

## **ORLEANS WATER QUALITY ADVISORY PANEL**

### **Meeting Summary** **[final draft]**

**for the meeting of:**

**Wednesday, December 2, 2015**  
**9:00 AM – 12:00 AM**

**Orleans Town Hall, Nauset Room**  
**19 School Road, Orleans, Massachusetts 02653**

This meeting was the second of four planned meetings to be held by the OWQAP in FY 2016. The purpose of the meetings is for the OWQAP to review and advise on the activities of the Town and its consultants related to implementation of the Consensus Plan for wastewater and water quality management as developed by the Panel in FY 2015.

#### **WELCOME AND INTRODUCTION OF PANEL**

The following documents were distributed to participants:

- Meeting agenda (Revised)
- Financial Framework Conceptual Plan
- AECOM Task 2.a-2.1 Technical Memorandum – Cost Estimates for Extended Facility Life for the Tri-Town Septage Treatment Plant
- AECOM Task 2.a-2.2 Technical Memorandum - Potential Cost Savings for Doing Demolition of Existing [Tri-Town STF] Facility and Construction of New Facility Together
- OWQAP Consensus Statement – Final: March 11, 2015
- OWQAP Operating Protocols: July 2, 2014
- Program Status Summary: December 2, 2015

All meeting documents and presentations for the Town of Orleans Water Quality Advisory Panel are located here:

<http://www.town.orleans.ma.us/water-quality-advisory-panel/pages/workshop-materials>

Alan McClennan, chairman of the Orleans Board of Selectmen, called the meeting to order at 9:00 AM. Panelists introduced themselves and their respective affiliations.

Attachment A is a list of the panel members and liaisons present at the meeting.

The next meeting of the Orleans Water Quality Advisory Panel will be on Wednesday, January 20, from 8:30 AM to 12:00 PM.

## MEETING SUMMARY

### 1. Approval of Minutes

After some comments, minutes of the April 15, 2015 and September 16, 2015 meetings of the OWQAP were approved.

### 2. Tri-Town Septage Plant Transition Plan

Mike Domenica, wastewater consultant to the Town, summarized the status of the planning for the existing Tri-Town Septage Plant. He referenced the two Technical Memoranda completed by AECOM for the Orleans Board of Selectmen since the September 17, meeting of the OWQAP:

***Task 2.a. Tri-Town Transition Requirements - Interim Use Options  
Deliverable 2.1 – Extend Facility Life***

***Task 2.a. Tri-Town Transition Requirements - Interim Use Options  
Deliverable 2.2 - Potential Cost Savings for Doing Demolition of Existing  
Facility and Construction of New Facility Together***

These memoranda updated the estimated cost for demolition of the existing TTSTF, estimated the capital repair and replacement cost that would be required to extend the life of the plant for five years and estimated the cost savings that could potentially be realized by delaying demolition of the TTSTP until the demolition could be bid, presumably at a lower cost, as part of the overall construction of the planned new WWTF at the site that would serve downtown Orleans. Based on the information in these memoranda, the Orleans Board of Selectmen decided to proceed with demolition of the facility, pending expected votes by the Towns of Eastham and Brewster not to fund the capital repair and replacement costs to extend the life of the existing TTSTF.<sup>1</sup> The rationale of the Board for not delaying demolition until it could be combined with the construction of the new facility was that the estimated savings of \$200,000 to \$400,000 would be reduced by inflation and that it would be required to “mothball” the plant until the new plant is built, which would involve significant expense that would reduce the estimated saving further.

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<sup>1</sup> It is noted that, since the December 2, 2015 OWQAP meeting, the selectmen of both Brewster and Eastham have voted not to fund the capital repair and replacement upgrade costs.

Pending these expected negative votes by the Eastham and Brewster Boards of Selectmen, it was stated that there would be no effort to extend the term of the current DEP groundwater discharge permit. The panel was reminded that the Intermunicipal Agreement (IMA) and permit would expire on December 31, 2016, as currently defined in those documents.

It was stated that the Town of Orleans would lead the process design and construction of the demolition process to meet those timeframes. It was mentioned that, in order to properly decommission and close the facility in accord with the DEP permit timeframe and prepare the plant for demolition, deliveries of septage or grease to the facility would not be accepted after about September 30, 2016, the actual date to be confirmed and announced at a later date. It was also mentioned by Mr. Kelly that, with the public awareness of the plan to close the TTSTF, it was increasingly difficult to hire and train needed and qualified replacement operating staff at the plant.

It was stated that the plan for decommissioning and demolition would be:

1. Decommissioning of the plant in Fall 2016
2. Procurement of demolition design contractor in 2016
2. Town approval of demolition at Town Meeting in 2017
3. Demolition in Summer/Fall of 2017

Consequently, with the plant operating currently at the minimum staffing level, the loss of an additional employee could necessitate immediate closure of the plant earlier than the September 30, 2016 date. Closure of the facility will result in commercial septage haulers taking flow to Dennis-Yarmouth, when that facility has capacity or off-Cape to Wareham or Fall River.

- o Patty Daley mentioned, consistent with a letter to the same effect received by the Town on December 1, 2016, that the Cape Cod Commission is planning to conduct a Cape-wide study of the needs for management of septage and wastewater biosolids. A scoping meeting is being convened. The Commission expects that the study will be completed in CY 2016. There was comment that the scope of the study must go beyond the confirmation of "needs", which has been studied multiple times over the last decade, to include potential solutions including regional options, state funding and other requirements. There was also considerable discussion about the potential impact of this study on the ongoing efforts in Orleans. John Hodgson welcomed the study and suggested the town should wait for the commission to complete its effort before we made any critical decisions. Jim McCauley and Doug Fromm expressed concern that another study could create considerable uncertainty and could lead to another delay

in moving ahead with our efforts in Orleans. John Hodgson also noted the importance of timely response from any regional or other studies in order to be relevant in informing the Orleans planning.

Other comments related to septage management and the TTSTF included:

1. It was reemphasized by Jeff Eagles and several other commenters that the components of the new WWTF designed for septage receiving and treatment had to be “right-sized”. It was important that we not oversize this component of the new facility, but rather only build if we can meet the economic criteria of incremental revenue after real O&M costs are factored in.
2. It was suggested that the sizing of the plant had to be reevaluated based on the results of the Cape Cod Commission study. This was agreed, with the comment that “right-sizing” would be continuing through the plant design phase to reflect a number of variables, including a septage management plan for the town.
3. Sims McGrath mentioned that it was important that the Commission study confirm the actual Cape-wide septage treatment capacity. It was stated that the 2015 Stantec septage evaluation had recent estimates of that capacity, as well as the off-Cape options.
4. Patty Daley indicated that the soon-to-be-completed study of septage and residuals options using the Upper Cape Transfer Station would likely conclude that regional septage treatment was not an option that would be recommended by that study.
5. John Hodgson advised that the results of the new septage study by the Commission, as well as the potential options for downtown private investment, should inform the design and planning for the new Orleans facility.
6. Jim McCauley stated that we needed to continue with the consensus plan development while the Commission study is being completed and not delay further. He requested that the town representatives to the Commission in its study propose that the Commission produce a firm 5-year plan upon which Orleans and other towns could base decisions.
7. There was a request by Sid Snow for further explanation of the decision to close the existing facility. Sims McGrath provided additional background into the decision of the Orleans Board. He emphasized that, while it is helpful that the Commission is undertaking its study, it is important that the Town of Orleans advise the Commission on what it believes is the best course for Orleans based on the substantial study already completed.
8. Mike Domenica mentioned that there was still on-going discussions between the military and MassDevelopment for transfer and use of the JBCC wastewater plant to MassDevelopment that may include an option for an Upper Cape Regional Septage Facility.

9. John Kelley stated that the economics of a septage-only plant, such as the Tri-Town facility are driven by the septage haulers because the plant takes only septage and a fixed minimum volume is required to produce a sustainable bottom-line. A combined septage/wastewater plant is not subject to the same limiting conditions. The marginally low incremental capital and operating cost for septage treatment in a combined plant allows the septage revenue to off-set total operating costs such that the economics of a combined facility economically beneficial.
10. Kevin Galligan commented that it would be helpful to the residents and businesses of Orleans to provide alternatives for septage hauling and disposal to “fill the 3-5 year gap” without the TTSTF.
11. Joshua Larson stated that the Finance Committee would be looking for a clear analysis of the comparison between the tax liability to customers versus the cost of septage hauling without a plant with septage capacity in order to justify the expense.
12. Doug Fromm stated that the cost of delay is increasing the ultimate cost of the facilities and such cost of waiting should be part of the economic analyses.
13. Judith Bruce stated that the septage and wastewater needs are essentially the same as they were in 2003. While the new plant has to be designed to be flexible with respect to septage treated, we have sufficient understanding of the need and options and should move forward to avoid greater cost and continued deterioration of Orleans waters.
14. Doug Fromm commented that, although there has been progress with respect to identifying non-traditional approaches, it will take 3-5 years through the demonstration projects to determine if the new technologies actually work and additional time if they do work to install and operate full-scale systems. For this reason, the Town should not delay in moving forward with the new WWTF. John Hodgson noted that sewers would take even longer to clean our water than these non-traditional technologies. Another commenter added that Mr. Hodgson’s assumption may be true, but only if non-traditional technologies are proven to work.
15. There was further discussion regarding interim use of the existing plant, related permitting issues and the need for clarity regarding the design capacity and economics of the new facility.

### **3. Review of AECOM Progress**

#### **Demonstration Project Progress:**

Tom Parese of AECOM reported that the following sub-tasks were being completed for each of the three technologies for which demonstration project are

being developed – Permeable Reactive Barriers (PRBs), Floating Constructed Wetlands and Aquaculture.

- a. Site identification – Using information from the FY 2015 planning work, additional mapping and field recon, potential sites for each of the technologies were refined
- b. Preliminary criteria for site evaluation and selection were defined
- c. Preliminary field surveys of the potential sites were conducted
- d. Additional data collection related to specific criteria was commenced
- e. Scope of work for collection of specific hydrogeologic data for the PRB sites was initiated

### **Disposal Site Studies**

- a. Work plans required by DEP for hydrogeologic testing of sites for disposal of treated wastewater were submitted to DEP for the Beach Road and Route 6, Exit 12 sites. DEP has approved the testing plan for the 223 Beach Road site, and is awaiting MassDOT approval to review and approve the Exit 12 testing plan.
- b. The Town submitted a letter to the MassDOT requesting reconsideration of its denial of the Town's request for access to the site to perform hydrogeologic testing. The Town has requested a meeting with DOT to explain the nature of the facilities proposed and the minimal impact they would have on any current or future DOT operating or construction plans for the southeast lobe of the cloverleaf.
- c. The hydrogeologic testing for Beach Road is scheduled for the week of December 28, 2015.

### **Downtown Planning Study**

AECOM confirmed that the workshop for the Downtown Planning Study would be held on Tuesday, December 15, at 6:30 PM at the Council on Aging facility. An agenda, background primer, break-out group discussion guide and other information can be found at:

<http://www.town.orleans.ma.us/water-quality-advisory-panel/pages/downtown-planning-workshop-12162015>

### **Downtown System Engineering**

AECOM presented an outline of the sub-tasks that are being conducted to evaluate a full range of traditional and non-traditional options for collection, transport, treatment and disposal of wastewater and septage for the downtown area. This analyses will be more detailed than the Stantec analyses conducted in FY 2015

because of the availability of the downtown survey information developed last year and field inspection of various existing systems. AECOM is also making minor adjustments to the sewerage area boundary, based on field reconnaissance. A copy of the AECOM presentation can be found at:

<http://www.town.orleans.ma.us/water-quality-advisory-panel/pages/owgap-meeting-december-2-2015>

### **Public – Private Partnerships (PPP)**

There was a discussion of the assessment of the feasibility and benefit of public private partnerships in the implementation of wastewater systems for the Downtown area. It was mentioned that both traditional PPPs such as contract operations for the new wastewater plant, as well as PPPs that involve private capital investment, will be evaluated in the financial analyses. A workshop on the potential structures, advantages and concerns related to PPPs is being planned by AECOM for the Board of Selectmen.

### **Financial Evaluation**

Mike Domenica provided a brief summary of the approach to be used to refine the estimates made last year of ratepayer costs that would be incurred due to implementation of the facilities included in the consensus plan. The Abrahams Group has begun the financial evaluation and will develop total, annual user costs that would apply to four categories of users:

- Downtown sewerage customers
- Meetinghouse Pond sewerage customers
- Unsewered customers in nitrogen sensitive areas
- Unsewered customers not in nitrogen sensitive areas

Total costs to each customer will be comprised of one or more of connection fees, betterment charges, special assessments, on-site management fees and/or taxes, the total of which town-wide must cover total amortized capital and operating expenses less debt-forgiveness, grants, septage revenues, local revenues or other income. The table in the meeting package outlines further detail on the financial approach. Scenarios will be run to evaluate a full range of cost allocation and financing options.

The Abrahams Group will also evaluate the affordability of customer costs with respect to state and federal guidelines, local factors and cost of wastewater services in comparable Massachusetts communities.

## **Adaptive Management Plan**

Ed Daly presented excerpts from the Cadmus report: *Pleasant Bay Alliance Water Quality Monitoring Program: Statistical Analysis of 2000-2014 Water Quality Monitoring Data (July 2015)*. The full Cadmus report may be found at:

<http://www.town.orleans.ma.us/water-quality-advisory-panel/pages/other-reference-materials>

There was discussion by Carole Ridley and others regarding conclusions that could and could not be drawn from the Cadmus report as a whole or from certain information excerpted from the report. It was concluded that, given the importance of the issue, Cadmus would be invited to Orleans to make a presentation to the OWQAP on the methodology and results of their report. That Cadmus presentation will be planned in conjunction with the water quality monitoring and modeling planning workshop to be led by AECOM as part of the Adaptive Management Planning Task 4 of the AECOM contract.

Several additional comments and suggestions were made regarding AECOM summary of their work on the implementation of the Consensus Agreement tasks:

Paul Ammann suggested that the evaluation of floating constructed wetlands include evaluation of the operational and cost impacts of a severe storm event on operating FCWs.

Paul Ammann also stated his concern that the evaluation of the PRB demonstration project include detailed study of the geochemical and physical processes that will occur in an operational PRB. Tom Parese of AECOM responded that such concerns are being addressed by the PRB evaluation team. Mr. Ammann expressed preference for hard-barrier type PRBs (e.g. wood chip PRBs), because of the complexity of physical and chemical processes occurring in an injection-type PRB. This concern and preference was reiterated by Judith Bruce. Mike Domenica mentioned that EPA is also evaluating PRBs, including the EPA support to Orleans on the Lonnie's Pond PRB test site, and will be studying these physical/chemical processes as they relate to a nitrogen PRB. He also mentioned that Jim Begley, who is working on the AECOM PRB team, is also working with EPA on their program on several sites on the Cape, including Lonnie's Pond so that Orleans will be sure to have the most applicable and current information on the technology.

Suzanne Phillips mentioned the importance of the AECOM non-traditional study teams, especially the aquaculture team, communicating closely with



local hands-on practitioners who have extensive site-specific knowledge and experience with shellfish issues and efforts in Orleans water bodies. She suggested that the local practitioners be consulted in the screening of sites and design of shellfish demonstration projects.

Josh Larson stated that it is important that the financial analyses include specific data from other communities on actual capital and operating costs of facilities similar to those being planned by Orleans.

Sue Levin mentioned that Brewster is working under a DLTA grant for a shellfish demonstration project and that collaboration would be beneficial.

John Hodgson asked why the Town and AECOM were pursuing a request to conduct hydrogeologic testing of the Route 6, Exit 12 cloverleaf site for effluent disposal if it was clear that, in the end, DOT was not going to allow use of the site for such a disposal system. Alan McClennen responded that it was not yet clear that DOT would not allow such a project and that the Town had had a favorable response at the legislative level on its request for permission at the state level to use the site.

Jim McCauley stated that it is important that the financial evaluation consider the cost of delay in implementation of a wastewater system. Judith Bruce emphasized that delay is important not only from an economic or financial perspective but also due to the environmental imperative that we protect and restore the Town's critical water resources.

Sims McGrath requested that the planning for the Pleasant Bay water quality restoration include a forecast by the appropriate entity, based on the best information available, of the potential for continuation of the Pleasant Bay outer barrier breach in the future. It was recommended that the Article 58 study of the Nauset inlet should also be evaluated for the same reasons.

Alan McClennen recommended that, due to the late commencement of the AECOM contract, the amount of technical information that is being developed and must be digested by the Panel and the importance of the issues and decision before the Board of Selectmen, two additional meetings of the OWQAP should be scheduled in February and April to supplement those already planned for January and March. Ed Daly expressed concern that the process was being expedited beyond the ability of the panel to sufficiently digest and vet the considerable data and many issues that had to be resolved. He expressed the need of the panel to "do it right" and not hurry the program. John Meyer supported the recommendation for the two additional meetings. The Board of Selectmen voted subsequently to add two additional meetings.

These two additional meetings are tentatively scheduled for

Wednesday, February 17, 2016 9:00 AM – Noon  
Wednesday, April 20, 2015, 9:00 AM – Noon

These additional meeting supplement those already scheduled on:

Wednesday, January 20, 2016, 8:30 AM – Noon  
Wednesday, March 16, 2016, 9:00 – Noon

### **MISSION OF THE WATER QUALITY ADVISORY PANEL**

It was stated there was no change in the mission of the OWQAP.

### **GOALS FOR SPRING TOWN MEETING**

Jim McCauley expressed concern that we needed more detail on the content of the wastewater warrant article provisions that would be presented at Spring Town Meeting. Mr. Domenica responded that the content of the provisions of the wastewater article will be primarily the combination of the results of all the tasks of the AECOM scope of work synthesized into an amended CWMP. In other words, the results of the downtown planning study, the engineering evaluation of collection and treatment technologies, the plans for design and construction of non-traditional demonstration projects, recommendations for a new disposal site, the integrated monitoring and modeling plan, updated cost estimates, a financing plan based on fair allocation of costs and the most advantageous debt financing plan, and preliminary recommendations on public-private arrangements for capital and operating responsibilities will be incorporated into an amended CWMP that will be submitted to the DEP and Cape Cod Commission.

### **PUBLIC EDUCATION PLANNING**

Jim McCauley stated that it was critical that clear communications of the results of the planning and engineering be presented to the public in a clear and timely manner. He mentioned that the draft of the Program Status Update presented at the December 2 meeting had been drafted by Jeff Eagles and would be a good means of communicating information the constituencies of the panel members and public in general. He suggested that a Program Status Update be drafted monthly by a core group, sent as a draft to the panel members to be reviewed and edited to reflect a fair and objective view of the panel regarding the overall progress and status of issues, tasks and decisions. Jeff Eagles stated that he felt that a means of drafting and reviewing for general approval a summary such as the one developed for the December 2 meeting would be helpful. He suggested that panel members could supplement or customize the

document with particular perspectives of their constituency group as they saw fit. Sandy Bayne suggested that the basic message should be the same as sent to all entities and that any comment applicable to a particular constituency could be made as an addendum. Doug Fromm thought that it was important that the common message support and not undercut the Consensus Agreement of the Panel through amendment of the document. Sid Snow commented that he did not consider the suggestion that the basic document modified by a particular constituency to mean that the fundamental information provided in the document could be changed but that additional, more specific relevant information of interest to that constituency could be added for understanding or clarification.

It was concluded that Jim McCauley and Jeff Eagles would take responsibility to form the core group to draft the next draft Program Status Update for review by the panel members before the next meeting.

#### **PUBLIC COMMENT**

There was no public comment.

#### **ADJOURNMENT**

The meeting was adjourned at 11:50 AM.

The next meeting of the Orleans Water Quality Advisory Panel will be on Wednesday, January 20, from 8:30 AM to 12:00 PM.

Attachment A

Orleans Water Quality Advisory Panel Member Attendees

OWQAP Meeting of December 2, 2015

|                           |                               |
|---------------------------|-------------------------------|
| Alan McClennen            | Selectman                     |
| Sims McGrath              | Selectman                     |
| John Hodgson              | Selectman                     |
| Doug Fromm                | Orleans CAN                   |
| Peter Haig (Alternate)    | Orleans Community Partnership |
| Jeff Eagles (Alternate)   | Orleans Water Alliance        |
| Sid Snow                  | Orleans Chamber of Commerce   |
| Judith Bruce              | Former CWMP Committee         |
| Paul Ammann               | Former Peer Review Committee  |
| Jim McCauley              | Orleans Pond Coalition        |
| Gordon Smith              | Orleans Taxpayers Association |
| Ed Daly (Alternate)       | Former Peer Review Committee  |
| Ted Foot (Alternate)      | Orleans CAN                   |
| Jim Robertson (Alternate) | Orleans Pond Coalition        |

**Liaisons**

|                    |                                  |
|--------------------|----------------------------------|
| Virginia Iannini   | Brewster Conservation Committee  |
| Sue Levin          | Town of Brewster                 |
| John Kelly         | Tri-Town Board of Managers       |
| Carole Ridley      | Pleasant Bay Alliance            |
| Brian Dudley       | MA DEP                           |
| Patty Daley        | Cape Cod Commission              |
| Suzanne Phillips   | Orleans Shellfish & Waterways    |
| Joshua Larson      | Orleans Finance Committee        |
| Steve Phillips     | Orleans Conservation Committee   |
| John Meyer         | Orleans Water and Sewer Board    |
| Elizabeth Migliore | Orleans Conservation Trust       |
| Judy Scanlon       | Orleans Water Quality Task Force |
| Sandy Bayne        | Town of Eastham                  |
| Carolyn Kennedy    | Orleans Water Quality Task Force |