

SHARON WATER MANAGEMENT ADVISORY COMMITTEE (WMAC) MEETING MINUTES FOR MAY 12, 2005

Prepared by Paul Lauenstein

Present at meeting:

WMAC Chairman Michael Birschbach; WMAC members Lealdon Langley, Paul Lauenstein, Richard Mandell, Rory McGregor, Mike Sherman, Jack Sulik and Cliff Towner; Selectman David Grasfield; Town Administrator Ben Puritz, Conservation Agent Greg Meister, and Planning Board member Eli Hauser. Also present were Paul Millett of Watermark Environmental, Jeff Herschberger of ESS Group, and Elizabeth Smith and David Kelly of Avalon Bay Communities.

Summary of Minutes for the 5/12/05 WMAC Meeting

1. Open Discussion

- Announcement of upcoming May 16 BOH joint meeting
- Inadequate lead time for Water Dept. handouts
- Revised radio meter RFP schedule
- Water web site

2. Emergency water supply (Paul Millett of Watermark)

3. Well site evaluation (Jeff Herschberger of ESS)

4. Avalon Bay's water needs (Elizabeth Smith of Avalon Bay)

5. Water Conservation

- New water bill insert

6. Next meeting scheduled for Thursday, June 9, 2005 at 7:30 PM

Detailed Minutes for the 5/12/05 WMAC Meeting

1. Open Discussion

Michael Birschbach noted that Article 31 had been removed from the recent Town Meeting warrant. Although this article would not necessarily have exempted the Wilber School property from all provisions of the Water Resource Protection District, it would have allowed mixed-use development and would have made it possible for the town to locate a wastewater treatment plant there. As such, it would have posed a potential threat to Well #4. He announced that there would be a joint meeting of the Board of Health (BOH) and various other committees with an interest in wastewater treatment in the center of Sharon.

Richard Mandell commented that the voluminous packet of information distributed to WMAC members by the Water Department had just arrived the previous day. He said there was not sufficient time to review so much information prior to the meeting. He said this was not the first time this had occurred and added that he hoped the Water Department would allow more lead time in the future.

Mike Sherman asked if anyone knew the schedule for the revised radio meter RFP.

Ben Puritz said the IG would complete its review by the end of May.

Rory McGregor reported that he had contacted Don Hillegass, Manager of Information Systems for Sharon, regarding a web site for the WMAC. Rory McGregor said Don Hillegass agreed to post material for the committee on the town web site. Rory McGregor said a web site must be refreshed periodically to maintain public interest. He added that Ernie Veritimos offered to help.

2. Emergency water supply (Paul Millett of Watermark)

Paul Millett of Watermark Environmental passed out a summary progress report. The report noted that the Vulnerability Assessment was completed in June, 2004, and the Emergency Response Plan was completed in December, 2004. Watermark is currently working on a new demand/supply study. Some observations include:

- Watermark does not expect water conservation efforts to offset projected demand increases.
- New WMA pumping limits are more stringent. They include:
 - Summer/Winter ratio of 1.2
 - Residential usage not greater than 65 gpcd
 - Unaccounted-for water under 10% of total pumping
 - Average Daily Demand (ADD) under 1.58 million gallons

Watermark is also working on an evaluation of connections to adjacent communities for short-term emergencies, as well as a mid- to long-term connection to MWRA at Cobb's Corner, Chemung Street or Plain Street, or a connection to Aquaria through Easton via Massapoag Avenue. The hydraulic model will be used to assess these options. A draft report is expected by the end of June.

Paul Millett commented that modest growth of the town will require a new standby water supply. He cautioned that neighboring towns that depend themselves on municipal wells tapping stressed aquifers may be unable to spare water for Sharon in the event of a water emergency.

Paul Millett presented a graph showing that Sharon's average annual water consumption has not changed appreciably over the past five years. Winter (indoor) use has risen while summer (outdoor) use and maximum daily demand have both declined. The fact that summer use has declined is particularly helpful because water supplies are more stressed in summer than in winter.

Paul Millett reported that the six town wells together are capable of producing up to 2.9 million gallons per day (MGD). However, without Well #4, the total would only be 1.97 MGD, only slightly higher than average daily demand of 1.8 MGD last summer and considerably lower than the peak daily demand of 2.5 MGD last summer. The proposed Water Management Act (WMA) limit on average daily demand for May through September is 1.84 MGD.

Paul Millett showed another graph that showed the deficit above the 1.84 MGD limit last summer, as well as the deficit above the 1.97 MGD capacity of the town's wells not including Well #4.

Paul Millett said the implication is that Sharon has inadequate redundancy of water supply and is vulnerable to an emergency such as contamination of one or more of its wells. Sharon is also vulnerable to exceeding its WMA permitted summertime average pumping limit of 1.84 MGD.

To address this vulnerability, Paul Millett said Watermark is evaluating a connection to MWRA water at three locations: Cobb's Corner, Chemung Street and Plain Street, or alternatively connecting to Aquaria at Massapoag Ave. He said one consideration is the size of water mains at these locations, since pipelines on the outskirts of town tend to be smaller than those in the center of town.

Paul Millett said he and Eric Hooper had met with the Department of Environmental Protection (DEP) in February to discuss Sharon's new five-year pumping permit. He pointed out that Sharon recycles water by virtue of its dependence on septic systems. This means that around 70% of water used by Sharon gets recycled. However, DEP does not take this circumstance into consideration when deciding upon an appropriate pumping limit for the town.

Mike Sherman asked whether DEP takes water conservation efforts into consideration.

Paul Millett replied no, that DEP is only interested in limiting summertime use. He added that as long as summer use remains under the limit, the summer/winter ratio target of 1.2 would not be strictly enforced.

Rory McGregor pointed out that a total outdoor water ban would greatly reduce peak summer demand.

Paul Millett said the MWRA has surplus capacity to sell water to Sharon. He said an emergency connection would be relatively simple to implement. However, joining MWRA for the purpose of importing up to 1 million gallons per day (the equivalent of replacing Well #4) would entail a joining fee of over \$5,000,000, not including the costs of pipes, pumps and permits. It would also entail demonstrating that there are no viable alternative well sites within Sharon in order to satisfy the conditions of the Interbasin Transfer Act.

Mike Sherman commented that MWRA would prefer a direct connection to MWRA pipes if Sharon wants a permanent connection for supplementary water. That would cost considerably more than a few hundred thousand dollars for an emergency connection to Stoughton's water system somewhere along Bay Road.

Paul Millett said taking MWRA water via an emergency connection to Stoughton for emergencies lasting up to six months would be covered by MWRA's "OP-5" and would not require a joining fee or an Interbasin Transfer Act permit.

Michael Birschbach pointed out that as long as Sharon only connects to Stoughton as "insurance" in case of a water emergency, but never actually takes water, OP-5 would not have any effect.

Paul Millett replied that if Sharon used its emergency connection repeatedly to take water as Stoughton did, then "OP-10" would be invoked and MWRA would require Sharon to join the system.

Cliff Towner asked Paul Millett if Watermark had been charged with investigating a connection to Stoughton for emergency backup, or a connection to MWRA for supplementary water.

Paul Millett replied both.

Michael Birschbach asked Paul Millett what was the purpose of the hydrant-to-hydrant flow tests at various points around the perimeter of Sharon.

Paul Millett replied that both static and residual pressures would be measured at all potential connection points to learn how much water could be obtained from neighboring towns in an emergency. He added that the Emergency Action Plan spells out what to do in an emergency.

Cliff Towner pointed out that the amount of water obtainable at each connection point varies from day to day and from season to season depending on fluctuations in demand in neighboring towns, and asked if the Watermark study would test each location at different times to reflect this variability.

Paul Millett replied that each location would be tested only once.

Richard Mandell said tank levels and well flow rates at the time of each test should be documented. Paul Millett said this information would be noted in the report.

Rory McGregor suggested doing the testing when pressures would be at their worst when lawn watering is underway in July. He also asked if the 1.84 MGD standard for average summer use is final. He added that outdoor watering restrictions could be tightened from 2 hours to 1.5 hours.

Paul Millett said the permit has not yet been issued, and that if convincing reasons could be presented to DEP, this limit might be changed.

Paul Lauenstein said water audits will give the town a better idea of the percentage of homes that do not already use water efficient fixtures and appliances, which will help quantify the potential for water conservation.

3. Well site evaluation (Jeff Herschberger of ESS)

Jeff Herschberger listed five potential well sites: NSTAR, Maskwonicut Street, Blair Circle, the Gobbi property and Briggs Pond. He said the ESS report had ranked NSTAR as the most favorable, followed by the Gobbi property. He said the Gobbi site could be ruled out because of poor access.

Paul Lauenstein said he recalled that the ESS report had ranked Maskwonicut Street as the second best site rather than the Gobbi property.

After checking the report, Jeff Herschberger corrected himself and said the report ranked the Maskwonicut Street site second, not the Gobbi site.

Jeff Herschberger said the objective is to find a new well site capable of producing up to 250,000 GPD to provide the town with supplemental water in case a well fails, as well as providing operational flexibility. He said the WMA restrictions on the total amount used by the town would still have to be observed. In addition, a thorough evaluation of all available well sites must be done in order to qualify for supplemental MWRA water.

Jeff Herschberger said the sites currently under consideration by the Water Department are: NSTAR, Maskwonicut Street and the Islamic Center.

Jeff Herschberger said the game plan is to try to evaluate these three sites on an “apples-to-apples” basis. Each site would be tested first with a 2.5” test well that would be pumped for a few hours. Then an 8” or 12” well would be installed and pumped for 48 hours at 175 gpm (about 250,000 gallons per day). Jeff Herschberger said the Islamic Center well was pump tested several years ago at 660,000 GPD, but Eric Hooper wants to evaluate this site at 250,000 GPD. Jeff Herschberger added that since so much is already known about the characteristics of the Islamic Center site, priority would initially be given to gathering more information on the MBTA and NSTAR sites.

Lealdon Langley said the Islamic Center site had been modeled at 1,000,000 GPD when the pump tests were performed several years ago, and asked why the model could not be employed now to predict the impact of pumping 250,000 GPD.

Jeff Herschberger said the Islamic Center site shows major potential. Scaling back withdrawals to 250,000 GPD will reduce impacts on receptors. Jeff Herschberger said Eric Hooper wants hard data. He said Eric Hooper wants to run the tests again at a lower flow rate than the previous pump tests to see what the impact will be.

Lealdon Langley asked if the old data had been reviewed.

Jeff Herschberger said the old data had not been recently reviewed.

Lealdon Langley said he thought the place to begin the analysis would be with a review of existing data. He added that there should be no need to run a new test. The model that was derived from old pump testing results should be adequate to accurately predict the impact of withdrawing 250,000 gallons per day.

Cliff Towner said that Weston & Sampson retained the model of impacts at the Islamic Center site for preparing the Environmental Impact Report (EIR).

Jack Sulik said the casing is still in the ground, so the cost of running pump tests would be significantly reduced.

Richard Mandell asked why the Gobbi property was not on the list of sites to be tested.

Jeff Herschberger replied that if access were granted, it too would be evaluated.

Greg Meister asked if anyone in the room had up-to-date information about Town Counsel’s obtaining a court order to gain access to the Gobbi property to perform well testing.

Ben Puritz replied that it is a pending legal matter. He said Town Counsel communicated with the landowner’s attorney, and is seeking a declaratory judgement.

Greg Meister asked what is the time line.

Ben Puritz said the matter had been taken up in executive session so he could not be specific, but he said that the landowner had been served final notice and Town Counsel was moving forward aggressively to obtain a court order to gain access.

David Grasfield concurred with the concept of obtaining comparable data for each well site, prioritizing sites that have not yet been extensively tested so that “apples to apples” comparisons can be made among the various potential sites. He said access to the Gobbi property should be only days away, and should be prioritized since less is known about its potential as a town well site, and the window of opportunity is rapidly closing.

Michael Birschbach asked why Maskwonicut Street was being tested since it is so close to Well #4.

Lealdon Langley said that zone II’s can overlap, and said Well #4 may need to be replaced some day.

Cliff Towner said Well #4, the Maskwonicut Street site, and the Canton Street site are all aligned along the same aquifer. He added that Beaver Brook is a cold water fishery and has already been impacted by induced infiltration from well pumping.

Michael Birschbach said that the potential of the Islamic Center and the Maskwonicut Street sites are already relatively well understood. He said the emphasis should be on gaining an understanding, through exploratory test wells, of sites such as the Gobbi property and Blair Circle that are not well understood.

Lealdon Langley repeated that less well understood sites with potential for producing at least 250,000 gallons per day should be tested first. He said exploratory test wells are not costly, and there is no reason not to get this done promptly before the window of opportunity closes as the sites get developed.

Jeff Herschberger said access is good at the Gobbi property. He said access for a 2.5” test well would be no problem at the Blair Circle site, but bigger equipment for larger bores might be problematical. He added that both of these sites are at the heads of watersheds.

Cliff Towner said that access to both the Gobbi and Blair sites should not present any difficulties. He said that both these sites could provide valuable diversification of Sharon’s water sourcing.

Jeff Herschberger said the plan is to do test drilling at the NSTAR and Maskwonicut sites first and then do further testing at the Islamic Center.

Mike Sherman asked what is the time line for well testing.

Jeff Herschberger said Conservation Commission clearance must be obtained before testing the NSTAR site. He said regulatory agencies prefer that well testing be performed in autumn since that is when the water table is at its lowest.

Lealdon Langley said the WMAC and the ConCom should jointly review placement of the monitoring wells at the NSTAR site because of the wetlands there.

Jeff Herschberger said the 400’ zone I requirement limited the options. He added that the WMAC would be informed as to the location of the test wells at the NSTAR site.

Greg Meister asked if any negotiations with Sharon Memorial Park for acquiring water rights to the cemetery wells by Edge Hill Road have been scheduled. He said the cemetery should be receptive to a plan that would provide them with free water in exchange for allowing the town to take water for municipal use.

Cliff said that approach had been tried once before, but a lack of leadership had led to failure.

David Grasfield said he would be happy to accompany Greg Meister to have another try at negotiating with Sharon Memorial Park.

4. Avalon Bay's water needs (Elizabeth Smith of Avalon Bay)

Eli Hauser said Avalon Bay is a Local Initiative Program (LIP), the nature of which is that the developer and the town work together to arrive at a mutually beneficial outcome. Avalon Bay is the first tier of a four-tier program to fend off 40-B. The goal of this program is to create about 440 additional units of affordable housing in Sharon to satisfy the 10% affordable requirement of 40-B, instead of allowing 2,400 new housing units in Sharon under the terms of 40-B. Since all of its units are apartments and qualify as affordable housing, Avalon Bay would comprise 156 of the 440 units needed to reach the 10% threshold. Avalon Bay could provide the requisite 50 units of affordable housing per year needed to exempt Sharon from 40-B for the next three years.

Eli Hauser then introduced Elizabeth Smith and David Kelly of Avalon Bay.

Elizabeth Smith passed out some literature about Avalon Bay. She said Avalon Bay has been discussing their intentions with Ben Puritz for the past year and a half. The Selectmen appointed a citizen advisory committee to evaluate the impacts of traffic, stormwater runoff, design, and water and sewer requirements. She added that Sharon has an obligation to provide affordable housing.

Elizabeth Smith explained that in the event the ZBA denies a permit to a developer of a LIP such as Avalon Bay, or imposes uneconomic conditions, the developer may appeal to the state Housing Appeals Committee. If a qualified party appeals, then the matter is adjudicated in court.

Elizabeth Smith said all water would come from Sharon municipal wells except irrigation water for the grounds, which would come from a private well. She added that all 156 apartments would be sub-metered.

Richard Mandell commented that it is ultimately all the same groundwater regardless of whether it is withdrawn from municipal wells or private wells.

Cliff Towner asked if MWRA water could be used instead of Sharon well water.

Elizabeth Smith said MWRA water is not an option.

Cliff Towner asked what it would take to start a discussion about using MWRA water for Avalon Bay.

Elizabeth Smith said the first option is to use local sources of water.

Cliff Towner acknowledged that the town is required to provide the water, but that the additional millions of gallons of water required annually by Avalon Bay would strain the town's already stressed aquifers. He asked if anyone from Sharon had spoken to Avalon Bay about the negative impact of the additional demand on the town's wells.

Elizabeth Smith replied that David Grasfield had raised this concern. She said Avalon Bay prefers to use Sharon water because getting a permit to use MWRA water is costly (roughly \$200,000) and time consuming.

David Kelly said Norwood has no incentive to supply Sharon with water.

Eli Hauser asked how much water Avalon Bay would need.

Rory McGregor said the development would consume 6.2 million gallons per year, or about 17,000 gallons per day.

Elizabeth Smith said Avalon Bay developments average 1.7 residents per bedroom and two bedrooms per apartment. She said water usage averages 57 gallons per resident per day. That converts to about 18,000 gallons per day, or about 6.6 million gallons per year.

Eli Hauser advanced the argument that the tax revenues from Avalon Bay could finance a new town well.

Greg Meister said he likes the project because all the units count toward satisfying the 10% affordable requirement of 40-B.

Elizabeth Smith said there are two options for disposing of wastewater: an on-site package treatment plant, or tying in to the municipal wastewater treatment system of a neighboring town. He asked exactly when and how Sharon would get credit for the new units.

Elizabeth Smith replied that the units would only count towards Sharon's 40-B requirement after a comprehensive permit was issued and all appeals were resolved. She said the process involves a vote of the Board of Selectmen in June, and approval by the ZBA in autumn. After that it would take an additional 13 months to complete construction.

Eli Hauser said 40-B requires addition of 0.5% of the total number of homes as affordable units to forestall the requirements of 40-B. He said that translates to 40 to 50 new affordable housing units per year in Sharon. Eli Hauser said all the units at Avalon Bay would count toward satisfying 40-B, and that development alone could buy the town three years reprieve from 40-B.

Michael Birschbach said he used to live in an Avalon Bay development. He said his main concern is the additional demand on Sharon's stressed water supply, even if the DEP raises the permit limit.

Ben Puritz said that the calculation of the withdrawal permit by DEP allows more water for new 40-B developments.

Mike Sherman said he would like to see Avalon Bay install the latest water-efficient appliances such as High Efficiency Toilets (HET's) that use less than 1.3 gallons per flush and front-load clothes washers that use less than 15 gallons per load. He added that incentives are available from utilities.

Rory McGregor asked if Avalon Bay intends to construct an on-site package wastewater treatment plant.

Elizabeth Smith replied that if that option is chosen, the effluent, which would be very clean, would be returned to the ground at the site.

David Kelly said it would be too costly to return the water to the center of Sharon to help recharge the aquifer feeding the three town wells along Beaver Brook.

Lealdon Langley asked if Avalon Bay would be eligible for water conservation rebates from the town for HET's and front-load washing machines.

Greg Meister responded that he thought Avalon Bay should be required to use water-efficient fixtures and appliances without offering them rebates.

Lealdon Langley asked if Avalon Bay plans to use drought-tolerant plants and minimize lawn in their landscape design in order to minimize irrigation water. He asked if Avalon Bay has already done exploratory test wells for locating a good site for their proposed irrigation well. He said it is important to minimize impacts on the nearby wetlands. He also asked if Avalon Bay has any intention of recycling purified wastewater for irrigating and/or toilet flushing. He cited Pine Hills as an example of creative water re-use. He also recommended using porous paving materials for the roadways and parking areas to allow rainwater to soak into the ground instead of running off.

Rory McGregor suggested that Avalon Bay return their purified effluent to where it came from.

Cliff Towner said the water will flow immediately out of Sharon to Canton.

David Kelly said the land falls toward the northwest, so he assumed the groundwater flows that way too.

Paul Lauenstein suggested water banking, which would entail Avalon Bay saving as much or more water than it uses by means of paying for water conservation elsewhere in Sharon. He suggested that Avalon Bay could help Sharon purchase technology to locate leaks, or subsidize Sharon's rebate program, as ways of offsetting the 5 to 6 million gallons per year, not including water from the private irrigation well, that Avalon Bay will add to the existing demand on Sharon's stressed wells.

Greg Meister asked what the WMAC considers its top priorities for Avalon Bay from the standpoint of water supply and wastewater.

Michael Birschbach asked if WMAC prefers a package wastewater treatment plant on-site, or piping the wastewater to MWRA through Norwood.

Elizabeth Smith said on-site treatment costs about \$200,000 more than the MWRA solution.

Greg Meister said the water would leave Sharon with either solution, so it might be better to use the less expensive MWRA alternative and apply the savings to obtaining MWRA water to offset Avalon Bay's extra demand on Sharon's water supply.

Cliff Towner suggested that Avalon Bay could subsidize the cost to Sharon of obtaining supplementary MWRA water, to offset the extra millions of gallons Avalon Bay will use.

Rory McGregor pointed out that the 57 gallons per bedroom per day water use projected by Avalon Bay does not include the irrigation water they propose to obtain from a private well on-site.

Lealdon Langley said Avalon Bay's water use would be more understandable if it were expressed as gallons per capita per day instead of gallons per bedroom per day.

Paul Lauenstein mentioned that evaporation losses could be minimized using drip irrigation rather than sprinklers.

Cliff Towner asked if the existing house and barn would be torn down.

Elizabeth Smith replied that they would be.

5. Minutes

The minutes for April 7 were approved unanimously with one minor change.

6. Water Conservation

Paul Lauenstein commented that the Water Department had done a lousy job printing the water bill inserts. The inside was printed upside-down relative to the outside, the shading behind the GPCD chart indicating the 65 gpcd usage zone was shifted by 3 rows, the fold ran through the copy, and they had not been trimmed (the crop marks were apparent).

Paul Lauenstein added that someone had deleted the reference to the Sharon Water Department from the credit line. He said the original credit line, which listed both the Water Department and the WMAC, was intended to symbolize cooperation between these two entities, as well as commitment of both entities to conserving water in Sharon. He asked if the act of deleting the Water Department from the credit line symbolizes a lack of interest in cooperating with the WMAC, and a lack of interest in promoting water conservation, on the part of the Sharon Water Department.

Paul Lauenstein made a motion to recommend a new water bill insert as follows:

MOTION:

The WMAC recommends that the Selectmen authorize the Water Department to insert flyers developed and finalized by the WMAC in the water bills to advertise the rebate program for HETs and high efficiency washing machines beginning in July, 2005. In the spirit of cooperation, the WMAC further recommends that the Selectmen request that the Water Department include the Water Department in the credit line along with the WMAC.

This motion was passed unanimously.

Jack Sulik asked if the toilet rebate policy applies only to replacement of older inefficient toilets or whether it applies to all installations of HET's, including 1.6 gpf models and new construction.

Lealdon Langley said he thought it applied to all installations of HET's including large developments like Avalon Bay, although he conceded that Avalon Bay alone could use up the entire annual quota for the town and force other residents to wait until FY '07. He said he felt the toilet rebates would contribute more to water conservation if applied universally.

Richard Mandell said he thought the original intent was for replacement of older inefficient toilets.

Paul Lauenstein said the insert would appear in water bills beginning in July, so it would be necessary to spell out the criteria for HET rebates at the next WMAC meeting so the Water Department would know how to administer the program.

7. Next meeting scheduled for Thursday, June 9, 2005 at 7:30 PM