

# STATE OF NEW HAMPSHIRE INTER-DEPARTMENT COMMUNICATION

**DATE:** August 10, 2022

**FROM:** Joshua Brown  
Wetlands Program Analyst

**AT (OFFICE):** Department of  
Transportation

**SUBJECT** Dredge & Fill Application  
Conway, 44038

Bureau of  
Environment

**TO** Karl Benedict, Public Works Permitting Officer  
New Hampshire Wetlands Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT District 3 for the subject major impact project. The project is located along NH Route 153 in the Town of Conway, NH. The proposed Work on the 5'W x 5.3'H x 25'L granite block culvert includes the following: repointing the granite blocks along the culvert's barrel, extending the culvert's top slab on both the inlet and outlet to move the headwalls away from the travel way, replace in kind the SW wingwall, rehabilitate the remaining 3 wingwalls, and armor the downstream channel with scour countermeasures.

This project was reviewed at the Natural Resource Agency Coordination Meeting on July 20, 2022. A copy of the minutes has been included with this application package. A copy of this application and plans can be accessed on the Departments website via the following link: <http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm>.

NHDOT anticipates and request that this project be reviewed and permitted by the Army Corp of Engineers through the State Programmatic General Permit process. A copy of the application has been sent to the Army Corp of Engineers.

Mitigation was determined to not be required as the proposed work is for the protection of existing infrastructure.

The lead people to contact for this project are Samantha Fifield, NHDOT District 3 (524-6667 or [Samantha.D.Fifield@dot.nh.gov](mailto:Samantha.D.Fifield@dot.nh.gov)) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or [Andrew.O'Sullivan@dot.nh.gov](mailto:Andrew.O'Sullivan@dot.nh.gov)).

A payment voucher has been processed for this application (Voucher # 691222) in the amount of \$666.80.

If and when this application meets with the approval of the Bureau, please send the permit directly to Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment.

JRB;  
cc:  
BOE Original  
Town of Conway (4 copies via certified mail)  
David Trubey, NH Division of Historic Resources (Cultural Review Within)  
John Magee, NH Fish & Game (via electronic notification)  
Maria Tur, US Fish & Wildlife (via electronic notification)  
Jeanie Brochi, US Environmental Protection Agency (via electronic notification)  
Michael Hicks & Rick Kristoff, US Army Corp of Engineers (via electronic notification)  
Kevin Nyhan, BOE (via electronic notification)



# STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management  
Wetlands Bureau  
[Check the Status of your Application](#)



**RSA/Rule:** RSA 482-A/Env-Wt 100-900

**APPLICANT'S NAME:** NH Department of Transportation **TOWN NAME:** Conway

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the [Waiver Request Form](#).

<b>SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))</b>	
Please use the <a href="#">Wetland Permit Planning Tool (WPPT)</a> , the Natural Heritage Bureau (NHB) <a href="#">DataCheck Tool</a> , the <a href="#">Aquatic Restoration Mapper</a> , or other sources to assist in identifying key features such as: <a href="#">priority resource areas (PRAs)</a> , <a href="#">protected species or habitats</a> , coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&amp;G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04.</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Protected species or habitat?                             <ul style="list-style-type: none"> <li>○ If yes, species or habitat name(s): <input style="width: 100px;" type="text"/></li> <li>○ NHB Project ID #: <input style="width: 100px;" type="text" value="NHB22-0013"/></li> </ul> </li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Bog?	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Designated prime wetland or duly-established 100-foot buffer?	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Name of Local River Management Advisory Committee (LAC): <input style="width: 100px;" type="text"/></li> <li>• A copy of the application was sent to the LAC on Month: <input style="width: 30px;" type="text"/> Day: <input style="width: 30px;" type="text"/> Year: <input style="width: 30px;" type="text"/></li> </ul>	

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

For dredging projects, is the subject property contaminated? • If yes, list contaminant: <input type="text"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
For stream crossing projects, provide watershed size (see <a href="#">WPPT</a> or Stream Stats): <input type="text" value="2.17 sq mi"/>	
<b>SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))</b>	
Provide a <b>brief</b> description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.	
<p>The project will rehabilitate the NH Route 153 over Page Randal Brook culvert (and wingwalls) as the culvert and wingwalls have deteriorated. Work on the 5'W x 5.3'H x 25'L granite block culvert includes the following: repointing the granite blocks along the culvert's barrel, extending the culvert's top slab on both the inlet and outlet to move the headwalls away from the travel way, replace in kind the SW wingwall, rehabilitate the remaining 3 wingwalls, and armor the downstream channel with scour countermeasures.</p>	
<b>SECTION 3 - PROJECT LOCATION</b>	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: <input type="text" value="NH Route 153 over Page Randall Brook"/>	
TOWN/CITY: <input type="text" value="Conway"/>	
TAX MAP/BLOCK/LOT/UNIT: <input type="text" value="DOT ROW"/>	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: <input type="text" value="Page Randall Brook"/> <input type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): <input type="text" value="43.963483° North"/> <input type="text" value="71.106061° West"/>	

<b>SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))</b>		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: NH Department of Transportation, Samantha D. Fifield		
MAILING ADDRESS: 2 Sawmill Road		
TOWN/CITY: Gilford	STATE: NH	ZIP CODE: 03249
EMAIL ADDRESS: samantha.d.fifield@dot.nh.gov		
FAX: 603-524-8027	PHONE: 603-524-6667	
ELECTRONIC COMMUNICATION: By initialing here: SDF, I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))</b>		
<input checked="" type="checkbox"/> N/A		
LAST NAME, FIRST NAME, M.I.: [REDACTED]		
COMPANY NAME: [REDACTED]		
MAILING ADDRESS: [REDACTED]		
TOWN/CITY: [REDACTED]	STATE: [REDACTED]	ZIP CODE: [REDACTED]
EMAIL ADDRESS: [REDACTED]		
FAX: [REDACTED]	PHONE: [REDACTED]	
ELECTRONIC COMMUNICATION: By initialing here [REDACTED], I hereby authorize NHDES to communicate all matters relative to this application electronically.		
<b>SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))</b>		
If the owner is a trust or a company, then complete with the trust or company information.		
<input type="checkbox"/> Same as applicant		
NAME: NH Department of Transportation, Andrew O'Sullivan		
MAILING ADDRESS: 7 Hazen Drive; PO Box 483		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
EMAIL ADDRESS: Andrew.M.OSullivan@dot.nh.gov		
FAX: 603-271-7199	PHONE: 603-271-3226	
ELECTRONIC COMMUNICATION: By initialing here AMO, I hereby authorize NHDES to communicate all matters relative to this application electronically.		



### SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

Env-Wt 400: The bank and waterway features were delineated and classified by Matt Urban on 9/16/2021 in accordance with Env-Wt 406. Temporary and permanent impacts are to Riverrine, lower perennial, unconsolidated bottom, cobble-gravel (R2UB1) and banks.

Env-Wt 500: Project is maintenance of a public highway under Env-Wt 527.

Env-Wt 600: The project is not located on the coast.

Env-Wt 700: The project area does not impact a prime wetland or regulatory prime wetland buffer.

Env-Wt 900: This project qualifies under Env-Wt 904.09 as the existing crossing does not have a history of overtopping the roadway and the existing culvert:

- Meets the general criterial specified in Env-Wt 904.01;
- Maintains the hydraulic capacity of the stream crossing;
- Maintains the capacity of the crossing to accommodate aquatic organism passage;
- Maintains the connectivity of the of the stream reaches upstream and downstream of the crossing;
- Does not contribute to increases in the frequency of flooding or overtopping the banks upstream or downstream of the crossing.

### SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).\* Any project with unavoidable jurisdictional impacts must then be minimized as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#) and the [Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet](#). For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).\*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the [Avoidance and Minimization Checklist](#), the [Avoidance and Minimization Narrative](#), or your own avoidance and minimization narrative.

*\*See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

### SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation [pre-application meeting](#) must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: 7 Day: 20 Year: 2022

N/A - Mitigation is not required)

### SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable:  I confirm submittal.

N/A – Compensatory mitigation is not required)

**SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))**

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/ivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River	467	25	<input type="checkbox"/>	561	50	<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>	639	96	<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>		<b>467</b>	<b>25</b>		<b>1200</b>	<b>146</b>	

**SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)**

**MINIMUM IMPACT FEE:** Flat fee of \$400.

**NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).

**MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	1667 SF	× \$0.40 =	\$ 666.80
Seasonal docking structure:	SF	× \$2.00 =	\$
Permanent docking structure:	SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =			\$
Total =			\$ 666.80

[lrn@des.nh.gov](mailto:lrn@des.nh.gov) or (603) 271-2147

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[www.des.nh.gov](http://www.des.nh.gov)

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 666.80

**SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)**  
 Indicate the project classification.

Minimum Impact Project     
  Minor Project     
  Major Project

**SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)**

Initial each box below to certify:

Initials: SDF [Redacted] [Redacted]	To the best of the signer's knowledge and belief, all required notifications have been provided.
--	--

Initials: SDF [Redacted] [Redacted]	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
--	--

Initials: SDF [Redacted] [Redacted]	The signer understands that: <ul style="list-style-type: none"> <li>• The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:                         <ol style="list-style-type: none"> <li>1. Deny the application.</li> <li>2. Revoke any approval that is granted based on the information.</li> <li>3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.</li> </ol> </li> <li>• The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.</li> <li>• The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.</li> </ul>
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Initials: SDF [Redacted] [Redacted]	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.
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**SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)**

SIGNATURE (OWNER): <i>Samantha D. Fifield</i>	PRINT NAME LEGIBLY: Samantha D. Fifield	DATE: 08-05-2022
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): [Redacted]	PRINT NAME LEGIBLY: [Redacted]	DATE: [Redacted]
SIGNATURE (AGENT, IF APPLICABLE): [Redacted]	PRINT NAME LEGIBLY: [Redacted]	DATE: [Redacted]

**SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))**

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: [Redacted]	PRINT NAME LEGIBLY: Exempt, State Agency per RSA 482-A:31(a)(1)
--	--

TOWN/CITY: <input type="text"/>	DATE: <input type="text"/>
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**DIRECTIONS FOR TOWN/CITY CLERK:**

Per RSA 482-A:3, I(a)(1)

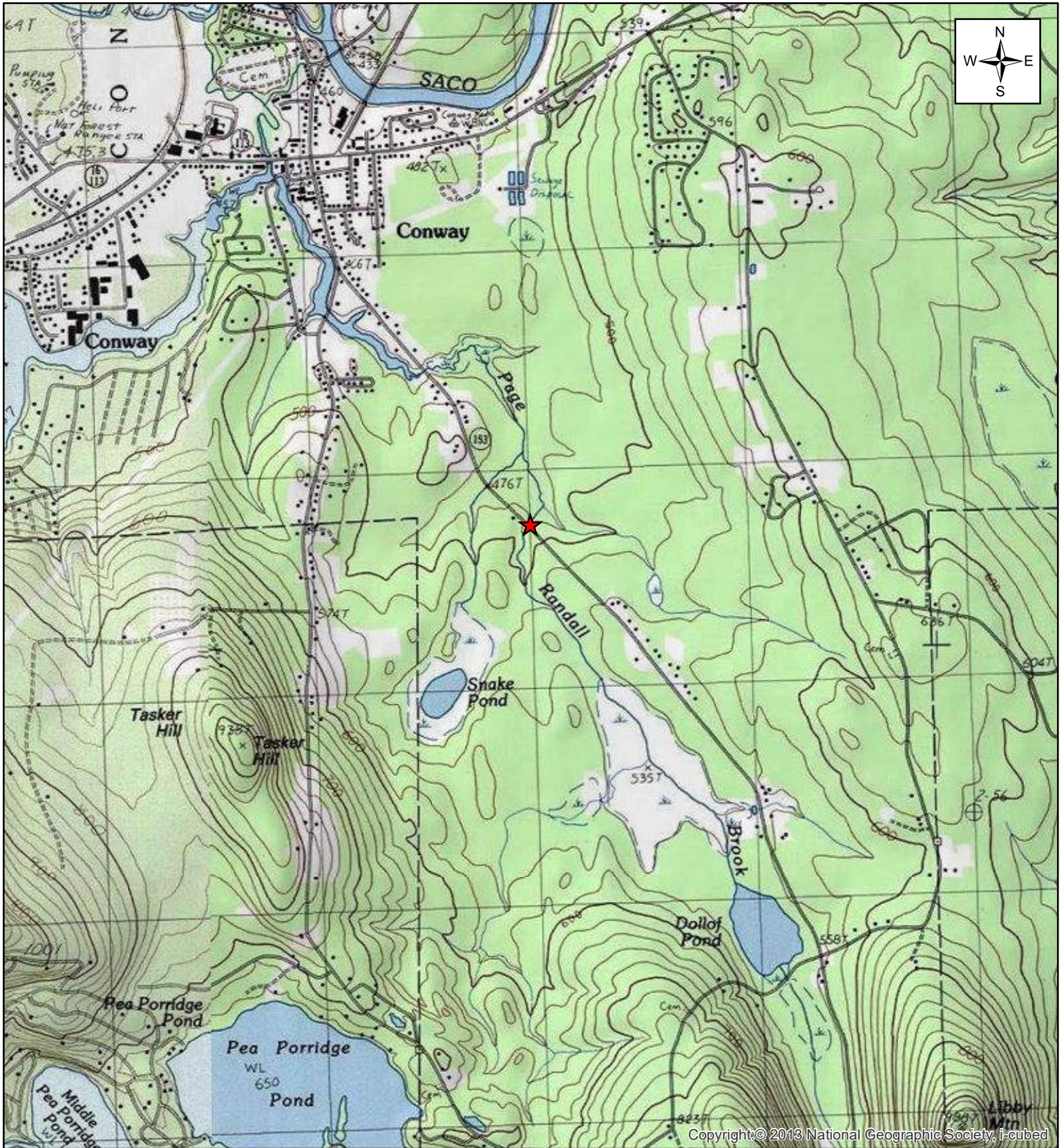
1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

**DIRECTIONS FOR APPLICANT:**

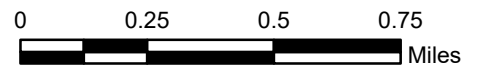
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".



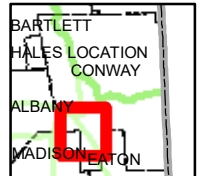
# Conway, 2019-M301-2



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1:24,000



## Legend

- ★ Project Location

Map depicting culvert repair project which carries NH Route 153 over Randall Brook in Conway.

Map created by: Arin Mills on 11/14/2019

Source: S:\Environment\PROJECTS\CONWAY\2019-M301-2





STANDARD DREDGE AND FILL  
WETLANDS PERMIT APPLICATION  
ATTACHMENT A: MINOR AND MAJOR PROJECTS



Water Division/Land Resources Management  
Wetlands Bureau

[Check the Status of your Application](#)

**RSA/ Rule:** RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

**APPLICANT'S NAME:** NH Department of Transportation **TOWN NAME:** Conway

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the [Avoidance and Minimization Narrative](#) or [Checklist](#) that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

**PART I: AVOIDANCE AND MINIMIZATION**

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#).

**SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))**

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

THIS IS A MAINTENANCE PROJECT, AND AS SUCH, THE ONLY LESS INVASIVE ALTERNATIVE IS TO DO NOTHING. DOING NOTHING WILL ALLOW THE EXISTING STRUCTURE TO CONTINUE DETERIORATING, WHICH OVER TIME WILL REQUIRE A FULL REPLACEMENT.

**SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))**

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

This project will not impact a marsh.

**SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))**

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

The project maintains an existing structure and will maintain the existing area of opening. Existing hydrologic connections will be maintained.

**SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))**

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

This is a culvert maintenance project; most impacts will be temporary in nature. A downstream scour hole will be armored, which will prevent stream erosion during high flow events. The clean water bypass utilized during construction activities will allow for fish passage. Cofferdams will be installed prior to October 1<sup>st</sup> and maintained until October 31<sup>st</sup> to prevent trout spawning within the work area. At the July 20, 2022 Natural Resource Agency meeting John Magee of NHFG requested layering of mixed size material to allow spaces to be filled throughout the fill depth. A layering of streambed simulation, as depicted in the attached scour countermeasure plan, will be used for scour protection to maintain aquatic organism passage. Work can be completed predominantly from the banks. Only temporary scaffolding may be on the streambed.

**SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))**

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

This project will have no effect on public commerce, navigation, or recreation.



**SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))**

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

This project does not impact floodplain wetlands.

**SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))**

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

This project will minimize as much as practicable all impacts to the streambed. The majority of the impacts are for erosion control and are temporary in nature. The permanent impacts are associated with scour armoring.

**SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))**

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

This project will not impact the local drinking water supply or groundwater aquifer levels.

**SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))**

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

Once the rehabilitation is completed. Pre and post conditions will be just about the same. Repointing the granite curb, within the culvert's barrel, will reduce the manning's roughness of the structure and slightly increase outletting velocities. Downstream stone will be provided to mitigate for the velocity of flow during high flow events.

**SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))**

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

N/A- No shoreline structures proposed

**SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))**

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

N/A- No shoreline structures proposed

**SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))**

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

N/A- No shoreline structures proposed

**SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))**

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

N/A- No shoreline structures proposed

**SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))**

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

N/A- No shoreline structures proposed

**SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))**

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

N/A- No shoreline structures proposed

<b>PART II: FUNCTIONAL ASSESSMENT</b>	
<b>REQUIREMENTS</b>	Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).
<b>FUNCTIONAL ASSESSMENT METHOD USED:</b>	A stream crossing was performed using the NH Stream Crossing Guidelines
<b>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT:</b>	MATT URBAN
<b>DATE OF ASSESSMENT:</b>	9/16/2021
Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:	<input type="checkbox"/>
For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable:	<input checked="" type="checkbox"/>
Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.	



**AVOIDANCE AND MINIMIZATION CHECKLIST**  
 Water Division/Land Resources Management  
 Wetlands Bureau



[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in [Attachment A: Minor and Major Projects \(NHDES-W-06-013\)](#)).

The following definitions and abbreviations apply to this worksheet:

- “A/M BMPs” stands for [Wetlands Best Management Practice Techniques for Avoidance and Minimization](#) dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION		
APPLICANT LAST NAME, FIRST NAME, M.I.: NH Department of Transportation, Samantha D. Fifield		
PROJECT STREET ADDRESS: NH 153 over Page Randall Brook	PROJECT TOWN: Conway	
TAX MAP/LOT NUMBER: NA		
SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed:</p> <p>The project will rehabilitate the NH Route 153 over Page Randal Brook culvert (and wingwalls) as the culvert and wingwalls have deteriorated. Work on the 5'Wx5.3'Hx25'L granite block culvert includes the following: repointing the granite blocks along the culvert's barrel, extending the culvert's top slab on both the inlet and outlet to move the headwalls away from the travel way, replace in kind the SW wingwall, rehabilitate the remaining 3 wingwalls, and armor the downstream channel with scour countermeasures.</p>		

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<b>SECTION 3 - A/M PROJECT DESIGN TECHNIQUES</b>		
Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

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A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
<b>SECTION 4 - NON-TIDAL SHORELINE STRUCTURES</b>		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

## **Conway 2019-M301-2**

### **Natural Resource Agency Meeting Minutes**

**July 20, 2022**

**Presenters: Samantha Fifield, Arin Mills**

Arin presented the state funded and executed culvert repair project to a box culvert which carries NH 153 over Page Randall Brook. Page Randall Brook flows ~ 2.2 miles from Libby Mtn to the site, and from the crossing ~ 0.75 miles into Pequawket Pond near the Center of Conway. The Pequawket Pond Dam then enters the Swift River, near the convergence with the Saco River. The location is in a rural area adjacent to DOT Patrol Shed 301, and in the footpath of the previously planned Conway bypass project. Photos were shown of the project site.

Sam described that the purpose of the project is to address roadway safety issues: the existing headwalls are near the travel lane and the guardrail is obsolete. The project will include repointing of existing culvert barrel blocks, full in-kind replacement of the SW wing (inlet), rehab of the remaining 3 wing walls, install top slab extensions over the inlet and the outlet of the culvert to increase shoulder width next to the roadway, and install scour protection at the outlet.

Sam described that construction of the scour protection will include: removal of existing stream bed material within the footprint of the scour pool to a depth of 4' (this material will be stockpiled adjacent to the site for immediate reuse), fill the excavated hole with Class B stone in 12" lifts (stockpiled stream bed material will be used to fill voids between the stone), grade streambed material over the top of the stone to match the invert elevation at the culvert outlet.

The project will be permitted to meet Env-Wt 904.09 as the existing crossing does not have a history of overtopping and will not contribute to flooding. Env-Wt 904.01 will be met, and the crossing will continue to pass the 100-year storm, maintain AOP and connectivity. Draft impact plans were shown where temporary impacts for access and permanent impacts for scour protection at outlet were shown. Approx. 1,700 sf of total impacts are anticipated. The concrete slab extension will be installed over the rehabbed wings and will not result in permanent impacts to the stream. The construction sequence was reviewed to include work starting in the fall with installation of Erosion Control (EC) measures and the clean water bypass pipe (CWB). The structure will be rehabilitated during the winter. Scour stone will also be installed during the winter. During the spring, after the spring thaw, the CWB pipe will be removed, and guardrail will be installed. Next, all temporary EC measures will be removed, and the site will be permanently stabilized. A draft EC plan was shown to include location of dewatering basin/pump, Clean Water Bypass (CWB), perimeter control and sandbag cofferdam.

Arin described the results of the Environmental review which determined Page Randall Brook to be a 3<sup>rd</sup> order stream (no SWQPA), Tier 3 crossing (1,389 ac watershed), no designated river nearby, no previous permits, no rare species occurrence records (NHB22-0013), and no FEMA floodplain. The Brook is a documented Easter Brook Trout (EBT) stream and the crossing has a 0.2' perch, 20' wide x 25' long x 3' deep pool at outlet with an existing concrete invert lining. Arin showed additional data collected in July on the scour pool with a primarily sand (60%) and boulder (20%) substrate with a max water depth of ~

2' near the end of the pool at bankfull and 1.5' in low flow. The stream assessment of the reach determined a max bankfull width of 10', substrate primarily gravel (70%) and cobble (15%), Rosgen type 'C' and compliant size of 14'. Wildlife Action Plan (WAP) showed surrounding highest ranked habitat and wildlife corridor. USFWS determined potential Northern long-eared bat with 4(d) consistency letter generated, no cultural Section 106 concerns and no US Coast Guard concerns.

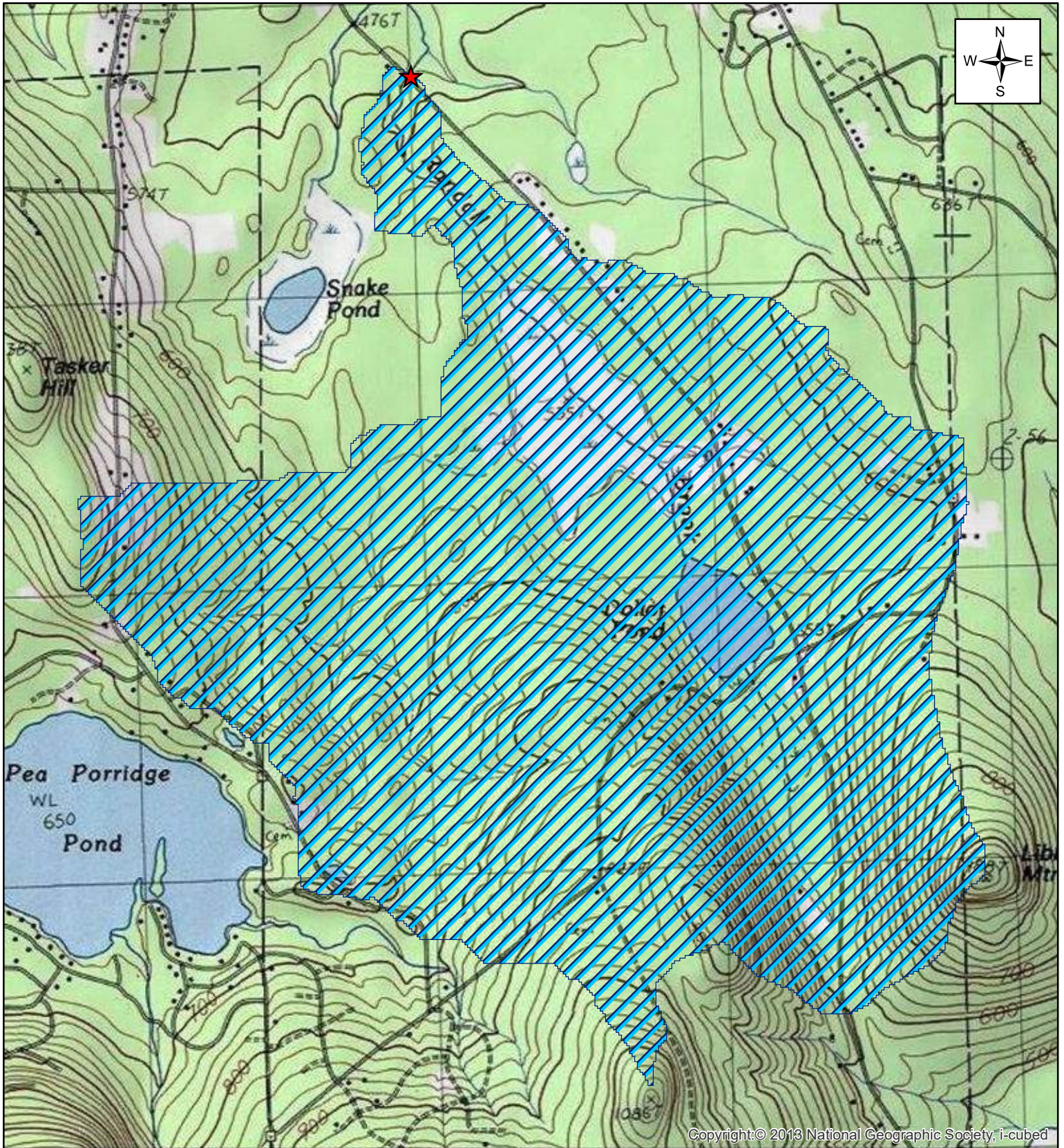
Karl B confirmed that this project can be permitted under Env-Wt 904.09. A cross section and longitudinal profile was requested to be submitted with the application to better understand the pre and post construction elevations of the crossing. Karl asked if there were any permanent impacts anticipated along the banks for access? Sam stated that most of the work on the wings and extension will be done from behind the wings. However, all areas within the site that is impacted by equipment will be graded and seeded to pre-construction conditions. Karl mentioned limiting the spread of invasive species and Sam acknowledged. Arin noted no invasive plants were observed in the project area. Karl noted the high composition of cobble in the reach and recommended using similar size stone at the outlet to ensure the material stays in place. Sam acknowledges and said that the stone size intended for the outlet, Class B, is similar in size.

Lori S said no mitigation is required, as proposed. John M asked about the water depth after scour protection stone was installed. Sam said the fill would match the downstream and invert elevation. John asked if the mixed size material could be layered as to allow the spaces to be filled throughout the fill depth. Sam said layering of material is planned. John further asked if stone could be placed slightly above the outlet elevation to allow for backwatering through the structure at low flow. Sam said she would look into that and would need to ensure the hydraulic capacity of the structure is not impacted. John lastly discussed timing as to protect eggs that may be lying on the pool substrate from spawning ahead of construction and not allowing potential eggs to dry out with installation of the CWB and cofferdam. Sam said she could install the cofferdam ahead of October 1<sup>st</sup> as to preclude spawning within the work area.

Amy Lamb, Jean Broch and Rick Kristoff all had no comment.





# Conway, 2019-M301-2



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## Legend

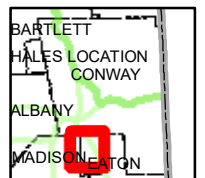
-  Project Location
-  Watershed

Map depicting culvert repair project which carries NH Route 153 over Randall Brook in Conway.

Map created by: Arin Mills on 12/14/2021

Source: S:\Environment\PROJECTS\CONWAY\2019-M301-2

1:18,000





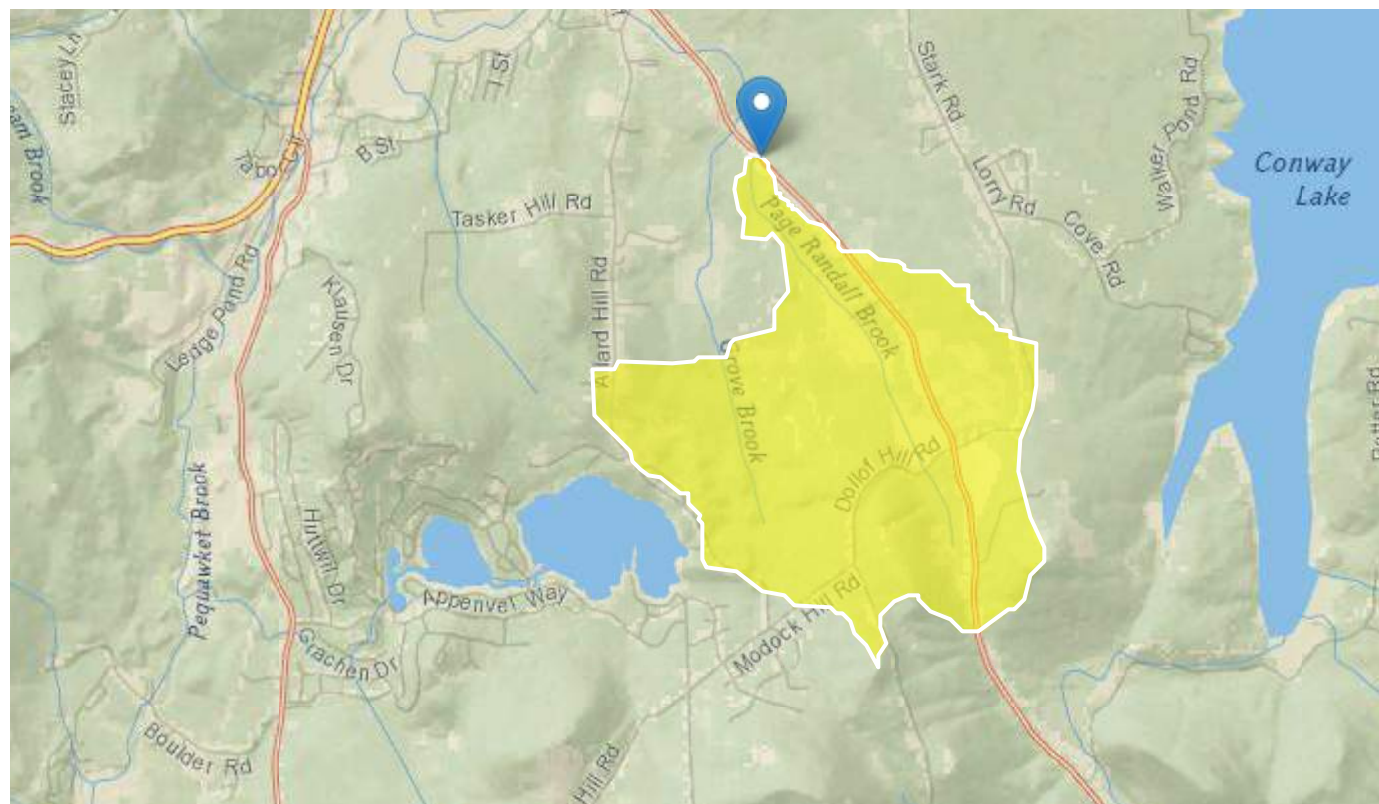
# StreamStats Report- Conway 2019-M301-2

Region ID: NH

Workspace ID: NH20211213193523780000

Clicked Point (Latitude, Longitude): 43.96349, -71.10611

Time: 2021-12-13 14:35:43 -0500



## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.17	square miles
APRAVPRE	Mean April Precipitation	4.127	inches
WETLAND	Percentage of Wetlands	12.9054	percent
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	113	feet per mi

Peak-Flow Statistics Parameters [Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.17	square miles	0.7	1290
APRAVPRE	Mean April Precipitation	4.127	inches	2.79	6.23
WETLAND	Percent Wetlands	12.9054	percent	0	21.8
CSL10_85	Stream Slope 10 and 85 Method	113	feet per mi	5.43	543

Peak-Flow Statistics Flow Report [Peak Flow Statewide SIR2008 5206]

Pll: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	Pll	Plu	ASEp	Equiv. Yrs.
50-percent AEP flood	58.3	ft <sup>3</sup> /s	35.5	95.8	30.1	3.2
20-percent AEP flood	101	ft <sup>3</sup> /s	60.7	168	31.1	4.7
10-percent AEP flood	137	ft <sup>3</sup> /s	80.6	233	32.3	6.2
4-percent AEP flood	186	ft <sup>3</sup> /s	106	327	34.3	8
2-percent AEP flood	227	ft <sup>3</sup> /s	125	412	36.4	9
1-percent AEP flood	277	ft <sup>3</sup> /s	148	520	38.6	9.8
0.2-percent AEP flood	398	ft <sup>3</sup> /s	195	812	44.1	11

*Peak-Flow Statistics Citations*

**Olson, S.A.,2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S.Geological Survey Scientific Investigations Report 2008-5206, 57 p. (<http://pubs.usgs.gov/sir/2008/5206/>)**

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Application Version: 4.6.2

StreamStats Services Version: 1.2.22

NSS Services Version: 2.1.2

New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report

Project: Conway, 2019-M301-2

Date of Assessment: 9/16/2021

Names of who completed the assessment: Matt Urban, Arin Mills & Joseph Jorgens

Stream Information:

Stream Name: Page Randall Brook

Stream Tier: Tier 3

Watershed Area: 1,389 acres

Wetland Classification: R2UB1

Reference Reach:

Average Bankfull Width: 10'

Average Slope: 2%

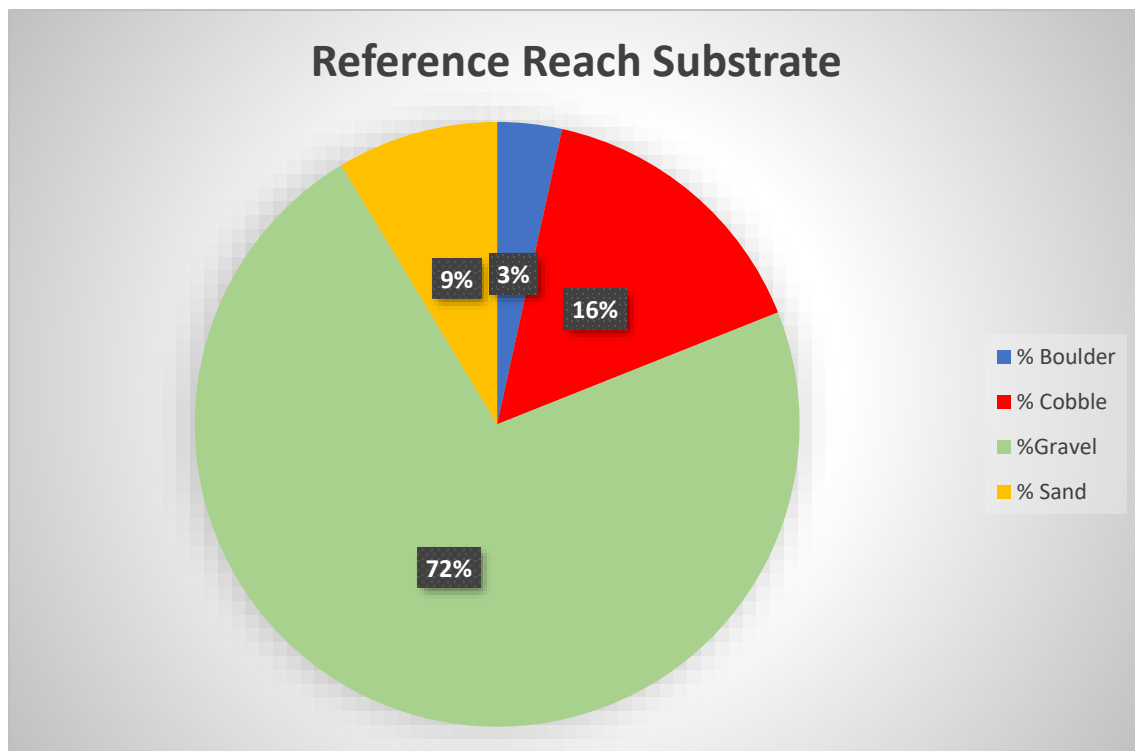
Average Floodprone Width: 70'

Entrenchment Ratio: 7.27

Average Depth: 1.0'

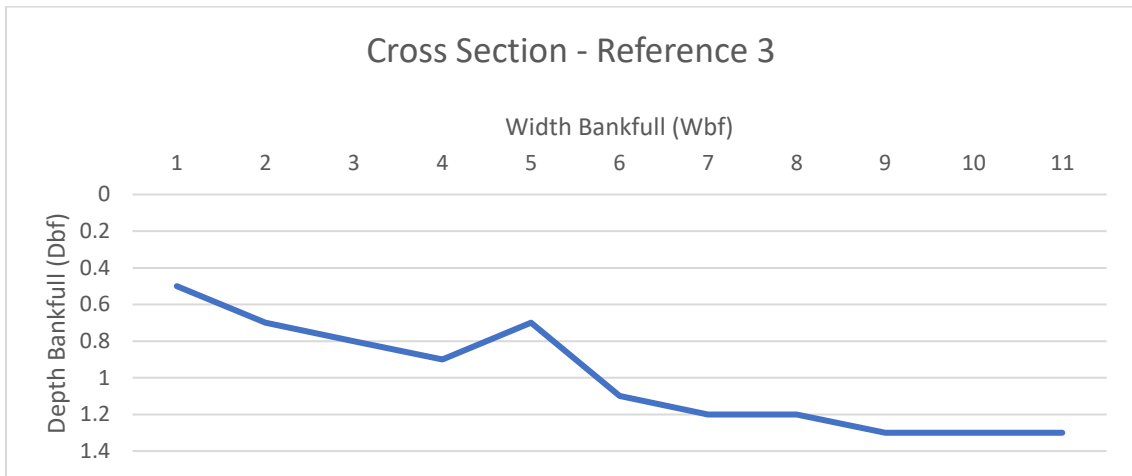
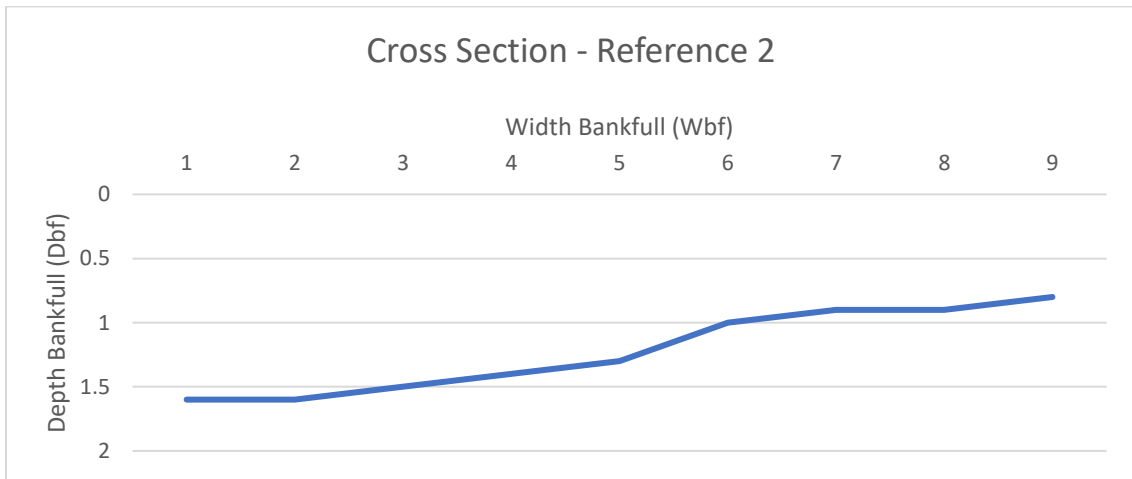
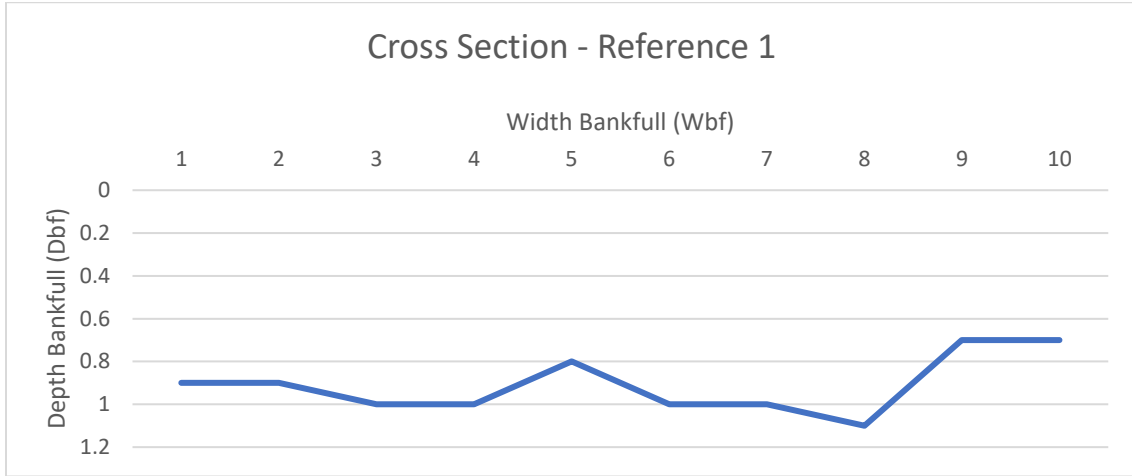
Rosgen Classification: Type C

Channel Material (Average Reference Reach):





**New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report  
Cross Sections:**



New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report

Photos:



Photo 1: Outlet looking upstream



Photo 2: Outlet looking downstream



New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report



Photo 3: Inlet looking downstream



Photo 4: Inlet looking upstream



**New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report**



**Photo 5: Reference Reach One**



**Photo 6: Reference Reach Two**

**New Hampshire Department of Transportation  
Bureau of Environment  
Stream Crossing Summary Report**



**Photo 7: Reference Reach Three**





# WETLANDS PERMIT APPLICATION STREAM CROSSING WORKSHEET

Water Division/Land Resources Management  
Wetlands Bureau



**RSA/Rule** RSA 482-A/ Env-Wt-900

This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

<b>SECTION 1 - TIER CLASSIFICATIONS</b>	
Determine the contributing watershed size at <a href="#">USGS StreamStats</a> .	
Note: Plans for tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.	
Size of contributing watershed at the crossing location: 1,389 acres	
<input type="checkbox"/> <b>Tier 1:</b> A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres.	
<input type="checkbox"/> <b>Tier 2:</b> A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres.	
<input checked="" type="checkbox"/> <b>Tier 3:</b> A tier 3 stream crossing is a crossing that meets <b>any</b> of the following criteria: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> On a watercourse where the contributing watershed is more than 640 acres.</li> <li><input type="checkbox"/> Within a <a href="#">designated river corridor</a> unless:                         <ul style="list-style-type: none"> <li>a. The crossing would be a tier 1 stream based on contributing watershed size, or</li> <li>b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT.</li> </ul> </li> <li><input type="checkbox"/> Within a <a href="#">100-year floodplain</a> (see Section 2 below).</li> <li><input type="checkbox"/> In a jurisdictional area having any protected species or habitat (<a href="#">NHB DataCheck</a>).</li> <li><input type="checkbox"/> In a prime wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706. Review the <a href="#">Wetlands Permit Planning Tool (WPPT)</a> for town prime wetland and prime wetland buffer maps to determine if your project is within these areas.</li> </ul>	
<input type="checkbox"/> <b>Tier 4:</b> A tier 4 stream crossing is a crossing located on a tidal watercourse.	
<b>SECTION 2 - 100-YEAR FLOODPLAIN</b>	
Use the <a href="#">FEMA Map Service Center</a> to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:	
<input checked="" type="checkbox"/> <b>No:</b> The proposed stream crossing <i>is not</i> within the FEMA 100-year floodplain.	
<input type="checkbox"/> <b>Yes:</b> The proposed project <i>is</i> within the FEMA 100-year floodplain. Zone = <input type="text"/> Elevation of the 100-year floodplain at the inlet: <input type="text"/> feet (FEMA El. or Modeled El.)	
<b>SECTION 3 - CALCULATING PEAK DISCHARGE</b>	
Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 453 CFS	Calculation method: <input type="text" value="HydroCAD-TR20"/>
Estimated bankfull discharge at the crossing location: 355 CFS	Calculation method: <input type="text" value="HydroCAD-TR20"/>

[lrn@des.nh.gov](mailto:lrn@des.nh.gov) or (603) 271-2147

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➔ **Note: If tier 1, then skip to Section 10** ➔

**SECTION 4 - PREDICTED CHANNEL GEOMETRY BASED ON REGIONAL HYDRAULIC CURVES**

*For tier 2, tier 3 and tier 4 crossings only.*

Bankfull Width: 18.3 feet      Mean Bankfull Depth: 1.6 feet

Bankfull Cross Sectional Area: 28.9 square feet (SF)

**SECTION 5 - CROSS SECTIONAL CHANNEL GEOMETRY: MEASUREMENTS OF THE EXISTING STREAM WITHIN A REFERENCE REACH**

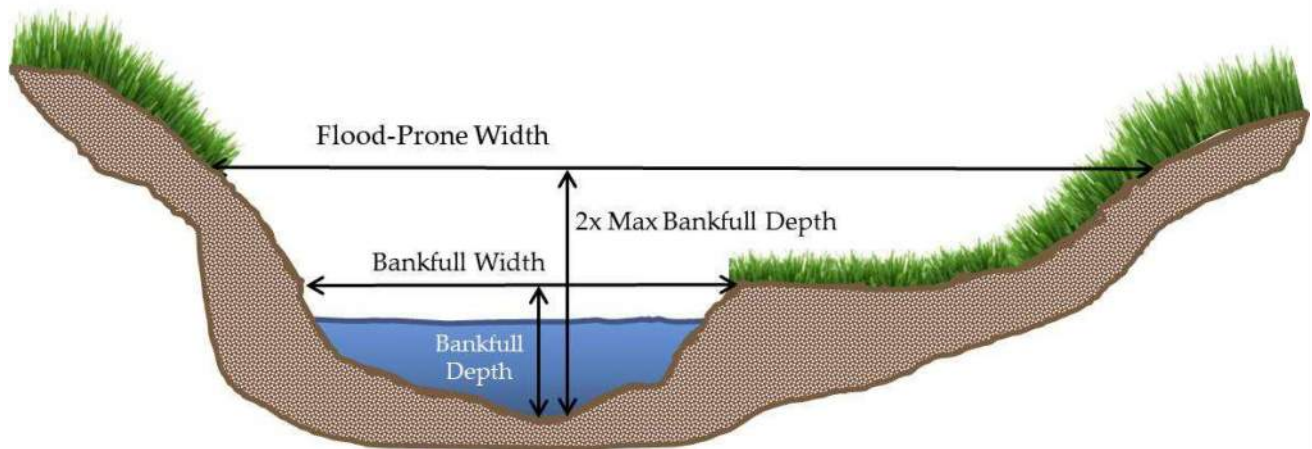
*For tier 2, tier 3 and tier 4 crossings only.*

Describe the reference reach location: Upstream, undeveloped forest

Reference reach watershed size: 1,389 acres

Parameter	Cross Section 1 Describe bed form glide (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form riffle (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form [redacted] (e.g. pool, riffle, glide)	Range
<a href="#">Bankfull Width</a>	10 feet	9 feet	11 feet	9-11 feet
<a href="#">Bankfull Cross Sectional Area</a>	9.1 SF	11 SF	11 SF	9.1-11 SF
Mean <a href="#">Bankfull Depth</a>	.91 feet	1.6 feet	1 feet	.91-1.6 feet
<a href="#">Width to Depth Ratio</a>	11	7.4	11	7.4-11
Max <a href="#">Bankfull Depth</a>	1.1 feet	1.6 feet	1.3 feet	1.1-1.6 feet
<a href="#">Flood Prone Width</a>	100 feet	90 feet	20 feet	20-100 feet
<a href="#">Entrenchment Ratio</a>	10	10	1.8	1.8-10

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes



**Figure 1:** Determining the Reference Reach Attributes.

**SECTION 6 - LONGITUDINAL PARAMETERS OF THE REFERENCE REACH AND CROSSING LOCATION**

*For tier 2, tier 3 and tier 4 crossings only.*

Average Channel Slope of the Reference Reach: 2%

Average Channel Slope at the Crossing Location: .77%

**SECTION 7 - PLAN VIEW GEOMETRY**

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths.

*For tier 2, tier 3 and tier 4 crossings only.*

Sinuosity of the Reference Reach: 1.4	
Sinuosity of the Crossing Location: 2.6	
<b>SECTION 8 - SUBSTRATE CLASSIFICATION BASED ON FIELD OBSERVATIONS</b>	
<i>For tier 2, tier 3 and tier 4 crossings only.</i>	
% of reach that is bedrock:	0 %
% of reach that is boulder:	3.3 %
% of reach that is cobble:	15 %
% of reach that is gravel:	70 %
% of reach that is sand:	8.3 %
% of reach that is silt:	0 %
<b>SECTION 9 - STREAM TYPE OF REFERENCE REACH</b>	
<i>For tier 2, tier 3 and tier 4 crossings only.</i>	
Stream Type of Reference Reach:	C

Refer to Rosgen Classification Chart (**Figure 2**) below:



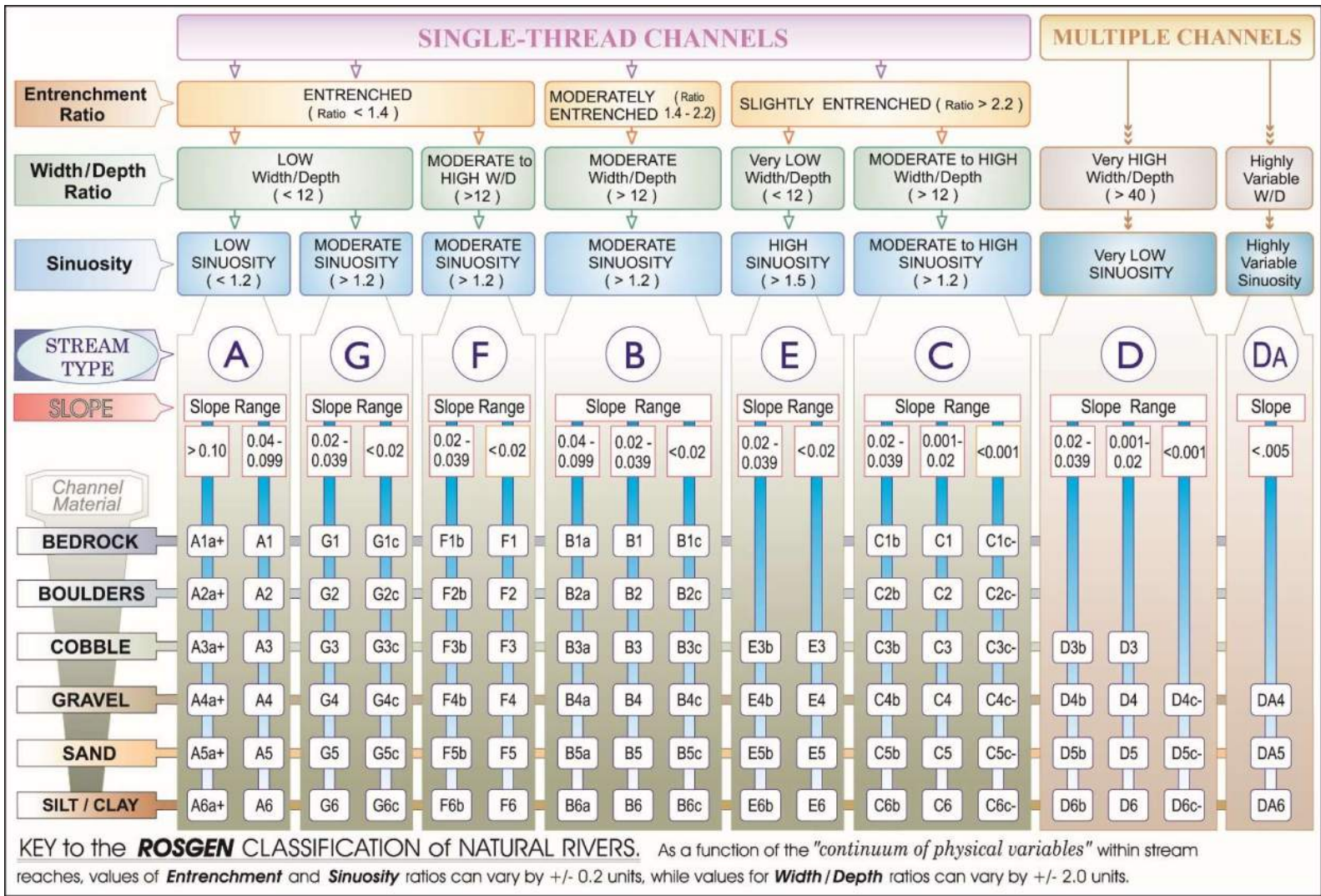


Figure 2: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 10 - CROSSING STRUCTURE METRICS					
Existing Conditions	Existing Structure Type:	<input type="checkbox"/> Bridge span <input type="checkbox"/> Pipe arch <input type="checkbox"/> Open-bottom culvert <input checked="" type="checkbox"/> Closed-bottom culvert <input type="checkbox"/> Closed-bottom culvert with stream simulation <input type="checkbox"/> Other: <input type="text"/>			
	Existing Crossing Span: (perpendicular to flow)	5 feet	Culvert Diameter:	5.5 feet	Inlet Elevation: El. 485.15 feet
	Existing Crossing Length: (parallel to flow)	25 feet	Outlet Elevation: El. 485.15 feet	Culvert Slope:	0.00
Proposed Conditions	Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
	Bridge Span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Pipe Arch	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
	Closed-bottom Culvert	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
	Open-bottom Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Closed-bottom Culvert with stream simulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proposed Structure Span:	<input type="text"/> feet	Culvert Diameter:	<input type="text"/> feet		

(perpendicular to flow)	Inlet Elevation: El. <input type="text"/> feet
Proposed Structure Length: <input type="text"/> feet (parallel to flow)	Outlet Elevation: El. <input type="text"/> feet Culvert Slope: <input type="text"/>
Proposed Entrenchment Ratio:* <input type="text"/> For Tier 2, Tier 3 and Tier 4 Crossings Only. To accommodate the entrenchment ratio, floodplain drainage structures may be utilized.	

\* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.10.

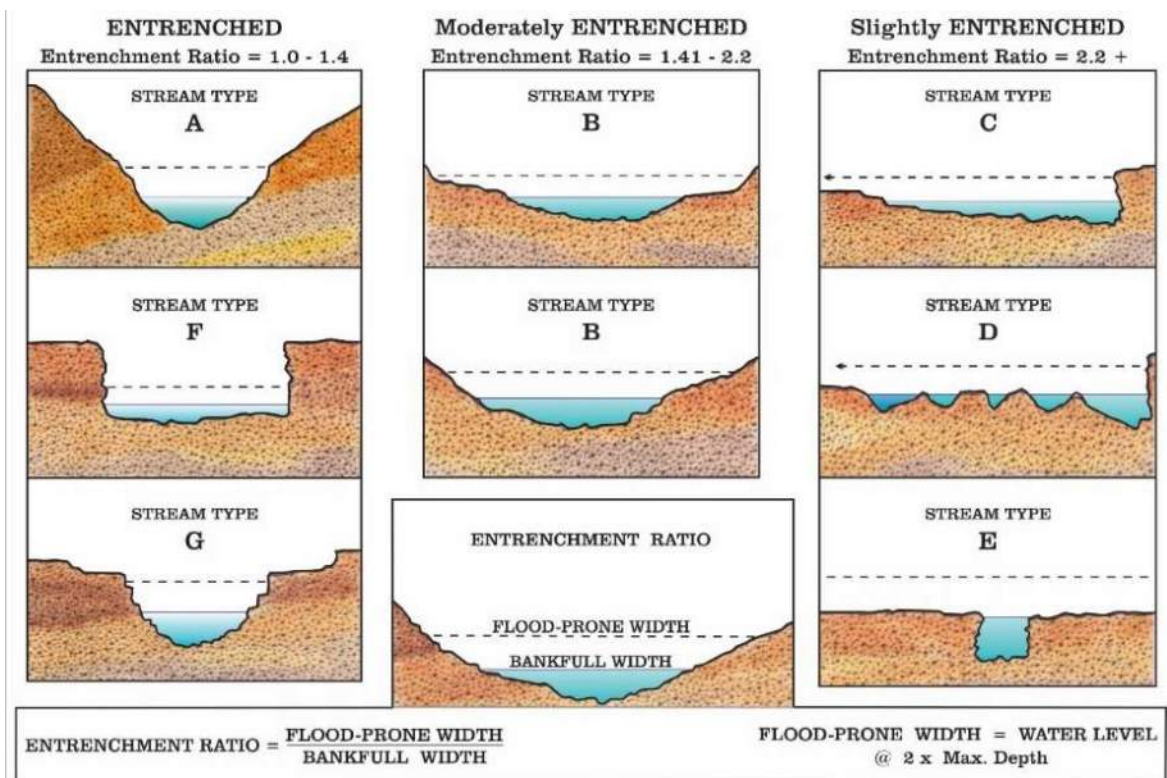


Figure 3: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 11 - CROSSING STRUCTURE HYDRAULICS		
	Existing	Proposed
100 year flood stage elevation at inlet:	494.19	494.19
Flow velocity at outlet in feet per second (FPS):	12.92	12.92
Calculated 100 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		277
Calculated 50 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		227
SECTION 12 - CROSSING STRUCTURE OPENNESS RATIO		
<i>For tier 2, tier 3 and tier 4 crossings only.</i>		
Crossing Structure Openness Ratio* = 1.1		
* Openness box culvert = (height x width)/length		
Openness round culvert = (3.14 x radius <sup>2</sup> )/length		

### SECTION 13 - GENERAL DESIGN CONSIDERATIONS

Env-Wt 904.01 requires all stream crossings to be designed and constructed according to the following requirements. Check each box if the project meets these general design considerations.

All stream crossings shall be designed and constructed so as to:

- Not be a barrier to sediment transport.
- Prevent the restriction of high flows and maintain existing low flows.
- Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
- Not cause an increase in the frequency of flooding or overtopping of banks.
- Maintain or enhance geomorphic compatibility by:
  - a. Minimizing the potential for inlet obstruction by sediment, wood, or debris, and
  - b. Preserving the natural alignment of the stream channel.
- Preserve watercourse connectivity where it currently exists.
- Restore watercourse connectivity where:
  - a. Connectivity previously was disrupted as a result of human activity(ies), and
  - b. Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both.
- Not cause erosion, aggradation, or scouring upstream or downstream of the crossing.
- Not cause water quality degradation.

### SECTION 14 - TIER-SPECIFIC DESIGN CRITERIA

Stream crossings must be designed in accordance with the tier specific design criteria listed in Part Env-Wt 904.

- The proposed project meets the tier specific design criteria listed in Part Env-Wt 904 and each requirement has been addressed in the plans and as part of the wetland application.

### SECTION 15 - ALTERNATIVE DESIGN

**NOTE:** If the proposed crossing does not meet all of the general design considerations, the tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in **Figure 3**, then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.10.

- I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.10.

**NH Department of Transportation  
Bureau of Highway Maintenance – District 3  
Project Conway (2019-M301-2)**

**P.E. Certification in Accordance with Env-904.09(c)**

*Stream Crossing Rules for Rehabilitation of Tier 3 Crossings*

*Env-Wt 903.01(g)(3)b – Major Impact Classification*

*Env-Wt 904.09 Repair of Tier 3 Stream Crossings*

Env-Wt 904.09

- (a) This is a legal crossing that has been classified as a Tier 3 based on the size of the contributing watershed (2.17 sq mi).
- (b) Rehabilitation will be accomplished by concrete repairs.
- (c) The project qualifies under this section as:
  - 1. The existing crossing does not have a history of causing or contributing to flooding that damages the crossing or other human infrastructure or protected species habitat
  - 2. The existing crossing's rehabilitation:
    - (a) Meets the general criteria specified in Env-Wt 904.01:
      - 1. It is not a barrier to sediment transport.
      - 2. It does not restrict high flows and maintain low flows.
      - 3. It does not obstruct or disrupt aquatic organisms indigenous to Page Randall Brook.
      - 4. It does not cause an increase in the frequency of flooding or overtopping of banks.
      - 5. It maintains geomorphic compatibility.
      - 6. It preserves watercourse connectivity.
      - 7. Criteria number 7 is not applicable to this crossing.
      - 8. It does not cause erosion.
      - 9. It does not cause water quality degradation.
    - (b) Maintains the hydraulic capacity of the crossing.
    - (c) Enhances the capacity of the crossing to accommodate aquatic organism passage by filling in the downstream scour hole with scour countermeasures.
    - (d) Maintains the connectivity of the upstream and downstream reaches.
    - (e) Does not cause or contribute to the increase frequency of flooding or overtopping of the banks upstream or downstream of the crossing.

*\*Included with this form is supporting analysis by way of photos and plans*



*Samantha D. Fifield*  
8-5-22

Name: Samantha D. Fifield, P.E.

Date: 8-5-2022

Stamp & Signature



# New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

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**To:** Arin Mills  
John O. Morton Building  
7 Hazen Drive  
Concord, NH 03302-0483

**From:** NH Natural Heritage Bureau

**Date:** 1/3/2022 (This letter is valid through 1/3/2023)

**Re:** Review by NH Natural Heritage Bureau of request dated 1/3/2022

**Permit Types:** Wetland Standard Dredge & Fill - Major  
General Permit

**NHB ID:** NHB22-0013

**Applicant:** Arin Mills

**Location:** Conway  
Tax Map: DOT ROW, Tax Lot: DOT ROW  
Address: NH 153 over Page Randall Brook

**Proj. Description:** Proposed work will include repair to the existing box culvert to include culvert extension over the wings to increase shoulder width and roadway safety. Work will also include stone (rip rap) in front of the wings to address scour. Project previously submitted under NHB19-4013.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

New Hampshire Natural Heritage Bureau  
NHB DataCheck Results Letter

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**MAP OF PROJECT BOUNDARIES FOR: NHB22-0013**



## Mills, Arin

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**From:** Magee, John  
**Sent:** Monday, July 25, 2022 12:57 PM  
**To:** Mills, Arin  
**Subject:** RE: Conway 2019-M301-2 Trout Spawning Timing

Hi Arin. Spawning should be completed by Oct 31.

John Magee (he/him/his)  
M.S., Certified Fisheries Professional  
Fisheries Habitat Research and Management Programs Coordinator  
New Hampshire Fish and Game Department  
11 Hazen Drive, Concord, NH 03301  
Phone 603-271-2744  
Fax 603-271-5829

Did you know? New Hampshire Fish and Game protects, conserves and manages more than 500 species of wildlife, including 63 mammals, 18 reptiles, 22 amphibians, 313 birds and 122 kinds of fish as well as thousands of invertebrates!

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**From:** Mills, Arin <Arin.J.Mills@dot.nh.gov>  
**Sent:** Thursday, July 21, 2022 7:53 AM  
**To:** Magee, John <john.a.magee@wildlife.nh.gov>  
**Subject:** Conway 2019-M301-2 Trout Spawning Timing

Hey John. Thanks so much for the productive discussion on this project yesterday at the Natural Resource meeting. We have one clarification relating to timing of spawning and erosion control installation. We mentioned installation of the Clean Water Bypass (CWB) and cofferdam before October 1<sup>st</sup> to prevent access to spawning in the work area, but we wanted to know the date at which time we anticipate spawning to end? District anticipates the work to be done in phases and would like to not have to maintain the bypass pipe and/or cofferdam throughout the duration of the project when it is not needed for Erosion Control (EC). I thought I recalled from our previous conversations spawning timing lasted about a month.

Let me know if I am not clear. Thanks for your help!

Arin Mills  
Senior Environmental Manager, Operations Management  
NH Department of Transportation  
Bureau of Environment  
7 Hazen Drive, Concord, NH 03302  
Ph: (603)271-0187  
[Arin.j.mills@dot.nh.gov](mailto:Arin.j.mills@dot.nh.gov)



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:  
Project Code: 2022-0040948  
Project Name: Conway Culvert Repair, 2019-M301-2

May 10, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

*Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.*

### **About Official Species Lists**

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

### **Endangered Species Act Project Review**

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed



species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

**\*NOTE\*** Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

**Northern Long-eared Bat Update** - Additionally, please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The bat, currently listed as threatened, faces extinction due to the range-wide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). If your project may result in incidental take of NLEB after the new listing goes into effect this will first need to be addressed in an updated consultation that includes an Incidental Take Statement. If your project may require re-initiation of consultation, please contact our office for additional guidance.

#### *Additional Info About Section 7 of the Act*

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

**Candidate species** that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

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consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

### **Migratory Birds**

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List
-

## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

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## Project Summary

Project Code: 2022-0040948  
Event Code: None  
Project Name: Conway Culvert Repair, 2019-M301-2  
Project Type: Culvert Repair/Replacement/Maintenance  
Project Description: Repair to an existing box culvert to include extension of the structure to provide a road shoulder and safe travel way. Work will also include repair to existing wingwalls, including repair of the foundation and installation of guardrail.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.963305778434375,-71.10621816569619,14z>



Counties: Carroll County, New Hampshire

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## Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

### Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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## **IPaC User Contact Information**

Agency: New Hampshire Department of Transportation

Name: Arin Mills

Address: 7 Hazen Drive

City: Concord

State: NH

Zip: 03302

Email: [arin.j.mills@dot.nh.gov](mailto:arin.j.mills@dot.nh.gov)

Phone: 6032710187

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# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

IPaC Record Locator: 240-20968927

March 26, 2020

Subject: Consistency letter for the 'Conway Culvert Repair, 2019-M301-2' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Arin Mills:

The U.S. Fish and Wildlife Service (Service) received on March 26, 2020 your effects determination for the 'Conway Culvert Repair, 2019-M301-2' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause “take”<sup>[1]</sup> of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action’s effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Small Whorled Pogonia, *Isotria medeoloides* (Threatened)

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

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**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

Conway Culvert Repair, 2019-M301-2

**2. Description**

The following description was provided for the project 'Conway Culvert Repair, 2019-M301-2':

Repair to an existing box culvert to include extension of both the inlet and outlet of the structure to provide a road shoulder and safe travel way. Work will also include repair to existing wingwalls, including repair of the foundation and installation of guardrail.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/43.96342771522089N71.10625807909753W>

**Determination Key Result**

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

**Determination Key Description: Northern Long-eared Bat 4(d) Rule**

This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

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The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

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## Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

*No*

2. Will your activity purposefully **Take** northern long-eared bats?

*No*

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

**Automatically answered**

*No*

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at [www.fws.gov/midwest/angered/mammals/nleb/nhisites.html](http://www.fws.gov/midwest/angered/mammals/nleb/nhisites.html).

*Yes*

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

*No*

6. Will the action involve Tree Removal?

*Yes*

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7. Will the action only remove hazardous trees for the protection of human life or property?

*No*

8. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

*No*

9. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

*No*

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## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0.1

2. If known, estimated acres of forest conversion from April 1 to October 31

0.1

3. If known, estimated acres of forest conversion from June 1 to July 31

0.1

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

---

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?  
0

**Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding**

**Appendix B Certification – Activities with Minimal Potential to Cause Effects**

**Date Reviewed:** 3/11/2020  
(Desktop or Field Review Date)

This Project uses only State funding; however project activities listed below comply with the PA.

**Project Name:** Conway Culvert Repair

**State Number:** 2019-M301-2

**FHWA Number:** N/A

**Environmental Contact:** Arin Mills

**DOT**

**Email Address:** Arin.mills@dot.nh.gov

**Project Manager:** Samantha Fifield

**Project Description:** Repair to the culvert includes the extension of both the inlet and outlet of the structure to provide a road shoulder for safe travel. Proposed work will also include repair to existing wingwalls, including repair of the foundation and installation of guardrail.

Please select the applicable activity/activities:

Highway and Roadway Improvements	
<input type="checkbox"/>	1. Modernization and general highway maintenance <b>that may require additional highway right-of-way or easement</b> , including: Choose an item. Choose an item.
<input type="checkbox"/>	2. Installation of rumble strips or rumble stripes
<input type="checkbox"/>	3. Installation or replacement of pole-mounted signs
<input type="checkbox"/>	4. Guardrail replacement, provided any extension does not connect to a bridge older than 50 years old (unless it does already), and there is no change in access associated with the extension
Bridge and Culvert Improvements	
<input type="checkbox"/>	5. Culvert replacement (excluding stone box culverts), when the culvert is less than 60" in diameter and excavation for replacement is limited to previously disturbed areas
<input type="checkbox"/>	6. Bridge deck preservation and replacement, as long as no character defining features are impacted
<input checked="" type="checkbox"/>	7. Non-historic bridge and culvert maintenance, renovation, or total replacement, <b>that may require minor additional right-of-way or easement</b> , including: a. replacement or maintenance of non-historic bridges Choose an item.
<input type="checkbox"/>	8. Historic bridge maintenance activities within the limits of existing right-of-way, including: Choose an item. Choose an item.
<input type="checkbox"/>	9. Stream and/or slope stabilization and restoration activities (including removal of debris or sediment obstructing the natural waterway, or any non-invasive action to restore natural conditions)
Bicycle and Pedestrian Improvements	
<input type="checkbox"/>	10. Construction of pedestrian walkways, sidewalks, sidewalk tip-downs, small passenger shelters, and alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons
<input type="checkbox"/>	11. Installation of bicycle racks
<input type="checkbox"/>	12. Recreational trail construction
<input type="checkbox"/>	13. Recreational trail maintenance when done on existing alignment
<input type="checkbox"/>	14. Construction of bicycle lanes and shared use paths and facilities within the existing right-of-way
Railroad Improvements	
<input type="checkbox"/>	15. Modernization, maintenance, and safety improvements of railroad facilities within the existing railroad or highway right-of-way, <b>provided no historic railroad features are impacted</b> , including, but not limited to: Choose an item.

**Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding**

**Appendix B Certification – Activities with Minimal Potential to Cause Effects**

	Choose an item.
<input type="checkbox"/>	16. In-kind replacement of modern railroad features (i.e. those features that are less than 50 years old)
<input type="checkbox"/>	17. Modernization/modification of railroad/roadway crossings provided that all work is undertaken within the limits of the roadway structure (edge of roadway fill to edge of roadway fill) and no associated character defining features are impacted
<b>Other Improvements</b>	
<input type="checkbox"/>	18. Installation of Intelligent Transportation Systems
<input type="checkbox"/>	19. Acquisition or renewal of scenic, conservation, habitat, or other land preservation easements where no construction will occur
<input type="checkbox"/>	20. Rehabilitation or replacement of existing storm drains.
<input type="checkbox"/>	21. Maintenance of stormwater treatment features and related infrastructure

Please describe how this project is applicable under Appendix B of the Programmatic Agreement.


The work proposed is repair to an existing non-historic structure. The existing crossing is comprised of two different construction types. At the inlet side, there is evidence of a stone slab box culvert with a cut stone header. One wing wall exhibit cut granite rectangular blocks, while the other wingwall appears to have been partially replaced with concrete. The outlet side of the culvert exhibits concrete. The interior of the culvert appears to display some granitic blocks, areas reinforced by concrete, and most likely a concrete extension to the original stone box culvert. These alterations produced a hybrid culvert, altered its original form, and resulted in an adverse effect on the historic integrity of the stone box culvert.

*Please submit this Certification Form along with the Transportation RPR, including photographs, USGS maps, design plans and as-built plans, if available, for review. Note: The RPR can be waived for in-house projects, please consult Cultural Resources Program Staff.*

**Coordination Efforts:**

Has an RPR been submitted to NHDOT for this project?	Not Applicable	NHDHR R&C # assigned?	Click here to enter text.
Please identify public outreach effort contacts; method of outreach and date:	<u>None</u>		

Finding: (To be filled out by NHDOT Cultural Resources Staff )

<input checked="" type="checkbox"/>	<b>No Potential to Cause Effects</b>	<input type="checkbox"/>	<b>No Historic Properties Affected</b>
This finding serves as the Section 106 Memorandum of Effect. No further coordination is necessary.			
<input type="checkbox"/>	<b>This project does <i>not</i> comply with Appendix B. Review will continue under Stipulation VII of the Programmatic Agreement. Please contact NHDOT Cultural Resources Staff to determine next steps.</b>		
NHDOT comments:			
		3/11/2020	
_____ NHDOT Cultural Resources Staff		_____ Date	



## Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

### **Appendix B Certification – Activities with Minimal Potential to Cause Effects**

Coordination of the Section 106 process should begin as early as possible in the planning phase of the project (undertaking) so as not to cause a delay.

Project sponsors should not predetermine a Section 106 finding under the assumption a project is limited to the activities listed in Appendix B until this form is signed by the NHDOT Bureau of Environment Cultural Resources Program staff.

Every project shall be coordinated with, and reviewed by the NHDOT-BOE Cultural Resources Program in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the New Hampshire State Historic Preservation Office, the Army Corps of Engineers, New England District, the Advisory Council on Historic Preservation, and the New Hampshire Department of Transportation Regarding the Federal Aid Highway Program in New Hampshire*. In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

NHDOT and the State Historic Preservation Office may use provisions of the Programmatic Agreement to address the applicable requirements of NH RSA 227-C:9 in the location, identification, evaluation and management of historic resources, for projects funded by State funds.

If any portion of the project is not entirely limited to any one or a combination of the activities specified in Appendix B (with, or without the inclusion of any activities listed in Appendix A), please continue discussions with NHDOT Cultural Resources staff.

**This No Potential to Cause Effect or No Historic Properties Affected project determination is your Section 106 finding, as defined in the Programmatic Agreement.**

Should project plans change, please inform the NHDOT Cultural Resources staff in accordance with Stipulation VII of the Programmatic Agreement.

**Proposed District Projects – NHDOT Cultural Resources Review**

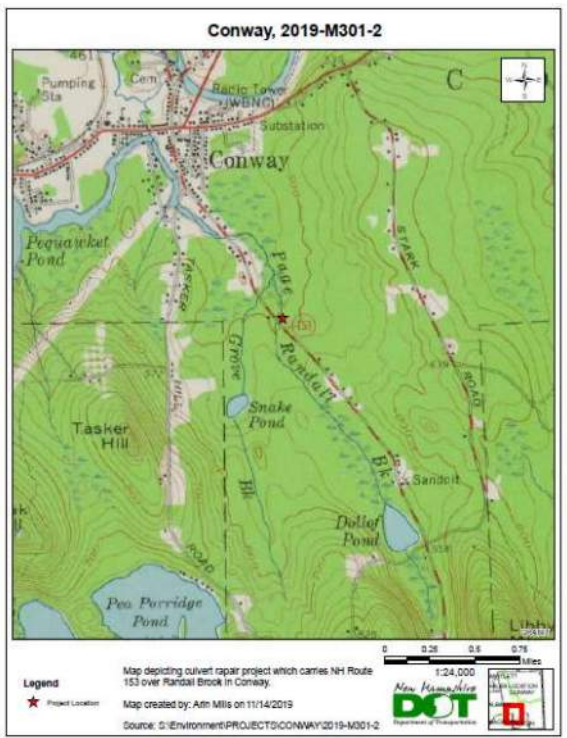
For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation’s *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers’ *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the proposed project for potential impacts to historic properties.

Proposed project: Proposed repair to an existing hybrid box culvert which carries Page Randall Brook under Route 153 in Conway. This crossing is at the entrance to DOT Patrol Shed 301.

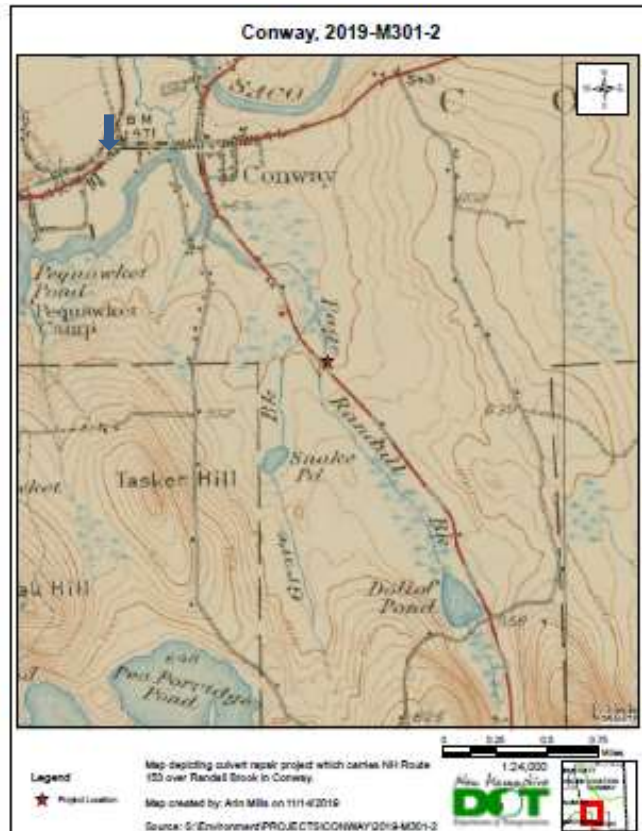
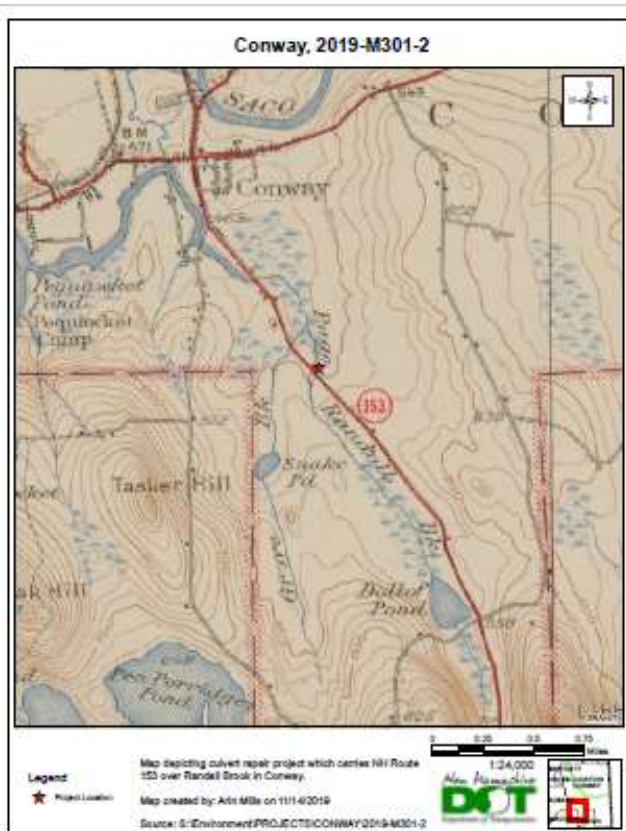
Repair to the culvert includes the extension of both the inlet and outlet of the structure to provide a road shoulder for safe travel. Proposed work will also include repair to existing wingwalls, including repair of the foundation and installation of guardrail. The District office does not know the age of the structure.



Cartographic review was undertaken by Arin Mills and Sheila Charles. While most recent and the 1958 reveal a structure northeast of the project area, other older 20<sup>th</sup> century (1945 and 1930) topographic quadrangles do not depict a structure near the project area. This is surprising as the nearest structure to the project area to the northeast was originally constructed in 1935.



1958 USGS Topographic Quadrangle, showing one structure northwest of the Page Randall crossing



1945 (left) and 1930 (right) USGS Topographic Quadrangles, showing no structures in the immediate vicinity of the project are



**Above Ground Review**

Known/approximate age of structure:

EMMIT (3/10/2020) did not disclose any historic properties or districts associated with the project area.

EMMIT did indicate the Otis Johnson House (592 Eaton Road), north of the crossing, was inventoried (CNW0440) and determined (DOE 7/1/1992) not eligible for the National Register. The extant structure was originally constructed in 1935 as a Colonial Revival Cape, however c.1990 the house was altered to a point that it no longer documented its historic association. Stone walls were identified on the property as landscape features (5/1/1992) including a mortared fieldstone retaining wall that runs along the edge of the lawn and the road and lines the driveways

The District office does not know the age of the culvert, which clearly has been altered over time. The existing crossing is comprised of two different construction types. At the inlet side, there is evidence of a stone slab box culvert with a cut stone header. One wing wall exhibit cut granite rectangular blocks, while the other wingwall appears to have been partially replaced with concrete. The outlet side of the culvert exhibits concrete. The interior of the culvert appears to display some granitic blocks, areas reinforced by concrete, and most likely a concrete extension to the original stone box culvert.



Photo looking north (downstream) at inlet (Oct 2019)



Photo looking north (downstream) at inlet



Photo looking southwest (upstream) at outlet (Dec 2019)

**No Potential to Cause Effect/No Concerns**

This culvert replacement presents a similar situation to the Alton 41352 project in which a hybrid culvert was documented (Casella 2017; ALT0025). The DOE (2/24/2018) determined the Alton hybrid culvert had lost its integrity. As such, we have no concerns with this Conway culvert which has also lost its integrity.

Casella's Historic Stone Highway Culverts in New Hampshire Asset Management Manual (Historic Documentation Company 2009:27) indicates that NH's stone culverts are relatively uncomplicated structures composed of stone or stone and mortar, laid up to form the culvert and wingwalls. These constitute the



character defining features of the stone culvert. Furthermore Casella (2009:28) notes the Secretary's Standards for Rehabilitation provide an understanding of the acceptable treatments, these preserve the historic material and design. As such, modifications to this hybrid culvert had altered the original form resulting in its lack of integrity. Casella (2009: 42) also noted, "Alterations that introduce new materials or change the overall design and workmanship such as widening, reconstruction with concrete or lining with pipe or other materials will almost always have an adverse effect on the historic integrity of a stone culvert. "

**As such, the proposed actions conform to activities within minimal potential to cause effect under the Section 106 Programmatic Agreement Appendix B, including 9. Non-historic bridge and culvert maintenance, renovation, or total replacement, that may require minor additional right of way or easement, ... and**

**It is recommended however that if possible the stone slab wing walls and any other stone materials of the culvert be preserved in place or reused.**

Concerns:

#### Below Ground Review

Recorded Archaeological site:  Yes  No

Nearest Recorded Archaeological Site Name & Number: 27-CA-0065 No name

Pre-Contact  Post-Contact Fieldstones- rectangular configuration, barn or outbdg foundation  
Identified as "Page Brook Barn Foundation"

Distance from Project Area:

2625 ft (797 meters) northwest of project area

**No Potential to Cause Effect/No Concerns**

It is likely impacts will be primarily confined to already disturbed soils.

Eaton Road (Route 153) area previously reviewed for Conway Bypass (1986) and no archaeological sites were identified at this crossing.

Cartographic research revealed there were no 19<sup>th</sup> or 20<sup>th</sup> century structures in the project area.

Arin Mills noted a "loosely placed stone wall which runs parallel to the driveway to the DOT Patrol Shed (PS301), which I believe may have been constructed with the Patrol Shed." No impacts are anticipated to this stone wall feature.

Concerns:

Reviewed by:

3/11/2020



NHDOT Cultural Resources Staff

Date:





**US Army Corps  
of Engineers**®  
New England District

**New Hampshire General Permits (GPs)  
Appendix B - Corps Secondary Impacts Checklist  
(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	<b>X</b>	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	<b>X</b>	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire</a> also contains specific information about the natural communities found in NH.		<b>X</b>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	<b>X</b>	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		<b>X</b>
2.5 The overall project site is more than 40 acres?		<b>X</b>
2.6 What is the area of the previously filled wetlands?		
2.7 What is the area of the proposed fill in wetlands?		
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?		
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a>		<b>X</b>

3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> <li>• PDF: <a href="http://www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm">www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>	<b>X</b>	
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		<b>X</b>
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		<b>X</b>
3.5 Are stream crossings designed in accordance with the GC 21?	<b>X</b>	
<b>4. Flooding/Floodplain Values</b>	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		<b>X</b>
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		
<b>5. Historic/Archaeological Resources</b>		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	<b>X</b>	

\*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

\*\* If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

**1.1. Pequawket Pond is downstream of the project and is impaired for pH.**

CONWAY, Project #2019-M301-2



**Photo 1:** Looking Northwest along Route 153 from crossing (Dec 2019)



**Photo 2:** Looking Southeast along Route 153 from crossing (Dec 2019)



CONWAY, Project #2019-M301-2



**Photo 3:** Inlet Looking Downstream (Sept 2021)



**Photo 4:** Inlet Looking Upstream (Sept 2021)





**Photo 5:** Outlet Looking Upstream (Sept 2021)



**Photo 6:** Outlet Looking Downstream (Dec 2021)



### CONSTRUCTION SEQUENCE

All construction activities shall closely follow the guidelines provided in “Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire (2019)” for erosion control, and in “Best Management Practices for the Control of Invasive and Noxious Plant Species Manual (2018) for invasive species control.

As a preventative measure, erosion control measures, such as turbidity barrier, silt fence, compost sock, and hay bales, will be placed parallel to the roadway, between the proposed work area and designated wet areas ahead of all construction activities.

The rehabilitation of the existing granite block box culvert and granite block/cast in place concrete wings will take place during low flow conditions over the winter. The clean water bypass will be installed ahead of the structure’s rehabilitation in the fall, during low conditions, and it will be removed during low flow conditions after Spring thaw has passed.

To prevent fish from spawning in the downstream scour hole, the cofferdams needed to rehabilitate the stream crossing and to install scour countermeasures will be placed prior to October 1, 2022 and remain in place, as shown on the Erosion Control Plans, until October 31, 2022.

All erosion control measures will be installed, monitored, repaired, or replaced as needed to maintain water quality. These measures will not be removed until all impacted areas are stabilized. Work will be completed as follows:

#### Install the Clean Water Bypass, CWB

A 30-inch diameter reinforced concrete pipe will be used as a CWB so that the rehabilitation may be completed. The CWB has been sized and sloped to accommodate the 2-year design storm. The following summarizes the work to be completed during this step:

1. Install turbidity curtains on the upstream and downstream sides of the proposed location of the CWB pipe; the curtains should be placed to prevent any fines from entering the existing stream.
2. Install sandbag cofferdams, to dewater the site, on the upstream and downstream side of the CWB pipe within the area contained by the turbidity curtains.
3. Place a sediment basin on the downstream side of the roadway; if possible, locate the basin a minimum of 20-feet from any delineated wetland.
4. Connect the dewatering sump pump to the sediment basin and dewater the site.
5. Install the water diversion structure pipe using alternating two-way traffic patterns with flaggers; construct the pipe from the downstream side to the upstream side. This is a clean water bypass and does not require treatment.
6. Stabilize disturbed areas.
7. Remove the upstream and downstream sump pump, sandbag cofferdam, and turbidity curtain.



**Flow will not be allowed through the temporary water diversion until all erosion control measures are in place for the CWB pipe and the ground is stabilized for flow.**

Repoint the Granite Blocks within the Culvert barrel

1. Install both the downstream and upstream turbidity curtains; the curtain should prevent fines from entering the upstream opening of the CWB and from entering the stream downstream of the site.
2. Install the downstream and upstream sandbag cofferdams; the cofferdams should be located within the areas confined by the turbidity curtains.
3. Install the dewatering sump pump and connect it to a sediment basin located either on the upstream or downstream side of the roadway. If possible, the basin should be located a minimum of 20-feet from a designated wetland.
4. Connect the dewatering sump pump to the sediment basin and dewater the site confined within the two cofferdams.
5. Complete concrete repair work within the culvert barrel.

Rehabilitate the Downstream Wingwalls

1. Maintain the upstream and downstream cofferdams previously installed.
2. Set up alternating two-way traffic patterns with flaggers to alternate traffic on the southbound side of the roadway.
3. Remove the deteriorated concrete located on the top portion of the downstream wingwalls.
4. Place forms to match into the remaining base of the wingwalls. The wingwall height will be adjusted to allow for its use as an abutment to the culvert's proposed extended top slab.
5. Place concrete within the forms.
6. Once the concrete has cured, remove the forms.

Extend the downstream side of the culvert's top slab

1. Maintain the upstream and downstream cofferdams previously installed.
2. Maintain alternating two-way traffic patterns with flaggers to alternate traffic on the southbound side of the roadway.
3. Remove the deteriorated concrete located along the downstream headwall
4. Using scaffolding, form up the extended top slab and header; the new extended slab will rest on the newly formed wingwalls.
5. Place concrete within the forms.
6. Once the concrete has cured, remove the forms and scaffolding.

Repair downstream scour hole with countermeasures.

1. Excavate (to a depth of 4-feet) the streambed material from the downstream area shown on the Wetland Impact Plan. Stockpile this material for immediate reuse.
2. Fill the excavated hole with 4-feet of Class B stone in 12" lifts; at each lift, fill the voids between the Class B stone with the excavated stream bed material.
3. Top off the Class B stone with the remaining quantity of previously excavated streambed material and grade it to match the culvert's outlet.

Rehabilitate the Upstream North Wingwall

1. Maintain the upstream and downstream cofferdams previously installed.
2. Maintain alternating two-way traffic patterns with flaggers, however, shift traffic to alternate on the northbound side of the roadway.
3. Remove several levels of the granite blocks.
4. Repoint the remaining granite blocks.
5. Place forms to cast in place the remaining height of the wingwall. The wingwall height will be adjusted to allow for its use as an abutment to the culvert's proposed extended top slab.
6. Place concrete within the forms.
7. Once the concrete has cured, remove the forms.

Replace in kind the Upstream South Wingwall

1. Maintain the upstream and downstream cofferdams previously installed.
2. Maintain alternating two-way traffic patterns with flaggers to alternate traffic on the northbound side of the roadway.
3. Prepare the site for full wingwall removal by documenting the dimensions and location of the existing wingwall. Also document the condition of the existing streambed adjacent to the wingwall (location of rip rap, large boulders etc.)
4. Any excavated streambed material taken from this location will be stockpiled during construction and returned to this location after construction has been completed on this wingwall.
5. Remove the existing wingwall
6. Place forms to cast in place the replacement wingwall. The face and length of the replaced wingwall will match the existing wingwall. The wingwall height will be adjusted to allow for its use as an abutment to the culvert's proposed extended top slab.
7. Place concrete within the forms.
8. Once the concrete has cured, remove the forms.
9. Grade the ground to existing elevations and apply temporary or permanent erosion control measures. Turf establishment will be applied in the Spring.

Extend the upstream side of the culvert's top slab

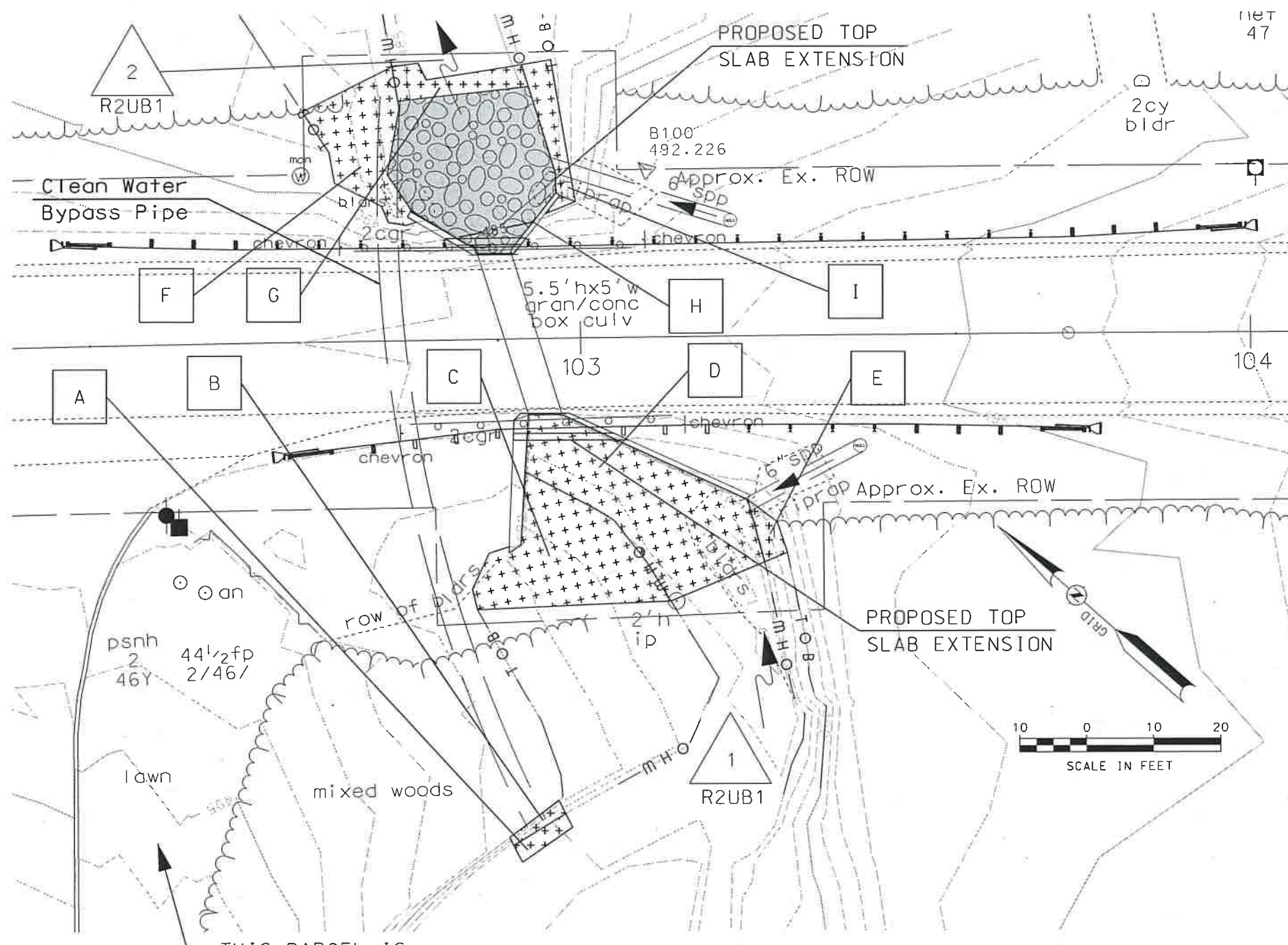
1. Maintain the upstream and downstream cofferdams previously installed.
2. Remove the deteriorated concrete located along the upstream headwall
3. Using scaffolding, form up the extended top slab and header; the new extended slab will rest on the newly rehabilitated/replaced wingwalls.
4. Place concrete within the forms.
5. Once the concrete has cured, remove the forms and scaffolding.
6. Once all impacted areas have stabilized, remove the upstream and downstream cofferdams and allow flow through the rehabilitated structure.

**Flow will not be allowed through the structure until all permanent erosion control measures are in place and the ground is stabilized for flow.**

Remove Water Diversion Structure and return site to original conditions

1. Install a turbidity curtain on the upstream and on the downstream side of the CWB pipe; the curtains should be placed to prevent any fines from entering the newly installed culvert or from entering the stream downstream of the site.
2. Install a sandbag cofferdam, to dewater the site, on the upstream side and on the downstream side of the CWB pipe within the areas contained by the turbidity curtains.
3. Place a sediment basin on the upstream side of the roadway or on the downstream side of the roadway; if possible, locate the basins a minimum of 20-feet from any delineated wetland.
4. Connect a dewatering sump pump to the sediment basin and dewater the site.
5. Remove the water diversion structure pipe using alternating two-way traffic patterns with flaggers; remove the pipe from the downstream side to the upstream side.
6. Once the pipe is fully removed, rebuild the roadway selects.
7. Remove the sump pump, both sandbag cofferdam, and both turbidity curtains in that order.
8. Pave the roadway.
9. Install guardrail.

**All erosion control measures, installed at the inception of the project, will be maintained until the site has returned to its original conditions.**



THIS PARCEL IS OWNED BY THE NHDOT. SHED 301 IS LOCATED ON THIS PARCEL

WETLAND IMPACT PLANS  
DATE 08-05-2022

WETLANDS DELINEATED AS OUTLINED IN ENV-WT 406 BY MATT URBAN ON 09-16-2021.



*Samantha D. Fifield*  
8-5-22

WETLAND IMPACT SUMMARY										
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS				LINEAR STREAM IMPACTS FOR MITIGATION			
			PERMANENT		TEMPORARY		PERMANENT			
			N.H.W.B. (NON-WETLAND)	N.H.W.B. & A.C.O.E. (WETLAND)	SF	LF	BANK LEFT	BANK RIGHT	CHANNEL	
			SF	LF	SF	LF	LF	LF	LF	
1	R2UB1	A				23	9			
1	BANK	B				16	9			
1	BANK	C				337	30			
1	R2UB1	D				470	36			
1	BANK	E				25	10			
2	BANK	F				192	24			
2	R2UB1	G				68	5			
2	R2UB1	H		467	25					
2	BANK	I				69	23			
TOTAL				467	25	1200	146			

PERMANENT IMPACTS: 467 SF  
TEMPORARY IMPACTS: 1200 SF  
TOTAL IMPACTS: 1667 SF

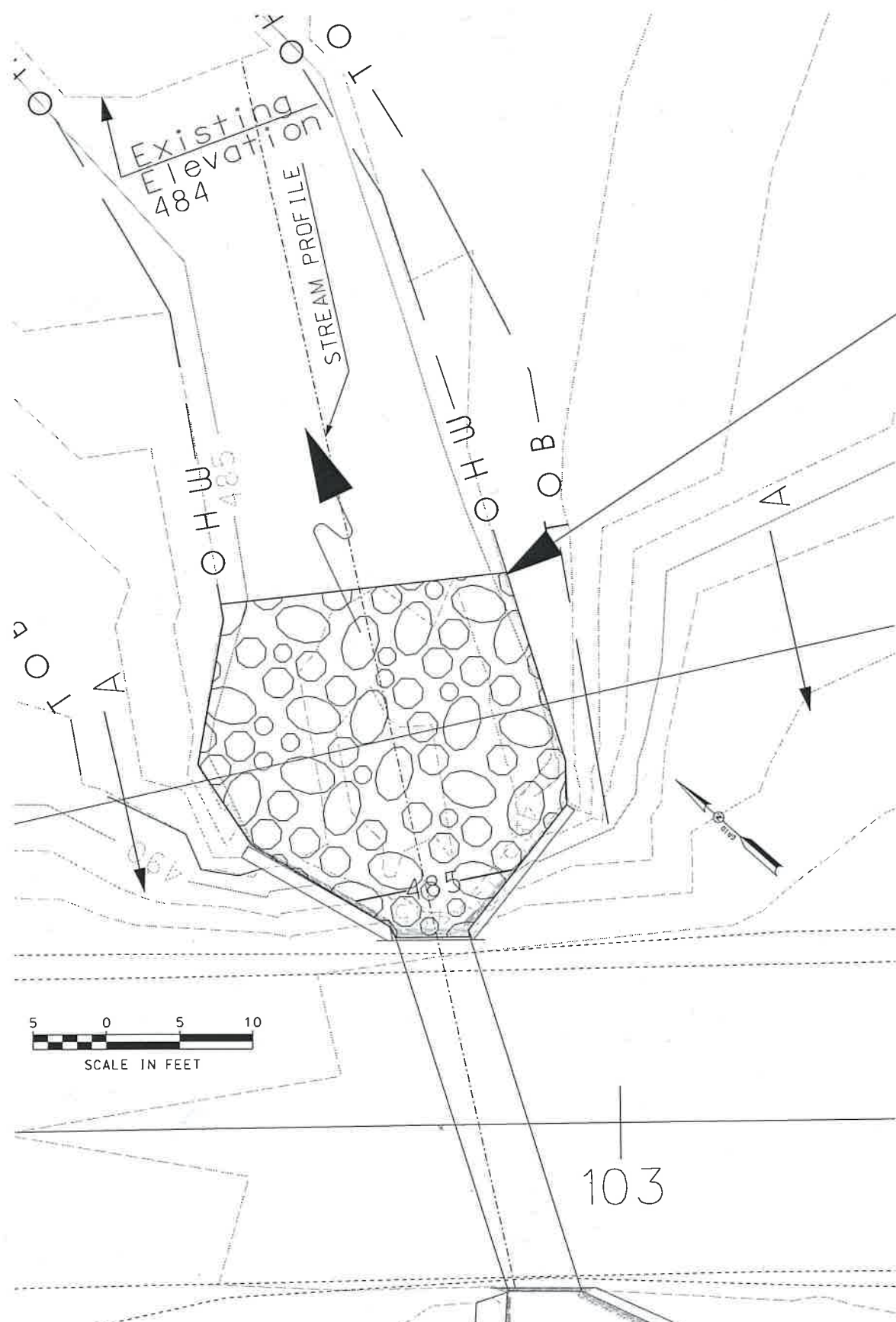
Existing Culvert:  
Culvert Length = 25'  
Elevation Invert In = 485.15  
Elevation Invert Out = 485.15

LEGEND

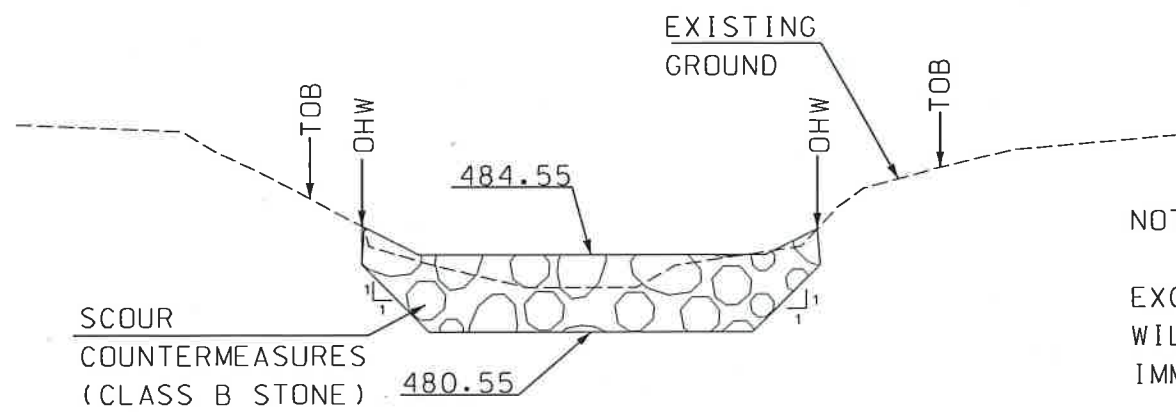
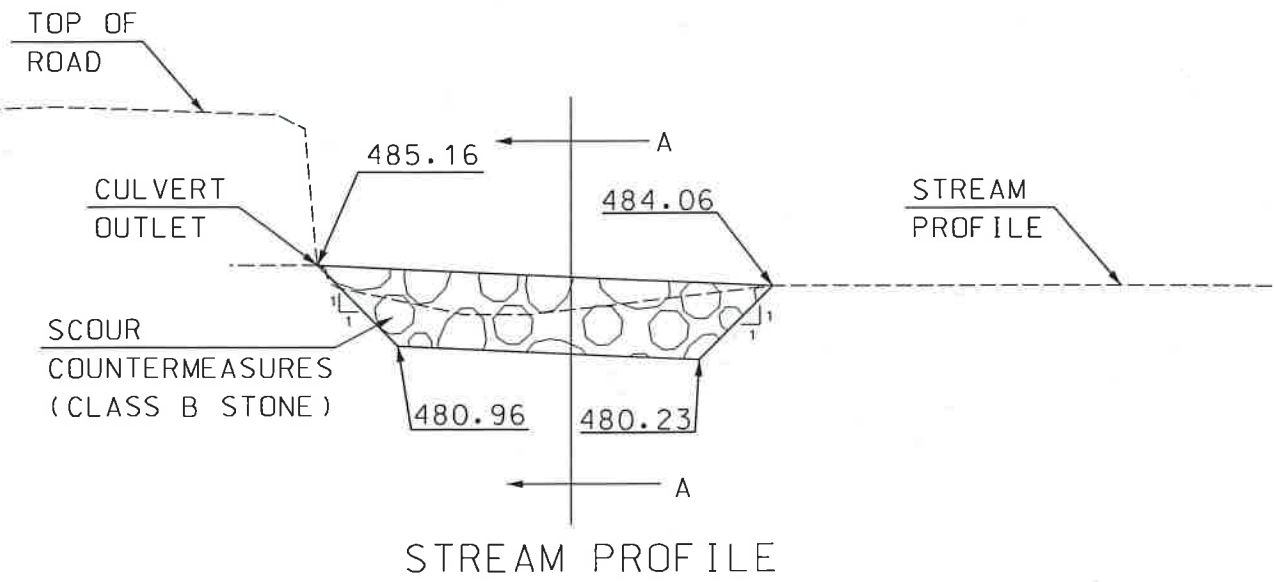
TYPE OF WETLAND IMPACT	SHADING/HATCHING	#	WETLAND DESIGNATION NUMBER
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	[Diagonal Hatching]	#	WETLAND IMPACT LOCATION
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	[Solid Grey]	#	WETLAND MITIGATION AREA
TEMPORARY IMPACTS	[Cross-hatching]	[Diagonal Hatching]	MITIGATION

NHDOT HIGHWAY MAINTENANCE DISTRICT 3  
CULVERT REHABILITATION  
PROJECT 2019-M301-2  
CONWAY - NH 153 OVER PAGE RANDALL BROOK





THE ONLY LOCATION WHERE CONTOURING CHANGES IS AT THE SCOUR HOLE.



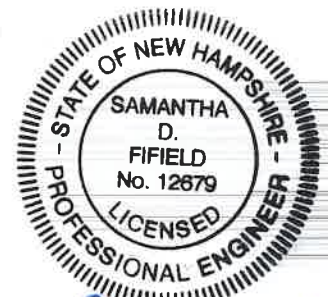
NOTES:

EXCAVATED STREAM BED MATERIAL WILL BE STOCKPILED ON SITE FOR IMMEDIATE REUSE.

CLASS B STONE WILL BE INSTALLED IN 1-FOOT THICK LAYERS.

ONCE A 12-INCH LAYER HAS BEEN PLACED, THE VOIDS BETWEEN STONES WILL BE FILLED WITH THE EXCAVATED STREAM BED MATERIAL.

AFTER THE 4TH LAYER HAS BEEN PLACED, AND VOIDS HAVE BEEN FILLED, STREAM BED MATERIAL WILL BE USED TO GRADE THE STREAM BED TO THE CULVERT INVERT.

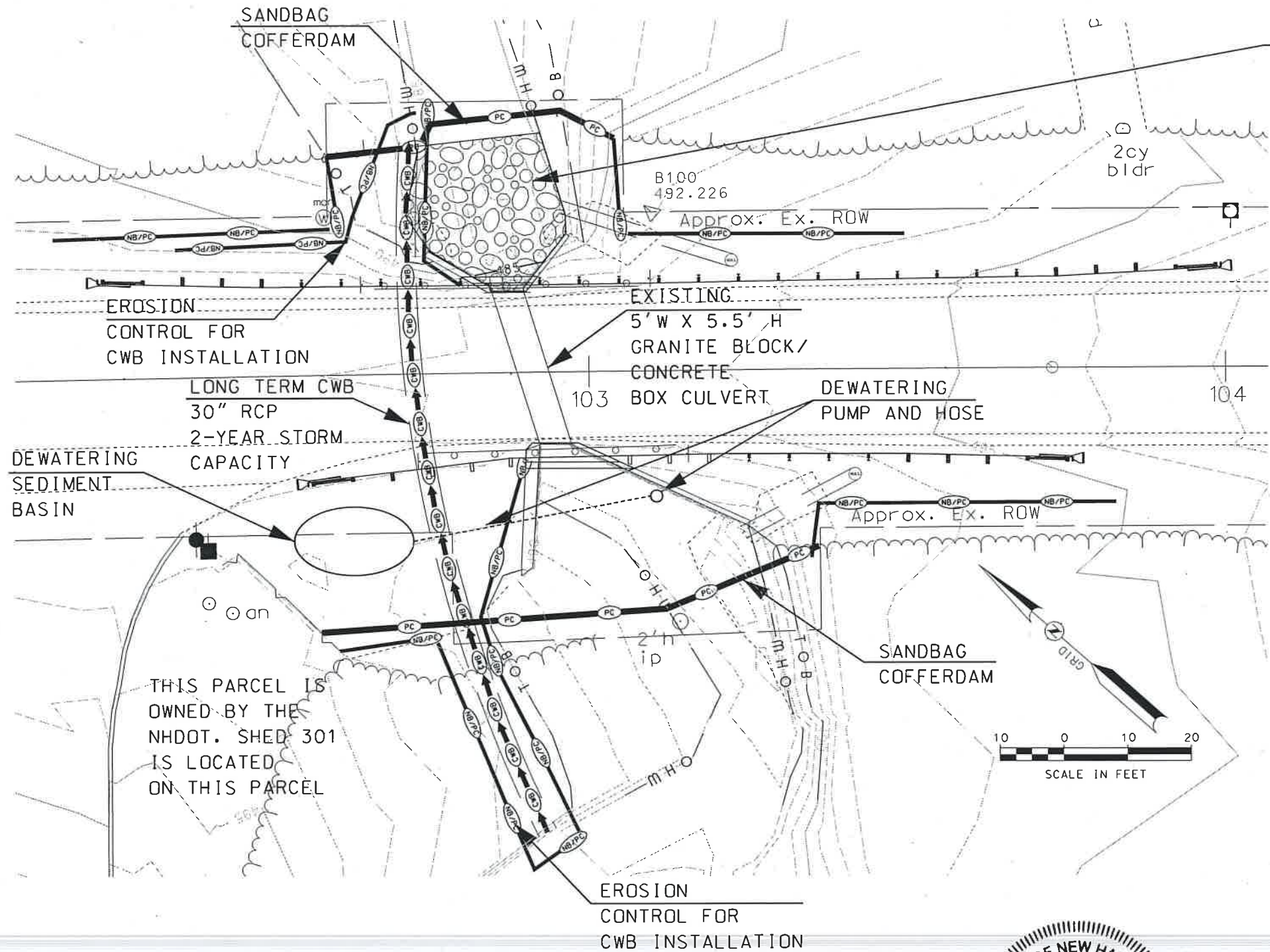


*Samantha D. Fifield*  
8-5-22

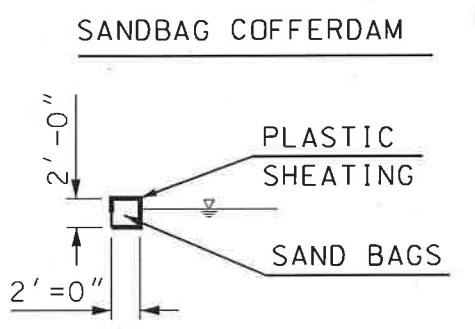
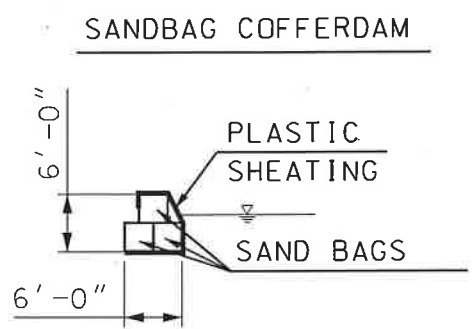
NHDOT HIGHWAY MAINTENANCE DISTRICT 3  
CULVERT REHABILITATION  
PROJECT 2019-M301-2  
CONWAY - NH 153 OVER PAGE RANDALL BROOK

WETLANDS DELINEATED AS  
OUTLINED IN ENV-WT 406  
BY MATT URBAN ON 09-16-2021.

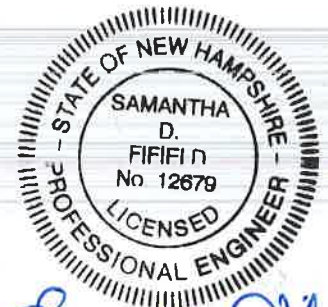
SCOUR COUNTERMEASURES  
DATE 08-05-2022



STONE ARMORING FOR SCOUR PREVENTION (ONLY LOCATION WHERE CONTOURS CHANGE)



EROSION CONTROL PLAN LEGEND	
	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS D EROSION STONE CLASS C STONE
	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL



*Samantha D. Fifi*  
8-5-22

WETLANDS DELINEATED AS OUTLINED IN ENV-WT 406 BY MATT URBAN ON 09-16-2021.

EROSION CONTROL PLANS  
DATE 08-05-2022

NHDOT HIGHWAY MAINTENANCE DISTRICT 3  
CULVERT REHABILITATION  
PROJECT 2019-M301-2  
CONWAY - NH 153 OVER PAGE RANDALL BROOK



## **Conway Culvert Rehabilitation, DOT Project #2019-M301-2**

July 21, 2022

A letter from the NH Department of Transportation was sent to the Town of Conway, to include the Conservation Commission, on December 14, 2021. A written response (attached) was received from Town of Conway Engineering Department on January 10, 2022. A review of the response did not result in any information requiring further consultation or changes to the project design.

Arin Mills  
Bureau of Environment  
NHDOT



# TOWN OF CONWAY

23 MAIN STREET + P.O. BOX 2680 + CONWAY, NEW HAMPSHIRE 03818

(603) 447-3811  
WWW.CONWAYNH.ORG

January 10, 2022

NH Department of Transportation  
Attn: Arin Mills, Senior Environmental Manager  
Bureau of Environment  
7 Hazen Drive, PO Box 483  
Concord, NH 03302-0486  
[Arin.j.mills@dot.nh.gov](mailto:Arin.j.mills@dot.nh.gov)

Re: Culvert Repair Project, #2019-M301-2  
**Town of Conway Response to Questions**

Dear Arin,

The Town is on receipt of your letter dated December 14, 2021. Please see below responses to your questions:

1. Does the Town have a list of priority mitigation efforts (Top 10 Priority List) that the DOT may evaluate and consider undertaking if it is determined that the project does in fact require mitigation? If so, please provide the list.  
*Response: No.*
2. Are there any existing or proposed community or regional plans that might have a bearing on this project?  
*Response: No.*
3. Are there any natural resources of significance in the vicinity of the project? Are there any known wildlife corridors or habitat strong holds in the vicinity of the project?  
*Response: We have no knowledge.*
4. Are there any cultural resources of significance in the vicinity of the project?  
*Response: We have no knowledge.*
5. Are there any public parks, recreation areas, conservation lands, or wildlife/waterfowl refuges in the vicinity of the project? Have Land & Water Conservation Funds been used in the project area?  
*Response: No.*
6. Are there any locally or regionally significant water resources or related protection areas in the project vicinity?  
*Response: No.*
7. Are there any water quality concerns that should be addressed during the development of this project?  
*Response: Not to our knowledge.*

8. Are you aware of any existing or potential hazardous materials or contaminants in the vicinity of the project? Are there asbestos landfill or asbestos containing utility pipes located within the project limits?

*Response: We have no knowledge.*

9. Do you have any environmental concerns not previous noted that you feel the Department should be aware of for this project?

*Response: Not to our knowledge.*

10. Will the proposed project have a significant effect upon the surround area?

*Response: Not to our knowledge*

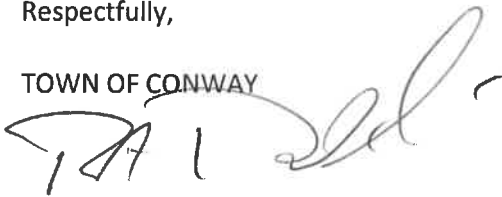
11. Are you aware of any existing roadside populations of non-native invasive plans species in the project area?

*Response: We have no knowledge.*

If you have any questions regarding my responses, please contact me directly at 603-447-3811 ext. 224 or at [pauld@conwaynh.org](mailto:pauld@conwaynh.org).

Respectfully,

TOWN OF CONWAY



Paul A. DegliAngeli, P.E.  
Town Engineer

Cc: Tom Holmes, Town Manager

## Mills, Arin

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**From:** Bisignano, Christopher J CIV <Christopher.J.Bisignano@uscg.mil>  
**Sent:** Friday, December 13, 2019 2:45 PM  
**To:** Mills, Arin; Rousseau, James L CIV  
**Cc:** Lewis, Dale K CIV  
**Subject:** RE: USCG Review for DOT Culvert Repair in Conway

**EXTERNAL:** Do not open attachments or click on links unless you recognize and trust the sender.

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Arin,

No USCG Bridge program jurisdiction on this one.

Regards,  
Chris

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**From:** Mills, Arin <Arin.Mills@dot.nh.gov>  
**Sent:** Friday, December 13, 2019 10:13 AM  
**To:** Bisignano, Christopher J CIV <Christopher.J.Bisignano@uscg.mil>; Rousseau, James L CIV <James.L.Rousseau2@uscg.mil>  
**Subject:** [Non-DoD Source] USCG Review for DOT Culvert Repair in Conway

Chris and/or James,

The NHDOT is proposing repair to an existing box culvert which carries Page Randall Brook under Route 153 in Conway. Repair to culvert include extension of both the inlet and outlet of the structure to provide a road shoulder for safe travel. Proposed work will also include repair to existing wingwalls, including repair of the foundation and installation of guardrail.

Please provide any concerns the Coast Guard may have as it relates to this project. Feel free to reach out with and additional questions or information as it relates to the project and I will be happy to assist. I have attached a couple maps to assist with your review.

Thank you!

Arin Mills  
Environmental Manager, Operations Management  
NH Department of Transportation  
Bureau of Environment  
7 Hazen Drive, Concord, NH 03302  
Ph: (603)271-0187  
[Arin.mills@dot.nh.gov](mailto:Arin.mills@dot.nh.gov)