

# **SUPPLEMENTAL SPECIFICATIONS**

FOR

## **PUMP STATION 308.10 WASTEWATER PUMP STATION REPAIR AND RENOVATION**



**Collier County Public Utilities Department  
Engineering & Project Management Division  
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### **AUGUST 2020**



# SECTION 2

## TECHNICAL SPECIFICATIONS

Go to the Collier County website below for the latest revision  
of the Technical Specifications:

<https://www.colliercountyfl.gov/your-government/divisions-f-r/public-utilities-planning-and-project-management/utilities-standards-manual>

### SUPPLEMENTAL SPECIFICATIONS

- 012000 Measurement and Payment
  - #1 Project Submittals
  - #2 Contractor Responsibilities and Clarifications
  - #3 High-Density Polyethylene (HDPE) Pressure Pipe Joint Fusion and Joint Weld Testing



## SECTION 012000

### MEASUREMENT AND PAYMENT

Applies only to Collier County Public Utilities Projects or Works and Utilities Portions of Collier County Transportation Projects, but not to Private Developments.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Explanation and Definitions
- B. Measurement
- C. Payment
- D. Schedule of Values

##### 1.2 EXPLANATION AND DEFINITIONS

- A. The following explanation of the Measurement and Payment for the Bid Schedule items is made for information and guidance. The omission of reference to any item in this description shall not, however, alter the intent of the Bid Schedule or relieve the CONTRACTOR of the necessity of furnishing such as a part of the Contract. Measurement and payment for all Contract Items shall made be in accordance with this section or as modified by the Supplemental Terms and Conditions.

##### 1.3 MEASUREMENT

- A. The quantities set forth in the Bid Schedule are approximate and are given to establish a uniform basis for the comparison of bids. The COUNTY reserves the right to increase or decrease the quantity of any class or portion of the work during the progress of construction in accord with the terms of the Contract.

##### 1.4 PAYMENT

- A. Make payment for the items listed on the Bid Schedule on the basis of the work actually performed and completed, such work including but not limited to, the furnishing of all necessary labor, materials, equipment, transportation, clean up, restoration of disturbed areas, and all other appurtenances to complete the construction and installation of the work as shown on the drawings and described in the specifications.

- B. Unit prices are used as a means of computing the final figures for bid and Contract purposes, for periodic payments for work performed, for determining value of additions or deletions and wherever else reasonable.

## 1.5 SCHEDULE OF VALUES

- A. Approval of Schedule: Submit for approval a preliminary schedule of values, in duplicate, for all of the Work. Prepare preliminary schedule in accordance with the Supplemental Terms and Conditions. Submit preliminary schedule of values within 10 calendar days after the Effective Date of the Agreement. Submit final schedule of values in accordance with the Supplemental Terms and Conditions.
- B. Format: Utilize a format similar to the Table of Contents of the Project Specifications. Identify each line item with number and title of the major specification items. Identify site mobilization, bonds and insurance. Include within each line item, a direct proportional amount of Contractor's overhead profit.
- C. Revisions: With each Application for Payment, revise schedule to list approved Change Orders.

## 1.6 Post Construction Video

- A. In addition to a pre-construction video, the contractor will be required to provide a post construction video showing final improvements within the right-of-way. This video will need to be performed and delivered sometime between substantial and final completion.

## PART 2 PRODUCTS - Not Used

## PART 3 EXECUTION

### 3.1 MEASUREMENT AND PAYMENT

- A. Make payment on the basis of work actually performed completing each item in the Bid, such work including, but not limited to, the furnishing of all necessary labor, materials, equipment, transportation, cleanup, and all other appurtenances to complete the construction and installation of the work to the configuration and extent as shown on the drawings and described in the specifications. Payment for each item includes compensation for cleanup and restorations. Cost of cleanup and surface restorations (including pavement replacement) will be considered as the percentage retained in accordance with the Contract Documents, and

complete payment will not be made until cleanup, restorations and as-builts are completed.

## **SECTION 1: GENERAL**

1. Mobilization/Demobilization: Payment for mobilization / demobilization will be made at the Contract lump sum price. Mobilization shall include all costs to move the CONTRACTOR'S equipment to the site, establish temporary facilities necessary to perform the Work, bonds and insurance. The cost for mobilization/demobilization shall not exceed five percent (5%) of the total project cost. Demobilization shall include all costs for disposal of materials, clean up, restoration, and other miscellaneous items for completing installation and removing the CONTRACTOR'S equipment and temporary facilities from the site.
2. Preconstruction Audio/Video Recording: Payment for providing preconstruction audio/video recordings shall be made at the Contract lump sum price. The work includes all necessary recordings to document existing conditions on public and private property including but not limited to sod type, landscaping, sidewalk, pavement, driveway, and parking lot conditions. The Contractor may be required to restore private properties to conditions better than existing, at no additional cost to COUNTY, if the Contractor fails to sufficiently document existing conditions.
3. Survey Layout and As-Built Drawings: The cost for preparation of construction layout and survey as-builts shall be made at the Contract lump sum price. This item includes material, labor and certification to prepare the "As-Builts", field verification of existing underground facilities, construction stakeout of the proposed improvements, and to survey the new facilities after they have been installed. Prior to acceptance of the project by COUNTY, the Contractor shall submit two prints, and one set of computer disk copies of AutoCAD formatted drawings marked as "Survey As-Builts". The As-Builts shall include vertical and horizontal alignment of all mains, valves, tees, bends, reducers, air release valves, electrical conduits, and other pertinent structures. As-Builts shall be certified by a Professional Land surveyor licensed in the State of Florida. All elevations to be based on NAVD 88 vertical datum and all horizontal coordinates in Florida State Plane East coordinates.
4. Establish and Maintain Bypass Pumping System: Payment for establishing and maintaining a bypass pumping system during construction will be made at the appropriate Contract lump sum price. This item includes all labor, equipment and materials required for by-pass connection, including necessary pipe, fittings, valves, connections, pumps, sleeves and adapters, concrete structure, lid, lining, valve cover, protection of existing utilities and facilities, excavation, sheeting, shoring, dewatering, compaction, removal, and replacement of grass, sod, shrubs and pavement. Wastewater flows enter the existing wet well from two (2) separate gravity sewer streams. The Contractor shall demonstrate to the County Inspector

that the bypass pump system operates effectively. A Bypass pumping plan must be submitted in writing to the County and Engineer. The plan will be reviewed and must be approved of prior to establishment. Redundant bypass pumps will be required. If manholes are to be used as temporary wet wells during the bypass, they shall be equipped with floats and a dial-up system monitored by the Contractor 24/7/365. Contractor shall be able to respond to an alarm by having a representative on site within 30 minutes of alarm initiation. Each bypass shall operate satisfactorily for at least 48 hours before turning off the associated pump station. Similarly, once a pump station is returned to operation, the bypass will continue to operate satisfactorily for at least 48 hours prior to disconnecting the bypass. As long as a bypass is operating, the Contractor shall be responsible for the monitoring, control and operation of that pump station.

5. Furnish and Install Construction Project Sign: Payment to furnish and install project construction project signs will be made at the Contract lump sum price in accordance with the Collier County Standards.

## **SECTION 2: PUMP STATION IMPROVEMENTS**

6. Demolish, Remove, and Dispose of Concrete Lid, Hooks, Rails, Riser Pipes, Valve Vault, Discharge Piping and Valves, and other Wet Well Components: Payment to demolish, remove, and dispose of miscellaneous pump station components will be made at the Contract Lump Sum price. This item includes all labor, materials and equipment to abandon, demolish, remove, and proper disposal of the concrete wet well lid and hatches, hooks, guide rails, riser pipes, valve vault, discharge piping and valves, miscellaneous hardware, and other wet well components. This item also includes any excavation, draining and proper disposing of the wastewater.
7. Install Two (2) FLYGT NP 3085 463-Impeller 4-HP Submersible Pumps (Installation Only): Payment to install the two (2) FLYGT submersible pumps and I will be made at the contract lump sum price. This item includes all labor, insurances and permitting to complete the installation of the pumps in accordance with the project plans and specifications. This item also includes, but is not limited to, the installation of the flush valves, chains, discharge connections, bases plates, anchoring, guide rails, hooks, float switches, wiring, and other hardware and components necessary for the installation and operation of the pumps. Collier County will purchase the pumps directly from the vendor (FLYGT), and will provide all materials, commissioning, and start up services that are listed on the FLYGT Pump Quote included in the RFQ documents. The Contractor is responsible for coordinating, receiving, storing, transporting, off-loading, installing, and placing into service the submersible pumps at the project site. The Contractor is responsible for providing any and all other hardware, wires, conduits, parts and/or pieces that are required to complete proper installation of the pumps. All electrical equipment shall be installed per National Electric Code (NEC) latest edition.



8. Furnish and Install 4" Discharge and Suction Piping and Valves: Payment to furnish and install the suction and discharge piping and valves will be made at the contract lump sum price. This item includes all labor, materials, equipment, necessary to furnish and install wet well riser piping, above ground discharge piping and valves, fittings, pipe supports, suction and vent pipe, and 316 stainless steel wedge anchor bolts and all other associated hardware in accordance with the current Collier County Standards and the details in the Plans. Above ground valves shall be painted green. All piping to be HDPE DR11 DIPS unless otherwise notes.
9. Furnish and Install 8" Thick Concrete Wet Well Lid and Access Hatches: Payment for furnishing and installing concrete wet well lid with access hatches will be made at the Contract lump sum price. This item includes all labor, materials, and equipment to furnish and install wet well top and hatches in accordance with the Current Collier County Standards and details in the Plans. Collier County will purchase the access hatches directly from the vendor (FLYGT) as part of the Pump Package. The CONTRACTOR is responsible for coordinating the access hatch installation into the concrete wet well lid, receiving, storing, transporting, off-loading, and installing the wet well lid at the project site.
10. Furnish and Install 6" Thick Concrete Equipment Pad: Payment to furnish and install 6" thick concrete equipment pad will be made at the Contract Lump Sum price. This item includes all labor and material necessary for the concrete pad, compaction, formation, and reinforcing material to be installed in accordance with the Collier County Standards and details in the Construction Plans.
11. Furnish and Install Protective Liner on Interior Surface of Wet Well: Payment to furnish and install the protective wet well liner will be made at the Contract Lump Sum unit price installed in accordance with the Collier County Technical Standards and the details in the Plans. This item include all labor, materials, and equipment to clean and prepare the wet well interior surface and install the protective liner in accordance with the manufacturer's recommendation to completely protect the structure from corrosion. The coating must seal onto and around openings, and any other protrusions, and completely cover the bench and flow inverts. Refer to Appendix F of the Utility Standards Manual for County approved products.
12. Furnish and Install Protective Liner on Interior Surface of Manhole: Payment to furnish and install the protective wet well liner will be made at the Contract unit price per each installed in accordance with the Collier County Technical Standards and the details in the Plans. This item include all labor, materials, and equipment to clean and prepare the manhole interior surface and install the protective liner in accordance with the manufacturer's recommendation to completely protect the structure from corrosion. The coating must seal onto and around openings, and any other protrusions, and completely cover the bench and flow inverts. Refer to Appendix F of the Utility Standards Manual for County approved products.

13. Connect to Existing 6" Force Main: Payment to connect to the existing force main will be made at the contract lump sum price. This item includes all labor, materials, and equipment to install all necessary pipe, fittings, connections, protection of existing facilities, excavation, pipe bedding, dewatering, compaction, surface restoration, testing, cleanup and all other work for a complete installation according to the details shown in the Plans and the current Collier County Standards. The Contractor is responsible for verifying the existing pipe is restrained per the Collier County Standards.

### **SECTION 3: ALLOWANCES**

14. Allowance for Pumper Trucks: The County has established a set price per each pumper truck if they are required. Use of allowance must be approved by Collier County prior to execution of the work. There is no guarantee the Contractor may use these funds, or a portion if these funds
15. Owner Directed Work Allowance: Allowance for unforeseen general conditions will be made at the contract price for time and materials. The Contractor's time and material rate sheets included in the Contract must be used. All allowance work must be verified and signed by the inspector in the field. Use of allowance must be approved by Collier County prior to execution of the work. There is no guarantee the Contractor may use these funds, or a portion of these funds.

END OF SECTION

## **SUPPLEMENTAL SPECIFICATION #1**

### **PROJECT SUBMITTALS**

The Contractor is responsible to provide, but not limited to, the following essential project submittals to Collier County Technical Specifications for the pump station assignment identified as "Pump Station 308.10".

#### **A. PRE-CONSTRUCTION SUBMITTALS**

The Contractor is responsible to provide the following essential project submittals to Collier County before commencement of work on the project.

1. Contractor's Safety Plan
2. Designation of Safety Officer
3. Hurricane Evacuation Plan/Tropical Storm Readiness Plan
4. Pre-Construction Video Recordings (if applicable to this assignment)
5. Maintenance of Traffic Plan (if applicable to this assignment)
6. Submittal of shop drawings, samples, product certifications, Manufacturer's instructions, factory test reports and any relevant data for items not provided by the County.
7. Bypass Pumping Plan

#### **B. SUBMITTALS DURING CONSTRUCTION**

The Contractor is responsible to provide the following essential project submittals during construction. The following submittals must be provided to Collier County in a timely manner:

1. Density Reports
2. Project Schedule updated weekly
3. Two-Week Look Ahead Report to be provided at progress meetings
4. HDPE Joint Fusion Log

#### **C. POST CONSTRUCTION SUBMITTALS**

The Contractor is responsible to provide the following essential project submittals to Collier County after completion of construction and prior to the Contractor's receipt of final payment:

1. Post-Construction Video Recording (if applicable)
2. Record Drawings certified by a Florida licensed Professional Surveyor and Mapper. The record drawings shall depict the as built locations of all improvements, including but not limited to, pipe, fittings, valves, electrical conduits, control panel limits including top and bottom of panels, landscaping, limits of concrete pads, sidewalks, drives, curbs, equipment, etc.
3. Manufacturers operation and maintenance manuals for all equipment, fixtures, and

all materials requiring maintenance as part of the Closeout Documents

4. Contractor's Waiver and Release of Lien
5. Sub-Contractor(s) Waiver and Release(s) of Lien
6. One Year (1) Warranty(s) on work performed and system(s) or portion(s) thereof installed by Contractor
7. Exhibit G: Final Payment Checklist with documents referenced therein, if applicable
8. Manufacturers Pump Station Start-up Report

**END OF SECTION**

## **SUPPLEMENTAL SPECIFICATION #2**

### **CONTRACTOR RESPONSIBILITIES AND CLARIFICATIONS**

The Contractor is responsible for, but not limited to, the following essential services for the pump station assignment identified as "Pump Station 308.10".

#### **A. CONTRACTOR RESPONSIBILITIES**

The Contractor is responsible to provide the following essential project services to Collier County before, during, and after commencement of work on the project.

1. Contractor is responsible for all labor to complete the work detailed in the Construction plans.
2. Contractor is responsible for providing all material and equipment necessary to perform the work in accordance with the current Collier County Standards and Plans unless otherwise noted. The County will purchase:
  - a. Flygt Pumps and Associated materials
    - i. See Flygt Quote for material that will be purchased directly by the County.
3. The Contractor is responsible for receiving, unloading, verifying condition, protecting, and storing all materials and equipment, including material purchased by the County.
4. The Contractor is responsible for the warranty of the installation.
5. The Contractor's Project Manager and Project Superintendent shall attend weekly (or biweekly) progress meetings. The Contractor shall provide an update of all work in the past two (2) weeks, and a two (2) week construction look ahead.
6. The Contractor shall provide an updated project schedule on a weekly basis. The Contractor shall supplement work with additional crews as necessary to remain on schedule for a timely completion.
7. All excavation shall be unclassified, and no additional payment shall be made for rock, muck, or other material excavation. The Contractor is responsible for providing fill material. Imported backfill may be required.
8. The Contractor shall provide all necessary permits that have not been identified in this Supplemental Specification. Collier County will pay for all permit fees.
9. An FDEP Wastewater permit exemption will be obtained by the County prior to construction due to modifications associated with routine maintenance, ancillary and electrical equipment and structures.

10. A Collier County Site Insubstantial Change to a Site Development Plan (SDPi) permit will be obtained by the County prior to construction.
11. The Contractor is responsible for preparation of a safety / risk management plan that address daily activities and required action for tropical storms and / or hurricanes.
12. All bids shall in accordance with the Collier County Annual Agreement for Wastewater Pump Station Repair and Renovation Contract, and in accordance with the Plans, Details, current Collier County Standards, and specifications provided in the bid package.
13. The Contractor is responsible for Maintenance of Traffic (MOT) during construction and must submit a MOT plan prior to construction.
14. The Contractor may be required to attend meetings with the Community and business/property owners to discuss community concerns, construction impacts, detours, schedules, etc.
15. The Contractor is responsible for providing and maintaining a Bypass Pump System during construction. A Bypass pumping plan must be submitted in writing to the County and Engineer. The plan will be reviewed and must be approved prior to establishment of the bypass system. Redundant bypass pumps will be required. If manholes are to be used as temporary wet wells during the bypass, they shall be equipped with floats and a dial-up system monitored by the Contractor 24/7/365. Contractor shall be able to respond to an alarm by having a representative on site within 30 minutes of alarm initiation. Each bypass shall operate satisfactorily for at least 48 hours before turning off the associated pump station. Similarly, once a pump station is returned to operation, the bypass will continue to operate satisfactorily for at least 48 hours prior to disconnecting the bypass. As long as a bypass is operating, the Contractor shall be responsible for the monitoring, control and operation of that pump station.

## **SUPPLEMENTAL SPECIFICATION #3**

### **HIGH-DENSITY POLYETHYLENE (HDPE) PRESSURE PIPE JOINT FUSION AND JOINT WELD TESTING**

- A. Joint Fusion:
1. Measure and log each joint fusion by an electronic monitoring device (data logger) affixed to fusion machine, and shall be capable of being retrieved electronically. Data to be logged shall include the following:
    - a. Pipe size and dimensions.
    - b. Machine model and size.
    - c. Operator identification.
    - d. Job identification number.
    - e. Weld number.
    - f. Fusion, heating, and drag pressure settings.
    - g. Heater plate temperature.
    - h. Time stamp showing when weld was performed.
    - i. Heating and curing time of weld.
    - j. Curing temperature readings and time stamps of readings.
    - k. Error messages and warnings for out of range temperature or pressure settings.
  2. In addition to logged items above, the following shall be logged or annotated on report:
    - a. Location of joint being fused by pipeline station or by reference to pipe Shop Drawing.
    - b. Ambient temperature and humidity.
    - c. If internal bead was removed.
- B. Joint Weld Testing:
1. Test Procedure: ASTM D638.
  2. Specimens: Cut pipe 12 inches on each side of field made joint. Rejoin ends and proceed with Work.
  3. Test Frequency:
    - a. First 1,000 Linear Feet: Two joints selected at random by inspector.
    - b. Each Additional 1,000 Linear Feet: One joint selected at random by inspector.
    - c. Each Test Failure: Two additional joints selected at random by inspector.

**END OF SECTION**

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