

**UPPER TAUNTON RIVER REGIONAL WASTEWATER EVALUATION PROJECT  
SUMMARY NOTES OF**

***TAUNTON SUB-REGION TECHNICAL ADVISORY COMMITTEE MEETING***

**Wednesday, June 25, 2008, 9:00 a.m. – 11:00 a.m.**

**Taunton DPW, Cafeteria**

**90 Ingell Street, Taunton**

**BACKGROUND**

The Upper Taunton River Regional Wastewater Evaluation Project is an outgrowth of the Regional Wastewater Planning Committee, which includes the communities of Avon, East Bridgewater, West Bridgewater and Easton. The state makes funding available for wastewater management studies to identify feasible solutions to the challenges of wastewater disposal and treatment that are economically and environmentally sustainable. The Upper Taunton project area encompasses 15 communities. The goal of Phase 1 is to identify potential regional treatment and disposal options for further study in Phase 2 of the project. The project public kick-off meeting was held on November 1, 2007.

Technical Advisory Committees (TAC) have been formed on a sub-regional basis. The sub-regions are organized around existing treatment facilities in Brockton, Mansfield and Taunton. A series of TAC meetings designed to encourage dialogue among sub-region communities and identify shared solutions will be supplemented with two public meetings in each of the sub-regions. This is the first of the Taunton sub-region TAC meetings.

**PRESENTATION**

*The overall presentation was the same for all three TAC meetings; however, community and sub-region specific information varied.*

Kate Barrett from Regina Villa Associates, the project Public Involvement Manager, opened the meeting. She reviewed the agenda and the TAC's role in the project. The project team will look to TAC members to contribute suggestions on approaches to evaluations and additional alternatives to consider, local knowledge and perspectives, assistance with outreach to their respective communities, help anticipate local concerns and potential challenges, and take a leadership role in developing and maintaining collaborative relationships to advance the potential regional solutions.

John Gall from CDM, the Project Manager, presented a PowerPoint project update and review of the project purpose and other details. Until recently, wastewater planning has been done primarily within a community; however, the Massachusetts Department of Environmental Protection (MassDEP) would like to identify and evaluate potential regional opportunities for collaboration to overcome challenges, in particular to disposal of treated effluent. The project is intended to complement not to supersede ongoing community efforts.

Mr. Gall noted that this phase of the project will develop background information on wastewater needs for each of the 15 communities within the project area, evaluate alternatives, develop a short-list of options that will be recommended for further evaluation in Phase 2 and prepare and submit the Environmental Notification Form (ENF). The Secretary's Certificate will indicate what should be studied in detail in Phase 2. Phase 1 is funded with a MassDEP grant and contributions from the City of Brockton and the Old Colony Planning Council (OCPC). Phase 2 has not been funded. Phase 2 will evaluate options and prepare the Environmental Impact Report (EIR) and will include a detailed assessment of options and identify potential sources of funding for regional project implementation.

The needs assessments for the Taunton sub-region were conducted in Bridgewater, Easton, Norton, Raynham and Taunton. A regional sewer authority has been approved by the towns of Foxborough, Mansfield and Norton. The communities are currently working out the details of this initiative, which will serve as one model for the Upper Taunton project sub-region alternatives. There are treatment plants in Bridgewater and Taunton. MCI Bridgewater contributes a small portion of wastewater flow to the Taunton River.

The community consultants submitted needs assessment reports to each community and will receive their comments over the next few weeks. Mr. Gall referred to the regional needs summary slide in the presentation. He noted that there is a range of potential needs, which are presented in the table on the slide from low end to high end. He said the focus is on permitted disposal needs, as the existing treatment facilities have sufficient capacity. The goal is to avoid discharging to the Taunton River. Needs are projected out 20 years and assume a status quo. In other words, only connections currently proposed are included in calculations. No new proposed additions to the sewer system are factored in.

Mr. Gall noted that a key interest of the communities is that the disposal capacity support economic development.

Overall, the sub-region existing permitted treatment is 8.85 million gallons per day (mgd). Future needs for discharge range from about 11.2 mgd to 12.2 mgd; however, only 9.8 mgd could be permitted. As a result, there would be a need to discharge an additional 1.4 mgd to 2.3 mgd beyond the permit limits.

Disposal options can be expanded by regulatory changes. Other options include treated effluent reuse, wetlands augmentation, land application (if soils are favorable) and river discharge relocation. The options for land application and wetlands augmentation can be expanded by allowing these types of uses on lands that have not previously been included in similar discussions. For instance, public parkland and MassHighway land have not previously been considered as options.

Mr. Gall said that the project team is cognizant of the water balance issue and its impact on local ecology and downstream ecosystems and communities. The water balance is the key driver in generating alternatives. Keeping water local is a primary focus. This means that water is collected and discharged within the same watershed. He pointed out pink areas on the water balance presentation slide that show areas that have a water deficit – meaning more is being taken out than is returned. He noted that this project will not entirely balance the water budget in this watershed, but options generated will focus on adding water to areas where there are deficits. For instance, using reclaimed water in the upper watershed is better than discharging it near the bottom of the watershed area, closer to the mouth of the river.

MassDEP's reclaimed water regulations are extremely important for this project. They will affect communities' ability to implement land application or wetlands augmentation options. Mr. Gall reported that new reclaimed water regulations were issued on June 11 and are currently in the public comment process. He reviewed the regulations slide and noted that for the purposes of this project, the only difference between the three classes is the bacteriological standards. For instance, Class A can be used in areas where there is public access, such as irrigation for parks, playgrounds and golf courses. Class B can be used only where there is no public access, such as irrigation for sod farms, ornamental nursery stock, unprocessed food crops and highway areas. Class C can only be used for irrigation of orchards and vineyards where there is no contact with the edible portion of food. Mr. Gall said he would like to see an open dialogue on using reclaimed water. It is currently being used in Kingston and Yarmouth and at Gillette Stadium. He added that "purple pipes" carry reclaimed water and are more common in the U.S. An advantage of this system is that the water can be metered and communities can charge for use. He estimated the cost of building a "purple pipe" network at \$1 million per mile and compared the cost to that of building a new plant, which would cost upwards of \$10 million to \$15 million.

An issue gaining more widespread attention is personal care products and their impacts on water resources. Medications and ingredients from shampoos and other products are getting into water supplies. Studies on the risks and impacts to public and environmental health are only now being done, so not much is known yet. There is a concern about discharging even highly treated, Class A, effluent in the proximity of Zone 2 public water supply well recharge areas. This will limit somewhat the available areas for discharge.

Mr. Gall discussed reuse and referred to the presentation slide indicating some potential reclaimed water users in the sub-region. Golf courses, cemeteries, cropland, pastureland, highway systems and wetlands are some obvious areas for reclaimed water use. Highway system use will have to be approved by MassHighway and will require early coordination with that agency. Wetlands augmentation use will require coordination with and approval by local conservation commissions. Mr. Gall added that watershed groups and other stakeholders could help in the identification of potential areas for reclaimed water use. Golf courses use about 200,000 to 300,000 gallons per day (gpd) of water, seasonally.

In referring to the wetlands augmentation slide, Mr. Gall said, that in general, one acre of wetlands has the capacity to absorb about 250,000 gpd. Additional treatment might be necessary to discharge to wetlands. Completely degraded or marginal constructed wetlands might have fewer obstacles for use of this kind. He also noted that the team had recently learned that there is a rare Atlantic white cedar swamp in Sharon that has a decreasing water level and this is an example of an area within the sub-region that might benefit from augmentation.

Soil characteristics, such as permeability, are important in identifying appropriate locations for land application. In theory, soil that has good characteristics has capacity for 50,000 gpd. Land application is more land intensive. Geo-political issues such as ownership and access to favorable sites are important considerations in identifying feasible options. State-owned land (properties with restricted access) is a major component of available land, and coordination with MassDEP's sister agencies will be critical to gaining access and approval to use these sites. For instance, the Department of Conservation and Recreation (DCR) and the State's ACEC (Area of Critical Environmental Concern) program are major landowners.

Mr. Gall said that the upper Taunton River and its tributaries suffer from seriously reduced water flow in the summer months. He pointed to the discharge relocation slide, which showed the base flows in several areas of the upper Taunton watershed. The team is considering the option of moving discharge points further downstream

where the base flows are higher to reduce the impacts. Moving discharge points could change the hydrology of the river and streams, so no major changes would be proposed for summer months when the systems are stressed. He said that one option could be to use effluent for irrigation in the summer and in fall discharge the effluent further downstream where base flows are higher. A challenge will be what to do with the water from October to June.

Mr. Gall cited an example of a disposal option that was not pursued seven to eight years ago. TPC, which owns a golf course in Norton, also owns one in Florida. In Florida, TPC was using reclaimed water. The firm wanted to use reclaimed water in Norton as well, but for a variety of reasons the proposal did not move forward. Since TPC was previously open to using reclaimed water, the idea could be revisited. Norton also has several athletic fields where land application could be used. Mr. Gall provided a cost comparison for a local versus regional approach. He said that a preliminary cost estimate for a local treatment and disposal option serving Easton, for instance, would be \$95 million. It would cost \$65 million if Easton were to send its wastewater to Brockton. Brockton would charge a fee; however, the option would still be more cost-effective.

Mr. Gall said one of the next steps is for the study team to overlay all of the information to identify the most promising options and areas. Finding an option that can use 500,000 gpd in the summer would be ideal. He said the study team would work on identifying feasible alternatives over the summer.

## **NEXT STEPS**

Mr. Gall summarized next steps. TAC members should review and return the needs assessments to their consultants and work to identify beneficial uses of reclaimed water. The study team members will refine and finalize the needs assessments, develop options, identify key components and draft information on feasible options. The group will meet in September to review the list of preliminary alternatives and provide input. Opportunities for funding Phase 2 of the project will also be explored.

## **TAUNTON RIVER WATERSHED STUDY**

Mr. Gall introduced Scott Horsley from Horsley & Witten. The firm is leading the Bridgewater State College Taunton River Watershed Study, which is developing a long-term vision and strategy for sustainable management of the Taunton River watershed. The focus of the study is on water balance, habitat and Smart Growth issues.

Mr. Horsley noted that the project is developing a comprehensive watershed plan. There are opportunities to share information between the two projects. In addition, Weston & Sampson is working on both projects. Mr. Horsley referred to PowerPoint slides during his presentation. Phase 1 of the project is data gathering and developing a water balance model. The work is 90% complete. The water budget illustrates water withdrawals and natural recharge. It also takes into account Title V septic systems and private wells. Community boundaries rarely match watershed boundaries, so water transfers from one watershed to another become problematic.

The study has identified more than 100 sub-watersheds and is documenting the water balance at that level. He highlighted Rattlesnake Creek and Coweaset Brook as sub-watershed models. Presentation slides included maps that showed the sub-watersheds with color coding to indicate water surpluses and deficits for each. Mr. Horsley noted that soils are important, for instance, sand and gravel are more permeable and have higher recharge rates. The study is also looking at the ecology and base flows to identify ways to restore and preserve habitat. He said that the Hockomock Swamp has about 5% to 8% less base flow than it should and added that reducing withdrawals and using reclaimed water could help restore the swamp.

Mr. Horsley also noted that smart growth principles, such as low impact development, are being looked at in the study, as are stormwater management and community site planning, open space and transit-oriented and cluster developments.

## **DISCUSSION/QUESTION & ANSWER**

Cathal O'Brien, Taunton Water Department, noted that some communities get drinking water from one area, then discharge to another. For instance, Middleborough and the Nemasket area of Lakeville get drinking water locally but discharge 5 mgd to 7.5 mgd to Taunton. They are not part of the project area. How can the gap be bridged? And, how were the boundaries established? *Mr. Gall said that Brockton has a similar situation. It gets its drinking water from Silver Lake, but discharges into the Taunton watershed. He said the project won't solve the water balance problem, but it will help. While the project boundaries aren't absolute barriers, the project team decided that the Jones River watershed was too far removed from the upper Taunton watershed. The Taunton River Watershed Study has; however, included the Jones River. It would be more feasible to send Lakeville's sewage to New Bedford. Dave DeLorenzo, MassDEP, added that Phase 2 will address existing infrastructure. The communities of Berkley, Lakeville and Middleborough don't have existing infrastructure, and their drinking water is supplied predominantly by private wells. The northern, upper watershed has more public water supplies. Although communities are autonomous in general related to water supplies, the Aquaria project is bridging communities by taking water from the*

*river in Dighton and sending it north. There is potential for the Aquaria project to add water to the balance in several communities of the Upper Taunton project area.*

Joe Frederico, BETA Group (Taunton's engineering firm), asked about the criteria for wetlands discharge flow levels. *The restoration experience and guidelines of the Army Corps of Engineers would be used. The goal of wetlands augmentation would not be treatment, only disposal, though some treatment may occur incidentally. Five and a half days of detention is desired and the amount of water is calculated in acre-feet. Nutrient loadings would be a concern. The flow would have to travel through a system of ponds, with varying depths and ecosystem communities, because direct discharge into wetlands would not be allowed.*

Fred Cornaglia, Taunton Department of Public Works, noted that the Taunton Municipal Light Plant needs from 1 to 3 mgd of cooling water. Treated effluent could be considered for this use, rather than City drinking water. He also asked about the possible expansion of wetlands. *Mr. Gall said no direct discharge to wetlands is allowed. Regulations and public perception are factors. He said the team will lay out its assumptions about augmentation in the ENF during the MEPA process. Details will be fleshed out in the EIR. If a Total Maximum Daily Load (TMDL) study is done for the Taunton River, the results could affect permitted nutrient levels in wastewater discharges.*

Carolyn LaMarre, Taunton River Watershed Alliance, noted concerns about how much water can be discharged to wetlands and the effect of residuals from the wastewater treatment process that might harm the wetlands and cause problems later.

*Mr. Gall said that when a Notice of Intent for a project in a stressed basin is filed, the community could require the developer to pay for part of the infrastructure, such as a "purple pipe." Mr. Horsley said that stormwater management is very important. He said that stormwater is a key component of groundwater recharge. Wetlands banking also presents opportunities, such as creating and selling wetlands for financing opportunities.*

Alison Bowden, The Nature Conservancy, suggested that the types of plants used in wetlands augmentation detention ponds be chosen for their ability to take up any chemicals or other components of wastewater that are not removed in the treatment process.

Bill Napolitano, Southeastern Regional Planning and Economic Development District, agreed that the water balance is important. He said other issues will be detention time, flow attenuation and pre-treatment. He suggested looking at abandoned cranberry bogs as potential detention pond locations. He said a GIS layer exists that shows abandoned bogs. There is also a MassDEP map of lost wetlands.

The group discussed cranberry bogs. Recently built abandoned bogs may not be the best choice for detention ponds, because they are usually lined. Older abandoned bogs were not typically lined and would be more suitable for detention ponds, because the water can percolate into the soil and groundwater.

There were no further questions or comments.

## **ATTENDANCE**

<b>Name</b>	<b>Affiliation</b>
Alison Bowden	The Nature Conservancy
Bill Napolitano	SRPEDD
Buvana Ramaswamy	CDM
Carolyn LaMarre	Taunton River Watershed Alliance
Cathal O'Brien	Taunton DPW/Water Division
David DeLorenzo	MassDEP
Fran Yanuskiewicz	Weston & Sampson
Fred Cornaglia	City of Taunton DPW
Jack Hamm	MassDEP
Jim Watson	Old Colony Planning Council
Joe Frederico	BETA Group
John Laurel	Taunton DPW
Kate Barrett	Regina Villa Associates
Mark Slusarz	Taunton Engineering
Mike Andrus	BETA Group
Pamela Truesdale	MassDEP
Pat Ciaramella	Old Colony Planning Council
Priscilla Chapman	Mass Audubon/ TRWA
Rob Carey	Raynham Sewer Commission
Tim Watts	Taunton River Watershed Alliance
William J. Pauk	CDM

## **HANDOUTS (attached)**

Agenda

PowerPoint presentation

*Meeting materials and other information and resources are posted on the project website – [www.tauntonriverwastewater.org](http://www.tauntonriverwastewater.org).*