



October 17, 2018

Mr. Chris Rosetti
Project Manager
Lake Havasu City
2330 McCulloch Blvd. N.
Lake Havasu City, AZ 86403

Dear Mr. Rosetti:

Subject: Water Design Services Proposal
Lake Havasu City FY 18-19 Water Main Replacements
CEC Project No. 182-718

Civil & Environmental Consultants, Inc. (Consultant) is pleased to provide this proposal for water design services to Lake Havasu City (City) to design the Lake Havasu City FY 18-19 Water Main Replacements.

CEC is pleased to provide these services, as described in Exhibit "A", based on a lump-sum fee of \$125,000. The attached Scope of Work presents background information, proposed services, schedule and total estimated effort required for completion of the scope.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Sean Perrotto
Project Manager III

Kevin Murphy, P.E.
Senior Principal

Enclosures:

Exhibit "A" – Scope of Work
Exhibit "B" – Fee Schedule

EXHIBIT “A” – SCOPE OF WORK

Lake Havasu City FY 18-19 Water Design Services for Water Main Replacement Program

1. Project Services. Consultant agrees to perform professional services for a project known and described as FY 18-19 Water Design Services for Water Main Replacement Program (**Project**), which includes the design of approximately 15,000 linear feet of small diameter water main upgrades, generally consisting of 6- to 8-inch diameter pipe and within twenty-five (25) separate locations within the City. For FY 18-19, the City agreed to perform and provide a portion of the Preliminary Engineering sub-tasks as described below. This effort will be provided by City staff and will include providing survey data of existing road features and utility appurtenances resulting in an AutoCAD file based on their findings to be incorporated into the base file to be used for design purposes. It is envisioned this collaborative approach will minimize field changes and allow the Consultant’s design team to include the full lineal footage noted above in the pipeline design. The Services are described in the following tasks:

- 1.1 Preliminary Engineering (Consultant and City Furnished Services): Consultant will provide the Preliminary Engineering Services required for this Project to coordinate with City in obtaining the data necessary to prepare Preliminary 30% Alignments for the Project. Consultant has allocated time within the tasks to communicate and coordinate with the team members, provide general project management, including project coordination and meeting with City staff. The sub-tasks are more particularly described as follows:
 - A. Kick-off Meeting: Consultant’s team will meet with the City to discuss lesson-learned items and to develop and refine the Project’s scope, schedule, and revised approach. Consultant will document items discussed via meeting minutes to be forwarded to the team for documentation purposes.
 - B. Survey Data Collection – City will provide survey data, including but not limited to: right-of-way control; property lines where field located; limits of pavement, driveways and other hardscapes; landscaping; curbs; sidewalks; water meters; blow-offs; fire-hydrants; valves; manholes; cleanouts; and other additional features pertinent to waterline layout (**field survey shots**). It is the Consultant’s understanding and assumption that the City intends to pothole at least one (1) location within each individual area in an effort to acquire Blue Stake information and be able to include these markings within the survey data provided. Consultant will use this information within basis of design.
 - C. Utility Research – Consultant will request information on existing utilities in the Project corridor from the City and other dry utility companies. Information provided by the requested agencies will be compared to the information provided in collected survey data and incorporated into the base files similar to the accuracy provided. Consultant will take photos that will be placed into the file for documentation purposes. City will make a field visit to each location to identify and/or confirm general existing water and sewer lines within the general vicinity of the Project. No potholing will be performed by Consultant.

- D. Alignment Analysis – Consultant will prepare plan-view only alignment exhibits showing the proposed conceptual alignment, and will also include the adjacent existing utilities, lines of ownership, and general valve layouts for system shutdown discussion purposes (**Preliminary 30% Alignments**).
 - E. Deliverables for this task will include a digital PDF copy of the Preliminary 30% Alignments to be sent digitally to the City for review and comment via e-mail correspondence and/or via the workshop.
 - F. Alignment Workshop – City and Consultant will review the Preliminary 30% Alignments provided to confirm the alignment meets the Project goals. Consultant will document workshop discussions via meeting minutes to be forwarded to the team for documentation purposes.
- 1.2 90% Design Package: Upon the City’s approval of the Preliminary 30% Alignments, Consultant will prepare the **90% Design Package** as further described below within the following sub-tasks:
- A. Connection Details – Consultant will review the connection points to the existing system based on the Preliminary 30% Alignments accepted with the previous task in an effort to prepare preliminary connection details. The details will be used in identifying the limits of improvements required and will be incorporated into the construction drawings.
 - B. Scour Analysis – Consultant will perform a site visit and detailed scour analysis for three (3) crossings to determine the scour depth, which includes a gradation analysis from a sample at three (3) locations. Normal depth calculations will be performed to determine flow depth and velocity at the crossings. This analysis will be documented in a Scour Analysis Technical Memorandum, which will provide the recommended burial depth of the water line at each location based on the scour depth and/or scour protection recommended to protect the waterline in the design storm event.
 - C. 90% Construction Drawings – Consultant will prepare **90% Construction Drawings** including plan and profiles based on the Preliminary 30% Alignments. The plans will be generated in AutoCAD Civil3D format. Consultant will submit the 90% Construction Drawings for the City’s review and comment in digital PDF format via e-mail correspondence.
 - D. Draft Specifications – Consultant will provide **Draft Technical Specifications** to include the front-end (“boiler-plate”) documents, including the general conditions. The Consultant will prepare a list of bid items for the front-end documents as well as technical specifications necessary to construct the Project, in Construction Specifications Institute (CSI) format. The Draft Technical Specifications will include special provisions and reference to the City’s standard specifications.
 - E. 90% Opinion of Probable Cost – Consultant will prepare a 90% **Opinion of Probable Cost** for the Project with a 10% contingency factor. Quantity calculations

shall be included with the submittals and the format of the estimate will match the City's bid item list in the construction contract documents.

- F. Constructability Review – Consultant's technical review team will conduct a constructability review of the design at the current stage, review major construction aspects of the Project, and make recommendations for changes and/or enhancements to the Project. This will be performed in an effort to confirm that the Project can be constructed, as presented in the construction documents, and confirm the budget and construction schedule can be met. These reviews will be performed on the plans and specifications prior to submittal review to the City.
 - G. 90% Design Workshop - Consultant will meet with the City to review the 90% Construction Drawings, Consultant will document workshop discussions via meeting minutes to be forwarded to the team for documentation purposes.
 - H. Deliverables for this task will include a digital PDF copy of response to the preliminary design comments, the 90% Construction Drawings, Draft Technical Specifications, Scour Analysis Technical Memorandum and 90% Opinion of Probable Cost. Deliverables will be sent digitally to the City for review and comment via e-mail correspondence and/or via the workshop.
- 1.3 Mohave County Department of Environmental Quality (MCDEQ) Permitting: Upon the City's approval of the 90% Design Package, Consultant will prepare the required documents to submit for the Authorization To Construct (ATC) through MCDEQ, as further described below within the following sub-tasks:
- A. Waterline Design Technical Memorandum – Consultant will prepare a Waterline Design Technical Memorandum based on the 90% Design Package to be included with the MCDEQ application for ATC.
 - B. Application for Approval to Construct – Consultant will prepare the ATC application and coordinate efforts with the City to acquire the required signatures.
 - C. Deliverables for this task will include a digital PDF copy of the Waterline Design Technical Memorandum and the application for ATC, and pertinent contract documents that will be sent digitally to MCDEQ for review and approval via e-mail correspondence.
- 1.4 Arizona Department of Transportation (ADOT) Permitting: Upon the City's approval of the 90% Design Package, Consultant will prepare the required documents to submit for **ADOT's Encroachment Permit** that will include the 90% Construction Drawings and application. It is the Consultant's understanding that an Encroachment Permit will not be granted until a contractor is selected, therefore, this task includes the approval of the engineering plans only.
- 1.5 Final Construction Documents: Upon the City's approval of the 90% Design Package, Consultant will prepare the **Final Construction Documents**, as further described within the following sub-tasks:

- A. Bid Set Construction Drawings – Consultant will prepare **Bid Set Construction Drawings** and submit to City for bidding purposes in digital PDF format.
 - B. Bid Set Technical Specifications – Consultant will provide **Bid Set Technical Specifications**, which will include special provisions and reference to the City’s standard specifications.
 - C. Final Opinion of Probable Cost – Consultant will prepare a **Final Opinion of Probable Cost** for the Project. Quantity calculations shall be included with the submittals and the format of the estimate will match the City’s bid item list in the construction contract documents.
 - D. Quality Assurance Review – Consultant’s technical review team will conduct a final quality assurance review of the Final Contract Documents, reviewing for accuracy and consistency of the construction documents. This will be performed in an effort to confirm that the Final Construction Documents are presented for public bidding. These reviews will be performed on the plans and specifications prior to submittal to the City for public bidding.
 - E. Deliverables for this task will include a digital PDF copy of Bid Set Drawings, Bid Set Technical Specifications, and a Final Opinion of Probable Cost. Deliverables will be sent digitally to the City for bidding purposes.
- 1.6 Bidding Support: Consultant will provide the City assistance in advertising and award of the construction contract for the Project, including bid evaluation, reference checks, and City report to Council, as further described below:
- A. Document Coordination – Consultant will coordinate with the City’s Procurement Manager to confirm all documents are prepared and submitted for advertising. This will include establishing bidding dates.
 - B. Bid Addenda and Bidder Questions – Consultant will assist City with bidder questions and prepare one (1) addenda for the Project that will include clarifications and revisions to the Final Construction Documents. Addenda will be coordinated with the City and then submitted to the Procurement Manager for posting/circulation.
 - C. Bid Analysis – Consultant will review bids and prepare a Recommendation of Award memorandum for City regarding award of the construction contract for the Project.
 - D. Deliverables for this task will include a digital PDF copy of Addenda as described above and the recommendation of award for the City to include in presentation to Council.
2. Schedule. The Services will commence upon receipt of an executed Agreement and issuance of a Notice to Proceed (NTP) within the following time frames:

- A. City is assumed to complete field survey shots 8 weeks from NTP.
- B. Consultant will submit Preliminary 30% Alignments for each pipeline segment within 3 weeks after receiving City field survey shots of the existing pipeline.
- C. Consultant to Submit 30% Design Drawings Alignments 11 weeks from NTP.
- D. Consultant to Coordinate Alignment Workshop 12 weeks from NTP.
- E. Consultant to Submit 90% Design Package 16 weeks from NTP.
- F. City Review of 90% Design Package 20 weeks from NTP.
- G. Consultant to Submit Final Construction Documents 26 weeks from NTP.

3. Assumptions.

- A. All permit, application, and review fees will be paid by others.
- B. Services identified above to be provided by the City will be performed by City staff and provided to Consultant to use as base file.
- C. As-builts for the local municipality water and sewer systems exist and are readily available via the utility provider and/or City. They will be used for reference and will not be analyzed for connection or adequacy purposes.
- D. Additional scour analyses will require additional scope.
- E. Consultant will reasonably rely upon the accuracy of all data and information provided by the City and other third parties.
- F. The opinions of probable cost (estimates) developed, and any resulting conclusions on Project financial or economic feasibility or funding requirements, have been prepared for guidance in Project evaluation and implementation from the information available at the time the opinion was prepared. The final costs of the Project and resulting feasibility will depend on actual labor and material costs, competitive market conditions, actual site conditions, final Project scope, implementation schedule, continuity of personnel and engineering, and other variable factors.

4. Services Not Included:

- A. Hydraulic modeling to be performed by others.
- B. Construction services.
- C. Potholing for depth and/or size verification.

- D. Surveying, architectural, structural, geotechnical, and/or environmental services are not included.

EXHIBIT “B” – FEE SCHEDULE

FY 18-19 Water Design Services for Water Main Replacement Program	<u>\$125,000</u>
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Total	\$125,000
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Travel Expenses included in fees above

CIVIL & ENVIRONMENTAL CONSULTANTS, INC. - 2018 HOURLY RATES

STANDARD RATE SCHEDULE

SENIOR PRINCIPAL	\$210/HOUR
PRINCIPAL	\$200/HOUR
SENIOR PROJECT MANAGER	\$185/HOUR
PROJECT MANAGER III	\$165/HOUR
PROJECT MANAGER II	\$150/HOUR
PROJECT MANAGER I	\$140/HOUR
ASSISTANT PROJECT MANAGER	\$125/HOUR
SENIOR DESIGNER	\$120/HOUR
DESIGNER	\$100/HOUR
CAD OPERATOR	\$80/HOUR
OFFICE MANAGER	\$80/HOUR
ADMINISTRATIVE	\$60/HOUR
ENGINEERING INTERN	\$50/HOUR
 EXPERT WITNESS TESTIMONY	 \$390/HOUR