

Amendment #7 – Sewer Bursting Project

Exhibit B-2 – SCOPE OF SERVICES

LAWTON PUBLIC UTILITIES

- Wastewater Treatment Design Service (NOT INCLUDED)
- Water Treatment Design Services (NOT INCLUDED)
- Water Line Design Services (NOT INCLUDED)
- Wastewater Line Design Services
- Stormwater Design Services (NOT INCLUDED)
- Engineering Report Services for Projects (NOT INCLUDED)
- Dams Design Services (NOT INCLUDED)
- Grant and Financial loans Assistance (NOT INCLUDED)
- Project Management and Inspection Services (NOT INCLUDED)
- Other Public Utilities Improvements (NOT INCLUDED)

General

The scope of services includes surveying, preliminary design, final design, preparation of construction documents, bidding assistance and construction support services for the workorder issued or as amended for Professional Engineering Services. This project scope includes sewer main replacement by pipe bursting and manhole replacement throughout the City of Lawton. The areas of work are summarized below by Lawton Map Number. For each area, the estimated length of pipe, the pipe size, and the number of manholes are summarized in the table below. Additionally, one area in Map 10 will require an open cut gravity sewer for approximately 400 LF to incorporate small private laterals into a public sewer.

Lawton Map Number	Number of Independent Locations of Work within Each Map	Total Sewer Main Length (LF)	Sewer Main Diameter(s) (in)	Number of Sewer Manholes
3	1	313	8	2
9	2	1011	8	6
10	4	2277	8, 10	13
11	1	638	8	2
12	1	436	8	2
29	4	2840	6, 8	13
30	1	540	6, 8	4
37	1	479	8	3
39	1	785	8	4
40	2	1214	8	4
41	2	1048	8	4
42	2	985	8	5
43	1	767	8	4
46	1	287	6	3
58	3	1546	6, 8	6

Lawton Map Number	Number of Independent Locations of Work within Each Map	Total Sewer Main Length (LF)	Sewer Main Diameter(s) (in)	Number of Sewer Manholes
59	1	827	6, 8	3
60	1	399	8	2
Totals				
17	28	15990	6, 8,10	72

Task 1 - Project Management

Jacobs will provide project management for all project tasks. Project management will include, but not be limited to developing and implementing a project management plan; tracking and managing internal schedules of work; monitoring and addressing issues related to the scope of work, budget, and deliverables; preparing and processing monthly billings; providing labor resources necessary to fulfill scoped work within the defined schedule; scheduling and participating in quality control reviews; and providing updates to the Owner on a regular basis.

- A. Jacobs will coordinate design efforts on project tasks identified in work order or contact amendment.
- B. Jacobs shall prepare a brief project update and common monthly invoice for all engineering services.

Task 2 – Surveys

Jacobs, or Subconsultant will provide field survey data for designing the project, and this survey will be tied to the Owner’s control network. The survey will include the following:

- A. Perform a field topographic / as-built survey that is compliant with the Statutes Regulating the Practice of Engineering and Land Surveying, O.S. Title 59, Sections 475.1-475.22b, the Corner Perpetuation Filing Act O.S. Title 65, Sections 3.116-3.123 and the Oklahoma Administrative Code Title 245, of the State of Oklahoma.
- B. Unless otherwise specified, the survey will be established using existing physical monumentation to identify the horizontal and vertical control for the project area. The project will then be adjusted horizontally to client specifications and vertically to the North American Vertical Datum (NAVD) 88 for orthometric heights and GEOID XX for geoidal separations with references to the City of Lawton geodetic network, if available.
- C. Positions and elevations will be collected and mapped for the location, elevation, and description of (80) sanitary sewer manholes and (10) sanitary sewer cleanouts including centerline inverts only (measure downs), centerline flow line elevations, and pipe sizes / material as viewed in the field, in addition to all visible surface utilities to inlets, fire hydrants, water valves, vaults, and any meter locations within the limits as shown on Attachment A Utilities will be located based on above-ground evidence, structures, and record drawings furnished by each utility owner. The Oklahoma one-call system (CALL OKIE) will be contacted to help in the location of underground utilities.
- D. All existing planimetric, improvements, and utilities will be collected and mapped including, but not limited to: pavement, sidewalk, back of curb, edge of pavement, top of block wall footings, signs and

fences, and any other visible above ground features within the limits of the existing sanitary sewer line segments as shown in Attachment A.

Task 3 – Hydraulic Analysis (NOT INCLUDED)

Task 4 – Design

Upon completion of survey process, Jacobs will begin progressing towards final design. Because of the timeline associated with this project, development of final design deliverables (60%, 90%, Bid Set) will be included. The following wastewater lines will be included in design:

- 15,600 LF of 8" wastewater line
- 500 LF of 10" wastewater line
- Up to 72 Sanitary Sewer Manhole Replacements (some manholes may be determined to remain in place by the City after the survey process; older manholes will likely be replaced)

The plan-set will assume a scale of 1-inch = 80-ft (half-size). It is estimated that a total of 29 sheets would be needed:

- 5 General Sheets
- 11 Design Sheets
- 13 Detail Sheets

It is understood that Jacobs will utilize the Owner's standard technical specifications and details for all line and pavement construction. Jacobs will present their preliminary design to the Owner at 60% and 90% deliverables for review and comments. During the 90% phase of the project, Jacobs will conduct final designs to prepare construction plans and specifications for contracts as defined in workorder or amendment, including final construction details and quantities, and an updated a Class 1 OPCC (-10% to +15% range of accuracy).

The quantity of sanitary service reconnections for design will be determined by a count of surface structures along each sanitary sewer segment.

Prior to completion of 90% design, Jacobs will conduct a final field review with the Owner, make needed plan changes as a result of the final field review and/or special easement acquisition considerations, and prepare the construction documents as required to advertise for bids. Upon submission of the 90% design, the Owner will perform a QA/QC review. Jacobs will then conduct a final 90% design review meeting with the Owner (in-person at the Owner's office). Jacobs will provide minutes from the meeting that will include review comments from the Owner and notes from the field visit.

The Final Design Deliverable will include the following:

- A. Final bid documents, Owner standard specifications, and project bid schedule indicating the scope, extent, and character of the Work to be performed and furnished by the contractor. Jacobs will utilize the Owner's standardized front end and technical specifications in the contract documents.
- B. A revised OPCC, based on the information contained in the Final Design, will be provided that shall include contractor overhead and profit, and contingency. The OPCC will be based on unit prices

included in the bid documents. The developed costs include material procurement and construction and are in the range of accuracy of -10% to +15%. Jacobs does not warranty actual bid amounts.

Task 5 – Coordination between the City of Lawton and Financing Agency

Jacobs will furnish one (1) submittal package to the ODEQ/OWRB for permitting, which will include the following:

- A. One (1) submittal package including the following:
 1. ODEQ Engineering Report Form and Application for Permit to Construct (if needed).
 2. Permit fees will be paid directly by the Owner (if needed).
- B. ODEQ/OWRB variance requests and their associated efforts such as calculations, correspondence, presentations, and ODEQ/OWRB meetings are not anticipated for this project and have therefore not been included in this scope of services.

Task 6 – Bidding Services per each Project

During the bidding phase of the project, Jacobs will:

- Prepare Advertisement for Bids for publication by the Owner. Owner will pay advertising costs outside of this contract. Advertisement will be posted on CIVCAST platform.
- Dispense construction contract documents to prospective bidders by utilizing Jacobs's online plan room.
- Support the contract documents by preparing addenda as appropriate.
- Participate in one (1) pre-bid meeting per project.
- Attend Bid Opening
- Prepare bid tabulation.
- Evaluate bids and recommend award.
- Prepare construction contracts and prepare Conformed Documents

Task 7 – Construction Phase Services per each Project

During the construction phase of work, Jacobs will accomplish the following:

- Attend one (1) preconstruction meeting.
- Attend monthly progress/coordination meetings with the Owner/Contractor. Assume 12 in-person meetings.
- Evaluate and respond to construction material submittals and shop drawings. Corrections or comments made by Jacobs on the shop drawings during this review will not relieve Contractor from compliance with requirements of the drawings and specifications. The check will only be for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The Contractor will be responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades, and performing his work in a safe and satisfactory manner. Jacobs's review shall not constitute approval of safety precautions or constitute approval of

construction means, methods, techniques, sequences, procedures, or assembly of various components. When the Contract Documents require certification of performance characteristics of materials, systems, or equipment, either directly or implied, for a complete and workable system, Jacobs shall be entitled to rely upon such submittal or implied certification to establish that the materials, systems or equipment will meet the performance criteria required by the Contract Documents. The scope assumes 20 submittal reviews.

- If the project oversights operation is a part of the workorder, then Jacobs will report to Owner any noted deviation from construction industry standards. Under request by Owner, Jacobs does not have daily construction observation or site visit requirements during the construction period.
- Issue necessary clarifications (respond to RFIs) regarding the construction contract documents. The scope assumes 8 RFIs.
- Review Contractor's progress payment requests based on the actual quantities of contract items completed and accepted and will make a recommendation to the Owner regarding payment. Jacobs' recommendation for payment shall not be a representation that Jacobs has made exhaustive or continuous inspections to: (1) check the quality or exact quantities of the Work; (2) to review billings from Subcontractors and material suppliers to substantiate the Contractor's right to payment; or (3) to ascertain how the Contractor has used money previously paid to the Contractor.
- Prepare and furnish record drawings based upon a set of redline marked up construction drawings maintained by the Contractor and verified by the Owner during construction observation. The scope assumes review of 16 partial pay applications.
- When authorized by the Owner, prepare change order for changes in the work from that originally provided for in the construction contract documents. If redesign or substantial engineering or surveying is required in the preparation of these change order documents, the Owner will pay Jacobs an additional fee agreed upon by the Owner and Jacobs. The scope assumes 2 change orders.
- Participate in final project inspection, prepare punch list, review final project closing documents, and submit final pay request. Up to three final inspections of work areas are assumed. These are expected to occur in association with monthly progress meetings and as the Contractor completes work in a group of maps.
- City's document control software will be used as construction document management platform.

Project Deliverables

The following will be submitted to the Owner, or others as indicated, by Jacobs:

- A. Monthly invoices with project update.
- B. Minutes of the Project Kick-Off meeting.
- C. Minutes of the virtual design update meetings.
- D. Minutes of utility coordination meetings.
- E. Three (3) half-size (11" x 17") copies of the 90% Final Design with Owner standard specifications and OPCC to Owner.
- F. ODEQ Engineering Report Form and Application for a Permit to Construct (if needed).
- G. Minutes of the Final Design review meeting.
- H. Three (3) half-size (11" x 17") copies of the Final Design with specifications and OPCC.

- I. Three (3) half-size (11" x 17") copies of the Conformed Plans to Owner for dispensing to awarded Contractor.
- J. One (1) copy of approved shop drawings/submittals from the Contractor.
- K. One (1) hard copy set of Record Drawings.
- L. Electronic files as requested.

Task 8 – Environmental (NEPA) (NOT INCLUDED)

The use of this item is contingent on Oklahoma Department of Environmental Quality/Oklahoma Water Resources Board requiring an Environmental assessment as part of the condition of the Drinking Water State Revolving Fund or Clean Water State Revolving Fund Loan requirements. If required, work will be completed as part of the contingency included in this workorder.

Additional Services

The following items are not included in this scope of services but are either anticipated for this project or are potential alternatives that may be selected by the Owner, and can be added by amendment if requested by the Owner:

- A. Construction Administration beyond services listed in this Workorder.
- B. Construction Observation
- C. Wastewater line design beyond the limits identified in this Workorder.

The following items are not included under this scope of services but will be considered as extra work and will be paid for at the base Hourly rate in Master services agreement.:

- A. Redesign for the Owner's convenience or due to changed conditions after previous alternate direction and/or approval.
- B. Deliverables in addition to those listed herein.
- C. Design of any utilities relocation other than wastewater lines specified in this scope.
- D. Preparation of a Storm Water Pollution Prevention Plan (SWPPP). The construction contract documents will require the Contractor to prepare, maintain, and submit a SWPPP to DEQ.
- E. Preparation of Traffic Control Plan (TCP).
- F. Creek or Railroad Crossings.
- G. Design assumes pavement restoration above trench section. Full-width pavement design is excluded.
- H. Construction materials testing.
- I. Geotechnical services will be defined under the workorder or as defined in contract amendment.
- J. Environmental Handling and Documentation, including environmental information group, wetlands identification or mitigation plans or other work related to environmentally or historically (culturally) significant items.
- K. Coordination with FEMA and preparation/submittal of a CLOMR and/or LOMR.
- L. Services after construction, such as warranty follow-up, operations support, etc.
- M. Litigation Assistance

N. Survey exclusions:

- The deliverable cannot be used for conveyance or a real estate transaction.
- The correction or resolution of erroneous, deficient or ambiguous easement descriptions
- Abstract or easement estate
- Signed and sealed files.
- Title commitment

Additional Services will be as directed by the Owner in writing through owner authorized contingency or based off hourly rate schedule in Exhibit B-3.

Schedule

Jacobs shall begin work under this Agreement within ten (10) days of a Notice to Proceed and shall complete the work in accordance with the schedule established for each Project: Project that are required to be expedited with will be covered in the workorder or Scope of Services under the amendment to contract.

10 month Design + Bidding

12 month Construction

Attachment A. Sanitary Sewer Site Map

