

**Tamworth  
16239  
X-A001(205)**



**CATEGORICAL EXCLUSION**

**August 2017**

## CATEGORICAL EXCLUSION NON-PROGRAMMATIC ENVIRONMENTAL IMPACT SUMMARY

**Action/Project Name:** Tamworth  
**Federal Project Number:** X-A001(205)

**State Project Number:** 16239

### Description of Project:

The proposed project consists of replacement of NHDOT bridge No. 150/106 that carries NH Route 113 over the Bearcamp River in Tamworth. The limits of roadway improvements to match into the new bridge begin within the vicinity of the Whittier Road intersection and extend north approximately 300 feet. The existing bridge is 28 feet wide from curb-to-curb and 123 feet in total length. The existing bridge is a three span steel structure and was built in 1955. The existing bridge is listed on the NHDOT Red List with a Federal Sufficiency Rating (FSR) of 49.5 out of 100, and both the superstructure and substructure are in poor condition. The posted speed limit is 35 mph for both north and southbound lanes and would not change as a result of the project.

The existing bridge has been in service for approximately 62 years and has reached the end of its design life. The latest NHDOT bridge inspection report states that the bridge is structurally deficient with a Deck Rating of 'poor' and a Scour Critical Rating of 'critical during floods'. The north and south pier footings are respectively located on soil with approximately 7.3 feet and 5.6 feet of remaining embedment (below channel) and lack a strong scour protection mechanism. Scour calculations predict 15 feet of total scour at the piers during the 100-year event (greater than the existing embedment). The piers also lack confinement reinforcing for resistance to seismic and other lateral loads leaving it vulnerable to extensive damage from seismic events. In addition to its structural, scour, and seismic conditions, the bridge sidewalk width and railings are substandard.

The proposed project would:

1. Construct a new 131 foot single-span, precast, pre-stressed adjacent box beam bridge, on-alignment, using accelerated bridge construction methods. The proposed structure would have a curb-to-curb width of 32 feet and would be striped for 11 foot travel lanes and 5 foot shoulders.
2. Substructures would consist of cast-in-place concrete drilled shaft foundations with precast concrete abutment caps.
3. It is anticipated that the bridge would be closed for 21 days during construction. In order to maintain traffic flow and limit the closure the following construction sequence would be implemented (not mandated):
  - A. Drilled shaft foundations would be installed immediately behind the existing abutments, while maintaining one-lane of alternating traffic. Steel plates would be utilized to cover the completed drilled shaft holes when traffic is maintained over these areas.
  - B. Following installation of the drilled shafts, the bridge would be closed to traffic and the existing bridge removed (the abutments and piers would be removed to 1-foot below grade).
  - C. New precast concrete abutment caps would be installed on the drilled shafts and grouted into place.
  - D. New steel-reinforced elastomeric bearing pads would be installed on the abutment caps.
  - E. New single-span, precast, pre-stressed concrete box beams would be erected, and a composite cast-in-place concrete overlay with integral wearing surface would be placed. The superstructure would consist of 42-inch deep box beams with a 6-inch composite concrete overlay. (Exhibit A)

The American Association of State Highway and Transportation Officials (AASHTO) classifies NH Route 113 as a Rural Major Collector (Class II), meaning it provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with Class I Arterial roads. The Average Annual Daily Traffic (AADT) on this section of roadway is 2,100 vehicles per day.

### Project Purpose and Need:

The purpose of this project is to provide a safe structure for passage of vehicles and pedestrians over the Bearcamp River in Tamworth and to remove the existing bridge from the NHDOT Red List. Built in 1955, the bridge has reached the end of its design life. The latest NHDOT bridge inspection report states that the bridge is structurally deficient with a deck rating of 'poor', a superstructure rating of 'fair', and a Scour Critical Rating of 'critical during floods'. In addition to its, fair to poor structural and scour conditions, the bridge is only 28 foot curb-to-curb, has substandard railings and sidewalk and lacks resistance to seismic and lateral loads. If not addressed, the structural and scour deficiencies would persist, the piers would continue to deteriorate, and the bridge would eventually fail.

## Alternatives Considered:

### Alt. No. 1 **Comprehensive Bridge Rehabilitation:**

1. This alternative would rehabilitate the existing bridge structure while addressing both condition and design deficiencies and improving scour and seismic protection measures.
2. Work would include removing the superstructure (both concrete abutments and steel girder spans) and replacing it with a 3-span continuous steel girder superstructure.
3. The existing concrete deck would be replaced with a new, wider concrete deck to include shoulders, standard curb, bridge rail, approach rail, and elimination of the narrow sidewalk. To minimize bridge closure duration this alternative proposes to install precast concrete deck panels.
4. The replacement superstructure would be supported on reconstructed pier caps and abutment seats, and would be designed per AASHTO HL-93 live load standards. To improve scour protection permanent steel sheet piles would be driven to bedrock and in-filled with concrete around the existing piers.
5. It is anticipated that this superstructure rehabilitation would add approximately 40 years of service life to the bridge.
6. This alternative would require a bridge closure of approximately 10 weeks and for traffic to be detoured around the project limits during rehabilitation. (Exhibit B)

### Alt. No. 2 **Single-Span Bridge Replacement using Accelerated Bridge Construction (ABC) Methods (The Preferred Alternative):**

1. This alternative would replace the existing bridge with a new single-span, precast, pre-stressed adjacent box beam superstructure while utilizing accelerated bridge construction methods.
2. The substructures would consist of cast-in-place concrete drilled shaft foundations with precast concrete abutment caps and new abutment seats, designed per AASHTO HL-93 live load standards. A single-span bridge with drilled shaft foundations would improve hydraulics and lower scour and seismic susceptibility while addressing both condition and design deficiencies
3. It is anticipated that this new structure would have an approximate service life of 75 years.
4. This alternative proposes an accelerated bridge construction method. It is anticipated that this construction approach would consist of the following sequence:
  - A. Drilled shaft foundations immediately behind the existing abutments. During installation one-lane of alternating traffic would be maintained. Steel plates would be utilized to cover the completed drilled shaft holes to assist the maintenance of traffic.
  - B. Following installation of the drilled shafts, the bridge would be closed to traffic and the existing bridge removed (the abutments and piers would be removed to 1-foot below grade).
  - C. Install new precast concrete abutment caps and subsequent steel reinforcing elastomeric bearing pads on the abutment caps
  - D. Install new single-span, precast, pre-stressed concrete box beams.
  - E. Install a composite cast-in-place concrete overlay with integral wearing surface.
5. It is anticipated that this alternative would require the bridge to be closed for approximately 21 days with traffic being detoured during construction. (Exhibit C)

**Alt. No. 3 Single-Span Bridge Replacement, using Phased Construction:**

1. This alternative would replace the existing bridge with a new single-span, precast superstructure while using phased construction methods
2. The substructures would consist of cast-in-place concrete cantilever abutments bearing on bedrock and designed to meet AASHTO HL-93 live load standards. A single-span bridge would improve hydraulics and lower scour and seismic susceptibility while addressing both condition and design deficiencies.
3. It is anticipated that this new structure would have an approximate service life of 75 years.
4. This alternative proposes a phased bridge construction method. It is anticipated that this construction approach would consist of the following sequence:
  - A. A 14-foot lane with alternating traffic would be maintained on the westerly side of the existing bridge while the easterly portion of the super and substructures are removed.
  - B. An 18-foot new single-span, precast, pre-stressed concrete box beam superstructure and cast-in-place concrete abutments would be constructed along the easterly side of the bridge construction.
  - C. Once the easterly portion has been completed traffic would be diverted to this new half
  - D. The same construction procedures would be applied to the westerly portion.
5. Although this alternative would not require a bridge closure, it is anticipated that construction would be approximately 8 months - increasing the construction cost by 25%. In addition, due to the limited project area, temporary construction rights would need to be acquired with this alternative. (Exhibit D)

**Alt. No. 4 No Build Option:** The no build alternative does not involve rehabilitation or replacement of the existing structure; the existing structure would remain in its current condition without modifications. The deficiencies with this bridge that are not addressed with this alternative are as follows:

1. The bridge would remain scour critical, meaning that the pier footings would remain susceptible to undermining due to scour.
2. The piers, steel rocker bearings, and 3 simple-span superstructure would leave the bridge vulnerable to significant damage from seismic events.
3. Corrosion and deterioration would continue to all bridge components, particularly the deck, joints, bearings, and steel beams.
4. The substandard sidewalks and bridge railings would remain.
5. The live load capacity would be less than that of a rehabilitated or replacement structure.

With the no build alternative, the existing structure could remain in service for a number of years, depending on the rate of deterioration. However, because the bridge is susceptible to significant damage, or potential failure due to scour or seismic events, the remaining service life could be suddenly reduced leaving the bridge out of service. Additionally, deterioration could progress quickly, leaving the load carrying capacity of the bridge reduced, or in need of replacement without plans in place. (Exhibit E)

**IMPACT ASSESSMENT SUMMARY**

**1. Right-of-Way**

Is additional ROW required? Yes  No  Acreage  
Are improved properties acquired? Yes  No  Acreage  
Displacement: Rental Units \_\_\_ Residential Properties Non-residential Properties

Relocation services to be provided? \_\_\_\_\_  
\_\_\_\_\_

Properties available for relocation? \_\_\_\_\_  
\_\_\_\_\_

Public Land (Federal State, or Municipal) Involvement? Yes  No . (See Section 4 below.)

Acquisitions of land for hardship or protective purposes? Yes  No

If, yes explain? This Project would occur within public Right-of-Ways. The use of the land as transportation corridor is consistent with current use.

**2. Traffic Patterns/Roadway Access**

Expansion of a roadway by addition of through lanes? Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

Temporary detour required? Yes  No  Length 7 miles  
Temporary bridge required? Yes  No  Impacts? Yes  No

Describe:  
It is anticipated that the proposed project would be constructed over the course of four months. It is not warranted to the town that a certain closure duration would be met. Some phases of construction would require traffic to travel around the closed bridge along a traffic diversion route. The signed diversion along state highways would be 7 miles long. It is not reasonable for us to predict whether traffic would opt for a local detour configuration over what we propose. Traffic has not been evaluated or modeled to that level as is common with a project with similar volumes of traffic. As the duration of the proposed traffic diversion is short, the diversion is not anticipated to result in major traffic disruptions.

Permanent changes to traffic patterns? Yes  No

Describe:  
The proposed project would require a short duration traffic diversion. However, upon completion of the proposed project, traffic patterns would return to the current conditions.

Changes in access that pertain to interstate highways? Yes  No   
Changes in access that have wide-reaching ramifications? Yes  No

Describe: \_\_\_\_\_  
\_\_\_\_\_

**3. Cultural Resources (Section 106 or RSA 227-C:9)**

Have you identified, and invited, parties to consult in the review pursuant to 36 CFR 800.3(f)? Yes  No   
 Explain A Cultural Resources No Historic or Archaeological Properties Affected Memo has been issued for the project by FHWA and the NH Division of Historic Resources has concurred with the determination. Based on the review of the project, no historic or archaeological properties would be affected. (Exhibit F) However, if the final designs extends into the Bryant Mill complex and/or the stone wall feature, it is recommended additional recordation and Phase IB testing be done. (Exhibit X)

List of Consulting Parties confirmed by FHWA:  
 NH Division of Historic Resources  
 Whittier Service Center (Exhibit F)

Historic Resources Investigated? Yes  No  National Register Eligible? Yes  No   
 Comments A determination of Not Eligible has been issued by the Division of Historic Resources Determination of Eligibility Committee. (Exhibit G)

Archaeological Resources Investigated? Yes  No  National Register Eligible? Yes  No   
 Comments A determination of Not Eligible has been issued by the Division of Historic Resources Determination of Eligibility Committee. (Exhibit G) IAC conducted a Phase IA sensitivity assessment in Tamworth, NH on May 16, 2013 and May 6, 2014. IAC recommended additional recordation and Phase IB testing of the Bryant Mill complex and/or the stone wall feature, if the final designs extends into these areas. If these resources will not be impacted, no further survey is recommended. (Exhibit X)

Findings: No Historic Properties Affected  No Adverse Effect  Adverse Effect

Agency Comments: A determination of Not Eligible has been issued by the Division of Historic Resources Determination of Eligibility Committee. (Exhibit G)

Review Completed: March 20, 2014

Advisory Council Consultation Comments (when Adverse Effects are found): \_\_\_\_\_

\_\_\_\_\_ Review Completed: \_\_\_\_\_

Mitigation (Describe): \_\_\_\_\_

**4. Section 4(f) Resources**

Public Parkland Impacts?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Permanent <input type="checkbox"/>
Public Recreational Area Impacts?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Permanent <input type="checkbox"/>
Public Wildlife/Waterfowl Refuge Impacts?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Permanent <input type="checkbox"/>
Historic Properties Impacted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Permanent <input type="checkbox"/>
LCIP Recreational Land?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Temporary <input type="checkbox"/>	Permanent <input type="checkbox"/>

Acquisition required? Yes  No  Area

Comments: A Cultural Resources of No Historic or Archaeological Properties Affected Memo has been issued by the FHWA and the NH Division of Historic Resources has concurred that no historic or archaeological properties will be affected. (Exhibit F) No other 4(f) resources exist within the project limits.

Non-acquisition use of 4(f) property (23 CFR 771.135(p)):

Noise Level Increase Yes  No  Visual Intrusion Yes  No   
 Access Restriction Yes  No  Vibration Impacts Yes  No   
 Ecological Intrusion Yes  No

Programmatic 4(f) Evaluation  Full 4(f) Evaluation  *De minimis* 4(f) Finding

For impacts to recreational 4(f) resources, obtain a statement of significance from official with jurisdiction:  
 Date Requested: \_\_\_ Date Received: \_\_\_

Construction in, across, or adjacent to a river designated as a component of, or proposed for inclusion in, the National System of Wild and Scenic Rivers? Yes  No

Comments: No 4(f) resources exist within the project area.

**5. Section 6(f) Resources**

Are there impacts to any properties acquired or improved with funds made available through Section 6(f) of the Federal Land and Water Conservation Fund Act? Yes  No  Temporary  Permanent

Recommendation received from State Liaison Officer (NH Div of Parks & Recreation)? Yes  No

Coordination with the US Department of the Interior necessary? Yes  No

Comments: The New Hampshire Department of Resources & Economic Development, Division of Parks & Recreation issued an email response stating the project will have No Anticipated Impacts to the 2 existing 6(f) sites located in Tamworth, NH (Exhibit N).

**6. Conservation Lands**

Will property obtained through the Conservation Land Stewardship Program be impacted? Yes  No   
 (Contact the CLS Program Coordinator at the NH Office of Energy Planning)

Has an application been made to CORD demonstrating compliance with RSA 162-C:6? Yes  No

Has the Land & Community Heritage Investment Program (LCHIP) been contacted about the project? Yes  No

Will any LCHIP property be impacted by the project? Yes  No

Does any other conservation land exist in the project area? Yes  No

If so, describe impacts and coordination: \_\_\_\_\_  
 \_\_\_\_\_

Comments: GranitView was used to review the project area for nearby conservations and/or public lands. No conservation lands are shown in the New Hampshire Conservation/Public Lands data layer within the project limits. (Exhibit Z)  
 A USGS location map was sent to a LCHIP Natural Resource Specialist for review. No LCHIP assets are located within or adjacent to the project area described. (Exhibit P)

**7. Wetlands/Surface Waters**

Will this project impact lands under the jurisdiction of the NH Wetlands Bureau? Yes  No

Type of permit required: Expedited  Minimum  Minor  Major

Will the project impact Prime Wetlands? Yes  No

Does this project qualify under the ACOE Programmatic General Permit? Yes  No

ACOE Individual Permit, or Section 10 Permit required? Yes  No

Landform Type	USFWS Classification	Permanent Impacts (sf)	Temporary Impacts (sf)
Perennial River	R2UB1	179	10,350
	<b>Total</b>		
<b>Non-Wetland Bank</b> <small>(Jurisdictional land adjacent to lakes, ponds, streams and rivers)</small>	Bank	860	4,674
<b>Upland Portion of the Tidal Buffer Zone</b> <small>(Land within 100' of the highest observable tide line)</small>	N/A		
<b>Prime Wetland Buffer</b> <small>(Land within 100' of a Prime Wetland)</small>	N/A		
	<b>Total</b>	1039	15,024

Estimated length of permanent impacts to banks 72 ft.  
 Estimated length of permanent impacts to channel 24 ft.  
 Estimated volume of impacts in Public Waters 0 cu. yd.  
 If waterfront project, indicate total length of shoreline frontage 248 ft.  
 If wall, riprap, beach, or similar project, indicate length of proposed shoreline impact 140 ft.

Does the project require consideration of stream crossings? Yes  No

Describe:

The project meets Tier 3 stream crossing requirements outlined in Env.-Wt. 904.04 and has been designed in accordance with Env.-Wt. 904.05. Requirements that apply to the project include a hydraulic opening larger than 1.2 times the bankfull width plus 2 feet, the structure will not alter the alignment or natural substrate of the existing stream, special considerations will be made for any rare, threatened, or endangered species during the construction of the project, and the proposed project does not have the potential to cause or increase in flooding, erosion, or sedimentation.

Describe Mitigation: Mitigation for permanent impacts are required for additional riprap placed to protect the bridge abutments. Mitigation will be provided in the form of in-lieu payment to the Aquatic Resource Mitigation (ARM) fund.

Comments: The Transcript of the Monthly Natural Resource Agency Coordination Meeting dated 3/15/17 (Exhibit O) discusses the need for a shoreland PBN for work in areas within 250 feet of the river. Placement of additional stone beyond areas that are already stone would be considered permanent impacts and would require mitigation. Mitigation will be provided through the Aquatic Resources Mitigation Fund.

Coordination Required on:

Public Waters Access?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Shoreland Protection?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Lakes Management?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wild and Scenic River?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
NH Designated River?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Comments: A Shoreland Water Quality Protection Act permit shall be filed upon completion of final design plans and prior to the start of construction. Any areas of shoreland impacts which are outside of the wetlands jurisdiction will be addressed by a Permit By Notification.

**8. Coast Guard**

Does the project involve work in navigable waters? Yes  No   
 Does the project impact a historic bridge? Yes  No   
 Does the project require a Coast Guard Permit? Yes  No

Does the project qualify under the Section 144(h) exemption? Yes  No  (if yes, include FHWA confirmation)

FHWA and/or Coast Guard Comments: \_\_\_\_\_

Comments: \_\_\_\_\_

**9. Floodplains or Floodways**

Does the proposed project encroach in the floodplain? Yes  No  Area: 5,534 SF  
Volume 0 CY

Describe: The FEMA Flood Insurance Study of Carroll County, New Hampshire, dated effective March 19, 2013, and flood history at the bridge site, were used as the basis for confirming the hydraulic adequacy of the existing bridge and setting the low chord of a new bridge (Exhibit K)

Does the proposed project encroach in the floodway? Yes  No  Area: 16,063 SF  
Volume 0 CY

Does the proposed project cause an increase in base flood elevation? Yes  No

Describe: Pages 10, 14, 23, Table 6, and the Floodway Profile taken from project Hydrologic and Hydraulic (H&H) Analysis show that the bridge can pass the 1% annual chance flood. (Exhibit L)

Coordination With FEMA Required? Yes  No

CLOMR Required? Yes  No

Comments from NH Floodplain Management Program: No construction shall take place within Zone AE unless it is demonstrated by the applicant that the cumulative effect of the proposed development will not increase the water surface elevation of the base flood more than one foot at any point within the community. (Exhibit M)

Does the project require compensation for loss of flood storage? Yes  No

Comments from US Army Corps of Engineers: \_\_\_\_\_

Comments (describe): The preferred alternative is a single span bridge, allowing for the removal of the two (2) existing pier sections in the floodway. The Hydrology and Hydraulics study that was performed determined that the existing bridge can pass the Q100 with approximately 0.5-feet of freeboard. For the proposed bridge, the existing bridge low chord will be used for establishing the grade control elevation, and the new structure will provide a clear opening width equal to or greater that the existing. Therefore, the project does not result in a loss of flood storage.

**10. Water Quality**

Aquifer present? Yes  No

Drinking Water Source Protection Area present? Yes  No

Wellhead Protection Area present? Yes  No

Public Water Supply present? Yes  No

Groundwater Impacts? Yes  No

Surface Water Impacts? Yes  No

Surface Water Impairments? Yes  No  If yes, list: \_\_\_\_\_

Outstanding Resource Waters present? Yes  No

Water Quality Certificate Required? Yes  No

Will the project disturb >100,000 sq. ft. of land (50,000 sq. ft. if within protected shoreland), or any land with a grade of 25% or greater within 50' of a surface water? Yes  No

If yes, project must comply with the NHDES Alteration of Terrain regulations. Describe compliance: The project involves replacement of a bridge over the Bearcamp River. The Bearcamp River is a 26-mile river that originates in the White Mountains to the north of the project. It flows through the project area and outlets into Ossipee Lake south of the project area. Section 303(d) of the Clean Water Act requires that states identify surface waters that are impaired by pollutants that are not expected to meet water quality standards within a reasonable time and require the development of a Total Maximum Daily Load (TMDL) study. According to the NHDES draft 2016 303(d) list (most recent available), there are no impairments listed for the Bearcamp River at the subject crossing. However, upstream of the project location the Bearcamp River is listed as an impaired surface water for aquatic life due to pH. (Exhibit AA)

Prior to the start of construction, the contractor shall be required to prepare an erosion control and Stormwater Pollution Prevention Management Plan (SWPPP). In accordance with the NH DES Alteration of Terrain (AOT) Administrative Rules Env-Wq 1500, activities that result in terrain alteration shall not cause or contribute to any violations of the surface water quality standards established in Env-Wq 1700. Per a Permit Exemption signed by NHDES and the Department in 2011, NHDOT projects are not required to obtain an AOT Permit, but must still comply with AOT regulations to the extent practicable. Permanent stormwater treatment measures are considered when a project impacts more than 100,000 square feet of land, more than 50,000 square feet within a protected shoreland, or there are impacts to any land with a grade of 25% or greater within 50 feet of a surface water. The project includes disturbing grades greater than 25% within 50' of surface water body. Therefore, AOT regulations were evaluated and construction monitoring of the project with a Stormwater Pollution Prevention Plan was determined to be sensible for protection of the Bearcamp River. Although the project will add 457 square feet of impervious area, the impacts to water quality are considered to be de minimus.

Will the project disturb greater than 1 acre of land? Yes  No

If yes, project must comply with the EPA NPDES Construction General Permit, which requires preparation of a SWPPP.

Existing Impervious Surface in project area: 24,660 SF

Proposed Impervious Surface in project area: 25,117 SF

Will permanent Best Management Practices be installed for treatment of stormwater runoff? Yes  No

Comments: The proposed increase in impervious area is very small in area and not anticipated to impact water quality. No new stormwater BMPs are proposed for this project.

**11. Noise**

Is project a Type I Highway Project? Yes  No

Are There Receptors Present? Yes  No  # of Residential \_\_\_\_ # Of Commercial \_\_\_\_

Year	Range of Noise Levels (dBA Leq)		Noise Abatement Criterion Impacts			
	Residential (R)	Commercial (C)	# Approaching		# At or Exceeding	
_____ No-Build	_____ to _____	_____ to _____	Res,	Comm	Res,	Comm
_____ Build	_____ to _____	_____ to _____	Res,	Comm	Res,	Comm
_____ No-Build	_____ to _____	_____ to _____	Res,	Comm	Res,	Comm
_____ Build	_____ to _____	_____ to _____	Res,	Comm	Res,	Comm

Will completed project increase noise levels 3 dBA or more? Yes  No   
 15 dBA or More? Yes  No

Are mitigation measures included in project? Yes  No

Explain: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Has the municipality received a copy of the traffic noise assessment? Yes  No

**12. Threatened or Endangered Species/Natural Communities**

State-Listed Threatened or Endangered species in project area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Exemplary Natural Community in project area?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Federally-Listed Threatened or Endangered species in project area?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Section 7 consultation necessary?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Impacts subject to the conditions of the Bald and Golden Eagle Protection Act?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Comments from NH Natural Heritage Bureau:

The Bureau has indicated that there are no known records of rare species or exemplary natural communities near the project area (Exhibit H). The project boundary shown on Exhibit H is graphically shifted as a result of software bugs. Correspondence with NHB indicates the project boundary used for the review is acceptable.

Comments from USFWS and/or NOAA:

USFWS has identified the Northern Long-Eared Bat (NLEB) and the Small Whorled Pogonia as threatened species within the project area (Exhibit I).

Field observations made in July 2013 indicate no presence Shagbark Hickory trees, an NLEB preferred roosting tree, within the project area. Field site visits on 7/22/16 and 4/11/17 were completed to observe the presence of the Small Whorled Pogonia, with no documented presence within the project limits. NHB did not return a result of Small Whorled Pogonia in the project area. The project area does not provide suitable habitat for the Small Whorled Pogonia with steep slopes with rock armoring, with areas that have been previously disturbed, and with limited tree canopy.

The project will include clearing, cutting, or limbing of potential NLEB summer roosting habitat (trees greater than 3" in diameter at breast height that contains cracks, crevices, cavities, or exfoliating bark) during the roosting season which will result in a Likely to Adversely Affect determination under the FHWA programmatic consultation.

A field investigation including a survey of the existing bridge for evidence of bat utilization was conducted. The bridge survey did not note any observations of evidence of bat utilization of the structure. (Exhibit J)

Mitigation (Describe): The project as proposed is in accordance with the FHWA FRA FTA Programmatic Consultation for projects in the range of IBat and NLEB. The project does not require mitigation. Additional Avoidance and Minimization Measures (AMMs) required include:

- General AMM 1 – Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) Environmental commitments, including all applicable AMMs.
- Tree Removal AMM 1 – Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent partible to avoid tree removal in excess of what is required to implement the project safely. *Note: Tree Removal AMM 1 is an avoidance measure, the full implementation of which may not always be practicable. In such cases, projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented.*
- Tree Removal AMM 3 – Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field.
- Tree Removal AMM 4 – Do not cut down documented Indiana bat or NLEB roosts (that are still suitable for roosting) or trees within 0.25 miles of roosts, or documented foraging habitat at any time of year.
- Tree Removal AMM 7 – Avoid removing documented NLEB maternity roosts and trees within 150 feet of those roosts from June 1-July 31.
- Lighting AMM 1 – Direct temporary lighting away from suitable habitat during the active season. (Exhibit Y)

**13. Wildlife and Fisheries**

Does the project impact Highest Ranked Habitat as identified by the Wildlife Action Plan?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the project impact Essential Fish Habitat?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, was an EFH Assessment completed?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does the project involve stream crossings? (Env-Wt PART 900)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

If yes, describe how the NHDES Stream Crossing Rules will be addressed:

The project meets Tier 3 stream crossing requirements outlined in Env.-Wt. 904.04 and has been designed in accordance with Env.-Wt. 904.05.

Comments from State, Federal, or private agency: Coordination has been made with the National Oceanic and Atmospheric Administration (NOAA). NOAA review determined that the project would have minimal adverse effect on EFH for Atlantic Salmon and minimal effects on other NOAA –trust resources. There are no conservation recommendations for this project. (Exhibit Q)  
 USFWS has identified the Northern Long-Eared Bat (NLEB) as a threatened species within the project area (Exhibit I).

Mitigation (Describe): In-stream construction work will be limited to occurring during low flow conditions and in accordance with review comments from NOAA.

**14. Air Quality**

Is project located in ozone nonattainment area? Yes  No   
 Is project located in carbon monoxide nonattainment area? Yes  No   
 Is project included in conformity determinations? Yes  No  Year 2013  
 Is project exempt from conformity determination? Yes  No   
 Is project exempt from CO analysis? Yes  No   
 Exemption Code (from most recent conformity document): ATT  
 Has project changed since the conformity analysis? Yes  No   
 Is project exempt from NEPA requirement to consider air quality? Yes  No

For Projects Requiring a Carbon Monoxide Microscale Analysis:

Maximum Predicted 1-Hour Concentrations (ppm):

	YEAR	CONCENTRATIONS			Yes	No
Current Year	( )	___	to ___	NAAQS Violations?	<input type="checkbox"/>	<input type="checkbox"/>
Opening Year	( ) build	___	to ___	NAAQS Violations?	<input type="checkbox"/>	<input type="checkbox"/>
Opening Year	( ) no-build	___	to ___	NAAQS Violations?	<input type="checkbox"/>	<input type="checkbox"/>
Design Year	( ) build	___	to ___	NAAQS Violations?	<input type="checkbox"/>	<input type="checkbox"/>
Design Year	( ) no-build	___	to ___	NAAQS Violations?	<input type="checkbox"/>	<input type="checkbox"/>

Comments: A conformity determination is not required as this project is consistent with the exempt projects listed in Table 2 of 40 CFR 93.126. Additionally, when completed, the project is not expected to result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative or contribute to violations of the NAAQS. It is concluded this project will not have an adverse impact on air quality.

**15. Coastal Zone**

Is the project located in the Coastal Zone? Yes  No

Has an Intergovernmental Consistency Review been completed to determine consistency with the Coastal Zone Management Act? (16 U.S.C. 1451-1464) Yes  No

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**16. Agricultural Land**

Does the project impact agricultural land? Yes  No  Active farmland? Yes  No   
 Does project area contain prime, unique, statewide or locally important farmland soils? Yes  No   
 Completion of Form AD-1006 or Form CPA-106 Required? Yes  No

Comments: The project is not subject to provisions of the Farmland Protection Policy Act(FPPA) under Part 523.11 Part C (v): Activities not subject to provision of FPPA include construction within an existing right-of-way purchased before August 4, 1984.

**17. Hazardous/Contaminated Materials**

Does the project area include sites from NHDES OneStop GIS Database? Yes  No   
 Are there sites from NHDES OneStop GIS Database within a 1,000 foot radius of the project area? Yes  No   
 Does the project involve a bridge with Asbestos Containing Material? Yes  No   
 ISA completed and attached? Yes  No  Additional investigation required? Yes  No   
 Remediation required? Yes  No

Comments: A general search was performed on the NHDES OneStop GIS database website in March 2015. No hazardous waste sites were in or near the project area at that time. Asbestos testing of the bridge structure did not reveal any presence of hazardous materials. (Exhibit R)  
 Statewide analytical data collected by NHDOT, as well as nationwide information, indicates that roadside soils commonly contain metals at concentrations above naturally occurring background conditions, and Polycyclic Aromatic Hydrocarbons (PAHs) exceeding acceptable reuse concentrations. These “Limited Reuse Soils” (LRS) excavated from within the operational right-of-way shall be addressed in accordance with applicable NHDES rules and/or waivers. Soils that are anticipated to meet the definition of LRS may be subject to management through a Soils Management Plan (SMP). Roadside soils currently managed as LRS by the Department include all topsoil within the limits of the existing right-of-way, regardless of its depth. In those instances where there is no measurable topsoil, LRS will be measured from the top of the ground to a depth of six inches.

**18. Public Participation**

Initial Contact Letters sent to local officials? Yes  No  Date 7/29/2013  
 Public Informational Meeting? Yes  No  Date 9/26/2016  
 Public Hearing Required? Yes  No  Date

Comments: Two (2) Public Informational Hearings were held on 9/26/2013 (Exhibit S) and 4/22/2014 (Exhibit T), and the project was part of the 8/21/2013 (Exhibit U), and 3/15/17 (Exhibit O) NH Natural Resource Agency Coordination Meetings

**19. Social and Economic Impacts**

Is the project consistent with local and regional land use plans? Yes  No

Describe: The project will be constructed within the existing right of way and on the existing roadway alignment.

Neighborhood and community impacts? Yes  No   
 Churches  Handicapped  
 Schools  Low Income Housing  
 Elderly  Emergency Service Facilities/Vehicles  
 Minorities  Environmental Justice (Executive Order 12898)

Describe Accommodations for Emergency Services during road closure will need consideration, as discussed in the Public Informational Hearing on 9/26/2013 (Exhibit S)

Impacts to local businesses? Yes  No  Temporary  Permanent

Describe: There are no businesses located within the project limits, however there will be impacts to businesses due to traffic being detoured. This impact will be minimized by constructing the preferred alternative, which will reduce the bridge closure time by using Accelerated Bridge Construction Methods.

**20. Environmental Justice**

Does the area affected by the proposed action contain EJ (minority, elderly, limited English proficiency, and/or low-income ) populations? Yes  No

Are the anticipated project impacts resulting from the proposed action likely to fall disproportionately on EJ populations? Yes  No

Comments: An Environmental Justice analysis was prepared by NHDOT Office of Federal Compliance with recommendations on outreach to EJ populations in the surrounding area (Exhibit V). A letter was sent to local outreach organizations informing them of the project and allowing for comments (Exhibit V).

**21. Construction Impacts**

Describe: Inconveniences to traffic due to short-term bridge closure. A detour and communications plan will be needed to coordinate closure. It is likely that aerial utilities at the Tamworth Road and Whittier Road intersection will need to be temporarily relocated and/or protected during construction.

**22. Invasive Species**

Does the project area contain invasive species prohibited under RSA 430:55 or RSA 487:16-a? Yes  No

If yes, will an Invasive Species Control and Management Plan be required during construction? Yes  No

Comments: Site visits on 7/22/16 and 4/11/17 indicated presence of Japanese knotweed. All work is to be conducted in accordance with the latest publication of the New Hampshire Department of Transportation Best Management Practices for Roadside Invasive Species.

**23. Field Inspection Comments:**

Field observations made in July 2013 indicate no presence Shagbark Hickory trees, an NLEB preferred roosting tree, within the project area. Field site visits were made to observe for the presence of the small Whorled Pogonia, with no documented presence within the project limits. Site visits on 7/22/16 and 4/11/17 indicated presence of Japanese knotweed (invasive species).

**24. Coordination**

Meeting	Date	Comments
Public Informational Meeting	9/26/2013	Exhibit S
Public Informational Meeting No. 2	4/22/2014	Exhibit T
Natural Resource Agency Meeting	8/21/2013	Exhibit U
Natural Resource Agency Meeting	3/15/2017	Exhibit O

--	--	--

**25. Environmental Mitigation and/or Commitments:**

1. Standard precautionary measures shall be taken to minimize noise and dust levels during construction. (Construction)
2. The contractor shall be required to prepare an erosion control and stormwater pollution prevention management plan (SWPPP) prior to the start of construction. BMP's shall be utilized to protect the integrity of the Bearcamp River and all wetlands in the immediate project area. (Construction)
3. Access to abutting properties shall be maintained at all times. (Bridge Design, Construction)
4. Any additional impacts beyond those identified on the plans shall be the responsibility of the contractor prior to the start of construction. It is the responsibility of the contractor to be familiar with the applicable provisions of each permit as they apply to the work and abide by those provisions during construction. (Bridge Design, Environment, Construction)
5. In-stream construction work shall be limited to occurring during low flow conditions to the maximum extent possible. (Construction, Environment)
6. All work shall be located within existing State right-of-way or easements. If the scope of work changes and necessitates work outside the right-of-way or easements, work cannot be completed without additional coordination with NHDOT Bureau of Environment. (Construction, Environment)
7. The contractor is required to submit a traffic control plan to the engineer and Town of Tamworth Public Works prior to performing any activities within the municipality's Rights-of-Way. The Town of Tamworth Police Department (603) 323-8581, Fire Department (603) 323-8874, and Highway Department (603) 323-9060 shall be notified at least 30 days in advance of bridge closure. (Construction)
8. The project area contains invasive plants listed on the NH List of Prohibited Invasive Species (AGR PART 3802.01 and Env-Wq 1300): Japanese knotweed (*Reynoutria japonica*). Prior to construction, all appropriate BMPs shall be summarized in an Invasive Species Control and Management Plan to describe measures that will be taken during construction to avoid spreading the plants to new sites. All work is to be conducted in accordance with the latest publication of the New Hampshire Department of Transportation Construction Standards and the New Hampshire Department of Transportation Best Management Practices for Roadside Invasive Species. (Construction, Environment)
9. All permit conditions shall be met. Mitigation for permanent wetlands impacts shall be provided through Aquatic Resource Mitigation (ARM) Fund. (Construction, Environment)
10. Limited Reuse Soils (LRS) excavated from within the operational ROW shall be addressed in accordance with applicable NHDES rules and/or waivers. (Construction, Environment, Design)
11. All sightings of dead or sick bats shall be immediately reported to the Bureau of Environment (name, 271-3226). (Construction)
12. The Northern Long-Eared Bat Flyer shall be shared with all operators, employees, and contractors working on the project and operators, employees, and contractors shall be made aware of all applicable environmental commitments. (Construction)
13. The Contractor shall ensure tree removal (any tree >3 inch dbh) is limited to that specified in project plans. Bright colored flagging or fencing shall be installed prior to any tree clearing to ensure contractors stay within clearing limits. (Construction)
14. Where practicable, minimize lighting directed into forested habitat during the NLEB active season (April 15<sup>th</sup> to August 31<sup>st</sup>). (Construction)
15. If bridge work will be initiated after 4/11/19 (two years after initial bridge inspection), inspection of the bridge/structure for the presence of, or evidence of use by, bats shall be completed prior to any work on the bridge/structure. If a bridge inspection is necessary, the Contractor shall notify the Bureau of Environment no later than fourteen (14) business days prior to the start of work on the bridge/structure to provide adequate time for inspection. If bats are found to be present, or if there is evidence of bat usage, work at the bridge/structure shall not commence until after the Bureau of Environment has completed coordination with the US Fish and Wildlife Service to determine the appropriate follow up or mitigative actions. (Construction, Environment)

Note: When appropriate, more detailed descriptions of resources and an explanation of the impact analysis should be attached to this form.

**LIST OF EXHIBITS**

- Exhibit A: Proposed Improvement Plan
- Exhibit B: Alternative No. 1 Plan and Typical Sections (2 sheets)
- Exhibit C: Alternative No. 2 Plan, Profile, and Typical Sections (The Preferred Alternative) (3 sheets)
- Exhibit D: Alternative No. 3 Plan, Profile, and Typical Sections (3 sheets)
- Exhibit E: Alternative No. 4 General Plan, Survey Plan, and Section (3 sheets)
- Exhibit F: Cultural Resources Effect Memo
- Exhibit G: NH Division of Historic Resources Determination of Eligibility (4 sheets)
- Exhibit H: NH Natural Heritage Bureau Review (2 sheets)
- Exhibit I: US Fish and Wildlife Service Review (6 sheets)
- Exhibit J: Bridge Assessment (2 sheets)
- Exhibit K: Flood Insurance Rate map
- Exhibit L: Hydrologic and hydraulic analysis (5 sheets)
- Exhibit M: Response from National Flood Insurance Program (2 sheets)
- Exhibit N: Email from DRED confirming 6(f) sites in Tamworth (2 sheets)
- Exhibit O: Transcript of NH Natural Resource Agency Coordination Meeting held 3/15/2017 (2 sheets)
- Exhibit P: Response from LCHIP (2 sheets)
- Exhibit Q: Email from Mike R. Johnson - NOAA Federal
- Exhibit R: Asbestos Report (2 sheets)
- Exhibit S: Transcript of Public Informational Meeting held 9/26/2013 (2 sheets)
- Exhibit T: Transcript of Public Informational Meeting held 4/22/2014 (2 sheets)
- Exhibit U: Transcript of NH Natural Resource Agency Coordination Meeting held 8/21/2013 (2 sheets)
- Exhibit V: Environmental Justice Documentation and Outreach Letters (7 sheets)
- Exhibit W: Photographs (5 Sheets)
  - Exhibit W1: Approach from the South
  - Exhibit W2: Approach from the North
  - Exhibit W3: View of Southwest Quadrant
  - Exhibit W4: View of Southeast Quadrant
  - Exhibit W5: View of Northeast Quadrant
  - Exhibit W6: View of Northwest Quadrant
  - Exhibit W7: Full Bridge View from the East
  - Exhibit W8: Full Bridge View from the West
  - Exhibit W9: Stone wall downstream of bridge on North bank
  - Exhibit W10: Stone mill foundation upstream of bridge on North bank
- Exhibit X: Phase IA Archaeological Sensitivity Assessment (40 sheets)
- Exhibit Y: USFWS Correspondence (19 Sheets)
- Exhibit Z: Conservation Land Map
- Exhibit AA: Impairments Map