



MEMORANDUM

TO: Board of Directors

FROM: Gerald Grijalva, General Manager

SUBJECT: Discussion and Possible Action to approve Engineering Services for North Loop from FM 1110 to Bauman under RFQ 20-0730-01

PRESENTER: Daniel Hernandez

DATE: September 23, 2021

Lower Valley Water District requested a proposal from FXSA to provide professional engineering services to design a new waterline to provide services to new developments and existing water connections and, improve pressure along North Loop Drive between Bauman Rd and FM1110. Project consists of approximately 26,000 LF of proposed 12-in diameter PVC Water Line, including all necessary valves, fittings, and appurtenances and approximately 4,800 LF of proposed 8-inch diameter PVC sewer line along Fenter Rd and FM 1110, including all necessary manholes, fittings, and appurtenances.

ADMINISTRATIVE RECOMMENDATION: The administration is recommending approval of proposal as presented



Consulting Civil Engineers & Surveyors

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TBPLS #100490-00 | TBPE # F-3584

Scope of Work

North Loop Water & Sewer Line Design

Project PE21152EP
September 1, 2021

Project Description

The purpose of this project is to design new water and sewer lines to provide service to new developments, existing connections and to improve pressure along North Loop Drive between Bauman Road and Fenter Road for the Lower Valley Water District, LVWD (Owner).

The project consists of approximately 26,000 LF of proposed 12-inch diameter PVC water line along north loop drive, including all necessary valves, fittings, and appurtenances and approximately 4,800 LF of proposed 8-inch diameter PVC sewer line along Fenter road and FM1110, including all necessary manholes, fittings, and appurtenances.

FXSA (Engineer) will provide project management, engineering design, surveying services and prepare all required documents for project bidding.

The major tasks associated with the work are detailed below.

Task 1 – Project Management

FXSA will provide project management, quality assurance, and administrative services to support the technical work performed during the duration of the project.

FXSA will perform the following sub-tasks:

1.1 Project Management and Coordination

- Manage and coordinate team members to keep project within schedule and budget.
- Coordinate with senior reviewers on an as-needed basis during the execution of the project for quality control.
- Coordination with LVWD Engineering staff for technical questions.

1.2 Project Meetings and Progress

- Coordinate and attend a project kick-off meeting and site visit to review the SOW and schedule.
- Provide project set-up, project execution plan, status reports and project invoicing.

Deliverables:

- Invoices and monthly status report. Electronic files via email.
- Summary of meetings with the LVWD.



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Task 2 – Engineering Design

FXSA will prepare design plans and specifications for the new water and sewer lines. The design will follow LVWD design standards for potable water and sanitary sewer facilities. In addition, FXSA will also coordinate special services and assist the LVWD with all permitting requirements by El Paso County (EPC), Texas Department of Transportation (TxDOT) and El Paso County Water Irrigation District (EPCWID) and any utility companies.

FXSA will coordinate with Moreno Cardenas and Huitt-Zollars regarding scheduling and design activities impacting ongoing projects.

FXSA will perform the following specific sub-tasks, including senior level QA/QC:

Subtasks:

2.1 Preliminary phase.

FXSA will perform the following:

- Preliminary engineering services in connection with the project to indicate problems and alternate solutions and to include preliminary design sketches.
- Coordinate meetings to review the scope of the design including all existing and future connections, guidelines, criteria, and regulations.
- Coordination with the LVWD engineering staff to establish the scope, including alignment, special services or testing, material selection and budget constraints. Scope of this task will include biweekly design meeting with LVWD staff.
- Coordinate additional services required for proper execution of preliminary phase (surveying and geotechnical services).
- TxDOT coordination and site walk thru.
- Coordination with EPCWID and utilities.

2.2 Design phase.

FXSA will perform the following:

- Prepare final specifications and design drawings and all required components for construction of the new water and sewer lines.
- FXSA will also provide Opinion of Probable Construction Costs (OPCC) including bid items and quantities.
- Provide approved contract documents for bidding.

2.3 Permitting Phase

Assist the LVWD during application process and approval for EPC, TxDOT and EPCWID.



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Deliverables:

- Final plans and specifications in paper and electronic formats (pdf and dwg) per LVWD requirements for each phase of the design (30%, 60%, 90% and 100%).

Task 3 – Special Services

FXSA will complete the following subtasks.

Subtasks:

3.1 Survey Services

FXSA surveying services will include locating and measuring existing, visible, above ground utilities, review of available as-built utility drawings and coordination with Texas 811 to mark existing utilities within the project areas. These services will also include a topographic survey and setting survey control for future construction.

There is an area of interest that will also require topo and easement survey services. The first portion of project begins at the intersection of North Loop Drive and Sunset Valley Ave and extends south along the south side of North Loop to the intersection of North Loop and the Clint Cut Off Road (FM1110) for approximately 4 miles. There are several small sections along North Loop Drive where FXSA will extend survey services to these side streets. Sunset Valley Ave, FXSA will extend topo services 500 ft from intersection of North Loop. 11554 N Loop Dr to 11566 N Loop Dr, FXSA will extend survey services 1500 ft from intersection of North Loop. This stretch will require both topo and easement services. From intersection of North Loop Drive and Pickard Rd Road, north for approximately 0.25 miles and from the intersection of North Loop Drive and Young John St, North for approximately 0.2 miles. There is a portion of Fender Road that will need to be surveyed because of new road construction. The total length of the project is approximately 5.5 miles in length.

FXSA will also have to perform surveys within EPCWD#1 property. FXSA will have to create exhibits and descriptions per the requirements set forth by EPCWID#1.

FXSA is requested to conduct the following Scope of Work:

1. FXSA will establish horizontal control – NAD83 TXSP Central Zone and vertical control – NAVD88 GEOID 2012A – Survey Feet.
2. Utility Coordination – SUE levels to be utilized will be Levels D & C, which will include as-built drawing review, coordination with Texas 811 to provide tickets to mark project location and the surveying of all visible utility features to include those as marked by Texas 811. The utilities will be found during this process will be indicated in the topographic survey.
3. Topographic survey for design.
4. Process Topographic Survey data.



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5. Traffic Control and Coordination.
6. Irrigation district requirements:
 - a. Coordinate System - The coordinate system for all surveys shall be Texas State Plane Coordinate System – Central Zone (4203) NAD83. The following information shall be cited in the description and shown on the accompanying plat (coordinate values to be expressed in U.S. survey feet). The state plane coordinate value of the point of beginning of the description.
 - b. Clearly state the name, address, registration number and telephone number of the surveyor, the date the survey was performed and the date of the plat or description. In the case where multiple District crossings are required by the same proposed facility, each description and accompanying plat shall clearly reference the number of the crossing they represent.
 - c. All proposed crossings of District Real Property shall be located by an on-ground survey and documented by written report, description, and accompanying plat. Widths of crossings must be presented to the district for approval. All corners of the proposed crossing shall be monumented and clearly flagged for District inspection.
 - d. All existing structures, buildings utility improvements, fences, pipelines, culverts, ditches, and the like within 50 feet of the boundaries of the proposed crossing shall be accurately identified and shown on the plat of survey.
 - e. All parcels, lots or tracts adjoining District Real Property in the proposed crossing shall be identified and shown on the plat of survey by the legal name or designation.
 - f. Record bearings and distances of all lines shown on the plat of survey shall be shown in parentheses if they differ from measurements derived by the survey.
 - g. District stations shall be identified and shown on the plat of survey at the intersection of the centerline or boundaries of the proposed crossing with the centerline of the district facility being crossed. The location of the structure or monument from which such stationing is determined shall be noted and shown on the plat of survey. If District stationing is not available, the distance and direction along the centerline of the district facility from the centerline or boundary of the proposed crossing to the centerline of the nearest public road crossing shall be shown.
 - h. All distances cited in the written description or shown on the accompanying plat are to be based upon the U.S. survey foot, measured at local ground surface. The area of the proposed easement shall be reported to the nearest square foot in the written description and shown on the accompanying plat.



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- i. The minimum paper size acceptable for descriptions or plats is 8 1/2 by 11 inches; the maximum size for descriptions is 8 1/2 by 14 inches; and the maximum size for plats is 24 by 36 inches. All descriptions must be neat and legible. All plats shall be drawn to a scale that is adequate to clearly portray significant features to District personnel.
- j. Three copies of the required survey plat shall be submitted in both a hard copy and digital format (dwg, dgn, or shp file).

Schedule:

This will take approximately 30 working days to complete once NTP has been received. Timeframe is dependent on Approval from EPCWID#1 Right of Use and permits from TxDOT to commence work have been approved.

Deliverables:

FXSA will provide topographic survey data in PDF and DWG formats to LVWD.

3.2 Geotechnical Services

FXSA will coordinate subsurface soil exploration to include laboratory and resistivity testing to define the physical properties of the soils along the project limits. This task will also consist in performing geotechnical engineering analysis and report preparation that will include site recommendations, data logs and general construction guidelines.

Deliverables:

Engineering analysis and report preparation.

3.3 GIS (shapefiles/geodatabase)

FXSA will provide GIS files for all necessary attachments to be linked within the LVWD's geodatabase for this design project.

Deliverables:

GIS Shapefiles.

Assumptions:

1. FXSA has no control over unknown or hidden conditions of existing structures and other factors that may affect the ultimate project cost or schedule.
2. FXSA cost proposal does not include surveying or construction management during construction phase.
3. FXSA cost proposal does not include any archeological or environmental studies.
4. LVWD to provide existing records for water/sewer connections along the proposed alignments.



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5. FXSA will follow safety procedures by local and state authorities regarding Covid.

Responsibilities of the Client:

1. Owner shall give instructions to Engineer regarding Owner's procurement of construction services (including instructions regarding advertisements for bids, instructions to bidders, and requests for proposals, as applicable) and Owner's construction contract practices and requirements and furnish to Engineer (or give specific directions requesting Engineer to use copies already in Engineer's possession).
2. Owner's standard contract forms, general conditions (if other than the current edition of EJCDC® C-700, Standard General Conditions of the Construction Contract), supplementary conditions, text, and related documents and content for Engineer to include in the draft bidding-related documents (or requests for proposals or other construction procurement documents), and in draft Construction Contract Documents.
3. Insurance and bonding requirements.
4. Protocols for electronic transmittals during bidding and construction.
5. Owner's safety and security programs applicable to Contractor and other Constructors.
6. Diversity and other social responsibility requirements.
7. Bidding and contract requirements of funding, financing, or regulatory entities.
8. Other specific conditions applicable to the procurement of construction or contract documents.
9. Any other information necessary for Engineer to assist Owner in preparing, for each Specific Project, bidding-related documents (or requests for proposals or other construction procurement documents) and Construction Contract Documents.
10. Owner shall have responsibility for the final content of (1) such bidding-related documents (or requests for proposals or other construction procurement documents), and (2) those portions of any Construction Contract other than the design (as set forth in the Drawings, Specifications, or otherwise) and other engineering or technical matters.
11. Owner shall seek the advice of Owner's legal counsel, risk managers, and insurance advisors with respect to the drafting and content of such documents.
12. Owner shall bare the reproduction of plans and specifications for use in distribution to bidders.
13. Owner shall place and pay for advertisements for Bids in appropriate publications.
14. LVWD will designate LVWD point of Contact for FXSA to the Project.
15. LVWD will provide all available as-built drawings, existing records for water and sewer connections along the proposed alignment, in type of format available including, PDF, .DWG and GIS formats

Compensation – See exhibit A

Owner shall compensate FXSA for providing the services and as described in this **SCOPE OF SERVICES** under basis of completion and as follows:

Task 1- Project Management



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Task 2- Engineering Design

Task 3- Special Services

3.1 Surveying Services

3.2 Geotechnical Services

3.3 GIS (shapefiles/geodatabase)

Project Location Map – See exhibit B

Proposed Schedule – See exhibit C

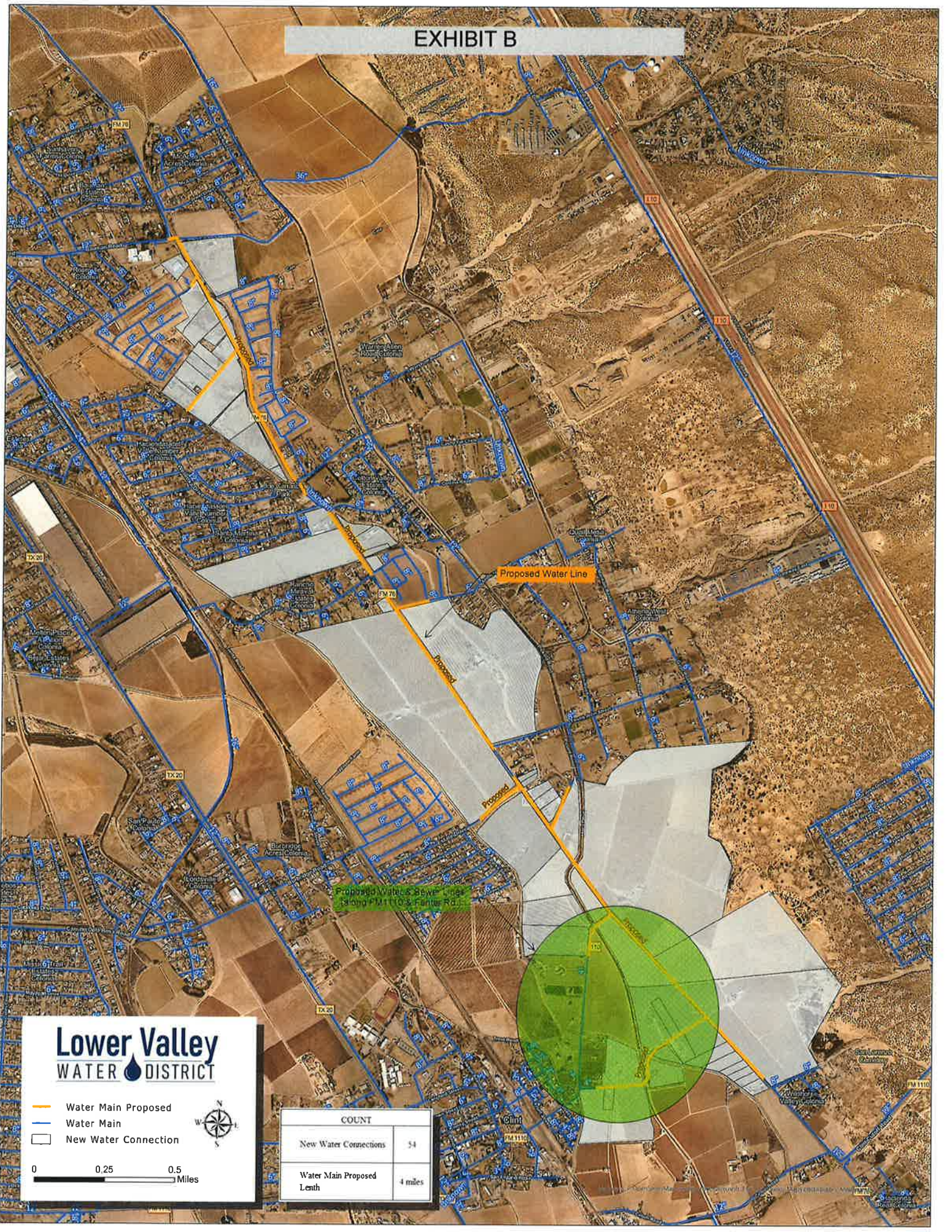
Requested by: Ed Long

MT

Exhibit A

TASK DESCRIPTION	DESCRIPTION OF SERVICES/EXPENSES											TOTAL LABOR HOURS & COSTS				
	OFFICE PERSONNEL				FIELD PERSONNEL				DIRECT & MISCG. EXPENSES							
Survey Tech	RPLS	Project Manager	Senior Engineer	Project Engineer	Clerical	Senior Drafting	Drafting Tech	Senior QA/QC	3-Men Crew	4-Men Crew	GPS Unit/Day	Photocopies	Mileage	Hotel	Meals	
Task 1. Project Management																
		144	192	144	100											\$ 157,352.00
		144	192	144	100											\$ 75,676.00
Task 2. Engineering Design (Water & Sewer Lines)																
2.1 Preliminary phase (preliminary design, sketches & coordination)																
		44	64	220	16	220	320	20								\$ 89,780.00
		44	64	80	4	60	80	20								\$ 41,120.00
2.2 Design phase (final design, specifications, cost estimates, and bid packages)																
		60	132	396		280	240	20								\$ 117,184.00
		44	64	132		120	60	20								\$ 49,504.00
2.3 Permitting phase (submittals and coordination with agencies)																
		40	160	220	16	140	140	10								\$ 79,330.00
		24	40	80	4	40	40	12								\$ 27,168.00
Task 3. Special Services																
3.1 Surveying																
																\$ 3,884.00
																\$ 38,136.00
																\$ 8,639.00
																\$ 25,634.00
																\$ 5,964.00
																\$ 35,556.00
HOURS SUB-TOTALS																
0	0	544	908	1416	240	860	880	102	0	0	0	0	0	0	0	\$ 21,000.00
\$90.00	\$165.00	\$184.00	\$151.00	\$92.00	\$55.00	\$92.00	\$85.00	\$151.00	\$210.00	\$250.00	\$300.00	\$0.50	\$0.60	\$100.00	\$50.00	\$694,251.00
\$0.00	\$0.00	\$105,586.00	\$197,108.00	\$130,272.00	\$13,200.00	\$79,120.00	\$74,800.00	\$15,402.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL LABOR AND EXPENSE																

EXHIBIT B



Lower Valley
WATER DISTRICT

- Water Main Proposed
- Water Main
- New Water Connection



0 0.25 0.5 Miles

COUNT	
New Water Connections	54
Water Main Proposed Length	4 miles

ID	Task Name	Task Mode	Start	Finish	Qtr 4, 2021	Qtr 1, 2022	Qtr 2, 2022	Qtr 3, 2022	Aug
1	North Loop Water & Sewer Line Design	Task	Mon 10/4/21	Fri 7/29/22					
2	Project Management	Task	Mon 10/4/21	Fri 7/29/22					
3	Project Mangmt and Coordination	Task	Mon 10/4/21	Fri 7/29/22					
4	Project meetings and progress	Task	Mon 10/4/21	Fri 7/29/22					
5	Engineering Design (Water and Sewer Lines)	Task	Mon 10/4/21	Thu 6/30/22					
6	Preliminary phase	Task	Mon 10/4/21	Thu 11/4/21					
7	Water line Preliminary phase	Task	Mon 10/4/21	Tue 10/19/21					
8	Sewer line preliminary phase	Task	Wed 10/20/21	Thu 11/4/21					
9	Design phase	Task	Fri 11/5/21	Thu 6/30/22					
10	Water line design	Task	Fri 11/5/21	Fri 4/29/22					
11	Sewer line design	Task	Mon 5/2/22	Thu 6/30/22					
12	Permitting phase	Task	Mon 5/2/22	Thu 6/30/22					
13	Water line permitting phase	Task	Mon 5/2/22	Thu 6/2/22					
14	Sewer line permitting phase	Task	Thu 6/2/22	Thu 6/30/22					
15	Special Services	Task	Mon 10/11/21	Fri 7/29/22					
16	Surveying	Task	Mon 10/11/21	Thu 11/11/21					
17	Geotechnical	Task	Fri 11/12/21	Fri 12/10/21					
18	GIS (shapefiles/geodatabase)	Task	Mon 12/13/21	Fri 7/29/22					

Exhibit C

Task Split Milestone Summary

Project Summary Inactive Task Inactive Milestone Inactive Summary

Manual Task Duration-only Manual Summary Rollup Manual Summary

Start-only Finish-only External Tasks External Milestone

Deadline Progress Manual Progress