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ENGINEERS • SURVEYORS • PLANNERS

February 28, 2017

Shannon LaRocque, P.E.
Utilities Director
Village of Wellington
12300 Forest Hill Blvd.
Wellington, FL 33414

Ref. No.: B6704.00
Subject: Wastewater Transmission System Hydraulic Modeling

Dear Shannon:

We are submitting the attached *Proposal To Provide Hydraulic Modeling Services for the Wastewater Transmission System*. Please review the attached proposal and return one signed copy to our office as our authorization to proceed with the **Scope of Services** outlined in the proposal.

We will provide the Scope of Services for a lump sum fee of \$182,598.00.

If you have any questions please contact me at 683-3113, extension 293. Thank you for using Mock•Roos on this project. We look forward to working with you.

Sincerely,

MOCK, ROOS & ASSOCIATES, INC.

Garry Gruber, P.E.
Senior Vice President

TAB:ldr
Enclosure
Copies: Bookkeeping

Proposal to Provide Hydraulic Modeling Services for Village of Wellington Wastewater Transmission System

Services to be provided by: Mock•Roos

Services provided to (“Village”): Village of Wellington

Proposal Date: February 28, 2017

Proposal Terms

A. Project Description:

The Village desires to develop hydraulic models of their Wastewater Transmission System to help assess system strengths and weaknesses in serving existing customer requirements and proposed development/re-development within the service areas. The Village’s gravity sewer system will not be included in this modeling effort. It is the Village’s desire that the model link to the Village’s geographic information system (GIS). Mock•Roos will provide the modeling services as outlined below. Mock•Roos will also provide a forcemain route evaluation and preliminary design report for a new forcemain between Pierson Road and Forest Hill Boulevard.

B. Scope of Services:

General

1. Conduct “Project Kickoff Meeting” with Village staff to review Project objectives, schedule, and coordination issues (progress meetings, information transfer, etc.).
2. Research hydraulic modeling software for compatibility with the Village’s utility data sets.
3. Review features and implementation requirements of hydraulic modeling software with Village staff.
4. Attend up to six meetings with Village staff during model development and verification.

Wastewater System

1. Research the Village’s existing wastewater system features. Research will include review of available as-built data and GIS information.

2. Conduct engineering field reviews of the existing facilities to obtain flow and pressure data and to the extent possible verify the provided GIS information.
3. Develop a model schematic of the Village's existing wastewater transmission system features. The model schematic will include pipes, nodes, valves, pumps (Lift Station) and other pertinent features.
4. Develop wastewater flow characteristics using the Village's existing Land Use Map. A typical wastewater flow will be developed per capita per land use. Based on average flows develop peak flow using standard peaking factors.
5. Delineate the wastewater service area for each pump station and estimate flow based on the above wastewater flow characteristics.
6. Populate model component data. Component data includes surface elevations incorporated by overlaying the model schematic with the Village's LiDAR data, pump capacity, pipe size, pipe material, and lift station capacity.
7. Verify preliminary model output correlates with observed system operating pressures and flows gathered during site visits.
8. Run modeling scenarios that include existing and proposed peak flows to identify deficiencies in the system. Proposed peak flows will be based on input from the Village regarding anticipated or proposed developments in the service area.
9. Review the findings with the Village and develop an improvement plan for deficiencies in the existing system. Review the plan with the Village and, based on the Village's concurrence, develop a Preliminary Engineer's Opinion of Probable Construction Cost for the improvements.

Deliverables

1. Prepare and submit three (3) hard copies of a draft report documenting services and model results including exhibits depicting the system, identified deficiencies, and recommended improvements. Meet with Village staff to review draft documents and obtain feedback for the final report.
2. Prepare and submit two (2) hard copies and one electronic copy of the final report in Adobe PDF format to Village. The final report will include everything from the draft report plus the Preliminary Engineers Opinion of Probable Construction Costs for the recommended improvements. Make a presentation of the report findings to Village. The final report will also include a phased implementation plan based on 5-year time frame that may be used in the Village's Capital Improvement Plan.
3. Provide Village with a copy of input and output data for model on CD. Review input data for model with Village staff.

Forcemain Route Evaluation

1. Meet with the Wellington, review Wellington-provided data, including pipeline flow capacities and existing demand information, and provide recommendations on replacement pipeline size.
2. Obtain information from local utilities on their existing utilities within South Shore Boulevard and perform field review of the proposed forcemain replacement location. Perform a route evaluation to determine the optimum route for the forcemain and develop a preliminary pipeline alignment plan.
3. Submit preliminary pipeline alignment plan to Wellington for review and comment. Meet with Wellington staff to review pipeline alignment plan, discuss comments, and finalize proposed pipeline route.
4. Prepare Engineer's Opinion of Probable Construction Costs for recommended improvements.
5. Prepare a draft preliminary design report documenting the above including development of a Scope of Design Services, meet with Wellington staff to review the draft report and incorporate comments, prepare final preliminary design report incorporating Wellington staff comments. Provide up to five hard copies and one copy on CD.

C. Additional Services:

1. Any services not included in the Scope of Services will be considered Additional Services.
2. Additional Services can be provided upon Mock•Roos receiving signed authorization from Client.

D. Fees and Rates:

1. Mock•Roos will complete the Scope of Services for the lump sum fee of \$182,598.00.
2. Mock•Roos can provide Additional Services at the Mock•Roos rates in effect at that time, plus any reimbursable expenses, or for an agreed upon lump sum fee.

E. Schedule :

1. A draft Schedule is attached as Exhibit A.

F. Conditions:

1. All terms in this proposal become valid upon Mock•Roos receiving one complete copy of this proposal with an original signature on or before May 31, 2017 as authorization to proceed with the Scope of Services.

2. This Proposal is based on the Scope of Services being completed within 210 calendar days. If not completed within this timeframe for reasons other than those within control of Mock•Roos, all terms may be adjusted by Mock•Roos.
3. This proposal serves as a supplement to the general agreement between Mock•Roos and Wellington dated February 3, 2016.

Village of Wellington Wastewater Transmission System Hydraulic Modeling						
Task Description	Labor Classification				Administrative Assistant	Total
	Senior Project Manager	Senior Engineer	Engineer			
Labor Hourly Billing Rate	\$160.00	\$155.00	\$93.00		\$50.00	
Total Hours	131	520	836		48	
General						
1 Project Kickoff Meeting	4	16	40			\$ 6,840
2 Research Hydraulic Modeling Software		4	8			\$ 1,364
3 Review Features and Implementation Requirements	16	8	8			\$ 4,544
4 Attend Meetings with Wellington Staff	16	24	24			\$ 8,512
Wastewater System						
1 Research Existing Wastewater System		40	40			\$ 9,920
2 Conduct Engineering Field Reviews		24	80			\$ 11,160
3 Develop Model Schematic	20	80	116			\$ 26,388
4 Develop Wastewater Flow Characteristics		24	24			\$ 5,952
5 Delineate the Wastewater Service Area	8	24	40			\$ 8,720
6 Populate Model Component Data		24	40			\$ 7,440
7 Verify Preliminary Model Output	8	24	32			\$ 7,976
8 Run Modeling Scenarios	8	24	40			\$ 8,720
9 Develop Improvement Plan	16	80	80			\$ 22,400
Deliverables						
1 Prepare Draft Report	16	48	80	24		\$ 18,640
2 Prepare/Submit Final Report	8	24	40	16		\$ 9,520
3 Provide Model Input and Output Data		4	8	2		\$ 1,464
Forcemain Route Evaluation						
1 Meet with Staff, Review Data, Make Recommendations	3	8	24			\$ 3,952
2 Obtain Local Utilities/Perform Field Review		16	36			\$ 5,828
3 Preliminary Pipeline Alignment Plan	3	10	40			\$ 5,750
4 Prepare Engineer's Opinion of Conceptual Construction Costs	1	2	4			\$ 842
5 Prepare Draft PDR, Meet Staff/Review, and Final PDR	4	12	32	6		\$ 5,776
Subtotal						
	\$ 20,960	\$ 80,600	\$ 77,748	\$ 2,400		\$ 181,708
Total Mock•Roos Labor						
						\$ 181,708
Reimbursable						
						\$ 890
Project Total						
						\$ 182,598

The spreadsheet is a fee cost estimate based on specific labor classifications as noted.

EXHIBIT A
Village of Wellington
Wastewater Transmission System Hydraulic Modeling

Item	Task Description	Calendar Days
<i>1</i>	Research Existing Wastewater System	30
<i>2</i>	Conduct Engineering Field Reviews	40
<i>3</i>	Develop Model Schematic	70
<i>4</i>	Develop Wastewater Flow Characteristics	80
<i>5</i>	Delineate the Wastewater Service Area	90
<i>6</i>	Populate Model Component Data	100
<i>7</i>	Verify Preliminary Model Output	120
<i>8</i>	Run Modeling Scenarios	140
<i>9</i>	Develop Improvement Plan	150
<i>10</i>	Prepare Draft Report	180
<i>11</i>	Prepare Final Report	205
<i>12</i>	Provide Model Input and Output Data	205
<i>13</i>	Forcemain Route Evaluation	60