

September 7, 2021

Ilyse Triestman, CPPO, CPPB, FCCN
Acting Purchasing Director
City of Delray Beach
100 N.W. 1st Avenue
Delray Beach, FL 33444

Subject: Force Main Lift Station 50 to SCRWWTP Assessment and Conditions Report
Authorization No. 1: Route Study
City of Delray Beach Project No. 2020-013
CMA Proposal No. P20.582

Dear Ms. Triestman:

Chen Moore and Associates (CMA) is pleased to submit the attached of Scope of Services to provide professional services for Force Main Lift Station 50 to SCRWWTP Assessment and Conditions Report, Authorization No. 1: Route Study.

BACKGROUND

The City of Delray Beach owns and maintains a 20-inch force main from Lift Station 50 (LS 50) to the South Central Regional Wastewater Treatment Plant (SCRWWTP), approximately 2.5 miles in length. The objective of the City of Delray Beach for this authorization is to identify a feasible route for installation of a parallel force main.

The team consists of the following:

The “Client” is the City of Delray Beach (City)

The “Consultant” is Chen Moore and Associates, Inc. (CMA)

The “Subconsultants” are V&A Consulting CONSULTANTS, Inc. (V&A), Nutting Engineers (Nutting), and Engenuity Group (Engenuity)

SCOPE OF SERVICES

The professional CONSULTANT services and the associated fees are described below.

1 TASK 1 – PROJECT MANAGEMENT

The purpose of this task is to sustain project activities required as part of the administrative and management elements of the project, such as project planning, meetings, consultant team coordination, client coordination, and quality control activities.

1.1 Project Planning and Coordination

CONSULTANT will:

- Coordinate activities with consultant team

- Submit monthly progress reports that include work completed, upcoming work, project issues, budget, and schedule report, potential changes, and other important project information
- Submit monthly invoices that document the budget spent and remaining as well as current and previous billing period invoicing
- Submit monthly project schedule updates
- Develop a project quality control plan, including monitoring effective implementation

1.2 Kick Off and Progress Meetings

CONSULTANT will conduct one (1) kick off meeting and up to two (2) progress or submittal review meetings. CONSULTANT will prepare agendas and minutes for each meeting. SUBCONSULTANTS will be requested to attend kick off meeting and progress meetings as needed for their discipline, as described in each SUBCONSULTANT proposal.

TASK 1 DELIVERABLES

- Meeting agendas and minutes (PDF)
- Monthly progress reports (PDF)
- Quality Control Plan (PDF and two (2) letter sized hard copies)

2 TASK 2 – FIELD INVESTIGATION

2.1 Utility Coordination

CONSULTANT will review all existing record drawings, design plans, utility atlases, and GIS data for the project area to develop the alignment of the proposed piping. CONSULTANT shall perform a Sunshine One design ticket call, send letters to all identified utilities, collect utility location information and digitize utility locations for drawings.

2.2 Property Review

CONSULTANT shall review possible property encroachments along the routes utilizing the GIS data from the Palm Beach County property appraiser.

2.3 Site Visit

The CONSULTANT shall conduct site visits to document field conditions associated with the pipeline route. At the site visit CONSULTANT will identify above-ground obstacles for impacts to the route including but not limited to utilities, specialty surfaces, landscape, large trees and structures.

2.4 Geotechnical Investigation

CONSULTANT shall coordinate with a geotechnical engineer licensed in the State of Florida to perform ten (10) Standard Penetration Test (SPT) borings in general accordance with ASTM D-1586 specifications to a depth of 50 feet. At the completion of the on-site work, the soil samples will be taken to a laboratory. CONSULTANT will provide an engineering report including a description of the findings for support of the proposed construction. In order to provide information concerning the engineering properties of the soils encountered, it is anticipated that tests may be performed to determine natural water content, organic content, and sieve analysis on representative soil samples collected from the field. The engineering report will include graphic logs of the test borings and a test boring location plan. Soil samples will also be

collected in thirteen (13) locations and soil corrosivity tests will be performed (pH, sulfate, chlorides and corrosivity). It is assumed the site is accessible to truck mounted drilling equipment.

2.5 Aerial Crossing Condition Assessment

Exterior Wall Condition Assessment will be performed at two (2) existing force main aerial crossing locations. It is assumed all such test locations will be conducted during one (1) mobilization for this task.

- BEM Scanning of a 2.5-foot segment of exposed pipe will produce a contour map of the apparent wall thickness around the entire force main. This wall thickness measurement technique does not require a smooth surface and provides information on more than a single point. CONSULTANT will upload BEM data to Rock Solid Group (RSG) for analysis and apparent wall thickness plotting.
- UT measurements will also be performed to assist in BEM calibration and gain further wall thickness information beyond the 2.5-foot segment scanned by BEM equipment.
- Visually access exposed force main pipe. Use digital photographs to document conditions of pipe exterior and surrounding soils. Rate pipe conditions using VANDA® Metal Condition Indices using assessment scoring criteria scale of 1 to 5.
- Where applicable, measurement of surface pitting.

Consultant will visually inspect coupons (estimated at three (3)) provided by the City and include observations with aerial crossing pipe assessment.

TASK 2 DELIVERABLES

The results of the information collected in this task will be summarized and presented in a Field Investigations Technical Memorandum (PDF and two (2) letter sized hard copies).

3 TASK 3 – ROUTE EVALUATION

Based on the results of Task 2, CONSULTANT will develop up to three (3) proposed routes for parallel force main.

3.1 Conceptual Designs and OPCC

CONSULTANT shall prepare conceptual designs for the route alternatives. This includes up to three (3) route alternatives for consideration. The conceptual designs will be prepared utilizing ArcGIS and will show preliminary route of proposed pipeline. For each design, CONSULTANT will prepare an Opinion of Probable Construction Cost (OPCC).

3.2 Report

CONSULTANT will prepare a report outlining the results of the efforts for this task, present standards, materials and practices to be utilized for the pipeline design, regulatory requirements and recommendations for the route and design.

TASK 3 DELIVERABLES

The results of the information collected in this task will be summarized and presented in a Route Evaluation Technical Memorandum (PDF and two (2) letter sized hard copies).

4 TASK 4 – PLAT AND EASEMENT MAPS

4.1 Plat and Easement Mapping

CONSULTANT will coordinate with a licensed surveyor, Engenuity Group, to perform plat and easement research as needed based on the proposed routes. The areas to be researched will be selected by CONSULTANT during Task 3.

TASK 4 DELIVERABLES

A plat and easement base map will be provided in ArcGIS shapefile and PDF format. Two (2) hard copies will be provided (24"x36").

5 TASK 5 – TITLE SEARCHES

5.1 Title Searches

The cost for title searches required to identify potential easements will be billed according to the number of title searches performed. The cost of the title search is \$900 each.

TASK 5 DELIVERABLES

Title search summary (two (2) copies letter size and PDF format)

6 TASK 6 – REIMBURSABLES

6.1 Boat or Barge Access

CONSULTANT will review site access for Task 2.5 Aerial Crossing Condition Assessment. If boat or barge access is required, CONSULTANT will provide equipment needed for this access. The costs will be provided to the City for approval before commencing the service.

ASSUMPTIONS

- Evaluation of existing pipeline is limited to testing from the outside of the pipe at two (2) aerial crossing locations and visual observation of coupons provided by the City. Additional interior pipeline assessment is not included.
- Full topographic survey is not included.
- CONSULTANT will reasonably rely upon the accuracy and completeness of information provided by City.
- City shall provide authorization to CONSULTANTS for accessing sites for the field investigations.
- Easement negotiations are not included. CONSULTANT will provide easement locations for City to negotiate with property owners as needed.
- Environmental assessments are not included.
- Landscape architecture and tree mitigation services are not included.
- Design will be a conceptual level for budgeting and route feasibility. Detailed design documents for permitting or construction are not included.

SCHEDULE OF SERVICES

The schedule of services will be performed as follows:

TASK	DAYS FROM ESTIMATED NTP
TASK 1 - PROJECT MANAGEMENT	120
TASK 2 – FIELD INVESTIGATION	60
TASK 3 – ROUTE EVALUATION	90
TASK 4 – PLAT AND EASEMENT MAPS	90
TASK 5 – TITLE SEARCHES	120
TASK 6 – REIMBURSABLES	120
TOTAL PROJECT DURATION	120

The schedule assumes a two (2) week review period from Client and two (2) week review period from permit agencies.

FEES

The fees for the above tasks are as follows:

TASK	FEE
TASK 1 - PROJECT MANAGEMENT	\$12,300.00
TASK 2 – FIELD INVESTIGATION	\$63,008.00
TASK 3 – ROUTE EVALUATION	\$32,060.00
TASK 4 – PLAT AND EASEMENT MAPS	\$1,400.00
TASK 5 – TITLE SEARCHES	\$3,600.00
TASK 6 – REIMBURSABLES	\$10,000.00
TOTAL PROJECT FEE	\$122,368.00

Tasks 1-3 will be lump sum and billed according to the percent complete. Task 4 and 5 will be billed on a time and materials basis. Task 6 will be billed at cost.

See Exhibit A for a breakdown of fees.

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West Palm Beach, FL 33401
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Should you have any questions, please do not hesitate to contact me at my office at (561) 746-6900 x 1035, my cell phone at (954) 650-7996 or send me an electronic message at sdombrowski@chenmoore.com.

Respectfully submitted,

CHEN MOORE AND ASSOCIATES
Suzanne Dombrowski, P.E., ENV SP
Senior Engineer & West Palm Beach Office Manager

Attachment(s): Exhibit A Fee Breakdown

City of Delray Beach
Force Main Lift Station 50 to SCRWWTP Assessment and Conditions Report
Authorization No. 1: Route Study
Exhibit A: Fee Schedule

Chen Moore and Associates Project #

P20.582

	Subconsultant Costs	Professional Staffing						Total
		Clerical	Senior Technician	Senior Designer	Associate Engineer	Senior Engineer	Sr. Project Manager	
Hourly Rate		\$65.00	\$90.00	\$135.00	\$115.00	\$165.00	\$210.00	\$330.00
TASK 1 - PROJECT MANAGEMENT								
1.1 Project Planning and Coordination						8	24	\$8,700
1.2 Kick Off and Progress Meetings							6	\$3,600
Task 1 Total								\$12,300
TASK 2 – FIELD INVESTIGATION								
2.1 Utility Coordination					24	8	4	\$4,920
2.2 Property Review					16	4	2	\$2,920
2.3 Site Visit					8	2	2	\$1,670
2.4 Geotechnical Investigation	\$17,775					1	1	\$18,150
2.5 Aerial Crossing Exterior Wall Condition Assessment	\$34,598					2	2	\$35,348
Task 2 Total								\$63,008
TASK 3 – ROUTE EVALUATION								
3.1 Conceptual Designs and OPCC					60	24	16	\$14,220
3.2 Report					80	32	16	\$17,840
Task 3 Total								\$32,060
TASK 4 – PLAT AND EASEMENT MAPS								
4.1 Plat and Easement Mapping	\$1,400							\$1,400
Task 4 Total	\$1,400							\$1,400
TASK 5 – TITLE SEARCHES								
5.1 Title Searches	\$3,600							\$3,600
Task 5 Total	\$3,600							\$3,600
TASK 6 – REIMBURSABLES								
6.1 Boat or Barge Access	\$10,000							\$10,000
Task 6 Total	\$10,000							\$10,000
FEE TOTAL								\$122,368