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April 11, 2008

CERTIFICATE OF THE SECRETARY OF ENERGY & ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME:	Route 1 Transportation Improvement Project
PROJECT MUNICIPALITY:	Malden, Revere and Saugus
PROJECT WATERSHED:	North Coastal
EEA NUMBER:	13149
PROJECT PROPONENT:	Massachusetts Highway Department
DATE NOTICED IN MONITOR:	February 20, 2008

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that the Draft Environmental Impact Report (DEIR) submitted for this project **adequately and properly complies** with MEPA and its implementing regulations. The DEIR presents a thoughtful and appropriate analysis of the ten project alternatives, and provides a well-organized comparative assessment of the three project alternatives it proposes to carry forward for review in the Final Environmental Impact Report (FEIR). The DEIR has adequately identified the features of the remaining alternatives and has identified where additional information, particularly regarding wetland impacts and mitigation, is needed to develop a preferred alternative. The Proponent may prepare and submit the FEIR for MEPA review.

Project Description

The proposed project entails roadway modifications and improvements along a 2.4-mile portion of Route 1 commencing 1,500 feet south of the Route 1/Route 60 (Copeland Circle) interchange to the Route 1/Route 99 interchange. Route 1 is primarily a limited-access urban principal arterial highway that serves as the major north-south route for communities north of Boston. This portion of Route 1 spans the Cities of Revere, Malden, and Saugus and has long-standing operational and safety problems that are the result of high traffic volumes, poor ramp geometry, and a variable number of travel lanes – four in some locations ands six in others. The project area traverses wetlands and floodplains associated with the Rumney Marsh Area of Critical Environmental Concern (ACEC), as well as residential and commercial areas.

According to the DEIR, the overall purpose of and need for the project is to improve regional mobility, improve local mobility and access, reduce congestion in the project area, and improve traffic safety, particularly at the locations of on- and off-ramps.

MEPA Jurisdiction and Required Permits

The project is undergoing MEPA review and requires the preparation of a mandatory EIR pursuant to Sections 11.03 (1)(a)(2) of the MEPA regulations because it involves creation of more than 10 acres of impervious area; (3)(a)(1)(a) because it will alter one or more acres of Bordering Vegetated Wetlands (BVWs); (3)(a)(2) because it involves alterations to wetlands that will require a Variance from the Wetlands Protection Act; and (6)(a)(1)(b) because it involves widening an existing roadway by more than one travel lane for more than two miles.

The project will require a National Pollutant Discharge Elimination System (NPDES) Permit from the U.S. Environmental Protection Agency (USEPA) and a Section 404 Permit from the U.S. Army Corps of Engineers (ACOE). The project will also require Variances from Wetlands Protection Act and the Section 401 Water Quality regulations from the Massachusetts Department of Environmental Protection (MassDEP) in order to fill approximately 92,380 square feet (sf) of state-regulated wetlands and to temporarily alter approximately 50,730 sf of wetlands during construction. The project requires a Variance from the Wetlands Protection Act because it proposes to fill salt marsh and more than 5,000 sf of BVWs and does not meet the criteria for a limited project. The project requires a Variance from the Section 401 Water Quality regulations because it proposes filling within waters and wetlands designated as Outstanding Resource Waters (ORWs), including the Rumney Marshes ACEC. The project will also require an 8(m) Permit from the Massachusetts Water resources Authority (MWRA) for potential impacts to existing water infrastructure within the Route 1 corridor during the construction period.

The proponent is a state agency and the project will be funded by the Commonwealth. Therefore, MEPA jurisdiction is broad and extends to all aspects of the project that have the potential to cause significant Damage to the Environment.

Review of the DEIR

The purpose of MEPA review is to ensure that a project Proponent studies feasible alternatives to a proposed project; fully discloses environmental impacts of a proposed project; and incorporates all feasible means to avoid, minimize, or mitigate Damage to the Environment as defined by the MEPA statute. I have fully examined the record before me, including but not limited to the Scope issued on December 26, 2003; the DEIR filed in response; and the comments entered into the record. I find that the DEIR is sufficiently responsive to the requirements of the MEPA regulations and the Scope to meet the regulatory standard for adequacy. While I am allowing the project to proceed to a FEIR, I note that outstanding issues still remain, as outlined in the following Scope for the FEIR.

SCOPE

General

The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should be sent to any state agencies from which the Proponent will seek permits or approvals, to the list of "comments received" below, and to appropriate local officials, boards and commissions. A copy of the FEIR should be made available for public review at the Malden, Revere and Saugus Public Libraries.

The FEIR should contain a copy of this Certificate and a copy of each comment received on the DEIR. In order to ensure that the issues raised by commenters are addressed, the FEIR should provide responses to each substantive comment received. The FEIR should present additional narrative and/or technical analysis as necessary to respond to the concerns raised. This directive is not intended, and shall not be construed, to enlarge the scope of the FEIR beyond what has been expressly identified in the initial Scope contained in the Certificate on the Environmental Notification Form (ENF) or this Certificate.

Alternatives

The DEIR provided a general comparative assessment of three project alternatives, after screening eliminated seven other alternatives. As project alternatives are further narrowed in the FEIR, more detailed information should be presented regarding the project's impacts, as described in greater detail below. MassHighway should note the comments submitted by the Metropolitan Area Planning Council (MAPC) regarding the applicability of land use and economic development impacts to the screening of project alternatives and the selection of a preferred alternative. The FEIR should address this issue and report on whether the full consideration of land use and economic development would change the outcome of both the screening process and the selection of a preferred alternative.

Wetlands

The project has the potential to result in impacts to significant wetlands resources, such as salt marsh in the Rumney Marsh Area of Critical Environmental Concern (ACEC), and to affect the hydrology of Town Line Brook and the Pines River estuary at Rumney Marsh both east and west of the massive tidegate structure under Route 1 at Town Line Brook. The project alternatives currently under consideration would alter salt marsh, coastal bank, coastal beach/tidal flat, land subject to coastal storm flowage (LSCSF), bordering vegetated wetlands (BVWs), isolated vegetated wetland, inland bank, land under water/ocean, and riverfront. Permanent impacts are estimated at 92,380 sf, for which mitigation is proposed for 138,570 sf of replicated wetlands. In addition, temporary wetland impacts (50,730 sf for Sub-alternative A-2 or 20,270 sf for Sub-alternative A-3) would be restored to pre-development conditions. About 2,025 square feet of salt marsh is proposed to be replanted in an area known as No Man's Land to replace the maximum amount of salt marsh and other coastal wetland resource areas totaling 1,350 sf. Given that the project requires Variances under both the Wetlands Protection Act and

the Section 401 Water Quality regulations, the FEIR should focus on minimizing alteration of wetlands resources and present potential mitigation scenarios.

Route 1 Tidegate

The salt marsh associated with Rumney Marshes in the vicinity of Route 1 has been altered previously by MassHighway. Projects, such as the Town Line Brook tidegate improvement project, for which MassDEP allowed work within approximately 4,000 sf of tidal creek, have resulted in deterioration of the wetlands resources. The proposed Route 1 Transportation Improvement Project presents an opportunity to redress and restore this and other degraded wetland areas in and near the ACEC. However, the proposed work must be carefully designed, implemented, and maintained, in accordance with a plan that is based on a thorough understanding of existing and potential future conditions.

The Town Line Brook tidegate forms the western boundary of the Rumney Marshes ACEC, and allows Town Line Brook to drain to the Pines River and the Rumney Marsh. The Department of Conservation and Recreation (DCR) owns the tidegates, but states in its comments that it is not responsible for their maintenance. Repairs and modifications to this tidegate structure were the subject of a 401 Water Quality Certification issued by MassDEP on September 30, 1999; an Order of Conditions issued by the Revere Conservation Commission on July 24, 1997; and a Section 404 Permit issued by the U.S. Army Corps of Engineers (ACOE) on November 3, 1999. The tidegate project was also reviewed under MEPA as EEA #11766; the Certificate on the Environmental Notification Form (ENF) issued on October 2, 1998 did not require the submission of an EIR. The permits allowed the replacement of an array of conventional flapper-type gates and stop logs with the repair of six flap gates, the provision of two additional flap gates, the repair of the five stop log bays, and most importantly, the installation of three self-regulating tidegates (SRTs). These SRTs were designed to allow full tidal flushing and circulation within the salt marshes, contributing to their long-term viability and significance, while still minimizing floodwater impacts to adjacent upland areas.

In July of 2003, (about two years after installation), the valve cover on one of the SRTs failed at a weld. Inspection revealed imminent failure of another SRT, causing the manufacturer to recommend disabling both remaining gates. Because the tidegates have not been functioning as designed, Town Line Brook has received tidal flow only from leakage through the tidegates, which has led to ecological damage to the wetlands bordering Town Line Brook. According to MassDEP, MassHighway agreed to perform monitoring of mudflats and salt marsh upstream of the culverts in this area, with the goal of identifying possible causal relationships to the reconstruction of the structure and installation of the SRTs. MassHighway also agreed to provide annual reports to MassDEP for the first three years following construction of the SRTs that would assess the operation of the SRTs and provide observations of the extent and elevation of tidal inundation or flooding on the eastern side of the tidegates. However, no reports were ever submitted.

In the DEIR, the expansion of Route 1 over the tidegate structure is proposed, which would require the "modification" to the tidegate structure, and associated impacts to 1,850 sf of Land Subject to Coastal Storm Flowage (LSCSF), 250 sf of Land Under the Ocean (LUO), and from 450 to 100 sf of Coastal Beach. The DEIR states that these impacts would result from shading

due to the proposed widening of the bridge that carries Route 1 over the river. The DEIR does not specify the specific impacts to the tidegate structure, or what modifications to the structure would be required as a result of the bridge widening. The FEIR should describe these proposed impacts in detail. Additionally, the FEIR should include a plan for rehabilitating the tidegate, specifically, the three failed SRTs, and either provide detailed specifications of the work, which would either be incorporated into the Route 1 Transportation Improvement Project, or set out another proposal for completing the necessary repairs.

The FEIR should also demonstrate how the project will maintain access to both upstream and downstream tidegates in order to allow for their proper operation and maintenance, and specify associated agency roles and responsibilities. The original plans and permits for the reconstruction of the tidegate structure provided significant provisions for access to the structure from Route 1. In order to perform work on the structure, significant machinery, such as large trucks and cranes, require direct access over the culvert. Therefore, any bridge expansion plan must maintain access to the structure from Route 1. If the project cannot maintain this access, the FEIR should present and evaluate an alternative entails the reconstruction of the tidegates in an alternate location.

Copeland Circle Wetlands

The DEIR indicates that all freshwater wetlands within Copeland Circle would be lost under any of the three alternatives currently under consideration, but does not explain the basis for this conclusion. The DEIR states that these impacts presumably arise from the reconfiguration of Copeland Circle. The discussion of alternatives in the FEIR should consider design revisions that would avoid these impacts, and if they cannot be avoided, the FEIR should specify why these impacts would extend to all wetlands within the rotary.

Wetlands Mitigation

The DEIR indicates that the basic mitigation strategy for impacts to wetlands resources includes: 1) mitigation for all BVWs lost along the alignment at the existing abandoned Northeast Expressway (I-95) ramps and embankments adjacent to the eastern radius of Copeland Circle; and 2) mitigation for all salt marsh losses at the No-Man's Land site at Rumney Marsh.

The DEIR proposes to excavate the I-95 ramps and embankments in order to create three acres of freshwater wetlands and states that the hydrology of such a wetland would be maintained with stormwater runoff from the reconstructed Route 1 and ramps. Specifically, mitigation for 98,270 sf of freshwater wetlands loss would occur by excavation of a replication area, 137,570 sf in area, which would be replicated as a forested wetland. According to MassDEP, creation of forested wetlands is extremely difficult even in ideal conditions, such as areas abutting forested wetlands. MassDEP states that the proposed replicated forested wetland at this location would have a low likelihood of success.

In view of this and other concerns raised by commenters, and given that MassDEP typically requires at least 2:1 wetlands replication for projects requiring Variances, MassHighway should consult with MassDEP and, if necessary, the FEIR should present alternative mitigation plans for freshwater wetlands that will be filled at Copeland Circle.

Additionally, restoration of the Town Line Brook wetlands must consider flood protection, increased flood water storage, and water quality issues in Revere and Malden.

In the DEIR, MassHighway is proposing off-site mitigation to address the project's proposed salt marsh impacts at "No Man's Land," located on the abandoned 1-95 fill embankment accessible from Copeland Circle. Although this site was previously endorsed by regulatory agencies, notably USEPA, to mitigate the erosion of some historic I-95 fill, which had partially impacted salt marsh, DCR has expressed concern regarding the implementation of this option over other potentially more viable mitigation options. I strongly encourage MassHighway to meet with DCR, MassDEP and USEPA to discuss and identify an adequate mitigation plan. The FEIR should reflect the outcome of these discussions.

The proposed filling of the floodplain west of the tidegates must be compensated with flood storage, in accordance with the performance standards for Bordering Land Subject to Flooding, in order to avoid off-site flooding impacts. The FEIR should identify areas where filling would occur and demonstrate that replacement storage can be provided.

In its comments, MassDEP states that it cannot fully endorse the mitigation plan presented in the DEIR. To address the mitigation issues, MassDEP recommends, and I concur, that MassHighway assemble and meet with a committee of agency representatives and other key stakeholders to develop a comprehensive mitigation plan that would be approvable under the variance provisions for both the Wetlands Protection Act and the Section 401 Water Quality regulations.

Lastly, both MassDEP and USEPA endorse the following mitigation measures that could be implemented immediately, as these measures are independent from the proposed project, including the following:

- Removal of eroding riprap and other highway fill material, including chunks of asphalt, in tidal flats in wetland 3, as identified in the DEIR.
- Prevention of the illegal trespass by off-road vehicles along wetlands 1 and 5 to access the abandoned I-95 embankment.
- Repair of erosion areas from off-road vehicle use and resulting runoff from I-95 that has damaged tidal flats, including shellfish beds and salt marsh areas along the I-95 embankment.

Stormwater Management

Based on comments received, the DEIR does not contain enough information to evaluate the proposed stormwater management plan thoroughly for consistency with the stormwater regulations, which went into effect on January 2, 2008. According to MassDEP, though, the conceptual plan presented in the DEIR would not meet the standards. The FEIR should present a stormwater management plan that addresses the issues and concerns raised by MassDEP, in its comment letter, most notably that the plan be based on the new infiltration rates from the stormwater regulations for each of the hydrologic soil classifications, instead of the rates from the outdated Stormwater Policy, to estimate the volume of runoff that requires infiltration.

The coastal resources of the Rumney Marshes ACEC are designated Outstanding Resource Waters (ORWs), which require integrated stormwater management practices, including no direct discharges. The FEIR should expound upon the proposed stormwater management plan for the project, and include firm commitments to regularly scheduled cleaning of stormwater management structures and provision for cleaning after large storm events. DCR notes that existing structures are not maintained adequately. The FEIR should present a stormwater management plan that addresses:

- Discharge locations and avoidance of point-source discharges to ORWs;
- Flow rates, including erosion controls, and flood storage, and avoidance of extremes during storm surges; and
- Use of Best Management Practices (BMPs).

Shellfish beds are present in the project area and construction is proposed to occur in or near shellfish classification areas known as Seaplane Basin and Gravel Guerties, which are moderate to highly productive for soft shell clams. Stormwater runoff from the increased area of impervious surfaces created by the project has the potential to adversely affect productive shellfish beds in these areas, as well as nursery habitat for fish and invertebrate species in the Pines River and Town Line Brook. Last year, the Massachusetts Division of Marine Fisheries (DMF) reopened shellfish beds in the Pines/Saugus River estuary to commercial harvesting with depuration. Because there is virtually no buffer zone between the Rumney Marshes ACEC and the proposed work area, extensive mitigation measures will be required to prevent major environmental damage to natural resources such as shellfish beds and salt marsh during the construction process. The FEIR should include a detailed construction plan highlighting proposed construction mitigation, erosion and sediment controls, and BMPs. The FEIR should address how the stormwater management system has been designed to control the discharge of runoff and associated contaminants in order to address the potential impairment of each of these areas. The plans presented in the FEIR should identify the location and type of each existing discharge, each proposed discharge, and the BMP proposed. The FEIR should also discuss the rationale for choosing the selected BMP in each location.

Lastly, the FEIR should also address the potential for the discharge of hazardous materials from roadway accidents and how the drainage system would effectively detain and spills.

Area of Critical Environmental Concern

In the project area, the western boundary of the Rumney Marshes Area of Critical Environmental Concern (ACEC) is consistent with the 100-year floodplain boundary and includes all land subject to coastal storm flowage on the east side of Route 1 , including land to the north of the railroad right-of-way. In its comments, the Department of Conservation and Recreation states that the DEIR clearly identifies wetland resource area types, indicates which are located within the ACEC, presents function and value assessments for each and estimates area of impact under each alternative. However, the plans presented in the DEIR are not at an appropriate scale to allow for a detailed analysis and it is not clear from the DEIR how areas of impact were calculated. Specifically, it is not clear if the proposed areas of impact include

grading, right-of-way encroachment, temporary construction impacts, etc. The FEIR should provide more detailed information about how these areas of proposed impact were calculated.

With regard to proposed mitigation within the ACEC, DCR states that the project as currently proposed does not meet the performance standard of "no adverse effect" for coastal ACECs within the Wetlands Protection Act regulations. Furthermore, the DEIR did not demonstrate that proposed impacts have been avoided and/or minimized to the greatest extent feasible. The FEIR should demonstrate that the project meets the performance standard for ACECs and propose commensurate mitigation in the form of coastal area restoration and long-term monitoring. As a component of this mitigation program, DCR suggests that MassHighway implement a Phragmites control plan for the construction period and for areas adjacent to and upstream and downstream of Route 1.

Article 97 Lands

MassHighway should also meet with DCR to clarify Article 97 jurisdiction for the project. The DEIR did not clearly identify the extent to which land under Article 97 jurisdiction would be affected by the project generally, and by each alternative specifically. The FEIR should present a plan showing existing property boundaries, quantify the areas of Article 97 land where the project would have impacts, describe these impacts in detail, and discuss how the project will comply with the Article 97 Land Disposition Policy of "no net loss". The FEIR should also evaluate the potential need for Article 97 legislation associated with any proposed work on DCR land.

DCR owns land adjacent to the project area that includes an upland feature - the I-95 stub - that is of potential future public benefit for educational and recreational purposes. The preferred alternative presented in the FEIR should maintain adequate access for DCR personnel and should be designed to enable safe access by park visitors.

Air Quality

The DEIR notes that development associated with highway improvements usually occurs within one mile of an interchange and that there is essentially no room for additional development in any of the three cities in which the project area is located. However, the DEIR also acknowledges that, based on data provided by the Metropolitan Area Planning Council (MAPC), employment is expected to decrease in Malden by 4.6 percent but increase by 5.5 percent and 7.4 percent in Revere and Saugus, respectively, by the year 2030. While the DEIR provided significant, meaningful data on projected growth, it did not project the increase in vehicle trips that would be expected to occur with this growth. Improving a highway's Level of Service from D or F to A or B, as is estimated by MassHighway, would be expected to induce vehicle trips in the busily traveled and heavily developed northeast corridor. The FEIR should include an analysis of whether the project will induce additional vehicle trips to Route 1 and any resulting impacts on air quality. Once these projected vehicle trips are quantified, the FEIR should present an additional carbon monoxide (CO) microscale analysis that incorporates these projected additional trips.

I note that the project was scoped prior to the establishment of the Secretary of Energy and Environmental Affairs' *Greenhouse Gas Emissions Policy and Protocol*, and is, therefore, not required to conduct an evaluation of the projected carbon dioxide (CO2) emissions that are expected to occur from the widening of the highway. However, in light of MassDEP's comments on this matter, I strongly encourage MassHighway to incorporate efficient lighting strategies, such as lighting, using electronic control gear, and use of light sensors for dawn and dusk periods of travel, as well as tree and vegetation planting into the project design as means of limiting the project's overall CO2 emissions.

Bicycle and Pedestrian Facilities

Several commenters noted that the project area bisects the proposed route of the Northern Strand Community Trail, which would utilize an existing railroad right-of-way north of Copeland Circle. I strongly encourage MassHighway to make every effort to ensure that the proposed project complies with existing laws and policies regarding bicycle and pedestrian accommodation as part of highway infrastructure improvement projects. The DEIR did not address this issue.

Specifically, commenters have urged that improvements to Lynn Street and Salem Street associated with the project be designed to maintain access for bicyclists and pedestrians. The FEIR should demonstrate how the project will maintain local and regional access for bicyclists and pedestrians and evaluate alternative locations and means, such as a tunnel or bridge, which could be incorporated into the project design, for safe bicycle and pedestrian passage.

Water and Wastewater Infrastructure

MassHighway should note comments submitted by the Massachusetts Water Resources Authority regarding the prohibition of groundwater discharges to the sanitary sewer system in the project area, as well as the need for coordination to ensure that project construction avoids impacts to existing water infrastructure located in the Route 1 corridor owned by the MWRA.

The FEIR should also address the concerns expressed by the Town of Saugus in its comments regarding the condition of existing water and sewer lines located beneath Route 1 and assess the feasibility of repairing, replacing and/or relocating these utilities as part of the project.

Hazardous Waste

The DEIR explains that an initial assessment of hazardous waste contamination in the project area resulted in the identification of five areas for future sampling. Although this section of the DEIR is very general, it recognizes the potential for lead, and asbestos contamination in the soil and groundwater among the sub-alternatives under consideration, and identifies an approach for monitoring the soil for contamination during construction to ensure that the work is conducted consistent with the Massachusetts Contingency Plan/Chapter 21E. The FEIR should report on the status and results of any sampling performed.

Construction

The project includes demolition and reconstruction, which will generate a significant amount of construction and demolition (C&D) waste. I strongly encourage MassHighway to incorporate C&D recycling activities as a sustainable measure for the project and to note MassDEP's extensive comments on this matter.

Mitigation

The DEIR included a draft Section 61 Finding for use by state agencies that provided an overview of project impacts and mitigation. In the FEIR, MassHighway should prepare a separate Section 61 Finding for each state permit required for the project for review by the applicable state agency. The draft Section 61 Findings should be expanded to include a clear commitment to mitigation, an estimate of the individual costs of the proposed mitigation measures, and the identification of the parties responsible for implementing the mitigation. The FEIR should provide a schedule for the implementation of the mitigation, based on the construction phases of the project. The Section 61 Findings will be included with all state permits issued for this project, and will be considered binding as mitigation commitments.

April 11, 2008
Date

Ian A. Bowles

Comments received:

4/1/08	Anne McKinnon and Jeffrey Ferris
4/1/08	David and Helene Coveney
4/1/08	Bike to the Sea, Inc.
4/2/08	Town of Saugus
4/3/08	Massachusetts Water Resources Authority
4/4/08	Office of Coastal Zone Management
4/4/08	U.S. Environmental Protection Agency
4/4/08	Roseland Property Company
4/5/08	Saugus River Watershed Council
4/8/08	Division of Marine Fisheries
4/9/08	Department of Environmental Protection Northeast Regional Office
4/10/08	Department of Conservation and Recreation
4/10/08	Metropolitan Area Planning Council
4/11/08	Goodwin Procot (on behalf of Metropolitan Properties of America, Inc.)

IAB/RB/rb