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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
SINGLE ENVIRONMENTAL IMPACT REPORT

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	: November 23, 2020

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Single Environmental Impact Report (Single EIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

Project Description

As previously described in the Expanded Environmental Notification Form (EENF)/Comprehensive Wastewater Management Plan (CWMP) and reiterated in the Single EIR, the CWMP describes the Town of Barnstable's plan to address water quality management concerns resulting from population growth and increased development. The CWMP is a 30-year plan focused on traditional sewering solutions to replace the current dependence on septic systems; these solutions will be implemented in three 10-year phases. The plan has been 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.

Project Site

The Town of Barnstable is located in the central section of Cape Cod. Its year-round population is 45,193 (US Census 2010) while seasonal population can grow to more than three times that amount. The Town is organized into seven villages, and contains eight watersheds (no geographic relationship to the villages) including the Popponesset Bay Watershed, Rushy Marsh Watershed, Three Bays System Watershed, Centerville River System Watershed, Halls Creek Watershed, Lewis Bay Watershed, Barnstable Harbor Watershed and a very small portion of the Scorton Creek Watershed. Of these watersheds, three are contained solely within the Town's borders (Centerville River System Watershed, Halls Creek Watershed and Rushy Marsh Watershed), while the rest are shared with neighboring communities. Five of the eight watersheds have a Total Maximum Daily Load (TMDL) for nitrogen.

A TMDL is the maximum pollutant load a water body can receive and still meet water quality standards. TMDLs are created through a cooperative process involving multiple agencies. In the example of establishing TMDLs for nitrogen on Cape Cod, the process began with the Massachusetts Estuaries Project (MEP), a collaborative effort among MassDEP, University of Massachusetts School of Marine Science and Technology (SMAST), and the United States Geological Survey (USGS). The MEP developed nitrogen thresholds for 70 estuaries in Southeast Massachusetts using a water quality model that predicts water quality changes resulting from land use decisions. The model is run with different watershed loading values to demonstrate that the "nitrogen threshold" can be met, which is the upper limit of nitrogen loading that can enter the estuary and still meet water quality goals. Once MEP has established the nitrogen thresholds, MassDEP takes those numbers and prepares a draft TMDL for the water body. The draft TMDLs are then sent to the United States Environmental Protection Agency (USEPA) for approval; after such approval, the TMDLs become enforceable. TMDLs are in place for Popponesset Bay, the Three Bays System, the Centerville River System, Halls Creek, and Lewis Bay.

The Town's existing wastewater infrastructure includes the Barnstable Water Pollution Control Facility (BWPCF) located in Hyannis and a smaller wastewater plant in Marstons Mills referred to as the Marstons Mills Wastewater Treatment Plant (MMWWTP). The BWPCF treats an average daily flow of 1.67 million gallons per day (mgd) and has a maximum-month average daily flow of 1.97 mgd (2018 flow data). The BWPCF is permitted for a treatment capacity of 4.2 MGD and an effluent disposal capacity of 2.7 mgd.

There are several regions within the Town of Barnstable that have been identified as combined habitats of rare species and wildlife by the Massachusetts Division of Fisheries, Natural Heritage and Endangered Species Program (NHESP).

The Federal Emergency Management Agency (FEMA) prepared a series of Flood Insurance Rate Maps (FIRM), effective July 16, 2014, that depict flood zones across the town. Coastal Flood Zones with Velocity Hazard (VE zone) are located along the Town's northern and southern coasts and the 100-year flood plain extends landward from the coasts with varying Base Flood Elevations (BFE).

Permitting and Jurisdiction

The project is undergoing MEPA review and is subject to preparation of a mandatory EIR pursuant to 301 CMR 11.03(5)(a)(3) of the MEPA regulations because it requires State Agency Actions and involves the construction of one or more new sewer mains of ten or more miles in length. The project also exceeds the ENF threshold at 301 CMR 11.03(3)(b)(1)(f) because it involves the alteration of one half or more acres of any other wetlands. Expansion activities for the Town's wastewater treatment facility may exceed thresholds at 301 CMR 11.03(5)(b)(2) - Expansion of an existing wastewater treatment and/or disposal facility by the greater of 100,000 gpd or 10% of existing capacity. Future increases in effluent disposal capacity may meet or exceed the following MEPA review thresholds depending upon the design capacity and location of the effluent disposal expansion facility:

- 301 CMR 11.03(5)(a)(1) - Construction of a new wastewater treatment and/or disposal facility with a capacity of 2,500,000 or more gpd;
- 301 CMR 11.03(5)(b)(1) - Construction of a new wastewater treatment and/or disposal facility by the greater of 100,000 or more gpd;
- 301 CMR 11.03(5)(b)(2) - Expansion of an existing wastewater treatment and/or disposal facility by the greater of 100,000 gpd or 10% of existing capacity; and,
- 301 CMR 11.03(5)(b)(4)(c)(ii) - New discharge or Expansion in discharge to groundwater of 50,000 or more gpd of sewage within any other area.

The project requires a Sewer Connection/Extension Permit and Groundwater Discharge Permit from Massachusetts Department of Environmental Protection (MassDEP) and a State Highway Access Permit from the Massachusetts Department of Transportation (MassDOT).

The project also requires review under the Massachusetts Endangered Species Act (MESA) by the Natural Heritage Endangered Species Program (NHESP) and review by the Massachusetts Historical Commission under Section 106 of the National Historic Preservation Act of 1966 and M.G.L. Chapter 9, sections 26-27C (950 CMR 70-71). The project may require Federal Consistency Review with the Massachusetts Coastal Zone Management Office. It is subject to review under the May 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol ("the GHG Policy").

The project will require an Order of Conditions (OC) from the Barnstable Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions (SOC) from MassDEP). The project is subject to review by the Cape Cod Commission (CCC) to determine its consistency with the Section 208 Area-wide Water Quality Management Plan. The project will also require a National Pollutant Discharge Elimination System (NPDES) Construction Activities Permit from the U.S. Environmental Protection Agency (EPA) and authorizations from the U.S. Army Corps of Engineers (ACOE) under the General Permits for Massachusetts.

The Town will receive Financial Assistance from the Commonwealth through the State Revolving Fund (SRF). Therefore, MEPA jurisdiction is broad and extends to all aspects of the project with the potential to cause Damage to the Environment as defined in the MEPA regulations.

Environmental Impacts

As described in the Single EIR, implementation of the CWMP Recommended Plan will add one acre of impervious area and impact 390,000 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. According to the Single EIR, the proposed sewer main expansion will be entirely within existing roadways and thus will be exempt from MESA review pursuant to 321 CMR 10.14 (6) and (10). The pump station component of the program may not meet the exemption because it will be outside of roadways and thus may require review by NHESP. Future expansion of wastewater facility capacity and effluent disposal may impact groundwater resources and will require groundwater discharge permitting by MassDEP.

The project is intended to improve aquatic health and water quality by providing more effective wastewater treatment. Measures to avoid, minimize, and mitigate project impacts include the use of erosion and sediment control measures during construction, and limiting areas of disturbance by locating work within previously disturbed areas where possible. Certain aspects of the project will require additional permitting by NHESP and MassDEP.

Special Review Procedure

While the Town's initial CWMP is being reviewed at a master planning level through this Single EIR, the plan sets forth a 30-year buildout scenario with varying levels of details for future phases. To outline the parameters for future reviews, a Special Review Procedure (SRP) is being concurrently established. The Town has worked with the MEPA Office to develop a SRP and submitted a proposed framework, which was published for comment together with the Single EIR. Among other items, the SRP addresses the types of project changes that will require future Notice of Project Change (NPC) filings. I will issue the SRP as a separate document following issuance of this Certificate on the Single EIR.

Review of the Single EIR

The Single EIR was generally responsive to the Scope provided in the EENF Certificate. It described the project, identified existing conditions, and described potential environmental impacts and mitigation measures. It provided a brief description of applicable statutory and regulatory standards and requirements and described how the project will meet those standards. The Single EIR provided a list of required local, state, and federal permits and provided an update on the status of each of these actions. The Single EIR also provided a response to comments and draft section 61 findings.

As described in the Single EIR and prior filings, Town plans to address the water quality and wastewater needs of the community through implementation of a number of improvements which fall into the following project categories:

- Expansion of the sewer system;
- WPCF Rehabilitation Projects;

- WPCF Expansion Projects;
- Expansion of the Effluent Disposal Capacity;
- Non-traditional solutions; and
- Inter-municipal partnerships.

The sewer system expansion program is the core of the Town's CWMP and will consist of the installation of ±190 miles of new sewer infrastructure, 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); it also includes construction of pump stations. As noted above, additional work is proposed to rehabilitate and expand the Town's wastewater treatment facility, expand effluent disposal capacity, and to engage in other non-traditional and regional solutions.

The Town proposes an Adaptive Management Plan (AMP) that will include the reassessment and adjustment of the CWMP as phases of the plan are implemented. The AMP will be informed by the findings of a Wastewater Implementation Committee (WIC) that will monitor the progress of the CWMP, the results of on-going water quality monitoring in the watersheds, WWTF water quality reports, and population growth data. The AMP will assist the Town in evaluating its progress in attaining water quality goals, including compliance with the TMDLs, and adjusting the design or phasing of structural and non-structural components of the CWMP. Based on data generated from future potential demonstration projects, the Town will assess how the CWMP could be modified to incorporate nontraditional approaches.

Alternatives Analysis

As required by the Scope, the Single EIR provided a conceptual description of non-traditional nitrogen reduction measures that it intends to implement through demonstration projects that will assist in achieving nitrogen removal. The Single EIR also provided a conceptual description of environmental impacts and mitigation measures associated with these non-traditional nitrogen reduction measures. The Single EIR addressed how the monitoring program will be designed to evaluate the effectiveness of non-traditional treatment options.

The Town's main effort relative to non-traditional projects is focused on the Three Bays Watershed, specifically the dredging of Mill Pond, which had been suggested as a nitrogen reduction effort in previous planning. The EENF was initially focused on the dredging of Mill Pond, which had been suggested as a nitrogen reduction effort in previous planning for the Town. However, the Single EIR has expanded the approach to look at the Marstons Mills River, from its origins in cranberry bogs at its upper end to where it exists into North Bay, as a complete treatment system. To organize this approach, the nutrient removal from the river system was categorized into four efforts:

1. Utilization of the cranberry bogs at the upper end of the river
2. Mill Pond dredging
3. Innovative nutrient removing septic systems, and farming practices along its reaches
4. Warren's Cove dredging and aquaculture

The Single EIR included a technical memorandum dated October 25, 2017 titled *Fresh Pond Restoration and Management, Benthic Nutrient Flux of Mill Pond, Town of Barnstable, Quantifying the Rates of Nutrient Release/Uptake from Sediments in Mill Pond and Comparison to Historic Rates*. The report concluded if the nitrogen attenuation capacity of Mill Pond could be restored to 50% removal, then approximately 2,200 kg/year of additional nitrogen could be removed from the downstream system, or about 10% of the total nitrogen that needs to be removed from the Three Bays system. Sediment has been gradually filling Mill Pond over the past four centuries. This has resulted in very short hydraulic residence time (~1 day) in the pond, which likely results in a reduction in the retention of nitrogen by the pond, thus passing most of it down the Marstons Mills River to the Three Bays System. Removal of watershed derived total nitrogen by Mill Pond appears to be approximately 25% annually, but only 7%-11% in the June–August period. The Single EIR indicates the sediments that had accumulated over the years in the pond are suspected to be acting as a source for nitrogen within the system. The project therefore proposes to dredge Mill Pond in order to increase the nitrogen removal potential of Mill Pond, and also employ nitrogen removal strategies in the headwaters of Mill Pond. The headwaters of Mill Pond contain approximately 150 acres of cranberry bogs. The Town is working closely with some of the cranberry bog farmers to examine a series of pilot programs that would allow for significant nitrogen attenuation to occur without negatively impacting their farming of the bogs.

These non-traditional solutions are expected to be implemented in Phase 1 (first 10 years) of the CWMP. The Town will then monitor the performance/results of these solutions over a 5-10 year period, thus establishing their benefit. Some of these solutions will require separate permitting before they can be initiated. The Single EIR anticipates seeking relief from MassDEP from a requirement to achieve an equivalent amount of traditional nitrogen removal (sewers) contained in the later phases (Phase 3) of the plan, should non-traditional solutions prove effective. The proposed SRP includes procedures to review non-traditional methods of nitrogen removal through future MEPA filings.

The Single EIR included more detail about the water quality embayment monitoring program than what was described in the EENF. The Single EIR describes that many of the non-traditional solutions will depend on adequate background data from either long term water quality monitoring stations. Evaluation of the non-traditional solutions will specifically relate to the evaluation of the nutrient removal effectiveness and sustainability of the solution. An update on non-traditional solutions monitoring will be provided in the 5-year adaptive management updates. Section 6.4 of the Single EIR included the general approach utilized, how the monitoring program will be implemented, monitoring locations and water quality parameters to be measured. The embayment monitoring program is conducted on four dates per summer season between July and September, on a mid-ebb tide between 6-9 AM. According to the Single EIR results of the water quality monitoring will be compiled annually to assess trends in water quality data as the CWMP is implemented. The results of the monitoring program will provide information on changes in water column nutrient concentrations, dissolved oxygen conditions, and associated habitat restoration.

The Town also proposes to provide an update on non-traditional solution projects in the 5-year Adaptive Management Plan update, detailing any development of initial monitoring,

permitting, environmental impacts, and mitigation measures realized at that time. Generally, the non-traditional solutions monitoring plans will be long-term (5-10 years) to firmly establish the nutrient removal before requesting nitrogen reduction credit from MassDEP; such credit could result in a reduction in scale of the proposed sewering program.

Regional Planning

The Single EIR outlined how the Town is investigating several opportunities for regional cooperation with neighboring towns. Many local studies have shown that economies of scale from a cost savings and sustainability perspective offer significant advantages to regional solutions. Barnstable shares several watersheds with neighboring communities and is investigating community partnerships with them. The Town shares the Popponesset Bay Watershed with Sandwich and Mashpee. The Towns have executed an inter-municipal agreement (IMA) to establish a work group. The objective of the work group is to come to agreement on a formula for allocation of responsibilities and costs, establish a municipal fiscal agent lead. The Single EIR also discussed that there are water quality concerns in the Shoestring Bay Subwatershed of Popponesset Bay and the Cotuit Bay Subwatershed of the Three Bays Watershed that would not be addressed via nitrogen trading in the IMA. As aforementioned, a potential "westerly solution" would allow Barnstable to carry out the 3-stage sewer expansion plan addressing those concerns which is also discussed in the SRP. The Single EIR indicates that no further progress has been made since the EENF on these initiatives.

The Town of Barnstable has also been participating in discussions with the Upper Cape Communities in an effort to form an Upper Cape regional treatment and disposal solution at Joint Base Cape Cod (JBCC). The Single EIR states that Barnstable, Bourne, Falmouth, Mashpee and Sandwich are conducting a regional evaluation of wastewater discharge options on Joint Base Cape Cod JBCC. Specifically, the Single EIR also states that the Towns are discussing the possibility of utilizing the existing wastewater treatment facility at JBCC, which currently consists of a treatment plant and four infiltration basins northwest near the Cape Cod Canal, as a regional facility.

The Single EIR notes that there are four existing infiltration basins at JBCC near the Cape Cod Canal that are located within the Camp Edwards Wildlife Management Area. Chapter 47 of the Acts of 2002 transferred the care, custody and control of the northern 15,000 acres of JBCC to the Division as the Camp Edwards Wildlife Management Area to conserve fish and wildlife resources for the benefit of the citizens of the Commonwealth. The Single EIR acknowledges that any projects or activities within the Camp Edwards Wildlife Management Area, including but not limited to any potential upgrades to or expansion of existing wastewater treatment facilities, will require review and approval by the NHESP. The SRP framework has proposed a mechanism for conducting appropriate MEPA reviews to the extent these planning efforts result in regional wastewater management solutions that obviate the need for town-specific CWMPs.

Adaptive Management Plan

As required by the Scope in the EENF Certificate, the Single EIR provided a detailed discussion of how an Adaptive Management Plan (AMP) will allow for a systematic and prescribed process to report on the Town's activities and to incorporate new technical information and potential agreements among the towns in the shared watersheds. The AMP will assist the Town to evaluate the Town's compliance with established TDMLs and identify the need for adjustments or mid-course corrections to subsequent phases of the structural and non-structural components of the Preferred Alternative program.

The AMP approach will assist the Town in achieving the nutrient reduction goals. The Town of Barnstable's CWMP proposes to achieve the nitrogen reduction goals for all estuaries through implementation of a 30-year sewer expansion program consisting of three, 10- year phases and three separate stages. The CWMP also includes various non-traditional approaches to be implemented by the Town for potential relief of traditional nitrogen removal (sewers). The AMP approach allows the Town to move forward with the plan described within this CWMP and make modifications to the plan after evaluation of the results of implemented projects. According to the Single EIR, the AMP will also allow the Town to respond to changing environmental conditions, land use updates, and improved technologies. The Town will prepare an adaptive management plan update every five years which will provide an update on progress of the plan.

The Single EIR provided a description of the Town's water quality monitoring program in the Town of Barnstable. In order to ensure the Town is on track with the implementation of the CWMP and working toward TMDL compliance, the Town has committed to maintain regular communication with the regulatory agencies, such as MassDEP and NHESP, and document progress in an AMP update report every five years. This report will provide updates to:

- Progress towards effluent disposal solutions;
- Financial plan updates;
- Status of sewer expansion using the GIS-tool to quantify the amount of nitrogen removed from the watershed;
- Status of Route 28 sewer backbone to serve the western portion of the Town
- Project schedules and projects completed;
- Barnstable WPCF upgrades;
- Continued improvements to existing collection sustem via pump station rehabilitation and infiltration/inflow programs;
- Continued progress towards permitting, design and construction of non-traditional solutions;
- Continued discussions with neighboring communities relative to potential IMA partnerships and western permits within shared watersheds;
- Continued discussions relative to JBCC and other potential western solutions;
- Status of sewer expansion "stages";
- Updates in build-out projections;
- Monitoring and sampling update;
- Policy decisions/Changes in nitrogen loading associated with development/redevelopment and sewering;
- Wastewater treatment volumes and nutrient concentrations of influent and effluent;

- Status of potential inter-municipal partnerships;
- Assessment of non-traditional solutions on nutrient removal effectiveness;
- Analysis of water quality trends in estuaries, ponds, and groundwater;
- Response of eelgrass and benthic communities to reduced nitrogen loading; and,
- Proposed changes in the implementation of traditional and non-traditional solutions in future phases to meet the TMDL.

Land Use and Alteration

The Single EIR provided an estimate of the total amount of alteration associated with the proposed project in greater detail than what was provided in the EENF (including areas to be altered for sewer mains, pump station impacts, and other project components). The Single EIR included a breakdown showing the amount of alteration for different project elements. The Single EIR also clarified the location, type and amount of alteration in previously undisturbed areas. The majority of work proposed will be within existing disturbed areas (i.e. public roadways, private roadways, etc.) and will be reconstructed to match existing conditions. In previously undisturbed areas that will be altered (i.e. new pump stations) the Single EIR states that projects will each be designed to limit the amount of impervious areas, while maintaining functionality. The Single EIR provided an estimate of the total previously undisturbed area to be altered. The Single EIR described the proposed pump stations by approximate size (i.e. Small, Medium, and Large) and established an estimated square footage of impervious area associated with each size. The total project anticipates five (5) "large" pump stations, nineteen (19) "medium" pump stations and sixty-two (62) "small" pump stations. The total previously undisturbed area to be altered is calculated based on the following table:

Pump Station Size	**Total Number**	**Impervious Area/Pump Station (sf)**	**Total Alteration of Previously Undisturbed area (sf)**
SMALL	62	500	31,000
MEDIUM	19	1,000	19,000
LARGE	5	2,000	10,000
		TOTAL SF:	**60,000 sf or 1.4 Acres**

Each project component will be designed to minimize the amount of impervious area required to provide functional, operational infrastructure for the Town's municipal sewer system. The majority of the new impervious area will be due to construction of the required pump stations to convey wastewater to the WPCF. All stormwater discharges from new impervious areas will be treated on-site and will not flow/connect into the Town's stormwater system (or municipal sewer system). On-site treatment systems will be designed in accordance with the latest editions of the Massachusetts Stormwater Management Standards.

Growth Management

Executive Order #385 requires that State and local agencies engage in protective and coordinated planning oriented towards resource protection and sustainable economic development. For reasons of both environmental protection and fiscal prudence, investments in public infrastructure should be carefully targeted toward those areas for which clear existing needs have been established and for areas where denser development is appropriate, thereby relieving development pressures on open space, agricultural lands, and other valuable natural resources.

The Single EIR identified parcels located within the proposed sewer service areas that are undeveloped or that have development constraints due to the lack of sewers, and compared the potential secondary growth impacts that may be induced by public sewers with local and regional growth management policies and zoning. The Single EIR acknowledges that flows will increase as vacant lots are developed, existing lots are redeveloped, or commercial usages change. The Single EIR describes that in order to make these projections it is traditional to consider various predictions of "ultimate buildout", which is the maximum amount of growth that can occur given existing zoning, and then modify this to what is realistic, and from there to what could actually occur during the planning horizon of the project. The Single EIR considers three forms of buildout:

- Ultimate Buildout – This is the maximum potential growth given existing zoning regardless of other conditions. This helps define the upper limit of flow that could ever occur, but is frankly not realistic.
- Realistic Buildout – This considers the ultimate buildout, but then also considers what realistically could occur. Factors that inform this are the history of growth, predicted economic cycles during the period, and an understanding of the community.
- Realistic Buildout within the planning period – This is the value that is most useful. It looks at realistic buildout and projects the extent of it that will occur either during the planning period for the project, or more importantly the design life of the infrastructure that is being installed.

The Single EIR also considered data from the U.S. Census and Massachusetts Department of Transportation (MassDOT), which were provided to Metropolitan Planning Organizations and job growth analysis. Both indicate a continuation in population decline over the next three decades, with the regional population dipping below 200,000 in 2030. These projections, however, do not take into account factors such as the Cape's profile as a seasonal and retirement destination.

The Single EIR concluded that the Town of Barnstable's designated role as a regional commercial center, the existing availability of infrastructure to support higher density development, and a trend toward encouraging future residential and commercial growth all support projections that residential and commercial infrastructure demands on infrastructure could increase. It concluded that aligning housing and economic development objectives with infrastructure planning is critical to the Town's economic future and environmental health, as well as the long-term fiscal stability of the municipality. The availability of infrastructure, specifically municipal wastewater, is a fundamental factor in business and housing development

decisions. Available connections to municipal wastewater treatment allow for development at higher densities, therefore bringing down development costs and allowing for the most productive use of land. Encouraging the development and redevelopment of land in areas appropriately supported by multi-modal transportation infrastructure, away from sensitive environmental or historic resource areas, and in proximity to community activity centers will support the growth of this community, while supporting community character and fiscal sustainability.

After the review of recent studies, the Single EIR summaries that indicates that Barnstable can expect modest year-round population growth (±215 residents/year) over the next ten years as a result strong economic prospects. Additionally, Barnstable will also remain a seasonal retirement community is expected to continue. The Single EIR also that these population forecasts should be paired with observed trends towards decreasing household size, diminishing single-family residential permit activity, and increases in multi-family housing production. The Town expects to see modest population growth, coupled with increased demand for smaller-scale housing units, and continued strong demand for seasonal housing.

Wetlands and Waterways

According to the Single EIR, the project will impact LSCSF and BLSF. The project may qualify as a limited project pursuant to 310 CMR 10.53(3)(d) for the construction of underground public utilities (sewer lines). In addition, construction of wastewater treatment plants' related structures is exempt from the requirements for Riverfront Area pursuant to 310 CMR 10.58(6)(h). According to the Single EIR, the majority of work within these areas will occur within paved right-of-way, will be temporary in nature, and will be restored to original conditions following completion of construction. Therefore, no mitigation in the form of compensatory flood storage or other measures is proposed. As discussed below, the Town will continue to consider climate change impacts of infrastructures, such as pump stations, located in flood plain areas. The local conservation commissions, and MassDEP in the event of an appeal, will assess compliance with the Wetlands Protection Act and implementing regulations during subsequent permitting. The Single EIR states that any pumping station structures located in floodplains will consider the implications of sea level rise in terms of constructed elevations. Electrical equipment and standby generators will be designed to be three feet above the 100-year flood elevation. The Town will consider limited use of low-pressure sewer systems in flood prone areas, or areas with very shallow groundwater, but intends to limit the use of low-pressure sewers to reduce the maintenance concerns to residents associated with low-pressure sewers.

The Single EIR provided a delineated plan that included all environmental resources areas located within areas proposed for sewering, including wetlands, drinking water supplies, sensitive habitats, fisheries, designated Areas of Critical Environmental Concern (ACEC), Article 97 lands, historic resources, and agricultural lands. The Single EIR demonstrated that the impacts have been minimized, and that adequate mitigation will be pursued.

Rare Species

The Town of Barnstable's ponds, bays and estuarine waters provide critical foraging, breeding, migration and over-wintering habitats for a suite of state-listed rare species. Portions of Barnstable are mapped as Priority Habitat for state-listed rare species. All projects proposed within Priority Habitat, which are not otherwise exempt from review pursuant to 321 CMR 10.14, require review through a direct filing with the Natural Heritage and Endangered Species Program (NHESP) within the Division of Fisheries and Wildlife pursuant to the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (MESA; 321 CMR 10.00).

The Town anticipates that the sewer main expansion program will be exempt from MESA review as the Town intends to install the sewer infrastructure within existing roadways. However, as described in the Single EIR, the pump station component of the sewer expansion program is located near or within Priority Habitat for state-listed rare species. According to comments from NHESP, if proposed activities do not meet the MESA exemptions, a checklist for these activities must be filed with NHESP. The Town should submit detailed construction plans to NHESP to confirm the exempt status.

The Single EIR indicates that the non-traditional for the Mill Pond Dredging project for nutrient management is mapped as Priority Habitat for a state-listed fish species. The Single EIR anticipates that the project, as proposed, will likely result in a Take (321 CMR 10.18 (2)(b)) of state-listed species. If NHESP should subsequently find that the project will require a Conservation and Management Permit (CMP) pursuant to MESA, these impacts to rare or endangered species will need to be evaluated to provide avoidance/mitigation strategies. I ask that the Town continue to work closely with NHESP and consult with the Barnstable Conservation Commission during the preparation of any future NPCs outlined in the SRP. The future NPCs outlined in the SRP should identify necessary project construction and post-construction conditions and commitments to avoid an adverse impact to resource area habitats of state-listed species located within and adjacent to the se potential CWMP project areas. The Town has proposed procedures in the SRP to enable a review of rare species impacts as appropriate during future phases of the CWMP buildout plan.

Wastewater / Facility Upgrades and Effluent Disposal

As previously disclosed, the Single EIR reiterates that the Barnstable Water Pollution Control Facility (BWPCF) discharges all of its treated wastewater effluent to disposal sites at the treatment facility. The Town is planning to invest in maintenance and improvement of existing infrastructure, including pump stations, collection system upgrades, and infrastructure to minimize infiltration and inflow (I/I). The Town is planning to upgrade and expand the facility's treatment capacity throughout Phase 1 of the CWMP with improvements to the reactor trains, modifications of the secondary clarifier and expansion of the aeration system. The goal is to reduce the annual effluent nitrogen concentration while accommodating the anticipated new flow from sewer expansion projects.

In 2017, MassDEP conservatively lowered the disposal capacity in the Town's groundwater discharge permit to allow time to study the disposal capacity and understand the potential downgradient hydrogeological impacts that may result from increased sewer flows.

Where soil and groundwater conditions are favorable for recharge of groundwater, treated sewage effluent can infiltrate into the soil and move down to the groundwater creating a recharge capacity. The preliminary findings presented in the EENF indicated that the estimated average annual recharge capacity of the BWPCF is 2 mgd when the depth to groundwater is less than 8 feet at a downgradient receptor. Previous comments from MassDEP indicated support for the Town's plans to maintain flows below 2 mgd until the Town designs, permits and constructs the new disposal sites. The Single EIR presented the proposed locations and preliminary designs for the proposed new disposal sites which are mainly located in the current footprint of WPCF and on the site area of the WPCF. As indicated in the SRP, full details of the location of proposed new effluent disposal sites and their associated impacts will be disclosed in future NPC filings.

As required by the Scope, the Single EIR identified upgrades and modifications of the wastewater treatment facilities through Phase 1 and proposed that future upgrades be reviewed through the SRP to the extent that trigger MEPA review thresholds. The proposed activities at wastewater treatment facilities through Phase 1 are as follows:

- Solids Handling Facility - The solids handling facility processes the residuals from septage receiving and the primary (two of them) and secondary (three of them) clarifiers. This system is nearing the end of its design life, and the additional flow from new sewers will further tax this equipment and necessitate expansion. This project is currently being designed and is expected to be constructed in Fiscal Year (FY) 21-23.
- Aeration Tanks/System – The aeration tanks are where biological activity reduces the organic carbon components of the wastewater. Properly configured, they can also reduce some of the nitrogen load as well. There are three parallel reactor trains, each with a volume of 170,000 cubic feet. The system was originally designed to treat 4.2 MGD for Biological Oxygen Demand (BOD) removal (without nitrogen removal). To achieve nitrogen removal tank volume is required for the nitrification and denitrification process, thus reducing the rated capacity of the aeration tanks. Based on treatment plant operation during July and August, and results of computer modeling, the estimated maximum month capacity of the aeration tanks is less than 2.5 MGD. Expansion of the aeration system to accommodate the new flows will be required within the first 3-5 years of the plan.
- Nutrient Removal Technologies – The existing facility reduces nitrogen concentrations to an annual average of approximately 6 mg/l of Total N. Though a relatively low concentration, in combination with the amount of flow being treated this can still equate to a significant nitrogen load entering the environment. The Town is limited to an annual mass nitrogen load limit of 49,315 pounds per year. Reducing the nitrogen concentration from 6 mg/l to 3 mg/l in the effluent would remove 18.9 kg/day-N of existing nitrogen load from the watershed (approximately 35% of the total attenuated load to be removed
- Headworks Facilities – The headworks is the portion of the plant that receives all the flows from the collections system and provides pretreatment of the wastewater. Though the headworks facilities are adequately sized for the projected flows from the sewer expansion, they do not have space to receive the new sewer piping, and the equipment is generally very dated technology that is beyond its design life.
- Backup Power – With the expansion of the plant, there will be a need for additional backup power on site. As such the Town will need to design and install a second

emergency backup generator in order to handle the increased electrical loads placed on the facility.

- Secondary Clarifiers – Secondary clarifiers are the tanks that follow the aeration system, where the biological process are settled out from the wastewater prior to the treated water being disposed of. The Town currently has three secondary clarifiers (two are 70-foot diameter and one is 85-foot diameter). Between them is the capacity to treat up to 4.7 MGD (max day). To accommodate the full sewer expansion, additional secondary clarifier capacity will be needed. As such the Town will evaluate, design, and construct improvements to the secondary clarifiers at the BWPFC in order to increase treatment capacity. The evaluation, design and construction/upgrade of this facility is expected to occur at the end of Phase I and the beginning of Phase II.

As described in the SRP, the projects that fall into the rehabilitation category will improve existing facilities that need rehabilitation due to age of the infrastructure and include the following projects: Solids Handling Facility, Headworks Facilities, and Backup Power. The main goal of these projects is to rehabilitate existing aging infrastructure. These projects will consider the increased flow as a result of the sewer expansion program, but will not increase the permitted flow to the WPCF nor require modification to the WPCF's Groundwater Discharge Permit (GWD). These projects are not anticipated to exceed any MEPA review thresholds.

The projects that fall into the treatment plant capacity expansion category are projects required in order to accommodate the increase in flow at the WPCF and will require modification to the WPCF's GWDP. The treatment plant capacity expansion projects include: Aeration Tanks/System, Nutrient Removal Technologies, and Secondary Clarifiers. The Single EIR indicates that all of these projects are anticipated to occur during Phase 1 which will be in the next 10 years. The Town anticipates the first adaptive management plan in 2025 will provide updates to the Barnstable upgrades. Should these projects exceed MEPA review thresholds, full details of the facility upgrades and associated impacts will be the subject of future NPC filings under the SRP.

Climate Change

Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569; the Order) was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and directs agencies within the administration to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Scope in the EENF Certificate requested additional analysis of climate change impacts.

Adaptation and Resiliency

As previously disclosed, components of the wastewater collection infrastructure, such as proposed pump station sites, appear to be located within coastal flood zones. The Single EIR

examined alternative locations for the infrastructure proposed to be sited in these locations. Where feasible in the 86 pump station locations the Single EIR proposed alternate locations, however where it was not feasible the Town proposed to implement climate change adaptation measures to increase the resiliency of the proposed infrastructure.

The Single EIR included a hazard risk assessment that included the available climate-related hazard and infrastructure information to assess the likelihood of climate-related hazard consequences (e.g., sewer system inundation, pump station failure, etc.) and their potential impacts on wastewater system reliability. Potential hazard consequences and their impact on the associated assets were assessed to determine their likelihood of occurring and to help prioritize adaptation measures. The Town examined locating structures away from floodplains and also planning for stand-by power sources. The Town concluded that if the vulnerability cannot feasibly be eliminated, such as to relocate a pump station outside of or above the 100-year floodplain, then the remaining adaptation alternatives will instead focus on improving the resiliency to a specific hazard such as constructing/retrofitting the existing pump station with flood barriers and elevating critical electrical components to increase flood resiliency.

The Town reviewed climate change predictions, including data available on the resilientMA.org website. The Single EIR concluded the sewer expansion plan will require the installation of infrastructure within floodplains in order to serve properties within these areas. The Town has committed to make efforts to locate critical infrastructure such as pump stations, outside floodplains. However, it will not be feasible to locate all infrastructure outside of floodplains. This issue should be further explored through future NPC filings, as more specific project design information becomes available.

The Town also evaluated several resiliency improvements for the existing pump stations. One of the identified projects is the relocation of the existing Rendezvous Lane Pump Station, which is located adjacent to Barnstable Harbor and has experienced flooding during recent coastal storm events. The Town is currently under contract for the construction of the existing Rendezvous Lane Pump Station, which will move the station and associated infrastructure away from Barnstable Harbor and three feet above the existing100-year flood elevation.

Greenhouse Gas Emissions

As required by the Scope in the EENF Certificate, the Single EIR included a project-specific GHG evaluation of emissions associated with modification to the WWTF and any other facilities, such as pump stations, that may emit GHG. It established a Base Case and an as-proposed Preferred Alternative Case along with providing the other information required by the GHG Policy. The project baseline was formulated in conjunction with the Town based on: the number of septic systems; the number of innovative/alternative (I/A) septic systems; the number of sewer connections; the number and size of sewage pump stations; and the number, size and function of wastewater treatment plants required for the CWMP. The pump stations were estimated in three categories:

- Small (50 to 500 gpm, submersible pump station);
- Medium (500 to 1200 gpm, submersible pump station with small electrical building); and,

- Large (1200 to 7500 gpm, wetwell/drywell pump station with superstructure)

The treatment facility will generally include the following functions/features:

- Preliminary treatment/ headworks and septage receiving;
- Primary treatment;
- Advanced secondary treatment for nitrogen removal;
- Separate stage denitrification filters;
- Disinfection;
- Effluent pumping and disposal;
- Biosolids thickening for off-site disposal; and,
- Standby power system.

The Town consulted MassDEP's "Energy Efficiency and Renewable Energy Opportunities at Water and Wastewater Facilities" webpage[1], the Water Environment Research Foundation's *Utilities of the Future Energy Findings*[2] report published in 2014, the EPA's *Evaluation of Energy Conservation Measures for Wastewater Facilities*[3] (2010), the *Water and Wastewater Energy Management Best Practices Handbook*[4] (2010) prepared by the New York State Energy Research and Development Authority, and other resources to identify energy efficiency practices at WWTFs. The Single EIR reviewed energy-efficient alternatives identified in the reports cited above to indicate whether the Town will adopt the measure or not, and to provide a rationale for the decision.

As discussed in the Single EIR, most of the measures provide energy savings to a select portion of the treatment facility system (e.g., aeration systems, dewatering systems, heating and cooling energy, etc.) and many of the measures have overlapping benefits (e.g., perform facility energy assessment, energy education, specific process improvements, avoid throttling valves, install VFDs, etc.). Engineering judgement was used to assess cumulative energy reductions for the major process systems based on the ranges from a literature search. The direct emissions (resulting from gas burning) portion of the treatment facility's energy use was derived using the Barnstable treatment facility's reported natural gas consumption. Estimated energy use reduction was converted to GHG emissions reduction (as CO_2-equivalent) using EPA conversion factors. This preliminary GHG emission estimate may be influenced substantially by process and operations decision made in the design phase.

The estimated GHG emissions for the Baseline Scenario are 11,280,000 kg CO_2/year. The estimated GHG emissions for the CWMP with Preferred Measures are 9,060,000 kg CO_2/year. The Preferred Measures are therefore estimated to result in a 20% decrease in overall GHG emissions. This is the net result of a 5% decrease in emissions from sewage pumping stations, and a 30% decrease in emissions from centralized wastewater treatment.

[1] http://www.mass.gov/eea/agencies/massdep/climate-energy/energy/water-utilities/energy-efficiency-at-water-and-wastewater-facilities.html
[2] Available online at https://www.werf.org/a/ka/Search/ResearchProfile.aspx?ReportId=ENER6C13
[3] Available online at https://nepis.epa.gov/Exe/ZyPDF.cgi/P1008SBM.PDF?Dockey=P1008SBM.PDF
[4] Available online at https://www.nyserda.ny.gov/-/media/Files/Programs/Clean-Energy-Communities/NYSERDA-Water-Wastewater-Energy-Management-Best-Practices-Handbook.pdf

Historical/Archaeological Resources

The Single EIR included a US Geological Survey topographical map that clearly locates the phased project areas and scaled project plans showing existing and proposed conditions. The Town should continue to coordinate with MHC to ensure review of any potential historic impacts from the project. The Town states that MHC deems the project will not have an "adverse effect" on historic or archaeological resources. The Town proposes that it will coordinate with MHC on a "per project" basis, and submit project specific details as appropriate in future NPC filings addressed in the SRP.

Construction Impacts

The Single EIR identified that all construction and demolition activities will 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 Town has committed 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 Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Town to reuse or recycle construction and demolition (C&D) debris to the maximum extent.

Mitigation and Draft Section 61 Findings

The Single EIR contained a separate chapter on mitigation measures and draft Section 61 Findings for each Agency taking action on the project. It described mitigation measures and contained a table demonstrating the responsible party for implementing mitigation, monetary amounts where applicable, and a schedule for implementation. The draft Section 61 Findings will serve as the primary template for State Agency Permit conditions, and should be revised or updated as appropriate based on comments received and further consultation with Agencies after issuance of this Certificate. As described in the Single EIR and prior MEPA documents, the Town has committed to implement the following measures to avoid, minimize, and mitigate environmental impacts:

Construction Period

- Detailed traffic management plans will be developed for each project.
- In order to reduce the duration of construction and associated traffic disturbances, the Town will consider work during the summer construction moratorium; as long as it is determined by the Director of Public Works that doing so will not result in a significant negative traffic impacts for residential and commercial areas.

Land Alteration

- Sewer infrastructure will be designed to be within existing roadways or disturbed/developed areas to the extent practicable.
- Pump station sites will be designed to minimize new land disturbance and impervious areas.
- Stormwater BMPs will be installed to mitigate any new impervious surfaces. BMPs will be designed to comply with the Massachusetts Stormwater Management Standards and applicable Town Regulations.
- Additionally, the Town will consider stormwater BMPs at existing wastewater facilities, where land and funds are available, in order to mitigate the existing impervious surfaces.

Rare Species

- The Town has committed continue to consult with NHESP to identify any future project that will require a Conservation and Management Permit (CMP) pursuant to MESA

Greenhouse Gas Emissions (GHG)

- Pump stations and the treatment facility will be designed to consider the implementation of energy efficient design features to reduce energy use and minimize GHG release.
- Project specifications will be developed to require the contractors to perform work consistent with MassDEP's Clear Air Construction Initiative and the Massachusetts Diesel Retrofit Program and will incorporate limitations on contractor equipment idling.

The Town will provide a GHG self-certification document to the MEPA Office that is signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) and indicates that all of the required mitigation measures, or their equivalents, have been completed upon construction of appliable project components.

Wetlands

- No direct impact to wetland resource areas are anticipated, except for floodplains. As discussed, the project will take measures to relocate infrastructure outside flood plains to the extent practicable.
- The majority of the proposed work (i.e. sewer gravity mains and force mains within roadways) is anticipated to be exempt from 310 CMR 10.0 per 310 CMR 10.02(2)(b) 1. & 2.j.
- Where projects impact wetland resource buffers, and are not exempt, the Conservation Commission will review these elements, through the submission of a Request for Determination of Applicability (RDA) or Notice of Intent (NOI) filing, and address potential impacts by implementation of standard mitigation measures.
- Sewer piping will be located below grade, within previously disturbed roadways, and will be equipped with watertight covers, when within floodplains.

Climate Change

- Pump stations located in floodplains will be designed to be flood-proofed, would pose little impact on potential floods and will not result in a significant alteration to the flood zones.

Conclusion

Based on a review of the Single EIR, comment letters, and consultation with State Agencies, I find that the Single EIR adequately and properly complies with MEPA and its implementing regulations. State Agencies shall forward their final Section 61 Findings for publication in the Environmental Monitor.

K. Theoharides

December 30, 2020
Date

Kathleen A. Theoharides

Comments received:

12/17/2020	Natural Heritage & Endangered Species Program (NHESP), Massachusetts Division of Fisheries & Wildlife
12/22/2020	Water Resources Commission (WRC)
12/23/2020	Massachusetts Department of Environmental Protection (MassDEP– Southeast Regional Office (SERO)
12/23/2020	Cape Cod Commission (CCC)

KAT/ACC/acc

From:	Leddick, Jesse (FWE)
To:	Canaday, Anne (EEA)
Cc:	Cheeseman, Melany (FWE)
Subject:	RE: Town of Barnstable CWMP SEIR - MassWildlife Comments
Date:	Monday, December 7, 2020 2:29:09 PM

December 7, 2020

Kathleen A. Theoharides, Secretary
Executive Office of Environmental Affairs
Attention: MEPA Office
Anne Canaday, EEA No. 16148
100 Cambridge Street
Boston, Massachusetts 02114

Project Name:	*Comprehensive Wastewater Management Plan*
Proponent:	*Town of Barnstable*
Location:	*Town-Wide*
Document Reviewed:	*Single Environmental Impact Report*
EEA No.:	*16148*
NHESP No.:	*12-30930*

Dear Anne:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") has reviewed the *Single Environmental Impact Report* (dated November 2020) for the Town of Barnstable's Comprehensive Wastewater Management Plan (CWMP) and would like to offer the following comments regarding state-listed species and their habitats. The Division submitted comments regarding the CWMP's Environmental Notification Form on March 12, 2020. The Town of Barnstable subsequently contacted the Division to discuss the status and overall structure of the CWMP. The Town acknowledged the Divisions comments - especially in regards to the need for proactive review and permitting of any new effluent disposal site proposed within Priority Habitat - and confirmed that it would work with the Division to permit all projects within Priority Habitat pursuant to the Massachusetts Endangered Species Act (M.G.L. c. 131A) and its implementing regulations (MESA; 321 CMR 10.00) on a project by project basis. Therefore, the Division does not have any additional comments regarding the CWMP at this time beyond those already provided in its March 12, 2020 letter.

We appreciate the opportunity to comment on this project. If you have any questions about the Division's comments, please contact Jesse Leddick, Chief of Regulatory Review, at jesse.leddick@mass.gov or 508-389-6386. We look forward to working with the Town of Barnstable to further its efforts to improve water quality in its ponds, bays and estuarine waters, and to address potential impacts to state-listed species and their habitats where necessary.

Best regards,

Jesse Leddick
Chief of Regulatory Review
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
Temp Phone: (978) 707-9587 | e: Jesse.Leddick@mass.gov
mass.gov/masswildlife | facebook.com/masswildlife

Important: Our offices are currently closed and all non-essential state employees, including Environmental Review staff, are working remotely. We will respond to your inquiry as quickly as possible. Thank you for your patience. Please visit our website (www.mass.gov/nhesp) for updates.

From: Scrima, Casey <Casey.Scrima@town.barnstable.ma.us>
Sent: Friday, November 13, 2020 4:09 PM
To: Scrima, Casey <Casey.Scrima@town.barnstable.ma.us>
Subject: Town of Barnstable CWMP SEIR

Good Afternoon
On the Behalf of the Town of Barnstable we are pleased to submit this Final Comprehensive Wastewater Management Plan (CWMP) and Single Environmental Impact Report in accordance with MEPA Regulations.

The following link provides the full report and appendices:
https://tobshare.town.barnstable.ma.us/message/iygzAlS94fnOfDqtYCZBm9

Our special Review Procedures report can be found here:
https://tobshare.town.barnstable.ma.us/message/l0ynyCT148IGVzhTqxCHQu

Our office has been temporarily closed due to the current pandemic. Upon opening we will be sending out hard copies to those who have requested them.

Please reach out with any questions.

Sincerely,

Casey Scrima

Casey Scrima
Engineering Aide
Town of Barnstable | DPW

P: (774) 487-5400
Casey.Scrima@town.barnstable.ma.us

THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION
100 CAMBRIDGE STREET, BOSTON MA 02114

December 22, 2020

Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: Anne Canaday, MEPA Office
EOEEA #16148
100 Cambridge Street
Boston, MA 02114

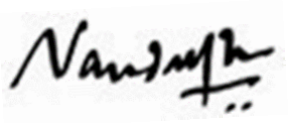
Dear Secretary Theoharides:

The Water Resources Commission (WRC) staff has reviewed the Single Environmental Impact Report (SEIR) for the Town of Barnstable's Comprehensive Wastewater Management Plan (CWMP). The recommended plan occurs in three phases over 30 years and addresses multiple wastewater needs of the community, including nutrient load reduction and the protection of freshwater ponds and drinking water sources. The CWMP will require upgrades to the Barnstable Water Pollution Control Facility (BWPCF), including upgrades/rehabilitation projects addressing the aeration system, denitrification improvements, solids handling system, headworks, secondary clarifiers, and an expansion of effluent disposal capacity.

The SEIR notes that as part of an alternatives analysis for effluent disposal, several alternatives such as Impact Mitigation, Land Based Treated Effluent Disposal Options, Ocean Outfall Effluent Disposal Options, and options outside of the Town of Barnstable were examined. The Interbasin Transfer Act (ITA; 313 CMR 4.00) may be triggered if the selected effluent disposal alternative causes wastewater to cross both a municipal boundary and a major river basin boundary.

Because the effluent disposal expansion project(s) have not been designed at the time of the preparation of the SEIR/CWMP, these future projects will be submitted to MEPA as a Notice of Project Change (NPC). We strongly encourage the Town of Barnstable's staff and/or its consultant to reach out to WRC staff via Anne.Carroll@mass.gov when determining the effluent disposal approach(es), in advance of filing the NPC, to discuss any potential ITA implications of the proposed approach(es).

Thank you for the opportunity to comment.



Vandana Rao, PhD
Executive Director, MA Water Resources Commission

cc: Anne Carroll, DCR
Erin Graham, DCR

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

December 23, 2020

Kathleen A. Theoharides
Secretary of Environment and Energy
Executive Office of Energy and
Environmental Affairs
100 Cambridge Street, Suite 900
ATTN: MEPA Office
Boston, MA 02114

RE: SEIR Review. EOEEA 16148
BARNSTABLE. Barnstable CWMP SEIR
Nov 2020

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Single Environmental Impact Report (SEIR) for the Comprehensive Wastewater Management Plan (CWMP) for the Town of Barnstable, Massachusetts (EOEEA #16148). The Project Proponent provides the following information for the Project:

> This CWMP/SEIR is the culmination of years of wastewater planning efforts within the Town. The recommended plan is a three-phase, 30-year plan, focused on traditional wastewater solutions (sewer collection, treatment and disposal). The plan also includes non-traditional projects which will be installed, monitored and the results presented to regulatory agencies for consideration. The Town undertook this effort in order to address the multiple wastewater needs of the community, specifically the reduction of nutrient loading to coastal embayments to meet total maximum daily loads (TMDLs), fresh water pond protection, and drinking water source protection.

Bureau of Water Resources Comments

Wetlands. The SEIR addresses the Wetlands Program's comments and the Project's future permitting requirements as described in the Section 61 Findings Section.

Waterways. Several of the Non-Traditional Solutions listed as part of the CWMP will potentially require authorization through Chapter 91 Licenses and/or Permits from the Waterways Program. These include improving nutrient attenuation in the Marston's Mills River, dredging of Mill Pond, and dredging and establishment of an aquaculture nursery in Warren's Cove. Based on the information contained in the Special Review Procedures (SRP) document, these projects appear to

be early in the planning stages and additional information will be further evaluated during design development to determine the extent of required permitting.

The Waterways Program encourages the Town to discuss these Projects early in the design phase to determine an appropriate permitting strategy. Additional Projects that are incorporated into the CWMP in the future could also require Chapter 91 authorization if they are in tidelands, Great Ponds, or navigable rivers or streams including placing a pipeline on a bridge over a navigable river or stream.

Wastewater Management. The Wastewater Management-Cape and Islands Section has reviewed the Barnstable SEIR/CWMP and have found it responsive to the comments provided as part of our EENF review. Additional work completed for the preparation of the SEIR/CWMP demonstrates that the Town has considered appropriate strategies to achieve nitrogen reduction goals sufficient to meet target thresholds in all impaired estuaries and embayments.

MassDEP is pleased that the SEIR/CWMP commits to exploring intermunicipal partnerships and pursuing a watershed permit with the Towns of Mashpee and Sandwich for their shared watersheds as well as with the Town of Yarmouth for its shared watershed.

Bureau of Waste Site Cleanup Comments

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 (OHM) that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are many MCP sites located near and possibly within the proposed Project areas. Some of these sites have been closed, but other sites require on-going response actions and reporting until final closure under the MCP. A list of all MCP sites will not be presented here. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php. Under "Available Data Layers" 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#!/search/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.

The Proponent has identified that if OHM is encountered during the construction of this Project, addressing OHM encountered could likely be accomplished using the Utility-related Abatement Measures provisions at 310 CMR 40.0461 through 40.0469.

The Proponent should determine if there are any known OHM releases that could impact the Project area prior to construction and note any areas where OHM is encountered on the as-built plans.

Bureau of Air and Waste (BAW) Comments

Air Quality. The Proponent has adequately addressed MassDEP comments. MassDEP will contact the Proponent to discuss any additional permitting requirements.

Solid Waste. As a result of its review of the Single Environmental Impact Report ("SEIR") for the Barnstable Comprehensive Wastewater Management Plan - Lakeville ("Project" or "site"), EEA No. 16148, the Massachusetts Department of Environmental Protection ("MassDEP") Solid Waste Management Section ("Solid Waste") is providing the following comments regarding the Section 61 Findings and has verified the proposed Project's solid waste compliance requirements pursuant to Massachusetts Solid Waste Regulations: 310 CMR 19.000: *Solid Waste Management* and 310 CMR 7.15: *Asbestos Regulation.*

Solid Waste Comments:

1. *Waste Ban Regulations*: MassDEP enforces solid waste regulations that restrict certain recyclable materials from disposal. Known as "waste bans", these regulations (310 CMR 19.017) prohibit the disposal of recyclable materials as solid waste. Waste materials 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.

   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

   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. RecyclingWorks in Massachusetts also provides a website that includes a searchable database of recycling service providers, available at https://recyclingworksma.com/.

2. Demolition and Asbestos Containing Waste Material: Should the Project include demolition of structures, piping, pumps, and/or other materials which may contain asbestos, the demolition activity must comply with both Solid Waste and Air Quality Control regulations. Please note that MassDEP promulgated revised Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. The new regulations contain requirements to conduct a pre-demolition/renovation asbestos survey by a licensed asbestos inspector and post abatement visual inspections by a licensed asbestos project monitor. The Massachusetts Department of Labor and Work Force Development, Division of Labor Standards (DLS) is the agency responsible for licensing and regulating all asbestos abatement contractors, designers, project monitors, inspectors, and analytical laboratories in the state of Massachusetts.

   In accordance with the revised Asbestos Regulations at 310 CMR 7.15(4), any owner or operator of a facility or facility component that contains suspect asbestos containing material (ACM) shall,

prior to conducting any demolition or renovation, employ a DLS licensed asbestos inspector to thoroughly inspect the facility or facility component, to identify the presence, location and quantity of any ACM or suspect ACM and to prepare a written asbestos survey report. As part of the asbestos survey, samples must be taken of all suspect asbestos containing building materials and sent to a DLS certified laboratory for analysis, using USEPA approved analytical methods.

If ACM is identified in the asbestos survey, the Proponent must hire a DLS licensed asbestos abatement contractor to remove and dispose of any asbestos containing material(s) from the facility or facility component in accordance with 310 CMR 7.15, prior to conducting any demolition or renovation activities. The removal and handling of asbestos from the facility or facility components must adhere to the Specific Asbestos Abatement Work Practice Standards required at 310 CMR 7.15(7). The Proponent and asbestos contractor will be responsible for submitting an *Asbestos Notification FormANF-001* to MassDEP at least ten (10) working days prior to beginning any removal of the asbestos containing materials as specified at 310 CMR 7.15(6)**.**

The Proponent shall ensure that all asbestos containing waste material from any asbestos abatement activity is properly stored and disposed of at a landfill approved to accept such material in accordance with 310 CMR 7.15 (17). The Solid Waste Regulations at 310 CMR 19.061(3) list the requirements for any solid waste facility handling or disposing of asbestos waste. Pursuant to 310 CMR 19.061(3) (b) 1**,** no asbestos containing material; including VAT, asphaltic-asbestos felts, or shingles; may be disposed at a solid waste combustion facility.

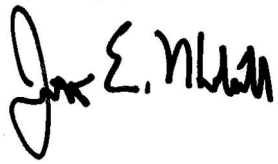
The SEIR states that excess native and imported material we be disposed of offsite. Uncontaminated material should be stored and used at another appropriate location to conserve resources.

If you have any questions regarding the Solid Waste Management Program comments above, please contact Mark Dakers at (508) 946-2847 or for any asbestos related comment, please contact Cynthia Baran at (508) 946-2887.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this SEIR. If you have any questions regarding these comments, please contact Jonathan Hobill at (508) 946-2870.

Very truly yours,



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

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC

Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Dan Gilmore, Wetlands and Waterways, BWR
Brian Mullaney, Wetlands and Waterways, BWR
Mark Dakers, Solid Waste, BAW
Alison Cochrane, Solid Waste, BAW
Allen Hemberger, Site Management, BWSC

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CAPE COD COMMISSION

Via Email
December 23, 2020
Kathleen A. Theoharides, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Anne Canaday, MEPA Analyst
100 Cambridge Street, Suite 900, Boston, MA 02114

Re: Single Environmental Impact Report- EEA No. 16148 (CCC File No. 20037)
Barnstable Comprehensive Wastewater Management Plan

Dear Secretary Theoharides:

Overall, the Town of Barnstable Comprehensive Wastewater Management Plan (CWMP)/Single Environmental Impact Report (SEIR) provides sufficient environmental details for subsequent permit review and adequately addresses the potential impacts associated with the proposal. The CWMP is well considered and will address coastal, surface, ground, and fresh water quality challenges resulting from excessive nutrients and contaminants of emerging concern.

All municipal nutrient management plans in the region must be prepared and implemented consistent with the Cape Cod Area Wide Water Quality Management Plan (208 Plan). A consistency determination with the 208 Plan is the Cape Cod Commission's principal means of reviewing municipal wastewater or water quality plans aimed at managing excess nutrient loads in watersheds.

Given the size of the sewer expansion component of the CWMP, the Town proposes to execute the program in smaller, more manageable projects over the course of 30 years. These projects will be defined by boundaries such as neighborhoods and "sewersheds." Each of these projects will go through their own permitting process and 208 consistency review. The following are areas where additional information will need to be provided, once the smaller project elements have been designed, in order to determine 208 consistency:

- Details about the treatment plant capacity expansion projects
- Effluent disposal expansion needs and locations
- Non-traditional solutions - as supplementary projects they are not intended to be reviewed or permitted under the current application and will undergo separate review as the projects are developed, if needed.

Commission staff recommends clarification of the language in Sections 0 and 1 of the CWMP as it pertains to the phases involved in developing the CWMP versus the phases involved in implementing the CWMP.

Commission staff found it helpful to have previous relevant wastewater planning studies and evaluations summarized in Section 1.3 *Summary of Previous Relevant Wastewater Planning in Barnstable*. Similarly, summaries of the following sections would be helpful in completing the 208 consistency review:

- Determination of the effluent disposal and reuse planning guidance document and case study report (Appendix P) in the main document (Section 1.3.9). This study was conducted to assist communities in

completing the process of finding suitable land for discharging treated wastewater and which of the disposal technologies best meets the community's needs;
- Section 2.1 of the wastewater and nutrient-related needs of the Town as defined in the 2011 Needs Assessment Report. This will make the project easier to review without having to refer to a separate, appendix document (Appendix R).

Finally, in Section 2.2.1.2 *Stormwater*, if any measured removal rates of the installed stormwater management solutions are available, it would be useful to include those rates in Table 2-5.

Thank you for the opportunity to comment on the above-referenced SEIR. Commission staff are available to discuss any questions you might have about these comments. Following completion of the MEPA process, Cape Cod Commission staff will review the CWMP for consistency with the 208 Plan and issue a determination.

Sincerely,

Kristy Senatori

Kristy Senatori
Executive Director

Cc: Project File
Mark Ells, Barnstable Town Manager, via email
Dan Santos, Barnstable DPW Director, via email
Barnstable Cape Cod Commission Representative via email
Cape Cod Commission Chair via email
Cape Cod Commission Committee on Planning and Regulation Chair via email