

Item 14-1

PROFESSIONAL SERVICES FOR EAST ISTHMUS WELL SITING STUDY

Page 1 of 8

September 12, 2007

I. INTRODUCTION

Madison Water Utility wishes to continue the East Isthmus Well Siting Study into Phase 2. This scope of work will define the tasks to be completed during this phase as authorized by the Board of Water Commissioners and the Madison Common Council for a total budget of \$40,000.

II. PROJECT BACKGROUND

A. **Consultant Selection:** Montgomery Associates Resource Solutions LLC (MARS) was selected March 23, 2007 for Phase 1 of the East Isthmus Well Siting Study. Phase 1 was completed in September 2007.

B. **Phase 1 of the study included:**

1. Development of a public participation and outreach plan
2. GIS data and map evaluation of candidate well sites.
3. Meetings with the project working group and regulators.
4. Incorporation of public input from public meetings
5. Short list of potential well site areas.
6. Analysis of regulatory requirements and technical approaches to the detailed hydrogeologic analysis of candidate sites to be conducted in phase 2.
7. A project completion plan that will define phase 2.

C. **Objective:**

1. The overall objective of this work is to identify a suitable and potentially WDNR approvable high capacity (approximately 2,200 gpm) municipal well site that will provide clean safe drinking water to the east side of Madison within pressure zone 6 for a projected 100 year life span and replace the capacity lost with the decommissioning of Well 3.
2. All work completed in this study will be closely coordinated with the Citizens Working Group established during Phase 1.
3. Through the use of groundwater computer modeling, the proposed well location will evaluate the long-term impact on the well of known contamination sources.
4. The proposed well location will fit into the neighborhood and shall be sensitive to local issues and concerns.
5. The recommended well location shall meet or exceed all Wisconsin Department of Natural Resources and City of Madison requirements.

III. SCOPE OF SERVICES

A. **General:**

1. MARS shall work closely with Water Utility staff, the Citizen's Working Group, and other City officials to identify suitable high capacity municipal drinking water well sites within the study area.
2. Presentation materials:

PROFESSIONAL SERVICES FOR EAST ISTHMUS WELL SITING STUDY

-
- a) MARS shall provide the Water Utility with electronic and/or paper copies of all final drawings and other work products generated in performing this scope of services for use by the Water Utility for communication with the Citizen's Working Group, City Departments and other interested parties.
 3. Electronic Files:
 - a) MARS shall deliver to the Water Utility editable electronic files of all materials developed during this project in the original format for all reports, drawings, renderings, and exhibits.
 - b) MARS shall coordinate the type of files to be delivered with Water Utility staff.
 4. Other issues as required to complete the general objectives of this project as described herein:
 - a) Any tasks or work that would be considered usual and customary to this project whether itemized or not shall be considered to be incidental to the work and included within this Scope of Services.
 - b) Failure to account for these usual and customary tasks and other work shall not be justification for additional compensation or an extension of time.
- B. Project philosophy:** The overall project philosophy will be to use the best information and science available to investigate and evaluate the long term potential for a high capacity well site on Madison's east side to provide a safe clean drinking water supply at a capacity and pressure suitable to replace capacity lost by the decommissioning of the Utility's Well 3.
- C. Project Schedule:**
1. MARS shall develop and regularly maintain a project schedule that includes all phases of the project.
 2. Keeping the project on schedule shall be a priority and goal for MARS throughout the completion of the project.
 3. Delays in completion of the work shall be promptly communicated to the Water Utility.
- D. Task 1:**
1. Description: Additional well site analysis
 - a) Task Objective: Select potential well areas for a detailed hydrogeologic analysis. Conduct a screening-level analysis of cost and feasibility to supplement the information provided in Phase 1.
 - b) Refine mapping of potential contamination sources within the area of 3 to 5 specific well sites. This will include refining the criteria mapped in the Phase 1 project, documenting the NR811 criteria sites that are within close proximity to these potential well sites.
 - c) Prepare project capital and operational cost estimates for each proposed well site area based on hydraulic parameters identified by Madison Water Utility.
 - d) Using the cost estimates developed in this task, assess planning level infrastructure and operational cost impacts for potential well sites in different general locations of the study area.

**PROFESSIONAL SERVICES FOR
EAST ISTHMUS WELL SITING STUDY**

-
- e) Prepare a technical memo summarizing the characteristics of 3 to 5 potential well site areas, considering the relation to the siting criteria and the potential hydrogeologic conditions based on available information.
2. Required Task 1 Quality Control Reviews by the Water Utility: Draft and final
3. Products Task 1:
- a) Selection of 3 to 5 specific well site areas for further consideration and detailed technical analysis in 2008.
 - b) Presentation to the Water Board.
 - c) Technical memo itemizing the characteristics of the 3 to 5 potential well site areas. A single technical memo may be prepared to document work on tasks 1, 2 and 3 of this scope of services.
 - d) 20 copies of draft project documents to the Water Utility for review.
 - e) Final Accepted Documents:
 - (1) 20 complete copies of the documents to the Water Utility.
 - (2) Documents submitted electronically on a compact disk (CD) in a format coordinated with Water Utility Engineering.
4. Estimated Fee: \$13,100
5. Review and Acceptance:
- a) The technical memo shall be reviewed and accepted by Madison Water Utility. Comments from the Utility will be provided as a single set of comments on the draft technical memo.
 - b) MARS shall incorporate comments from the Utility as appropriate and revise the memo to the satisfaction of the Utility.
 - c) The revised technical memo shall be reviewed and accepted by the Water Board. Comments from the Water Board will be provided as a single set of comments.
 - d) MARS shall incorporate comments from the Water Board as appropriate and revise the memo to the satisfaction of the Board and Utility.
6. Consultant Responsibilities for Task 1:
- a) Provide all necessary personnel, resources, and subconsultants to complete the specified work to the satisfaction of Madison Water Utility.
 - b) Gather and compile all necessary data required from City and County records, from field reconnaissance, and from other sources as MARS deems necessary to complete the work.
 - c) Provide preliminary concepts for review and comment.
 - d) Provide regular reports and communication with the Water Utility about the progress of the work.
 - e) Regularly update the project schedule.
 - f) Control project costs to keep the project within budget.
 - g) Provide minutes for project meetings.
7. Water Utility Responsibilities for Task 1:
- a) Madison Water Utility will provide MARS with any existing information on file.
 - b) Provide timely review and input project reports and issues, consolidating comments by multiple individuals.
 - c) Provide required direction on Utility objectives and needs.
 - d) Coordinate meetings of Utility staff and other City departments.
 - e) Map property value ranges

PROFESSIONAL SERVICES FOR EAST ISTHMUS WELL SITING STUDY

- f) Screen identified potential well areas for property availability.
- g) Evaluate system hydraulic performance modeling of candidate well sites.
- h) Host review meetings.

E. Task 2:

1. Description: Preliminary groundwater analysis of potential well locations
 - a) Task Objective: Understand likely capture zone areas for 3 to 5 potential well locations and associated level of risk.
 - b) Review available hydrogeologic data
 - c) Use existing regional groundwater model, then refined models where necessary, to assess flow paths and travel times, focusing on the impact of the Eau Claire Shale and groundwater-lake interactions
2. Required Task 2 Quality Control Reviews by the Water Utility: Draft and final
3. Products Task 2:
 - a) Technical memo itemizing the groundwater flow characteristics for 3 to 5 identified well areas. A single technical memo may be prepared to document work on tasks 1, 2 and 3 of this scope of services.
 - b) Presentation to the Water Board.
 - c) 20 copies of draft memo and supporting documentation to the Water Utility for review.
 - d) Final Accepted Documents:
 - (1) 20 complete copies of the documents to the Water Utility.
 - (2) Documents submitted electronically on a compact disk (CD) in a format coordinated with Water Utility Engineering.
4. Estimated Fee:
 - a) \$19,200
5. Review and Acceptance:
 - a) The technical memo shall be reviewed and accepted by Madison Water Utility. Comments from the Utility will be provided as a single set of comments on the draft technical memo.
 - b) MARS shall incorporate comments from the Utility as appropriate and revise the memo to the satisfaction of the Utility.
 - c) The revised technical memo shall be reviewed and accepted by the Water Board. Comments from the Water Board will be provided as a single set of comments.
 - d) MARS shall incorporate comments from the Water Board as appropriate and revise the memo to the satisfaction of the Board and Utility.
6. Consultant Responsibilities for Task 2:
 - a) Provide all necessary personnel, resources, and subconsultants to complete the specified design work to the satisfaction of Madison Water Utility.
 - b) Gather and compile all necessary data required from City and County records, from field reconnaissance, and from other sources as MARS deems necessary to complete the work.
 - c) Provide preliminary concepts for review and comment.
 - d) Provide regular reports and communication with the Water Utility about the progress of the work.
 - e) Regularly update the project schedule.

Item 14-5

**PROFESSIONAL SERVICES FOR
EAST ISTHMUS WELL SITING STUDY**

Page 5 of 8

September 12, 2007

- f) Control project costs to keep the project within budget.
- g) Provide minutes for project meetings.
- 7. Water Utility Responsibilities for Task 2:
 - a) Madison Water Utility will provide MARS with any existing information on file.
 - b) Provide timely review and input project reports and issues, consolidating comments by multiple individuals.
 - c) Provide required direction on Utility objectives and needs.
 - d) Coordinate meetings of Utility staff and other City departments.
 - e) Host review meetings.

F. Task 3:

- 1. Description: Evaluation of alternatives
 - a) Task Objective: Identify and itemize remaining issues to be addressed in the decision process for the selected potential well sites. Eliminate any sites deemed unsuitable based on information developed during this study.
 - b) Discuss alternative well sites with WDNR
 - c) Inventory issues and additional technical work required for the identified alternative well sites.
 - d) Detailed technical analysis of each potential site will be conducted in 2008.
- 2. Required Task 3 Quality Control Reviews by the Water Utility and Citizen's Working Group: Draft and final
- 3. Products Task 3:
 - a) Technical memo itemizing the selected well sites identified for additional technical analysis and review. A single technical memo may be prepared to document work on tasks 1, 2 and 3 of this scope of services.
 - b) Presentation to the Water Board.
 - c) 20 copies of draft project documents to the Water Utility for review.
 - d) Final Accepted Documents:
 - (1) 20 complete copies of the documents to the Water Utility.
 - (2) Documents submitted electronically on a compact disk (CD) in a format coordinated with Water Utility Engineering.
- 4. Estimated Fee:
 - a) \$2,700
- 5. Review and Acceptance:
 - a) The technical memo shall be reviewed and accepted by Madison Water Utility. Comments from the Utility will be provided as a single set of comments on the draft technical memo.
 - b) MARS shall incorporate comments from the Utility as appropriate and revise the memo to the satisfaction of the Utility.
 - c) The revised technical memo shall be reviewed and accepted by the Water Board. Comments from the Water Board will be provided as a single set of comments.
 - d) MARS shall incorporate comments from the Water Board as appropriate and revise the memo to the satisfaction of the Board and Utility.
- 6. Consultant Responsibilities for Task 3:
 - a) Provide all necessary personnel, resources, and subconsultants to complete the specified design work to the satisfaction of Madison Water Utility.

PROFESSIONAL SERVICES FOR EAST ISTHMUS WELL SITING STUDY

- b) Gather and compile all necessary data required from City and County records, from field reconnaissance, and from other sources as MARS deems necessary to complete the work.
 - c) Provide preliminary concepts for review and comment.
 - d) Provide regular reports and communication with the Water Utility about the progress of the work.
 - e) Regularly update the project schedule.
 - f) Control project costs to keep the project within budget.
 - g) Provide minutes for project meetings.
7. Water Utility Responsibilities for Task 3:
- a) Madison Water Utility will provide MARS with any existing information on file.
 - b) Provide timely review and input project reports and issues, consolidating comments by multiple individuals.
 - c) Provide required direction on Utility objectives and needs.
 - d) Coordinate meetings of Utility staff and other City departments.
 - e) Host review meetings.

G. Task 4:

- 1. Description: Public Participation
 - a) Task Objective: Working with the Utility and the Citizen's Working Group, develop a revised public participation plan to reduce cost and build the capacity of the Utility and the community to conduct this work through the balance of the well siting project.
 - b) One meeting with the Working Group in October, with the primary objective to develop options for the community and Utility to assume greater responsibility for managing the public participation process throughout the balance of this project.
 - c) A revised public participation plan from September 2007 through installation of a test well in 2008. This revised plan will include details and costs for different options to meet the needs of Water Utility staff, the Water Board, the Citizen's Working Group and the broader community.
 - d) Two meetings with water utility staff to discuss these options.
 - e) Presentation of public participation alternatives to the Water Board.
 - f) One meeting to coach Water Utility staff to assume the lead role in producing the project website, informational posters for public meetings, and other written outreach materials.
 - g) Regular email updates to the working group on the progress of the technical analyses.
- 2. Required Task 4 Quality Control Reviews by the Water Utility and Citizen's Working Group: Draft and final
- 3. Products Task 4:
 - a) Revised public participation plan and budget
 - b) Presentation to the Water Board.
 - c) 20 copies of draft project documents to the Water Utility for review.
 - d) Final Accepted Documents:
 - (1) 20 complete copies of the documents to the Water Utility.

**PROFESSIONAL SERVICES FOR
EAST ISTHMUS WELL SITING STUDY**

-
- (2) Documents submitted electronically on a compact disk (CD) in a format coordinated with Water Utility Engineering.
4. Estimated Fee: \$5,000
 5. Review and Acceptance:
 - a) The revised public participation plan shall be reviewed and accepted by Madison Water Utility. Comments from the Utility will be provided as a single set of comments on the revised plan.
 - b) MARS shall incorporate comments from the Utility as appropriate and revise the plan to the satisfaction of the Utility.
 - c) The revised plan shall be reviewed and accepted by the Water Board. Comments from the Water Board will be provided as a single set of comments.
 - d) MARS shall incorporate comments from the Water Board as appropriate and revise the plan to the satisfaction of the Board and Utility.
 6. Consultant Responsibilities for Task 4:
 - a) Provide all necessary personnel, resources, and subconsultants to complete the specified design work to the satisfaction of Madison Water Utility.
 - b) Gather and compile all necessary data required from City and County records, from field reconnaissance, and from other sources as MARS deems necessary to complete the work.
 - c) Provide preliminary concepts for review and comment.
 - d) Provide regular reports and communication with the Water Utility about the progress of the work.
 - e) Regularly update the project schedule.
 - f) Control project costs to keep the project within budget.
 - g) Provide minutes for project meetings.
 7. Water Utility Responsibilities for Task 4:
 - a) Madison Water Utility will provide MARS with any existing information on file.
 - b) Provide timely review and input project reports and issues, consolidating comments by multiple individuals.
 - c) Provide required direction on Utility objectives and needs.
 - d) Coordinate meetings of Utility staff and the Water Board.
 - e) Host review meetings.
- H. Regulatory Agency Requirements**
1. MARS shall be responsible to consider and provide all information necessary to allow the Utility to obtain WDNR approval of a high capacity municipal well site. Preparation of the WDNR siting report is not included in this Scope of Services.
 2. The proposed well site shall meet the requirements of the Planning and Zoning Departments of the City of Madison.
 3. Address and incorporate any comments received from review agencies into the final document.
- I. Communications/Meetings:**
1. Monthly progress reports:
 - a) Progress reports shall be submitted to the Water Utility by the first of every month.

PROFESSIONAL SERVICES FOR
EAST ISTHMUS WELL SITING STUDY

Item 14-8

Page 8 of 8

September 12, 2007

- b) No payments will be released to MARS without an acceptable monthly report.
 - c) Each report shall detail progress made during the previous month, planned work for the coming month and any issues that need to be resolved.
 - d) All monthly reports shall include an undated project schedule.
 - e) Monthly reports shall not exceed one type written page not including updated schedules, charts, maps, or tables.
2. A project kickoff meeting will be held prior to starting work.

J. Schedule

1. Phase 2 shall be completed and accepted by Madison Water Utility by March 1, 2008.

K. Consultant Evaluation

1. At the completion of the project, the Water Utility may, at its option, conduct a consultant evaluation.
2. The following criteria may be evaluated:
- a) Ability to meet project schedules and budgets
 - b) Accuracy and completion of contract documents
 - c) Cost control
 - d) Responsiveness to Water Utility concerns

IV. WATER UTILITY PROJECT TEAM

- A. Water Utility Project Manager and point of contact:

Alan L. Larson, P.E.
Principal Consultant - Water
608-266-4653
allarson@ci.madison.wi.us

