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May 23, 2008

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

PROJECT NAME : Route 2 Rotary Reconstruction  
PROJECT MUNICIPALITY : Concord  
PROJECT WATERSHED : Sudbury, Assabet, Concord  
EOEA NUMBER : 12961  
PROJECT PROPONENT : Massachusetts Highway Department  
DATE NOTICED IN MONITOR : March 26, 2008

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.03 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **continues to require** the preparation of an Environmental Impact Report (EIR).

Project Description

As described in the ENF, the proposed project involves the grade separation of the Route 2 Rotary located in Concord. The Proponent has submitted an ENF that analyzes three alternative grade separation schemes (Alternative 3, Alternative 5, Alternative 7). Each alternative proposes to construct a bridge over a depressed Route 2 highway to connect Route 2A/Route 119 with a relocated Commonwealth Avenue. Alternative 3 employs a diamond-shaped interchange design to provide for uninterrupted traffic flow on Route 2. Alternatives 5 and 7 incorporate a partial cloverleaf designed interchange with Route 2 access and egress loop ramps located in the southwestern portion of the interchange. In Alternative 7, the Route 2 westbound access and egress ramps are located approximately 1,500 feet west of the proposed bridge.

The project corridor extends approximately 2.6 miles in an easterly direction from a section of Route 2 located on the western side of the Nashoba Brook corridor to a section of Route 2 located to the east of the Assabet River.

### Notice of Project Change

The Proponent has filed this Notice of Project Change (NPC) submittal pursuant to 301 CMR 11.10(2) of the MEPA Regulations because more than 3 years of time has lapsed since the filing of the ENF. As described in the NPC submittal, the Proponent has identified a number of minor revisions to the project, made subsequent to the issuance of the Secretary's Certificate April 14, 2003, in response to the comments received on the ENF document and the Proponent's ongoing coordination efforts with the Route 2 Citizens Advisory Committee (CAC) members.

Specifically, the Proponent has agreed to extend the eastern and western project site limits to include the Baker Avenue/Elm Street intersection and the Route 2/School Street/Wetherbee Street intersection, respectively. The DEIR will also include a secondary traffic study that will identify any needed traffic signal timing and interconnection improvements at a number of roadway intersections along Route 2 including;

- Route 2/Route 62 intersection;
- Route 2/Old Road to Nine Acre Corner intersection;
- Route 2/Sudbury Road intersection; and,
- Route 2/Piper Road/Taylor Road intersection.

As depicted in the orthophoto plans for each of the alternative project schemes included in the NPC submittal, the Proponent is now proposing to add an additional Route 2 westbound travel lane to the bridge crossing over the Assabet River. The Proponent has also agreed to complete an analysis of a wildlife crossing to be located at the Route 2/Nashoba Brook crossing, and to design a segment of the Bruce Freeman Rail Trail from Commonwealth Avenue to Weatherbee Street. The Scope included herein has been modified to include the Proponent's revisions to the project since the issuance of the Secretary's Certificate April 14, 2003.

### Jurisdiction

This project is categorically included for preparation of an EIR under the provisions of 301 CMR 11.25 (expansion or modification of a public road which increases the design capacity by 50% or more, or involves earth disturbances of five or more acres per mile).

The project is also undergoing review pursuant to sections 11.03 (1)(b)(2), 11.03(3)(b)(1)(d) and 11.03(6)(b)(1)(b) of the MEPA regulations, because the project will likely involve; the creation of five or more acres of impervious surface, the alteration of 5,000 or more square feet of bordering vegetated wetlands, and the widening of an existing roadway by four or more feet for one-half or more miles, respectively. The project will require an Air Quality Permit and a 401 Water Quality Certification from Department of Environmental Protection (MassDEP), and a 404 Programmatic General Permit from the Army Corps of Engineers (ACOE). The project will also require an Order of Conditions from the Concord Conservation Commission (and hence a Superseding Order of Conditions from MassDEP if the local Order were appealed). It must also comply with the National Pollution Discharge and Elimination System (NPDES) General Permit for the Discharge of Stormwater Associated with Construction Activities. The Massachusetts Historical Commission (MHC) will review the project for compliance with the applicable federal and state laws regarding historic and archaeological resources. The Massachusetts Natural Heritage and Endangered Species Program (NHESP) will review the project for compliance with the applicable state laws regarding the location and protection of rare species habitat in the project area.

Because the Proponent is an agency of the Commonwealth, MEPA jurisdiction is broad, and is conferred over all aspects of the project with the potential to cause significant Damage to the Environment.

## SCOPE

### General

As modified by this Certificate, the Proponent should prepare the EIR in accordance with the general guidance for outline and content found in Section 11.07 of the MEPA regulations. The EIR should include a copy of this Certificate and a copy of each comment letter received. The Proponent should circulate the EIR to those parties submitting written comments on the ENF, to any state agencies from which the Proponent will seek permits or approvals, and to any parties specified in Section 11.16 of the MEPA regulations.

### Alternatives

Alternatives should be considered in order to ensure that all state agencies can find, pursuant to Section 61 of the statute, that all feasible means to avoid, reduce mitigate environmental damage have been considered and incorporated in to the project design. The EIR should analyze at a minimum the three rotary reconstruction alternatives described in the ENF (Alternative 3, Alternative 5, Alternative 7) with respect to all of the environmental topics listed in this scope.

In addition to the Proponent's three preferred alternatives, the EIR should analyze existing conditions as the "no-build" alternative, to establish baseline conditions against which the impacts of the two preferred alternatives can be measured.

The ENF contains a detailed analysis of alternatives. In light of the extensive alternatives analysis already completed, and the overall quality of the analysis, I will not require the Proponent to carry forward into the EIR the other four alternatives analyzed in the ENF. However, MHD should consider the comments received from the Metropolitan Area Planning Council (MAPC) which raise issues with the three design alternatives presented in the ENF, and should remain open to modifications of these three alternatives based on the comments received. The EIR should fully explain any changes to the three alternatives based on the comments received from MAPC and others and should also explain any further evolution of the design between now and the time of filing of the EIR. The purpose of the alternatives analysis is to consider what effects changing the parameters and siting of a project will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize and mitigate damage to the environment to the greatest extent feasible. The analysis should address regional impacts and consistency with local zoning and regional planning.

The EIR should discuss whether the Proponent will seek any waivers for roadway or sidewalk width, and explain any implications for the alternatives analysis. The EIR should investigate alternative site layouts that maximize undisturbed buffers around vernal pools, isolated wetlands and other wetlands; and that minimize loss of open space. According to the information provided in this NPC submittal, the EIR will include an analysis of an unimpeded below-grade wildlife crossing at the Route 2/Nashoba Brook wildlife corridor to mitigate project impacts to wildlife movement and wildlife habitat. The EIR should also include any alternatives analyses necessary for the MassDEP permitting process. Project plans, at a reasonable scale, should be provided that depict the project's overall appearance, including: proposed lighting, geometrics, vegetative plantings, etc. The location of all structures within the path of or in close proximity to the roadway should be shown, along with the proposed limit of work, easements and land takings. For the DEIR, this work may be done more generally than what would be expected in the Final EIR, after a preferred alternative has been chosen. However, the Draft EIR should provide sufficient detail so that an informed comparison of the alternatives may be made.

### Analysis of Impacts

A comparative analysis of the impacts of each alternative should be provided in this section. The EIR should briefly describe each state permit necessary for the project, and should demonstrate that the project design meets applicable performance standards. The EIR should also discuss the consistency of the project with local and/or regional growth and open space plans, including Concord's 2002 Open Space and Recreation Plan.

The EIR should include a detailed description of trees and other significant vegetation that will be removed and proposed replacement plantings. I encourage the Proponent to consider measures that can be taken to retain existing vegetation within the project site.

### Wetlands

For each of the proposed alternatives, the EIR should identify the wetland resource areas (including any banks, intermittent streams, perennial streams, land under the water, bordering land subject to flooding, and isolated land subject to flooding) and buffer zones present in the project site areas on a reasonably scaled plan. The EIR should include a copy of the Notice of Intent submitted to the Concord Conservation Commission. The EIR should identify the significance of the wetland resources present, including value to public and private water supply, flood control, storm damage prevention, prevention of pollution, riverfront area, and fisheries and wildlife habitat. The EIR should analyze both direct and indirect (i.e. changes in drainage patterns) impacts on wetlands resulting from the project. The EIR should demonstrate that the Proponent has minimized impacts (to both on-site and adjacent off-site wetlands) to the maximum feasible extent. The EIR should explain any local wetland requirements, and how compliance with these requirements affects project design. As described in the ENF, Alternative 7 may result in the permanent alteration of more than 5,000 square feet of Bordering Vegetated Wetlands (BVW). The EIR must address the comments of the MassDEP regarding wetlands and the criteria for issuance of a variance from the Wetlands Protection Act. The Commonwealth has endorsed a "No Net Loss Policy" that requires that all feasible means to avoid and reduce the extent of wetland alteration be considered and implemented. The EIR should examine alternatives that avoid impacts to wetland resource areas, their associated buffer zones, riverfront protection areas and 100-year flood plain areas. Where it has been demonstrated that impacts are unavoidable, the EIR should demonstrate that the impacts have been minimized, and that the project will be accomplished in a manner that is consistent with the Performance Standards of the Wetlands Regulations (310 CMR 10.00).

The Proponent will need to provide wetlands replication at a ratio of at least 1:1 for any unavoidable impacts to wetlands. For any amount of required wetlands replication, a detailed wetlands replication plan should be provided in the EIR which, at a minimum, includes: replication location(s) delineated on plans, elevations, typical cross sections, test pits or soil boring logs, groundwater elevations, the hydrology of areas to be altered and replicated, list of wetlands plant species of areas to be altered and the proposed wetland replication species, planned construction sequence, and a discussion of the required performance standards and monitoring.

### Drainage/Water Quality

The EIR should present drainage plans (at least at the conceptual level) for the management of stormwater from the project and should discuss the consistency of the drainage plan with the MassDEP Stormwater Management guidelines. It should include a description of the project's proposed drainage system design, including a discussion of the alternatives considered along with their impacts. The EIR should identify the quantity and quality of flows. The rates of stormwater runoff should be analyzed for the 10, 25, and 100-year storm events. The proposed drainage system should control storm flows at existing levels. If the Proponent ties into an existing municipal drainage system, the EIR should identify the permits required and if there will be a recharge deficit on-site. The EIR should describe where the municipal drainage system discharges. The Proponent should discuss the consistency of the drainage plan with the MassDEP Stormwater Management Policy. In addition, a maintenance program for the drainage system will be needed to ensure its effectiveness. This maintenance program should outline the actual maintenance operations, responsible parties and back-up systems.

### Rare Species

The project site is located within Priority and Estimated Habitat for the UMBER Shadowdragon Dragonfly (*Neurocordulia obsoleta*), Arrow Clubtail Dragonfly (*Stylurus spiniceps*) and the Blanding's Turtle (*Emydoidea blandingii*). In their comments, the Natural Heritage and Endangered Species Program (NHESP) indicated that the proposed project requires a review by NHESP pursuant to the Massachusetts Endangered Species Act (MESA) and MESA Regulations (321 CMR 10.04(3)(b)). NHESP has requested that the Proponent provide NHESP with additional information pertaining to the proposed bridge expansion at the Route 2/Assabet River crossing and construction-related flow impacts to the Assabet River. The Proponent should work closely with NHESP during the preparation of the DEIR for this project. The DEIR should include an update of the Proponent's consultations with NHESP.

### Traffic

The EIR should include a full level analysis of the traffic impacts of the project. The Proponent has proposed to extend the eastern and western project site limits to include the Baker Avenue/Elm Street intersection and the Route 2/School Street/Wetherbee Street intersection, respectively. The analysis should identify all locations proposed for signalization, and should qualitatively compare the various turning movements under existing and proposed conditions for each alternative, with particular emphasis on traffic safety. The EIR should analyze impacts on local access for residents and businesses.

As described above, the Proponent has committed to complete a second traffic study to identify any needed traffic signal timing and interconnection improvements to a number of additional intersections on Route 2 further east and west of the project corridor. The Proponent's traffic analysis should also analyze queue lengths on the various approaches of the proposed design, and compare queue to the existing conditions. The EIR should also describe any impacts on pedestrian and bicycle access and safety in the project area. The EIR should discuss the applicability of General Laws Chapter 90E Section 2A to the project, and discuss how project design is consistent with any requirements imposed by this mandate. Once the preferred alternative is defined, a more detailed site-specific traffic analysis should be performed. This analysis, along with specific proposed mitigation measures, should be included in the Final EIR, presuming general consensus on the preferred alternative. The EIR should indicate where sidewalks currently exist and where the Proponent proposes additional sidewalks. It should identify pedestrian linkage possibilities to existing sidewalks, bicycle paths, commuter parking facilities, and public transit routes.

### Air Quality

By reducing the congestion and thereby increasing average vehicular speed in the project area, the project will impact air quality. I anticipate a decrease in some pollutants, and an increase in others. As this project has not been included in a conforming Transportation Improvement Program (TIP), an air quality analysis will be necessary in order to determine its conformity with the State Implementation Plan (SIP). The EIR should demonstrate that the project is consistent with the motor vehicle emissions budget in the SIP, and that the preferred build alternative contributes to the emissions reductions, specifically for volatile organic compounds and oxides of nitrogen.

The EIR should include an air quality mesoscale analysis that estimates the total emissions of Volatile Organic Compounds (VOCs) associated with all project-related vehicle trips within a defined study area. (The boundaries of the study area should generally include all roadway links that are projected to experience an increase of 10% or more in traffic due to the project and currently operate at Level of Service D or lower or will degrade to Level of Service D or lower because of the project. Prior to undertaking the analysis, the Proponent should consult with the DEP Division of Air Quality for confirmation of the boundaries of the study area). If mesoscale VOC emissions from the preferred alternative prove greater than mesoscale VOC emissions from the no-build alternative, the EIR should evaluate all reasonable and feasible reduction/mitigation measures. The Proponent should consult with the DEP Division of Air Quality Control regarding its requirements for the air quality analysis, and include that analysis in the EIR. Back-up data or calculations should be included in an appendix.

### Growth/Regional Planning

Executive Order 385 (Planning for Growth) applies to this project because the use of state funds. It requires that as part of MEPA review and each state agency action, state agencies fully consider local and regional growth management plans. The project may have secondary growth impacts by eliminating the current traffic congestion at the rotary and thereby allowing for potentially increased traffic volumes on Route 2. The EIR should analyze the potential secondary growth impacts created by potentially allowing greater volumes of traffic through the Route 2 Rotary and Route 2. The EIR should document the project's consistency with Executive Order 385 (Planning for Growth), and should discuss the consistency of the project with any regional or state growth planning initiatives, and should include a brief summary of any completed or proposed transportation-related growth management plans involving the project site. To help mitigate the project's growth impacts, the EIR should discuss methods of enhancing access for alternative modes of transportation in the project area. The EIR should provide more details on the nature and extent of the pedestrian and bicycle improvements planned for the project area as part of the project.

### Land Takings

The EIR should include a discussion of the locations, impacts and costs of any proposed land takings or easements. This section should include a description of the MHD's residential and business relocation procedures and eminent domain proceedings. This section should also discuss secondary impacts to neighborhoods located within and adjacent to the project corridor including; continuity of neighborhoods, impacts on schools and children attending the schools (i.e. safe passage), and the locations of at-grade and elevated cross walks.

### Agricultural Land

According to comments received from The Department of Food and Agriculture (DFA) on the ENF, the proposed project will impact state-owned agricultural lands. The EIR should quantify impacts to agricultural resources from each alternative studied. The involvement of state funds also triggers the applicability of Executive Order 193. The EIR should evaluate the consistency of the project with the requirements of Executive Order 193, and propose any appropriate mitigation for unavoidable impacts to agricultural land. The EIR should explain how the Proponent will ensure long-term protection of these agricultural lands and should investigate whether additional mitigation for impacts to agricultural resources is feasible. I recommend that the Proponent consult with DFA on this issue.

### Open Space and Recreation

Any impacts on open space or recreational resources should be described. Areas to be considered include local conservation land, the Assabet River (designated in 1999 as a Wild and Scenic River), Nashoba Brook (a tributary to the Assabet River), and existing and proposed recreational areas located within and adjacent to the project corridor. According to comments received from the Concord and Acton chapters of the Friends of the Bruce Freeman Rail Trail (FBFRT), MAPC and others on the ENF, the proposed Bruce Freeman Rail Trail is a public bike/hike trail that has been proposed to connect Lowell to Sudbury, and pass through parts of Concord, Acton, Carlisle, Westford and Chelmsford, with more than 20 miles of repaved abandoned rail bed for use by pedestrians, hikers, and cyclists. The proposed multimodal rail trail will pass by the West Concord MBTA commuter rail station and would provide an alternative transportation corridor to access the MBTA commuter facilities, business located in West Concord Center and along Great Road in Acton. The EIR should respond to the comments of FBFRT and MAPC. Specifically, the EIR should discuss how the proposed grade-separated interchange project would incorporate the eventual extension of the proposed Bruce Freeman Rail Trail safely across Route 2 and Commonwealth Avenue within or in close proximity to the existing abandoned Framingham & Lowell Railroad right-of-way.

### Historic Resources

According to comments received from the Massachusetts Historical Commission (MHC), a number of historically significant structures are located either within or adjacent to the project corridor including the John Cumming House which is listed in the National and State Registers of Historic Places. MHC also notes that several archaeologically sensitive sites are located within the immediate vicinity of the project corridor. The EIR should include a review of historic and archaeological resources by MHD's Cultural Resources Section. The Proponent should consult with MHC to further develop its construction plans for the proposed project. In accordance with the terms of the Programmatic Agreement with MHC, MHD's Cultural Resources Section should work closely with MHC to design the scope and scheduling of an intensive locational archeological survey for the project areas associated with each of the three proposed alternatives, and to explore ways to avoid, minimize and mitigate potential impacts to any significant historic or archaeological resources that may be identified within the project site.

### Visual and Aesthetic Impacts

The EIR should discuss the aesthetics of the project, and should provide general information on the proposed height, massing, and materials for each of the three rotary construction alternatives.

The EIR should include conceptual sketches of the new interchange's appearance from appropriate vantage points (such as the Route 2/Route 2A and Route 119 intersection, the Route 2/Commonwealth Avenue intersection, and Route 2 eastbound and westbound) should be provided. The EIR should describe treatments for landscaping, lighting, signage, etc., and should discuss how consideration of aesthetics has affected project design. It should ensure that lighting is directed so as to remain on the built roadway (i.e., reducing stray lighting off the site). The Proponent should identify any lighting impacts from roadways on adjacent residential properties and sensitive receptors.

#### M.G.L. c. 21E/Hazardous Waste

According to the ENF, a number of known hazardous waste sites have been identified within the proposed project area. Given the history of contamination, the Proponent should document in the EIR that these hazardous waste sites have met, or are meeting, MassDEP-Bureau of Waste Site Cleanup's (BWSC) remediation standards, and adhere to any Activity and Use Limitations (AULs) imposed on the parcels containing those sites. If remediation is incomplete, a schedule and the name of the responsible party should be provided in the EIR.

#### Construction Period Impacts

The construction period will be the major source of impacts from the project, including impacts from earth moving, impacts to vegetation, potential impacts from erosion and sedimentation, impacts to private property and adjacent land uses, and traffic impacts on adjacent roadways. The EIR should analyze construction-period impacts, including temporary impacts to wetlands, construction stormwater runoff, impacts from traffic diversions, and the extent of any blasting and/or re-grading during construction. The EIR should include an erosion and sedimentation control plan. The Proponent should include in the EIR a preliminary construction schedule, and describe the impacts of construction on businesses, residences, traffic flows, and wetland resources, as well as the means by which such impacts will be mitigated. To minimize construction related exposures to hazardous air pollutants (HAPs), I strongly recommend that the Proponent participate in MassDEP's Clean Air Construction Initiative. The Proponent should require its contractors to retrofit diesel-powered equipment with emissions controls, such as particulate filters or traps, and to use low-sulfur diesel fuel. The EIR should discuss whether the project will require a federal NPDES permit for construction activities, and explain how the Proponent will meet any performance standards.

Noise

The EIR should identify any sensitive noise receptors within the project area. If there are sensitive receptors identified, the Proponent should identify existing and proposed noise levels at these receptor locations using Federal noise standards for transportation projects. The EIR should include an analysis of  $L_{DN}$ ,  $L_{10}$ , and  $L_{MAX}$  levels from the nearest residential areas for the build and no-build conditions. The EIR should also discuss the consistency of the project with MassDEP's Division of Air Quality Policy 90-001 (the "DEP Noise Policy").

Comments

The EIR should respond to the substantive issues raised in the comments received on the ENF and the NPC to the extent that the comments are within the subject matter jurisdiction of MEPA. I recommend that the Proponent employ an indexed response to comments format, supplemented as appropriate with direct narrative response.

Mitigation and Section 61

The EIR should contain a summary of all mitigation measures to which the Proponent has committed, including a description of timing (by year or appropriate trigger point), estimated cost, and responsible party. The EIR should include Proposed Section 61 Findings (in the form of a Draft Letter of Commitment in the case of MHD) for use by the state agencies.

Circulation

The EIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to the Town of Concord and Town of Acton officials. A copy of the EIR should be made available for public review at the Concord and Acton Public Libraries.

May 23, 2008  
Date

  
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Ian A. Bowles, Secretary

Comments received:

04/16/08 Natural Heritage and Endangered Species Program (NHESP)  
04/16/08 Massachusetts Historical Commission (MHC)  
05/06/08 EarthTech  
05/16/08 Town of Acton, Board of Selectmen  
05/22/08 EarthTech

EEA #12961 NPC  
IAB/NCZ/ncz