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May 10, 2019

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Sewer Siphon Replacement and Interceptor Rehabilitation Project
PROJECT MUNICIPALITY	: Ipswich
PROJECT WATERSHED	: Ipswich River
EEA NUMBER	: 16003
PROJECT PROPONENT	: Ipswich Wastewater Department
DATE NOTICED IN MONITOR	: March 20, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** the preparation of an Environmental Impact Report (EIR). The ENF and supplemental information generally described the nature of the project and identified potential project impacts. This Certificate identifies outstanding issues that must be addressed during permitting, including additional analysis of the project's potential hydrologic and hydraulic impacts and it's potential to increase flooding, flow velocities, and scour. The Proponent should continue to engage with State Agencies and the Town through the local and State permitting process to ensure that appropriate mitigation measures are developed to avoid, minimize and mitigate Damage to the Environment.

Project Description

As described in the Environmental Notification Form (ENF), the project consists of replacing, rehabilitating, and protecting a sewer siphon and interceptor located within and

adjacent to the Ipswich River. The project will replace a 130-foot (ft) long single-barrel siphon that crosses the Ipswich River with a three-barreled siphon. The replacement siphon will be installed using open trenching and it will be buried to a depth of five feet (ft) below the riverbed. The project will also rehabilitate 486 linear feet (lf) of the interceptor pipe located within the northern bank and parallel to the river. The interceptor will be lined with cured in place pipe (CIPP) and 250 lf of the pipe will be encased in concrete to provide physical protection. Toe stones will be placed in front of the concrete structure and within the footprint of previously authorized fill to provide scour protection. The northern bank of the river will be stabilized using soil-filled geocells and a 14 ft wide gravel access road will be constructed to provide access for construction and maintenance vehicles. The project also includes slope stabilization and protection measures along a 363 ft portion of the riverbank to protect the adjacent buried interceptor near Town Hall, west of the Green Street Bridge.

The siphon and interceptor were constructed in 1958 and have not been improved since. When originally constructed, the siphon was covered with 2 feet of fill and the interceptor was protected by stone armoring. The fill and stone armoring has washed away, leaving large portions of the siphon, interceptor pipe, and support piers exposed to the elements and increasing the potential for deterioration and failure. The ENF indicated that the exposed and degrading sewer interceptor and siphon are susceptible to damage or puncture, which could result in significant impacts to the river system and public health. Approximately 0.22 million gallons per day (gpd) of wastewater flow through the siphon and there is no redundancy in the system to accommodate the flow. The ENF indicated that armoring the infrastructure will improve its resiliency during storm events and replacing the single barrel 12-inch siphon will reduce the likelihood of ecological impacts by reducing system backups and providing redundancy in the case of an emergency.

Project Site

The project site includes the tidally-influence portion of the Ipswich River and adjacent uplands, between County Street and extending west of the Choate Bridge, and an area south of the Green Street Bridge. The siphon crosses the river approximately 300 ft east of the Choate Bridge and discharges into an 18-inch diameter cast iron interceptor located within the northern bank of the river. The interceptor runs through the northern span of the Choate Bridge and is supported by 3 ft diameter support piers bearing on bedrock. Large portions of the siphon and interceptor are exposed. The project also includes a portion of the interceptor west of the Green Street Bridge. This portion of the interceptor has remained buried, though the original stone armoring has washed away. An inspection of the infrastructure identified corroded clamps and cracking on the interior of the siphon and cracking and spalling on the interior of the interceptor. The ENF indicated that failure of one or both of these pipes would have severe impacts to wastewater customers, the health of the Ipswich River, shellfishing, and downstream beaches.

The site contains flowed tidelands subject to Chapter 91 (c. 91) jurisdiction pursuant to the Waterways Regulations (310 CMR 9.00). Wetland resource areas in the vicinity of the project include: Land Under Water (LUW), Coastal Bank, Riverfront Area, and Land Subject to Coastal Storm Flowage (LSCSF). According to the Federal Emergency Management Agency's (FEMA), Flood Insurance Rate Map (FIRM) (Map No. 25009C0287G, effective 07/16/2014),

the entire site is located within a designated AE Zone (Areas subject to inundation by the 1-percent-annual-chance flood event) and the portion of the Ipswich River located west of the Choate Bridge contains a designated regulatory floodway. The Choate Bridge (MHC ID# IPS.909) is individually listed in the State and National Registers of Historic Places and the Green Street Bridge (MHC ID# IPS.904) is listed in the State and National Registers of Historic Places as a contributing element of the East End District (MHC ID# IPS.M). Comments from the Massachusetts Historical Commission (MHC) indicate the project will have no adverse effect on these resources.

Environmental Impacts and Mitigation

The project will impact the following wetland resource areas: Coastal Bank (39 lf temporary/679 lf permanent), LSCSF (13,425 sf temporary/12,067 sf permanent), LUW (1,898 sf temporary/7,321 sf permanent), and Riverfront Area (20,251 sf temporary/21,654 sf permanent). The project will dredge 241 total cubic yards (cy) of sediment from below the High Tide Line (HTL) and will impact 658 sf of intertidal area. The project will place 1,109 cy of fill (5,990 sf) within the regulatory floodway.

Measures to avoid, minimize, and mitigate impacts include: use of best management practices (BMPs) to reduce siltation and minimize impacts to water quality, time-of-year (TOY) restrictions, designing the stone protection to stay within the limit of previously authorized fill, replacing the siphon within the previously disturbed footprint, and installation of water-tight manhole covers to reduce inflow/infiltration.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to preparation of an ENF because it requires Agency Actions and meets/exceeds the following review thresholds: 301 CMR 11.03(3)(b)(1)(a), alteration of Coastal Bank; 301 CMR 11.03(3)(b)(1)(e), new fill in a regulatory floodway; and 301 CMR 11.03(3)(b)(1)(f), alteration of one half or more acres of any other wetlands. The project will require a c.91 License and Permit, 401 Water Quality Certification (WQC), and Approval pursuant to 314 CMR 12.03(2) from the Massachusetts Department of Environmental Protection (MassDEP).

The project requires an Order of Conditions from the Ipswich Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP). It also requires authorization from the U.S. Army Corps of Engineers (ACOE) under the General Permits for Massachusetts. Comments from the ACOE indicate the project may require an Individual Permit. The project is subject to review by the MHC acting as the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). The project is also subject to Coastal Zone Management (CZM) federal consistency review.

MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of required or potentially required Agency Actions and that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF provided a description of existing and proposed conditions, a discussion of project alternatives, conceptual project plans, and identified measures to avoid, minimize, and mitigate project impacts. State Agencies requested additional information regarding project alternatives, potential hydrologic and hydraulic impacts, construction methodology, and climate change adaptation and resiliency measures. A three-week extension of the comment period to April 30, 2019 was granted to allow for the preparation and distribution of these materials. In a memorandum dated April 17, 2019, the Proponent's consultant prepared a response to State Agency comments, including an expanded alternatives analysis, preliminary hydraulic analysis, and Emergency Action Plan (EAP). For purposes of clarity, all supplemental materials provided by the Proponent are referred to herein as the ENF unless otherwise referenced.

Comments from State Agencies do not note deficiencies in the alternatives analysis, or identify additional alternatives for further review. Comments from CZM and MassDEP recognize the importance of protecting this infrastructure, identify concerns with potential flooding and scour impacts, and identify additional analysis to be provided during permitting.

Alternatives Analysis

The ENF evaluated the No-Build alternative and various alternatives for replacing the siphon and rehabilitating the interceptor. The supplemental information provided conceptual plans and included a table that identified and compared the environmental impacts of each of the alternatives. The ENF identified the following factors which were used to evaluate the alternatives: environmental impacts, costs, infrastructure capacity, and permitting complexity. The No-Build alternative was dismissed as it does not meet the project goal of addressing the deteriorated condition of critical existing sewer infrastructure. The ENF evaluated the following alternatives for the siphon replacement component: gravity sewer alternative, pump station alterative, and new siphon alternative. The gravity sewer alternative replaced the siphon with a new gravity sewer that would cross the river bed on piers. This alternative was dismissed as the sewer main would be above the water surface in order to maintain the required slope between the existing inlet and outlet inverts. The pump station alternative would construct a new pump station and force main to replace the existing siphon. The ENF indicated this alternative was dismissed as it would require re-routing the existing gravity collection system and would result in increased annual operation and maintenance and construction costs. The ENF evaluated multiple alternatives for the siphon replacement (single barrel, double barrel, and triple barrel). The ENF indicated the triple barrel option was selected as the Preferred Alternative for the siphon component as it will provide sufficient redundancy if a barrel was taken out of service and can accommodate projected peak flow rates with two remaining barrels. The ENF evaluated the following construction methods for installation of the siphon: open-cut excavation, horizontal directional drilling (HDD), and pipe-jacking. The ENF identified open-cut excavation with a cofferdam as the preferred construction method as it allows the pipe to be accurately set without deviating from the line or grade of the required alignment.

The ENF evaluated the following alternatives to rehabilitate the interceptor pipe: install new bell joint clamps, replace stone revetment, and encase the interceptor in concrete. The ENF

identified replacement of stone revetment as the Preferred Alternative for the portion of the interceptor that remains buried near the Green Street Bridge. The ENF identified encasing the interceptor in concrete with toe stones to provide scour protection as the Preferred Alternative for the exposed interceptor near the Choate Street Bridge. The ENF indicated this approach will extend the life expectancy of the cast iron pipe, structurally replace the joint restraints with reinforced concrete, and provide protection from damage associated with hazards.

Wetlands/Waterways/Water Quality

The project will impact Coastal Bank, LSCSF, LUW, and Riverfront Area. Temporary impacts are associated with construction access. Permanent impacts are associated with revetment stone, toe stone along the northern bank, and construction of the gravel access road. The Ipswich Conservation Commission will review the project to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards. I refer the Town to comments from MassDEP and CZM which identify information that should be addressed in the narrative and provided on the project plans during permitting. The ENF included preliminary, conceptual designs of the slope stabilization and infrastructure protection measures along the interceptor at the Green Street Bridge. The conceptual plans identified a stone revetment. The supplemental information indicated that a living shoreline/marsh, boulder sill, and/or coconut coir logs may be used instead to stabilize the shoreline in this area. These alternatives were not described and their environmental impacts were not evaluated during the MEPA process. Once a final design for this area has been selected, the Proponent should consult with the MEPA Office to determine if additional review is warranted.

The project will encase the pipe and entire area landward of the pipe on the upstream side of the Choate Bridge with concrete, resulting in 1,109 cy of fill within the regulatory floodway. The ENF included a preliminary hydrologic analysis which concluded the project will result in minimal changes in the velocity and water surface elevation during the 100-, and 500-year flood events during backwater and mean high water (MHW) conditions. The analysis did not account for inland flooding. Comments from MassDEP and CZM indicate that a more comprehensive hydrologic and hydraulic study will be required during permitting to assess the potential for increased flooding, depth, and velocity beneath the bridge, and resulting scour during combined riverine and coastal events to assure that the design will not adversely impact adjacent resources, properties, or the bridge structure. It is regrettable that this information was not provided during the MEPA process to facilitate and support subsequent permitting by State Agencies and the Town. I expect the Town will review these comment letters and will provide a comprehensive analysis of these issues in the Notice of Intent (NOI) application. Comments from MassDEP indicate that remaining issues can be reviewed and addressed during the permitting process.

The ENF identified existing c.91 authorizations (License Nos. 4922, 4211) related to the interceptor, siphon, and stone protection over the interceptor that have been issued for the project area. MassDEP will review the project to determine its consistency with the c. 91 regulations (310 CMR 9.00) and the 401 WQC regulations (314 CMR 9.00). MassDEP comments indicate that the project will be classified as a water-dependent use pursuant to 310 CMR 9.12(2)(a)(11) and 310 CMR 9.12(2)(d). Comments from MassDEP also identify information that should be

clarified during permitting and identified on project plans. Pursuant to 301 CMR 13.02, I am declining to require a Public Benefit Review for this project. As a water-dependent project, it is presumed that this project will provide adequate public benefit in accordance with 301 CMR 13.04. I am satisfied that the project's impacts to tideland resources can be adequately addressed during the c.91 permitting process.

Climate Change

As noted above, the entire project is located within the 100-year floodplain and a portion of the work will result in fill within the regulatory floodway of the tidally-influenced portion of the Ipswich River. The sewer infrastructure will be subject to increased velocities and may be subject to scour and other damage during storm events. The stone armoring that was originally placed during construction to protect the interceptor and siphon was undersized and has washed away. The ENF indicated the siphon will be buried 5 feet below the riverbed and armor stones will likely be 24 inches in diameter. It noted that a scour analysis will be performed during permitting. It did not include analysis or calculations to demonstrate that the proposed depth and sizing of armor stones would provide sufficient protection. I expect that the scour analysis will address the siphon depth of burial and the sizing of the armor stones. The analysis should demonstrate that the depth and size are sufficient given existing conditions, as well as changes likely to result from climate change impacts during the design life of the project, including more frequent and intense storm events. The Town should consult with the MEPA Office to determine if additional review is required should this analysis result in changes to the project design that will increase environmental impacts prior to the taking of Agency Actions.

I note the Town is participating in the Massachusetts Municipal Vulnerability Preparedness (MVP) grant program. Through the MVP program, the Town has received funding to conduct a vulnerability assessment for natural and climate-related hazards. The assessment will be used to develop and prioritize specific actions the Town can take to reduce risk to the effects of climate change and improve resilience. The Town will have access to support and funding to implement projects that address identified vulnerabilities. I encourage the Town to evaluate the vulnerabilities of the existing wastewater collection and treatment system and to pursue relocation, redesign, and retrofits that will increase its resiliency and allow critical infrastructure to function properly under future climate change conditions.

Division of Marine Fisheries

This portion of the Ipswich River provides habitat for several diadromous fish species, including: blueback herring *(Alosa aestivalis),* alewife *(Alosa pseudoharengus)*, rainbow smelt *(Osmerus mordax),* white perch *(Morone Americana)*, and American eel *(Anguilla rostrata)*. The DMF recommends a TOY restriction for any in-water or silt-producing work from March 1-June 30 to protect migratory passage, spawning, and early development of these species. Comments from DMF also note that passage should not be obstructed from September 1-November 15 to avoid impacts to diadromous fish passage.

Wastewater

Comments from MassDEP indicate the project constitutes a "major physical modification" of the treatment works (i.e. Town's wastewater collection system) and will require approval from the Agency pursuant to 314 CMR 12.03(2). As requested by MassDEP, the Town should submit plans and specifications to the Agency for approval prior to construction. I refer the Town to the MassDEP comment letter for additional guidance on this issue.

Construction Period

As described in the ENF, construction will occur in two phases. The first phase will include interceptor rehabilitation and siphon replacement by the Choate Bridge. The second will include installation of stone revetment to protect the interceptor by the Green Street Bridge. I expect that MassDEP will consider incorporating the TOY restrictions recommended by DMF into permits. The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54. All construction activities should be undertaken in compliance with the conditions of all State and local permits. The Board of Underwater Archaeological Resources (BUAR) does not expect that the project will impact submerged cultural resources. However, the project site is potentially archaeologically significant. If archaeological resources are encountered during the course of the work, the Town should take steps to avoid or limit adverse affects and notify BUAR, MHC, and other appropriate agencies in accordance with BUAR's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources.*

Conclusion

The ENF has sufficiently defined the nature and general elements of the project for the purposes of MEPA review. Based on review of the ENF and comments received, and in consultation with State Agencies, I have determined that no further MEPA review is required; however, significant outstanding issues must be addressed during permitting. Additional analysis of hydrologic and hydraulic impacts, climate change impacts and resiliency measures, and erosion near the Green Street Bridge will be conducted during review of the NOI application and the 401 WQC, and c.91 permitting processes. The Proponent should continue consultation with CZM, MassDEP, and DMF through the local and State permitting process to ensure that appropriate mitigation measures are developed to avoid, minimize, and mitigate Damage to the Environment. I anticipate that the Proponent will address the concerns highlighted in this Certificate and comment letters as part of these processes. I note that the Town may be required to file a Notice of Project Change (NPC) if there is a material change to the project that will increase environmental impacts prior to the completion of Agency Actions for the project.

May 10, 2019
Date

K. Theoharides
Kathleen A. Theoharides

Comments received:

03/27/2019	Board of Underwater Archaeological Resources (BUAR)
04/08/2019	Army Corps of Engineers (ACOE)
04/09/2019	MassDEP – Waterways Program
04/26/2019	Division of Marine Fisheries (DMF)
04/30/2019	Massachusetts Historical Commission (MHC)
04/30/2019	Office of Coastal Zone Management (CZM)
05/02/2019	Department of Environmental Protection (MassDEP) – Northeast Regional Office

KAT/PRC/prc

Czepiga, Page (EEA)

From: Freed, Rachel (DEP)
Sent: Thursday, May 02, 2019 3:48 PM
To: Czepiga, Page (EEA)
Cc: Viola, John D. (DEP); Worrall, Eric (DEP)
Subject: EEA #16003, Ipswich Sewer Siphon Replacement & Interceptor Replacement Project- DRAFT

Hi Paige -- Below are MassDEP's comments on the ENF for the Ipswich Sewer Siphon project. They are less formal than usual, but I hope that is ok. Thanks very much for giving us a little extra time to submit them.

MassDEP's Northeast Regional Office has reviewed the ENF for this project. Staff from the Wetlands and Wastewater Programs also met with the project proponents and their consultants to discuss the proposal.

MassDEP recognizes the importance of protecting the existing sewer line in this location. Additional project details are needed and should be submitted as part of the permitting process. This information includes, but is not limited to, the following:

-- The applicant should evaluate the potential for increased flood depths, scour and velocity at the Choate Bridge during a range of flood events as a result of proposed filling;

--Detailed plans and information should be provided that show how the proposed design will minimize or avoid end scour on the riverbank, including a proposed maintenance plan to address any erosion and to ensure that the bank remains stable over time; and

-- Provide information supporting the sizing of toe stones to demonstrate that they will remain in place during a range of flood events.

-- The Town should describe the limits of the CIPP lining work and address any service connections to the interceptor.

As noted in CZM's comments, permitting designs for the eroding area near the Green Street Bridge should include an evaluation of the cause(s) of erosion in that location and should also demonstrate that the design will address thoses issues. Plans should include cross-sections of existing and proposed conditions.

MassDEP's Wastewater Program considers this project to be a "major physical modification" of the treatment works (which includes the Town's collection system), and as such, pursuant to 314 CMR 12.03(2), plans and specifications must be submitted to MassDEP for approval prior to construction.

Rachel Freed
Deputy Regional Director, Bureau of Water Resources
Mass. Dept. of Environmental Protection
Northeast Regional Office
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Visit our web site: mass.gov/dep

THE COMMONWEALTH OF MASSACHUSETTS
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MEMORANDUM

TO: Matthew A. Beaton, Secretary, EEA
ATTN: Page Czepiga, MEPA Unit
FROM: Lisa Engler, Director, CZM
DATE: April 30, 2019
RE: EEA-16003, Kelly Sewer Siphon Replacement & Interceptor Rehabilitation Project; Ipswich

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Environmental Notification Form (ENF), noticed in the Environmental Monitor dated March 20, 2019, and offers the following comments.

Project Description

The proposed project includes work to maintain existing sewer infrastructure within and adjacent to the Ipswich River by replacing, rehabilitating, and protecting the existing mains. The work includes replacement of the existing 12-inch cast iron siphon, which is designed to be buried but is currently exposed, with a three-barreled siphon, consisting of two six-inch high-density polyethylene (HDPE) primary and secondary barrels, and one six- or eight-inch HDPE emergency flow barrel. The replacement siphon is proposed to be installed using open trenching within the existing siphon easement, to a depth of five feet below the current substrate depth. The existing interceptor pipe adjacent to the river is proposed to be rehabilitated by lining it with cured in place pipe (CIPP). The interceptor pipe is then proposed to be encased in concrete for physical protection, with placement of toe stones in front of the concrete structure within the river for scour protection. The northern bank of the river is proposed to be stabilized using geocells filled with native soils. Access to the project site will be via a constructed 14-foot gravel access road within the easement by 35 County Street to the existing sewer infrastructure for construction access and to facilitate long term maintenance activities. Once the pipe work is completed, water-tight manhole covers will be installed to protect the existing infrastructure. In addition, the proposal includes work to protect a section of 18-inch sewer interceptor pipe further downstream, near the Green Street Bridge. Preliminary plans include habitat and toe-protections anti-scour stone. The ENF states that this portion of the project will be designed to avoid scour impacts and blend into the existing bank.

Project Comments

CZM recognizes the importance of improving the protection of the existing sewer infrastructure in and adjacent to the Ipswich River in this location. The exposed and degraded pipes are currently susceptible to damage or puncture, which could result in significant impacts to the river system and public health. In addition, replacing the existing single 12-inch siphon pipe will better provide adequate velocity to fully flush solids through the system, provide redundancy flow should an emergency arise, and so improve resilience and reduce the likelihood of ecological impacts.

The pipe protection design includes encasing the pipe and the entire area landward of the pipe directly on the upstream side of the Choate Bridge with concrete, which involves fill in the regulatory floodway. While the preliminary hydrologic analysis addresses backwater and MHW

conditions, it does not include inland flooding conditions. The preliminary analysis of impacts from coastal flooding included in the ENF finds only a minor (0.1 ft) increase in flood elevation and 0.5 ft/sec increase in velocity as a result of the fill for a 500 year event coastal event. The FEMA flood study for this location presumes a low probability that coastal flooding and riverine flooding will occur simultaneously at this location. CZM notes that this location has been impacted by simultaneous flooding scenarios in the recent past, and may become more prone to these conditions as a result of more frequent storm events associated with climate change. As the design will result in increased fill beneath and directly adjacent to the Choate Bridge, the full hydrologic and hydraulic study should assess the potential for increased flooding depth, velocity beneath the bridge, and resulting scour during combined riverine and coastal events to assure that the design will not adversely impact adjacent resources, properties or the bridge structure in this area.

The proposed design for the concrete encasements and bank work provided in the ENF is preliminary and does not lend itself to specific comments on potential impacts. To better assess whether the possible impacts to adjacent resource areas are avoided or minimized by this design, plans of reasonable scale with cross-sections that depict the details of the existing and proposed design and conditions should be submitted during the permitting process. Potential scour impacts to the adjacent riverbed should be assessed and minimized. Details of how the proposed design minimizes end scour and blends into the adjacent bank should be included in both plans and narrative.

The scour analysis for the siphon depth of burial and the sizing of toe stones should demonstrate that the depth and size are sufficient given existing conditions, as well as any changes likely to result from climate change impacts during the design life of the project, including more frequent and intense storms events.

The ENF included preliminary conceptual designs of the proposed treatment for the eroding area near the Green Street Bridge. The design submitted for permitting should include a clear description of the cause(s) of the erosion in this particular location, and demonstrate that the design addresses these issues. Design detail should include cross-sections that reflect the existing and proposed conditions.

Federal Consistency Review

The proposed project is subject to CZM federal consistency review, and must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at 617-626-1050, or visit the CZM web site at www.mass.gov/czm.

LE/kg

cc: Kathryn Glenn, CZM
Rachel Freed, DEP NERO
Vicki Halmen, Director, Ipswich Wastewater Dept.

Commonwealth of Massachusetts

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April 26, 2019

Matthew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Page Czepiga
100 Cambridge Street, suite 900
Boston, Ma 02114

RE: EEA# 16003 Ipswich Sewer Rehabilitation and Replacement Project

Dear Secretary Beaton:

The Massachusetts Division of Marine Fisheries (MA DMF) has reviewed the Environmental Notification Form (ENF) for the Ipswich Sewer Interceptor Rehabilitation and Siphon Replacement Project submitted on behalf of the Town of Ipswich along the Ipswich River between South Main Street and County Street, with respect to potential impacts to marine fisheries resources and habitats. The proposed project will impact approximately 658 sf of intertidal habitat.

The project site is located in the Ipswich River in an area that provides habitat for the passage, spawning, and early development of several diadromous fish species including blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), rainbow smelt (*Osmerus mordax*), white perch (*Morone Americana*), and American eel (*Anguilla rostrata*).

MA DMF offers the following comments for your consideration:

- No in-water or silt producing activities or work that will obstruct the waterway should be conducted from **March 1st through June 30th** to protect migratory passage, spawning and early development of the species listed above.

- Passage should not be obstructed from **September 1st through November 15th** for the fall outmigration of diadromous species.

Questions regarding this review may be directed to Kate Frew in our Gloucester office at (978) 282-0308 ext. 157 or Kate.Frew@mass.gov.

Sincerely,

David E. Pierce, Ph.D.
Director

cc.
B. Boeri, E. Hokenson, MA CZM
A. Houle, Tighe & Bond

DP/KF/sd

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Martin Suuberg
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Memorandum

To: Page Czepiga, MEPA

From: Chrissy Hopps, MassDEP/Boston

Re: **Comments from the Chapter 91 Waterways Regulation Program — EEA #16003 Environmental Notification Form – Town of Ipswich Sewer Interceptor Rehabilitation and Siphon Replacement Project, Flowed Tidelands of the Ipswich River, Ipswich, Essex County**

Date: April 9, 2019

Project Description:

The Department of Environmental Protection Waterways Regulation Program (the "WRP") has reviewed the referenced Environmental Notification Form (ENF) (EEA #16003), submitted by Tighe & Bond, Inc. on behalf of the Town of Ipswich Wastewater Department ("Proponent") on March 15, 2019 to replace an existing siphon with a new triple-barrel siphon and rehabilitate and physically protect existing wastewater infrastructure. The proposed project site is located within tidelands of the Ipswich River, between County Street and extending west of South Main Street, and south of the Green Street Bridge, Ipswich, Essex County (the "proposed project site").

Chapter 91 Jurisdiction:

The project is located within tidelands of the Ipswich River and will therefore require authorization through a Chapter 91 Waterways Program (c.91) license and dredge permit. The Project Plans and Drawings (Appendix C) submitted with the ENF include a notation, "Chapter 91 jurisdiction between MHT Lines" which is not an accurate representation of c. 91 jurisdiction throughout the proposed project site. The WRP recommends updating the plans to accurately represent c.91 jurisdiction and to identify the complete scope of work (e.g. removal of the existing siphon and any dredging or other associated impacts), prior to submittal of an application.

Water Dependency:

Based on the WRP review, the project appears to be water-dependent in accordance with 310 CMR 9.12(2)(a)11. and 310 CMR 9.12(2)(d).

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

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Chapter 91 Regulatory Analysis:

WRP staff did not identify any substantive concerns related to the proposed project and recommend that a c.91 application be submitted in order to initiate processing. The following comments are offered as additional guidance for submittal of a c.91 application

Pursuant to 310 CMR 9.11(3)(a) an applicant for a license or permit shall submit a written application on the forms provided by the Department, signed by the applicant and the landowner if other than the applicant. Please ensure the Waterways License Application is properly executed by all landowners of the properties where the portions of the project subject to c.91 jurisdiction will occur.

The WRP evaluation of the application may include, but not be limited to the following, in addition to a review for conformance with all other applicable performance standards at 310 CMR 9.00.

- Accurately identify and depict the limits of c.91 jurisdiction along the entire proposed project site on the plans.
- Identify prior c.91 licenses for all existing fill and structures within the jurisdiction.
- Identify the elevations of the Mean High and Mean Low Water Lines and depict on the site plans and cross-sections.
- Specify whether the existing siphon is proposed to be removed, and if so, identify any dredging and/or filling associated with the removal activities. If the existing siphon is proposed to be abandoned in place, please address how it will be maintained.
- Identify all work locations using geo-coordinates or other fixed points of reference.
- Itemize and quantify the area and volume for each of the activities within c.91 jurisdiction.
- Although the ENF identifies the work as maintenance dredging, it does not appear that prior authorizations for dredging exist within the proposed project footprint, and therefore the dredging is "improvement dredging" as defined in 310 CMR 9.02.
- Review 310 CMR 9.40(2)(a) and (b), and coordinate with the requisite resource agencies to ensure conformance with the applicable sections.
- Page 12 of the ENF specifies that the dredged material will be tested and disposed of at an approved facility in accordance with State and federal guidelines. Please verify whether the dredge spoil material is appropriate for beach nourishment or whether it will be required to be disposed of at a designated landfill. If the dredged material is determined to be eligible for ocean disposal, the permittee shall provide information in the permit application addressing the standards for such disposal at 310 CMR 9.40(4)(b) and 9.40(5).

The WRP has previously met with the representatives for the Proponent and is available to provide additional pre-application guidance regarding the comments herein. The WRP looks forward to receipt of a Water-Dependent Application submitted by the Proponent for the proposed project. If you have any questions regarding the WRP comments, please feel free to contact Chrissy Hopps at Christine.Hopps@mass.gov or at (617) 348-4084.

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

April 30, 2019

Secretary Matthew Beaton
Executive Office of Energy & Environmental Affairs
Attn: Holly Johnson, MEPA Unit
100 Cambridge Street, Suite 900
Boston, MA 02114

ATTN: Paige Czepiga, MEPA Unit

RE: Sewer Siphon Replacement and Interceptor Rehabilitation, 4 South Main Street, Ipswich River, Ipswich, MA; MHC# RC.66063, **EEA# 16003**

Dear Secretary Beaton:

Staff of the Massachusetts Historical Commission (MHC) have reviewed the Environmental Notification Form (ENF), received at this office on March 18, 2019, for the project referenced above. MHC staff have also reviewed the supplemental project information submitted received on April 24, 2019 and have the following comments.

This project proposes the replacement of the existing siphon, encasement of the existing interceptor underneath the Choate and Green Street Bridges, and stabilizing the northern bank of the Ipswich River in Ipswich.

The ENF indicates that the project will require permitting from the Massachusetts Department of Environmental Protection (MassDEP) and the US Army Corps of Engineers (COE), The project may also be receiving funding from Coastal Zone Management (CZM).

Review of the MHC's *Inventory of Historic and Archaeological Assets of the Commonwealth* indicates that the Choate Bridge (IPS.909) is individually listed in the State and National Registers of Historic Places, and the Green Street Bridge (IPS.904) is listed in the State and National Registers of Historic Places as a contributing element of the East End District (IPS.M).

Please be advised that the Choate Bridge is also a Massachusetts Historic Landmark, pursuant to M.G.L Chapter 9 Section 27. As a Massachusetts Historic Landmark, any work done on the bridge must comply with the Standards for Care and Management of Certified Historic Landmarks. This entitles the MHC review and approval authority prior to implementation of any major alterations to the property. The MHC understands that at this time, no work is proposed for the bridge structure. If any work is proposed in the future, please submit project plans and information for MHC review.

After review of the information submitted, MHC has determined that the proposed roadway improvements will have "no adverse effect" [(36 CFR 800.5(b)), (950 CMR 71.07(2)(b)(2))] on the Choate Bridge (IPS.909), Green Street Bridge (IPS.904), and East End District (IPS.M).

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128
www.sec.state.ma.us/mhc

Please note that these comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800), M.G.L. Chapter 9, sections 26-27C, (950 CMR 71.00), and MEPA (301 CMR 11). Please do not hesitate to contact Linda Santoro of my staff if you have any questions.

Sincerely,

Brona Simon

Brona Simon
State Historic Preservation Officer
Executive Director
Massachusetts Historical Commission

xc: Barbara Newman, Army Corps of Engineers
MassDEP NERO
CZM
Vicki Halmen, Ipswich Wastewater Department
Amanda Houle, Tighe & Bond

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
251 Causeway Street, Suite 800, Boston, MA 02114-2136
Tel. (617) 626-1141 Fax (617) 626-1240
www.mass.gov/orgs/board-of-underwater-archaeological-resources

March 27, 2019

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: Page Czepiga, MEPA Unit
100 Cambridge St., Suite 900
Boston, MA 02114

RECEIVED
MAR 29 2019
MEPA

RE: Sewer Siphon Replacement and Interceptor Rehab, Ipswich River, Ipswich (EEA #16003)

Dear Secretary Beaton:

The staff of the Massachusetts Board of Underwater Archaeological Resources has reviewed the above referenced project's ENF (EEA#16003) and supporting materials provided by Tighe & Bond, Inc., on behalf of the Ipswich Wastewater Department. We offer the following comments.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. While there are listed properties, the Choate and Green Street bridges, no record of any underwater archaeological resources was found. Based on the results of this review and the nature of the proposed project (prior disturbance), the Board expects that this project is unlikely to impact submerged cultural resources.

However, the area may be considered archaeologically sensitive. Therefore, should heretofore-unknown submerged cultural resources be encountered during the course of the project, the Board expects that the project's sponsor will take steps to limit adverse affects and notify the Board and the Massachusetts Historical Commission, as well as other appropriate agencies, immediately in accordance with the Board's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources*.

The Board appreciates the opportunity to provide these comments as part of the review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address above, by email at victor.mastone@state.ma.us, or by telephone at (617) 626-1141.

Sincerely,

Victor T. Mastone
Director

/vtm

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Czepiga, Page (EEA)

From: Anacheka-Nasemann, Alan R CIV USARMY CENAE (US) <Alan.R.Anacheka-nasemann@usace.army.mil>
Sent: Monday, April 08, 2019 2:56 PM
To: AJHoule@TigheBond.com
Cc: Ed Reiner (EPA) (reiner.ed@epamail.epa.gov); Boeri, Robert (EEA); Mike.R.Johnson@noaa.gov; Evans, Tay (FWE); Freed, Rachel (DEP); Czepiga, Page (EEA)
Subject: Department of the Army Permit No. NAE-2019-00691/EOEEA No. 16003: Town of Ipswich (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Dear Ms. Houle,

I have reviewed the ENF for the Town of Ipswich Wastewater Department. We have assigned File Number **NAE-2019-00691**, to which all future correspondence should refer. Corps comments are contained herein:

- We have no quarrel with the footprint of fill. For example, installation of cofferdams and open trench cutting appears to be preferred over HDD drilling.
- The site of work appears to be just above the Federal channel. Therefore, section 408 does NOT apply.
- The ENF shows that the No Action alternative should not be considered. The Corps agrees with this position, and remains concerned about the breaching of pipes, thereby releasing raw sewage into the Ipswich River.
- The Corps also prefers the triple barrel option over a single or double barrel option, and that should an emergency arrive with one pipe, 2 others will provide relief. We recommend that the pipes be rotated such that all 3 are periodically used (one or 2 at a time), thereby extending the life of the proposed plan.
- We are also convinced that open cut excavation is preferred over horizontal directional drilling. We find the uncertainty with horizontal directional drilling to be too great, whereas open trench cutting, while having moderate but short-term impacts, will result in a much more reliable and predictable placement of material.
- The project names GPs 1, 9 and 14. We question whether this project qualifies for GP 1. GP 1 applies only when the footprint of fill, coupled with the type of action, is substantially the same. Here, you are going from 1 pipe to 3. While GP 1 does allow some deviation (e.g. PCP vs. iron) it does not necessarily allow you to go from 1 pipe to 3. Accordingly, we do not readily see any use of GP 1.
- Likewise, the ENF does not mention GP 7 (Bank and Shoreline Stabilization), which we believe is required in this case. Specifically, you are talking about riprap protection of streambanks up to 730 feet. One question emerges: Does this 730 feet extend below the high tide line, or is it partially above the high tide line? It does appear to be almost entirely below the high tide line.
- GP 7 is limited to 500 feet, *"unless the Corps waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse effects."* We are uncertain at this point whether this project results in "minimal adverse effects." If we conclude that effects are "more than minimal," an Individual Permit will be required.
- To this end, we would like to see bioengineering explored as an alternative to riprap and/or hard engineering, at least part way up from the riverbed. So far, while the report discusses several alternatives, and diligently arrives at the selected plan, no discussion of bioengineering is provided. We would like to see bioengineering added to the discussion of alternatives.
- Finally, we note that this pipeline replacement is for pipes placed over 50 years ago. Since that time, population has expanded, and/or the Ipswich River has been subject to considerable stresses. We recommend that the new pipeline take into consideration such things as population growth, and/or global climate change, that may result in higher elevation of the river and/or higher flows than the river currently shows.

Respectfully,

Alan R. Anacheka-Nasemann

Alan R. Anacheka-Nasemann, PWS
Sr. Project Manager/Ecologist, Regulatory Division
New England District, U.S. Army Corps of Engineers
696 Virginia Rd.
Concord, MA 01742-2751
978-318-8214/8303 (FAX)

CLASSIFICATION: UNCLASSIFIED