

## Determination of Effect on Historic Properties

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<b>Project:</b>	State No.:	77-248	
	F.A.P. No.:	6077(009)	
	Project Title:	Bridge #05353 Replacement	
		Juniper Lane over Mount Hope River	
	Town:	Mansfield	
<b>Finding of Effect:</b>	<b>No Historic Properties Affected</b>		

### ***Project Description:***

The Connecticut Department of Transportation (CTDOT), with funding support from the Federal Highway Administration (FHWA), proposes replacement of State Bridge Number 05353 carrying Juniper Lane over the Mount Hope River in the Town of Mansfield. Bridge No. 05353 is a single span structure located approximately 150' east of US Route 89. The bridge superstructure is comprised of six (6) prestressed concrete deck units supported by stone masonry abutments founded on unknown foundation (masonry likely). The bridge was originally built in 1920 but the superstructure was replaced, a concrete bridge seat added, and shotcrete applied to the face of masonry abutments in 1986. While the original stone masonry abutments are over 100 years old, the existing superstructure is approximately 38 years old.

Based on the condition of the existing bridge, a full bridge replacement is proposed since the superstructure will need to be replaced (inadequate load rating capacity resulting in weight restrictions) and widened (substandard roadway width). It is assumed the existing abutments may not properly be able to support a wider superstructure which would be required to accommodate a widened roadway. Moreover, any proposed repairs to the masonry abutments will not provide a 50-year service life since the abutments are already over 100 years old. The proposed work for a full bridge replacement will involve:

1. Removal of the existing bridge superstructure and masonry abutments and wingwalls.
2. Construction of new concrete abutments bearing on bedrock (west abutment) or supported on pile foundations (east abutment) designed for scour.
3. Installation of a new superstructure to carry a 24'-0" wide minimum roadway meeting FHWA and CTDOT design standards.
4. The proposed bridge rail system will comprise of an aesthetically pleasing open bridge rail system meeting current safety standards. The deck out-to-out width will be approximately 27'-6" minimum.
5. The proposed span length will be increased to 53'-0" to improve hydraulic performance.
6. The proposed superstructure will be multiple pre-stressed concrete deck units with a concrete deck resulting in a redundant structure.
7. Roadway will be reconstructed to approximately 600' including improvements to the Y-intersection at the west approach to the bridge.
8. New guiderails will be installed at all approach corners to the bridge to meet current design standards.

Under the provisions of the Programmatic Agreement executed between CTDOT, FHWA, the Connecticut State Historic Preservation Officer (CT SHPO), and the Advisory Council on Historic Preservation regarding compliance with Section 106 of the National Historic Preservation Act (NHPA) for minor transportation projects<sup>1</sup>, the Office of Environmental Planning (OEP) intends to make a determination of effect on historic properties for the described undertaking.

### ***Resources Potentially Affected:***

#### *Above Ground Architectural*

Both the National Park Service's digital asset record system and ConnCRIS—the online cultural resource geodatabase maintained by CT SHPO—were consulted for the purpose of locating any properties listed on the State or National Register of Historic Places (NRHP) in the project vicinity. No NRHP-listed properties were found to exist within a mile of the project limits.

A series of historic maps and aerial photographs obtained from the University of Connecticut Map and Geographical Information Center (UConn MAGIC) were examined to assess the possibility of as-yet undocumented NRHP-eligible properties to exist within the project area of potential effect

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<sup>1</sup> *Programmatic Agreement among the Federal Highway Administration, the Connecticut Department of Transportation, the Connecticut State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of Minor Transportation Projects*, signed October 26, 2012 and revised May 4<sup>th</sup>, 2018. Accessible online at: [www.ct.gov/culturalresources](http://www.ct.gov/culturalresources)

(APE). The 1930 Griswold-Spiess Map of reconstructed Native settlement in Connecticut circa 1625 depicts no concentrations of indigenous population in the project vicinity during the period of European Contact. The 1811 Warren Map of Connecticut likewise presents no development along the Mount Hope River in the immediate project area. The 1857 Eaton Map of Tolland County appear to depict a bridge crossing over the river in the vicinity of the APE by the mid-19th Century, with a rural homestead attributed to 'W. Atwood' near the eastern landing. Fairchild Series aerial photos from 1934 reveal the precursor of Route 89 already in place along the west bank of the river on more or less its present alignment (Figure 1). The 'Atwood' farm complex appears to still stand on the east bank of the river at this time, having perhaps expanded to multiple large buildings / out structures with the bridge crossing and incipient Juniper Lane already in place.

OEP's most recent historic structures inventory (HBI) research attests the 1920 construction date for Bridge Number 05353 as well as the 1986 reconstruction. The HBI review also recommends the structure not eligible for the NRHP based upon the lack of integrity of original design and OEP concurs. Recent roadside and aerial photographs reveal no other standing structures within or in immediate proximity to the project APE likely to be considered eligible for the NRHP.

#### *Below Ground Archaeological*

Digital site records in ConnCRIS, as well as OEP's own internally maintained geodatabase, were also consulted for the purpose of identifying any previously known archaeological resources within the APE. No archeological resources were found to be documented within or in immediate proximity to the project APE. The nearest is State Site Number 78-202—a post-European Contact domestic component over a half mile to the south. The present undertaking will have no foreseeable effect upon that resource. OEP finds no record, however, that any formal archaeological surveys had ever been conducted in the immediate project vicinity.

Soil classification maps obtained from the U.S. Natural Resources Conservation Service were examined in conjunction with predictive models developed internally at OEP to assess the sensitivity of the project area for previously unknown pre-European Contact indigenous resources. Both banks of the Mount Hope River at this location are classified as Rippowam Fine Sandy Loams predicted to be high in archaeological potential.

Recent roadside and aerial photographs and LiDAR images obtained from UConn MAGIC were consulted to assess the present state of soil integrity within areas likely to be affected by ground disturbance in association with the undertaking. LiDAR images (Figure 2) reveal the bridge landings to be very steep. The bridge approach from the west has been heavily affected by offset bridge

access roads and the embankment for Route 89. To the east, mostly intact natural soils appear to exist just beyond the ROW margins above the crest of the river drainage. As it was determined that the project could not be executed without disturbance to the intact soils along the eastern aspect of the project APE, formal Phase I field reconnaissance survey was requested in advance of design approval.



Figure 1: Fairchild Series aerial photo from 1934 (UConn MAGIC), with approximate project area superimposed.

The requested field reconnaissance survey was conducted by Heritage Consultants, LLC operating out of Berlin, Connecticut, in August of 2024. Despite excavation of 13 shovel test probes across the project APE no soil anomalies, cultural features, or precontact era cultural material were identified during the investigation. A total of eight post-European Contact period artifacts were recovered during testing, consisting of glass, nails, a tack, and a sherd of whiteware—all from fill

soils or near surface contexts. As such, they were determined to be not archaeologically significant and not represent a resource that could be considered NRHP-eligible.

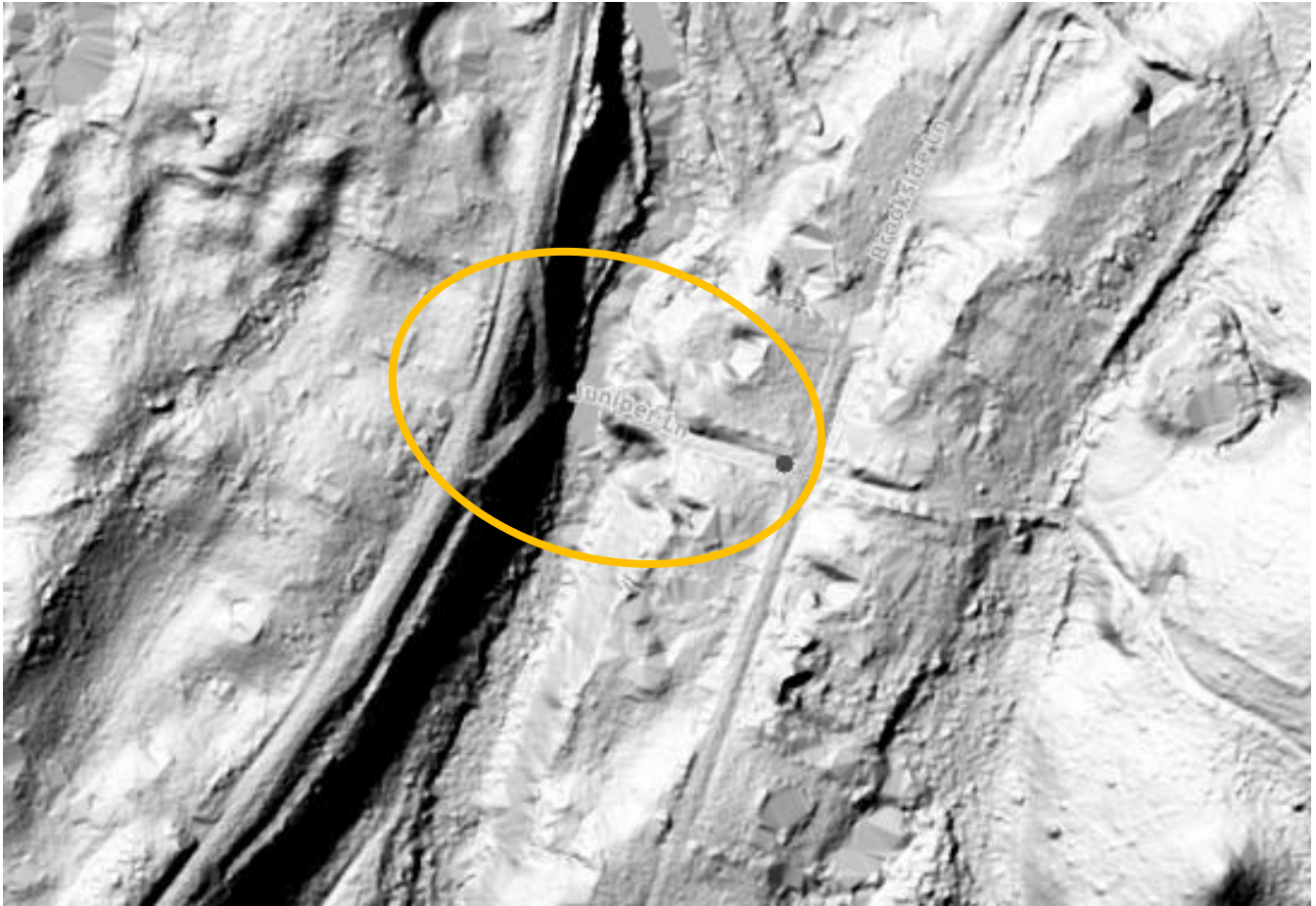
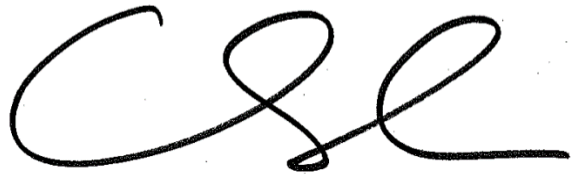


Figure 2: 2016 Aerial LIDAR image (UConn MAGIC), with approximate project area superimposed.

**Determination of Effect:**

Consultation was carried out with Federally-recognized Native American Tribal authorities with ancestral ties to the State of Connecticut for this undertaking in October of this year. None of the solicited Tribes expressed any concerns with the undertaking within the allotted time frame.

Given the lack of historic properties found to exist within the project limits in the course of background assessment and formal field reconnaissance survey, OEP hereby determines that there will be *no historic properties affected* in association with the present undertaking. With this determination, FHWA, through OEP, has concluded its responsibility to consider the potential effects of the described project on cultural resources under Section 106 of the NHPA via the provisions of the Programmatic Agreement referenced above.

A handwritten signature in black ink, appearing to read 'C. Speal'. The signature is fluid and cursive, with a large initial 'C' and a long horizontal stroke at the end.

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C. Scott Speal  
National Register Specialist  
Office of Environmental Planning  
Connecticut Department of Transportation