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September 30, 2024

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
SECOND AND THIRD NOTICE OF PROJECT CHANGE

PROJECT NAME : Barnstable Comprehensive Wastewater Management Plan  
PROJECT MUNICIPALITY : Barnstable  
PROJECT WATERSHED : Cape Cod  
EEA NUMBER : 16148  
PROJECT PROPONENT : Town of Barnstable  
DATE NOTICED IN MONITOR : August 7, 2024 & August 23, 2024

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62L) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I hereby determine that the project changes described herein **do not require** an Environmental Impact Report (EIR).

This filing addresses two Notices of Project Change (NPCs) filed by the Town of Barnstable (the “Proponent”), one published on August 7, 2024 (2<sup>nd</sup> NPC), describing the expansion of the municipal sewer system into three new sub-areas, and another published on August 23, 2024 (3<sup>rd</sup> NPC), describing upgrades and rehabilitation efforts to be conducted at the Barnstable Water Pollution Control Facility (WPCF).<sup>1</sup> Both filings support the implementation of the Proponent’s Comprehensive Wastewater Management Plan (CWMP), for which a Single EIR Certificate was issued on December 30, 2020 with a corresponding Special Review Procedure (SRP) issued on January 8, 2021. The SRP established the rules for review of future filings, including NPCs to address sewer needs area and WPCF expansion

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<sup>1</sup> As noted below, the 1<sup>st</sup> NPC addressed sewer main and pump station construction proposed as part of the first phase of CWMP implementation. A Certificate on the 1<sup>st</sup> NPC was issued on October 25, 2023 indicating that no EIR was required for that project change.

projects as disclosed herein. The 2<sup>nd</sup> and 3<sup>rd</sup> NPCs will be reviewed in this Certificate in a coordinated fashion.

### Original Project and Procedural History

As described in the Single EIR filed in 2020 (the 2020 Single EIR), the original project consisted of the Town of Barnstable (the Proponent)'s Comprehensive Wastewater Management Plan (CWMP) which described the plan to address water quality management concerns resulting from population growth and increased development. The CWMP was intended to be a 30-year plan focused on traditional sewerage solutions to replace the current dependence on septic systems, which would be implemented in three 10-year phases. The plan was designed to address multiple goals and needs of the community, specifically: nutrient removal, pond protection, drinking water protection, economic development and other related concerns regarding wastewater management. The sewer system expansion program is the core of the CWMP and consists of the installation of 190 miles of new sewer infrastructure (including pump stations), serving 11,816 properties and collecting 2.1 million gallons per day (MGD) of new flow (4.6 MGD total including existing flow and buildout projections). During the MEPA review process, it was agreed that the CWMP, being a master planning document, warranted the establishment of a SRP to allow for detailed review of future phases of implementation. On January 8, 2021, an SRP was established to guide the implementation of the CWMP and allow for opportunities for public review, analysis of alternatives, and consideration of cumulative environmental impacts as discrete projects comprising the CWMP are implemented.

Since issuance of the Single EIR Certificate, the Proponent has made steady progress on implementing the first phase of the CWMP which has resulted in the installation of approximately four miles of sewer main and construction of two pump stations in Centerville and Hyannis. The first phase of sewer expansion is known as the Centerville Village Sewer Expansion Project ("CVSE Project"), and involves sewer main installation and pump station construction in Centerville and West Barnstable. Under the SRP, sewer main extensions (including the construction of pump stations) within the Wastewater Needs Areas previously identified in the CWMP were determined to not require additional MEPA review, unless they would result in material changes to environmental impacts from those disclosed in the CWMP. The Proponent filed an NPC (1<sup>st</sup> NPC) in September 2023, as it was determined that land protected under Article 97 of the Amendments to the Constitution of the Commonwealth ("Article 97") would be affected by construction. The Certificate on the 1<sup>st</sup> NPC, issued on October 25, 2023, did not require the preparation of an EIR.

### Project Change

As detailed in the 2<sup>nd</sup> NPC, the Proponent has identified three sewer expansion sub-areas that extend beyond the Wastewater Needs Areas previously identified in the CWMP. This NPC discloses the impacts associated with this sewer expansion and associated construction of a new pump station. The CWMP originally identified 840 parcels within the Lewis Bay Watershed and 351 parcels within the Halls Creek Watershed that were planned to be connected to the municipal sewer system. The project change identifies three new sub-expansion areas that would connect an additional 65 parcels to the municipal sewer system, including:

- **Stevens Street Pump Station and Expansion Area:** This expansion area includes sewerage 46 parcels which will flow to a new sewer pump station proposed at 268 Stevens Street. The 268

Steven's Street property was formerly improved with a car dealership that was historically connected to the Proponent's municipal sewer system through an easement on an adjacent property. However, the Proponent intends to improve the connection with a new pump station that will also support further sewer expansion to additional properties in the area. This area is located entirely within the Lewis Bay Watershed.

- **North Street Gravity Sewer Expansion Area:** This expansion area includes sewerage 11 parcels which will flow to the existing gravity sewer system on North Street. This area is located entirely within the Lewis Bay Watershed.
- **Mark's Path Gravity Sewer Expansion Area:** This expansion area includes sewerage eight parcels on Mark's Path, which will flow to a replacement/relocated pump station on Mark's Path and ultimately will be pumped to the force main sewer in Falmouth Road (Route 28). This area is located entirely within the Halls Creek Watershed.

The 3<sup>rd</sup> NPC addresses the rehabilitation and upgrade work proposed at the WPCF by providing greater detail about the specific technology proposed than was previously discussed in the 2020 Single EIR. This NPC discloses the impacts associated with these upgrades which are intended to accommodate the future projected wastewater flows resulting from the complete implementation of the CWMP. The SRP required NPCs to disclose activities to rehabilitate or expand the wastewater treatment facility that would meet/exceed MEPA review thresholds. According to the 3<sup>rd</sup> NPC, previous filings did not include detailed information on project parameters or impacts for certain work proposed at the WPCF, including rehabilitation of the solids handling facility, headworks facility, and backup power, as well as the installation of new treatment technology including aeration tanks, nutrient removal technologies, and secondary clarifiers. Although the rehabilitation work is intended to address existing aging infrastructure, the installation of new treatment technology is intended to accommodate a projected future increase of 2.9 million gallons per day (MGD) in wastewater flow to the WPCF (for a projected total of 4.57 MGD); the increase will meet/exceed an additional MEPA review threshold and require a modification of the Proponent's Groundwater Discharge Permit (GWDP).<sup>2</sup> This NPC was filed to disclose new impacts associated with these WPCF upgrades.<sup>3</sup>

Specific upgrades to the WPCF will include:

- Demolition of the existing headworks facility and associated septic sewage station;
- Construction of a new headworks facility and odor control system;
- Construction of a new septic sewage station, located at the existing septage receiving area;
- Construction of a new secondary treatment facility, including the installation of a new wastewater treatment system (consisting of a four-stage Bardenpho configuration with a membrane bioreactor)<sup>4</sup>, construction of a new aeration tank, and demolition or conversion of the existing secondary clarifiers;
- Rehabilitation and replacement of existing systems, including but not limited to pumps, valves, piping, and instrumentation; and

<sup>2</sup> The NPC states that the proposed upgrades will increase the overall capacity of the WPCF; this increase will occur incrementally as average flows to the WPCF are increased gradually over the 30-year implementation of the CWMP.

<sup>3</sup> All work associated with this project change will occur within the existing limits of the WPCF.

<sup>4</sup> A four-stage Bardenpho configuration consists of a four-stage biological wastewater treatment process consisting of anoxic, aerobic, anoxic, and final aeration. A membrane bioreactor provides additional filtration of wastewater to further remove certain constituents from the effluent.

- Construction of a new internal access road.

As noted, the 2<sup>nd</sup> and 3<sup>rd</sup> NPCs filings are being reviewed in a coordinated fashion. Therefore, for purposes of clarity, all information provided by the Proponent in either filing is collectively included in references to the “NPC,” unless otherwise indicated.

### Project Change Site

As noted above, the project change disclosed in the 2<sup>nd</sup> NPC pertains to three new sub-areas identified for sewer expansion, and the 3<sup>rd</sup> NPC relates to work proposed at the Barnstable WPCF. The first expansion area includes sewerage 46 parcels on Orr’s Avenue, Mitchell’s Way, Holmes Lane, North Street, Stevens Street, and Pleasant Hill Lane. The second expansion area includes sewerage 11 parcels on Bassett Lane and North Street. The third expansion area includes sewerage eight parcels on Mark’s Path. The project change site also includes 5.09 acres of the WPCF, which encompasses 82.51 acres of land in its entirety, bounded by Bearses Way to the east, Pitchers Way to the west, and Falmouth Road (Route 28) to the south.

State and local wetland resource areas are located adjacent to the Stevens Street sewer expansion area, but not adjacent to other sewer expansion areas or the site of the WPCF.<sup>5</sup> According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (15th Edition), the project change is not located within Estimated or Priority Habitats of Rare Species. There are no Areas of Critical Environmental Concern (ACEC), or filled or flowed tidelands located on or adjacent to the site of either project change. None of the project change sites contain any structures listed in the State Register of Historic Places or the Massachusetts Historical Commission’s (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth.

The initial filing for the original project was submitted prior to the January 1, 2022 effective date of MEPA EJ regulations and protocols, and, thus, was not required to comply with those new rules. However, the Proponent voluntarily reviewed the EEA EJ Maps Viewer (*“Updated 2020 Environmental Justice Block Groups” tab*), which indicates that the sites of the project changes are located within one mile of 13 Environmental Justice (EJ) Populations characterized by Minority (4), Income (1), Minority and Income (6), Minority and English Isolation (1), and Minority, Income, and English Isolation (1) within the Town of Barnstable.<sup>6</sup>

### Environmental Impacts and Mitigation

As stated in the 2020 Single EIR, implementation of the CWMP would result in the creation of one acre of impervious area and the alteration of 390,000 square feet (sf) (8.95 acres) of Land Subject to Coastal Storm Flowage (LSCSF) and 10,000 sf (0.22 acres) of Bordering Land Subject to Flooding (BLSF) for the proposed sewer infrastructure installation and work at the treatment facilities. The 1<sup>st</sup> NPC disclosed additional alteration of 300 sf of Bordering Vegetated Wetlands and the change in use of 5,803 sf of Article 97 protected land. The project changes described herein will collectively result in the alteration of 5.09 acres of land; the creation of 0.93 acres of impervious surfaces (associated with new

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<sup>5</sup> The 3<sup>rd</sup> NPC notes that there are wetland resource areas located on and adjacent to the WPCF property; however, the project change site is not located in proximity to any wetland resources.

<sup>6</sup>The EEA EJ Mapper is available at: <https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts>

building and roadway construction at the WPCF); the construction of 6,200 linear feet (lf) of sewer infrastructure; and the construction of a new pump station. In addition, the project changes will increase wastewater generation by 19,188 gallons per day (GPD), through sewer expansion, and increase the average daily flow capacity of the existing WPCF by 2.9 MGD (for a total of 4.57 MGD), through upgrades to the WPCF.

Measures to avoid, minimize and mitigate impacts associated with the project changes include the use of erosion and sedimentation controls during project construction; the construction of a stormwater management system to manage the increase in impervious surface at the WPCF; installation of new wastewater treatment technology to increase nitrogen removal; and the construction of three stormwater detention basins with sediment forebays. The original project committed to additional mitigation that is incorporated herein, including the development of traffic management plans and requiring project contractors to perform work consistent with Massachusetts Department of Environmental Protection (MassDEP)'s Clear Air Construction Initiative and the Massachusetts Diesel Retrofit Program.

### Jurisdiction and Permitting

The original project was subject to MEPA review and a mandatory EIR because it required Agency Action and met/exceeded the threshold at 301 CMR 11.03(5)(a)(3) for the construction of one or more new sewer mains of ten or more miles in length. The original project also exceeded the ENF threshold at 301 CMR 11.03(3)(b)(1)(f) for the alteration of one half or more acres of any other wetlands. The 2020 Single EIR indicated that additional thresholds may be met/exceeded depending on the expansion of the wastewater treatment facility and increases in effluent disposal capacity.

As noted, the January 8, 2021 SRP established for the project allowed sewer main extensions (including pump stations) within previously identified needs areas to proceed without additional MEPA review, unless they presented new or materially different impacts not previously discussed. The 1<sup>st</sup> NPC met/exceeded the MEPA review threshold at 301 CMR 11.03(1)(b)(3) for the disposition or change in use of land or an interest in land subject to Article 97 of the Amendments to the Constitution of the Commonwealth, unless the Secretary waives or modifies the replacement land requirement pursuant to M.G.L. c. 3, § 5A and its implementing regulations. This project change relates to the expansion of the sewer system and construction of a new pump station outside of the identified needs areas, resulting in impacts that were not previously disclosed in the 2020 Single EIR. In addition, the work proposed at the WPCF independently meets/exceeds the MEPA review threshold at 301 CMR 11.03(5)(b)(2) for the expansion of an existing wastewater treatment and/or disposal facility by the greater of 100,000 gpd or 10% of existing Capacity. The project change also requires a new or modified Treatment Works Plan (WP68) and amended Groundwater Discharge Permit from MassDEP.

The project change (sewer expansion component) will require an Order of Conditions (OOC) from the Barnstable Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP). The project change will also require a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit from the U.S. Environmental Protection Agency (EPA).

The project change is seeking Financial Assistance from the Housing Works Infrastructure Program, administered by the Executive Office of Housing and Livable Communities (EOHLC), and the State Revolving Fund (SRF) Clean Water Program, administered by MassDEP and other agencies. Therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

### Review of the NPC

The NPC included a description of the original project, the 2<sup>nd</sup> and 3<sup>rd</sup> project changes, estimates of impacts related to the project change, existing and proposed site plans, and an identification of measures to avoid, minimize and mitigate environmental impacts. As noted above, the project change will result in a modest increase in land alteration and creation of impervious surface compared to those identified in the Single EIR.

The Proponent provided supplemental information on September 20, 2024, which included a Stormwater Report for the WPCF upgrades. Additional supplemental information was provided on September 27, 2024, which included further discussion of the purpose and need for the project changes as well clarification as to the direct and indirect impacts associated with the project changes. For purposes of clarity, all supplemental information provided by the Proponent are included in references to the “NPC,” unless otherwise indicated.

Comments provided by MassDEP and the Cape Cod Commission (CCC) express support for the proposed project changes in order to advance the Town’s nitrogen reduction goals.

### *Alternatives Analysis*

As described below, the Proponent evaluated a number of alternatives for each of the different project change components (including sewer expansion, the Mark’s Path pump station, wastewater treatment technology, and headworks facility) to meet the goals established in the CWMP, such as nutrient removal, pond protection, drinking water protection, economic development and other wastewater concerns, while managing environmental impacts, constructability, and costs. The NPC indicates that the No-Action alternative for each of the project components was eliminated as it would not facilitate the sewer expansion proposed in the CWMP and achieve the Proponent’s water quality goals. In addition, the NPC evaluated six alternative locations, in proximity to each other, for the Stevens Street pump station on and adjacent to the 268 Stevens Street property, which is located at a system low point and would be required to facilitate sewer service.

According to the 2<sup>nd</sup> NPC, the Stevens Street and North Street expansion areas are located within Downtown Hyannis, an area predominantly serviced by municipal sewer. These two areas were identified as “gaps” in the sewer service network and could readily be connected to the adjacent sewer mains. Therefore, the Proponent evaluated expanding the sewer network into these areas. In addition, the existing pump station at 4 Mark’s Path is currently operating over capacity and experiencing increased flows, resulting in increased pump times. Given the need to replace pump station, the Proponent evaluated connecting the properties on Mark’s Path to the sewer network.

According to the 3<sup>rd</sup> NPC, the Proponent projected the future wastewater generation resulting from the full 30-year implementation of the CWMP based on water usage data collected between 2011 and 2016 from both residential and non-residential properties. The projections also incorporated a number of different growth projections and buildout scenarios to define the upper limit of wastewaters flow that could ever occur (referred to as the “Ultimate Buildout”). For planning purposes, the CWMP assumed that 30% of the Ultimate Buildout would occur, resulting in a projected increase of 2.9 MGD in wastewater flow to the WPCF (for a projected total of 4.57 MGD). According to the NPC, the sewer expansion described in the 2<sup>nd</sup> NPC remains within this 30% buildout projection set forth in the original CWMP; it will increase wastewater flows to the WPCF by 19,188 GPD but is not expected to require a further expansion of treatment capacity. In addition, the CWMP established a target goal for an average annual total nitrogen concentration of less than three milligrams per liter (mg/L). Therefore, the Proponent has evaluated a number of treatment technology alternatives that could support the projected increase in flows while achieving the target nitrogen removal.

### *Sewer Expansion*

Alternative 1 would involve the implementation of enhanced innovative/alternative (IA) septic systems on the identified properties. Although, enhanced IA septic systems are designed to remove excess nutrients, including nitrogen, in wastewater before it enters surrounding groundwater, estuaries, and ponds, only a limited number have been field-tested. In addition, installation of enhanced IA septic systems on small, dense lots is especially challenging and may not be feasible in some instances. Therefore, this alternative was dismissed.

The Preferred Alternative (as described herein) would involve connecting the identified properties to the municipal sewer system by adding three new sub-areas to the previously identified sewer expansion areas. The Preferred Alternative was selected as all three new sub-areas are directly adjacent to existing sewer areas and all proposed sewer infrastructure will be installed within previously disturbed rights-of-way. Wastewater flows will be directed to the WWTF which can provide greater excess nutrient removal than individual septic systems. The Preferred Alternative is intended to accommodate existing developed properties; however, a number of parcels, within the Stevens Street and North Street expansion areas, are located within the Town’s Growth Incentive Zone (as identified in the CWMP). Therefore, a portion of the sewer expansion is intended to support the reasonably anticipated future growth within these areas. As noted above, this additional growth projection fits within the overall 30% buildout assumed in the original CWMP, and does not require a further expansion of treatment capacity at the WPCF.

### *Mark’s Path Pump Station*

Alternative 1 would involve the replacement of the existing pump station at its current location at 4 Mark’s Path. Although this alternative could address the capacity issues and extraneous flows (possibly from inflow/infiltration) resulting in increased pump times, a replacement pump station of the same size would not accommodate incorporating additional flows if the sewer service area were to be expanded. In addition, the easement location of the current pump station is not large enough to accommodate a larger replacement pump station. Therefore, this alternative was dismissed.

The Preferred Alternative (as described herein) would involve the construction of a larger replacement pump station at the end of the cul-de-sac on Mark's Path. The Preferred Alternative would facilitate the sewerage of an additional eight parcels on Mark's Path, improve reliability of the sewer system in the area, and reduce overall energy consumption by reducing pump times. In addition, the existing pump station infrastructure will be removed, and the area will be converted back to pervious surface, resulting in a net-zero impact (in terms of land alteration and impervious surface).

### *Wastewater Treatment Technology*

Alternative 1 would involve expansion of the existing Modified Ludzak-Ettinger (MLE) wastewater treatment process with tertiary denitrification. Total nitrogen would be initially removed through the MLE process before the effluent is pumped through an additional filter to remove nitrogen oxides and particulate nitrogen. Expansion of the existing MLE process would be required to meet the projected flows and loads based on the needs assessment conducted for the CWMP, which would result in the highest cost of all alternatives considered. In addition, the total nitrogen removal achieved by the expanded MLE process would not provide the additional nutrient removal the Proponent is seeking to achieve but would rather be more consistent with the nitrogen removal achieved under existing conditions (approximately 6 mg/L). Therefore, this alternative was dismissed.

Alternative 2 would involve the implementation of a conventional four-stage Bardenpho wastewater treatment process, utilizing both anoxic and aerobic processes to remove nitrogen. The existing aeration tanks would be modified through changes in the internal piping, diffusers, and mixers to facilitate the Bardenpho treatment processes. Additional aeration tanks would also need to be added in order to achieve the treatment capacity for the projected flows and loads. Although this alternative has the lowest overall lifecycle costs to implement, it would result in lowest nitrogen removal of all the alternatives considered. Therefore, this alternative was dismissed.

Alternative 3 would involve the implementation of a four-stage Bardenpho wastewater treatment process with a tertiary sand filter. This alternative would consist of the same upgrades described in Alternative 2; however, the treatment process would include a secondary effluent pump station and tertiary sand filtration system. The inclusion of a tertiary sand filtration system will reduce the final total suspended solids (TSS) and, thus, the effluent particulate nitrogen, resulting in additional total nitrogen removal. Although this alternative would sufficient nitrogen removal for moderate lifecycle costs, it was dismissed in favor of the Preferred Alternative, which is able to achieve greater total nitrogen removal without substantially increasing direct environmental impacts or costs.

The Preferred Alternative (as described herein) would involve the implementation of a four-stage Bardenpho wastewater treatment process with a membrane bioreactor, which enhances the removal of TSS resulting in low effluent particulate nitrogen levels. The Preferred Alternative would consist of the same upgrades described in Alternative 3, including the construction of an additional aeration tank and upgrades. The existing secondary clarifiers would also be eliminated from the process, having been replaced with a membrane system, and will either be demolished or converted into flow equalization basins. The Preferred Alternative has moderate lifecycle costs, as compared to the other alternatives, but is able to achieve the greatest nitrogen removal of the evaluated alternatives and is well-suited for additional treatment of other pollutants.



### *Headworks Facility*

Alternative 1 would involve the rehabilitation of the existing headworks facility, which is needed as the initial stage in the wastewater treatment process (primarily consisting of a series of screens and grit removal systems). Although maintaining the existing headworks facility would result in less land alteration and new impervious surface (as compared to the Preferred Alternative), the facility cannot be readily modified to include the recommended screening and grit removal system. In addition, the current facility's influent screening is limited to one unit with no redundancy and insufficient space to installed additional units to meet future design flows. Therefore, this alternative was dismissed.

The Preferred Alternative (as described herein) would involve the construction of a new headworks facility to replace the existing facility. Although the Preferred Alternative would result in greater land alteration and new impervious surface (as compared to Alternative 1), construction of a new headworks facility could specifically accommodate the recommended coarse screening, grit removal, influent flow measurement, and odor control technology while providing redundancy, increased capacity, and greater nutrient removal.

### *Environmental Justice (EJ) / Public Health*

As noted above, the sites of the project changes are located within one mile of 13 EJ Populations characterized by Minority (4), Income (1), Minority and Income (6), Minority and English Isolation (1), and Minority, Income, and English Isolation (1) within the Town of Barnstable.

In keeping with the intent of the MEPA Interim Protocol for Analysis of project Impacts on EJ Populations, the NPC includes an evaluation of the project change's potential impacts on EJ Populations within the one mile "Designated Geographic Area" (DGA). All residents and visitors within the Town of Barnstable rely on groundwater from the Cape Cod Sole Source Aquifer as a source for drinking water; therefore, the project changes will result in a beneficial reduction of compounds and contaminants contained in wastewater effluent including nitrogen. According to the 2<sup>nd</sup> NPC, the sewer expansion will provide an overall environmental benefit to both EJ and non-EJ Populations by reducing nitrogen discharged to groundwater as a result of sewerage properties currently utilizing on-site septic systems. Although the sewer expansion will increase wastewater flows to the WPCF by 19,188 GPD, those flows are currently directed to private, on-site septic systems which typically average an effluent nitrogen concentration of 26.25 mg/L as compared to the 6 mg/L currently achieved by the WPCF. However, expansion of the sewer system in these areas does not account for future growth, which would be further facilitated by sewer expansion. To address this, the NPC states that the CWMP accounts for future growth of both residential and commercial uses over the implementation timeframe. Expansion of the sewer system will also reduce septage hauler truck traffic of to/from the WPCF by reducing the number of private septic systems requiring this service.<sup>7</sup>

The 2020 Single EIR previously discussed both the potential direct and indirect impacts anticipated from the implementation of the CWMP. Although the direct impacts associated with each project change are disclosed herein, indirect impacts are also anticipated as a result of the sewer

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<sup>7</sup> Septage consists of all waste material collected from an on-site septic system. This material is transported from private properties to the WPCF for treatment and ultimate disposal.

expansion and upgrades to the WPCF. In particular, the 2020 Single EIR identified the following categories of indirect impacts:

- **Traffic:** Long-term traffic impacts include increased traffic due to regular operation and maintenance of the WPCF. Additionally, the CWMP assumes and ultimately helps facilitate future growth within the Town that is anticipated to result in an increase in traffic.
- **Air Quality:** Long-term air quality impacts include increased emissions from the operation of the WPCF and pump stations, as well as a potential increase in odors from the increase in centralized wastewater treatment.
- **Noise:** Long-term noise impacts are anticipated to result from the pumps, blowers, standby generators, ventilation systems and other equipment located at the WPCF and pump stations.

While the 2020 Single EIR did not assess effluent discharge locations relative to EJ Populations, the WPCF is located within an EJ Population and within one mile of 12 additional EJ Populations. Therefore, implementation of the CWMP, and project changes described herein, would increase effluent discharges within EJ communities. In addition, as discussed below, comments provided by MassDEP raise concerns about a potential groundwater mounding issue with the WPCF's effluent discharge based on the anticipated increase in wastewater flows.

According to the 3<sup>rd</sup> NPC, the Proponent has identified specific measures to address the impacts of the project change. In particular, the Proponent will install four separate odor control systems designed to manage odors emanating from the new Pretreatment Building, Septage Receiving Building, and the primary clarifiers. While the majority of the new equipment will be located within new buildings on the WPCF property, the Proponent will evaluate the need to install noise control devices to address any nuisance noise conditions. New pump stations will also be powered by natural gas generators rather than diesel generators, in order to reduce air emissions. In addition, the Proponent is actively working with MassDEP to address any potential groundwater issues resulting from effluent discharge, including potential reuse options to reduce the total effluent discharges. The NPC also states that the main sources of potential construction period impacts are anticipated to include noise, potential air quality impacts, such as dust generation or odor from wastewater processing, and the operation of construction machinery. Any minor construction adverse effects would be mitigated to the greatest extent practicable through use of construction period best management practices (BMPs). The Proponent should continue to evaluate mitigation measures in order to address the anticipated long-term indirect impacts resulting from the implementation of the CWMP.

#### *Land Alteration, Impervious Surfaces, and Stormwater*

As noted above, sewer expansion activities include the temporary alteration of 49,600 sf of land to facilitate the installation of sewer infrastructure within existing rights-of-way. The project change includes construction of a new pump station at 268 Stevens Street will result in the permanent alteration of 600 sf of land, which was previously used as a car dealership. Construction of the replacement pump station on Mark's Path will also result in the permanent alteration of 700 sf of land; however, the existing pump station and associated infrastructure will be removed and the area restored following construction, resulting in a net zero sf impact. In addition, the upgrades to the WPCF will result in the permanent alteration of 5.09 acres of previously disturbed land and the creation of 0.93 acres of

impervious surface. These impacts will primarily result from the construction of new buildings needed to support the wastewater treatment infrastructure and the installation of new internal access roads.

In order to mitigate increases in peak discharge rates as a result of the new impervious surfaces, a stormwater management system has been designed that directs flows from proposed building rooftop areas and additional impervious areas into three new stormwater detention basins with sediment forebays. According to the Stormwater Report, the Proponent evaluated precipitation depth and peak intensities, utilizing NOAA Atlas 14 precipitation data (2yr – 3.39”; 10yr – 4.95”; 25yr – 5.92”; and 100yr – 7.41”) for a 24-hour storm event. The stormwater management system has been designed to convey and provide peak attenuation for stormwater runoff up to the current 100-year storm event (7.41 inches). The stormwater management system will also provide at least 80% total suspended solids (TSS) removal and 50% total phosphorus (TP) removal.

### *Wetlands*

As noted above, wetland resource areas are located adjacent to the Stevens Street expansion area. According to the NPC, the project change will necessitate work within the 100 ft buffer zone; however, all work will occur within the existing paved right-of-way.<sup>8</sup> The Barnstable Conservation Commission (or MassDEP in the case of an appeal) will review the project change for its consistency with the Wetlands Protection Act (WPA), the Wetland Regulations (310 CMR 10.00) and associated performance standards including the Massachusetts Stormwater Management Standards (SMS), and local bylaws.

### *Wastewater*

As noted above, the CWMP was designed to account for projected wastewater flows from existing development as well as projected growth from both residential and non-residential properties over the 30-year implementation timeframe. For planning purposes, the CWMP assumed that 30% of the Ultimate Buildout would occur, resulting in a projected increase of 2.9 MGD in wastewater flow to the WPCF (for a projected total of 4.57 MGD). The sewer expansion disclosed in the 2<sup>nd</sup> NPC will increase wastewater flows to the WPCF by 19,188 GPD. While expansion of the sewer system into the three additional sub-areas will support existing development, expansion within Downtown Hyannis (Stevens Street and North Street expansion areas) will also support future growth; the growth assumptions underlying the 2<sup>nd</sup> NPC are still within the 30% buildout estimate provided in the original CWMP. Similarly, the rehabilitation and upgrade of the WPCF is designed to account for the total anticipated wastewater flow from the full implementation of the CWMP.

### *Sewer Expansion*

As noted above, this project change consists of sewer expansion in three additional sub-areas that would connect an additional 65 parcels to the municipal sewer system. The 268 Stevens Street pump station and sewer expansion will include the installation of a new submersible sewer pump station, approximately 4,400 lf of gravity sewer, 33 manholes, 46 gravity sewer service lines, and 600 lf of sewer force main. This new infrastructure will tie into an existing gravity sewer manhole at the

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<sup>8</sup> Confirmed via email from Matthew St. Pierre (Environmental Partners) to Nicholas Moreno (MEPA) on September 10, 2024.

intersection of North Street and Sea Street Extension. The new pump station will be located at a low point in the system (268 Stevens Street) and will consist of an at-grade, pre-cast concrete wet well and valve vault with submersible pumps. A control panel to house controls for the pump station that will be above grade in the vicinity of the wet well and valve vault and concealed by shrubbery and landscaping. The North Street sewer expansion will include the installation of approximately 600 lf of gravity sewer, 5 manholes, and 11 gravity sewer service lines. The new gravity sewer will tie into an existing gravity sewer manhole near 259 North Street. The Mark's Path sewer expansion will include the installation of approximately 600 lf of gravity sewer, 5 manholes, and 8 gravity sewer service lines. The new gravity sewer will tie into an existing gravity sewer manhole at the intersection of Falmouth Road and Mark's Path. In addition, the existing pump station located at 4 Mark's Path will be relocated to the end of the cul-de-sac on Mark's Path. All gravity sewer service lines will be installed from the sewer main within the paved right-of-way up to the property line and capped for future connection. All flows anticipated to be generated from these additional connections will be conveyed to the WPCF for treatment and disposal. Although the CWMP did not previously include these connections within the Wastewater Needs Area, the addition of these three expansion sub-areas is not anticipated to result in a significant impact to the flow projections in the CWMP, which anticipated a 2.9 MGD increase for a projected total of 4.57 MGD. The CWMP also included a conservative combined (residential and commercial) buildout projection (30% build out estimate) of 776,550 GPD, of which the proposed expansion represents 2.5%.

According to the 2<sup>nd</sup> NPC, expansion of the sewer system into these three sub-areas is anticipated to result in an overall decrease of 964 grams of nitrogen per day (approximately 352 kilograms per year (kg/year)) from the Lewis Bay Watershed (including 781 grams of nitrogen per day from the Stevens Street expansion area and 183 grams of nitrogen per day from the North Street expansion area) and 176 grams of nitrogen per day (approximately 64 kg/year) from the Halls Creek Watershed. Although the estimated nitrogen reduction is based on existing water use data and does not account for future growth, the NPC states that full implementation of the CWMP will remove sufficient nitrogen in order for the Town to meet the Total Maximum Daily Loads (TMDLs) in each of the impaired embayments by accounting for future growth in the CWMP.

Comments provided by the CCC recommend that the Proponent investigate the source(s) of extraneous flows to the existing pump station on Mark's Path during the planned sewer expansion work, prioritizing this area for future infiltration and inflow (I/I) studies, and designing the pump station in accordance with *TR-16 Guides for the Design of Wastewater Treatment Works* to limit I/I from the surrounding area. Comments state that increasing the capacity for the new pump will support future expansion and prevent downtime, but removing extraneous flows will prolong the life of future equipment and preserve treatment system capacity for wastewater collection and treatment.

Comments provided by MassDEP remind the Proponent that the pump stations are subject to the Operation Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers at 314 CMR 12.00. In particular, comments reference the requirements for pump stations at 314 CMR 12.04(5, 6 and 7). The Proponent should ensure that all technical and substantive information is provided to MassDEP during subsequent permitting (Treatment Works Plan approval (WP68)) to demonstrate compliance with the applicable regulations.

### *WPCF Upgrades*

In order to accommodate a projected future increase of 2.9 MGD in wastewater flows resulting from implementation of the CWMP, the project change also includes the rehabilitation of the solids handling facility, headworks facility, and backup power, as well as the installation of new treatment technology at the WPCF. The existing headworks facility will be demolished to allow for the construction of a new headworks facility that can accommodate new screening and grit removal equipment as well as new odor control technology. Additional buildings will be constructed to house the new treatment technology, which will treat incoming wastewater flows through a four-stage Bardenpho wastewater treatment process before passing through a membrane bioreactor to remove additional TSS and particulate nitrogen. Based on the selected denitrification technology, the existing secondary clarifiers would no longer be necessary. Therefore, the project change will also demolish one of the existing secondary clarifiers and convert the remaining two clarifiers into flow equalization tanks. In addition, a fourth aeration tank will be constructed. The selected treatment technology is anticipated to achieve an average annual total nitrogen concentration of less than 3 mg/L, consistent with the nitrogen removal target established in the CWMP, in order to aid the Town in meeting the TMDL of the Lewis Bay Watershed for total nitrogen and providing increased flexibility for other potential discharge locations. The NPC indicates that no further expansion or upgrade to treatment capacity is required by the sewer expansion proposed in the 2<sup>nd</sup> NPC.

Comments provided by MassDEP state that treated effluent is currently discharged from the WPCF through on-site rapid infiltration basins (RIBs). Comments state that there may be a potential groundwater mounding issue with the effluent discharge to the RIBs based on the future flows and recognize that the Proponent is currently exploring effluent disposal options including indirect (IPR) and direct potable reuse (DPR). Comments state that further MEPA review may be required depending on the need for additional work at the WPCF to address any effluent discharge limitations.

### *Hazardous Materials*

Comments provided by MassDEP state that while several disposal sites regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) are located proximate to the sewer expansion areas and WPCF, MassDEP records indicate that many of these sites have been closed out under the MCP. However, comments note that given the large project area, it is possible that residual contaminated soil could be encountered during implementation that may require notification or other mechanism to manage contaminated soil. In particular, comments identified the following release tracking numbers (RTNs):

- RTN 4-0029314 is associated with the WPCF located at 617 Bearnse's Way. The release consisted of 12 gallons of hydraulic fuel to soil. Approximately six tons of contaminated soil was excavated and transported offsite for asphalt batch recycling. A Permanent Solution with No Conditions was submitted to MassDEP on July 6, 2022.
- RTNs 4-0028856 and RTN 4-0028855 have filed Downgradient Property Status in relation to the release of Aqueous Film Forming Foam (AFFF) to groundwater in the vicinity of the WPCF. The presence of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in groundwater at these sites is attributed to migration of compounds from one or more off-site release sources. There are

two known PFAS release sites in the vicinity of the WPCF, Barnstable County Fire Training Academy (RTN 4-0026179) and Cape Cod Municipal Airport (4-0026437).

The Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project change, notification pursuant to the MCP should be made to MassDEP.

### *Climate Change*

#### *Adaptation and Resiliency*

Effective October 1, 2021, all MEPA projects are required to submit an output report from the MA Resilience Design Tool to assess the climate risks of the project. While the NPC was not formally subject to these requirements, it included a discussion regarding the potential climate risks and identified specific mitigation measures to address climate resiliency. According to the FEMA Flood Insurance Rate Map (FIRM) (Panel No. 25001C0562J and 25001C0568J, effective July 16, 2014) the majority of the sewer expansion areas, including pump stations, are not located within a mapped floodplain; however, a portion of the Stevens Street sewer expansion area is located within a Zone X (0.2% annual chance flood) associated with Aunt Betty's Pond. All sewerage work will occur within existing paved rights-of-way which will be restored to their preexisting condition following construction. Sewer infrastructure will be installed underground, and pump stations will be located in subsurface vaults. According to the FEMA Flood Insurance Rate Map (FIRM) (Panel No. 25001C0566J, effective July 16, 2014) the WPCF is not located within a mapped floodplain.

As noted, the Proponent has committed to managing stormwater runoff from new impervious surfaces in accordance with the Massachusetts Stormwater Standards (SMS). In particular, the Proponent is proposing a stormwater management system consisting of three new stormwater detention basins with sediment forebays designed to convey and provide peak attenuation for stormwater runoff up to the current 100-year storm event (7.41 inches). In addition, the upgrades to the WPCF include redundant components in the event of system failures as well as emergency overflow capabilities to address future potential events due to climate change. Based on information available through the Resilient MA Climate Change Projections Dashboard for the WPCF site, obtained through an independent review by the MEPA Office, the future (2070) 24-hour precipitation depth associated with a 10-year storm event is 6.5 inches, a 25-year storm event is 7.8 inches, and a 100-year storm event is 9.7 inches.<sup>9</sup> Therefore, it appears that the stormwater management system would be resilient up to a future (2070) 10-year storm event but would not be resilient to a 25-year or greater storm event. I encourage the Proponent to consider future rainfall projections in designing the stormwater management system. Information available through the Resilient MA Climate Change Projections Dashboard, which provides 24-hour rainfall volumes for a wide variety of storm scenarios and planning horizons, should be used as a resource to evaluate future precipitation values.

#### *Greenhouse Gas Emissions (GHG)*

The original project was subject to review under the May 5, 2010, Revised MEPA Greenhouse Gas Emissions Policy and Protocol (MEPA GHG Policy), which requires Proponents to quantify carbon

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<sup>9</sup> Available at <https://resilientma-mapcenter-mass-eoceea.hub.arcgis.com/>.

dioxide (CO<sub>2</sub>) emissions and identify measures to avoid, minimize or mitigate such emissions. The 2020 Single EIR included a project specific GHG evaluation of emissions associated with the modification to the WPCF and any other facilities, such as pump stations, that may emit GHG emissions. It established a Base Case (which evaluated a no-build scenario) and proposed Preferred Alternative Case along with providing the other information required by the GHG Policy. Based on the preliminary analysis, it was anticipated that implementation of the entire CWMP would result in a net 35% increase in GHG emissions over the Base Case, resulting from a 52% decrease in septic system emissions and a 93% increase in centralized wastewater treatment emissions. The analysis assumed a GHG emission rate of 1.45 kilograms of carbon dioxide equivalents per gallon of wastewater per day per year (CO<sub>2</sub>e/gpd/year). The change in GHG emissions were then calculated based on the anticipated increase in wastewater flows to the WPCF.

### *Pump Stations*

The 2020 Single EIR stated that emissions from the pump stations were estimated in three categories (small, medium, and large) and based on the selected design measures, were anticipated to result in a 5% decrease in emissions over the Base Case. The 2020 Single EIR indicated that the Proponent would take measures to minimize GHG emissions associated with the pump stations by installing improved pump controls, utilizing premium efficiency motors, and reducing pumping lift station energy usage. As noted above, the project change will involve the construction of a new pump station at 268 Stevens Street and a replacement pump station on Mark's Path. The NPC states that each pump station will be powered by a new 25-kilowatt natural gas generator, which will emit lower levels of sulfur dioxide, nitrogen oxide, mercury, and particulate matter than diesel-powered generators.

### *Wastewater Pollution Control Facility*

According to the NPC, a revised GHG analysis was performed to estimate the baseline and design GHG emissions for the proposed rehabilitation and expansion of the WPCF, utilizing the EPA's Portfolio Manager Tool.<sup>10</sup> A Base Case (which evaluated the existing WPCF under a no-build scenario) was developed using average influent flow and energy use data from January 2023 through December 2023, with GHG emissions totaling 523.9 tons CO<sub>2</sub>e/year (475,274 kilograms (kg) CO<sub>2</sub>e/year). The Design Case, which incorporates the anticipated increase in wastewater flows and treatment capacity for the full implementation of the CWMP, is estimated to result in a 63.3% increase in GHG emissions from the WPCF, totaling approximately 855.7 tons CO<sub>2</sub>e/year (776,277 kg CO<sub>2</sub>e/year). Although the proposed project change will result in a 331.8 tons CO<sub>2</sub>e/year (301,003 kg CO<sub>2</sub>e/year) increase in GHG emissions from the WPCF over the Base Case, the revised analysis is an overall 30% reduction in projected GHG emissions from the 2020 Single EIR. While the 3<sup>rd</sup> NPC does not include an updated evaluation of the anticipated reduction in septic system emissions, the reduction in emissions from centralized wastewater treatment is anticipated to result in smaller increase in GHG emissions than previously projected. In addition, the expanded capacity and new treatment technology will assist the Proponent in achieving an effluent total nitrogen goal of 3 mg/L.

The NPC states that the Proponent has taken steps to improve the energy efficiency of the WPCF, including the installation of two wind turbines and a photovoltaic (PV) array, which produced

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<sup>10</sup> The revised analysis assumed a GHG emission rate of 0.3 kg CO<sub>2</sub>e/gpd/year, based on energy data collected from the WPCF.

1,072,309 kilowatt hours (kWh) of electricity in 2023 (approximately 64% of the WPCF's current annual electricity use and 37% of the projected future electricity use). Based on energy data collected between November 2022 through April 2024, the on-site renewable energy generates approximately 79,323 kilowatt hours (kWh) per month, which off-sets GHG emissions by 732.8 tons CO<sub>2</sub>e/year (664,785 kg CO<sub>2</sub>e/year). The project change also proposes a number of energy efficiency measures, including:

- installing high-efficiency lighting;
- installing high efficiency windows;
- installing high efficiency HVAC system;
- use of premium motors for blowers and pumps;
- reduce water consumption by using treated effluent instead of domestic water for process equipment needs;
- aeration & biological nutrient removal process control, blower, mixer, pumping and diffuser equipment upgrades;
- building envelope retrofit/upgrades (e.g., insulation, windows, etc.) of existing buildings; and
- installing low-polluting engine/generator for backup power with EPA TIER 4 certification or CARB certification

In addition, the Proponent has committed to constructing all new WPCF buildings with conditioned spaces in compliance with the International Energy Conservation Code (IECC) 2021 Edition with Massachusetts Stretch Energy Code Amendments (the Stretch Code), effective July 1, 2023.<sup>11</sup>

#### *Construction Period*

According to the NPC, implementation of the WPCF upgrades will be phased. The initial construction will accommodate the anticipated projected flows and loads from Phase 1 and 2 of CWMP implementation and will include all components described herein. Additional future work at the WPCF will be required to accommodate projected flows and loads from Phase 3 of CWMP implementation. In particular, an additional aeration tank and primary clarifier will need to be constructed in approximately 20-years.

All construction and demolition activities should be managed in accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). I encourage the Proponent to require that its contractors use construction equipment with engines manufactured to Tier 4 federal emission standards or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponent should notify MassDEP in accordance with the MCP (310 CMR 40.00). All

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<sup>11</sup> The Town of Barnstable has not adopted the Energy Stretch Code.



construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponent to reuse or recycle construction and demolition (C&D) debris to the maximum extent.

### Mitigation

The NPC includes a description of proposed mitigation measures for the project change. As described in the NPC, the Proponent has committed to implement the following measures to avoid, minimize and mitigate Damage to the Environment. These measures should be incorporated into the overall Section 61 Findings for the project.

#### *Land Alteration, Impervious Surfaces, and Stormwater*

- Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).
- Prepare and implement an Erosion and Sedimentation Control Plan, which will describe erosion and sediment control and storm water pollution prevention measures, incorporating BMPs, at all construction activity locations.
- Restore any areas disturbed by construction activities with appropriate vegetation.
- Construction of three stormwater detention basins with sediment forebays, designed to convey and provide peak attenuation for stormwater runoff up to the current 100-year storm event (7.41 inches), in order to mitigate new impervious surfaces.

#### *Wastewater*

- Construction of 6,200 lf of additional sewer infrastructure in order to remove 964 grams of nitrogen per day from the Lewis Bay Watershed and 176 grams of nitrogen per day from the Halls Creek Watershed.
- Installation of wastewater treatment technology at the WPCF to achieve an anticipated total nitrogen effluent concentration of 3 mg/L.

#### *Climate Change*

##### *Adaptation & Resiliency*

- Construction of three stormwater detention basins with sediment forebays, designed to convey and provide peak attenuation for stormwater runoff up to the current 100-year storm event (7.41 inches), in order to mitigate new impervious surfaces.

##### *Greenhouse Gas Emissions (GHG)*

- Maintain existing on-site renewable energy sources (including wind turbines and PV array) which off-set GHG emissions by 732.8 tons CO<sub>2</sub>e/year (664,785 kg CO<sub>2</sub>e/year).
- Design and construct the new pump station inclusive of energy efficient design features to reduce energy use and minimize GHG emissions.
- Design and construct the proposed WPCF buildings and structures, with conditioned spaces, to achieve compliance with updated Energy Stretch Code requirements through the use of energy mitigation measures, including:
  - Energy efficient building envelopes;

- Energy efficient windows;
- Higher-efficiency heating, ventilation, and air conditioning (HVAC) systems;
- Energy efficient lighting;
- Premium motors for blowers and pumps;
- Using treated effluent instead of domestic water for process equipment needs; and
- Aeration & biological nutrient removal process control, blower, mixer, pumping and diffuser equipment upgrades.
- Implement building envelope retrofit/upgrades (including insulation, window replacements, etc.) of existing buildings.
- Install generators for backup power with EPA TIER 4 certification or CARB certification.

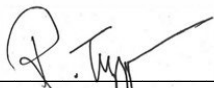
*Construction Period*

- Implement mitigation measures to prevent stormwater contamination including among others, use of erosion and sedimentation controls.
- Reduce potential air emissions through the use of heavy equipment retrofitted with diesel emissions control devices, using Ultra Low Sulfur Diesel for all trucks and construction machinery, and minimizing idling.
- Minimize construction period noise impacts to the extent feasible through the use of mufflers, selection of quieter equipment, and minimizing idling.
- Recycling of excavated material to the extent feasible and proper disposal of materials that cannot be recycled.

Conclusion

The NPC has sufficiently described the nature and general elements of the project change for the purposes of MEPA review and described measures to avoid, minimize and mitigate the project’s environmental impacts. Comments from Agencies do not request additional MEPA review of this project change. Accordingly, I find that an EIR is not required for this project change.

September 30, 2024  
Date

  
\_\_\_\_\_  
Rebecca L. Tepper

Comments received:

- 9/10/2024      Massachusetts Historical Commission (MHC)
- 9/12/2024      Cape Cod Commission (CCC)
- 9/20/2024      Massachusetts Department of Environmental Protection (MassDEP)

RLT/NJM/njm

RECEIVED

AUG 27 2024

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P.C. 16870

APPENDIX A

MASSACHUSETTS HISTORICAL COMMISSION

220 MORRISSEY BOULEVARD

BOSTON, MASS. 02127 After review of MHC files and the materials

617-727-8470, FAX: 617-727-5128 you submitted, it has been determined that

this project is unlikely to affect significant historic or archaeological resources.

PROJECT NOTIFICATION FORM

Project Name: Nitrogen Removal and Headworks Upgrade

Location / Address: 617 Bearses Way

City / Town: Barnstable, Massachusetts

Project Proponent

Name: Department of Public Works, Town of Barnstable, MA

Address: 382 Falmouth Road

City/Town/Zip/Telephone: Hyannis, MA 02601 508-790-6400

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Edward L. Bell 10 September 2024 Date  
Deputy State Historic Preservation Officer  
Massachusetts Historical Commission

Brian Messer, Wright-Pierce  
Marta Pinard, DEP-SER Program  
Sarah Kojeff, Special Commission  
Nicholas Murray, FEA/MEPA  
FEA# 16148

Agency Name

MassDEP

MassDEP

MEPA

Type of License or funding (specify)

Clean Water State Revolving Funds (CWSRF)

WP68

Notice of Project Change (NPC)

Project Description (narrative):

The proposed project involves equipment and process upgrades to the Barnstable Water Pollution Control Facility (BWPCF). Please see attached narrative for further description.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.

The project includes demolition of the existing pretreatment building and various pumps, piping, and equipment throughout the BWPCF. Please see attached narrative for a complete list.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.

The project includes rehabilitation of the existing blower building. The roof is being replaced and equipment in the building is being updated.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).

The project includes construction of a new headworks building, fine screen building, one aeration tank, process building, intermediate pump station, and MBR tanks. Plans and elevations are attached.

Date: **8/26/2024**

Project No.: **21435 | Barnstable, MA WPCF | Nitrogen Removal Improvements and New Headworks Facility Upgrade**

To: **Massachusetts Historical Commission**

From: **Brian Messner, PE; Stephanie Salerno, PE**

Subject: **Project Notification Form – Narrative**

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AUG 27 2024

MASS. HIST. COMM

RC.16870

**Project Summary**

The Town owns, operates, and maintains a municipal wastewater collection system for portions of the village of Hyannis, Barnstable Village, and other areas of town which will be significantly expanding as part of the Comprehensive Wastewater Management Plan (CWMP). The BWPCF consists of pretreatment, primary treatment, secondary treatment with biological nitrogen removal, chlorine disinfection, and rapid infiltration disposal facilities. The facility treats an average daily flow of 1.67 million gallons per day (MGD) and has a design maximum daily flow capacity of 4.2 MGD.

The Town has developed a 30-year CWMP which identifies several means to address excess nitrogen within Cape Cod watersheds. With nearly 80% of the nitrogen entering the watersheds through septic systems, sewer expansion has been recognized as an effective means for Barnstable to meet their water quality goals. The Town has identified in its CWMP plans to expand its collection system to serve an additional 11,823 parcels over the next thirty years. The Town anticipates an increase of approximately 2.9 MGD in average daily flow to the BWPCF due to sewer buildout and elimination of septic systems. The total projected future average daily flow will increase to 4.57 MGD. To accommodate the additional flow with the current total nitrogen mass limit requires an average discharge concentration of 3.6 mg/L and the Town has established a total nitrogen treatment level goal at the limits of current technology of 3.0 mg/L or less, meeting the current total maximum daily loads (TMDL) of the Lewis Bay watershed and providing increased flexibility for other potential discharge locations. This approach is also consistent with the Cape Cod Area Wide Water Quality Management Plan Update (208 Plan).

As stated in the CWMP, it is the Town's intention to use the BWPCF, expanding it as necessary, to treat as much of its wastewater as makes practical sense. Upgrades to the BWPCF are required for the Town to reliably meet a proposed average effluent total nitrogen of 3.0 mg/L. The BWPCF project includes an upgrade of the existing nutrient removal process to a 4-stage Bardenpho (with provisions for a fifth stage) followed by a membrane bioreactor (MBR) secondary treatment process. The upgrade also includes a new pretreatment building with primary screening, grit removal, and odor control, as well as new facilities for fine screening and septage receiving.

## Project Description

The proposed project will be bid in March 2025. Construction is expected to commence June 2025 and be completed by December 2028. Based on the needs identified in the CWMP and current design considerations, the following BWPCF improvements were identified:

- Pretreatment Building
  - Demolition of the existing pretreatment building and associated septic sewage station
  - Demolition of Secondary Clarifier No. 2
- Construction of a new Pretreatment Building
  - Two new coarse mechanical 3/8" bar screens and associated wash presses
  - Two new vortex grit removal units
    - All associated grit removal equipment (Pumps, blowers, grit washers)
  - Influent flow measurement – Parshall flumes in headworks channels
  - Odor control system – exhaust air treatment
  - Odor control system – chemical addition (hydrogen peroxide)
  - New combined screening and grit dumpster
  - Converting Secondary Clarifiers Nos. 1 & 3 to overflow flow equalization basins
  - Converting Secondary Pump Building to an overflow pump station to convey overflows from the former secondary clarifiers to the new Headworks Building
- Necessary yard and drainage pumping for all new facilities
- New septage receiving unit in a new building at the existing septage receiving area adjacent to the Solids Processing Building
- Primary Treatment
  - Modifications to primary inlet and outlet structures and piping for hydraulic requirements
- Secondary Treatment
  - Construction of a new fine screen building with three 2-mm fine screens
  - Conversion of the existing blower building to house compressed air system for new mega-bubble mixing in anoxic zones of the aeration basins and both deoxygenation tanks
  - One new aeration splitter structure
  - New aeration influent piping for hydraulic requirements
  - Two new deoxygenation tanks
  - Demolition of the existing aeration splitter structure
  - Conversion of Aeration Tanks No. 1 through 3 from MLE system to a 4 stage Bardenpho configuration
  - Construction of Aeration Tank No. 4 with 4-stage Bardenpho configuration
  - Flow equalization will be captured in the 4 aeration tanks (water level rise)
  - Construction of an intermediate pump station
  - Construction of an MBR system with four MBR trains and a permeate tank
  - Construction of a new Process Building to house MBR and related chemical and pumping systems including
    - New permeate pumps, air blowers, WAS pumps, piping, valves and appurtenances
- Effluent Pumping
  - Replace the effluent pumps and valves in kind
- Plant Water
  - Replace plant water skid with new plant water system at the new Process Building, install required site piping for existing and new plant water needs

- Civil, structural, architectural, mechanical, electrical, and instrumentation work required to incorporate the items from all three projects above in a fully functional and complete facility upgrade. Of note is the installation of a new main electrical service B and two emergency generators.

**Attachments**

|                     |  |
|---------------------|--|
| <b>Attachment A</b> | <b>USGS Site Map</b>                   |
| <b>Attachment B</b> | <b>Project Site</b>                    |
| <b>Attachment C</b> | <b>Representative Site Photography</b> |
| <b>Attachment D</b> | <b>Project Plans and Elevations</b>    |

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APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No.

What is the total acreage of the project area?

|                             |   |
|-----------------------------|---|
| Woodland _____ acres        | Productive Resources:                   |
| Wetland _____ acres         | Agriculture _____ acres                 |
| Floodplain _____ acres      | Forestry _____ acres                    |
| Open space _____ acres      | Mining/Extraction _____ acres           |
| Developed <u>5.09</u> acres | Total Project Acreage <u>5.09</u> acres |

What is the acreage of the proposed new construction? 0.55 acres

What is the present land use of the project area?

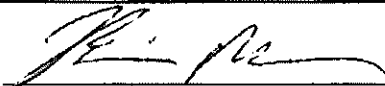
The land is currently used for the existing Barnstable Water Pollution Control Facility.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.

See attached USGS quadrangle map showing project location.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

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Signature of Person submitting this form:  Date: 8-26-2024

Name: Brian Messner, PE, Wright-Pierce

Address: 169 Main Street Plaza 700 Middlesex

City/Town/Zip: Middletown, CT 06457

Telephone: (860) 852-1919

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.

3225 MAIN STREET • P.O. BOX 226  
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD  
COMMISSION

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(508) 362-3828 • Fax (508) 362-3136 • [www.capecodcommission.org](http://www.capecodcommission.org)

September 12, 2024

Rebecca Tepper, Secretary of Energy and Environmental Affairs  
Executive Office of Energy and Environmental Affairs  
Attn: MEPA Office, Nicholas Moreno, MEPA Analyst  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Subject: Notice of Project Change  
EEA # 16148  
Barnstable Comprehensive Wastewater Management Plan, Barnstable, MA

Dear Secretary Tepper:

The Cape Cod Commission (Commission) originally reviewed the Barnstable Comprehensive Wastewater Management Plan (CWMP) in 2021 and determined it to be consistent with the Cape Cod Area Wide Water Quality Management Plan (208 Plan). The 208 Plan consistency review is the Commission's exclusive means of reviewing municipal wastewater and watershed management plans and projects on Cape Cod, and municipal nutrient management plans in the region must be prepared and implemented consistent with the 208 Plan.

The above referenced Notice of Project Change (NPC #2; dated July 2024) for the Town of Barnstable's CWMP includes three sewer expansion projects in areas adjacent to the existing sewer system. Combined, these three projects add 64 new parcels, 600 linear feet of 4-inch force main, 5,600 linear feet of 8-inch gravity sewer main, and two additional pump stations, one entirely new and one that will replace an existing pump station. All of the proposed connections will flow to the town's centralized sewer system and remove an additional 416 kg/yr of nitrogen (352 kg/yr from the Lewis Bay watershed, 64 kg/yr from Halls Creek watershed). There will be no net increase in impervious cover, no alteration to wetlands, and the new project elements will help the Town meet the nitrogen based TMDL regulatory requirements outlined for both the Lewis Bay and Halls Creek watersheds.

The NPC notes that replacement of the existing pump station in the Mark's Path Sewer Expansion Area is necessary because the addition of extraneous flows has exceeded the current pump's capacity. The Commission suggests investigating the source(s) of extraneous flows to the existing pump during the planned sewer expansion work, prioritizing this area for future infiltration and



inflow studies, and designing the pump station in accordance with *TR-16 Guides for the Design of Wastewater Treatment Works* to limit infiltration and inflow from the surrounding area. Increasing the capacity for the new pump will support future expansion and prevent downtime, but removing extraneous flows will prolong the life of future equipment and preserve treatment system capacity for wastewater collection and treatment.

Commission staff notes that the NPC does not contain significant changes from the approved CWMP. The NPC provides sufficient detail for review and adequately addresses the potential impacts associated with the proposal. The Commission supports and encourages towns to continue pursuing wastewater and watershed planning and management efforts in the Cape Cod region. Thank you for this opportunity to provide comments. Commission staff are available to discuss any questions or concerns.

Sincerely,



Kristy Senatori  
Executive Director

Cc: Project File  
Ziad F. Kary, Environmental Partners Group  
Dan Santos, Barnstable DPW Director  
Cape Cod Commission Chair  
Cape Cod Commission Committee on Planning and Regulation Chair  
Barnstable Cape Cod Commission Representative



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Maura T. Healey  
Governor

Kimberley Driscoll  
Lieutenant Governor

Rebecca L. Tepper  
Secretary

Bonnie Heiple  
Commissioner

September 20, 2024

Rebecca Tepper  
Secretary of Energy and Environment  
Executive Office of Energy and  
Environmental Affairs  
100 Cambridge Street, Suite 900  
ATTN: MEPA Office  
Boston, MA 02114

RE: NPC2 and NPC3 Review. EOEEA  
16148 BARNSTABLE. Barnstable  
Comprehensive Wastewater Management  
Plan (CWMP)

Dear Secretary Tepper,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed each of the Notices of Project Change (NPC2 and NPC3) for the Comprehensive Wastewater Management Plan (CWMP) for the Town of Barnstable, Massachusetts (EOEEA #16148).

The Project Proponent provides the following information:

### **NPC2: Sewer System Expansion:**

In accordance with the Special Review Procedures established under the prior MEPA review, the enclosed NPC is submitted to address changes to the proposed sewer system expansion program, including the construction of an associated pump station, which were not previously anticipated or considered during the prior MEPA review. The new expansion area includes 46 parcels on Orr's Avenue, Mitchell's Way, Holmes Lane, North Street, Stevens Street, and Pleasant Hill Lane which will flow to the new sewer pump station proposed at 268 Stevens Street. The expansion also includes 11 parcels on Bassett Lane and North Street, which will flow to the existing gravity sewer system on North Street. Finally, the expansion includes 8 parcels on Marks Path.

### **NPC3: Treatment Plant Upgrades:**

The overall goal of the Town's CWMP is to protect and restore Barnstable's fresh and saltwater bodies and its drinking water supplies, in compliance with the Cape Cod Commission's 208 Plan. The CWMP has been designed to address multiple wastewater needs of the community, specifically: nutrient removal, pond protection, drinking water protection, economic development and other wastewater concerns. To help meet these goals,

This information is available in alternate format. Contact Glynis Bugg at 617-348-4040.

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MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

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the Town has planned significant sewer expansion projects to eliminate a large portion of the onsite septic systems in the Town.

Once complete, the sewer expansion will nearly triple the flows to the BWPCF from average daily flows of 1,670,000 gpd to 4,573,550 gpd. The BWPCF discharges treated effluent through rapid infiltration basins (RIBs). This groundwater discharge ultimately flows to the Lewis Bay watershed. To protect the Lewis Bay watershed from the additional nitrogen load from this increase in wastewater flow, the CWMP proposed an upgrade of the BWPCF to achieve 3.0 mg/L or less total nitrogen in the effluent.

As stated above, the upgrades and expansion of the BWPCF will increase the capacity by more than 100,000 gpd or 10% of the existing capacity while at the same time reducing the concentration of effluent nitrogen. The Town has set a nitrogen reduction goal of an effluent total nitrogen concentration of 3.0 mg/L or less with the increased flows. At the time of the preparation of the CWMP, nitrogen removal alternatives for the BWPCF had not been evaluated. After selection of a nitrogen removal technology as described in the *2022 Aeration System and Denitrification Report (Attachment J)*, the Town began design of an upgrade of the existing nutrient removal process to a 4-stage Bardenpho (with provisions for a fifth stage) followed by a membrane bioreactor (MBR) secondary treatment process. The upgrade also includes a new pretreatment building with primary screening, grit removal, and odor control, as well as new facilities for fine screening and septage receiving.

It should be noted that construction of the upgrades will be phased. The initial construction project will accommodate the CWMP Phase 1 and 2 flows and loads as outlined in the CWMP. A future project to add additional tank volume will be required approximately 20-years from now to accommodate the CWMP Phase flows and loads.

### ***Bureau of Water Resources (BWR) Comments***

**Wetlands:** Projects proposed within areas subject to protection under the Wetlands Protection Act (the Act) that will remove, fill, dredge or alter a wetland require the filing of a Notice of Intent (NOI) and receipt of a valid Order of Conditions prior to the commencement of work. Therefore, a NOI should be filed with the Barnstable Conservation Commission and the Department prior to the commencement of work at the proposed sites if it involves activities proposed within an area subject to regulation under the Act.

The Proponent is advised to determine all wetland resource areas (including applicable buffer zones and riverfront areas) that will be encountered during construction as the construction documents are created and plan for the appropriate filings with the local Conservation Commission.

**Waterways:** Each of these Projects fall outside of waterways, Chapter 91 jurisdiction.

### **Wastewater:**

#### **NPC2 Comments: Sewer System Expansion:**

##### *Pump Station Compliance*

The Proponent has stated that the pump station will be equipped with emergency power.

The Proponent is reminded that the Wastewater Treatment Works is subject to 314 CMR 12.00; Operation Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers. In particular regarding pump stations at 314 CMR 12.04(5, 6 and 7)

- (5) Any person operating a sewer system which includes pump stations shall provide for routine inspection of the pump station facilities to ensure safe and proper operation of the pump station.

These measures shall include, at a minimum:

- a) daily inspections of all pump stations which are designed to pump peak flows of 100,000 gallons per day or greater;
- b) weekly inspections of all pump stations which are designed to pump peak flows of less than 100,000 gallons per day, and
- c) An inspection log book or electronic record shall be maintained by the operator, and shall include, at a minimum, the date of inspection, the operational condition of the station, the need for any preventive maintenance or repairs, and the dates and description of such preventive maintenance and repairs.

Less frequent inspections may be allowed by the Department only if the pump station is equipped with a SCADA system that provides real-time information on the status of the station to the system operator and if such an alternative inspection schedule is proposed by the sewer system operator and approved by the Department in writing.

- (6) All pumping, ejector or lift stations shall be provided with an adequate and operational alarm system that will transmit a warning of a malfunction at the station to a manned facility. Operational alarm systems shall be tested at least twice annually.
- (7) All pumping, ejector or lift stations shall be provided with an independent engine/ generator type source of electric power or an alternate source of power completely separate and apart from that supplied by the electric utility for emergency operations. This source shall be automatically activated by failure of any phase of the power supply or upon any fluctuation in voltage, the amount or duration of which would cause damage to the motors. As an alternative for small pumping ejector or lift stations which are not located adjacent to drinking water supplies, storage (including system storage) equal to the maximum daily amount of wastewater (including infiltration and inflow) which can be expected may be provided, or a portable standby generator may be used, or a portable engine driven pump which can be readily connected to the force main may be supplied. Electric generators and engine driven pumps shall be tested at least twice annually.

### **NPC3 Comments: Treatment Plant Upgrades:**

This Notice of Project Change (NPC) addresses the proposed expansion of Barnstable's Water Pollution Control Facility (WPCF), specifically the Nitrogen Removal and Headworks Upgrade. This upgrade is a key part of the Town's Comprehensive Wastewater Management Plan (CWMP). The NPC is submitted in line with the Special Review Procedures from the prior MEPA review, as the proposed expansion will increase the WPCF's capacity by more than 10% of its current capacity. The previous MEPA submissions did not include project parameters or impacts for the proposed Project. All work will occur within the existing boundaries of the BWPCF.

#### *Introduction*

The Town has identified in its CWMP plans to expand its collection system to serve an additional 11,823 parcels over the next thirty years. The WPCF currently handles an average daily flow of 1.67 million gallons per day (MGD) and is designed for a maximum of 4.2 MGD. Due to future sewer expansion and the elimination of septic systems, the town expects the average daily flow to increase by 2.9 MGD, bringing the total to 4.57 MGD over the next 30 years. To manage this increase while maintaining current nitrogen discharge limits, the facility aims to achieve a nitrogen concentration of

3.0 mg/L or less, aligning with Total Maximum Daily Load (TMDL) requirements and the Cape Cod Area Wide Water Quality Management Plan (208 Plan).

### *Embayment Restoration and Maintenance*

The expansion focuses on south-facing embayments: Lewis Bay, Centerville River, Popponeset Bay, and Three Bays watersheds in order to meet the established Nitrogen total daily maximum load limits (TMDLs). The overall goal of the Town's CWMP is to protect and restore Barnstable's fresh and saltwater bodies and its drinking water supplies, in compliance with the Cape Cod Commission's 208 Plan. The CWMP has been designed to address multiple wastewater needs of the community, specifically: nutrient removal, pond protection, drinking water protection, economic development and other wastewater concerns. To help meet these goals, the Town has planned significant sewer expansion projects to eliminate a large portion of the onsite septic systems in the Town. Once complete, the sewer expansion will nearly triple the flows to the BWPCF from average daily flows of 1,670,000 gpd to 4,573,550 gpd. This groundwater discharge ultimately flows to the Lewis Bay watershed. To protect the Lewis Bay watershed from the additional nitrogen load from this increase in wastewater flow, the CWMP proposed an upgrade of the BWPCF to achieve 3.0 mg/L or less total nitrogen in the effluent.

### *Wastewater Collection and Treatment*

The Project will occur at the site of the existing BWPCF at 617 Barse's Way. The Project will require modifications to the facility's Groundwater Discharge Permit (GWDP) and will occur within the existing 82.51-acre site of the treatment facility. About 5.09 acres will be altered, creating 0.93 acres of new impervious surfaces and 0.55 acres of new structures, with a future provision for 0.25 acres of additional structures. The maximum height of new buildings will be 40 feet, compared to the existing 61-foot structure on site. Stormwater best management practices per MassDEP Stormwater Handbook will be incorporated due to increase in impervious area.

The BWPCF consists of pretreatment, primary treatment, secondary treatment with biological nitrogen removal, chlorine disinfection, and rapid infiltration disposal facilities. The necessary upgrades to accommodate increased flow will involve expanding the facility's capacity and enhancing nitrogen removal. The expansion includes upgrading aeration tanks, nutrient removal technologies, and secondary clarifiers, which will increase the plant's capacity by over 100,000 gallons per day or 10% of its current capacity while lowering nitrogen levels in the effluent.

Various aeration and secondary treatment alternatives were assessed. The Town ultimately decided on the conversion of the existing aeration system from a Modified Ludzak-Ettinger (MLE) configuration to a 4-stage Bardenpho process and conversion from secondary clarifiers to a membrane bioreactor (MBR). The upgrade also includes a new pretreatment building with primary screening, grit removal, and odor control, as well as new facilities for fine screening and septage receiving. The MBR system was chosen to enhance the biological nutrient removal process by incorporating membrane filtration, which improves solids removal. This system replaces the existing secondary clarifiers with membranes that achieve high-level solids separation, resulting in very low levels of total suspended solids and particulate nitrogen in the effluent. The BWPCF discharges treated effluent through rapid infiltration basins (RIBs). The system is expected to consistently achieve an average annual total nitrogen concentration of less than 3.0 mg/L.

MassDEP will require a WP68 Treatment Works Plan for new or modified facilities associated with groundwater discharge or reclaimed water use permits.

*Conclusion*

MassDEP commends Barnstable's effort to make great strides towards the Lewis Bay Nitrogen reduction target goals. Acknowledgement and planning around projected growth helps the town address current needs and future needs to meet the embayment's nitrogen reduction targets. Notwithstanding unpredicted changes in land use and considering the use of "present day loads" per the MEP, the town may achieve the estimated removal requirements and meet concentrations at the sentinel stations. The Town has identified a potential groundwater mounding issue with the effluent discharge to the RIBs for future flows. The Town is currently exploring effluent disposal options including indirect (IPR) and direct potable reuse (DPR). Further MEPA review may be required depending on concerns that may be triggered by effluent discharge limitations.

*NPDES Construction General Stormwater Permit*

The Project Proponent acknowledges that its activities will require filing a Notice of Intent (NOI) with the United States Environmental Protection Agency (US EPA). Access to information regarding the NPDES Stormwater requirements and an application for the Construction General Permit is obtained by completing and submitting a Notice of Intent (NOI) to EPA via the [Stormwater Discharges from Construction Activities | National Pollutant Discharge Elimination System \(NPDES\) | US EPA.](#)

The Proponent is advised to consult with Margarita Chatterton at [Chatterton.Margarita@epa.gov](mailto:Chatterton.Margarita@epa.gov) or by phone at 601-918-1034 for questions regarding EPA's NPDES Construction General Permit requirements.

In addition, the Proponent is reminded that local Planning Boards (and/or other local authorities) may require stormwater controls beyond that of the Wetlands protection Act. These controls are usually created to keep stormwater onsite so as not to create nuisance conditions offsite.

*NPDES Industrial Stormwater Multisector Permit*

The stormwater section of the ENF does not acknowledge that the Project has filed or will need to file under the EPA NPDES Multi Sector General Permit – Sector T (Industrial Stormwater) Program ([https://www.epa.gov/sites/default/files/2015-10/documents/sector\\_t\\_treatmentworks.pdf](https://www.epa.gov/sites/default/files/2015-10/documents/sector_t_treatmentworks.pdf)).

For more information, consult with the 2021 NPDES MULTI SECTOR WEBSITE: <https://www.epa.gov/npdes/stormwater-discharges-industrial-activities-epas-2021-msgp>

The Proponent is advised to consult with Abed Ragab at [ragab.abdulrahman@epa.gov](mailto:ragab.abdulrahman@epa.gov) or 617-918-1695 and Michelle Vuto at [vuto.michelle@epa.gov](mailto:vuto.michelle@epa.gov) or 617-918-1222 for any of its questions regarding EPA's NPDES stormwater permitting requirements.

In addition, the Proponent is reminded that local Planning Boards (and/or other local authorities) may require stormwater controls beyond that of the Wetlands protection Act. These controls are usually created to keep stormwater onsite so as not to create nuisance conditions offsite

*Bureau of Waste Site Cleanup (BWSC) Comments***NPC2 Comments: Sewer System Expansion:**

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the

proposed project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

While several sites are located proximate to the proposed project area, MassDEP records indicate that many of these sites have been closed out under the MCP. However, given the dispersed project area, it is possible that residual contaminated soil could be encountered during the work that may require notification and/or the implementation of a Utility Related Release Abatement Measure (URAM) or other mechanism to manage contaminated soil. The Project Proponent is also advised to include within their contingency plan a plan to manage contamination encountered during construction activities that are not related to spills or releases that occur while completing construction.

Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer at [MassMapper](#). Under the Available Data Layers listed on the right sidebar, select “Regulated Areas”, and then “DEP Tier Classified 21E Sites”. MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: <https://eeaonline.eea.state.ma.us/portal/dep/wastesite/>

The Proponent is advised that if oil and/or hazardous materials are encountered during the installation of the new pump station and sewer expansion addressing contamination might be accomplished using the Utility Related Abatement Measures provisions at 310 CMR 40.0461 through 40.0469.

*The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.*

### **NPC3 Review – Treatment Plant Upgrades:**

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

While several sites are located proximate to the proposed project area, MassDEP records indicate that many of these sites have been closed out under the MCP. However, given the large project area, it is possible that residual contaminated soil could be encountered during the work that may require notification or other mechanism to manage contaminated soil. The Project Proponent is also advised to include within their contingency plan a plan to manage contamination encountered during construction activities that are not related to spills or releases that occur while completing construction.

RTN 4-0029314 is associated with the Barnstable Municipal Wastewater Treatment Plant located at 617 Bearse’s Way. The release consisted of 12 gallons of hydraulic fuel to soil. Approximately 6 tons of contaminated soil was excavated and transported offsite for asphalt batch recycling. A

confirmatory sample of the excavation area was non-detect EPH. A Permanent Solution No Conditions was submitted to MassDEP on July 6, 2022.

RTNs 4-0028856 and 4-0028855 have filed Downgradient Property Status in relation to the release of AFFF to groundwater in the vicinity. The presence of PFAS in groundwater at the Sites is attributed to migration of compounds from one or more off-Site release sources. There are two known PFAS release sites in the vicinity, Barnstable County Fire Training Academy (RTN 4-0026179) and Cape Cod Municipal Airport (4-0026437). The Proponent is advised to consider the potential for PFAS contamination in groundwater.

Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer at [MassMapper](#). Under the Available Data Layers listed on the right sidebar, select “Regulated Areas”, and then “DEP Tier Classified 21E Sites”. MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: <https://eeaonline.eea.state.ma.us/portal/dep/wastesite/>

*The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.*

### ***Bureau of Air and Waste (BAW) Comments***

#### **NPC 2 and NPC3 Comments:**

**Air Quality:** The Proponent should implement measures to alleviate dust, noise, and odor nuisance conditions, which may occur during the construction activities. Such measures must comply with MassDEP Bureau of Air and Waste Prevention (former BWP) Regulations 310 CMR 7.01, 7.09, and 7.10. To determine the appropriate requirements please refer to:

- 310 CMR 7.09 Dust, Odor, Construction, and Demolition
- 310 CMR 7.10 Noise

In order to comply with 310 CMR 7.09(2), the Proponent must file a BWP AQ-06 notification form ten days prior to site activities. More information can be found here: <https://www.mass.gov/doc/instructions-aq-06-constructiondemolition-notification/download> and here: <https://www.mass.gov/files/documents/2019/09/04/edep-aq06.pdf>

#### *New Source Review*

Many industrial, commercial and institutional development activities have facility heating and supplemental or emergency power generation units associated with them that may require air quality permitting/plan approval from MassDEP before construction or operation. If required, such applicable equipment and/or activities must be certified through MassDEP’s Environmental Results Program (ERP) at 310 CMR 7.26 or approved by MassDEP, prior to construction via the Plan Application program at 310 CMR 7.02, depending on equipment type, specifications, size, activities and/or emissions etc.



Smaller sized equipment/units such as, engines (emergency and non-emergency), combined heat and power (CHP) units and boilers may not require an air quality permit/plan approval, but instead may be subject to 310 CMR 7.26 performance standards and ERP certification. For example:

- 310 CMR 7.26(30) thru (37) – Boilers; and
- 310 CMR 7.26(40) thru (45) – Engines and Combustion Turbines (including Emergency Engines and Turbines)

Learn more about these provisions at <https://www.mass.gov/how-to/compliance-certification-commercial-industrial-or-institutional-boiler> and <https://www.mass.gov/how-to/compliance-certification-stationary-engine-or-turbine>.

The Air Pollution Control Staff in MassDEP’s Boston and Regional Offices can provide assistance regarding the applicability of MassDEP’s regulations for any such equipment and/or activities planned.

### *Construction Activities*

The Project’s construction activities must conform to current Air Quality Control Regulations. The Proponent should implement measures to alleviate dust, noise, and odor nuisance conditions, which may occur during the construction activities. Such measures must comply with MassDEP Bureau of Air and Waste Prevention (former BWP) Regulations 310 CMR 7.01, 7.09, and 7.10.

The MassDEP noise policy DAQC 90-001, dated February 1,1990 establishes a guideline for enforcing its noise regulation at 310 CMR 7.10. The MassDEP policy considers a facility is in violation of the regulation 310 CMR 7.10 if the facility increases the broadband sound level by more than 10 dB (A) above ambient or produces a “pure tone” condition. These criteria are measured at the facility’s property line and at the nearest inhabited residence. All activities at a facility must be in compliance with these criteria.

MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA’s Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

In order to comply with 310 CMR 7.09(2), the Proponent must file a BWP AQ-06 notification form ten days prior to site activities. More information can be found here: <https://www.mass.gov/doc/instructions-aq-06-constructiondemolition-notification/download> and here: <https://www.mass.gov/files/documents/2019/09/04/edep-aq06.pdf>

MassDEP reminds the Proponent that unnecessary idling (*i.e.*, in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (Section 7.11 of 310 CMR 7.00). Regarding construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent *install permanent signs* limiting idling to five minutes or less on-site.

**Solid Waste Management.** The Solid Waste section reminds the Proponent of the following compliance requirements:

- *Compliance with Waste Ban Regulations:* Waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including *310 CMR 19.017: Waste Bans*. Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. The goals of the waste bans are to promote reuse, waste reduction, or recycling; reduce the adverse impacts of solid waste management on the environment; conserve capacity at existing solid waste disposal facilities; minimize the need for construction of new solid waste disposal facilities; and support the recycling industry by ensuring that large volumes of material are available on a consistent basis. Further guidance can be found at: <https://www.mass.gov/guides/massdep-waste-disposal-bans>.
  - MassDEP recommends the Proponent consider source separation or separating different recyclable materials at the job site. Source separation may lead to higher recycling rates and lower recycling costs. Further guidance can be found at: <https://recyclingworksma.com/construction-demolition-materials-guidance/>
  - For more information on how to prevent banned materials from entering the waste stream the Proponent should contact the RecyclingWorks in Massachusetts program at (888) 254-5525 or via email at [info@recyclingworksma.com](mailto:info@recyclingworksma.com). RecyclingWorks in Massachusetts also provides a website that includes a searchable database of recycling service providers, available at <http://www.recyclingworksma.com>.
- *Asphalt, brick and concrete:* Asphalt, brick and concrete (ABC) rubble, such as the rubble generated by the demolition of buildings or other structures must be handled in accordance with the Solid Waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble. The Proponent should refer to MassDEP's Information Sheet, entitled " Using or Processing Asphalt Pavement, Brick and Concrete Rubble, Updated February 27, 2017 ", that answers commonly asked questions about ABC rubble and identifies the provisions of the solid waste regulations that pertain to recycling/reusing ABC rubble. This policy can be found on-line at the MassDEP website: <https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf>
  - Reuse of any demolition material requires submittal of MassDEP's BWP SW41 – Beneficial Use Determination – Restricted Applications. The permit is intended to protect public health, safety and the environment by comprehensively regulating the reuse of waste materials as effective substitutes for a commercial product or commodity. Information pertaining to this requirement is available at <https://www.mass.gov/doc/instructions-sw-39-40-41-42-beneficial-use-determinations/download>.
- *Tree removal/land clearing:* As defined in 310 CMR 16.02, clean wood means “discarded material consisting of trees, stumps and brush, including but limited to sawdust, chips, shavings, bark, and new or used lumber”...etc. Clean wood does not include wood from commingled construction and demolition waste, engineered wood products, and wood containing or likely to

contain asbestos, chemical preservatives, or paints, stains or other coatings, or adhesives. The Proponent should be aware that wood is not allowed to be buried or disposed of at the Site pursuant to 310 CMR 16.00 & 310 CMR 19.000 unless otherwise approved by MassDEP. Clean wood may be handled in accordance with 310 CMR 16.03(2)(c)7 which allows for the on-site processing (i.e., chipping) of wood for use at the Site (i.e., use as landscaping material) and/or the wood to be transported to a permitted facility (i.e., wood waste reclamation facility) or other facility that is permitted to accept and process wood.

If you have any questions regarding the Solid Waste Management Program comments above, please contact Jennifer Wharff at [Jennifer.Wharff@mass.gov](mailto:Jennifer.Wharff@mass.gov) or Mark Dakers at [Mark.Dakers@mass.gov](mailto:Mark.Dakers@mass.gov).

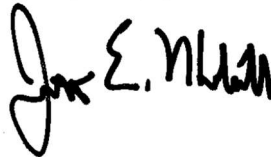
### ***Proposed s.61 Findings***

The “Certificate of the Secretary of Energy and Environmental Affairs on the Notice of Project Change” may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

### ***Other Comments/Guidance***

The MassDEP Southeast Regional Office appreciated the opportunity to comment on this NPC. If you have any questions regarding these comments, please contact George Zoto at [George.Zoto@mass.gov](mailto:George.Zoto@mass.gov) or Jonathan Hobill at [Jonathan.Hobill@mass.gov](mailto:Jonathan.Hobill@mass.gov).

Very truly yours,



Jonathan E. Hobill,  
Regional Engineer,  
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN:Gerard Martin, Regional Director  
John Handrahan, Deputy Regional Director, BWSC  
Seth Pickering, Deputy Regional Director, BAW  
Jennifer Viveiros, Deputy Regional Director, ADMIN  
Maggie Leary, Wastewater Management, BWR  
Andrew Osei, Wastewater Management, BWR  
Maissoun Reda, Chief, Wetlands and Waterways, BWR  
Brendan Mullaney, Waterways, BWR  
Mark Dakers, Solid Waste, BAW

Jennifer Wharff, Solid Waste, BAW  
Mark Poudrier, Chief, Air/New Source Review, BAW  
Christopher Redus, Air/New Source Review, BAW  
Angela Gallagher, Chief, Site Management, BWSC  
Amanda Cantara[, Site Management, BWSC