

Town of Orleans

Water Quality & Wastewater Planning

Program Status Update

November 3, 2015

The following is an update of the various on-going projects, issues and tasks related to water quality and wastewater management planning in Orleans. Additional information, comments or questions can be directed to Mike Domenica at mdomenica@threebayswater.com.

I. Engineering Consultant Procurement

The scope of work, budget, staffing plan and task schedule for the FY 2016 engineering contract with AECOM has been completed and the contract executed by all parties. Notice to Proceed was provided to AECOM and they have begun work on a number of critical tasks, as summarized below. The contract scope of work and project schedule have been added to the Town web site.

II. Non-Traditional Demonstration Projects

- a. ***Aquaculture Projects*** – Field reconnaissance to evaluate candidate sites for aquaculture demonstration project(s) has begun. Criteria for rating and ranking the sites have been developed and will be used to collect information during the visits to candidate sites.
- b. ***Floating Constructed Wetlands Project*** - Field reconnaissance to evaluate candidate sites for floating constructed wetland demonstration project has also begun. Criteria for rating and ranking the sites have been developed and will be used to collect information during the visits to candidate sites.
- c. ***Permeable Reactive Barrier Project*** – The Town of Orleans applied to EPA under its Southeast New England Estuaries Protection program to receive technical assistance, including hydrogeologic studies and conceptual design, for one or more PRB demonstration projects in “south-facing” (i.e. Nantucket Sound) embayments on Cape Cod. Pleasant Bay was designated such an embayment, and, subsequently, Orleans proposal of a PRB near Lonnie's Pond was accepted for funding by EPA. A second round of field reconnaissance at that site will be conducted on November 5, with a project kick-off meeting held on the week of November 30.

III. Utility Surveying Project

[Tom has picked up coordinating with SMC. He said he was meeting with you today at 3 PM and would give you a sentence or two on the status for this section. Let me know if you need anything else.]

IV. Town Center Planning Study

The draft scope of work for the downtown planning study was reviewed by the Board of Selectmen and revisions to the scope were made in accord with the comments and suggestions. Because the Town selected AECOM as its wastewater consultant, and AECOM has in-house experience and capacity with studies such as that proposed by Orleans, the Town negotiated with AECOM to complete the scope of work for the downtown planning work. AECOM will use Peg Barringer and Fine Point Consultants to complete the work. Field reconnaissance and other tasks have begun for this effort.

V. Nauset Inlet Bathymetric Study (Article 58)

[I have not been involved in this effort. Presume you can fill in. Let me know if you need anything here.]

VI. Nauset Boundary Condition Monitoring Study (SMAST)

Three field surveys have been scheduled for Nauset inlet during flooding tides. In addition an initial field reconnaissance was conducted with the Town Harbor Master, who has been assisting in the project. To date two (2) surveys have been completed, one in July and one in early September (9-1-15). The final survey is scheduled for the week of September 14th. Contracting delayed the start of the effort, but all samples will fall within the contracted window which ends September 30. Chemical analysis of the field samples is on-going. The project will be completed on time and on budget.

VII. Cedar Pond Water Quality Management (SMAST)

a. Cedar Pond Management Plan

The Cedar Pond Management Plan was completed by SMAST in July 2013. The goals of the plan are to:

- Restore water quality and create a sustainable system
- Restore the herring fishery,
- Protect the adjacent Atlantic white cedar swamp
- Restore nitrogen attenuation for Rock Harbor Creek

In development of the plan, SMAST staff collected: a) sediment cores and incubated them to evaluate sediment nutrient regeneration, b) flow and water quality information for the stream outlet (Cedar Pond Creek), c) continuous dissolved

oxygen, chlorophyll, temperature, and water level data within the pond, and d) in-pond water quality profiles and nutrient data.

CSP-SMAST staff also reviewed citizen-collected cormorant counts and developed associated nutrient loads.

To attain the above goals the plan recommends a step-wise adaptive management approach to reduce salinity to a goal of 1-4 ppt and restore water quality through the following steps:

- a) Reinstall boards at outlet (monitor water levels and salinity before and after board replacement)
- b) Reduce or eliminate cormorant population over the pond
- c) Consider pumping of deep salinity water (monitoring data will determine benefits)
- d) Monitor and evaluate water quality to complete future evaluation of options to address sediment nutrient loads

The Water Quality Task Force and Orleans Board of Selectmen approved plan and recommended steps. MassDOT does not object to reinstallation of the boards as facilitated by the Massachusetts DMF. A meeting with Eversource was held to discuss Eversource options for elimination of the cormorants on their power lines. Several options were identified and discussed, including burying of the power lines in enclosed conduits along the Route 6 right-of-way. In the meantime the town has attempted implementation of various interim measures including flares and other deterrents.

The Town filed a permit application with Conservation Commission to reinstall boards. Funding for monitoring the monitoring program is already in place. The Orleans Conservation Commission approved permit for board installation.

Subsequent to the approval by the Conservation Commission 10 citizens appealed the permit approval to the DEP.

DEP held site visit and collected input/testimony on appeal; town awaiting DEP decision

VIII. Fertilizer Study Update (SMAST)

The purpose of this effort is to determine fertilization nitrogen loads for the ~200 houses within the Town of Orleans not built at the time of the MEP analysis.

IX. Namskaket Vegetation Survey Update (SMAST)

[Coming from SMAST].

X. Grant and Loan Funding Initiatives

- a. Clean Water Fund – SRF financing application; Orleans application was approved and the Town has been added to the Intended Use Plan (IUP) list for FY 17 funding

under the state SRF. This funding is optional. It may or may not be beneficial, depending on the Town's other options for capital financing. In any case it positions Orleans for future funding, including potential for zero interest loans for future wastewater planning or construction projects. Various questions regarding the applicability of the currently approved IUP authorization for construction of demonstration projects has not been worked out yet by DEP and the Clean water Trust, as these types of projects are new to the Massachusetts SRF Program.

- b. EPA PRB technical assistance request – As mentioned above, EPA has selected Orleans to receive technical assistance including geohydrologic investigations and conceptual design for a PRB demonstration project near Lonnie's Pond. This funding is worth approximately \$30,000 to - \$50,000 in funding and will allow the Town to move forward with two PRB projects instead of one.

XI. DOT coordination

A letter requesting DOT permission to access the southeast sector of the Routes 6 and 6a interchange was sent to Mary-Jo Perry on August 6. On October 3, the Town received a letter from MassDOT denying the request. The MassDOT included five reasons for their denial, none of which, in the opinion of the Town, justify denial of the request to complete site investigations. A letter from the Town addressing the five reasons for denial and requesting reconsideration has been drafted and will be forwarded to MassDOT. The Town continues to pursue legislative authorization to test and use the site, if such testing confirms site suitability. Additional assistance from the Cape legislative delegation will be sought to encourage a favorable response from MassDOT.

XII. OWQAP meeting plan

The next meeting of the Orleans Water Quality Advisory Committee will be held on Wednesday, December 2 at 9:00 AM in the Nauset Room of Town Hall. The agenda for the meeting will be posted. Additional quarterly meetings are proposed for the following dates:

Wednesday, January 20, 2016

Wednesday, March 16, 2016