

LETTER OF TRANSMITTAL

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FROM: Philip R. Schofield, P.E.

DATE: March 10, 2022

PROJ. NO.: G19009

SUBJECT: Addendum No. 5
Walker County Water & Sewerage Authority
McFarland Avenue Sewer Project

PAGES: 4 pages to follow

PLEASE RESPOND → → → →	TO CONFIRM RECEIPT OF THIS ADDENDUM NO. 5 PLEASE SIGN AND EMAIL TO CTI vvisco@ctiengr.com
	Company _____
	Signature _____
	Title _____
	Date _____

ID 752081

ADDENDUM NO. 5

**McFARLAND AVENUE SEWER PROJECT (PHASE 1)
WALKER COUNTY WATER & SEWERAGE AUTHORITY
FLINTSTONE, GEORGIA
CTI PROJECT NO. G19009**

The following changes shall be made to the Specifications:

I. SPECIFICATIONS

A. **Section 33 09 30, Pump Controls.**

1. Page 33 09 30-8. ADD the following point to the lists of alarm test switches and alarm indicating lights in Paragraph 2.3. F.5:
“Motor/bearing overtemperature.”
2. Page 33 09 30-8. INSERT the following words immediately before the words “pump seal housing” in the second line of Paragraph 2.3.F.6:
“motor housing and”
3. Page 33 09 30-8. ADD the following sentence to the end of Paragraph 2.3F.7:
“Provide a RTD relay in the controls for any RTD monitor in the pump.”
4. Page 33 09 30-10. ADD the following points to the list of telemetry inputs in Paragraph 2.3.F.12.a:
“25) Pump #1 Overtemperature
26) Pump #2 Overtemperature
27) Pump #3 overtemperature”

B. **Section 33 32 19, Submersible Sewage Pumps and Accessories.**

1. Page 33 32 19-5. INSERT the following immediately after the seventh sentence of Paragraph 2.2.H:
“As a minimum, thermal protection shall consist of an embedded thermister for each phase plus a RTD temperature monitor in the lower bearing. Moisture sensing probes shall be provided for both the motor housing and the seal chamber.”

Date: March 10, 2022

Walker County Water & Sewerage Authority
/s/ Brandon Whitley, General Manager

F. Other Control Features to be Included

1. A swing dead front panel shall be supplied with the HOA switches, running lights, and seal failure and/or pump failure alarm lights mounted on the dead front panel.
2. An internal condensation heater with adjustable thermostat shall be installed in the control panel enclosure.
3. A transformer shall be supplied to give a 115-volt control circuit. A single weatherproof ground fault protected duplex convenience outlet shall be provided on the side of the control panel enclosure.
4. A 3-phase voltage surge suppressor shall be supplied to protect the motors from transient high voltage surges.
5. Manual alarm test switches shall be provided for each of the following conditions:
 - a. Low wet well level.
 - b. High wet well level.
 - c. Pump 1 failure.
 - d. Pump 2 failure.
 - e. Pump 3 failure.
 - f. Power failure.
 - g. Motor/bearing overtemperature.

An Indicating alarm light with push-to-test function shall be provided for the following conditions and shall be mounted on the exterior surface of the enclosure:

- a. Low wet well level.
- b. High wet well level.
- c. Power failure.
- d. Pump failure.
- e. Seal failure.
- f. Motor/bearing overtemperature.

A push-to-reset switch shall be provided to reset the pump failure.

6. A seal failure alarm system shall be provided for each pump and shall consist of the necessary relays and wiring to detect moisture in the motor housing and pump seal housing and activate an indicating light.
7. A thermal overload/heat sensor control circuit shall be provided for each pump to insure pump shutdown if a motor overtemp condition occurs. Provide a RTD relay in the controls for any RTD monitor in the pump.

- 12) Pump #3 Auto
- 13) Power Failure
- 14) High High Wet Well
- 15) High Wet Well
- 16) Low Wet Well
- 17) Float Backup Operation
- 18) Pump #1 Valve Open
- 19) Pump #1 Valve Closed
- 20) Pump #2 Valve Open
- 21) Pump #2 Valve Closed
- 21) Pump #3 Valve Open
- 23) Pump #3 Valve Closed
- 24) Station running on floats
- 25) Pump #1 Overtemperature
- 26) Pump #2 Overtemperature
- 27) Pump #3 Overtemperature

b. Analog Inputs

- 1) Wet Well Level
- 2) Flow

PART 3 - EXECUTION

3.1 PROTECTION

- A. Enclose and protect all equipment during shipment, handling, and installation. Packing and enclosures shall be proof against environmental and mechanical damage.
- B. All equipment surfaces shall be protected against impact, abrasion, or other degradation following installation.
- C. Any equipment found to have rust, corrosion, or other damage at the time of installation shall be required or replaced at the Engineer's discretion and at no cost to the Owner.

3.2 INSTALLATION

- A. The controls and accessories shall be installed, tested, and adjusted in accordance with manufacturer's recommendations and installation drawings.

adequate length of stainless steel chain (properly sized with adequate strength) shall be provided for raising and lowering pump. Attach chain to the pump with suitable eye bolt and properly secure attaching bracket in a convenient location near the top of the wet well from the frame of the access cover. All materials used in the pump lifting system shall be stainless steel.

- H. Submersible pump motor to be constructed with open winding and designed to operate in a clean dry dielectric oil for cooling windings and lubricating motor bearings or to operate in an air filled chamber or water jacketed cooling system. The motor and pump cooling system shall be designed to provide sufficient cooling under all conditions such that the motor can run under full load in a totally dry condition. Motors shall be maximum 1800 rpm, 460 volts, 60 hertz, 3 phase, submersible type meeting UL Class 1, Group D, Division 1 - Explosion Proof Requirements with 1.15 service factor. Motor shall be suitable for continuous operation and capable of sustaining a minimum of 15 starts per hour. Motor shaft and housing to be sealed with a balanced tandem mechanical seal cartridge or approved equal. All leads are to be provided with watertight seals. Moisture sensing probes and thermal protectors shall be furnished on each pump. **As a minimum thermal protection shall consist of an embedded thermister for each phase plus a RTD temperature monitor in the lower bearing. Moisture sensing probes shall be provided for both the motor housing and the seal chamber.** These shall be used in conjunction with and supplemental to external motor overload. Motor shall be supplied with a sufficient length of multiconductor power cable and control cable to extend the control cabinet without being spliced (approximately 50 feet). Motor insulation shall be compatible Class B rated system with Class F materials rated for continuous duty in 40°C liquids. All hardware shall be stainless steel. Motor shall be non-overloading at any point on the pump curve.
- I. The pump volute and impeller for the raw sewage pumps shall be constructed of close grain cast iron (or ductile iron), and be designed to pass solids and unscreened liquids. Impellers shall be statically and dynamically balanced and secured on the shaft by means of a key and locknut with set screw or threaded fastener. The volute is to be of one-piece design with bottom suction and centerline discharge. A wear ring or approved equal system shall be installed to provide efficient sealing between the volute and impeller. Wear rings shall have a minimum Brinnell hardness of 220.
- J. The pump shaft shall rotate on two permanently lubricated bearings with a B-10 bearing life of a minimum of 40,000 hours at design conditions.

2.3 COATINGS

- A. The existing pump station wet well and new valve box shall be made completely waterproof, including any inlets or outlets and shall be coated with a FX-70-9 epoxy coating, as manufactured by Simpson Strong-Tie Company, Inc.. The color shall be white.

2.4 CONTROLS

- A. Pump controls to be as specified in Section 33 09 30, Pump Controls.

PART 3 - EXECUTION