

JLA Geosciences, Inc.

HYDROGEOLOGIC CONSULTANTS

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October 2, 2017

via Electronic Mail

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

RE: ***Proposal for Groundwater Modeling Services for the Village of Wellington - Model Development and Preliminary Consumptive Use Evaluation (Phase I)***

Dear Shannon:

JLA Geosciences, Inc. (JLA) is pleased to have the opportunity to provide groundwater modeling services to the Village of Wellington (Village) for the above referenced project. Our proposed scope of work will involve developing a calibrated MODFLOW groundwater model to simulate the surficial aquifer system (SAS) in Wellington and the surrounding area, using currently permitted water use allocations. Once calibrated, the model will be used to evaluate potential increases to Wellington's permitted public water supply allocation. The results of the modeling simulations will assist in determining areas from which additional water could be withdrawn while complying with the Regional Water Availability (RWA) rule, which prohibits a change in timing or a net increase in the monthly volume of surface water and groundwater withdrawn from the Lower East Coast Everglades Waterbodies or the North Palm Beach County/Loxahatchee River Watershed Waterbodies over that resulting from the base condition water use (defined as that allocation permitted to the user on April 1, 2006). The modeling simulations will evaluate impacts of any proposed increase in allocation on surface water (conveyance canals) and groundwater.

The following tasks identify our proposed scope of work with our associated costs for your consideration.

Task 1.0 – Development of a Calibrated MODFLOW MODEL

JLA will develop a calibrated MODFLOW model of the SAS in the vicinity of the Village. This will be accomplished by updating and refining a combination of MODFLOW models developed and applied previously by JLA and the South Florida Water Management District (SFWMD).

JLA will then develop and run simulations of future conditions, assuming an increase in allocation for the Village of Wellington of 3-4 million gallons per day (MGD) and determine where increased SAS withdrawals may occur based on the existing legal users, the RWA, and recharge using the

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Diversion and Impoundment permit. The modeling performed will be consistent with the requirements of the SFWMD’s Applicant Handbook for Water Use Permit Applications (AH). A simulation period of 2 years with monthly stress periods, will be performed initially, consistent with minimum modeling requirements in the AH. Simulations over longer time periods may be required to evaluate compliance with the RWA. Model simulations will provide comparisons of mass balance fluxes, water-table elevations, aquifer potentiometric heads relative to current land surface elevations, and canal stage for the various model scenarios.

(Item)	(Units)	(Rate/unit)	(Subtotal)
Prin. Hydrogeologist	200 hours	\$ 165/hr	\$ 33,000.00
Task 1.0 Subtotal			\$ 33,000.00

Task 2.0 – Water Use within the Village of Wellington Service Area

JLA will identify all permitted existing legal users of surface water and groundwater within the Village of Wellington Service Area. The results will be provided in tabular format, including the permit number, permittee, allocation, and coordinates of withdrawal facilities.

(Item)	(Units)	(Rate/unit)	(Subtotal)
Prin. Hydrogeologist	20 hours	\$ 165/hr	\$ 3,300.00
Task 2.0 Subtotal			\$ 3,300.00

Task 3.0 – Meetings

It is anticipated that JLA will attend meetings with the Village to present modeling results and to discuss potential implications for future Village operations, water use permitting and long-term planning efforts. It is anticipated that the modeling simulations will be refined once demand projections for the Village have been finalized. It is anticipated that Phase II of the project would include an updated model with refined demand projections, meetings with the SFWMD, and materials to support a modification of the consumptive use permit.

(Item)	(Units)	(Rate/unit)	(Subtotal)
Prin. Hydrogeologist	28 hours	\$ 165/hr	\$ 4,620.00
Sr. Hydrogeologist II	16 hours	\$ 150/hr	\$ 2,400.00
Task 3.0 Subtotal			\$ 7,020.00

TOTAL COST ESTIMATE **\$ 43,320.00**

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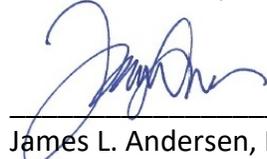
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This proposal was prepared based on the information provided to date and our understanding of the project. Work that may need to be performed over and above the tasks and associated costs described herein will not be performed without additional authorization by the Village of Wellington. It is anticipated that JLA will be prepared to discuss initial results of the model simulations within six to eight weeks of authorization to proceed.

We look forward to working with the Village on this important project. Thank you for the opportunity to provide these services to the Village of Wellington. Please call me if you have any questions.

Respectfully submitted,
JLA Geosciences, Inc.



James L. Andersen, P.G.
Principal Hydrogeologist

JLA/jla