

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

Date: May 5, 2015

Project Name: Replacement of Bridge No. 02866 - Route 275 over Willimantic River

Municipality: Mansfield / Coventry

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 proposed project involves the replacement of Bridge No. 02866, which carries Route 275 over the Willimantic River, and is located on the Coventry/Mansfield town line. The bridge, built in 1900 and reconstructed in 1973, is a two-span bridge supported by stone masonry abutments and a center pier. The total length of the bridge is 122 feet, with a maximum span length of 61 feet. There are no curbs or sidewalks located on the current bridge. The curb-to-curb deck width is 14.3 feet, which accommodates one lane of alternating one-way traffic controlled by stop signs. The average daily traffic on the bridge is roughly 3,100 vehicles. The approach roadways accommodate one lane of traffic in each direction; however, just east of Bridge No. 02866 is a railroad bridge, which has a minimum curb-to-curb width of 17 feet, allowing only alternating one-way traffic to pass beneath.

The replacement is necessary because the existing bridge structure is structurally deficient, functionally obsolete, and hydraulically inadequate. The bridge is functionally obsolete due to its substandard curb-to-curb roadway width. The bridge is hydraulically inadequate due to its inability to pass the 100-year design storm with the required 2-feet of under clearance. The bridge is structurally deficient due to the poor condition of the box beams.

The proposed project consists of replacing the existing bridge with a two span precast, prestressed box beam structure supported by integral concrete abutments founded upon augered steel piles. The box beams will be approximately 24" deep with a 5" reinforced concrete shear slab placed on top. The box beams would be connected with a reinforced concrete closure pour to facilitate integral movement and preclude the need for an expansion joint. The roadway width will be 32 feet comprised of two 11-foot lanes with 5-foot shoulders. The new concrete integral abutments will be constructed behind the existing stone abutments, which will remain. Piles will be augered 10 feet from the face of the existing abutments which will increase the structure length to 140 feet. The span lengths will each be 70 feet in length. The concrete caps of the existing abutments will be removed. The existing stone pier will be utilized, removing the existing concrete cap and replacing it with a widened cast in place concrete cap.

The approach roadways will be reconstructed to accommodate the widened roadway section of the bridge.

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. The project is located within the boundaries of the portion of the state which has been classified as attainment for carbon monoxide, PM2.5 and PM10 and non-attainment for Ozone. However, this project has been determined to be exempt from the requirement that an air quality conformity determination be made. In addition, the nature of this type of project is such that benefits to air quality can be anticipated. Once constructed, idling will be eliminated on either side of the bridge due to the removal of the stop signs, and any air pollutants emitted due to idling emissions are removed.
 - b) *Water Quality*- No negative impacts are anticipated. This section of the Willimantic River is considered an impaired watercourse. Over the last decade, CTDEEP's biennial integrated water quality assessments of this stretch of the Willimantic River have indicated a stressed aquatic system, sometimes in, sometimes out of, full support of Connecticut Water Quality Standards. The 2012 Statewide Total Maximum Daily Load Analysis for Bacteria Impaired Waters includes an appendix for the Willimantic River to reflect excess bacteria. The proposed superstructure design does not allow for bird habitat beneath; this will prevent an additional localized bacteria source. The Connecticut Department of Transportation (CTDOT) will employ best management practices regarding stormwater management.
 - c) *Ambient Noise Levels*- No negative impacts are anticipated.
2. *Impact on a public water supply system or serious effects on groundwater, flooding, erosion, or sedimentation*
 - a) *Water Supply* – The project area is not within a public water supply source water area.
 - b) *Groundwater* - No negative impacts are anticipated. The proposed project is not expected to cause significant impacts to groundwater. See 1(b) above.
 - c) *Flooding* – The project is within the 100-year flood zone on the community's Flood Insurance Rate Map. This project will require a General Flood Management Certification and a Flood Management Exemption. No negative impacts are anticipated from this project.

- d) *Erosion or Sedimentation*- No negative impacts are anticipated. Registration under CTDEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities* is not required since the proposed area of disturbance is less than 5 acres. However, construction-period erosion and sedimentation control measures will comply with *The 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* – There are inland wetlands present and an *Inland Wetlands and Watercourse Permit* will be required to be filed with CTDEEP.
 4. *Disruption or alteration of an historic, archaeological, cultural, or recreational building, object, district, site or its surroundings* – No negative impact is anticipated. Bridge No. 02866 is not eligible for the National Register of Historic Places; and the limits of the proposed work are unlikely to impact intact, eligible archaeological resources. Coordination with CTSHPO has taken place. A copy of CTDOT's cultural resources review was sent to the Last Green Valley, since this bridge is within the Quinebaug-Shetucket National Heritage Corridor.
 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* - The Natural Diversity Data Base contains records for the State Special Concern Species *Glyptemys insculpta* (wood turtle) from the vicinity of this property. CTDOT has outlined protective strategies and protocols that will be adhered to in the Notice to Contractor. Following these guidelines will ensure that the project has no adverse impact on the species.
 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.
 7. *Substantial aesthetic or visual effects* - No negative impacts are anticipated. Several signs will be posted to indicate the Willimantic River Greenway. Coordination with CTDEEP regarding sign types is ongoing.
 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), specifically the state policy "Ensure the safety and integrity of existing infrastructure over its useful life through the timely budgeting for maintenance, repairs and necessary upgrades". This project type is not considered a Growth Related Project, however. This 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". Additionally, this project takes place within a Priority Funding Area.

9. *Disruption or division of an established community or inconsistency with adopted municipal and regional plans* - No negative impacts are anticipated. Construction will require the use of a detour since the bridge will be closed. The current proposal is to advertise Route 31 and 32 as the detour route. This is only temporary for construction and the contractor will be urged to complete construction as quickly as possible to minimize the time required for the detour.
10. *Displacement or addition of substantial numbers of people* - No negative impacts are anticipated. This project does not involve the displacement of people.
11. *Substantial increase in congestion (traffic, recreational, other)* - No negative impacts are anticipated. This project will reduce congestion at the bridge by widening and allowing traffic to travel across the bridge in each direction simultaneously.
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. There are significant recreational resources within the project area. The Willimantic River Greenway was designated in 2003 by the Connecticut Greenways Council, and is designated a Connecticut Heritage Area. The river has also been designated a National Recreational Trail in 2013. Additionally, the project is located within the Eagleville Lake Dam Recreational Area that includes two CTDEEP managed parking lots, a cartop boat launch, and the Eagleville Preserve. All recreation areas including the parking lots will remain open during construction and no recreation activities will be affected by this project.

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 Replacement of Bridge No. 02866 - Route 275 over Willimantic River.

The following are comments and questions received during the public scoping process. Responses to the questions are written in red.

Project No. 32-148
Replacement of Bridge No. 02866
Route 275 over Willimantic River in Coventry and Mansfield

DEEP Office of Environmental Review Comments:

The Department owns property immediately adjacent to the project location on both sides of the river immediately north of Route 275 and east of the river to the south of Route 275. It is likely that the project would entail a need for property rights from the Department. Any requests for temporary or permanent property rights from DEEP should be requested using DEEP's Land Management Request Application. All such requests are reviewed by a multidisciplinary panel of DEEP staff that comprise the DEEP Property Management Review Team. Town-owned open space in the immediate vicinity includes the parcel immediately south of Route 275 on the west side of the river (Coventry) and the Eagleville Preserve (Mansfield) immediately south of the DEEP property south of Route 275 (map available at: Eagleville Preserve). *There will be no property acquisitions by CTDOT for this project. With the detour in place we believe that the contractor has adequate space to perform all construction and staging activities within CTDOT's ROW.*

The project should be undertaken with full understanding and consideration of the significant cultural and recreational resources of this stretch of the Willimantic River. The Willimantic River Greenway was officially designated in 2003 by the Connecticut Greenways Council. As part of the Quinebaug and Shetucket Rivers Valley National Heritage Corridor, it is designated a Connecticut Heritage Area pursuant to section 23-81a of the Connecticut General Statutes. The river has also been designated as a National Recreation Trail (NRT) in 2013. The Last Green Valley, Inc. (TLGV), designated management entity for the federally designated The Last Green Valley National Heritage Corridor, successfully applied for the NRT designation with the local assistance of the Willimantic River Alliance, Inc. As a designation requirement, TLGV has developed access management plans and information kiosks for the NRT in two locations, adjacent to the bridge. Public use of the NRT, including the kiosks, is expected during construction phases of the bridge replacement project. *Access to the parks to the north of Route 275 and the Eagleville Preserve Trail to the south of Route 275 will be maintained throughout construction.*

Final project design and construction contracts should recognize that replacement of the bridge structure is nested within the popular Eagleville Lake Dam recreational area that includes two DEEP managed parking lots, a cartop boat launch and the Eagleville Preserve, all within the historically significant Eagleville village. Construction sequencing should be sensitive to public access to the river and adjacent cultural resources by minimizing disruption to the State Greenway and National Recreation Trail. It is recommended that a State Greenway sign be installed, along with a standard DOT sign for the Willimantic River. *A "Willimantic River" sign will be posted at the bridge. A "State Greenway" sign can be posted at the site. Coordination with DEEP on sign types is ongoing.*

Over the last decade, the Department's biennial integrated water quality assessments of this stretch of the Willimantic River have indicated a stressed aquatic system, sometimes in, and other times out of, full support of Connecticut Water Quality Standards. The 2012 Statewide Total Maximum Daily Load

Analysis for Bacteria Impaired Waters includes an appendix (available on-line at: Willimantic TMDL Appendix) for the Willimantic River to reflect excess E. coli fecal indicator bacteria. The design and construction phases of the project should be undertaken with due consideration of the threatened water quality of this stretch of river. It is recommended that the final bridge superstructure design should include roosting bird prevention measures, that if not addressed can result in localized bacteria source loading into the river. In addition, the stormwater management plan and design should address the widening of impervious surface area with water quality treatment and volume reduction measures for the discharge to the river. *The superstructure consists of butted box beams, consistent with the current superstructure type, which does not allow for bird habitat beneath. The existing drainage at the bridge consists of sheet flow at the site. The proposed drainage will remain consistent with the existing condition despite the additional impervious area.*

Office of Policy and Management Comments:

An online search shows the area to be a popular access point to the river and Eagleville Lake and online satellite imagery shows parking areas near each end of the bridge. The map of officially designated green ways shows the Willimantic River Greenway crossing at the bridge (see <http://www.ct.gov/deep/lib/deep/greenways/greenwaysmap2014.pdf>).

The paddle guide at http://www.willimanticriver.org/recreation/cg_print_nps-guide.pdf recommends that people park in one of those lots and carry canoes and kayaks across Rt 275 to access the downstream section of the river. The Eagleville Preserve guide, available at <http://www.mansfieldct.gov/filestorage/1904/5357/eagleville.pdf>, also directs people to also park there and cross Rt 275 to enter to the town preserve and adjacent state land south of Rt 275.

The stop signs and alternating one-way traffic of the existing bridge have probably maintained a relatively safe interaction between drivers, bicyclists and pedestrians traveling along Rt 275, entering or exiting the parking areas, and crossing the road to access the river or trails. How will the proposed project affect each? Will drivers be expected to stop at the new bridge? If vehicular traffic is heavy enough to require such a wide bridge, the loss of stop signs at each end of the bridge could jeopardize safety of people crossing the road, particularly those carrying a canoe or kayak. Given the state's and others' commitment to the greenway, it is important that a state action not impede people's use of the greenway. *The railroad bridge located directly to the east will maintain the current stop sign controlled alternating one-way traffic operation. The speed limit at the site will be 25 mph, consistent with the existing condition. A pedestrian crosswalk will be installed across Route 275 to allow pedestrians to safely cross. Wide shoulders have been provided across the structure to allow for bike and pedestrian passage as well.*

Minutes of DOT's 2/25/2015 public meeting, in a paragraph responding to public concerns regarding how the proposed bridge would affect parks/greenways/waterways, include this explanation by DOT and/ or its consultant:

The concerns relating to the greenway and waterway access had not been investigated due to the current design stage (environmental review is still ongoing).

Even before beginning the environmental review, such concerns should have been considered during DOT's determination of consistency with the State Plan of Conservation & Development (POCD). The POCD includes several references to greenways and other such resources. Many people would consider such concerns to be a central feature of an environmental review, especially one that implies there is little alternative to the proposal. At what point does DOT ordinarily begin investigating such concerns? *Consistency with the Plan of Conservation and Development is determined early on in the project. – 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), specifically the state policy "Ensure the safety and integrity of existing infrastructure over its useful life through the timely budgeting for maintenance, repairs and necessary upgrades". This project type is not considered a Growth Related Project, however. This 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". Additionally, this project takes place within a Priority Funding Area.*

The Notice of Scoping mentions that the railroad bridge immediately east of the Willimantic River bridge is also too narrow to pass two-way traffic on Rt 275. The minutes of DOT's public information meeting indicate that the railroad bridge "will not be rehabilitated as part of this project." Is DOT aware of any interest in or plan for modifying the railroad bridge to also allow two-way traffic there?

If there is no expectation to widen Rt 275's passage beneath the railroad bridge, what is the functional benefit of widening the Willimantic River bridge to 32 ft? If it is reasonably foreseeable that the railroad crossing might also be widened, what is the potential impact on vehicle speeds and traffic at the river crossing and in the area of tight turns in town just a few hundred feet east of the bridges, where speed limits are 25 mph? *The railroad bridge is privately owned, and we are unaware of any projects to replace the railroad bridge at this time.*

The Notice of Scoping says "The replacement is necessary because the existing bridge structure is structurally deficient, functionally obsolete, and hydraulically inadequate." However, the minutes of DOT's public information meeting say the bridge will not actually be made hydraulically adequate. Those minutes also refer to a state statute and federal requirements that the bridge be at least 28ft wide. CGS 13a-86 and 13a-86a grant DOT the authority to build a narrower bridge when appropriate. What are the federal requirements that impose a minimum width and is there a waiver or other process that can allow DOT to correct the structural deficiency without also widening the bridge to that extent? *For this structure to be considered functionally adequate, the minimum required curb-to-curb width is 28 feet. The wider width, 32 feet curb-to-curb, is provided to accommodate both pedestrian and bicycle passage in addition to vehicle traffic. Should the structure remain functionally obsolete, the bridge would be classified as a deficient structure. The State's goal is to repair all deficient structures. A lesser curb-to-curb width can be utilized when the commissioner determines a lesser width is warranted. The approaches to the bridge consist of one lane in each direction, the bridge acts as a bottleneck for Route 275. We do not feel that this site warrants a lesser roadway width.*

Willimantic River Authority Comments:

It is imperative that plans to replace the bridge include detailed plans for safe pedestrian crossing of both the RT 275 roadway and the RT 275 Bridge. Pedestrian crossing areas should be marked on the roadway and appropriate signs should be erected. The current one lane bridge has stop signs on each side to allow vehicles to cross the bridge one at a time; this slows traffic and accommodates pedestrians. The new two lane bridge, however, will allow continuous vehicular flow without stopping, causing a hazard for pedestrians. New signs indicating heavy pedestrian traffic and right of way are needed. *A pedestrian crosswalk will be installed to allow pedestrians to cross Route 275 safely. Wide shoulders have been provided across the structure to accommodate bicyclists and pedestrians.*

Signs are also needed which indicate that the bridge crosses the Willimantic River, one on each side of the bridge. *Further coordination will be done regarding signage.*

The signposts for the river crossing could also accommodate signs for the Connecticut State Greenway and National Recreation Trail, which could be supplied by the CT DEEP and the Willimantic River Alliance. *Further coordination will be done regarding signage.*

A sign should also be attached to the concrete bridge deck for the benefit of water trail users, on the upstream side, telling them this is RT 275 and showing the Coventry and Mansfield town line. *Further coordination will be done regarding signage.*

The railing system proposed should be reviewed by architects or landscape architects to determine if a more aesthetically appropriate system is available which meets the testing standards of the state. *The current rail system is one of only a few crash tested open-rail systems in the State of Connecticut. The curb mounted 3-tube rail system will be used. Other rail systems mentioned during the public information meeting were parapet mounted rail systems (hand rails) and cannot be used at the site due to hydraulic requirements.*

In order to accommodate park users and their vehicles, the contractor selected for the project cannot be allowed to stockpile materials or park equipment, trucks or cars in the parks. Nor can materials, equipment or vehicles block access to the riverbanks or trails which could preclude use by boaters, hikers or fishermen. *Access to the parks and trails will be maintained throughout construction. The contractor will be required to keep equipment and materials within the DOT rights-of-way.*

Town of Mansfield Department of Public Works Comments:

The notice of scoping indicates the existing bridge is hydraulically inadequate and will subsequently be raised to provide a minimum of 2 feet of under clearance. The Town is concerned about the removal of this possible hydraulic constriction and its impacts to downstream structures and property. *The wording in the scoping notice is as follows:*

“The replacement is necessary because the existing bridge structure is structurally deficient, functionally obsolete, and hydraulically inadequate. The bridge is functionally obsolete due to its substandard curb-to-curb roadway width. The bridge is hydraulically inadequate due to its inability to pass the 100-year

design storm with the required 2-feet of underclearance. The bridge is structurally deficient due to the poor condition of the box beams.”

This language was to simply indicate why the bridge is considered hydraulically inadequate. We did not intent to imply that the bridge would be raised. The bridge will not be raised. The proposed structure will remain hydraulically inadequate and will not raise the flood profiles downstream of the structure. Due to the close proximity of the railroad bridge to the east and the required fill in the floodway a hydraulically adequate structure could not be constructed.

The 2011 Connecticut Department of Transportation Average Daily Traffic Counts approximately 3,100 vehicles cross the subject bridge. It could be assumed that the University of Connecticut is the likely destination for vehicular traffic on this stretch of roadway. The current proposal indicates that Route 31 to Route 32 will be the advertised detour. The Town of Mansfield is concerned the use of Depot Road/Coventry Road will be a preferred alternative because of the prevalence of GPS navigation and local residents having local knowledge of the roadway network. *The all state route detour will be posted utilizing the routes described. Local residents will likely use Depot Road/Coventry Road, but the hope is others will see the posted route and follow that. The Contractor will be pushed to complete construction as quickly as possible to minimize this concern.*

As indicated in bullet number 2, the proposed detour is traveling south on Route 31 to Route 32. Utilizing the same assumption from the previous bullet, the increased distance traveled for vehicular traffic will be 4.6 miles per trip. Utilizing FEMA Benefit-Cost Analysis values for additional detour time (\$38.15 per vehicle per hour), current IRS mileage reimbursement (\$0.565/mile) and the current construction schedule of five weeks of detour the economic impact for the detour is approximately \$500,000. The Town of Mansfield appreciates any means that can be utilized to accelerate the construction of the bridge and minimize the duration of the detour. *An incentive/disincentive will be included in the contract to help expedite construction.*