



DATA SHEET
Agenda Item No. 22.

Meeting Date: April 5, 2017

Agenda Item:

Consider Task Order No. 2 to existing contract with Black and Veatch Corporation to locate and add fiber optic lines and yard piping at treatment plant sites to the Geographic Information System (GIS) database; and, to assist the vendor for the new Computerized Maintenance Management System to integrate CMMS into GIS.

Placement:	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Individual Consideration	<input type="checkbox"/> Executive Session
Vote:	<input type="checkbox"/> Non-Weighted	<input checked="" type="checkbox"/> Weighted Capital	
Recommending Department: Engineering			

Background:

At the November 5, 2015 meeting, the Board approved Contract and Task Order No. 1 with Black and Veatch Corporation (B&V) for professional services to develop and implement a Geographic Information System (GIS) to improve record keeping, communication, and efficiency.

Proposed Task Order No. 2 with B&V provides professional services that will continue to build on the GIS system by locating and digitizing fiber optic lines, treatment plant yard piping and chemical feed lines into the GIS database. This information can also be utilized by the new CMMS system to provide maps and additional tools and functionality. B&V will assist in coordinating and troubleshooting any issues that may arise during the CMMS and GIS system integration process.

The proposed task order includes budget amounts of \$74,982 for Basic Services (locating, digitizing and Integration), and \$10,000 Additional Services (contingency for project related unknowns). The total amount of the proposed Task Order is \$84,982.

Financial:

Funding is included in the approved FY2017 Capital Budget.

Recommendation:

Recommend approval of proposed Task Order No. 2.

Enclosures:

Draft Task Order No. 2.

Submitted By: 
Jody Zabolio, Acting Director of Engineering & Construction

Date: March 31, 2017

ATTACHMENT A

Task Order No. 2

This Task Order is part of the AGREEMENT between (Black And Veatch Corporation), (the "ENGINEER"), and Upper Trinity Regional Water District (UTRWD), (the "OWNER"), for a project generally described as:

Geographic Information System Implementation and Hosting Services

The purpose of this Task Order is as follows:

Treatment Plant GIS Digitization and Assistance with CMMS Implementation

ARTICLE I SCOPE OF SERVICES

The ENGINEER agrees to furnish the OWNER the following specific services:

BASIC ENGINEERING SERVICES

The services to be provided by ENGINEER are organized into the following phases:

- Phase 100: Project Management and Administration
- Phase 200: Develop and Implement a Geodatabase
- Phase 300: Yard Piping Data Digitization and Conversion
- Phase 400: Digitization and Conversion of Fiber Lines
- Phase 500: Digitization and Conversion of Plant Chemical Feed Lines
- Phase 600: Assistance with CMMS Integration

PHASE 100: PROJECT MANAGEMENT AND ADMINISTRATION

Deliverables:

- Monthly status reports with invoices
- Project Schedule updates

TASK 101 – PROJECT MANAGEMENT AND ADMINISTRATION

ENGINEER will perform general administrative duties associated with the Project, including project set-up, resource and sub-consultant management, progress monitoring, scheduling, QA/QC plan development and updating, general correspondence, office administration, and invoicing. The project schedule will be reviewed and revised during the Project Initiation Meeting and will be updated at key project milestones.

ENGINEER will maintain continuous control over the quality of all work efforts and project deliverables. This will include oversight and review by the lead technical GIS staff and project manager, and for some tasks, senior technical and managerial staff. In addition to this overall level of quality assurance, ENGINEER will provide specific review and quality control throughout the project at key project milestones and for project deliverables.

TASK 102 - INITIATE PROJECT

Initiating the project will be focused on clarification of the scope of the project through a Project Initiation Meeting and requesting and collecting data.

Deliverables:

- Project Initiation Meeting Agenda and Minutes
- Data Request List

TASK 103 – PROJECT INITIATION MEETING

ENGINEER will schedule and facilitate a Project Initiation Meeting. The meeting will be held at OWNER's offices. The objectives of the meeting include:

- Identify and meet key team members from the OWNER and ENGINEER.
- Establish the project roles and communication channels.
- Identify and discuss the project objectives and scope.
- Review planned activities.
- Conduct technical discussions to facilitate key project tasks.

Deliverables:

ENGINEER will prepare the Project Initiation Meeting agenda in advance and issue meeting minutes for distribution afterward. ENGINEER will also follow up on action points from the meeting.

TASK 104 – DATA REQUEST & COLLECTION

A copy of the preliminary data request will be submitted by ENGINEER prior to the Project Initiation Meeting. This list will be refined at the outset of the project and reviewed during the Project Initiation Meeting. Data will be tracked by ENGINEER until all available items are received.

PHASE 200: DEVELOP AND IMPLEMENT A GEODATABASE

Deliverables:

- Provide a Geodatabase Schema Based on Esri's Local Government Data Model Template
- Upload and setup of Geodatabase into the Loadspring Environment

TASK 201 – DATABASE CREATION

ENGINEER will create an empty geodatabase schema based on Esri's Local Government Data Model (LGDM) and OWNER's existing geodatabase specific work processes. The design will comprise the basic feature classes and domains from the LGDM and then further refine to meet the OWNER's plant yard piping assets. This geodatabase will be developed following the CMMS system integration project and the structure will be reviewed by CMMS system vendor prior to implementation.

TASK 202 – DATABASE FINALIZATION AND DATABASE SETUP

ENGINEER will complete the empty database schema and load the database into a SQL server environment for use in OWNER's Loadspring Environment.

PHASE 300: YARD PIPING DATA DIGITIZATION AND CONVERSION

ENGINEER will digitize and convert the yard piping for OWNER's six plants that will be provided to the CONSULANT in the form of plan sets, in PDF format from the OWNER. The Digitization and conversion effort will focus on yard piping assets within the existing plants.

Deliverables:

- Yard piping digitization of water and wastewater facilities digitized and attributed according to the plan sets provided by the OWNER.

Assumptions:

- ENGINEER will provide list of plant structures that need a naming structure 2 weeks prior to kickoff meeting
- The OWNER will provide a naming structure for each Plant at the time of the kick off meeting
- ENGINEER will provide Data Request List 2 weeks prior to project kickoff meeting
- The OWNER will provide all relative plan sets available for each of their plants at the time of the project kickoff meeting
- The OWNER will provide all plan sets for the digitization and conversion effort in a pdf format.

TASK 301 – PLANT DATA DIGITIZATION AND CONVERSION

Data digitization and conversion is one of the more significant tasks presented in this scope. The water and wastewater plant yard piping will be digitized and converted into the database schema. The process will include three steps:

- Georeferencing the drawings to aerial imagery to best determine location of the facilities.
- Digitize all facilities identified on the plan sets (Valves, bends, air release valves, etc.)
- Attribute each facility based on the plan information.

TASK 302 – PLANT DATA INCORPORATION INTO EXISTING SYSTEM

Once digitization and conversion is completed the data will be incorporated into the OWNER's current GIS enterprise database and added to the OWNER's current web services.

The estimated level of effort to capture the plant yard piping including chemical feed lines is 297 hours. It is estimated that the digitization and conversion efforts will take approximately 75 days from start to finish. The OWNER will be given the opportunity to review at 50% and 100% digitization

TASK 303 – QA/QC

The ENGINEER would also institute a 20% QA/QC sampling process to ensure the digitization and attribution is correct and accurate.

PHASE 400: DIGITIZATION AND CONVERSION OF FIBER LINES

ENGINEER will digitize and convert all the Fiber Line plan sets into OWNER's current Loadspring Environment. The fiber lines digitization and conversion will incorporate fiber line running along the Railroad tracks down Interstate 35 East, from approximately Burl St to Mill Street, from south of Swisher Rd to the Lakeview Plant, from Mill Street to the Taylor Plant, and the Fiber lines included in the RW/FW NE plan set. as shown in Attachment A

Deliverables:

- Create Feature class for Fiber lines and any associated asset related directly to the OWNER's plan set line
- Digitization and attribution of Fiber lines and associated assets according to the plan sets provided by the OWNER.
- Incorporation of Fiber lines and associated assets into OWNER existing Enterprise GIS
- Geodatabase of all lines and features to the OWNER for review at 50% and 100%

Assumptions:

- The OWNER will provide all relative plan sets for Fiber line digitization and conversion at the time of the project kickoff meeting
- The OWNER will provide all plan sets for the digitization and conversion effort in a pdf format.
- The OWNER will provide a naming structure for Fiber lines and associated assets at the time of the kick off meeting

PHASE 500: DIGITIZATION AND CONVERSION OF PLANT CHEMICAL FEED LINES

ENGINEER will digitize and convert chemical feed lines for the Water and Wastewater treatment plant plan sets into OWNER's current Loadspring Environment. The chemical feed line digitization and conversion will incorporate the PVC chemical feed lines at two (2) water treatment plants (WTP's) and four (4) wastewater treatment plants (WWTP's).

Deliverables:

- Create Feature class for chemical feed lines any associated asset related directly to the OWNER's plan set line
- Digitization and attribution of chemical feed lines and associated assets according to the plan sets provided by the OWNER.
- Incorporation of chemical feed lines and associated assets into OWNER existing Enterprise GIS
- Geodatabase of all chemical feed lines and features to the OWNER for review at 50% and 100%

Assumptions:

- The OWNER will provide all relative plan sets for Chemical feed line digitization and conversion at the time of the project kickoff meeting
- The OWNER will provide all plan sets for the digitization and conversion effort in a pdf format.
- The OWNER will provide a naming structure for chemical feed lines and associated assets at the time of the kick off meeting

PHASE 600: ASSISTANCE WITH CMMS INTEGRATION

ENGINEER will work with CMMS provider to assist with GIS web in proposed CMMS system. ENGINEER will provide up to 90 hours of coordination with the CMMS implementer to include geodatabase review, and website configuration.

Deliverables:

- ENGINEER will update/configure current web services to work with proposed CMMS system.

ADDITIONAL SERVICES

Additional services to be performed by the ENGINEER, if authorized by the OWNER, which are not included in the above-described Basic Engineering Services, are described as follows:

TASK 700 – Miscellaneous Engineering Services not to exceed \$10,000.

**Article II
Compensation**

Basic Services

Compensation by the OWNER to the ENGINEER for all Basic Services enumerated in Task Order No. 2 as shown below.

Treatment Plant GIS Digitization and Assistance with CMMS Implementation		
Phase Number/Description	Hours	Cost
Phase 100 – Project Management and Administration	20	\$3,330
Phase 200 – Develop and Implement and Geodatabase	40	\$5,720
Phase 300 (Task 301) – Plant Data Digitization and Conversion	240	\$34,890
Phase 300 (Task 302) – Plant Data Incorporation into Existing System	20	\$2,860
Phase 300 (Task 303) – QA/QC	40	\$4,960
Phase 400 – Digitization and Conversion of Fiber Lines	43	\$6,282
Phase 500 – Digitization and Conversion of Plant Chemical Feed Lines	47	\$6,930
Phase 600 – Assistance with CMMS Integration	70	\$10,010
Basic Services	575	\$74,982

Estimated Total for Basic Services: \$ 74,982.00

Additional Services

Additional Services which may be required by the OWNER shall be based on the actual hours and costs. No work will be undertaken without specific written authorization from the OWNER.

Total Compensation Summary

Basic Services	\$ <u>74,982.00</u>
Additional Services	\$ <u>10,000.00</u>

Estimated Total Task Order No. 2: \$ 84,982.00

Other Provisions

The following provisions shall apply to this Task Order:

Confidential Notice: These drawings are for the sole use of the intended recipient(s) and are confidential and may be privileged. You are hereby notified that any dissemination, distribution, or reproduction of these drawings is strictly prohibited.

The ENGINEER's compensation is based on immediate authorization to proceed and timely completion of the PROJECT. If the PROJECT timing deviates from the assumed schedule for causes beyond the ENGINEER's control, the ENGINEER reserves the right to request renegotiation of those portions of the compensation affected by the time change.

This Task Order No. 2 will become part of the referenced AGREEMENT when executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

For the OWNER, Upper Trinity Regional Water District dated this _____ day of _____, 2017.

By: _____

Name Title

For the ENGINEER, Black and Veatch Corporation dated this _____ day of _____, 2017.

By: _____

D. Matt Bond Assoc. Vice President
Name Title

DRAFT