



DATA SHEET
Agenda Item No. 18.A.

Meeting Date: December 7, 2017

Agenda Item:

Consider approval of contract and financial matters related to the Doe Branch Water Reclamation Plant expansion:

- A. Contract with Freese and Nichols, Inc. for professional services related to design, and construction of Phase 2 of the Doe Branch Water Reclamation Plant, including Task Order No. 1 for preliminary design and related matters.

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 and Operations			

Background:

Growth in the Northeast Regional Water Reclamation System service area continues at a quick pace. As a result, the Doe Branch Water Reclamation Plant is experiencing increasing flows and it is time to plan for expansion of the plant.

Additional study and evaluation is needed before the appropriate size of the next plant expansion can be determined. Analysis of the growth trends in the service area along with evaluation of the financial impacts of the expansion options are necessary. The current Texas Commission on Environmental Quality (TCEQ) permit would allow for an expansion to either 4.0 or 5.225 mgd.

Contract and Task Order No. 1 with Freese and Nichols, Inc. is for engineering services to assist District to determine the most appropriate next expansion capacity, the timing to initiate construction and the best construction delivery method to be used for this project.

The proposed Task Order includes budget amounts of \$142,670 for Basic Services (flow projections, capacity assessment, process modeling, delivery method recommendation), \$7,180 for Special Services (flood plain survey), and \$5,000 for Additional Services. The total for the proposed Task Order is \$154,850.00.

Financial:

Funding for Doe Branch Phase 2 Expansion is available in the Northeast Water Reclamation System FY 2018 Capital Budget referenced as Plant Expansion, Phase 2 (from 2.0 to 4.0 MGD).

Recommendation:

Staff recommends that the Board authorize the proposed Contract and Task Order No. 1 with Freese and Nichols, Inc. for professional services related to preliminary design and related matters for Phase 2 of the Doe Branch Water Reclamation Plant.

Enclosures:

Draft Task Order No. 1.

The proposed contract is a standard District professional services agreement and is not enclosed. If anyone would like a personal copy of the contract, please contact Kurt Staller.

Submitted By: 
Kurt Staller, Acting Director of Engineering & Construction

Date: December 1, 2017

**Attachment A
Task Order No. 1**

This Task Order is part of the AGREEMENT between Freese and Nichols, Inc. (the “ENGINEER”) and Upper Trinity Regional Water District (the “OWNER”) for a PROJECT generally described as: Engineering Services for the Northeast Water Reclamation System

The purpose of this Task Order is as follows:

Description:

To address the growth in its Northeast service area, the District desires to expand the Doe Branch Water Reclamation Plant (WRP) from its current permitted capacity of 2.0 MGD annual average daily flow (AADF) to either 4.0 MGD or 5.225 MGD AADF with a peak two-hour flow (P2HF) of 16.0 MGD or 20.9 MGD, respectively. This agreement establishes the relationship between the OWNER and ENGINEER to provide engineering services for the Planning Phase of the project. Design, bid, and construction phases of the project will be authorized under separate Task Order(s).

The goals for the Planning Phase of the project are to:

1. Determine the expansion capacity required
2. Determine the timing of the expansion
3. Determine the construction delivery method

**ARTICLE I
SCOPE OF SERVICES**

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

BASIC SERVICES:

Task 1 – Planning Phase

1. Project Kick-off Meeting

Meet with the OWNER to (1) to review the scope of services, (2) to verify OWNER’s requirements for the Project, and (3) to review and update available data. Prepare a detailed summary of comments, decisions, and action items. The meeting summary will be provided in electronic PDF format.

2. Population, Flow, and Load Projections

Review population and flow projections from the OWNER’s Northeast Regional Water Reclamation Master Plan and compare against the most recent information available from the Doe Branch WRP and Riverbend WRP service area contributing entities. Update the Master Plan flow projections for these service areas as appropriate based on available data for 2020, 2025, and 2030. Review historical flows and loads since start-up of the Doe Branch WRP and develop per capita loads. Apply historical per capita loadings to future population projections to be used as the basis of design for the Doe Branch WRP Phase 2 expansion.

3. Interceptor Capacity Assessment

Evaluate the capacity of the existing Doe Branch WRP service area interceptors against flow projections. Recommend improvements, if any, to accommodate flows up to a 5.225 MGD AADF expansion at the Doe Branch WRP. The service area and interceptors will be mapped in GIS.

4. Process Modeling

Develop a calibrated whole plant process model of the existing Doe Branch WRP to evaluate the capacity of the existing activated sludge system and needed improvements to meet future flows and loads.

5. Technical Memorandum

Prepare a draft Technical Memorandum documenting the following items:

- a. Projected population and flows for the Doe Branch and Riverbend WRPs.
- b. Projected loads for the Doe Branch WRP.
- c. Doe Branch service area interceptor capacity assessment.
- d. Results of the process modeling.
- e. Recommended AADF and P2HF design capacity for the Doe Branch WRP Phase 2 expansion.
- f. Recommended timing of the Doe Branch Phase 2 expansion and its impact on the timing of the next Riverbend WRP expansion.
- g. Estimated conceptual level construction costs for a Doe Branch WRP expansion to a 4.0 MGD AADF facility vs. a 5.225 MGD AADF facility.
- h. Recommended delivery and procurement method of the contractor. Consider traditional design-bid-build, competitive sealed proposal (CSP), and construction manager at risk (CMAR).

Provide one (1) copy of the draft Technical Memorandum to the OWNER and one (1) copy in PDF format.

Meet with the OWNER to (1) present the results of the draft Technical Memorandum, (2) discuss the advantages and disadvantages of contractor procurement methods, what the OWNER needs to undertake for a CSP procurement process, and recommendations for this project, (3) receive input from the OWNER. Incorporate comments into a final Technical Memorandum. Provide one (1) copy of the final Technical Memorandum to the OWNER and one (1) copy in PDF format.

6. Additional Meetings

Prepare for and attend meetings with the following to present recommendations of the Planning Phase.

- a. One Customer Advisory Council meeting
- b. One Board meeting
- c. One Participant meeting
- d. One Pre-application meeting with TCEQ

7. Assumptions

- a. The OWNER will provide relevant data, reports and design documents related to the Doe Branch WRP and Riverbend WRP services areas and plants.
- b. Member entities or the OWNER will provide information on population, flows, and timing of developments. FNI will not be developing this information.
- c. FNI will attend up to five (5) conference calls with OWNER, member entities, and/or developers to finalize population and flow projections.
- d. The planning period is through 2030.
- e. Process modeling for future improvements will only consider a conventional activated sludge process. Fixed film and ballasted flocculation processes will not be considered.
- f. Doe Branch WRP expansion site plan(s) will be conceptual in nature and show general location and footprints of proposed improvements on an aerial image for a 4.0 MGD AADF and 5.225 MGD expansion. No drafting of an overall site plan or individual unit process layouts will be developed.

SPECIAL SERVICES:

Special Services are those services to be required for completion of the project that the OWNER agrees are to be furnished by the ENGINEER or by a subconsultant that cannot be defined sufficiently at this time to establish maximum compensation. The services are not included in the scope of work for Basic Services or the amount of compensation for Basic Services. The Special Services for this assignment are described as follows:

Task 2 - Stream Survey

1. Open Cross Sections

Locate vertically and horizontally existing natural or improved channel features at fifteen (15) cross section locations along the stream east of the plant.

2. Assumptions

- a. All survey mapping collected will follow methods detailed in the most current version of FEMA Guidelines and Specifications for Flood Hazard Mapping Partners N: Data Capture Guidelines for open sections, bridges, culverts and dams.
- b. The base map will be in AutoCAD DWG format.
- c. NTCOG imagery will be used as the background.

ADDITIONAL SERVICES:

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

- 1. Any additional services that may be required by the OWNER for completion of the project that are not included in the Basic Services or Special Services.

**ARTICLE II
COMPENSATION**

BASIC SERVICES

Compensation by the OWNER to the ENGINEER for all Basic Services enumerated in Task Order No. 1 will be based on actual labor hours and expenses incurred in performing the work, in accordance with Exhibit A-1. The budgets for individual tasks are as shown below.

Task 1 – Planning Phase

Not to exceed \$142,670

Total budget allocation for Basic Services for Task Order No. 1:

Not to exceed \$142,670

SPECIAL SERVICES

Compensation by the OWNER to the ENGINEER for all Special Services enumerated in Task Order No. 1 will be based on actual labor hours and expenses incurred in performing the work, in accordance with Exhibit A-1. The budgets for individual tasks are as shown below. No work will be undertaken on this item without specific written authorization from the OWNER.

Task 2 – Stream Survey

Not to exceed \$7,180

Total budget allocation for Special Services for Task Order No. 1:

Not to exceed \$7,180

ADDITIONAL SERVICES

Compensation by the OWNER to the ENGINEER for all Additional Services enumerated in Task Order No. 1 will be based on actual labor hours and expenses incurred in performing the work, in accordance with Exhibit A-1. A budget allowance of \$5,000 has been made for this item and will not be exceeded without prior. No work will be undertaken on this item without specific written authorization from the OWNER.

TOTAL COMPENSATION SUMMARY

Basic Services	\$142,670
Special Services	\$7,180
Additional Services	\$5,000
Total Authorization	\$154,850

**ARTICLE III
TIME OF COMPLETION**

The ENGINEER is authorized to commence work on the Project upon execution of this Task Order and agrees to complete the services in accordance with the following schedule:

Draft Technical Memorandum	9 weeks from the kick-off workshop
Final Technical Memorandum	3 weeks from receipt of OWNER comments

This Task Order No. 1 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, FRESE AND NICHOLS, INC. dated this ____ day of _____, 2017.

By: _____

Name Title

**Exhibit A-1
Hourly Fee Schedule
Doe Branch WRP Phase 2 Expansion**

Schedule of Charges:

<u>Position</u>	<u>Rate</u>
Professional - 1	113
Professional - 2	137
Professional - 3	156
Professional - 4	178
Professional - 5	209
Professional - 6	240
Construction Manager - 1	91
Construction Manager - 2	117
Construction Manager - 3	138
Construction Manager - 4	173
CAD Technician/Designer - 1	96
CAD Technician/Designer - 2	126
CAD Technician/Designer - 3	153
Corporate Project Support - 1	92
Corporate Project Support - 2	111
Corporate Project Support - 3	148
Intern/ Coop	57
Senior Advisor	175

Rates for In-House Services

Technology Charge

\$8.50 per hour

Travel

Standard IRS Rates

Bulk Printing and Reproduction

	<u>B&W</u>	<u>Color</u>
Small Format (per copy)	\$0.10	\$0.25
Large Format (per sq. ft.)		
Bond	\$0.25	\$0.75
Glossy / Mylar	\$0.75	\$1.25
Vinyl / Adhesive	\$1.50	\$2.00
Mounting (per sq. ft.)	\$2.00	
Binding (per binding)	\$0.25	

OTHER DIRECT EXPENSES:

Other direct expenses are reimbursed at actual cost.

These rates will be adjusted annually in February.

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