

STATE OF NEW HAMPSHIRE INTER-DEPARTMENT COMMUNICATION

DATE: March 17, 2023

FROM: Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of
Transportation

SUBJECT Dredge & Fill Application
Meredith 44048

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 replaces an existing, circa 1830, 3.5'W x 5'H x 35.5' L stone box culvert with a 5'W x 4'H x 75.4'L precast concrete box which carries Meredith Neck Rd over an un-named tributary to the Winnepesaukee River (Tier 2). Work will also replace the associated stone causeway and replace/upgrade closed drainage

This project was reviewed at the Natural Resource Agency Coordination Meeting on February 15, 2023. 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 for the project.

The lead people to contact for this project are Samantha Fifield (271-0556 or Samantha.Fifield@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or Andrew.O'Sullivan@dot.nh.gov).

A payment voucher has been processed for this application (**Voucher # 713122**) in the amount of \$776.20.

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.

AMO:

cc:

BOE Original

Town of Meredith (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)

Beth Alafat & 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)

S:\Environment\PROJECTS\MEREDITH\2022-M309-1\Wetlands\Application Submission Documents \WETAPP - Coverletter.doc



**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:** Meredith

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](#).

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))	
Please use the Wetland Permit Planning Tool (WPPT) , the Natural Heritage Bureau (NHB) DataCheck Tool , the Aquatic Restoration Mapper , or other sources to assist in identifying key features such as: priority resource areas (PRAs) , protected species or habitats , 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"> • Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&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. 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> • Protected species or habitat? <ul style="list-style-type: none"> ○ If yes, species or habitat name(s): <input type="text"/> ○ NHB Project ID #: <input type="text" value="NHB22-1888"/> 	<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"> • Name of Local River Management Advisory Committee (LAC): <input type="text"/> • A copy of the application was sent to the LAC on Month: <input type="text"/> Day: <input type="text"/> Year: <input type="text"/> 	

irm@des.nh.gov or (603) 271-2147

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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 WPPT or Stream Stats): <input type="text"/> 0.49 square miles, Streamstats	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))	
Provide a brief 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 replaces an existing, circa 1830, 3.5'W x 5'H x 35.5' L stone box culvert with a 5'W x 4'H x 75.4'L precast concrete box which carries Meredith Neck Rd over an un-named tributary to the Winnepesaukee River (Tier 2). Work will also replace the associated stone causeway and replace/upgrade closed drainage. The crossing is eligible for listing on the National Registry for Historic Properties and the proposed design is a result of coordination with the Division of Historic Resources and the town of Meredith. Work will repair the failing causeway while improving the safety and stormwater drainage of the roadway. The proposed design will increase the hydraulic capacity of the structure while addressing the existing perch and scour hole. This is a state funded project that is designed by DOT and will be constructed using a contractor.</p> <p>The project permanently impacts 728.6 SF (266.3 LF) and temporarily impacts 32.1 SF (13.8 LF) of riverine, upper perennial, rock bottom, bedrock, rubble (R3RB12) channel wetland. The project permanently impacts 1106.2 SF and temporarily impacts 73.6 SF of palustrine, forested, broad-leaved deciduous, seasonally flooded/saturated (PFO1E) wetland.</p> <p>The project requires a significant amount of fill graded over the existing ground on the downstream side of the crossing to provide global stability for the proposed dry laid granite block retaining walls, which satisfies Section 106 requirements and eliminates perch. Scour countermeasures will be provided in the channel immediately downstream of the proposed culvert outlet and the newly graded slopes will be revegetated per Env-Wt 514.02(c)(1) - Soft vegetative bank stabilization, including regrading and replanting of slopes. While the channel may be permanently impacted, the design attempts to mimic, as much as practicable, the existing stream's characteristics so that post construction the stream bed reflects the existing stream's characteristics (width, slope etc.).</p>	
SECTION 3 - PROJECT LOCATION	
Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS: <input type="text"/> Meredith Neck Road	
TOWN/CITY: <input type="text"/> Meredith	
TAX MAP/BLOCK/LOT/UNIT: <input type="text"/> NHDOT ROW	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: <input type="text"/>	
<input checked="" type="checkbox"/> N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	
	<input type="text"/> 43.656025° North
	<input type="text"/> 71.472786° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))		
If the applicant is a trust or a company, then complete with the trust or company information.		
NAME: NH Department of Transportation, Highway Maintenance District 3, Samantha 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.		
SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))		
<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.		
SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(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 site was delineated by Joshua Brown and Deidra Benjamin on June 7, 2022 in accordance with Env-Wt 406. This project will have temporary and permanent impacts to a Riverrine, Upper Perennial, Rock Bottom, Bedrock, Rubble (R3RB12) wetland and to a Palustrine, Forrested, Broad-leaved Deciduous, Seasonally Flooded/Saturated (PFO1E) wetland. Project classified as minor under Env-Wt 407.04 & Env-Wt 903.01(f)(1)(e).

Env-Wt 500: This project is applicable under a maintenance of public highway infrastructure under Env-Wt 527. Bank stabilization methods noted under Env-Wt 514 have been incorporated into the design.

Env-Wt 600: N/A, this is not a project in coastal lands or tidal waters

Env-Wt 700: N/A, this project does not impact a prime wetland

Env-Wt 900: Crossing is Tier 2 under 904.04. This project satisfies Env-Wt 904.01 qualifies under Env-Wt 904.08

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: Day: Year:

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	1,106.2		<input type="checkbox"/>	73.6		<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	728.6	266.3	<input type="checkbox"/>	32.1	13.8	<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"/>			<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"/>
TOTAL		1834.8	266.3		105.7	13.8	

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): 1940.5 SF × \$0.40 = \$ 776.2

Seasonal docking structure: SF × \$2.00 = \$

Permanent docking structure: SF × \$4.00 = \$

Projects proposing shoreline structures (including docks) add \$400 = \$

Total = \$

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 776.2

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SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

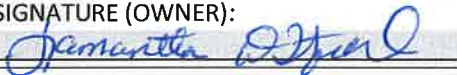
Minimum Impact Project
 Minor Project
 Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: SDF [] []	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: SDF [] []	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 [] []	The signer understands that: <ul style="list-style-type: none"> • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: <ol style="list-style-type: none"> 1. Deny the application. 2. Revoke any approval that is granted based on the information. 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. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • 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.
Initials: SDF [] []	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.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Samantha D. Fifield	DATE: 03-13-2023
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): []	PRINT NAME LEGIBLY: []	DATE: []
SIGNATURE (AGENT, IF APPLICABLE): []	PRINT NAME LEGIBLY: []	DATE: []

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

DIRECTIONS FOR TOWN/CITY CLERK:

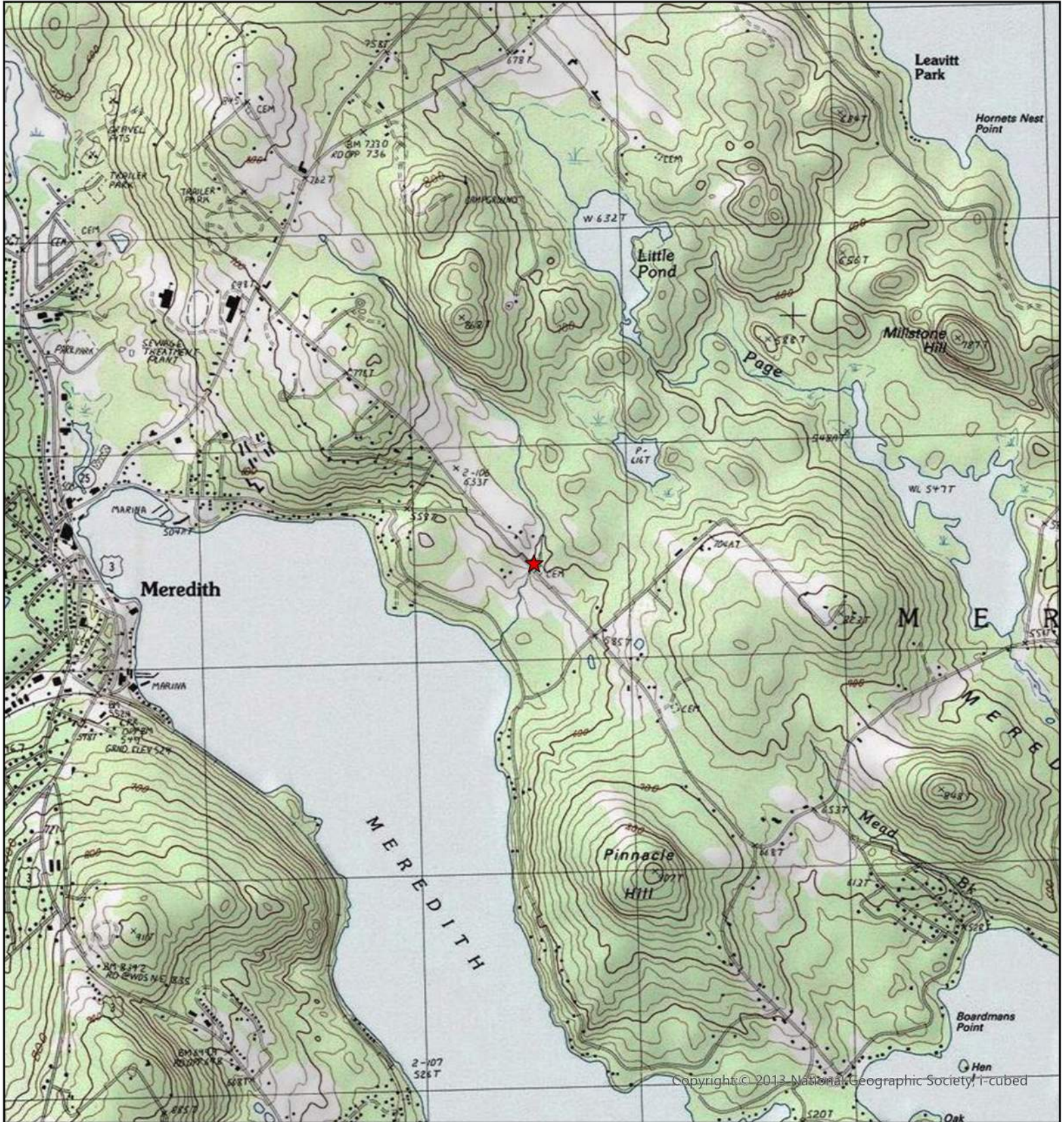
Per RSA 482-A:3, I(a)(1)

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".

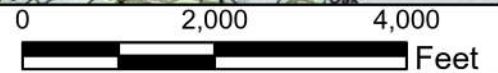
Meredith, #2022-M309-1



★ Project Location

Map depicting culvert replacement project which carries Meredith Neck Rd over an un-named tributary to Lake Winnepesaukee.

Map created by Arin Mills on 5/27/2022



1:24,000

New Hampshire
DOT
Department of Transportation





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:** Meredith

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.

THERE WERE TWO OPTIONS THAT WOULD COMPLETELY AVOID IMPACTING RESOURCES: (A) THE NO-BUILD OPTION, WHICH WOULD NOT HAVE ADDRESSED SAFETY OF THE TRAVELING PUBLIC, OR ADDRESS THE EXISTING CULVERT/CAUSEWAY STRUCTURAL STABILITY ISSUES AND (B) REHABILITATE THE STRUCTURE AS IS (COMPLETELY DISMANTLING THE EXISTING CULVERT, UPSTREAM HEADWALL, AND DOWNSTREAM RETAINING WALL, AND REBUILDING THE STRUCTURE TO EXISTING DIMENSIONS, USING UPDATED FOUNDATION MATERIALS), WHICH WOULD HAVE REQUIRED INSTALLATION OF A MOMENT SLAB OVER THE CAUSEWAY SO THAT BRIDGE RAIL COULD BE INSTALLED; THE BRIDGE RAIL WOULD REDUCE THE CAPACITY OF THE ROADWAY TO A SINGLE TRAVEL LANE OVER THE STRUCTURE.

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 does not impact marshes.

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 existing stream crossing and reaches have the following characteristics:

1. The existing perch (4.3', almost 7' including the scour hole) is the number 1 reason why this crossing does not accommodate aquatic organism crossings.
2. When the original crossing was built it severed the connectivity between the upstream and downstream reaches.
3. The existing structure has a slope of about 2%
4. The upstream reach is predominately exposed rock with a slope of about 8% and downstream reach is predominately fields with flat channel with a slope of about 1-3%
5. Also, the existing crossing was built in 1833 so satisfying Section 106 (which is a wetland application requirement) must also be considered in the project's design

The predominant existing feature that the design needed to address was to eliminate the downstream perch. The only way to eliminate the downstream perch, and restore the crossing to a slope that would closely match the original channel's slope, would be to extend the crossing (on both the inlet and outlet side) to accommodate a slope similar to the upstream reach.

The proposed crossing's slope is 6.9%, which is a bit less than the 8% upstream reach; however, it is the slope needed to eliminate the perch and to provide self-mitigation for both natural and cultural resources. 6.9% also allows for a nice transition between the upstream and downstream reaches.

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.

The project does not impact exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern.

The project impacts the minimum amount of wetlands needed to restore, as much as practicable, the existing waterway to its original profile. This restoration requires lengthening the culvert, which has the added benefit of satisfying Section 106 requirements for the project.

The impacts are the minimum needed to satisfy Env-wt 903.01 without waivers. So, the proposed crossing will not be a barrier to sediment transport; it will not restrict flows and it will maintain low flows; it restores aquatic organism passage; it will not cause an increase in the frequency of flooding or overtopping of banks; it enhances geomorphic compatibility by increasing the size of the opening and eliminating the perch to allow for a slope that will closely match the streams original slope; it preserves the watercourse (plan) connectivity as is; it restores (profile) connectivity by the elimination of the perch (created by human activity) which benefits aquatic organisms both upstream and downstream of the crossing; the new crossing will not cause erosion, aggradation, or scouring upstream or downstream as the upstream reach is mostly exposed stone and scour protection measures are being provided downstream; and as the design will revegetate impacted slopes and scour measures will be installed, the project will not cause degradation to water quality.

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 does not impact commerce, navigation, or recreation. The un-named stream is not a navigatable waterway. No recreational areas have been identified in the project area. Vehicle traffic will be detoured for an estimated 2 weeks, then alternating two-way traffic will established once the crossing is installed and the roadway can safely pass vehicles. Project anticipated duration is 6-8 weeks. Improvements to public commerce and safety will result from the project, once complete.

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 is not located within a FEMA defined floodplain.

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 does not impact a riverine forested wetland system or a scrub-shrub marsh complex of high ecological integrity.

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 does not impact wetlands that are associated with drinking water 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.

The proposed culvert fully satisfies Env-wt 903.01 and does qualify under Env-wt 904.08, so it does not impact the channel's ability to handle runoff of waters.

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.

NA

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.

NA

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.

NA

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.

NA

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.

NA

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.

NA

PART II: FUNCTIONAL ASSESSMENT
<p>REQUIREMENTS</p> <p>Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).</p>
<p>FUNCTIONAL ASSESSMENT METHOD USED:</p> <p>Stream crossing completed using NH Stream Crossing Guidelines. Functions and Values completed using the US Army Corp of Engineers Highway Methodology.</p>
<p>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: JOSH BROWN AND DEIDRA BENJAMIN</p>
<p>DATE OF ASSESSMENT: 6/7/2022</p>
<p>Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:</p> <p><input checked="" type="checkbox"/></p>
<p>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:</p> <p><input checked="" type="checkbox"/></p> <p>Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.</p>



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.: NHDOT Highway Maintenance District 3, Samantha Fifield		
PROJECT STREET ADDRESS: Meredith Neck Road	PROJECT TOWN: Meredith	
TAX MAP/LOT NUMBER: NHDOT ROW		
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
If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed: Culvert Replacement Project		

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

SECTION 3 - A/M PROJECT DESIGN TECHNIQUES		
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 checked="" type="checkbox"/> Check <input 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 checked="" type="checkbox"/> Check <input 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 checked="" type="checkbox"/> Check <input 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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NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

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 checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input checked="" type="checkbox"/> Check <input 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 checked="" type="checkbox"/> Check <input type="checkbox"/> N/A
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
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

Natural Resource Agency Meeting
February 15, 2023
Meredith Culvert Replacement, #44048
Presenters: Sam Fifield, Arin Mills- NHDOT

Arin introduced the project for replacement of a stone box culvert which carries Meredith Neck Road (MNR) over and un-named tributary to Lake Winnepesaukee. This is a state funded betterment project which is designed in-house and will be contracted for construction. The existing crossing is a 2.5' span by 5' rise stone box constructed about 1833 by local residents. The un-named stream is a Tier 2, 1st Order stream crossing, draining primarily undeveloped forestland. From the crossing the stream flows approx. 1,400 feet where it enters Lake Winnepesaukee. There is one additional town owned culvert downstream of the crossing. The structure has had limited work since construction, although it has been looked at multiple times to address safety concerns due to the drop hazard and the narrow width of the crossing as it does not meet modern transportation needs. The area surrounding the crossing is mainly forested with residential development. Conservation lands are in the vicinity, although none immediately adjacent to the project. Photos were shown of the crossing and surrounding landscape.

The purpose and need of the project are to address safety concerns and structural deficiencies of the crossing, propose a design that meets both current safety and design standards, and meets current environmental requirements. Project design coordination to date has included the Town of Meredith, the Division of Historic Resources, US Army Corp of Engineers, and Lakes Region Conservation Trust. The structure is eligible for the National Historic Register and much of the coordination and alternatives analysis that have resulted in the proposed design presented are a result of comments and concerns received over the last few months.

Sam presented the considerations for the design include: MNR is a Tier 4 (low-traffic volume), Class II roadway that is non-eligible for Federal Transportation Funding (ie: state funded), no impact to adjacent Smith Cemetery, minimize impacts to the rock wall located perpendicular to the culvert inlet, minimize impacts to rock walls located parallel to Meredith Neck Road, protect the traveling public from drop hazards (18' at the outlet and 12.5' at the inlet) and upgrading existing closed drainage to improve stormwater management. Design constraints include improved stormwater treatment, meet current stream crossing rules, address downstream perch of 7' total from outlet invert to the bottom of the scour hole, alternative chosen should match, as much as practicable, existing aesthetics, constructability and Traffic Control of the proposed alternative, environmental permitting and agency approval, long term maintenance and cost (100% state funded project).

Sam further presented alternatives considered. No build, which would not address the structural deficiencies and current safety hazards. Borings determined there is little structural material below the roadway with 20" pavement. Repair to existing crossing with use of a moment slab design was reviewed and determined to result in a narrowing of the roadway. Replacement options include relocation of the walls 25' from centerline and install guardrail, which was not accepted through coordination with both the town or DHR due to the adverse effects to the historic elements of the crossing. Construction of a 4:1 slope without walls or guardrail was reviewed and determined to have an increase natural and

cultural resource impact. The preferred alternative, presented today, is rebuild walls 35' from centerline and outside of the clear zone to eliminate guardrail.

The proposed project is to replace a 3.5'W (varies throughout) x 5'H x 34.5'L stone box with a 5'W x 4'H x 75.4'L concrete box with scour countermeasures at the outlet. DOT will construct upstream and downstream granite block retaining walls incorporating existing stones. The existing closed drainage running along Smith cemetery will be upgraded to improve draining and water quality. Preliminary wetland impact plans were shown to depict the proposed concrete box and scour countermeasures. Both temp and permanent impacts to the stream (R3RB12) and Palustrine forest (PFO1E) are anticipated for construction and installation of erosion control measures. A profile was shown to depict the existing and proposed structure and removal of the downstream perch and scour hole. A drawing of the scour countermeasures proposed at the outlet was shown, to include placement of streambed material layered within and over Class B stone.

Sam provided a construction sequence as follows: Full closure of Meredith Neck Road for an anticipated 2-week time; installation of Erosion controls (EC), and a Clean water bypass (CWB); removal of the existing stone culvert, headwall, and retaining wall; installation of the proposed concrete box culvert and downstream scour protection at which time the CWB can be removed. The culvert will be filled over, roadway granular materials will be placed, and temporary steep roadway slopes will be constructed. This will allow for single lane alternating two-way traffic to resume on MNR. The upstream and downstream stone block retaining walls and 4:1 roadway slopes will then be constructed. Once 4:1 roadway slopes are constructed, two-way traffic may be allowed on MNR during non-work hours. Next, the site will be revegetated, pavement will be placed, and pavement markings will be installed. Finally, the site will be cleaned, and EC measures will be removed once site is permanently stabilized. MNR will be fully returned to 2-way traffic once all tasks are completed.

Hydraulic calculations were provided to show both the existing and proposed design will pass the 100-year storm with a reduction in velocities with the widened crossing.

Arin provided an overview of the environmental review for the project. The stream is a first order stream from headwater to lake, a Tier 2 crossing with watershed of 312 acres. The project is not located within ¼ mile of a Designated River and does not fall under Shoreland jurisdiction. A previous permit was identified (1996-00337), although work was not completed. The existing outlet has a 7.2' cascade with a 4.3' perch resulting in a 9.5'W x 10'L x 1.9' deep scour pool.

Upstream of the stream crossing, a reference reach with 8% slope was identified; the proposed crossing's slope is 6.9% ; the existing crossing is 3.5' wide (the proposed crossing 5' wide), and a perch of 4.3' is proposed to be eliminated. NHB review NHB22-1888 had no known occurrence or rare species; the NH online fish survey mapper showed no recorded E. brook trout or protected species in stream. Results of the Wetland Permit Planning Tool (WWPT) show no predicted PRA; Fish and Games habitat ranking showed supporting landscape nearby, and showed no prioritized habitat. The Aquatic Restoration Mapper identified Page Pond Forest nearby, which is not hydrologically connected to this stream. Low Meadow Farm is near the outlet and the project is located outside of the limits of the

Conservation Easement held by Lakes Region Conservation Trust (LRCT). The LRCT have been involved in alternatives analysis and proposed design. No impacts to conservation lands anticipated.

Arin provided an overview of applicable wetland rules and classified the project as a minor impact under Env-Wt 903.01(f)(1)(e) with no waivers. No mitigation is anticipated as the design meets Env-Wt 904.08 with PE certification that the proposed crossing :maintains hydraulic capacity; enhances aquatic organism passage; enhances connectivity by eliminating perch; does not promote degradation by installing scour protection (incorporating streambed material) at outlet; enhances the crossing's ability to handle flooding events. A review of Env-Wt 904.01 determined that the proposed design meets all general design considerations. The project timeline is to present to the residents of Meredith on March 1, 2023 under Section 106 of Historic Preservation Act, submit wetland permit application to DES in late March, received construction approval and permit by August 2023 (Advertise on September 12th) and construct late summer/fall 2024.

Karl B said we were on track with 904.08 with addressing perch and appreciated the additional coordination required for cultural concerns. He questioned the possible need for mitigation as the increased length of the box results in >200 lf of channel and bank impacts. Karl also asked if the topography change for grading of slopes could be reduced. Sam stated that the fill required in front of the downstream dry laid stone wall is necessary for global stability of the wall and Karl asked a narrative be included in the application. Karl B questioned the no required mitigation for permanent impacts to the bank and channel from the increased length and grading. Andy O stated the project qualified for a Project Type Exception (PTE) under the stream crossing rules (900). Andy further clarified that the increase in length is required to eliminate the perch and scour hole. Karl asked that justification be provided for the impacts that are required to eliminate the perch, allowing the project to fully be classified under the stream crossing (900) rules. Additional communication and information within the permit will be conducted and provided. Karl asked for native planting along the stream banks and Sam said that would be incorporated into the design. Karl lastly asked about the outlet of the closed drainage and Sam described new catch basins will be installed and outlet outside wetland resources.

Mike D (F&G) had no comments. Mike H had no comments and stated ACOE would be the lead federal agency. Jeanie B (EPA) had no comments. Gary C (CG) said the water is non-navigable and had no comment.

Wetland Function-Value Evaluation Form

Total area of wetland 1 Ac. Human made? No Is the wetland part of a wildlife corridor? Yes Or a "habitat island"? No Wetland I.D. Wetland 1, 3 & 5

Adjacent land use Road/Residential/Farm Distance to nearest roadway or other development Adjacent Latitude 43.6560°N Longitude 71.4727°W

Dominant wetland system present PFO1E Contiguous undeveloped buffer zone present No Prepared by: AJM Date: 6/7/2022

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Upper **Wetland Impact:**

How many tributaries contribute to the wetland? Wildlife & vegetation diversity/abundance (see attached list) Type Temp/Perm Area 1940

Evaluation based on:

Office Yes Field Yes

Corps manual wetland delineation

Completed? Y X N

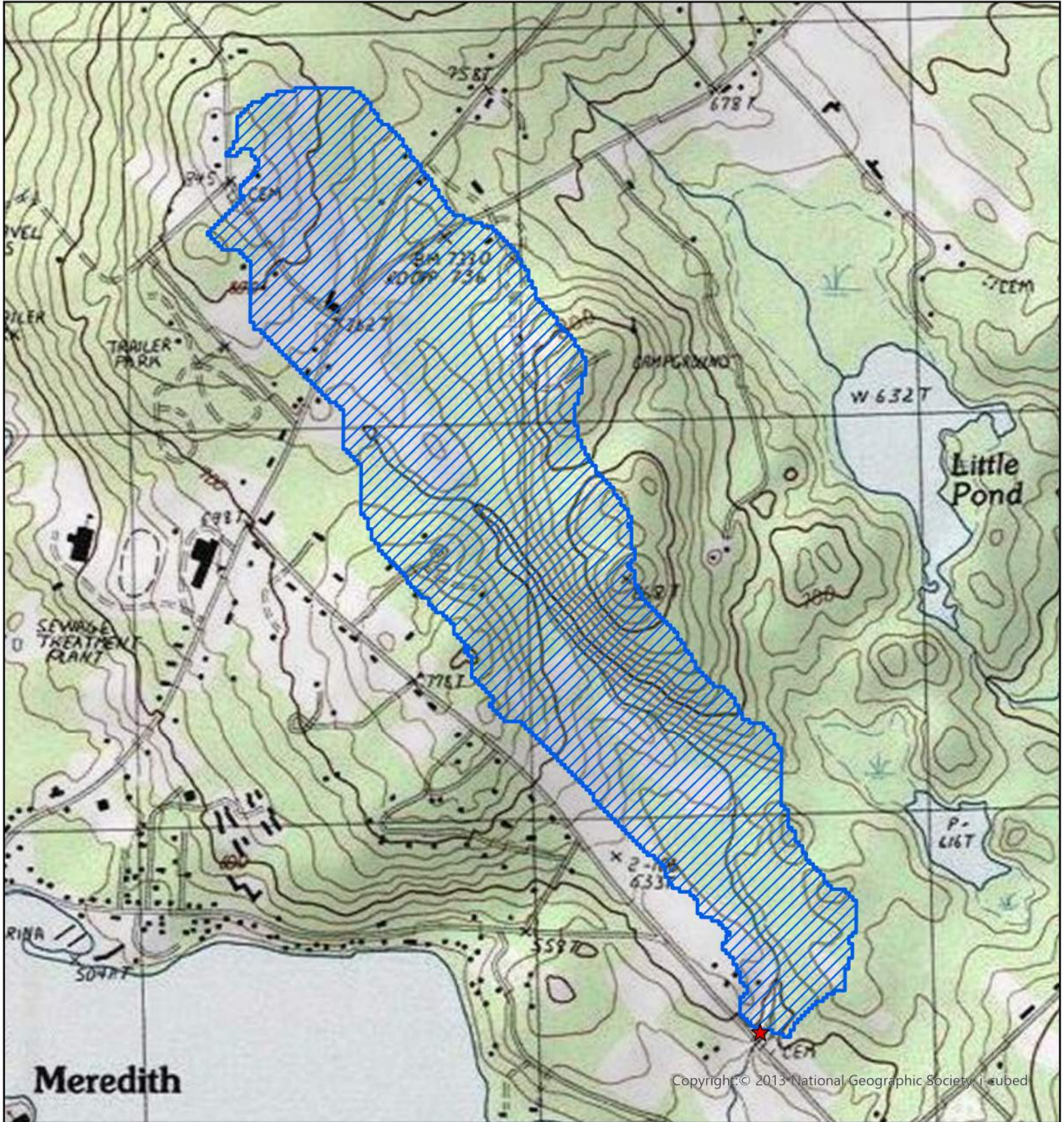
Principal Function(s)/

Function / Value	Suitability Y / N	Rationale (Reference #) *	Principal Function(s)/ Value(s)	Comments
Groundwater Recharge/Discharge	No	1, 2, 7, 11, 12	No	Wetland is small in size and is adjacent to 1st order stream which outlets into Lake Winnepesaukee.
Floodflow Alteration	Yes	2, 3, 5, 6, 9, 10, 11, 13, 17, 18	Yes	This wetland is small adj to stream. Likely influenced by crossing. Function available, although limited.
Fish and Shellfish Habitat	Yes	1, 2, 4, 5, 7, 8, 10, 15, 17	No	Wetland associated with a small 1st Order stream, limited/no flow during dry months. Bedrock low flows make it not favorable to year round fish movement throughout stream. After scour hole stream becomes diffuse and braided channel as the topography flattens and single channel below.
Sediment/Toxicant Retention	Yes	3, 4, 5, 6, 7, 10, 11, 12, 14, 15, 16	No	
Nutrient Removal	Yes	1, 2, 3, 5, 6, 7, 8, 9, 10, 11	Yes	Wetland at outlet of crossing is relatively flat and braided, providing some sediment removal and flow attenuation. Small size makes it limited.
Production Export	Yes	1, 2, 5, 6, 7, 8, 9, 10, 12	No	Variety of shrub species present at outlet. Limited to wildlife use, although wildlife may use as passing through.
Sediment/Shoreline Stabilization	Yes	1, 2, 3, 4, 8, 9, 12, 14, 15	Yes	Dense vegetation within wetland adjacent to stream likely stabilizes slope. Water velocities are primarily low, except during large rain events.
Wildlife Habitat	Yes	5, 6, 7, 8, 13, 14, 15	No	Wetland is small and associated with stream. Due to size not likely valuable to local wildlife as larger areas are present in the watershed. Adj to roadway.
Recreation	No	6	No	Stream is 1st Order. Wetland is small and does not provide recreation opportunities.
Educational/Scientific Value	No		No	NHB record does not indicate rare species in or near area. No access to site as narrow road and steep topography to stream. No safe parking.
Uniqueness/Heritage	No	12, 14, 17, 22	No	Residential development and farmland adjacent. Adjacent to Smith cemetery.
Visual Quality/Aesthetics	No	1, 3, 6	No	From road PFO and stream can be seen. Good plant diversity given the small size of wetlands. Farmland adj to stream and road.
ES Endangered Species Habitat	No		No	NHB review determined no known federal or state rare species occurrence.
Other				

Notes:

* Refer to backup list of numbered considerations.

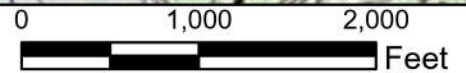
Meredith, #2022-M309-1



- ★ Project Location
- ▨ Watershed

Map depicting culvert replacement project which carries Meredith Neck Rd over an un-named tributary to Lake Winnepesaukee.

Map created by Arin Mills on 5/27/2022



1:13,000

New Hampshire
DOT
Department of Transportation



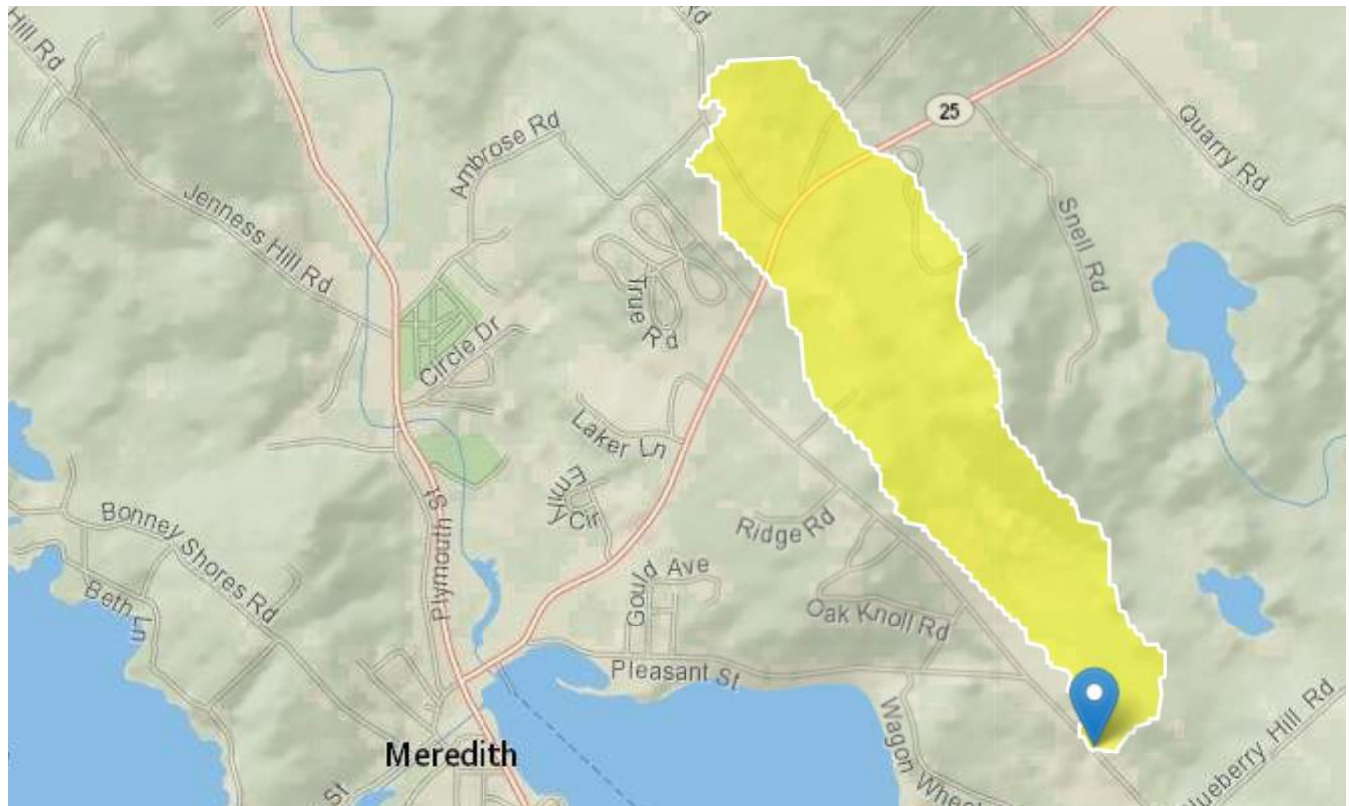
StreamStats Report for Meredith Neck Road Culvert adjacent to Cemetery

Region ID: NH

Workspace ID: NH20220520160441831000

Clicked Point (Latitude, Longitude): 43.65609, -71.47278

Time: 2022-05-20 12:05:01 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
APRAVPRE	Mean April Precipitation	3.522	inches
BSLDEM30M	Mean basin slope computed from 30 m DEM	9.102	percent
CONIF	Percentage of land surface covered by coniferous forest	25.8237	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	87.2	feet per mi

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.49	square miles
ELEVMAX	Maximum basin elevation	863.731	feet
MINTEMP_W	Mean winter minimum air temperature over basin surface area	12.203	degrees F
MIXFOR	Percentage of land area covered by mixed deciduous and coniferous forest	22.4097	percent
PREBC0103	Mean annual precipitation of basin centroid for January 1 to March 15 winter period	6.77	inches
PREBC_1112	Mean annual precipitation of basin centroid for November 1 to December 31 period	7.32	inches
PRECIPCENT	Mean Annual Precip at Basin Centroid	39.2	inches
PRECIPOUT	Mean annual precip at the stream outlet (based on annual PRISM precip data in inches from 1971-2000)	38.4	inches
PREG_03_05	Mean precipitation at gaging station location for March 16 to May 31 spring period	8	inches
PREG_06_10	Mean precipitation at gaging station location for June to October summer period	16.7	inches
SNOFALL	Mean Annual Snowfall	74.075	inches
TEMP	Mean Annual Temperature	43.98	degrees F
TEMP_06_10	Basinwide average temperature for June to October summer period	60.768	degrees F
WETLAND	Percentage of Wetlands	6.2525	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	0.7	1290
APRAVPRE	Mean April Precipitation	3.522	inches	2.79	6.23
WETLAND	Percent Wetlands	6.2525	percent	0	21.8

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CSL10_85	Stream Slope 10 and 85 Method	87.2	feet per mi	5.43	543

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

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

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

Statistic	Value	Unit
50-percent AEP flood	15.2	ft ³ /s
20-percent AEP flood	26.5	ft ³ /s
10-percent AEP flood	36.5	ft ³ /s
4-percent AEP flood	50.8	ft ³ /s
2-percent AEP flood	63.1	ft ³ /s
1-percent AEP flood	78.1	ft ³ /s
0.2-percent AEP flood	117	ft ³ /s

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/>)

Low-Flow Statistics Parameters [Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	3.26	689
TEMP	Mean Annual Temperature	43.98	degrees F	36	48.7
PREG_06_10	Jun to Oct Gage Precipitation	16.7	inches	16.5	23.1

Low-Flow Statistics Disclaimers [Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with

unknown errors.

Low-Flow Statistics Flow Report [Low Flow Statewide]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0129	ft ³ /s
7 Day 10 Year Low Flow	0.00312	ft ³ /s

Low-Flow Statistics Citations

Flynn, R.H. and Tasker, G.D.,2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S.Geological Survey Scientific Investigations Report 02-4298, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Flow-Duration Statistics Parameters [Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	3.26	689
PREG_06_10	Jun to Oct Gage Precipitation	16.7	inches	16.5	23.1
TEMP	Mean Annual Temperature	43.98	degrees F	36	48.7

Flow-Duration Statistics Disclaimers [Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Low Flow Statewide]

Statistic	Value	Unit
60 Percent Duration	0.177	ft ³ /s
70 Percent Duration	0.114	ft ³ /s
80 Percent Duration	0.0586	ft ³ /s
90 Percent Duration	0.026	ft ³ /s
95 Percent Duration	0.0147	ft ³ /s
98 Percent Duration	0.00799	ft ³ /s

Flow-Duration Statistics Citations

Flynn, R.H. and Tasker, G.D.,2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S.Geological Survey Scientific Investigations Report 02-4298, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Seasonal Flow Statistics Parameters [Low Flow Statewide]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	3.26	689
CONIF	Percent Coniferous Forest	25.8237	percent	3.07	56.2
PREBC0103	Jan to Mar Basin Centroid Precip	6.77	inches	5.79	15.1
BSLDEM30M	Mean Basin Slope from 30m DEM	9.102	percent	3.19	38.1
MIXFOR	Percent Mixed Forest	22.4097	percent	6.21	46.1
PREG_03_05	Mar to May Gage Precipitation	8	inches	6.83	11.5
TEMP	Mean Annual Temperature	43.98	degrees F	36	48.7
TEMP_06_10	Jun to Oct Mean Basinwide Temp	60.768	degrees F	52.9	64.4
PREG_06_10	Jun to Oct Gage Precipitation	16.7	inches	16.5	23.1
ELEVMAX	Maximum Basin Elevation	863.731	feet	260	6290

Seasonal Flow Statistics Disclaimers [Low Flow Statewide]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [Low Flow Statewide]

Statistic	Value	Unit
Jan to Mar15 60 Percent Flow	0.227	ft ³ /s
Jan to Mar15 70 Percent Flow	0.187	ft ³ /s
Jan to Mar15 80 Percent Flow	0.167	ft ³ /s

Statistic	Value	Unit
Jan to Mar15 90 Percent Flow	0.125	ft^3/s
Jan to Mar15 95 Percent Flow	0.0992	ft^3/s
Jan to Mar15 98 Percent Flow	0.0854	ft^3/s
Jan to Mar15 7 Day 2 Year Low Flow	0.171	ft^3/s
Jan to Mar15 7 Day 10 Year Low Flow	0.088	ft^3/s
Mar16 to May 60 Percent Flow	0.973	ft^3/s
Mar16 to May 70 Percent Flow	0.765	ft^3/s
Mar16 to May 80 Percent Flow	0.596	ft^3/s
Mar16 to May 90 Percent Flow	0.432	ft^3/s
Mar16 to May 95 Percent Flow	0.325	ft^3/s
Mar16 to May 98 Percent Flow	0.234	ft^3/s
Mar16 to May 7 Day 2 Year Low Flow	0.259	ft^3/s
Mar16 to May 7 Day 10 Year Low Flow	0.134	ft^3/s
Jun to Oct 60 Percent Flow	0.0361	ft^3/s
Jun to Oct 70 Percent Flow	0.0252	ft^3/s
Jun to Oct 80 Percent Flow	0.0193	ft^3/s
Jun to Oct 90 Percent Flow	0.0113	ft^3/s
Jun to Oct 95 Percent Flow	0.00691	ft^3/s
Jun to Oct 98 Percent Flow	0.00636	ft^3/s
Jun to Oct 7 Day 2 Year Low Flow	0.0131	ft^3/s
Jun to Oct 7 Day 10 Year Low Flow	0.00318	ft^3/s
Nov to Dec 60 Percent Flow	0.43	ft^3/s
Nov to Dec 70 Percent Flow	0.308	ft^3/s
Nov to Dec 80 Percent Flow	0.219	ft^3/s
Nov to Dec 90 Percent Flow	0.129	ft^3/s
Nov to Dec 95 Percent Flow	0.0749	ft^3/s
Nov to Dec 98 Percent Flow	0.0405	ft^3/s
Oct to Nov 7 Day 2 Year Low Flow	0.215	ft^3/s
Oct to Nov 7 Day 10 Year Low Flow	0.0717	ft^3/s

Seasonal Flow Statistics Citations

Flynn, R.H. and Tasker, G.D., 2002, Development of Regression Equations to Estimate Flow Durations and Low-Flow-Frequency Statistics in New Hampshire Streams: U.S. Geological Survey Scientific Investigations Report 02-4298, 66 p. (<http://pubs.water.usgs.gov/wrir02-4298>)

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	0.07722	940.1535

Bankfull Statistics Parameters [New England P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	3.799224	138.999861

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.49	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	11.3	ft
Bieger_D_channel_depth	0.913	ft
Bieger_D_channel_cross_sectional_area	10.4	ft ²

Bankfull Statistics Disclaimers [New England P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [New England P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	20.7	ft

Statistic	Value	Unit
Bieger_P_channel_depth	1.18	ft
Bieger_P_channel_cross_sectional_area	24.1	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	9.63	ft
Bieger_USA_channel_depth	1.04	ft
Bieger_USA_channel_cross_sectional_area	11.6	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bieger_D_channel_width	11.3	ft
Bieger_D_channel_depth	0.913	ft
Bieger_D_channel_cross_sectional_area	10.4	ft ²
Bieger_P_channel_width	20.7	ft
Bieger_P_channel_depth	1.18	ft
Bieger_P_channel_cross_sectional_area	24.1	ft ²
Bieger_USA_channel_width	9.63	ft
Bieger_USA_channel_depth	1.04	ft
Bieger_USA_channel_cross_sectional_area	11.6	ft ²

Bankfull Statistics Citations

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p.

(https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages)

Recharge Statistics Parameters [Groundwater Recharge Statewide 2004 5019]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
PRECIPOUT	Mean Annual Precip at Gage	38.4	inches	35.83	53.11
TEMP	Mean Annual Temperature	43.98	degrees F	36.05	48.69
MINTEMP_W	Mean Winter Min Temperature	12.203	degrees F	0.8	19.88
CONIF	Percent Coniferous Forest	25.8237	percent	3.07	56.18
PREG_03_05	Mar to May Gage Precipitation	8	inches	6.83	11.54
SNOFALL	Mean Annual Snowfall	74.075	inches	54.46	219.07
PREG_06_10	Jun to Oct Gage Precipitation	16.7	inches	16.46	23.11
MIXFOR	Percent Mixed Forest	22.4097	percent	6.21	46.13
PREBC_1112	Nov to Dec Basin Centroid Precip	7.32	inches	6.57	15.2
PRECPCENT	Mean Annual Precip at Basin Centroid	39.2	inches	37.44	75.91

Recharge Statistics Flow Report [Groundwater Recharge Statewide 2004 5019]

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

Statistic	Value	Unit	ASEp
GW_Recharge_Jan_to_Mar15	3.65	in	15.5
GW_Recharge_Mar16_to_May	6.73	in	12.4
GW_Recharge_Jun_to_Oct	2.61	in	26.5
GW_Recharge_Nov_to_Dec	2.78	in	15.8
GW_Recharge_Ann	16.6	in	12.4

Recharge Statistics Citations

Flynn, R.H. and Tasker, G.D.,2004, Generalized Estimates from Streamflow Data of Annual and Seasonal Ground-Water-Recharge Rates for Drainage Basins in New Hampshire, U.S. Geological Survey Scientific Investigations Report 2004-5019, 67 p. (<http://pubs.usgs.gov/sir/2004/5019/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.8.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.0

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

Project: Meredith, 2022-M309-1

Date of Assessment: June 7, 2022

Names of who completed the assessment: Arin Mills, Deidra Benjamin, & Josh Brown

Stream Information:

Stream Name: Un-named Stream

Watershed Area: 314 Acres

Stream Tier: Tier 2

Wetland Classification: R3RB12

Reference Reach:

Average Bankfull Width: 8.7'

Average Floodprone Width: 17'

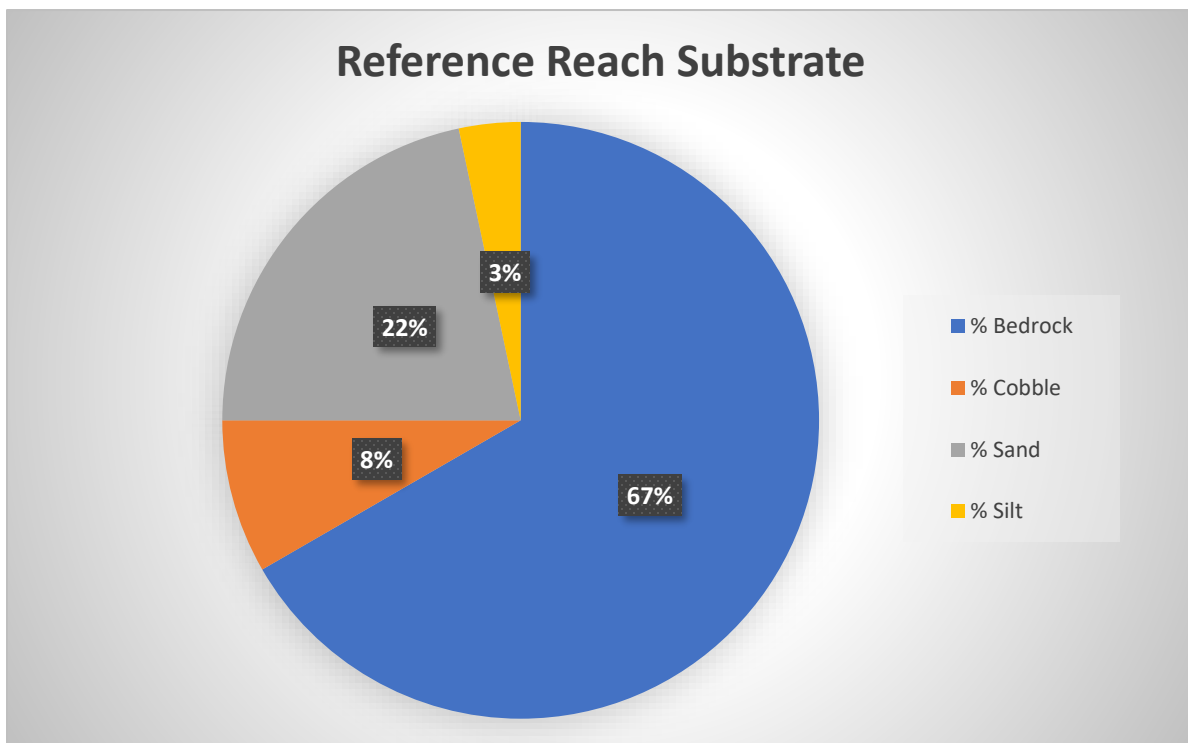
Average Depth: 0.4'

Average Slope: 8%

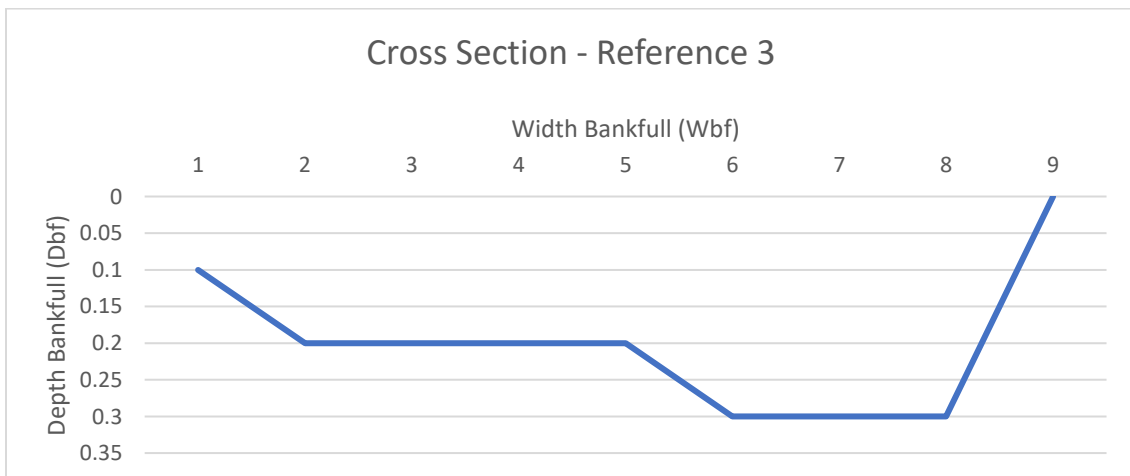
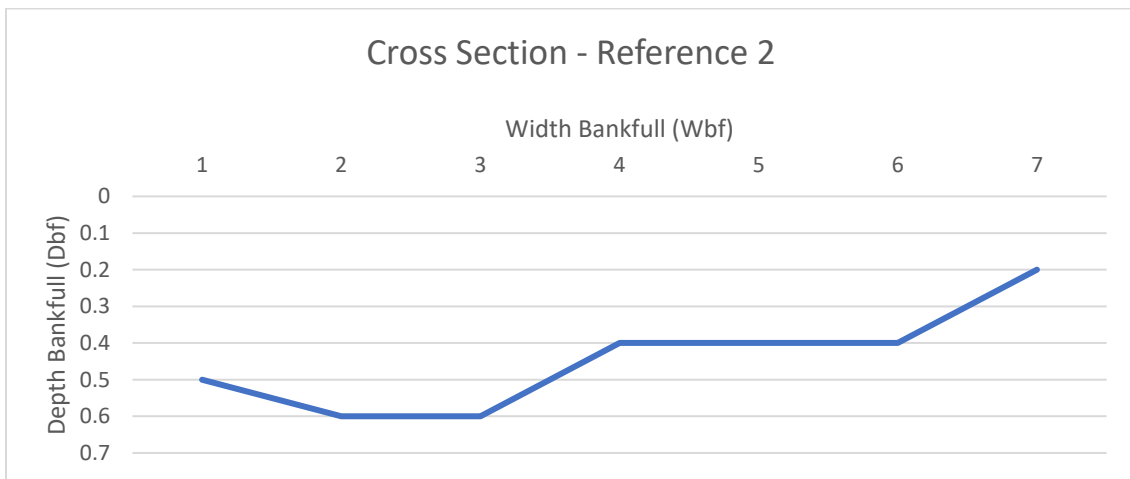
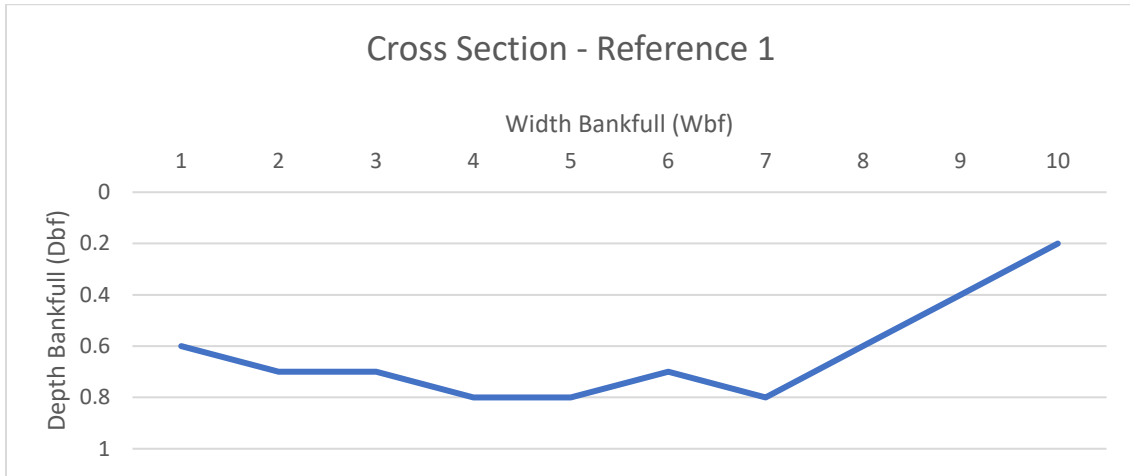
Entrenchment Ratio: 1.93

Rosgen Classification: Type B

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

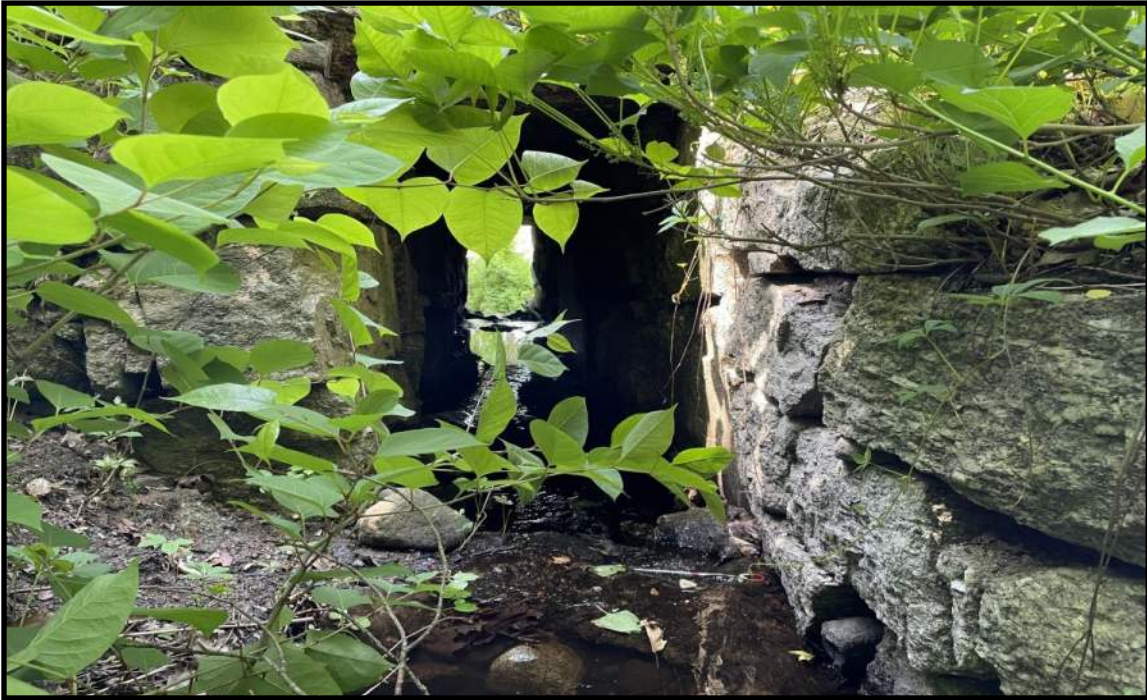


Photo 3: Inlet looking downstream



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**
Land Resources Management
Wetlands Bureau



RSA 482-A/ Env-Wt-900

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

1. Tier Classifications
Determine the contributing watershed size at [USGS StreamStats](#)
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:	314 acres
<input type="checkbox"/> Tier 1: A <i>tier 1</i> stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres	
<input checked="" type="checkbox"/> Tier 2: A <i>tier 2</i> 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 type="checkbox"/> Tier 3: A <i>tier 3</i> stream crossing is a crossing that meets <u>any</u> of the following criteria: <ul style="list-style-type: none"> <input type="checkbox"/> On a watercourse where the contributing watershed is more than 640 acres <input type="checkbox"/> Within a Designated River Corridor <input type="checkbox"/> On a watercourse that is listed on the surface water assessment 305(b) report <input type="checkbox"/> Within a 100-year floodplain (see <i>section 2</i> below) <input type="checkbox"/> In a jurisdictional area having any protected species or habitat (NHB DataCheck) <input type="checkbox"/> In or within 100 feet of a Prime Wetland 	

2. 100-year Floodplain

Use the [FEMA Map Service Center](#) to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:

<input checked="" type="checkbox"/> No: The proposed stream crossing <i>is not</i> within the FEMA 100-year floodplain.
<input type="checkbox"/> Yes: The proposed project <i>is</i> within the FEMA 100-year floodplain. Zone = _____ <input type="checkbox"/> Elevation of the 100-year floodplain at the inlet: _____ feet (FEMA El. or Modeled El.)

3. Calculating Peak Discharge

Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 198.0 CFS	Calculation method: TR-55
Estimated Bankfull discharge at the crossing location: 274 CFS	Calculation method: HY-8

➡ **Note: If Tier 1 then skip to Section 10** ⬅

4. Predicted Channel Geometry based on [Regional Hydraulic Curves](#)
For Tier 2 and Tier 3 Crossings Only

Bankfull Width: 8.8 feet	Mean Bankfull Depth: 1.1 feet
Bankfull Cross Sectional Area: 9.3 square feet	

lrn@des.nh.gov or (603) 271-2147

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

www.des.nh.gov

5. Cross Sectional Channel Geometry:
Measurements of the Existing Stream within a Reference Reach
For Tier 2 and Tier 3 Crossings Only

Describe the reference reach location: **Upstream, Forested**

Reference reach watershed size: **314 acres**

<u>Parameter</u>	<u>Cross Section 1</u> Describe bed form Riffle <i>(e.g. pool, riffle, glide)</i>	<u>Cross Section 2</u> Describe bed form Riffle, run, drop <i>(e.g. pool, riffle, glide)</i>	<u>Cross Section 3</u> Describe bed form Riffle <i>(e.g. pool, riffle, glide)</i>	<u>Range</u>
Bankfull Width	10 feet	7 feet	9 feet	7 - 10 feet
Bankfull Cross Sectional Area	6.3 SF	3.1 SF	1.8 SF	1.8 - 6.3 SF
Mean Bankfull Depth	0.6 feet	0.4 feet	0.2 feet	0.2 - 0.6 feet
Width to Depth Ratio	15.9	15.8	45	15.8 - 45
Max Bankfull Depth	0.8 feet	0.6 feet	0.3 feet	0.3 - 0.8 feet
Flood Prone Width	24 feet	12 feet	15 feet	12 - 24 feet
Entrenchment Ratio	2.4	1.7	1.7	1.7 - 2.4

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

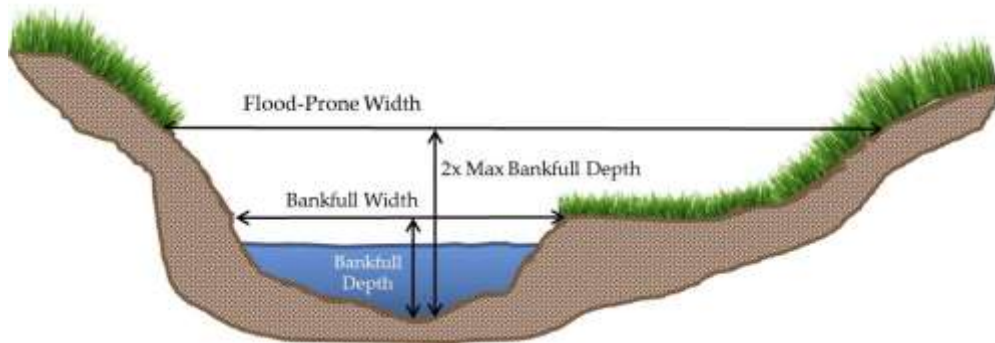


Figure 1: Determining the Reference Reach Attributes

6. Longitudinal Parameters of the Reference Reach and Crossing Location

For Tier 2 and Tier 3 Crossings Only

Average Channel Slope of the Reference Reach: **8%**

Average Channel Slope at the Crossing Location: **5%**

7. Plan View Geometry

For Tier 2 and Tier 3 Crossings Only

Sinuosity of the Reference Reach: **1.08**

Sinuosity of the Crossing Location: **0.53**

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

irm@des.nh.gov or (603) 271-2147

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8. Substrate Classification based on Field Observations

For Tier 2 and Tier 3 Crossings Only

% of reach that is <i>bedrock</i>	67 %
% of reach that is <i>boulder</i>	0 %
% of reach that is <i>cobble</i>	8 %
% of reach that is <i>gravel</i>	0 %
% of reach that is <i>sand</i>	22 %
% of reach that is <i>silt</i>	3 %

9. Stream Type of Reference Reach

For Tier 2 and Tier 3 Crossings Only

Stream Type of Reference Reach:	Type B
---------------------------------	--------

Refer to Rosgen Classification Chart (Figure 2) below

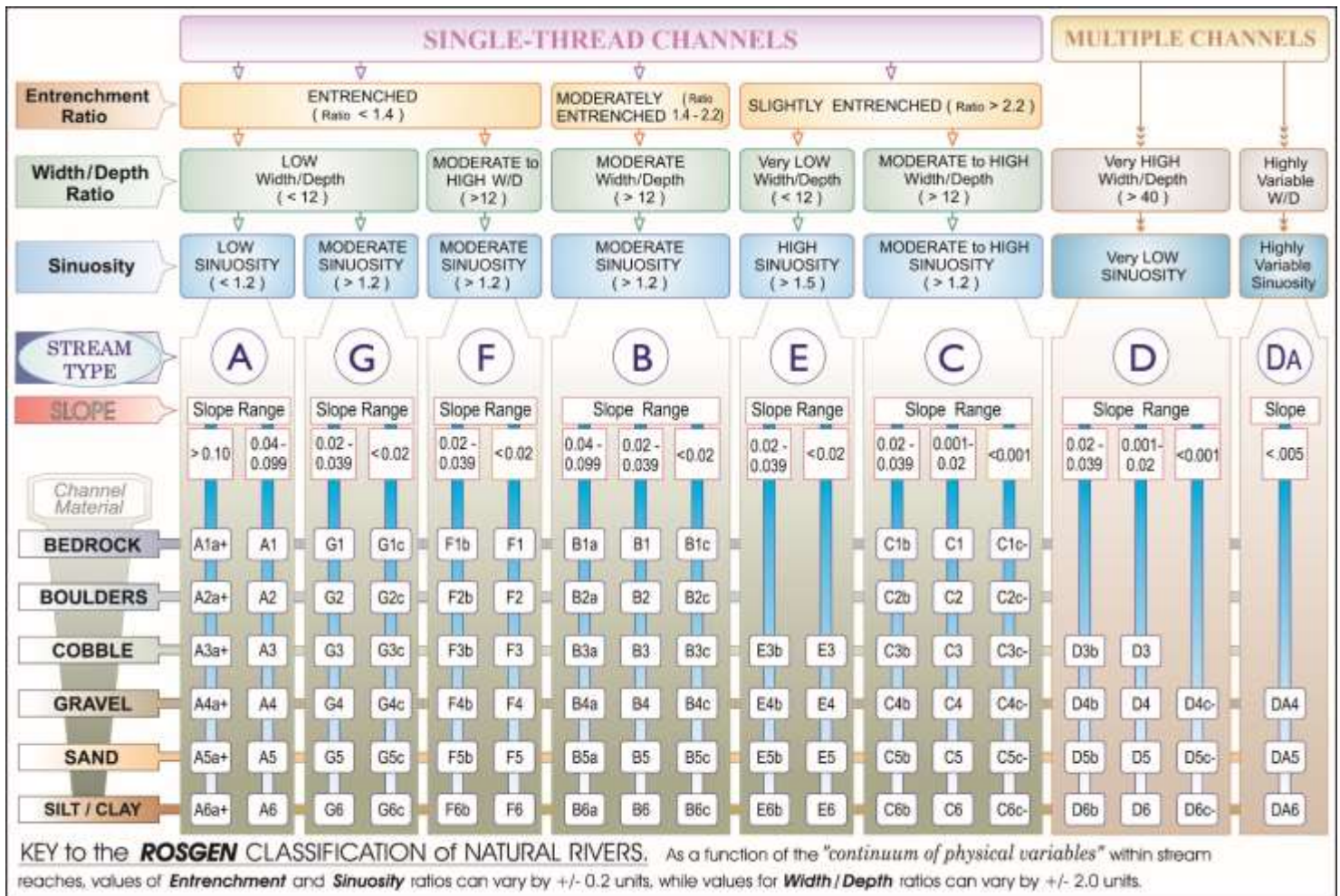


Figure 2. Reference from Applied River Morphology, Rosgen, 1996

10. Crossing Structure Metrics

lrm@des.nh.gov or (603) 271-2147

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

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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 checked="" type="checkbox"/> Other: Stacked Granite	
Existing Crossing Span <i>(perpendicular to flow)</i>	3.5 feet	Culvert Diameter 3.5' W x 5' V feet Inlet Elevation 566.87'
Existing Crossing Length <i>(parallel to flow)</i>	34.6 feet	Outlet Elevation 566.01' Culvert Slope 2.5%

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 checked="" 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 <i>(perpendicular to flow)</i>	5' feet		Culvert Diameter 5' W x 4' V feet Inlet Elevation 566.83'	
Proposed Structure Length <i>(parallel to flow)</i>	75.4' feet		Outlet Elevation 561.65' Culvert Slope 6.9%	
Proposed Entrenchment Ratio* <i>For Tier 2 and Tier 3 Crossings Only</i>	2.3		<i>Note: To accommodate the entrenchment ratio, floodplain drainage structures may be utilized</i>	

* 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 904.09

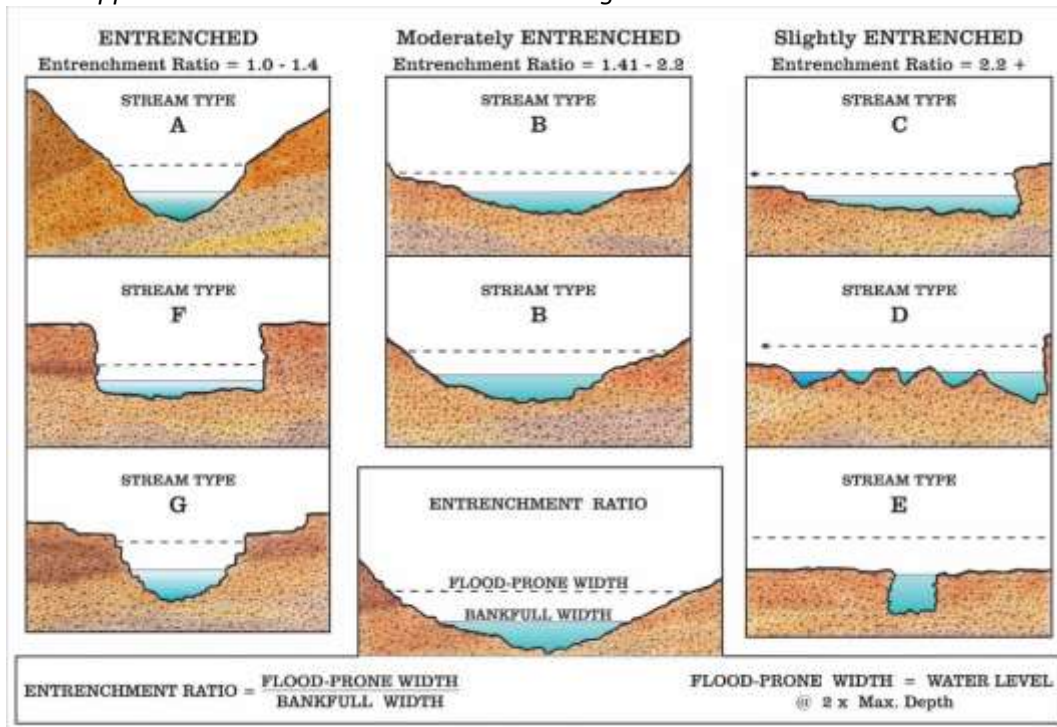


Figure 3. Reference from Applied River Morphology, Rosgen, 1996

lrn@des.nh.gov or (603) 271-2147

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

www.des.nh.gov

11. Crossing Structure Hydraulics		
	Existing	Proposed
100 year flood stage elevation at inlet	576.44	574.30
Flow velocity at outlet in feet per second (FPS)	11.23	9.88
Calculated 100 year peak discharge (Q) for the <u>proposed</u> structure in CFS		198
Calculated 50 year peak discharge (Q) for the <u>proposed</u> structure in CFS		149

12. Crossing Structure Openness Ratio
<i>For Tier 2 and Tier 3 Crossings Only</i>
<p>Crossing Structure Openness Ratio = 0.27</p> <p><i>Openness box culvert = (height x width)/length</i></p> <p><i>Openness round culvert = (3.14 x radius²)/length</i></p>

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.
<i>All stream crossings shall be designed and constructed so as to:</i>
<input checked="" type="checkbox"/> Not be a barrier to sediment transport.
<input checked="" type="checkbox"/> Prevent the restriction of high flows and maintain existing low flows.
<input checked="" type="checkbox"/> Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.
<input checked="" type="checkbox"/> Not cause an increase in the frequency of flooding or overtopping of banks.
<input checked="" type="checkbox"/> Preserve watercourse connectivity where it currently exists.
<input checked="" type="checkbox"/> Restore watercourse connectivity where:
(1) Connectivity previously was disrupted as a result of human activity(ies); and
(2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both.
<input checked="" type="checkbox"/> Not cause erosion, aggradation, or scouring upstream or downstream of the crossing.
<input checked="" type="checkbox"/> Not cause water quality degradation.

14. Tier Specific Design Criteria
Stream crossings must be designed in accordance with the Tier specific design criteria listed in Part Env-Wt 904.
<input checked="" type="checkbox"/> 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.

15. Alternative Design
<p>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 904.09.</p> <p><input type="checkbox"/> I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.09</p>

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**NH Department of Transportation
Bureau of Highway Maintenance – District 3
Project Meredith 44048 (2022-M309-1)**

P.E. Certification in Accordance with Env-904.08(b)

Stream Crossing Rules for Rehabilitation of Tier 2 Crossings

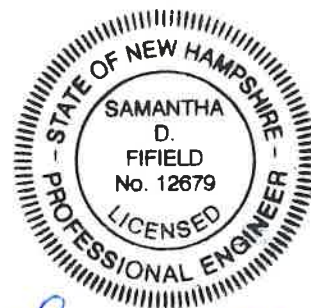
Env-Wt 903.01(f)(1)e – Minor Impact Classification

Env-Wt 904.08 Replacement of Tier 2 Stream Crossings

Env-Wt 904.08

- (a) (1) This is a legal crossing that has been classified as a Tier 2 based on the size of the contributing watershed (0.49 sq mi).
- (b) 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 proposed replacement stream crossing:
 - (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 the no name stream
 - 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. It restores watercourse connectivity by eliminating the significant perch.
 - 8. It does not cause erosion as scour countermeasures will be installed downstream.
 - 9. It does not cause water quality degradation.
 - (b) Enhances the hydraulic capacity of the crossing.
 - (c) Enhances the capacity of the crossing to accommodate aquatic organism passage by eliminating the significant downstream perch.
 - (d) Enhances the connectivity of the upstream and downstream reaches by lengthening the crossing and eliminating the downstream perch.
 - (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. Fifiel
Stamp & Signature

Name: Samantha D. Fifiel, P.E.

Date: March 13, 2023

New Hampshire Natural Heritage Bureau NHB DataCheck Results Letter

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

From: NH Natural Heritage Bureau

Date: 5/27/2022 (This letter is valid through 5/27/2023)

Re: Review by NH Natural Heritage Bureau of request dated 5/27/2022

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

NHB ID: NHB22-1888

Applicant: Arin Mills

Location: Meredith
Tax Map: DOT ROW, Tax Lot: DOT ROW
Address: Meredith Neck Rd over Un-named tributary to Lake Winnepesaukee

Proj. Description: Replace existing stone box culvert which carries an un-named stream under Meredith Neck Rd. Work will also include installation of guardrail to improve safety of the public. Work scheduled for August 2023.

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.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

MAP OF PROJECT BOUNDARIES FOR: NHB22-1888





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

In Reply Refer To:
Project Code: 2022-0056132
Project Name: Meredith, 2022-M309-1

January 30, 2023

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:

Updated 12/27/2022 - 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 - (Updated 12/27/2022) Please visit our New England Field Office Project Review webpage at the link above for updated northern long-eared bat consultation guidance. The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule will go into effect on **January 30, 2023**. After that date, the current 4(d) rule for NLEB will no longer be in effect, and the 4(d) determination key will no longer be available. New compliance tools will be available by mid- to late-January, and information will be posted on our New England Field Office Project Review webpage in January, so please check this site often for updates.

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. If your project may result in incidental take of NLEB after the new listing goes into effect, this will need to be addressed in an updated consultation that includes an Incidental Take Statement. Many of these situations will be addressed through the new compliance tools. If your project may require re-initiation of consultation, please wait for information on the new tools to appear on our website or contact our office at **newengland@fws.gov** 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 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

Project Summary

Project Code: 2022-0056132

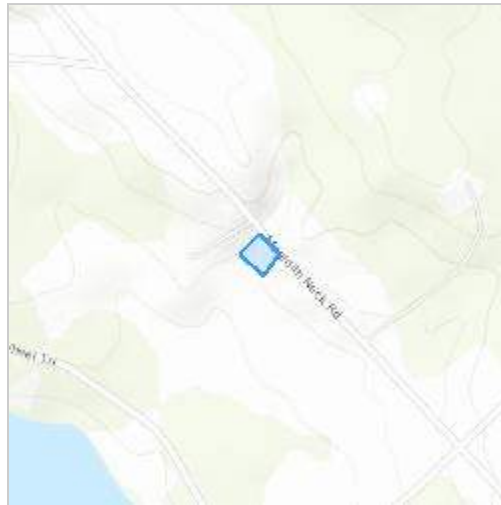
Project Name: Meredith, 2022-M309-1

Project Type: Culvert Repair/Replacement/Maintenance

Project Description: Replace existing 2.5' span by 5' rise stone box culvert which carries Meredith Neck Road over an un-named tributary to Lake Winnepesaukee.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.6558195,-71.47286901948081,14z>



Counties: Belknap County, New Hampshire

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 Fisheries¹, 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: https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

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

Critical habitats

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

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

Phone: 6032710187



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

In Reply Refer To:
Project code: 2022-0056132
Project Name: Meredith, 2022-M309-1

September 28, 2022

Subject: Consistency letter for the 'Meredith, 2022-M309-1' 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 September 28, 2022 your effects determination for the 'Meredith, 2022-M309-1' (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”^[1] 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:

- Monarch Butterfly *Danaus plexippus* Candidate

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

[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)].

Action Description

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

1. Name

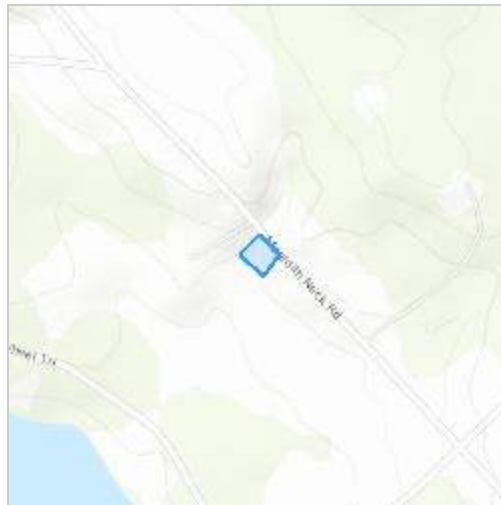
Meredith, 2022-M309-1

2. Description

The following description was provided for the project 'Meredith, 2022-M309-1':

Replace existing 2.5' span by 5' rise stone box culvert which carries Meredith Neck Road over an un-named tributary to Lake Winnepesaukee.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.6558195,-71.47286901948081,14z>



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.

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.

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. [Semantic] 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/media/nleb-roost-tree-and-hibernacula-state-specific-data-links-0.

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

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

Yes

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

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

0

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

0

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

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

Phone: 6032710187

March 8, 2023

Coordination under Section 106 of the National Historic Preservation Act is in-process. Replacement of stone box culvert has been determined to result in an Adverse Effect and required coordination with stakeholders is complete. A signed Adverse Affect memo is in process and will be provided once all parties have signed.

Arin Mills

NHDOT

Senior Environmental Manager

Please mail 2 copies of the completed form and required material to:

Cultural Resources Staff
Bureau of Environment
NH Department of Transportation
7 Hazen Drive
Concord, NH 03302

RECEIVED OCT 27 2022

DHR Use Only	
R&C #	14369
Log In Date	10/27/22
Response Date	___/___/___
Sent Date	___/___/___

**Request for Project Review by the
New Hampshire Division of Historical Resources
for **Transportation** Projects**

- This is a new submittal.
- This is additional information relating to DHR Review and Compliance (R&C)#:

GENERAL PROJECT INFORMATION
DOT Project Name & Number Meredith, 2022-M309-1
Brief Descriptive Project Title District 3 project involving addressing structural concerns to an existing 3.5' x 5' rise stone box culvert which carries Meredith Neck Road over and un-named tributary to Lake Winnepesaukee. Work will also include replacement of existing guardrail and updating of existing drainage to the south of the crossing (adjacent to Smith cemetery). <i>Culvert Replacement Project</i>
Project Location Meredith Neck Road over un-named tributary to Lake Winnepesaukee.
City/Town Meredith
Lead Federal Agency and Contact (if applicable) ACOE (Agency providing funds, licenses, or permits) Permit Type and Permit or Job Reference # Dredge & Fill
DOT Environmental Manager (if applicable) Arin Mills
PROJECT SPONSOR INFORMATION
Project Sponsor Name NHDOT District 3- Samantha Fifiel
Mailing Address 2 Sawmill Road Phone Number 603-524-6667
City Gilford State NH Zip 03246 Email samantha.d.fifiel@dot.nh.gov
CONTACT PERSON TO RECEIVE RESPONSE
Name/Company Jillian Edelmann, NHDOT Bureau of Environment
Mailing Address 7 Hazen Drive Phone Number -2713226
City Concord State NH Zip 03302 Email jillian.l.edelmann@dot.nh.gov

RECEIVED
BUREAU OF ENVIRONME. T
DEC 05 2022
NH DEPARTMENT
OF TRANSPORTATION

This form is updated periodically. Please download the current form at <http://www.nh.gov/nhdhr/review>. Please refer to the Request for Project Review for Transportation Projects Instructions for direction on completing this form. Submit 2 copies of this project review form for each project for which review is requested. Include 1 self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DOT and the DHR as part of its review records. Items to be kept confidential should be clearly

identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: <http://www.nh.gov/nhdhr/review> or contact the R&C Specialist at marika.s.labash@dncr.nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

- Attach the Project Mapping *indicating the proposed area of potential effects (APE)*. (See RPR for Transportation Projects Instructions and R&C FAQs for guidance. Note that the APE is subject to approval by lead federal agency and SHPO.)
- Attach a detailed narrative description of the proposed project.
- Attach current engineering plans with tax parcel, landscape, and building references, and areas of proposed excavation, if available.
- Attach photos of the project area/APE with mapped photo key (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Blank photo logs are available on the DHR website. Informative photo captions can be used in place of a photo log.)
- A DHR records search must be conducted to identify properties within or adjacent to the APE. Provide records search results via EMMIT or in **Table 1**. (Blank table forms are available on the DHR website.) EMMIT or in-house records search conducted on 06/27/2022.*

**The DHR recommends that all survey/National Register nomination forms and their Determination of Eligibility (green) sheets are downloaded or copied for your use in project development.*

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the APE? Yes No

If no, skip to Archaeology section. If yes, submit all of the following information:

- Attach completed **Table 2**.
- Photographs of *each* resource or streetscape located within the APE. Add to the mapped photo key and photo log noted above. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- Copies of National Register boundary (listed or eligible) mapping, and add National Register boundaries for listed and eligible properties to project mapping/engineering plans (if applicable).

Archaeology

Does the proposed undertaking involve ground-disturbing activity? Yes No
If yes, submit all of the following information:

- Description of current and previous land use and disturbances.
- Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

AGENCY COMMENT

This Space for DOT and Division of Historical Resources Use Only

Sent to DHR; Authorized DOT Signature: Bill Edelman Date: 10/25/2022

Insufficient information to initiate review.

Additional information is needed in order to complete review.

Comments: Above-ground - see minutes from 11/10/22 CR meeting. Suggest project-specific meeting to continue conversation.

ARCHAEOLOGICAL MONITORING OF CONSTRUCTION WITHIN 25' OF SMITH CEMETERY BY ARCHAEOLOGIST QUALIFIED TO RECOGNIZE 19TH CENTURY BURIALS WILL BE NECESSARY. SURVEY MAY BE NECESSARY DEPENDING ON FINAL DESIGN AND PROPOSED ACCESS + STAGING AREAS.

Bill Edelman 11-17-22

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical



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

**Appendix B
New Hampshire General Permits
Required Information and USACE Section 404 Checklist**

USACE Section 404 Checklist

1. Attach any explanations to this checklist. Lack of information could delay a USACE 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 3 for information on single and complete projects.
4. Contact USACE at (978) 318-8832 with any questions.
5. The information requested below is generally required in the NHDES Wetland Application. See page 61 for NHDES references and Admin Rules as they relate to the information below.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See the following to determine if there is an impaired water in the vicinity of your work area. * https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/ https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to tidal SAS, prime wetlands, or priority resource areas? 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 https://www4.des.state.nh.us/NHB-DataCheck/ .		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
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.)	X	
2.5 The overall project site is more than 40 acres?		X
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 % of the overall project sire will be previously and proposed filled wetlands?		
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: https://www4.des.state.nh.us/NHB-DataCheck/ . USFWS IPAC website: https://ipac.ecosphere.fws.gov/		X

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: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html . • Data Mapper: www.granit.unh.edu . • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html .		X
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)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 31?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		NA
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the RPR Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 37 GC 14(d) of the GP document**	X	
6. Minimal Impact Determination (for projects that exceed 1 acre of permanent impact)	Yes	No
Projects with greater than 1 acre of permanent impact must include the following: • Functional assessment for aquatic resources in the project area. • On and off-site alternative analysis. • Provide additional information and description for how the below criteria are met.		NA
6.1 Will there be complete loss of aquatic resources on site?		X
6.2 Have the impacts to the aquatic resources been avoided and minimized to the greatest extent practicable?	X	
6.3 Will all aquatic resource function be lost?		X
6.4 Does the aquatic resource (s) have regional significance (watershed or ecoregion)?		X
6.5 Is there an on-site alternative with less impact?		X
6.6 Is there an off-site alternative with less impact?		X
6.7 Will there be a loss to a resource dependent species?		X
6.8 Are indirect impacts greater than 1 acre within and adjacent to the project area?		X
6.9 Does the proposed mitigation replace aquatic resource function for direct, indirect, and cumulative impacts?	X	

*Although this checklist utilizes state information, its submittal to USACE is a federal requirement.

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

Additional Details:

1.1: Site approx. 1,500' from Lake Winnepesaukee which is impaired for non-native plants and pH.

2.1: Work on un-named tributary to Lake Winnepesaukee

2.4: See plans elsewhere in application for impacts to PFO. Impacts limited to area necessary for culvert replacement and elimination of existing perch.

3.1: NHB22-1888 and IPaC results included in application package. No species known to occur in project area.

5: Stone box determined eligible for listing on the National Historic Register. All coordination is complete and signed Adverse Effect memo can be found within the application.

6: Proposed design improves connectivity and aquatic organism passage by eliminating perch.



Photo 1: Looking Northwest Down Meredith Neck Road



Photo 2: Looking Southeast Down Meredith Neck Road



Photo 3: Looking Upstream at Crossing Outlet



Photo 4: Looking Downstream From Meredith Neck Road (Outlet)



Photo 5: Looking Upstream at Crossing Outlet



Photo 6: Looking Southeast Across Outlet



Photo 7: Looking Downstream at Inlet

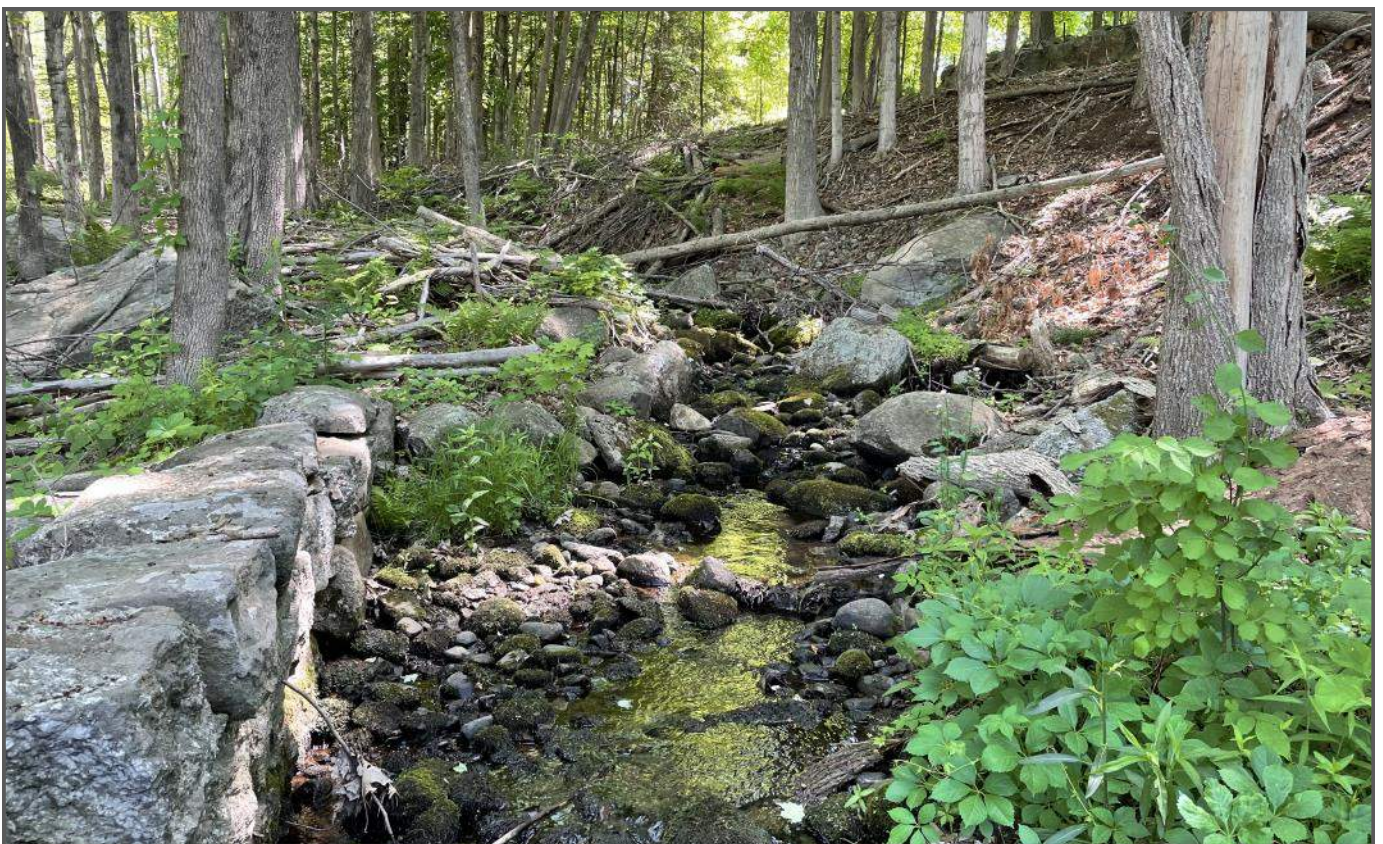


Photo 8: Looking Upstream From Inlet

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.

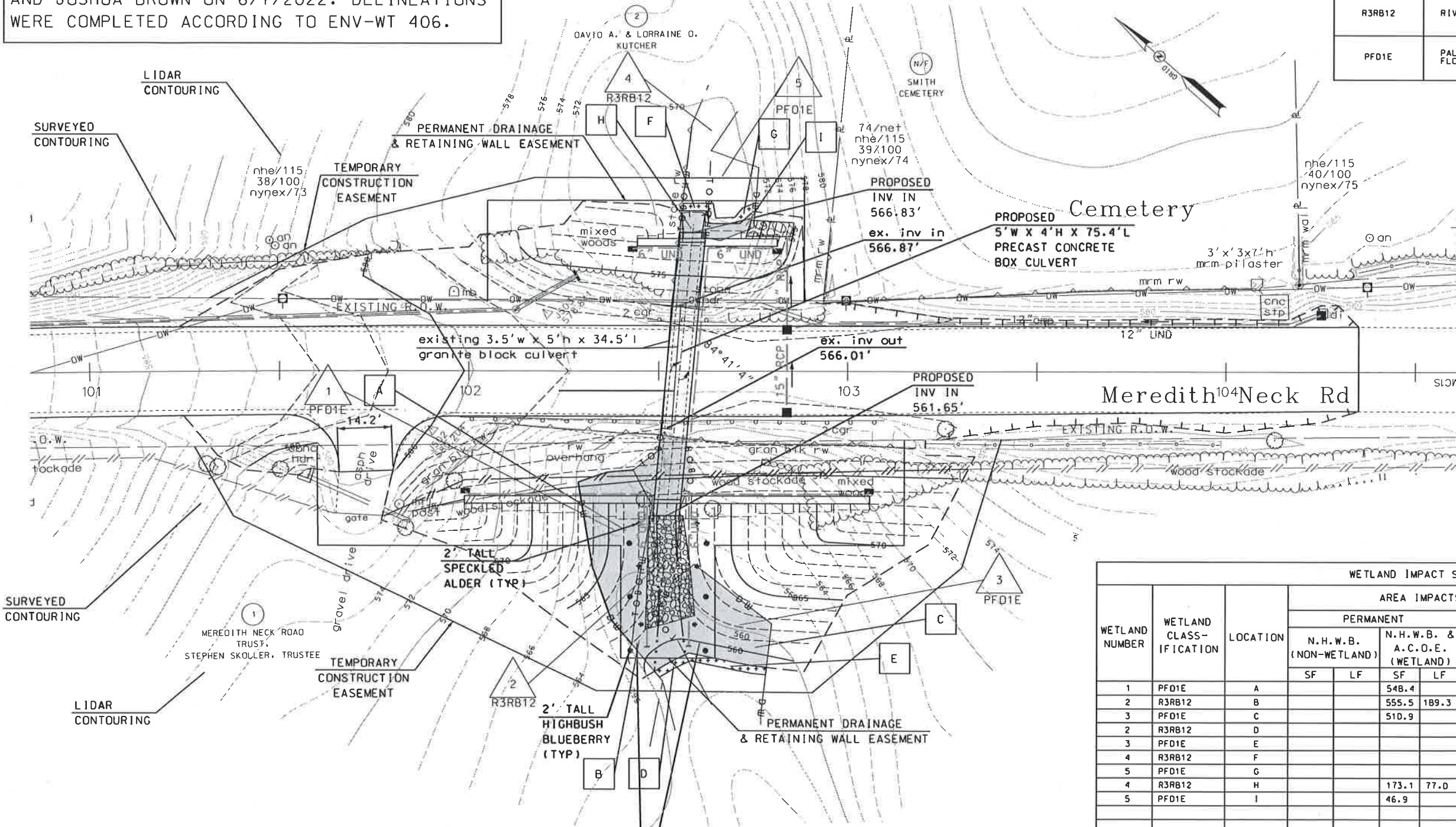
As a preventative measure, erosion control measures, such as silt fence, compost sock, and hay bales, will be placed between the proposed work area and designated wet areas ahead of all construction activities.

Work will be completed in the following order:

- Install all temporary erosion control measures
- Close Meredith Neck Road and detour traffic onto Town Roads
- Install the clean water bypass (CWB)
- Remove existing granite block culvert, upstream headwall, and downstream retaining wall; save the blocks for use in proposed retaining walls
- Install new precast concrete box culvert and downstream scour protection stone pad
- Once flow areas are permanently stabilized, divert clean flow to new culvert and remove the CWB
- Fill over the new culvert and build temporary steep roadway slopes
- Construct roadway selects and open roadway to single lane alternating two-way traffic down the middle of the road
- Build upstream and downstream granite block retaining walls and 4:1 roadway slopes
- Once the 4:1 roadway slopes are built, the roadway may be opened to two-way traffic during non-work hours.
- Revegetate the roadway slopes
- Pave the roadway, complete pavement markings, and clean up the site
- Fully open the roadway to two-way traffic
- Once the entire site has permanently stabilized, remove temporary erosion control measures.

WETLANDS DELINEATED BY DEIDRA BENJAMIN AND JOSHUA BROWN ON 6/7/2022. DELINEATIONS WERE COMPLETED ACCORDING TO ENV-WT 406.

WETLAND CLASSIFICATION CODES	
R3RB12	RIVERINE, UPPER PERENNIAL, ROCK BOTTOM, BEDROCK, RUBBLE
PFD1E	PALUSTRINE, FORRESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED

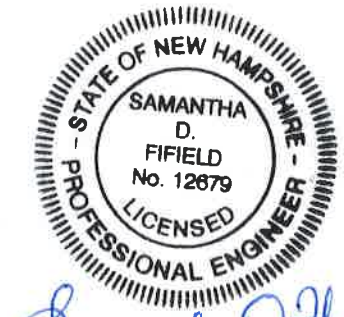


WETLAND IMPACT SUMMARY								
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS				TEMPORARY	
			PERMANENT		TEMPORARY			
			N.H.W.B. (NON-WETLAND)	N.H.W.B. & A.C.O.E. (WETLAND)	SF	LF	SF	LF
1	PFD1E	A		548.4				
2	R3RB12	B		555.5	189.3			
3	PFD1E	C		510.9				
2	R3RB12	D				18.2	6.0	
3	PFD1E	E				42.3		
4	R3RB12	F				13.9	7.8	
5	PFD1E	G				31.3		
4	R3RB12	H		173.1	77.0			
5	PFD1E	I		46.9				
TOTAL				1834.8	266.3	105.7	13.8	

PERMANENT IMPACTS: 1834.8 SF
 TEMPORARY IMPACTS: 105.7 SF
 TOTAL IMPACTS: 1940.5 SF
 NO MITIGATION PER 904.04(d)(3)

LEGEND

TYPE OF WETLAND IMPACT	SHADING/HATCHING	#	WETLAND DESIGNATION NUMBER
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)		#	WETLAND IMPACT LOCATION
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)		#	WETLAND MITIGATION AREA
TEMPORARY IMPACTS			MITIGATION

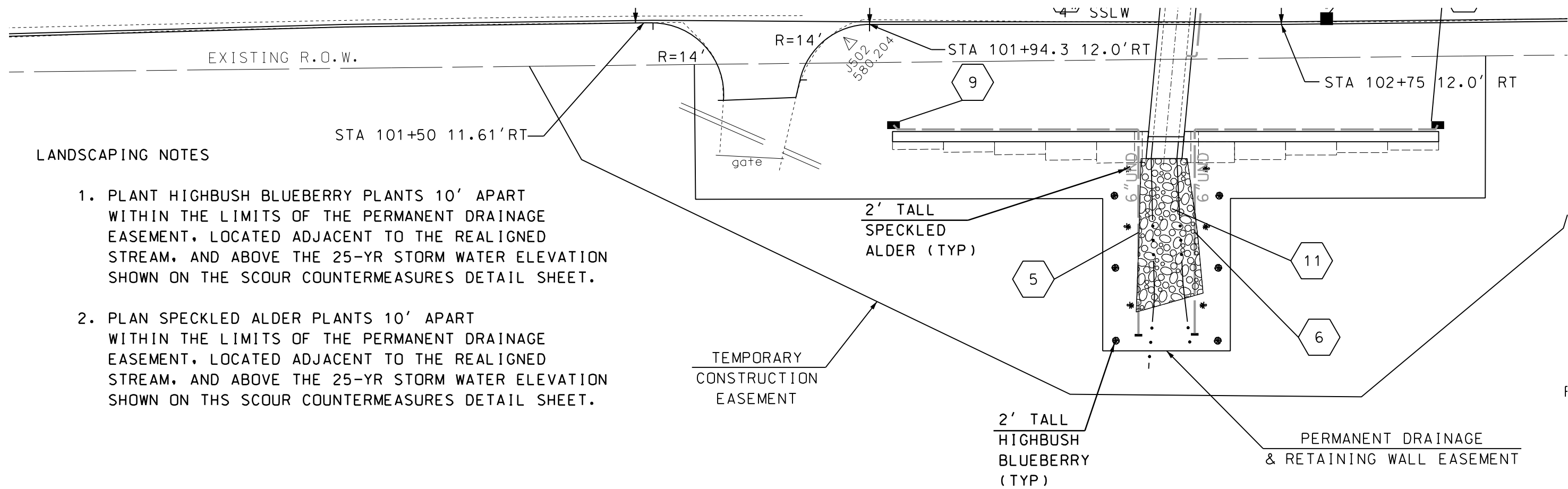


Samantha D. Fifield
 3-13-23

STATE OF NEW HAMPSHIRE MEREDITH DEPARTMENT OF TRANSPORTATION • BUREAU OF HWY MAINT. 03			
WETLAND IMPACT PLANS			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
44048wetplans	44048	1	1

SDR PROCESSED PLOP Prop DATE 6/24/2014
 NEW DESIGN S-D-F-F-Field DATE 1/31/2023
 SHEET CHECKED NAME3 DATE
 AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL
 STATION
 STATION
 DATE
 NUMBER



LANDSCAPING NOTES

1. PLANT Highbush BLUEBERRY PLANTS 10' APART WITHIN THE LIMITS OF THE PERMANENT DRAINAGE EASEMENT, LOCATED ADJACENT TO THE REALIGNED STREAM, AND ABOVE THE 25-YR STORM WATER ELEVATION SHOWN ON THE SCOUR COUNTERMEASURES DETAIL SHEET.
2. PLAN SPECKLED ALDER PLANTS 10' APART WITHIN THE LIMITS OF THE PERMANENT DRAINAGE EASEMENT, LOCATED ADJACENT TO THE REALIGNED STREAM, AND ABOVE THE 25-YR STORM WATER ELEVATION SHOWN ON THE SCOUR COUNTERMEASURES DETAIL SHEET.

TEMPORARY
CONSTRUCTION
EASEMENT

2' TALL
Highbush
BLUEBERRY
(TYP)

PERMANENT DRAINAGE
& RETAINING WALL EASEMENT

f

Meredith Culvert Replacement, #44048

February 14, 2023

A letter from the NH Department of Transportation was sent to the Town of Meredith, to include the Conservation Commission, on June 21, 2022. A response letter dated July 26, 2022 was received on July 27, 2022, see attached. Design elements to improve the stream include elimination of the existing perch at the outlet which will improve aquatic organism passage. Coordination to best address the historic attributes in replacement of the structure has been undertaken under Section 106 of the Historic Preservation Act, as seen elsewhere in the application. Management of invasive species known to occur onsite will be managed using the NHDOT *Best Management Practices for the Control of Invasive and Noxious Plant Species* manual.

Arin Mills
Bureau of Environment
NHDOT

Meredith Conservation Commission
41 Main Street
Meredith, New Hampshire 03253

New Hampshire Department of Transportation
Bureau of Environment
7 Hazen Drive
P.O. Box 483
Concord, New Hampshire 03302-0483

RECEIVED
BUREAU OF ENVIRONMENT
JUL 27 2022
NH DEPARTMENT
OF TRANSPORTATION

July 26, 2022

Attn: Arin Mills, Senior Environmental Manager

Dear Arin:

This responds to your June 21, 2022, correspondence regarding replacement of the existing stone box culvert which carries Meredith Neck Road over an unnamed tributary to Lake Winnepesaukee.

Commission members familiar with the unnamed brook and have reviewed the area and the natural resources that may be affected by the proposed action. The Commission is the steward of and manages the nearby upstream Page Pond Community Town Forest. The Commission also has secondary oversight of a Conservation Easement on the property immediately downstream of the subject culvert.

This unnamed brook carried by the subject stone culvert under Meredith Neck Road is locally known as Bickford Brook or Baeholder Brook. Along its course from its headwaters, the brook transects a portion of the Page Pond Community Forest, agricultural fields and forested habitat. Downstream of the stone culvert, the brook flows through agricultural fields and a forested area to a pipe culvert under Wagon Wheel Road and then passes some residential homes to its terminus in Lake Winnepesaukee.

The riparian habitat along much of the length of the brook provides good habitat for migratory and resident bird species as well as some mammals, herpetofauna, and insects. Unfortunately, as is obvious, little thought was given to conserving any migratory fish habitat in this brook when either of the culverts were installed under Meredith Neck Road or Wagon Wheel Road. Although water flow in the brook is intermittent, and the elevation of the culvert outflow is challenging to fish passage, we recommend that every effort be taken to improve habitat conditions in the brook and around the stone culvert without impacting the historic attributes of site.

We have observed that the invasive Japanese Knotweed (*Fallopia japonica*) has taken a foothold along Meredith Neck Road adjacent to the subject culvert. This invasive is a major problem along long stretches of this State Road as it outcompetes and detracts from the native flora. A reasonable mitigation strategy for any work related to the stone culvert, would be to institute an ongoing, multi-year Japanese knotweed control program along the length of Meredith Neck

Road. There is also a line-of-sight safety rationale for such a control program. The Commission would be willing to assist with some aspects of such a mitigation plan.

We have reviewed the correspondence from the Meredith Historical Society. This history related to the construction of the stone culvert is obviously compelling and important to Meredith residents. The historic nature of the culvert should bear great weight in any proposals for culvert work. We recommend that every effort be taken to improve habitat conditions in the brook and around the stone culvert without impacting the historic attributes of site.

Thank you for seeking our input. Please let us know if we may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Scott Powell".

Scott Powell

Chair, Meredith Conservation Commission

Cc; John Edgar, Town of Meredith

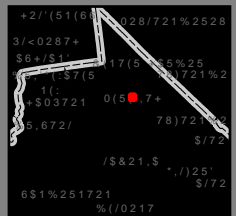


Temporary and permanent drainage easements will be obtained from adjacent landowners prior to the start of construction.

NH Department of Revenue Administration, Axiomatic, Maxar, Microsoft, W L R

0DS GHSLFWLQJ FXOYHUW UHSODFHP [REDACTED] SUP [REDACTED] MTHW ZKLFK H H W
 FDUULHV 0HUHGLWK 1HFN 5G RYHU DQ XQ QDPHG
 WULEXWDU\ WR /DNH :LQQLSHV DYNHU

0DS FUHDW [REDACTED] QEROOV



37 MEREDITH NECK RD

Location 37 MEREDITH NECK RD

MBLU U18/ 2/ / /

Acct# 29370

Owner MEREDITH NECK ROAD TRUST

Assessment \$302,405

Appraisal \$549,500

PID 4397

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$203,100	\$346,400	\$549,500

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$203,100	\$99,305	\$302,405

Owner of Record

Owner MEREDITH NECK ROAD TRUST

Co-Owner SKOLLER, STEPHEN TRUSTEE

Sale Price \$1,350,000

Certificate

Book & Page 3118/0561

Sale Date 07/27/2017

Instrument 1Y

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
MEREDITH NECK ROAD TRUST	\$1,350,000		3118/0561	1Y	07/27/2017
MCGUIGAN, NORMAN T & MCGARRY, SUSAN L	\$330,000		2831/0009	1O	02/14/2013
DUFFIELD, PETER L FAMILY TRUST 2005	\$0		2258/0571	1A	12/30/2005
DUFFIELD, PETER L 1993 TRUST	\$0		1700/0486	1A	11/16/2001
DUFFIELD, BARBARA 1993 TRUST	\$62,500		1285/0283	1N	01/27/1994

Building Information

Building 1 : Section 1

Year Built: 1850

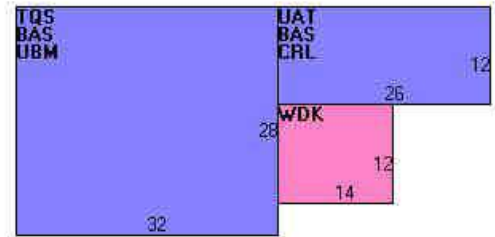
Building Photo

Living Area: 1,880
Replacement Cost: \$254,226
Building Percent Good: 68
Replacement Cost Less Depreciation: \$172,900



(https://images.vgsi.com/photos/MeredithNHPhotos/\00\00\21\23.jpg)

Building Layout



(https://images.vgsi.com/photos/MeredithNHPhotos//Sketches/4397_4491.)

Building Attributes	
Field	Description
Style:	Cape Cod
Model	Residential
Grade:	Average +20
Stories:	1.75
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Plastered
Interior Wall 2	Drywall
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	7
Bath Style:	Average/Modern
Kitchen Style:	Average/Modern
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
MH Park	
Fndtn Cndtn	
Basement	

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,208	1,208
TQS	Three Quarter Story	896	672
CRL	Crawl Space	312	0
UAT	Attic, Unfinished	312	0
UBM	Basement, Unfinished	896	0
WDK	Deck, Wood	168	0
		3,792	1,880

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #

FPL3	2 STORY CHIM	1.00 UNITS	\$3,400	1
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Land

Land Use

Use Code 1010
Description SINGLE FAM
Zone MN
Neighborhood 200
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 71.11
Depth 0
Assessed Value \$99,305
Appraised Value \$346,400

Special Land			
Land Use Code	Land Use Description	Units	Unit Type
7300	FARM	39	AC
7460	F-OTHER MA	30	AC

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
LNT	LEAN-TO			432.00 S.F.	\$800	1
FOP	SCREEN/OPEN			196.00 S.F.	\$2,000	1
FGR3	GARAGE-LOW			660.00 S.F.	\$6,600	1
BRN4	1 STY LFT&BSMT			2590.00 S.F.	\$15,500	1
RPV1	PAVING SMALL			1.00 UNITS	\$1,500	1
SHD3	SHED LOW			144.00 S.F.	\$400	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2022	\$203,100	\$346,400	\$549,500
2021	\$201,800	\$346,400	\$548,200
2020	\$201,800	\$346,400	\$548,200

Assessment			
Valuation Year	Improvements	Land	Total
2022	\$203,100	\$99,305	\$302,405
2021	\$201,800	\$103,053	\$304,853
2020	\$201,800	\$103,416	\$305,216

12 MEREDITH NECK RD

Location 12 MEREDITH NECK RD

MBLU S12/ 6/ / /

Acct# 13260

Owner KUTCHER, DAVID A &
LORRAINE O

Assessment \$638,400

Appraisal \$638,400

PID 1941

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$513,000	\$125,400	\$638,400

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$513,000	\$125,400	\$638,400

Owner of Record

Owner KUTCHER, DAVID A & LORRAINE O
Co-Owner

Sale Price \$630,000
Certificate
Book & Page 3267/0017
Sale Date 09/30/2019
Instrument 1G

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
KUTCHER, DAVID A & LORRAINE O	\$630,000		3267/0017	1G	09/30/2019
GREENWALD, EVAN R REV TRUST	\$800,000		3216/0685	1G	01/03/2019
GUYOTTE, HOWARD & LOUISE	\$810,000	1	2188/0248	1L	06/27/2005
PATRIDGE, DAVID F	\$515,000		1552/0371	1N	09/23/1999
DUFFIELD, BARBARA 1993 TRUST	\$0		1273/0876	1A	11/03/1993

Building Information

Building 1 : Section 1

Building Photo

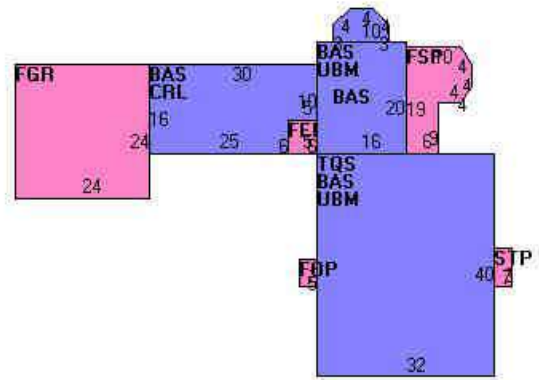
Year Built: 1755
Living Area: 3,061
Replacement Cost: \$511,635
Building Percent Good: 76
Replacement Cost Less Depreciation: \$388,800

Building Photo



(<https://images.vgsi.com/photos/MeredithNHPhotos/\00\00\45\98.jpg>)

Building Layout



(https://images.vgsi.com/photos/MeredithNHPhotos//Sketches/1941_2053)

Building Attributes	
Field	Description
Style:	Cape Cod
Model	Residential
Grade:	Very Good
Stories:	1.75
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Plastered
Interior Wall 2	Drywall
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	Hardwood
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	3
Total Half Baths:	0
Total Xtra Fixtrs:	1
Total Rooms:	8
Bath Style:	Average/Modern
Kitchen Style:	Average/Modern
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
MH Park	
Fndtn Cndtn	
Basement	

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	2,101	2,101
TQS	Three Quarter Story	1,280	960
CRL	Crawl Space	450	0
FEP	Porch, Enclose	30	0
FGR	Garage, Framed	576	0
FOP	Porch, Open	66	0
FSP	Porch, Screen	168	0
STP	Stoop	21	0
UBM	Basement, Unfinished	1,600	0
		6,292	3,061

Building 2 : Section 1

Year Built: 1900
Living Area: 768
Replacement Cost: \$100,406

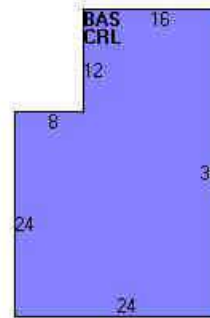
Building Percent Good: 68
Replacement Cost
Less Depreciation: \$68,300

Building Photo



(<https://images.vgsi.com/photos/MeredithNHPhotos//00\00\46\00.jpg>)

Building Layout



(https://images.vgsi.com/photos/MeredithNHPhotos//Sketches/1941_2054.)

Building Attributes : Bldg 2 of 2	
Field	Description
Style:	Bungalow
Model	Residential
Grade:	Average
Stories:	1
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	
Heat Fuel	Gas
Heat Type:	Hot Air-no Duc
AC Type:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	0
Total Rooms:	4
Bath Style:	Average/Modern
Kitchen Style:	Average/Modern
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
MH Park	
Fndtn Cndtn	
Basement	

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	768	768
CRL	Crawl Space	768	0
		1,536	768

Extra Features

Extra Features				<u>Legend</u>
Code	Description	Size	Value	Bldg #
HRTH	HEARTH	1.00 UNITS	\$700	2
FPL3	2 STORY CHIM	2.00 UNITS	\$7,600	1

HRTH	HEARTH	1.00 UNITS	\$800	1
FPO	EXTRA FPL OPEN	1.00 UNITS	\$1,100	1
HTUB	HOT TUB	1.00 UNITS	\$3,000	1

Land

Land Use

Use Code 1090
Description MULTI HSES
Zone MN
Neighborhood 200
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 10.22
Depth 0
Assessed Value \$125,400
Appraised Value \$125,400

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
RPV2	PAVING MED.			1.00 UNITS	\$2,500	1
FGR3	GARAGE-LOW			1200.00 S.F.	\$12,000	1
CRG	CARRIAGE HOUSE			520.00 S.F.	\$7,300	1
SHD1	SHED AVG			256.00 S.F.	\$1,800	1
STB1	STABLE			968.00 S.F.	\$8,100	1
SPL3	GUNITE			420.00 S.F.	\$10,100	1
BRN8	POLE BARN			130.00 S.F.	\$900	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2022	\$513,000	\$125,400	\$638,400
2021	\$509,400	\$125,400	\$634,800
2020	\$504,600	\$125,400	\$630,000

Assessment			
Valuation Year	Improvements	Land	Total
2022	\$513,000	\$125,400	\$638,400
2021	\$509,400	\$125,400	\$634,800
2020	\$504,600	\$125,400	\$630,000