



# TOWN OF CAPE ELIZABETH

## PUBLIC WORKS DEPARTMENT

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To: Matthew Sturgis, Town Manager

From: Robert C. Malley, Director of Public Works 

Date: February 27, 2018

Re: Ottawa Road CSO Master Plan Remediation - Update

### Background

For the past three years we have been making progress on our commitment to meet the requirements for Cape Elizabeth set forth in the Ottawa Road Combined Sewer Overflow Master Plan dated December 2013. The 5-Year goal of the Master Plan has been to eliminate the frequency of untreated sewage discharging into Danforth Cove, which is adjacent to Portland Harbor. This occurs when peak wet weather flows from both Cape Elizabeth and South Portland overwhelm the Ottawa Road Pumping Station (ORPS) maintained by the Portland Water District.

The first task was to identify the sources of inflow and infiltration into the sanitary sewer system that flows to the ORPS. A house-to-house inspection was done in November 2014 which identified a number of illicit connections to the sanitary sewer system. After review of those findings, a two-phase project was undertaken to extend storm drainage infrastructure in several streets in the Ottawa Road catchment area to facilitate the removal of those connections. That work was completed in the Fall of 2016.

The next task (we're calling Phase III) was to actually remove the illicit connections from each home that was identified as having an illicit connection to the sanitary system. Given the complexities involved in removing most of these connections and the cost associated with such, the Town Council graciously agreed to fund the removal of those connections, based on a recommendation from the former Town Manager, Michael McGovern in December of 2016. \$320,000 was budgeted for the program, which included engineering services and construction documents.

## **Progress in 2017**

The Town has been working with the firm of Wright-Pierce Engineers (W/P) since the initial phase of identification of infiltration sources and through the installation of the infrastructure installed in 2015 & 2016. They have provided a high level of service to us so we elected to continue to enlist their services in 2017 for this final phase.

W/P was asked to provide remediation scenarios, bidding documents and outreach to property owners to obtain construction easements for the Town. The easements (which were reviewed and approved by the Town's legal team at Monaghan Leahy) were required to allow contractors to work on private property. The production and procurement of approximately 40 construction easements to gain the legal access to properties took more time, coordination and expense than originally envisioned. We incurred unforeseen legal fees because our attorney recommended amendments to the existing language in our traditional construction easement template. The procurement of the actual easement documents took considerable effort, several of which needed to be obtained on nights and weekends when property owners were available to meet with W/P team members. At this point we have just a handful of outstanding easements to obtain with little or no expense anticipated.

The project bid documents were completed this summer and bids were opened on September 7, 2017. Though there appeared to be some interest in the project at the mandatory pre-bid meeting, the sole and only bid was submitted by Dearborn Construction in the amount of \$338,560. This was well above the engineers estimate and the funds available remaining in the account to undertake the project so the bid was rejected.

The rejection of the bid delayed the completion of our Phase III project, but we are still on schedule to meet the 2018 deadline as outlined in the 2013 Master Plan. However, after a meeting of the three parties to the agreement (Cape Elizabeth, South Portland and Portland Water District); W/P was asked to request an extension on behalf of all of us, which was approved by the Maine DEP on November 20, 2017 (see attached letter). This will give us additional time to submit an update to the CSO Master Plan by December 31, 2020.

## **Fiscal History and Funding Needed to Complete Phase III**

\$350,000 was approved by the Town Council in FY 2016 from the Sewer Fund for the stormwater infrastructure installation associated with Phase I & II. At the closure of the Phase I project, we had \$120,630 remaining in the budget. Given this, I asked W/P to break down Phase II into multi-phases in an effort to stay within the remaining budget. They did propose three phases to us, but none of them would have been able to be accomplished once engineering fees were added in. In an effort to save future mobilization costs passed on by contractors and to stay on track with our CSO Master Plan commitment, then Town Manager Michael McGovern authorized W/P to proceed with the bidding for all of Phase II, which commenced in May of 2016.

By the time both projects were finally completed in the Fall of 2016, the account balance was a negative -\$124,470. When the Town Council approved the \$320,000 for Phase III, it was placed in to the original account so we ended up with a net balance of \$193,792 after some miscellaneous expenses were paid.

Additional funding is now needed to complete Phase III. There are still engineering services required along with the actual construction costs associated with the project. These include construction administration services and inspection of the work once it's underway (\$36,000).

Following rejection of the sole bid in September, W/P reviewed the original cost estimate for the project. They reached out to the contractor who submitted the bid in an effort to gain some insight into the methodology they used in compiling it. They said that the proposed work presented several challenges such as scheduling work with homeowners and sub-contractors along with a general lack of overall production anticipated to be achieved by the contractor. This was helpful information, so they took that into consideration and also reevaluated the scope of remediation needed on each property. The cost estimate was revised to \$320,000, which included a 10% contingency

As you are aware, the Town rebid the project in January and received one bid in the amount of \$320,650 from Dearborn Construction, Inc. of Buxton. They are a reputable company and have recently completed two major projects for the Town; Phase 1 of the Hill Way/Scott Dyer Road Project and the Recycling Center Upgrade Project. The project manager at W/P and I recommend acceptance of their bid, upon approval of the additional funding from the Town Council.

### **Recommendation**

There was \$117,693 remaining in the Ottawa Road CSO account as of February 23<sup>rd</sup>. After we pay a minor bidding services invoice from W/P in early March there will be approximately \$117,000 remaining. If we add in the Construction Project Administration (\$36,000), the full bid amount (\$320,650) and a 15% Project Contingency (\$48,000); we will have a shortfall of \$287,650.

In order to fiscally move forward with the project and meet our obligations, I would recommend requesting \$290,000 from the Sewer Fund at the March Town Council meeting.

Please let me know if you have any questions.



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

PAUL MERCER  
COMMISSIONER

November 20, 2017

Mr. Christopher Dwinal, PE  
Senior Project Manager  
Wright Pierce  
11 Bowdoin Mill Island, Suite 140  
Topsham, ME 04086

Re: Ottawa Road Pump Station (ORPS) Permit and CSO Master Plan Update

Dear Mr. Dwinal,

We have reviewed your letter of November 1, 2017 which provided a brief update on the CSO Master Plan for the Ottawa Road Pump Station drainage area, as well as providing justification for extending two deadlines contained in the Waste Discharge Permit. After internal DEP discussions and phone conversations with your office, we have the following to offer on the two subjects:

**Master Plan for CSO Abatement**

Overall, we feel the Town of Cape Elizabeth, the City of South Portland, and the Portland Water District, working collaboratively, have put together a sound abatement plan and are making reasonable progress towards reducing the frequency and volume of untreated sewage discharges at Cape Elizabeth's sole combined sewer overflow (CSO). As discussed in the 2013 CSO Master Plan Update, elimination of the CSO for all size storms may not be possible because of downstream infrastructure improvements that would be needed to capture and transport flows from the storm of record. These include an increased pumping capacity at ORPS, an increase in capacity of the ORPS force main and the Shore Road interceptor, and an increase in the pumping capacity of Family Field Pump Station at a minimum.

We agree that such extensive renovations make the transport and treat option cost prohibitive. Since the existing infrastructure is large enough to be able to handle sanitary flows from a fully separated collection system, and because the land within the ORPS drainage area is essentially fully built out and will not generate any significant increase in future flows, it doesn't make economic sense to invest heavily in increasing the conveyance capacity of infrastructure downstream of ORPS.

Instead, we agree that it makes the most sense to continue to remove excess water upstream of ORPS. The 2013 Master Plan recommended removing a minimum of 1,100 gpm of peak wet weather flows from entering the ORPS.

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This level of reduction combined with a nominal increase in pumping capacity at ORPS, which is normally limited by the maximum allowable velocity in the discharge force main, may still not be sufficient to fully capture the storm of record, which according to the 2013 Master Plan Update generates peak flows of 3.2 MGD (2,222 gpm) in the ORPS collection system. Removing the targeted peak flow rate of 1,100 gpm and increasing the ORPS pumping rate from 300 gpm to 695 gpm would still leave a peak flow of 427 gpm discharging from the CSO.

Please be aware that although the Town originally selected 1-2 CSO discharges per year as their goal for control of CSO's, the EPA and DEP will require eventual closure of this CSO, unless it can be proven persuasively that it would be cost prohibitive to do so. Therefore, additional I/I removal projects will likely be needed in the future to further remove excess water upstream of ORPS and allow the ultimate closure of this CSO.

#### **Request for Change to Implementation Schedule**

It is our understanding that the Phase II work, which originally included extending storm drains up streets and separating out sources of private I/I from residences (roof drains, sump pumps, etc.) has been split into two phases, with the storm drain extensions, labeled Phase II, to be completed by 12/31/17, and the separation of private I/I labeled Phase III, to be completed by 12/31/2018. We view this work as on schedule when compared to the proposed schedule in the 2013 CSO Master Plan Update which called for the original Phase II to be completed by the same end of 2018 deadline. If our interpretation of Phase III is in error, please provide additional clarification.

We are also intrigued by the fact that Cape Elizabeth has decided to pay for the separation of private I/I with Town funds. This approach has been rare in Maine thus far, where most communities have implemented fee's and other punitive measures to force homeowners to pay for the separation of private I/I. We're very interested to see the results of this approach.

Looking ahead, the Town has requested extensions on two permit milestones, as shown in the following table:

Permit Milestone	Original Permit Deadline	Requested Permit Deadline
Complete construction of Ottawa Road Pump Station	December 31, 2018	December 31, 2020
Submit an updated CSO Master Plan	June 12, 2019	December 31, 2020

After reviewing the requested change in implementation schedule we've concluded that extending the completion deadline for the ORPS upgrade by two years is excessive. This is particularly true in the case of ORPS, where the upgrade of the pump station is severely constrained by downstream infrastructure limitations. As a result, this will be a fairly routine

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pump station upgrade according to Scott Firmin, one similar in scope to several others they've completed in the past.

As we discussed on the phone, the Portland Water District could complete the design, right now, based on maximum allowable velocities in the discharge force main and capacity of the Shore Road Interceptor. Accordingly, we don't believe an entire year devoted to monitoring/determining the impact of Phases I through III is warranted. Monitoring storm flows from late 2018, when Phase III will be complete, through spring of 2019 should provide adequate time to determine the impact of the I/I removal projects, while still leaving time in 2019 to complete the design and implementation of the pump station upgrade.

Based on our review, we agree to extend the implementation schedule as follows:

1. Extend the deadline to complete construction of the ORPS upgrade from 12/31/2018 to **12/31/2019**.
2. Extend the deadline for submittal of a CSO Master Plan update from 6/12/2019 to **6/12/2020**.

We recommend submitting a permit modification application to Greg Wood in early 2018, requesting the permit be modified to reflect the extensions we've agreed to. Since the permit modification will adjust compliance deadlines, it must be opened to public comment for 30 days, prior to final enactment.

Should you have any questions or concerns as you review our response to your request please don't hesitate to contact me at 287-7766 or michael.s.riley@maine.gov

Sincerely,



Michael S. Riley, P.E.  
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