STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: January 31, 2024

FROM: Joshua Brown
Wetlands Program Analyst

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Amendment Application
Nashua-Merrimack-Bedford, 13761D

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 Bureau of Highway Design for the enclosed amendment request. The Nashua-Merrimack-Bedford 13761D is part of the larger 13761 project that involves widening three (3) segments of the existing two-lane portions of the F.E. Everett Turnpike in Nashua, Merrimack, and Bedford. The 13761D project is the northern most segment in the Town of Bedford, NH and is currently under construction. The NHDOT is proposing to add to the project the construction of a berm with a privacy fence in the vicinity of Teaberry Lane. The proposed berm will be approximately 4 feet tall with 2:1 side slopes, resulting in 274 SF of permanent wetland impacts and 2,599 SF of temporary wetland impacts.

This amendment project was reviewed at the Natural Resource Agency Coordination Meeting on December 20, 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: https://www.dot.nh.gov/projects-plans-and-programs/programs/environmental-management-system/project-management-section-0.

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 for the Nashua-Merrimack-Bedford, 13761 projects has been cumulative and it has been determined that mitigation is required for additional impacts associated with this amendment. Mitigation will be completed through payment to the Aquatic Resource Mitigation (ARM) Fund.

Erosion Control Plans contained within this application should be considered final in accordance with Env-Wt 527.05(a).

The lead people to contact for this project are Wendy Johnson, Bureau of Highway Design (271-3909 or wendy.a.johnson@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or Andrew.M.OSullivan@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #77616) in the amount of $1,149.20

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.

JRB;
cc:
BOE Original
Town of Bedford (4 copies via certified mail)
Mike Dionne & Kevin Newton, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Jeanie Brochi, US Environmental Protection Agency (via electronic notification)
Michael Hicks & Rick Kristoff, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

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AMENDMENT REQUEST FORM
FOR A WETLANDS APPLICATION OR PERMIT
Water Division/Land Resources Management
Wetlands Bureau

RSA/Rule: RSA 482-A:3, XIV(e)/ Env-Wt 311.13; Env-Wt 314.07

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

Any request for an amendment to a wetlands application or permit must be submitted to the Department on this form. An applicant may request an amendment to a pending permit application or an existing permit, provided the proposed change does not constitute a "**significant amendment**." A "**significant amendment**" means an amendment which changes the proposed or previously approved acreage of the permitted fill or dredge area by 20 percent or more, includes a prime wetland, or elevates the project's impact classification. This meaning of "significant amendment" shall not apply to an application amendment that is in response to a request from the Department (RSA 482-A:3, XIV(e)).

SECTION 1 - REQUESTED AMENDMENT TYPE AND AMENDMENT CRITERIA

Does the proposed change constitute a "significant amendment" as provided in RSA 482-A:3, XIV(e) and described above? ☐ Yes ☒ No

If you answered "yes" to the previous question, then you cannot request an amendment using this form and must file a new permit application.

☐ AMENDMENT TO PENDING PERMIT APPLICATION, NHDES FILE NUMBER: _____ (proceed to Section 2)

☒ AMENDMENT TO EXISTING PERMIT NUMBER: 2021-02109 (proceed to Section 3)

SECTION 2 - AMENDMENT TO A PENDING PERMIT APPLICATION

☒ Not applicable

To request an amendment to a pending permit application, the applicant must:

- Submit the information required by Env-Wt 311.03, showing the changes prior to the Department's issuance of a final decision on the application, including but not limited to, a revised set of plans and revised application fees for any additional square footage of impacts calculated pursuant to RSA 482-A:3, I(b) or (c) as applicable, and
- Provide notice to each person to whom notice of the original application was sent prior to filing the amended application with the Department (Env-Wt 311.13).

☐ By checking this box, you confirm that you have provided all information required pursuant to Env-Wt 311.03 to the Department and provided the required notice(s) as described above.

SECTION 3 - AMENDMENT TO AN EXISTING PERMIT

☐ Not applicable

To request an amendment to an existing permit, the permittee must:

- Submit the information required and filed with the original permit application, including but not limited to a revised set of plans, and revised application fees for any additional square footage of impacts calculated pursuant to RSA 482-A:3, I(b) or (c) as applicable, and
- Provide notice to all who received notice of the original application prior to filing the amended application with the Department (Env-Wt 314.07).

☒ By checking this box, you confirm that you have provided all necessary information to the Department and provided the required notice(s) as described above.

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management

Check the Status of your Application

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

APPLICANT'S NAME: NHDOT **TOWN NAME:** BEDFORD

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?	(●) Yes ( ) No
Does the property contain a PRA? If yes, provide the following information:	( ) Yes (●) No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHFG) 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.	( ) Yes (●) No
• Protected species or habitat? ○ If yes, species or habitat name(s): hognose snake, New Engla ○ NHB Project ID #: 23-2580 hognose snake, New England cottontail, spotted turtle	(●) Yes ( ) No
• Bog?	( ) Yes (●) No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	( ) Yes (●) No
• Designated prime wetland or duly-established 100-foot buffer?	( ) Yes (●) No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	( ) Yes (●) No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): n/a • A copy of the application was sent to the LAC on Month: n/a Day: n/a Year: n/a	( ) Yes (●) No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	○ Yes ◉ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	○ Yes ◉ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats): n/a	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline of the scope of work to be performed, and whether impacts are temporary or permanent.

Nashua-Merrimack-Bedford 13761D is part of the larger 13761 project that involves widening three (3) segments of the existing two-lane portions of the F.E. Everett Turnpike in Nashua, Merrimack, and Bedford. The 13761D project is currently under construction. The NHDOT is proposing to add to the project the construction of a berm with a privacy fence in the vicinity of Teaberry Lane. The proposed berm will be approximately 4 feet tall with 2:1 side slopes, resulting in 274 SF of permanent wetland impacts and 2,599 SF of temporary wetland impacts. See supplement project description for more information.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS:	FE Everett Turnpike
TOWN/CITY:	Bedford
TAX MAP/BLOCK/LOT/UNIT:	N/A - ROW
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ■ N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	42.938, -71.4696

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: Wendy Johnson, NHDOT		
MAILING ADDRESS: 7 Hazen Drive		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
EMAIL ADDRESS: wendy.a.johnson@dot.nh.gov		
FAX:	PHONE: 603-271-2171	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically. WAJ

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Perron, Christine		
COMPANY NAME: McFarland Johnson		
MAILING ADDRESS: 53 Regional Drive		
TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03301
EMAIL ADDRESS: cperron@mjinc.com		
FAX:	PHONE: 603-225-2978	

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically. CJP

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.

☒ Same as applicant

NAME:		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	

ELECTRONIC COMMUNICATION: By initialing here, 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: Wetland boundaries were delineated in August 2023. Wetlands have been classified using the USFWS (Cowardin et al.) Wetland Classification System. There are no Priority Resource Areas located in the vicinity of the proposed project area.
Env-Wt 500: The proposed project falls under Env-Wt 527 Public Highways. The proposed project has been designed in accordance with the criteria specified in Env-Wt 527.04 and is consistent with RSA 482-A:1, 483, 483-B, 485-A, and 212-A. The purpose of the proposed berm and fence is to provide a visual barrier between the Turnpike and the Teaberry Lane neighborhood. Impacts to jurisdictional resources have been avoided and minimized to the maximum extent practicable.
Env-Wt 600: N/A - No coastal or tidal wetlands located in the project area.
Env-Wt 700: N/A - No Designated Prime Wetlands located in the project area.
Env-Wt 900: N/A - No stream crossings are included in this amendment.

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: December 20, 2023

(☐ 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/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

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

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

JURISDICTIONAL AREA		PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland	274		☐	2599		☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL		274			2599		

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): 2873	SF	× $0.40 =	$ 1149.2
Seasonal docking structure:	SF	× $2.00 =	$
Permanent docking structure:	SF	× $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$
		Total =	$ 1149.2

The application fee for minor or major impact is the above calculated total or $400, whichever is greater = $1149.20

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: WAJ	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: WAJ	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: WAJ	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 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.
Initials: WAJ	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): Wendy A. Johnson	PRINT NAME LEGIBLY: Wendy Johnson	DATE: 01/23/24
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): Christine Perron	PRINT NAME LEGIBLY: Christine Perron	DATE: 1/16/24

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: RSA482-A:3 I(a) Exempt, State Agency, 4 copies sent Certified Mail	PRINT NAME LEGIBLY: N/A - Exempt
TOWN/CITY: Bedford	DATE: n/a

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”.

NH Department of Transportation
Nashua-Merrimack-Bedford, 13761D
Bedford, New Hampshire

Request for Permit Amendment
for Construction of Privacy Berm
NHDES Permit 2021-02109

Project Description

Nashua-Merrimack-Bedford 13761D is part of the larger 13761 project that involves widening three (3) segments of the existing two-lane portions of the F.E. Everett Turnpike in Nashua, Merrimack, and Bedford. The 13761D project is currently under construction. The NHDOT is proposing to add to the project the construction of a berm with a privacy fence in the vicinity of Teaberry Lane. The Teaberry Lane neighborhood extends just to the south of the original project limits. Residents there requested a soundwall and it didn't meet the requirements under the NHDOT's noise policy. NHDOT agreed to instead construct a privacy fence adjacent to the Right-of-Way line. As construction progressed, it was requested to move the privacy fence closer to the Turnpike and include a small berm. The berm will be approximately 1,700 feet in length and will be located entirely within existing right-of-way. The purpose of the berm and fence is to provide a visual barrier between the Turnpike and the Teaberry Lane neighborhood.

The first alternative that was considered was a 10-foot tall berm with 2:1 side slopes and a 10-foot high wooden stockade fence along the top of the berm. The berm footprint encroached into the wetlands, resulting in almost 28,380 SF of permanent wetland impact. In an effort to reduce wetland impacts, a second berm alternative was developed. The second alternative entails a berm approximately 4 feet tall with 2:1 side slopes and 10-foot high stockage fence along the top. Guardrail will be extended along the Turnpike to protect traffic from the berm and fence. Alternative 2 substantially reduces the overall footprint of the berm, resulting in just 274 SF of permanent impacts and 2,599 SF of temporary impacts. NHDOT is moving forward with Alternative 2 as the recommended alternative.

The proposed berm will be approximately 4 feet tall with 2:1 side slopes on the right-of-way side. A 10-foot high wooden stockade fence will be installed along the top of the berm. Vegetation clearing, which will be required for the area of impact as well as 5' beyond limits of work, will include clearcutting and stumping an area of approximately 590 sq ft. Topsoil will be removed to a depth of 0.43' (5") for the entire area of impact. The berm will be seeded with NHDOT slope mix, which contains a mix of grass and wildflower seeds.

As part of the berm construction, pipes will be extended and installed under the berm. Catch basins will also be added in the proposed ditch adjacent to the berm. Existing drainage patterns will be maintained. There is an existing treatment swale along the proposed berm that was constructed as part of the Manchester Airport Access Road 11512 series project. Drainage that flows to that today from the high speed lanes and shoulders along the median will be maintained. No changes in wetland hydrology are anticipated.

Construction of the proposed berm and fence is anticipated to begin in March-April 2024.

Wetland Impacts

A wetland delineation was completed in August 2023 in the area where the berm will be located. No potential vernal pools were identified in the project area. All wetlands are forested and dominant

vegetation includes red maple, white pine, white oak, red oak, highbush blueberry, winterberry, witch hazel, cinnamon fern, and royal fern.

The berm will result in 274 sq ft of additional permanent impact and 2,599 SF of additional temporary impacts to forested wetlands (2,873 sq ft total). Wetland impacts associated with the 13761D project were approved by the NHDES Wetlands Bureau under Permit 2021-02109, totaling 14,440 sq ft. The threshold for a significant amendment that would require submittal of a new application package is 20% of permitted impacts, which equates to 2,888 SF of impact. At 2,873 SF, the total impacts for the berm will be less than 20% of the impacts that were previously permitted for the 13761D project.

Mitigation

Mitigation for the overall 13761 project is being provided cumulatively. The additional 274 SF of permanent impact from the proposed berm will require an in-lieu fee payment of approximately $1,994.98.

Summary of impacts and mitigation for NHDOT Nashua-Merrimack-Bedford 13761 as of January 2024

PERMIT	PROJECT	PERMANENT			TEMPORARY			IN-LIEU FEE MITIGATION PAYMENT
		WETLAND	SURFACE WATER		WETLAND	SURFACE WATER		
		SF	SF	LF	SF	SF	LF	
2023-03176	13761A	2,100	22,218	0	1,387	23,310	0	*$177,057.95*
application to be submitted 2024	13761B	*3,795*	*630*	*62*	*630*	*933*	*112*	*$51,484.63*
	13761C							
2021-02109	13761D	10,370	0	0	4,041	29	10	$61,696.16
2021-02109	13761D Berm	274	0	0	2,599	0	0	$1,994.98
2022-03264	13761E	10,395	1,856	120	1,268	4,092	170	*$175,348.51*
	TOTALS (SF / LF)	**26,934**	**24,704**	**182**	**9,925**	**28,364**	**292**	***$467,582.23***
	TOTALS (ac)	**0.618**	**0.567**	**N/A**	**0.228**	**0.651**	**N/A**	
	TOTAL COMBINED TEMPORARY & PERMANENT WETLAND & STREAM IMPACTS (AC):						**2.064**	

NH Fish & Game Consultation

According to review by the NH Natural Heritage Bureau (NHB), three species have documented occurrences in the vicinity of the project area: Eastern hognose snake (*Heterodon platirhinos*), New England cottontail (*Sylvilagus transitionalis*), and spotted turtle (*Clemmys guttata*), with the last observations reported 19 to over 20 years ago.

The majority of the berm is located within the original limits for the 13761D project, which was reviewed with NH Fish & Game (NHFG) under NHB20-2699 via email with Kim Tuttle and Melissa Doperalski in November 2020. The 13761D project was also reviewed at the NHDOT Natural Resource Agency Coordination Meeting on October 21, 2020 (https://mm.nh.gov/files/uploads/dot/remote-docs/nrac-meeting-minutes-october-2020.pdf) and December 20, 2023 (draft minutes attached). Additional consultation with NHFG was initiated following the December meeting. The results of that consultation will be forwarded to NHDES.

Construction of the 13761D project is currently underway. The berm will be constructed under the same contract as 13761D, which includes the following contract provisions for minimizing impacts to wildlife:

- The Contractor is directed to review and incorporate all applicable provisions outlined by the Department in the Wetland Plans "Erosion Control Strategies and Stabilization Matrix" sheet. This sheet outlines the Department's commitments and strategies to minimize the impacts of construction to the environment. The Erosion Control Strategies and Stabilization Matrix" sheet is available on-line on the Invitation to Bid webpage at nhdot.com in the specific project's Proposal Package.

- Erosion control berm, white Filtrexx Degradable Woven Silt Sock, or other "wildlife friendly" options such as woven organic material (e.g. coco or jute matting such as North American Green SC150BN or equivalent) shall be used instead of welded plastic or "biodegradable plastic" netting or thread for erosion control matting. Specific products used shall be detailed in the SWPPP.

- All observations of Eastern hognose snake must be immediately reported to NH Fish & Game: Melissa Doperalski (603-479-1129) or Brendan Clifford (603-944-0885).

- Protected turtles may be encountered during construction from April through November. If spotted or Blanding's turtles are found laying eggs in a work area, NH Fish & Game shall be contacted for further instructions (Melissa Doperalski (603-479-1129) of Josh Megyesy (cell 978-578-0802)).

Typical forested wetland in project area.

Typical forested wetland in project area

NHB DataCheck Results Letter
NH Natural Heritage Bureau
Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

To: Jordan Tate, McFarland Johnson
5 Depot Street Suite 25
Freeport, ME 04032
jtate@mjinc.com

From: NHB Review
NH Natural Heritage Bureau
Main Contact: Ashley Litwinenko - nhbreview@dncr.nh.gov

cc: NHFG Review

Date: 09/12/2023 (valid until 09/12/2024)
Re: DataCheck Review by NH Natural Heritage Bureau and NH Fish & Game
Permits: NHDES - Wetland Standard Dredge & Fill - Minor, USEPA - Stormwater Pollution Prevention

NHB ID: NHB23-2580

Town: Bedford
Location: Teabury Lane

Project Description: The project includes a proposed fence/noise berm to be constructed as part of the Nashua-Merrimack-Bedford 13761D project.

Next Steps for Applicant:

NHB's database has been searched for records of rare species and exemplary natural communities. Please carefully read the comments and consultation requirements below.

NHB Comments: No comments at this time.

NHFG Comments: Please refer to NHFG consultation requirements below.

NHB Consultation

If this NHB DataCheck letter includes records of rare plants and/or natural communities/systems, please contact NHB and provide any requested supplementary materials by emailing nhbreview@dncr.nh.gov.

If this NHB DataCheck letter DOES NOT include any records of rare plants and/or natural communities/systems, no further consultation with NHB is required.

NH Fish and Game Department Consultation

If this NHB DataCheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

If this NHB DataCheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to https://www.wildlife.nh.gov/wildlife-and-habitat/nongame-and-endangered-species/environmental-review. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB DataCheck results letter number and "Fis 1004 consultation request" in the subject line**.

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email NHFGreview@wildlife.nh.gov, and include the NHB DataCheck results letter number and "review request" in the email subject line.
Contact NH Fish & Game at (603) 271-0467 with questions.

NHB Database Records:
The following record(s) have been documented in the vicinity of the proposed project.
Please see the map and detailed information about the record(s) on the following pages.

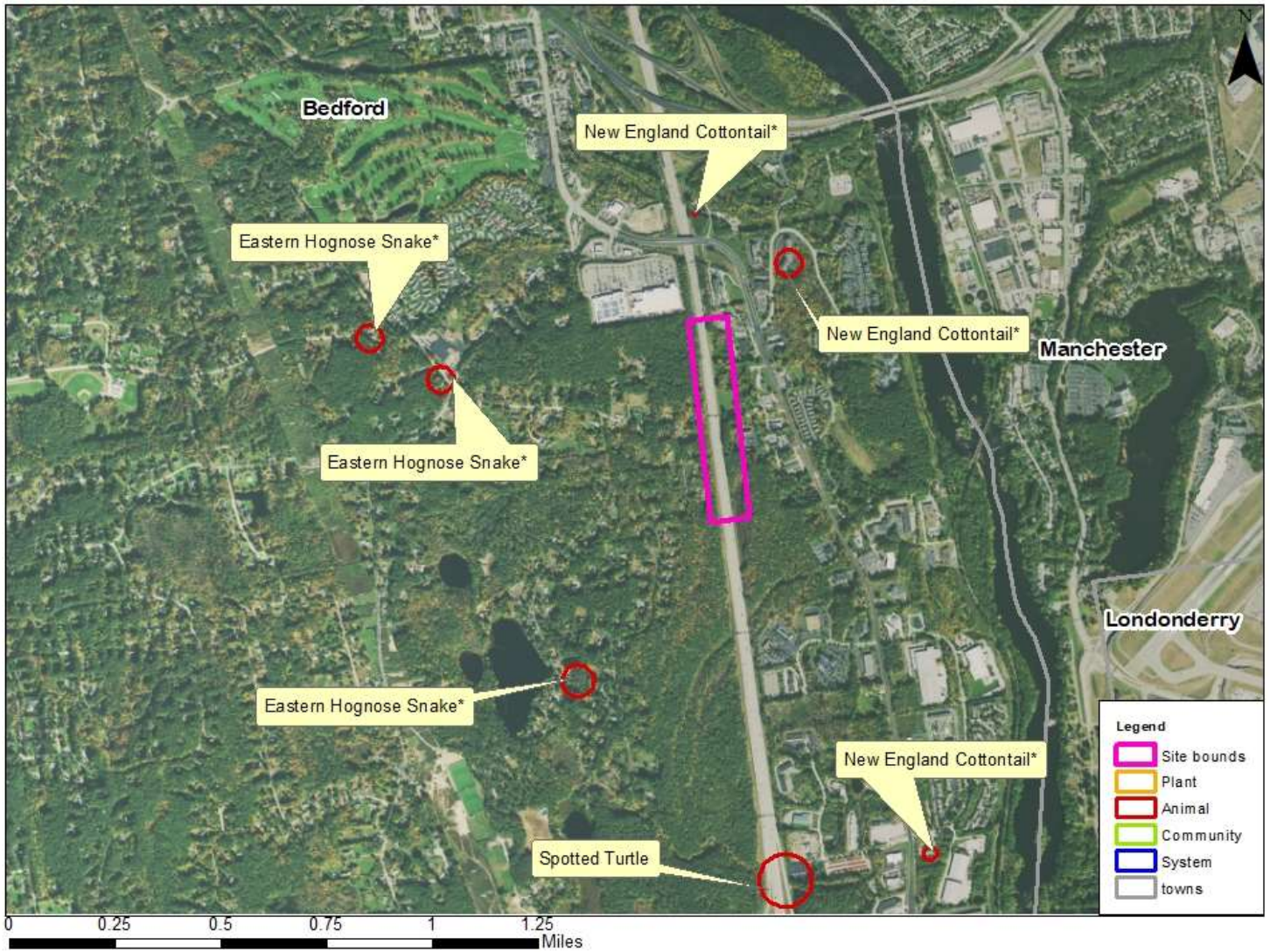
Vertebrate species	State[1]	Federal	Notes
Eastern Hognose Snake (*Heterodon platirhinos*)*	E	--	Contact the NH Fish & Game Dept (see above).
New England Cottontail (*Sylvilagus transitionalis*)*	E	--	Contact the NH Fish & Game Dept (see above).
Spotted Turtle (*Clemmys guttata*)	T	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list.
An asterisk (*) indicates that the most recent report for that occurrence was 20 or more years ago.

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section above.

Disclaimer: NHB's database can only tell you of known occurrences that have been reported to NHFG/NHB. Known occurrences are based on information gathered by qualified biologists or members of the public, reported to our offices, and verified by NHB/NHFG.
However, many areas have never been surveyed, or have only been surveyed for certain species.
NHB recommends surveys to determine what species/natural communities are present onsite.

NHB23-2580


Bedford
Manchester
Londonderry
New England Cottontail*
Eastern Hognose Snake*
New England Cottontail*
Eastern Hognose Snake*
Eastern Hognose Snake*
New England Cottontail*
Spotted Turtle
N
Legend
Site bounds
Plant
Animal
Community
System
towns
0
0.25
0.5
0.75
1
1.25
Miles

NHB23-2580 EOCODE: ARADB17020*009*NH

New Hampshire Natural Heritage Bureau - Animal Record

Eastern Hognose Snake (*Heterodon platirhinos*)

Legal Status	**Conservation Status**
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Endangered	State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: Unknown Date: 1 adult seen. The third hognose found at this location (Obs_id 310). 2001: Area 12039: 1 observed. 1985: 1 individual, 27.8 inches in length (Area 1).
General Area: 2001: Area 12039: Residential property.
General Comments: --
Management Comments: --

Location

Survey Site Name: Sebbins Pond Vicinity
Managed By:

County: Hillsborough
Town(s): Bedford
Size: 6.7 acres
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2001: Area 12039: County Road near Back River Road, Bedford. Sebbins Pond Road. East of road, ca. 0.5 mile from road's end (Area 1). Near a house, on County Road 0.25 mile north of Back River Road. West side of road (Obs_id 310).

Dates documented

First reported: 1985-05-15 Last reported: 1985-05-15

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB23-2580 EOCODE: AMAEB01110*006*NH

New Hampshire Natural Heritage Bureau - Animal Record

New England Cottontail (*Sylvilagus transitionalis*)

Legal Status		**Conservation Status**	
Federal:	Not listed	Global:	Rare or uncommon
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: 2002: 1 observed age and sex unknown (Obs_id 735).
General Area: 2002: Near highway cloverleaf. Habitat a mix of clearcut, wetland, and old field (Obs_id 735).
General Comments: 2002: Results from J. Litvaitis (UNH) Regional NEC survey (Obs_id 449, 735). B. Johnson site #930 (Obs_id 449).
Management Comments: --

Location

Survey Site Name: Manchester Country Club Cloverleaf
Managed By:

County: Hillsborough
Town(s): Bedford
Size: 1.9 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2002: Off Everett Turnpike, North of Junction with Rte. 3 (Obs_id 449). North Hawthorne Dr. and Rte. 3A (Obs_id 735).

Dates documented

First reported: 2002-01-01 Last reported: 2002-01-30

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB23-2580 EOCODE: AMAEB01110*012*NH

New Hampshire Natural Heritage Bureau - Animal Record

New England Cottontail (*Sylvilagus transitionalis*)

Legal Status		**Conservation Status**	
Federal:	Not listed	Global:	Rare or uncommon
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank: --

Detailed Description: 2002: 1 age and sex unknown (Obs_id 736).
General Area: 2002: (Obs_id 736).
General Comments: 2002: Results of J. Litvaitis Regional NEC Survey - 2003 (Obs_id 736).
Management Comments: --

Location

Survey Site Name: Sebbins Brook, east of
Managed By:

County: Hillsborough
Town(s): Bedford
Size: .4 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2002: Sports complex, [east of] Rte. 3 (Obs_id 736).

Dates documented

First reported: 2002-01-30 Last reported: 2002-01-30

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB23-2580 EOCODE: ARAAD02010*074*NH

New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)

Legal Status		**Conservation Status**	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Fair quality, condition and/or landscape context ('C' on a scale of A-D).
Comments on Rank: --

Detailed Description: 2004: 1 seen, dead on road. Adult. (Obs_id 2004.0122).
General Area: --
General Comments: 2004: Roadkill (Obs_id 2004.0122).
Management Comments: --

Location

Survey Site Name: Stebbins Brook
Managed By: Reeds Ferry State Forest

County: Hillsborough
Town(s): Bedford
Size: 7.7 acres
Elevation:

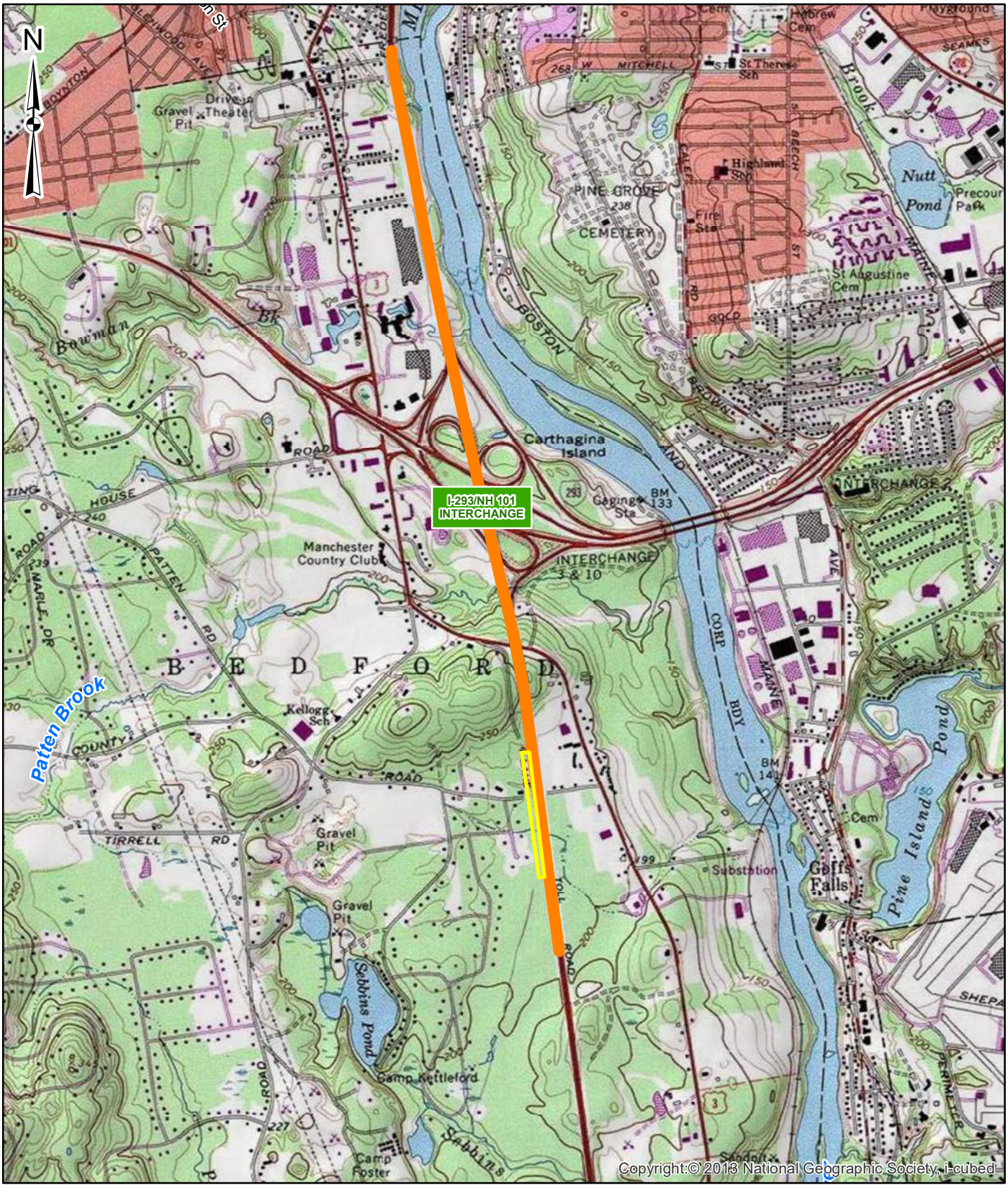
Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2004: Approximately where Stebbins Brook crosses Everett Turnpike (Obs_id 2004.0122).

Dates documented

First reported: 2004-07-07 Last reported: 2004-07-07

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.



Legend

Approximate Project Area

FEET 13761 Contract Limits

13761D

NHDOT 13761D F.E. EVERETT TURNPIKE

TEABURY LANE BERM/FENCE

LOCATION MAP

SCALE :	DATE :	FIGURE :
1" = 2,000'	SEPTEMBER 2023	1

McFarland Johnson

M:\18539.00 CHA-North FEET Permitting\Draw\GIS\Noise Berm Project\USGS Location Map.mxd

BUREAU OF ENVIRONMENT
CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting
DATE OF CONFERENCE: December 20, 2023
LOCATION OF CONFERENCE: Virtual meeting held via Zoom

ATTENDED BY:

NHDOT
Andrew O'Sullivan
Joshua Brown
Jon Evans
Mark Hemmerlein
Rebecca Martin
Tim Mallette
Dave Smith
Dillan Schmidt
Marc Laurin
Dan Prehemo
Tony King
Jason Ayotte
Wendy Johnson
Mike Mozer
David Scott
Meli Dube
Paul Lovely
Kathleen Corliss
Curtis Morrill
Kerry Ryan
Arin Mills
Rhona Thomson

ACOE
Mike Hicks

USCG
Gary Croot

EPA
Absent

NHDES
Karl Benedict
Seta Detzel
Emily Nichols
Mary Ann Tilton

NHB
Absent

NH Fish & Game
Mike Dionne
Kevin Newton

Federal Highway
Jamie Sikora

US Fish & Wildlife
Absent

The Nature Conservancy
Absent

NH Transportation & Wildlife Workgroup
Absent

Consultants/ Public Participants
Kyle Higgins
Mike Dugas
Mark Debowski
Christine Perron
John Parelli
Steve Hoffman
Brian Colburn
Carol Foss
Peter Steckler
Jennifer Riordan
Seth Hill
Kimberly Peace
Deb Coon
Chris Fournier
Josif Bicja
Tucker Gordon
Katy Lewis
Linda Hutchins
Madelyn Glavin
Trevor Ricker

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

Table of Contents

Josh Brown described the proposed mitigation resulting from the wetland impacts within the floodplain, which results in permanent impacts to a Priority Resource Area.

The following is a summary of key discussion points:

Karl Benedict stated that the design follows the guidance provided at the last meeting. The approach to the stream crossings, including alternatives analysis, roadway design, and impact minimization, seems appropriate. Andy O'Sullivan expounded the proposed stream crossing designs were good candidates for alternatives design meeting the intent of Env-Wt 904.09(c)(2), and NHDOT plans to submit the Standard Dredge and Fill Major Impact Project with alternative design. Karl Benedict suggested a site walk due to the number of resources.

Mary Ann Tilton reminded the group of the importance of ensuring all functional assessments and impact assessments were conducted. Josh Brown explained acknowledge and the functional assessments will be submitted with the permit.

Seta Detzel inquired about the net loss of function to critical species from project impacts. Josh stated that coordination is still ongoing with NH Fish and Game, but the coordination is not related to the culvert designs so there is likely no concern with impacts to the species as it relates to the project design. The resulting coordination will be included within the wetlands application submittal. Seta thinks that the alternative designs for the stream crossings make sense.

Emily Nichols would like to review how mitigation has been approached historically but has no specific concerns with this project. Andy O'Sullivan suggested a follow-up meeting between NHDOT and NHDES to review previous projects.

Kevin Newton acknowledged the previous wildlife coordination with NHDOT, and will meet with NHDOT independently to finalize the wildlife considerations.

There were no other concerns or comments from resource agency members present.

Nashua-Merrimack-Bedford, 13761D (Non-fed):

The purpose of the meeting was to discuss additional work to be added to the 13761D project, the northernmost segment of the FE Everett Turnpike widening project, which is currently under construction. Christine Perron provided an overview of the proposed work. The NHDOT is proposing to add to the project the construction of a berm with a privacy fence in the vicinity of Teaberry Lane. The Teaberry Lane neighborhood extends just to the south of the original project limits. Residents there requested a soundwall and it didn't meet the requirements under the NHDOT's noise policy. NHDOT agreed to instead construct a privacy fence adjacent to the Right-of-Way line. As construction progressed it was requested to move the privacy fence closer to the Turnpike and include a small berm. The berm will be approximately 1,700 feet in length and will be located entirely within existing right-of-way. A wetland delineation was completed in the area where additional impacts will occur. Delineated wetlands are all forested wetlands.

The first alternative that was considered was a 10-foot tall berm with 2:1 side slopes and a 10-foot high wooden stockade fence along the top of the berm. The berm footprint encroached into the wetlands, resulting in almost 28,380 SF of permanent wetland impact. In an effort to reduce wetland impacts, a second berm alternative was developed. The second alternative entails a berm approximately 4 feet tall with 2:1 side slopes and 10-foot high stockage fence along the top. Guardrail will be extended along the Turnpike to protect traffic from the berm and fence. Alternative 2 substantially reduces the overall footprint of the berm, resulting in just 274 SF of permanent impacts and 2,599 SF of temporary impacts. NHDOT is moving forward with Alternative 2 as the recommended alternative.

Wetland impacts that have been authorized for 13761D under NHDES Permit 2021-02109 totaling 14,440 SF. The threshold for a significant amendment that would require submittal of a new application package is 20% of permitted impacts, which equates to 2,888 SF of impact. At 2,873 SF, the total impacts for the berm will be less than 20% of the impacts that were previously permitted for the 13761D project. Therefore, it is anticipated that the berm can be approved as a permit amendment.
Mitigation for the overall 13761 project is being provided cumulatively. The additional 274 SF of permanent impact from the proposed berm will require an in-lieu fee payment of approximately $1,995.

Other resource considerations were discussed. The berm does not impact the existing swale along this area and will not result in an increase in impervious surface; therefore, no impacts to water quality are anticipated. The berm will require approximately 590 SF of tree clearing within the original limits of the 13761D project where an acoustic survey was completed in 2021. That survey did not identify northern long-eared bat or tricolored bat. The appropriate consultation with FWS will be carried out. The NH Natural Heritage Bureau review was updated for the area of the berm and reported Eastern hognose snake, New England cottontail, and spotted turtle as occurring in the vicinity of the project. Since the berm will be constructed as part of 13761D, it will be subject to the contract provisions of that project, including those specific to wildlife (wildlife-friendly erosion controls, educational flyers, and reporting observations of species of concern).

Karl Benedict
In the permitting materials submitted to DES, be sure to summarize the intent of the berm and what it achieves. Jon Evans clarified that the berm is not intended to be a noise barrier; it will simply be a visual barrier.

Is drainage proposed? John Parrelli explained that drainage has already been constructed for 13761D. As part of the berm construction, pipes will be extended and installed under the berm. Catch basins will also be added in the proposed ditch adjacent to the berm. Existing drainage patterns will be maintained. There is an existing treatment swale along the proposed berm that was constructed as part of the Manchester Airport Access Road 11512 series project. Drainage that flows to that today from the high speed lanes and shoulders along the median will be maintained. No changes in wetland hydrology are anticipated. K. Benedict noted that this information on drainage and hydrology should be included in the amendment request.

Mary Ann Tilton
No comments

Emily Nichols
Agree with Karl's comments about information to include in the amendment request.
Agree with additional mitigation that is proposed.

Mike Dionne
No comments

Kevin Newton
Send updated project information to NHFG to comment on BMPs for wildlife.

Mike Hicks
The Corps has elected not to do informal conference with the USFWS on tricolored bat; Mike will be meeting with USFWS and NHDOT in the near future to discuss the status of the FE Everett Turnpike project and consultation on bats.

Nashua-Merrimack-Bedford, 13761B (non-fed):

Stephen Hoffmann introduced the proposed 13761B project involving the replacement of the existing Wire Road and Baboosic Lake Road bridges over the F.E. Everett Turnpike in Merrimack, New Hampshire. The proposed project is part of the overall Nashua-Merrimack-Bedford, 13761 F.E. Everett Turnpike widening project. The bridges in the 13761B project are located in the middle segment of the overall project.

The existing bridges will be reconstructed and replaced with longer bridge structures that can accommodate the proposed F.E. Everett Turnpike widening. The proposed 13761B project also includes drainage improvements and the construction of three stormwater treatment areas. The proposed widening will be completed under the subsequent 13761C project.

The anticipated advertising date is October 29, 2024. Anticipated permitting requirements include a NHDES Standard Dredge and Fill Permit as well as a Standard Shoreland Permit. Permit applications are anticipated to be submitted to NHDES in late May or early June 2023.

Baboosic Lake Road Impacts:
Impacts associated with the Baboosic Lake Road bridge replacement are limited to 249 SF of permanent impacts to a palustrine emergent wetland located in a drainage swale that drains from a small pond located in a residential yard. An intermittent stream was delineated at the outlet, and a stream is mapped in USGS StreamStats at this location with 70.8-acre watershed. The stream would be considered a Tier 1 stream based on watershed size under the NHDES Stream Crossing Rules. However, the proposed project does not involve complete replacement of the existing structure. Impacts are limited to the wetland at the inlet side, and are associated with lengthening and reconstructing the inlet.

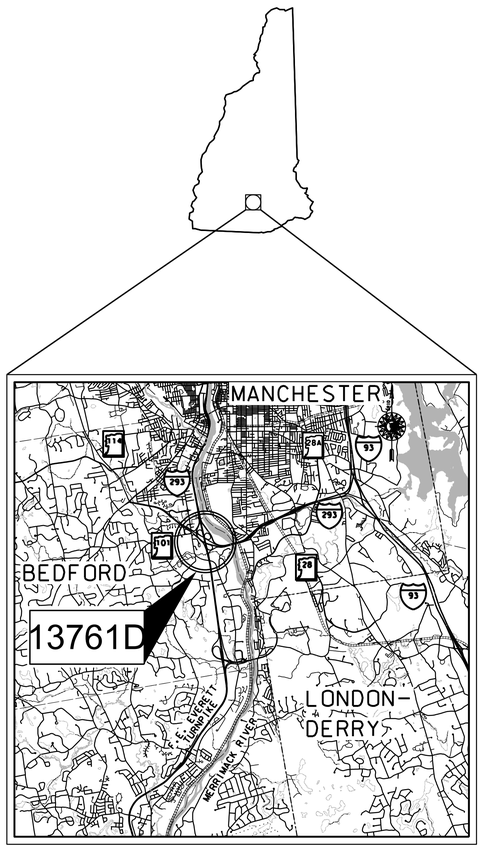
NHDES AQUATIC RESOURCE MITIGATION FUND
WETLAND PAYMENT CALCULATION
*****INSERT AMOUNTS IN YELLOW CELLS*****

1	**Convert square feet of impact to acres:**		
INSERT SQ FT OF IMPACT	Square feet of impact =	274.00	
		43560.00	
	Acres of impact =	0.0063	
2	**Determine acreage of wetland construction:**		
	Forested wetlands:	0.0094	
	Tidal wetlands:	0.0189	
	All other areas:	0.0094	
3	**Wetland construction cost:**		
	Forested wetlands:	$1,022.75	
	Tidal Wetlands:	$2,045.50	
	All other areas:	$1,022.75	
4	**Land acquisition cost (See land value table):**		
INSERT LAND VALUE FROM TABLE WHICH APPEARS TO THE LEFT. (Insert the amount do not copy and paste.)	Town land value:	67802	
	Forested wetlands:	$639.73	
	Tidal wetlands:	$1,279.46	
	All other areas:	$639.73	
5	**Construction + land costs:**		
	Forested wetland:	$1,662.48	
	Tidal wetlands:	$3,324.96	
	All other areas:	$1,662.48	
6	**NHDES Administrative cost:**		
	Forested wetlands:	$332.50	
	Tidal wetlands:	$664.99	
	All other areas:	$332.50	
**********	**TOTAL ARM PAYMENT**********		
	Forested wetlands:	$1,994.98	
	Tidal wetlands:	$3,989.96	
	All other areas:	$1,994.98	

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

WETLANDS PLANS

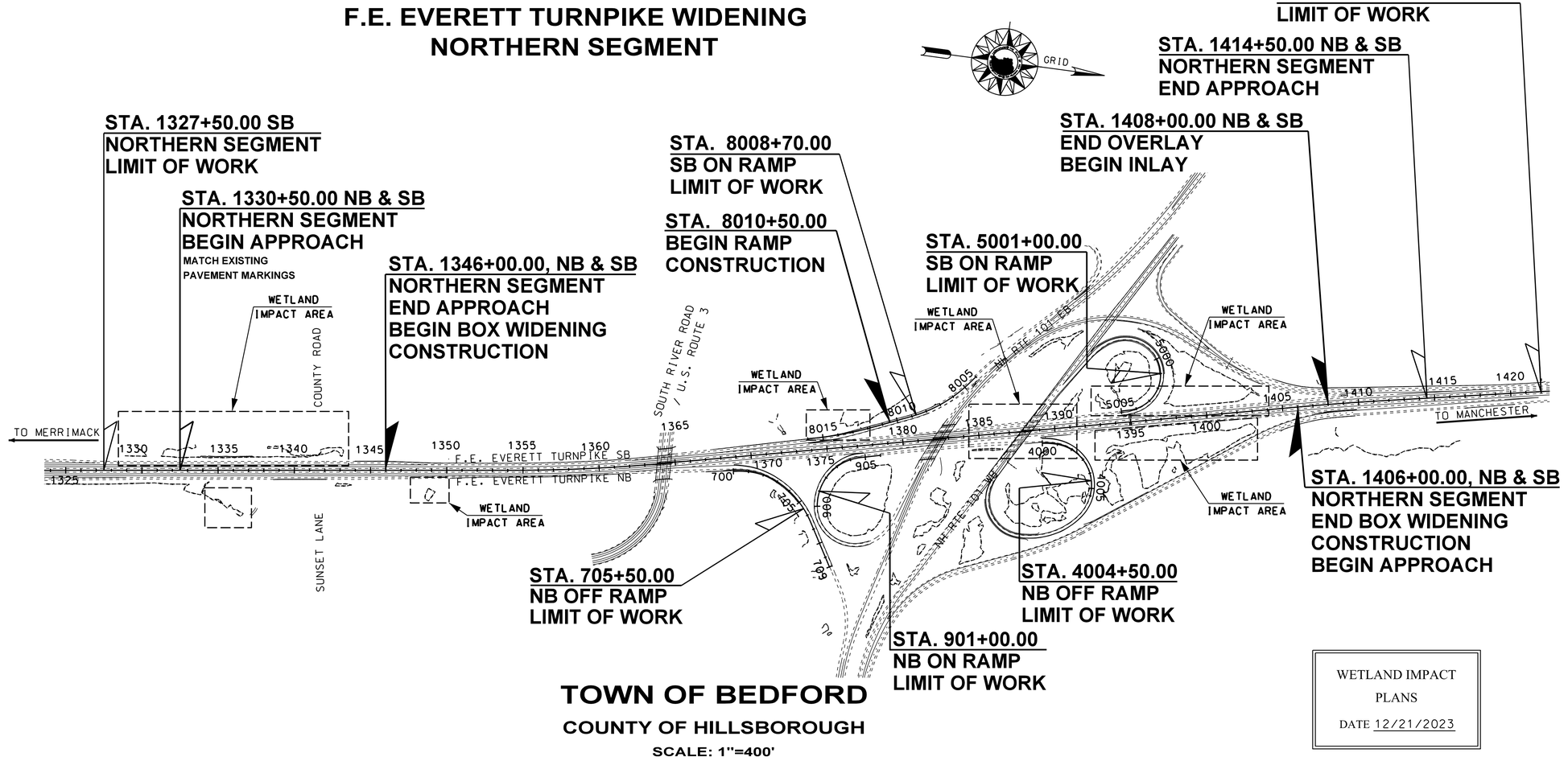
NH PROJECT NO.13761D
F.E. EVERETT TURNPIKE WIDENING
NORTHERN SEGMENT



LOCATION MAP

1 1/2 0 1 2 mi.

GRAPHIC SCALE



TOWN OF BEDFORD
COUNTY OF HILLSBOROUGH
SCALE: 1"=400'

WETLAND IMPACT PLANS
DATE 12/21/2023

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

DRAWN BY MAL DATE 10-05-21
CHECKED BY CJP DATE 10-05-21

WETLAND PLANS PREPARED BY
McFarland Johnson
McFARLAND JOHNSON
CONCORD, N.H.
DELINEATION : August 2023

CHRISTINE J. PERRON NHDOT 13761D NO. 526 STATE OF NEW HAMPSHIRE NORTHERN WETLAND SCIENTIST

CHA
11 King Court · Keene, NH 03431-4648
Main: (603) 357-2445 · www.chacompanies.com

Wetlands delineated in August 2023 in accordance with the Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0, January 2012, US Army Corps of Engineers.

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:
DIRECTOR OF PROJECT DEVELOPMENT — DATE

APPROVED:
ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13761_FSW		13761D	1	7

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed)
(label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW
ORDINARY HIGH WATER — OHW
TOP OF BANK — TOB
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW
NORMAL HIGH WATER — NHW
WIDTH AT BANK FULL — WBF
PRIME WETLAND — PWET
PRIME WETLAND 100' BUFFER — PWET100
NON-JURISDICTIONAL DRAINAGE AREA — NJDA
COWARDIN DISTINCTION LINE — CDL
TIDAL BUFFER ZONE — TBZ
DEVELOPED TIDAL BUFFER ZONE — DTBZ
HIGHEST OBSERVABLE TIDE LINE — HOTL
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
VERNAL POOL — VP
SPECIAL AQUATIC SITE — SAS
REFERENCE LINE — REF
WATER FRONT BUFFER — WB50
NATURAL WOODLAND BUFFER — NWB150
PROTECTED SHORELAND — PS250
INVASIVE SPECIES LABEL — I.S. I — I.S. II
INVASIVE SPECIES — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500
100 YEAR FLOODPLAIN BOUNDARY — FP100
FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 — 31 — 32

PC, PT, POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) — 72.5
FINISHED GRADE ELEVATION (RIGHT) — 79.14

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsymb1-2	13761D	2	7

DRAINAGE

MANHOLE
CATCH BASIN (cb)
DROP INLET (di)
(existing) (PROPOSED)

DRAINAGE PIPE (existing) (label size & type)
DRAINAGE PIPE (PROPOSED)
UNDERDRAIN (existing) W/ FLUSHING BASIN (fb) (label size & type)
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN
show direction of flow
HEADER (existing & PROPOSED) (with stone outlet protection)
END SECTION (existing & PROPOSED) METAL or PLASTIC, RCP
OPEN DITCH (PROPOSED)
EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE (label type)
RR RIGHT-OF-WAY LINE
PROPERTY LINE
PROPERTY LINE (COMMON OWNER)
TOWN LINE — BOW / CONCORD
COUNTY LINE — COOS / GRAFTON
STATE LINE — MAINE / NEW HAMPSHIRE
NATIONAL FOREST
CONSERVATION LAND (LC)
BENCH MARK / SURVEY DISK
BOUND (bnd) (PROPOSED)
STATE LINE/ TOWN LINE MONUMENT (S/L) (T/L)
NHDOT PROJECT MARKER
IRON PIPE OR PIN (ip)
DRILL HOLE IN ROCK (dh)
TAX MAP AND LOT NUMBER (156 / 14) 1642/341 6.80 Ac.±
PROPERTY PARCEL NUMBER (12)
HISTORIC PROPERTY (H)

UTILITIES

existing PROPOSED

TELEPHONE POLE
POWER POLE
JOINT OCCUPANCY
MISCELLANEOUS/UNKNOWN POLE
GUY POLE OR PUSH BRACE
(plot point at face not center of symbol)
LIGHT POLE
LIGHT ON POWER POLE
LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY
AS APPLICABLE e.g.:
R L P+04 25.0' T+04 25.0'

RAILROAD (label ownership)
RAILROAD SIGN
RAILROAD SIGNAL
UTILITY JUNCTION BOX (jb) (JB)
OVERHEAD WIRE (OW) (label type)

UNDERGROUND UTILITIES
WATER (on existing lines label size, type and note if abandoned) (W) (PW)
SEWER (S) (PS)
TELEPHONE (T) (PT)
ELECTRIC (E) (PE)
GAS (G) (PG)
LIGHTING (L) (PL)
INTELLIGENT TRANSPORTATION SYSTEM (ITS) (PITS)
FIBER OPTIC (FO) (PFO)
WATER SHUT OFF
GAS SHUT OFF
HYDRANT

MANHOLES
SEWER (MHS)
TELEPHONE (MHT)
ELECTRICAL (MHE)
GAS (MHG)
UNKNOWN

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) 30' MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER
OPTICOM STROBE
TRAFFIC SIGNAL
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT
SIGNAL CONDUIT (C) (PC)
CONTROLLER CABINET (cc) (CC)
METER PEDESTAL (mp) (MP)
PULL BOX (pb) (PB)
LOOP DETECTOR (QUADRUPOLE) (label size)
LOOP DETECTOR (RECTANGULAR) (label size)
CAMERA POLE (CCTV)
FIBER OPTIC DELINEATOR (fod) (FOD)
FIBER OPTIC SPLICE VAULT (SVF)
ITS EQUIPMENT CABINET (its) (ITS)
VARIABLE SPEED LIMIT SIGN
DYNAMIC MESSAGE SIGN
ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS B-1
CURB MARK NUMBER - GRANITE G-1
CLEARING AND GRUBBING AREA (A)
DRAINAGE NOTE (1)
EROSION CONTROL NOTE (A)
FENCING NOTE (A)
GUARDRAIL NOTE (1)
ITS NOTE (1)
LIGHTING NOTE (A)
TRAFFIC SIGNAL NOTE (1)

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN
STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	stdsymb1-2	13761D	3	7

WETLAND IMPACT SUMMARY - NEW HAMPSHIRE

WETLAND NUMBER	WETLAND CLASS-IFICATION	LOCATION	AREA IMPACTS						LINEAR STREAM IMPACTS FOR MITIGATION			DESCRIPTIONS
			PERMANENT				TEMPORARY		PERMANENT			
			N.H.W.B. (NON-WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)				BANK LEFT	BANK RIGHT	CHANNEL	
			SF	LF	SF	LF	SF	LF	LF	LF	LF	
50	PF01E	R					2240					CONSTRUCTION OF BERM/FENCE
50	PF01E	S			35							CONSTRUCTION OF BERM/FENCE
51	PF01E	T			96							CONSTRUCTION OF BERM/FENCE
51	PF01E	U			134							CONSTRUCTION OF BERM/FENCE
51	PF01E	V			9							CONSTRUCTION OF BERM/FENCE
51	PF01E	W					301					CONSTRUCTION OF BERM/FENCE
51	PF01E	X					58					CONSTRUCTION OF BERM/FENCE
		TOTAL			274		2,599					

NEW HAMPSHIRE IMPACTS

PERMANENT IMPACTS:	274 SF
TEMPORARY IMPACTS:	2,599 SF
TOTAL IMPACTS:	2,873 SF

WETLAND CLASSIFICATION CODES	
PF01E	PALUSTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED

REVISIONS AFTER PROPOSAL

NUMBER	DATE	DESCRIPTION	STATION	STATION

SDR PROCESSED DATE
NEW DESIGN MAL DATE 10-2021
SHEET CHECKED CJP DATE 10-2021
AS BUILT DETAILS

CHA
11 King Court
Keene, NH 03431-4648
603.357.2445 • www.chacompanies.com

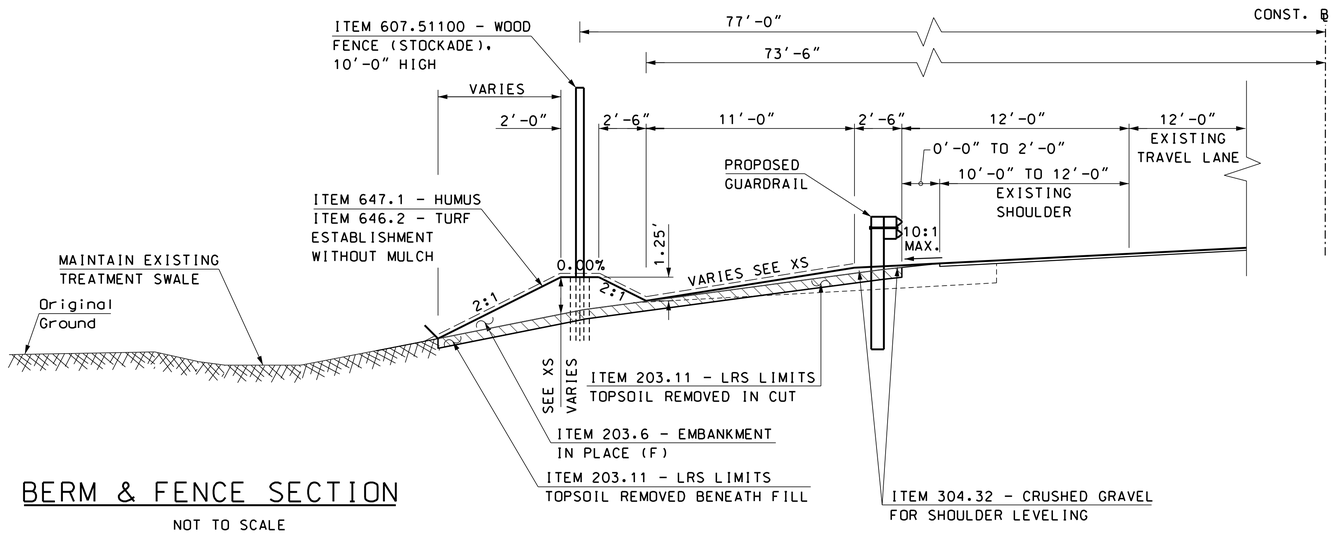
McFarland Johnson

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT SUMMARY SHEET

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13761wetsum	13761D	4	7

FENCE NOTE:

THE CONTRACTOR WILL NEED TO PROVIDE A DETAILED SUBMITTAL OF THE PROPOSED 10' HIGH FENCE THROUGH COORDINATION WITH THE FENCE COMPANY. THIS WILL INCLUDES AN APPROPRIATE FOUNDATION (DIAMETER, DEPTH, MATERIALS, POST TYPE ETC).



BERM & FENCE SECTION

NOT TO SCALE
1329+50 TO 1346+50 SOUTHBOUND

SOUTHBOUND

GENERAL NOTES:

1. USE ITEM 645.44 TEMPORARY SLOPE MATTING TYPE D (WILDLIFE FRIENDLY) ON ALL SLOPES 3:1 OR STEEPER.
2. NO SLOPE ROUNDING SHALL APPLY IN WETLANDS AREAS.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED DATE
NEW DESIGN MAL DATE 10-2021
SHEET CHECKED CJP DATE 10-2021
AS BUILT DETAILS

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT SUMMARY SHEET

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13761typ-berm	13761D	5	7

STA. 1327+50.00 SB
NORTHERN SEGMENT
LIMIT OF WORK

STA. 1330+50.00 NB & SB
NORTHERN SEGMENT
BEGIN APPROACH

B28
LANDS N/F
ROBERT J. LAMEY TRUSTEE

B29
LANDS N/F
RALPH E. DUTTON JR. &
PAULA L. DUTTON

B31
LANDS N/F
DONALD J. JUTRAS, JR.
& DIANE JUTRAS

B32
LANDS N/F
CLAIRE M. NORFOLK

B38
LANDS N/F
DURIGA FAMILY TRUST OF 1999

B32
LANDS N/F
ARMAND & JUDITH SARETTE

POT 1335+22.87 F.E.E.T., 73.0' RT. =
POT 50+00.00 1338 BMP ACCESS ROAD

GRID N

COUNTY ROAD

EXIST. L.A.R.O.W. P2650E

F.E. EVERETT TURNPIKE SB

F.E. EVERETT TURNPIKE NB

PROPOSED BMP 1338

MC1M

MC1B

MC1A

OML

PERMITTED IMPACTS

A

B

L.A.R.O.W.

B30
LANDS N/F
PAUL H. MACEWEN, SR. TRUSTEE

B19
LANDS N/F
NORTH WENDENWIECH LLC

UNNAMED BROOK

B30
LANDS N/F
PAUL H. MACEWEN, SR.
TRUSTEE

B34
LANDS N/F
K & M PROPERTIES LLC

SUNSET LANE

MATCHLINE – SEE WETLAND IMPACT PLAN 2

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

WETLAND DESIGNATION NUMBER
WETLAND IMPACT LOCATION
WETLAND MITIGATION AREA
MITIGATION

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED DATE
NEW DESIGN MAL DATE 10-2021
SHEET CHECKED CJP DATE 10-2021
AS BUILT DETAILS

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND IMPACT PLAN 1

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13761wet	13761D	6	7

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	DATE

		DATE
SDR PROCESSED		
NEW DESIGN	MAL	DATE 10-2021
SHEET CHECKED	CJP	DATE 10-2021

AS BUILT DETAILS

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

(#) WETLAND DESIGNATION NUMBER

WETLAND IMPACT LOCATION

(#) WETLAND MITIGATION AREA

MITIGATION

STA. 1346+00.00, NB & SB
NORTHERN SEGMENT
END APPROACH
BEGIN BOX WIDENING
CONSTRUCTION

B39
LANDS N/F
DURIGA FAMILY TRUST OF 1999

B38
LANDS N/F
DURIGA FAMILY TRUST OF 1999

B43
LANDS N/F
STATE OF NEW HAMPSHIRE

GRID

PC 1354+45.80

PROPOSED ROCK LINE

MATCHLINE - SEE WETLAND IMPACT PLAN 1

MATCHLINE - SEE WETLAND IMPACT PLAN 3

EXIST. L.A.R.O.W. P2650J

51 PFO1E

F.E. EVERETT TURNPIKE SB

F.E. EVERETT TURNPIKE NB

MC1M

1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355

36 PEM1E

C

PREVIOUSLY PERMITTED IMPACT

B35
LANDS N/F
JOSEPH & SANDRA GAUCI

B40
LANDS N/F
AN KYUNG & NAM Y

37 PFO1E

D

PREVIOUSLY PERMITTED IMPACT

B41
LANDS N/F
264 SOUTH
RIVER ROAD LLC

B42
LANDS N/F
262 SOUTH RIVER ROAD LLC

PROPOSED ROCK LINE

50 0 50 100
SCALE IN FEET

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McFarland Johnson

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

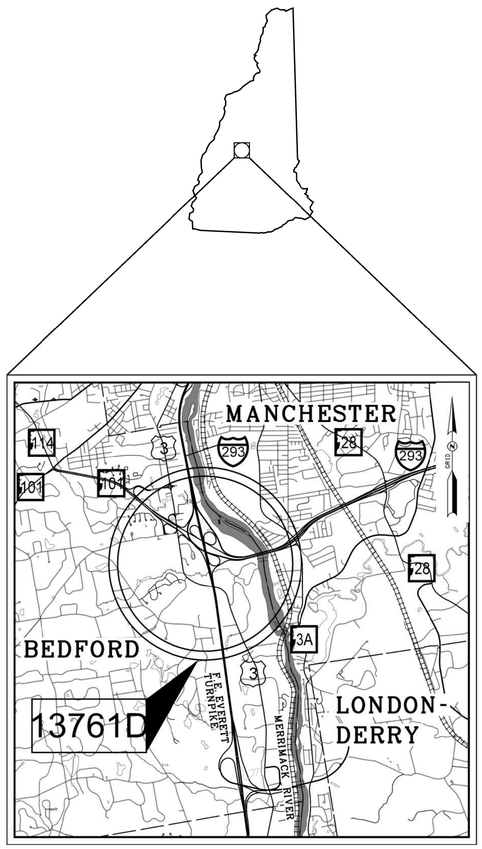
WETLAND IMPACT PLAN 2

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
13761wet	13761D	7	7

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
EROSION CONTROL PLANS
F.E. EVERETT CORRIDOR WIDENING
NH PROJECT NO. 13761D (NORTHERN SEGMENT)

DESIGN DATA

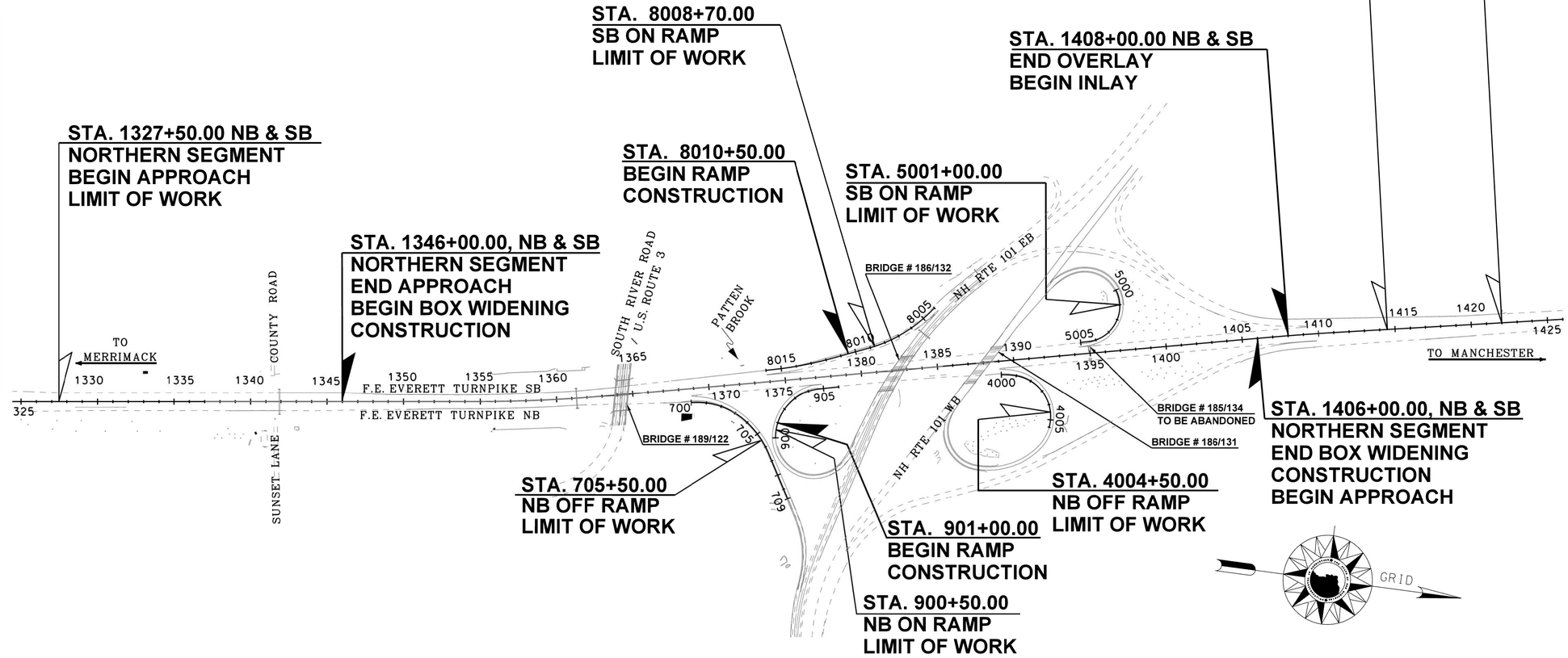
SB F.E.E.T.		NB F.E.E.T.	
AVERAGE DAILY TRAFFIC 20_24	36,545	AVERAGE DAILY TRAFFIC 20_24	35,719
AVERAGE DAILY TRAFFIC 20_44	46,852	AVERAGE DAILY TRAFFIC 20_44	45,793
PERCENT OF TRUCKS	8.8%	PERCENT OF TRUCKS	8.8%
DESIGN SPEED	70 MPH	DESIGN SPEED	70 MPH
ROADWAY CLASSIFICATION	PRINCIPAL ART.	ROADWAY CLASSIFICATION	PRINCIPAL ART.
LENGTH OF PROJECT	1.73 MILES	LENGTH OF PROJECT	1.73 MILES



LOCATION MAP

1 1/2 0 1 2 mi.

GRAPHIC SCALE



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE PAGE
2-3	STANDARD SYMBOLS
4-11	EROSION CONTROL PLANS
12	EROSION CONTROL STRATEGIES
13	TRAFFIC CONTROL SEQUENCING AND CONSTRUCTION SEQUENCE NOTES

DRAWN BY - P. PARE DATE - 12/2023

CHECKED BY - J. PARRELLI DATE - 12/2023

TOWN OF BEDFORD
COUNTY OF HILLSBOROUGH
SCALE: 1"=400'

CHA
11 King Court • Keene, NH 03431-4848
Main: (603) 357-2445 • www.chacompanies.com

STATE OF NEW HAMPSHIRE
JOHN P. PARRELLI
No. 10524
PROFESSIONAL ENGINEER

EROSION CONTROL PLANS
DATE: 12/27/2023

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

MUNICIPAL HIGHWAYS ENGINEER
BUREAU OF PLANNING AND COMMUNITY ASSISTANCE — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
3761_FSC_ECP.dgn		13761D	1	13

GENERAL

EDGE OF PAVEMENT — PROPOSED ROADWAY
TRAVELED WAY — existing roadway — (pavement removed outside slope lines)

DRIVEWAYS — (label surface type)

BUILDINGS — (building to be removed)
(label house or type of building)

FOUNDATION — (label type)

LEACH FIELD — leach field

BRIDGE CROSSINGS — STREAM — OVERPASS

STEPS AND WALK — (label type)

INTERMITTENT WATER COURSE

SHORE LINE — river/stream — pond — (label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS) — (deciduous) (coniferous) (stump)

TREE OR STUMP (CROSS-SECTIONS) — (show station, circumference in feet & type)

HEDGE — (label type)

MONITORING WELL — mon W

WELL — W

FLAG POLE — fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type) — existing — PROPOSED — bgr — cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE) — (points toward retained ground)

FENCE (LABEL TYPE)

SIGNS — (single post) — (double post)

GAS PUMP — gp

FUEL TANK (ABOVE GROUND) — ft — (label size & type)

STORAGE TANK FILLER CAP — fc

SEPTIC TANK — S

GRAVE — gr

MAILBOX — mb

VENT PIPE — vp

SATELLITE DISH ANTENNA — da

PHONE — ph

GROUND LIGHT/LAMP POST — gl — lp

BORING LOCATION — B

TEST PIT — TP

INTERSTATE NUMBERED HIGHWAY — 293

UNITED STATES NUMBERED HIGHWAY — 3

STATE NUMBERED HIGHWAY — 102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE — 2 PUB2E

DELINEATED WETLAND — DW
ORDINARY HIGH WATER — OHW
TOP OF BANK — TOB
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW
NORMAL HIGH WATER — NHW
WIDTH AT BANK FULL — WBF
PRIME WETLAND — PWET
PRIME WETLAND 100' BUFFER — PWET100
NON-JURISDICTIONAL DRAINAGE AREA — NJDA
COWARDIN DISTINCTION LINE — CDL
TIDAL BUFFER ZONE — TBZ
DEVELOPED TIDAL BUFFER ZONE — DTBZ
HIGHEST OBSERVABLE TIDE LINE — HOTL
MEAN HIGH WATER — MHW
MEAN LOW WATER — MLW
VERNAL POOL — VP
SPECIAL AQUATIC SITE — SAS
REFERENCE LINE — REF
WATER FRONT BUFFER — WB50
NATURAL WOODLAND BUFFER — NWB150
PROTECTED SHORELAND — PS250
INVASIVE SPECIES LABEL — I.S. I — I.S. II
INVASIVE SPECIES DELINEATION — INV

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500
100 YEAR FLOODPLAIN BOUNDARY — FP100
FLOODWAY — FW

ENGINEERING

CONSTRUCTION BASELINE — 30 — 31 — 32

PC. PT. POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

CLEARING LINE — SLOPE LINE

SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT) — 72.5
FINISHED GRADE ELEVATION (RIGHT) — 79.14

SHEET 1 OF 2

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	13761sym.dgn	13761D	2	13

DRAINAGE

MANHOLE
CATCH BASIN — cb
DROP INLET — di
(existing) (PROPOSED)

DRAINAGE PIPE (existing) — (label size & type)
DRAINAGE PIPE (PROPOSED)
UNDERDRAIN (existing) W/ FLUSHING BASIN — fb — (label size & type)
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN
show direction of flow
HEADER (existing & PROPOSED) — (with stone outlet protection)
END SECTION (existing & PROPOSED) — METAL or PLASTIC / RCP
OPEN DITCH (PROPOSED)
EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)
RR RIGHT-OF-WAY LINE
PROPERTY LINE — PL
PROPERTY LINE (COMMON OWNER) — Z
TOWN LINE — BOW / CONCORD
COUNTY LINE — COOS / GRAFTON
STATE LINE — MAINE / NEW HAMPSHIRE
NATIONAL FOREST
CONSERVATION LAND — LC
BENCH MARK / SURVEY DISK
BOUND — bnd — (PROPOSED)
STATE LINE/ TOWN LINE MONUMENT — S/L — T/L
NHDOT PROJECT MARKER
IRON PIPE OR PIN — ip
DRILL HOLE IN ROCK — dh
TAX MAP AND LOT NUMBER — 156/14 — 1642/341 — 6.80 Ac.±
PROPERTY PARCEL NUMBER — 12
HISTORIC PROPERTY — H

UTILITIES

	existing	PROPOSED
TELEPHONE POLE		
POWER POLE		
JOINT OCCUPANCY		
MISCELLANEOUS/UNKNOWN POLE		
GUY POLE OR PUSH BRACE		
	(plot point at face not center of symbol)	
LIGHT POLE		
LIGHT ON POWER POLE		
LIGHT ON JOINT POLE		
POLE STATUS: REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.:	R L	P+04 25.0' T+04 25.0'
RAILROAD	(label ownership)	
RAILROAD SIGN		
RAILROAD SIGNAL		
UTILITY JUNCTION BOX	jb	JB
OVERHEAD WIRE	OW (label type)	OW
UNDERGROUND UTILITIES		
WATER (on existing lines label size, type and note if abandoned)	W	PW
SEWER	S	PS
TELEPHONE	T	PT
ELECTRIC	E	PE
GAS	G	PG
LIGHTING	L	PL
INTELLIGENT TRANSPORTATION SYSTEM	ITS	PITS
FIBER OPTIC	FO	PFO
WATER SHUT OFF		
GAS SHUT OFF		
HYDRANT		
MANHOLES		
SEWER		MHS
TELEPHONE		MHT
ELECTRICAL		MHE
GAS		MHG
UNKNOWN		

TRAFFIC SIGNALS / ITS

	existing	PROPOSED
MAST ARM (existing)		30' MA (NOTE ANGLE FROM ℄)
OPTICOM RECEIVER		
OPTICOM STROBE		
TRAFFIC SIGNAL		
PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT		
SIGNAL CONDUIT	C	PC
CONTROLLER CABINET	cc	CC
METER PEDESTAL	mp	MP
PULL BOX	pb	PB
LOOP DETECTOR (QUADRUPOLE)		(label size)
LOOP DETECTOR (RECTANGULAR)		(label size)
CAMERA POLE (CCTV)		
FIBER OPTIC DELINEATOR	fod	FOD
FIBER OPTIC SPLICE VAULT	FO SV	SVF
ITS EQUIPMENT CABINET	its	ITS
VARIABLE SPEED LIMIT SIGN (VSL)		
DYNAMIC MESSAGE SIGN (DMS)		
ROAD AND WEATHER INFO SYSTEM (RNIS)		
MICROWAVE VEHICLE DETECTION SYSTEM (MVDS)		

CONSTRUCTION NOTES

CURB MARK NUMBER - BITUMINOUS	B-1
CURB MARK NUMBER - GRANITE	G-1
CLEARING AND GRUBBING AREA	A
DRAINAGE NOTE	1
EROSION CONTROL NOTE	A
FENCING NOTE	A
GUARDRAIL NOTE	1
ITS NOTE	1
LIGHTING NOTE	A
TRAFFIC SIGNAL NOTE	1

SHEET 2 OF 2

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	13761sym.dgn	13761D	3	13

CHA PROJ. NO. 057314.000
PLOTTED DATED 12/27/2023
FILE NAME = V:\PROJECTS\ANY\K5\057314.000\CADD_MSTN\PRJ\CUTSHEET\13761SYM.DGN

STA. 1327+50.00 SB
NORTHERN SEGMENT
LIMIT OF WORK

STA. 1330+50.00 NB & SB
NORTHERN SEGMENT
BEGIN APPROACH
MATCH EXISTING
PAVEMENT MARKINGS

B28
LANDS N/F
ROBERT J. LAMEY
TRUSTEE

B29
LANDS N/F
RALPH E. DUTTON JR. &
PAULA L. DUTTON

B31
LANDS N/F
DONALD J. JUTRAS, JR.
& DIANE JUTRAS

B32
LANDS N/F
CLAIRE M. NORFOLK

B32
LANDS N/F
ARMAND & JUDITH SARETTE

B38
LANDS N/F
DURIGA FAMILY
TRUST OF 1999

B32
LANDS N/F
ARMAND & JUDITH SARETTE

B19
LANDS N/F
NORTH
WENDENWIECH LLC

B30
LANDS N/F
PAUL H. MACEWEN, SR. TRUSTEE

B30
LANDS N/F
PAUL H. MACEWEN, SR.
TRUSTEE

B34
LANDS N/F
K & M PROPERTIES LLC

B34
LANDS N/F
K & M PROPERTIES LLC

3' x 275' treatment swale
constructed in contract
115121 c2009

POT 1335+22.87 F.E.E.T., 73.0' RT. =
POT 50+00.00 1338 BMP ACCESS ROAD

EXISTING FENCE
TO REMAIN

EXIST. L.A.R.O.W. P2650E

APPROXIMATE WETLAND
BOUNDARY

RAP1 SLOPE LIMIT

SLOPE LIMIT

CLEARING LINE

CLEAR TO ROW

PROPOSED BMP 1338

MC1B

MC1A

MC1M

F.E. EVERETT TURNPIKE SB

F.E. EVERETT TURNPIKE NB

COUNTY ROAD

SUNSET LANE

UNNAMED BROOK

L.A.R.O.W.

MATCHLINE SEE SHEET ECP-02

GRID

50 0 50 100
SCALE IN FEET

EROSION CONTROL PLAN LEGEND

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

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/27/2023

FILE NAME = V:\PROJECTS\ANY\X5\057314.000\CADD_MSTN\PRJ\CUTSHEET\13761ECP.DGN

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-01	13761ecp.dgn	13761D	4	13

EROSION CONTROL PLAN LEGEND

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

STA. 1346+00.00, NB & SB
NORTHERN SEGMENT
END APPROACH
BEGIN BOX WIDENING
CONSTRUCTION

GRID

ITEM 572.1
RECONSTRUCTING STONE WALL,
ONE STONE WIDE (30')
ACCESS FROM LT SIDE OF PARCEL B43

B39 LANDS N/F DURIGA FAMILY TRUST OF 1999
B38 LANDS N/F DURIGA FAMILY TRUST OF 1999
B43 LANDS N/F STATE OF NEW HAMPSHIRE
B35 LANDS N/F JOSEPH & SANDRA GAUCI
B40 LANDS N/F AN KYUNG & NAM Y
B41 LANDS N/F 264 SOUTH RIVER ROAD LLC
B42 LANDS N/F 262 SOUTH RIVER ROAD LLC

ORIGINAL CLEARING LINE
ORIGINAL SLOPE LIMIT
RAP1 SLOPE LIMIT
RAP1 CLEARING LINE
CLEARING LINE
SLOPE LIMIT
PROPOSED ROCK LINE
REMOVE
CLEAR TO ROW
EXIST. L.A.R.O.W. P2650J
51 PFO1E
36 PEM1E
37 PFO1E
F.E. EVERETT TURNPIKE SB
F.E. EVERETT TURNPIKE NB
MC1M
MATCHLINE SEE SHEET ECP-01
MATCHLINE SEE SHEET ECP-03

50 0 50 100
SCALE IN FEET

CHA
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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN
EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-02	13761ecp.dgn	13761D	5	13

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

CHA PROJ. NO. 057314.000
PLOTTED DATED 12/21/2023
FILE NAME - V:\PROJECTS\ANY\MS\057314.000\CADD_MSTN\PRJCUTSHEETN\13761ECP.DGN

EROSION CONTROL PLAN LEGEND

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

GRID N

B44
LANDS N/F
PDNED BEDFORD LLC

SOUTH RIVER ROAD / U.S. ROUTE 3

BRIDGE NO. 189/122

PROPOSED ROCK LINE
SLOPE LIMIT
CLEARING LINE

EXIST. L.A.R.O.W. P2650J

MATCHLINE SEE SHEET ECP-02

F.E. EVERETT TURNPIKE NB

F.E. EVERETT TURNPIKE SB

MC1M

GRAVEL DRIVE

REMOVE

SLOPE LIMIT
CLEARING LINE
PROPOSED ROCK LINE

PROPOSED OVERHEAD SIGN STRUCTURE

REMOVE EXISTING OVERHEAD SIGN STRUCTURE

SEE ITS TOWER DETAILS FOR SITE GRADING

B45
LANDS N/F
VISTA HEIGHTS PROPERTIES LLC

B48
LANDS N/F
ROBERT & ROGER RHEAULT

B46
LANDS N/F
ROBERT & ROGER RHEAULT

MATCHLINE SEE SHEET ECP-04

50 0 50 100
SCALE IN FEET

NUMBER	DATE	STATION

REVISIONS AFTER PROPOSAL

SDR PROCESSED NHDOT	DATE 1/12
NEW DESIGN P.R.P.	DATE 12/23
SHEET CHECKED J.P.	DATE 12/22/23
AS BUILT DETAILS	DATE

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/27/2023

FILE NAME = V:\PROJECTS\ANY\K5\057314.000\CADD_MSTN\PRJ\CUTSHEETS\13761ECP.DGN

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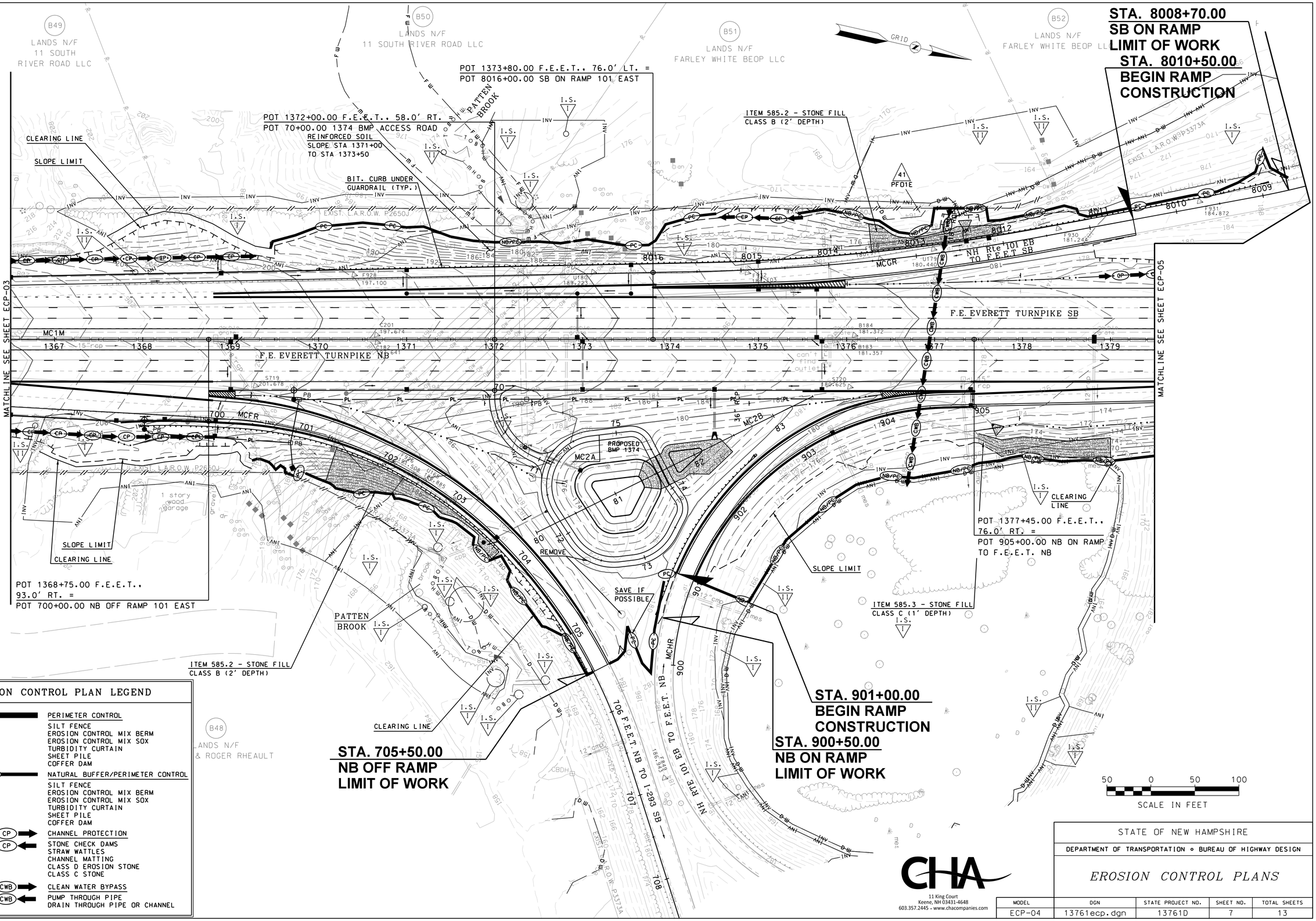
STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-03	13761ecp.dgn	13761D	6	13



EROSION CONTROL PLAN LEGEND

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

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/21/2023

FILE NAME - V:\PROJECTS\ANY\X5\057314.000\CADD_MSTN\PRJCUTSHEET\13761ECP.DGN

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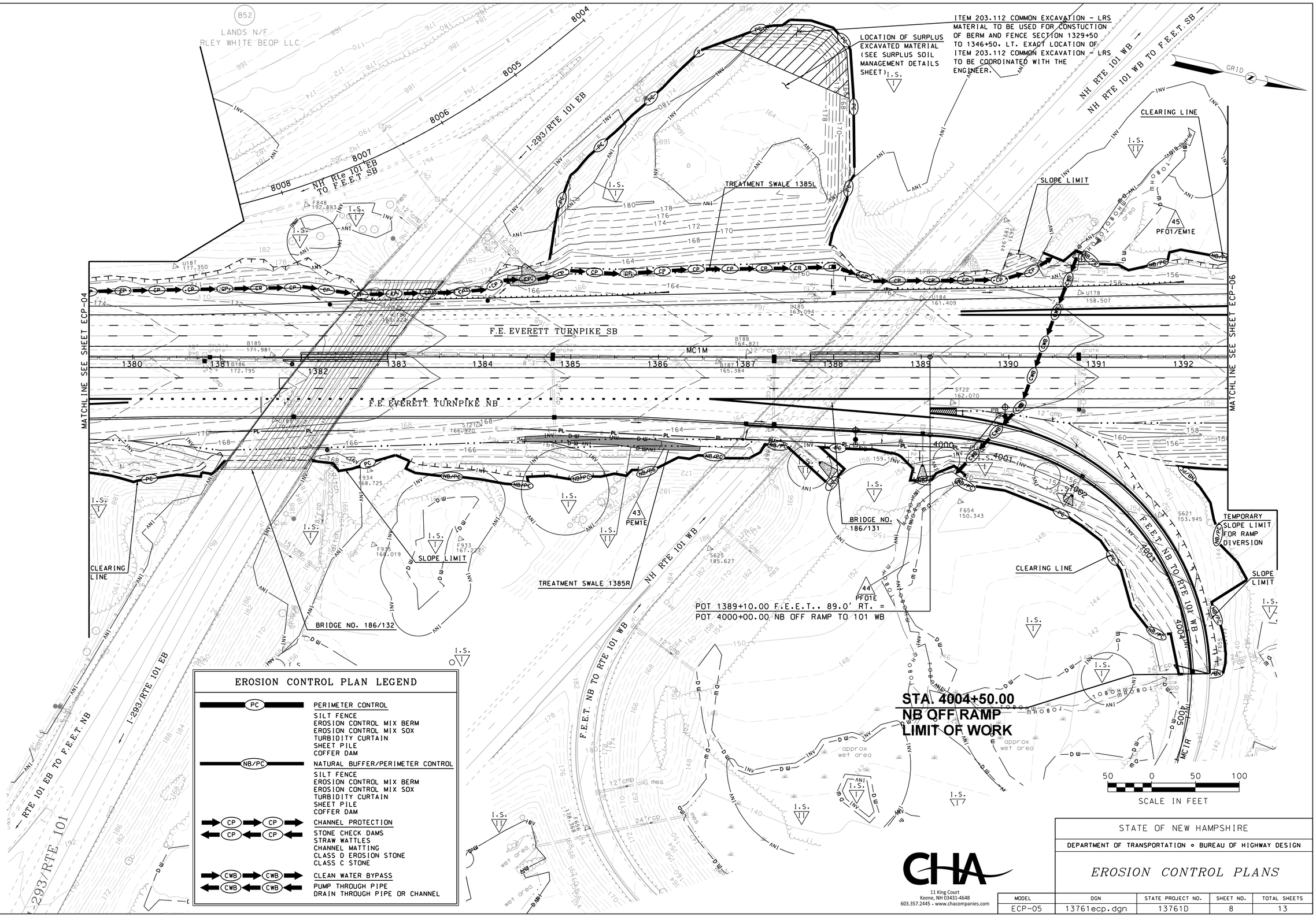
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-04	13761ecp.dgn	13761D	7	13



EROSION CONTROL PLAN LEGEND

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

NUMBER	DATE	STATION	DESCRIPTION
		STATION	REVISIONS AFTER PROPOSAL

SQR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/27/2023

FILE NAME - V:\PROJECTS\ANY\K5\057314.000\CADD_MSTN\PRJCUTSHEET\13761ECP.DGN

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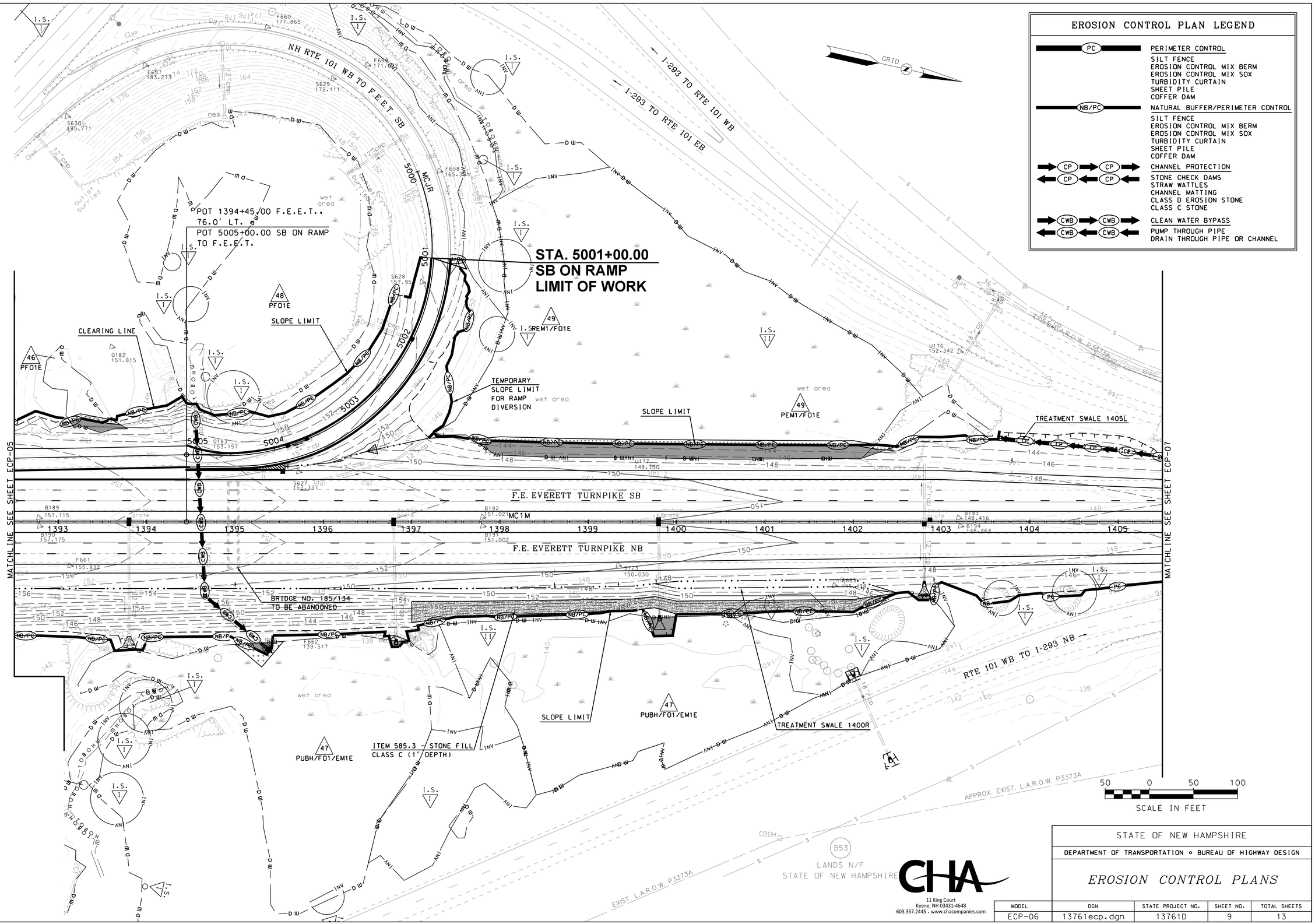
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-05	13761ecp.dgn	13761D	8	13



NUMBER	DESCRIPTION	STATION	STATION	DATE
	REVISIONS AFTER PROPOSAL			

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/27/2023

FILE NAME - V:\PROJECTS\ANY\KS\057314.000\CADD_MSTN\PRJCUTSHEET\13761ECP.DGN

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

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MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-06	13761ecp.dgn	13761D	9	13

CHA PROJ. NO. 057314.000

PLOTTED DATED 12/27/2023

FILE NAME - V:\PROJECTS\ANY\MS\057314.000\CADD_MSTN\PRJCUTSHEETS\13761ECP.DGN

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

STA. 1406+00.00, NB & SB
NORTHERN SEGMENT
END BOX WIDENING
CONSTRUCTION
BEGIN APPROACH

STA. 1408+00.00 NB & SB
END OVERLAY
BEGIN INLAY

STA. 1414+50.00 NB & SB
NORTHERN SEGMENT
END APPROACH

GRID

B54
LANDS N/F
ER BEDFORD LLC

BOWMAN BROOK stream

I-293 TO RTE 101 WB
I-293 TO RTE 101 EB
SLOPE LIMIT

I-293/F.E.E.T. SB
I-293/F.E.E.T. NB
MC1M

RTE 101 WB TO I-293 NB

SLOPE LIMIT

BOWMAN BROOK

APPROX. EXIST. L.A.R.O.W. P2650J ALONG MERRIMACK RIVER

B53
LANDS N/F
STATE OF NEW HAMPSHIRE

MERRIMACK RIVER

MATCHLINE SEE SHEET ECP-06

MATCHLINE SEE SHEET ECP-08

EROSION CONTROL PLAN LEGEND

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

50 0 50 100
SCALE IN FEET

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

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MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-07	13761ecp.dgn	13761D	10	13

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

STA. 1422+00.00 NB & SB
LIMIT OF WORK
MATCH EXISTING
PAVEMENT MARKINGS

MATCHLINE SEE SHEET ECP-07

GRID N

EROSION CONTROL PLAN LEGEND

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

SCALE IN FEET: 50 0 50 100

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ○ BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
ECP-08	13761ecp.dgn	13761D	11	13

EROSION CONTROL STRATEGIES

1. ENVIRONMENTAL COMMITMENTS:
   1.1. THESE GUIDELINES DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH ANY CONTRACT PROVISIONS, OR APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
   1.2. THIS PROJECT WILL BE SUBJECT TO THE US EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER CONSTRUCTION GENERAL PERMIT AS ADMINISTERED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THIS PROJECT IS SUBJECT TO REQUIREMENTS IN THE MOST RECENT CONSTRUCTION GENERAL PERMIT (CGP).
   1.3. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NHDES WETLAND PERMIT, THE US ARMY CORPS OF ENGINEERS PERMIT, WATER QUALITY CERTIFICATION AND THE SPECIAL ATTENTION ITEMS INCLUDED IN THE CONTRACT DOCUMENTS.
   1.4. ALL STORM WATER, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION (DECEMBER 2008) (BMP MANUAL) AVAILABLE FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES).
   1.5. THE CONTRACTOR SHALL COMPLY WITH RSA 485-A:17, AND ALL, PUBLISHED NHDES ALTERATION OF TERRAIN ENV-WQ 1500 REQUIREMENTS (HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/LEGAL/RULES/INDEX.HTM)
   1.6. THE CONTRACTOR IS DIRECTED TO REVIEW AND COMPLY WITH SECTION 107.1 OF THE CONTRACT AS IT REFERS TO SPILLAGE, AND ALSO WITH REGARDS TO EROSION, POLLUTION, AND TURBIDITY PRECAUTIONS.

2. STANDARD EROSION CONTROL SEQUENCING APPLICABLE TO ALL CONSTRUCTION PROJECTS:
   2.1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES. PERIMETER CONTROLS AND STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AS SHOWN IN THE BMP MANUAL AND AS DIRECTED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARER.
   2.2. EROSION, SEDIMENTATION CONTROL MEASURES AND INFILTRATION BASINS SHALL BE CLEANED, REPLACED AND AUGMENTED AS NECESSARY TO PREVENT SEDIMENTATION BEYOND PROJECT LIMITS THROUGHOUT THE PROJECT DURATION.
   2.3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 645 OF THE NHDOT SPECIFICATIONS FOR ROAD AND BRIDGES CONSTRUCTION.
   2.4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
      (A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
      (B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
      (C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED;
      (D) TEMPORARY SLOPE STABILIZATION CONFORMING TO TABLE 1 HAS BEEN PROPERLY INSTALLED
   2.5. ALL STOCKPILES SHALL BE CONTAINED WITH A PERIMETER CONTROL. IF THE STOCKPILE IS TO REMAIN UNDISTURBED FOR MORE THAN 14 DAYS, MULCHING WILL BE REQUIRED.
   2.6. A WATER TRUCK SHALL BE AVAILABLE TO CONTROL EXCESSIVE DUST AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
   2.7. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN UNTIL THE AREA HAS BEEN PERMANENTLY STABILIZED.
   2.8. CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 30" AND MAY 1" OF ANY YEAR SHALL BE CONSIDERED WINTER CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
      (A) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED IN ACCORDANCE WITH TABLE 1.
      (B) ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15", OR WHICH ARE DISTURBED AFTER OCTOBER 15", SHALL BE STABILIZED TEMPORARILY WITH STONE OR IN ACCORDANCE WITH TABLE 1.
      (C) AFTER NOVEMBER 30" INCOMPLETE ROAD SURFACES, WHERE WORK HAS STOPPED FOR THE SEASON, SHALL BE PROTECTED IN ACCORDANCE WITH TABLE 1.
      (D) WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE PROJECT IS WITHOUT STABILIZATION AT ONE TIME, UNLESS A WINTER CONSTRUCTION PLAN HAS BEEN APPROVED BY NHDOT THAT MEETS THE REQUIREMENTS OF ENV-WQ 1505.02 AND ENV-WQ 1505.05.
      (E) A SWPPP AMENDMENT SHALL BE SUBMITTED TO THE DEPARTMENT, FOR APPROVAL, ADDRESSING COLD WEATHER STABILIZATION (ENV-WQ 1505.05) AND INCLUDING THE REQUIREMENTS OF NO LESS THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK SCHEDULED AFTER NOVEMBER 30".

GENERAL CONSTRUCTION PLANNING AND SELECTION OF STRATEGIES TO CONTROL EROSION AND SEDIMENT ON HIGHWAY CONSTRUCTION PROJECTS

3. PLAN ACTIVITIES TO ACCOUNT FOR SENSITIVE SITE CONDITIONS:
   3.1. CLEARLY FLAG AREAS TO BE PROTECTED IN THE FIELD AND PROVIDE CONSTRUCTION BARRIERS TO PREVENT TRAFFICKING OUTSIDE OF WORK AREAS.
   3.2. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS.
   3.3. PROTECT AND MAXIMIZE EXISTING NATIVE VEGETATION AND NATURAL FOREST BUFFERS BETWEEN CONSTRUCTION ACTIVITY AND SENSITIVE AREAS.
   3.4. WHEN WORK IS PERFORMED IN AND NEAR WATER COURSES, STREAM FLOW DIVERSION METHODS SHALL BE IMPLEMENTED PRIOR TO ANY EXCAVATION OR FILLING.
   3.5. WHEN WORK IS PERFORMED WITHIN 50 FEET OF SURFACE WATERS (WETLAND, OPEN WATER OR FLOWING WATER), PERIMETER CONTROL SHALL BE ENHANCED CONSISTENT WITH SECTION 2.1.2.1. OF THE 2012 NPDES CONSTRUCTION GENERAL PERMIT.

4. MINIMIZE THE AMOUNT OF EXPOSED SOIL:
   4.1. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS. MINIMIZE THE AREA OF EXPOSED SOIL AT ANY ONE TIME. PHASING SHALL BE USED TO REDUCE THE AMOUNT AND DURATION OF SOIL EXPOSED TO THE ELEMENTS AND VEHICLE TRACKING.
   4.2. UTILIZE TEMPORARY MULCHING OR PROVIDE ALTERNATE TEMPORARY STABILIZATION ON EXPOSED SOILS IN ACCORDANCE WITH TABLE 1.
   4.3. THE MAXIMUM AMOUNT OF DISTURBED EARTH SHALL NOT EXCEED A TOTAL OF 5 ACRES FROM MAY 1" THROUGH NOVEMBER 30", OR EXCEED ONE ACRE DURING WINTER MONTHS, UNLESS THE CONTRACTOR DEMONSTRATES TO THE DEPARTMENT THAT THE ADDITIONAL AREA OF DISTURBANCE IS NECESSARY TO MEET THE CONTRACTORS CRITICAL PATH METHOD SCHEDULE (CPM), AND THE CONTRACTOR HAS ADEQUATE RESOURCES AVAILABLE TO ENSURE THAT ENVIRONMENTAL COMMITMENTS WILL BE MET.

5. CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT:
   5.1. DIVERT OFF SITE RUNOFF OR CLEAN WATER AWAY FROM THE CONSTRUCTION ACTIVITY TO REDUCE THE VOLUME THAT NEEDS TO BE TREATED ON SITE.
   5.2. DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM DISTURBED AREAS, SLOPES, AND AROUND ACTIVE WORK AREAS AND TO A STABILIZED OUTLET LOCATION.
   5.3. CONSTRUCT IMPERMEABLE BARRIERS AS NECESSARY TO COLLECT OR DIVERT CONCENTRATED FLOWS FROM WORK OR DISTURBED AREAS.
   5.4. STABILIZE, TO APPROPRIATE ANTICIPATED VELOCITIES, CONVEYANCE CHANNELS OR PUMPING SYSTEMS NEEDED TO CONVEY CONSTRUCTION STORMWATER TO BASINS AND DISCHARGE LOCATIONS PRIOR TO USE.
   5.5. DIVERT OFF-SITE WATER THROUGH THE PROJECT IN AN APPROPRIATE MANNER SO NOT TO DISTURB THE UPSTREAM OR DOWNSTREAM SOILS, VEGETATION OR HYDROLOGY BEYOND THE PERMITTED AREA.

6. PROTECT SLOPES:
   6.1. INTERCEPT AND DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM UNPROTECTED AND NEWLY ESTABLISHED AREAS AND SLOPES TO A STABILIZED OUTLET OR CONVEYANCE.
   6.2. CONSIDER HOW GROUNDWATER SEEPAGE ON CUT SLOPES MAY IMPACT SLOPE STABILITY AND INCORPORATE APPROPRIATE MEASURES TO MINIMIZE EROSION.
   6.3. CONVEY STORMWATER DOWN THE SLOPE IN A STABILIZED CHANNEL OR SLOPE DRAIN.
   6.4. THE OUTER FACE OF THE FILL SLOPE SHOULD BE IN A LOOSE RUFFLED CONDITION PRIOR TO TURF ESTABLISHMENT. TOPSOIL OR HUMUS LAYERS SHALL BE TRACKED UP AND DOWN THE SLOPE, DISKED, HARROWED, DRAGGED WITH A CHAIN OR MAT, MACHINE-RAKED, OR HAND-WORKED TO PRODUCE A RUFFLED SURFACE.

7. ESTABLISH STABILIZED CONSTRUCTION EXITS:
   7.1. INSTALL AND MAINTAIN CONSTRUCTION EXITS, ANYWHERE TRAFFIC LEAVES A CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY.
   7.2. SWEEP ALL CONSTRUCTION RELATED DEBRIS AND SOIL FROM THE ADJACENT PAVED ROADWAYS AS NECESSARY.

8. PROTECT STORM DRAIN INLETS:
   8.1. DIVERT SEDIMENT LADEN WATER AWAY FROM INLET STRUCTURES TO THE EXTENT POSSIBLE.
   8.2. INSTALL SEDIMENT BARRIERS AND SEDIMENT TRAPS AT INLETS TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
   8.3. CLEAN CATCH BASINS, DRAINAGE PIPES, AND CULVERTS IF SIGNIFICANT SEDIMENT IS DEPOSITED.
   8.4. DROP INLET SEDIMENT BARRIERS SHOULD NEVER BE USED AS THE PRIMARY MEANS OF SEDIMENT CONTROL AND SHOULD ONLY BE USED TO PROVIDE AN ADDITIONAL LEVEL OF PROTECTION TO STRUCTURES AND DOWN-GRADIENT SENSITIVE RECEPTORS.

9. SOIL STABILIZATION:
   9.1. WITHIN THREE DAYS OF THE LAST ACTIVITY IN AN AREA, ALL EXPOSED SOIL AREAS, WHERE CONSTRUCTION ACTIVITIES ARE COMPLETE, SHALL BE STABILIZED.
   9.2. IN ALL AREAS, TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED IN ACCORDANCE WITH THE STABILIZATION REQUIREMENTS (SECTION 2.2) OF THE 2012 CGP. (SEE TABLE 1 FOR GUIDANCE ON THE SELECTION OF TEMPORARY SOIL STABILIZATION MEASURES.)
   9.3. EROSION CONTROL SEED MIX SHALL BE SOWN IN ALL INACTIVE CONSTRUCTION AREAS THAT WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE AND PRIOR TO SEPTEMBER 15, OF ANY GIVEN YEAR. IN ORDER TO ACHIEVE VEGETATIVE STABILIZATION PRIOR TO THE END OF THE GROWING SEASON.
   9.4. SOIL TACKIFIERS MAY BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND REAPPLIED AS NECESSARY TO MINIMIZE SOIL AND MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

10. RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES:
    10.1. TEMPORARY SEDIMENT BASINS (CGP-SECTION 2.1.3.2) OR SEDIMENT TRAPS (ENV-WQ 1506.10) SHALL BE SIZED TO RETAIN, ON SITE, THE VOLUME OF A 2-YEAR 24-HOUR STORM EVENT FOR ANY AREA OF DISTURBANCE OR 3,600 CUBIC FEET OF STORMWATER RUNOFF PER ACRE OF DISTURBANCE, WHICHEVER IS GREATER. TEMPORARY SEDIMENT BASINS USED TO TREAT STORMWATER RUNOFF FROM AREAS GREATER THAN 5-ACRES OF DISTURBANCE SHALL BE SIZED TO ALSO CONTROL STORMWATER RUNOFF FROM A 10-YEAR 24 HOUR STORM EVENT. ON-SITE RETENTION OF THE 10-YEAR 24-HOUR EVENT IS NOT REQUIRED.
    10.2. CONSTRUCT AND STABILIZE DEWATERING INFILTRATION BASINS PRIOR TO ANY EXCAVATION THAT MAY REQUIRE DEWATERING.
    10.3. TEMPORARY SEDIMENT BASINS OR TRAPS SHALL BE PLACED AND STABILIZED AT LOCATIONS WHERE CONCENTRATED FLOW (CHANNELS AND PIPES) DISCHARGE TO THE SURROUNDING ENVIRONMENT FROM AREAS OF UNSTABILIZED EARTH DISTURBING ACTIVITIES.

11. ADDITIONAL EROSION AND SEDIMENT CONTROL GENERAL PRACTICES:
    11.1. USE TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, AND PERMANENT VEGETATIVE COVER TO REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. APPLY WATER, OR OTHER DUST INHIBITING AGENTS OR TACKIFIERS, AS APPROVED BY THE NHDES.
    11.2. ALL STOCKPILES SHALL BE CONTAINED WITH TEMPORARY PERIMETER CONTROLS. INACTIVE SOIL STOCKPILES SHOULD BE PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY EROSION CONTROL SEED MIX AND MULCH, SOIL BINDER) OR COVERED WITH ANCHORED TARPS.
    11.3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH SECTION 645 OF NHDOT SPECIFICATIONS, WEEKLY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25 IN. OF RAIN PER 24-HOUR PERIOD. EROSION AND SEDIMENT CONTROL MEASURES WILL ALSO BE INSPECTED IN ACCORDANCE WITH THE GUIDANCE MEMO FROM THE NHDES CONTAINED WITHIN THE CONTRACT PROPOSAL AND THE EPA CONSTRUCTION GENERAL PERMIT.
    11.4. THE CONTRACTOR SHOULD UTILIZE STORM DRAIN INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING A STORM DRAINAGE SYSTEM PRIOR TO THE PERMANENT STABILIZATION OF THE CONTRIBUTING DISTURBED AREA.
    11.5. PERMANENT STABILIZATION MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS TO STABILIZE AREAS. VEGETATIVE STABILIZATION SHALL NOT BE CONSIDERED PERMANENTLY STABILIZED UNTIL VEGETATIVE GROWTH COVERS AT LEAST 85% OF THE DISTURBED AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER PROJECT COMPLETION.
    11.6. CATCH BASINS: CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER ANY EXISTING CATCH BASINS DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE TEMPORARY STONE INLET PROTECTION OVER INLETS IN AREAS OF SOIL DISTURBANCE THAT ARE SUBJECT TO SEDIMENT CONTAMINATION.
    11.7. TEMPORARY AND PERMANENT DITCHES SHALL BE CONSTRUCTED, STABILIZED AND MAINTAINED IN A MANNER THAT WILL MINIMIZE SCOUR. TEMPORARY AND PERMANENT DITCHES SHALL BE DIRECTED TO DRAIN TO SEDIMENT BASINS OR STORM WATER COLLECTION AREAS.
    11.8. WINTER EXCAVATION AND EARTHWORK ACTIVITIES NEED TO BE LIMITED IN EXTENT AND DURATION, TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS. THE AREA OF EXPOSED SOIL SHALL BE LIMITED TO ONE ACRE, OR THAT WHICH CAN BE STABILIZED AT THE END OF EACH DAY UNLESS A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY THE DEPARTMENT.
    11.9. CHANNEL PROTECTION MEASURES SHALL BE SUPPLEMENTED WITH PERIMETER CONTROL MEASURES WHEN THE DITCH LINES OCCUR AT THE BOTTOM OF LONG FILL SLOPES. THE PERIMETER CONTROLS SHALL BE INSTALLED ON THE FILL SLOPE TO MINIMIZE THE POTENTIAL FOR FILL SLOPE SEDIMENT DEPOSITS IN THE DITCH LINE.

BEST MANAGEMENT PRACTICES (BMP) BASED ON AMOUNT OF OPEN CONSTRUCTION AREA

12. STRATEGIES SPECIFIC TO OPEN AREAS LESS THAN 5 ACRES:
    12.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500: ALTERATION OF TERRAIN FOR CONSTRUCTION AND USE ALL CONVENTIONAL BMP STRATEGIES.
    12.2. SLOPES STEEPER THAN 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING.
    12.3. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT ALONE.
    12.4. AREAS WHERE HAUL ROADS ARE CONSTRUCTED AND STORMWATER CANNOT BE TREATED THE DEPARTMENT WILL CONSIDER INFILTRATION.
    12.5. FOR HAUL ROADS ADJACENT TO SENSITIVE ENVIRONMENTAL AREAS OR STEEPER THAN 5%, THE DEPARTMENT WILL CONSIDER USING EROSION STONE, CRUSHED GRAVEL, OR CRUSHED STONE BASE TO HELP MINIMIZE EROSION ISSUES.
    12.6. ALL AREAS THAT CAN BE STABILIZED SHALL BE STABILIZED PRIOR TO OPENING UP NEW TERRITORY.
    12.7. DETENTION BASINS SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE A 2 YEAR STORM EVENT.

13. STRATEGIES SPECIFIC TO OPEN AREAS BETWEEN 5 AND 10 ACRES:
    13.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES WILL BE UTILIZED.
    13.2. DETENTION BASINS WILL BE CONSTRUCTED TO ACCOMMODATE THE 2-YEAR 24-HOUR STORM EVENT AND CONTROL A 10-YEAR 24-HOUR STORM EVENT.
    13.3. SLOPES STEEPER THAN A 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS. OTHER ALTERNATIVE MEASURES, SUCH AS BONDED FIBER MATRIXES (BFMS) OR FLEXIBLE GROWTH MEDIUMS (FGMS) MAY BE UTILIZED, IF MEETING THE NHDES APPROVALS AND REGULATIONS.
    13.4. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS.

14. STRATEGIES SPECIFIC TO OPEN AREAS OVER 10 ACRES:
    14.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES AND BETWEEN 5 AND 10 ACRES WILL BE UTILIZED.
    14.2. THE DEPARTMENT ANTICIPATES THAT SOIL BINDERS WILL BE NEEDED ON ALL SLOPES STEEPER THAN 3:1, IN ORDER TO MINIMIZE EROSION AND REDUCE THE AMOUNT OF SEDIMENT IN THE STORMWATER TREATMENT BASINS.
    14.3. THE CONTRACTOR WILL BE REQUIRED TO HAVE AN APPROVED DESIGN IN ACCORDANCE WITH ENV-WQ 1506.12 FOR AN ACTIVE FLOCCULANT TREATMENT SYSTEM TO TREAT AND RELEASE WATER CAPTURED IN STORM WATER BASINS. THE CONTRACTOR SHALL ALSO RETAIN THE SERVICES OF AN ENVIRONMENTAL CONSULTANT WHO HAS DEMONSTRATED EXPERIENCE IN THE DESIGN OF FLOCCULANT TREATMENT SYSTEMS. THE CONSULTANT WILL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION AND MONITORING OF THE SYSTEM.

TABLE 1
GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES

APPLICATION AREAS	DRY MULCH METHODS				HYDRAULICALLY APPLIED MULCHES[2]				ROLLED EROSION CONTROL BLANKETS[3]			
	HMT	WC	SG	CB	HM	SMM	BFM	FRM	SNSB	DNSB	DNSCB	DNCB
SLOPES[1]												
STEEPER THAN 2:1	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES
2:1 SLOPE	YES'	YES'	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES
3:1 SLOPE	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
4:1 SLOPE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
WINTER STABILIZATION	4T/AC	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
CHANNELS												
LOW FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
HIGH FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT BLANKET
CB	COMPOST BLANKET	FRM	FIBER REINFORCED MEDIUM	DNCB	2 NET COCONUT BLANKET

NOTES:
1. ALL SLOPE STABILIZATION OPTIONS ASSUME A SLOPE LENGTH ≤10 TIMES THE HORIZONTAL DISTANCE COMPONENT OF THE SLOPE, IN FEET.
2. PRODUCTS CONTAINING POLYACRYLAMIDE (PAM) SHALL NOT BE APPLIED DIRECTLY TO OR WITHIN 100 FEET OF ANY SURFACE WATER WITHOUT PRIOR WRITTEN APPROVAL FROM THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES.
3. ALL EROSION CONTROL BLANKETS SHALL BE MADE WITH WILDLIFE FRIENDLY BIODEGRADABLE NETTING.

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

EROSION & SEDIMENT CONTROL PLANS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
12-21-2015	761erosstrat.dgn	13761D	12	13

13761D – TRAFFIC CONTROL SEQUENCING AND CONSTRUCTION SEQUENCE

TEMPORARY LANE USE (TYPICAL):

F.E. EVERETT TURNPIKE = 4' SHOULDER / 12' TRAVEL LANE / 12' TRAVEL LANE / 4' SHOULDER
RAMPS = 2' SHOULDER / 12' TRAVEL LANE / 2' SHOULDER

PHASE 1 A

TRAFFIC:

- INSTALL PORTABLE CONCRETE BARRIER ALONG EDGE OF PAVEMENT ON F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND.
- CONSTRUCT TEMPORARY ACCESS ROADS BEHIND THE PORTABLE CONCRETE BARRIER AS NEEDED TO COMPLETE BRIDGE ABANDONING WORK.
- SHIFT F.E. EVERETT TURNPIKE NORTHBOUND TRAFFIC TOWARDS EXISTING OUTSIDE EDGE OF PAVEMENT USING TEMPORARY NORTHBOUND LANE CLOSURES DURING OFF-PEAK HOURS. SHIFT F.E. EVERETT TURNPIKE SOUTHBOUND TRAFFIC TOWARDS MEDIAN ON THE EXISTING PAVEMENT.

CONSTRUCTION:

SEASON 1 (2022)

- ABANDON BRIDGE 185/134 AT STA. 1395+00. SEE ITEM 202.33 SPECIAL PROVISION FOR ADDITIONAL INFORMATION.

PHASE 1

TRAFFIC:

- AT THE BEGINNING OF EACH PHASE 1 SEASON, SHIFT F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND TRAFFIC TOWARDS THE MEDIAN ON THE EXISTING PAVEMENT.
- INSTALL OR MOVE PORTABLE CONCRETE BARRIER BACK INTO PLACE OR REMOVE IT AS NEEDED.
- FOR THE WINTER SHUTDOWN, SHIFT F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND TRAFFIC BACK TO EXISTING PATTERNS.
- RELOCATE/INSTALL TRAFFIC SIGNS AS NEEDED FOR TCP PHASE 1 OPERATION.
- SHIFT RAMP TRAFFIC ON TO TEMPORARY RAMPS ONCE THEY ARE CONSTRUCTED.

CONSTRUCTION:

SEASON 1 (2022)

- CONSTRUCT DRAINAGE ACROSS TURNPIKE UTILIZING SHORT-TERM TRAFFIC CONTROL.
- SHIM EXISTING MEDIAN SHOULDERS TO 2% AS NEEDED FOR FUTURE TRAFFIC USE.
- CONSTRUCT TEMPORARY RAMPS.
- REMOVE EXISTING OVERHEAD SIGN STRUCTURES AND INSTALL TEMPORARY SIGNS.
- BLAST ROCK SB STA. 1353+00 TO STA. 1362+25, NB STA. 1353+50 TO STA. 1361+75. (NOTE: BLASTING MAY OCCUR ON BOTH NB AND SB ALTERNATING BETWEEN BARRELS)
- EXCAVATE / CONSTRUCT EMBANKMENT FOR PERMANENT WIDENING ON F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND.
- CONSTRUCT REINFORCED SOIL SLOPE FROM STA. 1371+50 TO STA. 1373+00 LT ON F.E. EVERETT TURNPIKE SOUTHBOUND.

SEASON 2 (2023)

- RELOCATE EXISTING LIGHTING TO PROPOSED LOCATIONS.
- CONSTRUCT BOX WIDENING OF NEW LANES AND SHOULDERS. AREAS ADJACENT TO RAMPS WILL NEED TO BE CONSTRUCTED WITH TRAFFIC SHIFTED BACK TO PERMANENT RAMPS ONCE THEY ARE CONSTRUCTED.
- CONSTRUCT WATER QUALITY BASINS AND DRAINAGE WITHIN THE CONSTRUCTION AREAS.
- CONSTRUCT PERMANENT RAMPS.
- PAVE BASE AND BINDER ALONG F.E. EVERETT TURNPIKE.
- INSTALL GUARDRAIL.
- CONSTRUCT NEW OHSS.
- CONSTRUCT PERMANENT ITS FACILITIES.
- SHIFT RAMP TRAFFIC ON TO PERMANENT RAMPS, REMOVE TEMPORARY RAMPS, AND COMPLETE PHASE 1 CONSTRUCTION.

PHASE 2

TRAFFIC:

- SHIFT F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND TRAFFIC TOWARDS NEW OUTSIDE EDGE OF PAVEMENT.

CONSTRUCTION:

SEASON 3 (2024)

- CONSTRUCT REMAINING DRAINAGE WITHIN WORK ZONE ADJACENT TO MEDIAN.
- CONSTRUCT NEW MEDIAN BARRIER 1334+00 TO 1364+85.
- CONSTRUCT PIER PROTECTION TYPE II (54" SINGLE SLOPE CONCRETE BARRIER) AND TRANSITIONS AT THE THREE BRIDGE LOCATIONS.
- MILL AND PAVE (2 1/2") PORTION OF MEDIAN AND TRAVEL LANES.
- CONSTRUCT REMAINING PAVEMENT SHIM AREAS AS SHOWN ON PLANS.

PHASE 3

TRAFFIC:

- SHIFT F.E. EVERETT TURNPIKE NORTHBOUND AND SOUTHBOUND TRAFFIC AS NECESSARY USING SHORT-TERM TRAFFIC CONTROL.

CONSTRUCTION:

SEASON 3 (2024)

- PAVE (2") WEARING COURSE OVER RAMPS.
- REMOVE REMAINING TEMPORARY RAMPS AND REGRADE.
- REMOVE TEMPORARY SHIM PAVEMENT ON SHOULDERS.
- INSTALL/ADJUST REMAINING GUARDRAIL.
- OVERLAY (2") WEARING COURSE OVER ENTIRE WIDTH OF TURNPIKE (NORTHBOUND AND SOUTHBOUND).
- INSTALL FINAL SIGNING AND PAVEMENT MARKINGS.

REVISION AFTER PROPOSAL #1

TRAFFIC:

- SHIFT F.E. EVERETT TURNPIKE SOUTHBOUND TRAFFIC AS NECESSARY USING SHORT-TERM TRAFFIC CONTROL.

CONSTRUCTION:

SEASON 3 (2024)

- INSTALL DRAINAGE ASSOCIATED WITH THE BERM CONSTRUCTION.
- CONSTUCT BERM AND FENCE.
- INSTALL CRUSHED GRAVEL FOR SHOULDER LEVELING IN AREAS ADJACENT TO PROPOSED GUARDRAIL.
- INSTALL/ADJUST REMAINING GUARDRAIL.

NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS WHERE THEY INTERFERE WITH TEMPORARY TRAFFIC CONTROL LANE CONFIGURATIONS.

2. CONTRACTOR SHALL UTILIZE THE CURRENT NHDOT STANDARD PLANS FOR ROAD CONSTRUCTION PAVEMENT MARKING DETAILS PM-2, PM-3, PM-4, PM-5, PM-6, PM-7, PM-8, PM-9 AND PM-10 FOR LAYOUT, WIDTH AND COLOR WHEN PAVEMENT MARKINGS ARE NOT DESIGNATED ON TRAFFIC CONTROL PLANS.

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

CHA PROJ. NO. 057314.000

SDR PROCESSED	NHDOT	DATE 1/12
NEW DESIGN	P.R.P.	DATE 12/23
SHEET CHECKED	J.P.	DATE 12/22/23
AS BUILT DETAILS		DATE

FILE NAME = V:\PROJECTS\ANY\KS\057314.000\CADD_MSTN\PRA\CUTSHEETS\13761TCPSEQ_ERO.DGN PLOTTED DATED 12/27/2023

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN
TRAFFIC CONTROL SEQUENCING AND CONSTRUCTION SEQUENCE NOTES

MODEL	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
TCP-SEQ	13761tcpseq_ero.dgn	13761D	13	13