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

PROJECT NAME	: Plymouth Wastewater Treatment Facility Treated Effluent Discharge
PROJECT MUNICIPALITY	: Plymouth
PROJECT WATERSHED	: South Coastal
EEA NUMBER	: 16758
PROJECT PROPONENT	: Town of Plymouth Department of Public Works
DATE NOTICED IN MONITOR	: September 25, 2023

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA Regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (EENF), and hereby determine that this project **requires** the submission of an Environmental Impact Report (EIR). In accordance with Section 11.06(8) of the MEPA regulations, the Proponent requested that I allow a Single EIR to be submitted in lieu of the usual two-stage Draft and Final EIR process. As discussed below, while I acknowledge the water quality benefits that the project is intended to offer to Plymouth Harbor, comments submitted by Agencies and the public raise concerns about potential impacts to groundwater and nearby surface waters due to nutrient loading, as well as potential impacts to the Plymouth-Carver Sole Source Aquifer, which provides drinking water to Plymouth and six other municipalities. In addition, MassDEP requests consideration of additional alternatives for disposal locations in light of nutrient loading concerns for the Eel River Watershed; MassDEP also requests identification of additional mitigation measures. A robust and complete alternative analysis is a key component of the MEPA review process. Accordingly, I am denying the Single EIR request; the Proponent should submit a DEIR in accordance with the Scope included in this Certificate.

Project Background

The Camelot Drive Wastewater Treatment Facility (WWTF) has a long MEPA review history (EEA#8228 Plymouth Wastewater Treatment Plan) beginning with the filing of an Environmental Notification Form (ENF) in April 1990 and the development of a Special Review Procedure (SRP) for the project and designating it a "Major and Complicated Project." Subsequently, the Town of Plymouth (the Proponent) submitted several EIRs (including a Phase I EIR, Phase II EIR, Phase IIIA EIR, and Phase IIIB EIR) and a Notice of Project Change (NPC) prior to the final selection of the Preferred Alternative, which proposed the construction of a new WWTF at the Camelot Drive Industrial Park with primary disposal of treated effluent through an outfall into Plymouth Harbor and secondary disposal to groundwater via disposal beds located at the WWTF. A Final Supplemental EIR was submitted for review in May 1997 (the 1997 SFEIR), with a cumulative evaluation of the potential environmental impacts of the Preferred Alternative. The Certificate on the FSEIR, issued on June 16, 1997, found that the filing adequately and properly complied with MEPA and its implementing regulations and closed review of the project. The WWTF has been in operation since 2002.

Project Description

As described in the EENF, the Proponent is seeking to increase the total average annual discharge of treated effluent from the WWTF from 2.5 to 3.0 million gallons per day (MGD). The WWTF is currently authorized to treat up to 5.2 MGD with a lesser volume (total of 2.5 MGD calculated as annual average) of treated effluent to be discharged at two locations. An annual average of 1.75 MDG of treated effluent from the WWTF is permitted for primary discharge via a surface water outfall into Plymouth Harbor. Daily effluent flows in excess of 1.75 MGD (max daily) can be conveyed for secondary discharge to the groundwater infiltration beds adjacent to the WWTF; however, such discharges are limited to an annual average of 0.75 MGD. Due to the negative water quality impacts to the harbor and increasing energy costs associated with the pumping and discharge of treated effluent to Plymouth Harbor, the Proponent is seeking to change the prioritization of disposal locations such that the primary disposal would be via groundwater discharge at the WWTF disposal beds, and the secondary disposal would be via the outfall into Plymouth Harbor. The proposed change would allow up to the total 3.0 MGD (average annual) of treated effluent to be disposed of via groundwater disposal at the WWTF, while the maximum disposal through the outfall would remain at 1.75 MGD (average annual) and would only be utilized for time periods of disposal bed repairs, emergencies, or other operational considerations.

According to the EENF, the primary goals of the project are to improve water quality within Plymouth Harbor and Plymouth/Kingston/Duxbury Bay to support recreational and commercial shell fishing, aquaculture, aquatic habitat, and recreational activities; increase the recharge of groundwater to offset public drinking water withdrawals and support baseflow to the Eel River and Wellingsley Brook; and reduce energy usage and costs required to pump treated effluent from the WWTF to the harbor outfall.

Project Site

The project site is located at the Camelot Drive WWTF, a 96-acre property within the Camelot Drive Industrial Park. The WWTF maintains dual 30-inch diameter wastewater mains, approximately 4.5-miles in length, that pump wastewater from the existing pump station on Water Street to the WWTF for treatment. The treated effluent is then conveyed back to the Water Street pump station and out approximately 1,900 feet (ft) into Plymouth Harbor via a buried 30-inch diameter outfall. The WWTF also maintains five, on-site, open-sand disposal beds for discharging treated effluent to groundwater. Four of the beds are rectangular (measuring approximately 340 ft by 240 ft) with the fifth bed forming an irregular quadrilateral, for a total surface area of 9.3 acres.

The WWTF is located atop the Plymouth-Carver Sole Source Aquifer, which provides drinking water to Plymouth residents and six surrounding towns. The WWTF is bounded by State Route 3 to the north, Camelot Drive to the west, Russell Mill Road to the east, and Warren Wells Brook to the south. The WWTF is also approximately 1.3 miles from Plymouth Harbor, one mile from the Eel River, and 0.75 miles from Russell Mill Pond. In addition, the nearest residential property is located 1,600 ft from the WWTF and buffered by woodland.

There are no state or local wetland resource areas located within or immediately adjacent to the project site. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Panel No. 25023C0367K, effective July 6, 2021), the project site is not located within a mapped floodplain. According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (15th Edition), the site is not located within Estimated or Priority Habitats of Rare Species. The site does not 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. In addition, the project is not located in an Area of Critical Environmental Concern (ACEC).

The project site is located within an Environmental Justice (EJ) Population characterized by Minority. The site is located within five miles of five additional EJ Populations characterized by Income.[1] As described below, the EENF identified the "Designated Geographic Area" (DGA) for the project as one mile around EJ Populations, included a review of potential impacts and benefits to the EJ Populations within this DGA, and described public involvement efforts undertaken to date.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include the average annual discharge of up to 3.0 MGD of treated effluent to groundwater (increase of 2.25 MGD from the 0.75 MGD currently permitted) and 1.75 MGD of treated effluent to Plymouth Harbor (which remains unchanged from currently permitting, but is proposed as a secondary, not primary discharge).

Measures to avoid, minimize, and mitigate environmental impacts include the continued implementation of the Nutrient Management Plan (NMP) and Eel River Watershed Monitoring Program; the installation of eight additional groundwater monitoring wells between the WWTF and Warren Wells Brook; the implementation of additional monitoring to track the progress of phosphorous

[1] The EEA EJ Mapper is available at: https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts

dispersion through the groundwater; and the future design and implementation of measures to further improve phosphorus treatment at the WWTF and slow the migration of the phosphorus from the WWTF to nearby surface waters. Additional measures should be identified in the DEIR, as indicated below.

Jurisdiction and Permitting

This project is subject to MEPA review because it requires Agency Action and meets/exceeds the MEPA review threshold at 301 CMR 11.03(5)(b)(4)(c)(ii) for a New discharge or Expansion in discharge to groundwater of 50,000 or more gpd of sewage within any other area. The project requires Agency Action in the form a Groundwater Discharge Permit (GWDP) from the Massachusetts Department of Environmental Protection (MassDEP).[2] The EENF also states that the Proponent is in the process of updating its Comprehensive Wastewater Management Plan and intends on filing a Notice of Project Change, once it is complete.

The project received a National Pollutant Discharge Elimination System (NPDES) Wastewater Treatment Facility General Permit (General Permit No. MAG590000) from the U.S. Environmental Protection Agency (EPA) for the harbor outfall, with an effective date of April 1, 2023.

The project is not seeking Financial Assistance from an Agency. Therefore, MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of any required or potentially required Agency Actions and that may cause Damage to the Environment, as defined in the MEPA regulations.

Request for a Single EIR

The MEPA regulations at 301 CMR 11.06(8) indicate that a Single EIR may be allowed provided I find that the EENF:

a. describes and analyzes all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope;
b. provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and,
c. demonstrates that the planning and design of the project use all feasible means to avoid potential environmental impacts.

To support a Single EIR request for any Project for which an EIR is required in accordance with 301 CMR 11.06(7)(b), I must also find that the EENF:

d. describes and analyzes all aspects of the Project that may affect Environmental Justice Populations located in whole or in part within the Designated Geographic Area around the Project; describes measures taken to provide meaningful opportunities for public involvement by Environmental Justice Populations prior to filing the expanded ENF, including any changes made to the Project to address concerns raised by or on behalf of Environmental Justice Populations; and provides a detailed baseline in relation to any

[2] Comments provided by MassDEP state that the existing GWDP has expired and has been Administratively Continued.

existing unfair or inequitable Environmental Burden and related public health consequences impacting Environmental Justice Populations in accordance with 301 CMR 11.07(6)(n)1.

Consistent with this request, the EENF was subject to an extended comment period under 301 CMR 11.05(9).

Review of the EENF

The EENF included a project description, alternatives analysis, existing and proposed conditions plans, estimates of project-related impacts, the results of several studies and reports (including the Camelot Drive WWTF Loading Test Report, Eel River Technical Advisory Committee Evaluation of Nutrient Inputs and the Health of the Eel River System, Nutrient Management Data Report for 2020, and Plymouth Harbor Dye Tracer Study), nutrient loading and dispersal modeling results, and an identification of measures to avoid, minimize and mitigate environmental impacts. It included a description of measures taken to enhance public involvement by EJ Populations and baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1.). Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ENF contained an output report from the Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Standards Tool").[3]

Alternatives Analysis

As described below, the EENF evaluated four alternative locations, which were previously evaluated in the 1997 EIR, for groundwater disposal (Alternative 1, Alternative 2, Alternative 3, and the Preferred Alternative) based on their ability to achieve the project's goal while minimizing environmental impacts. The EENF indicates that the No-Action alternative was evaluated; however, treated effluent would continue to be discharged to Plymouth Harbor up to the existing authorized volumes, thereby not achieving the project's goals of improving water quality, habitat, commercial aquaculture, and recreational benefits in Plymouth Harbor. In addition, the Proponent conducted a GIS analysis to identify any additional, potential groundwater disposal sites that were not included in the 1997 EIR but might be suitable. However, the EENF notes that no new undeveloped parcels beyond those identified in the 1997 EIR were retained as potential alternatives due to their distance from the existing discharge line, proximity to surface waters, proximity to drinking water wells, or a combination of these factors.

Alternative 1 would involve the construction of a new discharge facility at 183 Samoset Street (identified as Site 101 in the 1997 EIR), which consists of an undeveloped, forested site owned by the Proponent and is immediately adjacent to surface waters, wetlands, and a Plymouth Municipal drinking water well. This alternative would require the clearing of at least 10.5 acres and the construction of a new 1,400-ft discharge pipe, which would result in greater land impacts and increased costs compared to the Preferred Alternative. In addition, the site is not large enough to handle the proposed increase to three MGD in treated effluent disposal and would need to be utilized in conjunction with another disposal location. Therefore, this alternative was dismissed.

[3] Available at: https://resilientma.mass.gov/rmat_home/designstandards/

Alternative 2 would involve the construction of a new discharge facility at Site DD (as identified in the 1997 EIR), which consists of a farm field owned by Plymouth County and subject to a Conservation Restriction. This alternative would require the construction of a new 600-ft discharge pipe, which would result in greater land impacts and increased costs compared to the Preferred Alternative. While this alternative would achieve the project's goals and the site is not located in proximity to surface waters or wetlands, the purchase and redevelopment of the site by the Proponent is likely cost prohibitive and would be subject to the terms of the Conservation Restriction. Therefore, this alternative was dismissed.

Alternative 3 would involve the construction of a new discharge facility at Site MM (as identified in the 1997 EIR), which consists of a partially developed site with ground-mounted solar array owned by Plymouth County and a private entity (Plymouth Sand & Gravel LLC). This alternative would require the clearing of at least 10.5 acres and the construction of a new 1,700-ft discharge pipe, which would result in greater land impacts and increased costs compared to the Preferred Alternative. While this alternative would achieve the project's goals, the site is approximately 600 ft closer to Warren Wells Brook than the Preferred Alternative; therefore, groundwater nutrient contributions to Russell Mill Pond and the Eel River system would likely be greater than those anticipated under the Preferred Alternative. In addition, the purchase and redevelopment of the site by the Proponent is likely cost prohibitive. Therefore, this alternative was dismissed.

The Preferred Alternative (as described herein) would involve changing the prioritization of treated effluent discharge locations such that the existing WWTF disposal beds would be the primary discharge location. The Preferred Alternative would also authorize discharging up to 3.0 MGD (increase from 0.75 MGD currently permitted) of treated effluent to the disposal beds. The existing discharge line and outfall to Plymouth Harbor would be retained for use as a secondary backup, for periods of maintenance on the disposal beds, emergencies, or other operational considerations. The Preferred Alternative would achieve the project's goals by eliminating regular direct discharge to Plymouth Harbor, and improving water quality, habitat, commercial aquaculture interests, and recreational opportunities.

As detailed below, comments provided by MassDEP, incorporated herein by reference, state that additional alternative locations should be considered for disposal of some of the treated effluent in order to meet surface water quality standards, as the future hydraulic and nutrient loading of the Eel River watershed may not be able to assimilate the additional loads from the WWTF prior to entering the PKD embayment system. In particular, alternative locations outside the of the Eel River Watershed should be evaluated. The alternatives analysis should be supplemented in accordance with the Scope.

Environmental Justice (EJ) / Public Health

The project site is located within an Environmental Justice (EJ) Population characterized by Minority. The site is located within five miles of five additional EJ Populations characterized by Income. No languages were identified as being spoken by 5% or more of Limited English Proficiency ("LEP") residents within one mile of the project site.

The EENF described public involvement activities conducted prior to filing, including advanced notification to a list of CBOs and tribes/indigenous organizations (the "EJ Reference List") provided by the MEPA Office. The Proponent circulated an EJ Screening Form with an overview of the project to these entities and information on ways to request a community meeting. According to the EENF, future public involvement activities are planned, including holding a day of public meetings, anticipated to be both in-person and remote, on a date to be determined. Notice of these meetings will be posted on the Proponent's website and in high traffic areas of throughout the Town of Plymouth. In addition, a public meeting with the Town of Plymouth Select Board, regarding the proposed project and EENF, was held on December 12, 2023. A copy of the EENF and supporting documentation were distributed to the EJ Reference List.

The EENF contains a baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1. and the MEPA Interim Protocol for Analysis of EJ Impacts. According to the EENF, the data surveyed show some indication of an existing "unfair or inequitable" burden impacting the identified EJ Populations. The DPH EJ Tool identifies one municipality (Plymouth) within the one mile DGA in which the EJ Populations are located as exhibiting "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average.[4] Specifically, Plymouth meets the "vulnerable health EJ criteria" for the following parameter:

- Heart attack hospitalization

In addition, the EENF indicates that the following sources of potential pollution exist within the one mile DGA, based on the mapping layers available in the DPH EJ Tool:

- Major air and waste facilities: 4
- "Tier II" toxics use reporting facilities: 2
- MassDEP sites with AULs: 1
- MassDEP groundwater discharge permits: 1
- Wastewater treatment plants: 1
- Underground storage tanks: 5

Based on an independent review by the MEPA Office of the mapping layers available in the DPH EJ Tool, several other potential sources of pollution appear to exist within the DGA, including road infrastructure, other transportation infrastructure, regional transit agencies, and energy generation and supply. This information should be supplemented in accordance with the Scope.

The EENF states that while the EJ Population within the DGA may exhibit some existing unfair or inequitable environmental burden, the project is not expected to materially exacerbate such existing conditions. Rather, the proposed project is anticipated to have beneficial effects for both EJ and non-EJ Populations by improving water quality and recreational opportunities (including swimming and shell

[4] See https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html. Four vulnerable health EJ criteria are tracked in the DPH EJ Viewer by municipality (heart attack hospitalization, childhood asthma, childhood blood lead, and low birth weight), and two (childhood blood lead, and low birth weight) are also available on a census tract level.

fishing) within Plymouth Harbor. The EENF also states that the proposed project will not require any construction activities, generate vehicle trips, or negatively impact air quality. In addition, modeling conducted by the Proponent indicates that that inputs to groundwater will generally flow to the east, asway from the EJ Population where the WWTF is located. I note, however, that Agency concerns about the project involve potential impacts to groundwater, surface water, and drinking water resources, which could impact public health of the surrounding communities including the identified EJ Population. These issues should be addressed in accordance with the Scope.

Wastewater

As stated above, the Proponent is seeking to increase the total average annual discharge of treated effluent from the WWTF from 2.5 to 3.0 MGD and to change the prioritization of disposal locations such that the primary disposal would be via groundwater discharge at the WWTF disposal beds, and the secondary disposal would be via the outfall into Plymouth Harbor. The proposed change would allow up to the total 3.0 MGD of treated effluent to be disposed of via groundwater disposal at the WWTF, while the maximum disposal through the outfall would remain at 1.75 MGD and would only be used on an as needed basis. According to the EENF, discharge via the outfall has negative water quality impacts to Plymouth Harbor, which is an important recreational and commercial aquaculture resource for Plymouth, Duxbury, and Kingston; reduces the recharge and availability of groundwater in the Plymouth-Carver Aquifer to support baseflow to streams and other water resources; and requires extensive pumping at considerable energy expenditure and cost. In addition, the EENF states that key contaminants of concern (pathogens, phosphorus, and nitrogen) would all receive varying degrees of increased treatment and/or retention via groundwater discharge compared to that which currently occurs under direct harbor discharge.

Groundwater Mounding and Recharge

According to the EENF, a hydraulic loading test of the WWTF disposal beds was conducted from August 4 to November 7, 2018, to directly measure the change in groundwater from the infiltration of the maximum effluent discharge of 1.5 MGD. Based on the results of the test, the greatest mounding was detected where wastewater was discharged, and decreased with distance. Observed water level responses from the loading test were used to inform and calibrate a numerical groundwater model using the USGS-MODFLOW model to further study the effects of loading at the WWTF. Under steady state loading conditions, peak mounding under the disposal beds grew to approximately 6 ft above baseline conditions for the 1.5 MGD scenario, and 12 ft for the 3.0 MGD scenario; however, groundwater mounding increases more substantially to the north than to the south due to the location of Warren Wells Brook. The EENF states that the underlying geology of the area surrounding the WWTF has the capacity to accept the groundwater discharge of at least 3.0 MGD of treated effluent without impacting most existing infrastructure; however, the Proponent did identify a single property with a septic system with less than five ft of separation between the bottom of the septic system and the modeled groundwater elevation. The EENF notes that the Proponent will work with any property owners impacted to resolve those issues; solutions could include the replacement or relocation of private septic systems.

The EENF states that as a part of the groundwater mounding analysis, a particle tracking analysis was undertaken to simulate how groundwater is anticipated to migrate away from the WWTF under

different discharge scenarios. Based on that assessment, most of the water discharged to the beds will eventually enter the Eel River system either at Warren Wells Brook, Russell Mill Pond, or further downstream in the Eel River; however, approximate groundwater travel times range from one year to more than ten years before discharge to these surface waters. The greatest flow increase is anticipated to occur in the vicinity of Russell Mill Pond, where 3.4 cubic feet per second (cfs) of additional flow is expected. Therefore, the EENF states that the proposed change of discharge location prioritization will provide consistent and reliable groundwater recharge that persists in the Plymouth-Carver Aquifer for a considerable amount of time. This would also support increased base flow for Warren Wells Brook and the Eel River during drought periods. In addition, increasing base flows in Russell Mill Pond would reduce stagnation and increase oxygen in the pond, thereby improving water quality.

Nutrient Loading and Dispersal

According to the EENF, the Eel River has two primary branches with several smaller tributary streams contributing to each. The western branch is anticipated to be the recipient of the majority of groundwater recharge infiltrated at the WWTF and is approximately 3.9 miles in length with a watershed of approximately 11 square miles. As a part of the MassDEP approval of the existing WWTF GWDP, a Nutrient Management Plan (NMP) was implemented to monitor water quality changes in the Eel River system by collecting and analyzing groundwater and surface water sampling data. Although the 2020 Nutrient Management Data Report indicated that there was no negative impact to Eel River from WWTF operations in 2020 or prior years, slight increases in nitrogen values were shown as a result of the sewer main breaks that occurred in 2016. An increase in phosphorus was shown in Well A8 (located directly below the sand beds) but no phosphorus increases have been identified in wells further downgradient from the disposal beds. In addition, the Massachusetts Estuary Program (MEP) conducted a study in 2017 to evaluate the nitrogen sensitivity, nitrogen threshold loading levels, and response to changes in the nitrogen loading rate of the Plymouth/ Kingston/ Duxbury (PKD) embayment system, which receives contributory inputs from freshwater systems including the Eel River. The study found that the primary sources of nitrogen to the PKD system is wastewater disposal, fertilizers, and changes in the freshwater hydrology associated with development.

The EENF states that nitrogen and phosphorus concentrations in the treated effluent were evaluated from May 2002 to August 2021. The overall average concentration of nitrogen is 6 milligrams per liter (mg/L) and the overall average concentration of phosphorus 4.4 mg/L. NMP sampling and reporting indicate there have been no obvious water quality impacts observed within the Eel River or its tributaries from WWTF operations; however, a considerable quantity of nitrogen has been transported through groundwater to the Eel River from the WWTF since operations began in 2002. According to the EENF, the Eel River and its tributaries are predominantly phosphorus limited, whereas Plymouth Harbor is nitrogen limited; given that the project seeks to shift wastewater discharge away from Plymouth Harbor, the EENF focuses on potential water quality impacts to the Eel River from the potential increase in phosphorus associated with the discharge of treated effluent to groundwater.[5] Utilizing the results from a U.S. Geological Survey (USGS) report, which investigated phosphorus dynamics in aquifers related to WWTF discharges, the EENF states that the WWTF would be expected to develop a total phosphorus plume length of approximately 600 ft during the anticipated 50-year period of active

[5] Nutrient limited waterbodies or waterways contain specific nutrients in limited quantities and are therefore more susceptible to water quality impacts from said nutrients.

infiltration, based on a migration rate of 12 ft per year.[6] After infiltration activities cease, following the end of WWTF operations and decommissioning, the influx of clean water would flush through the system and accelerate plume migration to approximately 34 ft per year for approximately 20 years (for a total phosphorus plume length of 1,300 ft approximately 70 years after infiltration activities commence). The EENF concludes that there will be a significant time lag of approximately seven decades before a phosphorus plume would be expected to contact Warren Wells Brook at its closest point to the WWTF and begin to contribute significant phosphorus to the Eel River system. Although approximate groundwater travel times only range from one year to more than ten years before reaching adjacent surface waters, phosphorus migration is slowed due to geochemical processes within the soil. Once the retention capacity of a given area is reached, the phosphorus plume will advance further from the WWTF. In order to better assess the potential for phosphorus migration to the nearest point on Warren Wells Brook, the Proponent proposes installing eight additional monitoring wells as a condition of the permitting for the proposed change of effluent discharge location. The EENF states that other mitigation measures to reduce the concentration of phosphorus in the treated effluent or to slow the migration of the phosphorus plume would be evaluated in the future based on the monitoring well data. In addition, comments raise concerns about the discharge of treated effluent into the Plymouth Sole-Source Aquifer and the potential impact it may have on the drinking water supply. Additional information should be provided in accordance with the Scope.

Comments provided by MassDEP note a transcription error in the underlying MEP report for the PKD embayment that appears to have overinflated the nitrogen attenuation rate of the Eel River watershed. This transcription error has the effect of underrepresenting the total nitrogen load contributed to the PKD embayment system from the Eel River watershed; in turn, the addition of more nitrogen by the project may cause the overall load in the embayment to exceed the Target Concentration for this embayment. Comments also note that the Proponent relied on portions of the MEP report to draw conclusions as to the net benefit or harm to the estuary system of implementing the project, whereas the MEP report uses multiple lines of evidence to determine nitrogen impacts to the estuary system. MassDEP comments suggest that the Proponent should consider additional mitigation to reduce the future nitrogen impact in the southern portion of the PDK estuary. An alternative discharge site could also be considered to reduce nitrogen loading to this embayment system. These future options should be discussed in accordance with the Scope.

Fisheries

According to the EENF, the U.S. Food and Drug Administration (FDA) and the Massachusetts Department of Marine Fisheries (DMF) conducted a collaborative dye tracer study in June 2018 of the WWTF treated effluent discharged to Plymouth Harbor, which is listed on the Final Massachusetts 2018/2020 Integrated List of Waters for estuarine bioassessments and fecal coliform impairments. The results of the study showed that the treated effluent was at a higher concentration throughout the Plymouth Harbor shellfish growing area than what is typically recommended. In addition, the higher than recommended concentrations extended approximately one mile beyond the harbor outfall and 0.4 miles beyond the current "Prohibited" for shell fishing area. Kingston Bay and Duxbury Bay were less impacted; however, the concentrations remained in Duxbury Bay for a longer period of time. Based on these results, the FDA and DMF recommended that the "Prohibited" area for the shellfish growing be

[6] According to the Proponent, the anticipated remaining lifespan of the WWTF is approximately 50 years.

expanded, and for Kingston Bay and Duxbury Bay to be reclassified as "Conditionally Approved" for shell fishing.

As noted above, the WWTF is located approximately 1.3 miles from Plymouth Harbor, one mile from the Eel River, and 0.75 miles from Russel Mill Pond, with groundwater flow from the WWTF generally flowing towards Russell Mill Pond and the Eel River. According to the EENF, Russell Mill Pond is a listed impaired waterbody for algae and dissolved oxygen. As stated in comments provided by DMF, the Eel River provides diadromous fish passage and habitat for river herring (*Alosa spp.*), Atlantic tomcod (*Microgadus tomcod*), rainbow smelt (*Osmerus mordax*), white perch (*Morone americana*), and American eels (*Anguilla rostrata*). The Eel River also provides spawning and nursery habitat for rainbow smelt and Russel Mill Pond provides spawning and nursery habitat for river herring. As stated above, the proposed reprioritization of the groundwater beds to infiltrated treated effluent raises concerns about potential nutrient loading that could affect groundwater and surface waters in proximity to the WWTF, portions of which are considered a coldwater fishery resource. Comments provided by DMF state that while the project proposes a monitoring plan to track the progress of phosphorous dispersion through the Plymouth-Carver Aquifer and to implement mitigation measures before significant phosphorous loading impacts the Eel River, the project does not propose similar measures with respect to nitrogen. DMF recommends that the monitoring plan be expanded to include measuring nitrogen dispersal and concentrations in addition to phosphorus.

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. Based on the output report attached to the ENF, the project has a "High" exposure rating based on the project's location for the extreme precipitation (riverine flooding) and extreme heat climate parameters. The project also has a "Moderate" exposure rating based on the project's location for the extreme precipitation (urban flooding) climate parameter. In addition, the project also scores "Low" in ecosystem benefits. Based on the 50-year useful life and the self-assessed criticality identified for the change in disposal location, the MA Resilience Design Tool recommends a planning horizon of 2070 and a return period associated with a 50-year (2%) storm event for extreme precipitation. It also recommends planning for the 50th percentile for applicable extreme heat parameters.

The MA Resilience Design Tool output indicates that there is a projected increase in rainfall within project's useful life. This factor is indicated in the Tool as contributing to the "Moderate" exposure rating for the extreme precipitation (urban flooding) climate parameter. The EENF states that since the project does not involve any new construction, the climate parameters analyzed in the Tool do not apply. However, as noted above, the USGS report found that an influx of freshwater, after infiltration activities cease in the future, following the end of WWTF operations and decommissioning, resulted in an acceleration of nutrient plume migration. The EENF does not appear to evaluate the contribution of increased precipitation volumes, anticipated with climate change, into the groundwater mounding or nutrient dispersion assessments. In addition, the EENF does not discuss the capacity of the groundwater beds to manage both the proposed average annual discharge and the anticipated precipitation volumes. This analysis should be provided in the DEIR.

Greenhouse Gas Emissions

The EENF states that the proposed change of discharge location to the on-site groundwater beds will reduce energy usage by eliminating the need to actively pump treated effluent from the WWTF to the Plymouth Harbor outfall. Comparatively, the existing infiltration system relies on gravity to transport the treated effluent from the WWTF to the groundwater infiltration beds adjacent to the facility. This would reduce the total energy consumption of the WWTF by approximately 22,572 kilowatt-hours (kWh) monthly on average. The EENF did not calculate the greenhouse gas (GHG) emissions benefits associated with this reduction in energy use.

Construction Period

According to the EENF, no additional infrastructure, construction, land disturbance, or capital cost expenditure would be required to implement the project as all of the necessary infrastructure is already in place. However, the EENF also proposes the installation of eight additional groundwater monitoring wells between the WWTF and Warren Wells Brook as part of the project's mitigation commitments. In addition, as noted above, comments request additional alternative disposal locations be considered. To the extent an alternative location is advanced as the Preferred Alternative, the DEIR should fully describe construction impacts associated with the project.

SCOPE

General

The DEIR should follow Section 11.07 of the MEPA regulations for outline and content and provide the information and analyses required in this Scope. It should clearly demonstrate that the Proponent will avoid, minimize, and mitigate Damage to the Environment to the maximum extent practicable through project alternatives and design.

Project Description and Permitting

The DEIR should describe any changes to the project since the filing of the EENF. The DEIR should identify, describe, and assess the environmental impacts of any changes to the project that have occurred between the preparation of the EENF and DEIR. The DEIR should also include an updated list of required Permits, Financial Assistance, and other state, local and federal approvals and provide an update on the status of each of these pending actions. The DEIR should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

The information and analyses identified in this Scope should be addressed within the main body of the DEIR and not in appendices. In general, appendices should be used only to provide raw data, such as hydraulic calculations and nutrient loading data, that is otherwise adequately summarized with text, tables, and figures within the main body of the DEIR. Information provided in appendices should be

indexed with page numbers and separated by tabs, or, if provided in electronic format, include links to individual sections. Any references in the DEIR to materials provided in an appendix should include specific page numbers to facilitate review.

Alternatives Analysis

The DEIR should provide a supplemental alternatives analysis that evaluates alternative disposal locations outside the of the Eel River Watershed. Alternatives should be considered through the lens that future hydraulic and nutrient loading of the Eel River Watershed may not be able to assimilate the loads associated with the proposed average annual discharge of 3.0 MGD. In particular, MassDEP recommends a reconsideration of Site 101 (Alternative 1 above) and additional consideration of the Cold Spring School property, which abuts the harbor outfall discharge line and would need little construction with the exception of a subsurface disposal system. The DEIR should quantify and compare the environmental impacts of each of the alternatives considered; redefine the Preferred Alternative as appropriate; and describe the reason(s) that the ultimate Preferred Alternative was chosen. For each new alternative, the DEIR should present full analysis and modeling, including groundwater mounding and nutrient dispersal analysis to show how the conclusions about the time period, rates, or distance of nutrient dispersal would differ based on the new locations studied. The alternatives analysis should support the selection of the Preferred Alternative that includes all feasible measures to avoid Damage to the Environment, or to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable. The Proponent should coordinate with MassDEP to develop the revised alternatives analysis.

Environmental Justice (EJ) / Public Health

The DEIR should include a separate section on "Environmental Justice," and contain a description of measures the Proponent has taken, and intends to undertake, to promote public involvement by EJ Populations during the remainder of the MEPA review process and subsequent permitting, including a discussion of any of the best practices listed in the MEPA EJ Public Involvement Protocol that the project intends to employ or has employed by the time of the DEIR filing. The DEIR, or a summary thereof, should be distributed to the EJ Reference List, and an updated list should be obtained from the MEPA Office prior to filing the DEIR so as to ensure that organizational contacts are up to date. The Proponent should hold at least one public meeting prior to filing the DEIR, and should specifically present at the meeting, in addition to overall project details and timeline, the Proponent's revised alternatives analysis, any updated data on nutrient loading for phosphorus and nitrogen, and revised monitoring plans.

The DEIR should supplement the EJ analysis presented in the EENF. Specifically, it should include a revised description of the potential sources of pollution within the DGA, based on mapping layers available through the DPH EJ Tool. To the extent further design changes are made, the DEIR should update its analysis of the project's impacts to determine whether the project may result in disproportionate adverse effects, or increase the risks of climate change, on the identified EJ Population, in accordance with 301 CMR 11.07(6)(n)2. and the MEPA Interim Protocol for Analysis of EJ Impacts.

The DEIR should discuss any known or reasonably foreseeable public health consequences that may result from the environmental impacts of the project. Particular focus should be given to any

impacts that could affect the Plymouth-Carver Sole Source Aquifer and public drinking water supply. As noted above, the DEIR should study additional alternatives to the disposal location, and should compare the potential impacts of each alternative to groundwater and drinking water supply. The DEIR should contain specific discussion of performance standards for groundwater discharge permitting, how such standards will protect public health, and whether the project will meet or exceed such standards.

Wastewater

The DEIR should include a narrative and simplified table describing potential impacts to environmental resources (including but not limited to groundwater and surface waters, drinking water supply, fisheries, state-listed species, etc.) resulting from the proposed project (including but not limited to nutrient loading, groundwater mounding, hydraulics, etc.) and mitigation that can be implemented to reduce potential impacts. The DEIR should include an analysis of the potential mitigation measures to reduce the concentration of phosphorus in the treated effluent or to slow the migration of the phosphorus plume. The analysis should describe what each mitigation measure would entail, the amount of phosphorus attenuation provided, and how each mitigation measure would be implemented.

In light of the identified transcription error, the DEIR should reassess the nitrogen attenuation provided by the project and any conclusions drawn from the MEP report in relation to the proposed project. The DEIR should propose additional mitigation measures to reduce the future nitrogen impact in the southern portion of the PDK estuary. It should also present a revised monitoring plan to track the progress of both nitrogen and phosphorous dispersion through the Plymouth-Carver Aquifer and to implement mitigation measures before significant nutrient loading impacts the Eel River. As stated above, the DEIR should provide revised modeling and analysis regarding groundwater mounding and nutrient loading based on any alternative disposal locations studied for the project. The DEIR should discuss what mitigation will be provided in the event groundwater mounding analysis shows that wastewater flows would impact any nearby septic systems.

Climate Change

The DEIR should include a comprehensive discussion of the potential effects of climate change on the WWTF and describe features incorporated into the project design that will increase the resiliency of the site to these changes. The DEIR should document the capacity of the groundwater infiltration beds and discuss their ability to manage both the proposed average annual discharge of 3.0 MGD and any increased anticipated precipitation volumes resulting from climate change. The DEIR should also evaluate the effect of increased precipitation volumes in the groundwater mounding and nutrient dispersion analyses, and should provide quantitative analysis or modeling to assess the extent to which increased precipitation volumes would affect the conclusions regarding the time horizon or distance over which nutrients are anticipated to disperse. The Resilient MA Climate Change Projections Dashboard now provides 24-hour rainfall volumes for a wide variety of storm scenarios and planning horizons, so comparison of other storm scenarios is possible through the dashboard without re-running the Tool. Information available through the Resilient MA Climate Change Projections Dashboard could be used as a resource in estimating future precipitation volumes.[7]

The DEIR should provide calculations of the GHG benefits associated with the reduction in

[7] Available at https://resilientma-mapcenter-mass-eoeea.hub.arcgis.com/.

energy use associated with moving the discharge location inland. The DEIR should compare the GHG impacts associated with the additional alternative locations studied for the project.

Construction Period

To the extent an alternative location is advanced as the Preferred Alternative, the DEIR should fully describe construction impacts associated with the project. The DEIR should describe how construction activities will be managed in accordance with applicable MassDEP 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). Construction equipment should use engines meeting Tier 4 federal emissions standards, or if unavailable, confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. The DEIR should describe how the project will comply with all said applicable requirements.

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing all proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ Populations. The filing should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, environmental justice, etc.) and identify the Agency Action or Permit associated with each category of impact. Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project. The filing should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing to ensure that adequate measures are in place to mitigate impacts associated with each development phase.

Responses to Comments

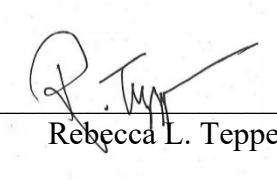
The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include a comprehensive response to comments that specifically address each issue raised in the comment letter; references to a chapter or sections of the DEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended, and shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate.

Circulation

In accordance with 301 CMR 11.16(3), the Proponent should circulate the DEIR to each Person or Agency who commented on the EENF, each Agency from which the Project will seek Permits, Land Transfers or Financial Assistance, and to any other Agency or Person identified in the Scope. Pursuant

to 301 CMR 11.16(5), the Proponent may circulate copies of the DEIR to commenters in in a digital format (e.g., CD-ROM, USB drive), by directing commenters to a project website address, or electronically. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. A copy of the DEIR should be made available for review in the Plymouth Public Library.

December 22, 2023
Date



Rebecca L. Tepper

Comments received:

Comments submitted on the MEPA Public Comments Portal

11/3/2023 Mary Gatslick
11/24/2023 Mark Withington
11/25/2023 Richard Serkey
11/28/2023 Russell Fry IV
11/28/2023 Thomas Fugazzi
11/28/2023 Dwayne Stefano
11/29/2023 Kerry Stefano
11/30/2023 Francis Mand

Comments submitted by email

10/2/2023 Community Land and Water Coalition
11/24/2023 Anne and Stephen Franzino
11/30/2023 Herring Ponds Watershed Association
12/1/2023 Herring Pond Wampanoag Tribe, Inc. of Patuxet-Plymouth, Eel River Watershed Association, the Jones River Watershed Association, and Community Land & Water Coalition
12/12/2023 Massachusetts Division of Marine Fisheries (DMF)
12/15/2023 Massachusetts Department of Environmental Protection (MassDEP) Southeast Regional Office (SERO)

RLT/NJM/njm

EEA 16758 - Plymouth WWTP ENF for expansion

Coordinator <environmentwatchsoutheasternma@gmail.com>

Mon 10/2/2023 8:02 AM

To:Neal Price <nprice@horsleywitten.com>;Moreno, Nicholas (EEA) <Nicholas.Moreno@mass.gov>

Cc:Katherine Harrelson <katherine.clwc@gmail.com>;Jones River Watershed Association <pine@jonesriver.org>;Mettie Whipple <mettie@eelriverwatershed.org>;Mettie Whipple <mettiesartbags@gmail.com>

Hello Mr. Price and Mr. Moreno,

Please add our group to the list of interested stakeholders to receive MEPA filings and related information on the proposal by Plymouth to expand the WWTP to 3 m gpd.

Please add these to the comments on this project:

1. What is the status of the Town's compliance with DEP stormwater regulations and the Town stormwater regulations? How much stormwater is fed into the sewer system and hence into the WWTP? What is the total number of gallons?

It is our experience that the Town does not enforce its stormwater regulations, that the local planning board and zoning board of appeals ignore these regulations when permitting large commercial and residential developments. Recently the Planning Board "amended" the stormwater regulations illegally in order to accommodate at 348 unit development in Colony Place.

Does the Town have a testing and monitoring program for effluent that enters the WWTP to ensure that entities discharging to the WWTP are in compliance with pre-treatment regulations, etc? As you may know the Town has manufacturing facilities and at least one asphalt batching plant and concrete/cement facility. Are these facilities discharging to the WWTP?

2. What is the impact of the town's ongoing illegal sand and gravel mining at the WWTP site? This is plainly visible on satellite images. The ongoing removal of sand and gravel at this site and adjacent to it is strip mining that changes the topography, infiltration rates and movement of water above and below ground. The ENF and EIR must take into account these land alterations in all aspects of the environmental assessment of the impacts of the proposal to increase the capacity of the WWTP.

3. Has there been an assessment of the strip mining and earth removal impacts on the non-town lands immediately adjacent to and surrounding the WWTP site in the

last 30 years? The baseline has changed. Using this 30 year old data is not accurate to assess the current condition of the site?

4. Where are the water quality samples for the effluent discharges from the WWTP? The Town should be required to post these on the Town website.

Thank you.
Meg Sheehan
Attorney
Community Land and Water Coalition
Plymouth

--

Community Land & Water Coalition
environmentwatchsoutheasternma@gmail.com
P.O. Box 1699
Plymouth MA 02362
www.communitylandandwater.org
Check out our You Tube Channel for drone footage of earth removal sites, meeting recordings and educational webinars
Working to preserve, protect and steward the land and water resources of Southeastern Massachusetts. We are losing them fast.

Join us on Facebook Twitter Instagram

Energy & Environmental Affairs
Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-3-2023

Certificate Action Date
12-1-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Mary

Last Name
Gatslick

Phone
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mjgatslick@mac.com

Address Line 1
188 Jordan Road

Address Line 2
--

State
MASSACHUSETTS

Zip Code
02360

Organization
--

Affiliation Description
Individual

Status
Opened

Comment Title or Subject

Topic: Plymouth Wastewater Treatment Facility Treated Effluent Discharge Comment - EPA Number16758

Comments

1. The mitigation measures discussed in the document refer to the Nutrient Management Plan, these mitigation methods are based on the current flow through the WWTP filtration beds - 0.75MGD. Are there updated mitigation plans that address the proposed increased flow through the sand filters? Are they publicly available?
2. What measures will be in place (as required by the Nutrient Management Plan) to continue to reduce existing nutrient loads specifically Total Phosphorus and Total Nitrogen to the Eel River?
3. Are the engineered wet lands proposed for the WWTP still under consideration? This would add additional treatment to the WWTP.

Attachments

Update Status

Status

Accepted

SUBMIT

Share Comment

SHARE WITH A REGISTERED USER

BACK TO SEARCH RESULTS

EEA # 16758

Anne Franzino <annefranzino@icloud.com>

Fri 11/24/2023 9:24 AM

To:Moreno, Nicholas (EEA) <Nicholas.Moreno@mass.gov>
Cc:STEPHEN FRANZINO <franzino@mac.com>

Dear Mr. Moreno:

We tried to go to the website and click on the comment section but it did not work, I am therefore writing to you as you are listed as the MEPA analyst. I would appreciate if you could forward this email to anyone else involved.

As a resident of the village of Chiltonville located within the Eel River Watershed in the Town of Plymouth, my husband and I are concerned with the proposed 300% increase of ground discharge at town's Camelot Drive Wastewater Treatment Facility.

While we realize the town has conducted a public meeting of the EENF filing on October 4th, 2023, we do not believe the community has had a chance to fully absorb all of this information, ask questions, and feel comfortable with proceeding with this expansion.

This was a highly contentious issue for the town when the wastewater facility was sited at the Eel River headwaters back in the 1990s. It would seem imprudent to proceed as fast as this has without full buy-in from the community. Especially in light of the massive construction developments that are ongoing in town.

As a community it is very difficult to stay fully informed as the public does not readily receive important information regarding what is happening to our environment. We think we need more time to stay fully informed.

Thank you,

Anne and Stephen Franzino

253 Jordan Road

Plymouth Ma 02360

Sent from my iPad

Energy & Environmental Affairs
Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-24-2023

Certificate Action Date
12-1-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Mark

Last Name
Withington

Phone
--

Email
mark.withington@gmail.com

Address Line 1
120 Old Sandwich Road

Address Line 2
--

State
MASSACHUSETTS

Zip Code
02360

Organization
--

Affiliation Description
Individual

Status
Opened

Comment Title or Subject

Topic: Time to pump the brakes.

Comments

As a resident of the village of Chiltonville located within the Eel River Watershed in the Town of Plymouth, I am concerned with the proposed 300% increase of ground discharge at town's Camelot Drive Wastewater Treatment Facility.

While I realize the town has conducted a public meeting of the EENF filing on October 4th, 2023, I do not believe the community has had a chance to fully absorb all of this information, ask questions, and feel comfortable with proceeding with this expansion.

This was a highly contentious issue for the town when the wastewater facility was sited at the Eel River headwaters back in the 1990s. It would seem imprudent to proceed as fast as this has without full buy-in from the community.

Attachments

Update Status

Status

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SUBMIT

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Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-25-2023

Certificate Action Date
12-1-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Richard

Last Name
Serkey

Phone
--

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richardmserkey@outlook.com

Address Line 1
60 Allerton Street

Address Line 2
--

State
MASSACHUSETTS

Zip Code
02360

Organization
Retired

Affiliation Description
--

Status
Opened

Comment Title or Subject

Topic: 16758

Comments

As a resident of the Town of Plymouth, I am concerned with the proposed 300% increase of ground discharge at town's Camelot Drive Wastewater Treatment Facility.

While I realize the town has conducted a public meeting of the EENF filing on October 4th, 2023, I do not believe the community has had a chance to fully absorb all of this information, ask questions, and feel comfortable with proceeding with this expansion.

This was a highly contentious issue for the town when the wastewater facility was sited at the Eel River headwaters back in the 1990s. It would seem imprudent to proceed as fast as this has without full buy-in from the community.

Attachments

Update Status

Status

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SUBMIT

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Energy & Environmental Affairs
Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-28-2023

Certificate Action Date
12-15-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Dwayne

Last Name
Stefano

Phone
--

Email
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Address Line 1
46 Kingfisher Lane

Address Line 2
--

State
MASSACHUSETTS

Zip Code
02360

Organization
Chiltonville Resident

Affiliation Description
Individual

Status
Opened

Comment Title or Subject

Topic: Wastwater flowing into Eel River

Comments

As a resident of the village of Chiltonville located within the Eel River Watershed in the Town of Plymouth, I am concerned with the proposed 300% increase of ground discharge at town's Camelot Drive Wastewater Treatment Facility.

While I realize the town has conducted a public meeting of the EENF filing on October 4th, 2023, I do not believe the community has had a chance to fully absorb all of this information, ask questions, and feel comfortable with proceeding with this expansion. I live on Russell Mills Pond.

This was a highly contentious issue for the town when the wastewater facility was sited at the Eel River headwaters back in the 1990s. It would seem imprudent to proceed as fast as this has without full buy-in from the community."

Respectfully,

Dwayne and Kerry Stefano

46 Kingfisher Lane Chiltonville

Plymouth MA 02360

Attachments

Update Status

Status

Accepted

SUBMIT

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Energy & Environmental Affairs
Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-28-2023

Certificate Action Date
12-1-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Russell

Last Name
Fry IV

Phone
--

Email
rtfry4@yahoo.com

Address Line 1
222 Jordan Road

Address Line 2
--

State
MASSACHUSETTS

Zip Code
02360

Organization
--

Affiliation Description
--

Status
Opened

Comment Title or Subject

Topic: Owner, Resident on Haden Pond

Comments

To whom it may concern,

As a resident and property owner property owner on Hayden Pond (on the Eel River Watershed), I would like to express my concern about the further nutrient enrichment abutting my property. The town's proposal to increase ground discharge by 300% at the Camelot Drive Wastewater Treatment Facility directly affects my family and me.

As someone who enjoys canoeing on Hayden Pond, I've noticed increased algae blooms and overgrowth over the past decade. The last three years were severe. This situation may worsen due to the proposed wastewater facility expansion. Such blooms could affect the ecological balance (fish, birds of prey) on the pond and any hope for the return of the herring (alewife) to the Town-installed herring run.

I appreciate the town's effort to engage the community through the public meeting regarding the EENF filing on October 4th, 2023. However, more time and opportunities are needed for residents, especially property abutters, to grasp and discuss the implications of this expansion in detail.

We need to slow down this process. The potential impact on Hayden Pond and the entirety of the Eel River Watershed should be understood and discussed fairly.

Thank you for your consideration. Be well.

Russell T Fry IV, Stephanie G Fry and family

Attachments

Update Status

Status

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Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-28-2023

Certificate Action Date
12-1-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Thomas

Last Name
Fugazzi

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Address Line 1
24 Clifford Road

Address Line 2
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State
MASSACHUSETTS

Zip Code
02360

Organization
--

Affiliation Description
Individual

Status
Opened

Comment Title or Subject

Topic: Plymouth Wastewater Treatment Facility treated effluent discharge-- EEH# 16758

Comments

Segoe UI 10 pt Paragraph

As a resident of Plymouth and residing on Clifford Road adjacent to Eel River, I would like to express my concern with the proposed additional ground discharge
from the Camelot Drive Wastewater Treatment Plant.

As I recall, this issue was hotly debated in the 1990's due to the effects this discharge could have on the water quality and volume of water of the river.

From that time until current, the condition of the river has changed considerably for the worst.
The flow has decreased considerably causing backup and flooding of low- lying areas.

Additionally, the discharge into Plymouth Harbor along the inside of the beach parking lot is a constant problem.

On major storms, this section of the river is completely blocked to the extent it takes several days to weeks for the Town to dredge and restore the volume of flow.

On a lessor storm, smaller amounts of sand restrict the flow, which is neglected to be cleaned out, and over time restricts the flow and raises the water level back as far as the Hayden Pond Dam.

As a resident of this area for all of my life, 76 years, believe a very serious consideration needs to be given to this river.
As I see it, this area is responsible for the total restricted water flow and water quality.

The river needs to be returned to its original path of flow directly into the bay and not along the inside of the beach.
The bridge on Warren Avenue is already damaged and in need of repair or replacement.
Warren Avenue should be raised to address the rise in sea level.
This section is closed during storms.

Thomas Fugazzi

Attachments

Update Status

Status

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Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-29-2023

Certificate Action Date
12-15-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

First Name
Kerry

Last Name
Stefano

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Address Line 1
46 Kingfisher Lane

Address Line 2
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State
--

Zip Code
02330

Organization
--

Affiliation Description
--

Status
Opened

Comment Title or Subject

Topic: Protect the Eel River Watershed

Comments

As a resident of the village of Chiltonville located within the Eel River Watershed in the town of Plymouth, I am concerned with the proposed 300% increase of ground discharge at towns Camelot Drive Wastewater Treatment Facility.

While I realize the town has conducted a public meeting of the EENF filing on October 4th, 2023, I do not believe the community has had a chance to fully absorb all of this information, ask questions, and feel comfortable with proceeding with this expansion.

This was a highly contentious issue for the town when the wastewater facility was sited at the Eel River headwaters back in the 1990s. It would seem imprudent to proceed as fast as this has without full buy-in from the community.

Attachments

Update Status

Status

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SUBMIT

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Public Comments Portal

Nicholas.Moreno@mass.gov

View Comment

Comment Details

EEA #/MEPA ID
16758

Comments Submit Date
11-30-2023

Certificate Action Date
12-15-2023

Reviewer
Nicholas Moreno, (617)699-4254, Nicholas.Moreno@mass.gov

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Mand

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Address Line 2
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State
MASSACHUSETTS

Zip Code
02360

Organization
Southeastern Mass Pine Barrens Alliance

Affiliation Description
Individual

Status
Opened

Comment Title or Subject

Topic: Pre-mature

Comments

Part of the submission for this project is a list of local community groups contacted during the initial rollout of this project.

But the list submitted is devoid of any truly local groups, save for a state-listed tribe – the Herring Pond Wampanoag Tribe.

Of the dozens of community organizations actively involved in conservation issues in this town alone, including those dedicated to the preservation of the town's globally-rare ecoregion -*The Massachusetts Coastal Pine Barrens Alliance* - and those engaged in a variety of initiatives to preserve and protect the town's sole-source aquifer, none were contacted.

Plymouth is well-known for its preponderance of rare coastal plain ponds, its wealth of ponds overall (450), its leadership in wetlands restoration science (The Eel River and Tidmarsh Farms restorations) and its leadership in dam removal efforts on historic Town Brook – and yet, no local conservation groups were consulted.

On a simple level, the benefits of this project seem obvious. But these are benefits as seen from a single perspective – that of the municipality, whose priority is to increase the volume of sewage that can be treated at the WWTF while maintaining the costs associated with treatment.

While conservation groups understand the potential benefits of increased recharge that would likely result from this sewerage 're-prioritization,' if they had been consulted those groups would have underlined concern that the ecosystem that the WWTF lies within contains both a vulnerable, uncontained, EPA-designated sole-source aquifer (largely comprised of sand) and many habitats and species (of flowers, plants and animals) that are dependent upon the natural fluctuations in groundwater levels and the absence of contaminants in those waters.

Many of the town's 450 ponds are already compromised by anthropogenic activity.

What is the long-term effect of the alteration and contamination of these waters, however slight, on these habitats, on this increasingly valuable resource? That is not addressed in this proposal.

At the very least this should project should be delayed until a full and fair public hearing process – and additional studies on the potential short and long-term effects of this project – have been conducted.

This project should address PFAS chemicals, which are a bi-product of the wastewater treatment process. Will greater dependence on the inland WWTF, mean a wider dispersion of these chemicals throughout the town's groundwater?

The town of Plymouth continues to experience rapid development, and has shown little interest in reducing the corresponding need for additional water through implementation of comprehensive water conservation measures.

Though no modification of the WWTF itself is anticipated to accomplish the 're-prioritization' sought, increasing the capacity of the WWTF overall will likely result in use of excess capacity, requiring additional infrastructure (pipelines, etc.), and in short order greater water usage. Should the town be required to match any increase in the capacity of the WWTF with a reduction in the amount of water usage per capita?

Consideration of this proposal my MEPA is premature, at best.

Attachments

Update Status

Status

Accepted

SUBMIT

Share Comment

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BACK TO SEARCH RESULTS

Rel: MEPA EEA No. 16758: EENF Plymouth Wastewater Treatment Plant Expansion

Don Williams <donald_r_williams2003@yahoo.com>

Thu 11/30/2023 6:29 PM

To:Moreno, Nicholas (EEA) <Nicholas.Moreno@mass.gov>

November 30, 2023

Rebecca Tepper

Secretary of Energy and Environmental Affairs

Commonwealth of Massachusetts

Boston, MA 02108

c/o Nicholas Moreno (nicholas.moreno@mass.gov)

re: MEPA EEA no. 16758 EENF Plymouth Wastewater Treatment Plant Expansion

Dear Rebecca,

I am Don Williams, president, and water quality committee co-chair of the Herring Ponds Watershed Association with a distribution list of 475 households in Plymouth. Great Herring Pond, which is part of our watershed and a State-Designated ACEC, is, at 376 acres, the largest pond in Plymouth. Our watershed association has been the steward of this watershed since 2007.

Many other groups have raised concerns about going forward with the plan to discharge treated water into the Eel River watershed and we are concerned for all watersheds and ACEC's in Massachusetts, especially in Plymouth. Since 2007 we have learned a lot about our aquifer. Its name, Plymouth-Carver Sole Source Aquifer clearly states that if the aquifer is no longer safe for drinking, there is no recourse. Imagine the economic impact of having no drinking water.

The decision to put more (10% of current volume going to 100% of current volume as well as increasing the maximum permitted discharge volume from 2.5 million to 3 million gallons per day) treated wastewater into the aquifer is literally an existential question. It requires more study before implementation, yet no new information has been presented. We owe this to future generations. We would encourage further study prior to implementing the program.

For the Herring Ponds Watershed Association,

Don Williams

President

Water Quality Committee Co-Chair

Herring Pond Wampanoag Tribe, Inc.

Eel River Watershed Association

Jones River Watershed Association

Community Land & Water Coalition

December 1, 2023

Rebecca Tepper
Secretary, Energy and Environmental Affairs
Commonwealth of Massachusetts
Boston MA 02108

c/o MEPA Analyst, Nicholas Moreno, nicholas.moreno@mass.gov

Re: MEPA EEA No. 16758: EENF Plymouth Wastewater Treatment Plant Expansion

Dear Secretary Tepper,

Thank you for the opportunity to comment on MEPA EEA #16758 for the expansion of the Plymouth Wastewater Treatment Facility (WWTF) located in Camelot Park. The Town seeks to divert the 90% of the wastewater currently discharged to Plymouth Harbor to discharge into the Plymouth Carver Sole Source Aquifer by increasing the volume at the WWTF Site to a total of 3 million gallons per day. The Project Site is located in Camelot Park, Plymouth, adjacent to the Eel River, wetlands and brooks ("the Site"). The Site is in the South Coastal Watershed in the Eel River Watershed.

The Town of Plymouth ("Town") requests a single Environmental Impact Report (EIR) instead of a full Draft EIR followed by a Final EIR. For the reasons stated here, we urge the Secretary to require a full Draft EIR and Final EIR. The Town's justification for avoiding a full EIR is that a prior EIR for the WWTF in the 1990s, supplemented by the Expanded Environmental Notification Form (EENF) satisfies MEPA. It does not. Further, the alternatives analysis is insufficient. Alternatives proposed in the 1990s EIR have been ignored.

These comments are submitted by the Herring Pond Wampanoag Tribe, Inc. of Patuxet-Plymouth (Tribe), Eel River Watershed Association (ERWA), the Jones River Watershed Association (JRWA), and Community Land & Water Coalition (a project of Save the Pine

Barrens, Inc.) (CLWC). The Tribe and each non-profit community groups has members that live, work and/or recreate in the Plymouth area and who are impacted by the Project. The Project is located on the unceded ancestral lands of the Tribe who used the Eel River system for millenia before first contact with Europeans. The groups' missions' include the protection and stewardship of lands and waters and community members in the Plymouth area. This includes protecting the drinking water in the Sole Source Aquifer. *55 Federal Register 32137.* The Aquifer covers 199 square miles and is the sole drinking water source for about 200,000 people. The Aquifer is designated under the Safe Drinking Water Act, a federal law, due to its sandy soils, high transmissivity, and its vulnerability to contamination. The WWTF and the proposed expansion are in the federally protected Aquifer. The Aquifer is shallow and intercepted by wetlands, streams and ponds that also may be impacted.

The commenters support efforts to reduce sewage and wastewater discharges to Plymouth Harbor. Diverting these waste flows from the Harbor to discharge them into on to land where they infiltrate into the Sole Source Drinking Water Aquifer shared by Plymouth with 7 other Towns requires careful and thorough study and alternatives analysis. The EENF does not provide this.

In addition to addressing the issues here, the Town and subsequent MEPA documents should provide a thorough, non-technical description of the Plymouth wastewater and drinking water supply system and identify which municipal bodies are responsible for each aspect of these municipal services. Such a description should describe:

- The inputs to the WWTF (storm drains, number of industrial, commercial and residential wastewater dischargers) and the contaminants included in the incoming waste;

- The pretreatment program applicable to and being used by the industrial users discharging to the WWTF and where to find this information;

- How the incoming wastewater is treated and to what standards (secondary? tertiary?);

- The water quality of the wastewater discharged after treatment, and how this information is reported to the public and where to find this information; and

- The WWTF practices for the disposal and/or storage of sewage sludge generated by the WWTF.

This Project as currently proposed is another poorly planned, false, short-term solution to the Town's growth problems. A further alternatives analysis is required that includes water conservation and reuse of the wastewater, as described below.

I. MEPA Regulations require a Draft and Full EIR, not a Single EIR

The MEPA Regulations require a full EIR, not merely an EENF and single EIR as the Town requests. See, 301 CMR 11.06(8)(a) through (d). The MEPA regulations, 301 CMR 11.06(8) allows a Single EIR only if four criteria are met. ("When issuing a scope in accordance with 301 CMR 11.06(7), the Secretary shall ordinarily require a final and draft EIR, but may allow a single EIR, provided that the Secretary finds that the expanded ENF requesting a single EIR in accordance with 301 CMR 11.05(8)…meets four criteria in subsections (a) through (d). The EENF meets none of the four criteria.

First, the EENF does not describe and analyze all aspects of the Project, as shown below. 301 CMR 11.06(8)(a). The data used in the EENF and appendices is incomplete and outdated. The Site description and Town's activities on the Site do not reflect the current conditions on the Site and in the surrounding Watershed. The EENF does not contain a sufficient alternatives analysis. (EENF Section 8). The 1997 EIR that the Town seeks to rely on included the alternative of wastewater reuse as mitigation for the WWTF nitrogen pollution. The EENF does not consider or analyze this alternative. EENF should analyze the alternative of pumping the wastewater to the Pine Hills golf course and using it to water the golf courses, where it could be discharged to the groundwater there. This would offset the Pine Hills Water Management Act Permit and need for additional withdrawals there. This would avoid impacts to sensitive wetlands, rivers and streams around the WWTP site. It would also move the project out of an Environmental Justice neighborhood to an area that bears none of the environmental burdens associated with the industrial and commercial uses in the Town such as the WWTF/sewer plant.

Second, the EENF does not provide a detailed baseline in relation to which potential environmental and public health impacts and mitigation can be measured. 301 CMR 11.06(8)(b). The data used here is also outdated and incomplete. It relies on a 1997 EIR and provides "Snippets" without a description of how those relate to the current proposal. The *Appendix G: Nutrient Management Data Report Operational Monitoring Program Data Report for 2020* does not adequately address topics in the *Eel River Technical Advisory Committee Evaluation* (Appendix F). Appendix G is outdated and recites the Town's land conservation activities with vague references to sampling results. None of this is in "non-technical language" as required by 301 CMR 11.07(d). For example, the sampling result tables do not state whether or not the results are within permit limits or whether there are exceedances and violations. The Town has not devoted the financial and professional resources necessary to address the potential environmental and health impacts of the WWTF's ongoing operation. The current "baseline" after about 25 years of the WWTF's operation needs to be established with more data and analysis before additional wastewater can be discharged to the Sole Source Aquifer.

Third, the EENF does not demonstrate that the planning and design of the Project use all feasible means to avoid potential environmental impacts. 301 CMR 11.06(8)(d). The design and planning is based on the 1990's EIR for a Site and a municipality that bears no resemblance to the town of 30+ years ago. The Site is being clear-cut and mined for sand and gravel, the land around it has been and is being mined, large commercial and residential developments have covered the area with impervious materials and more large projects are planned for the Eel River Watershed, including more dense development at Pine Hills, and an 800 seat mega-church. The

once forested “County Woodlot” less than 2,000 feet west of the Project, was forested land as of 2015. The Town allowed 30 acres to be mined and it is now a solar facility not the promised cranberry bog. The Town allowed a commercial sand and gravel mining operation to level one of the Town’s highest hills and leave a 10 acre-50 foot deep open pit mine. Both of these were done with no MEPA review or hydrology assessment. The County Woodlot site is being proposed for uses such as a casino or racetrack.

Photo below:
Left: 10-acre open pit mine on the County Woodlot

Right: 30-acre solar facility on open pit mine

The Town has not undertaken the water use reductions analyzed in the 1997 EIR. The Town’s consultant Environmental Partners has issued three water-sewer reports warning that municipal boards should stop approving dense residential developments/apartment/town house complexes because the Town cannot supply sufficient water. The Town’s master plan is ignored and its draft water supply management plan is almost 5 years old.

The Project does not use all feasible means to avoid environmental impacts, which at a minimum would include reducing water use and enforcing the stormwater regulations.

Appendix F, *Eel River Technical Advisory Committee Evaluation*," is based on outdated data about residential development in the Eel River Watershed. It states, "The MassGIS database was used to calculate the areas of various land uses within the Eel River watershed. Present and future potential house counts were collected from the Town of Plymouth Planning Department. For the Pine Hills Development, the Green Company provided estimates of house counts, recreational areas and other development." This information must be updated.

An EIR is required under 301 CMR 11.06(7)(d) because the Project is located within a Designated Geographic Area around an Environmental Justice Area. The MEPA Regulations state this clearly,

"The Secretary **shall require** an EIR for any Project that is located within a Designated Geographic Area around an Environmental Justice Population." 301 CMR 11.06(7)(b).

The Regulations do not authorize the Secretary to waive an EIR for the Project. The EENF does not meet the criteria of 301 CMR 11.06(8)(d) because it does not describe and analyze all aspects of the Project that may affect Environmental Justice Populations located in whole or in part with the Designated Geographic Area around the Project. This includes Air Quality and Odor impacts which were identified in the 1997 EIR, Section 10.2.1.11. It states, "Sensitive receptors may include private residences beyond Route 3 and Jordan Hospital…and private residences along Russell Mill Pond and near Warren Wells Brook to the south." Since 1997, a correctional facility has been located proximate to the Site with over 1,000 residents. The Town's Environmental Justice Screening identifies 1,710 people within 356 households within 1 mile and about 4,000 people within 5 miles. (The EENF is not clear about the total number of the EJ Population and where they reside in relation to the Site.)

The EENF does not state whether the EJ communities have private drinking water wells that could be impacted by the pollution discharged to the groundwater at the Site. The EENF goes not provide a detailed baseline as required by 301 CMR 11.06(8)(d). Finally, the Town made no efforts to provide "meaningful opportunities for public involvement by Environmental Justice Populations **prior to filing** the expanded ENF" as was required by 11.06(8)(d). The EENF's list of "Community Based Groups" are located in the Boston area. Not one of them is known to have any contact with or do any work in Plymouth or the Plymouth area or with the EJ communities identified in the EENF. The EENF does not state that mailings were done to the EJ communities. The Town's sole Community Based outreach consisted of an Oct. 8, 2023 MEPA on line zoom meeting with the claim that it will be conducting future meetings with no specifics about how people will be contacted, how many meetings will be held, or where they will be held. This is insufficient for MEPA compliance.

II. Comments on the EENF

This Section II is organized to track the Horsley Whitten Group June 2023 "Expanded Environmental Notification Form" Part IV, Project Narrative.

A. Project Narrative, Section 1.0, Introduction

The Town seeks to rely on the EIR done in 1997 - about 27 years ago years ago. The EENF states,

> "The relatively recent completion of a full EIR for the original WWTF approval in June 1997 creates a situation where another full EIR submittal would be superfluous to address only the specific requested change of discharge location prioritization, and the previously permit-recognized increase to 3.0 MGD of total average discharge volume, with no other requested changes."

Since 1997, major environmental conditions have changed that show a "full EIR" is not "superfluous" but absolutely mandatory for many reasons, including,

- Since 1997, Plymouth has experienced rapid extreme, uncontrolled growth and is one of the fastest growing municipalities in the Commonwealth with the one of the highest losses of open space according to the Mass Audubon *Losing Ground* report (2020).

- According to the July, 2023 *Climate risk assessment for Plymouth, Massachusetts* by the Woodwell Climate Research Center in Woods Hole, "**Both sea level rise and heavier rainfall will translate into greater flood depths and extent for Plymouth.**" The **Plymouth's stormwater system** is also vulnerable. These factors impact the groundwater levels and contamination transport rates and routes at the Site.

- Conditions at the WWTF Site and around it have been altered by major changes in topography from sand and gravel mining and development that changes water flows above and below ground.

The EENF does not adequately describe the damage to the environment as defined by 301 CMR 11.02 and a full EIR is required. The 1997 EIR and MEPA Certificate were for a Project designed to allow degradation of the River from the groundwater discharge of wastewater from the WWTF. Appendix Appendix F, *Eel River Technical Advisory Committee Evaluation of Nutrient Inputs and the Health of the Eel River System, Plymouth, MA*, from the 1990s states,

> "The projected increases in nitrogen are very large, more than doubling nitrogen loads system-wide. The relative increases are greatest in the Eastern Branch (2.7 to 5.6 times present), as that part of the Eel River is currently receiving only low watershed loadings from its predominantly undeveloped watershed. To the extent that nitrogen is limiting plant production within the Eel River watershed, these large increases in nitrogen availability will cause increased growth."

The EENF relies on the inaccurate assumption that the Town is properly regulating industrial, commercial and residential development in a manner that protects the Eel River Watershed and the Sole Source Aquifer. The Town's municipal permitting bodies allow industrial and commercial development in and adjacent to its Aquifer Protection Districts and in

Zone IIs of well head protection. This includes car dealerships and car washes, sand and gravel mining operations including those that dredge in the Sole Source Aquifer, a largely unregulated concrete asphalt batching facility (T.L. Edwards) and an unknown number of other commercial and industrial facilities. The EENF does not identify the industrial users discharging into the WWTF. Do industrial users such as T.L. Edwards and others discharge to the WWTF? Is there a pretreatment program that includes monitoring, reporting and enforcement for any users discharging to the WWTF. For example, the T.L. Edwards sand and gravel mining and concrete and asphalt batching facility was required by a 1994 municipal permit to have a "fully engineered closed system, involving oil and grit separation and on-site leaching" with monitoring and recordkeeping. The Town has produced no records of compliance at this facility. This raises serious questions about what the Town is allowing to be discharged into the sewer system, the WWTF and/or into the Sole Source Aquifer. This should be explained.

A new manufacturing facility is being planned in the Industrial Park at the site of a 20-acre sand and gravel mine that is excavating in the groundwater. A convention center is being discussed. The Town continues to approve dense residential development such as the Oasis residential project, Colony Place apartments, town houses and hotels, Red Brook, and Pine Hills. Will these projects be discharging to the WWTF?

The Town claims the WWTF will increase recreational use of the Harbor. This is trading one recreational resource for another with no credible analysis of the tradeoff. The WWTF is located in an aquifer area "contributing areas to significant recreational water bodies." The EENF does not adequately address the recreational use of the Eel River Watershed and just assumes that the Plymouth Harbor recreation is more important than the Eel River Watershed recreation. The EENF contains generalized statements like, "This project's goal of improving the water quality of Plymouth Harbor aligns with the plan's strategy of encouraging health lifestyles and protecting the region's coastlines, beaches and water resources." This is inconsistent because the water enters the Bay anyway, only at a different location. It ignores that fact that moving the discharge from the Harbor where people recreate and grow food to discharging it to the Sole Source Drinking Water supply for 200,000 people is a delicate balance requiring robust and thorough study to ensure the tradeoffs are made based on full and complete information.

Dilution is not the solution to pollution. The EENF Project Narrative, Section 1.0 page 3 states that "key contaminants of concern (pathogens, phosphorous, and nitrogen)" will all get additional treatment from groundwater discharge vs. direct discharge to the Harbor. While this may be true, there is no description in the EENF of what is going in to the WWTF and what is coming out. The EENF does not identify the before and after contaminant levels in the WWTF effluent. What are the concentrations of pathogens, and what types and concentrations of pathogens, pharmaceuticals, PFAS, endocrine disrupting chemicals, etc. will be discharged to the Sole Source Drinking Water Aquifer at the WWTF? What levels of metals such as manganese are present? (Manganese is not regulated in drinking water and data on water temporally and spatially sparse. https://www.nature.com/articles/s41370-023-00563-9) Shallow aquifers are vulnerable to contamination by manganese.) Manganese while naturally occurring can result from human activities such as mining, industrial discharges and landfill leaching. Will the water discharged from the WWTF to the Sole Source Aquifer meet updated recommendations for this

contaminant in drinking water? While this information may all be contained in the WWTF testing reports, it is not described in the EENF. This should be described in non-technical language in a full EIR so that the public can be adequately informed.

The DEIR must contain a complete and non-technical description of the meaning of and results of the FDA Plymouth Harbor Dye Tracer Study of 2018 and letter of January 31, 2020, Appendix I to the EENF and Section 3.3.4. This study appears to raise significant concerns about the fecal coliforms entering the Plymouth sewer system and whether or not they are being adequately treated at the WWTF before being discharged to the Bay. Discharging these contaminants to the Plymouth Carver Sole Source Aquifer also raises significant concerns and alarm.

The EENF Form, page 7(E) states the Site is subject to a "conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction". This appears to be inaccurate. There is no known restriction on the Site and in fact it is being used for sand and gravel mining and dumping of waste. The EENF Form Attachment C **does not** show the Site as labeled "Protected and Recreational OpenSpace". If it is preserved or protected land why is the town conducting sand and gravel mining on it and clear-cutting forests, and dumping piles of waste from cleaning storm drains?

B. Project Narrative, Section 2.0, Anticipated MEPA Permitting Process

The Project Narrative, Section 2.0 states that the WWTF as proposed "will allow for connection to the WWTF of existing and future developed parcels that are currently, or would in the future under current permitting and infrastructure, served by on-site septic systems, which were never designed to reduce nitrogen." This ignores the fact that there are currently available, affordable, on-site "IA" septic systems that can address nutrient pollution. See, Herring Ponds Watershed Association, September 20, 2023 informational session here: https://www.theherringpondswatershed.org/news-events/ The Town of Plymouth just refuses to require them for new construction or for replacements. This points out a failure in the alternatives and mitigation analysis in the EENF.

The Project proposes to use the WWTF additional capacity for increased future growth in the Town. Section 2.0, page 5. This is segmenting the project from the proposed growth and development. The EENF should include growth projects and describe exactly how many proposed tie-ins are in the master plan. What are the growth projections and how many new users will be tying in?

The EENF states, "The Town of Plymouth is in the process of updating its Comprehensive Wastewater Management Plan. Once complete, if the currently proposed project is approved, **it is the intent of the Town to file a Notice of Project Change to MEPA.** Thus, the Town states it plans to file a Notice of Project Change with MEPA to include the Comprehensive Wastewater Management Plan that is in development. The current EENF is putting the cart before the horse. This wastewater management plan should be complete before the EENF is approved, and the EIR should incorporate the Plan. The Town is improperly segmenting the Project from the comprehensive wastewater management plan and thwarting the

purposes of MEPA. This violates MEPA's anti-segmentation provision, 301 CMR 1.01.c. which states,

> "the Secretary **shall consider the entirety of the Project**, including any likely future Expansion, and not separate phases or segments thereof. The Proponent may not phase or segment a Project to evade, defer or curtail MEPA review. The Proponent, any Participating Agency, and the Secretary shall consider all circumstances as to whether various work or activities constitute one Project including, but not limited to, whether the work or activities, taken together, comprise a common plan or independent undertakings, regardless of whether there is more than one Proponent**; any time interval between the work or activities**; and whether the environmental impacts caused by the work or activities are separable or cumulative.

The Town has stated plans to tie future developments into the WWTF. The Town should be required to incorporate this into the entirety of the WWTF Project.

C. Project Narrative, Section 3, Existing Conditions and Background

The EENF does not accurately describe the existing or future Site conditions.

1. Land Use Changes on the Site

There are inaccuracies and omissions in Section 3. First, it ignores significant, ongoing land use alterations on the Site since the 1997 EIR and does not describe the Town's plans for future uses of the Site. The EENF Form, Land, states that the total Site acreage is 95.79 acres with "other altered areas at 33.04" and "undeveloped areas" are 54.40 acres. The "undeveloped" acreage is actually closer to 44 acres according to MassMapper GIS. Thus, the description of the Site appears to be inaccurate.

Second, Section 3 ignores the land use changes on the Site from 1997 to present, that are ongoing. The Town is using and expanding a sand and gravel mine, extracting sand and gravel for unknown purposes. There is no earth removal or mining permit, and the Town does not account for the volume of earth it has removed from the Site since acquiring it by eminent domain in the 1990s. In February 2022, CLWC sent the Town zoning enforcement official a Request for Enforcement of the zoning bylaw on earth removal with a request that the Town cease and desist removing sand and gravel from the WWTF Site. The Town did not take enforcement action. The activity is clearly visible on Google Earth. This is Construction Sand and Gravel Processing as defined by the federal Clean Water Act, Section 11.19.1. The Site use falls under Sector J. Mineral Mining and Dressing, Subsector J1, SIC Code 1442. and requires an individual NPDES permit. The Town has no such permits. Section 3 appears to be based on the assumption that the Town is stewarding the 97-acre Site in a manner that protects the Eel River, groundwater and the Sole Source Aquifer. Instead, the Town is actively clearing forested lands, levelling hills, and conducting commercial sand and gravel mining on the 97-acre Site, with no environmental impact study and no accountability.

Recently the Town has allowed land clearing on the WWTF Site for the installation of a cell tower. Is the Town planning to continue the deforestation and sand and gravel mining of the remaining acres until the Site is entirely leveled and brought down to the grade of the WWTF? Is this use of the Site consistent with the protection of the Eel River and the Plymouth Carver Sole Source Aquifer to which the Town now seeks to discharge 3 million gallons a day of residential, commercial and industrial waste?

The Project Narrative states that the Site has a forested buffer between the WWTF and abutting residences. It states the nearest home is 1,600 feet away, "buffered by woodland. Section 3.0. Does the Town plan to remove this wooded buffer by the expansion of its sand and gravel mining? Does the Town plan to keep clearing the forest and mining the Site so that the forested buffer is eliminated?

It is basic, established science that deforestation and sand and gravel mining reduces pollutant attenuation capacity by removing the natural filtration provided by the forests, sand and gravel. The Project Narrative describes the Site's sand soils and hence the vulnerability to contamination and the ability of pollution to travel easily through sand and the Aquifer. Yet, the Town plans to discharge more pollution to the Aquifer with no analysis of the current hydrology and impacts to surface and subsurface water flows resulting from land use changes, eliminating hills, and changing the topography.

The Town's sand and gravel mining on the Site is leveling hills and thereby altering water flows above and below ground and removing the filtration protection for the Eel River. This is a part of the Town's use of the Site must be studied in an EIR. The Town's use of the Site for sand and gravel mining and the damage to the environment was not addressed in the 1997 MEPA certificate or EIR. It must be addressed now.

Finally, the Town is using the Site to store clean out debris from Town catch basins. For over a year, there have been two mountains of clean out debris on the Site, near wetlands. In addition, the Town is composting sewage in the area, according to reports.

2. Land use changes in the Eel River Watershed around the Site

The Town allows sand and gravel mining operations throughout the Eel River Watershed with no credible environmental impact reports, no groundwater monitoring and no evidence that these commercial mining operations comply with EPA Clean Water Act standards for Sector J. Mineral Mining and Dressing, Subsector J1, SIC Code 1442 or the Massachusetts Clean Waters Act.

The Community Land & Water Coalition report *Sand Wars in Cranberry Country* documents the historic and active sand and gravel mining operations in the Eel River Watershed including several immediately adjacent to and within a few miles of the Project Site. None of these operations were covered by a MEPA review. The interactive map on the Sand Wars site shows details on each site surrounding the WWTF. See, www.sandwarssoutheasternma.org

The commercial sand and gravel operations include:

- Abutting the Site: Kingstown Trucking a massive mining operation under the ruse of cranberry agriculture that is now an industrial solar facility. Abutting that is the County Commissioners-Kingstown Trucking mining operation on the County Woodlot that leveled one of the Town's highest hills and created a large hole in the ground. The County has proposed a racetrack-casino and other commercial uses are being considered. A portion of the County Woodlot is used by the County for industrial purposes. See more on www.savethecountywoodlot.org

Within about a mile:

- Sand and gravel mining at the location that is now the Oasis residential apartment
- Sand and gravel mining by Sheava Development at the Site of the proposed New Hope Church, a megachurch with about 400 parking spaces and 800 seats.

D. Project Narrative, Section 4, Project Description

Section 4 does not adequately describe the Project. The summary states,

> "The Town is requesting to change the primary discharge point of treated effluent from the WWTF from the harbor outfall to the existing on site, open sand disposal beds. The Town is also requesting that the total, average annual discharge volume from the WWTF be increased from the current 2.5 MGD to 3.0 MGD. This requested volume increase was foreseen in the EIR certificate (1997) for the WWTF with an allowance for this potential increase pending MassDEP approval. The Town requests approval to discharge up to 3.0 MGD average of treated effluent at be discharged the WWTF disposal beds. The Town also requests that the currently approved discharge of and up to 1.75 MGD to the harbor outfall be maintained for use at the Town's discretion as circumstances warrant (as allowed by the NPDES permit). The harbor outfall would be retained as a backup for times when the beds may be receiving maintenance, other operational considerations, or in case of unforeseen emergency conditions. This proposal is based on a previously foreseen increase in authorized disposal volume and a change of priority discharge location."

This Section is vague and not supported by evidence or data. It makes sweeping conclusions about how the Project will "realize multiple environmental benefits" without sufficient data or analysis of alternatives. It relies primarily on Appendix H: Linked Watershed-Embayment Model to Determine the Critical Nitrogen Loading Threshold for the Plymouth Harbor, Kingston Bay, and Duxbury Bay Estuarine System, a draft report dated 2017. Most of the data in the Appendix H report is over 10 years old. Therefore, it does not reflect current conditions including the impact of climate change on water temperatures which impacts pollution levels. The USDA's recent report shows that ambient temperatures in Massachusetts have increased over the last 10 years.

The Plymouth Harbor Water Quality section does not give information about water quality other than referring to the Dye Tracer Study, Section 4.1. This was a one time study. There appear to be other sources of pathogens discharging into the Harbor but the EENF does not explain any comprehensive plan by the Town to address all of the sources. Is the Project just a short term fix?

Plymouth Harbor Water Quality, SubSection 4.1.2 acknowledges that a primary source of nitrogen to the Bay is fertilizers and changes in freshwater hydrology associated with development. Page 13. Plymouth continues to allow rapid deforestation and stripping of land down to bare sand for residential, commercial and industrial development. It allows massive sand and gravel mining operations such as the ongoing operation at 10 Collins Avenue in Pymouth. Municipal bodies and the Planning Department allow variances that override the Aquifer Protection Zoning Bylaw, vegetated buffers around projects, and the Town allows developers to ignore the Natural Features Conservation Bylaw. The Town should be required in an EIR to review the manner and means of the development that is resulting in the changes in freshwater hydrology associated with development and to commit to mitigation measures for this damage to the environment.

Section 4.1.2 admits that the nitrogen reduction calculation of 2.3% is based on a "simplistic" analysis. It anticipates 'further evaluation of nitrogen offsets" from the Project. These must be studied in a full draft EIR, not in a single EIR as proposed.

The EENF does not give a non-technical description for the public about how the Town's WWTF works, what stormwater and sewage is discharged to the WWTF and how it is discharged to the Harbor and groundwater. It does not explain the role of stormwater collection or document how much stormwater goes into the WWTF and how much goes in to the Harbor directly, both before and after the Project.

The Nutrient Management Plan relied on by the EENF was by its nature, limited to only nitrogen and phosphorous. Since that time, additional contaminants in wastewater have become a concern. This includes pharmaceuticals. The Town's sewer system receives wastewater from a greatly expanded hospital, now Beth Israel Deaconess Hospital. Beth Israel Deaconess Hospital is the largest hospital in the Southern region of the South Shore. BID-Plymouth is an acute care, 164-bed, non-profit community hospital serving 12 towns in Plymouth and Barnstable counties. There is no description in the EENF of the types of contaminants discharged to the WWTF, how they are treated before being discharged to the Harbor, and why there are issues that led to the FDA Letter of 2020 and directive to expand the prohibition zone for shellfishing in the Harbor. This should all be explained to the public and the Environmental Justice Communities.

In October 2023, water quality testing in the Eel River adjacent to the Project Site revealed the presence of insulin and E Coli. The source of these contaminants have not been publicly reported as of this date. This should be addressed in a full EIR.

The issue of PFAS is not addressed. The Town should explain how PFAS is being treated, if at all, at the WWTF and what levels of PFAS are being discharged to the Aquifer and the Harbor now and what is proposed. It is undisputed that PFAS are found in wastewater.

"Poly- and perfluoroalkyl substances (PFAS) are ubiquitous in municipal wastewater and biosolids. Major point sources include PFAS-producing or -using industrial sites, such as papermaking, textile mills, and electroplating. However, PFAS have been detected in wastewater even without direct industrial sources, such as in septic tanks and office buildings. **Similarly, PFAS have been detected in the biosolids of small municipal wastewater treatment plants (WWTPs) without known direct industrial sources.** (PFAS detected in wastewater and biosolids include not only the two most studied PFAS, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), but also short-chain PFAS and polyfluorinated compounds. It is suspected that PFAS in non-industrial wastewater may occur in part due to environmental degradation of polyfluorinated microfibers released by water-resistant clothing during laundry. Another plausible non-industrial source of PFAS in municipal wastewater is human excretion after oral exposure. Often, a portion of the PFAS in wastewater effluent can be ascribed to PFAS in the community's tap water." Poly- and Perfluoroalkyl Substances in Municipal Wastewater Treatment Plants in the United States: Seasonal Patterns and Meta-Analysis of Long-Term Trends and Average Concentrations Kyle A. Thompson **et al.** https://pubs.acs.org/doi/10.1021/acsestwater.1c00377**,** American Chemical Society

E. Project Narrative, Section 5, Permits

Additional permits may be necessary under the Wetlands Protection Act and Bylaw if the WWTF operators, the DPW, plans to continue to dump storm drain cleanout near the Eel River.

The Massachusetts Historical Commission should be consulted since the 30 year old consultation is outdated. The Wampanoag people have sovereign rights to fish and use the Eel River and those rights may be impacted by the Project. According to the EENF, Appendix F, *Eel River Technical Advisory Committee Evaluation of Nutrient Inputs and the Health of the Eel River System, Plymouth, MA*, Section 1.5, Land Use History, states,

"Proper ecological management of any complex system, like the Eel River, is best undertaken within the context of both present and past ecological conditions. Most of the coastal regions of Massachusetts have undergone changes resulting to both natural processes (storms, sea-level rise, etc.) and human activities (dams, dikes, filling of wetlands, etc.). What follows is a brief description of some of the changes which have helped to protect and structure the Eel River System, creating the environment which exists today.

Human modifications to the Eel River System have been occurring for hundreds of years. **Wampanoag Indians made the river valley their home availing themselves of the abundant fish, shellfish and game in the area."** (Emphasis supplied)

A thorough, meaningful opportunity for the Wampanoag people to participate in the MEPA process for this Project is critical. This means funding to retain experts and legal assistance to support efforts at reviewing MEPA documents and the water management act permit and other regulatory filings. The state and town should supply grant funding to support the role of Indigenous people in this project. There should be an entirely new MHC archeological

survey undertaken and this should include impacts of the Town's sand and gravel mining on the Site on in the Eel River System.

The Town should explain any obligations under the federal Safe Drinking Water Act regarding its proposal to discharge wastewater to the aquifer.

There should be a full biological survey. The EENF states there are no MESA protected species, but the 1990's studies showed the presence of the Bridle Shiner, a special concern species.

The River Herring is now listed as protected under the Federal Endangered Species and the EENF states river herring are in the Eel River. In addition, the American Eel has been present in the Eel River. This is an at-risk species that should be studied. Eels live in and thrive in sediment. Will they be exposed to contaminants from the WWTF that may reach nearby wetlands, streams, and rivers that are eel habitat?

According to the EENF, Appendix F, *Eel River Technical Advisory Committee Evaluation of Nutrient Inputs and the Health of the Eel River System, Plymouth, MA,* biomonitoring was implemented in the Eel River System, that identified the bridle shiner. The Town should devote additional resources to a more robust and transparent monitoring systems than is in the Nutrient Management Plan.

The WWTF Pretreatment Program required under its Clean Water Act NPDES permit should be fully described in a full EIR. All records of the sewer users discharging to the WWTF who are governed by the Pretreatment Program and discharge limits should be identified. The Town should be required to provide historic and current data of its enforcement of the WWTF pretreatment standards.

The Town's Stormwater Management Program – MS4 Permit should be described and outlined in a manner that the public can understand. The Town should be required to document that it is complying with the MS4 Permit and provide all up to date records of enforcement of the Stormwater Management Standards.

F. Project Narrative, Section 6, Potential Hydraulic Impacts

The hydraulic impact assessment is insufficient. Section 6.1.5 concludes that a loading test and modeling "**suggest** that the hydrogeologic setting underlying and surrounding the WWTF has the capacity to accept the groundwater discharge of at least 3.0 MGD of treated effluent." Page 33. A "suggestion" that an increase in groundwater discharge at this location will not negatively impact surrounding ecosystems, homes, and businesses is not a sufficient study. As a result, the EENF does not adequately "address all aspects of the Project that are likely, directly or indirectly, to cause Damage to the Environment." 301 CMR 11.06(7).
6.1.1 Groundwater mounding.

The EENF hydraulic modeling is based on a 40-day loading test conducted in 2018. Page 21. "The loading test consisted of the discharge of treated effluent to Bed #4 and concurrent

monitoring of water table response in the wells surrounding the WWTF." Page 24. The flow averaged 1.62 MGD, about half of what is proposed to be added – 3.0 MGD. Then, Horsely Whitten Group used the "observed water level responses from the loading test" to run a groundwater model for a steady state discharge of 3.0 MGD. Section 6.1.4. There appear to be several serious flaws in this model which suggests that the model inputs were insufficient leading to an inaccurate model.

First, the load test was conducted during a dry part of the year, from August 20 to September 28, 2018. Using groundwater response for a low flow, low groundwater elevation period does not give accurate data about year-round variations and how the groundwater and river and pond baseflows fluctuate. Second, the load test was done 5 years ago. Since 2018, there has been additional deforestation and sand mining on the Project Site (see above) and around the Site. More impervious surface has been added.

Third, the Town's informal Board of Health septic systems records review is only a partial view and not a scientifically credible method for determining "potential impacts to the low elevation parcels." Section 6.1.6. This ignores the stormwater runoff and detention basins in the large commercial developments surrounding the Site. How will they be impacted? Similarly, the "on-the-ground survey of low properties" is unscientific and inadequate. Section 6.1.7 states that in the future, as a condition of the groundwater discharge permit, "the Town would be willing to work with any documented property owners impacted by changing groundwater levels" resulting from the Project. This is not "mitigation" under MEPA. Is the Town really suggesting that it is going to respond to flooding in a homeowner's basement by altering the flows to the WWTF? Or what will be the mitigation for the homeowner? This is not an acceptable way to deal with this.

Fourth, the EENF relies on the past 20 years of WWTF operations to claim that since "no impacts have been reported to the Town" from groundwater mounding, this is no problem. This is not credible, is based on the memory, apparently, of DPW officials and town workers, and is random and unscientific. Further, the past 20 years of discharge is a fraction of what is proposed by the Project. Therefore, it is compeletely irrelevant to future impacts. The conclusion on page 36 is unsupportable.

Fifth, the Section 6.2 conclusion of "Potential Flow Impacts to Eel River Infrastructure" is also insufficient. It uses the apparently flawed groundwater model described in Part 6.1, that was based on 40 days of testing during the dry season five years ago, to make the conclusion that there will be "no significant hydraulic impacts" at the "two most likely locations for any such potential impact (Russell Mill Pond and Hayden Pond dams)…" Page 46.

Sixth, the hydraulic modeling is at odds with climate change predictions for Plymouth. It does not appear to take into account or document the imapcts of flooding on groundwater mounding. This is impossible to tell from the description of the groundwater model given in the EENF. The EENF used the EEA "RMAT Climate Resilience Design Standards Tool Project Report" created in December 2021. The Project received a "moderate exposure" for urban flooding, and a "high exposure" for riverine flooding. (And a "high exposure" for Extreme Heat, which is not taken into account in the biological ecological evaluations of the Project as

described elsewhere in these comments.) Many of the inputs to this model are questionable. The Project Narrative, 3.2.1 states the project is located in a FEMA Zone X-Area of Minimal Flood Hazard (eff. 7/6/2021)

The EENF contains the following conflicting statements about flooding in the section **Climate Mitigation and Resiliency**

- "The existing WWTF is not located in an existing flood prone area and is not anticipated to be at increased flood risk under any potential SLR scenarios."
- "The project does not involve any new construction and therefore the climate parameters analyzed in the RMAT Climate Resilience Design Standards Tool do not apply."
- "This project is contributing to the Climate-Ready Healthy Plymouth Report (June 2020) by reducing energy usage through eliminating the need for pumping effluent to the harbor and increasing groundwater recharge through on-site infiltration."

The Woodwell Climate Research Center's climate risk assessment for Plymouth contradicts the EENF finding that there is no flood risk. https://www.woodwellclimate.org/climate-risk-assessment-plymouth-massachusetts/ This is relevant to the groundwater hydraulic model in the EENF. The Woodwell report highlights "The Grove" commercial development near the WWTF as particularly at risk. Grove at Plymouth Shopping Mall: https://www.groveatplymouth.com/

The Woodwell report concludes that the FEMA maps for Plymouth should not be used because they do not accurately show flood prone areas. The Woodwell Center report for Plymouth states in its summary (Emphasis supplied):

> "As a result of climate change, **flood risk is projected to increase for Plymouth**. The probability of the historical 100-year rainfall event, a useful indicator of flood risk, is expected to quadruple by mid-century and be ten times more likely by the end of the century. Sea levels are also projected to rise throughout this century with an increase of 1.31 feet (0.4 meters) by 2050 and 2.66 feet (0.81 meters) by 2080. **Both sea level rise and heavier rainfall will translate into greater flood depths and extent for Plymouth. The vulnerability of Plymouth's stormwater system** was also evaluated under the present and future 100-year rainfall event. Here we present our findings on extreme precipitation and flooding to help Plymouth in its plans to create a more resilient future for all residents.
>
> **Flooding: Some of the flood studies that make up parts of Plymouth's FEMA flood map are over 30 years old which use estimates of streamflow based on drainage area and nearby stream gauges and elevation data from that time which has likely changed significantly since then. Finally, FEMA shows no flood risk in areas disconnected from rivers, also known as pluvial flooding, while Woodwell demonstrates extensive inland areas are vulnerable to flooding. This is because FEMA does not account for pluvial flooding.**

> Plymouth's stormwater system has several hot-spots of vulnerability to the 100-year rainfall event. We identified several hotspots of stormwater flooding throughout Plymouth. Taylor Avenue in White Horse Beach, **The Grove at Plymouth shopping mall**, the Plymouth harbor area, and the Cordage Park area in North Plymouth all show a high concentration of flooded manholes and catch basins…."

Seventh, the hydraulic model does not address stormwater impacts. The EENF does not address the Town's stormwater management. The MADEP Stormwater Standards and Stormwater Handbook provide guidance and criteria to ensure that the hydrologic budget of associated wetlands is maintained and protected. Wetlands are dependent upon both surface water and groundwater inputs and are sensitive to hydrologic shifts and alterations (they can be impacted by both increases and decreases of water levels and flow). They are impacted by both short-term runoff events and longer-term groundwater changes in recharge rates that alter baseflow. Recharge is the process of precipitation infiltrating into the ground and replenishing the underlying groundwater. MADEP Stormwater Standard 3 requires that annual groundwater recharge rates be maintained and preserved.

MADEP Stormwater Standard 3 is designed to maintain the hydrologic balance in wetlands. It requires that post- development recharge is maintained at existing pre-development recharge. MADEP Stormwater Handbook, Volume 2, Chapter 1 provides guidance and clarification regarding this requirement to maintain natural hydrology. Page 6 of this document states, ***"Standard 3 of the Stormwater Management Standards requires that proponents preserve infiltration at predevelopment levels in order to maintain base flow and groundwater recharge"***. Recharge provides baseflow to wetlands and contributes to their hydroperiod (the natural cycle of water levels through the seasons). Changes to this hydrologic balance of recharge areas to a wetland constitute "alterations" to the wetland. There should be a full EIR to determine whether the Site's land alterations and increased base flow will result in significant alterations to these recharge rates and to the hydrologic regime of the wetland.

MADEP Stormwater Manual, Volume 3, Chapter 1, page 17 provides guidance on how to evaluate impacts on wetlands associated with proposed infiltration/recharge facilities designed in accordance with Stormwater Standard 3. It states, ***"Evaluate Where Recharge Is Directed: The infiltration BMP must be evaluated to determine if the proposed recharge location will alter a Wetland Resource Area by causing changes to the hydrologic regime.***

G. Project Narrative, Section 8.0, Alternatives Analysis

The Alternatives Analysis in Section 8.0 is insufficient. The Secretary should require a draft EIR that contains a description and analysis of all feasible alternatives that is thorough and complete. 301 CMR 11.07. The two key flaws in the alternatives analysis are:

1. Failure to consider use of reclaimed water, and

2. Failure and to consider reducing water usage through conservation and efficiency, thus reducing the volume of discharge to the groundwater (see also comments on Nutrient Management Plan, below).

The 1997 MEPA process for the Project evaluated reclaimed water reuse as a means to reduce nutrient locating impacts to the Eel River Watershed from groundwater disposal of treated effluent at the WWTF. It also addressed reducing water usage. Appendix G, p. 16. The EENF ignores both these alternatives. Apparently, at some point after the MEPA Certificate was issued in the 1990s, the Town did not follow through on these two alternatives/mitigation measures.

The Appendix G to the Horslely Whitten Group report, the *Nutrient Management Plan (*NMP) for the WWTF states that due to funding problems, the Town did not pursue reclaimed water use. The NMP states, "the Town is willing to work with potential developers/partnerships to accomplish this goal." Appendix G, page 16-17. The Secretary should require the Town to study this alternative in a full EIR.

The Town should also be required to pursue the 1997 EIR alternative of reducing water usage. The Town Water Study Committee has identified options for reducing water usage by 3 million gallons per day. Town leadership has not followed through on this 2022 recommendation. The Secretary should require the Town to conduct a study of water use reduction and to explain why it has not implemented the recommendations of the Town Water Study Committee. The Town should be required to allocate funding to implement the recommendations and all developments and new developments should be required to comply.

The Alternatives Analysis assumptions about the impacts of increasing the base flow of the Eel River is a gross generalization. See, Section 8.0(A) "And the anticipated augmented river flows would actually be beneficial for providing enhanced baseflow to the river under drought and low flow conditions to support fish passage, habitat and recreation." Page 65-66. Additional study is needed to determine how the additional flow, in light of climate change impacts from flooding, combined with the rapid development, creation of impervious surfaces and sand and gravel mining around the Site has actually impacted the baseflow of the river, and how additional flow will impact wetlands. This could result in an alteration of wetlands, requiring an Order of Conditions. The clear-cutting of trees has significantly reduced evapotranspiration (ET) rates which increases groundwater recharge rates, changes groundwater flow directions, and ultimately alters the hydrologic regime of the wetlands (including downstream headwater streams).

III. Mitigation

What the EENF describes as past "mitigation measures" from the 1997 EIR are not in fact "mitigation" of any substantial nature. The Nutrient Management Plan (NMP) is simply a monitoring program (Appendix G). The Eel River Monitoring Program is just that-monitoring, and the GWDP (DEP Permit) requires monitoring of the WWTF effluent and proximal

groundwater wells. This is not mitigation, it is monitoring the impacts of the pollution and operation of the WWTF.

The Town relies on the most recent Nutrient Management Plan (NMP) report from the Plymouth Department of Marine and Environmental Affairs to show "mitigation" of the increased discharge of up to 3.0 MGD. The NMP is from 2020 and based on the 1997 MEPA Certificate. As noted, the Town has not followed through on the "Use of Reclaimed Water. Appendix G, page 11.

In addition, the Town has not gotten a "Plymouth Harbor Watershed By-law" in place as required by the 1990s MEPA mitigation. The NMP states,

"A draft by-law was created by the Division and an article reserved for 2007 Town Meeting. However, preliminary discussions with DEP indicated it would be beneficial to implement the by-law following the release of the TMDL model. The model will specify which areas and what projects would most benefit the reduction in nutrients. Once the Plymouth Harbor Embayment Study is complete the Town will review the best options for the implementation of the watershed by-law." (Page 15 of NMP).

According to the NMP, this has not been done. This is another aspect of past mitigation that the Town has not completed.

The 1997 mitigation relies on the Town keeping 3-acre rural residential zoning in order to protect groundwater quality. While the Town has maintained the 3-acre lot size for rural residential development, it has allowed ever increasingly dense residential development throughout the Town. This includes thousands of new apartments and "cluster developments" including at the Makepeace Red Brook project, and within the Eel River Watershed at Summers Reach, Oasis/The Grove, and Pine Hills. The mitigation purports to rely on local zoning and the wetlands bylaw as measures of protection for the groundwater and the environment. In fact, the Conservation Commission routinely fails to enforce the Wetlands Protection Act. The NMP states the Commission "has increased "the no-touch buffer zone from 25ft to 35ft in the Town's Wetlands Protection Act Bylaw". While this may be true, it is meaningless because the Conservation Commission routinely grants variances from the "no touch" zone limits. (Examples of violations and illegal variances available on request.) The NMP itself describes some wetlands violations in the Watershed, and the failure of the Town to require mitigation or correction of the violations. Appendix G, page 25. This is a pervasive longstanding issue in Plymouth and many wetlands are being illegal altered as a result.

The NMP states the Town secured "a substantial amount of open space" to prevent future nutrient loading into the watershed" the area in the Watershed has also been clear-cut and covered with hundreds of acres of impervious surfaces. Examples of improperly designed stormwater systems that are not adequately maintained abound. This includes the situation at "The Grove" a nearby mall. For every acre of open space saved, there is an equal or greater area that has been developed. Whether the protection of open space has offset the development in the Watershed should be addressed in the EIR.

The NMP is 3 years old and current data should be provided.

The EENF is incomplete because it does not provide the public with a full explanation of the history of the MEPA process for the WWTF, providing only "Snippets" and does not explain what the WWTF is, what it does, and how it serves the municipal needs of the Town. A full DEIR should:

- Include the 1990s MEPA Certificate
- Explain the Town bodies responsible for overseeing and operating the WWTF
- Describe what the WWTF does, how it operates, what water quality testing is done before and after pretreatment of the wastewater,
- Provide a copy of the Town's pretreatment program under the NPDES permit and describe what will be done with the switch to discharging 3.0 MGD to the Aquifer

IV. Inadequate Public Outreach and Request for Site visit

The "Community Based Organizations" given notice from a list provided by the MEPA Environmental Justice Office (Cover Letter page 3), are not located in Plymouth or even Plymouth County. The EENF's list of "Community Based Groups" are located in the Boston area. Not one of them is known to have any contact with or do any work in Plymouth or the Plymouth area or with the EJ communities identified in the EENF. The Town failed to provide local groups such as Southeastern Massachusetts Pine Barrens Alliance, Community Land & Water Coalition, Sustainable Plymouth, and other local groups working on water quality and community well being in the Town.

The EENF does not identify all private well users who may be impacted. It does not identify whether EJ community members use private wells.

The Secretary should schedule a site visit and public consultation session under 301 CMR 11.06(2). "The Secretary shall ordinarily schedule with the Proponent a site visit and public consultation session to review the Project and discuss its alternatives, its potential environmental impacts and mitigation measures. The Proponent shall be required to provide accompanied public access to the Project site during the site visit and public consultation session, unless such access is infeasible for public safety reasons or protection of proprietary information."

V. Conclusion

The goal of ending the discharge of sewage and wastewater to Plymouth Harbor is a laudable one. It requires a full draft EIR and final EIR that reflects current conditions, including the impacts of climate change and the rapidly heating planet. This is a complex decision with long term irreversible impacts and the public should have the opportunity for full engagement.

Thank you for the opportunity to comment.

Very truly yours,

Melissa Ferretti, President and Chair, Herring Pond Wampanoag Tribe, Inc.
melissa@herringpondtribe.org

Mettie Whipple, Executive Director, Eel River Watershed Association
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Pine duBois, Executive Director, Jones River Watershed Association
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Meg Sheehan, Coordinator, Community Land & Water Coalition
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The Commonwealth of Massachusetts
Division of Marine Fisheries

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MAURA T. HEALEY, Governor | KIMBERLEY DRISCOLL, Lt. Governor | REBECCA L. TEPPER, Secretary | THOMAS K. O'SHEA, Commissioner | DANIEL J. MCKIERNAN, Director

December 12, 2023

Secretary Rebecca L. Tepper
Executive Office of Energy and Environmental Affairs (EEA)
MEPA Office: Nicholas Moreno, EEA No. 16758
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Tepper,

The Division of Marine Fisheries (MA DMF) has reviewed the Expanded Environmental Notification Form (EENF) for the proposed Camelot Drive Wastewater Treatment Facility (WWTF) improvement project submitted on behalf of the Town of Plymouth. The Town is proposing to increase the authorized volume of treated effluent by the Town's current Groundwater Discharge Permit (GWDP) with MassDEP that may be infiltrated at the WWTF groundwater disposal beds. Currently, the GWDP calls for the first 1.75 million gallons per day (MGD) to be discharged to Plymouth Harbor through the Town's ocean outfall, with only flows more than 1.75 MGD authorized to be discharged to disposal beds, up to a limit of 0.75 MGD. The total average annual discharge allowed by the GWDP is 2.5 MGD, and the GWDP discusses the potential for an increase of total average annual discharge to 3.0 MGD, pending MassDEP approval. The Town is seeking to increase the total average annual discharge up to 3.0 MGD and to reverse the prioritization of disposal locations such that the primary disposal location will be groundwater discharge at the WWTF disposal beds, and the secondary location will become disposal through the harbor outfall. This would improve water quality in the Harbor to support recreational and commercial shellfishing, aquaculture, eelgrass, and recreation interests. Existing marine fisheries resources and habitat and potential project impacts to those resources are outlined below.

The WWTF is approximately 1.3 miles from Plymouth Harbor, 1 mile from Eel River, and 0.75 miles from Russel Mill Pond. Groundwater flow from the WWTF generally flows towards Russell Mill Pond and the Eel River. The Eel River provides diadromous fish passage and habitat for river herring (*Alosa spp.*), Atlantic tomcod (*Microgadus tomcod*), rainbow smelt (*Osmerus mordax*), white perch (*Morone americana*), and American eels (*Anguilla rostrata*) [1]. The Eel River provides spawning and nursery habitat for rainbow smelt and Russel Mill Pond provides spawning and nursery habitat for river herring.

MA DMF offers the following comments for your consideration:

- The project includes a monitoring plan to track the progress of phosphorous dispersion through the aquifer to implement mitigation measures before significant phosphorous loading impacts the river. We recommend that the WWTF expand the monitoring to include measuring nitrogen dispersal and concentrations as well.

Questions regarding this review may be directed to Kate Frew in our Gloucester office at Kate.Frew@mass.gov.

Sincerely,

Daniel J. McKiernan
Director

Cc:
J. Sheppard, C. Petitpas (MA DMF)
J. Burtner (MA CZM)
R. Vacca (Plymouth Conservation Commission)

References

[1] Evans, N.T., K.H. Ford, B.C. Chase, and J. Sheppard. 2011. Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47.

DM/kf/js/sd

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Bonnie Heiple
Commissioner

December 15, 2023

Rebecca L. 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: EENF Review. EOEEA # 16758
PLYMOUTH. Plymouth Wastewater
Treatment Facility Treated Effluent
Discharge at 131 Camelot Drive

Dear Secretary Tepper,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Expanded Environmental Notification Form (EENF) for the Plymouth Wastewater Treatment Facility Treated Effluent Discharge at 131 Camelot Drive, Massachusetts (EOEEA #16758). The Project Proponent provides the following information for the Project:

The Town is proposing to reprioritize the primary discharge point for treated effluent from the WWTF to become the existing open-sand, disposal beds located on site, rather than the harbor outfall. The proposed project would also increase the total authorized average annual discharge from the WWTF from 2.5 MGD to 3.0 MGD, an increased foreseen in the existing GWDP, to be allowed pending MassDEP approval. The proposed changes would allow for up to a treated effluent daily maximum volume of 3 MGD to be discharged to the disposal beds. The harbor outfall would only be utilized as a secondary, backup discharge location for time periods of disposal bed repairs, emergencies, or other operational considerations. The harbor outfall's NPDES permit, maximum, discharge rate of 1.75 MGD would remain unchanged.

Bureau of Water Resources (BWR) Comments

Wastewater Management. The following comments pertains to the following sections of the EENF:

Sections 1 and 2 The Town of Plymouth holds Groundwater Discharge Permit (GWDP) 1-677. The Permit is currently expired, and it has been Administratively Continued. The Proponent has identified the requirement to submit a Groundwater Discharge Permit Renewal (BRP WP11) and a Hydrogeologic Evaluation Report (BRP WP83) to achieve the goals contained in the EENF.

Section 3.2.
In addition to Russell Mill Pond (MA941320), Plymouth Bay (MA94-17 (Fecal Coliform)) and Plymouth Harbor (MA94-16 (Estuarine Bioassessments and Fecal Coliform)) are also listed as Impaired in the 2022 Integrated List of Waters (Category 5; The 303(d) List – "Waters requiring a TMDL").

Based upon the available data that meets acceptable data quality assurance standards, the current discharge of the Plymouth Publicly Owned Treatment Works (POTW) is not violating surface water quality standards. This data includes but is not limited to the 2017 Draft Massachusetts Estuary Report and the 2022 Integrated List of Waters which is required by the Federal Clean Water Act.

This does not necessarily mean that the waters have not been impacted, it demonstrates that the available data either does not meet the data quality standards required for quantifying impairment and/or the data does not show an impairment. The lack of listing as impaired does not indicate that there are no negative impacts, simply that the impacts are not of a severity to be impaired. For example, in the 2022 Integrated List of Waters, Russell Mill Pond is not listed as impaired for phosphorus but does indicate some of its negative impacts. Based upon MassDEP's experience, most freshwater impoundments that have received Irrigation Return Flows from the agricultural industry have shown some degradation in water quality due to phosphorus.

Plymouth Harbor (PH 797, EH 486) and the Eel River (PH 610, EH 486) are listed as Priority and Estimated Habitats for Rare and Endangered Species by the Natural Heritage Endangered Species Program

A portion of the Eel River (9458000) is listed as a Coldwater Fish Resource by the Massachusetts Division of Fisheries and Wildlife.

MassDEP recommends that a simplified table be created to show the potential impacts, including but not limited to, the above listed resources and the potential mitigations that can occur to reduce the impact to the resource.

The original permit (circa 2000) for the current POTW contained Adaptive Management principles which was a new concept in wastewater permitting at the time. Adaptive management can reduce the overall mitigation costs of wastewater management by determining where to allocate the most cost effective solutions that would meet and sustain the water quality standards. With time, this approach can be used as the estuary system reacts to the mitigations of adaptive management and future build out. The mitigation measures proposed in the above analysis will frame the various Adaptive Management conditions in the future permit.

Section 4.1.2 Analysis of nitrogen loading.
MassDEP disagrees with the conclusion concerning the significance of the reduced nitrogen loads entering into the Plymouth Harbor, Kingston Bay, Duxbury Bay (PKD) system by moving the discharge location to the upland watershed location. This conclusion is based primarily by the discovery of a transcription error in the MEP report (see attachment). Also note, that all of the discharge is not subject to a high percentage of attenuation because the attenuation is dependent on where the discharge flow enters the Eel River system and where it does/ does not flow through the impoundments.

The Proponent is cautioned on using portions of the MEP report to draw its conclusions as to the net benefit or harm to the estuary system of implementing the Project. The MEP report uses multiple lines of evidence to determine nitrogen impacts to the estuary system. The data is analyzed using a "Weight of Evidence" approach to determine the Target concentration and the approximate nitrogen reduction in sub watersheds that would bring the estuary system to a thriving, biodiverse resource.

Ultimately, there will be disagreement over the importance of any one parameter or the process for determining the nitrogen Target concentration for the estuary. However, the data gathered and the process to analyze the data has been endorsed as a valid estimate of the causes of impairment and its pathways for rehabilitation for use for an approved TMDL by the U.S. EPA - in compliance with the Federal Clean Water Act.

However, Section VIII.3 DEVELOPMENT OF TARGET NITROGEN LOADS in the MEP Report states: "The load reductions presented below represent only one of a suite of potential reduction approaches." This statement recognizes that there are other valid pathways to meet a future TMDL.

Although reduction of the nitrogen load in the PDK system is an overall goal, the spatial importance of the reductions cannot be overlooked as it could if there were instantaneous mixing within the estuary at three critical locations within the estuary - the northern Duxbury marsh area, the central Jones River estuary area and the Town Brook/Eel River discharge area at the southern end of the estuary.

It should be noted that the "build out" analysis (MEP Section VI.2.6.1 Build-Out) and the "alternative scenario" analysis (MEP Section IX. ALTERNATIVE WATER QUALITY MODEL SCENARIOS) consider reasonable future scenarios and the effect on the nitrogen concentrations at the primary Monitoring Stations (MS). Table VI-6 shows that MS PDH1 (closest to the Eel River) will exceed the Target Concentration and MS PDH2 just under the Threshold Concentration. Table VI-6 shows that MS PDH1 (closest to the Eel River) will exceed the Target Concentration and MS PDH2 (closest to Town Brook) just under the Threshold Concentration. Table IX-1 shows that MS PDH1 will exceed the Target Concentration in all three scenarios that are consistent with the planned discharge. Therefore, the EIR must consider mitigation that will occur to reduce the future nitrogen impact in the southern portion of the PDK estuary.

Section 8.0 C. Alterative Discharge Site Location analysis.
The Alternative disposal sites should be considered through the lens that either (or both) future hydraulic and nutrient loading of the Eel River Watershed may or may not assimilate those loads and that additional locations should be considered for disposal of some of the treated effluent to meet surface water quality standards.

These criteria eliminate Sites DD and MM which are estimated to be within the Eel River watershed or discharge close to Monitoring Station PDH1. Site 101 is outside the Eel River Watershed (likely on the Town Brook watershed would discharge close to Monitoring Sation PDH2). and would facilitate more mixing in the PKD system. Another Town owned property outside the Eel River watershed is the Cold Spring School. This property abuts the surface water discharge line and would need little construction with the exception of a subsurface disposal system. The subsurface disposal system could be funded by the sale of Site 101.

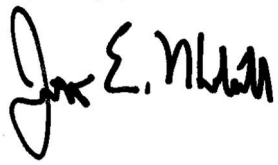
Proposed s.61 Findings

The "Certificate of the Secretary of Energy and Environmental Affairs on the Expanded Environmental Notification Form" 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 appreciates the opportunity to comment on this EENF. If you have any questions regarding these comments, please contact George Zoto at George.Zoto@mass.gov or Jonathan.Hobill@mass.gov.

Very truly yours,



Jonathan E. Hobill,
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