ACTON WATER DISTRICT

Water Supply District of Acton

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WLMAC MEETING NOTES OF FEBRUARY 7, 2013

Present: John Cipar (Mr. Cipar arrived after the first vote), Greta Eckhardt, Charles Olmstead, Barry Rosen

Guest(s): Selectman John Sonner

Note Taker(s): Barry Rosen

Chairperson: Barry Rosen

Called To Order: The chairperson called the meeting to order at 8:28 PM ET on February 7, 2013.

New Business:

1. Approval of Minutes: On a motion made by Mr. Olmstead and seconded by Ms. Eckhardt, the minutes of the WLMAC meeting held on January 22, 2013 were passed unanimously.
2. Confirmation of Next WLMAC Meeting Date: The chair surveyed the membership to ascertain if the next regularly scheduled meeting of the WLMAC (March 12, 2013) was still a good date on which to meet. The committee felt the date should stand.
3. Announcement of AWD Board of Water Commissioners Meeting: The chair reminded the committee that the Board of Water Commissioners was meeting this coming Monday evening (2/11) at 7:30 PM. Mr. Rosen explained that he was scheduled to be out of town at that time and did not expect to be able to attend the meeting. Of course, the weather may alter his travel schedule. Mr. Olmstead indicated that he hoped to be able to attend the meeting.
4. Spreadsheet Comparing AWD Pumped Water and MWRA Produced Water: Prior to the meeting, Mr. Malchodi submitted a first pass spreadsheet to the membership comparing the costs of the AWD producing all of its water and the AWD purchasing all of its water from the MWRA and distributing it.
   - 4.1. The committee looked-over and spent some time discussing the spreadsheet. It was noted that it looked at the ñextremeò case of the District purchasing all of its water from the MWRA rather than supplementing its water supply. This would be similar to Lexington rather than Bedford which supplements its well production.
   - 4.2. It was noted that the model makes the assumption that Acton has not partnered with another water supplier to reduce costs which are amortized over a 20-year period. As was pointed-out by Mr. Olmstead, partnering with one or more water suppliers can substantially reduce the costs of connecting to the MWRA.
   - 4.3. One of the committee members noted that he felt the spreadsheet was not all that clear.
   - 4.4. In his note to the committee, Mr. Malchodi has asked the members to suggest improvements to his model by sending him a note.

4.5. We expect to discuss the spreadsheet in more detail with Mr. Malchodi at the next meeting when he may have further refined the initial model.

5. Discussion of Meeting With Board of Water Commissioners and Next Steps: Mr. Rosen stated that he and Mr. Malchodi attended the meeting with the Board on January 28th to explain the five major suggestions made by the WLMAC and to answer any questions. The District Manager explained that no deadline had been set for reviewing and submitting suggestions to Wright-Pierce but he was expecting to collect and roll-up all of the submissions prior to the end of February. So far, he had only received the WLMAC suggestions and he asked for all others to send him their feedback as soon as possible. Mr. Rosen did not feel that the WLMAC received ñpush-backò on their suggestions but he did remember a remark from one of the commissioners (who he believes was Mr. Stuntz) that remarked we shouldnôt have expected more from engineers; perhaps we need another study to look at some of the strategic stuff [paraphrased]. Mr. Rosen mentioned that the WLMAC had also discussed whether an engineering firm could look at both operational/tactical and strategic AWD problems and believed this was reflected in some of our minutes. Mr. Rosen indicated that he would like the committee to hear Mr. Malchodiôs impression of the meeting also.

5.1. Mr. Olmstead:

5.1.1. He felt very strongly that a good part of a decision as to whether the MWRA could be considered as a supplementary or sole water source for the District was political. He felt that to make it an attractive solution would require at least one other partner to share the initial expense of connecting. Therefore, he felt that it would be important to investigate whether there are any additional towns that are considering or would consider a partnership with Acton in obtaining MWRA water.

5.1.2. His opinion was that the WLMAC should continue its dialog with the Board of Water Commissioners about the LRP and perhaps about other solutions for the District.

5.2. Mr. Cipar offered the opinion that while we and others may want to see changes in the LRP, after one reads the October 12, 2011 ñspecificationsò letter sent by Rich Protasowicki (Wright-Pierce) to Chris Allen (AWD), they pretty much have done what they said they would do. In fact, the LRPôs table of contents is contained in the letter. From his great experience in government contracting, Mr. Cipar said that is what is commonly done. We canôt beat on the vendor too much. Mr. Cipar felt that we do need to look at the other issues as they are very important but the big question is how to do it? Who should look at them?

5.3. Mr. Olmstead moves and Mr. Cipar seconds a motion for the WLMAC to continue discussions with the Board of Water Commissioners concerning the AWDôs long range plan (including alternatives for obtaining additional water). The motion passed unanimously.

Old Business:

6. There was no old business.

Adjournment:

On a motion by Mr. Olmstead which was seconded by Mr. Cipar, the committee voted unanimously to adjourn the meeting at 9:50 PM ET on February 7, 2013.

THE DOCUMENTS FOLLOWING WERE UTILIZED DURING THE MEETING.

1. **Spreadsheet model comparing AWD treated well water with MWRA obtained water (non-optimized scenario).**
2. **Wright-Pierce proposal for water system master plan update.**

		drill and treat			mwra				
		cap	annual		cap	annual			
		$ in 000	$ in 000		$ in 000	$ in 000			
	plant 2	15000							
	plant 3	8000							
	write off				500				
	pipe				30000				
	rights				10000				
	total	23000	1610	20 year cost of cap	40500	2025	20 year cost of cap	810	interest forgone because of mwra interest free loand
	electricity		300			100			
	media		300						
	supplies chemicals		200			100			
	disposal		100						
	well maintenance		100			100	Valve maint		
	well maintenance stff		80			40	valve maint staff		
	plant staff		700						
billed gal/year 550,000,000	total		3390			2365			
	per gallon		$0.0062			$0.0043			
mwra cost per mil gal									
$ 2,787						$ 0.0028	mwra		
1,000,000	total to add to op exper		$0.0062			$0.0071	total to add to op expense		per gallon

WRIGHT-PIERCE
Engineering a Better Environment

Water
Wastewater
Infrastructure

October 12, 2011
W-P Project No. MMG11

Mr. Chris Allen
District Manager
Acton Water District
P.O. Box 953
Acton, Massachusetts 01720-0953

Subject: Proposal for Water System Master Plan Update

Dear Mr. Allen:

As requested, Wright-Pierce is pleased to submit a scope and fee proposal to the District for a comprehensive Water System Master Plan Update. Our proposal to you is presented in the following format:

- Scope
- Fee
- Schedule

SCOPE

With the ever changing and more stringent regulatory environment, the Acton Water District will be faced with both near term and long term challenges in its efforts of providing a safe and plentiful water supply. Therefore, it is important that a comprehensive Water System Master Plan Update be prepared that fully evaluates the District's current infrastructure needs, identifies options, and presents recommendations in a well thought out Capital Improvement Program (CIP). Our approach will be to partner with the District and work closely together to create a meaningful planning document.

In general, our Master Plan update would be formatted to include the following major sections that will build off of information currently available and supplement it with new:

1. Existing System and Facilities
2. Historical and Projected Water Use
3. Water Supply Evaluation and Assessment
4. Distribution System Evaluation and Assessment
5. Regulatory Review
6. Demand Management
7. Asset Management
8. Recommendations
9. Capital Improvement Program

For this, our proposed scope of services includes the following:

Task 1 Existing System and Facilities - This task would incorporate the existing system and facilities information available from current documentation and be updated to include more recent changes. Present information on:

- Supply facilities;
- Treatment facilities;
- Distribution system;
- Distribution storage;
- Intermunicipal interconnections; and
- SCADA (monitoring and control).

Task 2 Historical and Projected Water Use - This task would:

- Evaluate and present an overview of historic population demographics, trends and projections.
- Evaluate and present the historical and projected water use information through the next 10-year planning period (2012 - 2021).

Task 3 Water Supply Evaluation and Assessment - This task would:

- Evaluate and present an assessment of the District's current water supply quantity and capacity.
- Evaluate and present an assessment of needed pumping and/or well improvements for increased yield, pumping capacity, and redundancy.
- Evaluate and present an assessment of needed treatment for the District's sources. This task will include and expand upon past studies performed for the District.
- Evaluate and present an assessment of a connection to the MWRA water system.

Task 4 Distribution System Evaluation and Assessment - Utilizing the current water system hydraulic model, this task would:

- Evaluate the ability of the water system to meet projected maximum-day demands with coincident fire flows at each ISO location, projected peak-hour demands, etc.
- Identify areas where pressures are deficient under various operating conditions as well as under static conditions.
- Identify high headloss/high velocity piping under various operating conditions.
- Evaluate and identify opportunities to improve looping and circulation, reduce water age in the distribution system, and improve overall expected distribution water quality.
- Perform a storage analysis. Calculate the hourly demand fluctuation volume, emergency volume, and fire storage volumes necessary to meet the revised demand projections. Investigate and record

any unusual diurnal water use patterns that might affect sizing of storage system. Recommend a required active storage volume through the CIP planning period. Fire flow requirements will be based on available and estimated ISO data and will be used to determine volume of distribution storage required for fire protection. Evaluate needs and present benefits of using of internal mixing systems within the existing storage tanks.

- Analyze and develop needed improvements to the distribution system and storage tanks, using the calibrated hydraulic model of the water distribution system.
- Evaluate existing municipal interconnections as sources of supply during emergencies and establish any hydraulic limitations of these connections with the hydraulic model.
- Perform a detailed Water Main Improvement Plan (WMIP) analysis of all system water-mains to comprehensively identify and prioritize needed water main improvements. Evaluation parameters utilized for the analysis would include age, material, size, C-factor, break history, water quality complaints, etc. Effort would also include the performance of a "criticality analysis" with the hydraulic model to rate each water main segment's importance within the distribution as part of the WMIP analysis. Identify and prioritize needed improvements based on this analysis.
- Develop recommendations for construction of the identified improvements to the distribution system and storage facilities. Clearly present noted improvements on the District's base mapping as appropriate.

Task 5 Regulatory Review - This task would:

- Perform and present results of a regulatory overview of the water system's compliance with current and anticipated drinking water regulations. Existing water quality information provided by the District will be utilized.

Task 6 Demand Management: Demand management has historically been a priority for the District and is expected to continue. Accordingly, this task would:

- Incorporate the District's past demand management efforts and focus on updating its efforts with new initiatives to effectively reduce waste and increase water use efficiency.
- Evaluate and present available water metering technologies available for implementation that could be used to help reduce unaccounted for water while increasing revenue.

Task 7 Asset Management: Due to the increasing complexities of the District's infrastructure and processes, the implementation of a more formalized Asset Management (AM) program should be investigated. Accordingly, this task would:

- Include a section dedicated to the evaluation of and appropriate recommendations for the implementation of an AM program at the District. Effort would include an initial staff interview, review of typical processes and informational needs, etc.

Task 8 Recommendations: This task would:

- Summarize all recommendations made for improvements to the District's system along with particular implementation needs (permitting, timing, etc.).
- Develop estimated capital costs for all the recommended improvements to the District's system.
- Include a section dedicated to the evaluation of and appropriate recommendations for the implementation of an Asset Management (AM) program at the district as a result of the system's increasing complexities.

Task 9 Capital Improvement Program: This task would:

- Rank all recommended improvements as high, medium, or low priority needs.
- Present all of the recommended improvements in a prioritized manner (10 -year Capital Improvement Program).
- Identify sources of funding available to the District for the needed improvements.

In general, contact would be maintained with the District throughout the project. Up to five copies of the draft would be submitted for review and comments. Upon receipt of comments from the District, the master plan update would be finalized and five final copies submitted.

FEE

We estimate the level of effort required to complete the above mentioned scope and provide the District with a useful planning tool is a total of 478 hours for a not to exceed amount of $48,650.

SCHEDULE

We propose to begin the work outlined above within 1 week of receiving a Notice to Proceed and estimate the duration of project to be between three to six months (or as requested).

We thank you for the opportunity to propose on this and look forward to continuing our successful relationship with the District. Should the District desire to proceed, we can prepare a suitable Exhibit B per our general services agreement.

Feel free to contact us with any questions you may have.

Sincerely,

WRIGHT-PIERCE

Richard G. Protasowicki

Richard G. Protasowicki, P.E.
Senior Project Manager

C: Jeffrey Musich, WP