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November 26, 2007

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

PROJECT NAME: Comprehensive Nitrogen and Wastewater Management Plan
PROJECT MUNICIPALITY: Mashpee
PROJECT WATERSHED: Cape Cod
EEA NUMBER: 12615
PROJECT PROPONENT: Town of Mashpee
DATE NOTICED IN MONITOR: October 27, 2007

Pursuant to the Massachusetts Environmental Policy Act (M. G. L. c. 30, ss. 61-62H) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I have reviewed the Notice of Project Change (NPC) and Needs Assessment Report submitted for this project and hereby determine that the Scope for the Environmental Impact Report (EIR) issued for the project on November 9, 2001 still stands.

Project Description

As originally outlined in the Environmental Notification Form (ENF) submitted in October of 2001, the project involves the development of a comprehensive nitrogen and wastewater management plan for the Town of Mashpee. The Plan is intended to address the Town's needs for reducing nitrogen impacts to its coastal embayments and to evaluate all options for restoring those embayments.

As stated in the Secretary's Certificate on the ENF dated November 9, 2001, the project is expected to proceed in phases with the submission of reports dealing with four major work

elements: (1) a Needs Assessment Report, defining those areas that need nitrogen and wastewater management and establishing project flows from those areas; (2) an Alternatives Screening Analysis Report, evaluating the various means of meeting the wastewater requirements of the needs areas; (3) the Nitrogen and Wastewater Management Plan and Draft Environmental Impact Report (DEIR), which will identify a proposed management plan and assess the potential environmental impacts of that plan; and, (4) the Nitrogen and Wastewater Management Plan and Final EIR (FEIR), which will provide any additional environmental analysis required and will respond to comments submitted on the DEIR. The Certificate on the ENF directed the Proponent to prepare and submit for review the first two reports prior to the submission of the DEIR.

The project is subject to MEPA review and to the Mandatory EIR provisions of the MEPA regulations at 301 CMR 11.03(5)(a)(3) because it is presumed that the project will ultimately result in the construction of more than 10 miles of new sewers. The Proponent is seeking financial assistance from the Commonwealth under the State Revolving Fund (SRF); therefore, MEPA has broad scope jurisdiction over the project. The project is being reviewed under a Joint Environmental Review Process established between the Executive Office of Energy and Environmental Affairs (EEA) and the Cape Cod Commission.

Review of the NPC/Needs Assessment Report

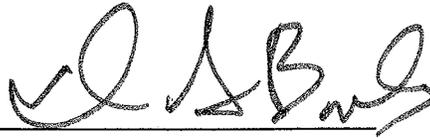
The NPC currently under review includes the final Needs Assessment Report, which is the first of the review documents for the project. The Proponent submitted the NPC with the report in accordance with the MEPA regulations for a lapse of time, at 301 CMR 11.10(2). Following the submission of the ENF, the project was put on hold as the Proponent awaited the results of the Massachusetts Estuaries Project (MEP). The MEP's reports relevant to the Project Planning Area (PPA) were released in 2004 and 2005, and will be used by the Proponent in the development of the nitrogen management needs and management plan.

The Needs Assessment Report provides information on existing wastewater facilities; physical features, land use and regulatory issues affecting wastewater facilities; and existing conditions related to environmental resources, nitrogen loadings and on-site septic systems. The report also identifies the impacts of population growth in the PPA on wastewater collection, treatment and disposal facilities. The Proponent has identified a number of priority areas for nitrogen removal and nitrogen management and has established three levels of rankings for these sites.

I commend the Town of Mashpee for its efforts and for the comprehensive nature of the Needs Assessment Report. Comments submitted to MEPA on the NPC indicate that the report is an excellent foundation from which to develop the Watershed Nitrogen Management Plan. The Proponent should incorporate responses to technical comments submitted on the NPC from the Cape Cod Commission, the Department of Environmental Protection, the Office of Coastal Zone Management and the Massachusetts Historical Commission into the Alternatives Screening Analysis Report.

November 26, 2007

Date



Ian A. Bowles

Comments Received:

10/29/2007 Massachusetts Historical Commission
11/9/2007 Office of Coastal Zone Management
11/16/2007 Department of Environmental Protection, Southeast Regional Office
11/16/2007 Cape Cod Commission

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MEPA

October 29, 2007

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Historical Commission

Secretary Ian A. Bowles
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn.: Briony Angus

RE: Watershed Nitrogen Management Planning Study, Mashpee, Popponeset Bay & Waquoit Bay East Watersheds. MHC #RC.29581. EEA #12615.

Dear Secretary Bowles:

Staff of the Massachusetts Historical Commission have reviewed the Notice of Project Change filed with the planning document submitted for the project referenced above.

In Chapter 3 (Section 3.2, Federal Regulatory Issues), Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800) will also apply to review of projects proposed, as federal funding and permitting is anticipated.

In Chapter 5 (Page 5-10), since the 1988 plan, two additional properties (for a total of six properties) are subject to Preservation Restrictions (MGL c. 184, ss. 31-33) held by the MHC and all are listed in the State Register of Historic Places. Another property (the Sophronia Young House Site in the area of New Seabury) is proposed for a Preservation Restriction and listing in the State Register. In Mashpee, there are many properties in the Inventory of Historic and Archaeological Assets of the Commonwealth, which gives an indication of the likelihood of many other, as yet unidentified historic and archaeological resources in the town.

MHC looks forward to review of project information when plans for preferred alternatives to address the priority areas are developed.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), MGL c. 9, ss. 26-27C (950 CMR 71), and MEPA (301 CMR 11). Please contact me if you have any questions.

Sincerely,

Edward L. Bell
Senior Archaeologist
Massachusetts Historical Commission

- xc:
- F. Thomas Fudala, Mashpee Sewer Commission
- Nathan Weeks, Stearns & Wheeler, LLC
- Ron Lyberger, DEP-BRP
- Sara Korjeff, Cape Cod Commission
- George Green, Jr. THPO, Mashpee Wampanoag Tribe

MEMORANDUM

TO: Briony Angus, Environmental Reviewer, MEPA Unit

THROUGH: Jonathan Hobill, Acting Deputy Regional Director,
Bureau of Resource Protection
David Johnston, Deputy Regional Director, BWP
Millie Garcia-Serrano, Deputy Regional Director, BWSC
Gary Moran, Regional Director

CC: Elizabeth Kouloheras, Chief, Wetlands and
Team Leader, Cape Cod Watershed
Brian Dudley, Chief, Wastewater Management, Cape Cod Watershed
Jeffrey Gould, Chief, Water Pollution Control
Richard Rondeau, Chief, Water Supply
Richard Keith, Chief, Municipal Services

FROM: Sharon Stone, SERO MEPA Coordinator

DATE: November 16, 2007

RE: NPC EOE A #12615 – MASHPEE – Watershed Nitrogen Management
Planning Study

"For Use in Intra-Agency Policy Deliberations"

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Notice of Project Change (NPC) for the proposed nitrogen management planning study project for the Cape Cod Watershed located in Massachusetts (EOEEA #12615). The project proponent provides the following information for the project:

“The Notice of Project Change is submitted solely for a lapse of time; there is no substantial project change.”

MassDEP is pleased to see that the Needs Assessment Report has incorporated planning on a watershed-wide basis and includes consideration of the towns of Sandwich and Barnstable. MassDEP also notes that the preliminary prioritization of Priority Area groups takes into account the findings of the Massachusetts Estuaries Project (MEP). However, as alternatives analysis proceeds, any recommended alternative will have to demonstrate that it will be able to reduce nitrogen loads sufficiently to meet the target threshold nitrogen concentration at the sentinel stations in the respective watersheds.

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed project. If you have any questions regarding these comments, please contact Sharon Stone at (508) 946-2846.



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX (617) 626-1240

MEMORANDUM

TO: Ian A. Bowles, Secretary, EOEEA
ATTN: Briony Angus, MEPA Unit
FROM: Leslie-Ann McGee, Director, CZM *L.A. McGee*
DATE: November 9, 2007
RE: EOEA 12615 – Mashpee Comprehensive Watershed Nitrogen Management Plan,
Needs Assessment Report and Notice of Project Change

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Needs Assessment Report and Notice of Project Change, noticed in the Environmental Monitor dated October 27, 2007, and offers the following comments.

Project Description

The project involves the development of a comprehensive nitrogen and wastewater management plan through the Popponesset Bay and Waquoit Bay East Watershed Nitrogen Management Planning Project (EOEA # 12651). The Needs Assessment Report (NAR) is the first phase of this project, as outlined in the Certificate of the Secretary of Environmental Affairs on November 9, 2001. The Certificate requires the submission of four reports, including the NAR, an Alternatives Analysis Screening Report, the Nitrogen and Wastewater Management Plan and Draft Environmental Impact Report (EIR), and the Final Nitrogen Management Plan and Final EIR. The purpose of the Watershed Nitrogen Management Plan (WNMP) is to provide an environmentally and economically sound plan for nitrogen reduction, wastewater treatment, and effluent recharge in the project planning area. The NAR is intended to outline the existing conditions and future conditions within the project planning area, and to identify the wastewater, stormwater and other nitrogen related problems within this area.

Project Comments

CZM commends the Town of Mashpee for its continued efforts to develop a watershed-based nitrogen management plan. This planning effort has benefited from Mashpee's participation in the Massachusetts Estuaries Project (MEP) and the completion of MEP reports on the Popponesset Bay and Waquoit Bay East watershed systems. The results of these reports have been incorporated into this NAR, and the subsequent development of alternatives and management recommendations will be based upon the findings of MEP Total Maximum Daily Loads.

The NAR is comprehensive and exceeds the Secretary's minimum requirements to identify areas that require nitrogen wastewater management and establish flows for those areas. The NAR provides background information on existing wastewater infrastructure, natural resources, land use and associated regulatory issues within the project planning area. In addition to characterizing existing flow and nitrogen loadings, estimates of future flow and nitrogen loadings are presented. These flow estimates are well described and are based on build-out information developed from the MEP analysis and from town sources.



The NAR identifies a number of priority areas for nitrogen removal and nitrogen management and establishes three levels of rankings for these sites. The rationale and factors used to identify and prioritize these sites are clearly presented. CZM believes the rationale is sound, and that this initial prioritization is a necessary first step in this planning process. CZM recognizes that this initial prioritization of sites will be evaluated further as more data is developed through the ongoing planning process

One of the factors used in the identification of priority areas is proximity to any of the eight existing Waste Water Treatment Facilities (WWTF) within the project planning areas, and potential future expansion of these facilities. The NAR identifies potential excess capacity at many of these WWTF facilities, however the majority of them are privately owned. CZM recommends that the proponent develop and present a process to engage with these private facilities in an effort to ensure the potential for future expansion. This process should be incorporated into the future Alternatives Screening Analysis Report.

Federal Consistency

The proposed project may be subject to CZM federal consistency review, in which case the project must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact, Robert Boeri, Acting Project Review Coordinator, at 617-626-1050 or visit the CZM web site at www.state.ma.us/czm/fcr.htm.

LM/sm

cc: Stephen McKenna,
CZM Cape & Islands Regional Coordinator
Brian Dudley, Section Chief
MA DEP-Hyannis, 973 Iyannough Road, Hyannis, MA 02601
Thomas Fudala, Chairman, Mashpee Sewer Commission
16 Great Neck Road, Mashpee, MA 02648



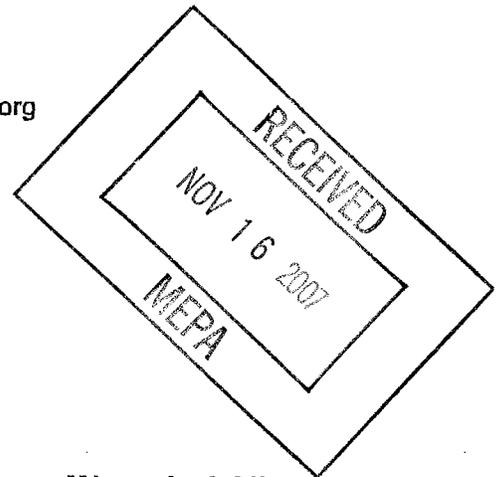
CAPE COD COMMISSION

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November 16, 2007

Secretary Ian Bowles
Executive Office of Energy and Environmental Affairs
MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114



RE: Notice of Project Change, Town of Mashpee, Watershed Nitrogen Management Plan and Needs Assessment Report for Popponessett Bay and Waquoit Bay-East Watersheds
EOEEA: #12615
CCC: JR#20076

ATTN: Briony Angus

Dear Secretary Bowles:

The Cape Cod Commission (the Commission) has received a Notice of Project Change (NOPC) for the Watershed Nitrogen Management Plan for the Town of Mashpee. The NOPC was accompanied with a report entitled, "Town of Mashpee, Popponessett Bay and Waquoit Bay-East Watersheds, Needs Assessment Report." The NOPC was noticed in the Environmental Monitor on October 10, 2007.

The proposed Mashpee Watershed Nitrogen Management Plan is being reviewed jointly by the Executive Office of Energy and Environmental Affairs (EOEEA) – MEPA Unit, and by the Cape Cod Commission as a Development of Regional Impact (DRI) in accordance with the Memorandum of Understanding (MOU) between the Commission and EOE. This NOPC is being submitted by the town because more than three years have passed since the 2001 MEPA Certificate on the project.

Although the Commission has not taken a formal position on the NOPC, staff has reviewed the 2001 scope of Watershed Nitrogen Management Plan and with the updates incorporated into the 2007 Needs Assessment supports the requested extension of time to complete the project.

Staff has reviewed the Needs Assessment that will be incorporated into the Draft Environmental Impact Report and offers the following general and technical comments as an attachment.

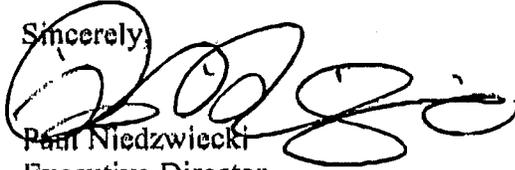
Town of Mashpee
Watershed Nitrogen Management Plan NOPC
EEOEA 12615
November 16, 2007



The Cape Cod Commission looks forward to continuing our participation with the Town of Mashpee, and its neighboring towns, as it moves forward in its Watershed Nitrogen Management Plan.

Please contact me or Tom Cambareri of my staff if you have any comments or questions.

Sincerely,



Paul Niedzwiecki
Executive Director

- Cc: Joyce Mason, Mashpee Town Administrator
- Thomas Fudala, Mashpee Town Planner/Sewer Commissioner
- Nate Weeks, Stearns and Wheler
- Ernest Virgilio, CCC, Mashpee Representative
- Jay Zavala, CCC- Falmouth Representative
- Brian Dudley, MassDEP
- Mark Ells, Barnstable DPW
- Royden Richardson, CCC- Barnstable Representative
- David Mason, Sandwich Health Agent
- Robert Jones, CCC- Sandwich Representative
- Lindsey Counsell, 3Bays Preservation
- Brian Howes, SMAST, UMass Dartmouth, MEP Project Manager



General

The Needs Assessment Report documents the significant level of effort that has gone into the determining the Total Maximum Daily Load (TMDL) of nitrogen for the two subject embayments over the course of the last six years. This has included participation in the Massachusetts Estuary Project (MEP) consisting of town-supported water quality monitoring, assessment of sediments, plants and fauna, land use assessments, compilation of water use from Mashpee Water District, hydrodynamic modeling of the estuaries and use of the Linked Water Quality Model to determine the nitrogen thresholds. The MEP technical reports for Popponesset Bay and East Waquoit Bay were completed in April 2004 and July 2004, respectively. Regulatory review to establish the MassDEP TMDL took over two years for Popponessett Bay and have not yet been finalized for Waquoit Bay East (a draft TMDL was released in July 2005). Final EPA approval of the DEP TMDLs have not been completed.

During that period of time the Town took advantage of a number of opportunities including the DEP Pilot Project and the Cape Cod Commission TMDL Implementation Project, which were both funded through EPA. Through these projects, Mashpee, together with representatives of Barnstable and Sandwich, has been able to participate in the drafting of a TMDL nitrogen loading allocation for each town and have discussions on potential nutrient trading opportunities. Mashpee was also able to run a number of MEP alternative nitrogen loading scenarios and to have an assessment of cranberry bogs and streams for potential additional Natural Attenuation.

The town also received wastewater grant funds from Barnstable County to 1) model sewer collection systems in the Popponessett watershed and 2) to receive technical assistance from the US Geological Survey and Commission water staff, to use a groundwater model to evaluate potential wastewater disposal sites.

Technical

The Needs Assessment recognizes the appropriate water resources minimum performance standards from the Regional Policy Plan.

The Town should continue to make use of its Citizens Advisory Committee (CAC) and Pilot Project group to obtain input on it proposed the nitrogen removal scenarios.

The identification of priority areas uses the Mashpee Planning areas as its fundamental building block. It is noted that areas of Barnstable in the Popponessett Bay watershed appear to have a similar density characteristic of the higher nitrogen loading rates of the Mashpee planning areas. The town should continue to work through its CAC Barnstable Representative to obtain input about the priority ranking of neighborhoods in the adjacent towns.

The Needs Assessment identifies the Zone IIs and Groundwater Protection District of the town as discusses contamination from the MMR. It would seem appropriate if the Needs Assessment also included a characterization of the water quality in terms of nitrogen and the potential for any local impacts from wastewater disposal on drinking water quality.

The Needs Assessment identifies Santuit Pond as being listed on the Clean Water Act 303d list of "impaired waters" and that the Cape Cod Pond Atlas identifies another 18 additional fresh water ponds that are impaired. The next listing of impaired waters by the DEP is scheduled for 2008 and it is likely that a number of these additional ponds will be included on the updated 303d list. We agree that a more definitive assessment of the water quality of Santuit Pond is warranted and that a plan for the assessment of the additional ponds should be considered.

The Needs Assessment contains a good characterization of the Private Sewage Treatment Facilities, including treatment efficiency and excess capacity. The WNMP calculates build out numbers showing that future wastewater flows will approach and/or exceed permitted capacity at most of the facilities. As such, private facilities that are identified for expansion are ones where new or expanded infrastructure can physically be accommodated. Were Title 5 flows used for build out? Is it possible that capacity may be available on a phased basis at any of the facilities? For instance, Provincetown built a facility using Title 5 design flows, but found after several years of operation, that the actual use was only 70% of the capacity thereby making that capacity available for sewer expansion.

The section on existing infrastructure also includes a brief discussion on Innovative and Alternative septic systems. We anticipate that the subsequent report on technology evaluation will have a characterization on the performance of the IAs that will make use of findings from the Barnstable County Health Department and MEP model scenarios about IA systems from the pilot project.

The wastewater flows and nitrogen loading section indicates that IA systems were assumed to have a treated concentration of 19 mg/l nitrogen. The BCDHE white paper on these systems indicates the median treatment efficiency of 19 mg/l for 60% of the samples evaluated. This performance is less than required by MassDEP goals and it is likely that most of these systems will be assigned effluent concentrations higher than 19 ppm.

The Needs Assessment has chosen to use the Planning Zones as the fundamental unit to base nitrogen loading rates. Of the 161 planning areas in the town, 23 were in the high to medium high range. This number increased to 47 of 161 for future conditions. This information was graphically displayed. Elsewhere in the report, the amount of nitrogen removal as per the MEP technical report is shown in tabular form. It would be useful to graphically compare the MEP nitrogen percent removal areas (watersheds) to the loading rates of the planning areas.

It is not exactly clear why the WNMP uses 35 mg/l for nitrogen concentration to calculate nitrogen loads. The WNMP states that it did not want to include the attenuation that takes place in the septic system. If that is the case, then perhaps a concentration of 60 mg/l should be considered since this is more characteristic for flow coming into a septic system. The MEP recommendations for percent removal are based upon a nitrogen concentration of 26.5 mg/l. If the WNMP uses a higher concentration for the same flow then, the plan will need to accordingly increase the amount of wastewater planned to be removed. This approach should be evaluated for consistency with the MEP before alternative nitrogen loading scenarios are prepared.

The WNMP also does not include natural attenuation in its calculations. Natural attenuation in the rivers and freshwater ponds was included in the calibrated MEP model that was used to develop the TMDLs. It is not clear why the WNMP does not use this naturally occurring process. By choosing not to include natural attenuation, the loads assigned to the subwatersheds are higher than what is included in the watershed portion of MEP model. For example, the WNMP adjusted nitrogen load for the Mashpee River is 87 kg/day as compared to the MEP attenuated load of 54.2 kg/day. Since the scenario described in the MEP report indicates that 100% removal of the MEP load is required to meet the TMDL, it is unclear whether the WNMP is making the case that all 87 kg/d needs to be removed or whether 54.2 kg/d (66% of the 87 kg/d) needs to be removed. Clarification of the intended use of the WNMP nitrogen loading calculations is required to understand the goals of these alternative nitrogen loads.

The priority ranking of Planning Areas includes all the appropriate criteria. The methodology resulted in the figure 8-1. The following are some observations about the conclusionary graphic. 1) It is noted that the area upgradient of Ashumet and John's Pond are high priority areas. While the loading rates may be high, natural attenuation that occurs in the pond will reduce that overall loading on the receiving water of concern which is Waquoit-West. 2) The high priority area of Shoestring Bay in Mashpee is not extended across the town boundary into Barnstable. 3) Similarly, the low priority ranking of the Falmouth Quashnet area will be of interest to Falmouth which is just embarking on a wastewater plan of East Falmouth. As noted above, input from neighboring towns on their perspective of priority and participation should be obtained for these shared watersheds. It is recommended to graphically compare the MEP nitrogen percent removal areas (watersheds) to the prioritized planning areas. Because the intent of the prioritization is for sewer collection, it would be helpful to omit surface waters and protected open space from the color scheme.

The Cape Cod Commission staff has participated and provided technical assistance to the DEP Pilot Project stems from a EPA TMDL Implementation Grant to the Cape Cod Commission. Under this grant Commission staff have participated in meetings, prepared TMDL allocations by town and subwatershed and lead discussions on Nutrient Trading opportunities.