

ADDENDUM NO. 3

FOR BID DOCUMENTS, SPECIFICATIONS AND PLANS FOR CONSTRUCTION OF

LAGUNA MADRE WATER DISTRICT PROPOSED SANITARY SEWER, WATER AND PAVING IMPROVEMENTS FOR LONG ISLAND VILLAGE SEASIDE LIVING COMMUNITY BID No. LIV -24-05-01

May 28, 2024

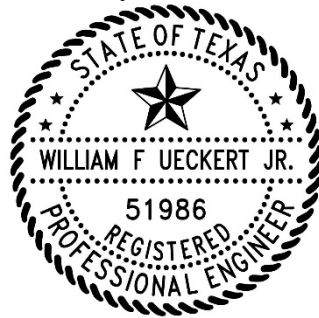
TO: PROSPECTIVE BIDDERS

This Addendum shall become an integral part of the Bidding Documents and shall be reflected in the bids submitted. Acknowledge receipt of this Addendum by indicating such in Bid Form. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.**

1. Changes to Contract Documents
 - a. Front End Documents - Specifications
 - i. Changes (highlight yellow) Section - 333213 Package Wastewater Pumping Stations - ***Pumps shall be FLYGT and there will be a 2-year warranty on the pumps and controls- Attached***
 - ii. Alarm Systems for Lift Stations to be ***RACO Wireless RTU - The unit is intended to be a complete wireless monitoring and remote control system. It shall include the hardware necessary for installation, such as a cellular radio, enclosure, backup battery, transformer, antenna with cable and mounting hardware. This unit is intended to provide Real-time alarms delivered via phone, text message, email, fax, pager and even to your existing HMI software via data link. Alarms shall be logged with a timestamp. All information shall be available on a web portal for tracking and reporting.***
 - b. Construction Plans
 - i. Page 22-128-1, General Construction Notes, Item 22 - Change to - ***All structures to be adjusted by the contractor to meet final grade, a maximum of 12 inches of manhole grade rings will be allowed.***
 - ii. Page 22-128-1, Paving Construction Notes, Item 4- ***Omit***
 - iii. Page 22-128-23 and Page 22-128-28, ***there shall be a fall-thru prevention system for both lift station's access door. This shall be subsidiary to the lift station.***
2. Questions and Information
 - a. May contractor's equipment and material remain on construction site at the end of the day? ***No, all equipment or materials (backhoe, excavator, trucks, trailers, pipe, manholes, etc.) must be removed from the construction site at the end of the day.***
 - b. Possible location for material storage and equipment staging: ***Mr. Charles Nelson, 512-751-5669, NelsonAuto@gmail.com, he owns the property at the end of Garcia Street.***

- c. Existing Utilities: *There are currently active water and sanitary services within the construction area which are required to remain in service. Contractor shall be responsible to repair any damaged service during construction.*
- d. Origin of Material: *There is no requirement that supplied material must be made in USA. The material must indicate on the submittals that they meet AWWA and ASTM Standards.*
- e. General Contractor Experience: *The general contractor shall have sufficient project experience of at least five (5) successful projects equal to or exceeding \$5,000,000 (US Dollars) each within the last three years and be specific to sanitary sewer, water and paving improvements.*

May 28, 2024



William F. Ueckert Jr.

SECTION 333213 - PACKAGED WASTEWATER PUMPING STATIONS**PART 1 - GENERAL****1.1 SUMMARY****A. Related Requirements:**

1. Section 033000 "Cast-in-Place Concrete" for requirements for cast-in-place concrete pad for basin.
2. Section 330576 "Fiberglass Manholes" for pumping station basin.
3. Division 16 "ELECTRICAL"
4. Division 17 "INSTRUMENTATION" for pump control panel and accessories for a duplex wastewater pumping station.

1.2 UNIT PRICES**A. Lift Station No. 1:**

1. Basis of Payment: By **Lump Sum**.
2. Basis of Measurement: Includes excavation, dewatering, gravel base, filter fabric, concrete base, piping, site fencing, site paving, basin cover, pump, pump brackets and check valve, discharge pipe, and pipe fittings in basin from pump to discharge.
3. Wet Well: Eight (8) Feet Diameter

B. Master Lift Station:

1. Basis of Payment: By **Lump Sum**:
2. Basis of Measurement: Includes excavation, dewatering, gravel base, filter fabric, concrete base, piping, site fencing, site paving, basin cover, pump, pump brackets and check valve, discharge pipe, and pipe fittings in basin from pump to discharge.
3. Wet Well: Ten (10) Feet Diameter

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Handling: Support basin with nylon slings connected to structural lift points when moving.
- C. Store materials according to manufacturer instructions.
- D. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide temporary end caps and closures on piping and fittings, and maintain in place until installation.
3. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 Lift Station No. 1

A. Submersible Pump

1. Furnish and install two (2) FLYGT (4- inch discharge Concertor XPC N100-1650) submersible non-clog wastewater pump(s). Each pump shall be equipped with a 3 HP submersible electric motor, connected for operation on 480 volts, 3 phase, 60 hertz, wire service, with 40 feet of submersible cable (SUBCAB) suitable for submersible pump applications. The power cable shall be sized according to NEC and ICEA standards and also meet with P-MSHA Approval. The pump shall be supplied with a mating cast iron 3 inch discharge connection and be capable of delivering 250 GPM at 18 TDH. Each pump shall be fitted with 25 feet of 316 Stainless Steel lifting chain or stainless steel cable. The working load of the lifting system shall be 50% greater than the pump unit weight.
2. Pump shall be capable of operating in a continuous non submerged condition in horizontal (NZ) or vertical (NT) (select one) position in a dry pit installation, permanently connected to inlet and outlet pipes. Pump shall be of submersible construction and will continue to operate satisfactorily should the dry pit be subjected to flooding.
3. Major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. The lifting handle shall be of stainless steel. All exposed nuts or bolts shall be of stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.
4. Sealing design shall incorporate **metal-to-metal contact** between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile rubber O-rings. Fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific torque limit.
5. Rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease or other devices shall be used.
6. Each pump motor shall be sufficiently cooled by submergence in the pumped media.

7. Each unit shall be provided with an integral motor cooling system. A stainless steel motor cooling jacket shall encircle the stator housing, providing for dissipation of motor heat regardless of the type of pump installation. An impeller, integral to the cooling system and driven by the pump shaft, shall provide the necessary circulation of the cooling liquid through the jacket. The cooling liquid shall pass about the stator housing in the closed loop system in turbulent flow providing for superior heat transfer. The cooling system shall have one fill port and one drain port integral to the cooling jacket. The cooling system shall provide for continuous pump operation in liquid or ambient temperatures of up to 104°F (40°C.). Operational restrictions at temperatures below 104°F are not acceptable. Fans, blowers or auxiliary cooling systems that are mounted external to the pump motor are not acceptable.
8. The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer grommets, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter. The grommets shall be compressed by the cable entry unit, thus providing a strain relief function. The assembly shall provide ease of changing the cable when necessary using the same entry seal. The cable entry junction chamber and motor shall be sealed from each other, which shall isolate the stator housing from foreign material gaining access through the pump top. Epoxies, silicones, or other secondary sealing systems shall not be considered equal.
9. The pump motor shall be a NEMA B design, induction type with a squirrel cage rotor, shell type design, housed in an air filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The stator shall be insulated by the trickle impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%. The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31. The stator shall be heat-shrink fitted into the cast iron stator housing. The use of multiple step dip and bake-type stator insulation process is not acceptable. The use of pins, bolts, screws or other fastening devices used to locate or hold the stator and that penetrate the stator housing are not acceptable. The motor shall be designed for continuous duty while handling pumped media of up to 104°F. The motor shall be capable of no less than 30 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of aluminum. Three thermal switches shall be embedded in the stator end coils, one per phase winding, to monitor the stator temperature. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the motor control panel.
10. The junction chamber shall be sealed off from the stator housing and shall contain a terminal board for connection of power and pilot sensor cables using threaded compression type terminals. The use of wire nuts or crimp-type connectors is not acceptable. The motor and the pump shall be produced by the same manufacturer.
11. The motor service factor (combined effect of voltage, frequency and specific gravity) shall be 1.15. The motor shall have a voltage tolerance of +/- 10%. The motor shall be designed for continuous operation in up to a 40°C ambient and shall have a NEMA Class B maximum operating temperature rise of 80°C. A motor performance chart shall be provided upon request exhibiting curves for motor torque, current, power factor, input/output kW and efficiency. The chart shall also include data on motor starting and no-load characteristics.

12. Motor horsepower shall be sufficient so that the pump is non-overloading throughout its entire performance curve, from shut-off to run-out. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.
13. The integral pump/motor shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a two row angular contact ball bearing. The lower bearing shall be a two row angular contact ball bearing to handle the thrust and radial forces. The minimum L10 bearing life shall be 50,000 hours at any usable portion of the pump curve.
14. Each pump shall be provided with a positively driven dual, tandem mechanical shaft seal system consisting of two seal sets, each having an independent spring. The lower primary seal, located between the pump and seal chamber, shall contain one stationary and one positively driven rotating corrosion and abrasion resistant tungsten-carbide ring. The upper secondary seal, located between the seal chamber and the seal inspection chamber shall be a leakage-free seal. The upper seal shall contain one stationary and one positively driven rotating corrosion and abrasion resistant tungsten-carbide seal ring. The rotating seal ring shall have small back-swept grooves laser inscribed upon its face to act as a pump as it rotates, returning any fluid that should enter the dry motor chamber back into the lubricant chamber. All seal rings shall be individual solid sintered rings. Each seal interface shall be held in place by its own spring system. The seals shall not depend upon direction of rotation for sealing. Mounting of the lower seal on the impeller hub is not acceptable. Shaft seals without positively driven rotating members or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces are not acceptable. The seal springs shall be isolated from the pumped media to prevent materials from packing around them, limiting their performance.
15. Each pump shall be provided with a lubricant chamber for the shaft sealing system. The lubricant chamber shall be designed to prevent overfilling and shall provide capacity for lubricant expansion. The seal lubricant chamber shall have one drain and one inspection plug that are accessible from the exterior of the motor unit. The seal system shall not rely upon the pumped media for lubrication.
16. The area about the exterior of the lower mechanical seal in the cast iron housing shall have cast in an integral concentric spiral groove. This groove shall protect the seals by causing abrasive particulate entering the seal cavity to be forced out away from the seal due to centrifugal action.
17. A separate seal leakage chamber shall be provided so that any leakage that may occur past the upper, secondary mechanical seal will be captured prior to entry into the motor stator housing. Such seal leakage shall not contaminate the motor lower bearing. The leakage chamber shall be equipped with a float type switch that will signal if the chamber should reach 50% capacity.
18. The pump and motor shaft shall be a single piece unit. The pump shaft is an extension of the motor shaft. Shafts using mechanical couplings shall not be acceptable. The shaft shall be stainless steel – ASTM A479 S43100-T. Shaft sleeves will not be acceptable.

19. The impeller shall be of Hard-Iron™ (ASTM A-532 (Alloy III A) 25% chrome cast iron), dynamically balanced, semi-open, multi-vane, back swept, screw-shaped, and non-clog design. The impeller leading edges shall be mechanically self-cleaned automatically upon each rotation as they pass across a spiral groove located on the volute suction. The leading edges of the impeller shall be hardened to Rc 60 and shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater. The screw shape of the impeller inlet shall provide an inducing effect for the handling of up to 5% sludge and rag-laden wastewater. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw. The impeller shall be locked to the shaft, held by an impeller bolt and shall be coated with alkyd resin primer.
 20. The pump volute shall be a single piece grey cast iron, ASTM A-48, Class 35B, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified. The volute shall have a replaceable suction cover insert ring in which are cast spiral-shaped, sharp-edged groove(s). The spiral groove(s) shall provide trash release pathways and sharp edge(s) across which each impeller vane leading edge shall cross during rotation so to remain unobstructed. The insert ring shall be cast of Hard-Iron™ (ASTM A-532 (Alloy III A) 25% chrome cast iron) and provide effective sealing between the multi-vane semi-open impeller and the volute housing.
 21. Each pump motor stator shall incorporate three thermal switches, one per stator phase winding and be connected in series, to monitor the temperature of the motor. Should the thermal switches open, the motor shall stop and activate an alarm. A float switch shall be installed in the seal leakage chamber and will activate if leakage into the chamber reaches 50% chamber capacity, signaling the need to schedule an inspection.
 22. The thermal switches and float switch shall be connected to a Mini CAS control and status monitoring unit. The Mini CAS unit shall be designed to be mounted in the pump control panel.
- B. Electrical: REFER TO DIVISION 16 "ELECTRICAL"
- C. Control: REFER TO DIVISION 17 "INSTRUMENTATION"

2.2 Master Lift Station

- A. Submersible Pump
1. Furnish and install two (2) FLYGT (6- inch discharge NP 3171 MT 3~ 434) submersible non-clog wastewater pump(s). Each pump shall be equipped with a 30 HP submersible electric motor, connected for operation on 460 volts, 3 phase, 60 hertz, wire service, with 40 feet of submersible cable (SUBCAB) suitable for submersible pump applications. The power cable shall be sized according to NEC and ICEA standards and also meet with P-MSHA Approval. The pump shall be supplied with a mating cast iron 6 inch discharge connection and be capable of delivering 690 GPM at 85 TDH. Each pump shall be fitted with 25 feet of 316 Stainless Steel lifting chain or stainless steel cable. The working load of the lifting system shall be 50% greater than the pump unit weight.

2. Pump shall be capable of operating in a continuous non submerged condition in horizontal (NZ) or vertical (NT) (select one) position in a dry pit installation, permanently connected to inlet and outlet pipes. Pump shall be of submersible construction and will continue to operate satisfactorily should the dry pit be subjected to flooding.
3. Major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. The lifting handle shall be of stainless steel. All exposed nuts or bolts shall be of stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.
4. Sealing design shall incorporate **metal-to-metal contact** between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile rubber O-rings. Fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific torque limit.
5. Rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease or other devices shall be used.
6. Each pump motor shall be sufficiently cooled by submergence in the pumped media.
7. Each unit shall be provided with an integral motor cooling system. A stainless steel motor cooling jacket shall encircle the stator housing, providing for dissipation of motor heat regardless of the type of pump installation. An impeller, integral to the cooling system and driven by the pump shaft, shall provide the necessary circulation of the cooling liquid through the jacket. The cooling liquid shall pass about the stator housing in the closed loop system in turbulent flow providing for superior heat transfer. The cooling system shall have one fill port and one drain port integral to the cooling jacket. The cooling system shall provide for continuous pump operation in liquid or ambient temperatures of up to 104°F (40°C.). Operational restrictions at temperatures below 104°F are not acceptable. Fans, blowers or auxiliary cooling systems that are mounted external to the pump motor are not acceptable.
8. The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer grommets, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter. The grommets shall be compressed by the cable entry unit, thus providing a strain relief function. The assembly shall provide ease of changing the cable when necessary using the same entry seal. The cable entry junction chamber and motor shall be sealed from each other, which shall isolate the stator housing from foreign material gaining access through the pump top. Epoxies, silicones, or other secondary sealing systems shall not be considered equal.

9. The pump motor shall be a NEMA B design, induction type with a squirrel cage rotor, shell type design, housed in an air filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The stator shall be insulated by the trickle impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%. The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31. The stator shall be heat-shrink fitted into the cast iron stator housing. The use of multiple step dip and bake-type stator insulation process is not acceptable. The use of pins, bolts, screws or other fastening devices used to locate or hold the stator and that penetrate the stator housing are not acceptable. The motor shall be designed for continuous duty while handling pumped media of up to 104°F. The motor shall be capable of no less than 30 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of aluminum. Three thermal switches shall be embedded in the stator end coils, one per phase winding, to monitor the stator temperature. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the motor control panel.
10. The junction chamber shall be sealed off from the stator housing and shall contain a terminal board for connection of power and pilot sensor cables using threaded compression type terminals. The use of wire nuts or crimp-type connectors is not acceptable. The motor and the pump shall be produced by the same manufacturer.
11. The motor service factor (combined effect of voltage, frequency and specific gravity) shall be 1.15. The motor shall have a voltage tolerance of +/- 10%. The motor shall be designed for continuous operation in up to a 40°C ambient and shall have a NEMA Class B maximum operating temperature rise of 80°C. A motor performance chart shall be provided upon request exhibiting curves for motor torque, current, power factor, input/output kW and efficiency. The chart shall also include data on motor starting and no-load characteristics.
12. Motor horsepower shall be sufficient so that the pump is non-overloading throughout its entire performance curve, from shut-off to run-out. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.
13. The integral pump/motor shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a two row angular contact ball bearing. The lower bearing shall be a two row angular contact ball bearing to handle the thrust and radial forces. The minimum L10 bearing life shall be 50,000 hours at any usable portion of the pump curve.

14. Each pump shall be provided with a positively driven dual, tandem mechanical shaft seal system consisting of two seal sets, each having an independent spring. The lower primary seal, located between the pump and seal chamber, shall contain one stationary and one positively driven rotating corrosion and abrasion resistant tungsten-carbide ring. The upper secondary seal, located between the seal chamber and the seal inspection chamber shall be a leakage-free seal. The upper seal shall contain one stationary and one positively driven rotating corrosion and abrasion resistant tungsten-carbide seal ring. The rotating seal ring shall have small back-swept grooves laser inscribed upon its face to act as a pump as it rotates, returning any fluid that should enter the dry motor chamber back into the lubricant chamber. All seal rings shall be individual solid sintered rings. Each seal interface shall be held in place by its own spring system. The seals shall not depend upon direction of rotation for sealing. Mounting of the lower seal on the impeller hub is not acceptable. Shaft seals without positively driven rotating members or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces are not acceptable. The seal springs shall be isolated from the pumped media to prevent materials from packing around them, limiting their performance.
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16. The area about the exterior of the lower mechanical seal in the cast iron housing shall have cast in an integral concentric spiral groove. This groove shall protect the seals by causing abrasive particulate entering the seal cavity to be forced out away from the seal due to centrifugal action.
17. A separate seal leakage chamber shall be provided so that any leakage that may occur past the upper, secondary mechanical seal will be captured prior to entry into the motor stator housing. Such seal leakage shall not contaminate the motor lower bearing. The leakage chamber shall be equipped with a float type switch that will signal if the chamber should reach 50% capacity.
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19. The impeller shall be of Hard-Iron™ (ASTM A-532 (Alloy III A) 25% chrome cast iron), dynamically balanced, semi-open, multi-vane, back swept, screw-shaped, and non-clog design. The impeller leading edges shall be mechanically self-cleaned automatically upon each rotation as they pass across a spiral groove located on the volute suction. The leading edges of the impeller shall be hardened to Rc 60 and shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater. The screw shape of the impeller inlet shall provide an inducing effect for the handling of up to 5% sludge and rag-laden wastewater. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw. The impeller shall be locked to the shaft, held by an impeller bolt and shall be coated with alkyd resin primer.

20. The pump volute shall be a single piece grey cast iron, ASTM A-48, Class 35B, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified. The volute shall have a replaceable suction cover insert ring in which are cast spiral-shaped, sharp-edged groove(s). The spiral groove(s) shall provide trash release pathways and sharp edge(s) across which each impeller vane leading edge shall cross during rotation so to remain unobstructed. The insert ring shall be cast of Hard-Iron™ (ASTM A-532 (Alloy III A) 25% chrome cast iron) and provide effective sealing between the multi-vane semi-open impeller and the volute housing.
 21. Each pump motor stator shall incorporate three thermal switches, one per stator phase winding and be connected in series, to monitor the temperature of the motor. Should the thermal switches open, the motor shall stop and activate an alarm. A float switch shall be installed in the seal leakage chamber and will activate if leakage into the chamber reaches 50% chamber capacity, signaling the need to schedule an inspection.
 22. The thermal switches and float switch shall be connected to a Mini CAS control and status monitoring unit. The Mini CAS unit shall be designed to be mounted in the pump control panel.
- B. Electrical: REFER TO DIVISION 16 "ELECTRICAL"
- C. Control: REFER TO DIVISION 17 "INSTRUMENTATION"

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance [of the Work].
- B. Verify that inlet and discharge piping connections are size, location, and elevation as indicated on Drawings.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Establish elevations of packaged pumping station with minimum 1 feet of cover.
- B. Establish minimum separation of 10 feet from sanitary sewer.
- C. Protect piping from entry of foreign materials and water by using temporary covers, by completing sections of Work, and by isolating parts of completed system.

3.3 INSTALLATION OF PUMPING STATIONS

- A. Excavation:

1. Excavate to required elevation to install basin on undisturbed subgrade, with minimum clearance of 60 inches between basin and surrounding earth.
- B. Backfilling:
1. Backfill basin shall be placed according to details on lift station details.
 2. Maintain optimum moisture content of fill material to attain required compaction density.
 3. After hydraulic test and seven days after placing cast-in-place concrete pad, evenly backfill around entire periphery of basin by hand, placing backfill material and hand tamping in 6-inch compacted layers to finish grade, and compact to 95 percent maximum density.
 4. Do not use wheeled or tracked vehicles for tamping.
- 3.4 ADJUSTING
- A. Adjust basin, pump, and control panel systems such that station operates to performance requirements and according to Specifications.
- 3.5 DEMONSTRATION
- A. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Owner's personnel.
- B. Manufacturer Services: Furnish services of manufacturer's representative experienced in installation of products furnished under this Section for not less than 2 days on Site for installation, inspection, startup, field testing, and instructing Owner's personnel in maintenance of equipment.
- C. Equipment Acceptance:
1. Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.
 2. Make final adjustments to equipment under direction of manufacturer's representative.
- D. Furnish installation certificate from equipment manufacturer's representative attesting equipment has been properly installed and is ready for startup and testing.

END OF SECTION 333213