. Submittals that relate to the means, methods, techniques, sequencing, procedures, or safety programs of the contractor will be received by the Engineer for information only. A review of the information will not be conducted. These submittals that will not be reviewed include:
 - 1. Fit-up of parts.
 - 2. Shoring and bracing.
 - 3. Constructibility tolerances.
 - 4. Field measurements.
 - 5. De-watering plans, except with respect to the requirements of the technical specification.
 - 6. False work forming plans.

1.6 SAMPLES

- A. The Contractor shall furnish, for the approval of the Engineer, samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer 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 after review by the engineer and required corrections are made.
- B. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product. A minimum of two samples of each item shall be submitted.
- C. Each sample shall have a label indicating:
 - 1. Name of Project.

2. Name of Contractor and Subcontractor.
 3. Material Represented.
 4. Place of Origin.
 5. Name of Producer and Brand (if any).
 6. Location in Project.
- D. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required in paragraph 1.06 B. above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer. Review of a sample shall be only for the characteristics or use on the project and shall not be construed to change or modify any Contract requirements.
- E. Samples not destroyed in testing shall be sent to the Engineer or stored at the site of the work. Materials incorporated in work shall match the Engineer reviewed samples. Samples which failed testing will be returned to the Contractor at his expense, if so requested at time of submission.

1.7 CERTIFICATES AND AFFIDAVITS

- A. Where specified in the Contract Documents that a certificate or affidavit be submitted to the Engineer for a particular product or product component, such submittals shall be made in accordance with the following:
1. For Installation: A certificate of compliance shall indicate that the material has been properly installed in compliance with supplier's instructions. Certificate shall be provided by the supplier's representative.
- B. Each certificate shall include a sworn statement by an official of the company originating the certificate attesting to the truth and accuracy of all information contained in the certificate. If such attestation of truth and accuracy cannot be included in the certificate itself, it must be provided as an affidavit accompanying the certificate.

1.8 ALTERNATIVES TO SPECIFIED PRODUCTS

- A. The Contract Documents may indicate the name of a trade name or a material to be used in the Contract. Reference made to a particular product of the supplier is made to identify a particular design, quality, construction, arrangement, or style.
- B. Where the Contractor proposes to use a substitute product for that specified, complete information on such substitute product including all necessary redesign of the material or any other part of the Contract requiring modification as a result of the use of the requested substitute shall be submitted to the Engineer for review. All such redesign and all new drawings and detailing required as a result thereof shall be prepared by the Contractor at his own expense, including regulatory permit

acquisition for the modifications. Requests for additional money for such substitution will not be considered.

- C. If the Contractor proposes to provide products as “equals” to those specified, it shall be his responsibility to furnish complete, specific, detailed information to the Engineer from the supplier of the product he proposes to provide in which the requirements of the Contract Documents are shown to be met. This shall consist of a point-by-point comparison of the Contract requirements with the product proposed to be provided. The burden of responsibility in furnishing this information is with the Contractor. If incomplete or irrelevant data is submitted as evidence of compliance with this subparagraph, the request for approval to provide this specific substitute product will be denied and no further submission will be considered.
- D. The Contractor shall be responsible for payment of Engineer’s and Owner’s costs for reviewing Contractor’s submittals of “Or Equal” requests. Payment of Engineer’s review costs shall be at Engineer’s standard rates for this Project.

1.9 MISCELLANEOUS DATA

- A. Any other submittals required by these Specifications but not directly addressed under this Section shall be submitted in accordance with the requirements for the shop drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01370
SCHEDULE OF VALUES

PART 1 GENERAL

1.1 DESCRIPTION

A. Scope of Work

1. Submit to the Engineer a Schedule of Values allocated to the various lump sum portions of the Work, at the Pre-Construction Conference, and as otherwise specified or requested to be submitted earlier as evidence of the apparent Low Bidder's qualifications.
2. Upon request of the Engineer support the values with data which will substantiate their correctness. The data shall include, but not be limited to quantity of materials, all sub-elements of the activity, and their units of measure.
3. The Schedule of Values shall establish the actual value for each activity of the Work to be completed taken from the approved Critical Path Method (CPM) Construction Schedule, and shall be used only as the basis for the Contractor's Applications for Payment.

B. Related Requirements Described Elsewhere:

1. Conditions of the Construction Contract

1.2 FORM AND CONTENT OF SCHEDULE OF VALUES

A. Type schedule on 8-1/2 inch x 11 inch white paper. Contractor's standard forms and computer printouts may be considered for approval by the Engineer upon Contractor's request. Identify schedule with:

1. Title of project and location.
2. Owner and purchase order number.
3. Engineer and project number.
4. Name and address of Contractor.
5. Contract designation.
6. Date of submission

B. Schedule shall list the completed or installed value of the component parts of the Work in sufficient detail to serve as a basis for computing item prices for progress payments during construction.

- C. Identify each line item with the number and the title of the respective section of the specifications.
- D. For each major line item of the Work, list sub-values of major products or operations under the major item.
- E. For the various portions of the Work:
 - 1. The amount for each item shall reflect a total completed or installed cost including a directly proportional amount of the Contractor's overhead and profit.
 - 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials. Payment for materials shall be limited to the invoiced amount only.
 - b. The total installed value.
- F. Round off figures to nearest dollar amount.
- G. The sum of the total costs of all items listed in schedule equal to total Contract Price.
- H. For each item which has a completed or installed value of more than \$15,000, provide a breakdown of costs to list major products or operations under each item.

1.3 SUBSCHEDULE OF UNIT MATERIAL VALUES

- A. Submit a separate schedule of unit prices for materials to be stored on site and for those materials incorporated into the Work for which progress payments will be requested.
- B. The unit values for the materials shall be broken down into:
 - 1. Cost of the material, delivered and unloaded at the site, with taxes paid.
 - 2. Copies of paid invoices for component material shall be included with the payment request in which the material first appears.
- C. Only materials unique to the project may be billed when stored on site. Materials of standard use such as conduit, wire, small-diameter pipe, steel, etc., shall not be accepted for payment.
- D. The installed unit value multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.

1.4 REVIEW AND RESUBMITTAL

- A. After review by Engineer, revise and resubmit Schedule of Values and Schedule of Unit Material Values as required.
- B. Resubmit revised Schedules in same manner.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01380**CONSTRUCTION PHOTOGRAPHS AND VIDEO****PART 1 GENERAL****1.1 SCOPE OF WORK**

- A. Scope of Work: The Contractor shall employ a competent photographer/videographer to provide color audio-video taping and photographs of all construction areas prior to start of work.

1.2 VIDEO REQUIRED

- A. A video shall be taken of all locations of the Project prior to beginning construction. This video shall be submitted to Engineer on a DVD prior to beginning any construction work.
- B. Video may be taken by the Contractor's personnel but must be of professional quality as herein specified.
- C. The video must be dated and annotated to describe the locations of all portions of the video.

1.3 PHOTOGRAPHY REQUIRED

- A. Photographs shall be taken of all areas to be disturbed prior to beginning of construction. These photos shall be submitted to the Engineer prior to beginning any construction work.
- B. Photographs may be taken by the Contractor's personnel but must be of professional quality as herein specified. Photographs, which are deemed unsatisfactory, will be rejected and retakes will be required.
- C. Digital photographs are required on CD or DVD.
- D. Photographs shall be dated and annotated to describe the photograph.

1.4 COSTS OF PHOTOGRAPHY/VIDEOGRAPHY

- A. The Contractor shall pay costs for specified photography, videography, and prints.

PART 2 EXECUTION**2.1 TECHNIQUE**

- A. Factual Presentation.
- B. Correct exposure and focus.

1. High resolution and sharpness
 2. Maximum depth-of-field
 3. Minimum distortion
- 2.2 VIEWS REQUIRED: Photograph and video from locations to adequately illustrate conditions prior to construction.
- 2.3 DELIVERY OF PHOTOGRAPHS AND VIDEO: Transmit cds/dvds containing digital photograph and video files to the engineer prior to construction.

END OF SECTION

SECTION 01410**TESTING AND TESTING LABORATORY SERVICES****PART 1 GENERAL****1.1 DESCRIPTION****A. Scope of Work:**

1. Contractor will employ, and pay for services of an independent testing laboratory to perform soils, concrete, and other required testing. The testing laboratory will be selected by the Contractor, subject to the Engineer's approval. The testing laboratory shall complete various testing activities as directed by the Engineer; however, the Contractor shall pay for the testing services from an allowance established in the Bid.
2. Contractor shall coordinate with the laboratory to facilitate the execution of its required services.

B. Related Requirements Described Elsewhere:

1. Conditions of the Contract.
2. Respective section of specifications: Certification of products.
3. Each specification section listed: Laboratory tests required, and standards for testing.
4. Testing laboratory inspection, sampling and testing is required for, but not limited to the following:
 - a. Excavating, Backfilling, and Compaction.
 - b. Settlement Monitoring.
 - c. Stabilized Sub-Base.
 - d. Limerock Base.
 - e. Asphaltic Concrete Pavement.
 - f. Cast-in-Place Concrete.
 - g. Shotcrete.

- C. The following schedule defines the responsibilities of various tests.

Test	Notes	Paid for By
Soil Compaction	Pipe Work: Per construction plans.	Contractor
	Beneath Structures: each 500 SF minimum and each 500 SF of each lift of compaction minimum.	
Settlement Monitoring	As required by testing laboratory.	Contractor
Pressure	As specified in Section 02600 or on the construction plans.	Contractor
Bacteriological	As required by local and State Agencies.	Contractor
LBR	Each 600 SF of pavement minimum.	Contractor
Asphaltic Concrete Pavement	Per FDOT Specifications.	Contractor
Concrete	Slump test each delivery and compression test five cylinders every 50 C.Y. minimum.	Contractor
Shotcrete	Per Section 13205.	Contractor

- D. Additional Tests: The Owner shall pay for first tests as specified herein as part of the bid price. In the event that first test samples do not meet the applicable material specifications, the Contractor shall take measures to conform the material and equipment to the Specifications. All subsequent tests after the first test required to show compliance with the Specifications shall be paid for by the Contractor, without compensation by the Owner to the Contractor.

1.2 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with Owner's personnel, Engineer, and laboratory personnel. Provide access to Work and manufacturer's operations.
- B. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.
- C. 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 Engineer 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 providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be allowed on account of such testing and certification.

D. Furnish incidental labor and facilities:

1. To provide access to Work to be tested.
2. To facilitate inspections and tests.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01505**MOBILIZATION****PART 1 GENERAL****1.1 DEFINITION AND SCOPE**

- A. Mobilization shall include obtaining of all permits, insurance, and bonds; moving onto the site of all plant and equipment; furnishing and erecting plants, temporary buildings, and other construction facilities; all as required for the proper performance and completion of the Work. Mobilization shall include, but not be limited to, the following principal items.
1. Move onto the site all Contractor's plant and equipment required for first month of operations and continuing operations.
 2. Install temporary construction power, wiring, and lighting facilities.
 3. Establish fire protection plan and safety program.
 4. Secure construction water supply.
 5. Provide on-site sanitary facilities and potable water facilities as required by agencies having jurisdiction.
 6. Arrange for and erect Contractor's work and storage yard and employee's parking facilities.
 7. Submit all required insurance certificates and bonds.
 8. Obtain all required permits.
 9. Post all OSHA, EPA, Department of Labor, and all other required notices.
 10. Submit a detailed construction CPM schedule acceptable to the Engineer as specified.
 11. Submit a schedule of values of the Work.
 12. Submit a schedule of submittals.
 13. Provide onsite office facilities with suitable space for the Owner's and Engineer's use.
- B. Payment for mobilization will only be made upon successful completion of all the items above.

1.2 DEMOBILIZATION

- A. Demobilization is the timely and proper removal of all Contractor owned material, equipment or plant, from the job site and the proper restoration or completion of work necessary to bring the site into full compliance with the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01510**TEMPORARY FACILITIES AND CONTROLS****PART 1- GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Field Offices
- B. Contractor Storage Area
- C. Power Services
- D. Water Services
- E. Telephone Services
- F. Sanitary Facilities
- G. Maintenance of Traffic
- H. Barricades and Lights
- I. Fences
- J. Damage to Existing Property
- K. Easement Maintenance
- L. Security
- M. Access Roads
- N. Drainage
- O. Erosion and Siltation Control Measures
- P. Parking
- Q. Emergencies
- R. Petroleum Spill/Leak Containment
- S. Waste Construction Materials

1.2 FIELD OFFICES (NOT REQUIRED)**1.3 CONTRACTOR STORAGE AREA**

Contractor shall obtain and maintain a storage area at a site and size selected by the Contractor for storage of his materials, tools, equipment, office, and other items necessary for construction. The Contractor's storage area shall be in reasonable close proximity to the project location. Contractor shall be responsible for any necessary temporary agreements with existing landowners and compensation for the same (if required). The Contractor shall be fully responsible for the security of this area, including fencing, watchmen, and other means of security. Under no circumstances will the Owner be responsible for the security of any property belonging to the Contractor, his subcontractors, or any of his work forces.

1.4 POWER SERVICES (NOT REQUIRED)

Contractor

1.5 WATER SERVICES

- A. Water in sufficient amounts for proper completion of the Work shall be furnished by Contractor without charge to Owner. Contractor shall furnish necessary equipment pipe hose, nozzles and tools and shall perform all necessary labor. Use of water meter on hydrant may be allowed at the Owner's discretion.

1.6 TELEPHONE SERVICES (NOT REQUIRED)

1.7 SANITARY FACILITIES

- A. Contractor shall furnish temporary sanitary facilities at the sites as provided herein for the needs of all construction workers and others performing work or furnishing services in connection with this Contract.
- B. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 10 men. Contractor shall enforce the use of such sanitary facilities by all personnel at the site. The use of existing toilet facilities at the site by Contractor's personnel is strictly forbidden.

1.8 MAINTENANCE OF TRAFFIC

- A. Contractor shall conduct his work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, Contractor shall obtain prior permission from the Owner to obstruct traffic at the designated point.
- B. The Contractor shall provide continuous access to all properties affected by construction of the improvements, as reasonably possible. He shall construct and maintain temporary roads, sidewalks, and driveways as necessary to fulfill this responsibility. Temporary roads, sidewalks, and driveways shall be adequate to permit the ingress and egress of day to day traffic, and construction and supply vehicles during periods of protracted wet weather.
- C. The Contractor shall be solely responsible for continually maintaining the flow of vehicular traffic, whenever reasonably possible, during the progress of the work included in this Project. All traffic control methods, materials, and procedures shall, at a minimum, be in accordance with Section 102, "Maintenance of Traffic", of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, and all applicable permits obtained for the Project.
- D. The Contractor shall adhere to all applicable portions of the State of Florida, Manual on Traffic Control and Safe Practices for Street and Highway Construction, Maintenance

and Utility Operations.

- E. The Contractor shall prepare a written plan, with sketches as required, for traffic control for minimizing residential access delays during the project and obtain written approval of the Traffic Control Plan from the Public Works Department prior to commencement of construction.
- F. In making open cut street crossing, Contractor shall not block more than one-half of the street at a time.

1.9 BARRICADES AND LIGHTS

- A. All roads which are closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs.
- B. All open trenches and other excavations shall have suitable barricades and signs to provide adequate protection to the public. Obstructions, such as material piles and equipment shall be provided with similar warning signs.
- C. All barricades, signs, and other protective devices shall be installed and maintained in conformity with applicable statutory requirements.

1.10 FENCES

- A. All existing fences affected by the work shall be maintained by Contractor until completion of the work. Fences which interfere with construction operations shall not be relocated or dismantled until written permission is obtained from the owner of the fence and the period the fence may be left relocated or dismantled has been agreed upon.
- B. If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall provide a suitable temporary fence at his own expense. The Engineer shall be solely responsible for the determination of the necessity for approving a temporary fence and the type of temporary fence to be used.
- C. On completion of the work, Contractor shall restore all fences to their original or to a better condition and to their original location.

1.11 DAMAGE TO EXISTING PROPERTY

- A. Contractor will be held responsible for any damage to existing structures, work, materials or equipment because of his operations and shall repair or replace any damaged structures, work, materials or equipment to the satisfaction of, and at no additional cost to the Owner.
- B. Contractor shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.

- C. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges or other public or private property, which may be caused by transporting equipment, materials, or men to or from the work. Contractor shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

1.12 EASEMENT MAINTENANCE

- A. Contractor shall be responsible to minimize impact upon and restore to original or better condition upon completion of project all property to be utilized as construction and/or utility easements. Contractor shall abide by all terms of existing and future construction and/or utility easements.

1.13 SECURITY

- A. Contractor shall be responsible for protection of the site and all work, materials, equipment and existing facilities thereon, against vandals and other unauthorized persons.
- B. No claim shall be made against Owner by reason of any act of an employee or trespasser, and Contractor shall make good all damage to Owner's property resulting from his failure to provide security measures as specified.
- C. Security measures shall be at least equal to those usually provided by Owner to protect his existing facilities during normal operation, but shall also include such items as security fencing, barricades, lighting and other measures as required to protect the site.

1.14 ACCESS ROADS

- A. Contractor shall construct, grade, stabilize and maintain temporary access roads to various parts of the site as required to complete the project.

1.15 DRAINAGE

- A. The contractor shall keep all natural drainage and water courses unobstructed or provide equal courses effectively placed, and prevent accumulations of surface water.

1.16 EROSION AND SILTATION CONTROL MEASURES

- A. Adequate control of erosion and siltation of both a temporary and permanent nature on areas disturbed by this work shall be provided under this Contract, subject to the approval of the Engineer. There will be a joint on-site inspection prior to commencing work, with Contractor, State and County Officials and the Engineer to determine specific siltation control requirements. Contractor shall implement NPDES stormwater runoff

permit pollution prevention plan as identified in Section 02276.

- B. Erosion control shall comply with all applicable State and County Regulations.

1.17 PARKING

- A. Contractor shall provide and maintain suitable parking areas (4 minimum) for the use of all construction workers and other performing work by furnishing services in connection with the project, as required to avoid any need for parking personnel vehicles where they may interfere with public traffic, Owner's operations, or construction activities.

1.18 EMERGENCIES

- A. The Contractor shall display and update phone numbers of the local police, fire department, hospital, and emergency squad at all times and at all phones on site during the project.

1.19 PETROLEUM SPILL/LEAK CONTAINMENT

- A. Contractor shall provide a spill/leak containment vessel for above ground petroleum storage tanks. The containment vessels shall have a capacity exceeding 125 percent of the volume of the petroleum storage tank for which they are intended.
- B. For concrete containment vessels, the concrete shall be air-entrained with a minimum of 4,000 psi compressive strength when delivered. Reinforced steel shall be Grade 40 with No. 4 bars on 12-inch centers each way.
- C. The containment vessel must contain an acceptable means of removing rain water or recovering spilled or leaked petroleum from the vessel. If a siphon arrangement is used, it shall be mounted on the wall of the vessel and must automatically break when the vessel empties. Then, the siphon must be manually primed the next time the contents are discharged.
- D. Anchor bolts must be furnished to tie-down the petroleum storage tank to prevent the flotation of an empty tank due to rain water.

1.20 WASTE CONSTRUCTION MATERIALS

- A. The Contractor shall dispose of all waste construction material at a permitted waste facility. All associated cost for disposal shall be the Contractor's responsibility.
- B. The Contractor shall provide sufficient containers to collect and hold waste construction materials. Waste materials shall be collected on a daily basis.
- C. The Contractor shall dispose of waste construction material when containers are full. Transportation of the waste containers will be supplied by the Contractor.

1.21 MAINTENANCE AND CLEANING

- A. Daily janitorial services for offices; periodic cleaning and maintenance for storage areas.
- B. Maintain parking area and approach walks free of mud, water, and debris.

1.22 REMOVAL

- A. At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.
- B. Remove foundations and debris; grade site to required elevations and clean the areas.

1.23 RESPONSIBILITY FOR TEMPORARY STRUCTURES

- A. In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the Owner from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

PART 2 - PRODUCTS (NOT USED)

PART 3- EXECUTION (NOT USED)

END OF SECTION

SECTION 01600
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope of Work: Material and equipment incorporated into the Work:
1. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two (2) or more items of the same kind shall be identical, 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.
 2. Do not use material or equipment for any purpose other than that for which it is designed or specified.
 3. All material and equipment shall be new and unused and of the highest quality.

1.2 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

- 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 five copies for the Engineer.
1. Maintain one (1) set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements.
1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Engineer for further instructions.
 2. Do not proceed with work without clear instructions.

- C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.3 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with progress 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.

1.4 STORAGE AND PROTECTION

- A. The Contractor shall furnish a covered, weather-protected storage structure providing a clean, dry, noncorrosive environment for all mechanical equipment, valves, architectural items, electrical and instrumentation equipment, and special equipment to be incorporated into this Project. Storage of equipment shall be in strict accordance with the "instructions for storage" of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, etc. Corroded, damaged or deteriorated equipment and parts shall be replaced before acceptance of the project. Equipment and materials not properly stored will not be included in a payment estimate.
- B. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weather-tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 - 3. Store fabricated products above the ground, on blocking or skids, to prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
 - 4. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

- C. All materials and equipment to be incorporated in the work shall be handled and stored by the Contractor before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft or damage of any kind whatsoever to the material or equipment.
- D. Cement, sand and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural and miscellaneous steel and reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored with the webs vertical. Precast concrete beams shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce breakage, chipping, cracking and spalling to a minimum.
- E. All materials, which, in the opinion of the Engineer, have become so damaged as to be unfit for the use intended or specified shall be promptly removed from the site of the work, and the Contractor shall receive no compensation for the damaged material or its removal.
- F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- G. Protection After Installation: Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove covering when no longer needed.
- H. The Contractor shall be responsible for all material, equipment and supplies sold and delivered to the Owner under this Contract until final inspection of the work and acceptance thereof by the Owner. In the event any such material, equipment and supplies are lost, stolen, damaged or destroyed prior to final inspection and acceptance, the Contractor shall replace same without additional cost to the Owner.
- I. Should the Contractor fail to take proper action on storage and handling of equipment supplied under this Contract within seven (7) days after written notice to do so has been given, the Owner retains the right to correct all deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the Contractor's Contract. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, engineering, and any other costs associated with making the necessary corrections.

1.5 STORAGE AND HANDLING OF EQUIPMENT ON SITE

- A. Because of the long period allowed for construction, special attention shall be given to the storage and handling of equipment on site. As a minimum, the procedure outlined below shall be followed:
1. Materials shall not be shipped until approved by the Engineer. The intent of this requirement is to avoid unnecessary delivery of unapproved materials and to reduce on-site storage time prior to installation and/or operation. Under no circumstances shall major equipment or finish products be delivered to the site more than one month prior to installation without written authorization from the Engineer. Materials shipped to the site, or temporarily stored off-site in approved locations, shall be stored in accordance with Paragraph 1.4, herein.
 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 Engineer, 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. Manufacturer's storage instructions shall be carefully studied by the Contractor and reviewed with the Engineer by him. These instructions shall be carefully followed and a written record of this kept by the Contractor.
 5. 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 the load, once weekly for an adequate period of time to insure that the equipment does not deteriorate from lack of use.
 6. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. Mechanical equipment to be used in the work, if stored for longer than ninety (90) days, shall have the bearings cleaned, flushed and lubricated prior to testing and startup, at no extra cost to the Owner.
 7. 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 guarantee 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.

1.6 SPARE PARTS

- A. Spare parts for certain equipment provided for herein (e.g., under Divisions 11: Equipment; 13: Special Construction; 15: Mechanical; and 16: Electrical) have been specified in the pertinent sections of the Specifications. The Contractor shall collect and store all spare parts so required in an area to be designated by the Engineer. In addition, the Contractor shall furnish to the Engineer an inventory listing all spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item. Copies of actual invoices for each item shall be furnished with the inventory to substantiate the delivered cost.

1.7 GREASE, OIL AND FUEL

- A. All grease, oil and fuel required for testing of equipment shall be furnished with the respective equipment. The Owner shall be furnished with a year's supply of required lubricants including grease and oil of the type recommended by the manufacturer with each item of equipment supplied.
- B. The Contractor shall be responsible for changing the oil in all drives and intermediate drives of each mechanical equipment after initial break-in of the equipment, which in no event shall be any longer than three (3) weeks of operation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01700
CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope of Work: Comply with requirements stated in Conditions of the Contract and in specifications for administrative procedures in closing out the Work.
- B. Related Requirements Described Elsewhere:
 - 1. Start-Up and Demonstration: Section 01650.
 - 2. Cleaning: Section 01710.
 - 3. Project Record Documents: Section 01720.
 - 4. Operating and Maintenance Data: Section 01730. (N/A)
 - 5. Warranties and Bonds: Section 01740.

1.2 SUBSTANTIAL COMPLETION

- A. The Work will not be substantially complete, and Contractor may not request substantial completion inspection unless the following submittals and work is completed:
 - 1. All start-up and demonstration testing complete and Certificates of Completed Demonstration submitted to the requirements of Section 01650.
 - 2. Project Record Documents are complete and have been submitted and reviewed to the requirements of Section 01720.
 - 3. All training of Owner's personnel completed.
 - 4. All areas to be used and occupied are safe, operable in automatic and complete.
 - 5. All painting, finishes, fencing, cleanup, final grading, grassing, planting, sidewalk construction, and paving shall have been completed and are ready for inspection.
 - 6. All deficiencies noted on inspection reports or nonconformances are corrected or the correction plan approved.

- B. When the conditions of paragraph 1.2 A. are met the Contractor shall submit to the Engineer:
 - 1. A written notice that he considers the Work, or portion thereof, is substantially complete, and request an inspection.
 - 2. A punchlist of items to be corrected. Uncompleted work which is not related to the safe, effective, efficient use of the Project may be allowed on the punchlist with the Engineer's approval.
- C. Within a reasonable time after receipt of such notice, the Owner and Engineer will make an inspection to determine the status of completion.
- D. Should the Owner and Engineer determine that the Work is not substantially complete:
 - 1. The Engineer will promptly notify the Contractor in writing, giving the reasons therefore.
 - 2. Contractor shall remedy the deficiencies in the Work and send another written notice of substantial completion to the Engineer.
 - 3. The Owner and Engineer will within reasonable time, re-inspect the Work. The Contractor will be liable for re-inspection fees as described in paragraph 1.4, herein.
- E. When the Engineer finds that the Work is substantially complete, he will:
 - 1. Schedule a walk-through of the facility to include the Owner and Contractor. Engineer shall determine the completeness of the punchlist and readiness of the facility for occupancy by the Owner.
 - 2. Prepare and deliver to Owner a tentative Certificate of Substantial Completion with the tentative punchlist of items to be completed or corrected before final inspection.
 - 3. After consideration of any objections made by Owner as provided in Conditions of the Contract, and when the Engineer considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected. Any incomplete work allowed on a punchlist must be re-inspected upon completion and any deficiencies found will be added to the punchlist.

1.3 FINAL INSPECTION

- A. Prior to Contractor's request for a final inspection the following submittals and work must be complete:

1. Project Record Documents must be submitted and approved.
 2. All spare parts and maintenance materials must be suitably delivered to the owner per the requirements of the Technical Section of the Specifications.
 3. Contractor to submit evidence of compliance with requirements of governing authorities.
- B. After satisfying the requirements of Paragraph 1.3 A. and when Contractor considers the Work complete, he shall submit written certification that:
1. Contract Document requirements have been met.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. All punchlist items have been corrected or completed and the Work is ready for final inspection.
- C. The Owner and Engineer will, within reasonable time, make an inspection to verify the status of completion after receipt of such certification.
- D. Should the Owner, or Engineer, consider that the Work is incomplete or defective:
1. The Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send another written certification to the Engineer that the Work is complete.
 3. The Engineer will, within a reasonable amount of time, re-inspect the Work and the Contractor shall be liable for re-inspection fees as described in Paragraph 1.4, herein.
- E. When the Owner and Engineer finds that the Work is acceptable under the Contract Documents, the Contractor may make closeout submittals.

1.4 RE-INSPECTION FEES

- A. Should the Engineer perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
1. Contractor will compensate the Owner for such additional services.

2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.5 CONTRACTOR'S CLOSEOUT SUBMITTALS

- A. Warranties and Bonds: to requirements of Section 01740.
- B. Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.
- C. Certificate of Insurance for Products and Completed Operations.

1.6 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer.
- 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 or written amendments.
 - b. Allowances.
 - c. Unit prices.
 - d. Deductions for uncorrected work.
 - e. Penalties and bonuses.
 - f. Deductions for liquidated damages.
 - g. Deductions for reinspection payments.
 - h. Other adjustments.
 3. Total Contract Sum, as adjusted.
 4. Previous payments.
 5. Sum remaining due.
 6. Retainage for one (1) year warranty work/period.
- C. Engineer will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.7 APPLICATIONS FOR FINAL PAYMENT

- A. Final Payment Minus Warranty Retainage: Upon successful completion of the Final Inspection and compliance with Sections 1.5 and 1.6 herein, Contractor shall submit the Application for an amount equal to the total Contract Price minus the warranty retainage amount in accordance with procedures and requirements stated in the Conditions of the Contract.
- B. Upon the successful completion of Warranty Year 1, Contractor shall submit the Application for payment of the warranty retainage in accordance with procedures and requirements stated in the Conditions of the Contract.

1.8 FINAL CONTRACT CLOSEOUT

- A. The final payment called out in Section 1.7.C herein will constitute the Contractor's completion of this Project and Contract and Contract Closeout.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01710**CLEANING****PART 1 GENERAL****1.1 DESCRIPTION**

- A. Scope of Work: Execute cleaning, during progress of the Work and at completion of the Work.

1.2 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS**2.1 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**3.1 DURING CONSTRUCTION**

- A. Execute daily cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations or personal activities.
- 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, or as directed by the Owner, and dispose of at legal disposal areas away from the site.

3.2 DUST CONTROL

- A. The Contractor shall employ construction techniques that minimize the production and distribution of dust.
- B. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.

- C. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

3.3 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Prior to final completion, or Owner 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

1.1 REQUIREMENTS INCLUDED

- A. Maintain at the site for the Owner one complete record copy of (as applicable):
 - 1. Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other Modifications to the Contract
 - 5. Engineer Field Orders or written instructions
 - 6. Approved Shop Drawings, Product Data and Samples
 - 7. Field Test records
 - 8. Regulatory Agency Permits and Applicable Inspection Reports
 - 9. Best Management Plans
 - 10. Construction Photographs
- B. Related requirements described elsewhere:
 - 1. Section 01050: Field Engineering and Surveying
 - 2. Section 01340: Shop Drawings, Working Drawings and Samples

1.2 SUBMITTAL

- A. Deliver complete sets of record drawings in accordance with Article 1.5 E of this Section.
- B. Deliver complete set of record documents listed in 1.1 to the Engineer.
- C. Accompany submittal with transmittal letter in duplicate, 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

1.3 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 an organized, neat manner that facilitates retrieval and in accordance with CSI format with section numbers as provided herein.
- 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 readily available for inspection by Engineer.

1.4 MARKING DEVICES

Provide color marking pens for recording information in color code designated by Engineer.

1.5 RECORDING

- A. Label each document "Project Record" in neat large printed letters.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- C. Drawings: Legibly mark to record actual construction:
 1. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Actual installed material, class, etc.
 2. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 3. Field changes of dimension and detail.
 4. Changes made by Field Order or by Change Order.
 5. Details not on original contract drawings.
 6. Structure and piping relocations.

- D. 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.
- E. RECORD DRAWINGS: Upon completion of the work under this Project, the Contractor shall furnish and submit the "Record Drawings" with embossed seal and certifications statement of the Florida licensed surveyor who prepared the "Record Drawings" to the Engineer for transmittal to the Owner and regulatory agencies.
1. Minimum Technical Requirements (Horizontal)
 - a. Water Mains, Reclaimed Water Mains, and Sewage Force Mains:
 - Locate and label, by station and offset or dimension from two above ground permanent features, all changes in the pipeline route alignment as shown on the construction plans and at all locations where construction has deviated from the original design. Any change in alignment greater than 1 foot on either side of the pipeline route shall be surveyed and documented on the "Record Drawings".
 - Locate and label, by station and offset or dimension from two above ground permanent features, all appurtenances installed in association with the Project, as shown on the plans, including, but not limited to, elbows and fittings, valves, blowoffs, manholes, vaults, services, etc. Services shall be dimensioned from lot corners if not at lot line, and stations labeled for water and sewer services should be dimensioned from nearest manhole when owners construction plans do not establish stationing for centerline of construction.
 - Locate and label, by station and offset, all changes in the "beginning" and "ending" points of all directional bores and/or jack and bores.
 - All above ground visible features dimensioned from two permanent features.
 - b. Gravity Sewers and Storm Sewers
 - Locate and label, by station and offset, all manholes, junction boxes, headwalls, culverts, outfall structures, services, etc.

2. Minimum Technical Requirements (Vertical)

a. Water Mains, Reclaimed Water Mains, and Sewage Force Mains

- Locate all changes in the pipeline route alignment as shown on the Construction Plans, and where construction has deviated from the original design. Any change in alignment greater than six inches shall be surveyed and documented on the "Record Drawings".
- Vertical separation and depth at all major utility crossings (potable water, reuse water, force main, sanitary sewer, storm sewer, gas pipeline, etc.)
- For all piping within right-of-way or adjacent easements elevations and/or depths of cover shall be provided every 250 ft. (minimum of one for each section of straight pipe run).

b. Gravity Sewers and Storm Sewers

- All manhole pipe inverts and top elevations must be labeled.

c. Paving, Grading, and Drainage As-Builts

- As-Built elevations should be taken on road centerlines at all intersections and at all breaks in grade. Road centerline and edges should be shown at 100' intervals (minimum).
- Critical elevations should be taken in ditches and swales to determine that they have been constructed essentially according to the plan. Invert elevations should be taken on storm sewers at critical locations and on both ends of culverts. Representation elevations should be taken on top of dikes and berms, on the bottoms of retention areas, and on tops of inlets and weirs.
- Representative measures should be taken on pavement widths and radii at intersections.
- Discharge structures - dimensions and elevations of all, including weirs, orifices, gates, pumps, pipes, and oil and grease skimmers;
- Side bank and underdrain filters, or exfiltration trenches - locations, dimensions, and elevations of all, including cleanouts, pipes, connections to control structures, and points of discharge to receiving waters;

- Storage areas for treatment and attenuation - dimensions, elevations, contours or cross-sections of all, sufficient to determine the stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems;
- System grading - dimensions, elevations, contours, final grades or cross-sections to determine contributing drainage areas, flow directions, and conveyance of runoff to the system discharge point(s);
- Conveyance systems - dimensions, elevations, contours, final grades or cross-sections of systems utilized to divert off-site runoff around or through the new system;
- Water levels - existing water elevation(s) and the date determined;
- Benchmark - location and description (minimum of one per major water control structure);
- Wetland compensation or restoration areas - show the plan view of all areas, depicting a spatial distribution of plantings conducted by zone (if plantings are required by permit), with a list showing all species planted in each zone, number of each species, sizes, date(s) planted, and identification of source of material; also provide the dimensions, elevations, contours, and representative cross-sections depicting the construction.
- In addition to these notes, all As-Built drawings and information shall meet the requirements outlined by SWFWMD in their "As-Built Drawings and Information Checklist", dated 10/01/93, or latest edition, if applicable.

3. Format and Submittal

- a. Upon request by the contractor, the Engineer will transmit digital format Construction Plans to the contractor's surveyor for 'As-Built' preparation. The format will be AutoCAD. It will be the contractor's responsibility to meet these format requirements.
- b. The Contractor shall provide the Engineer with: (A) Two sets of blackline "Record Drawings", signed and sealed by a professional surveyor and mapper registered with the State of Florida; and (B) The digital formatted "Record Drawings" in AutoCAD, saved onto a compact disk (CD).

- c. The text shown on the digital "Record Drawings" shall be *italics*, having a height of 0.15 times the drawing scale and the font shall be dark enough to clearly distinguish "Record Drawing" text from all other text shown on the document. The design text, i.e., dimensions, call outs, etc., shall be struck out and 'As-Built' callouts placed adjacent to the struck out text. If the design text depicts what was built, then the text shall be changed to the format described above. All 'As-Built' information created by the surveyor shall be placed on a separate layer named 'As-Built', having a color of white.
- d. The contractor shall, at the time of his request for final payment, submit the "Record Drawings" and disk, along with all other pertinent record documents. Final payment will be withheld until the "Record Drawings" and disk have been submitted and approved by the Engineer.
 - The Contractor may elect to submit a 90% complete set of "Record Drawings" to the Engineer for review prior to submitting for final payment.
- e. In accepting and utilizing any drawings or other data on any form of electronic media generated and provided by the Design Professional, the Contractor and Owner covenant and agree that all such drawings and data are instruments of service of the Design Professional, who shall be deemed the author of the drawings and data, and shall retain all common law, statutory law and other rights, including copyrights.
- f. The Contractor and Owner further agree not to use these drawings and data, in whole or in part, for any purpose or Project other than the Project which is the subject of this Agreement. The Contractor and Owner agree to waive all claims against the Design Professional resulting in any way from any unauthorized changes or reuse of the drawings and data for any other project by anyone other than the Design Professional.
- g. In addition, the Contractor and Owner agree, to the fullest extent permitted by law, to indemnify and hold the Design Professional harmless from any damage, liability or cost, including reasonable attorneys' fees and costs of defense, arising from any changes made by anyone other than the Design Professional or from any reuse of the drawings and data without the prior written consent of the Design Professional.
- h. Under no circumstances shall transfer of the drawings and other instruments of service on electronic media for use by the Client be deemed a sale by the Design Professional, and the Design

Professional makes no warranties, either express or implied, of merchantability and fitness for any particular purpose.

1.6 FINAL PAYMENT

No final payment shall be made until such time as the "Record Drawings" and Record Documents have been approved and accepted by Owner and Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01740**WARRANTIES AND BONDS****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. Related Work Described Elsewhere:
 - 1. Contract Closeout: Section 01700.

1.2 SUBMITTAL REQUIREMENTS

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

1.3 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8-1/2 inches x 11 inches, punch sheets for standard three (3) ring binder.

- a. Fold larger sheets to fit into binders.
- 2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:
 - a. Title of Project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three (3) D-ring type binders with durable and cleanable white plastic covers and maximum D-ring width of two (2) inches. Binders shall be presentation type with clear vinyl covers on front, back, and spine. Binders shall include two sheet lifters and two horizontal inside pockets.

1.4 WARRANTY SUBMITTALS REQUIREMENTS

- A. For all major pieces of equipment, submit a warranty from the equipment manufacturer. Manufacturer's warranty period shall be concurrent with Contractor's for one (1) year unless otherwise specified, commencing at the time of final acceptance by Owner.
- B. The Contractor shall be responsible for obtaining certificates for equipment warranty for all major equipment specified under Divisions 11: Equipment; 13: Special Construction; 15: Mechanical; and 16: Electrical and which has at least a 1 hp motor or which lists for more than \$1,000. The Engineer reserves the right to request warranties for equipment not classified as major. The Contractor shall still warrant equipment not considered to be "major" in the Contractor's one-year warranty period even though certificates of warranty may not be required.
- C. The Owner shall incur no labor or equipment cost during the guarantee/warranty period.
- D. Guarantee shall cover all necessary labor, equipment and replacement parts resulting from faulty or inadequate design, improper assembly or erection, defective workmanship and materials, leakage, breakage or other failure of all equipment and components furnished by the manufacturer or the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01900**ONE (1) YEAR WARRANTY WORK****PART 1 GENERAL****1.1 SCOPE AND INTENT**

- A. Requirement: Contractor is required to warranty all of the Project Work and equipment for a period of one (1) year from the date of the Owner's written acceptance of the entire completed Project.

1.2 WARRANTY RETAINAGE

- A. Owner may retain a portion of the total Contract price, as specified in Section 00800, to ensure that Contractor will satisfactorily perform the required warranty work in a timely manner.

PART 2 PRODUCTS USED

- A. Products and materials used in the warranty work shall be new and the same as used in the original construction, unless the originally used products/materials proved to be unsatisfactory, and in this case, equal alternates, as proposed by Contractor and approved by Owner and Engineer, will be used.

PART 3 EXECUTION**3.1 INTERMEDIATE WORK**

- A. After Owner's acceptance of the entire Project, and prior to expiration of the one (1) year warranty, Owner/Engineer will notify the contractor of any warranty work that is immediately required and Contractor will promptly complete the warranty work. Owner may utilize Warranty retainage funds situations to maintain utility operations if the Contractor cannot promptly or adequately respond to correct defective work and maintain utility service. Payment for such services will be deducted from the final pay request.

3.2 FINAL WORK

- A. About 11 months after Owner's acceptance of the entire Project, Contractor, Engineer, and Owner will make a detailed inspection of the Project and prepare a list of all warranty work required. Thereafter, Contractor will promptly repair and complete all the warranty work. Thereafter, Owner, Engineer, and Contractor will make another inspection to ensure that all warranty work has been completed to the satisfaction of Owner and Engineer. Any remaining warranty work will be promptly completed. This process will continue until all warranty work is completed to the satisfaction of Owner and Engineer.

3.3 WARRANTY EXTENSIONS

- A. If the warranty work involves replacement of a failed component, such as motor, pump, blower, etc., the one year warranty period for the replaced item shall begin a new warranty period on the date of written acceptance by Owner and Engineer.

3.4 PAYMENT OF WARRANTY WORK RETAINAGE

- A. After completion of all warranty work to the written satisfaction of Owner and Engineer, Contractor will make application for payment of the warranty work retainage, and said application will be promptly processed and paid. If acceptable to Owner and Engineer, Contractor may make partial payment requests for completed and approved warranty work.

END OF SECTION

DIVISION 02

SITE WORK

SECTION 02140**DEWATERING (DURING CONSTRUCTION)****PART 1 GENERAL****1.1 DESCRIPTION**

- A. Scope of Work: The work to be performed under this section shall include the design and installation of a temporary wellpoint system until the completion of construction to dewater surface waters from areas as required.
- B. Related Work Described Elsewhere:
 - 1. Excavating, Backfilling and Compacting: Section 02220

1.2 QUALITY ASSURANCE

- A. Qualifications: The temporary dewatering system shall be designed by a firm who regularly engages in the design of dewatering systems and who is fully experienced, reputable and qualified in the design of such dewatering systems. The firm shall have a successful record of operation for a minimum of five (5) years prior to bid date.
- B. In lieu of experience, the dewatering firm shall provide a performance and warranty bond for 1.5 times the total installed cost of the temporary dewatering system. This bond shall be executed prior to award and/or contract execution.
- C. Standards: The dewatering of any excavation areas and the disposal of water during construction shall be in strict accordance with all local and State government rules and regulations.

1.3 SUBMITTALS

- A. Materials and Shop Drawings: Shop drawings required to establish compliance with the specifications shall be submitted in accordance with the provisions of Section 01340: Shop Drawings, Working Drawings, and Samples. Submittals shall include at minimum the following:
 - 1. Design notes and drawings.
 - 2. Descriptive literature of the temporary dewatering system.
 - 3. Layout of all piping involved.
 - 4. Bill of materials.

1.4 CRITERIA

- A. The wellpoint system shall be developed to the point that is capable of dewatering such that groundwater levels are maintained at least two (2) feet below the bottom of excavations. Each wellpoint system shall be capable of dewatering and maintaining groundwater levels at the respective structures. Observation wells shall be constructed for the purpose of testing each system.

PART 2 PRODUCTS

2.1 GENERAL

- A. The equipment specified herein shall be standard dewatering equipment of proven ability as designed and manufactured by firms having experience in the design and production of such equipment. The equipment furnished shall be designed, constructed and installed in accordance with the best practices and methods.
- B. The Contractor shall be required to monitor the performance of the dewatering system during the progress of the work and require such modifications as may be required to assure that the systems will perform satisfactorily. Dewatering systems shall be designed in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils and to preserve the integrity of adjacent structures.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Dewatering: The contractor shall install a temporary wellpoint dewatering system for the removal of subsurface water encountered during construction of the proposed structures.

3.2 PROTECTION AND SITE CLEAN-UP

- A. At all times during the progress of the Work the Contracting shall use all reasonable precautions to prevent either tampering with the wellpoints or the entrance of foreign material.
- B. After the wellpoint system is no longer needed, the Contractor shall remove all of his equipment, materials, and supplies from the site of the work, remove all surplus materials and debris, fill in all holes or excavations, and grade the site to elevations of the surface levels which existed before work started. The site shall be thoroughly cleaned and approved by the Engineer.

END OF SECTION

SECTION 02276**TEMPORARY EROSION AND SEDIMENTATION CONTROL****PART 1 GENERAL****1.1 DESCRIPTION**

The work specified in this Section consists of measures required to control erosion on the project and in areas outside the project area where work is accomplished in conjunction with the project, so as to prevent pollution of water, detrimental effects of public or private property adjacent to the project area and damage to work on the project. These measures will consist of construction and maintenance of temporary erosion control features or, where practical, the construction and maintenance of permanent erosion control features.

1.2 CONTROL OF CONTRACTOR'S OPERATIONS THAT MAY RESULT IN WATER POLLUTION

- A. Take sufficient precautions to prevent pollution of streams, canals, lakes, reservoirs, and other water impoundments, with fuels, oils, bitumens, calcium chloride, or other harmful materials. Conduct and schedule operations so as to avoid or otherwise minimize pollution or siltation of such streams, etc. and to avoid interference with movement of migratory fish. Do not dump the residue from dust collectors or washers into any water body.
- B. Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Contract Documents and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear rivers, streams, and impoundments of all obstructions placed therein or caused by construction operations.
- C. Except as necessary for construction, do not deposit excavated material in rivers, streams, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or runoff.
- D. Where pumps are used to remove highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water prior to discharge into State waters. Pump the water into grassed swales, appropriate vegetated areas, or sediment basins, or confine it by an appropriate vegetated areas, or sediment basins, or confine it by an appropriate enclosure such as siltation curtains when other methods are not considered appropriate. Do not contaminate State waters.
- E. Do not disturb lands or waters outside the limits of construction, except as may be found necessary to complete the work.

1.3 START OF WORK

Do not start work until erosion control measures are in place.

PART 2 PRODUCTS

2.1 GENERAL

- A. No testing of materials used in construction of temporary erosion control features will be required.
- B. Materials used for the construction of the temporary erosion and sedimentation control measures not to be incorporated into the completed project may be new or used.

PART 3 EXECUTION

3.1 GENERAL

- A. Temporary erosion control features shall consist of, but not be limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, artificial coverings, berms, synthetic baled hay or straw, floating silt barriers, staked silt barriers and staked silt fences. Design details for some of these items may be found in the Water Quality Section of the applicable edition of the FDOT Roadway and Traffic Design Standards.
- B. Under no conditions shall the surface area of erodible earth exposed by clearing and grubbing operations or by excavation and filling operations exceed 10,000 square feet. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.
- C. Incorporate permanent erosion control features into the project at the earliest practical time. Correct conditions, using temporary measures, which develop during construction to control erosion prior to the time it is practical to construct permanent control features.
- D. Construct temporary and permanent erosion and sediment control measures to prevent the pollution of adjacent waterways in conformance with the laws, rules and regulations of Federal, State and local agencies.

3.2 INSTALLATION

- A. Temporary Grassing. This work shall consist of furnishing and placing grass seed in accordance with Section 02810, Grassing.
- B. Temporary Mulching: This work shall consist of furnishing and applying a two-inch to four-inch thick blanket of straw or hay mulch and then mixing or forcing the mulch into the top two inches of the soil in order to temporarily control erosion. Only undecayed straw or hay, which can readily be cut into

the soil, shall be used. Other measures for temporary erosion control such as hydromulching, chemical adhesive soil stabilizers, etc., may be substituted for mulching with straw or hay. When permanent grassing operations begin, temporary mulch materials shall be plowed under in conjunction with preparation of the ground.

- C. Sandbagging: This work shall consist of furnishing and placing sandbags in configurations, so as to control erosion and siltation.
- D. Slope Drains: This work shall consist of constructing slope drains, utilizing pipe, fiber mats, rubble, cement concrete, asphaltic concrete plastic sheeting, or other acceptable materials, in accordance with the details shown in FDOT's Roadway and Traffic Design Standards or as may be approved as suitable to adequately perform the intended function.
- E. Sediment Basins: Sediment basins shall be constructed in accordance with the details shown in FDOT's Roadway and Traffic Design Standards or as suitable to adequately perform the intended function. Sediment basins shall be cleaned out as necessary.
- F. Artificial Coverings: This work shall consist of furnishing and applying fiber mats, netting, plastic sheeting, or other approved covering to the earth surfaces.
- G. Berms: This work shall consist of construction of temporary earth berms to divert the flow of water from an erodible surface.
- H. Synthetic Baled Hay or Straw:
 - 1. This work shall consist of construction of baled hay or straw dams to protect against downstream accumulations of silt. The synthetic baled hay or straw dams shall be constructed in accordance with the details shown in FDOT's Roadway and Traffic Design Standards.
 - 2. The dam shall be placed so as to effectively control silt dispersion under conditions present on this project. Alternate solutions and usage of materials may be used if approved.
- I. Temporary Silt Fences and Staked Silt Barriers: This work shall consist of furnishing, installing, maintaining and removing staked turbidity barriers in accordance with the manufacturer's directions, these specifications and the details as shown in FDOT's Roadway and Traffic Design Standards.
- J. Floating Silt Barriers: This work shall consist of installing, maintaining, and removal of floating silt barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities in waters of the State. The type barrier used, the deployment and maintenance of the barrier will be such as to minimize dispersion of turbid waters from the construction site. Alternate methods or materials may be used provided that compliance

with applicable permit conditions and State water quality standards are maintained.

3.3 REMOVAL OF TEMPORARY EROSION CONTROL FEATURES

In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in such a manner that there will be no detrimental effect.

3.4 MAINTENANCE OF EROSION CONTROL FEATURES

General: Provide routine maintenance of permanent and temporary erosion control features until the project is completed and accepted.

3.5 PROTECTION DURING SUSPENSION OF CONTRACT TIME

In the event that it is necessary that the construction operations be suspended for any appreciable length of time, shape the top of the earthwork in such a manner as to permit runoff of rainwater and construct earth berms along the top edges of embankments to intercept runoff water. Provide temporary slope drains to carry runoff from cuts and embankments which are located in the vicinity of rivers, streams, canals, lakes, and impoundments. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation.

END OF SECTION

SECTION 02600
PIPING AND APPURTENANCES

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Scope of Work.
- B. Submittals.
- C. Connection to work by others or existing lines.
- D. Quality Assurance.

1.2 SCOPE OF WORK:

- A. The Contractor shall supply all labor, equipment, materials, and incidentals necessary to install and test all piping and appurtenances as shown on the Drawings and as specified herein.
- B. Piping shall include all below grade piping including that below structures except for plumbing. Piping above grade shall begin at the outside face of structures and buildings except where there is no joint at the outside face, then piping shall begin at the first pipe joint beyond the structure or building.
- C. This work shall include, but not be limited to the following: Reinforced concrete pipe with rubber and concrete joints, reinforced concrete pipe with rubber and steel joints, ductile iron pipe, copper tubing, steel pipe, PVC pipe, HDPE pipe, stainless steel pipe, valves and fittings; All concrete thrust blocks or restrained joints required for all types of piping; Also all excavation, backfilling, sheeting, slope protection, drainage, concrete work, riprap, grading, safety precautions, and all other work necessary to complete the construction, installation and testing of the piping; All piping shall be ductile iron unless specifically noted otherwise on the Drawings. It is mandatory that the Contractor comply with the "Trench Safety Act" which became Florida law on October 1, 1990. This Act adopts the provisions of the Occupational Safety and Health Administration's excavation safety standards (29 C.F.R. Part 1926.650 Subpart P). For excavations in excess of five (5) feet, the Contractor's Bid must include written assurance that he will comply with the trench safety standards and identify the cost to comply.

1.3 SUBMITTALS:

- A. Submit to the Engineer for review in accordance with the Section 01340 of the Project Manual. The pipe details shall include, but are not limited to, pipe class or design and backup computations including reinforcement; laying schedule which

specifies pipe class, class coding, joints, station limits and transition stations for the various pipe classes; and list of abbreviated terms with their full meaning. The above shall be submitted to the Engineer for approval before fabrication and shipment. The locations of all pipes shall conform to the locations indicated on the Drawings. Flexibility in positioning of pipes will be allowed, particularly where new pipes will connect to existing structures or piping.

- B. The pipe manufacturer shall inspect all pipe joints for out-of-roundness and pipe ends for squareness. The manufacturer shall furnish to the Engineer a notarized affidavit stating all pipe meets the requirements of ASTM, ASCE, ANSI, etc., these Specifications, and the joint design with respect to square ends and out-of-round joint surfaces.
- C. The Contractor shall submit as a Shop Drawing for review by the Engineer, detailed information showing the type of restrained joints proposed and the calculations for determining the total restrained joint pipe length for each fitting in each pipe size. No restrained joint shall be installed unless the Engineer has approved in writing the calculations for such joints.

1.4 CONNECTION TO WORK BY OTHERS OR EXISTING LINES:

- A. Lines installed under other Contracts, to which piping of this Contract must connect, the following work shall be performed:
 - 1. Removing the temporary plug provided in the pipe installed under another Contract (if any).
 - 2. Furnishing and installing piping and making proper connections.
- B. Connection to existing lines, to which piping of this Contract must connect, the following work shall be performed.
 - 1. Expose buried lines to confirm or determine end connection, pipe material and diameter.
 - 2. Furnish and install appropriate piping and make proper connections.

1.5 QUALITY ASSURANCE:

- A. The Contractor's attention is directed to the leakage requirement stipulated in these specifications. Testing shall be as specified in Part 3 of this Section.
- B. It is the Contractor's responsibility that all pipe units and all component parts of the piping system are manufactured and installed such that the maximum infiltration/exfiltration limit will not be exceeded.

PART 2 PRODUCTS

2.1 BEDDING ROCK:

- A. Crushed limerock shall be used for pipe bedding, manhole bases and at other locations indicated on the Drawings.
- B. Bedding rock shall be 3/8-inch to 3/4-inch washed and graded limerock. This rock shall be graded so that 99 percent will pass a 3/4-inch screen and 80 percent will be retained on a No. 8 screen and shall be equal to Florida Department of Transportation Designation No. 67.

2.2 REINFORCED CONCRETE PIPE

- A. Except as otherwise specified herein or as indicated on the Drawings, pipe shall conform to ASTM Standard Specifications for Reinforced Concrete Culvert, Storm Drain, and Sanitary Sewer Pipe, Designation C76, Class III Wall b. Reinforcement shall be full circular cage. Neither elliptical nor quadrant reinforcement will be allowed.
- B. The pipe shall be capable of withstanding construction equipment loading which may be encountered during the progress of the work. Any pipe damaged during construction operations shall be promptly repaired or replaced at the Contractor's expense and acceptable to the Owner and Engineer.
- C. Non-air-entraining portland cement conforming to ASTM Specification C150, Type II shall be used, except as otherwise approved in writing by the Engineer.
- D. Fine aggregate shall consist of washed inert natural sand conforming to the requirements of ASTM Specification C33, except for gradation, with a maximum loss of 5 percent when subjected to 5 cycles of the soundness test using magnesium sulfate.
- E. Coarse aggregate shall consist of well-graded crushed stone or washed gravel conforming to the requirements of ASTM Specification C33, except for gradation, with a maximum loss of 5.0 percent when subjected to 5 cycles of the soundness test using magnesium sulfate.
- F. The 28-day psi compressive strength of the concrete shall be not less than 6,000 psi. The pipe interior shall comprise a continuous integral cement skin and shall be smooth and even, free from roughness, projections, indentations, offsets or irregularities. The concrete mass shall be dense and uniform. The average absorption for the drainage pipe shall not exceed 5.0 percent of the dry weight and no specimen shall exceed 5.5 percent. The average absorption for the drainage culvert shall not exceed 8.5 percent of the dry weight and no specimen shall exceed 9.0 percent. Reinforcement in the bell and spigot shall be adequate to prevent damage to concrete during shipping, handling, and installation.

- G. The pipe shall be clearly marked as required by ASTM C76 in a manner acceptable to the Engineer. The markings may be at either end of the pipe for the convenience of the manufacturers, but for any one size shall always be at the same end of each pipe length. Pipe shall not be shipped until the compressive strength of the concrete has attained 4,000 psi and not before 5 days after manufacture, and/or repair.
- H. Piping shall have a minimum laying length of approximately 8 feet, except for closure and other special pieces as approved by the Engineer. The length of the concrete pipe at each structure shall not exceed 4 feet.
- I. Unsatisfactory or damaged pipe will be either permanently rejected or returned for minor repairs. All pipe which has been damaged after delivery will be rejected, and if such pipe already has been laid in the trench, it shall be acceptably repaired, or removed and replaced, subject to the Engineer's approval, entirely at the Contractor's expense. Pipe may be rejected for any of the following reasons, but not limited to:
1. Exposure of any wires and positioning spacers or chairs used to hold the reinforcement cage in position, or steel reinforcement in any surface of pipe, except for ends of longitudinal reinforcing.
 2. Any shattering or flaking of concrete at a crack.
 3. Air bubble voids (bugholes) on the interior and exterior surfaces of the pipe exceeding 1/4 inch in depth unless properly and soundly filled with mortar or other material.
 4. Unauthorized application of any wash coat or cement or grout.
 5. A variation from the specified internal diameter in excess of 1 percent or interior surfaces which have been reworked after placing of the concrete.
 6. A hollow spot (identified by tapping the internal surface of the pipe) which is greater than 30 inches in length or wider than 3 times the specified wall thickness. Repair of such defective areas not exceeding these limitations may be made.
 7. Defects that indicate imperfect molding of concrete; or any surface defect indicating honeycomb or open texture (rock pockets) greater in size than an area equal to a square with a side dimension of 2-1/2 times the wall thickness or deeper than two times the maximum graded aggregate size or local deficiency of cement resulting in loosely bonded concrete, the area of which exceeds in size the limits or area described in Paragraph 6 above, when the defective concrete is removed. Repair of such defects not exceeding these limits may be made as provided in Paragraph 6 above.

8. Any of the following cracks:
 - a. A crack having a width of 0.005 inch or 0.01 inch throughout a continuous length of 36-inches or more.
 - b. A crack having a width of 0.01 inch to 0.03 inches or more throughout a continuous length of 1 foot or more.
 - c. Any crack greater than 0.005 inches extending through the wall of the pipe and having a length in excess of the wall thickness.
 - d. Any crack showing two visible lines of separation for a continuous length of 2 feet or more, or an interrupted length of 3 feet or more anywhere in evidence, both inside and outside.
 - e. Cracks anywhere greater than 0.03 inch in width.
9. Transverse reinforcing steel found to be in excess of 1/4-inch out of specified position after the pipe is molded.
10. A deficiency greater than 1/4-inch from the specified wall thickness of pipe.
- J. Pits, blisters, rough spots, breakage, and other imperfections may be repaired, subject to the approval of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final approval. Non-shrink cement mortar used for repairs shall have a minimum compressive strength of 6,000 psi at the end of 7 days and 7,000 psi at the end of 28 days, when tested in 3-inch cylinders stored in the standard manner. Epoxy mortar may be utilized for repairs subject to the approval of the Engineer.
- K. Joints for concrete pipe shall be the tongue and groove type of joint with provisions for using a round rubber "O-Ring" gasket in a recess in the spigot end of the pipe. The bevel on the bell of the pipe shall be between 1-1/2 deg. and 2-1/2 deg. and the annular open space at the gasket when the joint is made up and pipes are centered and in line shall not exceed 3/16-inch. The faces of pipe in contact with the gasket shall be true, and free of irregularities.
 1. The round rubber "O-Ring" gaskets shall conform to ASTM C443 Specifications for Joints for Circular Concrete Sewer and Culvert Pipe using Rubber Gaskets.
 2. The manufacturer shall supply test data and affidavits showing compliance with these requirements. Tests shall have been conducted within six months of the start of manufacture of the pipe.
 3. The gaskets shall be designed and manufactured so that the completed joint will withstand an internal water pressure in excess of 15 psi for a period of

ten minutes without showing any leakage by the gasket or displacement of it, See ASTM C443.

4. The pipe manufacturer shall furnish information and supervise the installation of at least the first five joints installed by the Contractor. The ends of the pipe shall be made true to form and dimension by casting against steel forms.
- L. Pipe shall have an exterior seal coat of Koppers Bitumastic 300M with a minimum 20 mils dry film total thickness applied in two coats.

2.3 CAST IRON PIPE AND FITTINGS:

- A. Cast Iron Pipe: Pipe shall be of the centrifugally cast type, either in metal or sand molds, conforming to the requirements of ANSI Specifications 21.6 or 21.8, respectively, or Federal Specification WW-P-421. Pipe thickness shall be Class 22, calculated on the basis of 21,000 psi tensile strength and 45,000 psi modulus of rupture. All pipe shall be designed for a working pressure of 150 psi and a trench condition Type 2 for a minimum of five feet (5') of cover. Manufacturer shall provide a pipe thickness as required for a pipe cover greater than five feet (5'). All pipe shall be furnished complete with all necessary glands, joint material, including rubber gaskets, lubricant, bolts and nuts, etc.
- B. Pipe Joints: All cast iron pipe joints, unless otherwise noted, used in the water and sewerage systems, shall be mechanical, flanged, or push-on rubber gasket joint type as manufactured by U.S. Pipe and Foundry; American Cast Iron Pipe; or James B. Clow and Sons.
 1. Push-On Joints: Joints that have a single rubber gasket seated in the inside contour of the socket bell to effect the seal shall conform to ANSI Specification A 21.11. Rubber gasket and lubricant shall conform to ANSI Specification A 21.11.
 2. Mechanical Joints: Joints and accessories shall conform to ANSI Specification A 21.11, and shall be furnished complete with cast iron glands, high-strength cast iron alloy, tee-head bolts and hexagon nuts, and rubber gaskets (one (1) per joint). All bolts for joints shall be "Acipalloy", "Usalloy", or "Corten" bolts.
 3. Flanged Joints: Joints for centrifugal cast iron pipe shall conform to ANSI Specification 21.6 or 21.8 with screwed-on flanges. Pit cast joints shall be in compliance with ANSI Specification A 21.2. The flanges furnished shall have the bolt circle and bolt holes drilled and faced in conformance with ANSI Specification B 16.1, Class 125 flanges.
- C. Cast Iron Fittings: All cast iron fittings shall be of a standard design for use with the pipe purchased under these Specifications. Fittings shall be Class 150, short body, and shall conform to the following applicable Specifications.

1. Push-on Fittings: Fittings shall conform to ANSI Specification A 21.10 and shall have joints conforming to the requirements of Article B (1) above, or Federal Specification WW-P-421b.
2. Mechanical Fittings: Fittings shall conform to ANSI Specification A 21.10 and joints conforming to the requirements of mechanical joints above.
3. Flanged Fittings: Fittings shall conform to ANSI Specification A 21.10 and shall have flanges faced and drilled in conformance with ANSI Standard A 21.15, Class 125 flanges. Joints shall be installed with full face rubber gasket. Bolts shall be carbon steel, square heads, sized for 125 pound flanges, with hexagon nuts.

D. Lining and Coating for Pipe and Fittings:

1. Cast iron pipe and fittings for sewage shall be coated on the outside with a standard bituminous coating of approximately one (1) mil thickness. The inside lining shall consist of two (2) coats of Coal Tar Epoxy having a total dry film thickness of 16 mils.
2. All cast iron pipe and fittings for water shall have a cement-mortar lining inside of full thickness with an NSF approved seal coat in compliance with ANSI Specification 21.4. Exterior coating shall be standard bituminous coating of approximately one (1) mil thickness.
3. For wastewater treatment facilities, see plans for limits of water and sewage piping.

2.4 DUCTILE IRON PIPE AND FITTINGS:

A. Ductile Iron Pipe:

1. Pipe shall be of the centrifugally cast type, either in metal or sand molds, conforming to the requirements of ANSI Specification A 21.51 or AWWA C151. Pipe shall be designed in accordance with ANSI Specification A21.50 or AWWA C150.
2. Pipe thickness shall be Class 50 or Class 51 unless otherwise shown on the Drawings, calculated on basis of 60,000 psi minimum tensile strength, minimum yield strength of 42,000 psi, and minimum elongation of ten (10) percent. All pipe shall be designed for a Trench Laying Condition Type 2 (flat-bottom trench without blocks, tamped backfill). The weight, class, or nominal thickness and casting period shall be shown on each piece. The manufacturer's mark, production year, and the letters "DI" or "Ductile" shall be cast or stamped on each pipe. All pipe shall be furnished complete with all necessary glands, joint material, including rubber gaskets lubricant, bolts and

nuts, etc. Pipe furnished shall be as manufactured by U.S. Pipe and Foundry; American Cast Iron Pipe; or James B. Clow and Sons.

B. Pipe Joints:

1. All ductile iron joints, unless otherwise noted, used in sewerage systems shall be push-on, mechanical, flanged, flexible, or restrained joints as shown on the Drawings. Push-on and mechanical joints shall meet the requirements of ANSI Specifications A 21.11 or AWWA C111, latest revisions. Flanged joints, when required, shall be ductile iron, shall conform to AWWA C115, and shall have the bolt circle and bolt holes drilled and faced in conformance with ANSI Specification A 21.15, Class 125 flanges. Either screwed-on or welded flanges will be required and shall be furnished with a minimum barrel thickness of Class 53 in accordance with ANSI Specification A 21.50. Flanges shall be fully machine faced after being screwed tight on pipe. All bolts for joints shall be "Acipalloy", "Usalloy", or "Corten" bolts.
2. Flexible joint pipe shall meet the requirements of ANSI A21.10 (AWWA C-110) and shall be USIFLEX by U.S. Pipe and Foundry Company, RIVER CROSSING PIPE by Clow Corporation, or FLEX-LOK by American Cast Iron Pipe Company. All joint accessories shall be provided by the pipe manufacturer.
3. Restrained joints shall utilize integral manufactured restraining devices equivalent to LOK-FAST by American Cast Iron Pipe Company, Locked Mechanical Joint by Clow Corporation, or LOK-TYTON by U.S. Pipe and Foundry Company.
4. Ductile iron mechanical joint retainer glands or tie rods may be used in lieu of integral manufactured restraint devices where approved by the Engineer. The Contractor shall submit Shop Drawings showing the type and manner of joint restraint to be utilized to the Engineer for approval prior to ordering the materials.

- C. Fittings: Ductile iron fittings shall be of a standard design for use with the pipe purchased under these Specifications and shall be push-on, mechanical, or flanged joints as required by the Drawings. The fittings shall have a minimum tensile strength of 70,000 psi, minimum yield strength of 50,000 psi, minimum elongation of five (5) percent, and meet requirements of ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53 latest revisions. All fittings shall be marked with the weight and have distinctly cast upon them the pressure rating, the manufacturer's identification, nominal diameter of openings, and the fraction of a circle of all bends. Fittings shall have the letters "DI" or "Ductile" cast or stamped on them.

D. Lining and Coating for Pipe and Fittings:

1. All ductile iron pipe and fittings for sewage shall be coated on the outside with standard bituminous material of approximately one (1) mil thickness. The inside lining shall consist of a 40 mil thickness virgin polyethylene lining complying with ANSI/ASTM Specification D-1248, or a high build multi-component Amine cured Novalac Epoxy lining meeting the standard of Quality of Protecto 401 Ceramic Epoxy.
2. All ductile iron pipe and fittings for water and reclaimed water shall have a cement-mortar lining inside of full thickness with an NSF approved seal coat in compliance with ANSI Specification 21.4 or AWWA C104, latest revision. Exterior coating shall be standard bituminous coating of approximately one (1) mil thickness.
3. For wastewater treatment facilities, see plans for limits of water and sewage piping.

2.5 SCHEDULE OF USAGE OF CAST IRON/DUCTILE IRON PIPE:

- A. General: All cast and ductile iron pipe and fittings, unless otherwise indicated, shall conform to the following applications.
- B. Water Lines:
1. Above Ground: Flanged joints.
 2. Below Ground: Distribution System - Push-on joints (mechanical joints will be accepted in lieu of push-on joints, subject to the approval of the Engineer); Plant and Yard Piping - Mechanical joints.
- C. Sewer Lines:
1. Above Ground: Flanged joints.
 2. Below Ground: Gravity Sewage Collection - Push-on joints; Force Mains - Push-on joints (mechanical joints will be accepted in lieu of push-on joints, subject to approval of the Engineer); Plant and Yard Piping - Mechanical joints.
- D. Air Lines:
1. Above and Below Ground: Flanged joints. Joints shall be heat resistant (EPDM gaskets).
- E. No active pipe or fittings attached to tanks or vessels that cannot be readily emptied or drained shall have blank flanges. Any tees, wye branches, wall fittings, etc., for future connections under pressure shall be installed with suitable valves.

2.6 STEEL PIPE AND FITTINGS:

- A. Steel Pipe: All steel pipe three inches (3") or less in diameter shall be standard weight, hot-dip galvanized steel pipe, and shall comply with the requirements of ASTM Designation A-120. Steel pipe four inches (4") or larger in diameter shall conform to the requirements of AWWA Standards C 201 and C 202. Substitution of steel pipe conforming to ASTM A 333 Grade 9 as manufactured by Babcock and Wilcox will be accepted in lieu of galvanized steel pipe, subject to the approval of the Engineer. Pipe shall be lined with a coat of coaltar primer followed by a hot coat of coaltar enamel in accordance with the applicable ASTM Specifications and AWWA Standard C 203. Galvanizing shall meet the requirements of ASTM Designation A 153.
- B. Pipe Joints: All steel pipe three inches (3") or less in diameter shall have screw joints. Steel pipe four inches (4") and larger may have either lap or butt joints, subject to the approval of the Engineer, which shall meet the requirements of AWWA Standard C 206.
- C. Fittings: Steel fittings shall be of a standard design for use with the pipe purchased under these Specifications. The smaller pipe sizes shall have either galvanized steel or galvanized malleable iron fittings. Substitution of fittings conforming to ASTM A333 Grade 9 as manufactured by Babcock and Wilcox will be accepted in lieu of galvanized fittings, subject to the approval of the Engineer. Flanges for larger pipe sizes shall be Class D and meet the requirements of AWWA Standard C 207. Dimensions for larger pipe fittings shall meet AWWA Standard C 208.

2.7 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS:

- A. General:
 - 1. All pipe, fittings, and miscellaneous materials to be furnished shall be by one (1) manufacturer to insure unit responsibility and shall be complete to perform the work, including gaskets, lubricants, adapters, specials, etc. The pipe shall be furnished in nominal lengths of approximately 20 feet, unless otherwise directed by the Engineer. Pipe and accessories shall bear the NSF mark indicating its approval for the intended use, pipe size, manufacturer's name, AWWA and/or ASTM Specification number, working pressure, and production code.
 - 2. Shall be extruded from clean, virgin, unplasticized, National Sanitation Foundation (NSF) approved Class 12454-A or Class 12454-B PVC compound conforming to ASTM resin Specification D 1784.
 - 3. For all PVC pipe four inches (4") to 12 inches (12") in diameter, provisions shall be made for expansion and contraction at each joint with a solid cross section elastomeric ring which shall meet the requirements of ASTM F477, and shall have an integral thickened bell as part of each joint.

4. Gaskets and lubricant furnished for joints shall be nontoxic, shall not support the growth of bacteria, shall have no deteriorating effects on each other or the pipe material, and shall not impart color, taste, or odor to, or otherwise adversely effect, the water.
- B. Chlorine Feed System: All chlorine lines, to and from the chlorination system, shall be Chlorinated-PVC (CPVC) Schedule 80 socket welded pipe and fittings. Outside CPVC piping, must have UV protection. All gaskets used in the chlorine system piping shall be Viton gaskets.
- C. PVC Raw Sewage Force Main:
1. All pressure rated PVC pipe and accessories for sanitary sewer force main system or as specified on the Drawings, of two inches (2") to 12 inches (12") in diameter shall be manufactured in accordance with AWWA Standard C900 "Polyvinyl Chloride (PVC) Pressure Pipe". Pipe shall be suitable for use at a maximum hydrostatic working pressure of 150 psi at 32EC (73.4EF). Pipe shall conform to ASTM D 2241 for Standard Dimension Ratio - SDR 18, and shall meet the requirements as set forth in Product Standards PS 22-70.
 2. All pressure rated PVC pipe and accessories for sanitary sewer force main system or as specified on the Drawings, of fourteen inches (14") through 24 inches (24") in diameter shall be manufactured in accordance with AWWA Standard C905 "Polyvinyl Chloride (PVC) Water Transmission Pipe". Pipe shall be suitable for use at a maximum hydrostatic working pressure of 165 psi at 32EC (73.4EF). Pipe shall conform to ASTM D 2241 for Standard Dimension Ratio - SDR 25, and shall meet the requirements as set forth in Product Standards PS 22-70.
 3. All spigot (plain) ends shall be marked so as to indicate the distance the spigot end should be extended into the bell. All pipe, fittings, and miscellaneous materials to be furnished shall be by one (1) manufacturer to ensure unit responsibility and shall be complete to perform the work, including gaskets, lubricants, adapters, etc. The pipe shall be furnished in nominal lengths of approximately 20 feet, unless otherwise directed by the Engineer. Pipe and accessories shall bear the AWWA and/or ASTM Specification number, working pressure, and production code.
 4. All PVC pipe for use as sewage force main shall be solid green in color. White pipe is strictly prohibited.
- D. PVC pipe and accessories less than two inches (2") in diameter, where called for on the Drawings, shall be Schedule 40 or 80 and be of rigid normal impact polyvinyl chloride. The pipe and accessories shall conform to ASTM Specification D 1785 and Product Standard PS22-70. All materials to be furnished complete to perform the work, including solvent cement etc.

- E. PVC Potable Water and Reclaimed Water Distribution Pressure Pipe: PVC pipe and accessories four inches (4") to 12 inches nominal diameter, where shown or as specified on the Drawings, shall meet requirements of AWWA Specification C 900 "Polyvinyl Chloride (PVC) Pressure Pipe". Unless otherwise noted on the Drawings, pipe shall meet ASTM D 2241 requirements for Standard Dimension Ratio (SDR 18), and shall be designed with cast iron equivalent outside diameters and for a pressure-class rating of 150 psi. Each length of pipe shall be hydrotested to four (4) times its design working pressure by the manufacturer in accordance with AWWA C 900. Pipe shall be listed by Underwriters Laboratories. PVC water pipe shall be installed in accordance with the Uni-Bell Plastic Pipe Association Guide Specification UNI-B-3, and as recommended by the manufacturer. Pipe shall be furnished in nominal lengths of approximately 20 feet, unless otherwise directed by the Engineer.
- F. PVC Potable Water and Reclaimed Water Pressure Pipe: PVC pipe and accessories 14 inches to 36 inches nominal diameter, where shown or as specified on the Drawings, shall meet the requirements of AWWA Specification C 905 "Polyvinyl Chloride (PVC) Water Transmission Pipe". Unless otherwise noted on the Drawings, pipe shall meet the requirements of Standard Dimension Ratio (SDR) 25, shall be designed with cast iron equivalent outside diameters and for a pressure-class rating of 165 psi. All pipe, including the joints, shall be hydrotested to two (2) times its rated pressure by the manufacturer in accordance with AWWA C 905. Pipe shall be listed by Underwriters Laboratories. PVC water pipe shall be installed in accordance with the Uni-Bell Plastic Pipe Association Guide Specification UNI-B-3, and as recommended by the manufacturer. Pipe shall be furnished in nominal lengths of approximately 20 feet, unless otherwise directed by the Engineer.
- G. Joints:
1. The PVC joints for pipe two inches (2") to 12 inches (48") in diameter shall be of the push-on type so that the pipe and fittings may be connected on the job without the use of solvent cement or any special equipment. The push-on joint shall be a single rubber gasket joint designed to be assembled by the positioning of a continuous, molded rubber ring gasket in an annular recess in the pipe or fitting socket and the forcing of the plain end of the entering pipe into the socket, thereby compressing the gasket radially to the pipe to form a positive seal. The gasket and annular recess shall be designed and shaped so that the gasket is locked in place against displacement as the joint is assembled. The rubber ring joint shall be designed for thermal expansion or contraction with a total temperature change of at least 75°F in each joint per length of pipe. The thickened bell section shall be designed to be at least as strong as the pipe wall.
 2. PVC joints for pipe less than two inches (2") in diameter shall be threaded or solvent welded joints, where called for on the Drawings, unless otherwise directed by the Engineer. Teflon thread tape or liquid teflon thread lubricant

shall be used on all threaded joints to serve as both a sealer and lubricant. Threaded joints should be made hand tight (hard). When the joint is hand tight a strap wrench should be used to make up one (1) to two (2) additional full turns past the hand tight point. Do not use pipe wrenches or pump pliers on plastic pipe or fittings.

H. Fittings:

1. All fittings for PVC pipe of four inches (4") to fifty-four inches (54") in diameter shall be ductile iron with mechanical joints and shall conform to the above Specifications for ductile iron fittings, unless otherwise directed by the Engineer.
2. Fittings for Schedule 80 PVC pipe less than two inches (2") in diameter shall be threaded and be PVC as shown on the Drawings or as directed by the Engineer. Threaded PVC fittings shall conform to ASTM Specification D 2464-69.
3. Standard double bell couplings will not be accepted where the pipe will slip completely through the coupling.

I. Pressure Pipe Restraint:

1. For all pressure pipe and fittings, restraining shall follow the criteria established herein.
 - a. Sections of piping requiring restrained joints shall be constructed using pipe and fittings with restrained 'locked-type' joints manufactured by the pipe and/or fitting manufacturer, and the joints shall be capable of holding against withdrawal for line pressures at least 50 percent above the normal working pressure. Any restrained joints that allow for elongation upon pressurization will not be allowed in those locations where pipe comes above ground. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1. Restrained pipe joints that achieve restraint by incorporating cut out section in the wall of the pipe shall have a minimum wall thickness at the point of cut out that corresponds with the minimum specified wall thickness for the rest of the pipe.
 - b. The minimum number of restrained joints required for resisting forces at fittings and changes in direction of pipe shall be determined from the length of restrained pipe on each side of fittings and changes in direction necessary to develop adequate resisting friction with the soil.
 - c. The required lengths of restrained joint pipe shall be determined by calculations based on the method outlined in the publication entitled

'Thrust Restraint Design for Ductile Iron Pipe', latest edition, published by Ductile Iron Pipe Research Association, Birmingham, AL 35244. This shall apply to PVC and DIP pipe.

- d. Whenever two 45 bends are used in place of a 90 bend and the minimum restrained joints required from one 45 bend extend beyond the other 45 bend, the two 45 bends will be considered as though a 90 bend were located midway between the two 45 bends.
 - e. Unless specifically called for on the drawings, no concrete thrust blocks will be allowed.
2. Two types of joint restraint devices are approved for use on PVC and DIP. One is the 'Mega-Lug' device and the other is the 'MJR' device. Restraining glands are approved for use on DIP only.
- a. Mechanical joint restraint shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple or continuous wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A536. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN.
 - b. For Mega-Lug restraints, dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI A21.11 and ANSI/AWWA C153/A21.53. Twist-off nuts shall be used to ensure actuating of the restraining devices.
 - c. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1.

J. Gravity Sewer PVC Pipe:

- 1. Quality: Use homogeneous polyvinyl chloride pipe throughout that is free from visible cracks, holes, foreign inclusions or other injurious defects and as uniform as commercially practical in color, opacity, density and other physical properties. Use integrally formed ball and spigot type pipe unless otherwise specified.
 - a. PVC Gravity Sewer Pipe (4" - 15"), ASTM D3034, SDR 35. Uniform minimum 'pipe stiffness' at five percent deflection shall be 46 psi. Applicable UNI-Bell Plastic Pipe Association standard is UNI-B-4. In areas where burial depth, as measured from top of pipe to ground surface, exceeds ten feet, then SDR 26 pipe shall be required.

- b. PVC Gravity Sewer Pipe (18" - 27"), ASTM F679, SDR 35. Uniform Minimum 'pipe stiffness' at five percent deflection shall be 46 psi. Applicable UNI-Bell Plastic Pipe Association standard is UNI-B-7. In areas where burial depth, as measured from top of pipe to ground surface, exceeds 12 feet, then SDR 26 pipe shall be required.
 - c. All PVC pipe shall bear the NSF-DW Seal. The minimum standard length of pipe shall be 13 feet.
- 2. PVC Pipe Joints: (Nominal Diameters of 4 inches through 8 inches). Furnish all PVC pipe and fittings with push-on type joints in which an elastomeric ring gasket is compressed in the annular space between a bell end or socket and a spigot end of pipe. Joint fabrication and testing shall conform to ASTM D3212. Conform materials used in elastomeric seal joints to ASTM F477. Use an approved lubricant in assembling the pipe.
 - 3. Stoppers: All joints for stoppers shall be adequate to withstand the internal pressure of the leakage and/or infiltration test. Make joints removable without injury to the socket.

2.8 HIGH DENSITY POLYETHYLENE (HDPE) PIPING SYSTEMS:

A. General:

- 1. All pipe, fittings and miscellaneous materials hereunder shall be furnished by one (1) manufacturer that has previously demonstrated his ability to produce this piping by having successfully manufactured similar piping material meeting all requirements of the National Sanitation Foundation.
- 2. The high density polyethylene pipe shall be high performance, extra-high molecular weight, high density polyethylene pipe, conforming to ASTM D 1248 (Type III, Class C, Category 5, Grade PE34). Minimum cell classification values shall be PE345444C, as referenced in ASTM D 3350 - latest edition. The pipe shall contain a minimum of 2 percent carbon black. The pipe shall be Drisco pipe 4000 series, as manufactured by Phillips Driscopipe, Inc., Richardson, Texas or Plexico, Franklin Park, Ill., and supplied by U.S. Filter/Fife, Brandon, Florida, or approved equal.
- 3. The piping shall be comprised of new, first quality HDPE material.
- 4. The Contractor shall submit a certification from the manufacturer of the piping, stating that the piping meets physical property requirements for the intended application.
- 5. Each standard and random length of pipe in compliance with this specification shall be clearly marked at a minimum: 1) pipe size; 2) SDR number; 3) plant manufacturing information; and 4) color-identified around

the entire outside face of pipe. The pipe SDR values shall be SDR 11 unless otherwise indicated on the Drawings.

B. Design/pressure Class:

1. Pressure class (PC) rating for pipe covered by this standard are given. The following equation, commonly known as the ISO (International Organization for Standardization) equation, is used to calculate the pressure class and working pressure rating.

$$WPR = PC = \frac{2}{DR - 1} * HDB * DF \text{ (Eq.1)}$$

Where:	WPR =	Net Working Pressure Rating
	PC =	Pressure class, in psig (kPa gauge)
	HDB =	Hydrostatic design basis, in psi (kPa), 1600 psi @ 73°F for PE 3408
	DR =	Dimension ratio, ratio of the specified average outside diameter to the Minimum specified wall thickness, both expressed in the same units
	DF =	Design factor; includes consideration of degree of safety and all the variables, includes limited surge pressure effects in the end application, (normally >0.5' representing the industry accepted 2:1 safety factor).

Working Pressure Rating (PC): (Matched to Project Needs)

50 PSI - DR 32.5	130 PSI - DR 13.5
64 PSI - DR 26	160 PSI - DR 11
80 PSI - DR 21	200 PSI - DR 9
100 PSI - DR 17	267 PSI - DR 7
100 PSI - DR 15.5	

The WPR (PC) values include allowance for pressure rises above working pressure class and recurring pressure surges not exceeding one and one half times the nominal pressure class.

C. Fittings:

1. Fittings shall be butt fusion type, meeting the requirements of ASTM D 3261. All fittings shall be rated to match the system piping to which they are fused. At the point of fusion, the outside diameter and minimum wall thickness shall meet the outside diameter and minimum wall thickness specification of ASTM F 714 for the same size of pipe. Pipe connections between dissimilar materials shall be joined by stub end and backing flange.
2. Flanges, when required, shall be convoluted ductile iron ANSI B16.5-B1, Class 150 lb. The bolts and nuts for the flanges shall be standard grade. Standard flat washers shall be used at the head and nut of each bolt.
3. Any flange connections from HDPE to either PVC or ductile iron shall include a 1/8 inch minimum thickness gasket suitable for use for sanitary sewer service. 304 stainless steel inserts designed for use in HDPE pipe manufactured by JCM, Smith-Blair, or approved equal shall be used in conjunction with all flange connections.
4. Spare Fittings: Contractor to provide Owner with six 304 stainless steel inserts, for each diameter/type of pipe utilized, designed for use in HDPE pipe manufactured by JCM, Smith-Blair, or approved equal.

D. Damage Control:

1. Transportation: Care shall be taken during transportation of the pipe that it is not cut, kinked or otherwise damaged.
2. Handling Pipe Lengths:
 - a. Ropes, fabric or rubber-protected slings and straps shall be used when handling pipes.
 - b. Chains, cables, or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground.
3. Storage: Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe.
 - a. Stacking of the pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions.
 - b. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to

allow deformation of the pipe at the point of contact with the sleeper or between supports.

E. Pipe Dimensions:

Pipe supplied under this specification shall have a nominal DIPS (ductile iron pipe size) O.D. unless otherwise specified. The SDR (standard dimension ratio) of the pipe supplied shall be as specified by the Engineer.

F. Pipe Handling And Storage, Repairing And Joining:

1. Handling and Storage: Pipe shall be stored on clean, level ground to prevent undue scratching or gouging of the pipe. If the pipe must be stacked for storage; such stacking should be done in accordance with the pipe manufacturer's recommendations. The handling of the pipe should be done in such a manner that it is not damaged by dragging over sharp objects or cut by chokers or lifting equipment.
2. Repairing of Damaged Sections: Sections of pipe having been discovered with cuts or gouges in excess of 10% of the wall thickness of the wall thickness of the pipe shall be cut out and removed. The undamaged portions of the pipe shall be rejoined using butt fusion joining method.
3. Pipe Joining: Sections of polyethylene pipe should be joined into continuous lengths on the job site above ground. The joining method shall be the heat fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. The heat fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400°F, alignment, and 75 psi interfacial fusion pressure. Heat fusion joining shall be 100% efficient offering a joint weld strength equal to or greater than the tensile strength of the pipe. Socket fusion shall not be used. Extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications nor in fabrications where shear or structural strength is important. Ranges, unions, grooved-couplers, transition fittings and some mechanical couplers may be used to mechanically connect HDPE pipe without butt fusion. Refer to the manufacturer's recommendations.

G. Installation:

1. Before pipe is joined by fusion, it shall be cleaned of all dirt and other foreign material. Each pipe shall be carefully examined for cuts, scratches, gouges, etc., before being laid, and defective or damaged pipe shall not be used. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections of pipe into trenches. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when

trench or weather conditions are unsuitable for such work. Diversion of drainage or dewatering of trenches during construction shall be provided as necessary. All pipe in place shall be inspected before backfilling. Any pipe which is disturbed or found to be defective after laying shall be taken up and relayed or replaced.

2. Trench Construction: The trench and trench bottom shall be constructed in accordance with ASTM Standard D 2321 - Section 7.
 3. Embedment Material: Embedment materials shall be Class I, Class II, or Class III materials as defined by ASTM D 2321 - Section 6. The use of Class IV and Class V materials for embedment is not recommended and shall be done only with the approval of the Engineer.
 4. Bedding: Bedding of the pipe shall be performed in accordance with ASTM standard 2321 - Section 8. Compaction rates shall be as specified in ASTM D 2321. Deviations from the specified compaction must have the approval of the Engineer.
 5. Lowering Pipe into Trench: Care shall be exercised when lowering pipe into the trench to prevent damage to or twisting of the pipe.
- H. Haunching and Initial Backfill: Haunching and the initial backfill should be as specified in ASTM D 2321 - Section 9 using Class I, Class II, or Class III materials. Materials used and compaction rates shall be as specified by the Engineer. In cases where a compaction rate of 92% Standard Proctor Density is not attainable, the Engineer may wish to increase the SDR of the pipe to provide adequate stiffness.

2.9 POLYETHYLENE (PE) TUBING:

- A. All chlorine gas service lines of polyethylene tubing, as specified on the Drawings, shall conform to the requirements of PE 3406 as proposed in ASTM Standards. The hydrostatic design in stress shall be 630 psi for water at 73.4°F. The polyethylene extrusion compound from which the tubing is extruded shall meet the requirements of Type III, Grade 3, Class "C" material, as described in ASTM Specification D 1248-65T. Tubing shall be designed for a maximum working pressure of 160 psi at 23EC (73.4EF). The tubing shall also be manufactured in accordance with the provisions of Commercial Standard No. CS 255-63. The standard thermoplastic pipe dimension ratio (SDR) shall not exceed SDR 9-O.D., for 160 psi pressure. The tubing and accessories shall conform to the specifications of the National Sanitation Foundation Testing Laboratories. Tubing shall be marked with size, manufacturer's name, working pressure, National Sanitation Foundation approval, ASTM Specification, and production code. PE tubing shall be connected to standard flare or compression fittings, corporation stops, goosenecks, curb stops, meters, etc., in accordance with the manufacturer's recommendations. Tubing shall be furnished in coil lengths of five-eighths inch (5/8") - 500 feet, and one inch (1"), one and one-half inch (1-1/2") - 500 feet.

2.10 POLYBUTYLENE (PB) TUBING:

- A. All potable cold water service connections and accessories of polybutylene tubing, as specified on the Drawings, shall be water service tubing conforming to the requirements of ASTM Designation D-2666. The hydrostatic design in stress shall be 630 psi for water at 73.4°F. The polybutylene extrusion compound from which the tubing is extruded shall be manufactured from 100 percent non-toxic polybutylene resin compound, and shall be in conformance with the requirements of Type II, Grade 1, as described in ASTM Designation D-2581. Tubing shall be designed for a maximum working pressure of 160 psi at 23°C (73.4°F). The standard thermoplastic pipe dimension ratio (SDR) shall not exceed SDR 13.5, for 160 psi pressure. The tubing and accessories shall conform to the Specifications of the National Sanitation Foundation Testing Laboratories. Tubing shall be marked with size, manufacturer's name, working pressure, National Sanitation Foundation (NSF) approval, ASTM Specification and production code. PB tubing shall be connected to standard flare or compression fittings, corporation stops, goosenecks, curb stops, meters, etc., in accordance with the manufacturer's recommendations. Tubing shall be furnished wrapped in heavy kraft paper in coil lengths of three-quarter inch (3/4") - 500 feet, and one inch (1"), one and one-quarter inch (1-1/4"), one and one-half inch (1-1/2"), and two inches (2") - 300 feet.

2.11 COPPER TUBING:

- A. Type "K" soft temper tubing shall be used for all interior piping and all service connections. Type "L" hard temper tubing shall be used for exposed locations. All copper tubing shall conform to ASTM Specification B-88.

2.12 EXPANSION JOINTS:

- A. Expansion joints shall be manufactured of molded neoprene with filled triple arches. Joints shall be reinforced with galvanized 3/8-inch split steel retaining rings placed directly against the inside of the flange to prevent damage to the rubber surface when the bolts are tightened. Expansion joints shall be suitable for buried service or above ground service. Flanges shall be drilled to ANSI 125#. Working pressures as follows:

<u>Size</u>	<u>Pressure</u>
1"-4"	165#
5"-12"	140#
14"	85#
16"-24"	65#
26"-66"	55#

- B. Maximum temperature shall be 180 degrees F and shall be capable of a maximum 1-1/2-inch lateral movement. Expansion joints shall be Model J-1 as manufactured by the Red Valve Company; products by Metraflex, Holtz Rubber Company or approved equal.

2.13 QUICK CONNECT COUPLINGS:

Quick connect couplings shall be Model 633-E hose shank adapter and Model 633-C hose shank coupler as manufactured by Dover Corporation OPW Division, Cincinnati, Ohio, or by Ever-tite coupling Co., Inc., New York, New York, or approved equal.

2.14 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. Shall be similar to Dresser Company, Style 128 or approved equal. All couplings shall have a sufficient number of factory installed anchor studs to meet or exceed the test pressure rating for this project, 300 psi minimum. Certification shall be provided with shop drawings that couplings meet this requirement.

2.15 FLEXIBLE COUPLINGS:

- A. 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 piping as 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 contraction 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 A183 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; 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 approved 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. Shop drawings for supports shall be submitted with victaulic coupling submittals.

2.16 UNIONS:

Unions on ferrous pipe 2 inches in diameter and smaller shall be 150 pounds malleable iron, zinc-coated. Unions on water piping 2-1/2 inches in diameter and larger shall be flange pattern, 125-pound class, zinc-coated. Gaskets for flanged unions shall be of the best quality fiber, plastic, or leather. Unions shall not be concealed in walls, ceilings, or partitions.

2.17 MANHOLE FRAMES AND COVERS:

- A. Castings for frames and covers for manholes shall be composed of best quality, tough, gray iron, free from cold shuts, blow holes, and other imperfections, and shall meet the requirements of ASTM Designation A-48 for Class 30. Castings shall be sound, true to form and thickness, cleaned by means of sand blasting, and neatly finished.
- B. Metal bearing areas shall be machine ground finished to ensure satisfactory seating.
- C. Casting shall receive one (1) coat of black asphaltum paint at the factory and shall receive touch up coat as required after installation.
- D. The cover shall have cast thereon the words "Sanitary Sewer" or "Storm Sewer", as applicable, in letters not less than two inches (2") in height. Manhole cover and frame shall have a total combined weight of not less than 400 pounds, of which cover shall weight not less than 150 pounds.

PART 3 EXECUTION

3.1 GENERAL:

- A. Care shall be taken in loading, transporting, and unloading to prevent injury of the pipe or coatings. Pipe or fittings shall not be dropped. All pipe and fittings shall be examined before laying, and no piece shall be installed which is found to be defective. Any damage to the pipe coatings shall be repaired as directed by the Engineer.

- B. All pipe and fittings shall be subjected to a careful inspection and hammer test just prior to being laid or installed. If any defective pipe is discovered after it has been laid it shall be removed and replaced at no expense to the Owner. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work, and when installed or laid, shall conform to the lines and grades required.
- C. All buried piping shall be installed to the lines and grades as shown on the Drawings. All underground piping shall slope uniformly between joints where elevations are shown.
- D. Contractor shall exercise extreme care when constructing yard piping to shore up and protect from damage all existing underground water lines and power lines, and all existing structures.
- E. Trenching and backfilling shall conform to the appropriate sections of these Specifications.
- F. Laying Pipe:
 - 1. Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line.
 - 2. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe.
 - 3. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe pushed into place and brought to correct line and grade. The pipe shall be secured in place with approved backfill material tamped under it, except at the bells. Precaution should be taken to prevent dirt from entering the joint space. Any pipe that has its grade or joint disturbed after laying shall be taken up and re-laid.
 - 4. Flanged end, mechanical, and push-on joints shall be completed as specified by the pipe manufacturer and care shall be exercised when making each joint. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug. Under no conditions shall pipe be laid when trench conditions are unsuitable for such work. In all cases, water shall be kept out of the trench during laying operations and until concrete cradles, reaction blocks, or supports, where used or specified, have hardened.
 - 5. Pipe shall be laid with bell ends facing in the direction of laying unless otherwise shown on the Drawings or directed by the Engineer.
- G. Concrete Encasement and Specials: Where required by the Engineer, pipes shall be placed on a formed concrete cradle, or unformed concrete shall be placed around pipes for anchors, bedding, and encasement. Concrete anchors or cradles

shall consist of structures composed of Class "C" concrete built in trenches to support pipes and to the dimensions shown on the Drawings furnished by the Engineer. Concrete bedding and encasement shall be composed of Class "C" concrete placed in trenches as pipe bedding or encased around pipes, to the dimensions and in the locations directed by the Engineer or indicated on the Drawings.

- H. Special Conditions: Cut-ins to existing lines four inches (4") and larger are to be made with tapping valves and sleeves. Cut-ins to existing lines smaller than four inches (4") shall be made by cutting the existing lines. Existing lines can only be cut at time, day, and for the duration approved by the Owner. All new piping must be assembled at site before existing pipe is cut. The Contractor shall work continuously once cut is made until the line is back in service.

3.2 PIPE AND STRUCTURE BEDDING:

- A. All pipelines shall be bedded in well graded, compacted, selected fill material. Pipe bedding with selected fill material shall extend a minimum of six inches (6") below the bottom of the pipe and be carried up to one foot (1') over the top of the pipe for the full trench width.
- B. Crushed stone bedding material shall be three-quarter inch (3/4") nominal size limestone (Brooksville Formation) and shall conform to the following gradation requirements:

100% passing	1" sieve
90% - 100% passing	3/4" sieve
20% - 55% passing	3/8" sieve
0% - 10% passing	No. 4 sieve

Underbedding shall be placed in layers not over eight inches (8") thick to the limits detailed on the Drawings and shall be thoroughly compacted by tamping.

- C. Selected fill material used for pipe bedding shall consist of natural sand, limestone chips, pea gravel, gravel, crushed stone, or other granular or similar material approved by the Engineer which can be readily and thoroughly compacted. For pipe 18 inches or less in diameter, selected fill pipe bedding shall consist of natural sand or material 90 percent of which will be retained on a No. 8 sieve and 100 percent of which will pass a one-half inch (1/2") sieve and be well graded between those limits. For pipe larger than 18 inches in diameter, selected fill pipe bedding shall be granular material the same as specified for smaller pipe or may be a similar well graded material 90 percent of which will be retained on a No. 8 sieve and 100 percent of which will pass a one inch (1") sieve. Very fine sand or other fine

materials that have a tendency to flow under pressure when wet will not be acceptable as selected fill material to be used for pipe bedding.

- D. Cast-in-place manhole bases and other foundations for structures shall be cast against undisturbed earth in clean and dry excavations.
- E. Existing underground structures, tunnels, conduits, and pipes crossing the excavation shall be bedded with compacted selected fill material. Bedding material shall be placed under and around each existing underground structure, tunnel, conduit, or pipe and shall extend underneath and on each side to a distance equal to the depth of the trench below the structure, tunnel, conduit, or pipe.

3.3 REINFORCED CONCRETE PIPE

- A. As soon as the excavation is completed to the normal grade required, the Contractor shall immediately place bedding material in the trench, and then the pipe shall be firmly bedded in this bedding to conform accurately to the lines and grades indicated on the Drawings. Bedding material for bedding the pipe shall conform to the Specifications under Part 2 of this Section. Blocking under the pipe will not be permitted.
- B. Bedding material, as specified, shall be placed and compacted to give complete vertical and lateral support for the lower section of the pipe as indicated on the Drawings. A depression shall be left in the bedding material at the joint to prevent bedding material from entering the bell and interfering with seating the spigot. Before the pipe is lowered into the trench, the spigot and bell shall be clean and free from dirt. As soon as the spigot is centered in the bell of the previously laid pipe, it shall be forced home with a pipe jack. The pipe jack shall be anchored sufficiently so that the pulling force will not dislodge the pieces of the pipe already in place. Only a pipe jack shall be employed to force the pipe home smoothly and evenly and hold the pipe while backfilling is in progress. Under no circumstances shall crowbars alone be used nor shall any of the motor driven equipment be used.
- C. As soon as the pipe is in place and before the pipe jack is released, backfill shall be placed and compacted as indicated on the Drawings for at least one-half the length of pipe. Not until this backfill is placed shall the pipe-jack be released. If any motion at joints can be detected, a greater amount of backfill shall be placed before pressure is released.

3.4 DUCTILE IRON PIPE:

- A. Ductile iron pipe and fittings shall be installed in accordance with requirements of AWWA Standard Specification C600 except as otherwise provided herein. A firm, even bearing throughout the length of the pipe shall be constructed by tamping selected material at the sides of the pipe up to the springline. **BLOCKING WILL NOT BE PERMITTED.**

- B. All pipe shall be sound and clean before laying. When laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by watertight plug or other approved means. Good alignment shall be preserved in laying. The deflection at joints shall not exceed that recommended by the manufacturer. Fittings, in addition to those shown on the plans, shall be provided, if required, in crossing utilities which may be encountered upon opening the trench. Solid sleeves shall be used only where approved by the Engineer.
- C. When pipe cutting is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be used with a push-on bell shall be beveled to conform to the manufactured spigot end. Cement lining shall be undamaged.
- D. Jointing Ductile-Iron Pipe:
1. Push-on joints shall be made in strict accordance with the manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. A rubber gasket shall be inserted in the groove of the bell end of the pipe, and the joint surfaces cleaned and lubricated. The plain end of the pipe is to be aligned with the bell of the pipe to which it is to be joined, and pushed home with a jack or by other means. After joining the pipe, a metal feeler shall be used to make certain that the rubber gasket is correctly located.
 2. Mechanical joints at valves, fittings, and where designated on the drawings and/or as specified, shall be in accordance with the "Notes on Method on Installation" under ANSI Specification A21.11 and the instructions of the manufacturer. To assemble the joints in the field, thoroughly clean the joint surfaces and rubber gasket with soapy water before tightening the bolts. Bolts shall be tightened to the specified torques. Under no condition shall extension wrenches or pipe over handle of ordinary ratchet wrench be used to secure greater leverage.
 3. Ball joints, where designated on the drawings and/or as specified, shall be installed in strict accordance with the manufacturer's instructions. Where ball joint assemblies occur at the face of structures or tanks, the socket end shall be at the structure or tank and the ball end assembled to the socket.
 4. Flanged joints shall be in accordance with ANSI Specifications A21.15 including its Appendix "A" and the instructions of the manufacturer. Flanged joints shall be fitted so that the contact faces bear uniformly on the gasket and then are made up with relatively uniform bolt stress.
- E. All valves, hydrants, fittings, and other appurtenances needed upon the pipe lines shall be set and jointed as indicated on the Drawings or as required by the manufacturer.

- F. Unless otherwise noted, underground piping shall be push-on or mechanical joint with restraints as needed and above ground piping shall be flanged.
- G. Deflected bell pipe if shown on the Drawings is shown only as an assistance in illustrating a preferred means of installation in specific locations, and is not intended to indicate all deflected bell pipe necessary to effect the installation as shown in plan and profile views. The cost of all such deflections shall be included within the bid price for furnishing and installing the pipe.

3.5 PLASTIC PIPE:

Plastic piping shall be snaked along the trench to provide for expansion and contraction. Gravity systems shall be installed in accordance with ASTM D2321-89 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications. The pipe shall be backfilled with selected fine excavated material as shown on the Drawings and thoroughly compacted to one foot above the top of the pipe and backfilled as specified in Section 02223.

3.6 STEEL PIPE

- A. Steel pipe shall be installed in accordance with the manufacturer's recommendations. Bedding and backfilling of steel pipe shall be the same as specified for ductile iron pipe and as shown on the Drawings.
- B. The outside surface of buried steel piping shall be shop primed and coated with coal-tar epoxy applied in two applications after proper preparation. Each coat shall be 8 mils (minimum) dry thickness (16 mils dry film total thickness). The interior shall be cement lined as specified. Exterior above grade steel pipe shall be painted as specified in Section 09900.
- C. All field welding, if required, shall be in accordance with the American Welding Society Standards. The strength of the field weld shall develop the strength of the pipe. Welds shall receive a field coating of coal tar epoxy or bitumastic as specified herein, and as approved by the Engineer.

3.7 STAINLESS STEEL PIPE

- A. Stainless steel pipe shall be installed in accordance with the manufacturer's recommendations. Bedding and backfilling of stainless steel pipe shall be the same as specified for ductile iron pipe and as shown on the Drawings.
- B. No field welding of stainless steel pipe will be allowed unless by certified welder and stress relieved.
- C. Buried stainless steel piping shall be jointed using Dresser Style 38 couplings, or equal.

3.8 COPPER PIPE

- A. Copper piping shall be installed in accordance with the manufacturer's recommendations. Copper piping shall be bedded in 6-inches of sand and then backfilled as specified in Section 02223.

3.9 PIPE SUPPORTS AND RESTRAINED JOINTS:

- A. Supports:

1. All piping shall be properly and adequately supported. Hangers, supports, base elbows and tees, and concrete piers and pads shall be provided as indicated on the Drawings. Exposed piping shall be supported by hangers wherever the structure is suitable and adequate to carry the superimposed load. The Engineer shall determine if the structure is adequate. Supports shall be placed approximately 8-feet on centers and at each fitting.
2. Hangers shall be heavy malleable iron of the adjustable swivel type, split ring type, or the adjustable-swivel, pipe-roll type for horizontal piping and adjustable, wrought iron, clamp type for vertical piping. Flat-steel strap or chain hangers are not acceptable unless indicated on the Drawings.
3. Hangers shall be attached to the structure, where possible, by beam clamps and approved concrete inserts set in the forms before concrete is poured. Where this method is impractical, anchor bolts with expanding lead shields, Rawl Drives, or other approved means, shall be used. No lag screws or malleable iron expansion shields will be permitted.
4. Where hangers cannot be used, the Contractor shall provide pipe saddle supports with pipe column and floor flange. Pipe supports shall be as manufactured by Grinnell or approved equal.

- B. Bearing area of thrust blocks shall prevent any movement of the fitting and shall be of the size and dimensions shown on the Drawings.

- C. Thrust blocking (except as specified on drawings) is strictly forbidden. Restrained push-on or mechanical joints shall be used as specified in the Plans and herein.

3.10 MANHOLE:

- A. Unless otherwise noted on the Drawings, manholes shall be constructed of precast reinforced concrete sections. Each manhole shall have a concrete base section or tee section, barrel section, and an eccentric cone top or flat slab top, all as required. Manholes shall be built without steps. Except as specified herein or shown on the Drawings, precast manholes shall comply with ASTM Designation C47B. Manholes are classified as either Standard Manholes or Standard Shallow Manholes. The maximum depths permitted for Standard Shallow Manhole and the locations are to

be used shall be as shown on the Drawings. Manhole barrel and base sections shall be constructed with preformed openings properly located for making sewer line connections. The diameter of such openings shall not be more than two inches (2") inches larger than the outside diameter of the pipe or pipe bell to be connected. The distance between the crown of such openings and the shoulder of the barrel joint shall be six inches (6") minimum.

- B. Base sections for standard and shallow manholes shall consist of a circular slab base with a minimum thickness of eight inches (8") and shall be reinforced as shown on the Drawings. The base slab may extend beyond the outside diameter of the barrel section, providing the extension is equal at all points on the circumference of the slab.
- C. Barrel Sections:
 - 1. Barrel sections for standard deep type manholes shall have an inside diameter of 48 inches and a minimum wall thickness of eight inches (8"). A single line of circumferential reinforcement shall be placed not less than five inches (5") from the inside face of the wall. The bottom section of manhole barrel shall be integrally precast with the manhole base section. Top sections for standard manholes shall be eccentric cones as shown on the Drawings, three feet (3') in height with a minimum wall thickness of eight inches (8"). Barrel sections for standard shallow manholes on sewers ten inches (10") through 24 inches in diameter shall comply in all respects to the specifications for barrel sections on standard manholes. Top sections for standard shallow type manholes shall be flat circular slabs with a minimum thickness of ten and one-half inches (10-1/2") and a 25-1/4 inch diameter eccentric, circular opening. Top sections shall be reinforced as shown on the Drawings. Standard drop manholes shall comply with all applicable sections of the Specifications for the standard deep type manholes and shall conform to the details as shown on the Drawings.
 - 2. The use of a reasonable number of bats, originating on the work, not smaller than half bricks, will be allowed in brickwork of manholes, provided all interstices are thoroughly filled with mortar.
 - 3. No masonry shall be laid (nor plastering done) when the temperature of the outside air is below 40° F unless suitable means approved by the Engineer, in writing, are provided to heat the masonry materials and protect the completed work from freezing. Protection shall consist of heating masonry materials to at least 70° F and maintaining an air temperature above 40° F. on both sides of the masonry for a period of at least 48 hours. No anti-freeze ingredient shall be used.
 - 4. Inverts shall be formed of concrete to details as shown on the Drawings and shall be smooth and accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer section. Where directed by the Engineer,

invert channels and manhole bottoms shall be shaped and smoothed with mortar evenly. Changes in the direction of the sewer and entering branches shall have a true curve of as large a radius as the size of the manhole will permit. Steep slopes outside the invert channels shall be avoided.

5. Space outside the manholes shall be backfilled with acceptable materials in uniform layers not exceeding six (6) inches in depth. Each layer shall be thoroughly compacted mechanically to 95% density (Standard Proctor) of the earth in the adjacent banks.
 6. Manholes shall, in all cases, be fully and completely built and fitted with their frames and covers as the work progresses.
 7. The outside of all brick masonry walls for manholes shall be neatly plastered and trowelled with portland cement mortar, one-half (1/2) inch thick.
 8. Cast iron frames and covers shall be furnished and installed by the Contractor, with the frames set in a bed of mortar. Frames and covers shall meet the requirements of this Section.
- D. Bedding under the base slab shall not be less than six (6) inches of thoroughly compacted limestone screenings. Limestone screenings used for bedding beneath precast manhole bases shall be placed in uniform layers not greater than six (6) inches in loose thickness and thoroughly compacted in place with suitable mechanical or pneumatic tools to a 2A-49 dry density of not less than 100 percent of the maximum dry density as determined by AASHTO Designation T-99.
- E. Watertight Manholes:
1. Where required and specified on the Drawings, watertight manholes shall be constructed. These manholes shall be the same as the standard brick or precast concrete manholes except that a watertight cast iron casting and cover shall be used in lieu of the standard casting and cover.
 2. The watertight cast iron frame and cover shall be similar and approved equal to Neenah Foundry Company, Neenah, Wisconsin, Catalog No. R-1916-D. with "O" ring gasket seal and a minimum of four (4) stainless steel lid bolts. There shall be provided four (4) anchor bolts and bolt holes in the frame casting to bolt the frame to the manhole structure.
- F. Pipe stubs for all structure and manhole connections shall not exceed 2 feet in length.

3.11 RESTRAINED JOINTS:

- A. Sections of piping designated on the Drawings as having restrained joints or those requiring restrained joints shall be constructed using pipe and fittings with restrained

- "Locked-type" joints and the joints shall be capable of holding against withdrawal for line pressures 50 percent above the normal working pressure but not less than 50 psi. The pipe and fittings shall be as shown for restrained push-on joints or restrained mechanical joints in the Handbook of Cast Iron Pipe, latest edition, except that mechanical joint ductile iron pipe retainer glands will not be permitted.
- B. Restrained pipe joints that achieve restraint by incorporating cut out sections in the wall of the pipe shall have a minimum wall thickness at the point of cut out that corresponds with the minimum specified wall thickness for the rest of the pipe.
 - C. The minimum number of restrained joints required for resisting forces at fittings and changes in direction of pipe shall be determined from the length of restrained pipe on each side of fittings and changes in direction necessary to develop adequate resisting friction with the soil. The required lengths of restrained joint pipe shall be determined by calculations based on the method outlined in "Thrust Restraint Design for Ductile Iron Pipe" latest Edition.
 - D. Bolts and nuts for restrained joints shall be corten, low alloy, high strength steel.
 - E. The Contractor shall also provide restrained joints in accordance with the above criteria wherever thrust blocks are not used in conjunction with below ground fittings on line 6 inches in diameter or less and as approved by the Engineer.

3.12 TESTING OF SEWERS AND STORM DRAINS:

- A. Leakage tests by exfiltration shall be after backfilling. The length of the pipe to be tested shall be such that the head over the crown of the upstream end is not less than 2 feet and the head over the downstream crown is not more than 6 feet. The pipe shall be plugged by pneumatic bags or mechanical plugs in such a manner that the air can be released from the pipe while it is being filled with water. The test shall be continued for one hour and provisions shall be made for measuring the amount of water required to maintain the water at a constant level during this period.
- B. If any joint shows an appreciable amount of leakage, the jointing material shall be removed and the joint remade. If any pipe is defective, it shall be removed and replaced. If the quantity of water required to maintain a constant level in the pipe for one hour does not exceed 50 gallons per inch of diameter per day per mile of pipe and all the leakage is not confined to a few joints, the workmanship shall be considered satisfactory. If the amount of leakage indicates defective joints or broken pipes, they shall be corrected by the Contractor.
- C. If an inspection of the complete pipe line or any part thereof shows pipes, or joints which allow the infiltration of water in a noticeable stream or jet, the defective work or material shall be replaced or repaired as directed by the Engineer.
- D. Rates of infiltration shall be determined by means of V-Notch weirs, pipe spigot or by plugs in the end of the pipe to be provided and installed by the Contractor in an

approved manner and at such times and locations as may be directed by the Engineer.

- E. The Contractor must submit his plan for testing to the Engineer for review at least ten (10) days before starting the test. The Contractor shall remove and dispose of all blocking material and equipment after completion and acceptance of the field hydrostatic test, unless otherwise directed by the Engineer. Any damage to the pipe coating shall be repaired by the Contractor. Lines shall be totally free and clean prior to final acceptance by the Owner and the Engineer.

3.13 PRESSURE AND LEAKAGE TESTS OF UNDERGROUND PVC AND DIP PIPING:

- A. Hydrostatic pressure and leakage tests shall conform with Section 5 of AWWA C600 Specification for DIP and Section 7 of AWWA C605 Specification for PVC with the exception that the Contractor shall furnish all gauges, meters, pressure pumps and other equipment needed to test the line.
- B. The pressure required for the field hydrostatic pressure test shall be 50 percent above the normal working pressure but not less than 100 psi. The Contractor shall provide temporary plugs and blocking necessary to maintain the required test pressure. Corporation cocks at least 3/4-inches in diameter, pipe riser and angle globe valves shall be provided at each dead-end in order to bleed air from the line. Duration of pressure test shall be at least 24 hours. The cost of these items shall be the responsibility of the Contractor.
- C. The leakage test shall be a separate test at the maximum operating pressure as determined by the Engineer following the pressure test and shall not be of less than 2 hours duration. All leaks evident at the surface shall be repaired and leakage eliminated regardless of total leakage as shown by test. Lines which fail to meet tests shall be repaired and retested as necessary to comply with test requirements. Defective materials, pipes, valves, and accessories shall be removed and replaced. The pipe lines shall be tested in such sections as may be directed by the Engineer by shutting valves or installing temporary plugs as required. The line shall be filled with water and all air removed and the test pressure shall be maintained in the pipe for the entire test period by means of a force pump to be furnished by the Contractor. Accurate means shall be provided for measuring the water required to maintain this pressure. The amount of water required is a measure of the leakage.
- D. The amount of leakage permitted shall be in accordance with AWWA C600 and AWWA C605 Standards for all pressure. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

$$\frac{LD(P^{0.5})}{Q} = 148,000$$

In which Q is the allowable leakage in gallons per hour; L is the Length of pipe tested, in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge.

- E. The Contractor must submit his plan for testing to the Engineer for review at least ten (10) days before starting the test. The Contractor shall remove and adequately dispose of all blocking material and equipment after completion and acceptance of the field hydrostatic test, unless otherwise directed by the Engineer. Any damage to the pipe coating shall be repaired by the Contractor. Lines shall be totally free and clean prior to final acceptance by the Owner and the Engineer.

3.14 PRESSURE AND LEAKAGE TESTS OF UNDERGROUND HDPE PRESSURE PIPING:

A. Expansion Test:

1. The initial pressure test can be conducted before or after the line is backfilled. However, it is advisable to cover the pipe at intervals or particularly at curves to hold the pipe in place during pressure test. Flanged connections may be left exposed for visual leak inspection.
2. Test pressure should not exceed 1.5 times the rated operating pressure of the pipe or the lowest rated component in the system (150 psi min).
3. The initial pressure test shall be applied and allowed to stand without make up pressure for a sufficient time to allow for diametric expansion or pipe stretching to stabilize. This usually occurs within 2 to 3 hours. After this equilibrium period, the test section can be returned to the 1.5 times operating pressure, the pump turned off, and a final test pressure held for 1 to 2 hours.
4. Pressure drop will not only occur due to pressure expansion, but also due to fluctuations in temperature during the test. As the temperature increases, the gauge pressure will decrease. Allowable amounts of make up water for expansion during pressure tests shown in manufacturer's chart (see Part 6 below), taken from PPI technical report TR 31/9-79. If there are not visual leaks or significant pressure drops during the final test period, the pipeline passes the test.
5. Under no circumstances shall the total time under test exceed 3 hours at 1-1/2 times the pressure rating. If the test is not completed because of leakage, equipment failure, or other reason, the test section shall be permitted to 'relax' for eight (8) hours before the next testing sequence.

6. Allowance for expansion under test pressure*.

Allowance for Expansion
(U.S. Gallons / 100 Feet of Pipe)

Nominal Pipe Size (Inches)	1 Hour Test	2 Hour Test	3 Hour Test
3	0.10	0.15	0.25
4	0.13	0.25	0.40
6	0.30	0.60	0.90
8	0.50	1.0	1.5
10	0.75	1.30	2.10
11	1.0	2.0	3.0
12	1.1	2.3	3.4
14	1.4	2.8	3.2
16	1.7	3.3	5.0
18	2.2	4.3	6.5
20	2.8	5.5	8.0
22	3.5	7.0	10.5
24	4.5	8.8	13.3
28	5.5	11.1	16.8
32	7.0	14.3	21.5
36	9.0	18.0	27.0
40	11.0	22.0	33.0
48	15.0	27.0	43.0

*These allowances only apply to the test period and not in the initial expansion phase.

B. Leak Test:

1. The leakage test shall be a separate test at the maximum operating pressure as determined by the Engineer following the pressure test and shall not be of less than 2 hours duration. All leaks evident at the surface shall be repaired and leakage eliminated regardless of total leakage as shown by test. Lines which fail to meet tests shall be repaired and retested as necessary to comply with test requirements. Defective materials, pipes, valves, and accessories shall be removed and replaced. The pipe lines shall be tested in such sections as may be directed by the Engineer by shutting valves or

installing temporary plugs as required. The line shall be filled with water and all air removed and the test pressure shall be maintained in the pipe for the entire test period by means of a force pump to be furnished by the Contractor. Accurate means shall be provided for measuring the water required to maintain this pressure. The amount of water required is a measure of the leakage.

2. No pipe installation shall be accepted if the leakage is greater than that determined by the following formula:

$$\frac{SD(P^{0.5})}{Q} = 148,000$$

In which Q is the allowable leakage in gallons per hour; S is the equivalent Length of pipe tested ($S = 20 \times J$, J = number of mechanical joints) in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge.

3. The Contractor must submit his plan for testing to the Engineer for review at least ten (10) days before starting the test. The Contractor shall remove and adequately dispose of all blocking material and equipment after completion and acceptance of the field hydrostatic test, unless otherwise directed by the Engineer. Any damage to the pipe coating shall be repaired by the Contractor. Lines shall be totally free and clean prior to final acceptance by the Owner and the Engineer.

3.15 TELEVISION INSPECTION OF GRAVITY SEWER LINES:

- A. All new sewers shall be inspected after installation by means of closed circuit television. Video taping equipment shall have a running footage indication for aiding in locating all wyes, defects, etc., which is displayed and permanently recorded on the video tape of the section being filmed. The complete system shall be permanently recorded using video tape. Immediately upon completion of the filming, the finished video tapes shall be turned over the Engineer in cassette style (VHS Format). A written approval for any deviation from this procedure must be obtained from the Owner or Engineer by the Contractor. An adjustment in contract price shall be required for this change. Wyes and laterals shall be in place prior to the television inspection. This work will be done under the direction and observation of the Owner and/or Engineer.
- B. The television inspection shall be completed prior to the final acceptance of the sewer section and use by the public. The standard retainage (10%) shall not be reduced for these sewer sections where the television inspection has not be satisfactorily completed.

- C. Any defect in the sewer construction, discovered during the television inspection, such as poor grade, cracked or leaking pipe sections, or excessive amounts of debris, shall be corrected by the Contractor immediately. Section with defects will have to be monitored again after the repairs are made at no additional cost to the Owner(s).

3.16 CLEANING OF SEWERS AND STORM DRAINS:

At conclusion of the work, the Contractor shall thoroughly clean the new pipe line by flushing with water or other means to remove all dirt, stones, and pieces of wood or other material which may have entered during the construction period. If, after this cleaning, obstructions remain, they shall be removed and cleaned, and this is the responsibility of the Contractor.

3.17 CLEANING PRESSURIZED PIPING SYSTEMS

- A. General: All pressure systems shall be cleaned in accordance with this section to ensure system performance integrity.
- B. Final Cleaning: Prior to final inspection and acceptance of any system by Owner, Contractor shall clean all parts of the system. Cleaning and flushing shall remove all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the system. The cleaning procedure shall be conducted in multiple _pigging_ operations of the system. Between successive operations, the pig diameter shall increase and the pig material shall stiffen. The cleaning procedures shall conform to the poly pig manufacturer's recommendations and shall continue until clear water is realized from the cleaned system.
 - 1. Clean water shall be used to propel the poly pig. Care shall be taken to protect fire hoses and other equipment used in the cleaning process. Contractor shall dispose of water discharged at the retrieval point to avoid flooding, washouts and other nuisance problems that may occur. This procedure will be repeated as often as necessary to thoroughly clean all sand and debris from the water main.
 - 2. Upon Owners final inspection of the pressure systems, if any foreign matter is still present in the system, Contractor shall clean the sections and portions of the system as required.
 - 3. All taps, fittings, and appurtenances required for cleaning and flushing purposes, and for temporary or permanent release of air shall be provided for by Contractor as a part of the construction of systems and shall be so indicated on the record drawings. After cleaning all such taps, fittings, and appurtenances shall be sealed to the satisfaction of Owner.
- C. Poly Pigs: Pigs shall be blown elastomer polyurethane with open cell-type construction having a material density suitable for use within the system to be

cleaned. Pigs shall have a parabolic nose, crisscross coated with a resilient peripheral surface that engages the inner cylindrical wall of the pipe to maintain a sliding seal. When in use, the pig must be able to undergo a reduction to a minimum of sixty-five percent (65%) of the original cross-sectional area and return to shape while maintaining the sliding seal and ability to clean. Pigs shall be bi-directional and have the ability to negotiate fittings, valves, and other appurtenances. The pig cover material shall be such that it effectively scours and cleans the inside of the pipe without damage to the pipe liner or wall. Poly pigs shall be as manufactured by Knapp Poly Pig, Houston, Texas, or equivalent.

- D. Poly Pig Electronic Detector: Contractor shall maintain on-site for the duration of the pigging operation ready and available an electronic poly pig detector with the appropriately sized cavity poly pig 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 to find lost valves and other disparities within the system.
- E. Launching and Retrieval Stations: Launching and retrieval stations shall be fabricated, designed, and manufactured in accordance with ANSI standards and capable of withstanding working pressures to 150 psig. Launching and receiving tubes shall be fabricated of steel pipe sized one diameter larger than the system to which it will be attached with a minimum length of 2.5 times the diameter. For stations 12 inches or smaller in diameter, steel wall thickness shall be a minimum of 5/16". For stations larger than 12 inches, steel wall thickness shall be a minimum of 3/8".
- F. Method: The cleaning of the piping system shall be accomplished by the controlled pressurized passage through the system of a series of hydraulic or pneumatic polyurethane plugs of varying dimensions, coatings, and densities of poly pigs.
 - 1. The dimensions, coatings, and densities of these poly pigs shall be determined by:
 - a. characteristics of the system to be cleaned;
 - b. recommendation of ENGINEER;
 - c. recommendation of the poly pig manufacturer.
 - 2. A series of predetermined poly pigs shall be launched into the system at the beginning of the system. The launching station shall take the form of a size-on-size tee installed on the main.
 - 3. The poly pigs shall be launched into the system by the use of a pig launching station. This launching station shall allow the following:

- a. introduction of pigs into system providing means to induce flow from an external source, independent of the flows and pressure immediately available from the system, on the back of the pig to develop sufficient pressure to force the pig through the system;
 - b. means to control and regulate this flow;
 - c. means to monitor the flows and pressure introduced into the system;
 - d. means to connect to and subsequently be disconnected from the system without any mechanical disruption of the operation ability of system.
4. The poly pigs shall be discharged or retrieved from the end of the system. The retrieval station shall take the form of a size-on-size tee installed on the main.
5. The retrieval station shall trap poly pigs but will allow for the passage or discharge of flow used for propelling the pig through the system. The retrieval station will allow for:
 - a. discharge of poly pigs from system by providing means to control the flow at this point so the pig must enter the trap;
 - b. means to control and regulate flow;
 - c. means to monitor flows and pressures in the system at this point;
 - d. means to connect to and subsequently disconnect from the system without any mechanical disruption of the operational ability of the system.
6. Contractor shall maintain or provide during the entire pigging operation:
 - a. constant surveillance of system and immediately report to Owner any deviation from established pigging procedures, any in-line problems or malfunctions encountered or discovered by passage of pigs through the system;
 - b. record of pigs, pig sizes, pig styles, pig material, pig manufacturer, and other pertinent information about the pigging operation and system.
7. Contractor must demonstrate to the satisfaction of Owner that the work will be performed by an experienced and knowledgeable superintendent and personnel who have properly, safely, and effectively cleaned comparable systems in similar applications. The personnel shall be required to provide

acceptable procedures, prior to initiation of work, that will clearly illustrate they are capable and have the means on hand to resolve potential or real problems that may occur in conjunction with pigging of the system. Contractor shall provide evidence of qualification by providing copies of his/her state license or certification to perform such work as described herein.

3.18 DISINFECTING POTABLE WATER PIPELINES

- A. All potable water lines shall be disinfected in accordance with section 02675.

3.19 CERTIFICATION OF COMPLETION:

- A. Upon completion of the covering operation over the piping system, the Contractor shall certify the following to the Owner:
 - 1. The piping system has been constructed in accordance with the approved project plans and specifications.
 - 2. The piping system has not been damaged during construction or the backfilling operation.

END OF SECTION

SECTION 02640**VALVES AND APPURTENANCES****PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Furnishing all labor, materials, equipment and incidentals required to acceptably install, complete and ready for operation, all valves and appurtenances as shown on the Drawings and specified herein.
- B. All valves and appurtenances shall be of the size shown on the Drawings and as far as possible all equipment of the same type shall be from one manufacturer.
- C. All of the types of valves and appurtenances shall be products of well established reputable firms who are fully experienced, reputable 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, manufacturer's recommendations, and shall comply with these Specifications as applicable.

PART 2 PRODUCTS**2.1 GENERAL VALVE REQUIREMENTS**

- A. All valves shall be manufacturer's standard, of the design which the manufacturer recommends for the service intended. Each valve shall bear the maker's name or trademark or reference symbol to indicate the service condition for which it is guaranteed. All valves for use with copper tubing shall have solder type connections.
- B. All screw-end valves shall be threaded according to the American Standard for Pipe Threads No. B2.1. Flange-end valves shall have connecting-end flanges in accordance with the B 16.1 Class, 125 Series of the American Standards Association for type valves covered in the Standard, and in accordance with the Manufacturer's Standardization Society Standard Practice for bronze valves corresponding to the maximum pressure and service for which the valve is to be used. Mechanical joints and slip-on joints shall be as described in the above Specification for cast iron or ductile iron pipe joints.

2.2 GATE VALVES:

- A. All gate valves three inches (3") through 48 inches shall conform to the requirements of AWWA Specification C-500. Sizes smaller than three inches (3") shall meet Federal Specification WW-V-54, Class "A", 150 pounds. Gate valves shall be as manufactured by Mueller (resilient rubber seat wedge gate valves, four inches (4") through 12 inches, Series A-2360-20), Clow Corporation, American Flow Control or approved equal.

- B. All valve bodies three inches (3") through 48 inches shall be constructed of cast iron or ductile iron and sizes smaller than three inches (3") shall be constructed of bronze. They shall be of the outside screw and yoke type for above-ground service and non-rising stem type for below ground service. OS and Y valves shall have a hand wheel, and NRS valves shall have an operating nut. They shall have clear waterway openings of the full nominal diameter of the valve and shall be opened by turning to the left. The valves shall have the type of ends or joints to fit the pipe for which they are to be used. The operating nut or wheel shall have cast thereon an arrow indicating the direction of opening. Each valve shall have the maker's initials, pressure rating, and year of manufacture cast on the body. Unless otherwise shown or specified, all gate valves shall be for a minimum water working pressure of 150 psi. Prior to shipment from the factory, each valve shall be tested under hydraulic pressure of at least twice the working pressure.
- C. Gate valves shall be operated by nut in underground service and by a handwheel in above ground service unless otherwise shown on the Drawings. Valve boxes or extensions with stem guides shall be furnished where specified or shown on the Drawings. The unsupported length of extension stems shall not exceed six feet (6').

2.3 RESILIENT SEAT AND WEDGE GATE VALVES

- A. Wedge type gate valves 2"-48" shall be rated for 200 psig. cold water working pressure. Wedge type valves shall be manufactured by American Flow Control, Mueller, Clow, or similar approved equal. All ferrous components shall be ductile iron, ASTM A536. Valves 3"-36" shall be in full compliance with AWWA C515. The words "D.I." or "Ductile Iron" shall be cast on the valve. The wedge shall be ductile iron encapsulated with EPDM rubber. The wedge shall be symmetrical and seal equally well with flow in either direction.
- B. The gate valve stem and wedge nut shall be copper alloy in accordance with Section 4.4.5.1 of the AWWA C515 Standard. Stainless Steel stems are not acceptable. The NRS stem must have an integral thrust collar in accordance with Section 4.4.5.3 of AWWA C515 Standard. Two-piece stem collars are not acceptable. The wedge nut shall be independent of the wedge and held in place on three sides by the wedge to prevent possible misalignment. Valves shall be NSF Standard 61 certified.
- C. Bolting materials shall develop the physical strength requirements of ASTM A307 and may have either regular square or hexagonal heads with dimensions conforming to ANSI B18.2.1. Metric size socket head cap screws are not allowed. The operating nut shall be constructed of ductile iron and shall have four flats at the stem connection to ensure even input torque to the stem.
- D. All gaskets shall be pressure energized O-Ring type seals. Stem shall be sealed by three O-Rings. The top two O-Rings shall be replaceable with the valve fully open and while subject to full rated working pressure. O-Rings set in a cartridge shall not be allowed.

- E. The valve shall have thrust washers located with (1) above and (1) below the thrust collar to ensure trouble-free operation of the valve.
- F. All internal and external surfaces of the valve body and bonnet shall have a fusion-bonded-epoxy coating, complying with ANSI/AWWA C550, applied electrostatically prior to assembly.

2.4 CHECK VALVES

- A. These valves are to be used following well pumps and are to be the rubber flapper swing check type. Rubber flapper check valves shall be iron body with suitable for a working pressure of 175 psi. The body shall be long pattern design (not wafer) with integrally cast-on end flanges. The flapper shall be Buna-N having an O-ring seating edge and be internally reinforced with steel.
- B. Check valve bodies shall provide excess area through the valves to assure full delivery of line capacity.
- C. The valves shall be as manufactured by Apco Valve and Primer Corporation Series 100R or similar approved equal.

2.5 CUSHIONED CHECK VALVES

- A. These valves are to be used for high service pumping, shall be slanting disc-type, and shall be equipped with bottom-mounted buffer to cushion the piping system against undo water hammer. Cushioned slanting disk check valves shall be iron body suitable for a working pressure of 125 psi.
- B. The buffer shall be designed to contact the disc during the last 10 percent of closure and control the final closing of the valve. The rate of closure shall be externally adjustable and variable. An indicator shall be provided to show the position of the valve.
- C. The valves shall be as manufactured by Apco Valve and Primer Corporation Series 800B or similar approved equal.

2.6 BUTTERFLY VALVES

- A. For Water Service:
 - 1. All butterfly valves three inches (3") through 20 inches shall be of the tight closing, rubber-seat, butterfly type and shall conform to the requirements of AWWA Specification C-504 for Class 150 B and as further specified herein. The butterfly valves shall be of the rubber-seat type that are securely fastened to the valve body. No metal-to-metal seating surfaces shall be permitted. Valves shall be bubble-tight at rated pressures with flow in either direction, and shall be satisfactory for applications involving throttling service and/or frequent operation and for applications involving valve operation after

long periods of inactivity. Butterfly valves shall be as manufactured by Henry Pratt Company, Mueller or similar approved equal.

2. Bodies shall be constructed of close-grain, high tensile strength cast iron conforming to ASTM A-126, Class "B", with terminal flanges faced and drilled to suit ANSI B16.1 Standards. Butterfly valves of the "Wafer" or "Spool" type will not be accepted. Shafts shall be constructed of 18-8 Type 304 or Type 316 stainless steel, one-piece construction extending through the disc and bearings and be of minimum diameter for size and class as specified in AWWA Specification C-504 for Class 150 B. Shaft bearings shall be silicone impregnated bronze, self-lubricated type. An adjustable two-way thrust bearing shall be furnished to keep the valve disc centered in any position. Valve laying length may be modified to suit the design class and service conditions of AWWA C-504.
3. Disc shall be constructed of an alloy of cast iron, conforming to ASTM Designation A-126-21 B with 316 stainless steel edge, Type 1 (Ni-Resist), and shall be of the 90E closing type from the full open position to the tight shut position, with adjustable mechanical stops. Disc shall be attached on the stainless steel shaft by. Pins shall be capable of transmitting torque equal to 75 percent of shaft torsional strength.
4. Valve seats shall be of a synthetic compound. Valves shall have seats that are simultaneously molded in, vulcanized, and bonded to the body. Seat bond must withstand 75 pounds pull under test procedure ASTM D-429, Method B.
5. Valves shall be fitted with sleeve-type bearings. Bearings shall be corrosion resistant and self-lubricating. Bearing load shall not exceed one-fifth (1/5) of the compressive strength of the bearing or shaft material. Valve packing shall be self-adjusting Chevron type or similar approved equal.
6. 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.
7. All valve operators shall be manual unless otherwise shown or specified and shall have permanently lubricated, totally enclosed gearing with handwheel and gear ratio sized on the basis of actual line pressure and velocities. Operators 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 operators 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. Operators shall be fully enclosed and designed to produce the specified torque with a maximum pull of 80 pounds on the handwheel or chainwheel. Operator components shall withstand an input of 450 foot pounds at extreme operator position without

damage. Valves located above grade shall have handwheel operators, 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.

B. For Air and Gas Service:

1. All butterfly valves three inches (3") through 24 inches shall be of the tight closing, rubber seat, butterfly type and shall conform to the requirements of AWWA Specification C-504, latest revision. Valves utilized shall be specifically designed for air and gas service; valves designed for water service are not acceptable. Valves shall be bubble-tight at rated pressures with flow in either direction and shall be satisfactory for applications involving throttling service and/or frequent operation and for applications involving valve operation after long periods of inactivity. Butterfly valves for air service shall be manufactured by Keystone Valve or approved equal.
2. Bodies shall be constructed of close-grain, high tensile strength cast iron conforming to ASTM A-126, Class "B", with terminal flanges faced and drilled to suit ANSI B 16.1 Standards. Valves shall be either "Wafer" or lug design. Shafts shall be constructed of 17-4PH stainless steel and be of at least minimum diameter for size and class as specified in AWWA Specification C-504 for Class 150.
3. Disc shall be constructed of an alloy of ductile iron, conforming to ASTM Designation A-536 and shall have a disc edge of monel, Type 316 stainless steel, or nickel coated. Disc shall utilize "air-profile" design and shall be of the 90E closing type from the full open position to the tight shut position, with adjustable mechanical stops. Disc shall be attached to the stainless steel shaft by stainless steel taper pins. Pins shall be capable of transmitting torque equal to 75 percent of shaft torsional strength.
4. Valve seats shall be of an EPDM compound. Valves shall have seats mechanically retained in the valve body. Seat bond must withstand 75 pounds pull under test procedure ASTM D-429, Method B. Elastomeric thickness shall be a minimum of one-half inch (1/2") not inclusive of backing, rings, or stiffeners. Valve seats shall be field replaceable without special tools. Seats mounted on disc edge are not acceptable.
5. Valves shall be fitted with self lubricating, corrosion resistant sleeve type bearings. Valve packing shall be adjustable or self adjusting and shall be suitable for the temperature and service conditions.
6. Actuators shall be sized for air/gas service applications. Torque conditions expected after three (3) years service shall be used in sizing of actuators.
7. All valves shall be leak tested in accordance with the latest revision of AWWA C-504.

2.7 PLUG VALVES

- A. All valves shall be eccentric plug valves unless otherwise specified. Plug valves shall be similar and equal to those as manufactured by DeZurik and Pratt or approved equal.
- B. 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 125/150 pound 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.
- C. Port areas for valves 20 inches and smaller shall be at least 80 percent of full pipe area. Port areas of valves 24 inches through 60 inches shall be 100 percent of full pipe area. Port areas of 66 inches and above shall be 80 percent of full pipe area.
- D. Valve bodies shall be of ASTM A126, Class B Semi-steel. All exposed nuts, bolts, springs, washers, etc., shall be zinc plated. Resilient plug facings shall be of bycar or neoprene single piece plug or alclad coated ductile iron vane with elastomeric sealing surface of bona compound and suitable for the intended service.
- E. Valve bearings shall be of alloy metal (stainless steel or bronze with stainless steel sleeves) or shall be low friction, corrosion resistant, factory applied coating. Bearings shall be permanently lubricated and positively eliminate shaft seizure.
- F. Seats in valves three inches (3") and larger shall have a corrosion and abrasion resistant surface of high nickel alloy on all surfaces contacting the plug face or fusion bonded nylon eleven.
- G. Valve shaft seals shall be adjustable or replaceable.
- H. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16.11967. Pressure ratings shall be 175 psi for valves through 12 inches, 150 psi for valves in sizes 14 inches through 36 inches, and 125 psi for valves in sizes 42 inches through 54 inches. Valves shall be capable of providing driptight shutoff to the full valve rating with the pressure in either direction.
- I. Manual valves shall have lever or gear actuators and tee wrenches, extension stems, floorstands, etc., as indicated on the Drawings. All valves six inches (6") and larger shall be equipped with gear actuators. All gearing shall be enclosed in a semisteel housing and be suitable for running in a lubricant with seals provided on all shafts to prevent entry of dirt and water into the actuator. The actuator shaft and the quadrant shall be supported on permanently lubricated bronze bearings. Actuators shall clearly indicate valve position and an adjustable stop shall be provided to set closing torque. All exposed nuts, bolts, and washers shall be zinc plated. Valve packing adjustment shall be accessible without disassembly of the actuator.

- J. Valves and gear actuators for submerged service shall have seals on all shafts and gaskets on the valve and actuator covers to prevent entry of water. Actuator mounting brackets for buried or submerged service shall be totally enclosed and shall have gasket seals. All exposed nuts, bolts, springs, and washers shall be stainless steel.

2.8 CHAIN OPERATED VALVES

- A. Unless otherwise shown on the Drawings, all plug and gate valves installed where the center line to finished floor distance exceeds six feet (6') shall be provided with chain operated handwheels with spur gears and galvanized steel chain.

2.9 BALL VALVES

- 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., or approved equal.
- B. All valves shall be mounted in such a position that valve position indicators are plainly visible when operator is standing on the floor.

2.10 HOSE BIBBS

- A. Hose bibbs shall be Hammond Valve Corporation, Hose Bibb, Figure 2002, or approved equal. Size shall be as shown on the Drawings.

2.11 ANTI-SIPHON VACUUM BREAKERS

- A. Anti-siphon vacuum breakers shall be Watts Regulator Co., Series 288A, or approved equal.

2.12 GLOBE VALVES

- A. Globe valves for small piping shall be a standard brass globe valve, with brass disc, threaded, Crane Company No. 1, or equal. Angle globe valves shall be Crane Company No. 2, or equal. Extension stems shall be furnished where required.

2.13 SOLENOID VALVES

- A. Each solenoid valve shall be of the normally closed, packless type with full area parts, NEMA Type I enclosure, synthetic rubber diaphragm, 150 pound globe screwed type, suitable for operation on voltage service as indicated on the Drawings, and shall be similar to Standard Series Solenoid Valve as manufactured by the Johnson Corporation, ASCO, or approved equal. The body and bonnet shall be forged brass and the solenoid core shall be stainless steel.

2.14 VALVE BOXES

- A. All valve boxes shall be of cast iron and of the same make as the valves with which they are used. The thickness of the metal of the box at any point shall not be less than three-sixteenths inch (3/16"). The top section shall be adjustable for elevation. All valve boxes shall be furnished with cast iron covers. Valve boxes for all lines shall be marked for the purpose intended ("Water", "Sewage", "Reclaimed Water", etc.) on the cover.

2.15 QUARTERTURN ELECTRIC MOTOR ACTUATOR (OPEN/CLOSE SERVICE)

- A. The valve actuators are to be capable of fully opening and closing the valve under the maximum operating load. The actuator is to be self locking under normal operating conditions in order to hold the valve in an intermediate position. The actuator will be designed for indoor and outdoor service and capable of mounting in any position. The actuators should include in one integral unit the motor, power gearing, travel limit switches, torque limit switches, handwheel, terminals for motor power and controls and worm gear operator. The actuators are to be manufactured by AUMA Actuators, Inc., or approved equal.
- B. Closing Time: Actuators should be selected to open or close the valve in 30 seconds.
- C. Enclosure: The entire actuator enclosure should be water tight according to Standard NEMA All covers and entries should be sealed by means of O-rings. All conduit entries should be properly sealed to maintain the watertight housing. Terminal compartment and limit switch compartment covers will be fastened to the gear housing by stainless steel bolts which are "captured" to prevent loss when covers are removed.
- D. Housing: All gear housings and all load bearing enclosures will be cast iron. The non-load bearing enclosures and covers may be aluminum, cast iron or steel. All housings are to be adequately designed, manufactured and inspected to assure against ingress of moisture.
- E. Gearing
 - 1. All power gearing will be made of hardened steel bronze and operate in a lubricant. Gearing will be designed to withstand without failure the stall torque of the motor.
 - 2. The final drive will be of the self locking worm and wheel type to prevent creeping of the valve disc in an intermediate position.
 - 3. The drive nut will be separable from the gear assembly to facilitate rapid mounting of the operator on the valve. Drive nut will be splined to allow mounting on the valve at 90 degree intervals in order that the valve/operator combination can be mounted to minimize interface with adjacent facilities and equipment.

4. Stops will be furnished to mechanically restrict the movement of the valve disc from passing through the seat. The stops will be adjustable from 80 to 120 degrees in order that accurate seating can be achieved.
 5. All limit switch gearing and feedback potentiometer reduction gearing will be steel or bronze and adequately lubricated. All rotating shafts will be supported by anti-friction bearings.
- F. Motor
1. The drive motor should be specifically designed for actuator service and should be characterized by high starting torque, low stall torque and low inertia.
 2. The motor should be capable of starting against the rated load in either the open or close direction when voltage to the motor terminals is plus or minus 10 percent of nameplate rating.
 3. The motor should be induction type with class F-tropicalized insulation. Three thermal switches are to be imbedded in the windings - 120 degrees apart to ensure safe motor shut-down during periods of high current draw resulting in a high temperature condition.
 4. Motor will have plug and socket electrical connection to facilitate easy removal and replacement.
- G. Handwheel: A handwheel will be permanently attached for manual operation. A positive declutch mechanism will engage the handwheel when required. The handwheel will not rotate during motor operation. A fused or inoperable motor will not prevent manual operation. Motor operation will always take precedence over manual operation.
- H. Limit Switches
1. Travel limit switches will be provided to de-energize the motor control circuit when the actuator reaches the limits of travel in the open and close directions.
 2. Limit switches and the limit switch drive will be an integral part of the actuator.
 3. The limit switch drive will be of the counter gear type and "in step" with the actuator output drive at all times in either the electric or manual modes of operation.
 4. A minimum of "four" contacts two (2) normally open and two (2) normally closed will be supplied at each end of valve travel. The contacts will be of silver and rated 10 amps at 115 volts AC. All contacts are to be completely

sealed in NEMA 3R enclosures to prohibit electrical shock while adjusting, eliminate shorting out and ensure that contaminants do not foul the contacts.

5. Limit switches will be fully adjustable when power is applied to the actuator.

I. Torque

1. Torque limit switches will be provided to de-energize the motor control circuit when the valve encounters an obstruction during travel. Each actuator will have an open direction torque switch and a close direction torque switch.
2. The torque switches will be mechanically operated and settable in units of torque. Torque switches will be calibrated prior to the actuator's assembly to the valve.
3. Torque switches will be rated 10 amps at 115 volts. The contacts are to be completely sealed.

- J. Heater: An adequately sized space heater will be installed in the limit switch compartment to aid in the prevention of damage resulting from condensation.

- K. Mechanical Dial Position Indicator: A dial position indicator will be furnished to continuously indicate the position of the valve at and between the fully open and fully closed positions. The indicator will operate when the actuator is in either the electric mode or manual mode.

- L. Electrical Terminal Housing: The electrical terminals are to be housed in a compartment that is isolated from the limit switch/torque compartment. All control and motor power terminations will be to a plug and socket assembly in order that removal of the terminal compartment cover simultaneously disconnects all wiring from the actuator. A quantity of two -3/4-inch NPT conduit entries will be furnished.

M. Controls

1. Motor controls will be furnished as an integral part of the actuator. A wiring schematic will be furnished with each actuator.
2. Motor controls will consist of mechanical reversing contactors to reverse motor direction, transformer for control power, phase discriminator to protect loss of control power, phase discriminator trip to thermal switch trip. Local control will be by an "open-stop-close" control switch. Selection of operation from local or remote source will be by a padlockable "local-off-remote" selector switch. Remote signals will be accepted by the actuator through optical isolator or interposing relays.

2.16 TELESCOPING SLUDGE CONTROL VALVE

- A. There shall be furnished and installed as shown on the Drawings an 8-inch telescoping sludge control valve as manufactured by Whipps, Inc., Series 310, or approved equal.
- B. The valves shall be a complete assembly, consisting of non-rising stem, telescoping slip valve, glide pipe with V-notched top end, bails, valve stand/operator and companion flange and seal.
- C. The valve stand shall be of the non-rising stem, indicating, close-grained, cast iron type and shall be similar to Clow F-5515 or approved equal.
- D. The telescoping tube shall be of seamless drawn brass tubing equipped with bail for the fastening to the non-rising stem.
- E. The adjusting stem or rod and the adjusting nut shall be of bronze and threaded with Acme thread. The adjusting nut is to operate within a square guide tube to prevent slip pipe rotation and provide smooth operation through total valve travel.
- F. A standard companion flange bored with sufficient clearance to allow the tube to slide shall be included with the valve to be installed. Sealing means shall be provided with the companion flange so no sludge shall escape through the sliding joints.
- G. All exposed parts above and below the operating floor shall be painted in accordance with Section 09900 of these Specifications.

2.17 AIR RELEASE VALVES

- A. The air release valves for use following well pumps shall be designed to allow large quantities of air to escape out the orifice when filling a pipeline and to close water tight when the liquid enters the valve. The air/vacuum valve shall also permit large quantities of air to enter through the orifice when the pipeline is being drained to break the vacuum. The discharge orifice area shall be equal or greater than the inlet of the valve. The valve shall consist of a body, cover, baffle, float, and seat. The baffle will be designed to protect the float from direct contact of the rushing air and water to prevent the float from closing prematurely. The seat shall be fastened into the valve cover without distortion and shall be easily removed if necessary. All materials of construction shall be certified in writing to conform to A.S.T.M. specifications A126 and A240. The well pump air release valves shall be APCO Series 140/150 as manufactured by Valve & Primer Corporation, Shaumburg, IL or similar approved equal.
- B. The air release valves for use in water 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. Valves shall be provided with a vacuum check to prevent air from re-entering the line. The fittings shall be threaded. The air release valves shall be Model 200WD as

manufactured by APCO Valve and Primer Corporation, Schaumburg, Illinois; Model 45VC by Val-Matic Valve and Manufacturing Corporation, Lyons, Illinois or approved equal.

- C. Two valve air release valves for use in sewage force mains shall be provided in air release valve enclosures. One valve shall be a sewage air release valve and the other shall be a sewage air/ vacuum valve, both with stainless steel trim. Each valve shall be supplied by the same manufacturer. Valve shall be Val-matic Model No. 485/30/S by APCO or approved equal. The valves shall be as follows:
1. Sewage Air/Vacuum Valve: The valve body shall be of cast iron stainless steel Type 316. The resilient seat shall be of Buna N. The valve shall be suitable for 150 PSIG working pressure. Valve shall have standard 2-inch NPT inlets and outlet ports. Provisions shall be made for back-flushing the valve with clean water. The overall height of the valve not including the flushout attachment shall not exceed 22 inches.
 2. Sewage Air Release Valve: The valve body and cover shall be of cast iron construction, ASTM A126-B, and all internal working parts shall be of stainless steel Type 316. The venting orifice shall be 3/8-inch in diameter and the seating material shall be of Viton. The inlet opening shall be standard 2-inch NPT screwed connection. The valve shall include a flush-out feature for periodic cleaning of the internal mechanism. The overall height of the valve body shall not exceed 21 inches.

2.18 TAPPING SLEEVES AND VALVES

- A. Tapping sleeves and valves shall be furnished where required for tapping water mains and installing a branch valve under line pressures. The tapping sleeve shall be the mechanical joint type with the outlet flange meeting the requirements of ANSI Specification B 16.1 Class 125. The tapping valve shall be AWWA type with Class 125, ANSI B 16.1 inlet flange and mechanical joint outlet connection. The valves shall have the following pressure ratings: Sizes four inches (4") through 12 inches, working pressure of 200 psi and a hydrostatic test pressure of 350 psi. Sizes 14 inches through 24 inches, working pressure of 150 psi and a hydrostatic test pressure of 300 psi.

2.19 FIRE HYDRANTS

- A. Hydrants shall be American Flow Control, Mueller, Kennedy, Clow or approved equal and shall conform to the "Standard Specification for Fire Hydrants for Ordinary Water Works Service", AWWA C502, Class 150, and shall in addition meet the specific requirements and exceptions which follow:
- B. Hydrants shall be according to manufacturer's standard pattern and of standard size, and shall have one 4 – ½ inch pumper nozzle and two 2 – ½ inch hose nozzles.
- C. Hydrant inlet connections shall have mechanical joints for 6-inch ductile-iron pipe.

- D. Hydrant valve opening shall have an area at least equal to that areas of 5-1/4 inch minimum diameter circle and be obstructed only by the valve rod. Each hydrant shall be able to deliver 500 gallons per minute minimum through its two 2-1/2 inch hose nozzles when opened together with a loss of not more than 2 psi in the hydrant.
- E. Each hydrant shall be designed for installation in a trench that will provide 3 feet of cover.
- F. Hydrants shall be hydrostatically tested as specified in AWWA C502.
- G. All nozzle threads shall be American National Standard or equal.
- H. Each nozzle cap shall be provided with a Buna N rubber washer or equal.
- I. Hydrants shall be so arranged that the direction of outlets may be without the mechanism obstructing the discharge from any outlet.
- J. Hydrants must be capable of being extended without removing any operating parts.
- K. A bronze nut and check nut shall be provided to hold the main hydrant valve on its stem.
- L. Hydrants must open by turning operating nut to right (clockwise) and must be marked with an Arrow and word "Open" to indicate the direction to turn stem to open hydrant.
- M. All iron work to be set below ground, after being thoroughly cleaned, shall be painted with two coats of asphalt varnish specified in AWWA C502 and iron work to be left aboveground shall be shop painted with two coats of paint of quality and color to correspond to the present standard of the Owner.
- N. Each hydrant shall be designed such that the hydrant valve closes with line pressure preventing loss of water and consequent flooding in the event of traffic damage.
- O. Each hydrant shall be furnished with a steel chain holder, double steel hose cap chain, steel pumper cap chain, and any other hooks and/or appurtenances required for proper use.
- P. The hydrants shall be of the "Traffic" type, having a two-piece barrel with breakaway flanges or lugs and breakaway stem couplings.
- Q. Outlet shall be provided in the base or barrel for drainage.

2.20 PRESSURE RELIEF

- A. Function: The surge relief valve shall function to open when the system pressure exceeds the intensity for which the pilot is set. It shall open rapidly, and close slowly

at a predetermined rate of speed. Provision shall be made on the valve to regulate the closing speed. The valve shall be completely piped ready for installation.

- B. Description: 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, and the area on the upper surface of the piston is of a greater area than the underside of the piston.

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.

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: The valve body shall be of cast iron ASTM-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. The valve seats shall be easily renewable while no diaphragm shall be permitted within the main valve body. All controls and piping shall be of non-corrosive construction. A visual valve position indicator shall be provided for observing the valve position at any time.
- D. Figure Number: The valve shall be as manufactured by GA Industries of Mars, Pennsylvania: 6 inch size and shall be of their Fig 6700-D (globe) body.

2.21 MULTIPOINT PLUG VALVE

- A. Valves shall be of the three way non-lubricated type with an elastomer covering all seating surfaces of the tapered plug. The elastomer shall be suitable for the service intended. Flanged valves shall be manufactured in accordance with ANSI B16.1 including facing, drilling and flange thickness. Valves shall be designed for a working pressure of 175 psi.
- B. Valve bodies shall be of ASTM A-126 Class B cast iron. Plugs shall be of ASTM A-536 Grade 65-45-12 ductile iron in compliance with AWWA C-504 Section 2.2. The axial position of the plug shall be held in place by an adjustable gland. The valve shall operate without the need for lifting prior to turning the plug.
- C. Valves shall be furnished with replaceable sleeve type bearings conforming to AWWA C-504-80, Section 3.6 and AWWA C-507-73, Section 8. Bearings shall be of sintered, oil impregnated type 316 stainless steel ASTM A743 Grade CF-8M. Valve shaft seals shall be of the "U" cup type in accordance with AWWA C504-80, Section 3.7. Seals shall be self adjusting and repackable without removing the bonnet from the valve.

- D. Wrench operated valves shall be capable of being converted to worm gear or automated operation without removing the bonnet or plug from the valve. All wrench operated valves shall be equipped with a 2" square nut for use with removable levers or extended "T" handles.
- E. Worm gear operators, where required, shall be of heavy duty construction with the ductile iron quadrant supported on top and bottom by oil impregnated bronze bearings. The worm gear and shaft shall be manufactured of hardened steel and run on high efficiency roller bearings. Worm gear operators shall require single handwheel only.
- F. Plug valves shall be Millcentric Series 604 as manufactured by Milliken Valve Company of Bethlehem, Pennsylvania, or approved equal.

2.22 PRESSURE REDUCING VALVE

- A. The pressure reducing valve shall be balanced piston-operated, single seated, pilot-controlled, full-ported, designed to maintain a constant downstream pressure regardless of upstream pressure variations.
- B. The valve body shall be heavy cast iron per ASTM A126 Class B with integral ANSI Class 125 flanged or NPT connections and a removable stainless steel (bronze) seat. The piston shall be cast iron with a non-metallic wear ring, renewable resilient disc and stainless steel vee-ports for precise low flow control. The vee-ports shall be downstream of the seat to minimize the consequences of throttling. The piston assembly shall be the only moving part and there shall be no diaphragms in the main valve.
- C. The valve shall include an adjustable, direct acting spring loaded, diaphragm operated bronze pilot, closing speed control and wye-strainer, completely piped and ready for installation.
- D. The pressure reducing valve shall be as manufactured by GA industries, Inc., Mars, PA USA, or approved equal.

PART 3 EXECUTION

3.1 INSTALLATION

- A. All valves and appurtenances shall be installed in the locations shown, true to alignment and rigidly supported. Any damage to the above items shall be repaired to the satisfaction of the Engineer before they are installed.
- B. After installation, all valves and appurtenances shall be tested at least 2 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 Engineer and Owner.

- 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 in Division 15.
- 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, Inertol No. 66 Special Heavy or approved equal.
- 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 inches. 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 inches from the end, and the middle ring shall be placed on the already laid pipe end until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly into the middle ring flares. After the bolts have been inserted and all nuts have been made up fingertight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, by use of a torque wrench of the appropriate size and torque for the bolts.
- H. Pressure gauges shall not be installed until after the substantial completion date unless otherwise requested by the Owner.
- I. Air Valve Locations: After the mains have been installed the Contractor shall install the air release valves. Connection to the main shall be by a stainless steel tapping saddle, as shown on the Drawings. These connections to the main shall be in locations as determined by the Engineer as shown on Drawings. Should re-excavation of the main be necessary to install the air release valve connection, all costs for this work and subsequent backfill/restoration work shall be included in the appropriate lump sum price bid for air release valves.

- J. 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 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.

3.2 SHOP PAINTING

- A. Ferrous surfaces of valves and appurtenances shall receive a coating of rust-inhibitive primer as specified in Section 09865. All pipe connection openings shall be capped to prevent the entry of foreign matter prior to installation.

3.3 FIELD PAINTING

- A. All metal valves and appurtenances specified herein and exposed to view will be painted as part of the work in Section 09900.

3.4 INSPECTION AND TESTING

- A. Completed pipe shall be subjected to hydrostatic pressure test for 4 hours at full working pressure. All leaks shall be repaired and lines retested as approved by the Engineer. Prior to testing, the gravity pipelines shall be supported in an approved manner to prevent movement during tests.

END OF SECTION

SECTION 02822**SOLID SODDING****PART 1 GENERAL****1.1 DESCRIPTION****A. Scope of Work**

1. Furnish all labor, materials, equipment and incidentals required to prepare lawn bed and install sodding as specified.
2. Areas to receive sodded grass lawns are shown on the Drawings.

B. Related Work Described Elsewhere (Not Applicable)**C. General Design (Not Applicable)****1.2 QUALITY ASSURANCE (NOT APPLICABLE)****1.3 SUBMITTALS**

- A. Provide technical data as provided in Section 01340 for shop drawings on all materials or installation procedures required under this Section.
- B. Submit representative topsoil samples for analysis by a private laboratory to determine nutrient deficiencies and outline a proper fertilization program.
- C. Submit as provided in Section 01720 certifications required for all sodding supplied.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING (NOT APPLICABLE)**1.5 WARRANTY AND GUARANTEES (NOT APPLICABLE)****PART 2 PRODUCTS****2.1 GENERAL**

- A. Loam (topsoil) shall be fertile, natural soil, typical of the locality, free from stones, roots, sticks, peat, weeds and sod and obtained from naturally well drained areas. It shall not be excessively acid or alkaline nor contain toxic material harmful to plant growth. Topsoil stockpiled under other Sections of this Division may be used, but the Contractor shall furnish additional loam at his own expense, if required.

2.2 MATERIALS AND EQUIPMENT

A. Fertilizer

1. Fertilizer shall be a complete fertilizer, the elements of which are derived from organic sources. Fertilizer shall be a standard product complying with State and Federal fertilizer laws.
2. Percentages of nitrogen, phosphorus and potash shall be based on laboratory tests and approved by the Engineer. For the purpose of bidding, assume 6% nitrogen, 6% phosphorus and 6% potash by weight. At least 50% of the total nitrogen shall contain no less than 3% water-insoluble nitrogen.
3. Fertilizer shall be delivered to the site, mixed as specified, in the original unopened standard size bags showing weight, analysis and name of manufacturer. Containers shall bear the manufacturer's guaranteed statement of analysis, or a manufacturer's certificate of compliance covering analysis shall be furnished to the Engineer. Store fertilizer in a weatherproof place and in such a manner that it will be kept dry and its effectiveness will not be impaired.

B. Superphosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than 20 available phosphoric acid.

C. Lime shall be ground limestone.

2.3 ACCESSORIES

- A. Sod shall be Argentine Bahia of firm texture having a compacted growth and good root development as approved.
- B. Sod shall be certified to meet Florida State Plant Board specification, absolutely true to varietal type and free from weeds or objectionable vegetation, fungus, insects and disease of any kind.
- C. Before being cut and lifted the sod shall have been mowed 3 times with the final mowing not more than a week before cutting into uniform dimensions.

2.4 SPARE PARTS (NOT APPLICABLE)

2.5 QUALITY CONTROL (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PREPARATION

- A. Areas to be sodded shall be cleared of all rough grass, weeds, and debris, and ground brought to an even grade as approved.
- B. The soil shall then be thoroughly tilled to a minimum 8 inch depth.
- C. Loam shall be placed to a minimum depth of 4 inches and shall be lightly compacted.
- D. Lime shall be applied at a rate necessary to achieve a pH of 6 to 7.
- E. Superphosphate at a rate for bidding purposes of 5 pounds per 1,000 square foot and complete fertilizer at a rate for bidding purposes of 16 pounds per 1,000 square foot shall be evenly distributed over entire area and cross-disced into a depth of 4-6 inches.
- F. The areas shall then be brought to proper grade, free of sticks, stones, or other foreign matter over 1-inch in diameter or dimension. The surface shall conform to finish grade, less the thickness of sod, free of water-retaining depressions, the soil friable and of uniformly firm texture.

3.2 INSTALLATION

- A. During delivery, prior to planting, and during the planting of the lawn areas, the sod panels shall at all times be protected from excessive drying and unnecessary exposure of the roots to the sun. All sod shall be stacked during construction and planting so as not to be damaged by sweating or excessive heat or moisture.
- B. After completion of soil conditioning as specified above, sod panels shall be lain tightly together as to make a solid sodded lawn area. On mounds and other slopes, the long dimension of the sod shall be laid perpendicular to the slope and with the joints offset relative to upper and lower panels. Immediately following sod laying the lawn areas shall be rolled with a lawn roller customarily used for such purposes, and then thoroughly watered.
- C. Bring the sod edge in a neat, clean manner to the edge of all paving and shrub areas. Top dressing with approved, clean weed free sand may be required at no additional cost to the Owner if deemed necessary by the Engineer.

3.3 MAINTENANCE

- A. The Contractor shall produce a dense, well established lawn. The Contractor shall be responsible for the repair and resodding of all eroded or bare spots until project acceptance. Repair sodding shall be accomplished as in the original work except that fertilizing may be omitted. Sufficient watering shall be done by the Contractor to maintain adequate moisture for optimum development of the lawn areas. Sodded areas shall receive no less than 1.5 inches of water per week.

3.4 REPAIRS TO LAWN AREAS DISTURBED BY CONTRACTOR'S OPERATIONS

- A. Lawn areas planted under this Contract and lawn areas outside the designated areas damaged by Contractor's operations shall be repaired at once by proper sod bed preparation, fertilizing and resodding, in accordance with these Specifications.

3.5 INSPECTION AND TESTING (NOT APPLICABLE)

3.6 START-UP AND INSTRUCTION (NOT APPLICABLE)

END OF SECTION

DIVISION 15

MECHANICAL

SECTION 15150**WATER METERS****SCOPE**

SUPPLY NINE HUNDRED (900) 5/8-INCH X 3/4-INCH NEPTUNE T-10 COLD WATER METERS / DISPLACEMENT TYPE MAGNETIC DRIVE OR APPROVED EQUAL. IF MANUFACTURER OTHER THAN NEPTUNE IS PROPOSED, BIDDER MUST DEMONSTRATE COMPATIBILITY OF PROPOSED DEVICE WITH OWNER'S EXISTING NEPTUNE R-900 RF EQUIPPED HAND HELD METER READING DEVICES.

GENERAL

All cold water meters (displacement type - magnetic drive 5/8" - 2") furnished shall be produced from an ISO 9001 manufacturing facility and conform to the "Standard Specifications for Cold Water Meters" C700, latest revision issued by AWWA or as otherwise stated.

TYPE

Only magnetic-driven, positive displacement meters of the flat nutating disc type will be accepted because of enhanced low flow accuracy performance.

SIZE, CAPACITY, LENGTH

The size, capacity, and meter lengths shall be as specified in AWWA Standard C700 (latest revision). The maximum number of disc nutations is not to exceed those specified in AWWA C700 latest revision.

All meter maincases shall be made of a no-lead high copper alloy containing a minimum of 85% copper that meets the ANSI/NSF 61 standard. The serial number should be stamped between the outlet port of the maincase and the register. Maincase markings shall be cast raised and shall indicate size, model, direction of flow, and NSF 61 certification. Plastic maincases are not acceptable.

Maincases for 5/8", 3/4" and 1" meters shall be of the removable bottom cap type with the bottom cap secured by four (4) bolts on 5/8" and 3/4" sizes and six (6) bolts on the 1" size. Intermediate meter maincases shall also be made of the same lead-free brass material in sizes 1-1/2" and 2" with a cover secured to the maincase with eight (8) bolts. Meters with a frost plug, a screw-on design or no bottom cap shall not be accepted in 5/8"-1" sizes. The 5/8" meters shall have a synthetic polymer or cast iron bottom cap option.

All no-lead maincases shall be guaranteed free from manufacturing defects in workmanship and material for the life of the meter.

All meters must be adaptable to a field programmable absolute encoder register without interruption of the customer's service.

BOLTS

All maincase bolts shall be of 300 series non-magnetic stainless steel to prevent corrosion.

MEASURING CHAMBER

The measuring chamber shall be of a 2-piece snap-joint type with no fasteners allowed. The chamber shall be made of a non-hydrolyzing synthetic polymer.

The control block shall be the same material as the measuring chamber and be located on the top of the chamber. The control block shall be located after the strainer.

The measuring chamber outlet port shall be sealed to the maincase outlet port by means of an "O" ring gasket.

The flat nutating disc shall be a single piece made from non-hydrolyzing synthetic polymer and shall contain a type 316 stainless steel spindle. The nutating disc shall be equipped with a synthetic polymer thrust roller located within the disc slot. The thrust roller head shall roll on the buttressed track provided by the diaphragm.

The chamber shall be warranted for 10 years against freeze damage if the meter has been equipped with a frost proof cast iron or synthetic polymer bottom cap.

STRAINERS

All meters shall contain a removable polypropylene plastic strainer screen. The strainer shall be located near the maincase inlet port, before the measuring chamber. The strainer shall also function as the device that holds the measuring chamber in place within the maincase. Straps or other types of fasteners shall not be accepted.

PERFORMANCE

To ensure accuracy, each meter must be accompanied by a factory test tag certifying the accuracy at the flows required by AWWA C700.

All meters shall be warranted as follows:

Size	Low Flow	Low Flow New Meter	Low Flow Repaired Meter
		Accuracy	Accuracy
5/8 x 1/8 gpm @ 3/4"	95% accuracy	5 Yrs or 500 KGal	5-10 Yr or 1.5 MGal

Normal meter operating range shall be as follows:

Size	Accuracy Range ±
5/8 x 1/2 - 20 gpm 3/4"	1.5%

MANUFACTURER

Meters and meter parts shall be manufactured, assembled, and tested within the United States. Manufacturers may be required to provide proof of where and of what percentage of the meter register, chamber, and maincase is manufactured in the United States.

Manufacturers shall have a minimum of fifteen years of field and production experience with all sizes and models quoted.

Manufacturers shall provide only one model of meter, which complies with these specifications. Suppliers must have been manufacturing meters for at least 100 years.

SYSTEMS GUARANTEE

All meters shall be guaranteed upgradeable to the following Neptune systems without interruption of the customer's service:

- ProRead™ (ARB® VI) AutoDetect Absolute Encoder
- E-Coder™ (ARB VII) Solid State Absolute Encoder
- R900®
- FloSearch® II
- Tricon/E3®
- Tricon

END OF SECTION

SECTION 15151**WATER METER INTERFACE UNITS****SCOPE**

SUPPLY NINE HUNDRED (900) NEPTUNE E-CODER) R900I PIT VERSION WATER METER INTERFACE UNITS OR APPROVED EQUAL. IF MANUFACTURER OTHER THAN NEPTUNE IS PROPOSED, BIDDER MUST DEMONSTRATE COMPATIBILITY OF PROPOSED DEVICE WITH OWNER'S EXISTING NEPTUNE R-900 RF EQUIPPED HAND HELD READING DEVICES.

INTEGRATED ENCODER AND METER INTERFACE UNIT (IMIU)

These specifications cover a fully integrated self-contained solid state absolute encoder register and a radio frequency meter interface unit metering system designed to obtain simultaneous water meter registration that is guaranteed to exactly match the registration on the register odometer. The metering information shall be obtained through a fully integrated radio frequency device using a compatible data capture system. The above system shall be configured as follows:

- Solid state absolute encoder meter register – direct mounting, electro-magnetically encoded measuring element into an electronic solid state odometer. Encoder shall provide value-added flow data including leak, tamper, reverse flow detection, and 96 days of hourly usage profiling (data logging). Digital counters requiring batteries and volatile memory for consumption data are not allowed. Encoder register shall periodically display flow rate information at register.
- Fully integrated radio frequency meter interface unit providing a communication link for the transmission of information from the register.
- Data acquisition equipment with which the above components can be interrogated. Such equipment shall be configured in two types:
 - A device that captures information and displays it visually to confirm correct system installation.
 - A device that is pre-programmed with route information and is capable of storing collected data in solid-state memory. This device shall also electronically transfer the data for use by the utility billing computer.

INTEGRATED METER INTERFACE UNIT (IMIU) DESCRIPTION - GENERAL

The unit shall interrogate the solid state odometer of the absolute encoder register and transmit the meter reading and other information to a data collection reading device. The unit shall be capable of being read by a walk-by handheld computer equipped with an RF interface unit, a mobile system with a unit mounted in a vehicle, and/or a targeted fixed network data collection system. This shall allow an easy migration between the three systems without any change to devices or need to revisit the site. The absolute solid state encoder register with IMIU shall be attached to new meters, or they shall retrofit existing meters in the field via a bayonet mount on top of the meter maincase. The absolute solid state encoder register with IMIU shall be manufactured in both inside and pit models. The inside IMIU will be mounted inside without degradation of performance and the pit MIU shall have the ability to be mounted in a pit or an underground vault. The inside IMIU shall have a water resistant enclosure and a permanent antenna, while the pit IMIU enclosure shall be a roll-sealed copper can and glass lens designed to ensure a water tight seal, and offer a short whip antenna or an optional through-the-pit-lid antenna to address various applications. The IMIU battery shall be field replaceable on both the inside set and pit set designs. The IMIU shall log 96 days of hourly consumption intervals.

ENCODER DESCRIPTION - GENERAL

The self-contained solid state absolute encoder register metering system shall be designed to obtain remote simultaneous water meter registration that is guaranteed to exactly match the registration on the register odometer. The solid state absolute encoder meter register shall be a direct mounted, electromagnetically encoded measuring element in an electronic solid state odometer. The encoder shall provide value-added flow data including leak, tamper, and reverse flow detection and 96 days of data logging when communicating with a compatible RF AMR MIU. Batteries and digital counters using volatile memory are not allowed. Encoder register shall display flow rate information at register.

IMIUI PHYSICAL/MECHANICAL REQUIREMENTS**Pit Unit**

- The MIU shall be sealed in a roll-sealed copper can and glass lens to allow for submersion in a flooded pit environment.
- For pit or vault applications, the IMIUI shall be designed with a whip-type antenna for below-the-pit-lid applications.
- The device shall be designed for an optional remote antenna capable of being installed through the industry standard 1-3/4" hole in the pit lid for maximum transmission range. The meter interface unit will be capable of mounting to various thicknesses of pit lids from 1/2" to 2-1/2" and various distances from meters.
- The device shall provide a location for a tamper deterrent seal. Tampering with the device functions or connections shall not be possible without causing visible damage to the device exterior or to the seal.
- The device shall be capable of operating at temperatures of -22°F to 149°F (-30°C to +65°C) with a humidity factor of 0 to 95%.
- The battery will be protected by a hard potting material. The battery shall be easily field replaceable.
- The through-the-pit-lid antenna option shall be rigid in design to withstand traffic and shall have a dual seal connection to the IMIUI housing.
- The IMIUI device must be protected against static discharge without loss of data per IEC 801-2, issue 2.

ENCODER REGISTER UNIT**Registration**

- The solid-state absolute encoder register shall provide at least a 9-digit visual registration at the meter.
- The unit shall provide an 8-digit meter reading for transmission through the radio MIU.
- The unit shall provide a rolling 96 days of hourly consumption data upon request/activation.
- The register shall employ a visual LCD leak indicator as well as provide remote leak indication through an ASCII format to the data collection device.
- The register shall provide reverse flow detection, days of no consumption, and number of days of leak or reverse flow condition.
- Internal batteries shall not be allowed. Battery must be external to register and field replaceable.
- The manufacturer will guarantee that the reading obtained electronically matches the LCD odometer reading on the register and that the manufacturer will pay the difference at the current rate whenever a discrepancy appears.
- The register shall display flow rate information.

Mechanical Construction

- The inside set enclosure shall feature a hermetic sonic weld seal. The pit set enclosure shall be a roll-sealed glass and copper can design to protect the internal components against moisture intrusion.
- The register and IMIU shall be attached to the meter case by a bayonet attachment. Fastening screws or nuts shall not be required.
- A tamper-proof seal pin shall be used to secure the register to the maincase.
- The register shall be removable from the meter without disassembling the meter body and shall permit field installation and/or removal without taking the meter out of service.
Provision shall be made in the register for the use of seal wires to further secure the register.

Electrical Construction

- The solid state absolute encoder register shall incorporate an Application Specific Integrated Circuit (ASIC) and firmware designed to verify accurate measurement, information transmission, and data integrity.

Meter Reading Information

- The solid state absolute encoder register shall provide to the reading equipment an 8-digit meter reading.
- The solid state absolute encoder register shall provide additional value-added information remotely, such as detailed leak detection data, days of leak state, days of no consumption, and reverse flow indication. This information shall be communicated through the encoder protocol and RF IMIU to the route management software to allow the seamless integration of data into a CIS package.

OPERATIONAL SPECIFICATIONS - RF

- For reliability and meter reading integrity, the vendor shall be the sole manufacturer of the different components of the system (water meters, RF transmitter, meter reading equipment, and route management software), and provide a turnkey system offering to the utility.
- The manufacturer will guarantee that the reading obtained electronically matches the visual reading on the register when the register is interrogated by the IMIU and that the manufacturer will pay the difference at the current rates whenever a discrepancy appears. Synchronization of electronic reading and mechanical reading for any reason (battery change, register change, cut wire, register roll-over, etc.) is not acceptable.
- For ease of implementation, the system shall not require any special licensing, including licenses from the FCC. The system must, therefore, operate in the 902 MHz to 928 MHz unlicensed band.
- The system implementation shall not be delayed due to the uncertainty of Federal licensing requirements.
- The system must be expandable at any time without getting authorization from the FCC.
- No wake-up tone shall be necessary.
- To minimize the potential for RF interference from other devices, the IMIU shall transmit using the frequency-hopping, spread-spectrum technique comprised of alternating pseudo-random frequencies within the 902 MHz to 928 MHz unlicensed band.
- The IMIU shall operate within FCC Part 15 regulations for devices operating in the 902 MHz to 928 MHz unlicensed band. The output power of the devices will be governed by their conformance with these relevant FCC standards.
- Output power shall meet FCC Part 15.247 requirements.

- Power shall be supplied to the IMIU by a lithium battery. The Vendor shall warrant that any battery provided with the IMIUs by the Vendor shall be free of manufacture and design defects for a period of twenty years – the first ten (10) years from their date of shipment from factory without pro-rating, and the second ten (10) years with pro-rating, as long as the IMIU is working under the environmental and meter reading conditions specified.
- The battery life shall not be affected by ambient erroneous wake-up tones (e.g., other water, electric, or gas utilities reading and therefore sending out a wake-up tone).
- The number of reads performed must not affect the battery life.
- The unit shall be able to transmit 96 days of data logging information via the RF for collection by a handheld device upon activation.
- The batteries shall be field replaceable (the replacement shall be demonstrated) and be designed for a minimum of twenty (20) years' life expectancy. The IMIU shall not require reprogramming if the battery discharges before it is replaced.
- No IMIU programming shall be necessary for installation.
- The IMIU shall not send readings older than an hour. Sending a reading older than an hour is not acceptable, as it can lead to incorrect billing.
- The IMIU shall transmit the meter reading continuously at a predetermined transmission interval to maximize battery life.
- Each device shall have a unique pre-programmed identification number of 10 characters. ID numbers will be permanent and shall not be altered. Each device shall be labeled with the ID number in numeric and bar code form. The label shall also display FCC approval information, manufacturer's designation, and date of manufacture.
- The IMIU shall transmit the encoder meter reading and a unique IMIU ID number.
- The handheld reading equipment shall provide a test mode to verify proper operation of the IMIU by displaying the IMIU ID number and meter reading.
- The IMIU reading shall be capable of being received by either a handheld receiver, mobile receiver, or fixed network receiver without special configuration or re-manufacture.

END OF SECTION

SECTION 15152**METER BOXES AND COVERS****PART 1 - GENERAL****1.01 SECTION INCLUDES**

- A. Meter boxes and lids.
- B. Requirements for materials, properties, design, construction, dimensions, tolerances, workmanship, and appearance.

1.02 SUBMITTALS

- A. Shall be in accordance with Section 01340.

1.03 REFERENCES

- A. ASTM (American Society for Testing and Materials) Standards

1.04 OPERATING INSTRUCTIONS

Shall be in accordance with Section 01730 - Operation and Maintenance Data.

1.05 WARRANTY

The manufacturer shall warrant all equipment supplied for a period of one (1) year.

PART 2 - PRODUCTS

- 2.01 Supply 900 meter boxes and lids. The meter box shall be Southeastern Distributors, Inc. Rhino MB-16 Box (black) (Item number 176) with MB-16 Flip reader lid (Item number 173 WE-36), CDR Systems Corporation heavy duty 10 X 15 flared wall box (Part No. B02-1015-12) with cast iron meter lid (Part No. C02-1015-2C) or approved equals.

2.02 MANUFACTURERS

A. Meter Boxes and Lids shall be supplied by

1. Southeastern Distributors, Inc.
2. CDR Systems Corporation
3. Approved Equal

2.03 MATERIALS

- A. The meter box shall be Black and be manufactured using a high-density polyethylene structural foam molding process that allows a cellular foamed core surrounded by integral skins. The process should result in a high strength to weight ratio and have greater rigidity than solid parts of the same material.
- B. The box color shall be black, be designed to accommodate a $\frac{3}{4}$ " meter, be injection molded and weigh approximately 14 lbs, be designed to withstand a minimum of 16,000 lbs load test, be approximately 15"L x 10"W x 12" D and taper outward in a pyramid design, and the box shall have an anti-settling ring on the bottom.
- C. The cast iron flip reader lid shall be hinged, shall be black in color, shall have the wording "water meter" on its surface, shall have a diamond pattern for skid resistance, shall be injection molded and weigh approximately 6 pounds not including the cast iron part, shall have a molded opening to accommodate a 4 $\frac{1}{2}$ " x 8" cast iron flip reader assembly, shall be approximately 15"L x 10"W x 1 $\frac{3}{4}$ " thick, and shall be specifically designed for the supplied meter box.

2.04 DESIGN REQUIREMENTS

- A. The products shall be designed to withstand AASHTO H-20 loading in non-deliberate and incidental traffic areas.

PART 3 - EXECUTION

3.01 SHIPPING/RECEIVING

- A. Comply with applicable sections of the Contract Documents.

END OF SECTION

SECTION 15153
DUAL CHECK VALVE

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Straight cascading dual check valves.
- B. Requirements for materials, properties, design, construction, dimensions, tolerances, workmanship, and appearance.

1.02 SUBMITTALS

- A. Shall be in accordance with Section 01340.

1.03 REFERENCES

- A. AWWA Standards
- B. ASSE Standards

1.04 OPERATING INSTRUCTIONS

Shall be in accordance with Section 01730 - Operation and Maintenance Data.

1.05 WARRANTY

The manufacturer shall warrant all equipment supplied for a period of one (1) year.

PART 2 - PRODUCTS

- 2.01 Supply (900) 3/4" Valve Size Straight Cascading Dual Check Valves (in-line accessible) with meter swivel nut inlet, Ford Meter Box Company, Inc. part number HHS31-323, A.Y. McDonald Mfg. Co. Model No. 111-3JE, or approved equal.

2.02 MANUFACTURERS

A. Straight cascading dual check valves shall be supplied by:

1. Ford Meter Box Company, Inc.
2. A.Y. McDonald Mfg. Co.
3. Approved Equal

2.03 MATERIALS AND SPECIFICATIONS

- A. The valve size shall be $\frac{3}{4}$ -inch, the meter inlet size shall be $\frac{5}{8}$ " x $\frac{3}{4}$ " x $\frac{3}{4}$ ", the outlet size shall be $\frac{3}{4}$ ", the length shall be $4\text{-}\frac{3}{16}$ ", and the weight shall be approximately 1.9 lbs.
- B. Shall be designed to be accessible for quick inspections and replacement of internal working parts without removing the valve from the service line.

2.04 DESIGN REQUIREMENTS

- A. Meet or exceed all requirements of ASSE Standard #1024.
- B. All brass shall conform to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600-85-5-5-5).
- C. Conform to AWWA C700 for meter threads.
- D. Designed for a 175 PSI maximum working water pressure and a 180 Degree Fahrenheit maximum constant pressure.

PART 3 - EXECUTION

3.01 SHIPPING/RECEIVING

- A. Comply with applicable sections of the Contract Documents.

END OF SECTION

SECTION 15154**ADAPTERS****PART 1 - GENERAL****1.01 SECTION INCLUDES**

- A. ADAPTERS
- B. Requirements for materials, properties, design, construction, dimensions, tolerances, workmanship, and appearance.

1.02 SUBMITTALS

- A. Shall be in accordance with Section 01340.

1.03 REFERENCES

- A. AWWA Standards

1.04 OPERATING INSTRUCTIONS

Shall be in accordance with Section 01730 - Operation and Maintenance Data.

1.05 WARRANTY

The manufacturer shall warrant all equipment supplied for a period of one (1) year.

PART 2 - PRODUCTS

- 2.01 Supply 300 ¾-inch adapters: Telsco Model No. 704-070G (regular style, galvanized), Dresser Style 65 Model 0065-0208-003, or approved equal.

2.02 MANUFACTURERS

- A. Straight cascading dual check valves shall be supplied by:
 - 1. Telsco.
 - 2. Dresser
 - 2. Approved Equal

2.03 MATERIALS AND SPECIFICATIONS

- A. Adapters shall be for 3/4" nominal size with a pipe O.D. of 1.050" and shall have overall dimensions of 2" x 3-13/16" x 1-5/16".
- B. Adapters shall be **galvanized**.
- C. Adapters shall be made from 1020HR steel tubing, Tee and ell bodies and end nuts shall be malleable iron Grade 32510, shall have and Electro-galvanized finish .
- D. Adapters shall have a Buna-N gasket with maximum rated service temperature of 100 degrees Celsius and minimum of -25 degrees Celsius.

PART 3 - EXECUTION

3.01 SHIPPING/RECEIVING

- A. Comply with applicable sections of the Contract Documents.

END OF SECTION