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VIA FACSIMILE AND FEDERAL EXPRESS

March 9, 1999

FAXED
3/9/99

P99-3953

Nassau County Board of County Commissioners
3163 Bailey Road
P.O. Box 1010
Fernandina Beach, Florida 32035

Attn: Mr. Walter D. Gossett
County Coordinator

RE: PROPOSAL TO REVIEW GROUNDWATER DATA
MUMFORD AND THOMPSON CLAIMS
NASSAU COUNTY, FLORIDA

Dear Mr. Gossett:

As requested, Golder Associates Inc. (Golder) is pleased to submit this proposal to Nassau County to review groundwater data related to a claim filed against the County by Mr. & Mrs. Harry S. Mumford and Mr. & Mrs. John W. Thompson. It is our understanding that the claim involves allegations that contaminated groundwater from the West Nassau Landfill has contaminated the plaintiffs' shallow water well and thus reduced their property value.

Additional details on the claim were provided in a letter dated September 18, 1998 from the plaintiffs' attorney, Mr. Reynold N. Hoover of Jacksonville, Florida. In that letter, Mr. Hoover states that a shallow water well located on the Thompson's property was plugged and abandoned by the County in 1993 and replaced by a deep artesian well for drinking water supply. Mr. Hoover reports that this replacement well also serves as the water supply for the Mumford household. Mr. Hoover's letter states that in the summer of 1998, the Mumfords installed a shallow water well on their property which they subsequently had tested. The results of this testing reportedly indicated that inorganic constituents were present in the groundwater in concentrations that exceeded the Primary Drinking Water Standards. As explained in Mr. Hoover's letter, the plaintiffs claim is related to a loss of property value "caused by the proximity of the properties to the landfill".

SCOPE OF WORK

Because we are uncertain as to what the volume of available data there is for review, Golder Associates has made some assumptions and created the following phased scope of work:

APPROVED

DATE 3/15/99 *JMK*

- A review of the driller's well log for the Mumfords' shallow well (*assumed to be provided by the plaintiffs' attorney*).
- A review of the plaintiffs' groundwater quality data collected to date (*assumed to be provided by the plaintiffs' attorney*) and comparison to established Primary Drinking Water Standards and published background groundwater quality data for surficial aquifer wells in northern Florida.
- The collection of a groundwater sample from the Mumfords' well (*access assumed to be granted by the plaintiffs*) and inorganic analysis by an independent laboratory for both total and dissolved metals concentrations (the assumed alleged contaminant), turbidity, total dissolved solids, and total suspended solids. In addition, a water level measurement would be collected from the plaintiff's well and from at least three of the nearest West Nassau Landfill monitoring wells screened at similar depths.
- A review of groundwater elevation data for the last five years from the West Nassau Landfill (*assumed to be provided by the Nassau County Solid Waste Department*) in order to determine the physical aspects of groundwater flow in the area (groundwater flow direction, hydraulic conductivity, horizontal hydraulic gradient, aquifer thickness). It is assumed that this data will include tables and figures from past groundwater monitoring reports produced for the landfill.
- An evaluation of the potential effects of a pumping well (such as the Mumfords') on groundwater flow direction in the vicinity of the landfill using two dimensional groundwater flow calculations and/or a simple computer analytical model (such as QuickFlow[®]).
- A review of inorganic groundwater quality data for the last five years from the West Nassau Landfill (*assumed to be provided by the Nassau County Solid Waste Department*) in order to determine what the relative concentrations of contaminants present on site are (if any) compared to the contaminants and concentrations present in the plaintiffs shallow well (if any).

REPORTING AND SCHEDULE

Following the completion of the items described under the Scope of Work section in this proposal (estimated to be approximately 45 days after notice to proceed is issued or 30 days after the sample is collected from the Mumfords' shallow well, whichever is greater), a teleconference call would be held involving representatives of the County and Golder to discuss the findings to date and the need (if any) for additional work. Within two weeks following the completion of the teleconference call, Golder would issue a report outlining: the background information reviewed; our analysis of the existing data; a description of the new data collected; a description of our hydrogeological analysis and conclusions of the data collected and reviewed; and our recommendations for additional investigation (if any).

COST ESTIMATE

Golder Associates' cost estimate to complete this work is \$7,100.00 based on the scope of services as outlined above. A detailed breakdown of this cost estimate is presented in Table 1, which is attached to this letter.

Golder proposes to perform this work on a cost reimbursable not-to-exceed basis in accordance with the labor and unit rates listed in Table 1. The County will only be billed actual hours and expenses incurred on the project for work within the agreed scope of work. Laboratory analytical testing and other direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and CADD time will be billed at the unit rates listed in Table 1. Travel and communications costs will not be billed to Nassau County as stated in our August 1998 proposal. The cost estimate will not be exceeded without prior authorization from Nassau County.

TERMS AND CONDITIONS

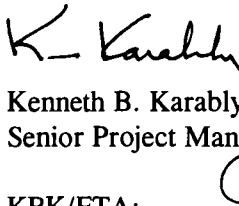
This work will be performed under the Agreement for Consulting Services between Golder and the County, dated February 22, 1999.

Golder appreciates this opportunity to provide engineering services to Nassau County. If you have any questions regarding this proposal, please do not hesitate to call.

Very truly yours,

GOLDER ASSOCIATES INC.

Francis T. Adams, P.E.
Senior Project Manager



Kenneth B. Karably, P.E., P.G.
Senior Project Manager and Associate

KBK/FTA:

Attachment

FN: G:\COMMON\ADAMS\PROPOSAL\NASSAUCO\p99-3953.doc

TABLE 1

**Cost Estimate
Review Groundwater Data
Mumford and Thompson Claims
Callahan, Nassau County, Florida**

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Principal \$130	Associate \$110	Senior Proj. Mgr. \$105	Senior Engineer \$95	Project Engineer \$75	Staff Engineer I \$60	Staff Engineer II \$55	Drafting \$45	Technician \$40	Clerical \$40		
TASK	DESCRIPTION												
1	Review of Driller's Log	0	1	0	0	0	2	0	0	0	0	3	\$230
2	Review of Plaintiffs' WQ Data	0	1	0	0	0	2	0	0	0	0	3	\$230
3	GW Sample from Plaintiffs' Well	0	0	0	0	0	8	0	0	0	0	8	\$480
4	GW Elevation Review	0	1	0	0	0	10	0	0	0	2	13	\$790
5	GW Pumping Analysis	0	1	0	4	0	6	0	4	0	0	15	\$1,030
6	GW Quality Data Review	0	2	0	0	0	10	0	0	0	0	12	\$820
7	Teleconference and Reporting	1	8	2	2	0	12	0	4	0	6	35	\$2,550
TOTALS:		1	14	2	6	0	50	0	8	0	8	89	\$6,130

EXPENSES		Field Vehicle (day) \$75	Per Diem (day) \$25	Communi- cations (est.)	Mileage (mile) \$0.31	Shipping/ Postage (est.)	Lab Testing (est.)	Office Computer (hr) \$10	AutoCAD Computer (hr) \$20	Photo- copying (each) \$0.15	Field Equipment (est.)	Subcon- tractors (est.)	SUBTOTAL EXPENSES
TASK	DESCRIPTION												
1	Review of Driller's Log	0	0	\$0	0	\$0	\$0	0	0	10	\$0	\$0	\$2
2	Review of Plaintiffs' WQ Data	0	0	\$0	0	\$0	\$0	2	0	10	\$0	\$0	\$22
3	GW Sample from Plaintiffs' Well	1	0	\$0	0	\$75	\$275	0	0	10	\$100	\$0	\$527
4	GW Elevation Review	0	0	\$0	0	\$0	\$0	6	0	50	\$0	\$0	\$68
5	GW Pumping Analysis	0	0	\$0	0	\$0	\$0	6	4	50	\$0	\$0	\$148
6	GW Quality Data Review	0	0	\$0	0	\$0	\$0	6	0	100	\$0	\$0	\$75
7	Teleconference and Reporting	0	0	\$0	0	\$15	\$0	10	0	100	\$0	\$0	\$130
TOTALS:		\$75	\$0	\$0	\$0	\$90	\$275	\$300	\$80	\$50	\$100	\$0	\$970

TABLE 1
Cost Estimate
Review Groundwater Data
Mumford and Thompson Claims
Callahan, Nassau County, Florida

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	Review of Driller's Log	\$230	\$2	\$232
2	Review of Plaintiffs' WQ Data	\$230	\$22	\$252
3	GW Sample from Plaintiffs' Well	\$480	\$527	\$1,007
4	GW Elevation Review	\$790	\$68	\$858
5	GW Pumping Analysis	\$1,030	\$148	\$1,178
6	GW Quality Data Review	\$820	\$75	\$895
7	Teleconference and Reporting	\$2,550	\$130	\$2,680
TOTALS		\$6,130	\$970	<u>\$7,100</u>