INVITATION TO BID
CANAL CROSSING
PUMP STATION PROJECT
For
BRUNSWICK-GLYNN COUNTY
JOINT WATER AND SEWER COMMISSION
BRUNSWICK, GA

Issued July 1, 2015
Bids Due by 3:00 p.m., EST on July 30, 2015 to:

Mr. Todd Kline, P.E., JWSC Sr. Engineer
Joint Water and Sewer Commission
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520

For plans contact JWSC
(912) 261 – 7126 or email: eburns@bgjwsc.org
www.bgjwsc.org

Please Label Bids with Firm's Name and Address
"Sealed Bid – Canal Crossing Pump Station Project"

SECTION 00020

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DIVISION 02

DIVISION 09

DIVISION 11

BIDDING REQUIREMENTS

INVITATION FOR BIDS

Sealed bids for **CANAL CROSSING PUMP STATION PROJECT, BRUNSWICK, GEORGIA** will be received by the Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) at the JWSC's Office of the Director, 700 Gloucester Street, Suite 300, Brunswick, Georgia 31520 until ***3:00 p.m. local time, July 30, 2015*** at which time and place they will be publically opened and read aloud***.***

Plans, specifications and bidding documents are on file at the JWSC Main Office, 700 Gloucester Street, Suite 300, Brunswick, GA 31520. Copies may be obtained at the same address by contacting Elizabeth Burns at the JWSC (Phone: 912-261-7126; E-mail: eburns@bgjwsc.org) upon payment of a non-refundable **Two hundred dollars** (**$200.00)** for each set of documents requested. The documents are also available electronically (CD) free of charge.

The work to be performed under this contract consists of furnishing all labor, materials, tools, equipment and incidentals required to construct complete in place and ready to operate a new Wastewater Pumping Station and associated force main. More specifically the work includes, but is not limited to:

- Security fencing, gravel access road and related site work
- Erosion and sedimentation controls
- New precast concrete wetwell with aluminum access covers
- Pumping equipment and accessories
- Electrical work including controls and SCADA
- Discharge piping, valves, effluent flow meter,etc.
- Six (6) inch PVC forcemain with associated fittings and appurtenances

The Bidder is ***encouraged*** to examine the location of the work and inform himself fully as to the conditions present at the site. The water production facility site is secured; therefore site visits must be coordinated through the JWSC Planning and Construction Division at (912) 261-7126, attention Elizabeth Burns, at least 24 hours in advance. A ***mandatory pre-bid meeting*** will be held in the JWSC main conference room, 700 Gloucester Street, Suite 300, Brunswick, Georgia 31520 on **July 15, 2015*, at 11:00 a.m. local time*** followed by a site visit for anyone interested in attending.

A bid guarantee in an amount not less than five percent (5%) of the amount bid must accompany each bid. Acceptable forms of bid guarantees are: a bid bond, certified check or cashier's check made payable to the Brunswick-Glynn County Joint Water and Sewer Commission. Performance and Payment bonds, each in an amount equal to hundred percent (100%) of the contract amount will be required of the successful Bidder.

The Brunswick-Glynn County Joint Water and Sewer Commission provides equal opportunity for all businesses and does not discriminate against any person or business because of race, color, religion, sex, national origin, disability or veteran status. This policy ensures all segments of the business community have access to supplying the goods and services needed by the JWSC.

The JWSC reserves the right to reject any and all bids, waive technicalities and make an award in the best interest of the JWSC.

SECTION 00200

INSTRUCTIONS TO BIDDERS

1.0 Intent

It is intended that the Instructions to Bidders, General Conditions, Construction Plans and Technical Specifications shall define and describe the complete work to which they relate. Requests for clarification during the bidding period must be submitted in writing or e-mailed to the Contract Project Representative identified in Paragraph 2.0 of the General Conditions on or before ***5:00 p.m. local time July 23, 2015***. Requests for clarification received after this date will not be considered. Responses to requests for clarification will be issued by addendum to all qualified bidders (*see paragraph 3 below*) and will also be posted on the JWSC website (www.bgjwsc.org).

2.0 Work to be Done

The work to be performed under this contract consists of furnishing all labor, materials, tools, equipment and incidentals required to construct complete in place and ready to operate a new Wastewater Pumping Station and associated force main. More specifically the work includes, but is not limited to:

- Security fencing, gravel access road and related site work
- Erosion and sedimentation controls
- New precast concrete wetwell with aluminum access covers
- Pumping equipment and accessories
- Electrical work including controls and SCADA
- Discharge piping, valves, effluent flow meter,etc.
- Six (6) inch PVC forcemain with associated fittings and appurtenances

3.0 Site Examination

The Bidder is ***encouraged*** to examine the location of the work and inform himself fully as to the conditions present at the site. A ***mandatory pre-bid meeting*** will be held in the JWSC main conference room, 700 Gloucester Street, Suite 300, Brunswick, Georgia 31520 on **July 15, 2015*, at 11:00 a.m. local time*** followed by a site visit for anyone interested in attending.

4.0 Bid and Contract Security

A bid guarantee in an amount not less than five percent (5%) of the amount bid must accompany each bid. Acceptable forms of bid guarantees are: a bid bond, certified check or cashier's check made payable to the Brunswick-Glynn County Joint Water and Sewer Commission. The JWSC will return bid guarantees, other than bid bonds, to unsuccessful bidders as soon as practicable, but not sooner than the execution of a contract with the successful bidder. If for any reason whatsoever the successful Bidder withdraws from the competition after opening the bids, or refuses to execute the Contract, the Owner will proceed on the Bid Bond or deposit the certified check or cashier's check as damages for the Bidder's failure to enter into a contract for the work.

Performance and Payment bonds, each in an amount equal to one hundred percent (100%) of the contract amount will be required of the successful Bidder.

The Surety of the Bid Bond, Performance Bond, and Payment Bond shall be a surety company authorized to do business in the State of Georgia, shall be listed in the Department of the Treasury Circular 570, and shall have an underwriting limitation in excess of one hundred percent (100%) of the bid amount. The Bonds and Surety shall be subject to approval by the JWSC legal counsel.

Attorneys-in-fact who sign and seal Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their power of attorney.

5.0 Determination of Successful Bidder

The contract, if awarded, will be awarded to the lowest responsive, responsible Bidder. The determination of the Bidder's ***responsibility*** will be made by the JWSC based on whether the Bidder:

- Maintains a permanent place of business,
- Has the appropriate technical experience,
- Has adequate plant and equipment to do the work properly and expeditiously,
- Has suitable financial means to meet obligations incidental to this work, and
- Is appropriately licensed for the described work in the State of Georgia
- **Submitted the E-Verify Affidavits and Agreements with bid.**

The Bidder shall furnish, to the JWSC, all such information and data for this purpose as the JWSC may request. The JWSC reserves the right to reject any bid if the evidence submitted by, or investigation of, the Bidder fails to satisfy the JWSC that he is properly qualified to carry out the obligations of the Contract.

The determination of ***responsiveness*** will be made by the JWSC based on a consideration of whether the Bidder has submitted a complete Bid Form without irregularities, excisions, special conditions, or alternative bids for any item unless specifically requested in the Bid Form.

The JWSC reserves the right to reject any and all bids including without limitation, the right to reject any or all nonconforming, nonresponsive, unbalanced or conditional bids; the right to award each if the construction contracts (A, B and C) individually or to a single qualified Bidder; the right to waive technicalities and make and make an award in the best interest of the JWSC.

6.0 Bid Alternates

Bidders are requested to review bid alternates, if any, as outlined on the Bid Form.

7.0 Contract Time

Contract time shall consist of **one hundred eighty (180)** consecutive calendar days for the completion of work, to be computed from the date of the Notice to Proceed. Time is of the essence and is an essential element of this Agreement, and the Contractor shall pay to the JWSC, not as a penalty, but as liquidated damages, the sum of **Two Thousand Dollars ($2,000.00)** for each calendar day that he shall be in default of completing the work within the time limit named herein.

8.0 Bid Form

Bids shall be submitted on the Bid Form included. Bids shall be based upon unit or lump sum prices as indicated by the Bid Form. Where errors or omissions result in discrepancies in proposal totals, prices per unit as submitted will be binding. Final payment will be based upon completion and acceptance of the work by the JWSC.

9.0 Submission of Bids

Bidder shall submit ***an original and three (3) copies*** of its Bid in an opaque sealed envelope at the time and place indicated in the Invitation. On the outside of the envelope containing the Bid shall be noted the following:

"Sealed Bid – Canal Crossing Pump Station Project"

The outside of the envelope shall also bear the name, address and Utility Contractor's License Number of the Bidder.

All blanks in the Bid Form must be completed and written or printed in ink.

Bids by corporations must be executed in the corporate name by the president or vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested to by the secretary or an assistant secretary of the corporation. The corporate address and state of incorporation must be shown on the Bid Form.

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 on the Bid Form.

The address, telephone number, facsimile number and email address for communications regarding the Bid must be shown on the Bid Form.

All names and titles must be typed or printed in ink below the signature.

The Bid shall contain an acknowledgement of receipt of all Addenda, if any. The numbers of each Addendum must be filled in on the Bid Form.

The ***Oath, Bid Bond, Representation, Legal and Character Qualifications***, ***Affidavit, and E-Verify Affidavit and Agreement*** forms in this IFB shall be submitted with the Bid, and be executed in proper form.

IN ACCORDANCE WITH O.C.G.A. § 13-10-91, NO PROPOSAL FOR THE PHYSICAL PERFORMANCE OF SERVICES WILL BE CONSIDERED UNLESS THE BID INCLUDES A SIGNED, NOTARIZED E-VERIFY AFFIDAVIT AS SET FORTH HEREIN.

The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of the IFB, 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 understanding of all terms and conditions of performance of the Project and furnishing of the Work.

SECTION 00410

BID FORM

DATE SUBMITTED: _____

PROJECT NAME: Canal Crossing Pump Station Project
Brunswick, Georgia

SUBMITTED TO: Brunswick – Glynn County Joint
Water and Sewer Commission
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520

SUBMITTED BY:

Company Name: _____

Address: _____

_____

_____

Georgia Utility Contractor's License No. _____

Acknowledge Receipt of Addenda Numbers _____

The undersigned as BIDDER hereby declares that the only person or persons interested in the BID as principal or Principals is or are named herein and that no other person than herein mentioned has any interest in the BID or in the Contract to be entered into; that this BID is made without connection with any other person or parties making a BID, and that it is in all respects fair and in good faith without collusion or fraud.

The BIDDER declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the plans and specifications for the work and the documents relative thereto; and has read all General and Special

Conditions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The BIDDER proposes and agrees, if the BID is accepted, to contract with the Brunswick – Glynn County Joint Water and Sewer Commission to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor to complete the work in full and complete accordance with the shown, noted, described and reasonably intended requirements of the plans, specifications and contract documents to the full and entire satisfaction of the Brunswick – Glynn County Joint Water and Sewer Commission with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and contract documents for the prices set forth below.

ITEM 1 – WASTEWATER PUMPING STATION

For furnishing all labor materials and equipment (including the items of major mechanical equipment) necessary to construct a new wastewater pumping station including, but not limited to, mobilization; earthwork; concrete work; precast concrete wetwell; furnish and install new submersible pumps; furnish and install required station hardware; furnish and install new piping, effluent flow meter, valves and fittings; furnish and install new duplex control panel and SCADA system; security fencing, gravel access road and related sitework; electrical work; erosion control and grassing; demobilization; complete surface restoration and all other work and appurtenances required, the lump sum price of:

_____

_____ ($_____).

ITEM 2 – FORCE MAIN

For furnishing all labor, materials and equipment necessary to install the 6-inch PVC forcemain from the new pumping station constructed under Bid Item No. 1 above to its connection with a 6-inch forcemain to be constructed by others along Canal Road including but not limited to mobilization; clearing and grubbing; trench excavation, bedding and backfill; dewatering; PVC forcemains; ductile iron fittings; pressure testing; erosion control and grassing; complete surface restoration and all other work and appurtenances required, the following unit prices:

Item	Est. Qty.	Units	Description	Unit Price	Total Price
(2a)	1	EA	Connect to Existing PVC Forcemain	$_____	$_____
(2b)	875	LF	6-inch SDR-21 Class 200 PVC Forcemain	$_____	$_____
(2c)	6	EA	6-inch MJ 45°Bends (Sewer Safe)	$_____	$_____
(2d)	2	EA	6-inch MJ 22.5° Bends (Sewer Safe)	$_____	$_____

(2e)	12	EA	6-inch Harness Type Joint Restraints	$_____	$_____
(2f)	1	LS	Hydrostatic Pressure Testing		$_____
(2g)	1	LS	Erosion Control and Grassing		$_____

Sub-total Bid Item No. 2 (Items 2a through 2g) _____

_____($_____).

Total Bid (Items 1 and 2) _____

_____ **($_____).**

The Bidder further agrees to accomplish all work and provide all material for the lump sum price submitted, and understands that the lump sum price is subject to adjustment by either increase or decrease, only through a properly executed change order.

The Bidder further proposes and agrees to commence work under this contract, with adequate force and equipment, on a date to be specified in a written order of the Owner and shall fully complete all work hereunder within **one hundred eighty (180)** consecutive calendar days from and including said date.

The undersigned further agrees that, in case of failure on his part to execute the said Contract and Bonds within fifteen (15) consecutive calendar days after receipt of the conformed Contract Documents, the check or bid bond accompanying this Bid and the monies payable thereto, shall be paid into the funds of the Owner as liquidated damages for such failure otherwise, the check or Bid Bond accompanying this Bid shall be returned to the undersigned.

I understand that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this Invitation for Bids and certify that I am authorized to sign this Bid for the Bidder.

(Continued on Next Page)

This the _____ day of _____ 2015.

Company Name: (*Please Type or Print*)

Name: _____

Street: _____

City: _____

State: _____ Zip: _____

Fax Number: ( ) _____

E-Mail:_____

Person Authorized to Sign:

Name: _____

Signature: _____

Title: _____

Telephone Number: ( ) _____

EXPERIENCE AND REFERENCES:

The Bidder shall provide references relative to work it has done of a similar nature as solicited in this Invitation for Bids. Give references that will afford the JWSC opportunity to judge as to experience, skill, business standing and financial ability.

Project	Brief Scope of Project	Project Owner (Title)	Phone Number	Address

SECTION 00420

BID BOND

State of Georgia

City of Brunswick

County of Glynn

KNOW ALL MEN BY THESE PRESENT, that we, _____

_____, as Principal, and

_____, as Surety, are held and firmly bound

unto the Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) in the not to

exceed sum of _____ Dollars

($_____) lawful money of the United states, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assign, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the JWSC a Bid for:

CANAL CROSSING
PUMP STATION PROJECT
BRUNSWICK, GEORGIA

NOW THEREFORE, the conditions of this obligation are such that if the Bid be accepted, the Principal shall, within fifteen days (15) days after receipt of conformed Contract Documents, execute a contract in accordance with the Bid upon the terms, conditions and prices set forth therein, and in the form and manner required by the JWSC and execute a sufficient and satisfactory Performance Bond and Payment

bond payable to the JWSC, each in an amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to the JWSC, then this obligation shall be void; otherwise, it shall be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all to the foregoing requirements within the time specified above, immediately pay to the aforesaid JWSC, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. § 36-91-50 *et seq*., as amended from time to time, and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted and these are hereby made a part hereof to the same extent as if set out herein in full.

(Continued on Next Page)

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2015.

PRINCIPAL: _____

Signed and sealed in the

Presence of:

By: _____

Title: _____

1. _____

(Seal)

2. _____

SURETY: _____

Signed and sealed in the

Presence of:

By: _____

Title: _____

(Seal)

1. _____

2. _____

SECTION 00430

OATH

State of Georgia

City of Brunswick

County of Glynn

I _____ (Name of Individual) solemnly swear that in the procurement of the Contract for

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

That I or any other person associated with me or my business, corporation or partnership has prevented or attempted to prevent competition in the bidding of said project or from submitting a bid for this project by any means whatsoever.

Lastly, I swear that neither I, nor any other person associated with me or my business, Corporation or partnership has caused or induced any other bidder to withdraw his/her bid from consideration for this project. Said oath is filed in accordance with the requirements set forth in O.C.G.A. § 36-91-21 (e).

This _____ Day of _____, 2015

Name of Party: _____

Corporate or Partnership Name: _____

Sworn to and subscribed before me this _____ Day of _____, 2015

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(SEAL)

SECTION 00440

REPRESENTATION

EQUAL EMPLOYMENT OPPORTUNITY (EEO) PRACTICE:

EEO Plan: The successful Bidder will develop and implement an EEO policy that, as a minimum, will recruit, hire, train, and promote, at all levels, without regard to race, color, religion, national origin, sex, or age, except where sex or age is a bona fide occupational qualification.

EEO For Veterans/Handicapped: The successful Bidder will also provide equal employment opportunities for qualified disabled veterans, handicapped persons and veterans of the Vietnam Era.

EEO For Successful Bidder Programs: The successful Bidder, will ensure equal employment opportunity applies to all terms and conditions of employment, personnel actions, and successful Bidder-sponsored programs. Every effort shall be made to ensure that employment decisions, programs and personnel actions are non- discriminatory. That these decisions are administered on the basis of an evaluation of an employee's eligibility, performance, ability, skill and experience.

EEO Acquisitions: The successful Bidder will develop and implement a policy that will give equal opportunity to the purchase of various goods and services from small businesses and minority-owned businesses.

Does the Bidder have the above EEO policy in place?

Yes [ ] No [ ]

If the answer to a. above is no, will the Bidder have such a policy in place for the project?

Yes [ ] No [ ]

Statement of Assurance: The Bidder herein assures the JWSC that it is in compliance with Title VI & VII of the 1964 Civil Rights Act, as amended, in that it does not on the grounds of race, color, national origin, sex, age, disability, or veteran status, discriminate in any form or manner against employees or employers or applicants for employment and is in full compliance with A.D.A.

_____

(*Firm's Name*)

_____

(*Authorized Signature*)

_____/_____

(*Title*) **(*Date*)**

SECTION 00450

LEGAL AND CHARACTER QUALIFICATIONS

Convictions: Has the Bidder (including parent corporation, if applicable) or any principal ever been convicted in a criminal proceeding (felonies or misdemeanors) in which any of the following offenses were charged?

	Yes	No		Yes	No
Fraud	[ ]	[ ]	Obstruction of justice (or any other misconduct affecting public or judicial officers' performance of their official Duties	[ ]	[ ]
Embezzlement	[ ]	[ ]			
Tax Evasion	[ ]	[ ]			
Bribery	[ ]	[ ]	False/misleading advertising	[ ]	[ ]
Extortion	[ ]	[ ]	Perjury	[ ]	[ ]
Jury Tampering	[ ]	[ ]	Conspiracy to commit any of the Foregoing offenses	[ ]	[ ]
Anti-Trust Violations	[ ]	[ ]			

Civil Proceedings: Has the Bidder or any principal ever been a party, or is now a party, to a civil proceeding in which it was held liable for any of the following?

	Yes	No		Yes	No
Unfair/anti-competitive business practices	[ ]	[ ]	Violations of securities laws (state & federal)	[ ]	[ ]
Consumer fraud misrepresentation	[ ]	[ ]	False/misleading advertising	[ ]	[ ]
Violation of local government	[ ]	[ ]			

Ordinances

License Revocation: Has the Bidder or any principal ever had a business license revoked, suspended, or the renewal thereof denied, or is a party to such a proceeding that may result in same?

Yes	No
[ ]	[ ]

Responses: If yes is the response to any of the questions on the previous page, provide information such as date, court, sentence, fine, location, and all other specifics for each yes response.

SECTION 00460

AFFIDAVIT

This Bid is submitted to Brunswick-Glynn County Joint Water and Sewer Commission (JWSC) by the undersigned who is an authorized officer of the company and said company is licensed to do business in Georgia. Further, the undersigned is authorized to make these representations and certifies these representations are valid. The Bidder recognizes that all representations herein are binding on the Company and failure to adhere to any of these commitments, at the JWSC's option, may result in a revocation of the granted contract.

Consent is hereby given to the JWSC to contact any person or organization in order to make inquiries into legal, character, technical, financial, and other qualifications of the Bidder.

The Bidder understands that, at such time as the JWSC decides to review this Bid, additional information may be requested. Failure to supply any requested information within a reasonable time may result in the rejection of the Bid with no re-submittal rights.

The successful Bidder understands that the JWSC, after considering the legal, financial, technical, and character qualifications of the Bidder, as well as what in the JWSC's judgment may best serve the interest of its rate payers and employees, may grant a contract.

The successful Bidder understands that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same, and is in all respects fair and without collusion or fraud. I understand that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards.

Any contract issued will be on the basis of the Bidder's service, financial plans and arrangements being feasible and adequate to fulfill the conditions set forth in this project and the successful Bidder's response.

Company Name: _____

Authorized Person: _____ Signature: _____
(*Print/Type)*

Title: _____ Date: _____

Address: _____

Telephone: _____ Fax: _____ Email: _____

SECTION 00470

E-VERIFY CONTRACTOR AFFIDAVIT AND AGREEMENT

Georgia Security Immigration and Compliance (GSIC) Act

The Brunswick - Glynn County Joint Water and Sewer Commission and Contractor agree that compliance with the requirements of O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 of the Rules of the Georgia Department of Labor are conditions of this Agreement for the physical performance of services.

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, *stating affirmatively that the individual, firm, or corporation which is contracting with the Brunswick - Glynn County Joint Water and Sewer Commission 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], *in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91.* The undersigned Contractor also verifies that he/she/it is using and will continue to use the federal work authorization program throughout the contract period.

The undersigned Contractor agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to the contract with the Brunswick - Glynn County Joint Water and Sewer Commission, Contractor will secure from each subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees the Contractor will advise the Brunswick - Glynn County Joint Water and Sewer Commission of the hiring of a new subcontractor and will provide the Brunswick - Glynn County Joint Water and Sewer Commission with a Subcontractor Affidavit attesting to the Subcontractor's name, address, user identification number, and date of authorization to use the Federal Work Authorization Program within five (5) days of the hiring before the Subcontractor begins working on the Project. Contractor also agrees to maintain all records of such compliance for inspection by the Brunswick - Glynn County Joint Water and Sewer Commission at any time and to provide a copy of each such verification to the Brunswick - Glynn County Joint Water and Sewer Commission at the time the subcontractor(s) is retained to perform such services.

(Continued on Next Page)

_____

E-Verify Employment Eligibility Verification User I.D. Number

_____

Date of Authorization To Use Federal Work Authorization Program

_____

Name of Contractor

_____

Title of Authorized Officer or Agent of Contractor

_____

Signature and Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this the _____ day of _____, 2015.

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(NOTARY SEAL)

As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

Authority O.C.G.A. § 13-10-91. **History**. Original Rule entitled "Contractor Affidavit and Agreement" adopted F. May 25, 2007; eff. June18, 2007, as specified by the Agency.

SECTION 00480

E-VERIFY SUBCONTRACTOR AFFIDAVIT AND AGREEMENT

Georgia Security Immigration and Compliance (GSIC) Act

The Brunswick - Glynn County Joint Water and Sewer Commission and Subcontractor agree that compliance with the requirements of O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 of the Rules of the Georgia Department of Labor are conditions of this Agreement for the physical performance of services.

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, *stating affirmatively that the individual, firm, or corporation which is contracting with a Contractor contracting with the Brunswick - Glynn County Joint Water and Sewer Commission 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], *in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91.* The undersigned Subcontractor also verifies that he/she/it is using and will continue to use the federal work authorization program throughout the contract period.

The undersigned Subcontractor agrees that, should it employ or contract with any other subcontractor(s) in connection with the physical performance of services pursuant to the contract with the Brunswick - Glynn County Joint Water and Sewer Commission, Subcontractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Subcontractor further agrees the Subcontractor will advise the Brunswick - Glynn County Joint Water and Sewer Commission of the hiring of a new subcontractor and will provide the Brunswick - Glynn County Joint Water and Sewer Commission with a Subcontractor Affidavit attesting to the Subcontractor's name, address, user identification number, and date of authorization to use the Federal Work Authorization Program within five (5) days of the hiring before the Subcontractor begins working on the Project. Subcontractor also agrees to maintain all records of such compliance for inspection by the Brunswick - Glynn County Joint Water and Sewer Commission at any time and to provide a copy of each such verification to the Brunswick - Glynn County Joint Water and Sewer Commission at the time the subcontractor(s) is retained to perform such services.

(Continued on Next Page)

_____

E-Verify Employment Eligibility Verification User I.D. Number

_____

Date of Authorization To Use Federal Work Authorization Program

_____

Name of Subcontractor

_____

Title of Authorized Officer or Agent of Subcontractor

_____

Signature and Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this the _____ day of _____, 2015.

NOTARY PUBLIC:

Name: _____

My Commission Expires: _____

(NOTARY SEAL)

As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

Authority O.C.G.A. § 13-10-91. **History**. Original Rule entitled "Contractor Affidavit and Agreement" adopted F. May 25, 2007; eff. June18, 2007, as specified by the Agency.

CONTRACTING REQUIREMENTS

SECTION 00520

PART A – CONTRACT FORM
CONTRACT FOR SERVICES BY AND BETWEEN
BRUNSWICK – GLYNN COUNTY JOINT WATER AND SEWER COMMISSION
AND
(COMPANY TO BE NAMED)

This **AGREEMENT** made and entered into by and between the **BRUNSWICK – GLYNN COUNTY JOINT WATER AND SEWER COMMISSION**, a public corporation created by Local Act of the General Assembly of the State of Georgia, acting by ad through its Commissioners (hereinafter referred to as the "JWSC") and *Company to be Named*, a *State of Incorporation* licensed to do business in the State of Georgia (hereinafter referred to as the Contractor)

WITNESSETH

WHEREAS, the JWSC issued an Invitation for Bids on or about June ____, 2015 (hereinafter referred to as the "Solicitation") from qualified Contractors to provide for its

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

Hereinafter referred to as the "Project"; and

WHEREAS, the Contractor submitted a qualified bid in response to the Solicitation; and

WHEREAS, the JWSC, at a regular meeting held on _____ _____, 2015, authorized the award of the project to the Contractor; and

WHEREAS, it is the intention of the parties hereto to enter into this contract (hereinafter referred to as the "Agreement") in order to provide a statement of the respective covenants, conditions and agreements in connection with the performance of services by the Contractor to the JWSC;

NOW THEREFORE, FOR AND IN CONSIDERATION of the mutual covenants and conditions set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1.0 INDEPENDENT CONTRACTOR STATUS

In the performance of the Project services required under this Agreement, Contractor shall be an "independent contractor" with the authority and responsibility to control and direct the performance and details of the Project Work and services required under this Agreement; provided, however, JWSC shall have a right to inspect Work in progress to determine whether, in JWSC's opinion, the Project services are being performed by Contractor in accordance with the provisions of this Agreement.

ALL persons hired or used by Contractor shall be Contractor's employees and agents and Contractor shall ensure that such persons are qualified to engage in the activity and services in which they participate. Contractor shall be responsible for the accuracy, completeness and adequacy of any and all work and services performed by Contractor's employees and agents and shall ensure that all applicable licensing and operating requirements of federal, state, county and municipal governments, and all applicable accreditation and other standards of quality generally accepted in the field of Contractor activities are complied with and satisfactorily met.

Contractor expressly agrees to assume the sole and entire liability (if any liability is determined to exist) to its employees, agents and other persons for all loss, damage or injury caused by Contractor's employees and agents in the course of their employment. The mere participation in the performance of Project services under this Agreement shall not constitute nor be construed as employment with JWSC and shall not entitle Contractor or Contractor's employees, agents or subcontractors to vacation, sick leave, retirement or other benefits afforded by employees of the JWSC. Contractor shall be responsible for payment of applicable income, social security and any other federal, state, and/or local taxes and fees.

Contractor assumes sole responsibility for completion of the Project undertaken pursuant to this Agreement. The JWSC shall consider Contractor the sole point of contact with regard to contractual matters. Subcontracting of any part of the Project Work or services contemplated by this Agreement may not be entered by Contractor without prior written approval by the JWSC.

2.0 CONTRACT DOCUMENTS

This Agreement consists of this document and other documents which are incorporated herein by reference as though set forth fully herein (hereinafter referred to in this Agreement as the Contract Documents), as follows:

- JWSC's Solicitation, dated _____ , 2015 including Addendums, if any.
- Contractor's Bid dated _____ , 2015 for

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

- This Agreement which includes the following parts

Contract Form
Performance Bond
Payment Bond
Affidavit of Payment of Claims
Certificate of Insurance
Certificate of Drug Free Workplace
E-Verify Contractor Affidavit and Agreement
E-Verify Subcontractor Affidavit and Agreement

In case of any conflicts, the terms and conditions set forth in this Agreement shall control over the

terms and conditions of the documents incorporated herein by this Section 2.0 Contract Documents.

3.0 SCOPE OF WORK

Contractor agrees to provide all the skill labor, materials and equipment necessary to carry out, in good faith, the complete requirements of the Project specified as

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

in strict conformity with all sections of the Solicitation, whose program services together with the Contractor's Bid, the Invitation for Bids, Instructions to Bidders, General Conditions, Construction Plans, Standards for Water and Sewer Design and Construction, this Agreement and all addenda hereto annexed, and the Contract Documents shall form essential parts of this Agreement as if fully contained herein.

Contractor agrees to perform all Project services as contemplated herein in a manner that does not jeopardize the safety of Contractor's workers, JWSC personnel or any other person, including providing and maintaining all necessary precautions for the protection of the public. In addition, Contractor agrees to perform the Project contemplated herein in a manner that poses no threat to the environment or violates any federal, state or local statute, ordinance, rule or regulation regarding environmental concerns.

Contractor agrees to keep the rights-of-way, easement area and adjacent property free from accumulations of waste materials, rubbish and other debris resulting from the Work, and progressively as the Work is completed he shall remove all waste materials, rubbish and debris from and about the work areas and shall leave the site clean.

4.0 NOTICE TO PROCEED; LIQUATED DAMAGES

Notice to Proceed: The Contractor agrees to commence the Project included in this Agreement on a date to be specified in a written Notice to Proceed and shall fully complete the Project within a period of **one hundred eighty (180)** consecutive calendar days after the effective commencement date.

Liquidated Damages: Time is of the essence and is an essential element of this Agreement, and the Contractor shall pay to the JWSC, not as a penalty, but as liquidated damages, the sum of **Two Thousand Dollars ($2,000.00)** for each calendar day that he shall be in default of completing the work within the time limit named herein. These fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the JWSC and the Contractor due to the uncertainty and impossibility of making a determination as to the actual and consequential damages incurred by the JWSC and its rate payers as a result of the failure on the part of the Contractor to compete the Work on time. Such liquidated damages referred to herein are intended to be and are cumulative and shall be in addition to every other remedy now or hereafter enforceable at law, in equity, by statute or under this Agreement.

5.0 COMPENSATION

The JWSC agrees to pay the Contractor, in current funds, for the performance of this Agreement based on the units and lump sum pricing for the Project and listed at Exhibit "A," which sums shall also pay for all loss or damage arising out of the nature of the Project aforesaid, or in the performance of the Project and for all expenses incurred by, or in consequence of the Project, its suspension or discontinuance, and for well and faithful completion of the Project and the whole thereof, as herein provided.

The JWSC and Contractor agree that the Construction Plans, Standards for Water and Sewer Design and Construction, and all Addenda thereto together are as fully a part of the Contract as if attached or herein repeated. The Contractor, recognizing the particular requirements of the JWSC budgetary process, agrees to waive the terms of O.C.G.A. § 13-11-1 *et seq.*, known as the Georgia Prompt Pay Act. Contractor agrees that the Work and services required by this Agreement may require inspection and approval of the JWSC's engineers or consultants and that the time of repayment shall be tolled for a reasonable time as required for said inspection and approval.

Contractor further agrees to toll the time for payment herein under for an additional and reasonable period of time for the JWSC representative overseeing the Project or Work contemplated by this Agreement to approve the Work and/or services performed.

The JWSC shall have forty-five (45) days from approval by the JWSC representative in which to pay the Contractor; subject to any documentation requests by the JWSC as necessary to allow the JWSC to evaluate the completeness and accuracy of monies due.

6.0 TERM OF AGREEMENT

This Agreement shall be for a period of **one hundred eighty (180)** consecutive calendar days after the effective commencement date of the Work.

This Agreement is binding on the parties as of date last written below.

7.0 INSURANCE

Contractor shall not commence Work on the Project under this Agreement until all insurance set forth in the Solicitation, Section 7.0, Insurance (*see* General Conditions), has been obtained and such insurance certificates have been approved by the JWSC. The certificates of insurance shall indicate the JWSC as an additional named insured and that the coverages are primary and not contributory with any similar insurance purchased by the JWSC, and shall contain a provision that such coverage shall not be cancelled until at least thirty (30) days prior written notice has been given to the JWSC.

8.0 INDEMNIFICATION

To the fullest extent permitted by laws, statutes, rules and regulations, the Contractor shall indemnify and hold harmless the JWSC, its officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, damages, losses and expenses, including but not limited to all fees and charges of engineers, attorneys and other professionals and all court costs, arising out

of or resulting from the performance of the Work, but only to the extent caused in whole or in part by acts or omission of the Contractor, its officers, directors, employees, agents, and anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, costs, damage, loss or expense is caused in part by a party indemnified hereunder. In any and all claims against the JWSC or any of its agents or employees, the indemnification obligation shall not be limited in any way by the amount or type of damages. Contractor shall not indemnify JWSC, its agents or employees for their own, sole negligence.

9.0 ASSIGNMENT

Contractor shall not assign or transfer any part of or the entire Project to be performed under this Agreement, or any right accruing hereunder, without the express written consent of JWSC. The JWSC may condition any consent and approval upon such terms and provisions that JWSC may deem necessary. Further, no assignment of claims for money due or to become due to Contractor under this Agreement shall be effective unless the assignment of such claim is first approved, in writing, by the JWSC.

10.0 PROHIBITED DISCRIMINATION

Contractor shall comply with all applicable federal and state laws prohibiting discrimination against any person on the grounds of race, color, religion, sex, national origin, age, disability, veteran status or any other status protected by law, in employment or in any condition of employment with Contractor or in participation in the benefits of the Work provided by Contractor under this Agreement.

11.0 COMPLIANCE WITH ALL LAWS

Contractor shall observe and comply with the laws of the State of Georgia which require authorization or licensing to conduct business in the State. Notwithstanding statutory exemptions or exclusions, Contractor agrees to subject itself to the jurisdiction and process of the Courts of the State of Georgia as to all matters and disputes arising or to arise under this Agreement and the performance thereof, including all issues relating to liability for taxes, licenses or fees levied by the State.

12.0 REMEDIES; DISPUTE RESOLUTION

Contractor irrevocably consents that any legal action or proceeding arising out of or in any manner relating to this Agreement shall be brought in any court in Glynn County, Georgia. Contractor designates the Secretary of the State of Georgia as its agent for service of process, provided no such agent located in Georgia is on file with the said Secretary. Contractor, by the execution and delivery of this Agreement, expressly and irrevocably assents to and submits to the personal jurisdiction of any court in Glynn County, Georgia, and in any said action or proceeding. Contractor hereby expressly and irrevocably waives any claim or defense in any said action or proceeding based on any alleged lack of jurisdiction, improper venue or *forum non conveniens* or any similar basis.

A dispute between the parties arising out of or in any manner relating to this Agreement, or breach thereof, may be submitted to binding arbitration or resolved in a court of law having jurisdiction of such matters. Once a party elect's arbitration, such election is binding on both parties. An arbitrator

selected from a panel in Glynn County, Georgia, provided by the American Arbitration Association shall resolve the dispute. The cost of arbitration shall be borne equally by the parties. The arbitration decision may be appealed in accordance with State law.

No provision set forth in this Section is to have the effect to abridge the right of any party to proceed in a court of law or equity.

13.0 MODIFICATION OF AGREEMENT

No modification, alteration or amendment to the terms of this Agreement shall be effective unless written and signed by the authorized representative of all parties hereto.

14.0 WAIVER

The failure of either party at any time to enforce or require performance of any provision hereof shall in no way operate as a waiver or affect the right of such party at a later time to enforce the same. No waiver by either party of any condition or the breach of any provision contained in this Agreement, whether by conduct or otherwise, in anyone or more instances, shall be deemed to be or construed as a further or continuing waiver of any such condition or breach, or a waiver of any other condition or of any breach of any other provision contained in this Agreement.

15.0 TERMINATION OF AGREEMENT

The JWSC may, at any time upon written notice to the Contractor, terminate this Agreement for convenience, without prejudice to any right or remedy of the JWSC, in whole or as to any portion of the Project, then existing or which may thereafter accrue. If the JWSC terminates this Agreement for convenience, then JWSC's only obligation to Contractor will be for payment of compensation earned up to the date of such termination and all outstanding costs including those materials in transit and un-cancellable.

When the Contractor's services have been terminated by the JWSC, the Contractor in calculating his termination application for payment, shall develop his outstanding costs, including those materials in transit and un- cancellable with the appropriate percentage markups; subcontractors shall follow the same procedures. All costs must be substantiated by adequate back-up documentation. Any retention or payment of moneys due to the Contractor by the JWSC will not release the Contractor from liability.

The Contractor may not terminate this Agreement without the JWSC's consent except for failure of the JWSC to pay sums due to the Contractor hereunder. Prior to termination, the Contractor must give written notice to the JWSC allowing thirty (30) days to investigate and remedy any failure or breach hereof. Should the JWSC fail to remedy the failure or breach hereof within such thirty (30) days, the Contractor shall give written notice, addressed to the JWSC Executive Director, sent by certified mail, return receipt requested, of its intention to cease providing services upon a day certain after delivery of such notice.

16.0 AGREEMENT SECURITY – BONDS

A bid guarantee in an amount not less than five percent (5%) of the amount bid must accompany each

bid. Acceptable forms of bid guarantees are: a bid bond, certified check or cashier's check made payable to the Brunswick- Glynn County Joint Water and Sewer Commission. The JWSC will return bid guarantees, other than bid bonds, to unsuccessful Bidders as soon as practicable, but not sooner than the execution of a contract with the successful Bidder. If for any reason whatsoever the successful Bidder withdraws from the competition after opening the bids, or refuses to execute the Contract, the JWSC will proceed on the Bid Bond or deposit the certified check or cashier's check as damages for the Bidder's failure to enter into a contract for the work.

Performance and Payment bonds, each in an amount equal to one hundred percent (100%) of the contract amount will be required of the successful Bidder.

The Surety of the Bid Bond, Performance Bond, and Payment Bond shall be a surety company authorized to do business in the State of Georgia, shall be listed in the Department of the Treasury Circular 570, and shall have an underwriting limitation in excess of one hundred percent (100%) of the bid amount. The Bonds and Surety shall be subject to approval by the JWSC legal counsel.

Attorneys-in-fact who sign and seal Bid Bonds or Contract Bonds must file with each bond a certified and effectively dated copy of their Power of Attorney evidencing the authority of the individual signing the bond.

17.0 NOTICES

All notices, approvals, consents, requests, demands, claims or other communications shall be in writing (collectively referred to as Notice).

It shall be sufficient service of any Notice if the same shall be delivered or mailed by first class registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

If to Contractor:

If to JWSC: Stephen A. Swan, Executive Director
Brunswick – Glynn County Joint Water and Sewer Commission
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520

Copy to: JWSC Legal Counsel

Any Notice hereunder shall be deemed to have been given or made as of the time of actual delivery or in the case of mailing when the same should have been received in due course of post. Any notice by facsimile transmission shall be deemed to have been given or made upon receipt and if verified by the facsimile apparatus that the transmission was in fact delivered, including the number to which the facsimile was sent, and the time and date it was transmitted successfully.

The parties hereto may, by Notice given hereunder, designate any different address to which subsequent Notices shall be sent or the person to whose attention the same shall be directed.

18.0 WARRANT OF AUTHORITY

Each individual executing this Agreement on behalf of any party expressly represents and warrants that he/she has authority to do so, and thereby to bind the party on behalf of which he/she signs, to the terms of this Agreement.

19.0 ENTIRE AGREEMENT; BENEFIT TO PARTIES

This Agreement and any attached exhibit(s) constitute the final and entire agreement and understanding between the parties hereto regarding the subject matter hereof. No prior written promises, or contemporaneous or subsequent oral promises or representations, shall be binding and are to be without effect in the construction of any of the terms or conditions of this Agreement.

With the exception of rights expressly conferred herein, nothing expressed or mentioned in or to be implied here from is intended or shall be construed to give to any person other than the parties hereto, any legal or equitable right, remedy or claim under or in respect hereto or any agreement, condition or provision herein contained and no provision shall be construed as creating any debt as against Contractor or JWSC in favor of any such person; this Agreement and the covenants, conditions and provisions hereof being intended to be used for the sole and exclusive benefits of the parties hereto.

Contractor and JWSC, their successors, executors, administrators and assigns hereby agree to the full performance of the covenants herein contained.

20.0 GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Georgia.

21.0 TIME IS OF THE ESSENCE

Time is of the essence in fulfilling all terms and conditions of this Agreement.

22.0 EXECUTION IN COUNTERPARTS

This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

23.0 MISCELLANEOUS PROVISIONS

Section captions herein are for convenience of reference only and neither limits nor amplifies the provisions of this Agreement.

Should any term, provision or other part of this Agreement be declared illegal or unenforceable, it shall be excised or modified to conform to the appropriate laws or regulations, and the remainder of the Agreement shall not be affected but shall remain in full force and effect.

The foregoing whereas clauses are hereby incorporated into this Agreement and made a part thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in their names under seal, all by their duly authorized officers, as of the date last written below, in two (2) counterparts, each of which shall without proof or accounting for the other counterparts, be deemed an original contract.

COMPANY TO BE NAMED

By: _____
Name and Title of corporate officer to be named

Date and Seal

Attest to:

By: _____
Name and Title of corporate officer to be named

Date and Seal

BRUNSWICK – GLYNN COUNTY JOINT WATER AND SEWER COMMISSION

By: _____
Donald M. Elliot, Chairperson

Attest to:

By: _____
Stephen A. Swan, Executive Director

Date and seal

PART A: CONTRACT FORM CONTINUED

Please be advised that the Contract Form, herein above, contemplates the Project Described and when the successful Bidder is selected and the Project awarded, then JWSC will provide the successful Bidder with a

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

Agreement which will include the standard contract provisions as set forth in the Contract Form herein, as applicable.

SECTION 00610

PERFORMANCE BOND

State of Georgia
City of Brunswick
County of Glynn

KNOW ALL MEN BY THESE PRESENT, that we _____

_____ , as Principal, and _____

_____ , as Surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the Brunswick – Glynn County Joint Water and Sewer Commission , for the use and benefit of those entitled thereto in the not to exceed sum of _____

_____ $ (_____)
for the payment of which will and truly to be made, in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the Brunswick –Glynn County Joint Water and Sewer Commission has engaged the said Contractor for the not to exceed sum of _____

_____ $ (_____)

for the Project entitled:

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

as more fully appears in a written Agreement bearing the same project title, a copy of which Agreement is by reference hereby made a part thereof.

NOW, THEREFORE, if said Contractor shall fully and faithfully perform all the undertakings and obligations under the said agreement or contract herein before referred to and shall fully indemnify and save harmless the Brunswick-Glynn County Joint Water and Sewer Commission from all costs and damage whatsoever which it may suffer by reason of any failure on the part of said Contractor to do so, and shall fully reimburse and repay the Brunswick-Glynn County Joint Water and Sewer Commission such default, and shall guarantee all products and workmanship against defects for a period of one year, then this obligation or bond shall be null and void, otherwise, it shall remain in full force and effect.

And for value received it is hereby stipulated and agreed that no change, extension of time, alteration or addition to the terms of the said Agreement or Contract or in the work to be performed there under, or the Specifications accompanying the same shall in any way affect the obligations under this obligation or bond,

and notice is hereby waived of any such damage, extension of time, alteration or addition to the terms of the Agreement or Contract or to the work or to the Specifications.

This bond is given pursuant to and in accordance with the provisions of O.C.G.A. §§ 36-10-1 *et seq.* and 36-82-100 *et seq*. and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2015, executed in three (3) counterparts.

PRINCIPAL: _____

By: _____

Title: _____

(**SEAL)**

Signed and Sealed in the Presence of:

1. _____

2. _____

SURETY: _____

By: _____

Title: _____

(**SEAL)**

Signed and Sealed in the Presence of:

1. _____

2. _____

SECTION 00620

PAYMENT BOND

State of Georgia
City of Brunswick
County of Glynn

KNOW ALL MEN BY THESE PRESENT, that we _____

_____ , as Principal, and _____

_____ , as Surety, do hereby acknowledge ourselves indebted and firmly bound and held unto the Brunswick – Glynn County Joint Water and Sewer Commission, for the use and benefit of those entitled thereto in the not to exceed penal sum of

_____

_____ $ (_____)

for the payment of which will and truly to be made, in lawful money of the United States, we do hereby bind ourselves, successors, assigns, heirs, and personal representatives.

BUT THE CONDITION OF THE FOREGOING OBLIGATION OR BOND IS THIS:

WHEREAS, the Brunswick – Glynn County Joint Water and Sewer Commission has engaged the said Contractor for the not to exceed sum of _____

_____ $ (_____)

for the Project entitled:

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

as more fully appears in a written Agreement bearing the same project title, a copy of which Agreement is by reference hereby made a part thereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Contractor and all subcontractors to whom any portion of the work provided for in said Contract is sublet and all assignees of said Contract and of such subcontractors shall promptly make payments to all persons supplying him or them with labor, products, services, or supplies for or in the prosecution of the work provided for in such Contract, or in any amendment or extension of or addition to said Contract, and for the payment of reasonable attorney's fees, incurred by the claimants in suits on this bond, then the above obligation shall be void; otherwise, it shall remain in full force and effect.

HOWEVER, this bond is subject to the following conditions and limitations:

(a) Any person, firm or corporation that has furnished labor, products, or supplies for or in the prosecution of the work provided for in said Contract shall have a direct right of action against the Contractor and Surety on this bond, which right of action shall be asserted in a proceeding, instituted in the county in which the work provided for in said Contract to be performed or in any county in which Contractor or Surety does business. Such right of action shall be asserted in proceedings instituted in the name of the claimant or claimants for his or their use and benefit against said Contractor and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated and judgment rendered thereon.

(b) The Principal and Surety hereby designate and appoint _____ as agent of each of them to receive and accept service of process or other pleading issue or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the Contractor and/or Surety.

(c) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than one year after the final settlement of said Contract.

(d) This bond is given pursuant to and in accordance with the provisions of O.C.G.A. §§ 36-10-1 *et seq.* and 36-82-100 *et seq.* and all the provisions of the law referring to this character of bond as set forth in said sections or as may be hereinafter enacted, and these are hereby made a part hereof to the same extent as if set out herein in full.

(Signatures on Next Page)

IN WITNESS WHEREOF, the said Principal has hereunder affixed its signature and said Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on

This the _____ day of _____, 2015, executed in two (2) counterparts.

PRINCIPAL: _____

By: _____

Title: _____

(**SEAL)**

Signed and Sealed in the Presence of:

1. _____

2. _____

SURETY: _____

By: _____

Title: _____

(**SEAL)**

Signed and Sealed in the Presence of:

1. _____

2. _____

SECTION 00630

PART D - AFFIDAVIT OF PAYMENT OF CLAIMS

_____ This the _____ day of _____, 2015

appeared before me, _____, a Notary Public, in and for

_____, and being by me first duly sworn states that all subcontractors and suppliers of labor and materials have been paid all sums due them to date for work performed or material furnished in the performance of the Contract between the Brunswick – Glynn County Joint Water and Sewer Commission (JWSC) and Contractor to be Named (Contractor) last signed on _____, for the

CANAL CROSSING PUMP STATION PROJECT
BRUNSWICK – GLYNN COUNTY, GEORGIA

CONTRACTOR **Company:** _____

By: _____

Title: _____

(SEAL)

Sworn to and subscribed before me this the _____ day of _____, 2015

NOTARY PUBLIC **Name:** _____

My Commission Expires: _____

(NOTARY SEAL)

SECTION 00640

PART E – CERTIFICATE OF INSURANCE

This is to certify that _____
(Insurance Company)

Of _____
(Insurance Company Address)

Has issued policies of insurance, as identified by a policy number to the insured named below, and that such policies are in full force and effect at this time. Furthermore, this is to certify that these policies meet the requirements described in the General Conditions of this project; and it's agreed that none of these policies will be canceled or changed so as to affect this Certificate until thirty (30) days after written notice of such cancellation or change has been delivered to:

BRUNSWICK – GLYNN COUNTY JOINT WATER AND SEWER COMMISSION
EXECUTIVE DIRECTOR
700 GLOUCESTER STREET, SUITE 300
BRUNSWICK, GEORGIA 31520

It is further agreed that the Brunswick – Glynn County Joint Water and Sewer Commission shall be named as an additional insured on the Contractor's policy.

Insured: _____

Project Name: **CANAL CROSSING PUMP STATION PROJECT**
BRUNSWICK – GLYNN COUNTY, GEORGIA

Policy Number(s): _____

Date: _____ _____
(Insurance Company)

Issued At: _____ _____
(Authorized Representative)

Address: _____

_____

_____

Note: Please attach Certificate of Insurance form to this page.

SECTION 00650

PART E - CERTIFICATE OF DRUG FREE WORKPLACE

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

Publish a statement notifying employees that the unlawful, manufacture, distribution, dispensing, possession, or use of controlled substances is prohibited in the workplace and specifying the actions that shall be taken against employees for violation of such prohibition.

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.

As a condition of working on the commodities or contractual services then under bid, the employee shall notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation 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.

Impose a sanction on, or require satisfactory participation in a drug abuse assistance or rehabilitation program if such in available in the employee's community, by any employee who is so convicted.

Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

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

Company Name: _____

Authorized Signature: _____

Title: _____

Date: _____

SECTION 00700

GENERAL CONDITIONS

INDEX:

0.0 Definitions

Where used throughout these contract documents the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine and feminine of the words and terms.

Acceptance. Formal action of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION in determining that the Contractor's work has been completed in accordance with the contract and in notifying the Contractor in writing of the acceptability of the work.

Act of God. A cataclysmic phenomenon of nature, such as a hurricane, earthquake or abnormal flood. Rain, wind, high water, or other natural phenomenon which might reasonably have been anticipated from historical records of the general locality of the work shall not be construed as acts of God.

Addenda. Supplemental written specifications or drawings issued prior to execution of the contract which modify or interpret the project manual by addition, deletion, clarification, or corrections.

Bid. Offer of a bidder submitted on the prescribed form setting forth the price or prices of the work to be performed.

Bidder. Individual, partnership, corporation, or a combination thereof, including joint ventures, offering a bid to perform the work.

Contract. The writings and drawings embodying the legally binding obligations between the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and the Contractor for completion of the work; Contract Documents attached to the Contract and made a part thereof as provided herein.

Contract Documents. The Advertisement for Bids, Addenda (which pertain to the Contract Documents), Contractor's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award), the Contract, the Notice to Proceed, the Bonds, these General Conditions, the Special Conditions, the Specifications and Drawings, together with all Written Amendments, Change Orders, Work Change directives, and Field Orders.

Contract Price. Amount payable to the Contractor under the terms and conditions of the contract. Based on the price given on the Bid schedule, with adjustments made in accordance with the contract. The base amount given in the Bid schedule shall be a lump sum Bid.

Contract Time. Number of consecutive calendar days stated in the contract for the completion of the work or portions thereof.

Contractor. The individual, partnership, corporation, or combination thereof, including joint ventures who enter into the contract with the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION for the performance of the work. The term covers subcontractors, equipment and material suppliers, and their employees.

Contractor's Plant and Equipment. Equipment, material, supplies, and all other items, except labor, brought onto the site by the Contractor to carry out the work, but not to be incorporated in the work.

Day. Calendar day.

Defective. An adjective which when modifying the word "work" refers to work, including but not limited to the furnishing of materials, that is unsatisfactory, faulty, deficient, or performed in an unworkmanlike manner, in that it does not conform to or meet the requirements of the Contract, any inspection, reference standard, test or approval referred to in the Contract, or has been damaged prior to a recommendation of final payment.

Direct. Action of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION by which the Contractor is ordered to perform or refrain from performing work under the contract.

Directive. Written documentation of the actions of the Engineer or the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION in directing the Contractor.

Engineer. Whenever the word "Engineer" is used in the contract, it shall be understood as referring to the Engineer of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, or such other Engineer, supervisor or inspector as may be authorized by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION to act in any particular area of the Contract.

Equipment. Mechanical, electrical, instrumentation or other device with one or more moving parts, or devices requiring an electrical, pneumatic, electronic, or hydraulic connection.

Furnish. To deliver to the job site or a specified location any item, equipment or material.

Holidays. Legal holidays designated by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION.

Install. Placing, erecting, or constructing in place any item, equipment, or material.

May. Refers to permissive actions.

Owner. The Brunswick - Glynn County Joint Water and Sewer Commission.

Owner's Representative. The person, firm or corporation designated by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION.

Paragraph. For reference or citation purposes, paragraph shall refer to the paragraph, or paragraphs, called out by section number and alphanumeric designator where applicable.

Person. The term, person, includes firms, companies, corporations, partnerships, and joint ventures.

Project. The undertaking to be performed under the provisions of the contract.

Punch List. List of incomplete items of work and of items of work which are not in conformance with the contract. The list will be prepared by the Owner's Representative when the Contractor (1) notifies the Owner's Representative in writing that the work has been completed in accordance with the contract and (2) requests in writing that the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION accept the work.

Shall. Refers to actions by either the Contractor or the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and means the Contractor or BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION has entered into a covenant with the other party to do or perform the action.

Specifications. That part of the contract documents consisting of written descriptions of the technical features of materials, equipment, construction system, standards, and workmanship.

Work. The labor, materials, equipment, supplies, services, and other items necessary for the execution, completion and fulfillment of the Contract.

(Continued on Next Page)

1.0 Contract Administration

The Contract Administrator for this IFP shall be Mr. Stephen A. Swan Executive Director (912) 261-7122. The Contract Administrator shall act as the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION's Representative during the execution of any subsequent contract and related amendments. H e will evaluate any contract disputes in a fair and unbiased manner. The decisions of the Contract Administrator shall be final and conclusive and binding upon all parties to the Contract. Any contractual questions arising during the Bid period or during the contract period(s) are to be addressed to the Contract Administrator at the following address:

Brunswick – Glynn County Joint Water and Sewer Commission
Attention: Mr. Stephen A. Swan, Executive Director
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520
Phone: (912) 261-7112
E-Mail: sswan@bgjwsc.org

2.0 Owner's Representative

The Owner's Representative is the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION's day-to-day manager of the contracted services. He shall provide the successful Bidder direction and monitor the results within the limits of the contract's terms and conditions. He will decide questions that may arise as to quality and acceptability of services performed. He shall judge as to the accuracy of quantities submitted by the successful Bidder in payment requests and the acceptability of the services that these quantities represent. He will be the point-of-contact for developing contract changes and amendments to be approved by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION. Any project questions arising, subsequent to contract award, are to be addressed to the Owner's Representative at the following address:

Brunswick – Glynn County Joint Water and Sewer Commission
Attention: Mr. W. Todd Kline, P.E., Senior Engineer
700 Gloucester Street, Suite 300
Brunswick, Georgia 31520
Phone: (912) 261-7122
E-Mail: tkline@bgjwsc.org

3.0 Notice of Award of Contract

As soon as possible, and within sixty (60) days after receipt of bids, the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall notify the successful Bidder of its intent to enter into a contract agreement. Should the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION require additional time to award a contract, the time may be extended by mutual agreement between the parties. If an Award of Contract has not been made within sixty (60) days from the bid opening date or within the extension mutually agreed upon, the Bidder may withdraw the bid without further liability on the part of either party.

4.0 Execution of Contract Documents

4.1 Within fifteen (15) days subsequent to successful contract negotiations, the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall furnish the successful Bidder the conformed copies of Contract Documents for execution by him.

4.2 Within fifteen (15) days after receipt of the Contract Documents, the successful Bidder shall return all the documents properly executed by him. Attached to each document shall be the certificate of insurance and proper licenses required by Federal, State, or Local authorities.

4.3 Within thirty (30) days after receipt of the Contract Documents, executed by the successful Bidder certificates of insurances and licenses, the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

4.4 Should either party require an extension of any of the time limits stated above, this shall be done only by mutual agreement between both parties.

5.0 Notice to Proceed

The Notice to Proceed shall be issued within ten (10) days of the execution of the Contract Agreement by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION. If there are reasons why the Notice to Proceed should not be issued within this period, the time may be extended by mutual agreement between the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and successful Bidder. If the Notice to Proceed has not been issued within the ten (10) day period or within the period mutually agreed upon, the successful Bidder may terminate the Contract Agreement without further liability on the part of either party.

6.0 Protest of Award

All protests of the award must be filed in writing with the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION within ten (10) days after the award of bid. The protest must describe in detail all alleged deficiencies. Any violations of law not specifically set forth in the protest are deemed waived. The validity of the protest shall be determined by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION Contract Administrator and the review shall be limited to any alleged violation of federal, state or local law.

7.0 Insurance

The successful Bidder shall not commence the Work under the Contract until all insurance described below has been obtained and such insurance has been approved by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, nor shall the successful Bidder allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved by the successful Bidder.

The successful Bidder shall maintain insurance with companies reasonably acceptable to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, authorized to do

business in Georgia, and having a rating with A.M. Best & Co. of A-VII or better, unless otherwise approved in writing by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION. Such insurance as will protect the successful Bidder from claims set forth herein below which may arise out of or result from the operations of the successful Bidder under the contract, whether such operations be by the successful Bidder, by anyone directly or indirectly employed by the successful Bidder or by anyone for whose acts the successful Bidder may be liable including, but not limited to, the following:

7.1 Claims under workers' compensation, disability benefit, and other similar employee benefit acts;

7.2 Claims for damages because of bodily injury, occupational sickness, disease, or death of any employee of the successful Bidder;

7.3 Claims for damages because of bodily injury, sickness, disease, or death of any person other than an employee of the successful Bidder;

7.4 Claims for damages insured by usual personal injury liability coverage which are sustained by any other person;

7.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting there from;

7.6 Claims for contractually assumed liability under the contract.

The aforesaid insurance required to be maintained by the successful Bidder may be written under an umbrella policy or policies, but shall not be written for less than the limits of liability specified herein below or less than any limits required by law, whichever is greater. The successful Bidder shall maintain during such time as the successful Bidder is performing hereunder the services, subject to a policy or policies having a deductible not greater than $25,000 on account of any one occurrence, (i) workers' compensation insurance in an amount not less than the greater of that required by law or$1,000,000 for injuries, including accidental death to any one person, (ii) commercial general liability insurance with a general aggregate of $2,000,000 and not less than $1,000,000 for each occurrence, (iii) automobile liability insurance in an amount not less than a combined single limit of $1,000,000 for injuries, including accidental death, and (iv) property damage liability insurance in an amount not less than $1,000,000 on account of any one occurrence with a $2,000,000 aggregate.

Certificates of insurance indicating that the successful Bidder has obtained such coverage and a copy of the policies evidencing such coverage, if requested by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, shall be filed with the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION prior to the commencement by the successful Bidder of the contracted services. Such certificates shall be in form and substance reasonably acceptable to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, shall indicate that, except in respect to workers' compensation insurance coverage, BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION is an additional named insured with respect to such coverage, shall indicate that such coverage is primary and is not contributory with any similar insurance purchased by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER

COMMISSION, and shall contain a provision that such coverage shall not be canceled until at least thirty (30) days prior written notice has been given to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION.

8.0 Quantities

None of the various BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION departments, divisions, employees or agencies, individually or collectively, shall be required to purchase any minimum or maximum amount during the life of any contract, or extension thereof, as a result of this Advertisement for Bids.

9.0 Suspension or Termination of Services

The anticipated contract between the successful Bidder and the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may be terminated based on any one of the following:

9.1 Failure of the Bidder to perform based on the Bidder's bankruptcy, lack or loss of skilled personnel, or disregarding laws, ordinances, rules, regulations or orders of any public body having jurisdiction. Should any single, multiple or all of the above conditions occur the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall have the authority to terminate the contract with written notice to the successful Bidder. The successful Bidder shall be liable for any losses occurring as a result of not abiding by the terms of the contract.

9.2 The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may terminate the contract at will. All correspondence of this nature will be forwarded by certified or registered mail with return receipt requested.

9.3 Any termination of the successful Bidders services shall not affect any right of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION against the successful Bidder then existing or which may thereafter occur. Any retention of payment of monies by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION due the successful Bidder will not release the successful Bidder from compliance with the Contract Documents.

10.0 Indemnification

The successful Bidder will indemnify and hold harmless the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and their officers, employees, Engineers, and agents, each and any one of them, from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the services, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the successful Bidder and anyone directly or indirectly employed by him or anyone for whose acts any of them may be liable. In any and all claims against the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION or any of their agents or employees, by any employee of the successful Bidder, directly or indirectly employed by him, or anyone for whose acts any of them may be liable, the

indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the successful Bidder or under federal and state workers' compensation and disability benefits statutes, and applicable laws relating thereto. No party shall indemnify any other party for their own sole negligence.

11.0 Assignments

The successful Bidder shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION. In case the successful Bidder assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the successful Bidder shall be subject to prior liens of all persons, firms, and corporations for services rendered or materials supplied for the performance of the services set forth in this contract.

12.0 Laws and Regulations

The successful Bidder's attention is directed to the fact that all applicable Federal, State and Local laws and ordinances, including rules and regulations of all authorities having jurisdiction over the services, shall apply to the contract throughout. The successful Bidder shall keep himself fully informed of all laws, ordinances and regulations of the Federal, State, County and municipal governments or authorities in any manner affecting those engaged or employed in providing these services or in any way affecting the conduct of the services and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in these Contract Documents or in the specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, he shall herewith report the same in writing to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION.

The successful Bidder shall at all times observe and comply with all such existing laws, ordinances and regulations, and shall protect and indemnify the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and its agents against the violation of any such law, ordinance, regulation, order or decree, whether by himself or by his employees. Licenses of a temporary nature, necessary for the prosecution of the services, shall be secured and paid for by the successful Bidder.

13.0 Notice and Service Thereof

13.1 All notices, demands, requests, instructions, approvals, and claims shall be in writing.

13.2 Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor specified in his Bid (or at such other office as the Contractor may from time to time designate to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION in writing), or if deposited in the United States Mail in a sealed, postage- prepaid envelope, or delivered, with charges prepaid, to any telegraph company for transmission, in each case addressed to such office.

13.3 All papers required to be delivered to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall, unless otherwise specified in writing to the Contractor, be delivered to the Contract Administrator. Any notice to or demand upon the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION will be sufficiently given if delivered to the Office of said Contract Administrator or if deposited in the United States Mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to said Contract Administrator or to such other representative of the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION or to such other address as the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may subsequently specify in writing to the Contractor.

14.0 Schedule, Reports and Records

The Contractor shall submit to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION schedules, reports, estimates, records and other data as the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may request concerning services performed or to be performed.

15.0 Changes in the Contract

15.1 **Changes in the Service.** The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may at any time, as the need arises, order changes within the scope of the services without invalidating the Contract Agreement. If such changes increase or decrease the amount due under the Contract Documents, or in the time required for performance of the services, an equitable adjustment shall be negotiated culminated by the issuance of a Contract Amendment and signed and sealed by the parties. The Contractor shall proceed with the performance of any changes in the services so ordered by the Contract Administrator unless the Contractor believes that such order entitles him to a change in the fee or time or both, in which event he shall give the Contract Administrator written notice thereof within fifteen (15) days after the receipt of the Contract Amendment, and the Contractor shall not execute such amendments pending the receipt of an executed Notice to Proceed instruction from the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION.

The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION may, when changes are minor or when changes would result in relatively small changes in the Fee or Contract Time, elect to postpone the issuance of a Contract Amendment until such time that a single amendment of substantial importance can be issued incorporating several changes. In such cases, the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall indicate this intent in a written notice to the Contractor.

15.2 **Changes in Contract Price.** The contract price shall be changed only by a mutual agreement by the Contractor and the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION transmitted as a Contract Amendment. The Contractor shall, when required by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION, furnish to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER

COMMISSION the method and justification used in computing the change in price as related to the services ordered.

15.3 Changes in Contract Period. The Contract Period shall be changed only by a Contract Amendment. Changes in the services described in above and any other claim made by the Contractor for a change in the Contract Period shall be evaluated by the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION and if the conditions warrant, an appropriate adjustment of the Contract Periods will be made.

16.0 Payments and Completion

16.1 Application for Payment. The Contractor shall submit an application for payment (invoice) for services rendered during the preceding calendar month. This application shall be sent to the Owner's Representative listed in Paragraph 2.0.

16.2 Certificate for Payments. If the Contractor has made application for payment, as above, then the Owner's Representative will issue a Certificate for Payment to the Owner for such amount as is determined to be properly due, or state in writing the itemized and specific reasons for withholding a Certificate. After the Certificate for Payment has been issued, the Owner shall pay to the Contractor within thirty (30) days the amount covering services completed. No Certificate for Payment, nor any payment, shall constitute an acceptance of any services not in accordance with the Contract Documents.

16.3 Failure of Payment.

If the Owner's Representative fails to approve an application for payment, through no fault of the Contractor, within seven (7) working days after receipt from the Contractor, or if the Owner fails to pay the Contractor within thirty (30) days after receipt of a Certificate for Payment, then the Contractor shall receive interest on the balance due with the interest being one percent (1%) per month not to exceed three (3) months (3%). The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION reserves the right to reject the Owner's Representative's certification of any request for payment by the Contractor without the accrual of interest.

16.4 Governing Document. All parties expressly agree that the provisions of the Georgia Prompt Pay Act, Title 13, Chapter 11, of the Official Code of Georgia Annotated, are superseded by the terms and conditions of this agreement.

16.5 Final Payment. Upon receipt of written notice from the Contractor that all contracted services are complete, the Owner's Representative will, within a reasonable time, review all services and reports. If the Owner's Representative finds the services and reports of the Contractor complete and acceptable in accordance with the provisions of the Contract Documents, he shall, within a reasonable time, recommend to the Owner that final payment be made. The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and still unsettled.

17.0 Contractor's Claim

No claim for additional or other compensation beyond the contract price shall be allowable unless the Contractor makes **written demand therefore within thirty (30)** days of the occurrence of any event which gives rise to such claim.

18.0 Contract Agreement Jurisdiction

Contractor irrevocably consents that any legal action or proceeding against it under, arising out of, or in any manner relating to, this Agreement shall be brought in any court in Berrien County, Georgia. Contractor designates the Secretary of the State of Georgia as its agent for service of process, provided no such agent located in Georgia is on file with the said Secretary. Contractor, by the execution and delivery of this Agreement, expressly and irrevocably assents to and submits to the personal jurisdiction of any court in Berrien County, Georgia, and in any said action or proceeding. Contractor hereby expressly and irrevocably waives any claim or defense in any said action or proceeding based on any alleged lack of jurisdiction, improper venue or *forum non conveniens* or any similar basis.

19.0 Ownership of Data

All data and other records supplied to the Contractor for this project shall remain the sole property of the Engineer. The Contractor shall not, without written consent, copy or use such records, except to carry out contracted work, and will not transfer such records to any other party not involved in the performance of the Contract pursuant to this Advertisement for Bids, and will return submitted records to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION upon completion of the work hereunder. The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION shall have the right, without the consent of the Contractor, to extract such data in industry standard formats, using standard Contractor utilities and at no cost to the BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION. The BRUNSWICK - GLYNN COUNTY JOINT WATER AND SEWER COMMISSION acknowledges that the storage, compilation, format, and layout constitute proprietary and secret trade information of the Contractor, and are protected by Federal copyright law.

20.0 Contractor’s Status

It is agreed that the Contractor shall occupy the status of an Independent Contractor and the Contractor's employees are not employees of the Owner.

DIVISION ONE

SECTION 01100
SUMMARY OF WORK

PART 1 GENERAL

1.1 DESCRIPTION

The work covered by this Contract includes furnishing all labor, equipment, materials and incidentals and performing all work required to construct the new Canal Crossing Lift Station and associated forcemain within the limits of the proposed Canal Crossing Shopping Center. The work includes, but is not limited to, excavation, dewatering, backfill and compaction, new precast concrete wetwell, pumps, controls, sitework, fencing, discharge piping and valves, 875 LF new 6-inch PVC force main with associated fittings, electrical work, erosion control and grassing, complete surface restoration and all other work and appurtenances required.

1.2 PLANS AND SPECIFICATIONS

The completed work shall be in accordance with these specifications and the construction plans prepared by Roberts Civil Engineering entitled ***"Site Construction Plans Canal Crossing Pump Station"*** last revised on November 6, 2014 as follows:

INDEX OF DRAWINGS		
Sheet	**Title**	**Date**
1	Cover	11/06/14
2	Overall Plan	11/06/14
3	Forcemain Plan & Profile	11/06/14
4	Forcemain Plan & Profile	11/06/14
5	Construction Details	10/24/14
6	Construction Details	10/24/14
7	Electrical Plan, Notes and Details	11/06/14
JWSC-1	Pump Station Details	10/01/14
JWSC-2	Pump Station Site Plan	10/01/14

1.3 APPLICABLE STANDARDS

In general, all work is intended to conform to the JWSC's Standards for Water and Sewer Design and Construction, latest edition. In the event of a conflict between these project specifications, the aforementioned construction plans and the JWSC Standards, the project specifications and construction plans shall take precedence.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01110
MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.2 SCOPE

Under this section shall be included the methods of measurement and payment for items of work under this Contract.

1.3 ESTIMATED QUANTITIES

All estimated quantities for unit price items, stipulated in the Proposal, or other Contract Documents, are approximate and are to be used as a basis for estimating the probable cost of the Work and for comparing the bids submitted for the Project. The actual amounts of work done and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be the actual amount of the work done and material furnished as shown on the Plans. The Contractor agrees to make no claim for damages, anticipated profits or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts included in the Proposal. The Contractor will provide assistance to the Owner to check quantities and elevations when so requested.

1.4 CONSTRUCTION ITEMS

Bid Item No. 1 – Wastewater Pumping Station

Measurement and payment for the wastewater pumping station will be based on the lump sum price to complete the work as specified. The lump sum price bid includes, but is not limited to, mobilization; earthwork; concrete work; precast concrete wetwell; furnish and install new submersible pumps; furnish and install required station hardware; furnish and install new discharge piping, effluent flow meter, valves and fittings; furnish and install new duplex control panel and SCADA system; security fencing, gravel access road and related sitework; electrical work; erosion control and grassing; demobilization; complete surface restoration and all other work and appurtenances required.

Bid Item No. 2 – Forcemain

(2a) Connect to Existing PVC Forcemain

Connections to existing PVC forcemain shall be made at the location noted on the drawings and in accordance with the details. Measurement and payment for connections to existing PVC forcemain shall be made based on the contract unit price per each as shown in the Bid Form and includes, but is not limited to, mobilization; trenching and backfill; dewatering; necessary pipe and fittings; demobilization;

complete surface restoration and all other work and appurtenances required.

(2b) Forcemain Pipe

Pipe, installed in accordance with the specifications and accepted by the Owner, will be measured along the pipe from center of structure to center of structure. Payment will be made based on the unit contract price per linear foot as shown in the Bid Form and includes, but is not limited to, mobilization; SDR-21 Class 200 pipe; trenching and backfill; dewatering; demobilization; complete surface restoration; and all other work and appurtenances required.

(2c; 2d) MJ Fittings

Mechanical joint ductile iron (sewer safe) fittings, installed in accordance with the specifications and accepted by the owner, will be measured on the basis of each unit installed. Payment will be made based on the unit contract price per fitting as shown in the Bid Form and includes, but is not limited to, mobilization; fittings and Mega-Lug joint restraints; trenching and backfill; dewatering; demobilization; complete surface restoration; and all other work and appurtenances required.

(2e) Harness Type Joint Restraints

Harness type joint restraints, installed in accordance with the specifications and accepted by the owner, will be measured on the basis of each unit installed. Payment will be made based on the unit contract price per restraint as shown in the Bid Form and includes, but is not limited to, mobilization; joint restraints and accessories; trenching and backfill; dewatering; demobilization; complete surface restoration; and all other work and appurtenances required.

(2f) Hydrostatic Pressure Testing

Hydrostatic pressure testing of new forcemains will be measured on the basis of the completed item. Payment will be made in accordance with the lump sum price stated in the Bid Form and includes all pumps, piping, fittings, gauges and other equipment necessary to perform the test.

(2g) Erosion Control and Grassing

Erosion control and grassing will be measured on the basis of the completed item. Payment will be made in accordance with the lump sum price stated in the Bid Form and includes all structural practices and vegetative measures directed by the Engineer, required and/or as shown to ensure effective erosion control at the work site.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01120
FIELD ENGINEERING

PART 1 GENERAL

1.1 SCOPE

Field engineering shall include all surveying work required to layout the proposed facilities and control the location of the finished project. The Contractor shall be solely responsible for constructing the project to the correct horizontal and vertical alignment as shown on the drawings and as specified herein. The Contractor shall assume all costs associated with rectifying any work constructed in the wrong location.

The drawings provide the location and/or coordinates of principal components of the project.

1.2 JWSC'S RESPONSIBILITIES

The JWSC will provide the following:

One (1) vertical control point on the project site with its elevation (included on the drawings – Plan Sheet 4)

A topographic survey (included on the drawings)

The JWSC may, acting through the Engineer, order changes to the location of some of the components of the project or provide clarification to questions regarding the correct alignment.

1.3 CONTRACTOR'S RESPONSIBILITIES

The Contractor's responsibilities include but are not limited to the following:

Be responsible for setting reference points and/or offsets, establishment of baselines, and all other layout, staking and other surveying required for the construction of the project.

Safeguard all reference points, stakes, grade marks, horizontal and vertical control points, and bear the cost of re-establishing same if disturbed.

Stake out temporary and permanent easements or the limits of construction to ensure the work is not deviating from the indicated limits.

Record drawing surveys shall be performed in accordance with Section 01700 of these specifications. Baselines shall be defined as the line to which the location of the work is referenced, i.e. edge of pavement, road centerline, property line, right of way or survey line.

1.4 STAKING PRECISION

1.4.1 Site Work

The precision of construction staking shall match the precision of a component's location as indicated on the drawings. Staking of utilities shall be done in accordance with generally accepted practice for the type of utility.

1.4.2 Water Mains and Accessories

The precision of construction staking required shall be that which the correct location of the water main can be established for construction and verified by the Engineer of Record. Where the location of the components of the water main, such as valves, fittings, fire hydrants, etc. are not dimensioned on the drawings, they shall be located based upon scaling these locations from the drawings with relation to readily identifiable landmarks (survey reference points, power poles, manholes, etc.).

1.4.3 Sewer Mains, Manholes and Appurtenances

The precision of construction staking shall be no less than 1:10,000. Horizontal distances shall be measured with a precision no less than 0.01 feet and horizontal angles measured with a precision of no less than 10 seconds.

1.5 QUALITY ASSURANCE

The Contractor shall furnish documentation, prepared by a Registered Professional Surveyor currently licensed in the State of Georgia, confirming that staking is being done to the horizontal and vertical alignment shown in the Contract Documents. This requires that the Contractor hire at his own expense, a registered surveyor suitable to the JWSC to provide on-going construction staking and confirmation of such.

Any deviations from the drawings shall be confirmed by the Engineer of Record prior to construction of that portion of the project.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01340

SHOP DRAWINGS

PART 1 GENERAL

1.1 SCOPE

The work under this Section includes submittal to the JWSC of shop drawings, product data and samples required by the various Sections of these specifications. The submittal contents required are specified under each Section.

1.2 DEFINITIONS

1.2.1 Shop Drawings

Shop drawings include technical data, drawings, diagrams, procedures and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.

1.2.2 Product Data

Product data includes standard printed information on materials, products and systems, not specifically prepared for this project other than the designation of selections from among available choices printed therein.

1.2.3 Samples

Samples include both fabricated and un-fabricated physical examples of materials, products and units of work, both as complete units and smaller portions of units of work, either for limited visual inspection or more detailed testing and analysis.

1.3 ROUTING OF SUBMITTALS

Submittals and routine correspondence shall be routed as follows:

Supplier to Contractor
Contractor to Engineer/JWSC
Engineer/JWSC to Contractor
Contractor to Supplier

1.4 SUBMITTAL LOG

At the discretion of the JWSC, a submittal log shall be created and issued to the Contractor as the complete listing of submittals required for the project.

PART 2 (Not Used)

PART 3 EXECUTION

3.1 CONTRACTOR'S RESPONSIBILITIES

The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall ensure that the material or equipment shall be as described in the submittal. The Contractor shall verify in writing that all features of all products conform to the requirements of the drawings and specifications. Submittal documents shall be clearly edited to indicate only those items which are being submitted for review. All extraneous material shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and shall notify the JWSC in each case where his submittal may affect the work of another contractor or the JWSC. The Contractor shall ensure coordination of submittals among the related crafts and subcontractors.

Before each submittal, the Contractor shall have determined and verified all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto; all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the work; and all information relative to the Contractor's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

Submittal documents common to more than one piece of equipment shall be identified with the appropriate equipment numbers and specification section and paragraph. Each submittal shall bear a stamp or written indication that the Contractor's obligations under the contract with respect to the Contractor's review and approval of that submittal have been met. Any deviations from the requirements of the drawings and specifications shall be noted on the submittals. The Contractor shall submit six copies of all specified information. **Submittals which do not have all the information required to be submitted including deviations, are not acceptable and will be returned without review.**

In lieu of hard copies, submittals may be made electronically via email to eburns@bgjwsc.org. **The routing of submittals shall remain as specified in Paragraph 1.3 of this Section.**

3.2 REVIEW PROCEDURES

The JWSC's review will not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights, or fabrication processes, or to safety precautions or programs incident thereto. Unless otherwise specified, within fourteen days after receipt of a submittal, The JWSC will review the submittal and return three copies to the Contractor with comments. The returned submittals will indicate one of the following actions:

If the review indicates conformance with the drawings and specifications, submittal

copies will be marked **"NO EXCEPTIONS TAKEN"**. In this event, the Contractor may begin to implement the work or incorporate the material or equipment covered by this submittal.

If the review indicates limited corrections are required, submittal copies will be marked **"MAKE CORRECTIONS NOTED".** The Contractor may begin implementing the work or incorporate the materials or equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated into Operation and Maintenance data, a corrected copy shall be provided.

If the review indicates that the submittal is insufficient or contains incorrect data, submittal copies will be marked **"AMEND AND RESUBMIT".** Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted, and returned marked either "NO EXCEPTION TAKEN" or "MAKE CORRECTIONS NOTED".

If the review indicates that the submittal does not comply with the drawings and specifications, submittal copies will be marked **"REJECTED - SEE REMARKS".** Submittals with deviations that have not been clearly identified will be rejected. Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted, and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".

Review of drawings, submittals, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors and omissions therein and shall not be regarded as an assumption of risks or liability by the JWSC or the Engineer of Record or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure or partial failure, or the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTION TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the JWSC has no objection to the Contractor, upon his own responsibility, using or providing the materials or equipment proposed.

(END OF SECTION)

SECTION 01500
TEMPORARY FACILITIES

PART 1 GENERAL

1.1 SCOPE

Temporary facilities required for this work include, but are not necessarily limited to the following:

Temporary utilities such as water and electricity

First aid facilities

Sanitary facilities

Potable water

Temporary enclosures and construction facilities

1.2 GENERAL

First aid facilities, sanitary facilities and potable water shall be available on the project site on the first day that any activities are conducted on site. The other facilities shall be provided as the schedule of the project dictates.

Use all means necessary to maintain temporary facilities in proper and safe condition throughout the construction period. In the event of loss or damage, immediately make all repairs and replacements necessary at no additional cost to the JWSC.

Remove all temporary facilities as rapidly as the progress of the work will allow.

1.3 TEMPORARY UTILITIES

1.3.1 General

Provide and pay all costs for water, electricity and other utilities required for the performance of the work. Pay all costs for temporary utilities until project completion.

1.3.2 Temporary Water

Provide temporary piping and upon completion of the work remove all such temporary piping. Provide and remove water meters.

1.3.3 Temporary Electricity

Provide all necessary wiring for the Contractor's use. Furnish, locate and install area distribution boxes such that the individual trades may use their own construction type extension cords to obtain adequate power and artificial lighting at all points where required.

1.4 FIRST AID FACILITIES

The Contractor shall provide a suitable first aid station, equipped with all facilities and medical supplies necessary to administer emergency first aid treatment. The Contractor shall have standing arrangements for the removal and hospital treatment of any injured person. All first aid facilities and emergency ambulance service shall be made available by the Contractor to the JWSC and the Engineer's personnel.

1.5 SANITARY FACILITIES

The Contractor shall furnish, for use of the Contractor's personnel all necessary toilet facilities which shall be secluded from public observation. These facilities shall be chemical toilets. All facilities shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the area in which the work is performed.

1.6 POTABLE WATER

The Contractor shall be responsible for furnishing a supply of potable drinking water for employees, subcontractors, inspectors, engineers and the JWSC who are associated with the work.

1.7 ENCLOSURES AND CONSTRUCTION FACILITIES

Furnish, install and maintain for the duration of the construction all required scaffolds, tarpaulins, canopies, steps, bridges, platforms and other temporary construction necessary for the completion of the work in compliance with all pertinent safety and other regulations

1.8 PARKING FACILITIES

Parking facilities for the Contractor's employees and subcontractors shall be the Contractor's responsibility. The storage and work facilities provided by the JWSC, if any, shall not be used for parking by the Contractor.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01510
JOB SITE SECURITY

PART 1 GENERAL

1.1 BARRICADES, LIGHTS AND SIGNALS

The Contractor shall furnish and erect such barricades, fences, lights and danger signals and shall provide such other precautionary measures for the protection of persons or property and of the work as necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades shall be erected to keep vehicles from being driven on or into any work under construction.

The Contractor will be held responsible for any damage to the work due to failure of barricades, signs and lights. The Contractor's responsibility for the maintenance of barricades, signs and lights shall not cease until the project has been accepted by the JWSC.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01600
SUBSTITUTIONS

PART 1 GENERAL

1.1 SCOPE

This Section outlines the restrictions and requirements for substitutions, product and manufacturer options, and construction method options.

1.2 DEFINITIONS

For the purposes of these Contract Documents, a "substitute item" shall be defined as one of the following:

A product or manufacturer offered as a replacement to a specified product or manufacturer.

A product or manufacturer offered in addition to a specified product or manufacturer.

A "substitute construction method" shall be defined as one of the following:

A mean, method, technique, sequence or procedure of construction offered as a replacement for a specified mean, method, technique, sequence or procedure of construction.

A mean, method, technique, sequence or procedure of construction offered in addition to a specified mean, method, technique, sequence or procedure of construction.

1.3 GENERAL

An item or construction method, which is offered where no specific product, manufacturer, mean, method, technique, sequence or procedure of construction is specified or shown on the drawings, shall not be considered a substitute and shall be at the option of the Contractor, subject to compliance with all provisions in the Contract Documents for that item or construction method.

For products specified only by a referenced standard, the Contractor may select any product by any manufacturer, which meets the requirements of the Specifications, unless otherwise indicated in the Contract Documents.

If the manufacturer is named on the drawings or in the Specifications as an acceptable manufacturer, products of that manufacturer meeting all requirements of the drawings and specifications are acceptable.

Whenever the JWSC's or Engineer of Record's design is based upon a specific product or process of a specific manufacturer, that manufacturer shall be so listed in the specifications and such

product or process ***shall be used in the base bid***.

1.4 APPROVALS

Any ***Contractor*** proposing to furnish products or processes other than those listed in the specifications shall make a written application for approval of the proposed substitution to the JWSC or Engineer of Record at least 10 days prior to the date set for receipt of bids. The minimum information required in the application is listed below.

A. Documentation demonstrating that the item being proposed as a substitute will fit in the space allowed, perform the same functions and have the same capabilities as the product or process specified.

B. A letter signed by an officer of the company certifying compliance with the specifications without exception.

C. Installation list with contacts and phone numbers for the same minimum number of installations and years of experience as the specified product or process.

D. Complete descriptive and technical data addressing all specification requirements.

E. Complete list of deviations from the specifications as written.

F. Identification of accessory items required as a result of the proposed substitution.

G. Identification of all architectural, structural, mechanical, piping, electrical or other modifications required as a result of the proposed substitution.

Whenever a product specification includes minimum experience requirements which the proposed substitution cannot meet, a condition of approval will require that the manufacturer furnish the JWSC with a cash deposit or bond acceptable to the JWSC in an amount equal to the cost of the product or process which shall remain in effect until the experience requirement has been met.

The burden of proving equivalency of a proposed substitute to an item designated by trade name or manufacturer's name referenced on the drawings or in the specifications rests on the party submitting the request for approval. The JWSC will give consideration to reports from reputable independent testing laboratories, verified experience records showing the reputation of the proposed product with previous users or any other written information that is reasonable under the circumstances. The degree of proof required for approval of a proposed substitute as equivalent to a named product is the amount of proof necessary to convince the JWSC beyond all doubt. To be acceptable, a proposed substitute must meet or exceed all requirements of the plans or specifications.

If the proposed substitution is approved, an addendum will be issued to all prospective bidders at least five days prior to the date set for the opening of bids listing any and all approved substitutions. If approved the bidder may offer a price for the substitution. The bid offered shall include the cost of all additional architectural, structural, mechanical, piping, electrical or other

modifications, including engineering and design costs, required as a result of the proposed substitution. The JWSC shall be the final judge on questions of equivalence.

PART 2 (Not Used)

PART 3 (not Used)

(END OF SECTION)

SECTION 01700
RECORD DOCUMENTS

PART 1 GENERAL

1.1 SCOPE

The work under this Section includes but is not limited to the compiling, maintaining, recording and submitting of project record documents as herein specified.

Record documents include but are not limited to the following:

1. Drawings
2. Specifications
3. Change orders and other modifications to the Contract
4. JWSC field orders or written instructions, including requests for information (RFI) and clarification memos
5. Reviewed shop drawings, product data and samples
6. Test records

The Contractor shall maintain an up to date set of Record Drawings

1.2 SYSTEM SOURCE AND QUALITY ASSURANCE

1.2.1 STORAGE

Store documents and samples in the Contractor's office, apart from documents used for construction. File documents and samples in accordance with the format of these specifications

1.2.2 Maintenance

Maintain documents in a clean, dry legible condition and in good order. Do not use record documents for construction purposes. Record documents shall at all times be available for inspection by the JWSC. Failure to maintain record documents in a satisfactory manner may be cause for withholding of a certificate for payment.

Each document shall be labeled "PROJECT RECORD" in neat, large printed letters. All record information shall be kept concurrently with construction progress. Do not conceal any work until the project information is recorded.

1.3 RECORD DRAWINGS

Record drawings maintained by the Contractor shall provide dimensions, distances and coordinates to the nearest 0.1 foot. Elevations shall be provided to the nearest 0.01 foot.

Final record drawings shall be prepared by a professional surveyor licensed in the State of Georgia from a post construction field run survey. The Contractor shall pay all surveying and preparation costs associated with the final record drawings. The final record drawings shall provide elevations to the nearest 0.01 foot for the invert of all precast structures, access covers, and all other pertinent items constructed by the Contractor. The final record drawings shall provide dimensions, distances and coordinates to the nearest 0.01 foot and angles to the nearest 10 seconds.

Final Record Drawing shall be labeled "FINAL RECORD DRAWINGS" and shall include the name of the surveyor who prepared the drawings as well as the date the drawings were prepared.

Record drawings shall include the following:

Horizontal and vertical location of all exposed and underground piping systems including manholes, services, cleanouts, valves, hydrants and fittings

Location and dimensions of roadways and parking areas

Location of structures including finish floor elevations

Include the following statements on the Record Drawings:

1.4 SPECIFICATIONS

Legibly mark each section to record the manufacturer, trade name, catalog number and supplier of each product and item of equipment actually furnished. Also record all changes made by Requests for Information (RFI), field order, clarification memorandums of Contract change order.

1.5 SUBMITTAL

At the completion of the project, deliver Record Documents to the JWSC. Include a signed transmittal letter which lists the title and number of each record document.

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

SECTION 01710

OPERATION AND MAINTENANCE MANUALS

PART 1 GENERAL

1.1 SCOPE

The Contractor shall provide five copies of complete Operation and Maintenance manuals for each item of equipment installed containing sufficient information to enable system operators to correctly operate service and maintain all equipment and accessories provided under the Contract. The data contained in the manual shall explain and illustrate clearly and simply all principles and theory of operation, operating instructions, maintenance and calibration procedures and safety precautions and procedures for the equipment involved.

1.2 SUBMITTAL FORMAT

Each copy of the manual shall be assembled in one or more 3-ring hardback loose leaf binders, each with a title page, table of contents and lists of tables and figures. The cover and binding edge of each manual shall have the project name, specification number and title and manual title printed thereon.

1.3 CONTENTS

Each manual shall the following items:

Title page which includes the equipment name and model number as well as the name, address and contact information of the Manufacturer, Supplier and Contractor.

Detailed Table of Contents

Equipment function, normal operating characteristics, performance data and limiting conditions

Detailed disassembly, overhaul and reassembly, installation, alignment, adjustment and testing procedures

Operating checklists

Detailed operating instructions for startup, calibration, routine and normal operation, regulation and control, safety procedures, shut down and emergency conditions

Detailed list of settings for relays, pressure switches, temperature switches, level switches, thermostats, alarms, relief valves, rupture discs, etc.

Preventative maintenance procedures and schedules including detailed lubrication instructions, identification of required lubricants and operating fluids and diagrams illustrating lubrication points

Detailed troubleshooting guide

Detailed parts list with name and part number

Recommended spare parts list

Electrical and instrumentation schematics including motor control centers, control panels, instrument panels and analyzer panels

List of special tools required

Name, address and contact information of nearest service center for parts, overhaul and service

Procedures for storing, handling and disposing of any chemicals or products used with the equipment or system

PART 2 (Not Used)

PART 3 (Not Used)

(END OF SECTION)

DIVISION TWO

SECTION 02120
EROSION, SEDIMENTATION AND POLLUTION CONTROL

PART 1 GENERAL

The requirements of this Section apply only to those projects for which the Contractor is under direct contract to the JWSC.

1.1 SCOPE

The work of this section includes implementation of the Erosion, Sedimentation and Pollution Control plan including but not limited to the installation and maintenance of all structural and vegetative Best Management Practices (BMP's), and all other work and appurtenances required.

1.2 RELATED WORK SPECIFIED ELSEWHERE

SECTION 02210	Trenching Excavation, Bedding and Backfill
SECTION 02555	Water Distribution System
SECTION 02650	Sanitary Sewer System

1.3 APPLICABLE STANDARDS

The following standards and/or publications are made a part of this specification by reference. The Contractor shall obtain copies all referenced standards or publications and keep available on the jobsite at all times during the construction period. In the event of conflicts among the various sources cited below, the most stringent criteria shall take precedence.

"Manual for Erosion and Sediment Control in Georgia", latest edition copies of which are available from the State Soil and Water Conservation Commission.

1.4 QUALIFICATIONS

1.4.1 Installers

Installation of BMP's must be performed by an installer who has completed Erosion, Sedimentation and Pollution Control Plans similar in material, design and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance.

The Contractor must disclose to the JWSC/ENGINEER prior to project award all violations and citations received in the last five (5) years from the Georgia Environmental Protection Division, Army Corps of Engineers, and other City/County/State agencies dealing with erosion and sediment control deficiencies or wetlands deficiencies.

1.4.2 Inspectors

Contractor shall have a Qualified Personnel, as defined by the NPDES Permit on site whenever construction activity occurs. "Qualified Personnel" means a person who has successfully completed an erosion and sediment control short course eligible for continuing education units, or an equivalent course approved by the Georgia Environmental Protection Division and the State Soil and Water Conservation Commission.

1.5 SUBMITTALS

The following information shall be submitted to the JWSC prior to commencement of the work.

Copy of Certification with GSWCC number of Qualified Person(s)

Technical Product Data for

Sediment barriers
Inlet protection materials

NPDES Forms

A Notice of Intent (NOI) with the JWSC's and Operator's signatures is ***required*** for this project.

Notice of Implementation immediately after completing the installation of the initial BMP's

PART 2 MATERIALS

2.1 MATERIALS

All materials shall conform to these specifications and to the applicable standards listed in Paragraph 1.3 of this Section. BMP's required but not specified below shall be in accordance with the "Manual for Erosion and Sediment Control in Georgia" latest edition.

2.1.1 Ds1 - Disturbed Area Stabilization (Mulching Only)

Ds1 is a temporary cover of plant residues applied to the soil surface for a period of six (6) months or less when seeding is not practical. Materials shall consist of the following.

Compressed and compacted bound bundles of wheat, oat, rye or other local hays free of weeds

Wood waste consisting of chips, sawdust or bark

Polyethylene film

Hydro-mulch

Composed of wood cellulose fiber containing no germination or growth inhibiting factors

Colored green to allow visual metering in application and properties evenly dispersed and suspended when agitated in water

Add hydro-mulch water slurry in hydraulic seeder after proportionate quantities of seed, fertilizer and other materials have been introduced

Moisture Content	9.9% (+ or -) 3.0%
Organic Matter	99.2% (+ or -) 0.8%
Ash Content	0.8% (+ or -) 0.2%
Water Holding Capacity (min)	1150 grams water per 100 grams fiber

2.1.2 Ds2 - Disturbed Area Stabilization (Temporary Seeding)

Ds2 is a temporary vegetative cover with fast growing seedings for up to a twelve (12) month period or until permanent vegetated is established. Materials shall consist of the following.

Lime

Lime shall be natural limestone containing minimum 85% total carbonates.

95% or more pass 20 mesh sieve
55% pass 60 mesh sieve
40% pass 100 mesh sieve

Fertilizer

Fertilizer shall be as follows.

Dry or hydro

Commercial grade manufactured in accordance with Georgia Department of Agriculture Specifications and bearing approval label of State of Georgia

Grade containing plant food elements determined by laboratory analysis

Grass Seed

Grass Seed must be planted according to recommendations contained the "Manual for Erosion and Sediment Control in Georgia" or as approved by a

Landscape Architect.

Ryegrass, annual (Lolium Multiflorum) containing minimum 98% pure seed with 90% minimum germination and maximum 0.5% weed seed

Bermuda 100% hulled common Bermuda grass (Cynodun Dactylon) containing minimum 87% pure Bermuda with 85% minimum germination and maximum 1% weed seed

All seed types listed in the "Manual for Erosion and Sediment Control in Georgia".

Hydro-seed shall be applied at the following rates.

Ryegrass	250	Lbs/Acre
Bermuda	175	Lbs/Acre

2.1.3 Ds3 - Disturbed Area Stabilization (Permanent Vegetation)

Ds3 is permanent vegetative cover using grasses, trees, shrubs or legumes on highly erodible or critically eroded lands. Materials shall consist of the following.

Lime

Lime shall be natural limestone containing minimum 85% total carbonates. Dolomitic limestone shall be used in sandy plains and coastal soils. Conventional equipment shall be use to ground limestone.

95% or more pass 20 mesh sieve
55% pass 60 mesh sieve
25% pass 100 mesh sieve

For hydraulic seeding use finely ground limestone.

98% or more pass 20 mesh sieve
70% pass 100 mesh sieve

Fertilizer

Fertilizer shall be as follows.

Dry or hydro

Commercial grade manufactured in accordance with Georgia Department of Agriculture Specifications and bearing approval label of State of Georgia

Grade containing plant food elements determined by laboratory analysis

Grass Seed

Grass Seed must be planted according to recommendations contained the "Manual for Erosion and Sediment Control in Georgia" or as approved by a Landscape Architect.

Ryegrass, annual (Lolium Multiflorum) containing minimum 98% pure seed with 90% minimum germination and maximum 0.5% weed seed

Bermuda 100% hulled common Bermuda grass (Cynodun Dactylon) containing minimum 87% pure Bermuda with 85% minimum germination and maximum 1% weed seed

Hydro-seed shall be applied at the following rates.

Ryegrass	250	Lbs/Acre
Bermuda	175	Lbs/Acre

2.1.4 Cd - Check Dam

Check dam (Cd) is a small temporary barrier consisting of stone or hay bales constructed across a swale, drainage ditch or area of concentrated flow.

Hay Bale Check Dams

Compressed and compacted bound bundles of wheat, oat, rye or other local hays free of weeds

2.1.5 Co - Construction Exit

Construction Exit (Co) is a stone stabilized pad located at any point where traffic will be leaving a construction site to a public right of way, street, alley, sidewalk or parking area.

Aggregate size shall be National Stone Association R-2 (1 1/2-inch to 3 1/2-inch stone)

Approved Geo-textiles

Amoco CEF-1199, 2019
Carthage 6%
Contech C70/06
GT-400E
Geotex 104 F
Filterweave 403, 700
TNS Advanced Technologies M706
US Fabrics 670

Terratex EP

2.1.6 Sd1-Sediment Barrier

A temporary structure made of silt fence supported by steel or wooden posts, sandbags, straw bales or other filtering material.

Sediment Barrier Type 'A' (Sd1-A)

Fabric height	36-inches
Trench Depth	6-inches

Fence Posts	48-inches long 1 1/2-inch by 1 1/2-inch Oak 3-inch diameter or 2-inch by 4-inch softwood Steel 1.3 Lbs/Ft Minimum

Approved silt fence fabrics

Amoco CEF 2019
Beltech 755 & 890
Cady bag Company 20-CSF 350/26
LINQ Industrial Fabrics, Inc. GTF-200S
Geotex 914SC, 915SC
TNS Advanced Technologies TNSW101
Terratex GASF
Willacoochee Industrial Fabrics, Inc. 1215 Silt Fence

PART 3 EXECUTION

3.1 PERFORMANCE REQUIREMENTS

Erosion control devices shall be installed as shown on the plans (and elsewhere as deemed necessary) and are required for all earth areas disturbed by grading and construction operations. The extent of disturbed areas is shown on the construction plans. Erosion control activities include but are not limited to:

Initial installation of erosion control devices
Implementation of Best management Practices (BMP's)
Application of temporary ground cover
Maintenance of erosion control devices for the duration of the construction period.
Application of permanent ground cover
Removal of erosion control devices

3.1.1 Non-Compliance

Upon notification by the JWSC/ENGINEER of non-compliance with this specification, the Contractor has seven (7) days to address and install additional erosion control devices or otherwise correct the deficiencies noted.

3.1.2 Temporary Erosion Control Measures

Contractor shall install, maintain, repair and/or replace all temporary erosion control measures including, but not limited to, the following:

Silt fences
Construction exits
Check Dams

The Contractor shall be responsible for providing additional erosion control measures as needed to prevent sediment from leaving the site. Contractor shall be responsible for all additional costs associated with additional erosion control measures.

3.1.3 Maintenance of Erosion Control Measures

The Contractor is responsible for maintenance, repair and/or replacement of erosion control measures throughout the construction period due to any of the following causes:

Downed silt fences
Washed out silt fences and rock
Vandalism
When silt overburdens structure
Erosion of earth or dam
Damage due to abnormal weather conditions

3.2 SEQUENCE OF EVENTS

Best Management Practices (BMP's) shall be implemented during construction activities from commencement of construction to completion. Schedule grading operations so as to minimize the time that denuded soils are exposed. Any exposed area left undisturbed for a period of 14 days or longer shall be stabilized with mulch or temporary seeding.

3.3 INSTALLATION AND MAINTENANCE

3.3.1 Ds1 - Disturbed Area Stabilization (Mulching Only)

Install mulch on all building pad area left for more than seven (7) days. Mulch shall re-applied whenever ground cover is less than 90%.

Dry straw or hay shall be applied uniformly at a depth of 2-inches to 4-inches by hand or by mechanical equipment. Straw or hay mulch shall be anchored immediately after application. Mulch can be pressed into the soil with a disk harrow using packer disk. Mulch spread with special blower-type equipment may be anchored with emulsified asphalt, tackifiers and/or binders.

Wood waste shall be applied at a depth of 2-inches to 3-inches.

Cut back asphalt shall be applied at the rate of 1200 gallons per acre.

Polyethylene film shall be secured over banks or stockpiled soil material for temporary protection.

3.3.2 Ds2 - Disturbed Area Stabilization (Temporary Seeding)

All disturbed areas shall be seeded within seven (7) days of the completion of land disturbing activities or when land disturbing activities are to be discontinued for longer than two weeks. Seed areas outside buildings, walks and paving not to immediately receive permanent grass or landscaping with temporary seed producing fast growing cover resistant to erosion.

Maintenance of seeded areas shall include but not be limited to watering, re-fertilization, weeding, mowing and repairing washouts and gullies.

3.3.3 Ds3 - Disturbed Area Stabilization (Permanent Vegetation)

Permanent vegetation and structural control measures must be installed as soon as practicable.

3.3.4 Cd - Check Dams

Construct temporary ditch checks of stone, sand or cement bagged, rip-rap, or treated timber post in all ditches and drainage areas on or adjacent to the work area and/or as shown on the plans. The toe of the upstream dam shall be at the same elevation as the top of the downstream dam. The height of check dams shall be 24-inches maximum at center. Check dams shall be 9-inches lower at the center than the outer edges. Side slopes shall be 2:1 or flatter.

3.3.5 Co - Construction Exit

Contractor shall provide temporary construction exits at all locations where vehicles exit the construction site. The stone pad thickness shall be at least 6-inches and shall cover the full width of the entrance. in no case shall the pad width be less than 20 feet. The length of the stone pad shall be at least 50 feet. A layer of geo-textile fabric shall be placed between the stone pad and the soil surface as specified in paragraph 2.1.6 above. Periodically add a 2-inch thick top dressing to maintain pad effectiveness and sprinkle regularly to settle accumulated sediment.

3.3.6 Sd1 - Sediment Barriers

Construct silt fences in accordance with applicable regulations and details. Sediment barriers shall be installed at the toe of all embankments or at the perimeter of all disturbed areas and shall be located to interrupt silt transport conveyed by surface runoff.

Remove, re-distribute and compact sediments which accumulate behind silt fences when such accumulations reach one-half the original height of the barrier and immediately before beginning temporary grassing operations.

Replace fabric whenever it has deteriorated to such extent that the effectiveness of the barrier is compromised or every six months, whichever comes first.

3.4 CONCRETE WASHOUT AREAS

Contractor shall provide at least one 10' by 10' washout area for the disposal of excess concrete, mortar and similar products. Washout areas shall be cleaned as needed. Washout areas shall be completely removed after construction has been completed. Remove all concrete and silt and dispose of materials in an approved landfill. Backfill, grade and stabilize area.

3.5 REMOVAL OF TEMPORARY DEVICES

Temporary erosion control devices shall remain in place and be properly maintained until one of the following has occurred:

A permanent device has been installed to replace the function of the temporary device.

The Contractor has achieved 95% stabilization of disturbed areas and a Notice of Termination has been submitted.

Remove erosion control devices installed under this contract and any erosion control devices left from previous phases of work.

(END OF SECTION)

SECTION 02220
TRENCHING EXCAVATION, BEDDING AND BACKFILL

PART 1 GENERAL

1.1 SCOPE

The work of this section includes trench excavation, dewatering, bedding, backfilling and all other work required for the installation of underground water, and sewer systems as shown on the drawings and/or specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

02120	Erosion, Sedimentation and Pollution Control
02555	Water Distribution System
02650	Sanitary Sewer System

1.3 APPLICABLE STANDARDS

All work to be performed in accordance with applicable provisions of the Southern Standard Building Code, OSHA Safety Requirement, State and Local Ordinances and other authorities having jurisdiction.

All construction shall comply with the Department of Labor, Occupational Safety and Health Administration, 29 CFR Part 1926, subpart P, revised July 1, 1995.

If local authorities have standard specifications for pavement removal and replacement, work shall be done in accordance with such standards.

In the event of conflicts among the various sources cited above, the most stringent criteria shall take precedence.

1.4 PROTECTION

1.4.1 Existing Utilities

Contractor shall contact the Utilities Protection Center at 1-800-282-7411 at least 72 hours in advance of trenching operations. The location of existing underground utilities shown on the plans is based upon the best information available and may not accurate or complete. The Contractor shall verify the location of all underground utilities prior to commencing work and shall be responsible for the protection of same. Any damage to existing utilities shall be promptly repaired at the Contractor's expense to the full and complete satisfaction of the utility owner.

1.4.2 Existing Structures

Contractor shall protect from damage all existing structures, roads, sidewalks, curbing, etc. against damage from foot or vehicular traffic. Install and maintain adequate barricades, planking, bridging as necessary. Underpin or otherwise support adjacent structures, including service lines and pipe chases, to prevent damage by excavation work.

1.4.3 Excavations

Protect excavations by shoring, sheeting, bracing or other means as required to prevent cave-ins or loose dirt from falling into excavated trenches. Methods and procedures utilized shall conform to, as a minimum, the requirements of OSHA and other governing authorities having jurisdiction.

1.5 QUALITY ASSURANCE

Tests for compaction and density, where required, shall be conducted by an independent testing laboratory selected by the JWSC and paid for by the Contractor. The Contractor shall make all necessary excavations and provide access to the work by the testing laboratory. The cost of all retests made necessary by the failure of materials to conform to the requirements of these specifications shall be paid for the Contractor.

PART 2 MATERIALS

2.1 BEDDING AND BACKFILL MATERIALS

Pipe bedding and backfill materials shall be as follows:

Class I:
This Class includes angular, 1/4-inch to 1-1/2-inch graded stone including a number of fill materials including coral, slag, crushed stone and crushed shells.

Class II:
This Class includes coarse sands and gravels with maximum particle size of 1-1/2-inches including variously graded sands and gravels containing small percentages of fines, generally granular and non-cohesive, either wet or dry. Soil Types GW, GP, SW and SP are included in this Class.

Class III:
This Class includes fine sand with clayey gravels including fine sands, clay-sand mixtures, and gravel-clay mixtures. Soil types GM, GC, SM and SC are included in this Class.

Class IV:
This Class includes silt, silty clays and clays including organic clays and silts of medium to high plasticity and liquid limits. Soil Types MH, ML, CH and CL are included in this Class.

Class IV materials may only be used with the approval of the Engineer.

Class V:
This Class includes the organic soils OL, OH and PT as well as soil containing frozen earth, debris, rocks larger than 1-1/2-inches in diameter and other foreign materials. ***Class V materials shall not be used.***

PART 3 EXECUTION

3.1 EXCAVATION

The contractor shall examine the work site and inform himself fully as to the nature of all materials to be encountered during excavation for the construction of the various facilities and related appurtenances. The contractor shall perform excavation of all substances encountered to the depth shown on the drawings.

During excavation, pile excavated materials that are suitable for backfilling in an orderly manner and at a sufficient distance from the trench banks to avoid overloading and prevent slides or cave-ins. Remove and dispose of unsuitable material in a manner acceptable to the JWSC.

Grade work site as necessary to prevent surface water from flowing into trenches or other excavations and remove any water accumulating therein by pumping or other approved methods.

Excavation shall not be carried below the required level. Where excavation is carried below the grade indicated through error, the contractor shall refill to the proper grade with Class I or Class II material as directed by the JWSC to obtain a suitable pipe support.

Where wet or otherwise unsuitable material incapable of properly supporting the pipe, as determined by the JWSC/Engineer, is encountered in the trench bottom, the Contractor shall remove such soil or unsuitable material, dewater to the depth required and backfill trench to proper grade with a foundation of Class I or Class II material as directed by the JWSC to obtain a suitable pipe support.

3.2 DEWATERING

The contractor shall keep all excavations clear of water while pipe and appurtenances are being installed. All water pumped or bailed from trenches and other excavated areas shall be conveyed to a point of discharge where it will cause no hazard to the safety and protection of the public, to private property or to other work in progress.

Provide all necessary equipment including well points, pumps, piping and temporary drains sufficient to handle both surface and subsurface water. Maintain equipment for the duration of trench exposure to the elements.

3.3 PIPE BEDDING

Pipe bedding shall be Class A, B, C or D as specified below or as shown on the construction plans.

Rigid pipe includes ductile iron (DIP), reinforced concrete (RCP), or steel pipes with or without coatings. Flexible pipe includes PVC and HDPE.

3.3.1 Bedding Classifications

The following bedding classifications shall be used as specified below or where shown on the drawings.

Class A:
This bedding class shall consist of a continuous concrete cradle or a concrete arch with granular bedding. Locations shall be as shown on the drawings.

Class B:
Class B Standard - shall consist of granular Class I material placed a minimum of 4-inches below the pipe and continuing to the spring line of the pipe.

Class B Modified - shall consist of granular Class I material placed a minimum of 4-inches below the pipe and continuing to 6-inches above the top of the pipe.

Class C:
This bedding class shall consist of granular Class I material placed a minimum of 4-inches below the pipe with Class II or Class III material continuing to the spring line of the pipe.

Class D:
This bedding class shall consist of a native undisturbed earth trench bottom with an area excavated for the pipe bell. This bedding class may only be used for dry trench conditions. If the trench becomes wet, Class B bedding shall be used.

3.3.2 Bedding Requirements

Bedding requirements for the various piping systems shall be as shown in the following table.

PIPE SYSTEM	BEDDING CLASS
Sanitary & Storm Sewers (Gravity)	
Rigid Pipe	Class C
Flexible Pipe	Class B Modified
Watermains & Forcemains	
Rigid Pipe	Class C
Flexible Pipe	Class B Standard

Bedding material under and around the pipe shall be placed in 6-inch layers and compacted by rodding, spading or with approved vibratory equipment to obtain not less than 98% standard proctor as determined by ASTM Method D698.

3.4 BACKFILLING

If unsuitable materials are encountered, such materials may not be used for backfilling operations and shall be removed from the site. Unsuitable material includes but is not limited to debris, muck, clay, large clods, stones, wood, stumps, and roots. Prior to backfilling, piping and appurtenances shall be observed by the JWSC's Inspector.

Contractor shall carefully backfill trenches with approved materials. Only Class III (or Class IV if approved by the JWSC/Engineer) materials shall be used. Backfill materials shall be free from large clods of earth or stone and shall be deposited in 6-inch layers and carefully compacted until the following densities are obtained:

Areas under structures	100% Standard Proctor (ASTM D698)
Areas under walks and pavements	98% Standard Proctor (ASTM D698)
Areas under lawns and landscaping	95% Standard Proctor (ASTM D698)

Re-open improperly backfilled trenches (trenches where settlement occurs, or where tests indicate non-compliance with the densities specified above) to depth required for proper compaction. Then refill and compact with surface restored to required grade.

3.5 PAVEMENT REMOVAL AND REPLACEMENT

3.5.1 Removal

Where necessary to cut existing pavements, curbs and gutters, walks, driveways, etc. make cut with neat parallel straight lines at least 12" wider than the required trench width on each side.

3.5.2 Replacement

Replace pavements, curbs and gutters, walks and driveways with the same materials and cross section as the original except when otherwise detailed on the construction plans.

Backfill open trenches across roadways, or other areas to be paved as specified in Paragraph 3.4 above except backfill entire trench depth in 6-inch layers, moisten and compact each layer to density of 100% of standard proctor test, so that paving of area can proceed immediately after backfilling is complete.

3.5.2 Temporary Surfaces

Use temporary road surface of gravel or crushed stone as approved. Maintain one-way traffic at all times and street must be fully opened to traffic as quickly as possible. Completely remove temporary materials and dispose of when permanent pavement is placed.

(End of Section)

SECTION 02555

WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED

Provide all labor, materials and equipment necessary to install, test, disinfect (where required) and place into operation the water distribution system as shown on the drawings, as specified herein and as required for a complete and operational system.

1.2 SUBMITTALS

Complete shop drawings and product data on all piping and fittings shall be submitted to the Engineer in accordance with the requirements of Section 01340 of these specifications.

1.3 RELATED WORK SPECIFIED ELSEWHERE

01340	Shop Drawings
02220	Trench Excavation, Bedding and Backfill

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

The contractor shall furnish and install water distribution systems in accordance with the material specifications detailed below. All references to industry standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless stated otherwise. All materials shall be new.

2.2 PIPING

Pipe sizes and applications shall be as indicated on the plans and shall conform to the following table.

Pipe Size and Application Table

Pipe Material	Pipe Size	Joint Types	Applications
PVC (ASTM D2241 SDR-21)	2-inch	Push-on Joint – Below Ground	Potable Water
Polyethylene Tubing	≤2-inch	See Specifications Below	Water Services

2.2.1 PVC Pressure Pipe

Pipe shall be virgin polyvinyl chloride (PVC) pressure pipe shall have a bell type coupling with a thickened wall section integral with the pipe barrel in accordance with ASTM D3139. Provisions must be made for expansion and contraction at each joint with flexible ring gaskets made of rubber or other suitable material. Elastomeric seals shall meet ASTM F477.

PVC pressure pipe two (2) inches in diameter and smaller shall conform to ASTM D2241, Class 200 SDR-21 with push-on type jointing. Glued or Solvent weld joints shall not be used. PVC 1120, SDR-21 fittings shall be injection molded push-on bell type with elastomeric rubber seals in accordance with ASTM D3139. Seals shall conform to ASTM F477. Pipe for domestic potable water mains shall be ***blue*** in color with each length marked with name of the manufacturer, pressure rating, nominal pipe diameter and the seal of the National Sanitation Foundation (NSF).

2.2.2 Polyethylene Tubing

All water services two (2) inches in diameter and smaller shall be manufactured of PE 3408, high density polyethylene in accordance with AWWA C901, ASTM D1248, ASTM D2239, ASTM D2737 and ASTM D3350. Tubing shall have a minimum working pressure of 200 PSI, shall be copper tube size SDR-9 and shall be blue in color. Couplings shall be made of bronze with compression fittings on both ends suitable for connection to polyethylene tubing with inserts.

Tubing shall be approved for use with potable water by the National Sanitation Foundation and shall be continuously marked at intervals of not more than four (4) feet with the nominal size, pressure rating, NSF seal, manufacturer's name, standard dimension ratio and ASTM specification.

2.3 WATER VALVES AND APPURTENANCES

Water valves shall be of the size and type shown on the approved construction plans. All valves shall open by turning left or "counter-clockwise". Extension stems on buried valves will be used only at the direction of the Engineer.

2.3.1 Gate Valves (<4-inch)

Gate valves two (2) inches to three (3) inches in diameter shall be non-rising stem, resilient seat wedge type with epoxy coated iron body and two (2) inch square operating nut. Valve shall conform to the applicable requirements of AWWA C509 and ASTM A126 Class B with threaded ends and designed for 200 PSI working pressure.

2.3.2 Valve Boxes

Valve boxes shall be cast iron, heavy duty roadway, screw type adjustable to six (6) inches up and down from the nominal required cover over the pipe. Six (6) inch PVC C900 Pipe shall be used to extend valve boxes to grade. Cast iron castings shall be manufactured of

clean, even grain, gray cast iron conforming to ASTM A48, Class 20B. Valve boxes shall have cast iron drop covers with the word "WATER" stamped on it.

2.3.3 Yard Hydrants

Yard hydrant shall be high capacity freeze proof type hydrants as Merrill Manufacturing C-1000 Series or approved equal with the following features:

- Inlet – 1" NPT in no lead brass casting
- Outlet – ¾" no-lead hose thread & outside of nozzle has 1" pipe thread
- Stainless steel operating rod
- Teflon packing
- Stainless steel and molded rubber plunger made of self-lubricating material
- 1" no-lead galvanized pipe

2.4 WATER SERVICES AND APPURTENANCES

2.4.1 Corporation Stops

Corporation stops are required on all water services. Corporation stops shall be made of brass conforming to AWWA C800, ASTM B62 and/or ASTM B584 and shall accommodate the full working pressure of the system. The inlet connection shall be AWWA standard iron pipe (IPT) thread. The outlet connection shall be compression type for polyethylene tubing.

2.4.2 Curb Stops

Curb stops shall be ball valve type conforming to AWWA C800. Curb stops shall be made of brass conforming to AWWA C800, ASTM B62 and/or ASTM B584 and shall accommodate the full working pressure of the system. Service line connections shall be compression type for polyethylene tubing.

2.4.3 Double Strap Tapping Saddles

Double strapped tapping saddles shall be epoxy coasted ductile iron body type with NPT service outlet. The saddles shall have a self- energizing, o-ring rubber gasket, two alloy steel straps, and a female iron pipe tap conforming to AWWA C800.

2.5 BACKFLOW PREVENTION DEVICES

Provide reduced pressure zone backflow preventers where shown on the drawings. Backflow preventers shall be rated for operation with inlet water pressures up to 175 psig and water temperatures up to 140°F. Backflow preventers shall be tested and certified in accordance with ASSE 1013, AWWA C506, and USC-FCCCHR.

Provide with bronze body construction, rubber check valve and relief valve assemblies, and Clecon check seats.

Provide isolation valves on the inlet and outlet of each backflow preventer. These valves shall be ¼ turn, full port, resilient seated, bronze ball valves.

Provide bronze body ball valve test cocks.

Provide bronze body strainer on the inlet.

Acceptable manufacturers: Watts Series 909, Wilkins, Hersey.

2.6 MISCELLANEOUS ITEMS

2.6.1 Detection Tape

Detection tape shall be composed of a solid aluminum foil encased in a protective plastic jacket. The tape shall be safety blue in color, shall be at least two and half (2-1/2) inches wide and will bear the printed identification "CAUTION: BURIED WATER LINE BELOW".

2.6.2 Tracer Wire

Water pipe tracer wire shall be AWG 12/1, single conductor solid copper with blue jacket, UL rated suitable for direct burial, temperature range -20° C to 60° C, 600 Volts RMS.

PART 3 EXECUTION

3.1 PRODUCT DELIVERY, STORAGE AND HANDLING

The contractor shall inspect all materials delivered to the job site for damage. Materials shall be unloaded and stored with a minimum of handling. Materials shall be stored above ground and the interior of pipe and fittings shall be kept free of dirt and debris. Store non-metallic piping and rubber gaskets under cover and protect from exposure to sunlight.

Valves, hydrants, and other appurtenances shall be handled to ensure delivery at the point of installation in sound, undamaged condition. If coating or linings of pipe or fittings are damaged, such pipe and fittings shall be removed from the site and new materials furnished. Pipe shall not be dragged.

3.2 INSTALLATION

The contractor shall install all pipe, valves, hydrants and other appurtenances in accordance with the specifications detailed below. All references to industry standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless stated otherwise.

3.2.1 Pipe and Fittings

3.2.1.1 General Requirements

Excavation, cleaning, laying, jointing and backfilling shall follow as closely as possible during prosecution of the work. In no case shall pipe be left in the trench overnight without completing the jointing. All precautions shall be taken to

prevent sand, dirt and debris from entering the pipe during installation. Any time that pipe installation is not in progress, open pipe ends shall be closed by a watertight plug or other method approved by the JWSC/Engineer.

Plugs shall remain in pipe ends until all water has been removed from the trench and any foreign material that enters the pipe shall be removed immediately. No pipe shall be installed when trench or weather conditions are unsuitable for such work.

Water lines shall not be laid closer than ten (10) feet horizontally from a sanitary sewer main unless otherwise indicated on the drawings or directed by the JWSC/Engineer. Sanitary sewer lines shall pass beneath water lines with the top of the sewer being at least eighteen (18) inches below the bottom of the water line, Where sewer lines cross water lines, no joints in the sewer line shall be located closer than ten (10) feet horizontal distance from the water line.

3.2.1.2 Pressure Pipe

All PVC C900 pipe shall be laid in accordance with AWWA C605. All ductile iron pipe and fittings shall be laid in accordance with the manufacturer's recommendations and AWWA C600. Each section of pipe shall rest upon the pipe bed for the full length of its barrel, with recesses excavated to accommodate bells and joints.

Pipe alignment and gradient shall be straight or shall follow true curves as near as practicable. Curvature in pipe lines, where required, shall be well within (no more than 80% of) the manufacturer's allowable joint deflection or laying radius for the pipe supplied. Otherwise fittings shall be required.

Pipe shall be laid with a minimum cover of forty two (42) inches in paved areas and thirty six (36) inches in unpaved areas with an allowable maximum of sixty (60) inches. Cover in paved areas shall be measured from crown of pipe to finish grade. Greater depths are permissible when required to clear obstructions, conflicts, etc.

Contractor shall furnish and install locate wiring on all non-metallic pressure mains. Locate wire shall be brought to grade outside a valve box or locating station box, as required, at four hundred and seventy five (475) foot intervals (maximum). In addition, all pressure mains shall have detection tape installed two (2) feet above the pipe.

Installed locate wiring shall be tested by the contractor as part of the inspection process, using a qualified tester and suitable testing equipment. The contractor shall notify the Engineer at least 48 hours in advance of the locate wire field testing schedule.

3.2.2 Valves

All buried valves shall be carefully mounted in their respective positions free from distortion and strain. Valves shall be placed as shown on the drawings. Gate valves shall be installed as near as possible to tee and cross fittings. The contractor shall check all exposed bolts on all valves to ensure that they are tight prior to installation. Where required, extension stems shall be furnished and located as directed by the Engineer.

Adjustable valve boxes shall be installed with each buried valve, placed vertically and concentric with the valve stem. Any valve box which has been moved from its original position by trench settlement or other causes, and which prevents the use of a valve wrench for opening and closing of the valve, shall be reset by the Contractor prior to final acceptance. The entire assembly shall be plumb.

In unpaved areas, a poured in place reinforced concrete valve pad shall be installed around all valve boxes. The concrete thickness shall be four (4) inches for poured in place collars. The top of poured in place collar shall be level with the top of the cast iron valve box and level with the ***final grade.***

3.2.3 Backflow Prevention Devices

Backflow prevention devices shall be installed in accordance with the manufacturer's instructions and AWWA M14.

3.3 DISINFECTION

Upon satisfactory completion of the hydrostatic test (where applicable), all new potable water lines and other pipe related installations which may have been contaminated by the work shall be disinfected in accordance with AWWA C651, the Rules for Safe Drinking Water as published by the Georgia Environmental Protection Division, and as outlined below. The contractor shall disinfect all new water lines in the presence of the Engineer.

Prior to disinfection, water lines shall be thoroughly flushed to remove contaminated materials from the line. The contractor is referred to AWWA C651 for precautions during construction and procedures for flushing.

Disinfection shall be accomplished by introducing chlorine into the main to be disinfected. The disinfection procedure used may be any of the methods or procedures outlined in AWWA C651. A chlorine residual of at least 25 milligrams per liter (mg/l) shall be maintained for 24 hours in the water line to be disinfected. After the 24 hour holding or contact period, the heavily chlorinated water shall be flushed from the main until the chlorine residual within the main reaches the level of chlorine normally carried in the distribution system (1.0 mg/l). De-chlorination of the flushing water may be required if the highly chlorinated water is to be discharged directly to a surface water stream or storm drain system. If the water can be sheet-flowed over a large area or discharged to a holding pond, de-chlorination may be avoided.

After final flushing and before the new water main is connected to the distribution system, two consecutive sets of acceptable samples, taken at least 24-hours apart, shall be collected from the new main.

At least one set of samples shall be collected from every twelve-hundred (1200) linear feet of new water main, plus one set from the end of each line and at least one set from each branch. The JWSC/Engineer will determine the number and location of the required sampling points to meet the current standards. All required sampling taps shall be installed by the contractor, at his expense, prior to disinfection.

The collection of samples and bacteriological testing will be performed by the JWSC at the Contractor's expense unless noted otherwise on the construction plans. If the bacteriological tests are unsatisfactory, disinfection procedure shall be repeated until satisfactory results are obtained.

(END OF SECTION)

SECTION 02650
SANITARY SEWER SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED

Provide all labor, materials and equipment necessary to install, test, and place into operation the precast concrete wetwell, gravity sewer mains, pump station discharge piping and valves, effluent flow meter, PVC force main with related fittings and appurtenances as shown on the drawings, as specified herein and as required for a complete and operational system.

1.2 SUBMITTALS

Complete shop drawings and product data in accordance with the requirements of Section 01340 of these specifications shall be submitted on all the following items:

1. Round precast manhole and wetwell bottoms, riser sections and top
2. Complete product data on wetwell and influent manhole coating system
3. Square and rectangular precast structures (Flow Meter Vault)
4. Complete product data on all piping, valves, flow meter and appurtenances

1.3 RELATED WORK SPECIFIED ELSEWHERE

01340	Shop Drawings
02220	Trench Excavation, Bedding and Backfill
11210	Submersible Sewage Pumps

PART 2 PRODUCTS

2.1 PIPING

The contractor shall furnish piping systems in accordance with the material specifications detailed below. All references to industry standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless stated otherwise. All materials shall be new. Pipe sizes and applications shall be as indicated on the plans and shall conform to the following table.

Pipe Size and Application Table

Pipe Material	Pipe Size	Joint Types	Applications
Ductile Iron	≥ 4-inch	Mech. Joint – Below Ground Flanged Joint – Above Ground Flanged Joint – Inside Structures	Sewage Forcemains
PVC (AWWA C900 DR-18)	4 to 12-inch	Push-on Joint – Below Ground	Sewage Forcemains
PVC (ASTM D2241 SDR-21)	3/4 to 8-inch	Push-on Joint – Below Ground	Sewage Forcemains

PVC (ASTM D3034 SDR-26)	4 to 15-inch	Push-on Joint – Below Ground	Gravity Sewer Mains
HDPE (DR-11)	≥2-inch	Fused – Below Ground Flanged – Inside Structures	Sewage Forcemains

2.1.1 Polyvinyl Chloride (PVC) Pipe and Fittings

Each length shall be clearly marked with the name of the manufacturer, location of the plant, pressure rating, nominal pipe diameter and length. All PVC sanitary sewer pipe shall be green in color. Storage and handling of PVC pipe shall be in accordance with Chapter 6 of AWWA Manual M23.

2.1.1.1 PVC Gravity Sewer Pipe

Gravity sewer pipe shall be PVC 1120, Class 160, SDR-26 and shall conform to ASTM D3034 for size 4-inch through 15-inch and ASTM F679 for 18-inch through 36-inch.

The pipe material shall be clean, virgin, National Sanitation Foundation approves, Class 12454-B PVC compound conforming to ASTM resin specification D1784 with wall thickness T-1. Pipe shall have a bell type coupling with a thickened wall section integral with the pipe barrel in accordance with ASTM D3212. Elastomeric seals shall meet ASTM F477 or ASTM F913. The pipe shall be designed to pass without failure a sustained pressure test of 340 PSI in conformance with ASTM D1598 and a quick burst test of 400 PSI in conformance with ASTM D1784.

2.1.1.2 PVC Fittings

Fittings shall meet the requirements of ASTM D3034 and ASTM F1336 for sizes 4-inch through 15-inch in diameter and ASTM F679 and ASTM F1336 for sizes 18-inch through 36-inch in diameter with minimum wall thickness of SDR-26. Fittings shall be gasket joint type meeting the requirements of ASTM D3212. Elastomeric gaskets shall conform to ASTN F477 or ASTM F913. PVC material shall have a cell classification of 12454-B in accordance with ASTM D1784.

2.1.1.3 PVC Pressure Pipe

PVC force main piping shall be green in color and shall be either SDR-21 Class 200 meeting the requirements of ASTM D2241 with elastomeric integral bell gasketed joints meeting the requirements of ASTM D3036; or AWWA C900 and C905 DR-18. Fittings on PVC force mains shall be ductile iron as specified under Section 2.1.2 below.

2.1.2 Ductile Iron Pipe and Fittings

All buried ductile iron pipe shall have mechanical joints or push-on type pipe joints. Buried fittings shall be mechanical joint with mega-lug type joint restraints. Exposed or above ground ductile iron pipe and fittings shall have flanged joints.

2.1.2.1 Pipe

Ductile iron pipe wall thickness and pressure class shall conform to ANSI A21.50 (AWWA C150) and ANSI A21.51 (AWWA C151) with pressure class 350 as a minimum. Pipe shall be clearly marked with the name of the manufacturer, location of the foundry, pressure rating, thickness or pressure class, nominal pipe diameter, weight of pipe without lining, maximum depth of bury and length. All pipe furnished by the approved manufacturer shall be cast and machined at one foundry location to ensure quality control and provide satisfactory test data. All ductile iron pipe for sewer service shall be color coded green by field painting green stripe, three (3) inches wide along the crown of the pipe barrel.

2.1.2.2 Fittings

Ductile iron fittings shall have a minimum working pressure of 350 PSI. Fittings shall conform to ANSI A21.10 (AWWA C110), ANSI A21.11 (AWWA C111), ANSI A21.15 (AWWA C115) and/or ANSI A21.53 (AWWA C153). Compact fittings shall normally be installed. Long body fittings shall be used where shown on the drawings, where compact fittings are not available, or at the option of the Contractor when the laying length is not controlled by compact fitting patterns. All fittings shall be UL/FM approved and shall conform to NSF Standard 61 as applicable. All fittings furnished by the approved manufacturer shall be cast and machined at one foundry location to ensure quality control and provide satisfactory test data. Fittings shall have cast on them the pressure rating, nominal diameter, manufacturer's name, foundry location, plant code and degrees or fraction of a circle. Cast letters and figures shall be on the outside body of the fitting.

2.1.2.3 Coatings

All buried ductile iron pipe and fittings shall be externally coated with a bituminous coating as specified in ANSI A21.51 and be continuous, smooth, neither brittle when cold or sticky when exposed to the sun, and be strongly adherent to the fitting. If pipe is installed in a corrosive soil, all nuts, bolts, studs and other uncoated parts of joints for underground installation shall be coated with asphalt or coal tar prior to backfilling. All exposed or above ground ductile iron pipe and fittings shall be painted in accordance with Section 09900 of these specifications.

All ductile iron pipes and fittings for sewer service applications shall be Sewer Safe internally lined with an approved amine cured novalac epoxy coating containing at least 20% by volume of ceramic quartz pigment.

2.1.3 High Density Polyethylene (HDPE) Pipe and Fittings

All interior wetwell discharge piping shall be IPS DR-11 (160 PSI) flange by flange high density polyethylene (HDPE) pipe with 316 stainless steel backup rings, nuts, bolts and washers. Each discharge leg shall be one continuous pipe joint.

2.1.4 Joint Restraints

Force mains shall have mechanically restrained joints at changes in direction. The restrainer shall be manufactured of ductile iron and shall meet or exceed the requirements of ANSI A21.11 (AWWA C111) and ASTM A536. The restrainer system shall provide anchoring of ductile iron pipe or fittings or bell to spigot PVC pipe joints. The restrainer shall accommodate the full working pressure rating of the pipe plus surge allowance.

2.2 PRECAST CONCRETE STRUCTURES

2.2.1 Wetwell

Precast wet well base, sections and related structures shall be of the size indicated on the drawings and shall conform to the requirements of ASTM C478 (specification for precast concrete manhole sections and structures) except as modified herein. Cement shall be minimum 4,000 psi concrete meeting the requirements of ASTM C150 (specification for Portland cement, type II). Precast sections shall be provided with "O" ring gasket type joints, conforming to ASTM Designation C443-77, or flexible joint sealant roping of butyl rubber conforming to Federal Specification SS-S-210A, AASHTO M-198, Type B-Butyl Rubber with a minimum cross section of 1 ¼ inches. Lifting devices for handling precast section components shall comply with OSHA Standard 1926.704. Wetwell coatings shall be in accordance with Section 09900 of these specifications.

Wall thickness shall be determined by the precast manufacturer and shall ***be not less than*** 1/12th the inside diameter in inches plus one (1) inch. Ring reinforcement shall be custom-made with openings to meet indicated pipe alignment conditions and invert elevations. Bases for wet wells shall be cast integrally with the bottom section.

A Flexible Neoprene-EPDM pipe connector, conforming to ASTM C443 shall be used to connect the sewer influent pipe to the precast concrete wet well. The connector shall be a minimum of three-eighths (3/8) inches thick or greater and resistant to ozone, weathering, aging, chemicals and petroleum products. The securing bands shall be stainless steel and screw assembly and totally non-magnetic Series 304 stainless steel. The connector shall be of a size specifically designed for the specified pipe material and size. The interior annular space between the exterior of the pipe and the interior of the connector shall be filled with a Type II lean cement grout. The exterior (below grade) of precast concrete wet wells shall be given two coats of an approved bituminous water proofing materials.

2.2.2 Round Precast Concrete Manholes

Precast concrete manholes or calcium aluminate cement concrete manholes used shall conform to all requirements of ASTM Designation C478 at minimum and be provided with "O" ring gasket type joints, conforming to ASTM Designation C443-77, or flexible joint sealant roping of butyl rubber conforming to Federal Specification SS-S-210A, AASHTO M-198, Type B-Butyl Rubber with a minimum cross section of 1 ¼ inches. Lifting devices for handling precast manhole section components shall comply with OSHA Standard 1926.704. Manhole coatings shall be in accordance with Section 09900 of these specifications.

2.2.2.1 Top Section

Top Section shall be cast monolithically and shaped as an eccentric cone except that a concentric cone shall be used for manhole depths 5-feet or less. Joint systems must match associated riser or base sections. The clear opening for the manhole frame and cover shall not be less than 24-inches for main sewers 6-inches 18-inches in diameter, and not less than 32-inches for main sewers greater than 18-inches in diameter.

Where manhole depth will not permit a diameter transition or cone section, a precast flat slab top section shall be provided with a 24-inch or 32-inch diameter hole (as required above) for the manhole frame and cover opening.

2.2.2.2 Riser Section

Riser sections shall be cast monolithically and have a minimum length of 16-inches. Joint systems must match associated riser, cone or base sections.

2.2.2.3 Base Section

Base sections shall be cast monolithically and have a minimum length of 16-inches. Joint systems must match associated riser sections.

2.2.2.4 Manhole Inverts

Manhole inverts shall be precast and provide clearance for pipe projecting a minimum of 2-inches inside the manhole wall. For straight through flow manholes, troughs shall be formed and finished to the same slope as the incoming and outgoing sewer mains. Manholes placed at changes in grade or direction shall be formed and finished to provide a minimum drop of 0.10-feet between the inlet and outlet pipes.

The minimum thickness of precast inverts from the bottom of the lowest invert to the bottom of the base shall not be less than 8- inches. Benches shall have a uniform 2:1 slope from the high point at the manhole wall to the lip of the invert trough. The invert trough shall have a minimum depth of ½ of the main pipe

diameter. Precast inverts shall be free from depressions, high points, voids, chips or fractures over ¼-inch in diameter or depth.

Hand-formed inverts, when approved for use, shall meet or exceed the durability, strength, configuration and hydraulic "smoothness" required for precast inverts. Filler for hand formed inverts shall be holed burned brick.

2.2.2.5 Manhole Steps

Manhole steps shall be provided on the vertical or straight wall of 4-foot and 5-foot diameter manholes and shall be aligned vertically on 16-inch centers. Steps shall be secured to the manhole wall with a compression fit in tapered holes or cast in place. Steps shall be coated with a copolymer polypropylene plastic coating, reinforced with a ½-inch diameter grade 60 bar, and be provided with serrated treads and tall end lugs. Step pullout strength shall be 2000 lbs. minimum when tested according to ASTM C497. Steps shall begin no less than 18-inches from the manhole rim and end no closer than 16-inches above the manhole bench.

Manhole steps shall not be used on manholes greater than 5-feet in diameter or where a concentric cone or flat-slab top is the final section.

2.2.2.6 Pipe Connections

Provide preformed rubber boots at all pipe connections to manholes. Rubber boots, with stainless steel fasteners shall be equal to those manufactured by Kor-N-Seal or Press Seal Gasket Corporation.

2.2.3 Square and Rectangular Precast Structures and Vaults

Precast concrete sections shall meet the requirements of ASTM C 913. The minimum 28-day compressive strength of the concrete in precast sections shall be 4,000 PSI.

The design of each structure shall be the responsibility of the manufacturer and shall conform to ACI 318 and the minimum structural design loading requirements as defined in ASTM C 890. The minimum design dead load shall be based on the depth shown on the drawings.

Precast sections shall be manufactured such that the spigot end is at the top of each section. Dimensions for square and rectangular precast sections, where required, are shown on the drawings.

2.3 MANHOLE FRAMES AND COVERS

Manhole frames and covers shall be Gray Cast iron conforming to specification ASTM-A48 Class 35B. Castings shall be of uniform quality, and free from blowholes, porosity, hard spots, shrinkage distortion and other defects. Frames and covers shall be smooth, well-cleaned by shot blasting and shall remain unpainted. All castings shall be manufactured true to pattern, and component parts shall fit together in a satisfactory manner. The frame and cover shall be designed to withstand an AASHTO H-20 wheel loading. The frame and cover shall have an "O" Ring type rubber seal or neoprene gasket designed to eliminate or significantly reduce surface water infiltration, have two non-penetrating pick-holes in the cover and four one (1) inch diameter anchor holes in the frame flange. The cover shall read "Sanitary Sewer".

Manhole frames and covers on 4-foot diameter manholes shall have a minimum inside opening diameter of not less than 23-inches and no more than 24-inches. Manhole frames and covers on 5-foot diameter manholes and greater shall have a minimum inside opening diameter of not less 30-inches and not more than of 31-inches.

Manhole frames and covers within easements or in areas where security is an issue shall be equipped with manhole locking devices or bolt down covers.

2.4 VALVES

All lift stations shall be equipped with an isolation valve, check valve and gauge fitting on its discharge header. The common manifold header for the pumps shall be equipped with a combination air/vacuum release valve and isolation valve to isolate the entire pumping system from the serving force main.

2.4.1 Plug Valves

Lift station isolation valves shall be plug valves mounted horizontally on the discharge header. All plug valves shall be non-lubricated eccentric plug type with Buna "N" neoprene, epoxy or fusion bonded, nylon faced plugs. Valve bodies shall be ASTM A126, Class B cast iron with all exterior mounted bolts and nuts to be of stainless steel. The interior of all plug valves shall be epoxy coated. Plug valves shall be rated for a minimum of 150 PSI and shall provide drip tight shut off with this pressure in either direction.

Port areas of four (4) inch through twelve (12) inch valves shall be 100% of full pipe area. Valve seat shall consist of either a welded 1/8-inch overlay of pure nickel, or shall be 316 stainless steel screwed into the cast iron body.

Upper and lower plug stem bearings shall be sleeve type of a stainless steel or other non-corrosive bearing material. The packing shall be adjustable and the bonnet shall be bolted. All bolts, nuts and washers shall be 316 stainless steel.

Plug valves up to six (6) inches in size shall be lever operated. All plug valves eight (8) inches and larger shall be equipped with totally enclosed worm gear actuators complying with AWWA C504. All gearing shall run in oil. The actuator housing shall be semi-steel

with seals to prevent dirt or water from entering the housing. Shaft bearings shall be permanently lubricated bronze bushings. Appropriately sized hand wheel operators shall be provided for each gear actuated valve.

Plug valves shall be as manufactured by Dezurik

2.4.2 Check Valves

Lift station check valves shall be swing check valves mounted horizontally on the discharge header upstream of the isolation plug valve. Swing check valves shall conform to the requirements of AWWA C508. All check valve interiors shall be fully coated with a liquid thermosetting epoxy suitable for use in wastewater applications.

Swing check valves larger than two (2) inches in diameter shall be rated for a working pressure of 150 PSI. Valves shall have a cast iron body with stainless steel bolts and nuts, flanged ends, 316 stainless steel shaft connected to steel outside lever and stainless steel spring, swing type with straight away passageway of full pipe area. The valve shall have a renewable bronze seat ring and rubber faced disk.

Swing check valves two (2) inches in diameter and smaller shall be all brass swing check valves with a 200 PSI working pressure.

Check valves shall be as manufactured by Clow.

2.4.3 Air Release Valves

Lift station air release valves shall be combination air and vacuum release valves placed on the discharge header manifold piping upstream of the manifold's station isolation valve on the common header.

Combination air release valves shall have a minimum inlet size of two (2) inches, stainless steel internal trim (including float, lever arm, linkage, etc.), stainless steel assembly bolts, and stainless steel ball valves. The body of the air valve shall be of composite material, stainless steel (SAE 316) or ductile iron.

Air release valves shall be Model D-025 as manufactured by A.R.I. optimal Flow Solutions.

2.5 DISCHARGE GAUGE FITTINGS

A discharge gauge fitting shall be installed on the discharge header of each submersible pump a minimum of six (6) inches upstream from the discharge valve. Gauges shall be 4-1/2 inch diameter glycerin filled Wika discharge gauge, graduated in one (1) PSI increments (0 to 60 PSI) and one (1) foot increments of water (0 to 140 feet) scale range. Gauges shall be provided in plastic protective cases and equipped with quick disconnects. Complete assembly to include gauge, 316 stainless steel nipple approximately two (2) inches in length, ¼ inch stainless steel ball valve and a ¼ inch NPT quick connect coupler.

2.6 MAGNETIC FLOW METER

Furnish, install and test electromagnetic flowmeters and all necessary appurtenances on lift station discharge piping at the locations indicated. The function of the flowmeter shall be to measure, indicate and transmit the flow of a conductive process liquid in a full pipe.

2.6.1 Type

Electromagnetic flowmeter with operation based on Faraday's Law utilizing pulsed dc coil excitation. The meter shall utilize a full bore flow tube with magnetic field traversing the entire cross-section. Insertion style, multiple point probes inserted into a spool piece, or "liner less" spool piece designs with modular sensors inserted into standpipes are not acceptable. The unit shall be suitable for raw wastewater or liquids with a minimum conductivity of 5 microS/cm. Meter shall be Emerson Process Management – Rosemount Division model 8750WA Magmeter. See Specification Section 01600 for restrictions and requirements for substitutions, product and manufacturer options, and construction method options.

2.6.2 Operating Temperature

Flow Tube:	Ambient	5°F to 150°F
	Process	0°F to 140°F for polyurethane
Transmitter:	Ambient	-20°F to 140° (For surface mount w/integral display)
	Storage	-22°F to 175°F (For surface mount)

2.6.3 Performance

Flow Ranges: Site specific - to suit pumping requirements

Minimum flow	0	GPM
Maximum flow	600	GPM

Accuracy: Plus or minus 0.5% of rate for all flows resulting from pipe velocities of one (1) to thirty (30) FPS, with option for 0.25% of rate

Turndown ratio: Minimum of 30 to 1 when flow velocity at minimum flow is at least one (1) FPS

Repeatability: Plus or minus 0.1% of reading

Response Time: 0.2 seconds maximum response to step change in output

Stability: Plus or minus 0.1% of rate over six (6) months

Ambient Temperature Effect: 0.25% over operating temperature range

2.6.4 Features

The flowmeter shall be equipped with the following features:

- Ability to check zero alignment without stopping flow
- Capable of measuring bi-directional flow
- Low flow adjustable between 0.01 FPS and 1 FPS. Below selected value, output is driven to the zero flow rate signal level
- Non-volatile totalizer
- Forward, reverse and net totals
- 75 process updates per second

2.6.5 Process Connection

Meter size:	(Site specific)	6	inches
Connection Type:	150-pound ANSI raised-face flanges		
Flange Material:	Carbon steel		

2.6.6 Materials of Construction

Power Transmitter:	120V ac, 60 Hz	
Flow Tube:	Meter Tube	316 SS
	Liner Material	Polyurethane
	Coil Drive Power	Not less than 0.5 Amps
	Electrode Type	Flush
	Electrode Material	316 SS or Hastelloy-C
	Grounding Rings	316 SS
	Enclosure	NEMA 4X 316 SS

2.6.7 Transmitter

Transmitter shall be field mounted with digital LCD display indicating flow rate and total. Parameter adjustments shall be by keypad or non-intrusive means. Enclosure shall be NEMA 4X 316 SS dual compartment housing with the terminal block isolated from the electronics compartment.

Empty Pipe Detection:	Drives display and outputs to zero when empty pipe is detected
4 to 20 mA Output Signal:	Isolated 4 to 20 mA, jumper selectable as internally or externally powered 5 to 24 volt dc, 0 to 1000 ohm load

	Supports superimposed digital HART protocol for reading totalized flow values
Frequency Adjustment:	0 to 10,000 Hz, externally powered at 5 to 24 volt dc
	Transistor switch closure supports power loads up to 2W for frequencies up to 4,000 Hz and 5 volt dc at 0.1W at maximum frequency of 10,000 Hz
	Pulse can be set to equal desired velocity or volume in user selectable engineering units
	Pulse width adjustable from 1.5 to 500 msec, below 1.5 msec pulse width automatically switches to 50% duty cycle
Discrete Outputs:	Two discrete outputs rated for up to 30 volts typical
	Programmable for the following typical parameters: • High/low flow rates • Percent of range • Empty pipe zero • Fault conditions
Discrete Inputs:	Configured for the following typical parameters: • Reset totalizer • Change rate • Hold output constant • Drive output to zero • Low flow cutoff
Output Testing:	Analog output test – transmitter may be commanded to supply a specific current between 3.75 and 23.25 mA
	Pulse output test – transmitter may be commanded to supply a specified frequency between 1 pulse/day and 10,000 Hz
Damping:	Adjustable between 0.0 and 256 seconds
Cables:	Cables used to interconnect the flow tube and transmitter for remote operation shall be standard Belden or Alpha equivalent, lengths as required to accommodate device locations

Built-in Diagnostics:	Features: • Field programmable electronics • Self-diagnostics with troubleshooting codes Meter verification capability • Coil resistance • Coil signature value • Electrode resistance • High process noise detection • Electronics temperature monitoring • Wiring and grounding verification • Coil fault detection • Empty pipe detection Fully functional diagnostics in AMS Device manager including help screens with troubleshooting guidance Transmitter shall be capable of interoperability with flow tubes from all manufacturers. This includes the ability to drive the flow tubes at different coil currents and provide meter verification diagnostics for the magmeter system. The flow meter system will be verifiable without an external device.
Factory Calibration:	Shall be calibrated in an ISO 9001 and NIST certified facility Factory flow calibration system must be certified by volume or weight certified calibration devices

2.7 MISCELLANEOUS ITEMS

2.7.1 Detection Tape

Detection tape shall be provided on all gravity sewer and force mains. Detection tape shall be at least two inches wide mylar encased metal marking tape and will bear the printed identification "CAUTION: SEWAGE FORCE MAIN BELOW" or “CAUTION: GRAVITY SEWER MAIN BELOW”. Detection tape shall be buried eight to twelve inches below plan finished grades.

2.7.2 Tracer Wire

Tracer wire shall be installed on all buried PVC force mains. Tracer wire shall be continuous or properly spliced single strand No. 10 solid plastic coated (30 mil) copper wire from iron fitting to iron fitting.

PART 3 EXECUTION

3.1 PRODUCT DELIVERY, STORAGE AND HANDLING

The contractor shall inspect all materials delivered to the job site for damage. Materials shall be unloaded and stored with a minimum of handling. Materials shall be stored above ground and the interior of pipe and fittings shall be kept free of dirt and debris. Store non-metallic piping and rubber gaskets under cover and protect from exposure to sunlight.

Precast concrete manholes and other appurtenances shall be handled to ensure delivery at the point of installation in sound, undamaged condition. If coating or linings of pipe or fittings are damaged, such pipe and fittings shall be removed from the site and new materials furnished. Pipe shall not be dragged.

3.2 INSTALLATION

The contractor shall install all pipe, fittings, valves, wetwells, manholes and appurtenances in accordance with the specifications detailed below. All references to industry standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless stated otherwise.

3.2.1 Pipe and Fittings

The type, class, grade, and alignment of sewer pipe may be changed only at manholes. Sanitary sewer mains crossing under storm drains shall be installed in a casing pipes centered under the storm drain.

3.2.1.1 General

Excavation, cleaning, laying, jointing and backfilling shall follow as closely as possible during prosecution of the work. In no case shall pipe be left in the trench overnight without completing the jointing. All precautions shall be taken to prevent sand, dirt and debris from entering the pipe during installation. Any time that pipe installation is not in progress, open pipe ends shall be closed by a watertight plug or other method approved by the Engineer.

Plugs shall remain in pipe ends until all water has been removed from the trench and any foreign material that enters the pipe shall be removed immediately. No pipe shall be installed when trench or weather conditions are unsuitable for such work.

Sewer mains shall not be laid closer than ten (10) feet horizontally from a water line unless otherwise indicated on the drawings or directed by the Engineer. Sanitary sewer lines shall pass beneath water lines with the top of the sewer being at least eighteen (18) inches below the bottom of the water line, Where sewer lines cross water lines, no joints in the sewer line shall be located closer than ten (10) feet horizontal distance from the water line.

Trench excavation, bedding, backfill and compactions shall be in accordance with Section 02220 of these specifications.

3.2.1.2 Pressure Pipe

All PVC C900/C905 pipe shall be laid in accordance with AWWA C605. All ductile iron pipe and fittings shall be laid in accordance with the manufacturer's recommendations and AWWA C600. Each section of pipe shall rest upon the pipe bed for the full length of its barrel, with recesses excavated to accommodate bells and joints.

Pipe alignment and gradient shall be straight or shall follow true curves as near as practicable. Curvature in pipe lines, where required, shall be well within (no more than 80% of) the manufacturer's allowable joint deflection or laying radius for the pipe supplied. Otherwise fittings shall be required.

Forcemain pipe shall be laid with a minimum cover of forty two (42) inches in paved areas and thirty six (36) inches in unpaved areas with an allowable maximum of sixty (60) inches. Cover in paved areas shall be measured from crown of pipe to finish grade. Greater depths are permissible when required to clear obstructions, conflicts, etc.

Contractor shall furnish and install locate wiring on all non-metallic pressure mains. Locate wire shall be brought to grade outside a valve box or locating station box, as required, at four hundred and seventy five (475) foot intervals (maximum). In addition, all pressure mains shall have detection tape installed two (2) feet above the pipe. Tracer wire and detection tape shall be as specified in Paragraph 2.7 of this Section.

Installed locate wiring shall be tested by the contractor as part of the inspection process, using a qualified tester and suitable testing equipment. The contractor shall notify the JWSC/Engineer at least 48 hours in advance of the locate wire field testing schedule.

3.2.1.3 Non-Pressure Pipe

Plastic piping installation shall be in accordance with ASTM D2321. Pipe laying shall proceed upgrade with pipe bells on the upper end. Pipe to be laid with joints close and even, butting all around. Sagging joints will not be tolerated. Pipe shall be straight and of uniform grade between manholes, laid to line and grade. Bell holes shall be dug so that the pipe barrel will carry the load of the pipe.

Where sewers or force mains, are to be connected to existing manholes or other structures, and where no stub or opening has been provided for the connection, the Contractor shall core drill an opening of minimum diameter through the side wall of the existing structure for inserting the sewer pipe. A flexible rubber boot shall then be installed to seal around the new pipe for a watertight connection.

The Contractor shall install a continuous run of plasticized metallic detection tape above the top of the sewer main at 12" to 18" below finished grade. Detection tape shall be as specified in Paragraph 2.6 of this Section.

3.2.2 Wet Wells and Manholes

Wet wells and manholes shall be installed at the locations and elevations shown on the plans. Standard details for the installation of precast concrete wet wells manholes are provided on the construction plans. Outside drop connections shall be installed where indicated.

Wet well and manhole coatings shall be in accordance with Section 09900 of these specifications.

3.2.3 Manhole Frame and Covers

The top rim of manhole frames and covers shall be set to conform to grades and transverse slopes. Manhole rim elevations are indicated on the plans but shall be adjusted as required to meet these specifications. Generally along outfall lines, the manhole frame and covers shall extend approximately 6" above finish grade or to a designated elevation for flood protection. Generally along paved streets and parking areas, and other unpaved areas subject to vehicular traffic the manhole frames and covers shall be set flush with the surface.

Grade rings, where necessary to serve as spacers between the top cone of the manholes and the base of the manhole cover frame to bring the manhole to design or finish grade, shall be hard rubber in paved areas and high density polyethylene or cement rings in off road applications. Adjustments using clay or cement brick are not acceptable. On new construction, an adjustment using metal riser rings to extend the manhole cover frame to grade is not permitted. No adjustment using grade rings between the top cone section and the manhole cover frame shall exceed 12-inches.

3.2.4 Valves

All valves and appurtenances shall be installed in the locations shown on the drawings, true to alignment and properly supported. Any damaged items shall be repaired to the satisfaction of the JWSC/Engineer before they are installed.

Install all valve boxes, brackets, extension rods, guides, the various types of operators and appurtenances as shown on the drawings. Flanged or buried mechanical joints shall be made with cadmium plated bolts. All exposed bolts shall be cadmium plated bolts. All exposed bolts and nuts and all above ground valves shall be painted in accordance with Section 09900 of these specifications

3.2.5 Discharge Gauge Fittings

The gauge fittings shall be installed on discharge header piping a minimum of six (6) inches upstream from each pumps check valve. The gauge fitting shall be installed by drilling and tapping a ¼-inch NPT hole, installing a 316 stainless steel nipple, a ¼-inch stainless steel ball valve, another 316 stainless steel nipple to the ball valve and attaching a ¼-inch NPT quick connect coupler to the nipple.

3.3 FORCE MAIN TESTING

Force mains shall be hydrostatically tested to 1.5 times the working pressure of the associated lift station or 100 PSI whichever is greater in accordance with the procedures of AWWA C600. Testing shall be observed by the JWSC inspector.

All installed isolation, air release and check valves shall be tested for proper operation. Force main tracer wire shall be checked for continuity along the pipe run and checked at terminus points for proper connection.

(END OF SECTION)

SECTION 02820
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 WORK INCLUDED

Provide all labor, materials and equipment necessary for the installation of a complete fence system to the limits and at the locations shown on the construction plans.

1.2 SUBMITTALS

Complete shop drawings and product data shall be submitted in accordance with the requirements of Section 01340 of these specifications.

1.3 RELATED WORK SPECIFIED ELSEWHERE

01340 Shop Drawings

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

Overall height for new fencing shall be 8-feet including three strands of barbed wire. Posts shall be set at no more than 10-foot centers and anchored a full three feet deep in concrete footings poured to the limits of the excavation. Corner posts shall have the necessary strut and tie bracing. Provide gates of the sizes and at the locations indicated.

2.2 MATERIALS

2.2.1 Fence Posts, Rails and Appurtenances

All fence posts, rails and appurtenances shall be hot dipped galvanized with a minimum of 0.9 ounces per square foot of surface area. Dimensions of the various members shall be as follows:

Member	Dimension
Corner Posts	3.0-inch O.D. (5.79 #/Ft)
Intermediate Posts	2.5-inch O.D. (3.65 #/Ft)
Gate Posts	4.0-inch O.D. (9.11 #/Ft)
Gate Frames	2.0-inch O.D. (2.72 #/Ft)
Braces	1.625-inch O.D. (2.27 #/Ft)
Top Rails	1.625-inch O.D. (2.27 #/Ft)

2.2.2 Fence Fabric

Fence fabric shall be steel chain link fabric of No. 9 gauge aluminum coated steel fabri

woven into a 2" mesh with green PVC coating. Fabric shall be 72" wide. Fence fabric shall conform to the requirements of ASTM A491. Continuous tension wire shall be provided at the lower edge of the mesh.

2.2.3 Barbed Wire

Barbed wire shall consist of three strands of 12-1/2 gauge galvanized wire with 14 gauge 4 point round barbs spaced not more than 5" apart.

2.2.4 Concrete

Concrete for fence posts shall be 3,000 PSI.

2.2.5 Gates

Gates shall be complete with latches, stops and hinges. Gate frames shall be as specified in Paragraph 2..2.1 above. Welds shall be painted with aluminum or zinc based paint. Fabric shall be as specified for the fence material. Provisions for padlocking shall be provided.

2.2.7 Miscellaneous Hardware

All miscellaneous hardware shall conform to the Chain Link Fence Manufacturer's Institute standards. All parts shall be galvanized.

PART 3 EXECUTION

3.1 PRODUCT DELIVERY, STORAGE AND HANDLING

The contractor shall inspect all materials delivered to the job site for damage. Materials shall be unloaded and stored with a minimum of handling. Materials shall be stored above ground.

3.2 INSTALLATION

Fence posts shall be uniformly spaced and shall not exceed 10 on centers. Line posts shall be set in 16" diameter holes, 36" deep with a 33" post embedment. Corner posts shall be set in 24" diameter holes, 36" deep with a 33" post embedment. Post holes shall be filled with concrete.

Terminal and gate posts shall be set as specified above and braced to the nearest post. Intermediate posts shall have waterproof tops with cast openings through which the tops rails pass.

Tension wire shall be stretched taut between terminal posts and securely fastened to intermediate posts 6" above finished grade line. Fabric shall not be stretched until concrete footings have cured for a minimum of 3 days.

(END OF SECTION)

DIVISION 9

SECTION 09900
PAINTING

PART 1 GENERAL

1.1 WORK INCLUDED

The work of this section includes furnishing all labor, materials and equipment required to clean and paint exposed ductile iron piping systems and equipment as described herein and as shown on the drawings.

1.2 SUBSTITUTIONS

To the maximum extent possible, all coatings shall be the products of a single manufacturer. Guidelines for determining acceptability of substitutions are given in Section 01600 of these specifications. Contractors intending to furnish substitute materials or equipment are cautioned to read and strictly comply with these guidelines

1.3 SUBMITTALS

Complete manufacturer's literature in accordance with the requirements of Section 01340 of these specifications shall be submitted.

The Contractor shall submit to the Engineer the following information:

1. A list of all components (paints or other materials) to be used in each painting system required herein.

2. A complete descriptive specification, including manufacturer's data sheet, of each component.

3. Prior to completing the purchase and delivery of the coating material selected by the Contractor, the Contractor shall obtain a letter from the material supplier stating that the selected material is suitable and compatible for application and use as directed under these Specifications, and that if properly applied will provide metal protection and a pleasing appearance for five years or longer.

4. A color chart for each product to be applied.

1.4 PAINTING REQUIREMENTS

Finish paint all new and exposed ductile iron piping (interior and exterior) systems including steel straps at pipe supports. Exposures and surfaces are defined in Part 3 of this Section, Paragraph 3.6. Items to be left unfinished or to receive other types of finishes are specifically shown on the drawings or specified. Properly protect existing finish painted items and surfaces from damage throughout the project. Repair any damage to existing coatings in accordance with the requirements of this Section, at no expense to the Owner.

1.5 QUALITY ASSURANCE

The following information shall be included on the label of all containers of materials supplied under this Section:

1. Manufacturer's Name
2. Type of paint or other generic identification
3. Manufacturer's stock number
4. Color (if any)
5. Instructions for mixing, thinning or reducing (as applicable)
6. Manufacturer's application recommendations
7. Safety and storage information

All coating material used on this project shall be purchased specifically for this project and furnished in new, unopened containers.

1.6 PRODUCT HANDLING

Deliver materials in original, sealed containers of the manufacturer with labels legible and intact. Each container shall be clearly marked or labeled to show paint identification, date of manufacture, batch number, analysis or contents, and special instructions. At all times a copy of every component's MSDS shall be available.

1.7 MATERIAL SCHEDULES

Material schedules included in Part 2, Paragraph2.2 of this Section list prime coats, intermediate coats, finish coats and cover coats that comprise a complete and compatible system of surface protection for a particular substrate. Maintain the unity of these systems, making sure all coats applied to any surface are from the same system and same manufacturer. Verify with the manufacture the compatibility of the materials used.

PART 2 PRODUCTS

2.1 COATING MATERIALS

The only acceptable manufacturers and products shall be those listed in the material schedules below. All applicable data currently published by the paint manufacturer relating to surface preparation, coverage, film thickness, application technique, drying and over coating times is included by reference as a part of this section. It is the responsibility of the Contractor to obtain and fully understand the appropriate data sheets for the coatings specified.

Paints shall be factory mixed and delivered to the site in unbroken original packages bearing the manufacturer's name and brand designation and shall be applied in strict accordance with the manufacturer's printed instructions. Two component coatings shall be mixed in accordance with the manufacturer's instructions. All two component coatings, once mixed, shall be applied within the pot-life recommended by the manufacturer. Paints, thinners, driers, varnish, etc., shall be of

the best grade and shall be furnished by the coating manufacturer for use with the specified paints.

The Owner will select the colors to be used on the various portions of the work. Provide color cards for the coatings proposed. Where more than one coat of paint is required, job tint off-shade the paint for each undercoat to show complete coverage.

Material Schedules

SYSTEM: 247 **TYPE: POLYURETHANE** **USE: EXTERIOR FERROUS METALS** **SURFACE PREPARATION: SP-6**						
Coat	**Minimum Dry Film Thickness (Mils)**	**Ameron**	**Carboline**	**Induron**	**Sherwin Williams**	**Tnemec**
1st	3.0	Amercoat 370 or 385	Carboguard 893 SG	Amourguard P-14 Primer	Macropoxy 646 FC Epoxy	Series 66-1211 Epoxoline
2nd	4.0 – 6.0	Amercoat 370 or 385	Carboguard 893 SG	Amourguard Epoxy	Macropoxy 646 FC Epoxy	Series 66-Color Epoxoline
3rd	2.0 – 3.0	Amercoat 450 Series	Carbothane 134 HG	Indurethane 5500 Enamel	Sherthane 2K Urethane	Series 1074-Color Endura-Shield IV
System	11.0					

2.3 MIXING AND TINTING

When possible, all paints and other materials shall be mixed and tinted by the paint manufacturer prior to delivery to the job site. When job site mixing and/or tinting is required, the manufacturer's recommendations shall be strictly adhered to. The Contractor shall be solely responsible for the proper conduct of all on-site mixing and/or tinting.

2.4 PIPE AND EQUIPMENT IDENTIFICATION

Different colors will be used on pumps, motors, valves, piping systems and other surfaces as shown in the Table below.

Pipe Identification and Color Coding

	Paint Colors		
Pipe System	**Pipe**	**Letters and Arrows**	**Stencil Text**
Raw Sewage	To Be Selected by Owner	White	Raw Sewage

PART 3 EXECUTION

3.1 GENERAL

Protect other surfaces from paint and damage. Furnish sufficient shields and protective equipment to prevent spray or droppings from fouling surfaces not being painted. Repair damage as a result of inadequate or unsuitable protection.

No coat of paint shall be applied until the surface has been inspected and accepted by the Engineer. The Contractor shall give at least 24 hour notice to the Engineer when cleaning is to be performed to prevent inspection delays. The Contractor shall provide the necessary access for inspection by the Engineer.

Shop applied prime coatings which are damaged during transportation, construction or installation shall be thoroughly cleaned and touched up in the field as directed by the Engineer. The Contractor shall use repair procedures which ensure the complete protection of all adjacent primer. The specified repair method and equipment may include wire brushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted areas, blast cleaning may require use of lower air pressure, small nozzle and abrasive particle sizes, short blast nozzle, distance from surface, shielding and masking. If damage is too extensive or uneconomical to touch up, then the item shall be re-cleaned and coated or painted as directed by the Engineer.

3.2 ENVIRONMENTAL CONDITIONS

Environmental conditions which affect coating application include, but are not necessarily limited to, ambient air temperature, surface temperature, humidity, dew point and environmental cleanliness. Comply with the manufacturer's recommendations regarding environmental conditions under which coatings may be applied.

Surface preparation and cleaning of the exterior surfaces must be performed during periods of still air or only a slight breeze so that fall out of the dust produced does not drift onto adjacent property. The Owner reserves the right to temporarily stop the Contractor from exterior blasting (or painting) when by observation it is apparent that the wind direction or velocity prevents compliance with this requirement. Any cleanup of fall out on adjacent property shall be the responsibility of the Contractor. All blast residue shall be properly disposed of off-site by the Contractor.

No paint shall be applied on damp or frosty surfaces, or in wet or foggy weather. No paint shall be applied in temperatures below 40°F, when freezing is predicted within 24 hours of application, or under temperature or humidity conditions not recommended by the manufacturer. However, in no case shall coatings be applied when the surface temperature is within 5°F of dew point, and in no cases shall coating be applied over a damp surface.

3.3 SAFETY

The Contractor is responsible for the safety of all workers and subcontractors and suppliers performing work on this project. The Contractor shall protect the Owner, their agents, and the general public from harm attributable to the Contractor's performance, or non-performance, of work on this project. The protection shall include, nut not be limited to, providing the necessary safety equipment and instructions for its use by the Owner, and their agents.

The interior of tanks, vaults and manholes may be considered a confined space hazard. The Contractor shall confirm to the Owner, in writing, prior to the start of the project that the Contractor has training programs, trained personnel, and is otherwise in compliance with CFR

1910.146.

3.4 SURFACE PREPARATION

All surfaces shall be thoroughly clean, dry and free from oil, grease, or dust. The Engineer will inspect the surface preparation prior to the application of coatings. Standards for the surface preparation of ferrous metals required in the Material Schedules are the Standards of the SSPC – Society for Protective Coatings (SSPC, SP-1 through SP-10).

3.5 APPLICATION

After specified surface preparation, all surfaces shall be brushed free of dust or foreign matter. Surfaces shall be completely dry before any paint is applied. Paint shall be evenly spread in the proper thickness, so that there shall be no drops, or runs of the coating. Where runs and drops do occur, they shall be removed and the surface re-coated to the satisfaction of the Engineer. Sufficient time, as directed by the manufacturer, shall be allowed for the paint to dry before the application of succeeding coats.

Use drop cloths or other suitable means to protect other surfaces of the structure or equipment in place. Upon completion of the work, remove all paint spots from surfaces as directed by the Engineer. The Engineer will inspect each coat prior to the application of subsequent coats. Remove and replace any painting work found to be defective or applied under adverse conditions.

3.6 PAINTING SCHEDULE

The painting schedule below summarizes the painting systems to be applied to the various surfaces. Items which appear in the painting schedule are defined in subsequent paragraphs.

Painting Schedule

Exposures	Surfaces	System Schedules				
		Concrete & Concrete Block Substrate	Non-Ferrous Metals Substrate	Ferrous Metals Substrate	Wood Substrate	Drywall Substrate
Exterior	Ductile Iron Piping	NA	NA	247	NA	NA

Painting Schedule Numbering Guide

First Number - Exposure		Second Number - Substrate		Third Number – Coating Type	
1	Interior and Weather Protected	1	Non-Ferrous Metals	1	Alkyd
2	Exterior Weather Exposure	2	Wood	2	Asphaltic
3	Submerged in Potable Water but Protected from Sunlight	3	Concrete, Concrete Block, Masonry	3	Calcium Aluminate
4	Submerged in Potable Water and Exposed to Sunlight	4	Ferrous Metals	4	Epoxy
5	Submerged in Wastewater	5	Galvanized Ferrous Metals	5	Vinyl
6	Submerged in Wastewater and Exposed to Sunlight	6	Drywall	6	Coal Tar

7	Submerged in Wastewater and Exposed to Hydrogen Sulfide Gas	7	PVC Pipe	7	Polyurethane
				8	Acrylic
				9	Zinc

Exposure terms refer to the environmental conditions to which different surfaces may be exposed.

1. Interior: All surfaces within the confines of a building or other enclosure not constantly exposed to weather, including concealed surfaces subject to trapped moisture, heat or other deteriorating conditions and all surfaces exposed to view.

2. Exterior: All surfaces above finished grade and exposed to weather.

Surfaces include the following.

1. Piping: All plumbing and process piping and accessories including valves, fittings, pipe supports, electrical conduit and similar related items.

3.7 MAINTENANCE MATERIALS

Furnish the Owner at least one gallon of each type and color of paint used for finish coats and one gallon of each type of thinner required. Containers shall be tightly sealed and clearly labeled.

3.8 COATING REPAIR

Where coatings have been damaged, the surfaces shall be cleaned and re-painted. Surface preparation shall conform to SSPC-SP 11, and feathered into undamaged areas. Painting shall be performed as specified for the damaged surface.

(**END OF SECTION)**

DIVISION 11

SECTION 11210
SUBMERSIBLE SEWAGE PUMPS

PART 1 GENERAL

1.1 WORK INCLUDED

The work covered by this Section includes furnishing all labor, equipment and materials required to install and place into operation submersible sewage pumping equipment, controls and accessories as shown on the drawings and specified herein.

The pumping units shall be designed and furnished in accordance with the latest hydraulic institute specifications for submersible sewage pumps. The pump and motor units shall be designed and constructed to operate continuously at full nameplate load while the motor is completely submerged, partially submerged, or totally non-submerged.

1.2 SYSTEM SOURCE AND QUALITY ASSURANCE

All pumps, controls and accessories shall be furnished by a single manufacturer who shall assume complete system responsibility for the pumping system as specified or shown on the construction plans.

1.3 SUBMITTALS

Complete manufacturer's literature in accordance with the requirements of Section 01340 of these specifications shall be submitted. Information to be submitted includes:

1. Manufacturer's data and bulletins
2. Performance curves for all pumps showing capacity, head, horsepower, efficiency, and NPSH requirements over the manufacturer's recommended range of operation
3. Motor data
4. Dimensional drawings of all pumps, access covers and related equipment
5. Complete electrical diagrams for control panels
6. Control panel layout drawings
7. Catalog data on all ancillary electrical components

1.4 PERFORMANCE REQUIREMENTS

Submersible sewage pumps shall be suitable for pumping raw sewage under the operating conditions specified in the following table:

Pump	Capacity (GPM)	TDH (FT)	HP	Discharge Size (Inches)	Electrical	RPM	Shut-off Head (FT)	FLYGT Model No.
P-1	250	40.0	10	4"	230V, 3Ph	1735	52.5	CP3127.181 MT
P-2	250	40.0	10	4"	230V, 3Ph	1735	52.5	CP3127.181 MT

1.5 WARRANTY

In addition to the general guarantee required elsewhere in these specifications, the pump manufacturer shall furnish the Owner with a written warranty to cover the pumps, motors and controls against defects in workmanship and material for a period of 5 years under normal use and service.

1.7 ACCEPTABLE MANUFACTURERS

These specifications and accompanying drawings are based upon the use Flygt Pumps and Controls and only such manufacturer shall be included in the Base Bid. Other manufacturers of submersible pumping equipment and controls will be considered in accordance with the provisions of Section 01600 of these specifications.

1.8 RELATED WORK SPECIFIED ELSEWHERE

Section 01340 Shop Drawings
Section 01600 Substitutions
Section 02650 Sanitary Sewer System

PART 2 PRODUCTS

2.1 PUMP DESIGN

The pumps shall be automatically and firmly connected to the discharge connection, guided by no less than two stainless steel guide bars extending from the top of the station to the discharge connection. Sealing of the pumping unit to the discharge connection shall be accomplished by a machined metal to metal contact with no portion of the pumping unit bearing directly on the wet well floor. Pumps shall be manufactured by Flygt (Model numbers as specified in Paragraph 1.4 above). Pumps shall also be provided with stainless steel lifting cables or chains. All pump accessories inside the wet well, including but not limited to, cable holder, guide bars, guide bar brackets, lifting chains or cables and all other metal accessories shall be 316 stainless steel.

2.2 PUMP CONSTRUCTION

Major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. All exposed nuts and bolts shall be AISI Type 304

stainless steel. All metal surfaces coming into contact with the pumped liquid, other than stainless steel or brass shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.

Sealing design shall incorporate metal to metal contact between machined surfaces. Critical mating surfaces where water tight sealing is required shall be machined and fitted with Nitrile or Viton rubber O-rings.

The cable entry seal design shall preclude specific torque requirements to ensure a water tight and submersible seal. The cable entry shall consist of a single cylindrical elastomer grommet, flanked by washers, all having a close tolerance fit against the cable outside diameter and compressed by the body containing a strain relief function, separate from the function of sealing the cable. The cable entry junction chamber and motor shall be separated by a stator lead sealing gland or terminal board, which shall isolate the interior from foreign material gaining access through the pump top.

The pump motor shall be induction type with a squirrel cage rotor, shell type design, housed in an air filled water tight chamber, NEMA B type. The stator windings and stator leads shall be insulated with moisture resistant Class F insulation rated for 155 degrees C. Thermal switches set to open at 125 degrees C shall be embedded in the stator lead coils to monitor the temperature of each phase winding. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the control panel. The combined service factor of the motor shall be a minimum of 1.15. Leakage sensors shall be provided to detect water in the stator chamber. The thermal switches and the leakage sensors shall be connected to a control and status monitoring unit mounted in the control panel.

The power cable shall be sized according to NEC and ICEA standards and shall be of sufficient length to reach from the pump to the control panel without the need of any splices. The outer jacket of the cable shall be oil resistant chloroprene rubber.

The pump system including the pump, motor and power cable shall be approved for use in areas classified as hazardous locations in accordance with the NEC Class 1 Division 1, Groups C and D service as determined and approved by a nationally recognized testing laboratory (UL, FM, CSA).

The pump shaft shall rotate on two bearings. Motor bearings shall be permanently grease lubricated. The upper bearing shall be a single roller bearing. The lower bearing shall be a two row angular contact bearing to compensate for axial thrust and radial forces.

Each pump shall be provided with a tandem mechanical shaft seal system consisting of two totally independent seal assemblies. The seals shall operate in a lubricant reservoir that hydro-dynamically lubricates the lapped seal faces at a constant rate. The lower primary seal unit located between the pump and the lubricant chamber shall contain one stationary and one positively driven rotating tungsten carbide ring. The upper secondary seal unit located between the lubricant chamber and the motor housing shall contain one stationary and one positively driven rotating tungsten carbide ring. Each seal interface shall be held in contact by its own spring system.

The pump and motor shaft shall be the same unit and shall be AISI 431 stainless steel.

The impeller shall be of grey cast iron, Class 35B, dynamically balanced, double shrouded non-clogging design capable of handling solids, fibrous material, heavy sludge and other matter normally found in wastewater. All impellers shall be coated with an acrylic dispersion zinc phosphate primer.

A wear ring system shall be used to provide efficient sealing between the volute and suction inlet of the impeller. Each pump shall be equipped with a brass or nitrile rubber coated steel ring insert that is drive fitted to the volute inlet.

The pump volute shall be a single piece grey cast iron, Class 35B, non-concentric design with smooth passages large enough to pass any solids that may enter the impeller.

2.3 ACCESS HATCHES

Access hatches in the top slab of wet well structures shall have clear opening dimensions in accordance with the recommendations of the pump manufacturer and shall have a minimum load capacity of 300 psf.

Access hatches shall be Aluminum Alloy 6063-T5 and T6, minimum ¼" thick plate, flush type lock with inside spoon handle. The frame shall be complete with hinged and hasp-equipped cover, upper guide holders, chain holders and cable holder. Chain and cable holder shall be stainless steel. Frame shall be securely mounted above the pumps. Hatch covers shall be torsion bar loaded for ease of lifting and shall have a safety locking handle in the open position and a safety grate.

Aluminum surfaces to be embedded in concrete shall be coated with bitumastic paint.

2.4 GUIDE BARS

Contractor shall furnish and install 316 stainless steel guide bars for each submersible pump. Guide bars shall be of adequate length and strength to extend from the lower guide holders on the pump discharge connection to the upper guide holder mounted on the access cover frame. Intermediate guide supports of stainless steel shall be provided as necessary.

2.5 DUPLEX CONTROLS

The control system shall be designed to operate the pumps in response to liquid level variations in the wet well as sensed by a system of float switches located in the wet well as shown on the drawings. The control function shall provide for the operation of the pumps under normal conditions and shall alternate the pumps on each pump draw down cycle to equalize pump run time.

Control panel shall be UL 508A certified and listed, completely assembled, wired, tested and properly labeled prior to shipment. Control panel to be supplied by pump manufacturer to ensure compatibility between pumps and controls.

The pump controls shall be housed in a NEMA 4X stainless steel enclosure with 3PT pad lockable latch and aluminum inner door. The inner door shall be 12 gauge with a 0.75-inch 90° break on all four sides. Wiring shall have not less than 600 volt insulation with a 75° Celsius rating. The enclosure shall be adequately sized to provide proper spacing of the equipment and have a properly sized cooling system if required.

Pumps shall be controlled by JWSC's standard SCADA pump controller as manufactured by Data Flow System's Inc.

The panel shall consist of the following components:

- Hand-Off-Automatic (H-O-A) switch for each pump
- Overload and short circuit protection for each pump
- Control power breaker
- GFCI outlet on dead front
- GFCI breaker
- 120 volt controls
- Red strobe high level alarm light
- Motor protection circuits for over and under current/voltage and phase change
- Circuit breaker for each pump with inner door lock when in "ON" position
- Field wiring connection using terminal strips with separate blocks for pump, SCADA control and SCADA alarms
- Pump starting shall use NEMA rated contactors
- Pump ambient compensated overload with reset on dead front
- Pump seal leak detection and motor thermal monitor relay by pump manufacturer
- Pump seal failure amber warning pilot light
- Pump thermal fail red warning pilot light
- Green pump running pilot lights
- Pilot lights shall be LED for long life
- Breakers, pilot lights and switches shall be oil tight mounted on inner door for operator access
- Run time hour meters
- Lightning arrestor
- Alarm horn with silence button
- All mounting screws shall be stainless machine with back plate holes drilled and tapped

All control switches, indicator pilot lights, elapsed time meters, duplex receptacle and other operational devices shall be mounted on the external surface of the dead front.

The back plate shall be manufactured of 12 gauge sheet steel and be finished with a primer coat and two coats of baked on white enamel.

PART 3 EXECUTION

3.1 INSTALLATION

All equipment of this section shall be installed in accordance with approved shop drawings, the manufacturer's recommendations and these Specifications.

Stainless steel anchor bolts, nuts and washers, as well as any templates necessary for setting the anchorage, shall be furnished by the equipment manufacturer. Placement of the anchor bolts shall be done by the Contractor from certified dimension drawings supplied by the equipment manufacturer.

Level and align pump and motor in accordance with the manufacturer's published data. Grout pump and discharge base with non-shrink grout in accordance with the ACI and the equipment manufacturer and grout manufacturer's published specifications.

3.2 SHOP PAINTING AND PRIMING

All surfaces shall be prepared, shop primed and painted as part of the work of this Section. Surface preparation, shop priming and painting shall be in accordance with the manufacturer's standard specifications and be compatible with field painting as specified in Section 09900.

3.3 START UP SERVICE AND TESTING

The pump manufacturer shall furnish the services of a qualified factory trained field service engineer to inspect the installation and instruct the Owners personnel in the proper operation and maintenance of the pumps and controls. All hydraulic, mechanical and electrical tests shall be run to ensure proper operation of the equipment. As a minimum, the site tests include but are not limited to checks for:

1. Compliance with operating requirements
2. Correct rotation before mounting to the discharge connection
3. Balanced voltage and current
4. Proper seating of the pumps to the discharge connection

(END OF SECTION)