

OAR



Organization for the Assabet River

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June 20, 2007

Ian Bowles, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge St., Suite 900
Boston MA 02114

Fax: 617-626-1181

Attn. Nicholas Zavalas, MEPA Office

**Subject: OAR Comments EOEEA #12348
Assabet River Consortium draft CWMP/Draft EIR
Phase III—Recommended Plan**

Dear Secretary Bowles,

Thank you for the opportunity to review and comment on the Assabet River Consortium's draft Comprehensive Wastewater Management Plans (CWMPs) and Draft Environmental Impact Reports (EIRs). This is Phase III of a comprehensive planning process designed to identify means of meeting future wastewater disposal needs of the six Consortium communities, within the framework of sustainable use of water resources. The Assabet River suffers from severe impairment of uses. OAR's primary concern is ensuring that the Assabet River attains its Class B water quality standard of "fishable and swimmable." The MA Department of Environmental Protection's study to determine what pollutant loads the Assabet River can assimilate, the Total Maximum Daily Load (TMDL), requires reducing nutrients in municipal wastewater discharges; improving stream flow in the tributaries by restoring a water balance in the watershed; and reducing nutrient contributions/releases from impounded sediments. This approach will safeguard the recreational, wildlife, and drinking water resources for all communities in the watershed. Additionally, the sole source of Billerica's drinking, the Concord River, is fed by the Assabet River which, in dry summers, is almost entirely treated effluent.

OAR supports the work of those Consortium municipalities who have made a good faith effort to comply with the complex requirements of the CWMP process and make progress towards restoring the health of the Assabet. We share their goal of making timely and effective wastewater facility upgrades as part of the phased approach specified in the TMDL for the Assabet, and implemented through the NPDES permits for each municipality issued by the DEP and the Environmental Protection Agency (EPA).

Nevertheless, OAR is concerned and perplexed by the proposals of the City of Marlborough and the Town of Northborough to increase wastewater discharges and phosphorus loadings to the Assabet River from the Marlborough Westerly treatment plant, as this proposal would violate both state and federal law. The increased phosphorus load would exceed the City of Marlborough's phosphorus allocation under the EPA-approved Assabet River Phosphorus TMDL,¹ thereby violating Section 301(b)(1)(C) of the Clean Water Act and 40 CFR Part 122.44(d)(vii)(B). The increased volume of wastewater discharged to the river and the associated increase in phosphorus loading, would violate anti-backsliding provisions in 40 CFR 122.44(1) & (2)(ii).

Moreover, the TMDL analysis clearly shows that the Assabet River will not meet water quality standards under existing TMDL wastewater treatment plant (WWTP) load allocations unless phosphorus contributions from the sediments are reduced by 90%. As yet, no reductions have occurred and no plan exists for reducing sediment phosphorus loads to the river. A sediment study is currently underway, but it may conclude that the best way to reduce sediment phosphorus loads to the river is to further reduce phosphorus loads from the WWTPs. Thus, increasing wastewater discharges and phosphorus loads to the Assabet at this time would contribute to existing water quality impairments and violate state water quality regulations 314 CMR 4.05(3)(b), 314 CMR 4.05 (5)(a), 4.05(5)(b) and 4.05(5)(c). In addition, these increases could preclude the ability of the Marlborough Westerly Plant to meet reduced (Phase 2) TMDL phosphorus allocations in the future. For these reasons, the Secretary's Certificate should eliminate this proposed alternative from further consideration. We will discuss this issue further in the body of our comment letter.

We will first provide comments which are common to all the reports, followed by specific concerns by community. We have provided a chart which summarizes those elements of the Scopes of Work requiring action, which we hope will make review of this large amount of information easier. We look forward to the Final CWMPs/EIRs which we anticipate will address the comments received and outstanding issues and pave the way for the WWTP upgrades moving forward expeditiously.

Phosphorus Removal: Technologies should be scalable to achieve 0.05 mg/L Total Phosphorus and below. OAR's primary concern is that the upgraded facilities be able to consistently meet the NPDES permit limit of 0.1 mg/L phosphorus on a seasonal basis, and also be able to meet a possible future limit of less than 0.05 mg/L phosphorus.² Evidence that the WWTP upgrade would achieve this was required by the Secretary's Certificate of July 8, 2005 (p. 5): "The proposed Phase I wastewater treatment improvements will be designed to accommodate additional treatment technologies that may be necessary in Phase II to achieve water quality standards for the Assabet River. The Phase III Report should respond to the comments received from the Organization for the Assabet River (OAR) pertaining to the use of scalable phosphorus removal technologies for wastewater treatment."

The Phase III reports for Westborough and Maynard indicate that phosphorus concentrations of 0.1 mg/L and less than 0.05 mg/L can be achieved, and demonstrate the scalability of the technology selected. Hudson and Marlborough have not presented this information in their Draft EIRs. Upon request, Hudson has sent a memorandum documenting scalability to the NPC distribution list.³ The Marlborough Draft EIR is uncertain, stating that bench scale testing of the BioMag process identified a high concentration of "non-reactive (inert) dissolved (soluble)" phosphorus (ES-12; 4-45). This finding is unusual for municipal wastewater and could be an artifact of the lab analysis. If it is not, it is from a specific

¹ *Assabet River Total Maximum Daily Load for Total Phosphorus*, Report No. MA82B-01-2004-01, EOE, 2004.

² In their joint letter of April 2006, EPA and DEP advised Marlborough, Westborough, Hudson and Maynard to plan for possible phosphorus limits below 0.1 mg/L in Phase 2 NPDES permits. See also MEPA NPC Certificate of July 8, 2005.

³ Wright-Pierce Memorandum, 8/8/06 "Tertiary Treatment Alternative Analysis".

commercial or industrial source.⁴ The cause of this finding needs to be identified and addressed in the final EIR. The Final EIRs for all WWTPs should provide evidence that the technology selected is scalable to below a 0.05 mg/L phosphorus concentration. This evidence should be based on actual pilot test data or data from a facility using similar technology.

Marlborough’s and Northborough’s plan to increase wastewater and phosphorus discharged to the Assabet River. Both Marlborough and Northborough Draft EIRs plan a significant increase in wastewater flows and phosphorus loads, whereas the Draft EIRs of the other Assabet Consortium communities show a commitment to living within their wastewater discharge flow limits and TMDL phosphorus allocations. Specifically, Marlborough seeks to increase its discharge to the Assabet from 2.89 to 4.4 mgd, accommodating Northborough’s anticipated increased flow. Northborough’s projected effluent flows are four times their current flow of 0.4 mgd, increasing to 1.5 mgd. This plan is built on several faulty arguments discussed below. We believe that Northborough could greatly reduce its water consumption, sewerage needs, and infiltration and inflow (I/I); Marlborough could reduce its water consumption and I/I; that increased flow should be discharged into stressed sub-basins to restore water balance; and that increased discharge to the Assabet River will degrade water quality. The following presents evidence for each of these points.

1. Northborough’s wastewater projections. Northborough’s wastewater needs presented in the Draft EIR far exceed their actual needs for the planning period. First, the projected “high” flow was used with no justification. Given the importance of restoring water balance reiterated in the Secretary’s Certificate (NPC, 7/8/05, p. 2), the “low” flow figure should be preferred. Second, although the Northborough report (DEIR p. 1-9) states that flow was based on a projection to 2025--the required 20-year planning period--the projected flows at the Marlborough Westerly WWTP are based on a flow increase up to 2040 (Marlborough DEIR Appendix A, p. 1-3, 1-4, Figure 1). The effluent flow increase beyond 2025 is accounted for solely by Northborough, and is larger than the town’s entire current flow. The 35-year planning period was confirmed by the consultant at their public hearing. Not only is this inconsistent with the other Consortium communities and the Scope of Work, it leads to a plan which requires investment in building excess capacity which may not be used within the design life of the Marlborough WWTP upgrade. We do not see how this inflation of needs, and therefore cost, is to the benefit of the rate-payers of either Marlborough or Northborough. Since no sewer rate implications were presented in the report--although they were required by the Scope of Work--the public cannot evaluate these impacts.

Most of the projected increase in effluent is due to large-scale expansion of the sewer system, extending to all but a few areas in the town. There is no evidence of a septic failure rate that justifies wholesale sewerage (see Northborough CWMP Phase I, Needs Analysis). This large centralized sewer system will eliminate recharge of the groundwater by septic systems, extract groundwater through infiltration/inflow, and stimulate widespread development with attendant impervious surfaces and loss of stormwater recharge. The 2004 USGS study, *Simulation of Ground-Water Flow and Evaluation of Water-Management Alternatives in the Assabet River Basin, Eastern Massachusetts*, shows that increasing sewerage (particularly in Northborough), increasing water withdrawals to permitted volumes, and WWTP discharge to permitted flows, will result in a significant increase in the percentage of streamflow which enters the Assabet

⁴ Glen T. Daigger, Senior Vice President and Chief Technology Officer, CH2M HILL. Pers. comm. 5/30/07. This refers to phosphorus expressed as P not PO₄. See also EPA response to comments (Marlborough NPDES Permit issued 5/27/05, p. 24) that any non-reactive phosphorus has already been taken into account in the TMDL, and that it may not remain non-reactive indefinitely.

River as wastewater.⁵ The simulation also shows a 0.2 mgd decrease in September (the critical low-flow month) of non-storm tributary streamflows in Cold Harbor and Howard brooks in Northborough (Fig. 36), a 49% decrease in streamflow (see Attachment A). Hop Brook would experience a 23% decrease in September streamflow. Northborough's Howard and Hop brooks both support brook trout populations. This model anticipated less sewer system expansion than proposed in the DEIR, and is thus likely to underestimate the impact of Northborough's proposed sewer extensions.

Neither Northborough nor Marlborough has provided an analysis of the "indirect impacts" of this sewerage plan, required by the Scope of Work. This analysis should include the impact on groundwater recharge and withdrawals. Nor has a water conservation plan been provided by either entity, also required by the Scope. Regarding I/I removal, the Draft EIR states that "no studies or investigations are currently planned" (p. 1-6). In addition, Northborough, which currently uses MWRA water, plans to reactivate their town wells, which are located in the tributary sub-basins. Groundwater withdrawals combined with the sewer expansion will seriously undermine the water balance in Northborough, by taking water from the tributary subbasins and transferring it to the mainstem.

The water quality of the Assabet River depends on maintaining base flow to dilute WWTP effluent, particularly in the summer. If base flow is diminished, the ability of the river to assimilate phosphorus or any other pollutants is likewise diminished. The Final EIR should include analysis of indirect impacts of its sewer expansion in order to avoid adopting a plan which will have serious deleterious effects on surface water flow in the Assabet River and its tributaries in Northborough.

2. Marlborough's wastewater projections. The Marlborough Draft EIR provides scant justification for selecting the "high flow" projection of 4.4 mgd over the "low flow" projection of 3.4 mgd developed in the CWMP Phase I. Treatment of the high flow projection was estimated to cost over \$15 million more for either treatment scenario (Alternative 1 or 2, DEIR pp. 1-6, -7). The average daily flow at the Westerly WWTP did increase by 0.2 mgd (from 2.2 to 2.4 mgd) since the Phase II report. There was also a somewhat larger increase in peak flows, correlating with high groundwater levels (especially spring of 2005, Fig. 2-1). This indicates a growing problem of I/I which should be rectified. These two factors are not adequate to explain the selection of a flow projection 1.0 mgd higher at an increased cost of over 38%. To put this in context, this is more than the cost difference between disposal to groundwater and disposal to surface water of \$11.5 million, used to justify the latter option (Appendix A, 1-3). In addition to revising their wastewater flow estimates, we hope that Marlborough's work with the Office of Technical Assistance will identify corrective action.
3. Discharge to groundwater. The EIR Scope of Work required that groundwater disposal sites be evaluated within tributary sub-basins that are experiencing water balance deficits. The Northborough Draft EIR fails to present any groundwater disposal options for basins with water balance deficits. In addition, a quadrupling of wastewater flows is planned to accommodate a major extension of the sewer system. This can only have a negative effect on water balance, as recharge from septic systems will be lost, and land development and attendant impervious surface area will increase. In addition, the planned reactivation of town wells will further stress the groundwater resources.

⁵ USGS, Scientific Investigations Report 204-5114, 2004, p. 69.

The TMDL states: "...any request to increase a discharge beyond currently permitted volumes would require supporting documentation satisfying DEP's Antidegradation Policy that no other feasible alternative exists, including, but not limited to, the discharge of additional treated effluent to groundwater to help restore tributary flows."⁶ The USGS model of effluent discharge to the groundwater shows that a 0.31 mgd effluent discharge to groundwater in Northborough would result in a 4% increase in streamflow in Cold Harbor Brook.⁷ This shows that discharge to groundwater in the tributary subbasins can indeed have a positive impact on streamflow and should not have been dismissed.

The Boundary Street groundwater site was selected based on its being "the only site in Town that is in close proximity to the Town's collection system and is large enough to handle a groundwater disposal site for the projected wastewater flows" (p. 1-10). This exposes a basic flaw in the selection process. Disposal sites were only evaluated for disposal of effluent treated at the Marlborough or Westborough WWTPs, with no mention of decentralized "package" treatment plants (p. 1-7). Hence any sites which were not within 5 miles of either WWTP, or not large enough to handle a large wastewater volume, were dismissed. Decentralized smaller facilities provide the best option for recharging wastewater in stressed sub-basins to restore the water balance. They are an accepted alternative, and are becoming increasingly common in large developments in the watershed, many of which have been reviewed by MEPA. Decentralized wastewater disposal figured prominently in the Comprehensive Water Resources Management Plan (CWRMP) of Acton, including new "clustered" disposal systems serving residential neighborhoods. This is in addition to existing clustered systems handling a total permitted flow of 0.45 mgd.⁸

While the Boundary Street site is not ideal, it has been rejected in favor of an unapproved increase in discharge to the Assabet River. The Marlborough Draft EIR suggests that the groundwater discharge "could result in more adverse impacts to the local environment" (p. ES-19). The Northborough draft EIR has not explained why disturbing 22 acres of trees in Northborough (not 40 acres as stated in the Marlborough Draft EIR), has a larger adverse environmental effect than phosphorus loading of a river system, which will impact downstream communities. Phosphorus loading to the river is regulated under both State and Federal law, while tree clearing is not, suggesting that phosphorus loading is the greater environmental concern. The Town of Acton has successfully built and operated a groundwater discharge of wastewater to avoid increasing phosphorus loading to the river. Acton treats their effluent to meet a 0.2 mg/L phosphorus limit prior to discharge. Why can Northborough not meet the same standard as Acton? Hudson plans to fully treat its wastewater prior to any future groundwater discharge, including tertiary phosphorus removal (Public Hearing 6/7/07).

4. Degradation of water quality. The Marlborough Draft EIR, in Appendix A, "Additional Information Related to Increased Flow to the Assabet River," asserts that the proposed increase in effluent discharge will improve the river's water quality, for which they provide scant evidence. They assert that "subsequent to the implementation of wastewater treatment plant improvements at the four POTWs in the basin, the water quality criteria in the River will be attained and the incremental increase in the discharge from the Westerly WWTP will be insignificant and perhaps beneficial." (App. A, p. 1-12) In fact, the data, as discussed below, show clearly that this is not the case. In addition, their analysis rests upon achieving a 90% remediation of phosphorus flux from the sediments, which is currently unlikely.

⁶ TMDL, p. 8, emphasis added.

⁷ USGS, 2004, p. 77.

⁸ CWRMP/EIR, Acton Mass. June 2004, Table 5-7.

- 4.1 The proposed flow increase of 1.5 million gallons per day (mgd) is greater than the entire discharge from the Maynard wastewater treatment plant. In essence, the Marlborough Draft CWMP proposes the addition of a fifth wastewater treatment plant discharge to the river. The proposed 1.5 mgd increase in flow would increase the daily phosphorus load to the river by 1.3 pounds per day (lbs/d), which is equivalent to the Maynard plant's total phosphorus allocation (1.2 lbs/d). This exceeds the load allocation in the TMDL. Most importantly, the increased load of phosphorus to the river from the Marlborough Westerly plant would undermine substantial investments in phosphorus removal by the other Consortium communities. The TMDL research and modeling clearly showed that phosphorus limits of less than 0.1 mg/L, for example 0.05 mg/L and 0.025 mg/L, would significantly increase the likelihood that water quality standards would eventually be achieved because less phosphorus would have to be actively removed from the sediments by means of dredging and/or dam removal.
- 4.2 The Marlborough Draft EIR cites an analysis of OAR's data showing lower phosphorus concentrations in an undefined segment of the river "below" the Marlborough discharge, relative to water "above" the discharge (Fig. 5) to claim that their discharge provides a beneficial "dilution" to the river. However, the data do not support their argument for two reasons. First, it is erroneous to claim that upstream/downstream differences in total phosphorus concentration can be attributed solely to the Marlborough discharge because it ignores both the clean water entering immediately downstream of the Marlborough discharge from tributaries (e.g. from Millham Reservoir) and the uptake of phosphorus by biomass. Second, while the OAR data show that Marlborough has successfully reduced the phosphorus concentration in their discharge since 1997, the upstream/downstream difference in total phosphorus concentration between 1999 and 2006 is not statistically different.
- 4.3 TMDL model runs clearly show that an increase in effluent discharge from the Marlborough Westerly plant would degrade water quality, particularly if sediment phosphorus contributions were not decreased by 90%. The TMDL model run showing increased discharge (4.4 mgd) from that facility resulted in a significant (20%) increase in biomass (aquatic weeds and algae) in the Hudson impoundment, assuming a 90% reduction in sediment phosphorus flux.⁹ DEP "considers the reduction in sediment flux by 90% as the largest challenge with the greatest uncertainty."¹⁰ What would be the impact with less sediment phosphorus remediation? The next model run, with a 75% sediment phosphorus flux reduction shows a far greater impact of Marlborough's flow increase on all impoundments. Biomass in the Ben Smith impoundment is predicted to increase from 22,000 kg to 29,000 kg, or 32%. In the Gleasondale impoundment biomass increases from 2,700 kg to 7,300 kg, an increase of 180%. As a result of the flow increase, this second model run shows that the 0.1 mg/L discharge limits achieved a total biomass reduction of only 41%, down from a 55% reduction. Among other measures, the percent cover of aquatic biomass must decrease by at least 50% for the river to meet its water quality standard. These model runs show that a flow increase could result in a significant increase in biomass, even with 90% sediment flux remediation. The effect could be much worse if less than 90% remediation is achieved, which is the more likely situation.¹¹ The same trends are observed for dissolved oxygen (DO) levels, with

⁹ TMDL Supporting Documents, ENSR Memorandum from Ken Hickey to Russ Isaac, DEP, "Assabet River Nutrient TMDL: Water Quality Modeling Results for 2 Alternative Management Scenarios", 8 October 2003, Table

¹⁰ TMDL, Report No. MA82B-01-2004-01, p. 81.

¹¹ If greenhouse gas (GHG) emissions are to be considered, increased release of methane (a potent GHG) from rotting aquatic vegetation should be added to the calculations.

DO supersaturation—which is toxic to fish-- staying at “existing levels” despite the 0.1 mg/L phosphorus limit.¹²

- 4.4 In their presentation at the Public Hearing (5/30/07) Marlborough’s consultants propose adjusting the TMDL’s phosphorus load allocation by using part of the “seemingly arbitrary” Margin of Safety to account for Marlborough’s proposed increased effluent discharge. The TMDL states that the margin of safety “is relevant particularly to the model predictions of biomass reductions that are the most critical issue on the Assabet River.”¹³ The 6.1 pounds per day phosphorus margin of safety was less than that proposed by the DEP and is necessary to account for uncertainties regarding sediment flux reduction and should not be further decreased.
- 4.5 While we have focused on phosphorus, the effect of increased loading of other regulated nutrients and contaminants, including their impact on dissolved oxygen, has not been addressed in the Draft EIR. The impact of other pollutants contained in the wastewater, which are not removed by treatment, should also be taken into consideration. For example, there are growing concerns regarding “emerging contaminants,” such as hormones, pharmaceuticals and other chemicals detrimental to aquatic life and human health if ingested, even at very low concentrations.¹⁴ Mass loading of all these pollutants would increase with an effluent flow increase.
- 4.6 It is asserted that Northborough’s increased effluent discharge would have a beneficial effect on flow in the river, since it currently imports MWRA water into the watershed (Marlborough DEIR, App. A, p. 1-18). However, as noted above, Northborough’s MWRA connection is temporary and the town plans to reactivate its wells in the near future.

Several communities have undertaken wastewater reduction strategies (e.g., water conservation, I/I removal, sewer extension reduction) to enable them to remain within their surface water discharge limits. These strategies were not necessarily adopted voluntarily, but they have been effective. Westborough is developing a growth management plan in order to live within its flow allocation, reducing the projected flow at its WWTP by 1.14 mgd, to stay within its NPDES discharge limit. At the Westborough Town Meeting a “flow limitation,” was adopted and the town is now working on a by-law to restrict new sewer connections (Westborough DEIR, p. 1-1). Concurrently, Shrewsbury reduced expansion plans of its sewer system to stay within its allocation at the Westborough WWTP. The town achieved relatively stable user fees with a decrease over time and below state average (adjusted to 2007 dollars, DEIR p. 5-7).

The Scopes of Work and Secretary’s Certificates for the Phase III reports/Draft EIRs, required information which has been inadequately addressed by a number of the communities. These omissions are shown in Appendix B of this letter. They include: a Water Conservation Plan, documentation that scalable phosphorus technology will be used; further study of groundwater discharge sites within stressed subbasins; a schedule for studies and monitoring; funding needs and sources for I/I removal; sewer rate impact analysis including comparison with MWRA and statewide averages; and indirect impacts of the CWMPs, especially regarding land-use.

¹² ENSR Memorandum, 8 Oct. 2003, Table 4: WWTP Permitted Flows (Projected Flow at Marlboro WWTP): Prediction of number of hours (in all reaches) that DO falls below 5.0 mg/L or exceeds saturation under low flow conditions.

¹³ TMDL, p. 40.

¹⁴ *Water Resources IMPACT*, May 2007, Vol. 9, No. 3. Contaminants of Emerging Concern.

In conclusion, the draft Comprehensive Wastewater Management Plans show a good faith effort by the majority of the Assabet Consortium communities to identify technologies and plan WWTP upgrades to meet NPDES permit requirements. We applaud those communities--Shrewsbury, Westborough, Maynard and Hudson-- that took MEPA requirements to heart and adjusted their plans to stay within their effluent discharge limits or provide for discharge to groundwater. These plans are not only good for the Assabet River, but also make financial sense for the communities by limiting sprawl, limiting wastewater flows requiring treatment, and protecting drinking water supplies. We have no objection to the WWTP upgrades moving forward for these communities as long as they adhere to their plans, as proposed for Hudson in the Hudson Notice of Project Change dated May 8, 2007.¹⁵

However, the process has failed overall to propose solutions which will prevent further deterioration of the water balance in the watershed. The most egregious of these failures are found in the plans of Northborough and Marlborough for the reasons detailed above. There are solutions that meet this goal and are permissible under the Clean Water Act. The Final EIRs for Marlborough and Northborough need to present these alternatives.

Thank you for considering our comments. Please call me or Alison Field-Juma, OAR's Policy Director, if we can assist you in this matter.

Sincerely,

Forsyth Kineon
Executive Director

Cc: Paul Blazar, Town of Hudson
Nancy Stevens, City of Marlborough
John Curran, Town of Maynard
Barry Brenner, Town of Northborough
Dan Morgado, Town of Shrewsbury
Henry Danis, Town of Westborough
David Pincumbe, US EPA
David Cash, Undersecretary for Policy, EOEEA
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Glen Hass, MA DEP
Ron Lyberger, MA DEP
Paul Hogan, MA DEP
US Representative James McGovern
Senator Pamela Resor
Representative Cory Atkins
Representative Stephen LeDuke
Representative James Eldridge
Representative Patricia Walrath

¹⁵ See OAR's comment letter of June 12, 2007.

Lee Steppacher, National Park Service
Deirdre Menoyo, Sudbury, Assabet and Concord Wild and Scenic River Stewardship Council
Ingeborg Hegemann Clark, Stow Conservation Commission
Norman J. Beloin, Jr, Billerica Conservation Commission
F. Dore Hunter, Acton Board of Selectmen
Peter Shelley, Conservation Law Foundation

Attachment A. Impact of water withdrawals, sewerage and wastewater discharge on streamflow

Current vs. Future Non-storm Streamflows in September		
Assabet Subbasin	% Decrease in Streamflow	Municipalities
Fort Meadow Brook	98%	Hudson, Marlborough
Cold Harbor & Howard Brooks	49%	Northborough, Shrewsbury, Boylston
Hop Brook	23%	Northborough, Shrewsbury, Westborough
Stirrup Brook	10%	Westborough, Marlborough
Taylor Brook	9%	Maynard, Stow, Sudbury
Fort Pond Brook	4%	Littleton, Boxborough, Acton, Maynard, Stow
North Brook	4%	Clinton, Boylston, Berlin, Northborough, Bolton
Danforth Brook	2%	Hudson, Bolton
Nashoba Brook	1%	Acton, Concord, Carlisle, Littleton, Westford
Elizabeth Brook	0%	Stow, Bolton, Harvard, Boxborough
Spencer Brook	0%	Concord, Carlisle, Acton
<p>Source: USGS, <i>Simulation of Ground-Water Flow and Evaluation of Water-Management Alternatives in the Assabet River Basin, Eastern Massachusetts</i>. Scientific Investigations Report 2004-5114. Future flows based on currently permitted water withdrawals and wastewater discharges, with extension of Northborough sewer system to all developed areas.</p>		

Attachment B. Comparison of Draft EIRs and Selected Certificate Requirements

(See attached matrix)