

Project Name: Santa Fe County – Quill WWTF

**ATTACHMENT 1
PROJECT ASSIGNMENT
SCOPE OF WORK, COST AND PROJECT SCHEDULE**

A. Introduction

The primary reason for pursuing this PER and seeking a facility replacement is because of compliance concerns. On-site monitoring wells show nitrate levels in ground water of 3 – 5 mg/L, suggesting that the facility is impacting ground water quality likely from secondary lagoon leakage. Sludge accumulation within the secondary and storage cells is very significant and impairing treatment. Additionally, because the effective effluent storage volume in the storage lagoon is < 14 MG with a total storage timeframe of 90 days, managing the effluent through each winter is increasingly difficult.

B. Background

The Quill WWTF serves 500 customers including two large correctional facilities. The Quill WWTF is a 26-year old aerated lagoon facility that currently receives an influent flow of 0.15 - 0.2 million gallons per day (MGD). The treatment system consists of an entrance works (with a newly upgraded bar screen), flow measurement, two mechanically aerated primary lagoon cells (0.843MG each). One primary lagoon was recently relined (80 mil HDPE) and is currently in service. The second lagoon is out of service. The primary lagoons are followed by two facultative secondary lagoon cells (2.92 MG each). The secondary lagoons are lined with 30-mil Hypalon and are in poor condition. Effluent is disinfected with bleach in a contact chamber and is then pumped into a deteriorating, clay-lined effluent storage lagoon, with a failing, brick-layered berm. The facility discharges through land application under a state-issued ground water discharge permit (DP-234).

C. Basic Services

The project includes engineering design and related services to include: preparing a Preliminary Engineering Report meeting all aspects of the requirements set forth in USDA-Rural Development Guidelines Bulletin 1780-2 to evaluate and recommend an alternative for replacement of the treatment plant and management of the treated effluent and solids.

D. Additional Services

Additional Services include:

- Follow the outline set forth in Bulletin 1780-2 and address all items required in the Bulletin.
- Evaluate the estimated cost and complexity of acquiring the Quill WWTF property. The County has a lease with the State of New Mexico Corrections Department for the property that extends until September 30, 2053. The lease includes one 24-year lease renewal option.
- Identify options for a treatment facility replacement/upgrade that provides at least 0.5 MGD capacity and is easily expandable in 0.5 MGD increments, up to 2.0 MGD.
- Evaluate the following process components:
 - Preliminary Treatment (Grit Removal, Screening, Flow Monitoring, Sampling, Odor Control)

- Secondary treatment process (Oxidation Ditches, Aeration Tanks, Denitrification Tanks)
- Advance Waste Treatment (Membrane Filtration) Disinfection (HypoChlorite and UV, Contact Tanks)
- Effluent storage (Relining, Increasing Volume, Tanks)
- Reuse pumping
- Solids handling and disposal (Belt filter Press, Centrifuge, Sludge Dryers, Sludge Drying Pads)
- Process control laboratory, Break room, Locker room.
- Operations and maintenance buildings
- Process evaluation will include the following:
 - Description of technology
 - Design criteria
 - Schematic layout of the process
 - Treatment capability of individual processes (capacity and effluent quality)
 - Environmental impacts
 - Land requirements
 - Construction issues
 - Construction cost estimates
 - Power consumption and cost per 1000 gallons
 - Detailed estimates of operations, maintenance cost, (lifecycle costs)
 - Present worth analysis based on federal discount rates
 - Staffing requirements
 - Outfall location, considering the County suspended NPDES permit (NM0028614) in the near vicinity of the Quill WWTF and opportunities to recover passive infiltration
 - Closure costs for the existing treatment facility
 - Sludge disposal

E. Deliverables

- Draft PER, submitted to SFUC 30% (outline), 65%, 95% stage, including the evaluations of the process components identified above and
 - Benefits to SF County (e.g. compliance, reuse, environmental, economic, etc.)
 - Funding sources (State revolving fund, grants, legislative appropriations, RIP loans, etc.)
- Provide responses to County comments on Draft PER at 30% (outline), 65%, 95% and 100% stage.
- Final Santa Fe County Water Reclamation Facility PER; 5 hard copies and electronic files of the final report and all maps, tables and other materials comprising the report.

F. Performance

Performance period for completing this project shall be 180 days (not including NMED and County review time) from Notice to Proceed. NMED can take up to 30 days for a review.

G. Assumptions

- No in-depth assessment of the existing treatment facilities is necessary, only an overview of the present condition.

- Scope of work for environmental is limited to general environmental considerations and does not include preparation of a separate detailed Environmental Information Document (EID), agency consultation, public meetings, or environmental reviews typically associated with NEPA environmental document preparation.
- PER evaluation is limited to wastewater treatment plant process only at a conceptual level. Detailed evaluation of proposed office, laboratory, and operations and maintenance building will be completed during detailed design phase.
- The report will evaluate the cost/complexity of outright purchase of the Quill WWTF property from the State of NM.
- To the extent possible, the headwork's options evaluated will incorporate the existing (relatively new) fine screen, some form of grit removal, odor control, flow measurement and additional screening commensurate to the applicable secondary treatment process.
- The secondary/advanced treatment options evaluated will be limited to Membrane Bio-Reactor (MBR) or a Sequential Batch Reactor (SBR) with effluent filtration.
- Disinfection will be accomplished via ultra-violet UV light. Supplemental chlorine disinfection will apply only to the effluent directed to reuse.
- The discharge will be directed to effluent reuse under a ground water discharge permit, with effluent disposal/aquifer recharge evaluated for winter time discharge via a NPDES permit. The Consultant is free to explore other effluent management options after gaining approval from the County. The Consultant will be expected to meet with NMED GWQB and SWQB to discuss permitting options.
- The new treatment system must be able to produce a very high effluent quality for reuse (NM Class 1A or greater) and meet NPDES outfall requirements, at least for winter time disposal of the effluent. The future reuse permit (ground water discharge permit) will likely necessitate achieving limits of at least < 10 mg/L total nitrogen and the NPDES permit may necessitate achieving a high level of nitrogen and even phosphorous reduction.
- The potential for utilizing the effluent storage lagoon (with repairs/ modifications) to provide a buffer for reuse effluent storage will be evaluated.
- Solids handling options will be limited to aerobic digestion/storage (possibly using the existing primary lagoon for this purpose), mechanical dewatering (belt-press, centrifuge, etc.) and landfill or Class A composting disposal/beneficial reuse options. Some provision for handling of coarse material from vac-truck operations should also be evaluated (e.g.; drying bed for dewatering of heavy solids).
- Although plant decommissioning including sludge removal will need to be considered in the overall process, the plant construction project will be bid and managed separately.
- A presentation of the final report by the Consultant to the County's governing body will occur following completion of the final report.
- The County may have several funding sources available, including general obligation bonds and revenue bonds.

H. Compensation

The contractor shall submit invoices for completed work on a monthly basis based on the percent of work completed to date for each deliverable (30%, 65%, 95% and final) and include a summary of activities describing the work completed. Payment will be made based on review and approval from the County project manager.

Engineer shall be compensated as indicated on Exhibit A to this Attachment 1 and for a sum not-to-exceed sixty-four thousand nine hundred seventy-five dollars (\$64,975.00) exclusive of NM gross receipts tax. The invoice from the engineer will be itemized by deliverable with an associated fee amount. Engineer is to provide a sample invoice for County review and approval prior to submitting invoice.

I. Data and Information Provided by County

The County shall provide, as it is able and applicable, the following information to inform the study. Additional relevant data that is identified by the Consultant and requested of the County will be expeditiously provided, as available.

1. Existing record drawings for the Quill WWTF and recent improvements.
2. Existing County GIS data and mapping information.
3. County will provide wastewater characteristics (BOD, TSS, TKN, fecal coliform, etc.) data for influent, treated effluent, and solids handling.
4. County will provide copies of NMED permits, compliance reports, and all available data related to the history of the treatment plant.
5. County will provide 3 years of financial records related to the operation of the existing WWTF

J. Project Assignment Schedule and Costs (Costs stated below are consistent with costs and rates indicated on Exhibit A and Attachment 3)

BASIC SERVICES		COST	COMPLETION DATE
Programing Phase NMED/ County review time.	100%	\$63,088.00	180 days not including NMED/County review time.
Schematic Phase	%	\$	Date or Weeks
Design Development Phase	%	\$	Date or Weeks
Construction Document Phase	%	\$	Date or Weeks
Bidding and Negotiation Phase	%	\$	Date or Weeks
Construction Phase	%	\$	Date or Weeks
Project Closeout	%	\$	Date or Weeks
11 Month Inspection Phase	%	\$	Date or Weeks

*In lieu of dates duration in weeks may be substituted.


Total	100%	\$63,088.00, exclusive of NM GRT
Reimbursables PRINTING, MILEAGE, MISC		\$1,887.00
TOTAL CONTRACT SUM:		\$64,975.00, exclusive of NM GRT

OWNER - SANTA FE COUNTY

See 
Katherine Miller
Santa Fe County Manager

9.23.16
Date

Approved as to form:


Gregory S. Shaffer
Santa Fe County Attorney

8-15-16
Date

Finance Department


Carole H. Jaramillo
Finance Director

8/16/16
Date

ENGINEER

see attached
(signature)

Date

(print name and title)

OWNER – SANTA FE COUNTY

Katherine Miller
Santa Fe County Manager

Date

Approved as to form:



Gregory S. Shaffer
Santa Fe County Attorney

8-15-16

Date

Finance Department




Carole H. Jaramillo
Finance Director

8/16/16

Date

ENGINEER (HDR ENGINEERING, INC.)



(signature)

9/14/16

Date

CHRIS RODRIGUEZ

(print name and title)

MANAGING PRINCIPAL/ASSOCIATE VP

ATTACHMENT 3
ENGINEER
HOURLY RATE FEE SCHEDULE

Project Principal Engineer	Chris Rodriguez	\$239.90/hour
Project Manager	Ed DuBois	\$172.28/hour
QA/QC	Wade Chacon	\$171.22/hour
Staff Engineer	Carmelina Garcia	\$87.38/hour
Process Engineer	Mike Falk	\$215.73/hour
Technical Editor	Kelly Sims	\$111.87/hour
CADD	Brian Flores	\$112.92/hour
Designer/Figures/Mapping		
Accounting	Jessica Michel	\$118.44/hour
Administrator	Maria Carroll	\$108.02/hour

Fully Loaded Rates; Not including printing, mileage, misc.

EXHIBIT A COMPENSATION AND SCHEDULE

BASIC SERVICES			Date to be Completed
Study and Report Phase	100%	\$63,088.00	180 days not including NMED/County review time
Preliminary Design, Study and Report Phase	%	\$0.00	Date or Weeks
Final Design Phase (Construction Documents)	%	\$0.00	Date or Weeks
Bidding and Negotiation Phase	%	\$0.00	Date or Weeks
Construction Phase	%	\$0.00	Date or Weeks
Project Closeout and 11 Month Warranty Inspection Phase	%	\$0.00	Date or Weeks
Total Basic Services			
Amount	100%	\$63,088.00	180 days not including NMED/County review time
REIMBURSABLES			
PRINTING, MILEAGE, MISC		\$1,887.00	
		\$0.00	
		\$0.00	
Total Reimbursable Amount (Not to exceed)			
ADDITIONAL SERVICES			
LIST SERVICES		\$0.00	
		\$0.00	
		\$0.00	
Total Additional Services Amount		\$0.00	
TOTAL SERVICES AMOUNT		\$64,975.00	

EXHIBIT F
SANTA FE COUNTY
CONSULTANT AND SUBCONTRACTORS LIST

PROJECT NAME: LOI 2016-0381-PW-RM

No subconsultant or subcontractors are used on the PER. Surveying, Geotechnical, and Environmental will be subconsultants during the design phase.

<u>CIVIL ENGINEERING SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:	<u>TRAIL DESIGN SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:
<u>ARCHITECTURAL SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:	<u>SURVEYING SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:
<u>STRUCTURAL ENGINEERING SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:	<u>GEOTECHNICAL SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:
<u>MECHANICAL ENGINEERING SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:	<u>ESTIMATING SERVICES</u> Company Name: Consultant Name: Address: Ph. No.: Fax No.: E-mail:

