

**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ASSESSMENT CHECKLIST**

Date: August 16, 2016

Project Name: Relocation of I-91 Northbound (NB) Interchange 29 and Widening of I-91 NB and Route 15 NB to I-84 Eastbound (EB)

Municipality: Hartford and East Hartford

Staff Contact: Mark Alexander

This assessment is being conducted in conformance to the Connecticut Department of Transportation's Environmental Classification Document (ECD) to determine Connecticut Environmental Policy Act (CEPA) obligations.

Project Description:

The purpose and need of this project is to address safety concerns associated with congestion and operational failures at Interchange 29 on I-91 NB, which connects to Route 15 NB and I-84 EB.

The following improvements are proposed:

Widen I-91 NB from Interchange 27 to Interchange 29 - To relieve congestion, address significant safety concerns and provide an efficient I-91 to I-84 connection, I-91 NB will be widened to extend the four-lane travel lane section from Interchange 27 to Interchange 29. This widening will occur on the easterly side of I-91 NB and will require modifications to four existing bridges. A total length of approximately 6,700 feet of I-91 NB will be widened.

Relocate the I-91 NB Exit Ramp at Interchange 29 - To address the adverse vertical grade and limited capacity of the existing ramp, it is proposed to remove the existing ramp and provide a major diverge on I-91 NB just south of the overpass of Route 15. The diverge will consist of three lanes of I-91 NB traffic maintained to the right (existing condition) and two lanes to the left via a new bridge over Route 15 SB. This will require realignment of Route 15 and widening of the southern approach to the Charter Oak Bridge.

To avoid widening the Charter Oak Bridge over the Connecticut River, existing pavement markings on Route 15 NB will be modified to accommodate the added lane from the new I-91 NB Interchange 29 ramp. These four travel lanes on Route 15 NB will be carried across the bridge to the existing lane-drop at Interchange 90 to Route 2 and Route 5.

Widen Route 15 NB from the Charter Oak Bridge to the Silver Lane Underpass - Due to the proximity of the four lane merge and lane-drop at Interchange 90, it is proposed that Route 15 will be widened to three travel lanes from Interchange 90 to the Silver Lane underpass, prior to merging with I-84 EB. This widening addresses congestion concerns on Route 15 and allows for a more desirable distance prior to

the I-84 EB merge. The improvement will require widening two bridges on Route 15 (Route 15 over Route 5 and Route 15 over Silver Lane).

Regulations of Connecticut State Agencies (RCSA) Section 22a-1a-3 Determination of Environmental Significance (Direct/Indirect)

1. Impact on air and water quality or on ambient noise levels
 - a) Air Quality – No negative impacts are anticipated. This project is located within the boundaries of the portion of the state which has been classified as attainment for carbon monoxide (CO) and attainment for PM2.5. An Air Quality Assessment was performed for the project by CTDOT and the analysis determined that the project is in conformity with the Clean Air Act, as amended, pursuant to all Environmental Protection Agency regulations. Potential impacts during construction can be avoided or limited by proper operation of construction equipment and adherence to regulations limiting idling of engines.
 - b) Water Quality –No negative impacts are anticipated. The drainage design for this project is in progress and includes measures to improve stormwater quality and detain runoff peak flows. The project will seek to improve water quality to the maximum extent practicable. Any required coordination with the Office of Long Island Sound Programs (OLISP) will occur as the project moves forward.
 - c) Ambient Noise Levels – A noise study was conducted by CTDOT for this project. The project location in Hartford takes place in a non-residential area and there will be no negative noise impacts in this area. Existing land uses in the East Hartford portion of the project consist of residential neighborhoods to the north of Route 15 bounded by Silver Lane and multistory, multifamily residential apartments to the south of Route 15. The existing noise barrier walls along Route 15 NB will be impacted from the widening of 5/15 NB. The two barrier system located along Route 15 northbound will be replaced. Based on the noise study, it was determined that additional noise abatement measures will be required - a new noise barrier wall will be constructed along Route 15 beginning at the Silver Lane on-ramp to Route 15 and terminating at before the Main Street overpass. The existing Route 15 SB noise barrier wall which runs from approximately 230 feet east of the Silver Lane on-ramp to the bridge over Silver Lane will not be impacted. The reconstruction/replacement of existing noise barrier walls as well as the construction of new noise barrier walls are the noise abatement measures proposed for this project. This will mitigate any adverse noise impacts within the project area. Any noise impacts during construction will be temporary and minimized to the best extent possible. Construction specifications require the contractor to comply with the following as per Form 816, Section 1.10; Environmental Compliance:

“1.10.05 – Noise Pollution: The contractor shall take measures to control noise intensity caused by his construction operations and equipment, including but not limited to equipment used for drilling, pile driving, blasting, and excavation or hauling. All

methods and devices employed to minimize noise shall be subject to continuing approval of the Engineer. The maximum allowable level of noise at the nearest residence or occupied building shall be 90 decibels on the "A" weighted scale (dB(A)). Any operation that exceeds this standard will cease until a different construction methodology is developed to allow work to proceed within the 90-dB(A) limit."

2. Impact on a public water supply system or serious effects on groundwater, flooding, erosion, or sedimentation
 - a) Water Supply – This project is not within a public water supply source water area, therefore no negative impacts are anticipated.
 - b) Groundwater – No negative impacts are anticipated. See 1(b) above.
 - c) Flooding –No negative impacts are anticipated. One-hundred year floodplain, FEMA Zone AE, is present at the northeast and southern limits of the proposed project. Floodplain, FEMA Zone AE, is present north of Route 15, on the east side of the Connecticut River. East of the River, FEMA Zone AE is also mapped in the area of the Route 15, Route 2 interchange, associated with the Hockanum River. The Connecticut River is mapped as FEMA Zone AE. Areas of Floodway are designated at the channels of both the Hockanum River and the Connecticut River. West of the River, Wethersfield Cove is mapped as FEMA Zone AE. The Wethersfield Cove is at the southern limit of the project and is not inferred to be impacted by the scope of work. This floodplain is limited on its north side by a flood control dyke. The project will not result in any encroachment or fill in floodway, minor work in mapped floodplain is proposed at existing stormwater outfalls and possible stormwater management improvements. It is anticipated that a Flood Management Certification will be required for the work in floodplain but no significant loss of flood storage is proposed. Coordination with CTDEEP will occur as the project moves forward.
 - d) Erosion or Sedimentation – No negative impacts are anticipated. Erosion and sediment controls will conform to and be maintained in accordance with the *"2002 Connecticut Guidelines for Soil Erosion and Sediment Control"*
3. Effect on natural land resources and formations, including coastal and inland wetlands, and the maintenance of in-stream flows – No negative impacts are anticipated. The project is considering modifications of regulated wetlands and watercourses to provide improved stormwater quality treatment and stabilize banks. Existing wetlands and watercourses in the project area were constructed and have water quality and stormwater treatment as their primary function. The goal of the proposed work in wetland would be to maintain or increase the existing wetland area and improve functions relative to existing conditions.
4. Disruption or alteration of an historic, archaeological, cultural, or recreational building, object, district, site or its surroundings – No negative impacts are anticipated. In consultation with the

CT State Historic Preservation Officer (CTSHPO), it has been determined that the proposed project will have no adverse effect on any cultural, historic, or archaeological resources.

Regarding recreational resources, work for the relocation of the exit 29 ramp to the Charter Oak Bridge and work to the Charter Oak Bridge itself over the Charter Oak Landing Park may require temporary impacts to this area of the park and potentially the boat launch during portions of construction. These impacts will be completely temporary in nature and there will be no long term impacts to these resources. Coordination with the City of Hartford is ongoing and will continue throughout construction regarding impacts to the park and boat launch in order to inform the public of any temporary closures. Additionally, it may be necessary to temporarily use a small area of Great River Park in East Hartford for a portion of construction. Coordination with the Town of East Hartford is ongoing and will continue. Any disturbed land within a recreational resource/park will be restored to a condition which is at least as good as that which existed prior to the project.

5. Effect on natural communities and upon critical species of animal or plant and their habitats; interference with the movement of any resident or migratory fish or wildlife species – No negative impact is anticipated. There are records of extant species listed by the State, as endangered, threatened or special concern that occur within the project corridor. These species are associated with the Connecticut River and Hockanum River. An area of Floodplain Forest Critical Habitat Area is mapped by CTDEEP at the confluence of the Hockanum and Connecticut Rivers. No impacts to floodplain forest are anticipated. Any required coordination regarding species will take place as the project progresses.

6. Use of pesticides, toxic or hazardous materials or any other substance in such quantities as to create extensive detrimental environmental impact – No negative impact is anticipated. A landfill is present within the project area between I-91 and Route 15 in Hartford. The design of the project is such to minimize impacts to this landfill. In the early 1990s this landfill was constructed as part of project number 63-434 which consolidated 'compacted spoil' into a landfill also referred to as the 'Entombed Soil Area'. Review of the plans for project 63-434 show that the encapsulation was achieved using a flexible membrane liner to minimize rainfall infiltration into the landfill with a designed drainage system to direct any stormwater away from the encapsulated material. To achieve the widening I-91 NB within these limits, a retaining wall is proposed. This wall will be a reinforced concrete wall that will be constructed to retain I-91 NB and permit the existing drainage swale to remain as designed. The construction of this wall will require the Contractor to excavate in the vicinity of the existing membrane liner. Details and specifications will be developed to ensure that the membrane liner remains intact and the existing drainage swale continues to function on the exterior of the proposed wall. These details and specifications will be developed during the final design phase in coordination with on-going environmental compliance analysis of the project area. If during construction, hazardous materials, hazardous waste and/or contaminated soils are found, they

will be managed according to the applicable regulations. If any waste contaminated with PCBs is found, it will be managed in accordance with state and federal PCB requirements. If required, CTDOT will register for CTDEEP's *General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer)*.

7. Substantial aesthetic or visual effects – No negative impacts are anticipated.
8. Consistency with the written and/or mapped policies of the Statewide Plan of Conservation and Development and such other plans and policies developed or coordinated by the Office of Policy and Management or other agency – It is CTDOT's interpretation that this type of project is consistent with the Plan of Conservation and Development through GMP #1 (Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure). Furthermore, it is CTDOT's interpretation that the this type of project constitutes an exception to the definition of a Growth Related Project as defined in Sec. 16a-35c, Item (2), Subsection (d), Sub-Subsection (i), "Projects for maintenance, repair or renovations to existing facilities."
9. Disruption or division of an established community or inconsistency with adopted municipal and regional plans – No negative impacts are anticipated, there has been much coordination with the City of Hartford and the Town of East Hartford and neither municipality has objections to the project.
10. Displacement or addition of substantial numbers of people – This project does not involve the displacement of people.
11. Substantial increase in congestion (traffic, recreational, other) – No negative impacts are anticipated. The purpose of the project is to address safety concerns associated with congestion and operational deficiencies at the I-91 northbound Interchange 29, which routinely experiences significant traffic delays and above average crash frequency. Temporary ramp closures and roadway closures are anticipated during construction, however these impacts are temporary and the permanent results of the project will increase safety and reduce congestion.
12. A substantial increase in the type or rate of energy use as a direct or indirect result of this action – No negative impact is anticipated.
13. The creation of a hazard to human health or safety – No negative impact is anticipated. This project will improve safety.
14. Any other substantial impact on natural, cultural, recreational or scenic resources – No negative impact is anticipated.

Conclusion:

After examining any potential environmental impacts and reviewing all comments received, CTDOT has concluded that the preparation of an Environmental Impact Evaluation (EIE) will not be required for the Relocation of I-91 Northbound (NB) Interchange 29 and Widening of I-91 NB and Route 15 NB to I-84 Eastbound (EB) in Hartford and East Hartford, Connecticut.

Project No. 63-703

Relocation of I-91 Northbound (NB) Interchange 29 and Widening of I-91 NB and Route 15 NB to I-84 Eastbound (EB) in Hartford and East Hartford, Connecticut.

One comment was received from the public during the scoping process for this project. Comments and questions were received from the Connecticut Department of Public Health, the Connecticut Department of Energy and Environmental Protection (CTDEEP), and the Connecticut Office of Policy and Management (OPM) during the public scoping process. The following is a list of these comments and questions with responses to questions in italics. All comments have been taken into consideration.

Department of Public Health (Drinking Water Section)

1. The project does not appear to be in a public water supply source water area; therefore, the Drinking Water Section has no comments at this time.

Connecticut Department of Energy & Environmental Protection (CTDEEP)

1. The Natural Resources Conservation Service's Soil Survey depicts the area between the Connecticut River and Interchange 90 in East Hartford as Fluvaquents-Udifluvents complex, frequently flooded soils. Any work or construction activity within the inland wetland areas or watercourses on-site will require a permit from the Inland Water Resources Division (IWRD) pursuant to section 22a-39(h) of the Connecticut General Statutes (CGS). Existing wetlands and watercourses at the site should be delineated by a certified soil scientist and their functional values should be evaluated. Unavoidable impacts should be mitigated and buffer areas established to further protect wetlands and watercourses. The degree of impact should be quantified by acreage and a discussion of the functional values that would be lost or impaired should be included in any CEPA document.

2. The only area within the 100-year flood zone on the Flood Insurance Rate Map for Hartford is riverward of the dike at the base of the Charter Oak Bridge. In East Hartford, the 100-year flood zone extends to the northbound Interchange 90 off-ramp. If any construction will occur within the 100-year flood zone, the project must be certified as being in compliance with flood and stormwater management standards specified in section 25-68d of the CGS and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA) and receive approval from the Department (CTDEEP).

3. Any work or construction activity within tidal, coastal or navigable waters requires authorization from the Office of Long Island Sound Programs (OLISP) pursuant to the Structures, Dredging and Fill Act, section 22a-359 through 22a-363f of the CGS. The regulatory jurisdiction limit is the area up to and including the elevation of the coastal jurisdiction line (CJL) as determined for the State's major tidal waterbodies. The CJL for the Connecticut River in Hartford and East Hartford is 3.8' NAVD88. Certificates of Permission can be issued for certain minor activities in accordance with sections 22a-361 through 22a-363c of the CGS. The specific activities eligible under this program are listed in CGS section 22a-

363b and include substantial maintenance and minor alterations of authorized or pre-jurisdiction structures or fill and other enumerated minor activities. Certain activities, such as restriping the bridge to provide an extra lane, are considered routine maintenance activities and do not require prior authorization. The practice of notifying OLISP of routine maintenance should be continued.

4. The opportunity to introduce treatment measures to the stormwater collection system as part of the project should be explored. Constraints involved in this urban location, including soil suitability, space limitations, conflicts with existing utilities, and maintenance requirements, are recognized. However, emerging technologies may provide workable solutions.

5. The Natural Diversity Data Base (NDDDB) had made a preliminary assessment of the project. There are several records of extant species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern that occurs within the project corridor. These are species associated with the Connecticut and Hockanum River. As planning for this project proceeds, ConnDOT should submit a Request for NDDDB Review that includes additional information detailing the areas that will be impacted by construction.

The Natural Diversity Data Base response includes all information regarding critical biological resources available at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

6. In order to mitigate potential air quality impacts from construction activities, the Department typically recommends the following measures:

For large construction projects, the Department typically encourages the use of newer off-road construction equipment that meets the latest EPA or California Air Resources Board (CARB) standards. If that newer equipment cannot be used, equipment with the best available controls on diesel emissions including retrofitting with diesel oxidation catalysts or particulate filters in addition to the use of ultra-low sulfur fuel would be the second choice that can be effective in reducing exhaust emissions. The use of newer equipment that meets EPA standards would obviate the need for retrofits.

The Department also encourages the use of newer on-road vehicles that meet either the latest EPA or California Air Resources Board (CARB) standards for construction projects. These on-road vehicles include dump trucks, fuel delivery trucks and other vehicles typically found at construction sites. On-road vehicles older than the 2007-model year typically should be retrofitted with diesel oxidation

catalysts or diesel particulate filters for projects. Again, the use of newer vehicles that meet EPA standards would eliminate the need for retrofits.

Additionally, Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies (RCSA) limits the idling of mobile sources to 3 minutes. This regulation applies to most vehicles such as trucks and other diesel engine-powered vehicles commonly used on construction sites. Adhering to the regulation will reduce unnecessary idling at truck staging zones, delivery or truck dumping areas and further reduce on-road and construction equipment emissions. Use of posted signs indicating the three-minute idling limit is recommended. It should be noted that only DEEP can enforce Section 22a-174-18(b)(3)(C) of the RCSA. Therefore, it is recommended that the project sponsor include language similar to the anti-idling regulations in the contract specifications for construction in order to allow them to enforce idling restrictions at the project site without the involvement of the Department (CTDEEP).

7. As construction commences, the discovery of hazardous materials, hazardous waste and/or contaminated soil would be a potential at this project site. It should be noted that rail lines in Connecticut have historically been contaminated with PCBs. Any waste contaminated with PCBs must be managed in accordance with state and federal PCB requirements and are subject to approval by CTDEEP and EPA.

A site-specific hazardous materials management plan should be developed prior to commencement of construction and a health and safety plan for construction workers should also be prepared.

Development plans in urban areas that entail soil excavation should include a protocol for sampling and analysis of potentially contaminated soil. Soil with contaminant levels that exceed the applicable criteria of the Remediation Standard Regulations, that is not hazardous waste, is considered to be special waste. The disposal of special wastes, as defined in section 22a-209-1 of the Regulations of Connecticut State Agencies (RCSA), requires written authorization from the Waste Engineering and Enforcement Division prior to delivery to any solid waste disposal facility in Connecticut. If clean fill is to be segregated from waste material, there must be strict adherence to the definition of clean fill, as provided in Section 22a-209-1 of the RCSA. In addition, the regulations prohibit the disposal of more than 10 cubic yards of stumps, brush or woodchips on the site, either buried or on the surface.

The Waste Engineering & Enforcement Division has issued a General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer). It establishes a uniform set of environmentally protective management measures for stockpiling soils when they are generated during construction or utility installation projects where contaminated soils are typically managed (held temporarily during characterization procedures to determine a final disposition). Temporary storage of less than 1000 cubic yards of contaminated soils (which are not hazardous waste) at the excavation site does not require registration, provided that activities are conducted in accordance with the applicable conditions of the general permit. Registration is required for on-site storage of more than 1000 cubic yards for more than 45 days or transfer of more than 10 cubic yards off-site.

Connecticut Office of Policy and Management (OPM):

1. The section of highway to be addressed by this project already serves as an alternate route enabling long-distance to bypass Hartford via I-91 and I-691 or Route 9. Because of that function, it seems plausible that this capacity might influence the planning and design for the I-84 Hartford Project. Decisions regarding the I-84 project certainly could influence the demand placed on this section of I-91 and Route 15, which could be a vital link during construction of the I-84 Hartford Project or even afterwards, depending on the approach taken with I-84.

The public should be made aware of how decisions regarding this I-91/Route 15 project might affect or be affected by the functioning of the broader –scale highway network, both in the short and long term. The Notice of Scoping, however, is silent on such implications and treats the I-91/Route 15 project in isolation from associated state actions or proposed actions. While it is too late for this particular scoping notice, would it be possible for future DOT scoping notices to also include information about how individual projects fit into the broader picture?

Response: The Department will include the appropriate language in future scoping notices when warranted.

2. In addition to its highway projects, Connecticut is making significant investments in other transportation modes in the Hartford area and out along the I-91 and I-84 corridors. How might those investments or other changes impact the long-term need for the proposed I-91 project and, similarly, how might the proposed I-91/Route 15 project impact other regional or corridor transportation initiatives?

Response: There are projects involving other alternative modes of transportation that the Department is currently developing within the vicinity of Project 63-703, including the New Haven- Hartford-Springfield (NHHS) rail service and CTfastrak's extension to the east of the Connecticut River. Impacts of the NHHS upgrade have been taken into account in the projected volumes for the proposed project. The NHHS upgrades are expected to remove approximately 1,400 vehicles per day (vpd) from I-91 within the project limits in the year 2019 and approximately 2,000 vpd in the year 2039. The projections do not include CTfastrak East; however, since that service would run east-west along I-84 it would most likely have negligible impacts to the traffic volumes on I-91 and the Charter Oak Bridge. The NHHS upgrade and CTfastrak East would result in minor reductions in the near capacity volumes on I-91 and there would still be a need for Project 63-703 to address safety concerns associated with congestion and operational deficiencies at the I-91 NB Interchange 29. The purpose and need of project 63-703 is to reduce the number of crashes that cause significant injuries and traffic delays along I-91. Investments in other transportation modes would not reduce the need to address the above average crash frequency at the interchange that may be attributed to the steep vertical grade and single-lane configuration of the ramp, the heavy traffic weave on the Charter Oak Bridge, and volumes on I-91. The subject project may enhance opportunities to expand on regional or corridor transportation initiatives due to the proposed

safety and operational improvements which may reduce travel delays and increase safety along the corridor.

3. Because the limited information provided by the Notice of Scoping's project description and map, it is difficult to envision the potential impacts of the proposed project on areas adjacent to the highway. Given the intensity of development in those areas and the magnitude of recent private and public investment, it is important to understand the full extent of those potential impacts. It would be helpful if such a scoping notice included aerial imagery illustrating additional lanes, new alignments and other such changes.

Response: The Department will include aerial imagery and proper mapping for clarification in future scoping notices to the extent that it is available.

4. Public discussions about the I-84 Hartford Project are highlighting that highway design choices can not only impact the broader transportation system and the surrounding community, but also impose significant long-term financial obligations on the state. What is the I-91/Route 15 project's impact on the state's long-term maintenance obligations and how are long-term costs of different options accounted for in DOT's decision-making process?

Response: The existing short term maintenance costs to maintain the pavement through skim coats and other means would be eliminated, along with the maintenance costs for structures that the Department will be rehabilitating as part of this project. The projected service life of the pavement (including the concrete base repair as part of project 159-191) and the construction of the new bridge will significantly reduce the long term maintenance cost and improve the safety of the highway through installation of roadside safety features and improved alignment. The safety improvements alone may reduce the amount of times that the Department's maintenance forces are required to repair guiderail or be at the scene of a crash to provide cleanup efforts.

Long-term costs of different options are accounted for through the service life of the proposed improvements. Typically pavement structures are designed with a 10-20 year service life before full-depth reconstruction is required. Similarly, the cost to construct/rehabilitate structures also have service lives associated with the improvement that are taken into account using a cost-benefit ratio. For the subject project the proposed improvement provide the greatest cost-benefit ratio of the alternatives developed. The cost-benefit ratio was further verified through a value engineering study that reviewed all of the alternatives developed by the Department.