

Chapter 12

MEPA Draft Section 61 Findings and Mitigation Measures

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MEPA DRAFT SECTION 61 FINDINGS AND MITIGATION MEASURES

12.1 INTRODUCTION

This purpose of this chapter is to identify and present the mitigation measures and Draft Section 61 Findings as part of the CWMP/FEIR. Draft Section 61 Findings are outlined in the Massachusetts Environmental Policy Act (MEPA) Regulations 301 CMR 11.12, in accordance with M.G.L. c. 30, section 61 for all state agency actions. These regulations require that each agency, department, board, commission and authority of the Commonwealth “review, evaluate, and determine the impact on the natural environment of all works, project or activities conducted by them and shall use all practicable means and measures to minimize damage to the environment.” The regulation also states that, “Any determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact.”

As the Certificate of the Secretary of Energy and Environmental Affairs mandates, the Final EIR is required to include a separate chapter on mitigation measures associated with the CWMP/FEIR and that this chapter also includes Draft Section 61 Findings for all state agency actions. The Draft Section 61 Findings shall contain a clear commitment to implement mitigation, an estimate of the individual costs of the proposed mitigation, identification of the parties responsible for implementing the mitigation, and a schedule for the implementation of mitigation.

12.2 DRAFT SECTION 61 FINDINGS FOR STATE AGENCY ACTIONS

The anticipated state agency actions are listed below. These actions summarize permits and approvals that will likely be required for implementation of the recommended plan.

- U.S. Environmental Protection Agency (USEPA), National Pollutant Discharge Elimination System (NPDES) Permitting Program (as applicable), under 40 CFR Chapter 1, Section 122.26 (15) for NPDES Stormwater Permit for Construction Activities and review of developed Stormwater Pollution Prevention Plan (SWPPP).
- Department of the Army, New England District, Corps of Engineers (as applicable), Permit requirement under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403); Permit requirement under Section 404 of the Clean Water Act; Massachusetts Programmatic General Permit (PGP) or Category II or III Individual Permit.
- Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) approval of the CWMP/FEIR.
- Massachusetts Department of Environmental Protection (MassDEP), Ground Water Discharge Permit Program, pursuant to M.G.L. c. 21 s. 43 and its regulations at 314 CMR 5.00, BRP WP 11, for facility modifications with plan approval.
- Massachusetts Department of Environmental Protection, Sewer System Extension and Connection Permit Program, pursuant to M.G.L. c. 21 s. 43 and its regulations at 314 CMR 7.00, BRP WP 13, 17, or 18. However, those projects where the Town seeks MassDEP's Project Approval Certificate from the Clean Water State Revolving Fund Program are exempt from permitting requirements.
- Massachusetts Department of Environmental Protection, Chapter 91 License (as applicable), pursuant to M.G.L. c. 91, the waterways licensing program.
- Massachusetts Department of Environmental Protection, Notice of Intent (NOI) Wetland Protection Act (WPA) Form 3 (as applicable) and Chatham Conservation Commission approvals (as applicable) for work within the 100 foot buffer to a wetland, per the wetland, per the wetlands regulations at 310 CMR 10.00.
- Massachusetts Department of Environmental Protection, Air Quality Permits (as applicable), BWP AQ 04 - Asbestos Removal Notification that may be required for Asbestos Pipe removal and BWP AQ 06 Construction/Demolition Notification.
- Massachusetts Department of Environmental Protection, Emergency Engine and Emergency Turbine Compliance. The program applies to all new emergency or standby engines with a rated power output equal to or greater than 37 kW or emergency turbine with a rated power output less than one megawatt constructed, substantially reconstructed, or altered after March 23, 2006.

- Massachusetts Department of Environmental Protection, Air Quality Permit BWP AQ 14, 15, 16, 17 Operating Permits. These are mandated for major sources of air pollution by the Clean Air Act Amendments of 1990. Massachusetts has incorporated this program in 310 CMR 7.00 Appendix D of its Air Pollution Control Regulations. In some cases, emissions from WWTFs or odor control systems trigger this requirement.
- Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup, Filing of Utility Release Abatement Plan (as applicable), for excavation within known contaminated sites.
- Office of Coastal Zone Management (CZM) Federal Consistency Review, pre-consultation to determine applicability.
- Commonwealth of Massachusetts Department of Public Works Permit for work within State Highway Layouts. These will be required for any work along Route 28 required as part of the recommended plan.
- Massachusetts Division of Fisheries & Wildlife, The Natural Heritage & Endangered Species Program (NHESP), MESA (321 CMR 10.00) and/or the WPA (310 CMR 10.00) for work below mean high water line, in a fish run, or in priority or estimated habitats.
- Massachusetts Division of Marine Fisheries (DMF) and the Pleasant Bay Resource Management Alliance (Pleasant Bay Alliance) consultation as the Muddy Creek Basin Restoration portion of the project is further evaluated. DMF shall include consultation on potential impacts to diadromous fish species and mitigation measures as appropriate.
- Massachusetts Historical Commission (MHC) consultation/reviews for any collection system components and pump stations to be constructed outside of road right-of-ways.
- Cape Cod Commission (CCC) approval of the CWMP/FEIR as part of the Development of Regional Impact (DRI) approval process.
- Town of Chatham building permits for the construction of structures as part of the recommended plan.
- Town of Chatham Water and Sewer Department for sewer connection permitting.

The assessment of impacts to the environment as they pertain to the Town of Chatham's recommended plan were discussed in Chapter 10 of the Draft CWMP/DEIR and the resulting

planned mitigation measures were discussed in Chapter 11 of the Draft CWMP/DEIR. The Secretary's Certificate mandates a separate chapter on mitigation measures be included in the CWMP/FEIR. Chapter 10 of this document continues to summarize the environmental impact analysis, however the following section summarizes mitigation commitments, and may be used as the basis of development of Section 61 Findings for federal and/or state permits necessary for construction and operation of the recommended plan.

All mitigation measures will be funded and implemented by the Town of Chatham, its agents, representatives, and/or contractors in addition to any state agency actions required above. The Secretary's Certificate and comments received from review of the Draft CWMP/DEIR are located in Appendix A-3; the comment response memorandum is located in Appendix B.

12.3 PLANNED MITIGATION MEASURES, IMPLEMENTATION SCHEDULE AND ESTIMATED COSTS

As part of the EIR process outlined in 301 CMR 11.07, the following mitigation measures were identified. These measures were outlined and identified to limit negative environmental impacts and/or create positive environmental impacts during development and operation of the recommended alternative. The schedule and costs for the implementation of mitigation is also discussed where appropriate.

A. Design and Construction Mitigation.

1. **General Construction Measures.** During construction, the site(s) shall be secured to prevent unauthorized entry to the construction site, and to protect existing and adjacent facilities and properties. Supplemental lighting, signs, railings, and construction barriers shall be used as necessary to provide safety to employees, construction workers, visitors, and the general public during the construction process in accordance with Occupational Safety and Health Administration (OSHA) and other applicable regulations.

Water used during the construction process, and that generated from runoff on the site, will be controlled by proper site grading, and by providing temporary berms, drains, and other means to prevent soil erosion. These means will also be used to reduce puddling and runoff on the site. Existing and new catch basins will be protected from siltation using hay bales, siltation fence,

and catch basin inserts. At no time will the pumping of silt-laden water be allowed in trenches, excavations, surface waters, stream corridors, or wetlands. Pollution controls will also be provided to prevent the contamination of soils, water and the atmosphere from the discharge of noxious, toxic substances, and pollutants produced during the construction process.

Erosion control measures including hay bales, siltation fencing and erosion control fabric will be used to provide sedimentation barriers. Temporary seeding and mulching may also be used to minimize soil erosion and provide soil stabilization on slopes. Diversion trenches may also be used on the uphill side of disturbed areas to divert surface runoff. Land disturbances will be kept to a minimum to reduce impacts and erosion. All erosion and storm water control methods shall be in accordance with the USEPA National Pollution Discharge Elimination System (NPDES) General Permit requirements, Commonwealth of Massachusetts regulations and the Town of Chatham regulations. A Storm Water Pollution Prevention Plan (SWPPP) will be required as part of the NPDES General Permit.

The site will be maintained free of waste materials, debris, and trash following each day of work. Waste and other debris will be collected and disposed of off-site periodically. At no time during construction will the dumping of spoil material, waste, trees, brush or other debris be allowed into any stream corridor, any wetland, any surface waters or any unspecified location. The permanent or unspecified alteration of stream flow lines is not allowed during construction.

Construction noise from heavy equipment will be limited to within normal operating hours of 7:00 am to 5:00 pm. Dust controls, including the use of street sweepers and/or watering trucks, will be used to minimize air-borne dust.

2. **Collection System Construction.** In addition to the measures identified in the general construction section, police details and other traffic controls will be necessary to minimize traffic problems during construction of collection systems. Detours and trucking routes will need to be identified prior to construction and these routes will need to be designed to minimize impacts to surrounding residential areas not accustomed to heavy construction and increased vehicle traffic. Construction of the collection system will have to allow for safe travel of both pedestrians and vehicle traffic.

Collection system extensions are planned in the road layouts to avoid impacts to animal habitats, wetlands, historic areas, or potential archeological sites. Construction in these areas will impact traffic (vehicle, pedestrian, and bicycle) in the roadways during construction. These impacts will be of short duration and construction within road right-of-ways will not be scheduled for the summer season to avoid traffic congestion. Construction procedures for traffic control, erosion protection, dust control, noise prevention, and wetland protection will be implemented. Use of trench boxes, bracing and other shoring methods will be utilized to provide the necessary safety for workers and others at the construction site. Any property, including trees and vegetation, that is damaged during construction is to be repaired or replaced by the contractor. All roads, both publicly and privately owned, impacted by construction associated with the implementation of the collection system shall be restored to their pre-construction condition or better. Any collection system components and pump stations to be constructed outside of road right-of-ways will be reviewed with the Massachusetts Historical Commission.

The collection system pump stations need to be located in low-elevation areas to be able to utilize gravity pipes that flow to a low area for collection and subsequent pumping. Wetland regulations and permitting will be followed to minimize impacts to any adjacent wetlands.

Stormwater and construction run-off will be managed through the implementation of construction SWPPPs established prior to construction and regulated under USEPA NPDES General Permits for Construction.

Areas requiring sewers located within parts of Town identified as barrier beach will have to be designed and constructed to meet specific state requirements for work within these areas (Executive Order 181), and will have the following stringent requirements for the construction of sewers on a barrier beach:

- a. All infrastructure must be protected from coastal flood hazards.
- b. The sewers cannot promote additional growth on the barrier beach that would not have otherwise been allowed.

Previous discussions held with Massachusetts Coastal Zone Management (CZM), the agency that upholds Executive Order 181, have identified that the water quality benefits provided by the

collection system extensions will greatly outweigh the slight risk that a catastrophic coastal hazard could damage some of the infrastructure. Certainly, collection system extensions will be designed to withstand coastal flood hazards with pump stations that will not be flooded with a 100-year storm and all pipes and equipment suitably protected from wave action. Pump stations will be located outside of flood zones when possible and protected with a system of check valves in critical areas, and generally protected from floods and natural hazards.

In May 2005 at Chatham Town Meeting, a new section (Article II) was approved to the *Town of Chatham Rules and Regulations of the Sewer Department* that takes a growth-neutral approach with respect to sewer extension (attached in Appendix R). This regulation was specifically designed to prevent growth that might occur as a result of sewer extension.

Estimated costs for Town-wide sewer costs are outlined in Table 9-1, where erosion control is estimated at \$840,000 and final clean up and site restoration is estimated at \$420,000. While these monetary estimates contribute to the mitigation of impacts, these line items do not include all measures.

3. Wastewater Treatment Facility Site. In addition to those mitigation measures identified previously, the following measures will be provided at the WWTF site. The greatest mitigation measure is the operation of a new advanced wastewater treatment system designed for nitrogen removal to 3 mg/L total nitrogen, which will result in long-term improved water quality Town-wide. The existing WWTF will remain in operation during the construction of the new facility and all permit requirements will continue to be met to the best of their ability during this construction.

This new wastewater treatment system will help reduce the amount of nitrogen entering the Town of Chatham's coastal embayments in order to achieve the established TMDLs, and will also provide the greatest removal of suspended solids and BOD in the effluent. This system will increase the production of sludge and increase the volume of treated water recharged to the water table. The sludge will be disposed of at an approved off-site facility in accordance with MassDEP guidelines. The increase in treated water recharge has been modeled locally and by USGS to review impacts, all of which have been identified as negligible; however the recharge will be monitored as part of an approved groundwater monitoring plan.

Odor and noise mitigation measures will also be considered as part of the final design to minimize the impacts to adjacent properties during construction and operation.

The following mitigation measures will be observed to avoid or minimize adverse environmental impacts at the existing WWTF site:

- Construction will be kept to a minimum on the northern side of the site (the direction of possible estimated habitat).
- The majority of the construction will take place on a previously developed parcel.
- Vegetative screens will be employed if it is determined that they are necessary for aesthetic reasons.
- Work will be halted if archaeological resources are uncovered during construction.
- The contractor will be required to thoroughly clean up the site before the contract is considered complete.
- Expert agencies will be contacted when a resource may be impacted.
- Proper handling and storage of possible contaminants and hazardous substances will be required of the contractor.
- Access roads will be dampened to minimize construction dust.
- Debris will not be burned as a means of disposal.
- No structures will be placed near airfield runways, approaches, and flight paths.
- No construction work will be performed during evening, holiday, or weekend hours.
- A resident project representative will be employed to ensure that the project area is kept clean and that mitigation measures are met.

Estimated costs for Chatham WWTF Improvements are included Table 9-3, where odor control is estimated at \$340,000 to \$400,000 (for Alternatives 3 and 4, respectively) and site work is estimated at \$820,000 to \$1,000,000 (for Alternatives 3 and 4, respectively). While these monetary estimates contribute to the mitigation of impacts, these line items do not include all measures.

12.4 ADDITIONAL MITIGATION MEASURES

A. **Introduction.** The following is a discussion of additional items specifically identified in the Secretary's Certificate. These mitigation measures will be implemented by the Town of

Chatham, its agents, representatives, and/or contractors in addition to any state agency actions required in Section 12.2.

B. The Adaptive Management Plan. The Town of Chatham’s CWMP includes the implementation of an adaptive management process to monitor groundwater elevations and water quality at the Chatham WWTF groundwater recharge site, and nitrogen loading levels to coastal embayments during construction and upon completion of the phased sewerage project. This adaptive management approach will enable the CWMP to be adjusted based on the monitoring results of the environmental and economic impacts associated with the construction of the new sewers in Chatham. MassDEP has requested that the Town develop a feasible water quality and habitat quality compliance measure to track changes during implementation of each phase of project construction to verify the effectiveness of the Town’s CWMP over time.

The Town of Chatham has since met with MassDEP and CCC on August 13, 2008 to discuss an appropriate Adaptive Management Plan and monitoring program. The Adaptive Management Plan will allow for modifications or “mid-course corrections” based on the following key factors which are discussed in greater detail in Chapter 11:

- Implementation of the CWMP.
- Documentation on capital expenditures.
- Compliance with the groundwater discharge permit.
- Reporting on estuarine water quality monitoring.
- Reporting on groundwater elevation and quality monitoring.
- Summary of habitat assessments that may be completed by the Town, MassDEP, regional organizations, or others.
- Continued coordination with the Pleasant Bay Alliance who is coordinating any MEP model runs of this estuary.
- Potential evaluations and changes as needed.

It is noted that the Town of Chatham continues to work with the MassDEP Pilot Project (through the Pleasant Bay Alliance) to develop a standard protocol for documenting these compliance items. MassDEP continues to coordinate with UMass-Dartmouth School for Marine Science and Technology (SMASST) for the needed technical input.

C. **Muddy Creek Basin Restoration.** As further evaluation of the proposed Muddy Creek Basin Restoration project proceeds as part of the CWMP project, the Town will continue to consult with the Massachusetts Division of Marine Fisheries (DMF) and the Pleasant Bay Alliance on the proposed restoration. In addition the Town is prepared to consult with the DMF to assess the potential impacts the proposed Muddy Creek restoration project may have on diadromous fish species. As reviewed in Chapter 1, the PBA is seeking additional grant funding for further evaluation of this alternative.

D. **Sewering and Growth Management.** As discussed above, in May 2005, Chatham Town Meeting approved a new section (Article II) to the *Town of Chatham Rules and Regulations of the Sewer Department* that takes a growth-neutral approach with respect to sewer extension (attached in Appendix R) and was developed for consistency with Executive Order #385.

As discussed in Chapter 8, the Town is also actively implementing interim means of limiting nitrogen. The first step in this process has been establishing a “*Nitrogen Loading Regulation*” to address the immediate wastewater needs and public health concerns regarding on-site septic systems in Town, while the CWMP process is still underway. Revisions to this regulation have been ongoing since the late 1980’s, with the most current revision being dated May 11, 2006. A copy of this regulation is included in Appendix S.

Although the Town of Chatham is currently undergoing a review of its zoning by-laws, the adoption of the additions to the *Rules and Regulations of the Sewer Department* is the primary control mechanism that makes this CWMP/FEIR “growth-neutral.” No additional by-laws have been passed since submittal of the Draft CWMP/DEIR.

12.5 MITIGATION SUMMARY

The mitigation measures as they apply to general construction, collection system construction and the wastewater treatment facility site also encompass the potential environmental impact categories discussed in Chapter 10. As previously discussed, the majority of the WWTF construction will take place on a previously developed Town-owned parcel, therefore the project will have limited negative impacts on open space and will not have a long term negative impact on the Old Colony Rail Trail (Harwich & Chatham Municipal Trail) which travels past the Chatham WWTF. This Rail Trail is a dedicated bicycling and walking trail that is located in the

Towns of Harwich and Chatham and connects with the Cape Cod Rail Trail in Harwich. The Cape Cod Rail trail stretches throughout the mid (Dennis) to lower Cape (Wellfleet) and provides an active recreational resource to the community.

As discussed previously in the CWMP/FEIR, the greatest mitigation measure for the project is the operation of a new advanced wastewater treatment system designed for nitrogen removal to 3 mg/L total nitrogen. The recommended plan cost summary is outlined in Table 11-1 and estimates a cost of \$230 million for Phase 1 improvements and \$330 million for Phase 2 improvements (which also includes Phase 1 costs). Based on the long-term benefits of improved water quality Town-wide, environmental quality improvements to estuaries, wetlands, surface waters, groundwater, etc. the entire cost of the project may be thought of a mitigative measure cost. The reduction of nitrogen in the environment will have long-term far reaching benefits locally and regionally to Cape Cod's community once fully implemented.