CITY OF TULSA

WATER AND SEWER
Engineering Design

DATE:
April 23, 2025

TO:
Plan Holders
Contractors

FROM:
Jenna Richardson
918-596-9637
jennarichardson@cityoftulsa.org

EMAIL TRANSMITTAL

ADDENDUM NO. 1

PROJECT NO. TMUA-W 21-04 RAW WATER PUMP STATION IMPROVEMENTS WOODS PUMP STATION IMPROVEMENTS

1836 × 1898

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Number of pages: 38

All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.

Thank you,
Contract Administration

CITY OF TULSA

WATER AND SEWER
Engineering Design

DATE:
April 23, 2025

ADDENDUM NO. 1
TO
PROJECT NO. TMUA-W 21-04 RAW WATER PUMP STATION IMPROVEMENTS WOODS PUMP STATION IMPROVEMENTS

This Addendum No. 1 consisting of three (3) items, submitted by Greeley and Hansen, is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.**

This Addendum No. 1 consists of the following:

1. The attached documents list the detailed items that have been modified in Addendum No. 1. These documents shall be inclusive and apply to this project.

All other provisions of the Plans and Specifications shall remain in full force and effect.

CITY OF TULSA

Eric Lee
Director

HAS/TGP/CW/JR/kt

175 E. 2nd Street Ste. 261 Tulsa, OK 74103 | (918) 596-9406
WWW.CITYOFTULSA.ORG

GREELEY AND HANSEN
A TYLin Company

April 21, 2025

ADDENDUM NO. 1

TULSA METROPOLITAN UTILITY AUTHORITY
RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS
PROJECT NO. TMUA-W 21-04, PROJECT 136514

This Addendum No. 1 consisting of three (3) items, is hereby made a part of the Contract documents to the same extent as though it were originally included therein, and shall supersede anything contained in the Plans and Specifications with which it might conflict. **This addendum shall be attached to the Index Sheet of the Contract Documents and submitted with the bid. Failure to do so shall result in the bid being deemed non-responsive.**

This Addendum No. 1 consists of the following:

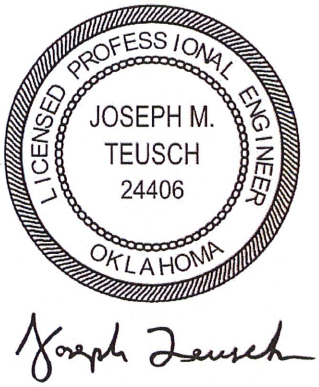
1. Drawings.
    a. The existing sheet G00 shall be deleted in its entirety and replaced with revised sheet G00 attached. Changes are clouded.
    b. The existing sheet G02 shall be deleted in its entirety and replaced with revised sheet G02 attached. Changes are clouded.
    c. The existing sheet G03 shall be deleted in its entirety and replaced with revised sheet G03 attached. Changes are clouded.
    d. The existing sheet C02 shall be deleted in its entirety and replaced with revised sheet C02 attached. Changes are clouded.
    e. The existing sheet M06 shall be deleted in its entirety and replaced with revised sheet M06 attached. Changes are clouded.
    f. The existing sheet E05 shall be deleted in its entirety and replaced with revised sheet E05 attached. Changes are clouded.

2. Specifications:

    a. The existing specification 01 29 50 – Contract Items, shall be deleted in its entirety and replaced with revised version with Addendum 1 in the footer. Changes are highlighted in yellow.
    b. The existing specification 43 21 17 – Pump Refurbishment, shall be deleted in its entirety and replaced with revised version with Addendum 1 in the footer. Changes are highlighted in yellow.

3. Proposal:
    a. The existing Proposal shall be deleted in its entirety and replaced with the revised proposal which can be found at https://www.cityoftulsa.org/government/departments/public-works/engineering-services/construction-bids/ It is the bidders responsibility to download the revised proposal onto their existing thumb drive.

All other provisions of the Plans and Specifications shall remain in full force and effect.



Seal Affixed
April 21, 2025

Joseph M. Teusch, P.E.
Greeley and Hansen / TY Lin

SECTION 01 29 50

CONTRACT ITEMS

PART 1 GENERAL

1.1 CONTRACT ITEM 1 – MOBILIZATION AND DEMOBILIZATION

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary to mobilize and subsequently demobilize the construction preparatory operations. The Work includes bonds, insurance, movement in and out of personnel and equipment, project signs, and establishment of the Contractor's offices. A maximum of 3 percent of the total bid for Contract Item 1 is allowed for Mobilization and Demobilization in the bid proposal.

B. Payment: Payment for Mobilization and Demobilization will be distributed in the following manner:

1. Sixty percent (60%) of the price bid for mobilization and demobilization may be included in the pay estimate which reflects five percent (5%) completion of the Work.

2. An additional fifteen percent (15%) of the price bid for mobilization and demobilization may be included in the pay estimate which reflects fifty percent (50%) completion of the Work.

3. The final twenty five percent (25%) of the price bid for mobilization and demobilization may be included in the final pay estimate.

1.2 CONTRACT ITEM 2 – CONSTRUCTION ALLOWANCE

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary to perform the additional miscellaneous work as directed by the Owner. This work is not shown on the drawings or specified, but which is subsequently identified by the Engineer as being necessary to complete the project. When work is required under this Item, the Contractor will be sent a request for proposal by the Engineer. If the proposal is accepted by the Owner, the Contractor will be notified to proceed with the required work. All work will be performed by the Contractor's own forces to the greatest extent possible. An allowance of two hundred thousand dollars ($200,000) is included in this item. This allowance will be used to compensate the Contractor for work performed under this item. No Work will be performed under this allowance without the written consent of the Owner.

B. Payment: Payment for Work Allowance will be made from the Contract lump sum price. At the completion of the Contract, all remaining funds will be deducted from the total contract price.

1.3 CONTRACT ITEM 3 – SWPPP/SOIL PROTECTION AND SITE RESTORATION

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services for the Stormwater Pollution Prevention Plan (SWPPP) and Soil Protection and Site Restoration Work as shown, specified, and directed in the Contract Documents. Work includes implementation of SWPPP and Soil erosion protection at the site and all Work, including grading, seeding, watering, and fertilizing, for the restoration of the Site to pre-construction conditions.

Payment: Payment for SWPPP/Soil Protection and Site Restoration will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.4 CONTRACT ITEM 4 – EXISTING PUMP MOTOR/GEAR REDUCER DEMOLITION

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services for the demolition of the existing pump motors and gear reducers together with all associated and appurtenant Work as shown, specified and directed in the Contract Documents.

Work includes the removal from service, demolition of, and hauling away and disposal of the existing pump motors and gear reducers.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.5 CONTRACT ITEM 5 – AIR INTAKE / EXHAUST PIPING DEMOLITION AND ROOF REPAIR

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: demolition and disposal of the intake and exhaust piping associated with the existing pump motors and roof rehabilitation together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.6 CONTRACT ITEM 6 – CAPACITY AND SCADA CONTROL PANEL DEMOLITION

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: demolition and disposal of the SCADA Control Panel together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.7 CONTRACT ITEM 7 – ELECTRICAL DEMOLITION

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: demolition and disposal of electrical equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.8 CONTRACT ITEM 8 – HVAC EQUIPMENT

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new HVAC equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.9 CONTRACT ITEM 9 – ELECTICAL FEEDERS

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation and testing of the electrical feeders, conduit, and conduit hangers together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

Payment: Payment for this Contract Item will be made at the per unit Contract price.

1.10 CONTRACT ITEM 10 – CONCRETE DUCTBANK

A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary to install new concrete ductbanks including work to unclassified excavation, backfill and compaction of select fill, installing new ductbanks and removal and disposal of excess excavated material as shown and specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per unit Contract Price.

1.11 CONTRACT ITEM 11 – ELECTRIC MOTORS

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new electrical motors together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.12 CONTRACT ITEM 12 – ELECTRICAL EQUIPMENT STARTUP AND TESTING

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: startup and training of the new electrical equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.13 CONTRACT ITEM 13 – EXTERIOR TRANSFORMER

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the Exterior Transformer equipment together with all associated and appurtenant Work as shown

or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.14 CONTRACT ITEM 14 – 480V SWITCHBOARD

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new 480 volt switchboard equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.15 CONTRACT ITEM 15 – MAIN DISTRIBUTION PANELBOARD

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new primary distribution panelboard equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.16 CONTRACT ITEM 16 – EMERGENCY DISTRIBUTION PANELBOARD

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new emergency distribution panelboard equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.17 CONTRACT ITEM 17 – 400HP 480V AFDS

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new 400 horsepower, 480 volt adjustable frequency drive equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.18 CONTRACT ITEM 18 – AUTOMATIC TRANSFER SWITCH; 240V, 150A

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new automatic transfer switch equipment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.19 CONTRACT ITEM 19 – OIT PROGRAMMING (APPROXIMATELY 5 SCREENS)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: development, implementation, testing, and training of new operator interface terminal (OIT) programming together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.20 CONTRACT ITEM 20 – SCADA HMI PROGRAMMING (APPROXIMATELY 5 SCREENS)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: development, implementation, testing, and training of new

SCADA HMI programming together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.21 CONTRACT ITEM 21 – PLC CONTROL PANEL (APPROXIMATELY 350 I/0 POINTS)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: development, construction, implementation, testing, and training of new PLC Control Panel together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.22 CONTRACT ITEM 22 – TESTING, COMMISSIONING, AND DRAWINGS

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: all testing, commissioning, and record drawings required for the process integration together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.23 CONTRACT ITEM 23 – CONSTRUCTION AS-BUILT DOCUMENTATION

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: all work required to comply with the as-built documentation of the City of Tulsa specifications in COT 334 together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

~~1.24 CONTRACT ITEM 24 – CONSTRUCTION ALLOWANCE (BID ALTERNATE)~~

~~A. Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary to perform the additional miscellaneous work as directed by the Owner. This work is not shown on the drawings or specified, but which is subsequently identified by the Engineer as being necessary to complete the project. When work is required under this Item, the Contractor will be sent a request for proposal by the Engineer. If the proposal is accepted by the Owner, the Contractor will be notified to proceed with the required work. All work will be performed by the Contractor's own forces to the greatest extent possible. An allowance of one hundred thousand dollars ($100,000) is included in this item. This allowance will be used to compensate the Contractor for work performed under this item. No Work will be performed under this allowance without the consent of the Owner.~~

~~B. Payment: Payment for Work Allowance will be made from the Contract lump sum price. At the completion of the Contract, all remaining funds will be deducted from the total contract price.~~

1.25 CONTRACT ITEM 24 – 400 HP 480V SPARE VFD
(BID ALTERNATE)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: purchasing and delivery to the Owner a new spare 400 horsepower, 480-volt variable frequency drive as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.26 CONTRACT ITEM 25 – 35 KW GENERATOR
(BID ALTERNATE)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the new 35kW Generator equipment together with all associated and appurtenant Work as shown or

specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

1.27 CONTRACT ITEM 26 – PUMP REFURBISHMENT
(BID ALTERNATE)

A. Description: Description: The Work under this Contract Item includes furnishing all labor, materials, equipment and services necessary for the completion of the Work. This includes: installation, testing, startup, and training of the existing pump refurbishment together with all associated and appurtenant Work as shown or specified in the Contract Documents, except for Work specifically included under other Contract Items.

B. Payment: Payment for this Contract Item will be made at the per each Contract price. Monthly progress payments will be made based upon Contractor's percent complete for this Contract Item as approved by the Engineer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

(NO TEXT FOR THIS PAGE)

SECTION 43 21 17

PUMP REFURBISHMENT

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Requirements for replacing existing engine drives and refurbishing existing pumps. The work includes the replacement of two engine drives with direct drive electric motors, new variable frequency drives, and all other associated Work as shown or specified for a complete and operable system. The work also includes the refurbishment of two existing pumps. Refurbishment includes removal, preparation for shipment, shipment, refurbishment, reinstallation, and startup testing and commissioning of the pumps.

1. Pump refurbishment includes the following items:

a. Complete pump teardown, inspection/analysis, and reassembly
b. Rehabilitation of the shaft
c. Rehabilitation of the bearings
d. Rehabilitation of tube nut assembly
e. Rehabilitation of the coatings
f. Replacement of the impeller, if required
g. Replacement of the bell suction, if required

B. Work Sequence Requirements: Coordinate the pump drives replacements and pump refurbishment work with the Authority and perform work within the time periods specified in Section 01 11 00-Summary of Work.

C. Related Work Specified in Other Sections Include:

1. Section 01 11 00 – Summary of Work
2. Section 02 41 00 – Demolition
3. Section 09 96 00 –High Performance Coatings
4. Section 26 05 80 – Electric Motors
5. Section 26 69 23 – Adjustable Frequency Drives

1.2 REFERENCES

A. Codes and standards referred to in this Section are:

1.	AWWA E101	-	Vertical Turbine Pumps - Line Shaft and Submersible Types
2.	ASME B16.1	-	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, 800
3.	ASTM A 48	-	Specification for Grey Iron Castings
4.	ASTMA A743	-	Specification for Castings, Corrosion Resistant
5.	AWWA C 207	-	Steel Pipe Flanges and Waterworks Service, Sizes 4 Inch Through 144 Inch (100 mm Through 3,600 mm)
6.	Hydraulic Institute Standards.		

1.3 SYSTEM DESCRIPTION

A. General: Provide refurbished pumps of the vertical turbine type, driven by a horizontal electric motor, with an above floor discharge. Mount the motor in place of the existing engine to be removed and modify the concrete pad per Contract Drawings.

1. Design the pumping equipment for installation in the spaces as shown, without appreciable revision to the piping, structure and foundation arrangement.

2. Design the pumping equipment for complete disassembly from above the pump mounting floor and with the lifting equipment shown.

3. Design pumping units in accordance with AWWA E101 Standard for Vertical Turbine Pumps, except as otherwise specified.

B. Pumped Fluid: Design the pumping units to pump nonpotable water.

C. Starting and Stopping: Provide pumping equipment capable of starting and stopping against a closed discharge valve.

D. Operating Conditions: Design the pumps to operate vortex free at the capacities and heads and over the range of operating conditions specified without cavitation, undue noise and vibration. Furnish pumps in accordance with the following requirements:

Rating Data	Unit
Capacity at rating point, gpm	35,800
Total head at rating point, feet	31
Pump speed, rpm	556
Motor horsepower	400

E. Natural Frequencies: Provide the pump, (suction barrel) and drive as installed with no natural frequencies occurring within 25 percent of any exciting frequency for the specified speeds. Exciting frequencies are periodic forces that may occur as the result of unbalance (one times rotation), misalignment (two times rotational), vane pass (multiples of vane numbers), etc.

F. Reverse Speed: Design the pumping unit, including drive, to be capable of running safely at reverse runaway or provide the drive with a nonreverse ratchet.

1.4 SUBMITTALS

A. General: Include all submittals, including the following, as specified in Division 1.

B. Shop Drawings: Submit shop drawings, including arrangement and erection drawings of the equipment and equipment operating characteristics. Include the following:

1. Motor support plate drawings.

2. Motor equipment pad and anchor bolt drawings

3. Motor drawings and performance characteristics.

4. Flexible coupling drawings and rating data.

5. Pump refurbisher inspection report.

6. Submit a certificate of compliance and compatibility for the pumps, motors, adjustable frequency drives, controls, and control panels.

C. Operation and Maintenance: Submit pumping equipment operation and maintenance manuals.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle all products and materials as specified in Division 1.

1.6 SPARE PARTS AND TOOLS

A. General: Furnish the following spare parts:

1. One set of bearings

2. One set of gaskets and "O" rings

3. One set of wearing rings

4. One set of motor bearings for each new motor

Note: One set means all those items necessary for a complete pumping unit.

B. Identification: Plainly tag and mark spare parts for identification and reordering, and properly box spare parts.

C. Special Tools: Furnish a complete set of special wrenches and other special tools required for the removal, dismantling, reassembling and maintaining the pumping units. Provide tools of forged steel, case hardened, and full finished. Furnish special tools in a metal tool case with a handle and provisions for padlocking.

D. Lifting Devices: Provide lifting lugs or any special lifting devices necessary for pumping unit installation, removal and dismantling.

PART 2 PRODUCTS

2.1 EQUIPMENT SUPPLIER

A. Obtain the variable frequency drive and motor from either the motor or variable frequency drive manufacturer who is to be responsible for:

1. Furnishing the variable frequency drives, motors, controls and control panels and all appurtenant equipment specified.

2. All coordination of the characteristics of the equipment, furnished, including the exchange of pertinent data between manufacturers of equipment, prior to shop drawing submittal.

3. Acquisition and submittal of a certificate from each of the manufacturers of the motors, variable frequency drives, controls and control panels that states that the equipment furnished by the manufacturer is compatible with the equipment items furnished by the other manufacturers.

4. Sound power level performance.

B. Provide all motors produced by single manufacturer and all variable frequency drives produced by a single manufacturer.

2.2 MANUFACTURERS

A. Acceptable manufacturers are listed below. Other manufacturers of equivalent products may be submitted.

1. Pump Refurbishment

a. Ruhrpumpen
(1) Contact: Jamin Baker, (918) 624-2370

b. Peerless
(1) Contact: Tony Moraska, (405) 642-6722; tony@haynes-equipment.com

2. Motors

a. TECO-Westinghouse Motor Company
b. U.S. Motors
c. Nidec Motor Corporation

2.3 PUMP REFURBISHMENTS

A. Dismantling and Inspection:

1. Each pump shall be disassembled into its basic components for cleaning and inspection. Basic components include such items as suction bowl, impeller, diffuser, discharge head, shaft, stuffing box and other components bolted together. Match mark the flanges of each component prior to disassembly to permit reassembly with the components in the same relative position as originally assembled.

2. All pump parts shall be cleaned prior to inspection. The cleaning shall remove dirt, grit, grease and rust scale. All internal surfaces of the basic pump components shall be glass bead blast cleaned to remove rust scale.

3. Each component shall be inspected for wear, corrosion and other damage. Sleeve bearing bores, bearing journal diameters and male-female fits shall be measured with a micrometer. Shaft run-out shall be checked with a dial indicator.

4. A PDF copy (hard copies to be supplied if required by Owner) of an inspection report for each pump shall be submitted to the Engineer. Each report shall show the results of the inspections and measurements and photographs of component part defects and shall indicate which component parts are suitable for reuse. Component parts that are suitable for reuse and are specified to be replaced by new parts, shall be returned to the Authority. Components parts not suitable for reuse shall be properly disposed of by the refurbisher.

B. Refurbishments:

1. Replace the pump impellers.

   a. Replacement impellers shall be dynamically balanced.

   b. Replacement impellers shall be constructed geometrically identical to the original impellers in order to provide the same pump performance characteristics and mechanical integrity. The impeller shall be a one piece casting of ASTM A 743 Grade CA6NM stainless steel.

   c. Replacement impellers shall have vanes equally spaced and with uniformly rounded inlet edges and water passages with smooth contours.

2. Replace the suction bells. Replacement suction bells shall be one-piece casting of ASTM A 743 Grade CA6NM stainless steel.

3. Blast clean and coat the internal surfaces (wetted) of the discharge bowls. Coat with Belzona 1341 Supermetalglide. Clean and coat in accordance with coating manufacturer's instructions.

4. Replace the pump shafts. Replacement pump shafts shall be constructed of 416 stainless steel. The shafts shall be accurately machined and polished and shall be of the same size and design as the original equipment.

5. Replace the bowl, tail and stuffing box bearings. The replacement bearings shall be constructed of leaded bronze. The bearings shall be of the sleeve type, accurately machined, polished and grooved and shall be of the same design and size as the original equipment.

6. Replace the pump thrust bearing. Provide new anti-friction bearings of the same size and type as the original equipment.

7. All grease fittings, gaskets, "O" rings and seals shall be replaced.

8. Any shaft keys, bolts, nuts, studs and other fasteners that are damaged by corrosion shall be replaced with keys and fasteners of the same size, design and material as the original.

9. Each stuffing box shall be properly packaged with suitable soft, graphite impregnated, nonasbestos packing material.

C. Painting: Shop paint pumps in accordance with the requirements of Section 09 96 00.

D. Shop Assembly: Shop assemble pumps prior to shipment. Reassemble components the same relative position as received, align match marks on component flanges.

2.4 MOTORS

A. General: Provide drive motors with a voltage rating at 460 volts, 3 phase, 60 hertz, meeting the requirements of Section 26 05 80.

B. Reverse Rotation Ratchets: Provide reverse rotation ratchets to protect the motor from reverse runaway speed.

C. Thrust Bearing: Equip each motor with a suitable thrust bearing for the loads imposed by the axial thrust of the pump and the weight of the rotating element. Design the thrust bearing to operate without any external means of cooling.

2.5 MOTOR MOUNTING

A. General: Provide each motor with a steel mounting plate, stainless steel mounting bolts, washers, nuts, shims and all appurtenances necessary for a complete installation.

B. Mounting Plate: Provide a mounting plate designed to support the new motor from the new concrete equipment pad and with the motor and pump shaft in alignment. Fabricate from steel plate. The mounting plate shall have a neat and finished appearance, free of sharp edges and gouges. The mounting plate shall extend not less than I-inch beyond the overall length and width of the mounting of the motor. Provide center hole or cutout to facilitate installing grout. The mounting surface shall be machined to a 63RMS micro inch finish and a maximum flatness tolerance of .0005 inch per lineal foot. Furnish each pedestal shop primed and field painted in accordance with the requirements of Section 9900 "Painting". Submit the motor mounting plate design for approval before beginning the modifications.

2.6 FLEXIBLE COUPLINGS

A. Provide new flexible couplings to connect the new motors to the pump shafts.

B. Provide couplings rated to transmit the maximum pump load torque with a 1.5 service factor and suitable for pump drive service. The couplings' torsional characteristics shall be as required to preclude detrimental torsional vibrations in the motor and pump rotating components. A torsional natural frequency analysis of motor and pump system shall be performed by the pump manufacturer. Provide drive coupling, motor and pump rotating assembly mass elastic data and other information required by the pump manufacturer to perform a torsional natural frequency analysis of motor and pump system. The pump manufacturer shall review the analysis results. Any changes in the drive coupling or rotating assembly required to alleviate any diverse torsional response shall be provided at no additional cost.

C. Provide flexible grid, piloted couplings for the motor and pumps and a piloted floating shaft designed to span the distance between the motor and pump shafts. Provide a Type T50 as manufactured by the Falk Corporation.

D. Fit and key the half couplings to the existing pump and new motor shafts. Do not exceed .002 inches maximum clearance fit for the coupling diameter and key width. Furnish fully finished keys constructed of AISI 1018 cold drawn steel.

E. Following the coupling manufacturer's installation instructions. Heat the half coupling hubs as required to ease assembly.

2.7 COUPLING GUARDS

A. Furnish and install coupling guards for each drive unit.

B. The coupling guards shall cover all rotating parts between the engines and driven equipment and shall be designed in accordance with OSHA requirements.

C. Each guard enclosure shall be fabricated sheet steel, supported from the station floor and designed to be removable. The guard shall have a neat and finished appearance, free of sharp edges and corners.

D. The guards shall be shop painted in accordance with the requirements of Section 09 96 00 "High Performance Coatings".

E. All bolts, nuts and washer shall be stainless steel.

2.8 CONTROLS AND OPERATION

A. Control equipment shall be supplied by the Contractor in accordance with Section 40 90 50.

B. Programmable logic controllers shall be provided by the Contractor in accordance with Section 40 94 43.

PART 3 EXECUTION

3.1 INSTALLATION

A. General: Remove, refurbish and reinstall pumps and install the new motors, in accordance with constraints specified in Section 01 11 00.

B. Site Inspection: Before work is started, the contractor shall inspect the existing equipment affected by the work. Care shall be taken to observe and record any existing equipment defects.

C. Install new work in accordance with the approved submittals and pump manufacturer's recommendations.

D. Pump manufacturer's trained representative to remove and install new pump replacement parts.

3.2 PUMP REMOVAL AND REINSTALLATION

A. Dismantling, Removal and Shipping

1. Disconnect all mechanical and electrical services affected by the work.

2. Dismantle all connections and attachments to Pumps W1 and W2 and their accessories to permit removal.

3. Match mark the flanges of each pump component prior to removal in order to facilitate pump reassembly with the components in the same relative position as installed.

4. Remove Pumps W1 and W2 from their operating positions.

5. Disassemble Pumps W1 and W2 as required to permit removal from the station.

6. Properly prepare pumps for shipment to prevent damage during shipment. Obtain and follow the manufacturer's special instructions where applicable.

7. Ship Pumps W1 and W2 to the manufacturer's repair facility.

B. Return Shipment and Reinstallation

1. Prepare Pumps W1 and W2 for shipment from the manufacturer's repair facility in the same manner as described in Subsection 3.2.A.5.

2. Ship Pumps W1 and W2 from the manufacturer's repair facility to the pump station.

3. Reinstall Pumps W1 and W2 into their original operating position.

4. Where field assembly of Pumps W1 and W2 is necessary, obtain and follow the manufacturer's instructions.

5. Reassemble all connections and attachments to Pumps W1 and W2.

6. Install all new accessories.

7. Reconnect all mechanical and electrical services.

8. Restore the equipment to its full and proper operating condition.

3.3 MOTOR INSTALLATION

A. Motor Mounting Plate Installation and Grouting: Install mounting plates as follows:

1. Install leveling wedges or jack-screws to support the mounting plate at each anchor bolt. Provide approximately 1-1/2 to 2 inches grout allowance between mounting plate and concrete pad and provide approximately 1/8 inch shim allowance between motor foot and mounting plate as shown.

2. Check alignment to pump shaft.

3. Adjust leveling wedges or jack-screws to level the mounting plate. Tighten the foundation bolts evenly but not too firmly. Level the mounting plate to within .001 inches per foot.

4. Fill grout space with non-shrink grout as specified in Section 03 60 00.

5. Fully tighten the anchor bolts after grout has cured.

B. Coupling Installation: Install new flexible couplings and shaft keys on the pump and motor shafts. Follow the manufacturer's installation instructions. Heat half-coupling hubs as required to ease assembly. Sledging or hammering of the hubs is not permitted.

C. Motor Installation: Install new motor into its operating position and assemble all connections and attachments.

D. Motor and Pump Alignment: Perform motor and pump shaft alignment using laser alignment equipment. Use personnel who are experienced in machinery alignment. Align the shafts as follows:

1. Align motor and pump shafts after the grout has cured.

2. Align shafts to obtain .0035 inches maximum parallel offset and .007 inches maximum angular misalignment.

3. Use stainless steel shims with an area equal to the motor's load bearing surface and with "U" shaped slots to fit around the bolts.

4. Verify the motor soft foot condition does not exceed the maximum soft foot tolerance. Use the following procedure:

   a. Check that all mounting bolts are tight before proceeding.

   b. Set a dial indicator on the foot being checked.

   c. Zero the dial indicator on the foot being checked.

   d. Loosen the mounting bolt on the foot being checked and observe the indicator defection. A maximum deflection of .002 inches is permitted.

   e. Retighten the mounting bolt and repeat this procedure for all feet.

   f. Inspect each bolt for clearance relative to its bolt hole. Correct any bolt and bolt hole binding or interference.

   g. Correct any soft foot condition that exceeds the .002 inch limit. Verify the pump and motor alignment after making any corrections.

   h. Perform soft foot and bolt clearance inspection in the presence of the ENGINEER.

5. Re-check the alignment after the unit has been operated. Record the final alignment values in the presence of the ENGINEER.

3.4 PAINTING

A. Field Painting: Paint the motor mounting plate and coupling guard in accordance with the requirements of Section 09 96 00 "High Performance Coatings". Submit color samples for approval.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Furnish the services of the motor, variable frequency drive and pump manufacturer to provide proper installation of the equipment, inspect the completed installation, make any necessary adjustments, participate in startup and field testing of the equipment, and place the equipment in trouble-free operation as specified in Division 1.

B. Tests: After installation of each motor, variable frequency drive, refurbished pump and all appurtenances, subject the units to a field running test, as specified in Division 1, under actual operating conditions. Perform field tests int eh presence of, and as directed by, the Owner and Engineer.

1. Demonstrate that under all conditions of operation each unit:
    a. Has not been damaged by transportation or installation.
    b. Has been properly installed.
    c. Has no mechanical defects.
    d. Has been connected properly.
    e. Is free of overheating oof any parts.
    f. Is free of overloading of any parts.

2. Test the pumping units to demonstrate that the pumps and control system operate as specified. Promptly correct any defects in the equipment or failure to meet the requirements of the specifications. Pumps shall run satisfactorily, without fault, for 100 hours under normal operating conditions. Any failure during the test will result in resetting the 100-hour test requirement duration.

END OF SECTION

ELECTRONIC BID PROPOSAL INSTRUCTIONS - EXCEL SPREADSHEET

PROJECT NO: TMUA-W 21-04

Please read the following instructions carefully.

1. After opening this file re-save it as your company's name.
2. Open the BID FORM Sheet from the tabs below.
3. Input the unit price of the appropriate pay item in the cells highlighted in blue.
4. Review all data input and check calculations to ensure accuracy of Bid.
5. Print 1hardcopy of the "PROPOSAL" tab, BID FORM and the "SIGNATURE PAGE" tab.
6. Complete and sign the "Signature Page" document.
6. Submit hardcopy and electronic disk with Contract Documents and Specifications for Bid opening date.

LEGEND

$	1.00	Cells Requiring Data Input.
$	1.00	Internal Data Transfer.
$	2.00	Calculated Results.

AGREEMENT FOR USING ELECTRONIC BID PROPOSAL

By and Between: TYLin , (ENGINEER) and RECIPIENT. The enclosed electronic media is provided pursuant to your request and is for your limited use in connection with your submittal of Bid Proposal for Project No. TMUA-W 21-04. In no event shall the information be used for any other purpose or be released to third parties without the written consent of the ENGINEER. In the event of a discrepancy between the hard copy and this electronic media at delivery or in the future, the hard copy shall govern. ENGINEER hereby disclaims any and all liability for the consequences from use of the electronic media and makes no warranty or guarantee of accuracy. RECIPIENT shall assume full responsibility for the uses and consequences of the electronic media. It is agreed that ENGINEER has and retains ownership of the electronic media. ENGINEER does not warrant or guarantee that the electronic data is compatible with RECIPIENT'S computer hardware or software, and ENGINEER'S responsibility for the electronic media is limited to replacement of defective media for a period of thirty (30) days after delivery to RECIPIENT. !!! By opening and using this FILE, You AGREE to these TERMS AND CONDITIONS!!!

PROPOSAL
PROJECT NO: TMUA-W 21-04
WOODS PUMP STATION

TO: TULSA METROPOLITAN UTILITY AUTHORITY
CITY OF TULSA, OKLAHOMA

THE UNDERSIGNED BIDDER, having carefully examined the drawings, specifications, and other Contract Documents of the above project presently on file in the City Clerk, City of Tulsa Oklahoma:

CERTIFIES THAT he has inspected the site of the proposed work and has full knowledge of the extent and character of the work involved, construction difficulties that may be encountered, and materials necessary for construction, class and type of excavation, and all other factors affecting or which may be affected by the specified work; and

CERTIFIES THAT he has not entered into collusion with any other bidder or prospective bidder relative to the project and/or bid: and

HEREBY PROPOSES: to enter into a contract to provide all necessary labor, materials, equipment and tools to completely construct and finish all the work required by the Contract Documents hereto attached and other documents referred to therein: to complete said work within **540 calendar days** after the work order is issued; and to accept in full payment therefore the amount set forth below for all work actually performed as computed by the Engineer as set forth in the Contract.

Basis of Award

THE BID PROPOSAL INCLUDES A BASE BID PLUS THREE ADDITIVE ALTERNATES. IT SHOULD BE NOTED THAT THE LOWEST RESPONSIVE TOTAL BID SHALL BE DETERMINED BY THE BASE BID PLUS ADDITIVE ALTERNATES 1 - 3, INCLUDING ANY COMBINATION OF BASE BID PLUS ADDITIVE ALTERNATES 1 - 3. ADDITIVE ALTERNATES 1 - 3, MAY OR MAY NOT BE INCLUDED IN THE CONTRACT AWARD AT THE SOLE DISCRETION OF THE CITY OF TULSA. ANY PROPOSAL SUBMITTED WITH THE ADDITIVE ALTERNATES 1 - 3 INCOMPLETE, SHALL BE CONSIDERED NON-RESPONSIVE

Note: - Item numbers omitted are not a part of the Contract.

PROPOSAL
PROJECT NO: TMUA-W 21-04
WOODS PUMP STATION

					DATA INPUT	
BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL EACH ITEM
1	COT 303	MOBILIZATION/DEMOBILIZATION	EA	1		
2	01 29 50	CONSTRUCTION ALLOWANCE	ALLOW	200000	$1.00	$200,000.00
3	01 29 50	SWPPP/SOIL PROTECTION AND SITE RESTORATION	EA	1		
4	02 41 00	EXISTING PUMP MOTOR / GEAR REDUCER DEMOLITION	EA	2		
5	02 41 00	AIR INTAKE / EXHAUST PIPING DEMOLITION AND ROOF REPAIR	EA	2		
6	02 41 00	CAPACITY AND SCADA CONTROL PANEL DEMOLITION	EA	2		
7	02 41 00	ELECTRICAL DEMOLITION	EA	1		
8	23 81 26	HVAC EQUIPMENT	EA	2		
9	26 05 19	ELECTRICAL FEEDERS	LF	2000		
10	26 05 43	CONCRETE DUCTBANK	LF	110		
11	26 05 80	480V ELECTRIC MOTORS	EA	2		
12	26 08 80	ELECTRICAL EQUIPMENT STARTUP AND TESTING	EA	1		
13	26 22 00	50kVA 480 V - 120/240V EXTERIOR TRANSFORMER	EA	1		
14	26 24 13	480V SWITCHBOARD	EA	1		
15	26 24 16	MAIN DISTRIBUTION PANELBOARD	EA	1		
16	26 24 16	EMERGENCY DISTRIBUTION PANELBOARD	EA	1		
17	26 29 23	400HP 480V AFDS	EA	2		
18	26 36 23	AUTOMATIC TRANSFER SWITCH; 240V, 150A	EA	1		
19	40 90 00	OIT WITH PROGRAMMING (APPROXIMATELY 5 SCREENS EACH	EA	3		
20	40 90 00	SCADA HMI PROGRAMMING (APPOXIMATELY 5 SCREENS)	EA	5		
21	40 96 13	PLC CONTROL PANEL (APPROXIMATELY 350 I/O POINTS)	EA	3		
22	40 98 00	TESTING, COMMISSIONING & DRAWINGS	EA	1		
23	COT 334	CONSTRUCTION AS BUILT DOCUMENTATION	EA	1		
TOTAL BASE BID						**$200,000.00**
		BID ALTERNATES				
BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL EACH ITEM
24	26 29 23	400HP 480 VFD SPARE (ADDITIVE ALTERNATE 1)	EA	1		
25	26 32 13	35KW GENERATOR (ADDITIVE ALTERNATE 2)	EA	1		
26	43 21 17	PUMP REFURBISHMENT (ADDITIVE ALTERNATE 3)	EA	2		
TOTAL FOR ALL ADDITIVE ALTERNATES 1-3						
TOTAL BASE BID PLUS ADDITIVE ALTERNATES						**$200,000.00**

BASE BID	$200,000.00
ADDITIVE ALTERNATE 1	$0.00
ADDITIVE ALTERNATE 2	$0.00
ADDITIVE ALTERNATE 3	$0.00
BASE BID PLUS ADDITIVE ALTERNATE 1	$200,000.00
BASE BID PLUS ADDITIVE ALTERNATE 2	$200,000.00
BASE BID PLUS ADDITIVE ALTERNATE 3	$200,000.00
BASE BID PLUS ADDITIVE ALTERNATES 1 - 3	$200,000.00

BASE BID (ITEMS 1 THRU 23)	$200,000.00
ADDITIVE ALTERNATE #1 (ITEM 24)	$0.00
ADDITIVE ALTERNATE #2 (ITEM 25)	$0.00
ADDITIVE ALTERNATE #3 (ITEM 26)	$0.00
BASE BID PLUS ADDITIVE ALTERNATES # 1-3 (ITEMS 1 - 26)	$200,000.00

Enclosed is a ( ) Bidder's Surety Bond, ( ) Certified Check, ( ) Cashier's Check for

_____ Dollars ($_____)
Figures

which the City of Tulsa may retain or recover as liquidated damages in the event that the undersigned fails to enter into contract for the work covered by this proposal., provided the Contract is awarded to the undersigned within thirty (30) days, or within ninety (90) days if Federal funds are utilized, from the date fixed for opening of bids and the undersigned fails to execute said Contract and furnish the required bonds and other requirements as called for in these Contract Documents within thirty (30) days after award of Contract.

Dated at Tulsa, Oklahoma, this _____ day of _____, 20__.

Respectfully submitted,

_____
(Complete legal name of company)

_____
(State of Organization)

By: ATTEST:

_____ _____
Title: Title: Corporate Secretary
Printed Name: Printed Name:

(SEAL)

Address:_____
_____
_____
_____
_____

Telephone Number: _____ Fax Number: _____

By signing above the bidder acknowledges receipt of the following Addenda (give number and date of each):

_____
_____
_____
_____

CITY OF TULSA STANDARD DETAILS AND SPECIFICATIONS USED IN THIS PROJECT

CITY OF TULSA STANDARDS 303
CITY OF TULSA STANDARDS 304 1

TULSA METROPOLITAN UTILITY AUTHORITY

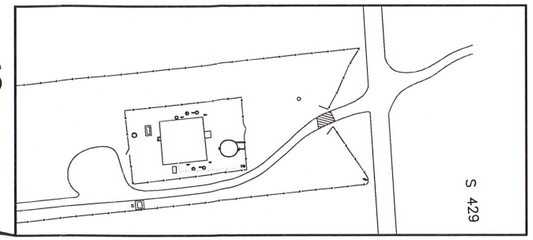
CITY OF TULSA, OKLAHOMA

ACCOUNT NO. 2331W00005.WATERCAP.7417400.6021

PROJECT NO. TMUA-W 21-04, PROJECT 136514

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

MARCH 2025

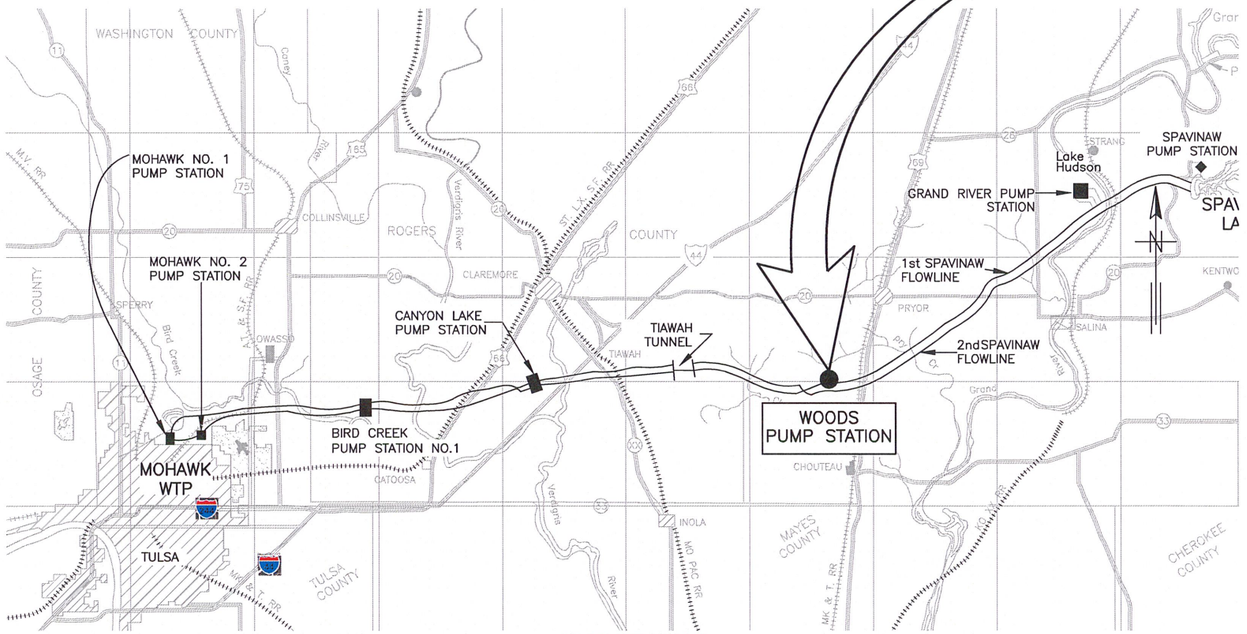


PROJECT LOCATION MAP

SCALE: NOT TO SCALE
ADDRESS: 4316 S. 429
CHOUTEAU, OK 74337

PROJECT COORDINATION/CONTACTS		
ORGANIZATION	NAME	NUMBER
CITY OF TULSA, WATER DESIGN LEAD ENGINEER	CHERYL WILSON	918-596-9559
CITY OF TULSA, PM	CODY SHULTS	918-596-1208
CITY OF TULSA, SR. SPECIAL PROJECTS ENGINEER	RACHEL WATTS	918-596-2412
CITY OF TULSA, RAW WATER MANAGER	JEREMY LEDBETTER	918-596-8101
CITY OF TULSA, WATER SUPPLY SYSTEMS MANAGER	STEFANIE HUNTER	918-596-8037
CITY OF TULSA, UTILITY COORDINATOR	TONY GLYNN	918-596-9245

UTILITY CONTACTS		
COMPANY	NAME	NUMBER
OKLAHOMA NATURAL GAS CO.	CRAIG POWELL	918-831-8261
AT&T	ALFRED NICHOLS	539-444-1069
COX COMMUNICATIONS	JASON HOLT	918-830-7238
ONG	CODY YOST	918-831-8292
AEP-PSO	CHRIS WILLIAMS	918-476-2715
COT UTILITY COORDINATOR	CHRIS KOVAC	918-596-9649



VICINITY MAP

SCALE: NOT TO SCALE

ENTIRE PROJECT IS NOT WITHIN CORPORATE LIMITS OF THE CITY OF TULSA (COT).

PREPARED BY:

GREELEY AND HANSEN
A TYLin Company

312 South Boston Ave, Suite 300
Tulsa, Oklahoma 74103-3311
Ph 800-837-9779

Certificate of Authorization No. 1975
Certificate Expires JUNE 30, 2026

LICENSED PROFESSIONAL ENGINEER
JOSEPH M. TEUSCH
24406
OKLAHOMA

SEAL AFFIXED
MARCH 18, 2025
APPROVED Joseph Teusch

APPROVED BY: _____ DATE: 4.23.2025
DIRECTOR, WATER AND SEWER DEPARTMENT

ADVERTISEMENT DATE: _____

1 CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS GOVERN. ALL OTHER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AS ADOPTED BY THE CITY OF TULSA.

THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS

BEFORE YOU DIG 811 CALL OKIE

T:\O\GH-TUL\L\TULSA OFFICE\PROJECTS\0141_TMUA\0141G_RAW WATER PS ASSESSMENT\04-CAD.BIM.GIS\CIVIL3D (MULTIPLE CONTRACTS)\01 WOODS PUMP STATION\01416_G00 2025/04/10 9:13 AM MATTHEW RODENBECK

TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514

PAY ITEM NOTES:

WATER:

1. SEE SPECIFICATION SECTION 01 29 50 - CONTRACT ITEMS FOR ADDITIONAL REQUIREMENTS.
2. ALL ESTIMATED QUANTITIES SHOWN ARE APPROXIMATE AND ARE TO BE USED ONLY (A) AS A BASIS FOR ESTIMATING THE PROBABLE COST OF THE WORK, AND (B) FOR THE PURPOSE OF COMPUTING THE BIDS SUBMITTED FOR THE WORK. THE ACTUAL AMOUNTS OF WORK DONE AND MATERIALS FURNISHED UNDER THE UNIT PRICE ITEMS MAY DIFFER FROM THE ESTIMATED QUANTITIES. THE BASIS OF PAYMENT FOR WORK AND MATERIALS WILL BE THE ACTUAL AMOUNT OF WORK DONE AND MATERIALS FURNISHED. CONTRACTOR AGREES THAT IT WILL MAKE NO CLAIM FOR DAMAGES, ANTICIPATED PROFITS, OR OTHERWISE ON ACCOUNT OF ANY DIFFERENCE BETWEEN THE AMOUNTS OF WORK ACTUALLY PERFORMED AND MATERIALS ACTUALLY FURNISHED AND THE ESTIMATED AMOUNTS THEREOF.
3. CONTRACTOR IS REMINDED TO BACKFILL ALL TRENCHES EXCAVATED ACROSS ANY EXISTING OR PROPOSED DRIVING OR PARKING SURFACE WITH 1¼-IN TYPE A AGGREGATE BASE, PLACED IN 8-INCH MAXIMUM LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. COST TO BE INCLUDED IN COST OF EXCAVATION AND BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE.
4. THE PAY ITEM FOR SEEDING INCLUDES THE QUANTITIES FOR PLACEMENT AND COMPACTION OF SUITABLE BACKFILL AND PLACING GRASS SEED AT EXISTING GRASS AREAS WHICH MAY BE DAMAGED DURING CONSTRUCTION AND WATERING AND FERTILIZING. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED A T THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION OF 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF DAMAGE TO EXISTING GRASS THAT EXCEEDS WORK ARE LIMITS SHOWN ON PLANS.
5. THE "OWNER ALLOWANCE" CAN BE USED FOR VARIOUS WORK AND MISCELLANEOUS ITEMS NOT IDENTIFIED IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING PROVISIONS: THE ALLOWANCE SHALL BE USED FOR COST OF MATERIALS, LABOR, INSTALLATION AND OVERHEAD AND PROFIT FOR ADDITIONAL WORK AND MISCELLANEOUS ITEMS THAT ARE NOT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND PLANS, AND NOT INCLUDED IN THE BID ITEMS OF THE CONTRACT.

A. THE ALLOWANCE SHALL BE USED ONLY AT THE DISCRETION OF THE CITY. ANY ALLOWANCE BALANCE REMAINING AT THE COMPLETION OF THE PROJECT WILL BE CREDITED BACK TO THE CITY ON THE FINAL APPLICATION FOR PAYMENT SUBMITTED BY THE CONTRACTOR.
B. THE CONTRACTOR SHALL PROVIDE, TO THE CITY, A WRITTEN REQUEST FOR THE USE OF ANY ALLOWANCE, WITH A SCHEDULE OF VALUES, AND ALL ASSOCIATED BACKUP INFORMATION, INCLUDING ANY TIME EXTENSIONS REQUIRED TO PERFORM THE WORK.
C. THE CONTRACTOR SHALL PROCEED WITH THE WORK INCLUDED IN THE ALLOWANCE ONLY AFTER RECEIVING A WRITTEN ORDER, FROM THE ENGINEER AND CITY AUTHORIZING SUCH WORK. PROCEEDING WITH WORK IN THE ALLOWANCE WITHOUT A WRITTEN ORDER FROM THE CITY WILL BE AT THE CONTRACTOR'S EXPENSE.

REMOVAL / ADJUSTMENT PAY ITEM NOTES:

1. WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.
2. ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.
3. PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.
4. INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK.
5. SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.
6. INCLUDES DRAINING OF THE EXISTING LINE, DEMOLITION, DISCONNECTING AND RELOCATING. VALVE RELOCATION ALSO INCLUDES THE CLEANING AND REPAINTING OF THE EXISTING VALVE AND OPERATOR. MAKE RELOCATIONS SHOWN TO MATCH THE MATERIAL AND QUALITY OF THE FACILITY, CONSTRUCTION OR WORK TO BE RELOCATED. RELOCATIONS SHOWN ARE TO BE ARRANGED AS REQUIRED TO PRODUCE PERFORMANCE, UTILITY AND ACCESS EQUAL TO THE EXISTING WORK.

EARTHWORK / EROSION CONTROL / SITE PREPARATION:

1. ALL COSTS FOR REMOVING TREES, SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.
2. ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.
4. EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:

A. AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM;
B. IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY;
C. FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
D. WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN.
E. ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.

5. PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.
6. PRICE BID SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITTING NECESSARY TO SATISFY THE STATE, LOCAL AND FEDERAL SWPPP REQUIREMENTS THROUGHOUT THE COURSE OF THE CONSTRUCTION ACTIVITIES.

PAY QUANTITIES

BID ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QTY
1	COT 303	MOBILIZATION/DEMOBILIZATION	1	EA	1
2	01 29 50	CONSTRUCTION ALLOWANCE	5	ALLOW	200,000
3	01 29 50	SWPPP/SOIL PROTECTION AND SITE RESTORATION	1, 3, 4	EA	1
4	02 41 00	EXISTING PUMP MOTOR / GEAR REDUCER DEMOLITION	1	EA	2
5	02 41 00	AIR INTAKE / EXHAUST PIPING DEMOLITION AND ROOF REPAIR	1	EA	2
6	02 41 00	CAPACITY AND SCADA CONTROL PANEL DEMOLITION	1	EA	2
7	02 41 00	ELECTRICAL DEMOLITION	1	EA	1
8	23 81 26	HVAC EQUIPMENT	1	EA	2
9	26 05 19	ELECTRICAL FEEDERS	1, 2	LF	2,000
10	26 05 43	CONCRETE DUCTBANK	1, 2, 3	LF	110
11	26 05 80	480V ELECTRIC MOTORS	1	EA	2
12	26 08 80	ELECTRICAL EQUIPMENT STARTUP AND TESTING	1	EA	1
13	26 22 00	50kVA 480 V - 120/240V EXTERIOR TRANSFORMER	1	EA	1
14	26 24 13	480V SWITCHBOARD	1	EA	1
15	26 24 16	MAIN DISTRIBUTION PANELBOARD	1	EA	1
16	26 24 16	EMERGENCY DISTRIBUTION PANELBOARD	1	EA	1
17	26 29 23	400HP 480V AFDS	1	EA	2
18	26 36 23	AUTOMATIC TRANSFER SWITCH; 240V, 150A	1	EA	1
19	40 90 00	OIT WITH PROGRAMMING (APPROXIMATELY 5 SCREENS EACH)	1	EA	3
20	40 90 00	SCADA HMI PROGRAMMING (APPOXIMATELY 5 SCREENS)	1	EA	5
21	40 96 13	PLC CONTROL PANEL (APPROXIMATELY 350 I/O POINTS)	1	EA	3
22	40 98 00	TESTING, COMMISSIONING & DRAWINGS	1	EA	1
23	COT 334	CONSTRUCTION AS-BUILT DOCUMENTATION	1	EA	1

BID ALTERNATES

BID ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	UNIT	QTY
24	26 29 23	400HP 480 VFD SPARE (ADDITIVE ALTERNATE 1)	1		EA
25	26 32 13	35KW GENERATOR (ADDITIVE ALTERNATE 2)	1		EA
26	43 21 17	PUMP REFURBISHMENT (ADDITIVE ALTERNATE 3)	1		EA

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
JOSEPH M. TEUSCH
24406
OKLAHOMA

REVISION	BY	DATE
ADDENDUM NO. 1	BB	04/2025

GENERAL
PAY ITEMS
AND PAY ITEM NOTES

PROJECT NO. TMUA-W 21-04

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GREELEY AND HANSEN, A TYLin Company, 312 SOUTH BOSTON AVE, SUITE 300, TULSA, OKLAHOMA 74103-3311

PLAN SCALE:
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	TD	
DESIGNED	BB	
SURVEY		
PROJ. MGR.	BB	
LEAD ENGR.	JT	
FIELD MGR.		
RECOMMENDED		

APPROVED:

DESIGN MANAGER
CITY ENGINEER

DWG NAME: G02
DATE: MARCH 2025
ATLAS PAGE NO:
SHEET 3 OF 30 SHEETS

TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514

DESCRIPTION OF WORK

1. THE WORK TO BE DONE UNDER THIS CONTRACT CONSISTS OF THE CONSTRUCTION OF IMPROVEMENTS AT RAW WATER FACILITIES AS SHOWN AND SPECIFIED IN THE CONTRACT DOCUMENTS ENTITLED "WOODS PUMP STATION IMPROVEMENTS RAW WATER PS ASSESSMENTS", PROJECT NUMBER TMUA-W 21-04.
2. WOODS PUMP STATION IS LOCATED AT 4316 S. 429, CHOUTEAU OKLAHOMA 74337. WOODS PUMP STATION IMPROVEMENTS INCLUDE PUMP REHABILITATION, ELECTRIC MOTORS, VARIABLE FREQUENCY DRIVES, PUMP CONTROL PANELS, GENERATOR AND TRANSFER SWITCH, AND ALL GENERAL, STRUCTURAL, ARCHITECTURAL, LANDSCAPING, MECHANICAL HEATING AND VENTILATING, INSTRUMENTATION AND CONTROL, AND ELECTRICAL WORK AS SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION OF THE FACILITY AND RELATED CONDITIONS PRIOR TO BIDDING THIS CONTRACT.

SEQUENCE OF WORK:

THE CONTRACT DOCUMENTS ARE INTENDED TO ALLOW THE CONTRACTOR FLEXIBILITY IN CONSTRUCTION OF THE WORK, HOWEVER THE FOLLOWING CONSTRAINTS APPLY:

1. REPLACE ONE PUMP AND ASSOCIATED NATURAL GAS ENGINE AT A TIME. COMPLETE SATISFACTORY 100-HOUR TEST AND OWNER APPROVAL BEFORE STARTING ANOTHER PUMP-ENGINE SYSTEM.
2. NO WORK WHICH INTERFERES WITH CRITICAL OPERATIONS OF FACILITIES SHALL BE DONE BETWEEN APRIL 1 AND OCTOBER 1.
3. OWNER WILL ALLOW USE OF BRIDGE CRANE PROVIDED NO LIFTED LOADS EXCEED 50% OF THE RATED CAPACITY OF THE CRANE. PRIOR TO COMMENCING THE WORK, SUBMIT TO THE ENGINEER FOR INFORMATION, ANTICIPATED LIFTS AND LOADING AS WELL AS PERFORM AN INITIAL INSPECTION INDICATING ANY DEFECTS OR DAMAGE TO THE OVERHEAD CRANE AND ALL ASSOCIATED COMPONENTS. CONTRACTOR WILL BE HELD RESPONSIVE FOR ANY DAMAGE RESULTING FROM USE OF THE CRANE. IF ANY LOAD EXCEEDS 50% OF THE RATED CAPACITY OF THE CRANE, THE CONTRACTOR WILL PROVIDE A LOAD TEST AND INSPECTION OF THE CRANE PERFORMED BY AN OSHA CERTIFIED CRANE AND HOIST INSPECTION COMPANY PRIOR TO COMMENCING THE WORK AND MUST PASS A LOAD TEST AND INSPECTION UPON COMPLETION OF THE WORK. LOAD TEST AND INSPECTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. MAINTAIN ACCESS ROAD AND PARKING LOT IN GOOD CONDITION AT ALL TIMES TO FACILITATE CITY OF TULSA OPERATION AND MAINTENANCE OF WOODS PUMPING STATION.

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT CITY OF TULSA STANDARD SPECIFICATIONS AND STANDARD DETAILS AND THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AS ADOPTED BY THE CITY OF TULSA.
2. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING SAFETY, HEALTH, AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTION ON AS HIS/HER OWN RESPONSIBILITY OR AS THE ENGINEER MAY DETERMINE REASONABLY NECESSARY TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
3. PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.
4. THE SITE AND/OR RIGHTS-OF-WAY UPON WHICH THE WORK IS TO BE PERFORMED IS SHOWN ON THE DRAWINGS. THE CONTRACTOR AGREES THAT THE SITE AND/OR RIGHTS-OF-WAY PROVIDED IS ADEQUATE FOR THE PERFORMANCE OF THE WORK. IF ANY ADDITIONAL WORKING AREA IS REQUIRED, THE CONTRACTOR SHALL, AT HIS/HER EXPENSE, MAKE ARRANGEMENTS FOR SUCH WORKING AREA. THE CITY WILL NOT BE LIABLE FOR ADDITIONAL COMPENSATION AS A RESULT OF ANY DELAY IN OBTAINING RIGHTS-OF-WAY. THE EXACT LOCATION OF PROJECT SITES ARE SHOWN ON THE DRAWINGS.
5. LOCATIONS AND ELEVATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATIONS OF ALL UTILITIES AND STRUCTURES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RESULT FROM HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES. SEE TITLE SHEET FOR CONTACT INFORMATION.
6. ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
7. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND MAINTENANCE OF THE STORMWATER DRAINAGE. STORMWATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED.
9. STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.
10. CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE FLOODPLAIN.
11. CONTRACTOR SHALL DOCUMENT PRE-CONSTRUCTION SITE CONDITIONS BY MEANS OF PHOTOGRAPHS AND VIDEO TAPE WITH CITY REPRESENTATIVE BEFORE THE START OF CONSTRUCTION. COST SHALL BE CONSIDERED AS INCIDENTAL AND NO SEPARATE PAYMENT SHALL BE MADE.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:
    A. ANY PERMITS OR LICENSES REQUIRED FOR CONSTRUCTION.
    B. PROPER NOTIFICATION OF ALL NECESSARY AGENCIES PRIOR TO CONSTRUCTION AND FOR REQUIRED INSPECTIONS.
    C. DETERMINING THE EXACT LOCATION OF ANY UTILITIES. EXISTING UTILITIES TO REMAIN IN SERVICE AT ALL TIMES. SERVICE DISRUPTION TO BE AT CONTRACTOR'S RISK AND EXPENSE.
17. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING STRUCTURES, UTILITIES AND EQUIPMENT, AND TO MAINTAIN UNINTERRUPTED OPERATION. PROVIDE ALL TEMPORARY SUPPORTS, BRACES SHEETING AND SHORING AS NECESSARY TO PROTECT AND MAINTAIN ALL STRUCTURES, PIPING, EQUIPMENT AND APPURTENANCES. ANY DAMAGE RESULTING FROM THE ACTIONS, OR LACK OF ACTIONS BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT HIS/HER EXPENSE.
18. THE REQUIRED WORK WILL TAKE PLACE WITHIN AN OPERATING RAW WATER FACILITY, AND THE WORK WILL REQUIRE MODIFICATION AND REHABILITATION OF EXISTING EQUIPMENT, PIPING AND STRUCTURES. EXISTING EQUIPMENT, PIPING AND STRUCTURES WILL BE IN SERVICE UNTIL THEY ARE TAKEN OUT OF SERVICE EITHER PERMANENTLY OR TEMPORARILY AS REQUIRED FOR THE CONTRACTOR'S WORK. PROVIDE LABOR AND MATERIALS TO CLEAN AND OTHERWISE PREPARE WORK AREAS AS REQUIRED.
19. CERTAIN FACILITIES MAY BE TAKEN OUT OF SERVICE TEMPORARILY ONLY WITH PRIOR APPROVAL OF THE OWNER. UNDER THESE CONDITIONS, ONLY WATER OPERATIONS SHALL OPERATE VALVES OR EQUIPMENT. CONTRACTOR SHALL NOTIFY OWNER A MINIMUM OF 72 HOURS IN ADVANCE IF THE CONTRACTOR REQUIRES OPERATION OF ANY VALVES, PUMPS, OR OTHER EQUIPMENT TO FACILITATE CONSTRUCTION ACTIVITIES.
20. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO OWNER OF ANY WORK REQUIRING CHANGES IN OPERATING PROCEDURES OR REMOVAL OF EQUIPMENT OR STRUCTURES FROM SERVICE A MINIMUM OF 30 DAYS IN ADVANCE TO THE REQUIRED DATE.
21. LIMIT OPERATIONS GENERALLY TO THE AREA AROUND THE FACILITIES IN THIS CONTRACT. ACCESS OF WORK REQUIRED IN OTHER AREAS OF THE SITE SHALL BE ARRANGED AND COORDINATED WITH THE ENGINEER. ALL EMPLOYEES OF THE CONTRACTOR AND HIS/HER SUBCONTRACTORS SHALL BE REQUIRED TO OBTAIN CITY OF TULSA ID BADGE. EACH EMPLOYEE SHALL SUBMIT A COMPLETED CITY OF TULSA ACCESS CARD/IDENTIFICATION CARD/DRIVER'S LICENSE AND KEY REQUEST FORM TO CITY OF TULSA PUBLIC FACILITIES SECURITY. EACH EMPLOYEE SHALL SUBMIT COMPLETED APPLICATION FOR CITY OF TULSA SECURITY BACKGROUND AND PRESCREEN INVESTIGATION FORM.
22. ACCESS TO SOME AREAS OF WORK MAY BE LIMITED AND MAY NOT BE EASILY ACCESSIBLE BY SOME TYPES OF CONSTRUCTION EQUIPMENT FROM EXISTING ROADS. INSPECT THE SITE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PROVIDE ANY AND ALL EQUIPMENT REQUIRED TO PERFORM THE WORK. SUBMIT STRUCTURAL LOAD CALCULATIONS AND WORKING DRAWINGS PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF OKLAHOMA FOR PRIOR APPROVAL SHOWING ALL CONSTRUCTION LOADS ON EXISTING STRUCTURES AND FACILITIES AND DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER THAT THE CAPACITY OF EXISTING STRUCTURES AND FACILITIES WILL NOT BE EXCEEDED BY ANY LOAD DEVELOPED DURING CONSTRUCTION.
23. MAKE ALL MEASUREMENTS NECESSARY TO LOCATE, FABRICATE, ERECT, CONSTRUCT AND OTHERWISE INSTALL ALL NEW WORK IN EXISTING AND NEW LOCATIONS AND RELOCATE AND REWORK EXISTING WORK ALL TO THE ARRANGEMENTS, GUIDANCE AND INSTRUCTIONS SHOWN AND REQUIRED FOR A COMPLETE TROUBLE-FREE OPERATING INSTALLATION.
24. PROVIDE ALL SUPPORT OR ANCILLARY ITEMS AND WORK FOR ITEMS SUBMITTED AS EQUIVALENT TO SPECIFIED ITEMS THAT ARE REQUIRED TO PROVIDE THE SAME FUNCTIONAL, OPERATIONAL AND CONTROL CAPABILITIES, NEEDS AND REQUIREMENTS SHOWN AND SPECIFIED FOR THE SPECIFIED ITEM. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO SUBMIT ALL SUPPORT AND ANCILLARY ITEMS AND WORK WITH HIS/HER SUBMITTAL OF THE PROPOSED EQUIVALENT ITEM AND TO SHOW THAT THE PROPOSED EQUIVALENT ITEM HAS BEEN PROPERLY COORDINATED, INTERFACED AND OTHERWISE INCORPORATED INTO THE WORK. PROVIDE ALL SUCH SUPPORT OR ANCILLARY ITEMS AND WORK WHETHER THE NEED FOR THEM HAS BEEN DETERMINED BEFORE, DURING OR AFTER APPROVAL OR ACCEPTANCE OF THE EQUIVALENT ITEM.
25. SECTION CUTTING PLANES ARE IDENTIFIED WITH A SECTION NUMBER AND THE DRAWING NUMBER ON WHICH THE SECTION IS SHOWN, I.E. 1/BM3. SECTION TITLES INCLUDE A FRACTION, WHERE THE NUMERATOR SHOWS THE SECTION IDENTIFYING NUMBER, AND THE DENOMINATOR INDICATES THE DRAWING ON WHICH THE SECTION IS CUT, I.E. SECTION 1/BM1.
26. DETAILS ARE IDENTIFIED WITH A NUMBER FOLLOWED BY THE DRAWING ON WHICH THE DETAIL IS SHOWN, I.E. 1/BM3. DETAIL TITLES INCLUDE A FRACTION, WHERE THE NUMERATOR SHOWS THE DETAIL NUMBER AND THE DENOMINATOR INDICATES THE DRAWING ON WHICH THE DETAIL IS CROSS-REFERENCED, I.E. DETAIL 3/S1.
27. A DISTINCTION BETWEEN NEW AND EXISTING MATERIALS, EQUIPMENT AND STRUCTURES HAS BEEN MADE ON THE DRAWINGS BY LINE WEIGHT. HEAVY REPRESENTS NEW, LIGHT REPRESENTS EXISTING.
28. AN ASTERISK (*) AT NEW CONSTRUCTION DENOTES LOCATIONS, ELEVATIONS, DIMENSIONS AND OTHER INFORMATION DEPENDENT ON THE CONTRACTOR'S SUBMITTALS. DEVELOP AND SHOW THE INFORMATION MARKED WITH AN ASTERISK (*) ON SUBMITTALS, DEVELOP AND PROVIDE SUCH INFORMATION FOR ALL ASTERISKS (*) WITHIN OR INTERFACING WITH ANY SUBMITTALS AND BETWEEN SUBMITTALS. THIS REQUIREMENT ALSO EXTENDS TO CONDITIONS OR SITUATIONS WHERE A LOCATION, DIMENSION, ELEVATION OR OTHER ITEM IS INDICATED TO BE DETERMINED AFTER FINAL SELECTION OF EQUIPMENT AND/OR APPURTENANCES. ALL INFORMATION FOR ASTERISK (*) AND EQUIPMENT/- APPURTENANCES SITUATIONS DESCRIBED HEREIN ARE THE RESPONSIBILITY OF THE CONTRACTOR TO DEVELOP AND ASSURE COMPATIBLE INTERFACING FOR A COMPLETE, COORDINATED AND TROUBLE-FREE OPERATING INSTALLATION. ALL REQUIREMENTS HEREIN SHALL BE BASED ON FINAL PROCESSING AND/OR REVIEW OF THE CONTRACTOR'S SUBMITTALS OR SELECTIONS.
29. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING PIPING, EQUIPMENT, STRUCTURES AND OTHER EXISTING WORK ARE BASED ON INFORMATION FURNISHED BY THE CITY EXISTING RECORD DRAWINGS AND CONTRACT DOCUMENTS AND IN SOME INSTANCES FIELD MEASUREMENTS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. LOCATIONS, ELEVATIONS AND DIMENSIONS OF NEW WORK CONNECTING OR ADJACENT TO OR INTERFACING WITH EXISTING WORK HAVE BEEN DEVELOPED AND ARRANGED BASED ON THE FOREGOING INFORMATION AND FIELD MEASUREMENTS. THE CONTRACTOR IS RESPONSIBLE TO FIELD CHECK AND MEASURE LOCATIONS, ELEVATIONS AND DIMENSIONS AND TO FIT AND OTHERWISE INSTALL THE NEW WORK TO ACTUAL EXISTING LOCATIONS, ELEVATIONS AND DIMENSIONS FOR A COMPLETE AND TROUBLE-FREE OPERATING FACILITY.
30. IF THERE IS DISAGREEMENT IN WORK SHOWN BETWEEN THE DRAWINGS AND PROJECT MANUAL PROVIDE THE MINIMUM WORK NEEDED TO SATISFY FUNCTIONAL, CONTROL AND INTERFACING REQUIREMENTS AND PROVIDE A TROUBLE-FREE OPERATING INSTALLATION.
31. NEW WORK INCLUDES ALL WORK SHOWN AS SUCH IN ANY MANNER ON THE PLANS, SPECIFIED AND OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS. EXISTING WORK SHALL BE REMOVED TO THE EXTENT SHOWN AND SPECIFIED AND AS NEEDED TO BE COMPATIBLE AND ACCOMMODATE NEW WORK OR REPLACEMENT WORK.
32. ALL SHOP AND WORKING DRAWING SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR TO INCORPORATE ALL REQUIREMENTS AND RESPONSIBILITIES OF THESE GENERAL, PAY ITEM AND CONSTRUCTION NOTES.
33. CONTRACTOR SHALL PROVIDE ALL DESIGNS, LABOR, EQUIPMENT AND SERVICES NEEDED FOR COMPLIANCE WITH PLANS AND SPECIFICATIONS. ALL COSTS ASSOCIATED WITH COMPLIANCE SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS, AND NO SEPARATE PAYMENT WILL BE MADE THEREFORE.

BEFORE YOU DIG 811 OKLAHOMA ONE-CALL CALL OKIE

LICENSED PROFESSIONAL ENGINEER JOSEPH M. TEUSCH 24406 OKLAHOMA

REVISION	BY	DATE
ADDENDUM NO. 1	BB	04/2025

GENERAL

GENERAL NOTES

PROJECT NO. TMUA-W 21-04

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

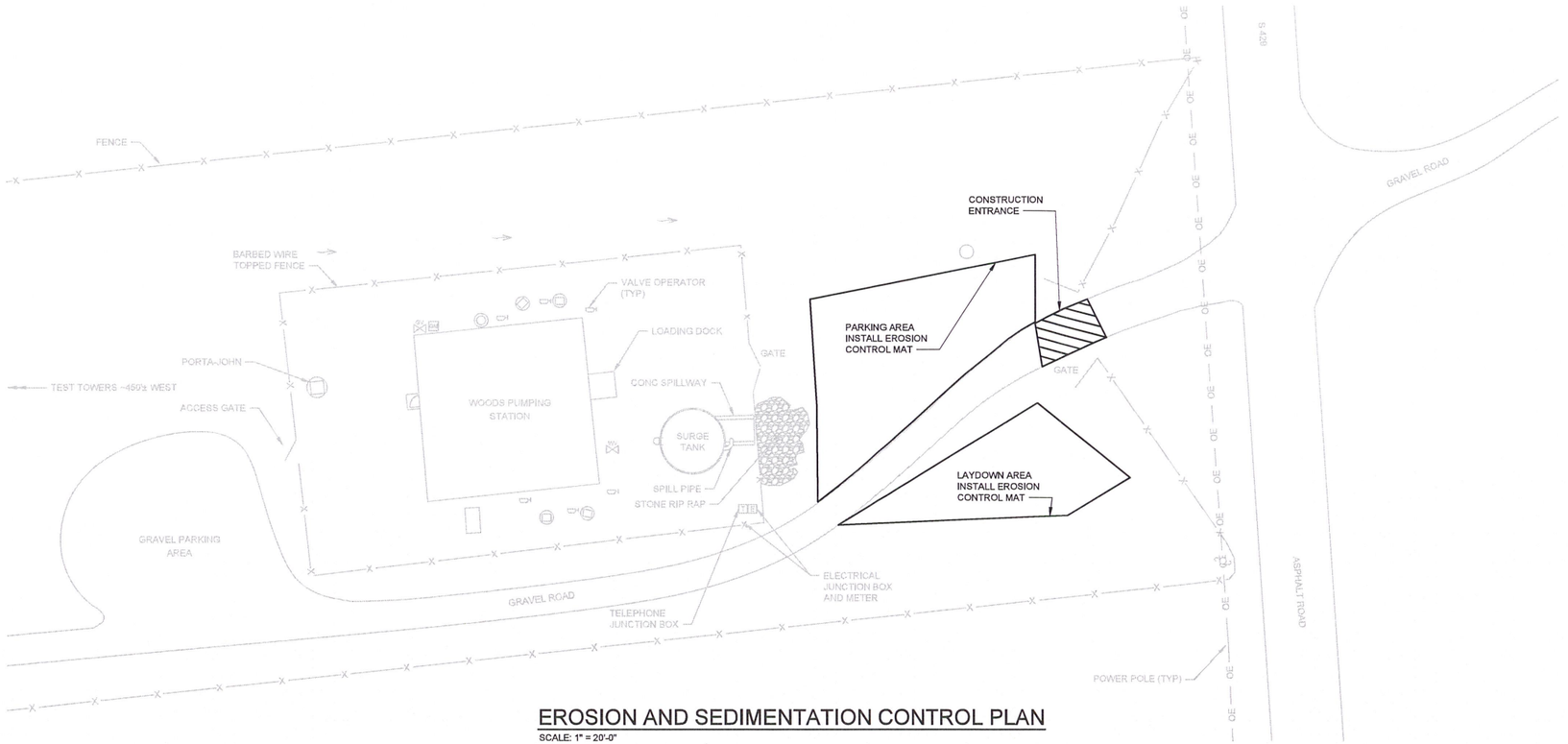
PLANS AND ESTIMATES PREPARED BY: GREELEY AND HANSEN, A TYLin Company, 312 SOUTH BOSTON AVE, SUITE 300 TULSA, OKLAHOMA 74103-3311

PLAN SCALE:	DRAWN	TD		APPROVED:
	DESIGNED	BB		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.	BB		
HORIZONTAL:	LEAD ENGR.	JT		
	FIELD MGR.			
VERTICAL:	RECOMMENDED			
	DESIGN MANAGER			CITY ENGINEER

DWG NAME: G03 — DATE: MARCH 2025

ATLAS PAGE NO: — SHEET 4 OF 30 SHEETS

TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514

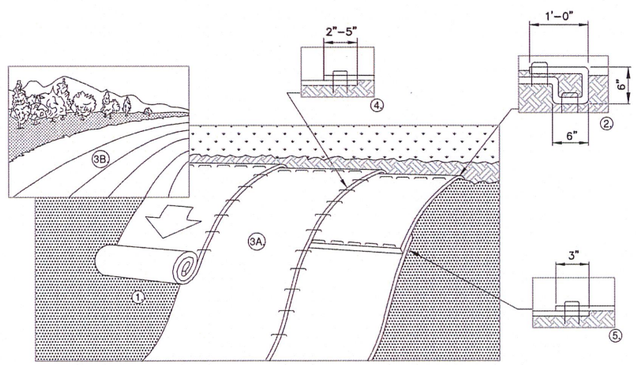


EROSION AND SEDIMENTATION CONTROL PLAN

SCALE: 1" = 20'-0"

NOTES:

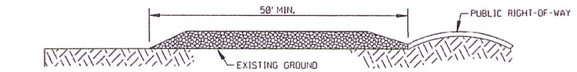
1. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE SECURITY.
2. ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODABLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.
3. CONTRACTOR TO RESTORE SITE TO PRE-CONSTRUCTION CONDITIONS. THIS INCLUDES RESTORATION OF LAYDOWN AREAS, LEVELING AND FILLING ALL RUTS FOR GRAVEL DRIVE AND REMOVAL AND RESTORATION OF TEMPORARY CONSTRUCTION ENTRANCE. CONTRACTOR MUST MAINTAIN GRAVEL ACCESS ROAD IN GOOD CONDITION AT ALL TIMES TO FACILITATE CITY OF TULSA ACCESS AND OPERATION.
4. ALL CONSTRUCTION EQUIPMENT MUST BE STORED INSIDE THE DESIGNATED LAYDOWN AREA.



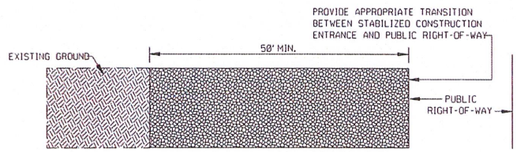
INSTALLATION GUIDE

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS (1) TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
   NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL MAT



PROFILE
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

NOTE:

1. STONE SIZE AASHTO DESIGNATION M43, SIZE NO. 2 (2-1/2" TO 1-1/2"). USE CRUSHED STONE.
2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SANDBAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

SCALE: NOT TO SCALE

REVISION	BY	DATE
ADDENDUM NO. 1	BB	04/2025

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
JOSEPH M. TEUSCH
24406
OKLAHOMA

CIVIL
EROSION AND SEDIMENTATION CONTROL PLAN AND DETAILS

PROJECT NO. TMUA-W 21-04

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

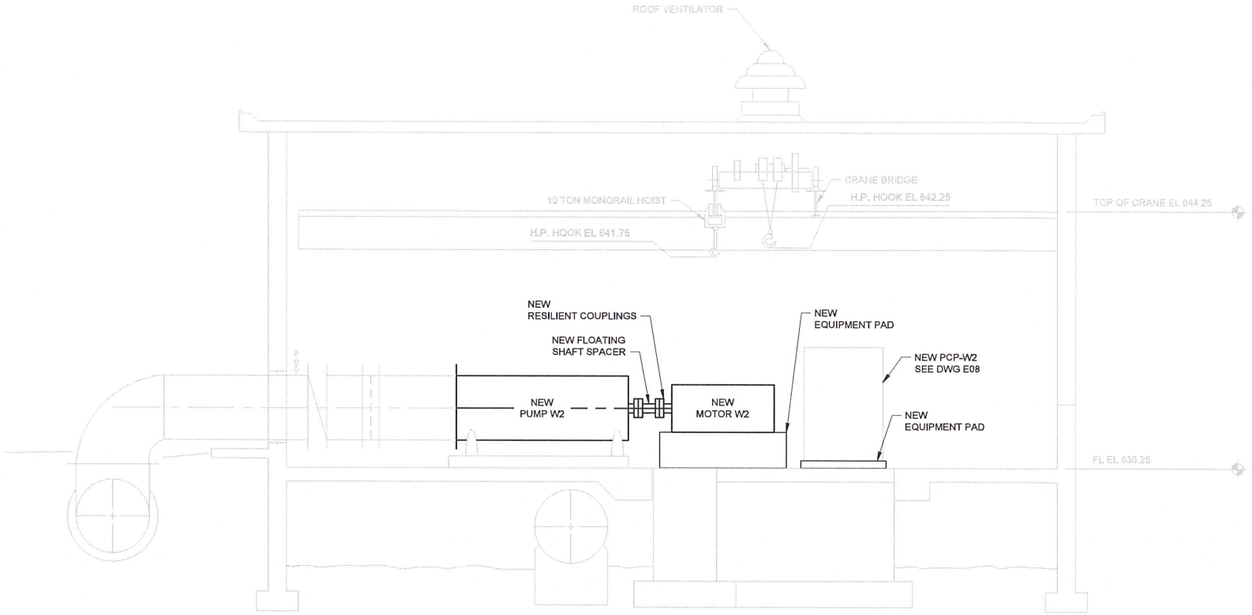
PLANS AND ESTIMATES PREPARED BY: GREELEY AND HANSEN, A TYLin Company, 312 SOUTH BOSTON AVE, SUITE 300, TULSA, OKLAHOMA 74103-3311

PLAN SCALE:	DRAWN	TD		APPROVED:
	DESIGNED	BB		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.	BB		
HORIZONTAL:	LEAD ENGR.	JT		
	FIELD MGR.			
VERTICAL:	RECOMMENDED: for Matt Vaughn, DESIGN MANAGER			CITY ENGINEER

DWG NAME: C02 — DATE: MARCH 2025

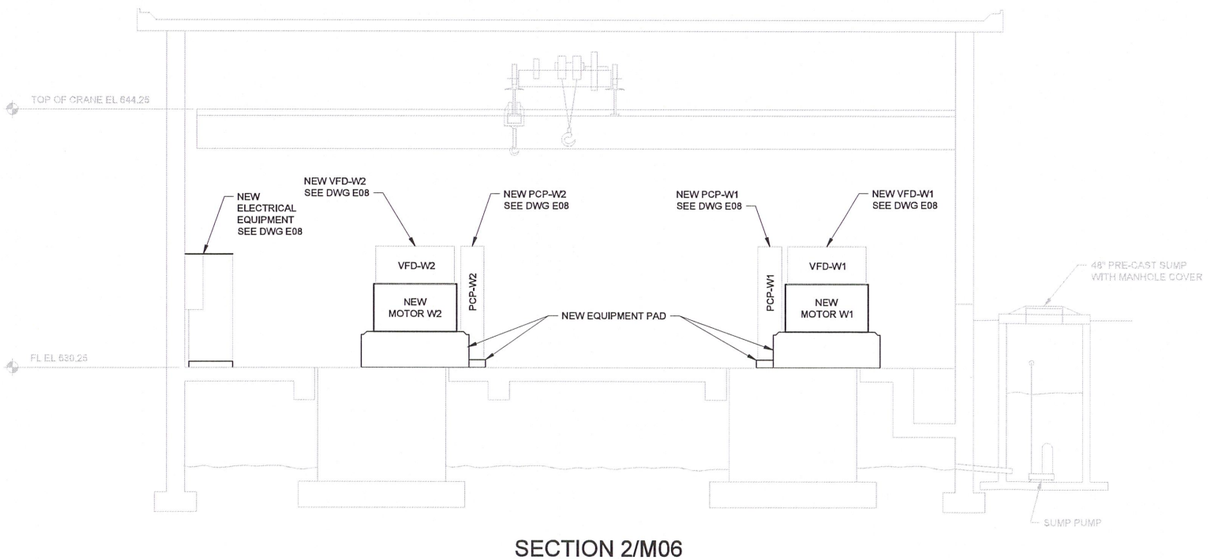
ATLAS PAGE NO: — SHEET 6 OF 30 SHEETS

TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514



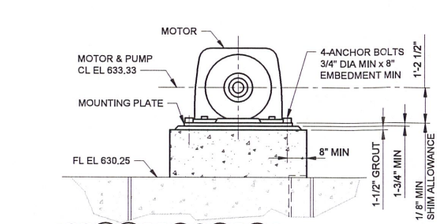
SECTION 1/M06

1/4" = 1'-0"



SECTION 2/M06

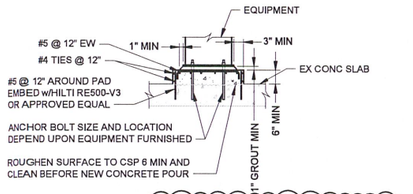
1/4" = 1'-0"



NOTE:
1. EQUIPMENT PADS TO BE DESIGNED PER THE MANUFACTURER'S REQUIREMENTS.

MOTOR MOUNTING DETAIL

NOT TO SCALE



NOTE:
1. CONTRACTOR TO SELECT EMBEDMENT TO MEET THE MANUFACTURER'S REQUIREMENTS OF THE SELECTED MOTOR. CONTRACTOR TO COORDINATE EMBEDMENT WITH THE MANUFACTURER AND ENGINEER UPON EQUIPMENT SELECTION. CONTRACTOR TO AVOID DAMAGE TO EXISTING REINFORCING. CONTRACTOR TO LOCATE AND AVOID EXISTING REINFORCING.

NOTES:

1. REFURBISHED EQUIPMENT INCLUDES PUMPS W1 AND W2. REFURBISHED EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE NEW ELECTRIC MOTORS.
3. AIR COMPRESSOR SHALL BE SALVAGED AND RELOCATED.

4 0 4 8 FT

1/4"=1'-0"

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
JOSEPH M. TEUSCH
24406
OKLAHOMA

MECHANICAL

NEW SECTIONS

PROJECT NO. TMUA-W 21-04

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GREELEY AND HANSEN A TYLin Company, 312 SOUTH BOSTON AVE, SUITE 300 TULSA, OKLAHOMA 74103-3311

REVISION	BY	DATE
ADDENDUM NO. 1	BB	04/2025

PLAN SCALE: 1/4" = 1'-0"
PROFILE SCALE:
HORIZONTAL:
VERTICAL:

DRAWN	OEV	
DESIGNED	BB	
SURVEY		
PROJ. MGR.	BB	
LEAD ENGR.	JT	
FIELD MGR.		
RECOMMENDED		

APPROVED:

DESIGN MANAGER

CITY ENGINEER

DWG NAME: M06

DATE: MARCH 2025

ATLAS PAGE NO:

SHEET 12 OF 30 SHEETS

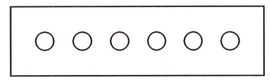
TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514

ELECTRICAL SITE PLAN

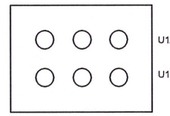
SCALE: 1" = 20'-0"

20 0 20 40 FT

1"=20'



1 E02 DUCTBANK SECTION
NOT TO SCALE



2 E02 DUCTBANK SECTION
NOT TO SCALE

NOTES:

1. ALLOW 10' CLEARANCE IN FRONT OF TRANSFORMER, SEE DETAIL ON SHEET E-11.
2. SEE PSO'S DESIGN SERVICE GUIDE FOR INFORMATION ON INSTALLATION.
3. CONSTRUCT NEW SERVICE PRIOR TO DEMOLISHING EXISTING SERVICES.
4. ELECTRICAL UTILITY TO PROVIDE AND INSTALL CABLE FROM UTILITY POLE TO TRANSFORMER. UTILITY TO PROVIDE AND INSTALL TRANSFORMER. CONTRACTOR RESPONSIBLE FOR ALL OTHER ELECTRICAL WORK.
5. CONTRACTOR TO CONFIRM THE TRANSFORMER SIZE AND REQUIRED PAD DIMENSIONS AND DESIGN WITH THE UTILITY AND TRANSFORMER MANUFACTURER.

KEY NOTES:

1. DIRECT BURY CONDUIT AT 48" DEPTH.
2. COORDINATE WITH PSO TO INSPECT PAD REINFORCEMENTS PRIOR TO CONCRETE POUR.
3. INSTALL DUCT BANK 12" ABOVE 72" WATER LINE.
4. INSTALL GENERATOR PAD A MINIMUM OF 8' FROM EDGE OF 72" WATER LINE.
5. FOR CONTINUATION SEE E08.

BEFORE YOU DIG 811 CALL OKIE

LICENSED PROFESSIONAL ENGINEER
NORBERT VIRANYI
25161
OKLAHOMA

REVISION	BY	DATE
ADDENDUM NO. 1	BB	04/2025

ELECTRICAL

ELECTRICAL SITE PLAN

PROJECT NO. TMUA-W 21-04

RAW WATER PUMP STATION IMPROVEMENTS
WOODS PUMP STATION IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
WATER AND SEWER DEPARTMENT

PLANS AND ESTIMATES PREPARED BY: GREELEY AND HANSEN A TYLin Company 312 SOUTH BOSTON AVE, SUITE 300 TULSA, OKLAHOMA 74103-3311

PLAN SCALE:	DRAWN	TD	APPROVED:
	DESIGNED	FF	
	SURVEY		
PROFILE SCALE:	PROJ. MGR.	BB	
HORIZONTAL:	LEAD ENGR.	BB	
	FIELD MGR.		
VERTICAL:	RECOMMENDED		
	DESIGN MANAGER		CITY ENGINEER

DWG NAME: E05 DATE: MARCH 2025

ATLAS PAGE NO: SHEET 20 OF 30 SHEETS

TMUA PROJECT NO. TMUA-W-21-04 WOODS PUMP STATION IMPROVEMENTS, CONTRACT NO. 136514