



CITY OF MEXICO BEACH
Public Works Water Tank Aeration System
REQUEST FOR BIDS 2025-03

**Prepared by:
Anchor CEI, Inc.
450 Magnolia Ave
Panama City, FL 32405**

Date: February 5, 2025

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CITY OF MEXICO BEACH WATER TANK AERATION SYSTEM

NOTICE TO RECEIVE SEALED BIDS 2025-03

Notice is hereby given that the City of Mexico Beach, Florida is requesting sealed bids from qualified bidders for the Mexico Beach Water Tank Aeration System Project. The bidder shall provide all costs associated with the manufacturing for this equipment (this contract includes purchase of equipment).

All proposals must be in writing and will be received by Tammy Brunson, City Clerk, by mail, FedEx or hand delivery to Tammy Brunson, City Clerk at 201 Paradise Path, Mexico Beach, Florida 32456 until **2:00 PM (central time), Wednesday March 5, 2025.** Bids will be publicly opened at this time. Only submittals received by the stated time and date will be considered. Submittals received after the time set for the opening will be rejected and returned unopened to the submitter. All submittals shall be submitted in a sealed envelope and clearly labeled, "RFP 2025-03 Bid Public Works Water Tank Aeration System Project." Please provide one (1) original, two (2) copies of the bid. Full specifications may be obtained at WWW.MexicoBeachfl.gov/bids. Any Addendums issued during the advertisement period shall be posted to the above website no later than 5:00 PM (central time) Tuesday February 25, 2025. Quotes shall be firm for ninety (90) days. The award by the City Council is expected to Occur March 25, 2025 at 6:00 PM (central time).

Questions concerning this request should be submitted in writing to, Emily Thomasee (ethomasee@anchorcei.com) and Tammy Brunson, (t.brunson@mexciobeachfl.gov) no later than **5:00 PM (central time) Monday February 24, 2025.**

The City of Mexico Beach encourages all segments of the business community to participate in its procurement opportunities, including small businesses, minority/women owned businesses, and disadvantaged business enterprises. The City does not discriminate on the basis of race, color, religion, national origin, disability, sex, or age in the administration of contracts.

The City reserves the right to waive informalities in bids and to reject all bids. The City will award the Contract to the lowest responsive and responsible bidder; provided, however, the City reserves the right to award the Contract to a bidder who is not the lowest bidder if the City determines that another bid offers the City a better value based upon the reliability, quality of service, or product of such other Bidder.

INFORMATION TO BIDDERS

1. Bid Documents

The Bid Documents are available at <http://mexicobeachfl.gov/bids>, and on file at Mexico Beach City Hall, 201 Paradise Path, Mexico Beach, Florida 32456. They may be examined at the above address or digital copies may be downloaded for no fee. The federal contract requirements provided by Exhibit A to the contract attached to this Request for Builds apply fully to this procurement and the resulting work.

3. Bid Form

To receive consideration, all bids shall be made on the forms provided, properly executed and with all items filled out. Do not change the wording of the Bid Form and do not add words to the wording of the Bid Form. No conditions, limitations or provisions shall be attached or added to the Bid Form by the bidder. Alterations by erasure or interlineations must be explained or noted in the bid over the signature of the bidder. Any bid modification must be in writing.

4. Delivery

Each bid shall be addressed to the Tammy Brunson, City Clerk at 201 Paradise Path, Mexico Beach, Florida 32456, and must be received on or before the day and/or hour set for the opening of bids. Bids shall be submitted in duplicate, (1) one marked "Original" and (2) the other, "Copy". Each bid shall be enclosed in a sealed envelope bearing the title of the work, the name of the bidder and the date for opening. It is the sole responsibility of the bidder to ensure that the bid is received on time. The City will check the bids and notify the selected bidder at the earliest opportunity, not to exceed 60 days from the date of bid opening.

5. Complete Bid Amounts; Examinations of Specifications, Work Sites

Bids shall be compensation in full for the complete work and included all of Contractor's costs for completing the work and include mobilization, all materials, labor insurance, taxes, overhead and profit, and miscellaneous items needed to complete the bid. No allowance will be made to any bidder because of a claimed lack of examination or knowledge. Any unit pricing provided by Contractor shall solely be for the convenience of the City in the event City wishes to increase or decrease the scope of work after contract award. The submission of a bid shall be construed as conclusive evidence that the bidder has made such examination. Bidders shall direct any questions via e-mail to Emily Thomasee (ethomasee@anchorcei.com) and Tammy Brunson (t.brunson@mexicobeachfl.gov) by the date as described in the Advertisement.

6. Withdrawal of Bids

Any bidder may withdraw his bid, either personally or by written request, at any time prior to the scheduled time for opening bids. No bidder may withdraw his bid for a period of 60 days after the date for opening and all bids shall be subject to acceptance by the City during this period.

7. Basis of Award

The City shall award the Contract to the lowest responsive and responsible bidder; provided, however, the City reserves the right to award the Contract to a Bidder who is not the lowest responsive and responsible bidder if the City determines in its reasonable discretion that another Bid offers the City a better value based upon the reliability, quality of service, or product of such other Bidder. The City reserves the right to:

- a. reject any or all bids received;
- b. select and award any portion of any or all bid items;
- c. limit quantities under bid items; and
- d. waive minor informalities and irregularities in the bids and bidding.

Bids will be compared according to the following parameters:

Qualifications/Responsible Bidder	20 points
Cost (lowest cost = highest points)	80 points
<hr/> Total Points	<hr/> 100 points

8. Execution of Agreement

The successful bidder shall, within 10 days after receipt of the Notice of Award shall sign and deliver to the City the required contract included as part of this Request for Bids. The applicable terms of such contract apply to this Request for Builds as if set forth fully herein. The contractor shall also deliver any required bonds and policies of insurance or insurance certificate as required. All bonds and insurance documents shall be approved by the City before the successful bidder may proceed with the work.

9. Point of Contact

Emily Thomasee (ethomasee@anchorcei.com) and Tammy Brunson (t.brunson@mexicobeachfl.gov) will be the only point of contacts for this bid. **Under no circumstances may a bidder contact any City Council member or other City employee concerning this bid until after award.** Any such contact may result in bid disqualification. The last day for questions will be the date described in the Advertisement for RFP.

10. Representations

This Request for Bids contain the provisions required for the project. Information obtained from an office, Director, or employee of the City for any other person shall not affect the risks or obligations assumed by the bidder or relieve the bidder from fulfilling any of the conditions of the contract.

11. Performance and Payment Bond

In the event that the Contract resulting from this Request for Bids exceeds \$150,000 Contractor shall be required to purchase and provide payment and performance bonds according to the standard template provided by Chapter 255 of the Florida Statutes. The cost of any such bonds will be borne by the Contractor.

12. Bid Protest

A notice of protest must be submitted within three business days after posting of the recommendation of award on the City of Mexico Beach website or during a public meeting of the City Council. The protest must be in writing, via e-mail, letter, or fax and must identify the protester and the solicitation and shall include a factual summary of the basis of the protest. The notice of protest is considered filed when it is received by the City of Mexico Beach.

Each proposal **shall** include, but need not be limited to, the following information. One original and one copy of:

1. Addendum Acknowledgement
2. Anti-Collusion Clause
3. Conflict of Interest
4. Drug Free Workplace
5. E-Verify
6. Public Entity Crime Form (PUR7068)
7. Appendix A, 44 C.F.R. Part 18 – Certification Regarding Lobbying
8. Sales Tax Purchasing Agreement
9. Bid Form
10. Bid Bond
11. Statement of Experience

SCOPE OF WORK

The bidder shall provide all cost associated with procurement and construction/assembly of the aeration system. Scope of work includes, but not limited to, the fabrication and installation of a surface water tank aeration system.

- Purchase and Installation of a centrifugal pump.
- Purchase and Installation of a roof mounted exhaust fan.
- Purchase and Installation of non-clogging spray nozzles.
- Purchase, fabricate, and installation of piping and its components.

Please note that the City of Mexico Beach is a tax-exempt entity. The selected Bidder will be expected to adhere to the City's tax-exempt status regarding purchases for materials above the threshold established in Appendix A, Sales Tax Purchasing Agreement.

INSURANCE REQUIREMENTS

1. LOSS CONTROL/SAFETY

a. Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees, and property. The Contractor shall be expected to comply with all laws, regulations or ordinances related to safety and health, shall make special effort to detect hazardous conditions and shall take prompt action where loss control/safety measures should reasonably be expected.

b. The City may order work to be stopped if conditions exist that present immediate danger to persons or property. The Contractor acknowledges that such stoppage will not shift responsibility for any damages from the Contractor to the City.

c. The Contractor acknowledges that unauthorized possession, use or threat of use of weapons or firearms is not permitted on City property, including Contractor's vehicles.

2. INSURANCE - BASIC COVERAGES REQUIRED

The Contractor shall procure and maintain the following described insurance on policies and with insurers acceptable to City. Current Insurance Service Office (ISO) policies, forms, and endorsements or equivalents, or broader, shall be used where applicable.

These insurance requirements shall not limit the liability of the Contractor. The insurance coverages and limits required of Contractor under this Agreement are designed to meet the minimum requirements of City and the City does not represent these types or amounts of insurance to be sufficient or adequate to protect the Contractor's interests or liabilities. Contractor alone shall be responsible to the sufficiency of its own insurance program.

The Contractor shall be solely responsible for all of its property, including but not limited to any materials, labor, temporary facilities, equipment and vehicles, and for obtaining adequate and appropriate insurance covering any damage or loss to such property. The Contractor expressly waives any claim against City arising out of or relating to any damage or loss of such property, even if such damage or loss is due to the fault or neglect of the City or anyone for whom the City is responsible.

The Contractor's deductibles/self-insured retention's shall be disclosed to City and are subject to City's approval. They may be reduced or eliminated at the option of City. The Contractor is responsible for the amount of any deductible or self-insured retention. Any deductible or retention applicable to any claim or loss

shall be the responsibility of Contractor and shall not be greater than \$25,000, unless otherwise agreed to, in writing, by City.

Insurance required of the Contractor or any other insurance of the Contractor shall be considered primary, and insurance of City shall be considered excess.

WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE COVERAGE

The Contractor shall purchase and maintain workers' compensation and employers' liability insurance for all employees engaged in the Work, in accordance with the laws of the State of Florida, and, if applicable to the Work, shall purchase and maintain Federal Longshoremen's and Harbor Workers' Compensation Act Coverage. Limits of coverage shall not be less than:

\$1,000,000	Limit Each Accident
\$1,000,000	Limit Disease Aggregate
\$1,000,000	Limit Disease Each Employee

The Contractor shall also purchase any other coverage required by law for the benefit of employees.

The Contractor shall provide to City an Affidavit stating that it meets all the requirements of Florida Statute 440.02 (15) (d).

COMMERCIAL GENERAL LIABILITY COVERAGE

Contractor shall purchase and maintain Commercial General Liability Insurance on a full occurrence form. Coverage shall include, but not be limited to, Professional Liability, Premises and Operations, Personal Injury, Contractual Liability for this Agreement, Independent Contractors, Broad Form Property Damage, Products and Completed Operation Liability Coverages. Limits of coverage shall not be less than:

Bodily Injury, Property Damage & Personal Injury Liability	\$1,000,000 Limit Each and	Combined Single Occurrence, Aggregate Limit
	\$1,000,000	

The Contractor shall add City as an additional insured through the use of Insurance Service Office Endorsements No. CG 20.10.10.01 and No. CG 20.37.10.01 wording or equivalent, or broader, an executed copy of which shall be

attached to or incorporated by reference on the Certificate of Insurance to be provided by Contractor pursuant to the requirements of the Contract Documents.

BUSINESS AUTOMOBILE LIABILITY COVERAGE

The Contractor shall purchase and maintain Business Automobile Liability Insurance as to ownership, maintenance, use, loading and unloading of all of Contractor's owned, non-owned, leased, rented or hired vehicles with limits not less than:

Bodily	Injury & <u>Property Damage</u>	\$500,000 Combined Single Limit Each Accident
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ADDENDUM ACKNOWLEDGEMENT

I acknowledge receipt of the following addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

Name of Firm: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

Date: _____

It is the responsibility of the firm to ensure that they have received addendums if issued. Review the City’s website or call 850-648-5700 or email Tammy Brunson, t.brunson@mexicobeachfl.gov prior to submitting your bid to ensure that you have received addendums.

ANTI-COLLUSION CLAUSE

Firm certifies that their response is made without prior understanding, agreement or connection with any Corporation, Firm or person submitting a response for the same services and is in all respects fair and without collusion or fraud.

Name of Firm: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

Date: _____

CONFLICT OF INTEREST DISCLOSURE FORM

For purposes of determining any possible conflict of interest, all firms, must disclose if any City of Mexico Beach, employee(s), elected officials(s), or if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their firm.

Indicate either “yes” (a City employee, elected official, or agency is also associated with your firm), or “no”. If yes, give person(s) name(s) and position(s) with your firm.

YES	NO _____
NAME(S)	POSITION(S)
_____	_____
_____	_____
_____	_____
_____	_____

Name of Firm: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

Date: _____

DRUG FREE WORKPLACE
Section 287.087 Florida Statutes

Preference shall be given to businesses with drug-free workplace programs. Whenever two or more Bids, which are equal with respect to price, quality, and service, are received by the State or by any political subdivision for the procurement of commodities or contractual services, a Bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process.

Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

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

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

Name of Firm: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

Date: _____

E-VERIFY

Vendor/Consultant acknowledges and agrees to the following: Vendor/Consultant shall utilize the U.S. Department of Homeland Security’s E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of:

- 1. All persons employed by the Vendor/Consultant during the term of the Contract to perform employment duties within Florida; and
- 2. All persons, including subcontractors, assigned by the Vendor/Consultant to perform work pursuant to the contract with the Department.

Name of Firm: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

Date: _____

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

This Form Must Be Signed And Sworn To In The Presence Of A Notary Public Or Other Official Authorized To Administer Oaths And Submitted With The Bid

1. This sworn statement is submitted to _____
by _____
For _____

Whose business address is _____

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

2. I understand that a "public entity crime" as defined in Section 287.133 (1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency of political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

I understand that "convicted" or "conviction" as defined in Paragraph 287.133 (1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

0. I understand that "affiliate" as defined in Paragraph 287.133 (1)(a) , Florida Statutes, means:

(a.) A predecessor or successor of a person or a corporation convicted of a public entity crime, or

(b.) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes officers, directors, executives, partners, shareholders, employees, members and agents who are active in the management of an affiliate. The ownership by one person of shares constituting

a controlling interest in another person, or a pooling agreement of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

4. I understand that a "person" as defined in Paragraph 287.133 (1)(e), Florida Statute, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter in to a binding contract and which bids or applied to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "persons" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

5. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. [indicate which statement applies.]

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

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

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

0. I understand by my execution of this document, I acknowledge that the entity submitting this sworn statement has informed by the City of Mexico Beach, of the terms of Section 287.133(2)(a) of the Florida Statutes which read as follows:

"A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity in excess of the threshold amount provided in s. 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list."

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

By: _____

Print name: _____

Its: _____

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

Personally known _____ OR Produced identification _____

Notary Public- State of _____

My commission expires _____

[printed, typed or stamped
Commissioned Name of Notary Public]

**APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING
(for bids of \$100,000 or more)**

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned Contractor certifies, to the best of his or her knowledge, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form- LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801 *et seq.*, apply to this certification and disclosure, if any.

CONTRACTOR NAME:

Signature of Contractor’s Authorized Official

Name and Title of Contractor’s Authorized Official

Date

AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 2025, by and between the **CITY OF MEXICO BEACH, FLORIDA**, a municipal corporation (City) and _____ (Contractor).

PREMISES

1. SCOPE OF SERVICES

Contractor will provide all materials and labor required to deliver the Scope of Work published as part of the Request for Proposals. The Request for Proposals is incorporated herein as a part of this Agreement.

If the Contractor believes that any particular work/service is not within the scope of work/service of the contract, is a material change, or will otherwise require more compensation to the Contractor, the Contractor must immediately notify the City's Representative in writing of this belief. If the City's Representative believes that the particular work/service is within the scope of the contract as written, the Contractor will be ordered to and shall continue with the work/service as changed and at the cost stated for the work/service within the scope. The Contractor must assert its right to an adjustment under this clause within thirty (30) days from the date of receipt of the written order.

2. COMPENSATION

As compensation for the services contemplated herein and performance rendered by Contractor of its duties and obligations hereunder, City shall pay Contractor according to the Bid Form and Request for Bids.

- a. Extra and/or Additional Work Changes. Should City at any time during the progress of said work request any alterations, deviations, additions or omissions from said specifications or other contract documents, it shall be at liberty to do so by written authorization to Contractor, and the same shall in no way affect or make void the Agreement. The value of such will be added to or deducted from the contract bid price, as the case may be, by a fair and reasonable valuation.

7. PAYMENT

The “closure date” for work to be invoiced for payment shall be the [30th] of each calendar month, except February where it shall be the 28th. The Contractor shall submit an itemized invoice to the City for the amount of work satisfactorily completed as of the closure date. The invoice(s) shall be delivered to the end user departments no later than three days after the closure date of each calendar month.

8. TERM

Unless terminated sooner pursuant to the provision of the Termination clauses contained in paragraph 5, and subject to the availability of funds appropriated for this purpose, this Agreement shall take effect on the day and year first above written for an initial term of one year.

9. TERMINATION OF CONTRACT

This Contract may be cancelled by the CONTRACTOR upon thirty (30) days prior written notice to the CITY the event of substantial failure by the CITY to perform in accordance with the terms of this Contract through no fault of the CONTRACTOR. It may also be terminated, in whole or in part, by the CITY, with or without cause, upon thirty (30) days written notice to the CONTRACTOR. Unless the CONTRACTOR is in breach of this Contract, the CONTRACTOR shall be paid for Work rendered to the CITY’s satisfaction through the date of termination.

10. COMPLIANCE WITH LAWS.

The Contractor shall be responsible to know and to apply all applicable federal and state laws, all local laws, ordinances, rules, regulations, and all orders and decrees of bodies or tribunals having jurisdiction or authority which in any manner affect the work, or which in any way affect the conduct of the work. Contractor shall always observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees. The Contractor shall protect and indemnify City of Mexico Beach and all its officers, agents, servants, or employees against any claim or liability arising from or based on the violation of any such law, ordinance, rule, regulation, order, or decree caused or committed by Contractor, its representatives, sub-contractors, sub-consultants, professional associates, agents, servants, or employees. Additionally, Contractor shall obtain and maintain at its own expense all licenses and permits to conduct business pursuant to this contract from the federal government, State of

Florida, Bay County, or municipalities when legally required, and maintain same in full force and effect during the term of the contract.

11. WARRANTY

The Contractor agrees that, in addition to any manufacturer's warranty, for one year after completion of the work, Contractor will immediately repair or replace defective equipment, materials, supplies found by the City.

12. INSURANCE AND INDEMNIFICATION

- a. Contractor shall at its expense maintain in force during the Term the insurance policies required by the Request for Bids. All such insurance shall name the City, its officers, employees and agents as additional insured.
- b. All coverage maintained by Contractor pursuant to Subparagraph (a) shall be provided by companies registered and licensed to sell insurance in the state of Florida and which may legally provide the coverage set forth herein, and shall be provided by companies reasonably satisfactory to the City and in form and substance reasonably satisfactory to the City, and shall provide that coverage will not be subject to cancellation, termination, revocation or material change except after thirty (30) days' prior written notice to the City.
- c. Within thirty days of the date of this agreement, and in no event less than seventy-two hours (72) hours prior to the Term, and thereafter upon the written request of the City, Contractor shall furnish to the City such certificates of coverage and certified copies of policies pursuant to subparagraph (a). In order to satisfy this provision, the documentation required by this part must be sent to t.brunson@mexicobeachfl.gov or the following address: City of Mexico Beach, Attn: City Clerk, 201 Paradise Path Mexico Beach, Florida 32456.
- d. Contractor shall indemnify and hold harmless and defend the City and its officers, employees, agents and representatives from and against any and all damages, lawsuits, liabilities, claims, costs and expenses including reasonable attorney's fees ("Damages") arising in whole or in part from: (i) the occupation, use or maintenance of the sites by Contractor or anyone claiming by, through or under Contractor; or (ii) the breach of any of Contractor's representations, warranties, covenants or agreements hereunder, including any Damages arising from the combined fault of Contractor and City, but excluding any Damages arising solely from the negligence

or willful misconduct of the City. The covenants contained in this paragraph shall survive the termination of this Agreement.

- e. If any third-party claim is made against the City that, if sustained, would give rise to indemnification liability of the Contractor under this Agreement, the City shall promptly cause notice of the claim to be delivered to the Contractor and shall afford the Contractor and its counsel, at the Contractor's sole expense, the opportunity to join in defending or compromising the claim. The covenants contained in this paragraph shall survive the termination of this Agreement.

9. ATTORNEY'S FEES

In the event of any litigation hereunder, each party shall be responsible for its own attorney's fees and court costs at all trial and appellate levels and at any mediation or arbitration.

10. TIME

The original scope of work under this contract must be completed by Contractor within 120 days of the date of this Contract. Time is of the essence in this Agreement.

11. FORCE MAJEURE

The Contractor's failure or inability to perform the stated scope of services at any time as a result of circumstances beyond its control, such as, but not limited to, war, terrorism, strikes, fires, floods, hurricanes, acts of God, power failures, or damage or destruction of any facility related thereto, shall not be deemed a breach of this Agreement.

12. REMEDIES

In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the City, after due written notice, may procure the services from other sources and hold the Contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies that the City may have. All rights and remedies conferred upon the parties in this Agreement shall be cumulative and in addition to those available under the laws of the State of Florida.

13. ASSIGNMENT

This Agreement is not assignable.

14. SEVERABILITY

In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

15. MODIFICATIONS

No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document prepared with the same or similar formality as this Agreement and executed by the City and Contractor.

16. WAIVER

Failure by the City to enforce any provision of this Agreement shall not be deemed a waiver of the provision or modification of this Agreement. A waiver by the City of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement.

17. NOTICES

Any notice required by this Agreement shall be directed to the parties as follows:

- a. As to City:
Chris Truitt, City Administrator
c.truitt@mexicobeach
201 Paradise Path
Mexico Beach, Florida 32456
(850) 648-5700

b. As to Contractor: _____
Contract Representative: _____
Title/Position: _____
Email address: _____
Mailing address: _____
Phone: _____ Cell: _____

18. ENTIRE AGREEMENT

The Request for Bids, this Agreement, Exhibit A Federal Contract Requirements, and any exhibits or appendixes attached hereto and incorporated herein, constitutes the entire agreement between parties pertaining to the subject matter hereof, and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions of the parties, whether oral or written, and there are no representations, warranties, covenants or other agreements among them.

IN WITNESS WHEREOF, the Contractor has executed this Agreement as of the day and year first above written.

CONTRACTOR NAME

By: _____
Print Name: _____
Title: _____

ATTEST:

Tammy Brunson, City Clerk

**THE CITY OF MEXICO
BEACH, FLORIDA,**
a municipal corporation

By: Richard Wolff, Mayor



APPENDIX A
CITY'S TAX-EXEMPT CERTIFICATE

SALES TAX EXEMPT PURCHASING AGREEMENT

THIS SALES TAX EXEMPT PURCHASING AGREEMENT made as of , 20
between _____ hereinafter called
the "CONTRACTOR"
and the City of Mexico Beach, hereinafter called the "OWNER."

RECITALS

1. The CONTRACTOR and the OWNER entered into a Contract dated _____, (the "Contract") for the performance of the Work described therein, to which an executed copy of this Agreement shall be attached thereto and incorporated therein.
2. The CONTRACTOR and the OWNER desire to enter into an arrangement whereby certain purchases under the Contract can be made through the OWNER as a means of taking advantage of the OWNER's status of being exempt from sales and use taxes.
3. The OWNER is exempt from sales and use taxes. As such it is exempt from the payment of sales and use tax on purchases of tangible property, materials, etc., necessary for the performance of Work under construction contracts, provided the OWNER determines it is to its best interest to do so, and provided the purchase of such properties, materials, etc., are handled in the manner hereinafter described.
4. The OWNER has determined it is in its best interest to provide the opportunity to eliminate the payments of sales tax for tangible property, materials, etc., to be used in the construction of this Project, and notifies the CONTRACTOR of its intent to do so.

AGREEMENT

1. The parties intend by this Agreement to comply with the procedures and elements described in Florida Department of Revenue Technical Assistance Advisements 01A-003 (January 8, 2001) and 00A-083 (December 21, 2000), and any conflict or ambiguity in this Agreement shall be resolved in favor of meeting elements necessary to make tax exempt the purchases contemplated by this Agreement.

The OWNER shall, at its sole discretion, have the option to directly purchase from the supplier or vendor, any supplies, materials or equipment included in the CONTRACTOR's bid for the Contract. The OWNER reserves the right to require CONTRACTOR to assign to the OWNER agreements with suppliers for such goods. The CONTRACTOR shall, from time to time submit, update and keep

current, for consideration by the OWNER, a list of all materials, supplies, and equipment to be purchased, organized by supplier or vendor. Such list shall include a brief description of the materials, supplies and equipment, and the name and address of the supplier or vendor. Suppliers or vendors reasonably anticipated to furnish material, supplies, and equipment with an aggregate purchase value of less than \$10,000 need not be listed. Goods not required for the performance of the Contract shall not be purchased under this Agreement. The OWNER reserves the right to delete or add items from this Agreement when it is in the OWNER's best interest.

2. The OWNER will be liable for the payment of all purchases properly made hereunder.
3. The CONTRACTOR shall notify all suppliers not to make sales to the CONTRACTOR under this Agreement.
4. For each purchase approved by the OWNER to be made under this Agreement, the CONTRACTOR shall furnish the OWNER in writing information sufficient for the OWNER to issue to the supplier its OWNER purchase order for the requested item which shall include as an attachment the OWNER's Certificate of Exemption. Suppliers will render statements for materials purchased to the OWNER in care of the CONTRACTOR. After accepting the goods and reviewing and approving the invoices, the CONTRACTOR will forward the invoices for approval, processing and delivery to the OWNER for payment. The CONTRACTOR will keep and furnish to the OWNER all such records, summaries, reports of purchase orders and invoices, and reports of the status and use of goods handled under this Agreement, as the OWNER may reasonably require.
5. The Contract provides that the CONTRACTOR will perform the Work under the Contract for a total lump sum of \$_____, as may be amended from time to time as provided in the Contract. Said amount, as amended, due CONTRACTOR under the Contract shall be reduced by the sum of all amounts paid by the OWNER for materials and equipment purchased under this Agreement, including any shipping, handling, insurance or other, similar charges paid by the OWNER, and all of the savings of sales and use tax on the purchase of such items.
6. The CONTRACTOR shall submit his proposal for Base Bid and proposals for each Alternate with the inclusion of all required taxes including applicable sales and use tax, the same is if tax were to be paid in the normal manner. Any sales and use tax savings will be affected during the performance of the Contract.
7. The CONTRACTOR shall immediately notify all subcontractors and material and equipment dealers of the OWNER's intent to reduce the construction cost of the project by the purchase of properties, materials, etc., in the manner herein described and the CONTRACTOR shall not withhold his consent to the

arrangement.

8. Administrative costs incurred by the CONTRACTOR with this Agreement, including administering the purchases in the name of the OWNER, shall be considered to be included in the base bid proposal for work. No addition shall be added to the Contract amount because of the service provided by the CONTRACTOR in the purchase of property, materials, etc., in the name of the OWNER.
9. All sales and use tax savings on the purchase of property, materials, etc., shall be credited to the OWNER and the amount of the Contract shall be reduced by the full amount of savings which are affected by the omission of payment of sales and use tax.
10. By virtue of its payment of material and equipment invoices, the OWNER further intends to benefit from any discounts offered for timely payment to the extent of one-half of the discount offered, the remaining one-half to accrue to the CONTRACTOR as an incentive for the CONTRACTOR to process invoices well within the discount period. The CONTRACTOR shall pay any late penalties caused by their failure to facilitate the processing of invoices within allotted time.
11. The CONTRACTOR, notwithstanding this special purchase arrangement, shall select, describe, order, obtain approvals, submit samples, coordinate, process, prepare shop drawings, pursue, receive, inspect, store, protect, guarantee and otherwise be responsible for all materials, the same as would have been the case if the tax saving procedures were not implemented. The OWNER shall issue a signed purchase order prior to the CONTRACTOR ordering material.
12. The CONTRACTOR as bailee shall have the obligation of receiving, inspecting, storing and safekeeping all goods and materials purchased on behalf of the OWNER pursuant to this Agreement. Further, the CONTRACTOR shall be responsible for the cost of replacing or repairing any goods or materials lost, stolen, damaged, or destroyed while in the CONTRACTOR's possession or control as bailee, as well as processing all warranty claims for defective goods and materials to the same extent as if such goods had been CONTRACTOR-supplied or purchased in the name of the CONTRACTOR.
13. The CONTRACTOR shall maintain separate accounting records for all transactions carried out under the authority granted to it under this Agreement. Such records shall be open to the OWNER or its authorized agent during normal business hours of CONTRACTOR.
14. As equitable and legal owner of the materials and equipment purchased under this Agreement, the OWNER shall bear the risk of loss thereto and shall have the insurable interest therein. Therefore, the CONTRACTOR shall, at no additional cost to the OWNER, cause the OWNER to be insured or named as an additional insured as its interest may appear against any loss or damage to such goods to the extent of their full insurable value. All such insurance shall be

in such form and through such companies as may be reasonably acceptable to the OWNER and the CONTRACTOR shall provide OWNER certificates thereof requiring each insurer to provide the OWNER ten 10 days written notice in advance of cancellation or modification of coverage.

CONTRACTOR shall be fully responsible for all matters relating to the procurement of materials and equipment covered by this Agreement, including but not limited to, overseeing that the correct materials and the correct amounts are received timely with appropriate warranties; for inspecting and accepting the goods; and for unloading, handling and storing the materials until installed. The CONTRACTOR shall inspect the materials when they arrive at the job site, verify that all necessary documentation accompanies the delivery and conforms with the OWNER's purchase order, and forward the invoice to the OWNER for payment if the goods are conforming and acceptable. CONTRACTOR shall verify that the materials conform to plans and specifications and determine before installation that such materials are not defective. CONTRACTOR shall manage and enforce the warranties on all materials and equipment covered by this Agreement. CONTRACTOR shall be responsible to the OWNER for its failure to fully and timely perform its obligations under this paragraph, and this Agreement generally.

15. When title to the materials and equipment covered by this Agreement passes to the OWNER prior to being incorporated into the work, the CONTRACTOR's possession of the goods is a bailment until such time as each of such goods is returned to the OWNER by being incorporated into the work.
16. The OWNER shall not be liable for delays in the work caused by delays in delivery of or defects in the goods covered by this Agreement, nor shall such delays or defects excuse CONTRACTOR in whole or in part from its obligation to timely perform the Contract.
17. In the event CONTRACTOR objects to the payment of any invoice for goods covered by this Agreement, CONTRACTOR shall at no additional cost to the OWNER, provide all assistance, records and testimony necessary or convenient for the OWNER to resolve the supplier's claim for payment.
18. This Agreement and the authority granted to CONTRACTOR hereunder may be revoked by the OWNER at any time upon verbal or written notice to CONTRACTOR at its offices located at _____, during normal business hours.

IN WITNESS WHEREOF the parties have caused these presents to be executed in their names as of the date and year first above written.

CONTRACTOR:

By: _____

(NAME OF CONTRACTOR TO BE INSERTED)

CITY OF MEXICO BEACH

By: _____
Richard Wolff, Mayor, City of Mexico Beach

END OF SECTION



APPENDIX B

BID FORM & STATEMENT OF QUALIFICATIONS

BID FORM RFB NO: 2025-03

This proposal of _____, hereinafter called "BIDDER," organized and existing under the laws of the State of _____ doing business as (Insert "a corporation" or "a partnership" or "an individual" as applicable) _____ is hereby submitted to the City of Mexico Beach.

In compliance with the ADVERTISEMENT FOR BIDS, BIDDER hereby proposes to perform work associated with the **MEXICO BEACH WATER TANK AERATION SYSTEM** project at certain location within the City of Mexico Beach as identified in the Instruction to Bidders of this Contract Document and Construction Drawings, as described in this BID, complete in every detail. Please see BID-FORM page 3 to complete BID FORM in detail. BID should include all applicable taxes, shipping charges and fees as applicable.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any other competitor.

The Unit Contract Price (Total Base Bid Amount) is:

_____ (\$ _____)
(Words)

submitted by:

Name of BIDDER Submitting This BID

BID Prepared By: _____

SEAL: (If BID is by Corporation)

Name of Individual Who Prepared This BID

Contact Email: _____

Address: _____

Phone: _____

BASE BID FORM					
Bid Item #	Description	Qty	Unit	Cost	Total
1. General Conditions					
1.1	Mobilization/Demobilization	1	LS	\$	\$
1.2	Performance and Payment Bonds	1	LS	\$	\$
2. Construction					
2.1	Concrete Pump Pad	16	CY	\$	\$
2.2	Water Pump	1	EA	\$	\$
2.3	Ductile Iron Piping	83	LF	\$	\$
2.4	4" PVC 45 Degree Bend	7	EA	\$	\$
2.5	Tapping Sleeve	1	EA	\$	\$
2.7	D.I. MJ 1.5" Check Valve	1	EA	\$	\$
2.8	D.I. MJ 1.5" Gate Valve	1	EA	\$	\$
2.9	Water Spigot	1	EA	\$	\$
2.10	D.I. Pressure Gauge	1	EA	\$	\$
2.11	D.I. MJ 1.5" Control Valve	1	EA	\$	\$
2.12	Pipe supports and clamps	1	LS	\$	\$
2.13	4" DI Pipe (top of tank - outside)	30	LF	\$	\$
2.14	4" PVC 90 Degree Bend	2	EA	\$	\$
2.15	3" Grout	2	EA	\$	\$
2.16	4x1.5" DI Sprayer Tee	5	EA	\$	\$
2.17	1.5" 100 GPM Spray Nozzles	5	EA	\$	\$
2.18	Dome Probe Curb and associated components	1	EA	\$	\$
2.19	1.5" DI Pipe (inside tank)	30	LF	\$	\$
3. As-Builts					
3.1	As-Built Record Drawings to Owner	1	LS	\$	\$
TOTAL BASE BID (sum of Sections 1 through 3)					\$

Signature of Authorized Representative of BIDDER:

_____ Date: _____

Notes:

1. Bid Items listed above are further detailed in the *Measurement and Payment* Section of this Invitation to Bid package.

BID BOND

BY THIS BOND, we _____ as
Principal and _____, a corporation,
as Surety, are bound to the City of Mexico Beach, Florida, as OWNER, in the sum of \$ ____
_____ for the payment of which we bind ourselves, our heirs, personal representatives,
successors, and assigns, jointly and severally. THE CONDITION of this bond is such that:

1. The Principal has submitted to the OWNER a certain BID dated _____
2. If said BID shall be rejected, or, if said BID shall be accepted and the Principal shall execute and deliver a Contract and furnish bonds for the faithful performances of work and for the payment of all persons performing labor and furnishing materials in connection therewith and shall fulfill all other aspects created by the acceptance of said BID, then this obligation shall be void. Otherwise, this bond shall remain in full force and effect with it being expressly understood and agreed that the liability of the Surety and for any and all claims hereunder shall, in no event, exceed the amount of this obligation. This Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and this bond shall, in no way, be impaired or affected by any extension of time within which the OWNER may accept such BID; and Surety hereby waives notice of any such extension. Signed, sealed and delivered in three (3) counterparts on CORPORATE PRINCIPAL

By: _____

Attest: _____

Its: _____

Seal: _____

Acknowledged and subscribed on _____,
before the undersigned authority by _____, as the _____ of the
Corporation named as _____ Principal and with due
authorization of the Corporation. Notary Public



APPENDIX C

TECHNICAL SPECIFICATIONS

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**SECTION 00060
PERFORMANCE BOND**

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal and (Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

City of Mexico Beach

(Name of Owner)

201 Paradise Path, Mexico Beach Florida 32456
(Address of Owner)

hereinafter called OWNER in the total aggregate penal sum of _____ Dollars (\$) in lawful money of the United States, for payment of which, we bind ourselves, our heirs, personal representatives, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that if the Principal performs its duties, all the undertakings, covenants, terms, and conditions of that certain Contract between the Principal and the OWNER, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

“WATER TANK AERATION SYSTEM”

**SECTION 00070
PAYMENT BOND**

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal and (Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

City of Mexico Beach

(Name of Owner)

201 Paradise Path, Mexico Beach Florida 32456

(Address of Owner)

hereinafter called OWNER and unto all persons, firms, and corporations who or which may furnish labor or who furnish materials to perform as described under the contract and to their successors and assigns, in the total aggregate penal sum of _____ Dollars (\$))
in lawful money of the United States, for payment of which, we bind ourselves, our heirs, personal representatives, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that if the PRINCIPAL properly makes payment to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials or supplies, used directly or indirectly by the Principal in the prosecution of the WORK provided for under that certain contract between the Principal

and the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

“WATER TANK AERATION SYSTEM”

**SECTION 00080
NOTICE OF AWARD**

TO: _____
PROJECT DESCRIPTION:

RFP 2025-03 Mexico Beach Water Tank Aeration System

The City of Mexico Beach (“OWNER”) has considered the BID submitted by you for the above-described Project in response to its Advertisement for Bids dated September __, 2025, and associated Information for Bidders.

You are hereby notified that your Bid in the amount of \$ _____ has been accepted by the OWNER. Provided, however, nothing in this Notice or your delivery to the OWNER of the Agreement executed by you (with the required Bonds and Certificates of Insurance) shall in any manner or way be deemed to create any contract between you and the OWNER. No such contract shall be created unless and until the OWNER signs the Agreement.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance Bond, Payment Bond, and Certificates of Insurance within 10 calendar days from the date of this Notice of Award.

If you fail to execute said Agreement, together with the required Certificates of Insurance and Bonds, within 10 calendar days from the date of this Notice of Award, the OWNER will be entitled to consider all your rights arising out of OWNER's acceptance of your BID as abandoned and as a forfeiture of your Bid Deposit. The OWNER will be entitled to all other rights and remedies as may be available to it at law.

You must return an acknowledged copy of this Notice of Award to the OWNER, with the executed Agreement and required Certificates of Insurance and Bonds, within the above noted 10 calendar day period.

CITY OF MEXICO BEACH
RFP 2025-03 MEXICO BEACH WATER TANK AERATION SYSTEM

Dated this _____ day of _____, 2025.

[REMIINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

CITY OF MEXICO BEACH
OWNER

By: _____

Name: _____

Title: _____

ACCEPTANCE OF NOTICE:

Receipt of the above Notice of Award is hereby acknowledged

By: _____

This the _____ day of _____, 20____.

Name: _____

Title: _____

END OF SECTION 00

**SECTION 00090
NOTICE TO PROCEED**

TO: _____
PROJECT DESCRIPTION: _____

RFP 2025-03 Mexico Beach Water Tank Aeration System

You are hereby notified to commence Work in accordance with the Agreement dated _____, 2025 on or before _____, 2025, and you are to substantially complete the Work within **XX consecutive calendar days thereafter**. **The date of Substantial Completion is therefore _____, 2025. You are to achieve final completion of construction within 30 days of achieving substantial completion. The date of Final completion is therefore _____, 2025.**

You must return and acknowledge a copy of this Notice to Proceed to the City within 5 calendar days of your receipt of this Notice.

CITY OF MEXICO BEACH
OWNER

By:

Name: Richard Wolf

Title: Mayor

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged _____

By: _____

This the _____ day of _____, 20____.

Name: _____

Title: _____

END OF SECTION 00090

SECTION 01046
SPECIAL PROVISIONS

PART 1 - GENERAL

1.01 CONSTRUCTION AREAS

- A. The CONTRACTOR shall:
1. Limit use of the construction areas for work and for storage to allow for:
 - a. Work by other contractors.
 - b. Utilities Use.
 - c. Owner use.
 - d. Public use.
 2. Coordinate use of Work site under direction of Project Representative.
 3. Assume full responsibility for the protection and safekeeping of materials and products under this Contract, stored on or off the site.
 4. Move any stored products, under CONTRACTOR's control, which interfere with operations of the OWNER, Utilities, or any separate contractor.
 5. Obtain and pay for the use of additional lay down areas needed for operations.

1.02 SPECIFICATIONS

- A. All Work called for in the Specifications applicable to this Contract, but not shown on the plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the plans or the Specifications but involved in carrying out their intent or in the complete and proper execution of the Work is required and shall be performed by the CONTRACTOR as though it were specifically delineated or described.
- B. The apparent silence of the specifications as to any detail, or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished, shall be regarded as meaning that only

the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation shall be made on the basis of these specifications.

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

1.03 WORK PROGRESS

- A. The CONTRACTOR shall construct the Work as shown on the drawings and provide equipment which will be efficient, appropriate, and large enough to secure a satisfactory quality of work and a rate of progress which will ensure the completion of the Work within the Contract Time.
- B. If at any time project execution appears to be inefficient, inappropriate, or insufficient for securing the quality of Work required or for producing the necessary rate of progress, the Project Representative may request the CONTRACTOR to increase the efficiency, change the character or increase the project equipment, and the CONTRACTOR shall conform to such request.
- C. Failure of the Project Representative to give such request shall in no way relieve the CONTRACTOR of its obligations to secure the quality of the work and rate of progress required.

1.04 1.4 PRIVATE LAND

- A. The CONTRACTOR shall not enter or occupy private land outside of the construction site or easements, except by written permission of the landowner.

1.05 1.5 WORK LOCATIONS

- A. Structures, pipelines, and equipment shall be substantially located as indicated on the Drawings, but the ENGINEER through the Project Representative reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.06 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguarded by the CONTRACTOR by providing temporary barricades, caution signs, lights

and other appropriate means to prevent accidents to persons and damage to property.

- B. The CONTRACTOR shall, at its own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen.
- C. Bridges provided for access during construction shall be removed when no longer required.
- D. The length or size of excavation will be controlled by the particular surrounding conditions. The Project Representative may require special construction procedures such as limiting the length of the open trench, prohibiting the stacking of excavated material in the street or requiring that the trench shall not remain open overnight.
- E. The CONTRACTOR shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be properly signed, appropriately barricaded at all times, and well lit.
- F. The CONTRACTOR shall adhere to the requirements of Chapter 553 Part III of the Florida Statutes entitled Trench Safety Act and The United States Department of Labor Occupational Safety and Health Administration (O.S.H.A.) Excavation Safety Standards 29 CFRs 1926.650 Subpart P.

1.07 TEST PITS

- A. Test pits for the purpose of locating all known and unknown underground pipelines, utilities, or structures in advance of the construction shall be excavated and backfilled by the CONTRACTOR at the direction of the Project Representative.
- B. Test pits shall be immediately backfilled after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Project Representative.
- C. No separate payment will be made for such test pit

obligations. **1.08 CARE AND PROTECTION OF PROPERTY**

- A. The CONTRACTOR shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto.

1. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work on the part of the CONTRACTOR, such property shall be restored by the CONTRACTOR, at its expense, to a condition similar or equal to that existing before the damage was done or make good the damage in other manner acceptable to the OWNER and Project Representative.

All sidewalks, mailboxes, and driveways which are disturbed by the CONTRACTOR's operations shall be restored to their original construction or better and in accordance with best practice and the requirements of the Contract Documents.

- B. Along the location of this Work, all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike manner.
 1. Fences and other features removed by the CONTRACTOR shall be replaced in the location and by the date indicated by the Project Representative.
 2. All grass areas beyond the limits of construction which have been damaged by the CONTRACTOR shall be regraded, seeded, and re-established as before damage.
- C. Trees close to the work shall be boxed or otherwise protected against injury.
 1. The CONTRACTOR shall trim all branches that are liable to be damaged because of construction operations, but in no case shall any tree be cut or removed without prior notification or written approval of the Project Representative.
 2. All injuries to bark, trunk, limbs, and roots of trees shall be repaired by dressing, cutting, and painting according to appropriate methods, using only appropriate tools and materials.
 3. All landscaping to be removed shall be documented and replaced with like kind or better and re-established as before removal.
 4. All palm trees shown on plans shall be spaded out, protected, temporarily stored, and replaced to their same location(s).
- D. The protection, removal, and replacement of existing physical features along the line of Work shall be a part of the Work under the Contract, and all costs in connection therewith shall be included in the lump sum prices.

1.09 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

- A. The CONTRACTOR shall assume full responsibility for the protection of all public or private buildings, structures, and utilities, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, storm drains and electric and telephone cables, whether or not they are shown on the Drawings.
 - 1. The CONTRACTOR shall carefully support and protect all such structures and utilities from injury of any kind.
 - 2. Any damage resulting from the CONTRACTOR's operations, or any of its subcontractors, shall be repaired at its expense.
- B. The CONTRACTOR shall bear full responsibility for obtaining all locations of underground structures and utilities (including existing water services, drain lines and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the CONTRACTOR.
- C. Protection and temporary removal and replacement of existing utilities and structures shall be a part of the Work under the Contract and all costs in connection therewith shall be included in the lump sum price.
- D. The CONTRACTOR shall be responsible to maintain water, telephone, power, cable TV, sewer, gas, and other related utilities throughout construction at no additional cost to OWNER.
- E. The CONTRACTOR shall fully cooperate with all private and public utilities during the installation of new facilities or relocation of existing facilities. The CONTRACTOR shall coordinate its work accordingly and shall have no claim except for time extension for delays associated with the proposed utility improvements.

1.10 WATER FOR CONSTRUCTION PURPOSES

- A. In locations where public water supply is available, the CONTRACTOR may purchase water for construction purposes.
- B. The express approval of the OWNER shall be obtained before using water.
 - 1. Waste of water by the CONTRACTOR shall be sufficient cause for withdrawing the privilege of unrestricted use.

- 2. Hydrants shall only be operated under the supervision of the appropriate utility personnel.
- C. All water drawn from a public water supply shall be metered using a meter supplied by the appropriate utility, and CONTRACTOR shall pay OWNER based on water usage according to such metering.

1.11 MAINTENANCE OF FLOW

- A. The CONTRACTOR shall at its own cost, provide for the flow of sewers, drains and water courses interrupted during the progress of the work, and shall immediately cart away and remove all offensive matter.
- B. The entire procedure of maintaining existing flow shall be fully coordinated with the Project Representative in advance of the interruption of any flow.

1.12 CLEANUP AND DISPOSAL OF EXCESS MATERIAL

- A. During the course of the Work, the CONTRACTOR shall keep the construction site in a reasonably clean and neat condition.
 - 1. The CONTRACTOR shall dispose of all residues resulting from the construction Work and, at the conclusion of the Work, shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures and any other refuse remaining from the construction operations.
 - 2. The CONTRACTOR shall leave the entire site of the Work in a neat, orderly, and restored condition.
- B. In order to prevent environmental pollution arising from the construction activities related to the performance of this Contract, the CONTRACTOR and its subcontractors shall comply with all applicable federal, state and local laws and regulations concerning waste material disposal, as well as any other specific requirements stated elsewhere in these Specifications or the Contract Documents.

1.13 MAINTENANCE OF ACCESS

- A. Portions of the Work are located in developed areas requiring access for fire, police, emergency, and other city, state, or federal agencies to be provided and at least one free lane must be available at all times for all traffic.
- B. The CONTRACTOR shall arrange operations in these areas to meet these requirements and secure approval or operating procedures from the City of

Mexico Beach (OWNER) or Florida Department of Transportation (FDOT) as the case may be.

1.14 MAINTENANCE OF TRAFFIC

- A. Open pits, trenches, unpaved streets, debris, or other obstructions due to construction that will prevent the normal flow of traffic during an extended construction stoppage, for any reason, shall be minimized.
- B. In the event an extended construction stoppage is found to be necessary CONTRACTOR shall, at its own expense, maintain normal traffic flow during extended construction stoppage.

All excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times.

- C. If construction operations cause traffic hazards, the CONTRACTOR shall repair the road surface, provide temporary roadways, erect wheel guards or fences, or take other satisfactory measures for safety, subject to approval by the Project Representative.
- D. Detours around construction areas will be subject to the approval of the Project Representative. Where detours are permitted, the CONTRACTOR shall provide all necessary barricades and signs as required by the Project Representative to divert the flow of traffic. While traffic is detoured, the CONTRACTOR shall expedite construction operations and the Project Representative will strictly control periods when traffic is being detoured.

1.15 CONNECTION TO WORK BY OTHERS

- A. If construction by others occurs at the same time and in the same areas as Work being done under this Contract, the CONTRACTOR shall conduct operations as follows:
 - 1. Force Mains, Reuse Mains and Water Mains:
 - a. If shown on the Drawings, pipelines constructed under this Contract may be connected to pipelines to be built by others.
 - b. Pipelines built under this Contract will be connected to pipelines constructed by others by removing the plugs at both ends of the pipeline segment and making the connection.
 - c. If the pipelines have not been constructed by others, the pipeline under this Contract shall be laid to the required line and grade, terminated with a plugged connection, precisely at

the location of the connection indicated on the Drawings, and then backfilled and marked with a stake and the connection made later as specified in sub-paragraph "b" above.

1.16 PROTECTION OF CONSTRUCTION AND EQUIPMENT

- A. All newly constructed Work shall be carefully protected from any injury or damage. The CONTRACTOR shall not allow any wheeling or walking or placing of heavy loads on any newly constructed Work. All portions injured or damaged shall be reconstructed by the CONTRACTOR at its own expense.

All structures shall be protected in a manner approved by the Project Representative. If, in the final inspection of the work, any defects, faults or omissions are found, the CONTRACTOR shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation by OWNER for the materials and labor required. Further, the CONTRACTOR shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein, for at least the guarantee period described in the Contract.

- B. The CONTRACTOR shall take all necessary precautions to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the OWNER.
- C. The CONTRACTOR shall maintain the work during construction and until the project is accepted.
 - 1. Such maintenance shall constitute continuous and effective work executed daily, with adequate equipment, and forces in order that the roads or structures are kept in satisfactory condition at all times.
 - 2. In the case of a contract for the placing of a previously constructed course or subgrade, the CONTRACTOR shall maintain the previous course or subgrade during all construction operations.
- D. All cost of maintenance work during construction and before the project is accepted shall be included in the contract price and the CONTRACTOR will not be paid an additional amount for such work.

1.17 WORKING HOURS

- A. Regular working hours are defined as up to 10 hours per day, Monday through Friday, beginning no earlier than 7:00 a.m. and ending no later than 5:00 p.m., excluding holidays.

- B. The CONTRACTOR shall not work on holidays.
- C. The Contract Time shall not be extended due to holidays falling within the Contract Time.
- D. All Work performed by the CONTRACTOR is subject to observation at all times by the OWNER and its agents, including the Project Representative.
- E. Requests to work outside of the defined regular working hours must be submitted in writing to the Project Representative, at least 48 hours prior to any proposed weekend work or scheduled extended workweeks.
- F. Periodic unscheduled overtime on weekdays will be permitted provided that 2 hours' notice is provided to the Project Representative. Maintenance of the CONTRACTOR's equipment and cleanup may be performed during hours other than regular working hours.
- G. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Subarticle 8-6.4 (Pages 88-89) regarding "Suspension of Contractor's Operations – Holidays and Special Events" applies to this Project.
- H. The CONTRACTOR shall reimburse the OWNER for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours.
 - 1. At OWNER'S option, overtime costs may either be deducted from the CONTRACTOR's monthly payment request or deducted from the CONTRACTOR's retention prior to release of final payment.
 - 2. Engineering/Inspection costs shall be calculated at the following rates:
 - a. Professional Engineer \$215.00
 - b. Project Manager \$185.00
 - c. Engineer II \$150.00
 - d. Inspector \$140.00
 - e. Sr. CAD Technician \$120.00
 - f. Administration \$85.00

- A. Immediately after awarding the Contract but before construction Work begins, the CONTRACTOR shall attend a preconstruction conference as scheduled by the Project Representative to review construction aspects of the project and to provide required preconstruction submittals and other documentation.

- B. In addition, the CONTRACTOR shall conduct bi-weekly meetings scheduled by the Project Representative to discuss Contract progress, near term scheduled activities, including utility relocations, as well as problems and proposed solutions. The CONTRACTOR shall submit a 2-week planning schedule at each weekly meeting, showing the work planned for the next 2 weeks in bar chart format, identifying current and planned activities and related contract schedule work activities, including subcontractor work. The planning schedule shall designate all activities that are controlling work items as determined by the currently accepted contract schedule.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01046

**SECTION 001150
MEASUREMENT AND PAYMENT**

PART 1 - SCOPE OF WORK

The scope of this section of the Contract Documents is to further define the items included in each Bid Item in the Bid Proposal section of these Specifications. Payment will be made based on the specified items included in the description in this section for each Bid Item.

1.01 GENERAL

All Contract Prices included in the Bid Proposal section will be full compensation for all labor, materials, tools, equipment, and incidentals necessary to complete the construction as shown on the drawings and/or as specified in the Contract Documents to be performed under this contract. Actual quantities of each item bid on a unit price basis will be determined upon completion of the construction in the manner set up for each item in this section of the specifications. Payment for all items listed in the Bid Form will constitute full compensation for all work shown and/or specified to be performed under this project.

1.02 WORK OUTSIDE AUTHORIZED LIMITS

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

1.03 MEASUREMENT STANDARDS

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

1.04 AREA MEASUREMENTS

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

1.05 LUMP SUM ITEMS

Where payment for items is shown to be paid on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum item. Lump sum Bid Items shall be complete, tested and fully operable prior to request for final payment.

Measurement shall be based upon the ENGINEER's estimate of percent complete per partial payment period.

1.06 OTHER PROVISIONS

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work unless indicated otherwise in the individual Bid Item. Final payment shall not be requested by the CONTRACTOR or made by the OWNER until record drawings have been submitted to the ENGINEER.

- Sheeting and shoring
- Replacement and/or repair of existing utilities damaged during construction.
- Ditch and swale restoration.
- Dewatering and disposal of surplus water, including permitting if required.
- Adjusting existing valve boxes, manhole frames and covers and other structures.
- Any material and equipment required to be installed and utilized for the tests.
- Maintain the existing quality of service during construction.
- Appurtenant work as required for a complete and operable system.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - PART 3 – EXECUTION (NOT APPLICABLE)

3.01 BASE BID

A. BID ITEM 1.1 - MOBILIZATION/DEMobilIZATION

1. Payment for all work included under this bid item will be made at the lump sum price bid for mobilization and demobilization of all labor, equipment, materials, and appurtenances necessary for construction of the project.
2. Mobilization shall include all those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.

3. Also included as part of this bid item is the cost for project indemnifications, video and photographs, shop drawings, working drawings, schedules, record drawings and documents, coordination, and phasing and other miscellaneous items associated with the work.
4. Measurement for this bid item will be lump sum. The lump sum price for mobilization/demobilization will be limited to 10% of the total contract base bid amount.
5. The initial 70% of the Mobilization/Demobilization lump sum price will be payable with the first month's partial payment.
6. The remaining 30% of the Mobilization/Demobilization lump sum price will be payable with the final partial payment.

B. BID ITEM 1.2 – PERFORMANCE AND PAYMENT BONDS

1. Payment for this bid item shall be made at the lump sum price bid for all bonds and insurance policies as required by the Contract Documents.
2. Payment will be made only after proper documentation is provided to the ENGINEER. Measurement of this bid item shall be lump sum.
3. THIS BID ITEM SHALL NOT EXCEED 5.0% OF THE ENTIRE CONTRACT BID AMOUNT.

C. BID ITEM 1.3 – CONSTRUCTION TESTING

1. Payment for all work included under this bid item will be made at the lump sum price bid for testing to be performed in accordance with the state standards.
2. Payment shall include all testing necessary for construction of the improvements indicated in plans.
3. Payment shall constitute complete compensation for all labor, materials, equipment, testing laboratory fees, and any other necessary work needed to complete this work item.
4. Measurement for the work included under this bid item shall be lump sum.

D. BID ITEM 2.1 – CONCRETE PUMP PAD

1. Payment for the work included under this bid item shall be made at unit bid price for providing pavement work as required under the contract documents.
2. Payment shall include all material, labor, equipment, and incidentals necessary to install 16 CY of concrete for the pump pad as further detailed on the Construction Drawings.
3. Payment shall include all material, labor, equipment, and incidentals necessary to install 16 CY of concrete as noted on the Construction Drawings.
4. Payment shall constitute complete compensation for all labor, materials, and equipment necessary to complete this work item.

E. BID ITEM 2.2 – WATER PUMP

1. Payment for all work included under this bid item will be made as unit price bid for installing the water pump as required under the contract documents.
2. Payment shall include but not be limited to furnishing all material, labor, equipment, and incidentals necessary to install the following in accordance with the contract documents.
3. Payment shall constitute complete compensation for all labor, materials, and equipment necessary to complete this work item.

F. BID ITEM 2.3 to 2.18 – PIPING AND ASSOCIATED COMPONENTS

1. Payment for the work included under this bid item shall be made at unit bid price for constructing a piping and valves as required under the contract documents.
2. Payment shall include all material, labor, equipment, incidentals, necessary to construct all piping and associated valves noted on the Construction Drawings. Material include, but are not limited to:
 - a. 4" Suction Pipe
 - b. 4" DI 45 Degree Bend
 - c. Tapping Sleeve
 - d. 1.5" DI Pipe

- e. D.I. MJ 4" Check Valve, Gate Valves, and Control Valves
 - f. Water Spigot
 - g. Pressure Gauge
 - h. Pipe Supports and attachments (to include all support structures, attachments, pipe hangers, etc both inside and outside the tank)
 - i. 4" Grout
 - j. 1.5" DI Sprayer Tee
 - k. 1.5" 100 GPM Spray Nozzles
 - l. 4" PVC Dome Probe Curb and associated components
3. Payment shall constitute complete compensation for all labor, materials, and equipment necessary to complete this work item.

G. BID ITEM – 3.1 AS-BUILT DRAWINGS

- 1. Payment for the work included under this bid item shall be made at unit bid price for completing as-built drawings for OWNER use as required under the contract documents.
- 2. Payment shall include all material, labor, equipment, and incidentals necessary to complete and furnish as-built drawings to OWNER.
- 3. Payment shall constitute complete compensation for all labor, materials, and equipment necessary to complete this work item.

END OF SECTION 01150

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The CONTRACTOR shall submit to the ENGINEER for review such working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this Section called "Data"), and material samples (hereinafter in this Section called "Samples") as are required for the proper control of work, including but not limited to those working drawings, shop drawings, Data and Samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.

- B. The CONTRACTOR shall note that there are specific submittal requirements in other sections of these Specifications.

- C. The CONTRACTOR is to maintain an accurate updated submittal log and shall bring this log to each scheduled progress meeting with the PROJECT REPRESENTATIVE and the ENGINEER. This log shall be organized using the ten (10) character numbering system in subparagraph 1.6 F. This log should include the following items:
 - 1. Submittal Description and File Number assigned.
 - 2. Date to ENGINEER.
 - 3. Date returned to CONTRACTOR (from ENGINEER).
 - 4. Status of Submittal
 - a. Approved
 - b. Approved As Noted
 - c. Approved As Noted/Confirm
 - d. Not Approved/Resubmit
 - e. Not Approved
 - 5. Date of Resubmittal and Return (as applicable).
 - 6. Date material released (for fabrication).
 - 7. Projected date of fabrication.
 - 8. Projected date of delivery to site.

9. Status of O&M submittal.

1.02 SHOP DRAWINGS

- A. When used in the Contract Documents, the term “shop drawings” shall be considered to mean CONTRACTOR’s plans for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed and shall consist of the following:
1. Fabrication.
 2. Erection and setting drawings and schedule drawings.
 3. Manufacturer’s scale drawings.
 4. Bills of material.
 5. Wiring and control diagrams.
 6. Inspection and test reports including performance curves and certifications as applicable to the Work.
- B. All details on shop drawings submitted for approval shall clearly show the elevations of the various parts to the main members and lines of the structure and/or equipment, and where correct fabrication of the Work depends upon field measurements, such measurements shall be made and noted on the shop drawings before being submitted for approval.
- C. See Shop Drawing Schedule requirements in Subparagraph 1.7 CONTRACTOR’S RESPONSIBILITY.

1.03 PRODUCT DATA

- A. Product data as specified in individual sections, include, but are not necessarily limited to the following, as applicable to the Work:
1. Standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer’s product specification and installation instructions.
 2. Availability of colors and patterns.
 3. Manufacturer’s printed statements of compliances and applicability.
 4. Roughing-in diagrams and templates.
 5. Catalog cuts.

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6. Product photographs.
7. Standard wiring diagrams.
8. Printed performance curves and operational-range diagrams.
9. Production or quality control inspection and test reports and certifications.
10. Mill reports.
11. Product operating and maintenance instructions and recommended spare-parts listing storage instructions.
12. Printed product warranties.

1.04 WORKING DRAWINGS

- A. When used in the Contract Documents, the term “working drawings” shall be considered to mean the CONTRACTOR’s plans for temporary structures such as temporary bulkheads, support of open cut excavation, support of utilities, groundwater control systems, forming and false work; for underpinning; and for such other work as may be required for construction but does not become an integral part of the Project.
- B. Working drawings shall be signed and sealed by a registered Professional Engineer, currently licensed to practice in the State of Florida and shall convey, or be accompanied by, calculations or other sufficient information to completely explain the structure, machine, or system described and its intended manner of use.
- C. Prior to commencing such Work, working drawings must have been reviewed without specific exceptions by the ENGINEER. Such review will be for general conformance and will not relieve the CONTRACTOR in any way from his responsibility with regard to the fulfillment of the terms of the Contract.
- D. All risks of error are assumed by the CONTRACTOR; the OWNER and ENGINEER shall have no responsibility, therefore.

1.05 SAMPLES

- A. General:
 1. The CONTRACTOR shall furnish, for the approval of the ENGINEER, samples required by the Contract Documents or requested by the ENGINEER.

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2. Samples shall be delivered to the ENGINEER as specified or requested and in quantities and sizes as specified.
 3. A minimum of two samples of each item shall be submitted unless otherwise specified.
 4. The CONTRACTOR shall prepay all shipping charges on samples.
 5. Materials or equipment for which samples are required shall not be used in the Work until approved by the ENGINEER.
- B. Samples specified in individual sections, include, but are not necessarily limited to physical examples of the Work as applicable such as:
- a. Sections of manufactured or fabricated work.
 - b. Small cuts or containers of materials.
 - c. Complete units of repetitively used products.
 - d. Color/texture/pattern swatches and range sets.
 - e. Specimens for coordination of visual effect.
 - f. Graphic symbols.
 - g. Units of Work to be used by the ENGINEER or Project Representative for independent inspection and testing.
- C. The CONTRACTOR shall prepare a transmittal letter in triplicate for each shipment of samples to the ENGINEER.
1. The CONTRACTOR shall enclose a copy of this letter with the shipment and send a copy of this letter to the Project Representative.
 2. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.
- D. Approved samples not destroyed in testing shall be sent to the ENGINEER or stored at the site of the Work. Materials and equipment incorporated in the Work shall match the approved samples.
- E. Samples which fail testing or are not approved will be returned to the CONTRACTOR at their expense, if so, requested at time of submission.

1.06 SUBMITTAL REQUIREMENTS

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- A. The CONTRACTOR shall review, approve, and submit, with reasonable promptness and in such sequence as shown on the Shop Drawing Submittal Schedule so as to cause no delay in the Contract Work or in the Work of the OWNER or any separate contractor, all shop drawings, product data, working drawings and samples required by the Contract Documents.
- B. The CONTRACTOR shall submit 10 copies of all shop drawings for the ENGINEER to review, of which the ENGINEER will retain 8 sets.
- C. All submittals shall be directly transmitted to the ENGINEER's office. Submittals to the Project Representative will not be accepted.
- D. Shop drawings, product data, working drawings and samples shall be furnished with the following information:
1. Number and title of the drawing.
 2. Date of drawing or revision.
 3. Name of project building or facility.
 4. Name of contractor, subcontractor, and manufacturer submitting drawing.
 5. Clear identification of contents, location of the work, and the sheet numbers where the product is found in the contract drawings.
 6. CONTRACTOR Certification Statement.
 7. Submittal Identification Number.
 8. Contract Drawing Number Reference.
 9. A certification by the CONTRACTOR that states the following:
 - a. I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is in compliance with the Contract Drawings and Specifications, can be installed in the allocated space, will be stored in accordance with the manufacturer's recommendations and the Specifications, and is submitted for approval.
- E. In accordance with Subparagraph 1.7 A, each shop drawing, working drawing, sample, and catalog data submitted by the CONTRACTOR shall have affixed to it the following Certification Statement, signed by the CONTRACTOR:

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1. Certification Statement:
 - a. By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all contractor requirements.

F. The CONTRACTOR shall utilize a 10-character submittal identification numbering system in the following manner:

1. The first character shall be a D, S, P, M, or R, which represents Shop/Working Drawing and other Product Data (D), Sample (S), Preliminary Submittal (P), Operating/Maintenance Manual (M), or Request for Information (R).
2. The next five digits shall be the applicable Specification Section Number.
3. The next three digits shall be the numbers 001 to 999 to sequentially number each item or drawing submitted under each specific section number.
4. The last character shall be a number 1 to 10, indicating the submission, or resubmission of the same Drawing, i.e., 1=1st submission, 2=2nd submission, 3=3rd submission, etc. A typical submittal number would be as follows:

D 03300-008.2:

D = Shop Drawing
03300 = Specification Section for Concrete
008 = The eighth submittal under this specification section
2 = The second submission (first resubmission) of that particular shop drawing.

G. The CONTRACTOR shall submit a copy of each submittal transmittal sheet (for shop drawings, product data, working drawings and samples) to the Project Representative simultaneously with the CONTRACTOR's submission of said drawings, data, samples or manual packages to the ENGINEER.

H. All items specified are not necessarily intended to be a Manufacturer's standard product.

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1. Variations from specified items will be considered on an “or equal” basis.
2. If submittals show variations from Contract requirements because of standard shop practice or for other reasons, the CONTRACTOR shall describe such variations in the letter of transmittal and on the shop drawings along with notification of intent to seek contract adjustment.

If acceptable, proper adjustment in the Contract shall be implemented where appropriate.

3. If the CONTRACTOR fails to describe such variations, responsibility will not be waived for executing the Work in accordance with the Contract, even though such drawings have been reviewed.
 4. Variations submitted but not described may be cause for rejection.
 5. Any variations initiated by the CONTRACTOR will not be considered as an addition to the scope of work unless specifically noted and then approved as such in writing by the ENGINEER.
- I. Data on materials and equipment shall include materials and equipment lists giving, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, material, size, finish, and all other pertinent data.
 - J. For all mechanical and electrical equipment furnished, the CONTRACTOR shall provide a list including the equipment name, and address and telephone number of the manufacturer’s representative and service company so that service and/or spare parts can be readily obtained. In addition, a maintenance and lubrication schedule for each piece of equipment shall be submitted.
 - K. The CONTRACTOR shall use the color “green” to make his remarks on the Submittals. Only the ENGINEER will utilize the color “red” in marking submittals.
 - L. Facsimiles or copies of facsimiles will not be accepted for review.

1.07 CONTRACTOR’S RESPONSIBILITY

- A. It is the duty of the CONTRACTOR to check, and coordinate with the work of all trades, all drawings, data, schedules and samples before submitting them to the ENGINEER for review.
- B. Each and every copy of any drawing or data sheet larger than 11-inch by

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- 17-inch shall bear CONTRACTOR's stamp showing that they have been so checked and approved.
- C. Drawings or data sheets 11-inch by 17-inch and smaller shall be bound together in an orderly fashion and bear the CONTRACTOR's stamp on the cover sheet.
 - D. The cover sheet shall fully describe the packaged data and include a list of all sheet numbers within the package.
 - E. Shop drawings submitted to the ENGINEER without the CONTRACTOR's stamp will be returned to the CONTRACTOR, without review at the ENGINEER's option, for conformance with this requirement.
 - F. The CONTRACTOR shall review shop drawings, product data, and Samples prior to submission to determine and verify the following:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Manufacturer's catalog numbers and similar data.
 - 4. Conformance with Specifications.
 - G. Shop drawings shall indicate any deviations in the submittal from the requirements of the Contract Documents.
 - H. Shop Drawing Schedule:
 - 1. At a time decided upon at the preconstruction meeting, the CONTRACTOR shall furnish to the Project Representative and ENGINEER, a Shop Drawing Schedule fixing the respective dates for the initial submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment.
 - 2. This schedule shall be provided as a separate entity and indicate those submittals that are critical to the progress schedule.
 - I. The CONTRACTOR shall prepare and sufficiently transmit each submittal in advance of performing the related work or other applicable activities, or within the time specified in the individual Work sections of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar

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sequenced activities. No extension of time will be authorized because of the CONTRACTOR's failure to transmit complete and acceptable submittals sufficiently in advance of the Work.

- J. The CONTRACTOR shall not begin any Work affected by a submittal returned not approved.
 - 1. Before starting this Work, all revisions must be corrected by the CONTRACTOR.
 - 2. After resubmittal they will be reviewed and returned by the ENGINEER.
 - 3. If approved or approved as noted, then the CONTRACTOR may begin this Work.
 - 4. Any corrections made to the shop drawings are to be followed without exception.

- K. The CONTRACTOR shall submit to the ENGINEER all shop drawings and data sufficiently in advance of construction requirements to provide no less than 21 calendar days for review from the time the ENGINEER receives them. No less than 30 calendar days will be required for major equipment that requires review by more than one engineering discipline.

- L. The CONTRACTOR shall be responsible for and bear all cost of damages which may result from the ordering of any material or from proceeding with any part of Work prior to the review and approval by ENGINEER of the necessary shop drawings.

- M. All shop drawings, product data, working drawings and samples submitted by subcontractors for approval shall be sent directly to the CONTRACTOR for checking. The CONTRACTOR shall be responsible for their submission according to the approved shop drawing schedule so as to prevent delays in delivery of materials and project completion.

- N. The CONTRACTOR shall check all subcontractor's shop drawings, product data, working drawings and samples regarding measurements, size of members, materials, and details to satisfy himself that they are in conformance to the Contract Documents. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission to the ENGINEER.

- O. Requests for Information (RFI) shall be submitted on a standard form through the Project Representative. RFIs shall indicate their importance to the timely completion of the project. RFIs will be processed as a shop

drawing unless there is an urgent need for immediate response.

1.08 ENGINEER'S REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

A. The ENGINEER's review is for general conformance with the design concept and contract drawings.

1. Markings or comments shall not be construed as relieving the CONTRACTOR from compliance with the contract plans and specifications or from departures therefrom.

The CONTRACTOR remains responsible for details and accuracy, for coordinating the Work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.

B. The review of shop drawings, data, and samples will be general. They shall not be construed:

1. As permitting any departure from the Contract requirements.
2. As relieving the CONTRACTOR of responsibility for any errors, including details, dimensions, and materials.
3. As approving departures from details furnished by the ENGINEER, except as otherwise provided herein.

C. If the shop drawings, data or samples as submitted describe variations per Subparagraph 1.6H (above-referenced), and show a departure from the Contract requirements which the ENGINEER finds to be in the interest of the OWNER and to be so minor as not to involve a change in Contract Price or Contract Time for performance, the ENGINEER may return the reviewed drawings without noting an exception.

D. Submittals will be returned to the CONTRACTOR under one of the following codes:

1. Code Descriptions:

Code 1: "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the CONTRACTOR may release the equipment and/or material for manufacture.

Code 2: "APPROVED AS NOTED" is assigned when notations or

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comments have been made on the submittal pointing out minor discrepancies as compared with the Contract Documents. Resubmittal or confirmation is not necessary prior to release for manufacturing.

Code 3: "APPROVED AS NOTED/CONFIRM" is assigned as a combination of codes when a confirmation of the notations and comments is required by the CONTRACTOR. The CONTRACTOR may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation is to address the omissions and/or nonconforming items that were noted. Only the items to be "confirmed" need to be resubmitted.

Code 4: "NOT APPROVED/RESUBMIT" is assigned as combination of codes when the submittal is in noncompliance with the Contract Documents and must be corrected and the entire package resubmitted. This code generally means that the equipment or material cannot be released for manufacture unless the CONTRACTOR takes full responsibility for providing the submitted items in accordance with Contract Documents.

Code 5: "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The CONTRACTOR must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

Code 6: "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the CONTRACTOR.

Code 7: "FOR YOUR INFORMATION" is assigned when the package provides information of a general nature that may or may not require a response.

2. Codes 1 through 5 designate the status of the reviewed submittal.
3. Code 6 shows there is an attachment which contains additional data.
4. Code 7 is used as may be necessary.

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- E. Resubmittals:
1. Resubmittals will be handled in the same manner as first submittals.
 2. On resubmittals the CONTRACTOR shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the ENGINEER on previous submissions.
 3. Any such revisions which are not clearly identified shall be made at the risk of the CONTRACTOR.
 4. The CONTRACTOR shall make corrections to any Work done because of this type revision that is not in accordance to the Contract Documents as may be required by the ENGINEER.
- F. If the CONTRACTOR considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the CONTRACTOR shall give written notice thereof to the Project Representative at least 7 working days prior to release for manufacture.
- G. The ENGINEER will review a submittal a maximum of two times, after which cost of review will be borne by the CONTRACTOR. The cost of engineering shall be equal to the ENGINEER's charges to the OWNER under the terms of the ENGINEER's agreement with the OWNER.
- H. When the shop drawings have been completed to the satisfaction of the ENGINEER, the CONTRACTOR shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.
- I. Partial Submittals:
1. Partial submittals may not be reviewed.
 2. The ENGINEER will be the only judge as to the completeness of a submittal.
 3. Submittals not complete will be returned to the CONTRACTOR, and will be considered "Not Approved" until resubmitted.
 4. The ENGINEER may, but is not required to, provide a list, or mark the submittal directing the CONTRACTOR to the areas that are incomplete.

1.09 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other sections of these Specifications, the CONTRACTOR shall submit a P.E. Certification for each item required, in the form attached to this Section, filled in completely and stamped.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01300

**SECTION 01505
MOBILIZATION/DEMobilIZATION**

PART 1 - GENERAL

1.01 DEFINITION AND SCOPE

- A. As required for this project, prior to mobilizing onto the project site, the CONTRACTOR is required to have the following documentation or personnel readily available at all times:
1. Certificates of insurance and bonds.
 2. Local, state or federal permits.
 3. OSHA, FDEP, Department of Labor, and all other required notices.
 4. Full-Time Project Manager and/or Superintendent.
 5. Hurricane preparedness plan that has been approved by the ENGINEER.
 6. Fire Protection Plan and Safety Program that has been approved by the ENGINEER.
 7. Detailed construction schedule approved by the ENGINEER.
 8. Schedule of Values for the work to be completed approved by the ENGINEER.
- B. As required for the proper performance and completion of the work, the CONTRACTOR is allowed to mobilize, install, erect, secure, and provide the following principal items to include, but not be limited to:
1. Plant and equipment required for the first month's operation onto the project site.
 2. Temporary construction power, wiring, telephone, and lighting facilities.
 3. Construction water supply.
 4. On-site sanitary facilities and potable water facilities.
 5. Field office trailers for CONTRACTOR and ENGINEER.
 6. Lay down and storage yard and employee's parking facilities.

7. Project related signs.

1.02 PAYMENT FOR MOBILIZATION

- A. Payment for all mobilization/demobilization work will be made at the lump sum price for mobilization and demobilization of all labor, equipment, materials and appurtenances necessary for construction of the project.
- B. Mobilization shall include all items listed in the Paragraph 1.01.B above.
- C. Also included, but not limited to, as part of this Bid Item is the cost for:
 - 1. Project performance indemnifications.
 - 2. Shop drawings.
 - 3. Working drawings.
 - 4. Schedules.
 - 5. Record drawings and documents.
 - 6. Coordination.
 - 7. Phasing.
 - 8. Other miscellaneous items associated with the work.
- D. Measurement and payment for this Bid Item will be lump sum.
- E. The lump sum price for mobilization/demobilization will be limited to 10% of the total contract base bid amount.
- F. The initial 70% of the lump sum price will be payable with the first month's partial payment.
- G. The remaining thirty percent (30%) will be payable with the final partial payment.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01505

**SECTION 02619
DUCTILE IRON PIPE AND FITTINGS**

PART 4 - GENERAL

4.01 SCOPE OF WORK

This section pertains to the supply installation, storage, and handling of ductile iron pipe.

- A. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals required to install ductile iron pipe and fittings complete, tested, and ready for use, as shown on the Drawings and/or as specified herein.
- B. Omission of a specific item or component obviously necessary for the proper function of the system shall not relieve the CONTRACTOR from the responsibility of supplying that specific item or component at no additional expense to the Owner.

4.02 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER, within 20 calendar days after receipt of Notice to Proceed, a list of materials to be furnished, and the names of the suppliers and the date of delivery of materials to the site.
- B. Furnish to the ENGINEER all Manufacturer certifications and certified test reports that the pipe and linings and coating for this contract was manufactured and tested in accordance with the ASTM and ANSI/AWWA Standards specified herein.

4.03 CONNECTION TO EXISTING LINES

- A. For connections to the existing lines to which the piping of this Contract must connect, the following work shall be performed:
 - 1. Exposed buried lines to confirm or determine end connection, pipe material, and diameter.
 - 2. Furnish _____ and install appropriate piping and make proper connections.

PART 5 - PRODUCTS

5.01 MATERIALS

The CONTRACTOR shall use the following project specific pressure classes of ductile iron pipe for sizes shown:

Pipe and Fitting Sizes	Pressure Class
4"	350
6"	350
8 "	350
10"	350
12"	350
14"	250
16"	250
18"	250
20"	250
24"	200
30"	150
36"	150

- A. Ductile iron pipe and fittings 3-inches through 54-inches for buried service shall meet the following requirements:
1. Ductile iron pipe shall conform to ANSI A21.51 and AWWA C-151. Ductile iron pipe shall have a minimum tensile strength of 60,000 psi with minimum yield strength of 42,000 psi and a minimum elongation of 10 percent. Type of bedding conditions used shall be as shown on the Drawings.
 2. Unrestrained joint pipe shall be supplied in lengths not in excess of 21 feet. Unrestrained joint pipe for shall be the push-on joint pipe. Unrestrained joint pipes for pipe sizes 36" and less shall be American Ductile Iron Fastite® or ENGINEER approved equal,

3. Unrestrained fittings shall meet the requirements of AWWA C-110. Rubber gaskets shall conform to ANSI A21.11 for all joints. Mechanical joint fittings and restrained joint pipe shall be furnished with sufficient quantities of accessories as required for each joint.
4. Restrained joint fittings where shown or specified shall be manufactured in accordance with the requirements of ANSI/AWWA C151/A21.51, C110/A21.10 and C111/A21.11. Push-on joints for such pipe shall be in accordance with ANSI/AWWA C111/A21.11. Pipe thickness shall be designed in accordance with ANSI/AWWA C150/A21.50 and C151/A21.51. Restrained joint fittings shall be ductile iron in accordance with applicable requirements of ANSI/AWWA C110/A21.10. Mechanical joints for such fittings shall be in accordance with ANSI/AWWA C110/A21.10 and C111/A21.11. Restrained joints, where shown or specified, shall be designed to withstand vertical and longitudinal forces and be capable of holding against withdrawal with no axial movement resulting from an internal hydrostatic pressure of 120 psi for the raw sewage force mains and 150 psi for reclaimed water irrigation mains and potable water mains.
5. Restrained pipe joints that achieve restraint by incorporating cut out sections in the wall of the pipe shall have a minimum wall thickness at the point of cut out that corresponds with the minimum specified wall thickness for the rest of the pipe.
6. Restrained joints shall be suitable for 120 psi or 150 psi working pressure for purpose as specified above and fabricated of heavy section ductile iron casting. Gaskets shall meet the material requirements of ANSI/AWWA C111. Restrained joint pipe and fittings shall be the push-on joint pipe. Restrained joint pipes and fittings for pipe size 30" and less shall be American Ductile Iron Fastite® with Fast-Grip Gasket® or ENGINEER approved equal. Restrained joint pipe and fittings for pipe size 36" and larger shall be American Ductile Iron Flex-Ring® or ENGINEER approved equal. The minimum number of restrained joints required for resisting forces at fittings and changes in direction of pipe shall be determined from the length of restrained pipe on each side of fittings and changes in direction necessary to develop adequate resisting friction with the soil as shown on the drawings.
7. All jack and bore service pipe and fittings 12-inches and greater shall be ductile iron. Unless specified differently on the drawings, all buried service pipe shall have single gasket, compression push-on type line joints. All jack and bore fittings shall be mechanical joint. All fittings

shall be mechanically restrained with Fast-Grip®, Flex Ring®, or Megalug Series 1100 or ENGINEER approved equal.

3. Ductile iron fittings, valves and other appurtenances shall not be wrapped with polyethylene film.
 4. Adapters to connect ductile iron fittings to pipe or fittings of dissimilar materials shall be supplied by the CONTRACTOR in accordance with the pipe Manufacturer recommendations and as approved by the ENGINEER.
 5. Pipe outlets where shown shall be made with tees, tapping saddles or factory welded-on bosses for above ground piping. Bosses shall be ductile iron, factory welded on ductile iron pipe having a minimum Pressure Class 350 for 6-inch to 12-inch sizes, Pressure Class 250 for 16-inch to 36-inch sizes, and Pressure Class 150 for 42-inch to 48-inch sizes.
 6. CONTRACTOR may supply short body ductile iron fittings in conformance with AWWA C153 in lieu of C110 and C111 for sizes 3-inch through 36-inch.
 7. All fittings shall be cast and machined at one foundry location to assure quality control and test data. The standard grade of iron shall be 70-50-05. Analyses of the ductile iron shall be made with the chemical limits set in this standard (C110 and/or C153).
- B. Ductile iron pipe and fittings 3-inches through 54-inches for above ground service or in below ground concrete pits shall meet the following requirements:
1. All above ground ductile iron pipe shall be flanged. Ductile iron pipe shall conform to ANSI A21.51 and AWWA C-151.
 2. Flanged ductile-iron pipe shall conform to current AWWA/ANSI Specification C115/A21.15 and C110/A21.10 with factory-applied screwed long hub flanges except as otherwise specified hereinafter. Flanges shall be fully machined faced and drilled after being screwed tight on the pipe, with flanges true to 90 degrees with the pipe axis and shall be flush with end of pipe conforming to ANSI B161.1, 125-pound std. or Class 250, for the purpose intended. No welding of flanges or accessories in the field will be acceptable.
 3. Pipe for use with split-type flexible coupling joints shall have radius grooved ends.

8. Wall sleeve with integral water stops, or wall pipe casings with integral thrust collars shall be continuously welded on each side of the waterstop or thrust collar and shall be of the sizes and types as shown on the Drawings. Wall sleeves, where specified, shall be fabricated of Schedule 40 Type 304 stainless steel or PVC and shall have integral water stops continuously welded on each side of the waterstop. Seal strips for wall sleeves, where required on the Drawings, shall be Link Seal as manufactured by Thunderline Corp., Wayne, Michigan, or equal.
9. Full face type 1/16-inch-thick red rubber ring gaskets shall conform to ANSI A21.11. Ring gaskets shall be of approved composition suitable for the required service.
10. Bolts and nuts on flanged pipe and fittings shall be low alloy, high strength steel equal to "Corten," conforming to ANSI A21.11 and A21.15 or 304 stainless steel and shall be drilled to match ANSI B16.1 Class 125 or 250 flanges for the purpose intended.

5.02 LINING AND COATINGS

- A. All pipe and fittings for potable water service and reclaimed water irrigation reuse mains shall have a cement mortar lining and a bituminous seal coat on the inside in accordance with ANSI A21.4 and be coated on the exterior with a 1-2 mils thick bituminous coat in accordance with ANSI A21.51.

5.03 IDENTIFICATION

- A. Each length of pipe and each fitting shall be marked with the name of the Manufacturer, size, and class. All gaskets shall be marked with the name of the Manufacturer, size, and proper insertion directions.
- B. All above ground piping and fittings shall be completely primed and painted the color purple (pantone 522C) for reclaimed water pipe, the color green (Kop Coat No. 0336) for gravity sewer pipe, and the color blue (Kop Coat No. 8155) for potable water pipe.
- C. All below ground ductile iron pipe and fittings shall have an identification color code.
 1. Raw sewage force mains and gravity sewer pipe - Green, similar to Kop Coat, No. 0336.
 2. Reclaimed water irrigation reuse mains and service tubing - Purple, similar to Pantone 522C. CONTRACTOR shall stencil on top of the

pipe and every 10 ft along the length of the transmission main the words "REUSE MAIN".

3. Potable water mains and service tubing - Blue, similar to Kop Coat No. 8155.

All buried ductile iron pipe shall be painted along its entire length with 2-inch stripes on at least three-quarter points for pipe sizes 12-inches and larger. For pipe sizes smaller than 12-inches, a single 2-inch-wide stripe along the top of the pipe shall be provided. Paint and marking tape colors shall be as described above.

5.04 FUTURE STRUCTURE AND MANHOLE CONNECTIONS

- A. Pipe stubs for all future manhole or pipe connections shall not be less than 24-inches in length. Watertight plugs or caps shall be furnished.

PART 6 - EXECUTION

6.01 INSTALLING DUCTILE IRON PIPE AND FITTINGS

- A. All water, sewer, and reclaimed water mains shall be installed in accordance with recommendations of the pipe Manufacturer and as specified herein.
- B. All pipe deflection or bends deflected more than 6% shall be restrained in accordance with the Restrained Pipe Joint Table. All fittings and valves shall be restrained in accordance with the Restrained Pipe Joint Table. See detail sheet.
- C. Care shall be taken in the handling, storage, and installation of pipe and fittings to prevent injury to the pipe or coatings. All pipe and fittings shall be examined before installing, and no pipe shall be installed which is found to be defective. Pipe or fittings shall not be dropped. All damage to the pipe coatings shall be repaired according to the Manufacturer's recommendations.
- D. All pipe and fittings shall be kept clean and shall be thoroughly cleaned before installation.
- E. Pipe shall be laid to the lines and grades shown on the Drawings with bedding and backfill as shown on the Drawings. Blocking under the pipe will not be permitted.
- F. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work, and when laid, shall conform to the lines and grades required. Ductile iron pipe and fittings shall be installed in accordance with requirements of AWWA Standard Specification C600 except as otherwise provided herein. A firm, even bearing throughout the length of the pipe shall be constructed by tamping FDOT No. 89 stone at the sides of the pipe up to 6-inches over the top of the pipe, and then an additional 6 inches of selected material for a total of 12 inches over the top of the pipe. Blocking will not be permitted.

- G. If any defective pipe is discovered after it has been laid, it shall be removed and replaced with a sound pipe in a satisfactory manner by the CONTRACTOR, at his own expense.
- H. When installation is not in progress, including lunchtime, or the potential exists for dirt or debris to enter the pipe, the open ends of the pipe shall be closed with watertight plugs or other approved means.
- I. Under no circumstances shall the pipe or accessories be dropped into the trench.
- J. Polyethylene wrap shall be:
 - 1. 8 mil in thickness.
 - 2. Purple in color.
 - 3. Installed per Manufacturer's Instructions.
- K. All plugs, caps, bends and other locations where unbalanced forces exist shall be anchored by restrained joints. The length of pipe for which restrained joints shall be used are shown on the Drawings.
- L. In all cases where ductile iron pipe is installed, a marking tape shall be located above the top of the pipe.
- M. When cutting pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be jointed with a bell shall be beveled to conform to the manufactured spigot end. Cement lining shall be undamaged.

6.02 PUSH-ON JOINTS

- A. Push-on joints shall be made in accordance with the Manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. A rubber gasket shall be inserted in the groove of the bell end of the pipe, and the joint surfaces cleaned and lubricated. The plain end of the pipe to be laid shall then be aligned and inserted in the bell of the pipe to which it is to be joined and pushed home with a jack or by other means. After joining the pipe, a metal feeler shall be used to make certain that the rubber gasket is correctly located.

6.03 MECHANICAL JOINT

- A. Shall be ductile iron and installed per manufacturer's instructions and as shown on the Contract Documents.

6.04 FLANGED JOINTS

- A. Flanged joints shall be installed where shown on the Drawings. Extreme care shall be exercised to ensure that there is no restraint on opposite ends of pipe or fitting which will prevent uniform gasket compression, cause unnecessary stress, bending or torsional strains to flanges or flanged fittings. Adjoining push-on joints shall not be assembled until flanged joints have been tightened. Bolts shall be tightened alternately and evenly. After installation apply a bitumastic coating to bolts and nuts.

6.05 RESTRAINED JOINTS

- A. Restrained joints shall be installed in accordance with the Restrained Pipe Joint Table. See detail sheet. Restrained joints shall be installed at all fittings, bends deflected more than 6 degrees and valves as shown on the Drawings and specified herein. The joint assemblies for pipe sizes 30" and smaller shall be Fastite® Joint with Fast-Grip® Gasket by American Pipe Co. or ENGINEER approved equal. The joint assemblies for pipe sizes 36" shall be Flex-Ring® Joint by American Pipe Co. or ENGINEER approved equal. Restrained joints shall be installed in accordance with the Manufacturer's recommendations.

6.06 TESTING (PRESSURE PIPING)

- A. All pressure mains shall be field-tested. Hydrostatic pressure and leakage tests shall conform with Section 4 of AWWA C600 Specification with the exception that the CONTRACTOR shall furnish all gauges, meters, pressure pumps and other equipment needed to test the line.
- B. The leakage test shall be a separate test at the maximum operating pressure as determined by the ENGINEER following the pressure test and shall be of not less than 2 hours duration. All leaks evident at the surface shall be repaired and leakage eliminated regardless of total leakage as shown by test. Lines which fail to meet tests shall be repaired and retested as necessary until test requirements are complied with. Defective materials, pipes, valves, and accessories shall be removed and replaced. The pipelines shall be tested in such sections as may be approved by the ENGINEER by shutting valves or installing temporary plugs as required. The line shall be filled with water and all air removed and the test pressure shall be maintained in the pipe for the entire test period by means of a force pump to be furnished by the CONTRACTOR. Accurate means shall be provided for measuring the water required to maintain this pressure. The amount of water required is a measure of the leakage.
- C. The CONTRACTOR must submit his plan for testing to the ENGINEER for review at least ten (10) days before starting the test.

6.07 FLUSHING

- A. After the mains have been laid and pressure tested, each run of pipe shall be thoroughly flushed so as to remove all debris and foreign matter from the lines. Flushing will ordinarily be done by opening fire hydrants or blowoffs along the pipeline. Where fire hydrants or blowoffs are not available or are of insufficient capacity to permit adequate flushing, the pipeline shall be opened, and flumes or piping shall be provided by the Contractor to waste the water to the nearest approved disposal point. A minimum volume of water equal to 1.5 times the volume of the main shall be used to flush the mains. The water shall be introduced into the mains to produce a velocity of not less than 2-1/2-feet per second, and this rate of flow shall be continued until the discharge is clear and no evidence of silt or foreign matter is visible.

6.08 CLEANING

- A. At the conclusion of the work the CONTRACTOR shall thoroughly clean all of the new pipelines by flushing with water and pigged to remove all dirt, stones, pieces of wood, or other material which may have entered during the construction period. Debris cleaned from the lines shall be removed from the job site. If, after this cleaning, any obstructions remain, they shall be removed.
- B. After the pipelines are cleaned and if the groundwater level is above the pipe, or following a heavy rain, the ENGINEER will examine the pipe for leaks. If defective pipes or joints are discovered at this time, they shall be repaired or replaced by the CONTRACTOR.

END OF SECTION 02619

**SECTION 01705
PROJECT CLOSEOUT**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract apply to work of this

section. **1.02 DESCRIPTION OF REQUIREMENTS**

- A. Definitions:

1. Closeout is hereby defined to include general requirements near the end of Contract Time, in preparation for final acceptance, final payment, normal termination of Contract, and similar actions evidencing completion of the Work.
2. Specific requirements for individual units of work are specified elsewhere in these Specifications.
3. Time of closeout is directly related to "Substantial Completion," and therefore, may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates.
4. That time variation (if any) shall be applicable to other provisions of this section.

1.03 PREREQUISITES FOR SUBSTANTIAL COMPLETION

- A. General:

1. Prior to requesting ENGINEER's inspection for the Certificate of Substantial Completion (for either the entire work completed, or portions of the work completed), complete the following and list known exceptions in request:
 - a. Submit an Application for Payment, coinciding with or first following date claimed, show either 100% completion for portion of work claimed as "substantially complete" or list incomplete items, value of incompleteness, and reasons for being incomplete.

- b. Submit supporting documentation for completion to ENGINEER as indicated in these Contract Documents.
- c. Submit statement showing accounting of changes to the Contract Sum to ENGINEER.
- d. Submit pending insurance change-over requirements to OWNER.
- e. Submit special warranties, workmanship/maintenance bonds, maintenance agreements, final certifications, and similar documents to ENGINEER and OWNER.
- f. Prepare and submit releases enabling OWNER's full and unrestricted use of the work and access to services and utilities, including (where required) operating certificate, and similar releases to the ENGINEER and OWNER.
- g. Submit record drawings, operation and maintenance manuals, and similar final record information to the ENGINEER and OWNER.
- h. Deliver tools, spare parts, extra stocks of materials, and similar physical items to the OWNER.
- i. Make final change-over of locks and transfer keys to OWNER, and advise OWNER's personnel to change-over in security provisions, if applicable.
- j. Perform start-up testing of systems and provide the OWNER's operating/maintenance personnel with instructions on the use and testing of systems.
- k. Discontinue and remove (or change over to OWNER) all temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements from the project site.
- l. Complete final cleanup of project site to include touch-up painting of marred surfaces, construction debris removed from site, and any other restoration to pre-construction conditions needed for the site.

B. Inspection Procedures:

- 1. Upon receipt of CONTRACTOR's request, the ENGINEER will either

proceed with inspection or advise CONTRACTOR of unfulfilled prerequisites which require CONTRACTOR's attention.

Following initial inspection, the ENGINEER will either prepare the Certificate of Substantial Completion, or advise the CONTRACTOR of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed.

2. Results of completed inspection will form initial "punch- list" for final acceptance.

1.04 PREREQUISITES FOR FINAL ACCEPTANCE

A. General:

1. Prior to requesting ENGINEER's final inspection for the Certificate of Final Acceptance as well as the final payment, as required by General Conditions (Section 00100), complete the following and list known exceptions (if any) in request:
 - a. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - b. Submit updated final statement, accounting for additional (final) changes to the Contract Sum.
 - c. Submit consent of surety.
 - d. Submit final liquidation damages settlement statement, acceptable to the OWNER.
 - e. Revise and submit evidence of final continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure:

1. Upon receipt of CONTRACTOR's notice that the work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, the ENGINEER will reinspect the Work.
2. Upon completion of reinspection, the ENGINEER will either prepare a Certificate of Final Completion or will advise the CONTRACTOR of work not completed or unfulfilled obligations as required for final

acceptance. If necessary, procedure will be repeated.

1.05 RECORD DOCUMENT SUBMITTALS

A. General:

1. Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in Section 01300 (Submittals).
2. Do not use record documents for construction purposes; protect from deterioration and loss in a secure fire-resistive location; provide access to record documents for ENGINEER's reference during normal working hours.

B. Record Drawings:

1. Maintain a set of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown.
2. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings.
3. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work.
4. Mark-up new information which is recognized to be of importance to the OWNER but was for some reason not shown on either the Drawings or Shop Drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date.
5. Note related Change Orders where applicable.

C. Record Specifications:

1. Maintain one copy of specifications, including Addenda, Change Orders and similar modifications issued in printed form during construction, and mark-up variation (of substance) in actual work in comparison with text of Specifications and modifications as issued.
2. Give particular attention to substitutions, selection of options, and

similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation.

Note related Record Drawing information and product data, where applicable.

3. Submit completed mark-up to ENGINEER for OWNER's records upon project completion.

D. Operation and Maintenance Manuals:

1. Organize and prepare four sets of operating and maintenance manuals into suitable sets of manageable size and bind into individual binders properly identified and indexed (thumb tabbed).

2. Include emergency instructions, spare parts listing, copies of all warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 CLOSEOUT PROCEDURES

A. General Operating and Maintenance Instructions:

1. Arrange for each installer of work requiring continuing operating or maintenance to meet with OWNER's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work.

2. Include instructions from manufacturer's representatives where installers are not expert in the required procedures.

3. Review operation and maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification systems, control sequences, hazards, cleaning, and similar procedures and facilities.

4. Demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and similar operations for operational equipment.

5. Review operations and maintenance in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

FINAL CLEANING

B. General:

1. Special cleaning for specific units of work is specified in other sections. The following are examples, but not by way of limitation, of cleaning levels required:
2. Remove labels which are not required as permanent labels.
3. Wipe surfaces of mechanical and electrical equipment clean and remove excess lubrication and other substances.
4. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances.
5. Sweep paved areas to a broom-clean condition; remove stains, Petro-chemical spills and other foreign deposits.
6. Rake grounds which are neither planted nor paved, to a smooth, even- textured surface.

C. Compliances:

1. Comply with safety standards and governing regulations for cleaning operations.
2. Do not burn waste materials at or on project site, bury debris or excess materials on OWNER's property, or discharge volatile or other harmful or dangerous materials into drainage systems.
3. Remove waste materials from site and dispose of in a lawful manner.
4. Dispose of extra materials of value remaining after completion of the associated work has become the OWNER's property, to OWNER' best advantage as directed.

END OF SECTION 01705

**SECTION 033000
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Footings.
 - 2. Foundation and Retaining walls.
 - 3. Subbases and Subslabs.

1.03 DEFINITIONS

- A. Cementitious Materials:
 - 1. Portland cement alone or in combination with one or more of the following: fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.04 SUBMITTALS

- A. Section Cross Reference:
 - 1. Refer to Division 01 Submittals Section for general requirements.
- B. Product Data:
 - 1. Submit, for information only, for each type of manufactured material and product indicated, including fibrous concrete reinforcement materials, admixtures, patching compounds, joint systems, curing compounds, dry-shake finish materials, and others as requested by OWNER.

- C. Design Mixtures:
 - 1. For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

 - D. Steel Reinforcement Shop Drawings:
 - 1. Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, and grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

 - E. Formwork Shop Drawings:
 - 1. Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

 - F. Samples:
 - 1. Submit samples of materials as requested by OWNER, including names, sources, and descriptions, as follows:
 - a. Color finishes.

 - G. Welding certificates.

 - H. Qualification Data:
 - 1. For manufacturer and testing agency.

 - I. Material Test Reports:
 - 1. For the following, from a qualified testing agency, indicating compliance with requirements:
 - 2. Aggregates.

 - J. Material Certificates: For each of the following, signed by manufacturers, certifying that each item complies with requirements:
 - 1. Admixtures.
 - 2. Fiber reinforcement:
 - a. Certificate shall indicate trade name and amount of fiber
-

reinforcement per cubic yard of concrete.

5. Curing compounds.

K. Field quality-control test reports.

1.05 QUALITY ASSURANCE

A. Allowable Tolerances in finished, exposed work:

1. Maximum $\pm 3/16$ inch in length of 20 feet-9 inches maximum, $\pm 3/8$ inch in length of 40 feet-0 inches or more.
2. In cross sectional dimension: $\pm 3/16$ inch.
3. In surface plane, plumb and level: $\pm 1/8$ inch in 10 feet-0 inches in any direction when measured with a 10 feet-0 inches straight edge.
4. Tolerances shall conform to ACI 301.

B. Manufacturer Qualifications:

1. A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
2. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Professional Engineer Qualifications:

1. A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, extent and scope of work.

D. Source Limitations:

1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
2. ACI Publications:
 - a. Comply with the following unless modified by requirements in

the Contract Documents:

- 1) ACI 301, "Specification for Structural Concrete,"
- 2) ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.06 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement:

1. Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

1.07 PROJECT CONDITIONS

A. Weather:

1. Precaution shall be taken to prevent high temperatures in fresh concrete during hot weather, in accordance with ACI 305.
2. Water reducing set retarding admixtures shall be used in such quantities as recommended by concrete supplier to assure that concrete remains workable and lift lines will not be visible.
3. Cold weather placement shall be in accordance with ACI 306.

PART 2 - PRODUCTS

2.01 SOURCE QUALITY CONTROL

A. Single-source Responsibility:

1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain each admixture from a single manufacturer.

2.02 FORM-FACING MATERIALS

A. Rough-Formed Finished Concrete:

1. Provide plywood, lumber, metal, or another approved material.
2. Provide lumber dressed on at least two edges and one side for tight fit.

2.03 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products:
 - 1. Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 25 percent.

- B. Reinforcing Bars:
 - 1. ASTM A 615, Grade 60, deformed.

- C. Epoxy-Coated Reinforcing Bars:
 - 1. ASTM A 615, Grade 60, deformed bars, epoxy coated, with less than 2 percent damaged coating in each 12-inch (300-mm) bar length.

- D. Steel Bar Mats:
 - 1. ASTM A 184, fabricated from ASTM A 615/, Grade 60, deformed bars, assembled with clips.

- E. Plain-Steel Welded Wire Reinforcement:
 - 1. ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets, not rolls.

- F. Tire Wire:
 - 1. 16-gauge annealed steel wire.

2.04 REINFORCEMENT ACCESSORIES

- A. Bar Supports:
 - 1. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place.

 - 2. Manufacture bar supports from steel wire, plastic, or precast concrete or fiber-reinforced concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

- a. For concrete surfaces exposed to view where legs of wire bar support contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
- b. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
- c. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

2.05 CONCRETE MATERIALS

A. Cementitious Material:

- 1. Use the following cementitious materials, of the same type, brand, and source, throughout Project:

B. Portland Cement:

- 1. ASTM C 150, Type I, gray, natural color, domestic manufacture. Use only one brand of cement throughout Project. Supplement Portland cement with the following, serving as replacement for 50 percent of Portland cement:
 - a. Fly Ash: ASTM C 618, Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

C. Normal-Weight Aggregates:

- 1. ASTM C 33, Class 3M coarse aggregate or better, uniformly graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
- 2. Maximum Coarse-Aggregate Size: 3/4-inch (19 mm) nominal.

D. Fine Aggregate:

- 1. Free of materials with deleterious reactivity to alkali in cement.

E. Lightweight Aggregate:

- 1. ASTM C 330, 3/4-inch (19-mm) nominal maximum aggregate size.

- F. Water:
 - 1. ASTM C 94, clean and potable.

2.06 ADMIXTURES

- A. Air-Entraining Admixture:
 - 1. ASTM C 260, certified by manufacturer to be compatible with other required admixtures. Add to produce air entrainment in accordance with ACI 318.
- B. General:
 - 1. Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 2. Water-Reducing Admixture:
 - a. ASTM C 494, Type A only.
 - 3. Water-Reducing and Retarding Admixture:
 - a. ASTM C 494, Type D.
- C. Color Pigment:
 - 1. ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
- D. Color:
 - 1. As selected by OWNER from manufacturer's full range.

2.07 CURING MATERIALS

- A. Moisture-Retaining Cover:
 - 1. ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- B. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
 - 1. Curing compounds must not change the color of the concrete (i.e.,

yellowing) and breakdown in a 2- to 4-week period.

2.08 RELATED MATERIALS (Not Applicable)

2.09 CONCRETE MIXTURES, GENERAL (Not Applicable)

2.10 CONCRETE MIXTURES (Not Applicable)

- A. Proportion mixtures to provide normal weight concrete with the following properties as indicated on Drawings.

Class	Minimum Comprehensive Strength @ 28 Days	Maximum Slump	Water: Cement Ratio
A	2500 psi	4 inches	0.50 maximum
B	3000 psi	4 inches	0.50 maximum
C	3500 psi	4 inches	0.45 maximum

- B. Air Content:

1. Six (6) percent, plus or minus one and one-half (1.5) percent for 3/4-inch, nominal maximum aggregate.

- C. Class of Concrete:

1. The following classes of concrete are required as indicated on the Drawings.
- a. Class B – 3000 psi normal weight.
 - b. Class C -- 3500 psi normal weight

2.11 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.12 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix and deliver concrete according to ASTM C 94.
1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes;

when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION (Not Applicable)

3.01 STEEL REINFORCEMENT

- A. General:
 - 1. Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement.
- D. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
- E. Do not tack weld crossing reinforcing bars.
- F. Weld reinforcing bars according to AWS D1.4, where indicated.
- G. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- H. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging.
- I. Lap edges and ends of adjoining sheets at least one mesh spacing.
- J. Offset laps of adjoining sheet width, to prevent continuous laps in either direction.
- K. Lace overlaps with wire.
- L. Epoxy-Coated Reinforcement:
 - 1. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M.

- 2. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.
- M. Concrete cover shall be as called for in the Drawings
- N. Place reinforcement not indicated on Drawings at locations required and lap lengths in accordance with ACI 318.

3.02 JOINTS (Not Applicable)

3.03 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by OWNER.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms.
 - 4. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer.
 - 5. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - 6. At each insertion, limit duration of vibration to time necessary to

consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

3. Maintain reinforcement in position on chairs during concrete placement.
4. Screed slab surfaces with a straightedge and strike off to correct elevations.
5. Slope surfaces uniformly to drains where required.
6. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

D. Cold-Weather Placement:

1. Comply with ACI 306.1 and as follows.
2. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
3. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
4. Do not use frozen materials or materials containing ice or snow.
5. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
6. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

E. Hot-Weather Placement:

1. Comply with ACI 301 and as follows:
2. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement.

3. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water.
4. Using liquid nitrogen to cool concrete is CONTRACTOR's option.
5. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete.
6. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.04 FINISHING FORMED SURFACES

A. Rough-Formed Finish:

1. As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched.
2. Remove fins and other projections that exceed one-fourth (1/4) inch in height on formed-surface irregularities.
3. Apply to concrete surfaces not exposed to public view in the finished Work or concealed by other construction.

B. Smooth-Formed Finish:

1. As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams.
2. Repair and patch tie holes and defects.
3. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
4. Apply to concrete surfaces exposed to public view to be covered with a coating or covering material applied directly to concrete.

C. Related Unformed Surfaces:

1. At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces.
2. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.05 FINISHING BASES, SUBBASES, AND SLABS

A. General:

1. Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces.
2. Do not wet concrete surfaces.

B. Scratch Finish:

1. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied.
2. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in 1 direction.
3. Apply scratch finish to surfaces indicated to receive concrete floor toppings, to receive mortar setting beds and other bonded cementitious floor finishes.

C. Float Finish:

1. Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats.
2. Re-straighten, cut down high spots, and fill low spots.
3. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.
4. Apply float finish to surfaces indicated to receive trowel finish other surfaces as specified and to be covered with fluid-applied or sheet waterproofing.

D. Trowel Finish:

1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
2. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance.
3. Grind smooth any surface defects that would telegraph through applied coatings.

4. Apply a trowel finish to surfaces exposed to view to be covered with paint, or another thin- film-finish coating system.
- E. Broom Finish:
1. Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
 2. Refer to Division 03, Brushed Concrete Finishing, for requirements.
 3. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
 4. Coordinate required final finish with OWNER before application.

3.06 CONCRETE PROTECTING AND CURING

- A. General:
1. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 2. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder:
1. Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss before and during finishing operations.
 2. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces:
1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces, by moist curing with forms in place for the full curing period or until forms are removed.
 2. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing

for the remainder of the curing period.

D. Unformed Surfaces:

1. Begin curing immediately after finishing concrete.
2. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing:

- a. Keep surfaces continuously moist for not less than seven days with the following materials:
 - 1) Water.
 - 2) Continuous water-fog spray.
 - 3) Absorptive cover, water saturated, and kept continuously wet.
 - 4) Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing:

- a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive.
- b. Cure for not less than 7 days.
- c. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound:

- a. Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions.
- b. Recoat areas subjected to heavy rainfall within 3 hours after initial application.

- c. Maintain continuity of coating and repair damage during curing period.
- d. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.

3.07 JOINT FILLING (Not Applicable)

3.08 FIELD QUALITY CONTROL

- A. Testing and Inspecting:
 - 1. OWNER will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing:
 - 1. Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- C. Inspections:
 - 1. Steel reinforcement placement.
 - 2. Steel reinforcement welding.
 - 3. Headed bolts and studs.
 - 4. Verification of use of required design mixture.
 - 5. Concrete placement, including conveying and depositing.
 - 6. Curing procedures and maintenance of curing temperature.
 - 7. Verification of concrete strength before removal of shores and forms from beams and slabs.

END OF SECTION 033000

**SECTION 15100
VALVES AND GATES**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract apply to work of this

section. **1.02 DESCRIPTION OF WORK**

- A. Extent of valves and gates required by this section is indicated on the drawings.
- B. Types of valves and gates specified in this section include the following:
1. Gate Valves
 2. Plug Valves
 3. Check Valves
 4. Tapping Valves
 5. Telescoping Valves
 6. Mud Valves
 7. Aluminum Slide Gates
 8. Stop Valves
- C. Valves furnished as part of factory-fabricated equipment, are specified as part of the equipment assembly in other.

1.03 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
1. Firms regularly engaged in manufacture of valves, of types and sizes required, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Valve Types:
1. Provide valves of same type by same manufacturer.
- C. Valve Identification:
1. Provide valves with manufacturer's name (or trademark) and

pressure rating clearly marked on valve body.

D. Codes and Standards:

1. ANSI Compliance:

- a. For face-to-face and end-to-end dimensions of flanged or welded-end valve bodies, comply with ANSI B16.10 "Face-to-Face and End-to-End Dimensions of Ferrous Valves."

2. UL and FM Compliance:

- a. Provide valves used in fire protection piping, which are UL-Listed, and FM approved.

1.04 SUBMITTALS

A. Product Data:

1. Submit manufacturer's technical product data, including installation instructions for each type of valve.
2. Include pressure drop curve or chart for each type and size of valve.
3. Submit valve schedule showing manufacturer's figure number, size, location, and valve features for each required valve.

B. Shop Drawings:

1. Submit manufacturer's assembly-type (exploded view) shop drawings for each type of valve, indicating dimensions, weights, materials, and methods of assembly of components.

C. Maintenance Data:

1. Submit maintenance data and spare parts list for each type of valve.
2. Include this data, product data, and shop drawings in Maintenance Manual.

PART 2 - PRODUCTS

2.01 VALVES

A. General:

1. Provide factory-fabricated valves recommended by manufacturer for use in service indicated.
 2. Provide valves of types and pressure ratings indicated.
 3. Provide end connections which properly mate with pipe, tube, and equipment connections.
 4. Where more than one type is indicated, selection is Installer's option.
- B. Pressure sewer shutoff valves are to be full diameter opening and are to be rated for 250 pounds per square inch (psi) minimum.
- C. Buried Valves:
1. Provide 2-inch square nut operator.
 2. Provide gear operator for quarter-turn valves 8 inches and larger.
 3. Provide one valve key fabricated of carbon steel and suitable length for each four valves of suitable length.
- D. Exposed Valves:
1. Provide handwheels for all valves except quarter-turn valves, 6 inches and smaller.
 2. Provide lever handle for quarter-turn valves, 6 inches and smaller.
 3. Provide one lever handle for each valve pit.

2.02 GATE VALVES

- A. Three inches and Smaller:
1. Bronze construction with threaded ends and fanged ends.
- B. Over Three Inches:
1. All gate over 3 inches shall be of the iron body, non-rising bronze stem resilient seat wedge type with fanged, mechanical joint or spigot ends, depending on installation furnished with all necessary joint materials.
 2. Fanged gate valves shall be provided with 125-pound American Standard flanges.

3. Valves shall conform to AWWA Specification C509-80.
- C. Gate valves shall be M&H Valve Co., AWWA C509, resilient seated gate valve or approved equal.

2.03 PLUG VALVES

- A. Valves shall be of the non-lubricated eccentric type with resilient seat seal unless otherwise specified and shall be furnished with end connections as shown on the plans. Flanged valves shall have flanges in full compliance to ANSI B16.1 Class 125 Standards, including facing, drilling and thickness. Face-to-face dimensions of flanged valves through 12-inch size shall be that of standard gate valves. Mechanical joint ends shall be in full conformance to ANSI Standard A21.11.
- B. Port areas for all valves shall be at least 80% of full pipe area.
- C. Valve bodies shall be of ASTM A-126 Class B, cast iron. All exposed nuts, bolts, springs, washers, etc. shall be zinc plated. Resilient seat seals shall be of Buna-N or Neoprene, suitable for use in sewage service.
- D. Seats shall be non-metallic with seat coating thermally bonded and in full conformance to AWWA Standard C550. Valves shall be furnished with permanent corrosion resistant bearing surfaces in the upper and lower journals design to withstand full rated bearing loads and provide long-life in sewage service.
- E. Valves furnished shall have their internal wetted surfaces protected by nonmetallic coatings factory applied, thermally bonded and in full conformance to AWWA Standard C550.
- F. Nominal valve pressure ratings, body flanges and wall thicknesses shall be in full conformance to ANSI B16.1-1975. Valves shall seal leak-tight shutoff to 175 psi for valves 14 inches and larger, with pressure in each direction. A hydrostatic test at twice rating and shall be performed with plug open to demonstrate overall pressure envelope integrity.
- G. Manual valves shall have lever or gear actuators and tee wrenches, extension stems, floor stands, etc., as indicated on the plans. All manual valves 8 inches and larger shall be equipped with handwheel actuators. All gearings shall be fully enclosed in a suitable housing and be suitable for running in a lubricant with seals provided on all shafts to prevent entry of dirt and water into the actuator. Actuators shall provide clear indication of valve positions. As suitable stop shall be set to provide watertight shut off

in the closed position at full-rated pressure. All exposed nuts, bolts, and washers shall be zinc plated.

- H. Valve actuators for buried or submerged service shall have seals on all shafts and gaskets on the valve and actuator covers to prevent the entry of water. Actuator mounting brackets for buried or submerged service shall be totally enclosed and shall have gasket seals. All exposed nuts, bolts, springs, and washers used in buried service shall be electro-plated steel.
- I. Valves and actuators shall be manufactured by DeZurik, Valmatic, M&H, or approved equal.

2.04 CHECK VALVES

- A. Over 3 Inches:
 - 1. The check valve over 3 inches shall be iron-body, bronze-mounted, spring and lever with flanged ends, except as specified herein.
 - 2. All working parts shall be spring-loaded to prevent slamming.
 - 3. The check valves shall be M&H 259 – lever/spring or approved equal.
- B. Under 3 Inches:
 - 1. Check valves under 3 inches shall be screwed or flanged ends, bronze-body, silent check valves as manufactured by Crane Co., No. 37, or approved equal.

2.05 FLUSHING HYDRANTS

- A. Flushing hydrants shall be 2-inch post-type with one hose nozzle, Aquarius One-O-Two HH 2 inches as manufactured by Gill Industries, Pensacola, Florida or approved equal.

2.06 TAPPING VALVE AND SLEEVE

- A. Tapping valves and sleeves shall be ductile iron and used for tie-ins at the locations and of the size shown on the construction plans.
- B. The tapping sleeve shall be a full-bolt around and shall have a flanged outlet.

- D. The tapping valve shall be a flanged mechanical joint valve.
- E. Valves shall be M&H Style 3751 or approved equal.
- F. The installation of the tapping sleeve shall be on a clean surface and shall have a minimum of 12 pipe diameters to the nearest existing joint.
- G. The tapping valve and sleeve shall be mounted, and the wet tap made in accordance with the manufacturer's recommendation.
- H. The Tapping sleeve shall be as manufactured by Ford (FTS Coated) or approved equal.

2.07 TELESCOPING VALVES

- A. Telescoping valve(s) shall be as manufactured by Vulcan Industries, Watermain Industries, or other prior-approved supplier of such equipment.
- B. The telescoping valves described in this specification shall be manufactured with new components of the highest quality available.
- C. The following codes and standards shall apply wherever applicable:
 - 1. NEMA – National Electrical Manufacturers Association
 - 2. CEMA - Canadian Electrical Manufacturers Association
 - 3. ASTM – American Society for Testing and Materials
 - 4. AGMA – American Gear Manufacturer Association
 - 5. ANSI – American National Standard Institute
- D. Valves shall consist of type (RS - rising stem) (NRS - non-rising stem) (RP – rack and pinion) floor stands.
- E. Valves shall have travel as shown on the drawings.
- F. For greater than 4 feet of travel on NRS valves, indicator shall be reduced to 1/2 travel.
- G. On type RS or NRS, valve stem and nut shall be made of brass and shall have ACME thread of:
 - 1. 4 inches through 8 inches shall be 1-inch diameter
 - 2. 10 inches through 16 inches shall be 1-inch diameter

- 3. 18 inches through 24 inches shall be 1-1/4-inch diameter
- H. All assembly bolts shall be stainless steel.
- I. Floor stands shall be fabricated from 304 Stainless Steel.
- J. Handwheels shall be Cast Aluminum.
- K. All extension stems shall be Schedule 40 stainless steel pipe and terminate at the tube bracket with 6 inches of thread for field adjustment and be fastened to bracket with double stainless-steel nuts and lock washers.
- L. Telescoping tube shall be manufactured from stainless steel and shall be rolled and smooth seam weld 12-guage stainless steel.
- M. Tubes shall be 6 inches longer than travel.
- N. Tube bail shall be fabricated stainless steel channel.
- O. Indicator shall be furnished on all units and shall be as follows:
 - 1. RS – clear plastic stem covers with rule scale.
- P. A galvanized steel mating flange not more than 1/2-inch larger diameter than the O.D. of slip tube shall be furnished with 3/8-inch-thick neoprene gasket (receiving pipe and flange by others).
- Q. Options:
 - 1. V-notch weirs shall be furnished on opposite sides of tubes and shall be (2-1/2-inch 90 degree).
 - 2. Scum baffle shall be furnished on tube and shall be 10 inches high and have 4-inch clearance between tube and baffle. Baffle shall be 16-guage stainless steel and held in place by 1/4-inch by 2-inch stainless steel bail.

2.08 MUD VALVE

- A. Mud valve shall be of the heavy-duty flange type with rising stems. Frame, cover, yoke, and stem extension connection shall be cast iron.
 - B. Stems shall be brass or stainless steel.
 - C. Lift nuts shall be bronze.
 - D. Seating surfaces are to be bronze and flat configuration.
-

- E. Flange drilling on frame will be suitable for mounting to flange per ASA-B-16.1 (125 pounds drilling).
- F. Gate will be operated by a Tee handle on a standard AWWA 2-inch valve nut or with stainless steel stem extension to the height required.
- G. When shown, pedestal lifts, stem guides, and wall brackets will be furnished by the manufacturer of the mud valve to make a complete and operable unit.
- H. On rising stem valves, stem guides shall be provided such that the L/r ratio of the unsupported part of the stem shall not exceed 200.
- I. Pain will be as shown under painting specifications.
- J. Valves and accessories shall be Watermain Model MV-11 or approved equal.

2.09 ALUMINUM SLIDE GATES

- A. Aluminum slide gates, where shown on the plans or indicated in the specifications shall be Model AC-31 Aluminum Slide Gates with resilient seal as manufactured by Watermain Industries, Inc. or equal.
- B. The gates will be self-contained, rising stem of the flange design with drilling suitable for attachments to 25- or 125-pound ASI companion flange.
- C. Guide frames shall be of extruded aluminum shape, of sufficient section to carry the operating forces of the gate and shall have UHMW polyethylene inserts on which the slide assembly travels to minimize friction.
- D. As spigot ring will be welded to the guides and have a seating surface at minimum 1-1/2-degree angle to which a resilient jbulb seal shall be attached or held in place by a substantial section ring.
- E. Dual Headrails (Yokes) shall be welded to the guide rails and so positioned that the slide is removable from the gate. The slide shall be aluminum plate suitable reinforced with extruded structural shapes for the head requirements specified and will not deflect more than 1/360 of the gate width under the design head.
- F. Suitable side guides will be welded to the slide, which will travel within the guides, and place the cover in an angle corresponding to the seat surface of the guide frame assembly. A rising stainless-steel stem having modified

acme type threads shall attach to the slide with a clevis and pin arrangement.

- G. The stem will be designed to have a L/r of 200 or less and to withstand in compression at least twice the rated output of the lift at 40-pound pull. A suitable handwheel or gear-type operator should be mounted on the headrails (yoke) of the gate and will require a maximum 40-pound pull on the handwheel rim or crank handle to operate the gate.
- H. Flatback gates shall be attached to headwalls with anchor bolts or expansion anchors. Gates shall be installed on the anchors with nuts both behind and on the flange face to position the gate without stress or distortion. See manufacturer's installation instruction. Sealing between headwall and gate flange will be by dry-pack, non-shrink grout or other suitable mastic sealant.
- I. Spigotback gates will be attached to corrugated metal pipe by field drilling the pipe with 7/16-inch holes and secured with 3/8-inch stainless steel bolts, maximum spacing to be 8 inches on circumference of pipe. Sealing between pipe and gate will be made with suitable mastic sealing material to assure water tightness at this joint.
- J. The gate, when installed, shall have no more than 0.05 gallons per minute (gpm) leakage per foot of sealing periphery for seating or unseating heads up to 15 feet.
- K. Aluminum and stainless steel will be mill finish. Paint for lifts will be manufacturer's standard (or prime pain as specified elsewhere).
- L. Material:
 - 1. Aluminum Plate and Shape – ASTM-B211, Alloy 6061-T6
 - 2. J-Bulb Seal – Neoprene ASTM-CB610-625, D-2000
 - 3. Fasteners – ASTM F593 and F594, Type 304 or 316
 - 4. Stem – ASTM A-276, Type 304 or 316
 - 5. Handwheel Lift – Cast Iron ASTM A-126 CL B w/Manganese bronze lift nut per ASTM B-584, Alloy 865
 - 6. Enclosed Gear Lift – Cast Iron ASTM A-126 CL B w/Manganese bronze lift nut per ASTM B-584, Alloy 865

2.10 STOP GATES

- A. The fabricated aluminum stop gates, where shown on the drawings or indicated in the specifications, shall be furnished with aluminum frames with the guides designed to embed in the concrete or to mount to the face of the concrete. The gates shall be manufactured by Armtec, or Engineer-approved equal.
- B. The stop gates shall be the product of a manufacturer having at least 10 years' experience in the design and manufacture of low leakage stop gates under similar design conditions. Stop gates that are the product of metals fabricator, will not be acceptable. All welds shall be performed by qualified, experienced welders.
- C. Maximum allowable leakage for the stop gates shall be as per AWWA standards.
- D. In addition to submittal information required by other sections of these specifications, the stop gate manufacturer may be required to submit design calculations and supporting data for all gates showing stresses, loads and deflection of critical parts under the design head conditions.
- E. The frame shall consist of the 1h-inch minimum thickness extruded aluminum, alloy 6061-T6. The embedded members of the extruded frame shall be at least 1/8-inch thickness. The guides and invert shall be arranged for concrete embedment. An aluminum member shall be welded or bolted to the top of each frame to prevent distortion during shipment and installation. The member shall be removed by the Contractor after installation. A soft closed cell neoprene gasket shall be supplied by the manufacturer for installation between the aluminum frame and the concrete wall.
- F. The frame guides shall incorporate black UV treated low-density extruded poly-side seals press fitted into the extruded frame and fastened with #8 stainless self-tapping flat head screws on both the upstream and downstream sides of the slide. Each seat/seal will be shaped to provide two bearing surfaces and two sealing edges. Neoprene seals shall be attached to the guides, if necessary, to meet leakage criteria. A removable neoprene seal shall be contained in the invert member.
- G. The slide shall be a minimum thickness of 1h-inch aluminum plate, alloy 5083 or 6061-T6. The slide shall be reinforced with stiffeners as required so that under the maximum head, the slide will not deflect more than 1/16-inch of its width and stress is limited to 7,000 psi. The slide shall be provided with two slotted handles for operating the stop plate from the frame.
- H. All aluminum in contact with concrete will have a heavy shop coat of

bitumastic paint.

2.11 VALVE BOXES

- A. Cast-iron boxes shall be provided for all underground valve installations.
- B. They shall consist of a base covering the operating nut and head of the valve, vertical shaft, at least 5-1/4 inches in diameter, and a top section extending to a point even with the finished ground surface.
- C. Provide a cast-iron cover marked "WATER" or "SEWER" as appropriate and placed concentrically over the operating nut.
- D. The valve boxes shall be Clow F-2454 screw-type valve box USF 7500 or approved equal.

2.12 VALVE FEATURES

- A. General:
 - 1. Provide valves with features indicated and, where not otherwise indicated, provide proper valve features as determined by Installer for installation requirements. Comply with ASME B31.9. for building services piping, and ASME B31.1 for power piping.
- B. Flanged:
 - 1. Valve flanges complying with ANSI B16.1 (cast iron), ANSI B16.5 (steel), or ANSI B16.24(bronze).
- C. Threaded:
 - 1. Valve ends complying with ANSI B2.1.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Except as otherwise indicated, comply with the following requirements:
 - a. Install valves where required for proper operation of piping and equipment, including valves in branch lines where

necessary to isolate sections of piping.

- b. Locate valves to be accessible and so that separate support can be provided when necessary.
- c. Install valves with stems pointed up, in vertical position where possible, but in no case with stems pointed downward from horizontal plane unless unavoidable.
- d. Install valve drains with hose-end adapter for each valve that must be installed with stem below horizontal plane.

B. Insulation:

- 1. Where insulation is indicated, install extended-stem valves, arranged in proper manner to receive insulation.

3.02 ADJUSTING AND CLEANING

A. Valve Adjustment:

- 1. After piping systems have been tested and put into service, but before final testing, adjusting, and balancing, inspect each valve for possible leaks.
- 2. Adjust or replace packing to stop leaks, replace valve if leaks persist.

B. Cleaning:

- 1. Clean factory-finished surfaces.
- 2. Repair any marred or scratched surfaces with manufacturer's touchup paint.

END OF SECTION

**SECTION 16010
GENERAL ELECTRICAL**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Supplementary General Conditions sections apply to work specified in Division 16.

1.2 RELATED WORK

- A. The Contractor's attention is directed to the following Divisions of these specifications for related work that may require Division 16 compliance:
Division 15 - Mechanical

1.3 DESCRIPTION OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to complete all electrical work as specified here and shown on the Contract Drawings including all new work, existing modifications, and demolition. The work, apparatus and materials furnished under these Specifications and accompanying Drawings shall include all items listed here and shown on the Drawings. Line voltage connections to equipment furnished as specified in other sections of these Specifications or shown on other than the Electrical Drawings shall be governed by this Division of the Specifications. Each bidder or his authorized representatives shall visit the job site and carefully inspect the present conditions before preparing his bid. The submission of a bid will be considered evidence that such a visit and inspection was performed by the bidder and that he takes full responsibility for all factors governing his work. It is the intent of these Specifications and Drawings that the electrical systems shall be complete, fully operational, and suitable in every way for the service required. Drawings are diagrammatic in nature and do not show in every detail all devices and incidental materials necessary to accomplish the intent. Therefore, the Contractor shall understand that such devices and incidental materials required shall be furnished at no cost to the Owner.

1.4 TEMPORARY POWER

- A. Provide temporary power as required during construction.
- B. The Contractor shall pay all service connection fees for temporary power installation and all electrical bills for temporary construction power required for

the project.

- D. Temporary wiring shall be done in a safe and neat manner. See Article 305 of the NEC.

1.5 SUBMITTALS

- A. Manufacturers' data in the form of "cut sheets" and engineering drawings shall be submitted to the Engineer on the equipment listed below and in other Sections of Division 16 before delivery to the work site. Review of the submittal by the Engineer is to check for general conformance to the design intent and shall not relieve the Contractor of the responsibility for the correctness of all dimensions and the correct fitting of all parts of the work.

Control Panels
Circuit Breakers
Disconnect Switches

Plugs and Receptacles

Surge Protective Devices
Lighting

- B. The submittal shall be thoroughly checked by the Contractor for accuracy and compliance with the contract requirements. Shop drawings and "cut sheets" shall bear the date checked and shall be accompanied by a statement by the Contractor that they have been checked for conformity to Specifications and Drawings. Shop submittals not so checked and noted will be returned without review.

1.6 CODES, INSPECTION AND FEES

- A. Division 16 work shall be in accordance with the latest edition of the following codes and ordinances:

The National Electrical Code (NFPA 70)
The National Electrical Safety Code
The Life Safety Code (NFPA 101)
The Southern Standard Building Code (SBCCI)
Serving Utility Company
State and Municipal

- B. Contractor shall pay all fees for permits and inspections.

1.7 RECORD DRAWINGS

- A. At Job Close-out submit three (3) copies of the following:
 - 1. Clean, complete, and accurate sets of Record Drawings clearly showing deviations to the Contract Drawings.
 - 18.** Bound sets of Equipment Operation and Maintenance Instructions.
 - 19.** Equipment Operation and Maintenance Instructions in electronic format.
 - 20.** Test results required in other sections of this division.

1.8 GUARANTEES

- A. In addition to the guarantee of equipment by the manufacturer the Contractor shall also guarantee such equipment for a period of one (1) year from final acceptance by the Owner. The Contractor's one (1) year guarantee shall be for equipment, materials, and labor.
- B. Additional guarantee requirements may be in the General and Special Conditions of these specifications.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

- A. Furnish materials or equipment specified by manufacturer's names unless approval of other manufacturers is listed in addendum to these specifications.
- B. The materials furnished shall be new, undamaged, and packed in the original manufacturer's packing.
- C. Equipment and materials shall always during construction be protected from mechanical and water damage. Equipment shall not be stored out-of-doors. Damaged materials and equipment shall be replaced by the Contractor at no cost to the Owner.
- D. All electrical panels, enclosures, raceways, conduit, and boxes shall be fabricated of metal unless indicated otherwise.

2.2 EQUIPMENT AND MATERIALS STANDARDS

- A. The design and fabrication of electrical equipment and materials furnished under Division 16 shall comply with the latest edition and revisions of the following codes and standards:

The American National Standards Institute (ANSI) The
American Society of Mechanical Engineers (ASME) The
American Society for Testing and Materials (ASTM) The
Institute of Electrical and Electronic Engineers (IEEE) The
National Electrical Manufacturers Association (NEMA) The
Occupational Safety and Health Administration (OSHA)
The Underwriters Laboratories (UL)
The National Fire Protection Association (NFPA)
The National Electrical Code (NEC)

PART 3 - EXECUTION

3.1 SUPERVISION

- A. The electrical work shall be supervised by a licensed journeyman or master electrician who shall be on the job site at all times while work is in progress.

3.2 EQUIPMENT IDENTIFICATION

- A. Engraved nameplates shall be of laminated plastic with black surface and white 1/8" high letters secured with stainless steel screws.
- B. All major components of the distribution system shall have engraved nameplates.
- C. All starters, disconnect switches, and control panels shall have engraved nameplates identifying the equipment served.

3.3 CLEANING

- A. All equipment and boxes shall be thoroughly cleaned inside and outside at the completion of installation. Do not leave dirt and debris inside equipment cabinets, device and junction boxes, etc.

3.4 PAINTING

- A. Touchup scratched or marred surfaces of equipment cabinets with paint furnished by the equipment manufacturers specifically for the purpose.

3.5 EXCAVATION, TRENCHING AND BACKFILLING

- A. Perform all excavation and trenching to install raceways indicated on the drawings.
- E. No tunneling shall be allowed unless written permission is received by the Architect / Engineer.
- F. Excavated material not suitable for backfill shall be removed from the job site.
- G. Insure that the bottom of trenches is uniform (without large rocks or lumps of dirt) which could damage the raceway or conductors.
- H. Backfill with material that will compacted readily.
- I. Compact backfill material, from bottom of excavation up, to 95% of surrounding undisturbed material.
- J. Cover shall not be less than surrounding grade and no greater than 2" above surrounding grade.

3.6 TESTS

- A. Contractor shall test all wiring for shorts and proper grounding before energizing. Equipment shall be thoroughly checked and adjusted for proper operation. Motors shall be checked for proper rotation.

END OF SECTION



APPENDIX D

CONSTRUCTION DRAWINGS
