

**PROJECT:** Dallas County Water & Sewer Authority  
Phase I Sewer System Improvements (CWSRF No. CS010889-03)  
KG Project No. 22-0031

**ADDENDUM NO.** Five (5)

**DATE:** February 18, 2026

**TO:** All Registered Contract Document Holders

This Addendum is issued to all registered plan holders pursuant to the Conditions of the Contract.

This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. This addendum and its attachments shall become a part of the plans and specifications and shall apply to the bid proposals for the above-named project.

The bidder(s) shall notify all affected subcontractors, material suppliers, and others to incorporate necessary cost and schedule updates, to the bid proposal and the work changes affected by this Addendum.

The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form. Bidders must also acknowledge receipt by email to [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com).

In the event of conflict between plans and specifications and this addendum, the addendum shall take precedence. Any modifications necessary to incorporate the revisions shall be included in the appropriate bid prices. The bid documents are hereby corrected, modified, and/or amended in the following manner:

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**General:**

1. The Bid Form has been revised to consolidate lift station rehabilitation work into a single lump sum bid item per lift station. The Summary of Work continues to list individual rehabilitation components for descriptive purposes only within each combined bid item. All listed components are subsidiary to and included in the lump sum Lift Station Rehabilitation bid items. A Schedule of Values will be developed with the Awarded CONTRACTOR after the bids are received based on the outlined Summary of Work items for each lift station. Remove and replace Section 00 41 43 BID FORM – ADDENDUM #3 with the revised Section 00 41 43 BID FORM – ADDENDUM #5 attached hereto. Remove and replace Section 01 11 13 SUMMARY OF WORK with the revised Section 01 11 13 SUMMARY OF WORK – ADDENDUM #5 attached hereto.
2. The following questions were asked during the project’s site visit on Friday, February 13, 2026, or throughout project advertisement:

**Q1:** For the replacement of the concrete wetwell top slabs, if the top slab is in good condition, does it need to be replaced?

**A1:** Replacement of existing wetwell top slabs is not mandatory. If the existing slab is in good structural and serviceable condition, the CONTRACTOR may retain and modify the slab as necessary to accommodate the new pump configuration and associated piping, conduit, access, and equipment requirements. The following requirements apply:

**1. Investigation and Coordination** - The CONTRACTOR shall investigate the existing wetwell top slab and verify that all existing and proposed penetrations, openings, and appurtenances are compatible with the new pump and piping installations. This includes, at a minimum but not limited to:

- Entry piping and discharge piping penetrations
- Electrical conduits and control wiring penetrations
- Guide rail supports, lifting systems, and mounting hardware
- Vent piping and instrumentation penetrations
- Access hatch locations and clearances

The CONTRACTOR shall ensure all openings are properly aligned, sized, and sealed to accommodate the proposed equipment and maintain airtight integrity.

**2. Field Modifications** - If the existing slab is retained, the CONTRACTOR may perform necessary modifications, including core drilling, resizing, abandonment of unused openings, and installation of new penetrations, subject to ENGINEER review and approval. All new or modified penetrations shall be watertight and sealed using non-shrink grout, modular mechanical seals, or other approved methods suitable for wastewater environments. No field modifications shall be performed without prior ENGINEER approval.

**3. Hatch and Access Frame Replacement** - Existing access hatches, frames, and associated hardware may be retained in place provided they are in good structural and serviceable condition and provide adequate access for operation and maintenance. Adequate access shall include sufficient clear opening to allow safe removal and installation of pumps, equipment, cables, guide rails, and appurtenances, and to permit submersible pumps to be hoisted vertically through the hatch without obstruction, binding, excessive maneuvering, or the need to tilt, swing, or reposition the equipment.

If the existing hatch does not meet these requirements, is deteriorated, or cannot accommodate the proposed equipment and maintenance clearances, the CONTRACTOR shall remove and replace the hatch and frame with new units meeting Contract requirements. Retention of existing hatches is subject to ENGINEER review and approval.

**4. Existing and Proposed Penetrations** - At the CONTRACTOR's option, a new wetwell top slab may be provided in lieu of modifying the existing slab. Any new slab shall meet all structural, access, loading, durability, and corrosion protection requirements of the Contract Documents and shall include all required penetrations and appurtenances.

- Q2:** Must the replacement concrete wetwell top slabs be precast, or will cast-in-place construction be permitted?
- A2:** Should the CONTRACTOR elect to install a new wetwell top slab, cast-in-place concrete wetwell top slabs will be permitted in lieu of precast slabs, provided the proposed construction meets all structural, durability, access, and operational requirements indicated in the Contract Documents. If the CONTRACTOR elects to use cast-in-place construction, the CONTRACTOR shall submit complete supporting information for review and approval. All costs associated with design, formwork, shoring, curing, protection of existing facilities, and coordination with piping and electrical penetrations shall be the responsibility of the CONTRACTOR. Precast slabs remain acceptable as specified.
- Q3:** Specification requires a 24-hour pump watch during bypass pumping operations. Is continuous on-site monitoring necessary if bypass pumps are equipped with call boxes or remote alarms and crews can respond within approximately 30 minutes?
- A3:** The requirement for continuous monitoring during bypass pumping is based on the CONTRACTOR's responsibility to prevent sanitary sewer overflows during construction and is not dependent on the existing condition of the lift stations or prior operational practices.

If the CONTRACTOR proposes to utilize remote monitoring systems (e.g., call boxes, autodialers, telemetry), such systems must be clearly identified in the bypass pumping plan and demonstrated to be fully functional prior to initiating bypass operations. Remote monitoring does not relieve the CONTRACTOR of responsibility for preventing overflows.

Because influent flow rates, debris loading, and peak conditions are variable and not fully predictable, the bypass system shall be designed with sufficient capacity, redundancy, and operational safeguards to prevent overflows under all anticipated conditions.

If the bypass system fails to perform as intended, alarms do not function properly, response times are inadequate, or overflow conditions appear imminent, the CONTRACTOR shall immediately implement continuous on-site monitoring and corrective measures at no additional cost to the OWNER.

Until an alternative bypass monitoring plan is submitted and formally accepted by the ENGINEER, the requirement for 24-hour pump watch remains in effect.


**Specifications:**

1. Remove and replace Section 00 41 43 BID FORM – ADDENDUM #3 with the revised Section 00 41 43 BID FORM – ADDENDUM #5 (8 total pages) attached hereto.
2. Remove and replace Section 01 11 13 SUMMARY OF WORK with the revised Section 01 11 13 SUMMARY OF WORK – ADDENDUM #5 (78 pages) attached hereto.



This Addendum No. 5 shall be attached to the front of your set of Specifications and made a part of the Specifications and Contract Documents. Acknowledgment of receipt of Addendum No. 5 shall be noted on Page 00 41 43-1 of the Bid Form.

THE KELLEY GROUP, LLC.

By:   
Chase Williams, P.E.

Addendum No. 5 is 90 total pages.  
This concludes Addendum No. 5.

**SECTION 00 41 43  
BID FORM – ADDENDUM NO. 5**

Project Identification: **Sewer System Improvements: Phase I  
CWSRF No. CS010889-03**

Project Description: **The project consists of rehabilitation to five lift stations to include removing and replacing existing submersible pumps, base elbows, discharge piping, guide rails, check valves, isolation valves, and control system, etc. Additionally, SCADA hardware will be installed at each lift station and integrated into the existing SCADA network.**

This Bid is Submitted to: **Dallas County Water and Sewer Authority  
2504 Old Montgomery Road  
Selma, AL 36703**

- 1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
  
- 2.01 The Bidder declares that he understands that when quantities of Work for which unit price bids are requested are shown in the Advertisement Invitation for Bids, and in the Proposal, such quantities are approximate only and are subject to either increase or decrease, that, should the quantities of any of the Work items increase, the Bidder proposed to perform the additional Work at the unit prices bid by him, that should the quantities of any of the Work items be decreased, payment will be made only for the actual quantities of Work performed and such payment will be based upon the unit prices bid by him, and that he shall make no claim for profits anticipated on the decrease in quantities of Work. Actual quantities will be paid for as the Work progresses, in accordance with the provisions of the Contract Agreement, and such quantities shall be subject to final measurements and determinations made upon completion of the Work.
  
- 3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
  - A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____

- B. Bidder has visited the Site and become familiar with and is satisfied with the general, local, and Site conditions that may affect the cost, progress, and performance of the Work.
  
- C. Bidder is familiar with and is satisfied with all federal, state, and local Laws and Regulations that may affect the cost, progress, and performance of the Work.

- D. Bidder has carefully studied all the following if supplied: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
  - E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
  - F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for the performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
  - G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
  - H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
  - I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
  - J. The Bidding Documents are generally sufficient to indicate and convey an understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- 4.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the Bid opening or for such a long period of time that Bidder may agree to in writing upon request of OWNER.
- 5.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

6.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

**BASE BID – IMPROVEMENTS TO LIFT STATIONS 1, 2, 4, 6, & 8**

<b>Item #</b>	<b>Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Unit Price</b>	<b>Total Price</b>
1	ADEM CWSRF Project Sign per ADEM Guidelines. One (1) Project Sign shall be utilized for the project; <b>FURNISH AND INSTALL.</b>	EA	1		
2	Mobilization/Demobilization including, but not limited to, insurance, bonds, permits, submittals, existing site documentation, and site cleanup. (Limited to 6% of the construction total: 4% for mobilization and 2% for demobilization).	LS	1		
3	<b>309 Craig Industrial Park Lift Station:</b> Furnish all labor, materials, equipment, and incidentals necessary to perform a complete rehabilitation of the lift station, including but not limited to site investigation; bypass pumping; demolition and removal of existing mechanical, electrical, structural, and piping components; wet well cleaning and rehabilitation; installation of new pumps, piping, valves, appurtenances, and access hatches; structural repairs and coatings; installation of electrical service, control panels, wiring, conduits, level controls, and OWNER integrated SCADA; site restoration; testing; startup; and commissioning, all in accordance with the Contract Documents.	LS	1		
4	<b>260 Craig Industrial Park Lift Station:</b> Furnish all labor, materials, equipment, and incidentals necessary to perform a complete rehabilitation of the lift station, including but not limited to site investigation; bypass pumping; demolition and removal of existing mechanical, electrical, structural, and piping components; wet well cleaning and rehabilitation; installation of new pumps, piping, valves, appurtenances, and access hatches; structural repairs and coatings; installation of electrical service, control panels, wiring, conduits, level controls, and OWNER integrated SCADA; site restoration; testing; startup; and commissioning, all in accordance with the Contract Documents.	LS	1		

**BASE BID – IMPROVEMENTS TO LIFT STATIONS 1, 2, 4, 6, & 8 CONTINUED**

Item #	Description	Unit	Qty	Unit Price	Total Price
5	<p><b>43 Craig Industrial Park Lift Station:</b> Furnish all labor, materials, equipment, and incidentals necessary to perform a complete rehabilitation of the lift station, including but not limited to site investigation; bypass pumping; demolition and removal of existing mechanical, electrical, structural, and piping components; wet well cleaning and rehabilitation; installation of new pumps, piping, valves, appurtenances, and access hatches, valve vault; structural repairs and coatings; installation of electrical service, control panels, wiring, conduits, level controls, and OWNER integrated SCADA; site restoration; testing; startup; and commissioning, all in accordance with the Contract Documents.</p>	LS	1		
6	<p><b>320 Craig Industrial Park Lift Station:</b> Furnish all labor, materials, equipment, and incidentals necessary to perform a complete rehabilitation of the lift station, including but not limited to site investigation; bypass pumping; demolition and removal of existing mechanical, electrical, structural, and piping components; wet well cleaning and rehabilitation; installation of new pumps, piping, valves, appurtenances, and access hatches; structural repairs and coatings; installation of electrical service, control panels, wiring, conduits, level controls, and OWNER integrated SCADA; site restoration; testing; startup; and commissioning, all in accordance with the Contract Documents.</p>	LS	1		
7	<p><b>Highway 80 Lift Station:</b> Furnish all labor, materials, equipment, and incidentals necessary to perform a complete rehabilitation of the lift station, including but not limited to site investigation; bypass pumping; demolition and removal of existing mechanical, electrical, structural, and piping components; wet well cleaning and rehabilitation; installation of new pumps, piping, valves, appurtenances, and access hatches; structural repairs and coatings; installation of electrical service, control panels, wiring, conduits, level controls, and OWNER integrated SCADA; installation of 15-inch ductile iron gravity sewer main to the lift station wetwell, including core drilling, wall penetration, and approved watertight sealing; remediation of the existing open excavation including dewatering, placement of structural fill, localized stabilization, final grading, restoration of fencing and appurtenances, debris removal, and site cleanup; site restoration; testing; startup; and commissioning, all in accordance with the Contract Documents.</p>	LS	1		

**BASE BID – IMPROVEMENTS TO LIFT STATIONS 1, 2, 4, 6, & 8 TOTAL:**

Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

- 7.01 Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.
- A. The OWNER reserves the right, at its sole discretion, to award some, all, or none of the bid items listed in the bid form, including additive and deductive alternates, in any order, as the OWNER perceives in his best interest. CONTRACTOR reserves the right to accept award of the Contract as awarded by the OWNER. If CONTRACTOR should choose not to accept award, ENGINEER may then recommend award to next low responsive bidder or choose to recommend rejection of remaining bids.
  - B. The OWNER can, and will, consider options in the selection or rejection of Alternates when identifying the low responsive bidder, if applicable.
- 8.01 Bidder agrees that the Work will be substantially complete within **180** calendar days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions within **210** calendar days after the date when the Contract Times commence to run.
- 9.01 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.
- 10.01 **The Bidder acknowledges that, if awarded the Contract, submission, negotiation, and approval of a Schedule of Values shall be required prior to the start of submittals or construction activities, in accordance with Supplementary General Conditions SC-2.05.B.**
- 11.01 **Bidder will submit with his bid package references stating his qualifications to perform the work required and provide a minimum of three (3) references and validation of performing similar size and type of municipal sewer system construction.**
- 12.01 The following documents are attached to and made a condition of this Bid:
- A. Required Bid security no less than 5% of the bid price, not to exceed \$10,000, or the form of the bid bond provided in this Project Manual; and
  - B. A tabulation of Subcontractors, Suppliers, and other individuals and entities required to be identified in this Bid; and
  - C. Required bidder qualifications statement with supporting data as detailed in the Instruction to Bidders.

The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on \_\_\_\_\_, 20\_\_\_\_\_.

If Bidder is:

An Individual

Name (typed or printed): \_\_\_\_\_

By: \_\_\_\_\_ (SEAL)  
*(Individual's signature)*

Doing business as: \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Email: \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature of general partner -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Email: \_\_\_\_\_

A Corporation

Corporation Name: \_\_\_\_\_ (SEAL)

State of Incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_

*(Signature -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(CORPORATE SEAL)

Attest \_\_\_\_\_

*(Signature of Corporate Secretary)*

Business address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Email: \_\_\_\_\_

Date of Qualification to do business is \_\_\_\_\_.

A Joint Venture

Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature of joint venture partner -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

Email: \_\_\_\_\_

Phone and FAX Number, and Address for receipt of official communications:

\_\_\_\_\_  
\_\_\_\_\_

**SECTION 01 11 13**  
**SUMMARY OF WORK – ADDENDUM NO. 5**

PART 1 – GENERAL

1.01 CONTRACT DESCRIPTION

- A. Contract Type: Unit Price as described in Agreement – EJCDC
- B. The contract award, if made, will be made to the low responsive bidder. A “responsive” bid shall be evidenced by: (1) A Bid form complete in accordance with the Instructions to Bidders and with instruction and/or requests contained in any other sections of the Contract Documents; (2) A Bid Form not evidencing any apparent unbalanced pricing for performance of the Items of Work; (3) a Bid Form without excisions, special conditions or qualifications made by the Bidder; and (4) a Bid Form containing no alternative bids or offerings for any items unless such alternative bids or offerings are requested in the Technical Specifications or Contract Documents.
- C. The successful bidder must furnish a Performance Bond for one hundred (100%) percent of the bid amount and a Labor and Material Payment bond for one hundred (100%) percent of the bid amount and must secure his bond from a bonding company’s representative or agent in the State of Alabama.
- D. The attention of bidders is called to provisions of State Law Governing General Conditions, as set forth in Chapter 4 (Section 65 to 82, inclusive) of Title 46 of the Code of Alabama of 1940, as amended; and bidders shall be governed by law insofar as it is applicable. The above-mentioned provisions of the Code make it illegal for the OWNER to consider a Bid from anyone who is not properly licensed under such code provisions. The OWNER, therefore, will not consider any bid unless the bidder produces evidence that he is so licensed. **The bidder must submit evidence of the bidder’s Alabama Licensing Board for General Contractor’s license with a major classification of MU (Municipal & Utility) or AGC approved classification.**
- E. Neither will the OWNER enter into a Contract with a foreign corporation which is not qualified under State Law to do business in the State of Alabama. **The CONTRACTOR must include his General Contractor’s license number and classification on the outside of the sealed bid envelope.**
- F. Recipients are hereby notified that American Iron and Steel must be adhered to. All steel, iron, and manufactured products used in this project are required to be produced in the United States.
- G. Unit Price
  - 1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

2. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.
3. The OWNER reserves the right, at its sole discretion, to award some, all, or none of the bid items listed in the bid form, including additive and deductive alternates, in any order, as the OWNER perceives in his best interest. CONTRACTOR reserves the right to accept award of the Contract as awarded by the OWNER. If CONTRACTOR should choose not to accept award, ENGINEER may then recommend award to next low responsive bidder or choose to recommend rejection of remaining bids.
4. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
5. The OWNER has obtained a waiver for the Build America, Buy America (BABA) Act; however, the CONTRACTOR must adhere to all American Iron and Steel (AIS) Provisions. The CONTRACTOR shall submit AIS certification letters to the ENGINEER during the submittal process for all applicable Iron & Steel materials to be used in the project.

## 1.02 PROJECT DESCRIPTION

- A. The OWNER obtained funding through the Alabama Department of Environmental Management (ADEM) Clean Water State Revolving Fund (CWSRF Project No. CS010889-03) Bipartisan Infrastructure Law (BIL) to make improvements to the sewer system.

## 1.03 WORK UNDER THIS CONTRACT

- A. The CONTRACTOR shall annotate (mark-up) the Contract Drawings to indicate all project conditions, locations, configurations, and any other changes or deviations that vary from the original Contract Drawings. This requirement includes, but is not limited to, buried or concealed construction, and utility features that are revealed during the course of construction. Special attention shall be given to recording the locations (horizontal and vertical) and material of all buried utilities that are encountered during construction – whether or not they were indicated on the Contract Drawings. The record information added to the drawings may be supplemented by detailed sketches, if necessary, clearly indicating, the WORK, as constructed.
  1. These marks shall be on the plans and the ENGINEER's representative shall verify them before backfilling is permitted. Pictures of the verified mark-ups will be taken for the project record. Payment associated with this portion of work is contingent upon this verification.

2. **Any below-ground utility work that is backfilled prior to the ENGINEER's representative taking photos, shall be uncovered to allow photos to be taken. Uncovering and re-backfilling shall be at no additional cost to the OWNER.**
- B. These annotated Contract Drawings constitute the CONTRACTOR's Record Drawings and are actual representations of as-built conditions, including all revisions made necessary by change orders, design modifications, requests for information and field orders.
- C. Record drawings shall be accessible to the OWNER and ENGINEER at all times during the construction period.
- D. The CONTRACTOR shall exercise caution in working within the roadways. Mud, dirt, or construction debris shall be removed from public roadways on a daily basis or additionally as directed by local agencies having control over public roadways used.
- E. The CONTRACTOR shall ensure that all Occupational Safety and Health Administration (OSHA) regulations and standards are followed during all phases of the construction project. The OWNER nor ENGINEER will be responsible for making the CONTRACTOR adhere to OSHA regulations and standards.
- F. The Contracts provide all labor to make improvements to the sewer system.
- G. Work to be performed, including work listed and unlisted in the contract documents, shall be in accordance with specifications and plans prepared by The Kelley Group, LLC.
- H. The CONTRACTOR will notify the ENGINEER by 8 a.m. Friday of the next week's operations and promptly notify the ENGINEER of any work stoppages due to weather or other conditions preventing work, partial or complete days. The CONTRACTOR will provide the OWNER and ENGINEER with the facilities where work will occur each week and the estimated time that the facilities will be out of service, should that be required.
- I. Any work to be performed within ALDOT ROW (ROW clearing, potholing existing utilities, connections to existing sanitary sewer facilities, etc.) shall require an ALDOT permit. CONTRACTOR shall be responsible for obtaining all required ALDOT permits and shall coordinate with the ALDOT permit coordinators for Dallas County prior to construction. No work shall be performed within State ROW without the required permits.
1. ALDOT Permit Coordinator – Dallas County
- a. Ryan Crum – ph. 334-875-4455 – [crumj@dot.state.al.us](mailto:crumj@dot.state.al.us)

## 1.04 SUMMARY OF WORK

### **A. Bid Item #1: ADEM CWSRF Project Sign**

1. CONTRACTOR shall furnish and install ADEM project sign as required by the Contract Documents. Project sign submittal shall be approved prior to installation, and project sign shall be installed prior to commencement of construction.
2. One (1) CWSRF project sign shall be required for the entire project at a location designated by the OWNER during the pre-construction meeting. The project sign shall be placed in a prominent location, easily readable from an existing street or roadway, and must remain for the duration of the project. Details for the CWSRF sign are included in Section 00 73 01 ADEM Supplemental General Conditions.

### **B. Bid Item #2: Mobilization/Demobilization**

1. This bid item shall cover CONTRACTOR's costs associated with mobilization and demobilization to project site and shall be limited to 6% of the total bid price – 4% for mobilization and 2% for demobilization.
2. Mobilization shall cover CONTRACTOR's costs associated with mobilization including, but not limited to, project startup, transportation of equipment, labor, materials, and other necessary items to the project site as well as setup of jobsite facilities, temporary facilities, bonds, insurance, required permits, fees, submittals, scheduling, documentation, and all administrative and regulatory requirements necessary to begin and complete the work.
3. Bid Item #2 shall cover all of CONTRACTOR's costs for any required local permitting.
4. Demobilization shall cover CONTRACTOR's costs associated with demobilization including, but not limited to, project closeout, removal of equipment, labor, leftover materials, tools, temporary facilities, trailers, staging areas, erosion and sediment controls, temporary utilities, final site cleanup, restoration of disturbed areas not otherwise paid for under separate bid items; completion and submission of all closeout documents; final inspections; and any administrative regulatory, or contractual requirements necessary for project closeout. Demobilization shall also cover any costs associated with providing record drawings.

### **C. Bid Item #3: LS #1 at 309 Craig Industrial Park Lift Station Rehabilitation**

The lift station site shall be available to all bidding contractors for obtaining measurements, photos, etc. as necessary. Site visits can be scheduled by contacting The Kelley Group at (256) 248-7030, or by emailing [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com) a minimum of 48 hours prior to the anticipated site visit.

The OWNER seeks to install a new lift station on a parcel along West Park Road. The proposed lift station will serve to collect and convey wastewater from the surrounding service area to the existing sanitary sewer system.

Existing features and utilities shown on the Contract Plans are based on limited site investigations, available imagery, and LiDAR data and are provided for reference only, as no complete historical record drawings are available for the existing lift station and associated piping. Previous attempts to dewater the wetwell were unsuccessful, and certain influent connections, pipe characteristics, and invert elevations could not be verified during design. The CONTRACTOR shall assume responsibility for field-verifying all existing conditions and dimensions, including influent and discharge piping locations, diameters, materials, and invert elevations, and shall make all necessary accommodations during bypass pumping operations to investigate and identify unverified or unidentified piping. All field-verified information shall be documented and provided to the ENGINEER as it is obtained and incorporated into required submittals and the CONTRACTOR's site plans. Any conflicts or discrepancies between the Contract Plans and field-verified conditions shall be reported to the ENGINEER immediately upon discovery and prior to proceeding with affected work. No claims for additional compensation or time extensions shall be permitted due to incomplete, unavailable, or unverifiable existing condition information that could have been identified through reasonable field investigation. During bypass pumping operations, the CONTRACTOR shall dewater and investigate the existence and configuration of connections associated with the three (3) manholes and the wetwell noted on the Contract Plans and shall coordinate with the ENGINEER regarding any discrepancies between the Contract Plans, Specifications, and field-verified conditions. Verified site plans shall be submitted to the ENGINEER upon project completion.

### 1. **Bid Item #3: Site Preparation**

- a. The CONTRACTOR shall prepare the pump station site for all new construction. Work shall include all miscellaneous clearing, grubbing, grading, and placement of fill as required to provide a completely accessible pump station site that meets the final grades and layouts shown in the Contract Plans.
- b. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments.
- c. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments. **Survey control and boundary information utilized for design were prepared by Autery Land Surveying, LLC. The design surveyor's point of contact is Jamie Autery, (334) 874-8445, jautery@alsurvey.com. An existing benchmark was located during the design survey and is shown on the Contract Plans.** The CONTRACTOR remains responsible for verification of all survey control, benchmarks, and construction layout required to complete the Work.

- d. CONTRACTOR shall furnish, install, and maintain all temporary and permanent erosion control measures to meet the requirements of the Contract Documents. Payment for all erosion control shall be subsidiary to this bid item.
  - 1) The CONTRACTOR shall be responsible for all maintenance of temporary erosion and sediment control devices throughout the duration of the project, until final stabilization is accepted by the ENGINEER. After project completion, the CONTRACTOR shall remove all temporary erosion control devices. All removed devices and materials shall become the property of the CONTRACTOR and shall be disposed of in accordance with applicable regulations.
  - 2) CONTRACTOR shall utilize best management practices (BMPs) during all erosion control procedures, whether shown on the drawings or not. CONTRACTOR shall utilize all erosion control practices specified in the contract documents. Erosion control methods shown in the drawings shall be considered the minimum requirement. Any additional erosion control methods not specified in the drawings, but required for the CONTRACTOR's implementation of BMPs, shall be considered incidental to the related bid items and shall be installed at no additional cost to the OWNER.
- e. CONTRACTOR shall furnish and install any required traffic control measures per the contract documents. Payment for traffic control shall be considered incidental to this bid item.

## 2. Bid Item #3: Temporary Bypass Pumping

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to provide temporary bypass pumping of, assumed, three gravity sewer lines flowing to the lift station wetwell for the duration of the Work. CONTRACTOR shall be solely responsible for developing, furnishing, and implementing a complete bypass pumping plan and course of action. The bypass pumping plan shall be submitted to the ENGINEER for review and approval prior to commencement of any construction activities requiring bypass pumping. No work requiring bypass pumping shall begin until the bypass pumping plan has been approved.
  - 1) The CONTRACTOR shall prepare, submit, and implement a Bypass Pumping Plan showing the ability to provide and maintain continuous service during construction.
  - 2) The plan shall include, but not be limited to, proposed pumping equipment pump capacities, redundancy, conveyance piping, connection details, site layout, traffic & pedestrian accommodations, power supply, fuel supply, emergency response procedures, spill prevention measures, and methods to prevent surcharges, backups, or overflows.

- 3) The bypass pumping plan shall be submitted to the ENGINEER for review and acceptance prior to commencement of bypass pumping operations. The plan shall be for at least 150% of the existing pump flow listed in the plans.
  - 4) All costs associated with bypass pumping, including equipment, labor, fuel, permits, setup, operation, monitoring, maintenance, emergency response, and removal, shall be included in the contract price. No additional payment will be made for bypass pumping unless explicitly identified as a separate bid item. The CONTRACTOR will be liable for any damages caused by the inadequacy of the bypass pumping plan. The CONTRACTOR shall maintain flow monitoring and provide daily logging of flow.
- b. CONTRACTOR shall provide bypass pumping capacity equal to or greater than existing in-place pump specs as minimum requirements. Bypass pumping schemes shown on plans are suggestions to the Contractor. Contractor shall be responsible for the means and methods of bypass pumping to ensure continuous sanitary sewer service throughout construction operations.
- c. **Bypass Pumping Configuration:** Work includes, but is not limited to, the following bypass pumping sequence:
- 1) **North Manhole to West Manhole:** CONTRACTOR shall install and operate bypass pumping equipment from North Manhole to West Manhole to convey flows during construction.
  - 2) **West Manhole to Southern Most Manhole:** CONTRACTOR shall install and operate bypass pumping equipment from West Manhole to Southern Most Manhole to convey flows during construction.
  - 3) **Southern Most Manhole to Force Main Connection:** CONTRACTOR shall install and operate bypass pumping equipment from Southern Most Manhole to a quick coupling to be installed by the CONTRACTOR on the existing force main to discharge flows into the collection system.
- d. **Force Main Connection and Investigation:**
- 1) CONTRACTOR shall pothole existing force main to confirm diameter, material, depth, and exact location prior to ordering materials or performing connection work.
  - 2) CONTRACTOR shall inform ENGINEER of force main size, material, depth, and condition via submittal immediately upon completion of potholing investigation.
  - 3) CONTRACTOR shall furnish and install 8" tapping sleeve and valve, spool, 90 degree bend, riser pipe, and quick connect fitting on existing force main to accommodate bypass pump discharge connection. Should field conditions

reveal force main diameter different than 8", CONTRACTOR shall provide appropriately sized tapping sleeve and valve to match existing conditions and submit revised information to ENGINEER for approval.

- 4) CONTRACTOR shall connect bypass pump discharge to divert flow from three influent sewer lines of lift station into existing 8" force main.

**e. Temporary Plugs and Flow Control:**

- 1) The CONTRACTOR shall furnish, install, monitor, and remove all temporary plugs, bulkheads, flow control devices, or other appurtenances required in existing gravity sewer lines and manholes to facilitate bypass pumping, investigation, demolition, and construction activities. Temporary plugs shall be designed and installed to safely withstand anticipated upstream flows and surcharge conditions and shall be installed and removed in a controlled manner to prevent backups, surcharging, sanitary sewer overflows, or uncontrolled release of wastewater. The CONTRACTOR shall coordinate plug installation and removal with bypass pumping operations to maintain continuous sewer service at all times. All costs associated with temporary plugs and flow control measures shall be included in the bid item price for Temporary Bypass Pumping.

**f. Field Verification Requirements:**

- 1) CONTRACTOR shall field verify location and size of force main prior to performing any work or ordering materials.
- 2) Prior to performing any work, ordering materials, etc., CONTRACTOR shall provide the depth, diameter, and material of all piping to the ENGINEER via submittal.
- 3) All field-verified dimensions, materials, and locations shall be recorded on the CONTRACTOR plan set to be turned into the ENGINEER as part of the Record Plan submittal upon project completion.

**g. Continuous Operation and Monitoring:**

- 1) CONTRACTOR shall maintain continuous bypass pumping operations throughout the duration of construction to prevent sanitary sewer overflows and ensure uninterrupted service.
- 2) CONTRACTOR shall provide 24-hour monitoring and emergency response capability for all bypass pumping operations.
- 3) CONTRACTOR shall provide backup pumping equipment on-site or immediately available in the event of equipment failure.

**h. System Removal and Restoration:**

- 1) Upon completion of lift station installation and successful startup, CONTRACTOR shall remove all temporary bypass pumping equipment, piping, hoses, and related materials from the site.
  - 2) CONTRACTOR shall properly abandon or remove tapping sleeve and bypass valve connections in accordance with local regulations and ENGINEER approval, or leave in place as permanent appurtenances if directed by ENGINEER.
  - 3) All disturbed areas shall be restored to original or better condition.
- i. CONTRACTOR is responsible for all permits, notifications, and coordination with local authorities and utility companies as necessary for bypass pumping operations and force main connections.
- j. More materials, equipment, or services incidental to this bid item may be required for provision and installation by the CONTRACTOR for a complete and continuous bypass pumping operation and shall be incidental to existing items in the bid form.
- k. CONTRACTOR is solely responsible for the design, means, methods, and implementation of the bypass system, including all pumps, piping, power, and fuel required to maintain uninterrupted sanitary sewer service to all customers served by the pump station, as noted on the plans.

**3. Bid Item #3: Investigation of Existing Wetwell Influent Piping**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to investigate and document existing influent piping into the wetwell.
- b. Investigation work includes, but is not limited to, determining, documenting, and providing to the ENGINEER the following:
- 1) Invert elevations of all influent lines entering the wetwell
  - 2) Invert elevations of all effluent lines exiting the wetwell
  - 3) Pipe diameters of all influent and effluent lines
  - 4) Pipe materials of all influent and effluent lines
  - 5) Pipe conditions and any visible defects or damage

- 6) Any other pertinent information necessary for design and construction purposes
- c. CONTRACTOR shall provide comprehensive documentation of all findings to the ENGINEER prior to commencement of lift station demolition and installation work. Documentation shall include:
    - 1) Documentation denoting all measurements and observations
    - 2) Photographs clearly showing all piping connections, conditions, and relevant details
    - 3) Dimensioned sketches or drawings showing pipe locations, elevations, and configurations
    - 4) Any field notes or observations relevant to the lift station rehabilitation
    - 5) Verify existing equipment matches that listed in the Contract Plans.
  - d. CONTRACTOR shall coordinate site access and investigation timing with the ENGINEER and lift station operations to minimize disruption to facility operations.
  - e. All investigation work shall be performed in a safe manner with proper confined space entry procedures if required, and in accordance with all applicable safety regulations.

#### 4. **Bid Item #3: Demolition**

- a. This bid item is inclusive, but not limited to, all labor and materials for the complete demolition and removal of existing facilities as detailed on the Demolition Plan (Sheet 5). CONTRACTOR shall remove existing fiberglass pump housing, pumps, base plate, discharge elbow, guide rails, floats, lifting chain, piping, valves, appurtenances, fencing, wetwell concrete top, control panel, underground electric, miscellaneous materials not designated to stay, etc.
- b. **Force Main and Gravity Sewer Connections:** Existing force mains and gravity sewer lines shown to remain shall be protected during demolition. Where existing piping is removed, abandoned, or reconnected, work shall be coordinated with bypass pumping operations. All abandoned piping shall be properly capped or plugged as directed by the Engineer.
- c. **Wet Well Abandonment:** Upon removal of mechanical and electrical components, the existing wet well shall be modified as shown on the plans.
- d. **Electrical and Controls:** Electrical service shall be disconnected and secured prior to demolition. All electrical demolition shall be coordinated with the utility

provider. Overhead and underground electrical facilities shown to remain shall be protected from damage.

- e. **Fencing and Appurtenances:** Existing fencing and gates designated for reuse shall be carefully removed, stored, and reinstalled upon completion of demolition and site restoration. Fencing not designated to remain shall be removed and disposed of.
- f. **Temporary Easements and Access:** The Contractor shall confine all demolition, bypass pumping, and restoration activities to the limits of the temporary construction easement shown on the plans. Access roads and staging areas shall be restored upon completion of the work.
- g. **Site Restoration:** Following demolition, the site shall be restored to existing or better condition. Restoration shall include grading, placement of topsoil, seeding, stone surfacing, or other treatments shown on the plans or directed by the Engineer. All disturbed areas outside permanent improvements shall be restored.
- h. **Environmental Protection:** The Contractor shall take all necessary precautions to prevent release of wastewater, fuel, oils, or debris to the surrounding area. Any contamination or environmental damage resulting from demolition activities shall be immediately mitigated at no additional cost to the Owner.
- i. **Coordination and Verification:** The Contractor shall verify all existing conditions, pipe sizes, invert elevations, materials, and utility locations prior to demolition. Discrepancies between field conditions and the plans shall be reported to the Engineer before proceeding.

5. **Bid Item #3: Inspection and Cleaning of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete inspection and cleaning of the existing 8.0' diameter concrete wetwell.
- b. CONTRACTOR shall vacuum and remove all accumulated solids and debris from the existing wetwell and haul to approved waste facility. Thoroughly clean all interior surfaces using high-pressure water washing or wet abrasive sand blasting at a minimum of 5,000 psi to remove all dust, biological growths, grease, oil, loose concrete, and other surface contaminants.
- c. Following cleaning operations, CONTRACTOR shall inspect all cleaned surfaces for damage, deterioration, structural defects, cracks, voids, irregularities, and active hydrostatic infiltration leaks. CONTRACTOR shall submit a written inspection report of findings to the ENGINEER.
- d. ENGINEER and OWNER shall witness and document inspection to make determination of need or extent of wetwell rehabilitation needed.

- e. All work shall be performed in accordance with the project specifications and applicable safety regulations including proper confined space entry procedures.

6. **Bid Item #3: Coating of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete structural and corrosion-protection rehabilitation coating of the existing 8.0' diameter concrete wetwell. The work shall result in a continuous, monolithic, and impermeable lining system suitable for sewer system service.
- b. **Surface Preparation:** The CONTRACTOR shall be responsible for thoroughly cleaning and preparing all interior wetwell surfaces prior to coating application.
  - 1) All active hydrostatic infiltration leaks must be plugged and sealed with a compatible, rapid-setting hydraulic cement or injection grout.
  - 2) All cracks, voids, and irregularities shall be repaired and filled with suitable non-shrinking cements to create a smooth, sound substrate suitable for lining.
- c. **Liner Application:** The CONTRACTOR shall furnish and install a two-part lining system consisting of a structural cementitious liner followed by a protective epoxy topcoat.
  - 1) **Cementitious Liner:** A spray-applied, monolithic, cementitious liner shall be installed on the benches and walls of the wetwell. The liner shall be troweled smooth to a minimum total thickness of 1 inch. The installed liner shall achieve a minimum compressive strength of 6,000 psi and a minimum bond strength of 130 psi.
  - 2) **Epoxy Coating:** Following the application and initial cure of the cementitious liner, the CONTRACTOR shall apply a 100% solids, solvent-less, high-build epoxy coating system to provide corrosion protection.
- d. All work shall be performed in accordance with the project specifications and manufacturer's installation guidelines.

7. **Bid Item #3: Structural Modifications to the Existing Wetwell**

- a. The CONTRACTOR shall furnish and install a new reinforced concrete top slab on the existing wetwell. Work includes all reinforcing steel, concrete, forming, and finishing required to meet the details shown in the plans.
- b. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top

slab openings, spacing, and related dimensions for the selected equipment covers and frames.

- 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- c. The CONTRACTOR shall furnish and install a new aluminum access hatch, a new 6" screened vent pipe, and a new bypass pump suction connection.
- d. CONTRACTOR shall be responsible for aligning all new pipe penetrations as indicated in the construction drawings to adhere with new package pump station suction lines. All pipe penetrations to be sealed with a link seal modular seal, a cast in kor-n-seal flexible pipe connector or approved equal. The bottom of the wetwell shall be grouted as required to form a new, smooth invert channel, etc. required for proper self-priming suction to be achieved.

**8. Bid Item #3: Installation of New Prepackaged Self-Primer Lift Station**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to furnish and install complete and operable Gorman Rupp AM Prepackaged Lift Station and associated equipment; to include, but not limited to, (2) T6A3S pumps sized for 540 GPM at 54' TDH with 20HP 230/3/60 ODP motors, 6x6 Fiberglass Enclosure with 1300/1500 Watt 115V AC space heater, LED alarm light, insulation package, spare parts kit, 6" suction and discharge connections, ARVs with ball valves, gauge kits, 4" discharge bypass connection, drain kit with 10' hose, 6" ductile iron discharge pipe and fittings, bases, discharge elbows, riser piping, etc. required to provide a fully functional pumping system.
  - 1) All mechanical equipment installed for the new prepackage lift station shall be subsidiary to this bid item. All electrical, level monitoring equipment, control panel, etc. shall be subsidiary to the electrical improvements bid item.
  - 2) 5-year Complete Station Warranty shall be provided with the new Gorman Rupp AM Prepackage Lift Station.
- b. CONTRACTOR shall furnish and install a submersible level transmitter in a 6" diameter PVC pipe with pipe supports anchored to wetwell wall.
  - 1) Contractor shall route level transmitter to control panel and SCADA.
- c. All station piping and discharge piping to be Class 350 Ductile Iron (D.I.). Piping external to the station must be independently supported.
- d. Series 316 Stainless Steel shall be used in the wetwell and valve box for flange, bolts, brackets, and other hardware. Control panel structure shall be NEMA 1 Stainless Steel hardware.

- e. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60. All pipe penetrations to be sealed with a link seal modular seal, a cost in kor-n-seal flexible pipe connector, or approved equal.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- f. PVC depth transmitter well and pressure transducer is to be installed at the wetwell as the primary depth indicator. Backup level floats will be the secondary depth indicator.
- g. All equipment to be installed in accordance with manufacturers' recommendations or the distance between discharge piping, whichever is greater.
  - 1) Manufacturer shall verify no detrimental influence by either adjacent pump when both pumps are operating.
- h. In accordance with generally accepted construction practices, CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.
  - 1) CONTRACTOR shall provide a complete and operating lift station.
  - 2) All work, equipment, and materials shall comply with the contract specifications.
  - 3) Prior to performing any work, ordering materials, etc., CONTRACTOR to provide the depth, diameter, and material of the piping to the ENGINEER via a submittal and to record on the CONTRACTOR plan set to be turned into the ENGINEER as part of the record plan submittal.
  - 4) CONTRACTOR to field locate existing force mains and sewer mains and obtain elevations prior to commencement of construction. CONTRACTOR to notify ENGINEER of any discrepancies found

9. **Bid Item #3: Connecting to Existing Force Main**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to connect the new Gorman Rupp AM Prepackage Lift Station to the existing force main system; to include, but not

limited to, suction piping connections, discharge piping connections, ARV (Air Release Valve) discharge piping, fittings, isolation valves, check valves, pipe supports, thrust restraints, and all appurtenances required to provide a complete and functional connection to the existing infrastructure.

- b. CONTRACTOR is responsible for verifying all existing pipe sizes, materials, elevations, and conditions prior to procuring materials or submitting shop drawings to the ENGINEER. Any discrepancies between existing conditions and contract documents shall be reported to the ENGINEER immediately.
- c. Work includes connecting the new pump station's 6" suction and discharge connections to the existing 8" force main system using appropriate reducers, adapters, and transition fittings as necessary to match existing pipe sizes and materials.
- d. All connections shall be made in accordance with the manufacturer's recommendations and applicable codes and standards. CONTRACTOR shall ensure proper alignment, support, and restraint of all piping to prevent stress on pump connections and existing infrastructure.
- e. CONTRACTOR shall coordinate all tie-ins to the existing force main system with the OWNER to minimize downtime and disruption to the existing system. CONTRACTOR shall provide temporary pumping or bypass pumping as necessary to maintain service during construction.
- f. All piping, fittings, valves, and appurtenances shall be pressure tested in accordance with the specifications prior to placing the system in service. CONTRACTOR shall provide start-up services and verify proper operation of all valves and connections prior to notifying ENGINEER of completion.
- g. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 10. **Bid Item #3: Electrical Improvements**

- a. CONTRACTOR shall remove electric service pole and underground electrical.
  - 1) CONTRACTOR to install new electrical pole, reattaching previous OHE connections, within PS site and reconnect new UGE from pole to new control panel and lift station. Pull new wire as required to make connection.
- b. This bid item shall include furnishing and installing a new, complete, and fully functional electrical and control system as shown or described in the contract documents.

- c. Work includes, but is not limited to, a new pump control panel with main disconnect, RVSS, panel cooling, a wetwell junction box, pump feeders, terminal boxes, and all required conduit and wiring.
- d. CONTRACTOR shall provide start up services to ensure proper operation of the equipment, including warranty start up by pump supplier, prior to notifying ENGINEER of completion. ENGINEER shall then observe all equipment operation and verify function prior to payment for this bid item.
- e. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 11. Bid Item #3: SCADA Installation

- a. The OWNER will furnish an existing SCADA enclosure containing the PLC/RTU and associated control hardware. The CONTRACTOR shall furnish and install one (1) Pepwave MAX BR1 cellular modem compatible with the OWNER's SCADA system and shall install and integrate the OWNER-furnished SCADA enclosure at the lift station in accordance with the Contract Electrical Plans and Specifications.
- b. The CONTRACTOR shall perform all physical installation associated with the SCADA system, including mounting of the SCADA enclosure, installation of conduit, and complete wiring, termination, grounding, and labeling of all SCADA-related power, control, and signal conductors.
- c. Work shall include full interconnection of the SCADA system with pump control panels, level sensing equipment, alarms, status signals, and all field instruments such that all signals are fully wired, terminated, identified, and ready for OWNER programming and system integration.
- d. The CONTRACTOR shall clearly label all wiring, terminations, and devices and shall provide documentation sufficient for the OWNER to perform PLC programming, communications configuration, and SCADA system integration.
- e. All PLC programming, SCADA software configuration, communications logic, graphics development, alarm setpoints, trending, and data logging within VT SCADA shall be performed exclusively by the OWNER. The CONTRACTOR shall have no responsibility for SCADA programming, software configuration, or system performance.
- f. The CONTRACTOR shall coordinate installation activities with the OWNER, ENGINEER, and electrical subcontractor as required to support system integration and commissioning.

- g. Work shall include field verification of wiring, terminations, and signal continuity, and participation in startup and commissioning activities for the purpose of confirming proper installation only. Acceptance of the CONTRACTOR's work shall be based on verification of correct installation and continuity of wiring and connections and shall not be contingent upon successful SCADA programming, communications performance, or system operation.
- h. The CONTRACTOR shall provide as-built documentation reflecting installed SCADA hardware, wiring, and terminations prior to acceptance.
- i. All labor, materials, equipment, coordination, and incidental work necessary to furnish the specified cellular modem and to install, wire, label, and deliver the SCADA system ready for OWNER programming and integration shall be included under this bid item.
- j. Payment for this bid item shall be lump sum and shall constitute full compensation for furnishing and installing a complete, wired, labeled, and verified SCADA installation ready for OWNER programming and integration.

**12. Bid Item #3: Chain Link Fence**

- a. CONTRACTOR shall furnish and install chain link fencing, swing gates, and related appurtenances as required to provide a fully functional and secured lift station site upon completion of the Work.
- b. CONTRACTOR shall remove the existing chain link fence, including barbed wire top strands, gates, posts, and accessories, as required to facilitate construction. Fence sections, gates, posts, and appurtenances that are determined by the ENGINEER to be in good and reusable condition shall be carefully removed, protected from damage, and stored on-site or at an approved location for reuse and reinstallation upon completion of lift station rehabilitation. Any fencing materials not suitable for reuse shall be properly disposed of by the CONTRACTOR.
- c. Upon completion of construction, the CONTRACTOR shall reinstall salvaged fencing materials where applicable and shall furnish and install new chain link perimeter fencing, barbed wire top strands, and a double 10-foot swinging gate with cane bolt(s), as required to fully secure the lift station site. CONTRACTOR shall obtain padlock from the OWNER.
- d. The total linear footage of the fence and gates are approximately 114 feet. The CONTRACTOR shall field verify all fence lengths, gate locations, and site conditions prior to installation.
- e. CONTRACTOR shall furnish and install 'no trespassing/no tampering' signs and install on each fence run and at each gate.

- f. CONTRACTOR shall furnish and install a lift station name sign on one swing gate in a location clearly visible from the adjacent access area.

**13. Bid Item #3: Crushed Stone for Site**

- a. CONTRACTOR shall furnish and install crushed stone throughout the site and extending 2 feet past installed chain link fence
- b. CONTRACTOR shall furnish and install approximately 112 square yards of 6” thick ALDOT #57 stone overlaid on Mirafi 160N geotextile fabric (or equal).

**D. Bid Item #4: LS #2 at 260 Craig Industrial Park Lift Station Rehabilitation**

**The lift station site shall be available to all bidding contractors for obtaining measurements, photos, etc. as necessary. Site visits can be scheduled by contacting The Kelley Group at (256) 248-7030, or by emailing [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com) a minimum of 48 hours prior to the anticipated site visit.**

The OWNER seeks to install a new above-grade package lift station on a parcel adjacent to Meadowcraft Parkway. The proposed lift station will serve to collect and convey wastewater from the surrounding service area to the existing sanitary sewer system.

Existing features and utilities shown on the Contract Plans are based on limited site investigations, available imagery, LiDAR data, and an available record plan set prepared by Hogg Engineering Co. in the early 2000’s for a prior rehabilitation of the lift station. The 2000’s plans were used for reference only and to estimate the invert elevation of the upstream manhole and wetwell elevations; however, the accuracy and completeness of this information could not be fully verified during the design survey, and certain influent connections, pipe characteristics, and invert elevations may differ from actual field conditions. The CONTRACTOR shall assume responsibility for field-verifying all existing conditions and dimensions, including influent and discharge piping locations, diameters, materials, and invert elevations, and shall make all necessary accommodations during bypass pumping operations to investigate and confirm existing conditions. All field-verified information shall be documented and provided to the ENGINEER as it is obtained and incorporated into required submittals and the CONTRACTOR’s site plans. Any conflicts or discrepancies between the Contract Plans and field-verified conditions shall be reported to the ENGINEER immediately upon discovery and prior to proceeding with affected work. No claims for additional compensation or time extensions shall be permitted due to inaccuracies, omissions, or limitations in the available record plans or existing condition information that could have been identified through reasonable field investigation. Verified site plans shall be submitted to the ENGINEER upon project completion.

**1. Bid Item #4: Site Preparation**

- a. The CONTRACTOR shall prepare the pump station site for all new construction. Work shall include all miscellaneous clearing, grubbing, grading, and placement of

fill as required to provide a completely accessible pump station site that meets the final grades and layouts shown in the Contract Plans.

- b. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments.
- c. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments. **Survey control and boundary information utilized for design were prepared by Autery Land Surveying, LLC.** The design surveyor's point of contact is **Jamie Autery, (334) 874-8445, jautery@alsurvey.com.** **An existing benchmark was not located during the design survey, so the CONTRACTOR shall set a permanent benchmark within or in the vicinity of the lift station site for utilization throughout the project and in the future by the OWNER. The permanent benchmark should be set in such a manner as not to be covered by gravel or soil and should be prominently above grade atop a permanent structure, concrete monument, or steel rod.** The CONTRACTOR remains responsible for verification of all survey control, benchmarks, and construction layout required to complete the Work.
- d. CONTRACTOR shall furnish, install, and maintain all temporary and permanent erosion control measures to meet the requirements of the Contract Documents. Payment for all erosion control shall be subsidiary to this bid item.
  - 1) The CONTRACTOR shall be responsible for all maintenance of temporary erosion and sediment control devices throughout the duration of the project, until final stabilization is accepted by the ENGINEER. After project completion, the CONTRACTOR shall remove all temporary erosion control devices. All removed devices and materials shall become the property of the CONTRACTOR and shall be disposed of in accordance with applicable regulations.
  - 2) CONTRACTOR shall utilize best management practices (BMPs) during all erosion control procedures, whether shown on the drawings or not. CONTRACTOR shall utilize all erosion control practices specified in the contract documents. Erosion control methods shown in the drawings shall be considered the minimum requirement. Any additional erosion control methods not specified in the drawings, but required for the CONTRACTOR's implementation of BMPs, shall be considered incidental to the related bid items and shall be installed at no additional cost to the OWNER.
- e. CONTRACTOR shall furnish and install any required traffic control measures per the contract documents. Payment for traffic control shall be considered incidental to this bid item.

## 2. Bid Item #4: Temporary Bypass Pumping

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to provide temporary bypass pumping of, assumed, three gravity sewer lines flowing to the lift station wetwell for the duration of the Work. CONTRACTOR shall be solely responsible for developing, furnishing, and implementing a complete bypass pumping plan and course of action. The bypass pumping plan shall be submitted to the ENGINEER for review and approval prior to commencement of any construction activities requiring bypass pumping. No work requiring bypass pumping shall begin until the bypass pumping plan has been approved.
  - 1) The CONTRACTOR shall prepare, submit, and implement a Bypass Pumping Plan showing the ability to provide and maintain continuous service during construction.
  - 2) The plan shall include, but not be limited to, proposed pumping equipment pump capacities, redundancy, conveyance piping, connection details, site layout, traffic & pedestrian accommodations, power supply, fuel supply, emergency response procedures, spill prevention measures, and methods to prevent surcharges, backups, or overflows.
  - 3) The bypass pumping plan shall be submitted to the ENGINEER for review and acceptance prior to commencement of bypass pumping operations. The plan shall be for at least 150% of the existing pump flow listed in the plans.
  - 4) All costs associated with bypass pumping, including equipment, labor, fuel, permits, setup, operation, monitoring, maintenance, emergency response, and removal, shall be included in the contract price. No additional payment will be made for bypass pumping unless explicitly identified as a separate bid item. The CONTRACTOR will be liable for any damages caused by the inadequacy of the bypass pumping plan. The CONTRACTOR shall maintain flow monitoring and provide daily logging of flow.
- b. CONTRACTOR shall provide bypass pumping capacity equal to or greater than existing in-place pump specs as minimum requirements. Bypass pumping schemes shown on plans are suggestions to the Contractor. Contractor shall be responsible for the means and methods of bypass pumping to ensure continuous sanitary sewer service throughout construction operations.
- c. **Bypass Pumping Configuration:** Work includes, but is not limited to, the following bypass pumping sequence:
  - 1) **North Manhole to Temporary Bypass Connection:** CONTRACTOR shall utilize existing upstream 48" diameter sewer manhole located northwest of the lift station wetwell for bypass pumping of sanitary sewage into existing 6" forcemain via newly installed bypass connector.

**d. Force Main Connection and Investigation:**

- 1) CONTRACTOR shall pothole existing force main to confirm diameter, material, depth, and exact location prior to ordering materials or performing connection work.
- 2) CONTRACTOR shall inform ENGINEER of force main size, material, depth, and condition via submittal immediately upon completion of potholing investigation.
- 3) CONTRACTOR shall furnish and install 6" tapping sleeve and valve, spool, 90 degree bend, riser pipe, and quick connect fitting on existing force main to accommodate bypass pump discharge connection. Should field conditions reveal force main diameter different than 6", CONTRACTOR shall provide appropriately sized tapping sleeve and valve to match existing conditions and submit revised information to ENGINEER for approval.
- 4) CONTRACTOR shall connect bypass pump discharge to divert flow from three influent sewer lines of lift station into existing 6" force main.

**e. Temporary Plugs and Flow Control:**

- 1) The CONTRACTOR shall furnish, install, monitor, and remove all temporary plugs, bulkheads, flow control devices, or other appurtenances required in existing gravity sewer lines and manholes to facilitate bypass pumping, investigation, demolition, and construction activities. Temporary plugs shall be designed and installed to safely withstand anticipated upstream flows and surcharge conditions and shall be installed and removed in a controlled manner to prevent backups, surcharging, sanitary sewer overflows, or uncontrolled release of wastewater. The CONTRACTOR shall coordinate plug installation and removal with bypass pumping operations to maintain continuous sewer service at all times. All costs associated with temporary plugs and flow control measures shall be included in the bid item price for Temporary Bypass Pumping.

**f. Field Verification Requirements:**

- 1) CONTRACTOR shall field verify location and size of force main prior to performing any work or ordering materials.
- 2) Prior to performing any work, ordering materials, etc., CONTRACTOR shall provide the depth, diameter, and material of all piping to the ENGINEER via submittal.
- 3) All field-verified dimensions, materials, and locations shall be recorded on the CONTRACTOR plan set to be turned into the ENGINEER as part of the Record Plan submittal upon project completion.

**g. Continuous Operation and Monitoring:**

- 1) CONTRACTOR shall maintain continuous bypass pumping operations throughout the duration of construction to prevent sanitary sewer overflows and ensure uninterrupted service.
- 2) CONTRACTOR shall provide 24-hour monitoring and emergency response capability for all bypass pumping operations.
- 3) CONTRACTOR shall provide backup pumping equipment on-site or immediately available in the event of equipment failure.

**h. System Removal and Restoration:**

- 1) Upon completion of lift station installation and successful startup, CONTRACTOR shall remove all temporary bypass pumping equipment, piping, hoses, and related materials from the site.
- 2) CONTRACTOR shall properly abandon or remove tapping sleeve and bypass valve connections in accordance with local regulations and ENGINEER approval, or leave in place as permanent appurtenances if directed by ENGINEER.
- 3) All disturbed areas shall be restored to original or better condition.

i. CONTRACTOR is responsible for all permits, notifications, and coordination with local authorities and utility companies as necessary for bypass pumping operations and force main connections.

j. More materials, equipment, or services incidental to this bid item may be required for provision and installation by the CONTRACTOR for a complete and continuous bypass pumping operation and shall be incidental to existing items in the bid form.

k. CONTRACTOR is solely responsible for the design, means, methods, and implementation of the bypass system, including all pumps, piping, power, and fuel required to maintain uninterrupted sanitary sewer service to all customers served by the pump station, as noted on the plans.

**3. Bid Item #4: Investigation of Existing Wetwell Influent Piping**

a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to investigate and document existing influent piping into the wetwell.

b. Investigation work includes, but is not limited to, determining and documenting the following:

- 1) Invert elevations of all influent lines entering the wetwell
  - 2) Invert elevations of all effluent lines exiting the wetwell
  - 3) Pipe diameters of all influent and effluent lines
  - 4) Pipe materials of all influent and effluent lines
  - 5) Pipe conditions and any visible defects or damage
  - 6) Any other pertinent information necessary for design and construction purposes
- c. CONTRACTOR shall provide comprehensive documentation of all findings to the ENGINEER prior to commencement of lift station demolition and installation work. Documentation shall include:
- 1) Documentation denoting all measurements and observations
  - 2) Photographs clearly showing all piping connections, conditions, and relevant details
  - 3) Dimensioned sketches or drawings showing pipe locations, elevations, and configurations
  - 4) Any field notes or observations relevant to the lift station rehabilitation
- d. CONTRACTOR shall coordinate site access and investigation timing with the ENGINEER and lift station operations to minimize disruption to facility operations.
- e. All investigation work shall be performed in a safe manner with proper confined space entry procedures if required, and in accordance with all applicable safety regulations.

#### 4. **Bid Item #4: Demolition**

- a. This bid item is inclusive, but not limited to, all labor and materials for the complete demolition and removal of existing facilities as detailed on the Demolition Plan (Sheet 7). CONTRACTOR shall remove existing fiberglass pump housing, pumps, base plate, discharge elbow, guide rails, floats, lifting chain, piping, valves, appurtenances, fencing, wetwell concrete top, control panel, underground electric, miscellaneous materials not designated to stay, etc.
- b. **Force Main and Gravity Sewer Connections:** Existing force mains and gravity sewer lines shown to remain shall be protected during demolition. Where existing piping is removed, abandoned, or reconnected, work shall be coordinated with

bypass pumping operations. All abandoned piping shall be properly capped or plugged as directed by the ENGINEER.

- c. **Wet Well Abandonment:** Upon removal of mechanical and electrical components, the existing wet well shall be modified as shown on the plans.
  - d. **Electrical and Controls:** Electrical service shall be disconnected and secured prior to demolition. All electrical demolition shall be coordinated with the utility provider. Overhead and underground electrical facilities shown to remain shall be protected from damage.
  - e. **Fencing and Appurtenances:** Existing fencing and gates designated for reuse shall be carefully removed, stored, and reinstalled upon completion of demolition and site restoration. Fencing not designated to remain shall be removed and disposed of.
  - f. **Temporary Easements and Access:** The CONTRACTOR shall confine all demolition, bypass pumping, and restoration activities to the limits of the temporary construction easement shown on the plans. Access roads and staging areas shall be restored upon completion of the work.
  - g. **Site Restoration:** Following demolition, the site shall be restored to existing or better condition. Restoration shall include grading, placement of topsoil, seeding, stone surfacing, or other treatments shown on the plans or directed by the Engineer. All disturbed areas outside permanent improvements shall be restored.
  - h. **Environmental Protection:** The CONTRACTOR shall take all necessary precautions to prevent release of wastewater, fuel, oils, or debris to the surrounding area. Any contamination or environmental damage resulting from demolition activities shall be immediately mitigated at no additional cost to the Owner.
  - i. **Coordination and Verification:** The CONTRACTOR shall verify all existing conditions, pipe sizes, invert elevations, materials, and utility locations prior to demolition. Discrepancies between field conditions and the plans shall be reported to the Engineer before proceeding.
5. **Bid Item #4: Inspection and Cleaning of the Existing Wetwell**
- a. This bid item shall include all labor, materials, equipment, and testing for the complete inspection and cleaning of the existing 6.0' diameter concrete wetwell.
  - b. CONTRACTOR shall vacuum and remove all accumulated solids and debris from the existing wetwell and haul to approved waste facility. Thoroughly clean all interior surfaces using high-pressure water washing or wet abrasive sand blasting at a minimum of 5,000 psi to remove all dust, biological growths, grease, oil, loose concrete, and other surface contaminants.

- c. Following cleaning operations, CONTRACTOR shall inspect all cleaned surfaces for damage, deterioration, structural defects, cracks, voids, irregularities, and active hydrostatic infiltration leaks. CONTRACTOR shall submit a written inspection report of findings to the ENGINEER.
- d. ENGINEER and OWNER shall witness and document inspection to make determination of need or extent of wetwell rehabilitation needed.
- e. All work shall be performed in accordance with the project specifications and applicable safety regulations including proper confined space entry procedures.

6. **Bid Item #4: Coating of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete structural and corrosion-protection rehabilitation coating of the existing 8.0' diameter concrete wetwell. The work shall result in a continuous, monolithic, and impermeable lining system suitable for sewer system service.
- b. Surface Preparation: The CONTRACTOR shall be responsible for thoroughly cleaning and preparing all interior wetwell surfaces prior to coating application.
  - 1) All active hydrostatic infiltration leaks must be plugged and sealed with a compatible, rapid-setting hydraulic cement or injection grout.
  - 2) All cracks, voids, and irregularities shall be repaired and filled with suitable non-shrinking cements to create a smooth, sound substrate suitable for lining.
- c. Liner Application: The CONTRACTOR shall furnish and install a two-part lining system consisting of a structural cementitious liner followed by a protective epoxy topcoat.
  - 1) **Cementitious Liner:** A spray-applied, monolithic, cementitious liner shall be installed on the benches and walls of the wetwell. The liner shall be troweled smooth to a minimum total thickness of 1 inch. The installed liner shall achieve a minimum compressive strength of 6,000 psi and a minimum bond strength of 130 psi.
  - 2) **Epoxy Coating:** Following the application and initial cure of the cementitious liner, the CONTRACTOR shall apply a 100% solids, solvent-less, high-build epoxy coating system to provide corrosion protection.
- d. All work shall be performed in accordance with the project specifications and manufacturer's installation guidelines.

**7. Bid Item #4: Structural Modifications to the Existing Wetwell**

- a. The CONTRACTOR shall furnish and install a new reinforced concrete top slab on the existing wetwell. Work includes all reinforcing steel, concrete, forming, and finishing required to meet the details shown in the plans.
- b. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- c. The CONTRACTOR shall furnish and install a new aluminum access hatch, a new 6" screened vent pipe, and a new bypass pump suction connection.
- d. CONTRACTOR shall be responsible for aligning all new pipe penetrations as indicated in the construction drawings to adhere with new package pump station suction lines. All pipe penetrations to be sealed with a link seal modular seal, a cast in kor-n-seal flexible pipe connector, or approved equal. The bottom of the wetwell shall be grouted as required to form a new, smooth invert channel, etc. required for proper self-priming suction to be achieved.

**8. Bid Item #4: Installation of New Prepackaged Self-Primer Lift Station**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to furnish and install complete and operable Gorman Rupp AM Prepackaged Lift Station and associated equipment; to include, but not limited to, (2) T3C3SC pumps sized for 200 GPM at 34' TDH with 7.5HP 460/3/60 TEFC motors, 6x6 Fiberglass Enclosure with 1300/1500 Watt 115V AC space heater, LED alarm light, insulation package, spare parts kit, 4" suction and discharge connections, ARVs with ball valves, gauge kits, 4" discharge bypass connection, drain kit with 10' hose, 6" ductile iron discharge pipe and fittings, discharge elbows, riser piping, etc. required to provide a fully functional pumping system.
  - 1) All mechanical equipment installed for the new prepackage lift station shall be subsidiary to this bid item. All electrical, level monitoring equipment, control panel, etc. shall be subsidiary to the electrical improvements bid item.
  - 2) 5-year Complete Station Warranty shall be provided with the new Gorman Rupp AM Prepackage Lift Station.

- b. CONTRACTOR shall furnish and install a submersible level transmitter in a 6” diameter PVC pipe with pipe supports anchored to wetwell wall.
  - 1) Contractor shall route level transmitter to control panel and SCADA.
- c. All station piping and discharge piping to be Class 350 Ductile Iron (D.I.). Piping external to the station must be independently supported.
- d. Series 316 Stainless Steel shall be used in the wetwell and valve box for flange, bolts, brackets, and other hardware. Control panel structure shall be NEMA 1 Stainless Steel hardware.
- e. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60. All pipe penetrations to be sealed with a link seal modular seal, a cost in kor-n-seal flexible pipe connector, or approved equal.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- f. PVC depth transmitter well and pressure transducer is to be installed at the wetwell as the primary depth indicator. Backup level floats will be the secondary depth indicator.
- g. All equipment to be installed in accordance with manufacturers’ recommendations or the distance between discharge piping, whichever is greater.
  - 1) Manufacturer shall verify no detrimental influence by either adjacent pump when both pumps are operating.
- h. In accordance with generally accepted construction practices, CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.
  - 1) CONTRACTOR shall provide a complete and operating lift station.
  - 2) All work, equipment, and materials shall comply with the contract specifications.
  - 3) Prior to performing any work, ordering materials, etc., CONTRACTOR to provide the depth, diameter, and material of the piping to the ENGINEER

via a submittal and to record on the CONTRACTOR plan set to be turned into the ENGINEER as part of the record plan submittal.

- 4) CONTRACTOR to field locate existing force mains and sewer mains and obtain elevations prior to commencement of construction. CONTRACTOR to notify ENGINEER of any discrepancies found

9. **Bid Item #4: Connecting to Existing Force Main**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to connect the new Gorman Rupp AM Prepackaged Lift Station to the existing force main system; to include, but not limited to, suction piping connections, discharge piping connections, ARV (Air Release Valve) discharge piping, fittings, isolation valves, check valves, pipe supports, thrust restraints, and all appurtenances required to provide a complete and functional connection to the existing infrastructure.
- b. CONTRACTOR is responsible for verifying all existing pipe sizes, materials, elevations, and conditions prior to procuring materials or submitting shop drawings to the ENGINEER. Any discrepancies between existing conditions and contract documents shall be reported to the ENGINEER immediately.
- c. Work includes connecting the new pump station's 6" suction and discharge connections to the existing force main system using appropriate reducers, adapters, and transition fittings as necessary to match existing pipe sizes and materials.
- d. All connections shall be made in accordance with the manufacturer's recommendations and applicable codes and standards. CONTRACTOR shall ensure proper alignment, support, and restraint of all piping to prevent stress on pump connections and existing infrastructure.
- e. CONTRACTOR shall coordinate all tie-ins to the existing force main system with the OWNER to minimize downtime and disruption to the existing system. CONTRACTOR shall provide temporary pumping or bypass pumping as necessary to maintain service during construction.
- f. All piping, fittings, valves, and appurtenances shall be pressure tested in accordance with the specifications prior to placing the system in service. CONTRACTOR shall provide start-up services and verify proper operation of all valves and connections prior to notifying ENGINEER of completion.
- g. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 10. Bid Item #4: Electrical Improvements

- a. CONTRACTOR shall remove electric service poles, overhead electrical, and underground electrical per electrical Contract Documents.
  - 1) CONTRACTOR to install new electrical poles, installing new or reattaching previous OHE connections, within PS site and reconnect new UGE from pole to new control panel and lift station per electrical Contract Documents. Pull new wire as required to make connections.
- b. This bid item shall include furnishing and installing a new, complete, and fully functional electrical and control system as shown or described in the electrical Contract Documents.
- c. Work includes, but is not limited to, a new pump control panel with main disconnect, RVSS, panel cooling, a wetwell junction box, pump feeders, terminal boxes, and all required conduit and wiring.
- d. CONTRACTOR shall provide start up services to ensure proper operation of the equipment, including warranty start up by pump supplier, prior to notifying ENGINEER of completion. ENGINEER shall then observe all equipment operation and verify function prior to payment for this bid item.
- e. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 11. Bid Item #4: SCADA Installation

- a. The OWNER will furnish an existing SCADA enclosure containing the PLC/RTU and associated control hardware. The CONTRACTOR shall furnish and install one (1) Pepwave MAX BR1 cellular modem compatible with the OWNER's SCADA system and shall install and integrate the OWNER-furnished SCADA enclosure at the lift station in accordance with the Contract Electrical Plans and Specifications.
- b. The CONTRACTOR shall perform all physical installation associated with the SCADA system, including mounting of the SCADA enclosure, installation of conduit, and complete wiring, termination, grounding, and labeling of all SCADA-related power, control, and signal conductors.
- c. Work shall include full interconnection of the SCADA system with pump control panels, level sensing equipment, alarms, status signals, and all field instruments such that all signals are fully wired, terminated, identified, and ready for OWNER programming and system integration.

- d. The CONTRACTOR shall clearly label all wiring, terminations, and devices and shall provide documentation sufficient for the OWNER to perform PLC programming, communications configuration, and SCADA system integration.
- e. All PLC programming, SCADA software configuration, communications logic, graphics development, alarm setpoints, trending, and data logging within VT SCADA shall be performed exclusively by the OWNER. The CONTRACTOR shall have no responsibility for SCADA programming, software configuration, or system performance.
- f. The CONTRACTOR shall coordinate installation activities with the OWNER, ENGINEER, and electrical subcontractor as required to support system integration and commissioning.
- g. Work shall include field verification of wiring, terminations, and signal continuity, and participation in startup and commissioning activities for the purpose of confirming proper installation only. Acceptance of the CONTRACTOR's work shall be based on verification of correct installation and continuity of wiring and connections and shall not be contingent upon successful SCADA programming, communications performance, or system operation.
- h. The CONTRACTOR shall provide as-built documentation reflecting installed SCADA hardware, wiring, and terminations prior to acceptance.
- i. All labor, materials, equipment, coordination, and incidental work necessary to furnish the specified cellular modem and to install, wire, label, and deliver the SCADA system ready for OWNER programming and integration shall be included under this bid item.
- j. Payment for this bid item shall be lump sum and shall constitute full compensation for furnishing and installing a complete, wired, labeled, and verified SCADA installation ready for OWNER programming and integration.

**12. Bid Item #4: Potable Wash Down Water System Installation**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to install a complete and functional potable wash down water system at 260 Craig Industrial Park Lift Station site.
- b. Work includes, but is not limited to, the following:
  - 1) Utility Locating and Potholing: CONTRACTOR shall contact Alabama 811 for utility locates and perform potholing as necessary to verify locations, depths, and clearances of existing utilities including gas lines and other underground infrastructure prior to jack and bore operations or water line installation. CONTRACTOR shall maintain appropriate vertical and

horizontal clearances from all existing utilities in accordance with Contract Documents and/or industry standards.

- 2) Water Line Tap and Connection: CONTRACTOR shall tap into nearest potable water line at location shown on Contract Plans or as approved by ENGINEER and OWNER. All tapping work shall be performed in accordance with OWNER requirements and applicable codes.
  - 3) Jack and Bore Installation: CONTRACTOR shall utilize jack and bore method for installation of water line and casing pipe beneath Meadowcraft Parkway as shown on Contract Plans and Appendix C. All boring operations shall be performed to minimize disruption to roadway and maintain pavement integrity.
  - 4) Casing Pipe: CONTRACTOR shall furnish and install casing pipe for water line crossing beneath Meadowcraft Parkway in accordance with specifications and as shown on Contract Plans and Appendix C. Casing pipe shall be properly sized to accommodate water line with appropriate clearances.
  - 5) Water Piping: CONTRACTOR shall furnish and install all 1" HDPE or PEX potable water piping, fittings, and connections from tap point to frost proof yard hydrant location as shown on Contract Plans and Appendix C. All materials shall meet or exceed applicable standards for potable water service.
  - 6) Valves and Appurtenances: CONTRACTOR shall furnish and install all necessary valves, valve boxes, thrust blocks, pipe supports, and related appurtenances required for a complete and functional water system installation.
  - 7) Frost Proof Yard Hydrant: CONTRACTOR shall furnish and install one (1) frost proof yard hydrant at lift station location as shown on Contract Plans and Appendix C. Hydrant shall be properly installed at appropriate depth to prevent freezing and shall be accessible for wash down operations.
- c. CONTRACTOR shall coordinate all work with OWNER and obtain necessary permits for jack and bore operations beneath Meadowcraft Parkway.
  - d. CONTRACTOR shall field verify location, size, depth, and material of existing water line prior to ordering materials or performing tap work. Any discrepancies shall be reported to ENGINEER immediately.
  - e. CONTRACTOR shall perform pressure testing and disinfection of all new water piping in accordance with applicable standards. All test results shall be submitted to ENGINEER for approval.

- f. Upon completion, CONTRACTOR shall restore all disturbed areas including pavement, gravel, grass, or other surface improvements to original or better condition.
- g. CONTRACTOR is solely responsible for any damage to existing utilities and shall repair or replace damaged utilities at no additional cost to OWNER.
- h. Additional materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

**13. Bid Item #4: Chain Link Fence**

- a. CONTRACTOR shall furnish and install chain link fencing, swing gates, and related appurtenances as required to provide a fully functional and secured lift station site upon completion of the Work.
- b. CONTRACTOR shall remove the existing chain link fence, including barbed wire top strands, gates, posts, and accessories, as required to facilitate construction. Fence sections, gates, posts, and appurtenances that are determined by the ENGINEER to be in good and reusable condition shall be carefully removed, protected from damage, and stored on-site or at an approved location for reuse and reinstallation upon completion of lift station rehabilitation. Any fencing materials not suitable for reuse shall be properly disposed of by the CONTRACTOR.
- c. Upon completion of construction, the CONTRACTOR shall reinstall salvaged fencing materials where applicable and shall furnish and install new chain link perimeter fencing, barbed wire top strands, and a double 10-foot swinging gate with cane bolt(s), as required to fully secure the lift station site. CONTRACTOR shall obtain padlock from the OWNER.
- d. The total linear footage of the fence and gates are approximately 116 feet. The CONTRACTOR shall field verify all fence lengths, gate locations, and site conditions prior to installation.
- e. CONTRACTOR shall furnish and install 'no trespassing/no tampering' signs and install on each fence run and at each gate.
- f. The CONTRACTOR shall furnish and install a lift station name sign on one swing gate in a location clearly visible from the adjacent access area.

**14. Bid Item #4: Crushed Stone for Site**

- a. CONTRACTOR shall furnish and install crushed stone throughout the site and extending 2 feet past installed chain link fence

- b. CONTRACTOR shall furnish and install approximately 119 square yards of 6” thick ALDOT #57 stone overlaid on Mirafi 160N geotextile fabric (or equal).

#### **E. Bid Item #5: LS #4 at 43 Craig Industrial Park Lift Station**

**The lift station site shall be available to all bidding contractors for obtaining measurements, photos, etc. as necessary. Site visits can be scheduled by contacting The Kelley Group at (256) 248-7030, or by emailing [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com) a minimum of 48 hours prior to the anticipated site visit.**

The OWNER seeks to install a new lift station on a parcel adjacent to Highway 80. The proposed lift station will serve to collect and convey wastewater from the surrounding service area to the existing sanitary sewer system.

Existing features and utilities shown on the Contract Plans are based on limited site investigations, available imagery, LiDAR data, and an available record plan set prepared by Hogg, Jones, & Associates, Inc. in 1982 for a prior rehabilitation of the lift station. The 1982 record plans were used for reference only; however, discrepancies have been identified between the reference plans and existing in-field equipment observed during surveying, including but not limited to effluent force mains, valves, and appurtenant piping. The accuracy and completeness of the record plans could not be fully verified during design. The CONTRACTOR shall assume responsibility for field-verifying all existing conditions and dimensions, including influent and effluent piping locations, diameters, materials, valve configurations, and invert elevations, and shall make all necessary accommodations during bypass pumping operations to investigate, expose, and confirm existing conditions. All field-verified information shall be documented and provided to the ENGINEER as it is obtained and incorporated into required submittals and the CONTRACTOR’s site plans. Any conflicts or discrepancies between the Contract Plans, Specifications, and field-verified conditions shall be reported to the ENGINEER immediately upon discovery and prior to proceeding with affected work. No claims for additional compensation or time extensions shall be permitted due to inaccuracies, omissions, or limitations in the available record plans or existing condition information that could have been identified through reasonable field investigation. Verified site plans shall be submitted to the ENGINEER upon project completion.

##### **1. Bid Item #5: Site Preparation**

- a. The CONTRACTOR shall prepare the pump station site for all new construction. Work shall include all miscellaneous clearing, grubbing, grading, and placement of fill as required to provide a completely accessible pump station site that meets the final grades and layouts shown in the Contract Plans.
- b. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments.
- c. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments. **Survey**

**control and boundary information utilized for design were prepared by Autery Land Surveying, LLC.** The design surveyor's point of contact is **Jamie Autery, (334) 874-8445, jautery@alsurvey.com.** **An existing benchmark was located during the design survey and is shown on the Contract Plans.** The CONTRACTOR remains responsible for verification of all survey control, benchmarks, and construction layout required to complete the Work.

- d. CONTRACTOR shall furnish, install, and maintain all temporary and permanent erosion control measures to meet the requirements of the Contract Documents. Payment for all erosion control shall be subsidiary to this bid item.
  - 1) The CONTRACTOR shall be responsible for all maintenance of temporary erosion and sediment control devices throughout the duration of the project, until final stabilization is accepted by the ENGINEER. After project completion, the CONTRACTOR shall remove all temporary erosion control devices. All removed devices and materials shall become the property of the CONTRACTOR and shall be disposed of in accordance with applicable regulations.
  - 2) CONTRACTOR shall utilize best management practices (BMPs) during all erosion control procedures, whether shown on the drawings or not. CONTRACTOR shall utilize all erosion control practices specified in the contract documents. Erosion control methods shown in the drawings shall be considered the minimum requirement. Any additional erosion control methods not specified in the drawings, but required for the CONTRACTOR's implementation of BMPs, shall be considered incidental to the related bid items and shall be installed at no additional cost to the OWNER.
- e. CONTRACTOR shall furnish and install any required traffic control measures per the contract documents. Payment for traffic control shall be considered incidental to this bid item.

**2. Bid Item #5: Permanent Bypass Connection and Temporary Bypass Pumping**

- a. CONTRACTOR shall furnish all labor, materials, equipment, and services necessary to install a permanent bypass pumping connection to the existing gravity sewer and force main system and to utilize this permanent bypass connection to provide continuous temporary bypass pumping for gravity sewer flows to the lift station wetwell for the duration of the Work. The permanent bypass connection shall remain in place upon project completion for future use by the OWNER.
- b. CONTRACTOR shall be solely responsible for developing, furnishing, and implementing a complete Bypass Pumping Plan and course of action utilizing the permanent bypass connection. The Bypass Pumping Plan shall be submitted to the ENGINEER for review and approval prior to commencement of any construction activities requiring bypass pumping. No work requiring bypass pumping shall begin until the Bypass Pumping Plan has been approved.

- c. The Bypass Pumping Plan shall demonstrate the ability to provide and maintain continuous sanitary sewer service during construction and shall include, at a minimum, proposed pumping equipment and capacities, redundancy, conveyance piping, connection details to the permanent bypass connection, site layout, traffic and pedestrian accommodations, power and fuel supply, emergency response procedures, spill prevention measures, and methods to prevent surcharges, backups, or overflows. The bypass pumping system shall be sized for not less than 150 percent of the existing pump flow listed in the Contract Plans.
- d. Permanent Bypass Connection: Work shall include furnishing and installing a permanent bypass connection from the existing upstream gravity sewer system to the existing 14-inch force main as shown on the Contract Plans. The CONTRACTOR shall utilize the existing upstream 48-inch diameter sewer manhole located northwest of the lift station wetwell as the primary bypass pumping access point and shall construct the permanent bypass connection downstream of the 14-inch force main segment to be removed and replaced, as indicated on the Contract Plans.
- e. Force Main Connection and Investigation: CONTRACTOR shall pothole the existing force main to confirm diameter, material, depth, and exact location prior to ordering materials or performing connection work and shall submit this information to the ENGINEER. The CONTRACTOR shall furnish and install all components required to complete the permanent bypass connection, including but not limited to tees, check valves, gate valves, spool pieces, bends, riser piping, reducers, restraints, concrete kickers, and a 4-inch camlock quick-connect fitting suitable for bypass pumping operations.
- f. Temporary Plugs and Flow Control: CONTRACTOR shall furnish, install, monitor, and remove all temporary plugs, bulkheads, flow control devices, or other appurtenances required in existing gravity sewer lines and manholes to facilitate use of the permanent bypass connection during construction. Temporary plugs shall be designed and installed to safely withstand anticipated flows and surcharge conditions and shall be coordinated with bypass pumping operations to maintain continuous sewer service at all times.
- g. CONTRACTOR shall provide bypass pumping capacity equal to or greater than the existing in-place pump capacity as a minimum. Bypass pumping configurations shown on the Contract Plans are conceptual only; CONTRACTOR shall be fully responsible for the design, means, methods, and implementation of the bypass pumping system using the permanent bypass connection.
- h. Continuous Operation and Monitoring: CONTRACTOR shall maintain continuous bypass pumping operations for the duration of construction activities requiring bypass pumping and shall provide 24-hour monitoring, emergency response capability, and standby pumping equipment to prevent sanitary sewer overflows and service interruptions.

- i. All costs associated with installation of the permanent bypass connection and its use for temporary bypass pumping, including equipment, labor, fuel, permits, setup, operation, monitoring, maintenance, emergency response, and restoration, shall be included in the contract price. No additional payment will be made unless explicitly identified as a separate bid item. CONTRACTOR shall be liable for damages resulting from inadequate bypass pumping operations.
  - j. System Completion and Restoration: Upon completion of lift station improvements and successful startup, CONTRACTOR shall remove all temporary bypass pumping equipment, piping, and hoses. The permanent bypass connection, including valves and quick-connect fittings, shall remain in place as a permanent appurtenance for future OWNER use. All disturbed areas shall be restored to original or better condition.
  - k. All field-verified dimensions, materials, and locations associated with the permanent bypass connection shall be recorded on the CONTRACTOR's plan set and submitted as part of the Record Drawings.
  - l. CONTRACTOR shall be responsible for all permits, notifications, and coordination with local authorities and utility companies required for installation and use of the permanent bypass connection and bypass pumping operations.
  - m. CONTRACTOR is solely responsible for the design, means, methods, and implementation of both the permanent bypass connection and the temporary bypass pumping system necessary to maintain uninterrupted sanitary sewer service to all customers served by the lift station.
3. **Bid Item #5: Investigation of Existing Wetwell Influent Piping**
- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to investigate and document existing influent piping into the wetwell.
  - b. Investigation work includes, but is not limited to, determining and documenting the following:
    - 1) Invert elevations of all influent lines entering the wetwell
    - 2) Invert elevations of all effluent lines exiting the wetwell
    - 3) Pipe diameters of all influent and effluent lines
    - 4) Pipe materials of all influent and effluent lines
    - 5) Pipe conditions and any visible defects or damage

- 6) Any other pertinent information necessary for design and construction purposes
- c. CONTRACTOR shall provide comprehensive documentation of all findings to the ENGINEER prior to commencement of lift station demolition and installation work. Documentation shall include:
  - 1) Documentation denoting all measurements and observations
  - 2) Photographs clearly showing all piping connections, conditions, and relevant details
  - 3) Dimensioned sketches or drawings showing pipe locations, elevations, and configurations
  - 4) Any field notes or observations relevant to the lift station rehabilitation
- d. CONTRACTOR shall coordinate site access and investigation timing with the ENGINEER and lift station operations to minimize disruption to facility operations.
- e. All investigation work shall be performed in a safe manner with proper confined space entry procedures if required, and in accordance with all applicable safety regulations.

#### 4. **Bid Item #5: Demolition**

- a. This bid item is inclusive, but not limited to, all labor and materials for the complete demolition and removal of existing facilities as detailed on the Demolition Plan (Sheet 9). CONTRACTOR shall remove existing fiberglass pump housing, pumps, base plate, discharge elbow, guide rails, floats, lifting chain, piping, valves, appurtenances, fencing, wetwell concrete top, control panel, underground electric, miscellaneous materials not designated to stay, etc.
- b. **Force Main and Gravity Sewer Connections:** Existing force mains and gravity sewer lines shown to remain shall be protected during demolition. Where existing piping is removed, abandoned, or reconnected, work shall be coordinated with bypass pumping operations. All abandoned piping shall be properly capped or plugged as directed by the Engineer.
- c. **Wet Well Abandonment:** Upon removal of mechanical and electrical components, the existing wet well shall be modified as shown on the plans.
- d. **Electrical and Controls:** Electrical service shall be disconnected and secured prior to demolition. All electrical demolition shall be coordinated with the utility provider. Overhead and underground electrical facilities shown to remain shall be protected from damage.

- e. **Fencing and Appurtenances:** Existing fencing and gates designated for reuse shall be carefully removed, stored, and reinstalled upon completion of demolition and site restoration. Fencing not designated to remain shall be removed and disposed of.
- f. **Temporary Easements and Access:** The Contractor shall confine all demolition, bypass pumping, and restoration activities to the limits of the temporary construction easement shown on the plans. Access roads and staging areas shall be restored upon completion of the work.
- g. **Site Restoration:** Following demolition, the site shall be restored to existing or better condition. Restoration shall include grading, placement of topsoil, seeding, stone surfacing, or other treatments shown on the plans or directed by the Engineer. All disturbed areas outside permanent improvements shall be restored.
- h. **Environmental Protection:** The Contractor shall take all necessary precautions to prevent release of wastewater, fuel, oils, or debris to the surrounding area. Any contamination or environmental damage resulting from demolition activities shall be immediately mitigated at no additional cost to the Owner.
- i. **Coordination and Verification:** The Contractor shall verify all existing conditions, pipe sizes, invert elevations, materials, and utility locations prior to demolition. Discrepancies between field conditions and the plans shall be reported to the Engineer before proceeding.

5. **Bid Item #5: Demolition of the Existing Generator**

- a. This bid item shall cover the complete and lawful decommissioning, demolition, removal, and subsequent transportation and delivery of the existing generator and its associated transfer switch to the OWNER's designated facility or for disposal if OWNER so chooses. The work under this lump sum item shall include, but is not limited to, the following tasks and responsibilities:
- b. **Decommissioning and Disconnection:** The CONTRACTOR shall safely perform all electrical and mechanical disconnections. This includes, but is not limited to, disconnecting all power, control, and communication wiring connected to both the generator and the existing transfer switch; disconnecting and removing any associated exhaust piping and mufflers from the generator unit; and fully removing all conduit and wiring back to its source panel or junction box.
- c. The CONTRACTOR shall furnish all labor, materials, and equipment necessary to safely lift and remove the generator unit from the existing concrete pad. The equipment shall be carefully loaded and transported to the OWNER's designated facility. All costs for handling, loading, transportation, and delivery to the OWNER's facility or disposal location are subsidiary to this bid item.
- d. This bid item includes the complete demolition and removal of the existing concrete generator pad and any separate mounting hardware or foundations

associated with the ATS. The concrete shall be saw-cut, broken up, and removed from the site along with all reinforcing steel. Following removal, the area shall be graded to a clean, level, and stable condition. The site shall be left clean and free of all demolition debris, stains, and materials.

6. **Bid Item #5: Inspection and Cleaning of the Existing Wetwells**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete inspection and cleaning of the existing concrete wetwells.
- b. CONTRACTOR shall vacuum and remove all accumulated solids and debris from the existing wetwells and haul to approved waste facility. Thoroughly clean all interior surfaces using high-pressure water washing or wet abrasive sand blasting at a minimum of 5,000 psi to remove all dust, biological growths, grease, oil, loose concrete, and other surface contaminants.
- c. Following cleaning operations, CONTRACTOR shall inspect all cleaned surfaces for damage, deterioration, structural defects, cracks, voids, irregularities, and active hydrostatic infiltration leaks. CONTRACTOR shall submit a written inspection report of findings to the ENGINEER.
- d. ENGINEER and OWNER shall witness and document inspection to make determination of need or extent of wetwells rehabilitation needed.
- e. All work shall be performed in accordance with the project specifications and applicable safety regulations including proper confined space entry procedures.

7. **Bid Item #5: Coating of the Existing Wetwells**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete structural and corrosion-protection rehabilitation coating of the existing concrete wetwells. The work shall result in a continuous, monolithic, and impermeable lining system suitable for sewer system service.
- b. Surface Preparation: The CONTRACTOR shall be responsible for thoroughly cleaning and preparing all interior wetwell surfaces prior to coating application.
  - 1) All active hydrostatic infiltration leaks must be plugged and sealed with a compatible, rapid-setting hydraulic cement or injection grout.
  - 2) All cracks, voids, and irregularities shall be repaired and filled with suitable non-shrinking cements to create a smooth, sound substrate suitable for lining.
- c. **Liner Application:** The CONTRACTOR shall furnish and install a two-part lining system consisting of a structural cementitious liner followed by a protective epoxy topcoat.

- 1) **Cementitious Liner:** A spray-applied, monolithic, cementitious liner shall be installed on the benches and walls of the wetwells. The liner shall be troweled smooth to a minimum total thickness of 1 inch. The installed liner shall achieve a minimum compressive strength of 6,000 psi and a minimum bond strength of 130 psi.
  - 2) **Epoxy Coating:** Following the application and initial cure of the cementitious liner, the CONTRACTOR shall apply a 100% solids, solvent-less, high-build epoxy coating system to provide corrosion protection.
- d. All work shall be performed in accordance with the project specifications and manufacturer's installation guidelines.
8. **Bid Item #5: Structural Modifications to the Existing Wetwells**
- a. The CONTRACTOR shall furnish and install new cast-in-place reinforced concrete top slab closures of openings, penetrations, etc. as shown in contract plans to prevent unimpeded access into the existing wetwells. Work includes all reinforcing steel, concrete, forming, and finishing required to meet the details shown in the plans.
  - b. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60.
    - 1) The new top slab closures of the lift station shall withstand a minimum pressure loading of 100 psf.
  - c. The CONTRACTOR shall furnish and install new aluminum access hatches, a new screened vent pipe, etc. as directed in Contract Documents.
    - 1) CONTRACTOR shall construct a reinforced concrete curb and install a load-rated aluminum access hatch over the wetwell stairwell as detailed in the Contract Plans. Work includes mechanically roughening the existing slab and installing epoxy-anchored #4 dowels at 12" O.C. to ensure a monolithic bond between the new 4,000 PSI curb and the existing structure. The hatch frame must be leveled and securely embedded into the curb to provide a watertight seal and proper drainage away from the opening.
  - d. The bottom of the wetwell shall be grouted as required to form a new, smooth invert channel and/or pump pedestal.

9. **Bid Item #5: New Submersible Alternating Triplex Pumps**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to furnish and install complete and operable Gorman Rupp Explosion Proof Submersible Pump System and associated equipment; to include, but not limited to, (2) Gorman Rupp SF6B-X

Explosion Proof Submersible Pumps sized for 2000 GPM at 48.5' TDH with 75HP 460/3/60 1750RPM Inverter-Duty rated motors, air filled, premium efficient, seal monitor in seal and motor chambers, one thermostat per phase, 6" discharge connections, 2 Vane GR Ductile Iron Impellers, ductile iron wear rings, Silicon Carbide/Silicon Carbide lower seals, 50' cables; (1) Gorman Rupp SF8B-X Explosion Proof Submersible Pump sized for 2411 GPM at 70' TDH with 75HP 460/3/60 1750RPM Inverter-Duty rated motor, air filled, premium efficient, seal monitor in seal and motor chambers, one thermostat per phase, 8" discharge connection, 2 Vane GR Ductile Iron Impeller, ductile iron wear ring, Silicon Carbide/Silicon Carbide lower seal, 50' cables; (2) Baseplate kits with base elbows 6"x6", non-sparking guide shoes, 50' SS lifting cables, intermediate guide rail brackets, 6"x8" increasers; (1) Baseplate kit with base elbow 8"x8", non-sparking guide shoe, 50' SS lifting cable, intermediate guide rail brackets, 8"x10" increaser; guide rail pipes, lifting chains, upper guide brackets, intermediate guide brackets, pump hoist, and all appurtenances required to provide a fully functional submersible pumping system.

- 1) All mechanical equipment installed within the existing wetwell shall be subsidiary to this bid item. All electrical, level monitoring equipment, control panel, etc. shall be subsidiary to the electrical improvements bid item.
- b. CONTRACTOR is responsible for verifying the hoist systems shall be sized to accommodate the weight of the heaviest pump assembly and break force required to remove it and shall have sufficient reach and clearance to service all pump locations within the wetwell. CONTRACTOR shall verify all dimensions, weight requirements, arm length, etc., prior to procuring materials or submitting shop drawings to the ENGINEER. All dimensions shall be included in the submittal drawings.
  - c. CONTRACTOR shall furnish and install a submersible level transmitter in a 6" diameter PVC pipe with pipe supports anchored to wetwell wall.
    - 1) Contractor shall route level transmitter to control panel and SCADA.
  - d. All station piping and discharge piping to be Class 350 Ductile Iron (D.I.). Piping external to the station must be independently supported.
  - e. Series 316 Stainless Steel shall be used in the wetwell and valve box for flange, bolts, brackets, and other hardware. Control panel structure shall be 304 Stainless Steel hardware.
  - f. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60. All pipe penetrations to be sealed with a link seal modular seal, a cost in kor-n-seal flexible pipe connector, or approved equal.

- 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- g. PVC depth transmitter well and pressure transducer is to be installed at the wetwell as a secondary depth indicator. Backup level floats will be the primary depth indicator.
- h. All equipment to be installed in accordance with manufacturers' recommendations or the distance between discharge piping, whichever is greater.
- 1) Manufacturer shall verify no detrimental influence by either adjacent pump when both pumps are operating.
- i. In accordance with generally accepted construction practices, CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- 1) CONTRACTOR shall provide a complete and operating lift station.
  - 2) All work, equipment, and materials shall comply with the contract specifications.
  - 3) Prior to performing any work, ordering materials, etc., CONTRACTOR to provide the depth, diameter, and material of the piping to the ENGINEER via a submittal and to record on the CONTRACTOR plan set to be turned into The Kelley Group as part of the record plan submittal.
  - 4) CONTRACTOR to field locate existing force mains and sewer mains and obtain elevations prior to commencement of construction. CONTRACTOR to notify ENGINEER of any discrepancies found

**10. Bid Item #5: Connecting to Existing Force Main**

- a. The CONTRACTOR shall furnish all labor, materials, equipment, and services necessary to construct new force main piping systems connecting the new packaged lift station pumps to the new valve vault and from the valve vault to the existing 14-inch force main, as shown on the Contract Drawings and specified herein. Work shall include all piping, fittings, restraints, supports, clean out, and appurtenances required to provide a complete and operational discharge system.

- b. Work shall include construction of new discharge force mains from the pump discharge connections to the valve vault and construction of new force main piping from the valve vault to the designated tie-in location along the existing 14-inch force main. Valves, fittings, couplings, etc. within the valve vault is to be included in Bid Item #5: New Valve Vault. New piping shall include, as required, spool pieces, mechanical joint fittings, reducers, increasers, cleanouts, bends, thrust blocks, concrete kickers, and restrained joints necessary to accommodate layout, alignment, and hydraulic requirements.
- c. The CONTRACTOR shall field verify the location, size, material, depth, and condition of the existing 14-inch force main prior to ordering materials or performing tie-in work. The CONTRACTOR shall construct sufficient lengths of new force main piping on both sides of the valve vault to allow proper installation, testing, restraint, and connection to the existing force main without interference or congestion.
- d. All piping, fittings, and appurtenances shall be installed in accordance with the manufacturer's recommendations, applicable codes and standards, and the Contract Documents. The CONTRACTOR shall ensure proper alignment, support, and restraint of all force main piping to prevent undue stress on pumps, valves, vault structures, and existing infrastructure.
- e. CONTRACTOR shall coordinate tie-in to the existing 14-inch force main with the OWNER and following investigation of existing force main layouts to minimize system downtime and disruption.
- f. All new force main piping and fittings shall be pressure tested and disinfected, if required, in accordance with the Contract Specifications prior to being placed into service. The CONTRACTOR shall verify proper operation of all valves and connections and notify the ENGINEER upon completion.
- g. All labor, materials, equipment, fittings, and incidental work necessary to provide a complete, tested, and fully operational force main system from the new pumps, to and from the valve vault, and to the existing 14-inch force main shall be included under this bid item, whether or not each component is individually shown in the Contract Documents.

#### **11. Bid Item #5: New Valve Vault**

- a. The CONTRACTOR shall construct a new valve vault of sufficient length, width, and depth to house the gate valves, check valves, pressure transmitters, Victaulic couplings, spool pieces, fittings, restraints, and all other appurtenances without interference with the vault walls, floor, or the operation of the double-leaf hatch lid. Prior to procuring materials, the CONTRACTOR shall verify the laying lengths of all proposed materials against approved shop drawings and shall submit to the ENGINEER a dimensioned layout drawing demonstrating that all proposed equipment and appurtenances will fit within the vault. The

CONTRACTOR shall adjust the size of the vault as necessary to appropriately house all equipment and to provide adequate access for operation and maintenance.

- 1) The valve vault shall be furnished and installed complete with, but not limited to, a locking double-leaf aluminum hatch, manhole steps, pipe supports or stands, Victaulic couplings or approved equal, rubber boot seals or watertight boot joints for all pipe penetrations, wall pipes, piping restraints, concrete kickers, and a vault drain consisting of a drain opening with a minimum 3-inch PVC drain line discharging to a buried infiltration gravel bed consisting of one (1) cubic yard of No. 57 stone, unless otherwise directed by the ENGINEER.
- 2) This bid item shall be inclusive of all labor, materials, equipment, excavation, stone bedding, backfill, grading, and ancillary work necessary to construct the valve vault and connect it to the proposed force mains downstream of the proposed vault to be tied into the existing 14" force main, as indicated on the Contract Plans. Work shall include, but not be limited to, excavation for the concrete vault, stone bedding, installation of the concrete vault structure, vault penetrations, coring and installation of watertight boot joints, associated fittings, retainer glands, transition gaskets, piping restraints, and concrete kickers required to make a complete and functional installation.
- 3) The CONTRACTOR shall pothole and field-verify the existing force main to confirm pipe diameter, material, depth, and exact location prior to ordering materials or performing connection work. The exact point of connection and force main sizing shall be field determined by the CONTRACTOR and submitted to the ENGINEER for review. Any adjustments required due to field conditions shall be made by the CONTRACTOR to ensure proper fit and function of the valve vault installation. Connection locations shown on the Contract Plans are shown for reference only.
- 4) The work under this bid item shall include all incidental and ancillary materials, equipment, and services required to provide a complete, operational valve vault installation, including but not limited to excavation support, dewatering, temporary shoring, protection of existing utilities, restoration of disturbed areas, and coordination with other trades as required to complete the work in accordance with the Contract Documents.

## 12. Bid Item #5: Electrical Improvements

- a. CONTRACTOR shall remove overhead electrical and underground electrical per electrical Contract Documents.
  - 1) CONTRACTOR to install new electrical pole, reattaching previous OHE connections, within PS site and reconnect new UGE from pole to new control panel and lift station per electrical Contract Documents. Pull new wire as required to make connections.

- b. This bid item shall include furnishing and installing a new, complete, and fully functional electrical and control system as shown or described in the electrical Contract Documents.
- c. Work includes, but is not limited to, a new pump control panel with main disconnect, RVSS, panel cooling, a wetwell junction box, pump feeders, terminal boxes, and all required conduit and wiring.
- d. CONTRACTOR shall provide start up services to ensure proper operation of the equipment, including warranty start up by pump supplier, prior to notifying ENGINEER of completion. ENGINEER shall then observe all equipment operation and verify function prior to payment for this bid item.
- e. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

### 13. Bid Item #5: SCADA Installation

- a. The OWNER will furnish an existing SCADA enclosure containing the PLC/RTU and associated control hardware. The CONTRACTOR shall furnish and install one (1) Pepwave MAX BR1 cellular modem compatible with the OWNER's SCADA system and shall install and integrate the OWNER-furnished SCADA enclosure at the lift station in accordance with the Contract Electrical Plans and Specifications.
- b. The CONTRACTOR shall perform all physical installation associated with the SCADA system, including mounting of the SCADA enclosure, installation of conduit, and complete wiring, termination, grounding, and labeling of all SCADA-related power, control, and signal conductors.
- c. Work shall include full interconnection of the SCADA system with pump control panels, level sensing equipment, alarms, status signals, and all field instruments such that all signals are fully wired, terminated, identified, and ready for OWNER programming and system integration.
- d. The CONTRACTOR shall clearly label all wiring, terminations, and devices and shall provide documentation sufficient for the OWNER to perform PLC programming, communications configuration, and SCADA system integration.
- e. All PLC programming, SCADA software configuration, communications logic, graphics development, alarm setpoints, trending, and data logging within VT SCADA shall be performed exclusively by the OWNER. The CONTRACTOR shall have no responsibility for SCADA programming, software configuration, or system performance.

- f. The CONTRACTOR shall coordinate installation activities with the OWNER, ENGINEER, and electrical subcontractor as required to support system integration and commissioning.
- g. Work shall include field verification of wiring, terminations, and signal continuity, and participation in startup and commissioning activities for the purpose of confirming proper installation only. Acceptance of the CONTRACTOR's work shall be based on verification of correct installation and continuity of wiring and connections and shall not be contingent upon successful SCADA programming, communications performance, or system operation.
- h. The CONTRACTOR shall provide as-built documentation reflecting installed SCADA hardware, wiring, and terminations prior to acceptance.
- i. All labor, materials, equipment, coordination, and incidental work necessary to furnish the specified cellular modem and to install, wire, label, and deliver the SCADA system ready for OWNER programming and integration shall be included under this bid item.
- j. Payment for this bid item shall be lump sum and shall constitute full compensation for furnishing and installing a complete, wired, labeled, and verified SCADA installation ready for OWNER programming and integration.

#### 14. **Bid Item #5: Chain Link Fence**

- a. CONTRACTOR shall furnish and install chain link fencing, swing gates, and related appurtenances as required to provide a fully functional and secured lift station site upon completion of the Work.
- b. CONTRACTOR shall remove the existing chain link fence, including barbed wire top strands, gates, posts, and accessories, as required to facilitate construction. Fence sections, gates, posts, and appurtenances that are determined by the ENGINEER to be in good and reusable condition shall be carefully removed, protected from damage, and stored on-site or at an approved location for reuse and reinstallation upon completion of lift station rehabilitation. Any fencing materials not suitable for reuse shall be properly disposed of by the CONTRACTOR.
- c. Upon completion of construction, the CONTRACTOR shall reinstall salvaged fencing materials where applicable and shall furnish and install new chain link perimeter fencing, barbed wire top strands, and a double 10-foot swinging gate with cane bolt(s), as required to fully secure the lift station(s) site. CONTRACTOR shall obtain padlock from the OWNER.
- d. The total linear footage of the fence and gates are approximately 210 feet. The CONTRACTOR shall field verify all fence lengths, gate locations, and site conditions prior to installation.

- e. CONTRACTOR shall furnish and install ‘no trespassing/no tampering’ signs and install on each fence run and at each gate.
- f. The CONTRACTOR shall furnish and install a lift station name sign on one swing gate in a location clearly visible from the adjacent access area.

**15. Bid Item #5: Crushed Stone for Site**

- a. CONTRACTOR shall furnish and install crushed stone throughout the site and extending 2 feet past installed chain link fence
- b. CONTRACTOR shall furnish and install approximately 347 square yards of 6” thick ALDOT #57 stone overlaid on Mirafi 160N geotextile fabric (or equal).

**16. Bid Item #5: Portable Power Drive Assembly**

- a. CONTRACTOR shall furnish and deliver to the OWNER one (1) heavy-duty, cordless portable power drive assembly for the operation of pump hoists. This assembly shall consist of a Milwaukee M18 FUEL™ High Torque Impact Wrench (Model 2967-20 or latest equivalent) capable of a minimum 1,400 ft-lbs of nut-busting torque. The kit must include two (2) M18™ REDLITHIUM™ FORGE™ HD12.0 High Output batteries, one (1) dual-bay rapid charger, and a protective carrying case. CONTRACTOR is responsible for providing the specific impact-rated socket or drive adapter required to interface the tool with the winch drive nut on the provided pump hoists.

**F. Bid Item #6: LS #6 at 320 Craig Industrial Park Lift Station**

**The lift station site shall be available to all bidding contractors for obtaining measurements, photos, etc. as necessary. Site visits can be scheduled by contacting The Kelley Group at (256) 248-7030, or by emailing [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com) a minimum of 48 hours prior to the anticipated site visit.**

The OWNER seeks to install a new lift station on a parcel along Randolph Drive. The proposed lift station will serve to collect and convey wastewater from the surrounding service area to the existing sanitary sewer system.

Existing features and utilities shown on the Contract Plans are based on limited site investigations, available imagery, LiDAR data, and an available record plan set prepared by Goodwyn, Mills, and Cawood in 2018 for a prior rehabilitation of the lift station. The 2018 record plans were used for reference only; however, the accuracy and completeness of this information could not be fully verified during design, and certain influent and effluent piping locations, pipe characteristics, valve configurations, and invert elevations may differ from actual field conditions. The CONTRACTOR shall assume responsibility for field-verifying all existing conditions and dimensions, including influent and effluent piping locations, diameters, materials, valve configurations, and invert elevations, and shall

make all necessary accommodations during bypass pumping operations to investigate, expose, and confirm existing conditions as required to complete the Work. All field-verified information shall be documented and provided to the ENGINEER as it is obtained and incorporated into required submittals and the CONTRACTOR's site plans. Any conflicts or discrepancies between the Contract Plans, Specifications, and field-verified conditions shall be reported to the ENGINEER immediately upon discovery and prior to proceeding with affected work. No claims for additional compensation or time extensions shall be permitted due to inaccuracies, omissions, or limitations in the available record plans or existing condition information that could have been identified through reasonable field investigation. Verified site plans shall be submitted to the ENGINEER upon project completion.

#### 1. **Bid Item #6: Site Preparation**

- a. The CONTRACTOR shall prepare the pump station site for all new construction. Work shall include all miscellaneous clearing, grubbing, grading, and placement of fill as required to provide a completely accessible pump station site that meets the final grades and layouts shown in the Contract Plans.
- b. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments.
- c. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments. **Survey control and boundary information utilized for design were prepared by Autery Land Surveying, LLC. The design surveyor's point of contact is Jamie Autery, (334) 874-8445, jautery@alsurvey.com. An existing benchmark was located during the design survey and is shown on the Contract Plans.** The CONTRACTOR remains responsible for verification of all survey control, benchmarks, and construction layout required to complete the Work.
- d. CONTRACTOR shall furnish, install, and maintain all temporary and permanent erosion control measures to meet the requirements of the Contract Documents. Payment for all erosion control shall be subsidiary to this bid item.
  - 1) The CONTRACTOR shall be responsible for all maintenance of temporary erosion and sediment control devices throughout the duration of the project, until final stabilization is accepted by the ENGINEER. After project completion, the CONTRACTOR shall remove all temporary erosion control devices. All removed devices and materials shall become the property of the CONTRACTOR and shall be disposed of in accordance with applicable regulations.
  - 2) CONTRACTOR shall utilize best management practices (BMPs) during all erosion control procedures, whether shown on the drawings or not. CONTRACTOR shall utilize all erosion control practices specified in the contract documents. Erosion control methods shown in the drawings shall be

considered the minimum requirement. Any additional erosion control methods not specified in the drawings, but required for the CONTRACTOR's implementation of BMPs, shall be considered incidental to the related bid items and shall be installed at no additional cost to the OWNER.

- e. CONTRACTOR shall furnish and install any required traffic control measures per the contract documents. Payment for traffic control shall be considered incidental to this bid item.

## 2. Bid Item #6: Temporary Bypass Pumping

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to provide temporary bypass pumping of, assumed, three gravity sewer lines flowing to the lift station wetwell for the duration of the Work. CONTRACTOR shall be solely responsible for developing, furnishing, and implementing a complete bypass pumping plan and course of action. The bypass pumping plan shall be submitted to the ENGINEER for review and approval prior to commencement of any construction activities requiring bypass pumping. No work requiring bypass pumping shall begin until the bypass pumping plan has been approved.
  - 1) The CONTRACTOR shall prepare, submit, and implement a Bypass Pumping Plan showing the ability to provide and maintain continuous service during construction.
  - 2) The plan shall include, but not be limited to, proposed pumping equipment pump capacities, redundancy, conveyance piping, connection details, site layout, traffic & pedestrian accommodations, power supply, fuel supply, emergency response procedures, spill prevention measures, and methods to prevent surcharges, backups, or overflows.
  - 3) The bypass pumping plan shall be submitted to the ENGINEER for review and acceptance prior to commencement of bypass pumping operations. The plan shall be for at least 150% of the existing pump flow listed in the plans.
  - 4) All costs associated with bypass pumping, including equipment, labor, fuel, permits, setup, operation, monitoring, maintenance, emergency response, and removal, shall be included in the contract price. No additional payment will be made for bypass pumping unless explicitly identified as a separate bid item. The CONTRACTOR will be liable for any damages caused by the inadequacy of the bypass pumping plan. The CONTRACTOR shall maintain flow monitoring and provide daily logging of flow.
- b. CONTRACTOR shall provide bypass pumping capacity equal to or greater than existing in-place pump specs as minimum requirements. Bypass pumping schemes shown on plans are suggestions to the Contractor. CONTRACTOR shall be

responsible for the means and methods of bypass pumping to ensure continuous sanitary sewer service throughout construction operations.

c. **Bypass Pumping Configuration:** Work includes, but is not limited to, the following bypass pumping sequence:

1) **Southern Most Manhole to Force Main Connection:** CONTRACTOR shall install and operate bypass pumping equipment from Eastern Manhole to a quick coupling to be installed by the CONTRACTOR on the existing 4" force main to discharge flows into the collection system.

d. **Force Main Connection and Investigation:**

1) CONTRACTOR shall pothole existing force main to confirm diameter, material, depth, and exact location prior to ordering materials or performing connection work.

2) CONTRACTOR shall inform ENGINEER of force main size, material, depth, and condition via submittal immediately upon completion of potholing investigation.

3) CONTRACTOR shall furnish and install 4" tapping sleeve and valve, spool, 90 degree bend, riser pipe, and quick connect fitting on existing force main to accommodate bypass pump discharge connection. Should field conditions reveal force main diameter different than 4", CONTRACTOR shall provide appropriately sized tapping sleeve and valve to match existing conditions and submit revised information to ENGINEER for approval.

4) CONTRACTOR shall connect bypass pump discharge to divert flow from three influent sewer lines of lift station into existing 8" force main.

e. **Temporary Plugs and Flow Control:**

1) The CONTRACTOR shall furnish, install, monitor, and remove all temporary plugs, bulkheads, flow control devices, or other appurtenances required in existing gravity sewer lines and manholes to facilitate bypass pumping, investigation, demolition, and construction activities. Temporary plugs shall be designed and installed to safely withstand anticipated upstream flows and surcharge conditions and shall be installed and removed in a controlled manner to prevent backups, surcharging, sanitary sewer overflows, or uncontrolled release of wastewater. The CONTRACTOR shall coordinate plug installation and removal with bypass pumping operations to maintain continuous sewer service at all times. All costs associated with temporary plugs and flow control measures shall be included in the bid item price for Temporary Bypass Pumping.

**f. Field Verification Requirements:**

- 1) CONTRACTOR shall field verify location and size of force main prior to performing any work or ordering materials.
- 2) Prior to performing any work, ordering materials, etc., CONTRACTOR shall provide the depth, diameter, and material of all piping to the ENGINEER via submittal.
- 3) All field-verified dimensions, materials, and locations shall be recorded on the CONTRACTOR plan set to be turned into The Kelley Group as part of the Record Plan submittal upon project completion.

**g. Continuous Operation and Monitoring:**

- 1) CONTRACTOR shall maintain continuous bypass pumping operations throughout the duration of construction to prevent sanitary sewer overflows and ensure uninterrupted service.
- 2) CONTRACTOR shall provide 24-hour monitoring and emergency response capability for all bypass pumping operations.
- 3) CONTRACTOR shall provide backup pumping equipment on-site or immediately available in the event of equipment failure.

**h. System Removal and Restoration:**

- 1) Upon completion of lift station installation and successful startup, CONTRACTOR shall remove all temporary bypass pumping equipment, piping, hoses, and related materials from the site.
- 2) CONTRACTOR shall properly abandon or remove tapping sleeve and bypass valve connections in accordance with local regulations and ENGINEER approval, or leave in place as permanent appurtenances if directed by ENGINEER.
- 3) All disturbed areas shall be restored to original or better condition.

i. CONTRACTOR is responsible for all permits, notifications, and coordination with local authorities and utility companies as necessary for bypass pumping operations and force main connections.

j. More materials, equipment, or services incidental to this bid item may be required for provision and installation by the CONTRACTOR for a complete and continuous bypass pumping operation and shall be incidental to existing items in the bid form.

- k. CONTRACTOR is solely responsible for the design, means, methods, and implementation of the bypass system, including all pumps, piping, power, and fuel required to maintain uninterrupted sanitary sewer service to all customers served by the pump station, as noted on the plans.

3. **Bid Item #6: Investigation of Existing Wetwell Influent Piping**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to investigate and document existing influent piping into the wetwell.
- b. Investigation work includes, but is not limited to, determining and documenting the following:
  - 1) Invert elevations of all influent lines entering the wetwell
  - 2) Invert elevations of all effluent lines exiting the wetwell
  - 3) Pipe diameters of all influent and effluent lines
  - 4) Pipe materials of all influent and effluent lines
  - 5) Pipe conditions and any visible defects or damage
  - 6) Any other pertinent information necessary for design and construction purposes
- c. CONTRACTOR shall provide comprehensive documentation of all findings to the ENGINEER prior to commencement of lift station demolition and installation work. Documentation shall include:
  - 1) Documentation denoting all measurements and observations
  - 2) Photographs clearly showing all piping connections, conditions, and relevant details
  - 3) Dimensioned sketches or drawings showing pipe locations, elevations, and configurations
  - 4) Any field notes or observations relevant to the lift station rehabilitation
- d. CONTRACTOR shall coordinate site access and investigation timing with the ENGINEER and lift station operations to minimize disruption to facility operations.
- e. All investigation work shall be performed in a safe manner with proper confined space entry procedures if required, and in accordance with all applicable safety regulations.

#### 4. Bid Item #6: Demolition

- a. This bid item is inclusive, but not limited to, all labor and materials for the complete demolition and removal of existing facilities as detailed on the Demolition Plan (Sheet 14). CONTRACTOR shall remove existing fiberglass pump housing, pumps, base plate, discharge elbow, guide rails, floats, lifting chain, piping, valves, appurtenances, fencing, wetwell concrete top, control panel, underground electric, miscellaneous materials not designated to stay, etc.
- b. **Force Main and Gravity Sewer Connections:** Existing force mains and gravity sewer lines shown to remain shall be protected during demolition. Where existing piping is removed, abandoned, or reconnected, work shall be coordinated with bypass pumping operations. All abandoned piping shall be properly capped or plugged as directed by the Engineer.
- c. **Wet Well Abandonment:** Upon removal of mechanical and electrical components, the existing wet well shall be modified as shown on the plans.
- d. **Electrical and Controls:** Electrical service shall be disconnected and secured prior to demolition. All electrical demolition shall be coordinated with the utility provider. Overhead and underground electrical facilities shown to remain shall be protected from damage.
- e. **Fencing and Appurtenances:** Existing fencing and gates designated for reuse shall be carefully removed, stored, and reinstalled upon completion of demolition and site restoration. Fencing not designated to remain shall be removed and disposed of.
- f. **Temporary Easements and Access:** The Contractor shall confine all demolition, bypass pumping, and restoration activities to the limits of the temporary construction easement shown on the plans. Access roads and staging areas shall be restored upon completion of the work.
- g. **Site Restoration:** Following demolition, the site shall be restored to existing or better condition. Restoration shall include grading, placement of topsoil, seeding, stone surfacing, or other treatments shown on the plans or directed by the Engineer. All disturbed areas outside permanent improvements shall be restored.
- h. **Environmental Protection:** The Contractor shall take all necessary precautions to prevent release of wastewater, fuel, oils, or debris to the surrounding area. Any contamination or environmental damage resulting from demolition activities shall be immediately mitigated at no additional cost to the Owner.
- i. **Coordination and Verification:** The Contractor shall verify all existing conditions, pipe sizes, invert elevations, materials, and utility locations prior to demolition. Discrepancies between field conditions and the plans shall be reported to the Engineer before proceeding.

5. **Bid Item #6: Inspection and Cleaning of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete inspection and cleaning of the existing 6.0' diameter concrete wetwell.
- b. CONTRACTOR shall vacuum and remove all accumulated solids and debris from the existing wetwell and haul to approved waste facility. Thoroughly clean all interior surfaces using high-pressure water washing or wet abrasive sand blasting at a minimum of 5,000 psi to remove all dust, biological growths, grease, oil, loose concrete, and other surface contaminants.
- c. Following cleaning operations, CONTRACTOR shall inspect all cleaned surfaces for damage, deterioration, structural defects, cracks, voids, irregularities, and active hydrostatic infiltration leaks. CONTRACTOR shall submit a written inspection report of findings to the ENGINEER.
- d. ENGINEER and OWNER shall witness and document inspection to make determination of need or extent of wetwell rehabilitation needed.
- e. All work shall be performed in accordance with the project specifications and applicable safety regulations including proper confined space entry procedures.

6. **Bid Item #6: Coating of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete structural and corrosion-protection rehabilitation coating of the existing 8.0' diameter concrete wetwell. The work shall result in a continuous, monolithic, and impermeable lining system suitable for sewer system service.
- b. **Surface Preparation:** The CONTRACTOR shall be responsible for thoroughly cleaning and preparing all interior wetwell surfaces prior to coating application.
  - 1) All active hydrostatic infiltration leaks must be plugged and sealed with a compatible, rapid-setting hydraulic cement or injection grout.
  - 2) All cracks, voids, and irregularities shall be repaired and filled with suitable non-shrinking cements to create a smooth, sound substrate suitable for lining.
- c. **Liner Application:** The CONTRACTOR shall furnish and install a two-part lining system consisting of a structural cementitious liner followed by a protective epoxy topcoat.
  - 1) **Cementitious Liner:** A spray-applied, monolithic, cementitious liner shall be installed on the benches and walls of the wetwell. The liner shall be troweled smooth to a minimum total thickness of 1 inch. The installed liner shall achieve a minimum compressive strength of 6,000 psi and a minimum bond strength of 130 psi.

2) **Epoxy Coating:** Following the application and initial cure of the cementitious liner, the CONTRACTOR shall apply a 100% solids, solvent-less, high-build epoxy coating system to provide corrosion protection.

d. All work shall be performed in accordance with the project specifications and manufacturer's installation guidelines.

7. **Bid Item #6: Structural Modifications to the Existing Wetwell**

a. The CONTRACTOR shall furnish and install a new reinforced concrete top slab on the existing wetwell. Work includes all reinforcing steel, concrete, forming, and finishing required to meet the details shown in the plans.

b. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60.

1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.

2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.

c. The CONTRACTOR shall furnish and install a new aluminum access hatch, a new 6" screened vent pipe, and a new bypass pump suction connection.

d. CONTRACTOR shall be responsible for aligning all new pipe penetrations as indicated in the construction drawings to adhere with new package pump station suction lines. All pipe penetrations to be sealed with a link seal modular seal, a cast in kor-n-seal flexible pipe connector, or approved equal. The bottom of the wetwell shall be grouted as required to form a new, smooth invert channel, etc. required for proper self-priming suction to be achieved.

8. **Bid Item #6: Installation of New Prepackaged Self-Primer Lift Station**

a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to furnish and install complete and operable Gorman Rupp AM Prepackaged Lift Station and associated equipment; to include, but not limited to, (2) T4C3SC pumps sized for 300 GPM at 40' TDH with 10HP 460/3/60 TEFC motors, 6x6 Fiberglass Enclosure with 1300/1500 Watt 115V AC space heater, LED alarm light, insulation package, spare parts kit, 4" suction and discharge connections, ARVs with ball valves, gauge kits, 4" discharge bypass connection, drain kit with 10' hose, 6" ductile iron discharge pipe and fittings, discharge elbows, riser piping, etc. required to provide a fully functional pumping system.

- 1) All mechanical equipment installed for the new prepackage lift station shall be subsidiary to this bid item. All electrical, level monitoring equipment, control panel, etc. shall be subsidiary to the electrical improvements bid item.
  - 2) 5-year Complete Station Warranty shall be provided with the new Gorman Rupp AM Prepackage Lift Station.
- b. CONTRACTOR shall furnish and install a submersible level transmitter in a 6" diameter PVC pipe with pipe supports anchored to wetwell wall.
- 1) Contractor shall route level transmitter to control panel and SCADA.
- c. All station piping and discharge piping to be Class 350 Ductile Iron (D.I.). Piping external to the station must be independently supported.
- d. Series 316 Stainless Steel shall be used in the wetwell and valve box for flange, bolts, brackets, and other hardware. Control panel structure shall be NEMA 1 Stainless Steel hardware.
- e. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60. All pipe penetrations to be sealed with a link seal modular seal, a cost in kor-n-seal flexible pipe connector, or approved equal.
- 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- f. PVC depth transmitter well and pressure transducer is to be installed at the wetwell as a secondary depth indicator. Backup level floats will be the primary depth indicator.
- g. All equipment to be installed in accordance with manufacturers recommendations or the distance between discharge piping, whichever is greater.
- 1) Manufacturer shall verify no detrimental influence by either adjacent pump when both pumps are operating.
- h. In accordance with generally accepted construction practices, CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.

- 1) CONTRACTOR shall provide a complete and operating lift station.
- 2) All work, equipment, and materials shall comply with the contract specifications.
- 3) Prior to performing any work, ordering materials, etc., CONTRACTOR to provide the depth, diameter, and material of the piping to the ENGINEER via a submittal and to record on the CONTRACTOR plan set to be turned into The Kelley Group as part of the record plan submittal.
- 4) CONTRACTOR to field locate existing force mains and sewer mains and obtains elevations prior to commencement of construction. CONTRACTOR to notify ENGINEER of any discrepancies found

**9. Bid Item #6: Connecting to Existing Force Main**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to connect the new Gorman Rupp AM Prepackaged Lift Station to the existing force main system; to include, but not limited to, suction piping connections, discharge piping connections, ARV (Air Release Valve) discharge piping, fittings, isolation valves, check valves, pipe supports, thrust restraints, and all appurtenances required to provide a complete and functional connection to the existing infrastructure.
- b. CONTRACTOR is responsible for verifying all existing pipe sizes, materials, elevations, and conditions prior to procuring materials or submitting shop drawings to the ENGINEER. Any discrepancies between existing conditions and contract documents shall be reported to the ENGINEER immediately.
- c. Work includes connecting the new pump station's 4" suction and discharge connections to the existing force main system using appropriate reducers, adapters, and transition fittings as necessary to match existing pipe sizes and materials.
- d. All connections shall be made in accordance with the manufacturer's recommendations and applicable codes and standards. CONTRACTOR shall ensure proper alignment, support, and restraint of all piping to prevent stress on pump connections and existing infrastructure.
- e. CONTRACTOR shall coordinate all tie-ins to the existing force main system with the OWNER to minimize downtime and disruption to the existing system. CONTRACTOR shall provide temporary pumping or bypass pumping as necessary to maintain service during construction.
- f. All piping, fittings, valves, and appurtenances shall be pressure tested in accordance with the specifications prior to placing the system in service. CONTRACTOR shall provide start-up services and verify proper operation of all valves and connections prior to notifying ENGINEER of completion.

- g. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

**10. Bid Item #6: Electrical Improvements**

- a. CONTRACTOR shall remove existing secondary riser pole, overhead electrical, and underground electrical per electrical Contract Documents.
  - 1) CONTRACTOR to install new electrical pole, reattaching previous OHE connections, within PS site and reconnect new UGE from pole to new control panel and lift station per electrical Contract Documents. Pull new wire as required to make connections.
- b. This bid item shall include furnishing and installing a new, complete, and fully functional electrical and control system as shown or described in the electrical Contract Documents.
- c. Work includes, but is not limited to, a new pump control panel with main disconnect, RVSS, panel cooling, a wetwell junction box, pump feeders, terminal boxes, and all required conduit and wiring.
- d. CONTRACTOR shall provide start up services to ensure proper operation of the equipment, including warranty start up by pump supplier, prior to notifying ENGINEER of completion. ENGINEER shall then observe all equipment operation and verify function prior to payment for this bid item.
- e. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

**11. Bid Item #6: SCADA Installation**

- a. The OWNER will furnish an existing SCADA enclosure containing the PLC/RTU and associated control hardware. The CONTRACTOR shall furnish and install one (1) Pepwave MAX BR1 cellular modem compatible with the OWNER's SCADA system and shall install and integrate the OWNER-furnished SCADA enclosure at the lift station in accordance with the Contract Electrical Plans and Specifications.
- b. The CONTRACTOR shall perform all physical installation associated with the SCADA system, including mounting of the SCADA enclosure, installation of conduit, and complete wiring, termination, grounding, and labeling of all SCADA-related power, control, and signal conductors.

- c. Work shall include full interconnection of the SCADA system with pump control panels, level sensing equipment, alarms, status signals, and all field instruments such that all signals are fully wired, terminated, identified, and ready for OWNER programming and system integration.
- d. The CONTRACTOR shall clearly label all wiring, terminations, and devices and shall provide documentation sufficient for the OWNER to perform PLC programming, communications configuration, and SCADA system integration.
- e. All PLC programming, SCADA software configuration, communications logic, graphics development, alarm setpoints, trending, and data logging within VT SCADA shall be performed exclusively by the OWNER. The CONTRACTOR shall have no responsibility for SCADA programming, software configuration, or system performance.
- f. The CONTRACTOR shall coordinate installation activities with the OWNER, ENGINEER, and electrical subcontractor as required to support system integration and commissioning.
- g. Work shall include field verification of wiring, terminations, and signal continuity, and participation in startup and commissioning activities for the purpose of confirming proper installation only. Acceptance of the CONTRACTOR's work shall be based on verification of correct installation and continuity of wiring and connections and shall not be contingent upon successful SCADA programming, communications performance, or system operation.
- h. The CONTRACTOR shall provide as-built documentation reflecting installed SCADA hardware, wiring, and terminations prior to acceptance.
- i. All labor, materials, equipment, coordination, and incidental work necessary to furnish the specified cellular modem and to install, wire, label, and deliver the SCADA system ready for OWNER programming and integration shall be included under this bid item.
- j. Payment for this bid item shall be lump sum and shall constitute full compensation for furnishing and installing a complete, wired, labeled, and verified SCADA installation ready for OWNER programming and integration.

**12. Bid Item #6: Chain Link Fence**

- a. CONTRACTOR shall furnish and install chain link fencing, swing gates, and related appurtenances as required to provide a fully functional and secured lift station site upon completion of the Work.
- b. CONTRACTOR shall remove the existing chain link fence, including barbed wire top strands, gates, posts, and accessories, as required to facilitate construction. Fence sections, gates, posts, and appurtenances that are determined by the

ENGINEER to be in good and reusable condition shall be carefully removed, protected from damage, and stored on-site or at an approved location for reuse and reinstallation upon completion of lift station rehabilitation. Any fencing materials not suitable for reuse shall be properly disposed of by the CONTRACTOR.

- c. Upon completion of construction, the CONTRACTOR shall reinstall salvaged fencing materials where applicable and shall furnish and install new chain link perimeter fencing, barbed wire top strands, and a double 10-foot swinging gate with cane bolt(s), as required to fully secure the lift station site. CONTRACTOR shall obtain padlock from the OWNER.
- d. The total linear footage of the fence and gates are approximately 175 feet. The CONTRACTOR shall field verify all fence lengths, gate locations, and site conditions prior to installation.
- e. CONTRACTOR shall furnish and install 'no trespassing/no tampering' signs and install on each fence run and at each gate.
- f. The CONTRACTOR shall furnish and install a lift station name sign on one swing gate in a location clearly visible from the adjacent access area.

**13. Bid Item #6: Crushed Stone for Site**

- a. CONTRACTOR shall furnish and install crushed stone throughout the site and extending 2 feet past installed chain link fence
- b. CONTRACTOR shall furnish and install approximately 248 square yards of 6" thick ALDOT #57 stone overlaid on Mirafi 160N geotextile fabric (or equal).

**G. Bid Item #7: LS #8 at Highway 80 Lift Station**

**The lift station site shall be available to all bidding contractors for obtaining measurements, photos, etc. as necessary. Site visits can be scheduled by contacting The Kelley Group at (256) 248-7030, or by emailing [jessica@kelleynetwork.com](mailto:jessica@kelleynetwork.com) a minimum of 48 hours prior to the anticipated site visit.**

The OWNER seeks to install a new lift station on a parcel along Highway 80. The proposed lift station will serve to collect and convey wastewater from the surrounding service area to the existing sanitary sewer system.

Existing features and utilities shown on the Contract Plans are based on limited site investigations, available imagery, LiDAR data, and an available record plan set prepared by Goodwyn, Mills, and Cawood in 2008 for a prior rehabilitation of the lift station. The 2008 record plans were used for reference only; however, the accuracy and completeness of this information could not be fully verified during design. A sinkhole previously developed above an abandoned wetwell associated with the 2008 rehabilitation, resulting

in migration of gravel and backfill material into an upstream manhole, the existing in-use wetwell, and the gravity sewer main extending north toward Highway 80. Due to progressive structural instability, infiltration and inflow issues, and damage to the gravity main, the affected gravity main segment and the abandoned wetwell were subsequently removed. At the time of design, the area surrounding the removed gravity main remains excavated, and temporary bypass pumping is required to convey wastewater. The CONTRACTOR shall assume responsibility for field-verifying all existing conditions and dimensions, including influent and effluent piping locations, pipe materials, diameters, invert elevations, and the limits and condition of the existing excavation. The CONTRACTOR shall make all necessary accommodations during bypass pumping operations to investigate, expose, and confirm existing conditions and shall install a new gravity sewer connection between the manhole adjacent to Highway 80 and the existing in-use wetwell as shown on the Contract Plans. The excavated area shall be properly backfilled and stabilized in accordance with the Contract Documents. All field-verified information shall be documented and provided to the ENGINEER as it is obtained and incorporated into required submittals and the CONTRACTOR's site plans. Any conflicts or discrepancies between the Contract Plans, Specifications, and field-verified conditions shall be reported to the ENGINEER immediately upon discovery and prior to proceeding with affected work. No claims for additional compensation or time extensions shall be permitted due to inaccuracies, omissions, or limitations in the available record plans or existing condition information that could have been identified through reasonable field investigation. Verified site plans shall be submitted to the ENGINEER upon project completion.

#### 1. **Bid Item #7: Site Preparation**

- a. The CONTRACTOR shall prepare the pump station site for all new construction. Work shall include all miscellaneous clearing, grubbing, grading, and placement of fill as required to provide a completely accessible pump station site that meets the final grades and layouts shown in the Contract Plans.
- b. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments.
- c. CONTRACTOR shall provide construction staking performed by a licensed surveyor to identify property lines and layout construction alignments. **Survey control and boundary information utilized for design were prepared by Autery Land Surveying, LLC. The design surveyor's point of contact is Jamie Autery, (334) 874-8445, jautery@alsurvey.com. An existing benchmark was located during the design survey and is shown on the Contract Plans.** The CONTRACTOR remains responsible for verification of all survey control, benchmarks, and construction layout required to complete the Work.
- d. CONTRACTOR shall furnish, install, and maintain all temporary and permanent erosion control measures to meet the requirements of the Contract Documents. Payment for all erosion control shall be subsidiary to this bid item.

- 1) The CONTRACTOR shall be responsible for all maintenance of temporary erosion and sediment control devices throughout the duration of the project, until final stabilization is accepted by the ENGINEER. After project completion, the CONTRACTOR shall remove all temporary erosion control devices. All removed devices and materials shall become the property of the CONTRACTOR and shall be disposed of in accordance with applicable regulations.
  - 2) CONTRACTOR shall utilize best management practices (BMPs) during all erosion control procedures, whether shown on the drawings or not. CONTRACTOR shall utilize all erosion control practices specified in the contract documents. Erosion control methods shown in the drawings shall be considered the minimum requirement. Any additional erosion control methods not specified in the drawings, but required for the CONTRACTOR's implementation of BMPs, shall be considered incidental to the related bid items and shall be installed at no additional cost to the OWNER.
- e. CONTRACTOR shall furnish and install any required traffic control measures per the contract documents. Payment for traffic control shall be considered incidental to this bid item.

**2. Bid Item #7: Permanent Bypass Connection and Temporary Bypass Pumping**

- a. CONTRACTOR shall furnish all labor, materials, equipment, and services necessary to install a permanent bypass pumping connection to the existing gravity sewer and force main system and to utilize this permanent bypass connection to provide continuous temporary bypass pumping for gravity sewer flows to the lift station wetwell for the duration of the Work. The permanent bypass connection shall remain in place upon project completion for future use by the OWNER.
- b. CONTRACTOR shall be solely responsible for developing, furnishing, and implementing a complete Bypass Pumping Plan and course of action utilizing the permanent bypass connection. The Bypass Pumping Plan shall be submitted to the ENGINEER for review and approval prior to commencement of any construction activities requiring bypass pumping. No work requiring bypass pumping shall begin until the Bypass Pumping Plan has been approved.
- c. The Bypass Pumping Plan shall demonstrate the ability to provide and maintain continuous sanitary sewer service during construction and shall include, at a minimum, proposed pumping equipment and capacities, redundancy, conveyance piping, connection details to the permanent bypass connection, site layout, traffic and pedestrian accommodations, power and fuel supply, emergency response procedures, spill prevention measures, and methods to prevent surcharges, backups, or overflows. The bypass pumping system shall be sized for not less than 150 percent of the existing pump flow listed in the Contract Plans.

- d. **Bypass Pumping Configuration:** Work includes, but is not limited to, the following bypass pumping sequence:
- 1) **Hwy 80 Manhole to Upstream Manhole:** CONTRACTOR shall install and operate bypass pumping equipment from Hwy 80 Manhole to Upstream Manhole from wetwell to convey flows during construction.
  - 2) **West Manhole to Southern Most Manhole:** CONTRACTOR shall install and operate bypass pumping equipment from Upstream Manhole from Wetwell to new permanent bypass connector installed on existing 10" force main to discharge flows into the collection system.
  - 3) **Southern Most Manhole to Force Main Connection:** CONTRACTOR shall install and operate bypass pumping equipment from Southern Most Manhole to quick coupling installed on existing force main to discharge flows into the collection system.
- e. **Force Main Connection and Investigation:** CONTRACTOR shall pothole the existing force main to confirm diameter, material, depth, and exact location prior to ordering materials or performing connection work and shall submit this information to the ENGINEER. The CONTRACTOR shall furnish and install all components required to complete the permanent bypass connection, including but not limited to tees, check valves, gate valves, spool pieces, bends, riser piping, reducers, restraints, concrete kickers, and a 4-inch camlock quick-connect fitting suitable for bypass pumping operations.
- f. **Temporary Plugs and Flow Control:** CONTRACTOR shall furnish, install, monitor, and remove all temporary plugs, bulkheads, flow control devices, or other appurtenances required in existing gravity sewer lines and manholes to facilitate use of the permanent bypass connection during construction. Temporary plugs shall be designed and installed to safely withstand anticipated flows and surcharge conditions and shall be coordinated with bypass pumping operations to maintain continuous sewer service at all times.
- g. CONTRACTOR shall provide bypass pumping capacity equal to or greater than the existing in-place pump capacity as a minimum. Bypass pumping configurations shown on the Contract Plans are conceptual only; CONTRACTOR shall be fully responsible for the design, means, methods, and implementation of the bypass pumping system using the permanent bypass connection.
- h. **Continuous Operation and Monitoring:** CONTRACTOR shall maintain continuous bypass pumping operations for the duration of construction activities requiring bypass pumping and shall provide 24-hour monitoring, emergency response capability, and standby pumping equipment to prevent sanitary sewer overflows and service interruptions.

- i. All costs associated with installation of the permanent bypass connection and its use for temporary bypass pumping, including equipment, labor, fuel, permits, setup, operation, monitoring, maintenance, emergency response, and restoration, shall be included in the contract price. No additional payment will be made unless explicitly identified as a separate bid item. CONTRACTOR shall be liable for damages resulting from inadequate bypass pumping operations.
  - j. System Completion and Restoration: Upon completion of lift station improvements and successful startup, CONTRACTOR shall remove all temporary bypass pumping equipment, piping, and hoses. The permanent bypass connection, including valves and quick-connect fittings, shall remain in place as a permanent appurtenance for future OWNER use. All disturbed areas shall be restored to original or better condition.
  - k. All field-verified dimensions, materials, and locations associated with the permanent bypass connection shall be recorded on the CONTRACTOR's plan set and submitted as part of the Record Drawings.
  - l. CONTRACTOR shall be responsible for all permits, notifications, and coordination with local authorities and utility companies required for installation and use of the permanent bypass connection and bypass pumping operations.
  - m. CONTRACTOR is solely responsible for the design, means, methods, and implementation of both the permanent bypass connection and the temporary bypass pumping system necessary to maintain uninterrupted sanitary sewer service to all customers served by the lift station.
3. **Bid Item #7: Gravity Main Installation from Hwy 80 Manhole to Hwy 80 Lift Station Wetwell**
- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to install approximately 70 linear feet of 15" ductile iron (DI) gravity sewer main connecting from existing sanitary sewer manhole nearest Highway 80 directly to lift station wetwell as shown on contract plans.
  - b. Work includes, but is not limited to, the following:
    - 1) **Excavation and Trench Safety:** CONTRACTOR shall perform all necessary excavation for gravity sewer main installation in accordance with applicable safety regulations including proper shoring, bracing, and trench protection as required by OSHA standards and local regulations.
    - 2) **Dewatering:** CONTRACTOR shall provide dewatering and groundwater control as necessary to maintain dry and stable working conditions throughout pipe installation.

- 3) **Pipe Removal:** CONTRACTOR shall remove and properly dispose of the remaining existing 15-inch ductile iron gravity sewer pipe that currently terminates within the open excavation at the Highway 80 Lift Station site. Removal shall extend back to the upstream manhole to allow for proper replacement of the gravity sewer. Work shall be performed in accordance with the Contract Documents and applicable industry standards, and in a manner that facilitates installation of the new 15-inch ductile iron gravity sewer pipe. Any temporary measures required to maintain system operation during removal shall be the responsibility of the CONTRACTOR.
  - 4) **Pipe Installation:** CONTRACTOR shall furnish and install 15" ductile iron gravity sewer pipe in accordance with contract plans and specifications, manufacturer's recommendations, and industry standards. All pipe shall be installed at the grades and alignment shown on the contract plans or as directed by ENGINEER.
  - 5) **Bedding and Backfill:** CONTRACTOR shall provide proper bedding material beneath pipe and suitable backfill material around and above pipe in accordance with specifications. All backfill shall be placed in lifts and compacted to minimum 95% Standard Proctor Density (ASTM D698) or as specified in contract documents.
  - 6) **Manhole Connection:** CONTRACTOR shall properly connect new 15" DI gravity sewer main to existing sanitary sewer manhole using appropriate connection methods, core drilling, and watertight sealing as necessary to prevent infiltration and exfiltration.
  - 7) **Wetwell Connection:** CONTRACTOR shall properly connect new 15" DI gravity sewer main to lift station wetwell using appropriate connection methods via core drilling and watertight sealing to prevent infiltration and exfiltration. Appropriate measures shall be taken by the CONTRACTOR to ensure structural integrity and watertightness are maintained throughout the wetwell. Connection shall be made at proper elevation and location as shown on contract plans or as directed by ENGINEER.
  - 8) **Testing:** CONTRACTOR shall perform all required testing including pressure testing, deflection testing, and leakage testing in accordance with project specifications and industry standards. All test results shall be documented and submitted to ENGINEER for approval.
- c. CONTRACTOR shall verify all existing conditions, elevations, locations, and dimensions prior to ordering materials or commencing work. Any discrepancies between field conditions and contract plans shall be reported to ENGINEER immediately for resolution.
  - d. CONTRACTOR shall coordinate all work with ongoing lift station operations and maintain sanitary sewer service throughout construction. Bypass pumping may be

required and shall be coordinated with other bid items or provided as necessary to prevent service interruptions.

- e. **Site Restoration:** Upon completion of pipe installation and testing, CONTRACTOR shall restore all disturbed areas including pavement, gravel, grass, landscaping, or other surface improvements to original or better condition.
- f. All materials shall meet the specifications outlined in the contract documents and be approved by ENGINEER prior to installation.
- g. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 4. **Bid Item #7: Remediation of Open Excavated Area**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to complete remediation of open excavated area approximately 30 feet in diameter and 6 feet deep at the Highway 80 Lift Station site.
- b. Work includes, but is not limited to, the following:
  - 1) **Dewatering and Bypass Operations:** CONTRACTOR shall mobilize and operate pumping equipment to bypass pump upstream gravity sewer mains and manholes and provide groundwater control during all material placement operations to maintain a dry and stable work area.
  - 2) **Structural Fill Placement:** CONTRACTOR shall source, deliver, and place approved clean structural fill material (Crushed Stone or Structural Granular Fill) in lifts not exceeding 12 inches across entire open excavated area.
  - 3) **Compaction and Testing:** CONTRACTOR shall compact each lift to minimum 95% Standard Proctor Density (ASTM D698) with necessary density testing for verification to achieve structural stability. All testing shall be performed by a qualified testing agency and results submitted to ENGINEER for approval.
  - 4) **Enhanced Stabilization:** CONTRACTOR shall provide enhanced stabilization measures immediately adjacent to and within existing lift station fenced area utilizing highly stable material such as Flowable Fill (CLSM) or approved Clean Angular Stone directly around structure to eliminate voids and prevent future settlement.
  - 5) **Final Grading and Site Restoration:** CONTRACTOR shall perform final grading of area for positive drainage away from structures and site facilities.

- 6) **Fence Repair and Reinstatement:** CONTRACTOR shall repair and reinstate all safety fencing including original lift station fence to original or better condition. All fencing shall be structurally sound and meet applicable safety standards.
- 7) **Site Cleanup:** CONTRACTOR shall remove all construction debris, equipment, and materials from the site and ensure site is left safe, clean, and in acceptable condition.
- c. CONTRACTOR is responsible for all coordination with local authorities, utility companies, and property owners as necessary to complete the work.
- d. CONTRACTOR shall verify all existing conditions, dimensions, and depths prior to procuring materials or commencing work. Any discrepancies shall be reported to ENGINEER immediately.
- e. All materials used shall meet the specifications outlined in the contract documents and be approved by ENGINEER prior to installation.
- f. CONTRACTOR shall provide start-up of bypass pumping operations and maintain continuous operation throughout the duration of site remediation work to prevent sanitary sewer overflows.
- g. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

5. **Bid Item #7: Demolition**

- a. This bid item is inclusive, but not limited to, all labor and materials for the complete demolition and removal of existing facilities as detailed on the Demolition Plan (Sheet 16). CONTRACTOR shall remove existing fiberglass pump housing, pumps, base plate, discharge elbow, guide rails, floats, lifting chain, piping, valves, appurtenances, fencing, wetwell concrete top, control panel, underground electric, miscellaneous materials not designated to stay, etc.
- b. **Force Main and Gravity Sewer Connections:** Existing force mains and gravity sewer lines shown to remain shall be protected during demolition. Where existing piping is removed, abandoned, or reconnected, work shall be coordinated with bypass pumping operations. All abandoned piping shall be properly capped or plugged as directed by the Engineer.
- c. **Wet Well Abandonment:** Upon removal of mechanical and electrical components, the existing wet well shall be modified as shown on the plans.
- d. **Electrical and Controls:** Electrical service shall be disconnected and secured prior to demolition. All electrical demolition shall be coordinated with the utility

provider. Overhead and underground electrical facilities shown to remain shall be protected from damage.

- e. **Fencing and Appurtenances:** Existing fencing and gates designated for reuse shall be carefully removed, stored, and reinstalled upon completion of demolition and site restoration. Fencing not designated to remain shall be removed and disposed of.
  - f. **Temporary Easements and Access:** The Contractor shall confine all demolition, bypass pumping, and restoration activities to the limits of the temporary construction easement shown on the plans. Access roads and staging areas shall be restored upon completion of the work.
  - g. **Site Restoration:** Following demolition, the site shall be restored to existing or better condition. Restoration shall include grading, placement of topsoil, seeding, stone surfacing, or other treatments shown on the plans or directed by the Engineer. All disturbed areas outside permanent improvements shall be restored.
  - h. **Environmental Protection:** The Contractor shall take all necessary precautions to prevent release of wastewater, fuel, oils, or debris to the surrounding area. Any contamination or environmental damage resulting from demolition activities shall be immediately mitigated at no additional cost to the Owner.
  - i. **Coordination and Verification:** The Contractor shall verify all existing conditions, pipe sizes, invert elevations, materials, and utility locations prior to demolition. Discrepancies between field conditions and the plans shall be reported to the Engineer before proceeding.
6. **Bid Item #7: Inspection and Cleaning of the Existing Wetwell**
- a. This bid item shall include all labor, materials, equipment, and testing for the complete inspection and cleaning of the existing 12.0' diameter concrete wetwell.
  - b. CONTRACTOR shall vacuum and remove all accumulated solids and debris from the existing wetwell and haul to approved waste facility. Thoroughly clean all interior surfaces using high-pressure water washing or wet abrasive sand blasting at a minimum of 5,000 psi to remove all dust, biological growths, grease, oil, loose concrete, and other surface contaminants.
  - c. Following cleaning operations, CONTRACTOR shall inspect all cleaned surfaces for damage, deterioration, structural defects, cracks, voids, irregularities, and active hydrostatic infiltration leaks. CONTRACTOR shall submit a written inspection report of findings to the ENGINEER.
  - d. ENGINEER and OWNER shall witness and document inspection to make determination of need or extent of wetwell rehabilitation needed.

- e. All work shall be performed in accordance with the project specifications and applicable safety regulations including proper confined space entry procedures.

7. **Bid Item #7: Coating of the Existing Wetwell**

- a. This bid item shall include all labor, materials, equipment, and testing for the complete structural and corrosion-protection rehabilitation coating of the existing 12.0' diameter concrete wetwell. The work shall result in a continuous, monolithic, and impermeable lining system suitable for sewer system service.
- b. **Surface Preparation:** The CONTRACTOR shall be responsible for thoroughly cleaning and preparing all interior wetwell surfaces prior to coating application.
  - 1) All active hydrostatic infiltration leaks must be plugged and sealed with a compatible, rapid-setting hydraulic cement or injection grout.
  - 2) All cracks, voids, and irregularities shall be repaired and filled with suitable non-shrinking cements to create a smooth, sound substrate suitable for lining.
- c. **Liner Application:** The CONTRACTOR shall furnish and install a two-part lining system consisting of a structural cementitious liner followed by a protective epoxy topcoat.
  - 1) **Cementitious Liner:** A spray-applied, monolithic, cementitious liner shall be installed on the benches and walls of the wetwell. The liner shall be troweled smooth to a minimum total thickness of 1 inch. The installed liner shall achieve a minimum compressive strength of 6,000 psi and a minimum bond strength of 130 psi.
  - 2) **Epoxy Coating:** Following the application and initial cure of the cementitious liner, the CONTRACTOR shall apply a 100% solids, solvent-less, high-build epoxy coating system to provide corrosion protection.
- d. All work shall be performed in accordance with the project specifications and manufacturer's installation guidelines.

8. **Bid Item #7: Structural Modifications to the Existing Wetwell**

- a. The CONTRACTOR shall furnish and install a new reinforced concrete top slab on the existing wetwell. Work includes all reinforcing steel, concrete, forming, and finishing required to meet the details shown in the plans.
- b. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top

slab openings, spacing, and related dimensions for the selected equipment covers and frames.

- 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- c. The CONTRACTOR shall furnish and install a new aluminum access hatch, a new 6" screened vent pipe, and a new bypass pump suction connection.
- d. CONTRACTOR shall be responsible for aligning all new pipe penetrations as indicated in the construction drawings to adhere with new package pump station suction lines. All pipe penetrations to be sealed with a link seal modular seal, a cast in kor-n-seal flexible pipe connector, or approved equal. The bottom of the wetwell shall be grouted as required to form a new, smooth invert channel, etc. required for proper self-priming suction to be achieved.

9. **Bid Item #7: New Submersible Alternating Duplex Pumps**

- a. The CONTRACTOR shall furnish all labor, materials, equipment and performance of all work necessary or incidental to furnish and install complete and operable Gorman Rupp Explosion Proof Submersible Pump System and associated equipment; to include, but not limited to, (2) Gorman Rupp SF6G-X Explosion Proof Submersible Pumps sized for 1825 GPM at 87.3' TDH with 75HP 460/3/60 1750RPM Inverter-Duty rated motors, air filled, premium efficient, seal monitor in seal and motor chambers, one thermostat per phase, 6" discharge connections, 2 Vane GR Ductile Iron Impellers, ductile iron wear rings, Silicon Carbide/Silicon Carbide lower seals, 50' cables; (2) Baseplate kits with base elbows 6"x6", non-sparking guide shoes, 50' SS lifting cables, intermediate guide rail brackets, increasers; guide rail pipes, lifting chains, upper guide brackets, intermediate guide brackets, pump hoist, and all appurtenances required to provide a fully functional submersible pumping system.
  - 1) All mechanical equipment installed within the existing wetwell shall be subsidiary to this bid item. All electrical, level monitoring equipment, control panel, etc. shall be subsidiary to the electrical improvements bid item.
- b. CONTRACTOR is responsible for verifying the hoist systems shall be sized to accommodate the weight of the heaviest pump assembly and break force required to remove it and shall have sufficient reach and clearance to service all pump locations within the wetwell. CONTRACTOR shall verify all dimensions, weight requirements, arm length, etc., prior to procuring materials or submitting shop drawings to the ENGINEER. All dimensions shall be included in the submittal drawings.
- c. CONTRACTOR shall furnish and install a submersible level transmitter in a 6" diameter PVC pipe with pipe supports anchored to wetwell wall.
  - 1) Contractor shall route level transmitter to control panel and SCADA.

- d. All station piping and discharge piping to be Class 350 Ductile Iron (D.I.). Piping external to the station must be independently supported.
- e. Series 316 Stainless Steel shall be used in the wetwell and valve box for flange, bolts, brackets, and other hardware. Control panel structure shall be 304 Stainless Steel hardware.
- f. New concrete structures are to be precast to meet ASTM C-478 requirements. Concrete to be 4,000 psi in 28 days with reinforcing to meet an AASHTO HS 20-44 loading. Reinforcing steel per ASTM A-615, grade 60. All pipe penetrations to be sealed with a link seal modular seal, a cost in kor-n-seal flexible pipe connector, or approved equal.
  - 1) The CONTRACTOR will ensure coordination of the precast structures fabrication with the equipment supplied to achieve the proper structural top slab openings, spacing, and related dimensions for the selected equipment covers and frames.
  - 2) The top slab of the lift station shall withstand a minimum pressure loading of 100 psf.
- g. PVC depth transmitter well and pressure transducer is to be installed at the wetwell as the primary depth indicator. Backup level floats will be the secondary depth indicator.
- h. All equipment to be installed in accordance with manufacturers recommendations or the distance between discharge piping, whichever is greater.
  - 1) Manufacturer shall verify no detrimental influence by either adjacent pump when both pumps are operating.
- i. In accordance with generally accepted construction practices, CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.
  - 1) CONTRACTOR shall provide a complete and operating lift station.
  - 2) All work, equipment, and materials shall comply with the contract specifications.
  - 3) Prior to performing any work, ordering materials, etc., CONTRACTOR to provide the depth, diameter, and material of the piping to the ENGINEER via a submittal and to record on the CONTRACTOR plan set to be turned into The Kelley Group as part of the record plan submittal.

- 4) CONTRACTOR to field locate existing force mains and sewer mains and obtains elevations prior to commencement of construction. CONTRACTOR to notify ENGINEER of any discrepancies found

**10. Bid Item #7: Existing Valve Vault Improvements**

- a. CONTRACTOR shall furnish and install new 10-inch gate valves, check valves, pressure transmitters, necessary piping, fittings, and pipe supports within the existing valve vault as shown on the Contract Drawings and specified herein. The CONTRACTOR shall field verify existing vault dimensions, clearances, pipe alignment, and existing conditions prior to procuring materials and shall confirm that all proposed equipment will fit within the existing vault without interference with the vault walls or the locking double-leaf hatch.
- b. Work shall include removal of existing valves, piping, and appurtenances as required to facilitate installation of the new 10-inch gate valves, check valves, pressure transmitters, and pipe supports. The CONTRACTOR shall provide all labor, materials, fittings, retainer glands, transition gaskets, restraints, concrete kickers, and incidental work necessary to complete the installation and make the system fully operational.
- c. All pipe penetrations, wall pipes, and boot seals associated with the existing valve vault shall be reused where possible or replaced as necessary to maintain watertight integrity. Any modifications required to accommodate the new equipment shall be coordinated with the ENGINEER prior to installation.
- d. The CONTRACTOR shall furnish and install pipe supports and appurtenances as required to properly support all new piping and valves within the vault and shall ensure adequate access for operation and maintenance.
- e. This bid item shall be inclusive of all field verification, demolition, installation, testing, and restoration work necessary to deliver a complete and functional valve and instrumentation installation within the existing valve vault.

**11. Bid Item #7: Chain Link Fence**

- a. CONTRACTOR shall furnish and install chain link fencing, swing gates, and related appurtenances as required to provide a fully functional and secured lift station site upon completion of the Work.
- b. CONTRACTOR shall remove the existing chain link fence, including barbed wire top strands, gates, posts, and accessories, as required to facilitate construction. Fence sections, gates, posts, and appurtenances that are determined by the ENGINEER to be in good and reusable condition shall be carefully removed, protected from damage, and stored on-site or at an approved location for reuse and reinstallation upon completion of lift station rehabilitation. Any fencing

materials not suitable for reuse shall be properly disposed of by the CONTRACTOR.

- c. Upon completion of construction, the CONTRACTOR shall reinstall salvaged fencing materials where applicable and shall furnish and install new chain link perimeter fencing, barbed wire top strands, and a double 10-foot swinging gate with cane bolt(s), as required to fully secure the lift station site. CONTRACTOR shall obtain padlock from the OWNER.
- d. The total linear footage of the fence and gates are approximately 172 feet. The CONTRACTOR shall field verify all fence lengths, gate locations, and site conditions prior to installation.
- e. CONTRACTOR shall furnish and install 'no trespassing/no tampering' signs and install on each fence run and at each gate.
- f. The CONTRACTOR shall furnish and install a lift station name sign on one swing gate in a location clearly visible from the adjacent access area.

#### **12. Bid Item #7: Crushed Stone for Site**

- a. CONTRACTOR shall furnish and install crushed stone throughout the site and extending 2 feet past installed chain link fence
- b. CONTRACTOR shall furnish and install approximately 240 square yards of 6" thick ALDOT #57 stone overlaid on Mirafi 160N geotextile fabric (or equal).

#### **13. Bid Item #7: Electrical Improvements**

- a. CONTRACTOR shall remove existing secondary riser pole, overhead electrical, and underground electrical per electrical Contract Documents.
  - 1) CONTRACTOR to install new electrical pole, reattaching previous OHE connections, within PS site and reconnect new UGE from pole to new control panel and lift station per electrical Contract Documents. Pull new wire as required to make connections.
- b. This bid item shall include furnishing and installing a new, complete, and fully functional electrical and control system as shown or described in the electrical Contract Documents.
- c. Work includes, but is not limited to, a new pump control panel with main disconnect, RVSS, panel cooling, a wetwell junction box, pump feeders, terminal boxes, and all required conduit and wiring.
- d. CONTRACTOR shall provide start up services to ensure proper operation of the equipment, including warranty start up by pump supplier, prior to notifying

ENGINEER of completion. ENGINEER shall then observe all equipment operation and verify function prior to payment for this bid item.

- e. More materials, incidental to this bid item, may be required for provision and installation by the CONTRACTOR for a complete installation and shall be incidental to existing items in the bid form.

#### 14. Bid Item #7: SCADA Installation

- a. The OWNER will furnish an existing SCADA enclosure containing the PLC/RTU and associated control hardware. The CONTRACTOR shall furnish and install one (1) Pepwave MAX BR1 cellular modem compatible with the OWNER's SCADA system and shall install and integrate the OWNER-furnished SCADA enclosure at the lift station in accordance with the Contract Electrical Plans and Specifications.
- b. The CONTRACTOR shall perform all physical installation associated with the SCADA system, including mounting of the SCADA enclosure, installation of conduit, and complete wiring, termination, grounding, and labeling of all SCADA-related power, control, and signal conductors.
- c. Work shall include full interconnection of the SCADA system with pump control panels, level sensing equipment, alarms, status signals, and all field instruments such that all signals are fully wired, terminated, identified, and ready for OWNER programming and system integration.
- d. The CONTRACTOR shall clearly label all wiring, terminations, and devices and shall provide documentation sufficient for the OWNER to perform PLC programming, communications configuration, and SCADA system integration.
- e. All PLC programming, SCADA software configuration, communications logic, graphics development, alarm setpoints, trending, and data logging within VT SCADA shall be performed exclusively by the OWNER. The CONTRACTOR shall have no responsibility for SCADA programming, software configuration, or system performance.
- f. The CONTRACTOR shall coordinate installation activities with the OWNER, ENGINEER, and electrical subcontractor as required to support system integration and commissioning.
- g. Work shall include field verification of wiring, terminations, and signal continuity, and participation in startup and commissioning activities for the purpose of confirming proper installation only. Acceptance of the CONTRACTOR's work shall be based on verification of correct installation and continuity of wiring and connections and shall not be contingent upon successful SCADA programming, communications performance, or system operation.

- h. The CONTRACTOR shall provide as-built documentation reflecting installed SCADA hardware, wiring, and terminations prior to acceptance.
- i. All labor, materials, equipment, coordination, and incidental work necessary to furnish the specified cellular modem and to install, wire, label, and deliver the SCADA system ready for OWNER programming and integration shall be included under this bid item.
- j. Payment for this bid item shall be lump sum and shall constitute full compensation for furnishing and installing a complete, wired, labeled, and verified SCADA installation ready for OWNER programming and integration.

#### 1.05 PROJECT OBJECTIVES

- A. The project consists of rehabilitation to five lift stations to include removing and replacing existing submersible pumps, base elbows, discharge piping, guide rails, check valves, isolation valves, and control system, etc. Additionally, SCADA hardware will be installed at each lift station and integrated into the existing SCADA network.

#### 1.06 SERVICES AND PRODUCTS

##### A. OWNER's Responsibilities

1. Review shop drawings and submittal data following approval by ENGINEER within ten (10) days following receipt.
2. Arrange for and deliver OWNER reviewed Shop Drawings, Product Data, and Samples to CONTRACTOR.
3. Make payments on properly submitted and approved payment requests within 30 days of ENGINEER's review of the submitted invoice.

##### B. CONTRACTOR's Responsibilities

1. Provide detailed instructions for the construction process/timetable. Supply the OWNER and ENGINEER by 8:00 a.m. each Friday with the planned location of work for the following week. Work will not be performed on weekends, only Monday through Friday unless previously authorized by the OWNER.
2. Schedule for delivery with Supplier; Receive and unload products at site; inspect for completeness or damage and secure all materials until installation.
3. Handle, store, and install finished products in accordance with manufacturer instructions. Provide ENGINEER with written planned execution of the work including plan for the handling, storage, and installation of the supplied products.

4. Provide ENGINEER with CONTRACTOR's invoice by the Friday nearest the 25th of each month. Invoices may be submitted after the 25th of each month however, only one invoice per month will be processed by the OWNER.
5. Attend progress meetings that will be held monthly as close to the 25th of the month as possible, or as needed, to review installations prior to submitting invoice. Approximately one week prior to invoice submittal, contact the ENGINEER's representative for review of quantities. Invoices will not be processed by the ENGINEER until quantities have been reviewed.
6. Require ALL employees associated with the project to be available for salary surveys. Interviews will be conducted 10 working days after CONTRACTOR notifies OWNER and ENGINEER of the date crews will begin to work. If additional employees are brought to the site after the salary surveys have been performed, the CONTRACTOR is responsible for making arrangement to have late arriving employees interviewed by the ENGINEER at the OWNER's office. Substantial Completion payment will not be made to the CONTRACTOR until all interviews are performed.

#### 1.07 STORED MATERIALS

- A. The quantities contained in the Proposal are approximate, and actual installed work may differ from the quantities shown. The CONTRACTOR shall be responsible for inventory control and shall take special care not to order any excess materials.
- B. The OWNER will not be responsible for any stored or left over materials ordered by the CONTRACTOR. CONTRACTOR shall submit a final invoice for materials that is identical to the quantities installed.
- C. In the event excess materials exist, the OWNER's cost including shipment will be deducted from the CONTRACTOR's final estimate, at which time the excess material will become the property and responsibility of the CONTRACTOR.
- D. Stored materials may be listed on invoices once confirmed by the ENGINEER's representative. The CONTRACTOR will maintain insurance on any materials listed as stored materials.

#### 1.08 CONTRACTOR'S USE OF SITE

- A. Cooperate with property owners and adjacent property OWNERS to minimize conflict.
- B. Assist OWNER with any site security issues as a result of construction.

#### 1.09 WORK SEQUENCE

- A. Coordinate construction schedule and operations with the OWNER and ENGINEER.
- B. Provide weekly schedule updates, including changes as they occur.

C. Construction shall be generally sequenced as follows:

#### 1.10 LICENSES AND PERMITS

- A. The CONTRACTOR shall be responsible for securing from the Local Municipalities all permits, licenses and for paying all taxes required to perform the Contract Work.
- B. The CONTRACTOR shall be responsible for compliance with all Federal, State and local laws and ordinances regarding licenses and permits.

#### 1.11 PROTECTION OF THE OWNER, WORKMEN, AND THE PUBLIC

- A. The CONTRACTOR is responsible for the safe execution and precaution of the work.
- B. The ENGINEER and the OWNER shall not be required to act as Safety Engineers or Safety Supervisors.
- C. The CONTRACTOR is solely responsible for the safe prosecution of the work.
- D. It is the CONTRACTOR's responsibility to secure advice from the Safety officer from his insurance company.

#### 1.12 LOCATION OF UNDERGROUND OBSTRUCTIONS.

- A. The CONTRACTOR shall be responsible for carefully protecting utilities and storm drains during the execution of the work.
- B. Utilities that are damaged due to activities of the CONTRACTOR shall be repaired at no expense to the property OWNER.

#### 1.13 REGULATORY REQUIREMENTS

- A. Secure from the office of the Inspection Services, Division of the Public Works Department of the Local Municipalities, Information for regulatory licenses, and permits required.
- B. Obtain permits and licenses from each Municipality, if required.
- C. Requirements contained in each individual authority's permit shall become the provisions and requirement for completion of the work.

#### 1.14 ROCK EXCAVATION AND DISPOSAL

- A. The OWNER and ENGINEER have not prepared for or conducted subsurface investigations.
- B. The CONTRACTOR shall have sole responsibility for his own subsurface investigations

and shall include the cost of any investigations required into the cost for the work to be performed.

C. The cost for rock excavation or removal and disposal shall be included in the unit cost to perform installation of new pipe, road, or drive.

D. No extra payment will be made for rock excavation, removal, or disposal

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION