

City of Fayetteville Staff Review Form

2022-0777

Legistar File ID

9/6/2022

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

8/18/2022

WATER SEWER (720)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of Amendment No. 2 in the amount of \$897,485.00 to the Engineering Services Agreement with McClelland Consulting Engineers, Inc. for Preliminary Engineering Design for the West Corridor Water Transmission Line Project, and approval of a budget adjustment.

Budget Impact:

5400.720.5600-5314.00

Water and Sewer

Account Number

Fund

18015.2201

West Water Transmission Line Project

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 254,838.00

Funds Obligated \$ 254,837.93

Current Balance **\$ 0.07**

Does item have a cost? Yes

Item Cost \$ 897,485.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 897,485.00

Remaining Budget **\$ 0.07**

V20210527

Purchase Order Number: _____

Previous Ordinance or Resolution _____

Change Order Number: _____

Approval Date: _____

Original Contract Number _____

Comments:



MEETING OF SEPTEMBER 6, 2022

TO: Mayor and City Council

THRU: Susan Norton, Chief of Staff
Tim Nyander, Utilities Director
Water, Sewer, & Solid Waste Committee

FROM: Corey Granderson, Utilities Engineer

DATE: August 18, 2022

SUBJECT: **Amendment No. 2 to the Engineering Services Agreement with McClelland Consulting Engineers, Inc. for Preliminary Engineering Design for the West Corridor Water Transmission Line Project and approval of a budget adjustment.**

RECOMMENDATION:

Staff recommends approval of Amendment No. 2 in the amount of **\$897,485.00** to the Engineering Services Agreement with McClelland Consulting Engineers, Inc. for Preliminary Engineering Design for the West Corridor Water Transmission Line Project, and approval of a budget adjustment.

BACKGROUND:

The City of Fayetteville owns and operates two parallel water transmission lines from Beaver Water District (BWD) in Lowell that enter from the northeast corner of the City. These lines are a 36-inch pipe installed in 1967 and a 42-inch pipe installed in 1993. BWD intends to build a western water distribution point near HWY-112 and the newly constructed Springdale Northern Bypass, HWY-612. This facility will supply a western water transmission feed to all four customer cities, helping with hydraulics, critical redundancy, and overall utility resiliency. Fayetteville's 11-mile connection to the proposed BWD facility has been identified in water master plans for many years, but the timeline was previously unknown. In 2012, the City of Fayetteville hired McClelland Consulting Engineers (MCE) to establish a preliminary alignment for a waterline along this western corridor (Res. 120-12) and begin easement acquisitions. The contract was amended in 2021 (Res. 179-21) to increase funds for appraisals and acquisition support.

DISCUSSION:

BWD has been notified by Springdale Water Utility (SWU) that a connection to the western corridor delivery point is desired by first-quarter 2026. BWD and SWU have begun final design for alignments and pump stations to make this project a reality. The City of Fayetteville previously desired a connection to this facility by 2030. However, there are three primary reasons this timeline should be expedited, and Fayetteville be ready to tie onto this new facility nearer to the BWD/SWU timeframe.

First, the condition of the original 36-inch transmission main is rapidly deteriorating in several areas due to corrosion from shale soils. This has resulted in several recent large waterline leaks which have caused home damage, property damage, and complete street reconstruction in their vicinities. During these large leaks, the water system is susceptible to mass water outages across the service area. Furthermore, the city cannot operate this line at any pressures above the absolute minimum to meet increasing water demands, as this triggers further leaks.

Second, the demands on our water system have increased due to population and use increases beyond those previously projected. In 2017, during the City's last water modeling and master planning, the West Corridor line was projected to be needed in 2033 to provide adequate water to our system. However, a recent update to these projections shows the line is needed by 2029 simply to meet maximum day demands in the summertime.

Finally, the 3rd reason for expediting this project is the logistical intersection between the first two reasons. Due to existing water demands and usage, the 36-inch line cannot be taken out of service long enough to replace sections of the line experiencing the worst corrosion. While replacement of large portions of this line has been previously identified as the most critical project needed for delivery of water to the City's system, the only way to increase our capacity is to construct the 48-inch West Corridor water transmission line as expeditiously as possible. Once in operation, the West Corridor line will allow for the older 36-inch line to be replaced and provide the redundancy needed to support the future growth in the City.

The critical path next step to accomplishing these goals is to move forward with the preliminary engineering and environmental permitting phase of the West Corridor line. The future funding of the West Corridor line is being considered as well but is not the most pressing 'next step' to expediting the project.

For these reasons, Amendment No. 2 is proposed which will provide funds to keep the project progressing and on its critical path. Immediate next steps will include preliminary design, Section 404 permit consulting services and associated coordination with state/federal agencies, geotechnical investigations, and additional topographic surveys in the project corridor.

This amendment consists of \$897,485.00 in engineering services, increasing the total contract amount from \$649,600.00 to \$1,547,085.00.

BUDGET/STAFF IMPACT:

Budgeted Funds will be transferred from the Water Impact Fee Improvement Project to the West Water Transmission Line project. This project will increase capacity. Impact Fee Funds can be utilized for the project cost.

Attachments:

Amendment No. 2
Scope/Fee/Exhibits
Resolution 179-21
Resolution 120-12
Budget Adjustment

**Amendment No. 2 to the Engineering Services Agreement for
Water Transmission Line Layout and Easement Acquisition**

Date: _____

WHEREAS, the CITY OF FAYETTEVILLE and McClelland Consulting Engineers, Inc. (ENGINEER) entered into an Agreement for Professional Engineering Services (AGREEMENT) on June 5, 2012; and,

WHEREAS, the CITY OF FAYETTEVILLE and ENGINEER entered into Amendment No. 1 to the AGREEMENT on July 6, 2021 to perform additional services outside of the scope of the AGREEMENT; and,

WHEREAS, the CITY OF FAYETTEVILLE has requested that ENGINEER perform additional services outside of the scope of the AGREEMENT and Amendment No. 1.

NOW THEREFORE, the following modifications will be made to the AGREEMENT to include the additional services requested:


MODIFICATIONS:

1. Section 2.2.1 – the additional scope of services is included in the attached Appendix “A-1”.
2. Section 5.1.1 – the maximum not-to-exceed amount is increased from \$649,600.00 to **\$1,547,085.00**. Modifications to compensation are included in the attached Appendix “A-1”.

IN WITNESS WHEREOF, the parties execute this Amendment No. 2, to be effective on the date set out above.

McClelland Consulting Engineers, Inc.

City of Fayetteville, Arkansas

BY: 

Nicholas R. Batker, P.E.
Senior Associate

BY: _____
Mayor Lioneld Jordan

APPENDIX A-1 – SCOPE OF ADDITIONAL SERVICES AMENDMENT NO. 2 TO THE ENGINEERING SERVICES AGREEMENT FOR THE WEST CORRIDOR WATER TRANSMISSION MAIN

1.0 General

The ENGINEER is currently under contract with the CITY OF FAYETTEVILLE to establish a preliminary alignment corridor, prepare easement exhibits and descriptions, and assist in obtaining easements for a future 48-inch water transmission main extending from the intersection of Highway 112 and Van Asche Drive in Fayetteville to a future Beaver Water District pump station site located near the intersection of Highway 612 and Miller Road in Springdale (total distance of approximately 59,000 linear feet, or 11.2 miles).

The original schedule for this project was to complete easement acquisition by December 2024, then proceed into the design and construction of the water transmission main and have it ready to be placed into operation by 2030.

The CITY OF FAYETTEVILLE has recently determined that it is in their best interest to design and construct this 48-inch water transmission main as soon as practicable, with the goal of having this pipeline ready to be placed into operation when the future BWD pump station is completed, which is currently estimated to occur in the first quarter of 2026. The following scope of additional services covers the effort required by the ENGINEER to complete the preliminary design phase for the water transmission main in order to maintain this new schedule. The final design phase and services during construction will be addressed through future amendments to this contract.

2.0 Scope of Additional Services

2.1 Project Management and Coordination

The ENGINEER will conduct progress meetings with the CITY OF FAYETTEVILLE. At this time, it is assumed that progress meetings will be held biweekly; however, the ENGINEER is available to meet more frequently if required.

In addition, the ENGINEER will attend up to three (3) Water & Sewer Committee Meetings and up to three (3) meetings with other stakeholders (such as BWD, SWU, ARDOT, etc.) at the request of the CITY OF FAYETTEVILLE.

Finally, the ENGINEER will prepare monthly progress reports and schedule updates concurrent with invoice submittals to the CITY OF FAYETTEVILLE.

2.2 Topographic Surveys

The ENGINEER performed topographic surveys within the original project corridor limits in the 2013-2014 timeframe. Since that time, the following changes have occurred in the corridor which will require new topographic surveys:

- Changes in alignment due to property owner concerns, potential design concerns, and/or land use changes; and
- Changes in existing grades along the original alignment corridor due to construction of adjacent developments and/or roadways/highways.

Exhibit A depicts these general locations requiring new topographic surveys. The anticipated total survey area is approximately 5.0 miles, or approximately 30.3 acres assuming a 50-foot wide surveyed corridor.

The topographic surveys will typically include the following details listed below:

- Street curb lines, asphalt edges, crown, and striping;
- Parking areas, light-poles, and bollards;
- Buildings, sheds, and finish floor elevations;
- Utility fixtures and structures;
- Underground utility lines as marked by utility location services;
- Drainage ditches, pipes and structures;
- Fences and gates;
- Land corners and property markers; and
- Other features as may be visible from ground observation.

The ENGINEER will send out property owner notifications prior to beginning field work (letter via USMAIL or doorhangers) to alert landowners that surveyors will be in the area. Project control points used to complete the topographic survey will be shown for future use during construction. The ENGINEER will contact Arkansas 811 and wait the allotted 48 hours prior to beginning the survey to allow time to have utilities field located. The ENGINEER will not be responsible for utilities not field located by a public/private utility location service or by specific utility providers.

2.3 Section 404 Consulting Services

The ENGINEER will subcontract Section 404 consulting services to FTN Associates Ltd. Following is a detailed scope of work for this item.

2.3.1 Review of Background Information

This task will identify and review site-specific background information pertinent to the Project site, including:

- Site specific information obtained from US Army Corps of Engineers (USACE);
- Soil Conservation Service's *Soil Survey for Benton County, Arkansas* and *Soil Survey for Washington County, Arkansas*;
- Natural Resources Conservation Service (NRCS) hydric soils list for Benton and Washington Counties, Arkansas;
- Appropriate USGS topographic quadrangle maps;
- USACE file materials relating to adjacent properties, if any, that might provide useful information specific to this project; and
- Site-specific materials provided by the Client regarding the subject property.

2.3.2 Delineation of Section 404 Wetlands and Other Waters

This task will include onsite field investigations to identify boundaries and extent of wetlands and other waters of the US having potential USACE jurisdiction under Section 404 of the Clean Water Act at the project site. Wetland boundaries will be placed on a topographic base map suitable for USACE submittal and wetland acreage will be determined. The methods used in conducting the delineation will follow the *1987 Corps of Engineers Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*, i.e., detailed observations will be made on vegetation, hydrology, and soils. This task includes written documentation of the findings, which will

be submitted to the CITY OF FAYETTEVILLE. The documentation will include a completed USACE wetland field data form for each data collection point; maps showing boundaries of potential Section 404 wetlands and locations and extent of other waters of the US under potential USACE jurisdiction; expository text that characterizes the nature of potentially USACE regulated tributary and drainage channels, in addition to wetland/non-wetland areas; and representative photos of project site features. An electronic copy (hard copy available upon request) of the delineation report will be submitted to the CITY OF FAYETTEVILLE.

2.3.3 Nationwide Permit Preparation

Based on current expectations regarding site impacts (which cannot be fully determined until the delineation is completed), it is assumed that this project can be permitted under a Section 404 Nationwide Permit (NWP). If impacts are such that an Individual Permit is required, activities associated with individual permitting can be performed as Additional Services.

A request for project authorization under Section 404 of the CWA via an appropriate NWP will be prepared and submitted to the USACE. Impact calculations will be based on the Section 404 delineation completed in Task 2.2.2. A copy of that delineation report will be submitted to the USACE as part of the NWP submittal.

2.3.4 NWP USACE Coordination

Routine coordination with USACE will be conducted, which includes periodic phone call and email coordination to respond to USACE questions that may arise and to request project updates. In the event that USACE coordination exceeds that of normal Section 404 processing, additional coordination (include site visits requested by USACE) will be considered Additional Services.

2.4 Geotechnical Investigation

The ENGINEER will conduct a detailed geotechnical investigation along the project alignment. Following is a detailed scope of work for this item.

2.4.1 Geotechnical Exploration and Field Services

The geotechnical exploration will consist of up to 81 borings, with preliminary locations depicted on *Exhibit B*.

The proposed boring locations are strategically placed across the project alignment and at significant crossing locations in an effort to provide sufficient subsurface information for the design of the proposed 48-inch water transmission main. Borings located at roadway and creek crossings (29 total) have planned target depths of 20 feet below existing surface elevations, while borings at all other locations (52 total) have planned target depths of 15 feet below existing surface elevations. It should be noted that boring locations are subject to field adjustments once local utilities are identified.

Borings will be conducted with a Diedrich D-50 Turbo track-mounted drill rig and a CME-45B truck-mounted drill rig, each equipped with an automatic hammer. The rigs will utilize auger drilling techniques to advance the borings to their respective target depths or until materials resulting in auger refusal are

encountered; whichever is less. At major road and creek crossings, rock coring will be conducted to achieve the planned target depths, should materials resulting in auger refusal be encountered prior to achieving these depths. Soil sampling will occur at approximately 3,000-foot intervals along the proposed alignment, for a total of up to 23 sampling locations. The soil sampling methods will utilize a two-inch diameter split-spoon sampler using the continuous soil sampling method by means of Standard Penetration Testing (SPT) to 10 feet and every 5 feet thereafter. Soil sampling will be conducted in general accordance with ASTM D1586 - Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils. Project borings at locations where soil sampling is not currently planned will be conducted utilizing auger drilling techniques exclusively.

Groundwater observations will be made at the time of drilling and prior to backfilling. Long-term groundwater monitoring is not included in this scope of services.

The boreholes will be backfilled the same day they are drilled following best practice guidelines. The ENGINEER will make every reasonable effort to minimize the waste generated and the disturbance to the site. Project borings conducted in pavement areas will be patched with like-materials following completion of the boring. The ENGINEER will not be held accountable for complete site restoration including landscaping and/or grading.

2.4.2 Laboratory Testing and Analysis

Laboratory analysis will be performed on the recovered samples to determine the engineering properties of the project soil strata. Laboratory testing will be conducted in accordance with the American Society for Testing and Materials (ASTM) designations. Relevant laboratory testing may include the following:

- ASTM D2488 – Standard Practice for Description and Identification of Soils (Visual);
- ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (USCS);
- ASTM D2216 – Standard Test Method for Lab Determination of Water Content of Soil;
- ASTM D6913 – Standard Test Method for Particle-Size Distribution of Soils Using Sieve Analysis;
- ASTM D4318 – Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; and
- ASTM D7012 – Standard Test Method for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens.

Additional third-party laboratory testing will be performed on recovered samples for corrosion potential, which will include testing for the following:

- Soil Resistivity;
- pH;
- Sulfates;
- Chlorides;
- Sulfides; and
- Redox Potential.

2.4.3 Geotechnical Report

Upon completion of Tasks 2.4.1 and 2.4.2, the ENGINEER will develop a written geotechnical report to include the following scope items:

- Site Description;
- Detailed Evaluation of Subsurface Conditions;
- Seismic Considerations;
- Lateral Earth Pressures;
- Groundwater Conditions; and
- In-Situ Rock Properties and Elevations.

Additional items may include frost penetration depth, wet weather construction considerations, and recommended construction monitoring.

The final report will be submitted to the CITY OF FAYETTEVILLE, and findings from this report will also be incorporated into the relevant preliminary design items outlined in Task 2.5.

2.5 Preliminary Design

2.5.1 Technical Memoranda

The ENGINEER will prepare a technical memorandum (TM) for major items associated with the preliminary design of the 48-inch water transmission main. Individual TMs will be submitted to the CITY OF FAYETTEVILLE for review and comment as they are completed. The ENGINEER will subsequently address review comments and finalize each TM. Upon completion of all final TMs, the ENGINEER will compile them into a complete document and provide to the CITY OF FAYETTEVILLE.

Following is a list of the TMs to be prepared for this project. Coffman Engineers will perform the corrosion evaluation in TM No. 5 as a subconsultant to the ENGINEER. Carollo Engineers will serve in a technical advisory and quality control/quality assurance role on all TMs prepared.

- TM No. 1 – Pipe Material Selection
 - Evaluate pipe materials, including spiral welded steel, ductile iron pipe and prestressed concrete cylinder pipe; and
 - Provide recommendations on pipe material to be carried forward into final design.
- TM No. 2 – Hydraulics and Preliminary Surge Analysis
 - Calculate anticipated operating pressures and maximum surge pressures along the project alignment;
 - Prepare hydraulic grade line exhibit along project alignment;
 - Provide preliminary recommendations on sizing and placement of combination air vacuum/air release valves and blow off valves; and
 - Provide preliminary recommendation on type and placement of in-line valves.
- TM No. 3 – Pipe Thickness Design
 - Determine pipe thickness required along the project alignment based on internal pressures (TM No. 2), handling and external loading conditions; and

- Provide recommendations on pipe thickness to be carried forward into final design, along with accompanying exhibit(s) depicting locations of thickness changes.
- TM No. 4 – Pipe Coating Evaluations
 - Evaluate interior coating options and provide recommendations; and
 - Evaluate exterior coating options and provide recommendations.
- TM No. 5 – Corrosion Protection
 - Review preliminary plans, geotechnical report, and associated soil corrosivity test results;
 - Identify metallic foreign below grade utilities/pipelines. Perform preliminary evaluation to estimate likelihood of DC stray current interference and coordinate with foreign operator personnel to obtain necessary information;
 - Identify overhead high voltage transmission power line crossings and collocations. Perform preliminary risk assessment to estimate likelihood of AC stray current interference and coordinate with utility personnel to obtain necessary information;
 - Determine electrical continuity bonding and electrical isolation requirements;
 - Determine corrosion monitoring (test station) requirements; and
 - Evaluate the need for cathodic protection. If CP is warranted, provide description of anticipated CP system type, locations and operation/maintenance considerations.
- TM No. 6 – Boring/Tunneling Evaluations
 - Identify locations along project alignment that will require other than open cut installation methods (i.e., boring or tunneling);
 - Prepare exhibit(s) depicting other than open cut locations;
 - Evaluate boring and tunneling methods and provide recommendations for approach in final design.
- TM No. 7 – Utility Conflicts and Constructability
 - Identify potential conflicts with major utilities;
 - Identify potential constructability concerns, such as steep slopes, adjacent development, and other areas of concern;
 - Prepare exhibit(s) depicting utility conflicts and constructability concerns; and
 - Provide recommendations on addressing the previously identified concerns during final design.
- TM No. 8 – Permitting Requirements
 - Coordinate with local, state and federal agencies to identify potential permits required, including but not limited to ARDOT utility crossing permits, Section 404 permit, and City/County road crossing permits;
 - Prepare exhibit(s) depicting locations along project alignment where permits are required; and
 - Provide anticipated timelines for obtaining each type of permit.

- TM No. 9 – Project Delivery Methods
 - Evaluate project delivery methods, including traditional (design-bid-build) and alternate methods such as Construction Manager at Risk;
 - Evaluate feasibility of a single construction contract versus multiple construction contracts, and prepare exhibit(s) as required to depict the separation of contracts;
 - Evaluate early procurement of materials; and
 - Provide preliminary recommendations for project delivery approach.
- TM No. 10 – Opinion of Probable Construction Cost
 - Coordinate with suppliers on availability and cost of materials required to construction the project;
 - Develop anticipated contractor production/installation rates (i.e., linear feet of pipe installed per day); and
 - Prepare an opinion of probable construction cost, which will include a minimum 20% construction contingency.

2.5.2 Preliminary Plans

The ENGINEER will prepare preliminary design plans to an approximate 30% completion level. Plan and profile sheets will be set up to a 1" = 50' horizontal scale with an appropriate vertical scale (1"=10' assumed at this time). Based on the project length and horizontal scale, it is assumed that up to 60 plan and profile sheets will be produced in this task. The preliminary plans will at a minimum include the following information:

- Current aerial photography obtained from publicly available sources;
- Proposed alignment and stationing;
- Permanent and temporary construction easement limits;
- Property boundaries, rights-of-way and ownership information;
- Topographic features obtained in Task 2.2;
- Utility information obtained in Task 2.2;
- Wetlands and other waters of the US identified in Task 2.3;
- Geotechnical bore locations obtained in Task 2.4;
- Locations of other than open cut crossings;
- Identification of areas of concern to be addressed during final design;
- Existing ground elevations along centerline of proposed alignment; and
- Preliminary locations of combination air vacuum/air release valves and blow off valves.

The preliminary plans will be submitted to the CITY OF FAYETTEVILLE concurrently for review and comment. The ENGINEER will subsequently address review comments and submit final preliminary plans to the CITY OF FAYETTEVILLE.

3.0 Project Deliverables

- 3.1 Topographic survey of project alignment in AutoCAD format.
- 3.2 Wetlands Delineation Report – PDF and one (1) hard copy.
- 3.3 Geotechnical Report – PDF and (1) hard copy.

- 3.4 Draft Technical Memoranda – PDF and one (1) hard copy of each TM.
- 3.5 Draft Preliminary Plans – PDF and one (1) 11x17 hard copy.
- 3.6 Final Technical Memoranda – PDF copy of each TM and one (1) hard copy of all compiled TMs.
- 3.7 Final Preliminary Plans – PDF and one (1) 11x17 hard copy.
- 3.8 Other electronic files as requested by the CITY OF FAYETTEVILLE.

4.0 Compensation

In consideration of the performance of the foregoing services by the ENGINEER, the CITY OF FAYETTEVILLE will pay to the ENGINEER compensation as follows:

- 4.1 Compensation will be paid to the ENGINEER on the basis of ENGINEER's standard hourly rates in effect at the time the work is performed, plus reimbursable expenses. A task hour fee breakdown is provided as Appendix A-2. ENGINEER's current rate schedule is attached hereto as Appendix A-3.
- 4.2 The maximum not-to-exceed for Amendment No. 2 will be **\$897,485.00**.
- 4.3 The maximum not-to-exceed total contract amount is increased from \$649,600.00 to **\$1,547,085.00**

5.0 Project Schedule

The ENGINEER will begin work under Amendment No. 2 immediately upon receipt of a Notice to Proceed (NTP). The overall anticipated project schedule is provided in *Exhibit C*.

6.0 Additional Future Services

Additional future services will include, but not be limited to the following:

- Final Design Plans and Details;
- Contract Documents and Technical Specifications;
- Additional Environmental Services, such as cultural resources surveys and threatened and endangered species evaluations;
- Permitting through ARDOT and other local jurisdictions;
- Bid Phase Services; and
- Construction Phase Services.

The scope for these future additional services will be defined by the ENGINEER and CITY OF FAYETTEVILLE prior to completion of the services under this Amendment No. 2, and will be authorized under future amendment(s) to this Agreement.

APPENDIX A-2

City of Fayetteville - West Corridor Water Transmission Main
 Amendment No. 2 - Preliminary Design
 Personnel Hour Fee Estimate
 8/1/2022



Task Description	Sr. Project Manager	Project Manager	Project Designer	CAD/GIS Technician	Reg. Land Surveyor	Survey Technician	Field Survey Crew	Lab Tech I	Lab Tech II	Geotech Engineer	Extended Cost
Task 2.1 - Project Management and Coordination											
Biweekly Progress Meetings (20 total assumed)	40.00	40.00	20.00	20.00							\$19,600.00
Water & Sewer Committee Meetings (3 total assumed)	10.00	10.00		5.00							\$4,325.00
Other Stakeholder Meetings (3 total assumed)	10.00	10.00		5.00							\$4,325.00
Monthly Progress Reports & Schedule Updates (10 total assumed)	0.00	20.00	20.00								\$5,500.00
Subtotal Labor Hours / Fee - Task 2.1	60.00	80.00	40.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	\$33,750.00
Estimated Reimbursable Expenses/Subconsultants											
Mileage											\$200.00
Subtotal Reimbursable Expenses - Task 2.1											\$200.00
Total Task 2.1 - Project Management and Coordination	60.00	80.00	40.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	\$33,950.00
Task 2.2 - Topographic Surveys											
Establish Horizontal and Vertical Control					40.00		60.00				\$15,500.00
Coordinate with Arkups					40.00		60.00				\$15,500.00
Mapping of Surface Features							360.00				\$59,400.00
Drafting					20.00	160.00					\$20,400.00
QA/QC		20.00			40.00						\$8,800.00
Subtotal Labor Hours / Fee - Task 2.2	0.00	20.00	0.00	0.00	140.00	160.00	480.00	0.00	0.00	0.00	\$119,600.00
Estimated Reimbursable Expenses/Subconsultants											
Utility Locates (Arkups)											\$3,000.00
Subtotal Reimbursable Expenses - Task 2.2											\$3,000.00
Total Task 2.2 - Topographic Surveys	0.00	20.00	0.00	0.00	140.00	160.00	480.00	0.00	0.00	0.00	\$122,600.00
Task 2.3 - Section 404 Consulting Services											
Subconsultant Coordination		5.00									\$800.00
Review Delineation Report		5.00	5.00								\$1,375.00
Review Section 404 NWP Application		5.00									\$800.00
USACE Coordination		5.00	5.00								\$1,375.00
Subtotal Labor Hours / Fee - Task 2.3	0.00	20.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$4,350.00
Estimated Reimbursable Expenses/Subconsultants											
Subconsultant - FTN Associates Ltd.											\$18,000.00
Subtotal Reimbursable Expenses - Task 2.3											\$18,000.00
Total Task 2.3 - Section 404 Consulting Services	0.00	20.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$22,350.00
Task 2.4 - Geotechnical Investigations											
Geotech Exploration & Field Services								340.00			\$30,600.00
Lab Testing & Analysis (see below)									160.00	45.00	\$22,975.00
Geotech Report & Coordination											
Subtotal Labor Hours / Fee - Task 2.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	340.00	160.00	45.00	\$53,575.00
Estimated Reimbursable Expenses/Subconsultants											
Equipment Mobilization/Demobilization (assumed 4 truck rig mob/demob @ \$300/EA; 8 truck rig mob/demob @ \$600/EA)											\$6,000.00
Boring Setup (81 bores @ \$40/EA)											\$3,240.00
SPT Auger Drilling (assumed 1,360 LF @ \$13/LF)											\$17,680.00
Water-Based Rock Coring (Diamond Bit) (assumed 290 LF @ \$40/LF)											\$11,600.00
In-House Laboratory Testing (Moisture Content, Atterberg Limits, Gradation, Comp. Strength of Rock Cores)											\$10,375.00
Third Party Laboratory Testing (Soil Resistivity, pH, Sulfates, Chlorides, Sulfides, Redox Potential)											\$16,250.00
Pavement Patching (assumed 9 patches @ \$35/EA)											\$315.00
Diamond Rock Bits (assumed 6 bits @ \$650/EA)											\$3,900.00
Subtotal Reimbursable Expenses - Task 2.4											\$69,360.00
Total Task 2.4 - Geotechnical Investigations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	340.00	160.00	45.00	\$122,935.00
Task 2.5 - Preliminary Design											
Technical Memoranda											
TM No. 1 - Pipe Material Selection	5.00	10.00	20.00								\$5,025.00
TM No. 2 - Hydraulics and Prelim Surge Analysis	10.00	20.00	40.00	10.00							\$11,000.00
TM No. 3 - Pipe Thickness Design	10.00	20.00	40.00	5.00							\$10,525.00
TM No. 4 - Coating Evaluation	5.00	10.00	20.00								\$5,025.00
TM No. 5 - Corrosion Protection	5.00	20.00	10.00	5.00							\$5,950.00
TM No. 6 - Boring/Tunneling	10.00	50.00	60.00	10.00							\$18,100.00
TM No. 7 - Utility Conflicts/Constructability	30.00	80.00	120.00	10.00							\$34,300.00
TM No. 8 - Permitting Requirements	5.00	10.00	10.00	10.00							\$4,825.00
TM No. 9 - Project Delivery Methods	30.00	40.00	20.00	10.00							\$16,400.00
TM No. 10 - Opinion of Probable Construction Cost	20.00	50.00	80.00								\$21,700.00
Address City Comments on TMs	10.00	20.00	20.00	10.00							\$8,700.00
QA/QC	20.00	20.00									\$7,700.00
Preliminary Plans											
Set up Plan & Profile Sheets	0.00	20.00	180.00	240.00							\$46,700.00
Incorporate Survey Data (Topographic, Boundary, Easements)	0.00	20.00	120.00	160.00							\$32,200.00
Incorporate Utility Information	10.00	20.00	120.00	160.00							\$34,450.00
Incorporate Wetlands Information	0.00	10.00	20.00	40.00							\$7,700.00
Incorporate Geotech Information	0.00	0.00	10.00	20.00							\$3,050.00
Establish Alignment and Existing Ground Profile	80.00	200.00	540.00	800.00							\$188,100.00
Annotate OTOC Segments, Valves, and Areas of Concern	20.00	40.00	60.00	80.00							\$25,400.00
Submit Draft Prelim Plans	0.00	0.00	20.00	20.00							\$4,200.00
Address Comments and Submit Final Prelim Plans	10.00	20.00	60.00	80.00							\$19,950.00
QA/QC	40.00	40.00									\$15,400.00
Subtotal Labor Hours / Fee - Task 2.5	320.00	720.00	1570.00	1670.00	0.00	0.00	0.00	0.00	0.00	0.00	\$526,400.00
Estimated Reimbursable Expenses/Subconsultants											
Mileage											\$500.00
Subconsultant - Coffman Engineers (Corrosion Protection)											\$14,500.00
Subconsultant - Carollo (Technical Advisor/QA/QC on TMs)											\$54,250.00
Subtotal Reimbursable Expenses - Task 2.5											\$69,250.00
Total Task 2.5 - Preliminary Design	320.00	720.00	1570.00	1670.00	0.00	0.00	0.00	0.00	0.00	0.00	\$595,650.00
GRAND TOTAL AMENDMENT NO. 2	380.00	840.00	1620.00	1700.00	140.00	160.00	480.00	340.00	160.00	45.00	\$897,485.00

APPENDIX A-3



Effective 8/1/2022

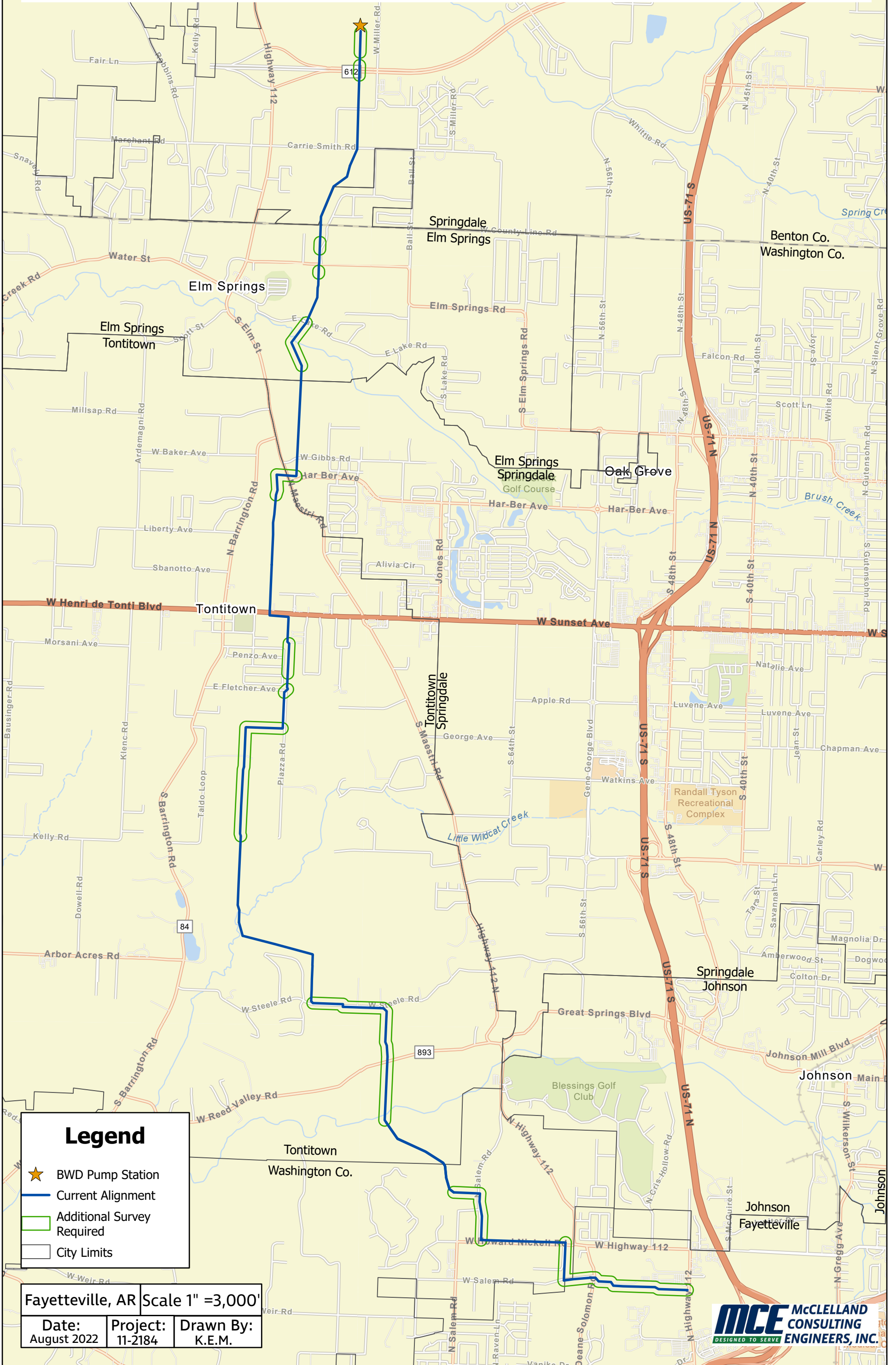
McCLELLAND CONSULTING ENGINEERS, INC.

***STANDARD HOURLY RATES**

Chief Draftsman	\$95 - \$110
Clerical	\$45 - \$75
Construction Observer	\$70 - \$145
Draftsman	\$65 - \$100
Environmental Scientist/Designer	\$105 - \$125
Geotech Engineer	\$85 - \$170
GIS Technician	\$80 - \$140
HR/Payroll Admin	\$75-\$100
Landscape Architect	\$90 - \$170
Media Specialist	\$80 - \$105
Principal	\$160 - \$240
Project Accountant	\$70 - \$155
Project Designer - Intern	\$50 - \$60
Project Designer	\$80 - \$140
Project Engineer	\$120 - \$175
Project Manager	\$120 - \$200
Registered Land Surveyor	\$95 - \$145
Soils Lab Technician	\$50 - \$140
Specification Writer	\$50 - \$90
Sr. Project Manager	\$140 - \$230
Survey (2 man or Robotic) Crew	\$115 - \$165
Survey (3 man) Crew	\$135 - \$195
Survey Field (1 Man or Rodman)	\$45 - \$110
Survey GPS	\$75 - \$130
Survey Technician	\$65 - \$95
Water Lab Supervisor	\$70 - \$120
Water Lab Tech	\$50 - \$95
Expenses	@ Cost
Mileage	.625/mi

** Standard Hourly Rates may be adjusted annually in accordance with the normal salary review practices of McClelland Consulting Engineers.*

EXHIBIT A: Additional Topographic Survey Areas



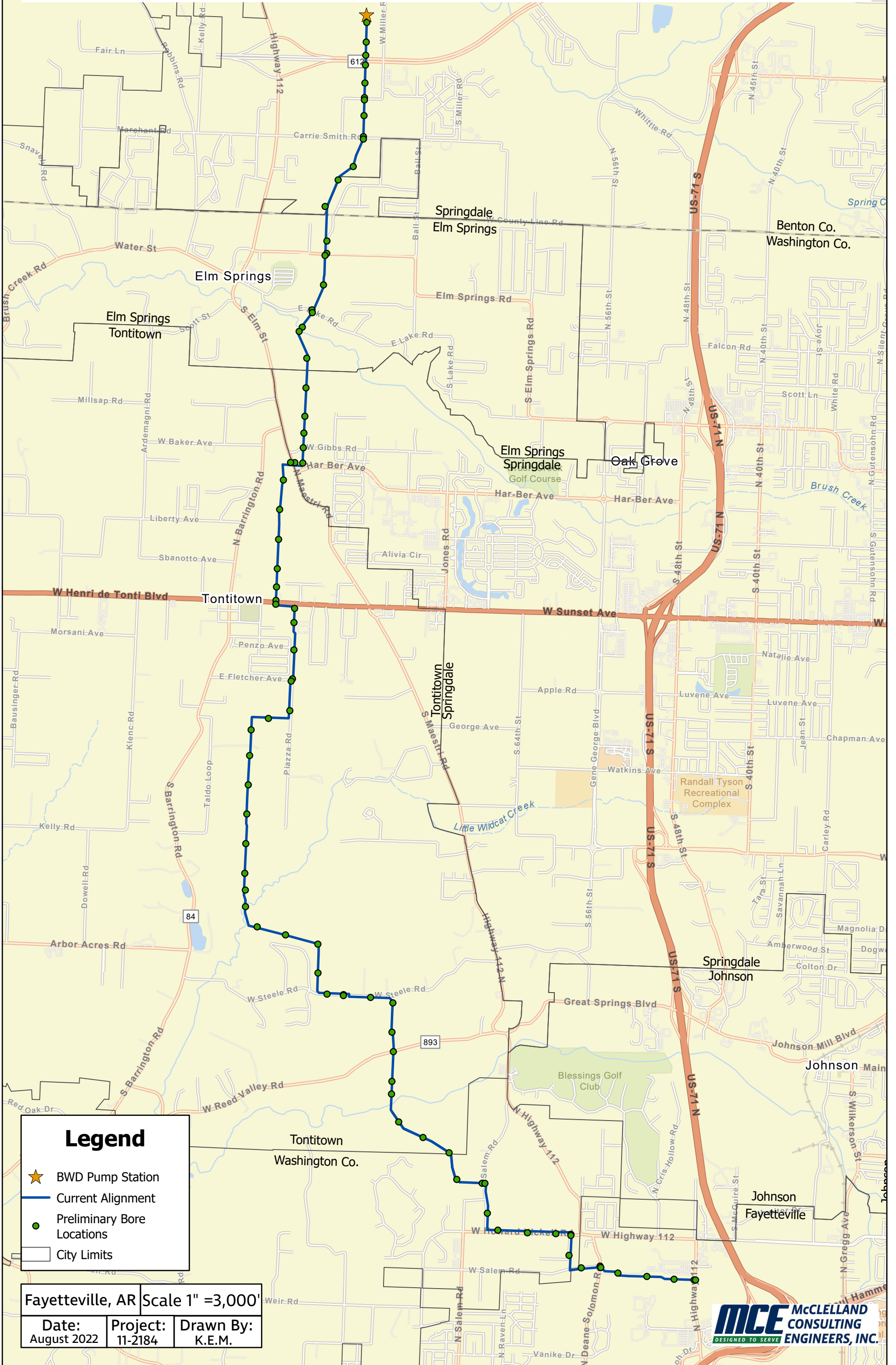
Legend

- ★ BWD Pump Station
- Current Alignment
- ▭ Additional Survey Required
- ▭ City Limits

Fayetteville, AR		Scale 1" = 3,000'
Date: August 2022	Project: 11-2184	Drawn By: K.E.M.



EXHIBIT B: Preliminary Geotechnical Bore Locations



Legend

- ★ BWD Pump Station
- Current Alignment
- Preliminary Bore Locations
- City Limits

Fayetteville, AR Scale 1" = 3,000'		
Date: August 2022	Project: 11-2184	Drawn By: K.E.M.



EXHIBIT C

**City of Fayetteville - West Corridor Water Transmission Main
Amendment No. 2 - Preliminary Design**
Preliminary Schedule
8/1/2022



Project Phase	2022				2023				2024				2025				2026			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Easement Acquisition (Current Contract)																				
Preliminary Design (Amendment No. 2)																				
Final Design																				
Bid Phase																				
Construction Phase																				



113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Resolution: 179-21

File Number: 2021-0436

MCCLELLAND CONSULTING ENGINEERS, INC. AMENDMENT NO. 1:

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE ENGINEERING SERVICES AGREEMENT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$261,000.00 FOR EASEMENT ACQUISITION SUPPORT FOR THE WEST WATER TRANSMISSION LINE PROJECT, AND TO APPROVE A BUDGET ADJUSTMENT

WHEREAS, on June 5th, 2012, the City Council approved Resolution No. 120-12, approving a contract with McClelland Consulting Engineers, Inc. for the water transmission line layout and easement acquisition related to a third connection to Beaver Water District; and

WHEREAS, Amendment No. 1 will provide the necessary funds to acquire the remaining 53 easements over the next 3 years.

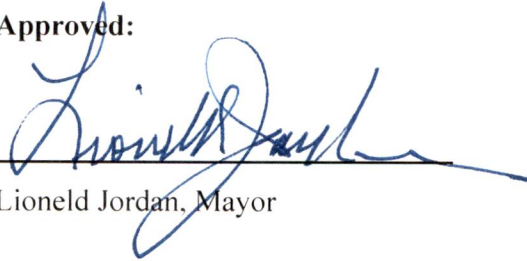
THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the Engineering Services Agreement with McClelland Consulting Engineers, Inc. in the amount of \$261,000.00 for easement acquisition support for the West Water Transmission Line Project.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

PASSED and APPROVED on 7/6/2021

Approved:



Lioneld Jordan, Mayor

Attest:



Kara Paxton, City Clerk Treasurer



RESOLUTION NO. 120-12

A RESOLUTION APPROVING A CONTRACT WITH MCCLELLAND CONSULTING ENGINEERS, INC. IN THE AMOUNT OF \$388,600.00 FOR WATER TRANSMISSION LINE LAYOUT AND EASEMENT ACQUISITION RELATED TO A THIRD CONNECTION TO BEAVER WATER DISTRICT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves a contract with McClelland Consulting Engineers, Inc. in the amount of \$388,600.00 for water transmission line layout and easement acquisition related to a third connection to Beaver Water District. A copy of the contract is attached to this Resolution as Exhibit "A".

PASSED and APPROVED this 5th day of June, 2012.

APPROVED:

ATTEST:

By:


LIONELD JORDAN, Mayor

By:


SONDRA E. SMITH, City Clerk/Treasurer

