STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: March 22, 2024

FROM: Joshua Brown
Wetlands Program Specialist

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Woodstock, 27713

TO Calvin Diessner, Shoreland Section Supervisor,
Land Resources Management Water Division,
NH Department of Environmental Services
P.O. Box 95 Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Design for the subject shoreland application. The proposed project will rehabilitate Bridge 177/148, which carries Route 175 over the Pemigewasset River in Woodstock, NH. Impacts within the Protected Shoreland are primarily temporary impacts associated with temporary construction access for cranes, staging, and other construction equipment, as well as for potential traffic control for Old Dump Road. Permanent shoreland impacts are limited to the edge of the existing roadway where grading, drainage work, guardrail installation, and riprap installation will occur.

NHDOT submitted a wetlands application to the NHDES Wetlands Bureau for this project on March 8th (DES File Number: 2024-006620. 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.

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 Jennifer Reczek, Bureau of Bridge Design (271-3668 or jennifer.e.reczek@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or Andrew.O'Sullivan@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #750467) in the amount of $3,750.00.

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 Woodstock (4 copies via certified mail)
Kevin Nyhan, BOE (via electronic notification)

S:\Environment\PROJECTS\WOODSTOCK\27713\Shoreland\Application Submission Documents\WETAPP - Coverletter.doc

Woodstock, NH
Bridge 177/148
NH 175 over the Pemigewasset River

NHDES Shoreland Permit Application

Prepared By:

McFarland Johnson

Woodstock, New Hampshire
Project 27713
X-A003(597)

March 2024

Bridge 177/148 Rehabilitation
NHDES Shoreland Permit Application
March 2024

Contents

NHDES Shoreland Permit Application Form

SHORELAND PERMIT APPLICATION

Water Division/ Land Resources Management
Shoreland Program

Check the Status of your Application

RSA/Rule: RSA 483-B, Env-Wq 1400

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

This is an application for a permit to excavate, fill, construct new structures, or remove structures within the protected shoreland as regulated under RSA 483-B.

SECTION 1 - PROJECT DESCRIPTION (Env-Wq 1406.07)

Provide a concise description of the proposed project: The proposed project will rehabilitate Bridge 177/148, which carries Route 175 over the Pemigewasset River in Woodstock.

SECTION 2 - PROJECT LOCATION (Env-Wq 1406.07)

ADDRESS: NH Route 175	TOWN/CITY: Woodstock	STATE: NH	ZIP CODE: 03262
WATERBODY NAME: Pemigewasset River	TAX MAP/ BLOCK/LOT NUMBER : N/A - ROW		

SECTION 3 - PROPERTY OWNER & DEED INFORMATION (Env-Wq 1406.07)

The legal name of each property owner must be as it appears on the deed of record. If the owner is a trust or a company, then the name of the trust or company should be written as the owner's name.

LAST NAME, FIRST NAME, M.I: New Hampshire Department of Transportation Attn: Jennifer Reczek			
MAILING ADDRESS: 7 Hazen Drive	TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03302
PHONE: (603) 271-3226	EMAIL (if available): jennifer.reczek@dot.nh.gov		
REGISTRY OF DEED COUNTY ROW , BOOK NUMBER ROW, PAGE NUMBER ROW			

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER), IF DIFFERENT THAN OWNER (Env-Wq 1406.07)

If the applicant is a trust or a company, then the name of the trust or company should be written as the applicant's name. If the applicant is the owner, leave blank and check the following box: ☒.

LAST NAME, FIRST NAME, M.I:			
MAILING ADDRESS:	TOWN/CITY:	STATE:	ZIP CODE:

PHONE:	EMAIL (if available):

SECTION 5 - CONTRACTOR OR AGENT (OPTIONAL)

LAST NAME, FIRST NAME, M.I: Perron, Christine (McFarland-Johnson, Inc.)			
ADDRESS: 53 Regional Drive	TOWN/CITY: Concord	STATE: NH	ZIP CODE: 03301
PHONE: 603-931-3327	EMAIL (if available): cperron@mjinc.com		

SECTION 6 - CRITERIA (Env-Wq 1406.07)

Please check at least one of the following criteria:

☒ This shoreland permit application requires neither a proposal to make the property more nearly conforming nor a request for a waiver of a minimum standard.

☐ This shoreland permit application includes a proposal to make the structures and/or the property more nearly conforming in accordance with RSA 483-B:11.

☐ This shoreland permit application includes a request for a waiver of the following minimum standard(s): RSA 483-B:9, V (a)(2)(C); (a)(2)(D); (b)(2)(A); (d)(3); (g)(1); (g)(3) .

SECTION 7 - RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT (Env-Wq 1406.14)

Please indicate if any of the following permits are required and, if required, the status of the application.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit per RSA 485-A:17	☐ YES ☒ NO	N/A	☐ APPROVED ☐ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:29	☐ YES ☒ NO	N/A	☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval per RSA 485-A:29	☐ YES ☒ NO	N/A	☐ APPROVED ☐ PENDING ☐ DENIED
Wetlands Permit per RSA 482-A	☒ YES ☐ NO	PENDING	☐ APPROVED ☒ PENDING ☐ DENIED

SECTION 8 - REFERENCE LINE ELEVATION (Env-Wq 1406.07)

Required for projects located on the protected shoreland of lakes or ponds. The reference line elevations for most lakes, ponds, and artificial impoundments greater than 10 acres in size are listed in the Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act. Please see RSA 483-B:4, XVII for the definition of reference line.

REFERENCE LINE ELEVATION: n/a feet above sea level.

SECTION 9 - APPLICATION FEE & SUBMITTAL (RSA 483-B:5-b, I(b); RSA 483-B:5-b, X)

A non-refundable permit application fee of $200 plus $0.20 per total square feet of impact for restoration of water quality improvement projects, or $400 plus $0.20 per total square feet of impact for all other projects is required at the time the application is submitted. **Applications for projects solely funded by municipal, county, state, or federal entities shall incur a permitting fee no greater than $3,750.**

Please mail or hand deliver this application and all required attachments to the NHDES Wetlands Bureau, PO Box 95, Concord, NH 03302-0095. Missing information will delay processing your application and may result in denial of a shoreland permit application. **Please make checks payable to the Treasurer, State of NH**.

SECTION 10 - CALCULATING TOTAL IMPACT AREA/ PERMIT APPLICATION FEE (RSA 483-B:5-b, I(b); RSA 483-B:5-b, X)

Total impact area is calculated by determining the sum of all areas disturbed by regrading, excavating, filling, construction, or structure removal. Impacts often include, but are not limited to: constructing new driveways, constructing new structures, areas disturbed when installing septic systems and foundations, creating temporary access roads to drill a new well, and regrading associated with landscaping activities.

TOTAL AREA IMPACTED WITHIN THE PROTECTED SHORELAND = 33172 **(A) square feet**

- **For restoration of water quality improvement projects:**
  Multiply line (A) by $0.20 **and** add $200. **[(A) × $0.20 + $200]** = $ N/A **Permit fee**[1]
- **For all other projects:**
  Multiply line (A) by $0.20 **and** add $400. **[(A) × $0.20 + $400]** = $ $3,750 (483-B:5-B X.) **Permit fee**[1]

SECTION 11 - REQUIRED CERTIFICATIONS (Env-Wq 1406.08; Env-Wq 1406.10(a))

By initialing within the blank before each of the following statements, and signing below, you are certifying that:

Initials: JCR	The information provided is true, complete, and not misleading to the knowledge and belief of the signer.
Initials: JCR	I understand that: • Any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation. • I am subject to the applicable penalties in RSA 641, Falsification in Official Matters. And • Obtaining a shoreland permit shall not exempt the work proposed from other state, local, or federal approvals.
Initials: JCR	I have notified the governing body of the municipality or municipalities in which the property is located by certified mail, in accordance with Env-Wq 1406.13.
Initials: N/A	I have notified all abutters[2] of the proposed impacts via certified mail, in accordance with Env-Wq 1406.13.
Initials: JCR	☐ This project is within ¼ mile of a designated river and I have notified the Local River Management Advisory Committee (LAC) by providing the LAC with a copy of the complete application, including all supporting materials, via certified mail, in accordance with Env-Wq 1406.13. ☒ This project is **not** within ¼ mile of a designated river.
Initials: JCR	For any project proposing that the impervious area be at least 15% but not more than 20% within the protected shoreland, I certify that the impervious area is not more than 20%. ☐ N/A

SECTION 12 - REQUIRED SIGNATURES (Env-Wq 1406.08)

Both the property owner and applicant must sign the application.

SIGNATURE (OWNER):	PRINT NAME LEGIBLY:	DATE:
Jennifer E. Reczek	JENNIFER RECZEK (NHDOT)	3/18/2024
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:

[1] Applications for projects solely funded by municipal, county, state, or federal entities shall incur a permitting fee no greater than $3,750.

[2] "Abutter'' means any person who owns property that is immediately contiguous to the property on which the proposed work will take place, or who owns flowage rights on such property. The term does not include those properties separated by a public road or more than ¼ mile from the limits of the proposed work. If contiguous properties are owned by the person who is proposing the work, then the term includes the person owning the next contiguous property, subject to the ¼ mile limitation.

SHORELAND APPLICATION WORKSHEET

This worksheet *must* be submitted to the NHDES Wetlands Bureau with every Shoreland Permit Application. **A separate shoreland application worksheet must be submitted for each individual lot of record where impacts are proposed.**

For the purposes of this worksheet, "**pre-construction**" impervious surface area[3] means all human made impervious surfaces[4] currently present within the protected shoreland of a lot, whether to be removed or to remain after the project is completed. "**Post-construction**" impervious area means all impervious surfaces that will exist within the protected shoreland of a lot upon completion of the project, including both new and any remaining pre-construction impervious surfaces. All answers shall be given in square feet.

Calculating the Impervious Area of a Lot

CALCULATING THE IMPERVIOUS AREA OF A LOT WITHIN 250 FEET OF THE REFERENCE LINE (Env-Wq 1406.12)			
	STRUCTURE DESCRIPTION	**PRE-CONSTRUCTION IMPERVIOUS AREAS**	**POST-CONSTRUCTION IMPERVIOUS AREAS**
PRIMARY STRUCTURE(S) House and all **attached** decks and porches.	Pavement	8903 FT^2	9553 FT^2
ACCESSORY STRUCTURES All other impervious surfaces excluding lawn furniture, well heads, and fences. Common accessory structures include, but are not limited to: driveways, walkways, patios, and sheds.		FT^2	FT^2
		FT^2	FT^2
		FT^2	FT^2
		FT^2	FT^2
		FT^2	FT^2
		FT^2	FT^2
	TOTAL:	**(A)** 8903 FT^2	**(B)** 9553 FT^2
Area of the lot located within 250 feet of reference line:			**(C)** 59800 FT^2
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: *[divide (A) by (C) x 100]*			**(D)** 14.9 **%**
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: *[divide (B) by (C) x 100]*			**(E)** 15.9 **%**

[3] **"Impervious surface area"** as defined in Env-Wq 1402.13 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

[4] **"Impervious Surface"** as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

Stormwater Management Requirements

THE IMPERVIOUS AREA THRESHOLDS (RSA 483-B:9, V(g))
☐ A net decrease or no net increase in impervious area is proposed (If **line E** is less than or equal to **line D**).
☒ The percentage of post-construction impervious area **(line E)** is less than or equal to 20%. This project **does not** require a stormwater management plan and **does not** require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.
☐ A net increase in impervious area is proposed and the percentage of post-construction impervious area **(line E)** is greater than 20%, but less than 30%. This project **requires** a stormwater management but, **does not** require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score. *See details on the Application Checklist*
☐ A net increase in impervious area is proposed and the percentage of post-construction impervious area **(line E)** is greater than 30%. This project **requires** a stormwater management plan designed and certified by a professional engineer **and requires** plans demonstrating that each waterfront buffer grid segment meets at least the minimum required tree and sapling point score. *See details on the Application Checklist*

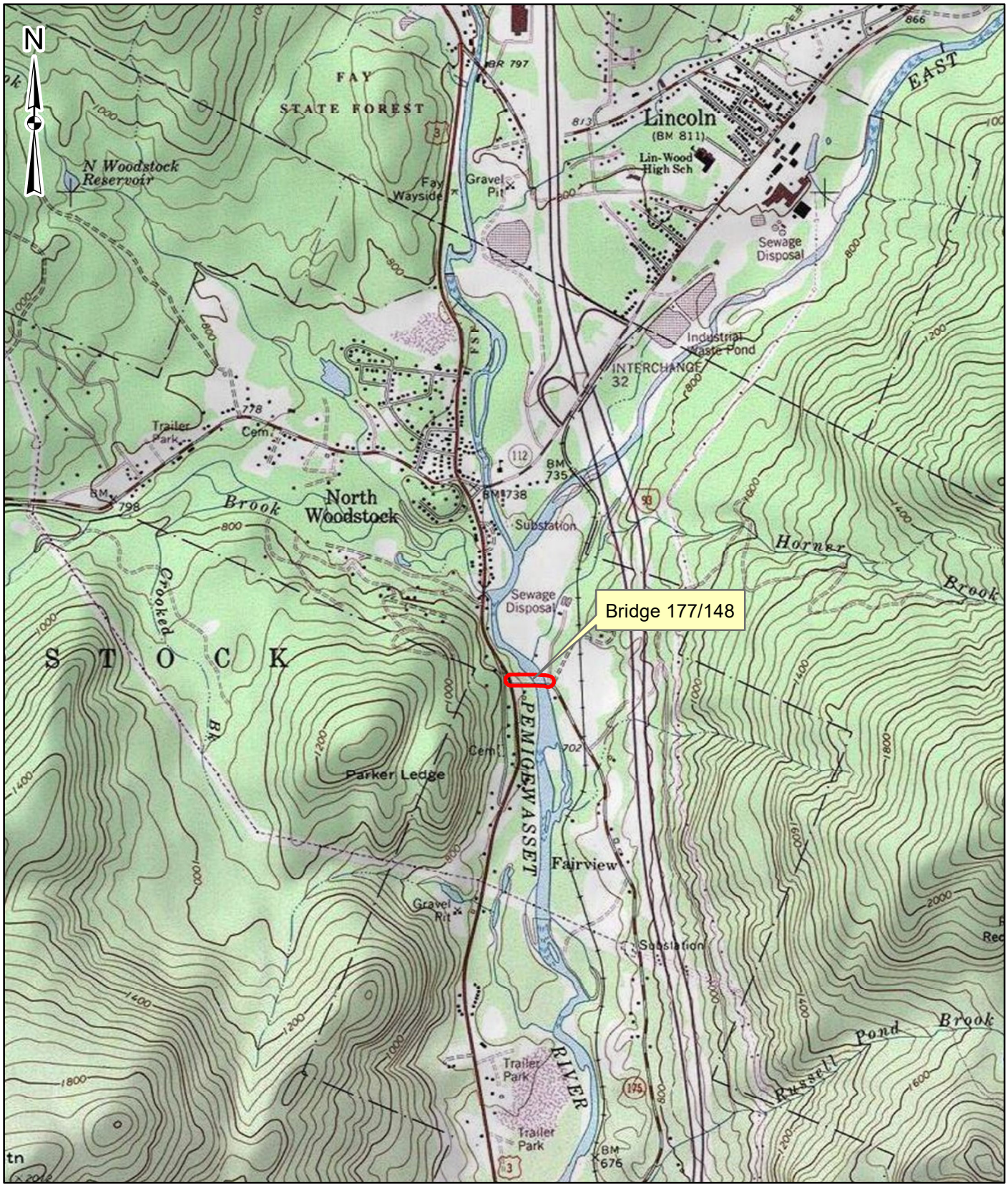
Natural Woodland Area Requirement

DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND	
Total area of the lot between 50 feet and 150 feet of the reference line within which the vegetation currently exists as natural woodland[5] **(see definition below)**.	**(F)** 3000 FT^2
Total area of the lot between 50 feet and 150 feet from the reference line.	**(G)** 58179 FT^2
At least 25% of area **(G)** must remain in as natural woodland. *[0.25 x G]*	**(H)** 14545 FT^2
Place the lesser of area **(F)** and calculation **(H)** on this line. In order to remain compliant with the **natural woodland area requirement**, this is the minimum area that must remain as natural woodland between 50 feet and 150 feet from the reference line. This area **must** be represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state[6].	**(I)** 3000 FT^2
Name of person who prepared this worksheet: Christine Perron	
Name and date of the plan this worksheet is based upon: Shoreland Impact Plans, March 2024	

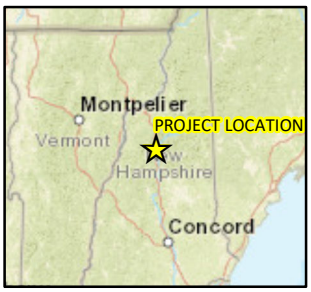
[5] **"Natural Woodland"** means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth (483-B:4, XI).

[6] **"Unaltered State"** means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health (483-B:4, XXIV-b).

Figure 1 – USGS Location Map



Project Area



0 2,000 4,000

Feet

NHDOT WOODSTOCK 27713

NH ROUTE 175 - BRIDGE NO. 177/148

USGS LOCATION MAP

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

McFarland Johnson

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Supplemental Project Description

NHDES SHORELAND PERMIT APPLICATION

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

WOODSTOCK, 27713

BRIDGE NO. 177/148 REHABILITATION

WOODSTOCK, NEW HAMPSHIRE

SUPPLEMENTAL NARRATIVE

Contents

1.0 Introduction

The proposed project will rehabilitate Bridge 177/148, which carries Route 175 over the Pemigewasset River in Woodstock (Figure 1).

The bridge structure is a 175-foot single span steel through-arch constructed in 1939 and rehabilitated in 1991. The purpose of the project is to correct the structural deficiencies of the bridge and remove the bridge from NHDOT's Red List. The bridge is on the NHDOT's Red List of deficient structures, is weight restricted and structurally deficient, and has substandard rail.

2.0 Existing Conditions

2.1 Roadway & Bridge

Constructed in 1939, Bridge 177/148 has a total length of 183 feet (span of 175 feet) and a total width of 30.9 feet (24 feet curb-to-curb). The bridge is a single span tied arch river crossing consisting of two riveted built-up arch ribs, rolled section floorbeams and stringers, with wire rope cable tie. It is on the NHDOT Red List of Deficient Structures; a 2023 NHDOT inspection listed the deck as being in "serious" condition, and the superstructure is in "poor" condition. It is weight restricted and is considered structurally deficient based on the deteriorated floor system. The bridge was rehabilitated in 1991 to add repair plates to the stringers and to repair and replace deteriorated areas of the open grid deck. There have also been spot repairs/replacement to the grid deck. NH Route 175 has an Average Annual Daily Traffic (AADT) of 569 vehicles with 10% trucks based on 2021 traffic counts.

2.2 Jurisdictional Resources

A wetlands and surface waters delineation was completed by McFarland-Johnson, Inc. in May 2023. The only jurisdictional resource in the project area is the Pemigewasset River channel and its banks. The ordinary high water and top of bank of the Pemigewasset River were delineated. At the location of Bridge No. 177/148, the Pemigewasset River is a 4th order perennial stream with a watershed area of approximately 181 square miles. The stream crossing is classified as a Tier 3 stream crossing based on the watershed size pursuant to the NHDES Stream Crossing Rules (Env-Wt 900). The Pemigewasset River has a Cowardin Classification of R2UBH.

According to the NHDES Wetlands Permit Planning Tool (WPPT) there are no Priority Resource Areas (PRAs) mapped in the vicinity of the proposed project.

2.3 NH Natural Heritage Bureau

The proposed project was submitted to and reviewed by the New Hampshire Natural Heritage Bureau (NHB) via the online NHB DataCheck Tool. According to the NHB DataCheck Results Letter (NHB23-1268) dated May 2, 2023, northern neglected reed grass (*Calamagrostis stricta ssp. inexpansa)* has historically been documented north of the project area. A survey for this species was conducted on May 11, 2023, and a small patch of potential northern neglected reed grass was identified based on leaf characteristics. Species could not be confirmed due to lack of flowers or fruits. Based on the distance of this potential occurrence from the area of expected work activities (>50 feet), it was determined that the project will not result in impacts to the individual. The potential rare grass will be demarcated by flagging or fencing during construction.

3.0 Proposed Project

The following sections describe the proposed work, resource area impacts, avoidance and minimization measures, and additional components of the project.

3.1 Bridge Repairs and Replacement

The proposed project includes the rehabilitation of the existing superstructure of Bridge No. 177/148. Existing concrete abutments and wingwalls will be patched, abutment back walls will be reconstructed to accommodate new bridge deck expansion joints; existing bearings, floor beams and stringers will be replaced; horizontal wire rope ties, existing steel hanger pins, and riveted floor beam connections will be replaced; floor system lateral bracing, steel beam railings and curb will be replaced; open steel grid deck will be replaced with a closed exodermic deck with scuppers; concrete parapets will be reconstructed; bridge rail connections will be modified to meet safety requirements; and existing structural steel will be cleaned and painted. In addition, there will be work on the roadway approaches to tie into the new deck and new guardrail will be installed.

3.2 Wetland and Surface Water Impacts

There are no wetlands located along the Pemigewasset River within the project area. The work as proposed will require temporary impacts in the channel for the placement of temporary construction staging in front of each abutment. There is proposed riprap for bank stabilization in the SW and SE quadrants, which will result in permanent impacts to the banks at these locations. Temporary impacts are expected to be approximately 2457 SF (215 LF) to bank and channel. Permanent impacts are expected to be 231 SF (24 LF) to banks. An application for a NHDES Standard Dredge & Fill Permit has been submitted.

3.3 Water Quality / Stormwater Treatment

According to the NHDES 303(d) list (most recent available), the Pemigewasset River (NHRIV700010203-01) is listed as impaired by pH and aluminum. The project as proposed will not contribute to these impairments and will not adversely affect water quality.

Stormwater runoff is not currently treated in the project area and no stormwater treatment is proposed. The project will result in a slight increase in impervious surface of 650 SF as a result of the approach work and new deck. The project will not alter drainage patterns or discharge points. The bridge deck is being changed from an open steel grid system to a closed concrete system. Scuppers will be added to the bridge curbline to allow water to pass directly to the river below as it does in the existing condition. Drop inlet structures will be added behind the west abutment, and the outfall will be through the northwest wingwall. A stone pad for scour protection will be installed at the outlet. The project will result in less than 50,000 SF of disturbance and appropriate erosion and sediment control measures will be utilized during construction.

3.4 Shoreland Water Quality Protection Act

Lot

The term “Lot of Record” is defined in RSA 483-B:4 VIII. as, “…a legally created parcel, the plat or description of which has been recorded at the registry of deeds for the county in which it is located.”

For the purpose of this Shoreland Permit application, the "Lot of Record" or "Lot" is assumed to be the total existing state-owned right-of-way (ROW) within the limits of the project. The total area of the Lot is 59,800 square feet (SF).

Shoreland Impacts

For the purpose of calculating impacts to the Protected Shoreland, impacts have been broken out by the following locations:

- Waterfront Buffer (WB): 0 feet (REF Line) to 50 feet
- Natural Woodland Buffer (NWB): 50 feet to 150 feet
- Protected Shoreland (PS): 150 feet to 250 feet

The proposed project is anticipated to result in a total of 33,172 SF of impacts located within the overall Protected Shoreland area (WB + NWB + PS). Impacts within the Protected Shoreland are primarily temporary impacts associated with temporary construction access for cranes, staging, and other construction equipment, as well as for potential traffic control for Old Dump Road. Permanent shoreland impacts are limited to the edge of the existing roadway where grading, drainage work, guardrail installation, and riprap installation will occur. Impacts to the Protected Shoreland have been minimized to the maximum extent practicable. However, impacts cannot be avoided due to the location of the existing infrastructure within the Protected Shoreland.

Waterfront Buffer

Impacts within the WB of the Pemigewasset River total 9,263 SF. There will be no tree clearing within the Waterfront Buffer. Only the southeast quadrant of the bridge has existing vegetation, consisting of sparse shrubs and herbaceous plants, and the plants are interspersed with large rocks and areas of erosion. The other three quadrants of the bridge are already protected by riprap along the shore adjacent to the bridge. Permanent impacts within the WB will consist of slope grading, guardrail installation, and placement of riprap for protection of existing infrastructure. Temporary impacts will be necessary for construction access.

Natural Woodland Buffer

Impacts within the NWB total 22,817 SF. Removal of one tree will be required for the installation of guardrail and required slope grading.

Impacts within the NWB will consist of slope grading, installation of drainage and guardrail, and placement of riprap for protection of existing infrastructure. Temporary impacts will be necessary for construction access and potential traffic control for Old Dump Road.

Protected Shoreland

Impacts within the PS total 1,092 SF. All impacts will be temporary disturbance resulting from construction access and potential traffic control for Old Dump Road.

Photo Log

Photo 1: Facing south from NE quadrant (5/11/2023)

Photo 2: Facing northwest from east bank (5/11/2023)

Photo 3: Facing east from west approach (5/11/2023)

Photo 4: Facing east from west bank (5/11/2023)

Photo 5: NW quadrant (5/11/2023)

Photo 6: SW quadrant (5/11/2023)

Photo 7: NE quadrant (5/11/2023)

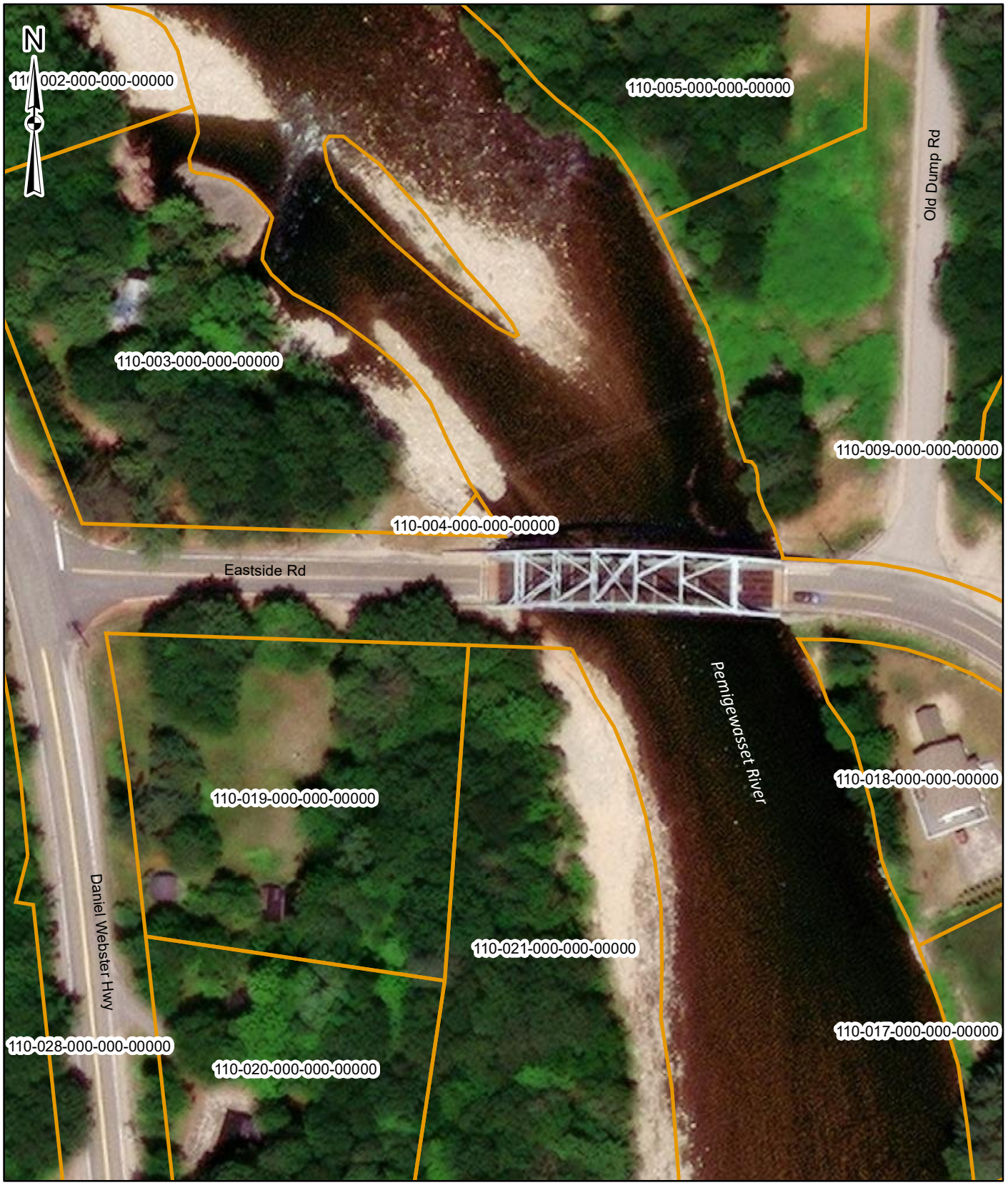
Photo 8: SE quadrant (5/11/2023)

Photo 9: At eastern limit of project facing west toward impact areas D, E, and F (Google Maps image, 2014)

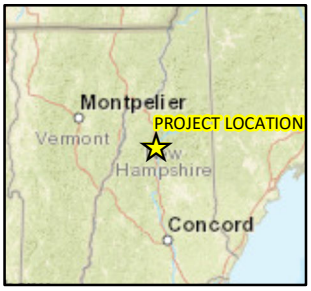
Photo 10: At east end of the bridge facing east toward Old Dump Road/impact area F (Google Maps image, 2014)

Photo 11: At western limit of project facing east toward impact areas A, B, and C (Google Maps image, 2014)

Figure 2 – Tax Map



NH Tax Parcels



0 80 160
Feet

NHDOT WOODSTOCK 27713

NH ROUTE 175 - BRIDGE NO. 177/148

TAX PARCEL MAP

SCALE :	DATE :	FIGURE :
1" = 83'	FEBRUARY 2024	2

McFarland Johnson

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NHB DataCheck Results Letter

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

To: Claire Hilsinger
125 Nagog Park
Acton, MA 01720

From: NHB Review, NH Natural Heritage Bureau
Date: 5/2/2023 (valid until 05/02/2024)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Shoreland Standard Permit, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permit, USCEQ - Federal: NEPA Review

NHB ID: **NHB23-1268** Town: Woodstock Location: Bridge No. 177/148 - NH Route 175
Description: Rehabilitation of Bridge No. 177/148 on NH Route 175 in Woodstock, NH. Bridge will be closed during construction; no temporary detour bridge will be necessary. Project is currently scheduled to advertise for bids in June 2024.

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments **NHB: Please send NHB representative photos during the growing season and proposed plans so that we can determine if the nearby record of northern neglected reed grass may be impacted.**
F&G: No comments at this time.

Plant species	State[1]	Federal	Notes
northern neglected reed grass (*Calamagrostis stricta ssp. inexpansa*)*	T	--	Threats to this species include trampling and other forms of habitat degradation or loss.

[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 more than 20 years ago.

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

IMPORTANT: NHFG Consultation

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

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://wildlife.state.nh.us/wildlife/environmental-review.html. 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.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Christine J. Perron

From: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Sent: Thursday, July 13, 2023 2:04 PM
To: Claire Hilsinger
Cc: Laurin, Marc; Christine J. Perron
Subject: RE: NHB Review: NHB23-1268

Hi Claire,

Thanks for searching the proposed project area for **northern neglected reed grass** (*Calamagrostis stricta* ssp. *inexpansa*). As this potential occurrence is more than 50ft away from work activities, NHB recommends demarcating the area with bright flagging or fencing. An updated survey of the species is not needed. NHB has no further concerns regarding **northern neglected reed grass being impacted by proposed work activities.**

If anyone who may be able to identify this rare species will be on the project site when mature spikelets are present (approximately mid-July to mid-August) additional information and photographs would be helpful so NHB can update our Database records if this is the rare species.

Thanks for reaching out,

Ashley Litwinenko
Environmental Reviewer
Natural Heritage Bureau (NHB)
Division of Forests & Lands - DNCR
172 Pembroke Rd., Concord, NH 03301
Phone: 603-271-2834
Datacheck Tool
NHB Botany information

Vacation Notice – OFF 7/24 – 7/28
Follow-up on Environmental Review related emails will be delayed during that time, please email NHBReview@dncr.nh.gov prior to that week if a follow-up review is time sensitive. NHB DataCheck Letters will still be distributed, and NHB DataCheck Tool assistance will be available during this time. Thank you for your understanding.

From: Claire Hilsinger <CHilsinger@mjinc.com>
Sent: Thursday, July 13, 2023 1:20 PM
To: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>; Christine J. Perron <CPerron@mjinc.com>
Subject: RE: NHB Review: NHB23-1268

Hello Maddie.

This is a follow up concerning the bridge rehabilitation project in Woodstock, NH, providing photos and documentation requested in the NHB DataCheck Letter.

On May 11, 2023 McFarland-Johnson searched for northern neglected reed grass (*Calamagrostis stricta* ssp. *inexpansa*) within the project area. We found one bunch of grass that could potentially be this rare species (leaf characteristics

matched those of northern neglected reed grass) but we were not able to fully identify it due to its lack of flowers or fruits.

This potential rare grass is further than 50 feet from the bridge, and the project engineer has confirmed that the area containing the grass can be avoided during construction. Do you think it is necessary to conduct a follow-up survey of this species?

Attached are photos of the potential rare grass taken during our May 11 survey, GIS location map, and proposed general bridge plan.

Thank you,
Claire

McFarland Johnson

Claire Hilsinger | Environmental Analyst
978-692-0522
Visit our website to see how MJ employee owners are innovating to improve our world.

From: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Sent: Tuesday, May 2, 2023 1:02 PM
To: Claire Hilsinger <CHilsinger@mjinc.com>
Cc: Laurin, Marc <marc.g.laurin@dot.nh.gov>
Subject: NHB Review: NHB23-1268

Attached, please find the review of the NH Natural Heritage Bureau's (NHB) database to determine whether the proposed project could impact rare species and exemplary natural communities.

If you received a comment on the DataCheck Letter from NHB, please reply to this email with any documents, photos, or information requested.

If you received a comment on the DataCheck Letter from NHFG, please follow the consultation requirements listed on the DataCheck Letter and coordinate with NHFGreview@wildlife.nh.gov

Best,
Maddie

Maddie Severance
Assistant Ecological Information Specialist

NH Natural Heritage Bureau
DNCR - Forests & Lands

172 Pembroke Rd
Concord, NH 03301
603-271-0687

If there are problems with your DataCheck letter or you need help using the DataCheck Tool, contact Maddie Severance: (603) 271-0687

If there is a rare plant or exemplary natural community and an NHB Comment on your DataCheck letter, contact Ashley Litwinenko for any environmental review questions: (603) 271-2834

If there is a rare wildlife species and an NHFG comment on your DataCheck Letter, contact Kim Snyder for any environmental review questions: (603) 271- 0467

Construction Sequence

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
WOODSTOCK 27713
NHDES WETLANDS PERMIT APPLICATION
FEBRUARY 2024

Anticipated Construction Sequence

Notes:

- The advertisement date is currently anticipated to be April 2024
- The following sequence is a preliminary and likely order of construction but the exact means and methods will ultimately be decided by the selected contractor.
- Any trees that must be removed will be cut between November 1 and March 31 to avoid potential impacts to bats.

Construction Sequence:

1.) Mobilize equipment and materials to the project site.
2.) Remove all existing temporary traffic control devices and temporary signage.
3.) Using appropriate traffic control procedures to the satisfaction of the Engineer, close the road with the signed detour and install construction barrier.
4.) Install appropriate perimeter controls for soil erosion and sediment control.
5.) Install under bridge staging/access at each abutment.
6.) Remove existing roadway guardrail, bridge railing, and steel safety walk.
7.) Remove existing steel grid floor and stringers. Remove existing slot drain on west approach.
8.) Remove and replace floor beams, lateral bracing, cable tie, and hanger pins.
9.) Install new stringers, grid flooring, scuppers, and expansion joints.
10.) Place concrete for new bridge deck and cure.
11.) Install new concrete curb and bridge rail.
12.) Paint bridge structure.
13.) Reconstruct roadway approaches up to crushed gravel layer of full box section.
14.) Install new drainage structures and pipe on west approach, including stone outlet protection.
15.) Pave roadway approaches to finished grade.

16.) Install new guardrail, granite curb, and stone fill for ditch lines and slope protection on roadway approaches.

17.) Replace and install new permanent signage.

18.) Reopen bridge and roadway to traffic.

19.) Remove under bridge staging, perimeter controls, and temporary traffic control signage.

20.) Patch concrete abutments.

21.) Clean up project site.

22.) Remove perimeter controls for soil erosion and sediment control. Install permanent erosion control.

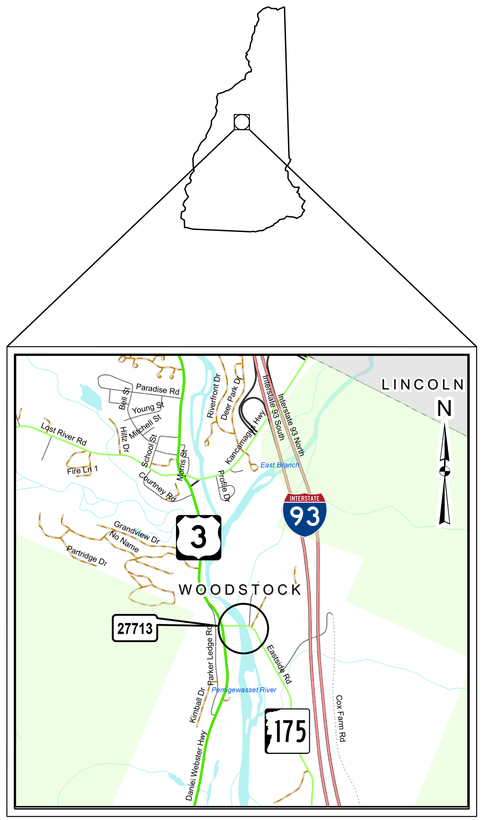
Shoreland Impact Plans

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

SHORELAND PLANS
FEDERAL AID PROJECT

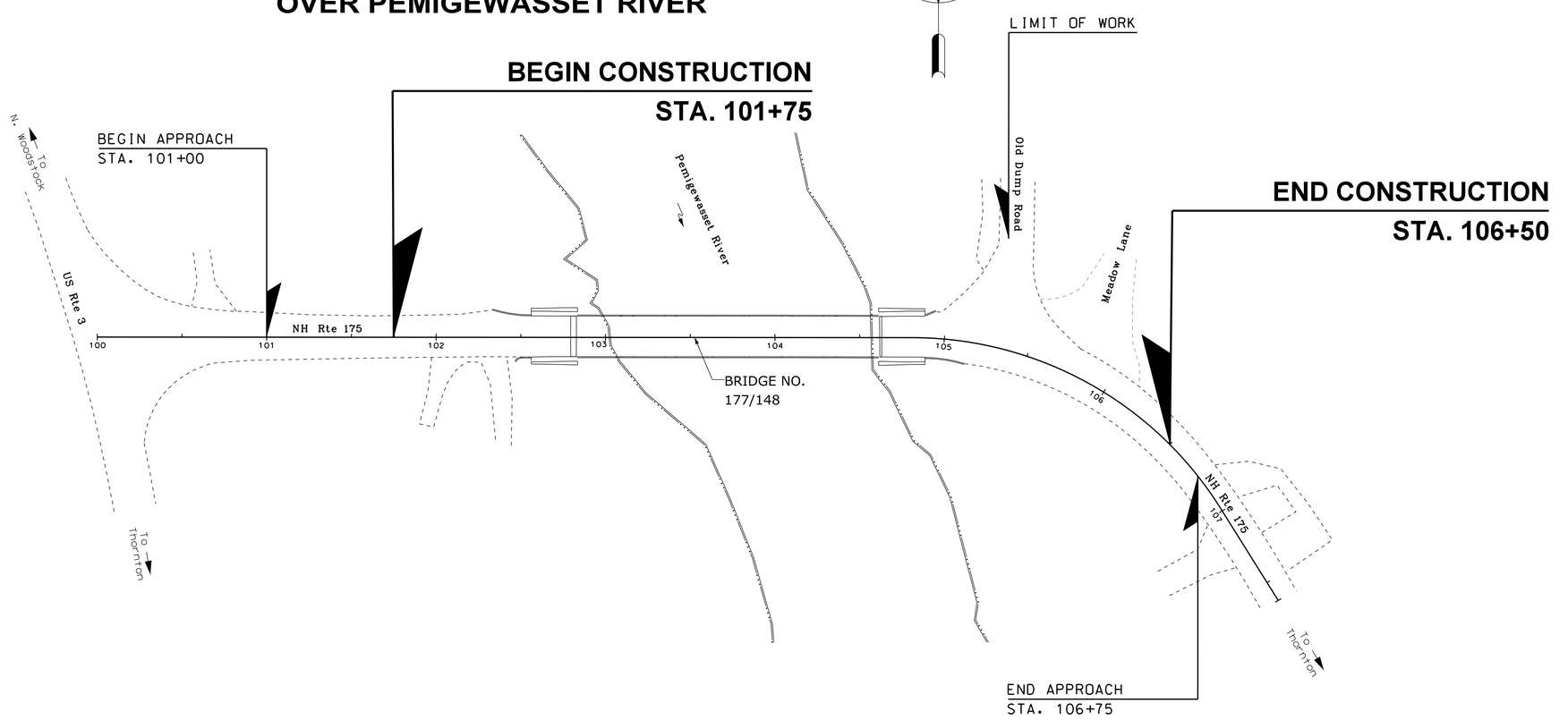
X-A003(597)
N.H. PROJECT NO. 27713
BR. NO. 177/148 CARRYING NH ROUTE 175
OVER PEMIGEWASSET RIVER

DESIGN DATA	
AVERAGE DAILY TRAFFIC (2021)	569
AVERAGE DAILY TRAFFIC (DESIGN)	750
PERCENT OF TRUCKS	9%
DESIGN SPEED	40 MPH
LENGTH OF PROJECT	575 FT



LOCATION MAP

0.25 0.125 0 0.25 0.5 Miles



TOWN OF WOODSTOCK
COUNTY OF GRAFTON

SCALE: 1" = 40'

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

INDEX OF SHEETS

DRAWN BY JGD DATE FEBRUARY 2024
CHECKED BY SLM DATE FEBRUARY 2024

H&H

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

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A003(597)	27713	1	14

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 (FILL)

SLOPE LINE (CUT)

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

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

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	27713_Notes_Qnts	27713	2	14

DRAINAGE

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

DRAINAGE PIPE (existing) (label size & type)
DRAINAGE PIPE (PROPOSED)
UNDERDRAIN (existing) W/ FLUSHING BASIN
UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN — fb — (label size & type)
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) — Z — 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		
LIGHT POLE		
LIGHT ON POWER POLE		
LIGHT ON JOINT POLE		

(plot point at face not center of symbol)

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 — OW — (label type)

UNDERGROUND UTILITIES

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

MANHOLES

	PROPOSED
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 — C — C	PC — PC — 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	SVF
ITS EQUIPMENT CABINET	its	ITS
VARIABLE SPEED LIMIT SIGN		
DYNAMIC MESSAGE SIGN		
ROAD AND WEATHER INFO SYSTEM		

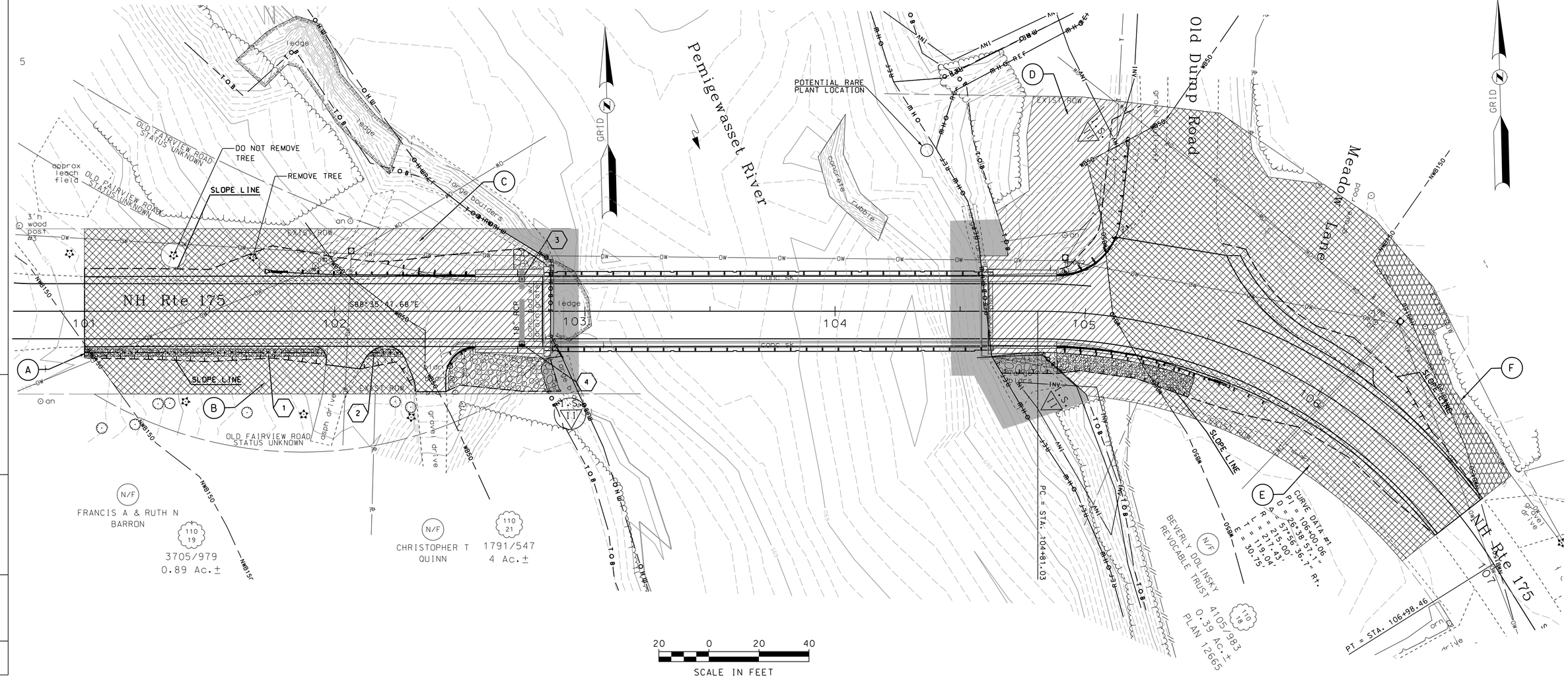
CONSTRUCTION NOTES

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
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	27713_Notes_Qnts	27713	3	14



* BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY *

LEGEND

(X) SHORELAND IMPACT LOCATION

TYPE OF SHORELAND IMPACT	SHADING/ HATCHING
REF TO WB50	
WB50 TO NWB150	
NWB150 TO PS250	
WETLANDS JURISDICTION IMPACT	

SHORELAND IMPACT SUMMARY

LOCATION	AREAS (SF) REF TO WB50	WB50 TO NWB150	NWB150 TO PS250
A			12
B		7706	
C	4218		
D	5045		
E		15111	
F			1080

TOTAL IMPACT REF TO WB50 = 9263 SF
TOTAL IMPACTS WB50 TO NWB150 = 22817 SF
TOTAL IMPACTS NWB150 TO PS250 = 1092 SF

TOTAL IMPACTS REF TO PS250 = 33172 SF

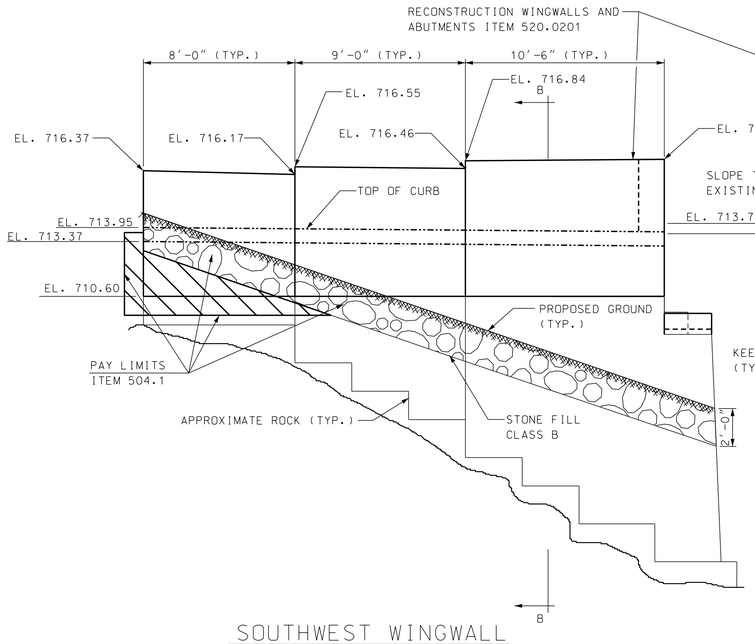
NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 3/5/2024
NEW DESIGN	JGD	DATE 3/5/2024
SHEET CHECKED	SLM	DATE 3/5/2024
AS BUILT DETAILS		DATE

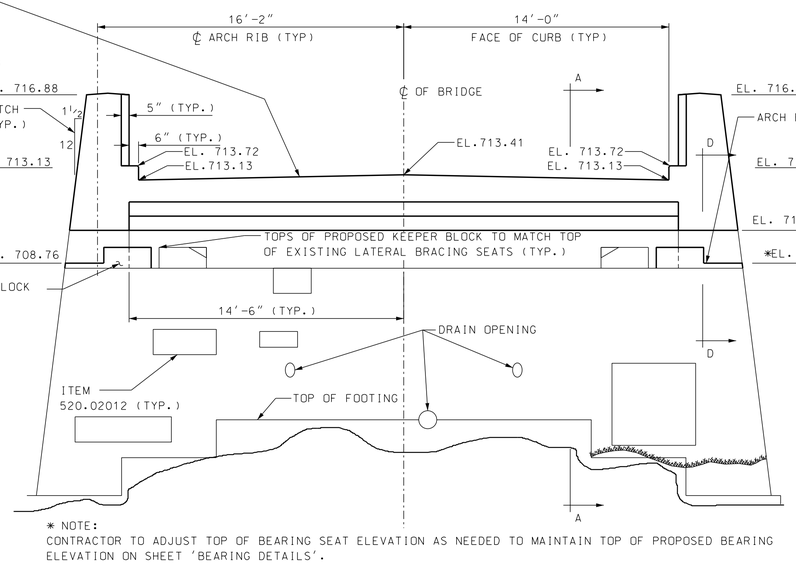
STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF HIGHWAY DESIGN

SHORELAND IMPACT PLAN

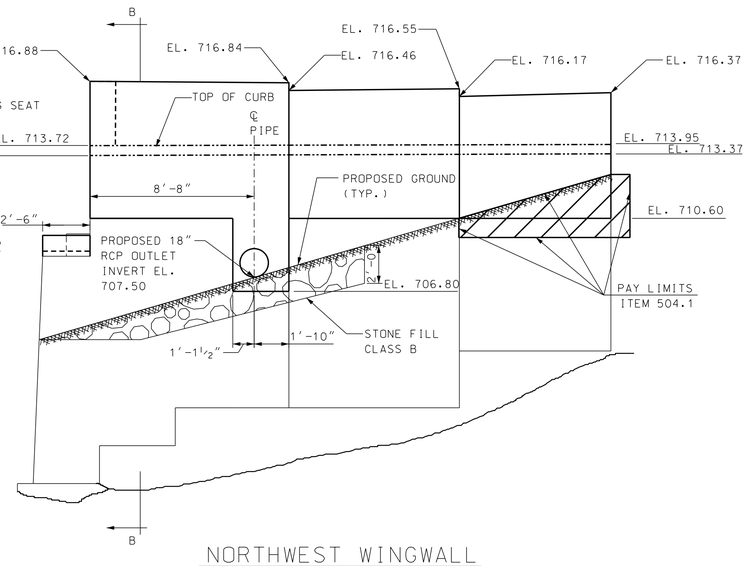
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_pr_shore	27713	4	14



SOUTHWEST WINGWALL



* NOTE:
CONTRACTOR TO ADJUST TOP OF BEARING SEAT ELEVATION AS NEEDED TO MAINTAIN TOP OF PROPOSED BEARING ELEVATION ON SHEET 'BEARING DETAILS'.

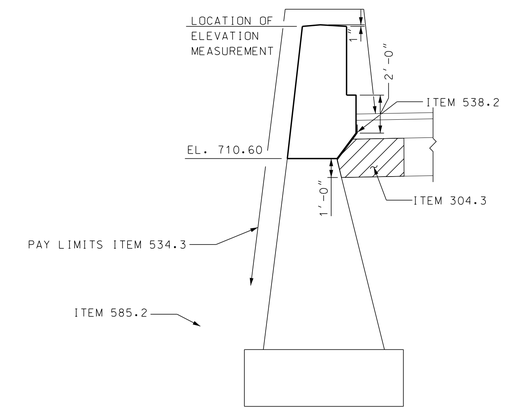


NORTHWEST WINGWALL

ELEVATIONS WEST ABUTMENT AND WINGWALLS

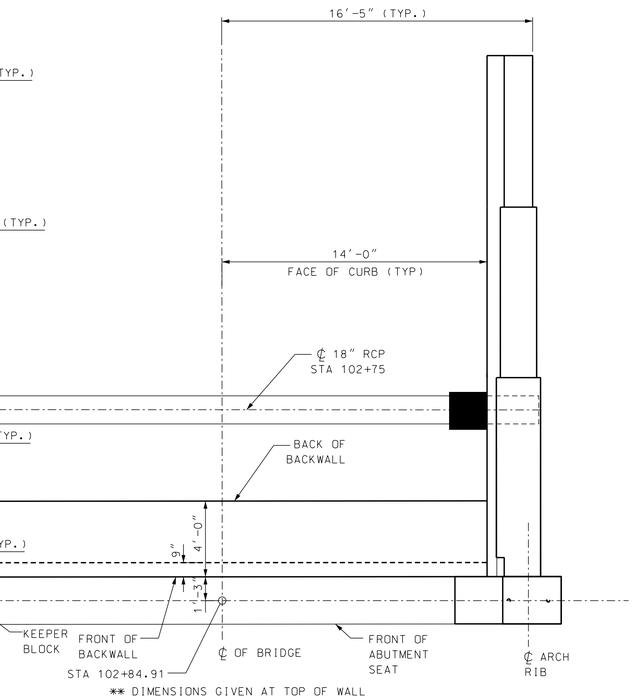
SCALE: ¼" = 1'-0"

ELEVATIONS ARE SHOWN AT THE FRONT FACE OF THE BACKWALL.



SECTION B-B

SCALE: ¼" = 1'-0"

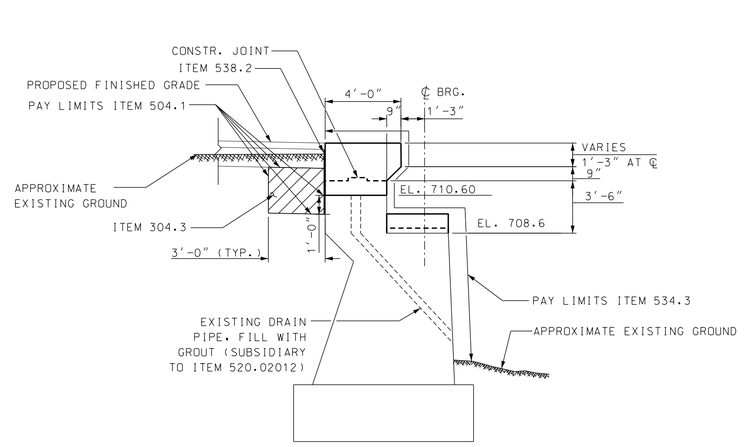


** DIMENSIONS GIVEN AT TOP OF WALL

PLAN

SCALE: ¼" = 1'-0"

(TAPERED SIDES OF SUBSTRUCTURES ARE NOT SHOWN FOR CLARITY)



SECTION A-A

SCALE: ¼" = 1'-0"

NOTES:

1. ABUTMENT FOOTINGS ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. SUPERSTRUCTURE, BEARINGS, AND DECK JOINTS ASSEMBLIES ARE NOT SHOWN FOR CLARITY. SEE DETAILS ON SHEETS 'BEARING DETAILS', 'STEEL DETAILS 2', AND 'STRIP SEAL DETAILS 1 AND 2'.
3. SEE 'ABUTMENT RECONSTRUCTION DETAILS' FOR SECTION D-D.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK	BRIDGE NO. 177/148	STATE PROJECT 27713	
LOCATION NH 175 OVER PEMIGEWASSET RIVER			

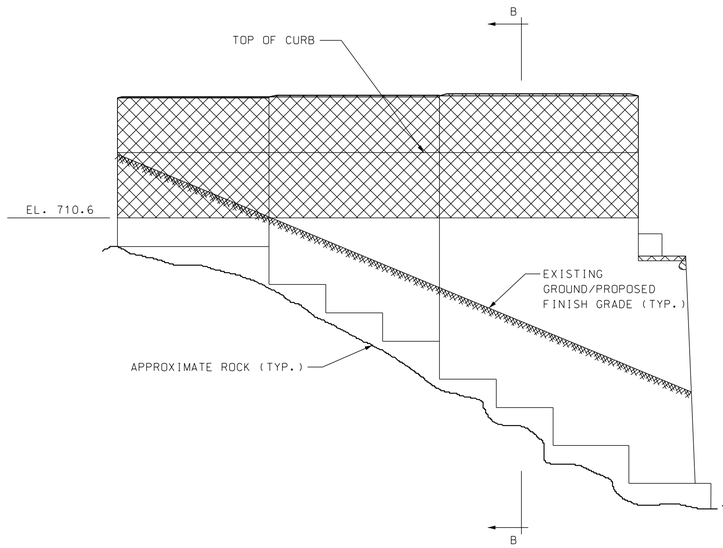
WEST ABUTMENT RECONSTRUCTION

BRIDGE SHEET 6 OF 32

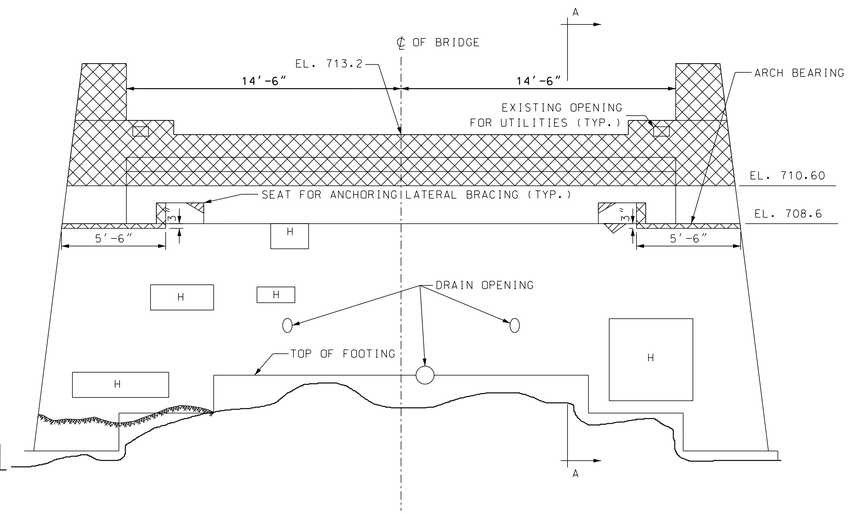
REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED LNH	02/24	CHECKED	KZS	02/24
	DRAWN CNJ	02/24	CHECKED	KZS	02/24
	QUANTITIES CNJ	02/24	CHECKED	KZS	02/24

FILE NUMBER

.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_A-Abut	AS NOTED	REV. DATE	X-A003(597)	5	14

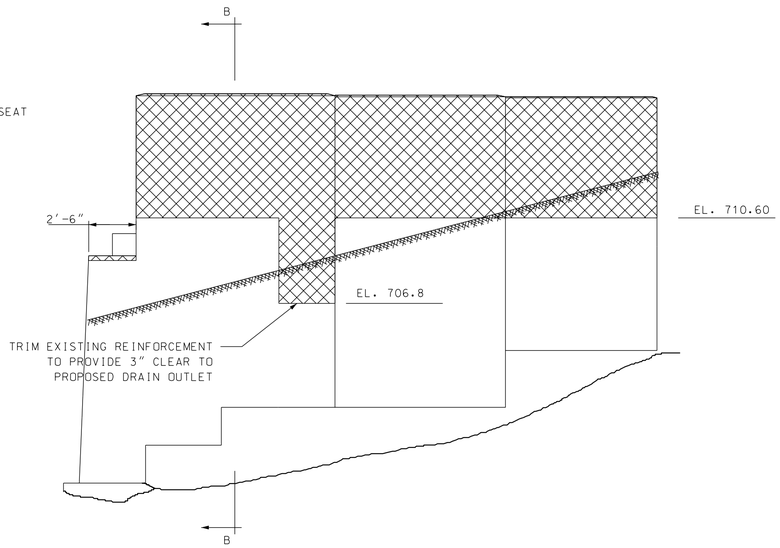


SOUTHWEST WINGWALL



ELEVATION WEST ABUTMENT AND WINGWALLS

SCALE: 1/4" = 1'-0"



NORTHWEST WINGWALL

LEGEND:

DENOTES COMPLETE DEMOLITION OF REINFORCED CONCRETE (PAID UNDER ITEM 502)

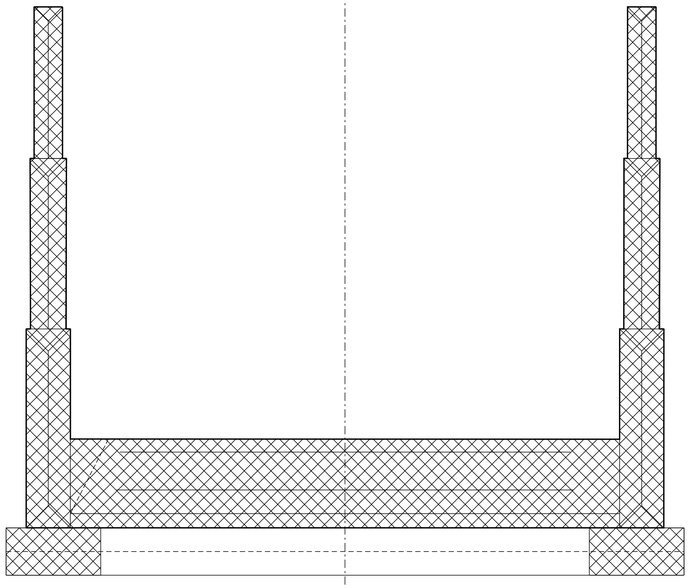
CONCRETE DETERIORATION LEGEND:

H — HOLLOW AREA

SPALL

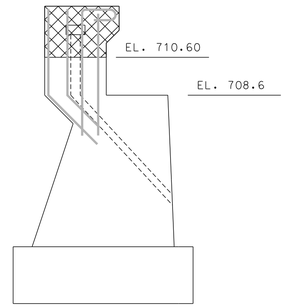
EXISTING REINFORCING NOTES:

1. ALL EXISTING VERTICAL REINFORCING BARS ENCOUNTERED WITHIN THE LIMITS OF THE REINFORCED CONCRETE DEMOLITION SHALL BE RETAINED, UNLESS OTHERWISE NOTED.
2. THE ENGINEER SHALL BE NOTIFIED IF ANY EXISTING VERTICAL REINFORCING BARS ARE BROKEN OR CORRODED 25% OR MORE.
3. RETAINED EXISTING REINFORCING BARS WHICH ARE DAMAGED DURING REINFORCED CONCRETE DEMOLITION SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE.



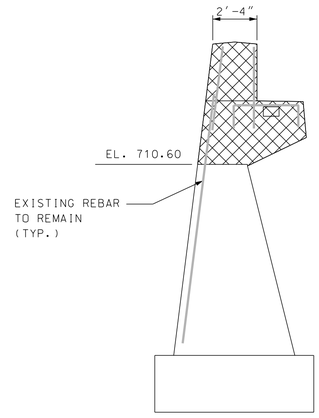
EXISTING ABUTMENT PLAN

SCALE: 1/4" = 1'-0"



SECTION A-A

SCALE: 1/4" = 1'-0"



SECTION B-B

SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK BRIDGE NO. 177/148 STATE PROJECT 27713

LOCATION NH 175 OVER PEMIGEWASSET RIVER

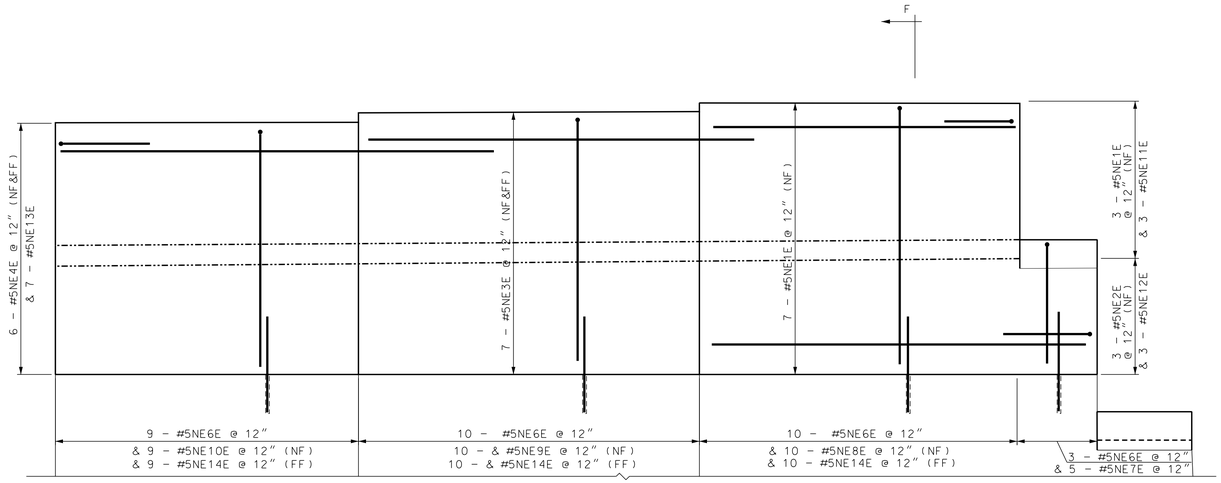
WEST ABUTMENT REMOVAL LIMITS

BRIDGE SHEET 5 OF 32

FILE NUMBER

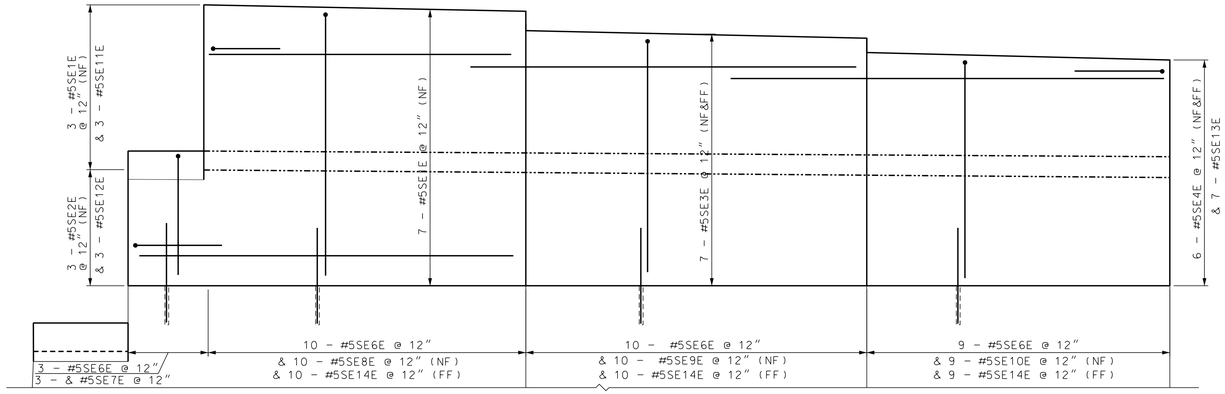
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	LNH	02/24	CHECKED	KZS	02/24
	DRAWN	CNJ	02/24	CHECKED	KZS	02/24
	QUANTITIES	CNJ	02/24	CHECKED	KZS	02/24

.DGN LOCATOR	SHEET SCALE	ISSUE DATE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_A-Abut	AS NOTED	REV. DATE	X-A003(597)	6	14



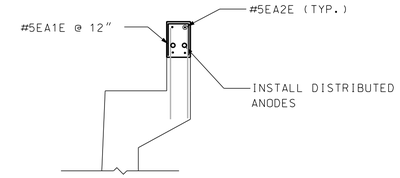
NORTHEAST WINGWALL

SCALE: 1/2" = 1'-0"



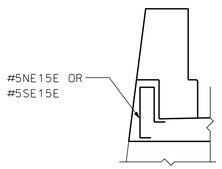
SOUTHEAST WINGWALL

SCALE: 1/2" = 1'-0"



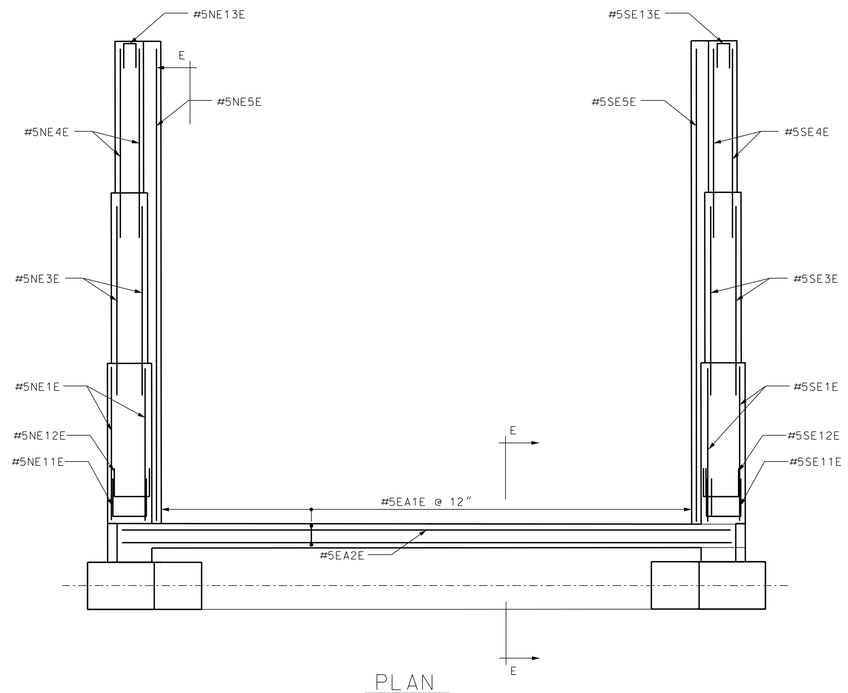
SECTION E-E

SCALE: 1/4" = 1'-0"



ELEVATION DETAIL

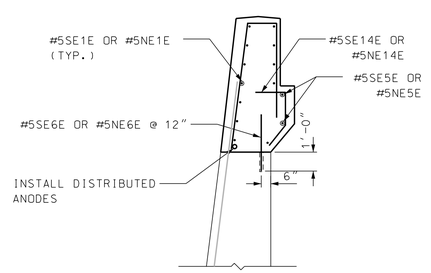
SCALE: 1/4" = 1'-0"



PLAN

SCALE: 1/4" = 1'-0"

PEDESTAL AND KEEPER BLOCK
REINFORCING NOT SHOWN FOR CLARITY



SECTION F-F

SCALE: 1/4" = 1'-0"

NORTHEAST WINGWALL SHOWN,
SOUTHEAST WINGWALL OPPOSITE HAND

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN	WOODSTOCK	BRIDGE NO. 177/148	STATE PROJECT 27713
LOCATION	NH 175 OVER PEMIGEWASSET RIVER		

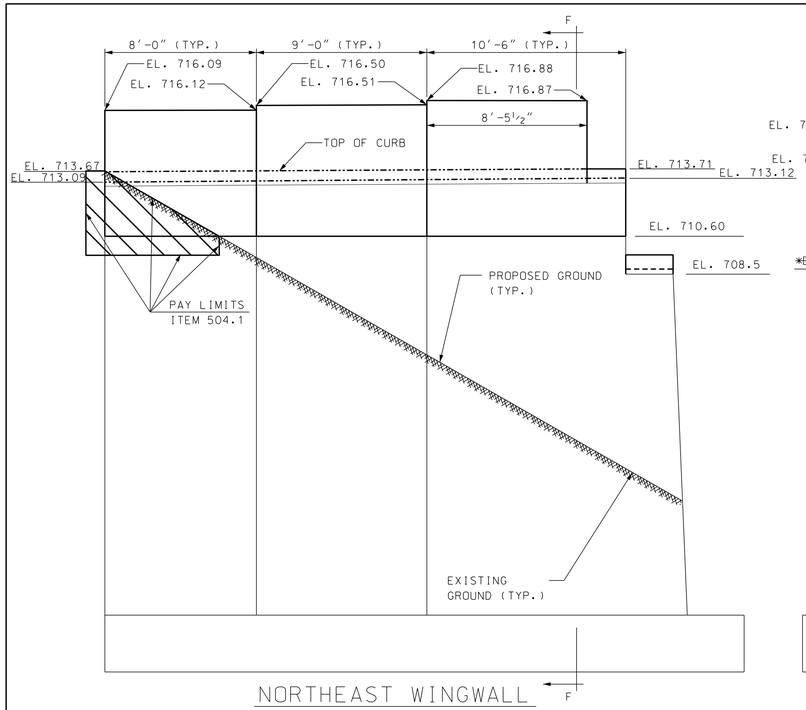
EAST ABUTMENT REINFORCEMENT

BRIDGE SHEET 10 OF 32

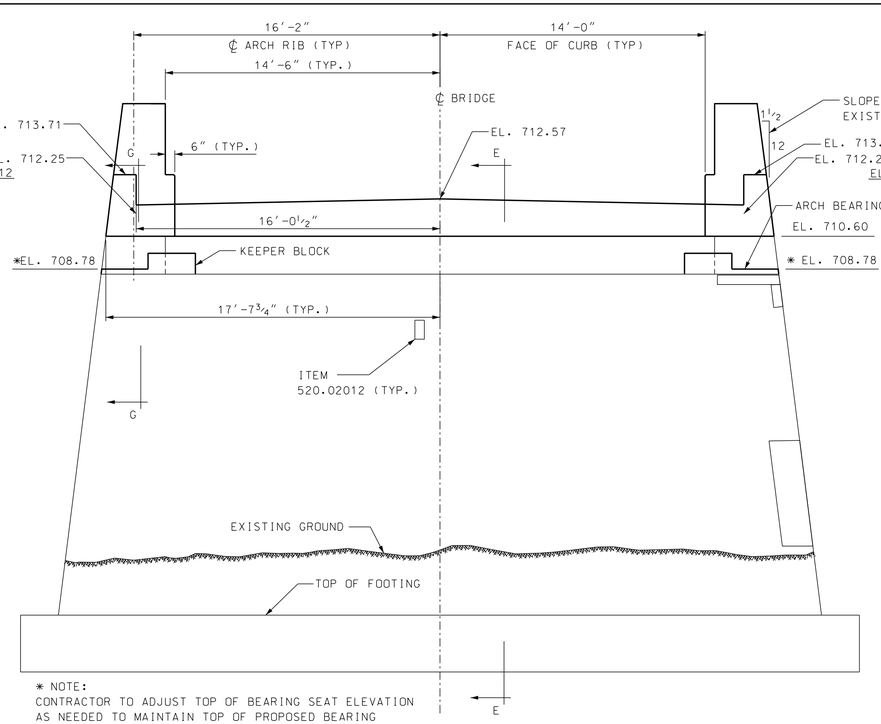
REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED	LNH	02/24	CHECKED KZS	02/24
	DRAWN	CNJ	02/24	CHECKED KZS	02/24
	QUANTITIES	CNJ	02/24	CHECKED KZS	02/24
	ISSUE DATE				
	REV. DATE				

FILE NUMBER

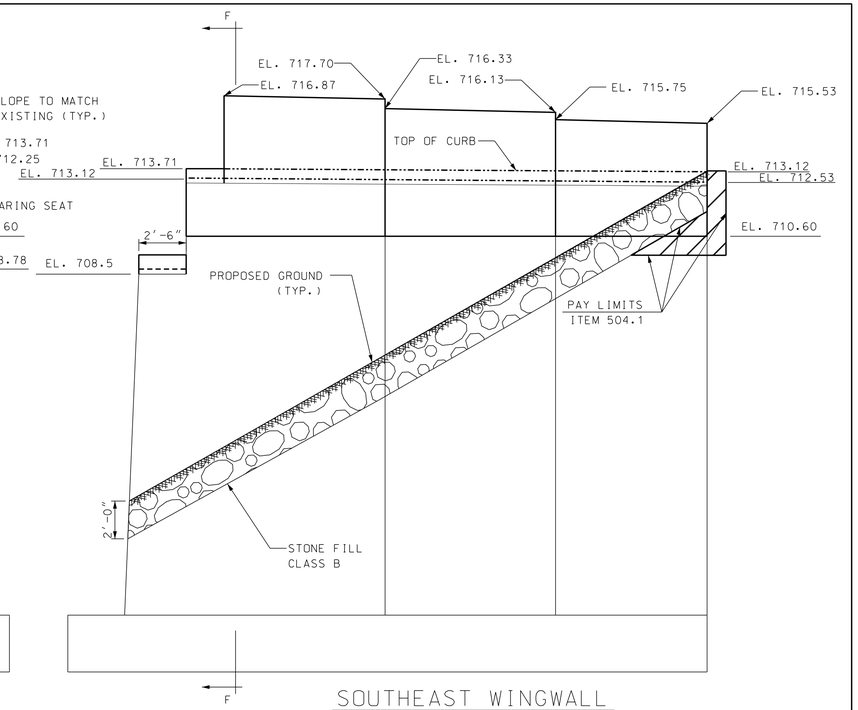
.DGN LOCATOR	SHEET SCALE	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_B-Abut	AS NOTED	X-A003(597)	7	14



NORTHEAST WINGWALL



* NOTE:
CONTRACTOR TO ADJUST TOP OF BEARING SEAT ELEVATION AS NEEDED TO MAINTAIN TOP OF PROPOSED BEARING ELEVATION ON SHEET 'BEARING DETAILS'.

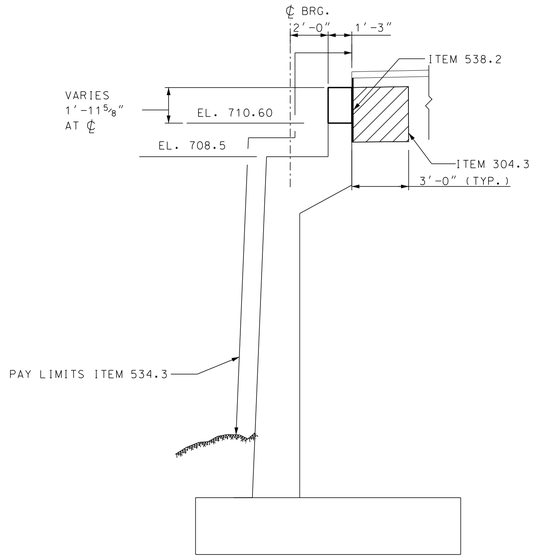


SOUTHEAST WINGWALL

ELEVATION EAST ABUTMENT AND WINGWALLS

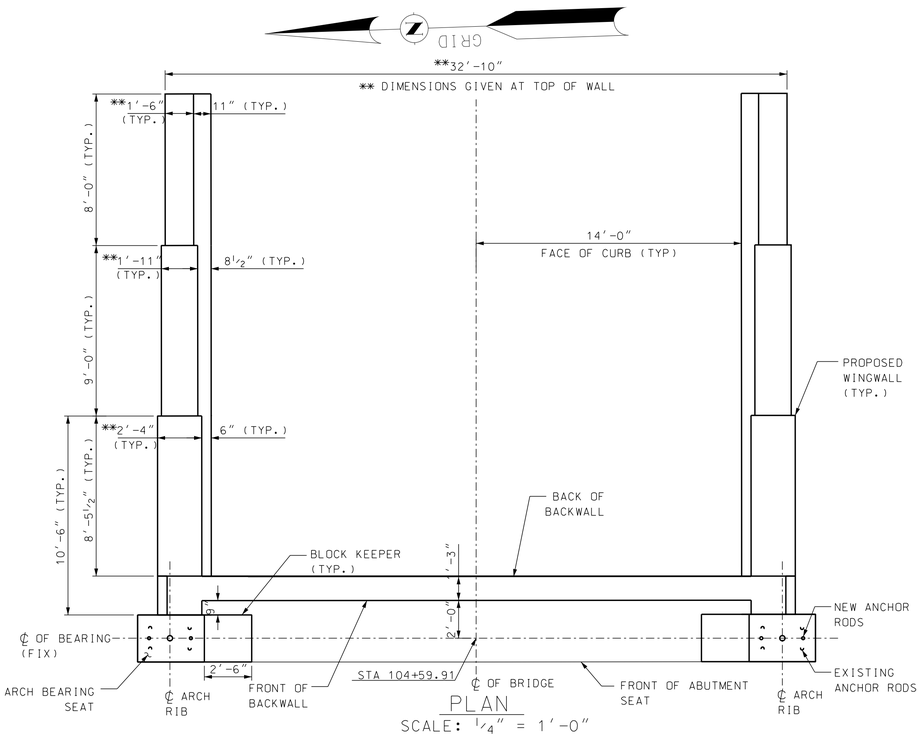
SCALE: ¼″ = 1′-0″

ELEVATIONS ARE SHOWN AT THE BACK FACE OF THE BACKWALL.



SECTION E-E

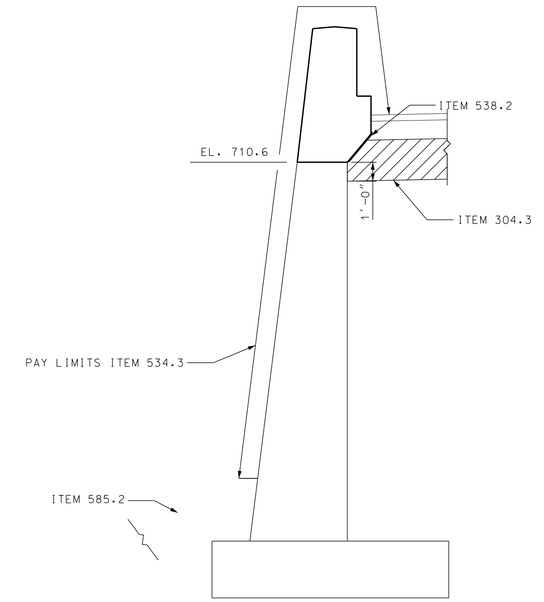
SCALE: ¼″ = 1′-0″



PLAN

SCALE: ¼″ = 1′-0″

(TAPERED SIDES OF SUBSTRUCTURES ARE NOT SHOWN FOR CLARITY)



SECTION F-F

SCALE: ¼″ = 1′-0″

NOTES:

1. ABUTMENT FOOTING ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. SUPERSTRUCTURE, BEARING, AND DECK JOINT ASSEMBLIES ARE NOT SHOW FOR CLARITY.
3. SEE DETAILS ON NEXT SHEET FOR PEDESTAL REINFORCEMENT, SECTION G-G, CONCRETE REPAIR DETAIL, AND WINGWALL ARCHITECTURAL DETAIL.

.DGN LOCATOR	SHEET SCALE
27713_B-Abut	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK | BRIDGE NO. 177/148 | STATE PROJECT 27713

LOCATION NH 175 OVER PEMIGEWASSET RIVER

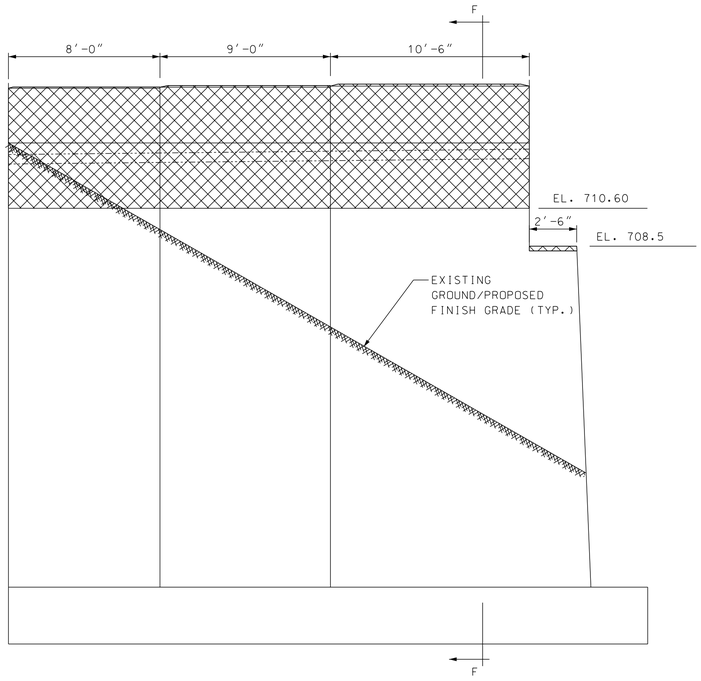
EAST ABUTMENT RECONSTRUCTION

BRIDGE SHEET 9 OF 32

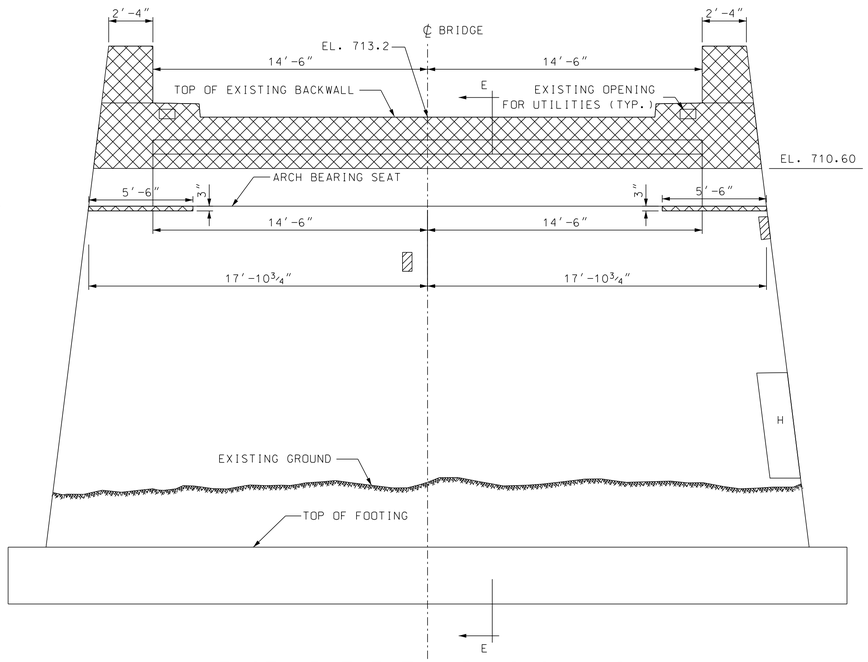
REVISIONS AFTER PROPOSAL		BY	DATE		BY	DATE
	DESIGNED	LNH	02/24	CHECKED	KZS	02/24
	DRAWN	CNJ	02/24	CHECKED	KZS	02/24
	QUANTITIES	CNJ	02/24	CHECKED	KZS	02/24
	ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.
	REV. DATE			X-A003(597)		8

FILE NUMBER

TOTAL SHEETS 14

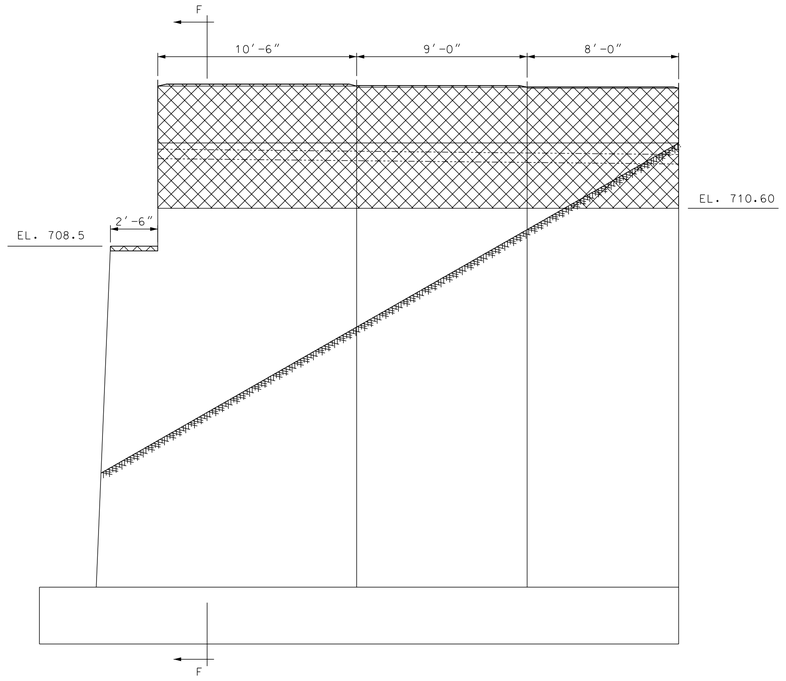


NORTHEAST WINGWALL

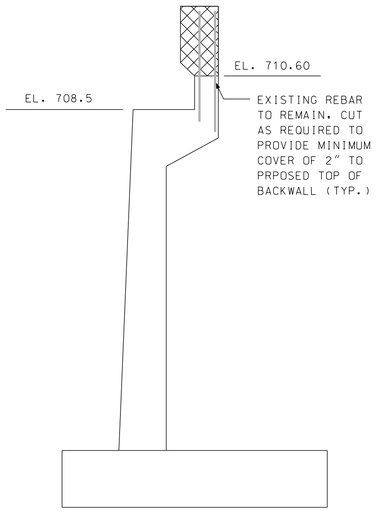


EAST ABUTMENT AND WINGWALLS

SCALE: ¼″ = 1′-0″

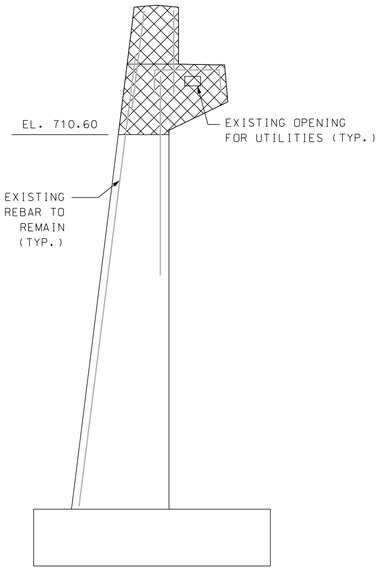


SOUTHEAST WINGWALL



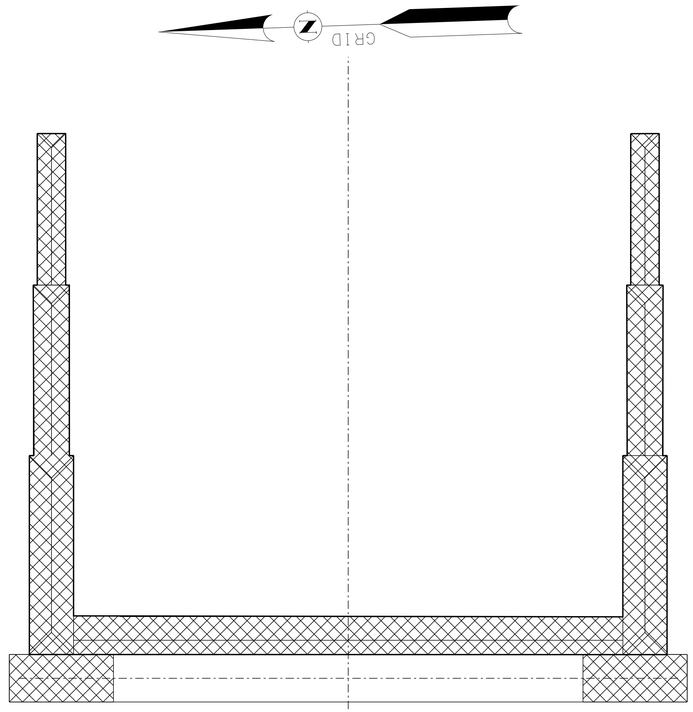
SECTION E-E

SCALE: ¼″ = 1′-0″



SECTION F-F

SCALE: ¼″ = 1′-0″



PLAN

SCALE: ¼″ = 1′-0″

LEGEND:

DENOTES COMPLETE DEMOLITION OF REINFORCED CONCRETE (PAID UNDER ITEM 502)

CONCRETE DETERIORATION LEGEND:

H — HOLLOW AREA

SPALL

NOTES:

1. SEE CONCRETE REPAIR DETAILS ON DRAWING "EAST ABUTMENT RECONSTRUCTION".
2. SEE EXISTING VERTICAL REINFORCING NOTES ON WEST ABUTMENT REMOVAL LIMITS SHEET.

.DGN LOCATOR	SHEET SCALE
27713_B-Abut	AS NOTED

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN WOODSTOCK BRIDGE NO. 177/148 STATE PROJECT 27713

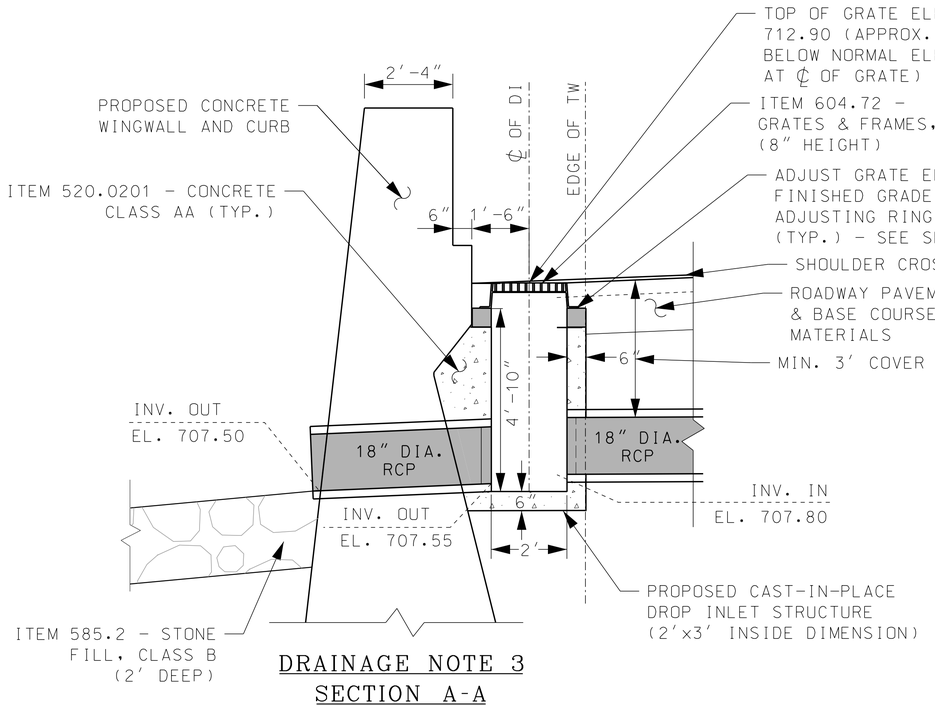
LOCATION NH 175 OVER PEMIGEWASSET RIVER

EAST ABUTMENT REMOVAL LIMITS

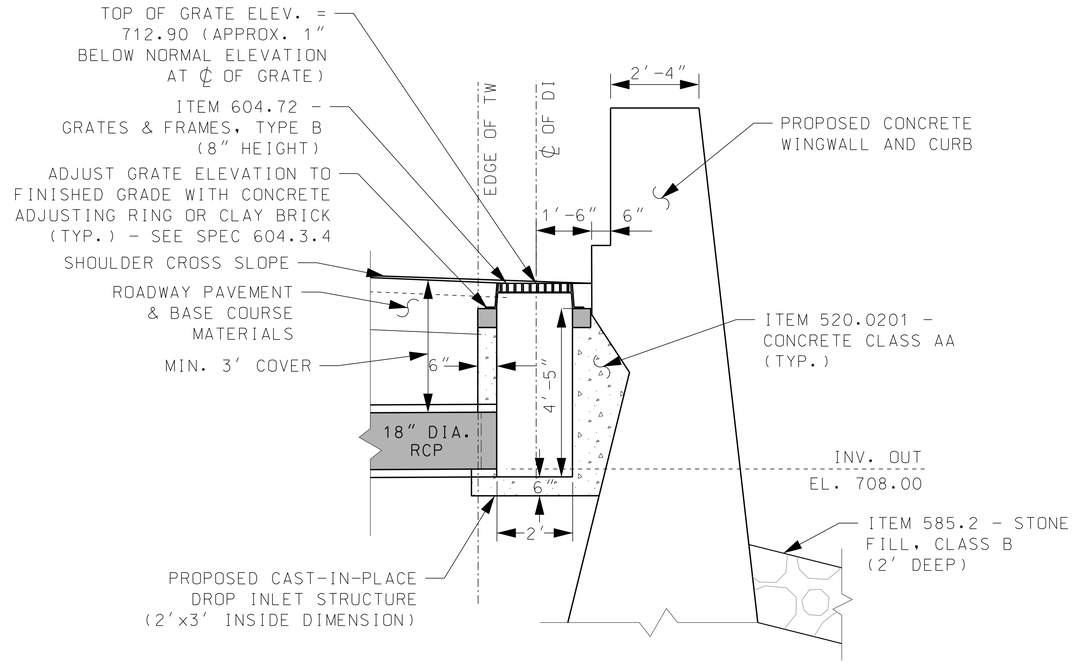
BRIDGE SHEET 8 OF 32

FILE NUMBER

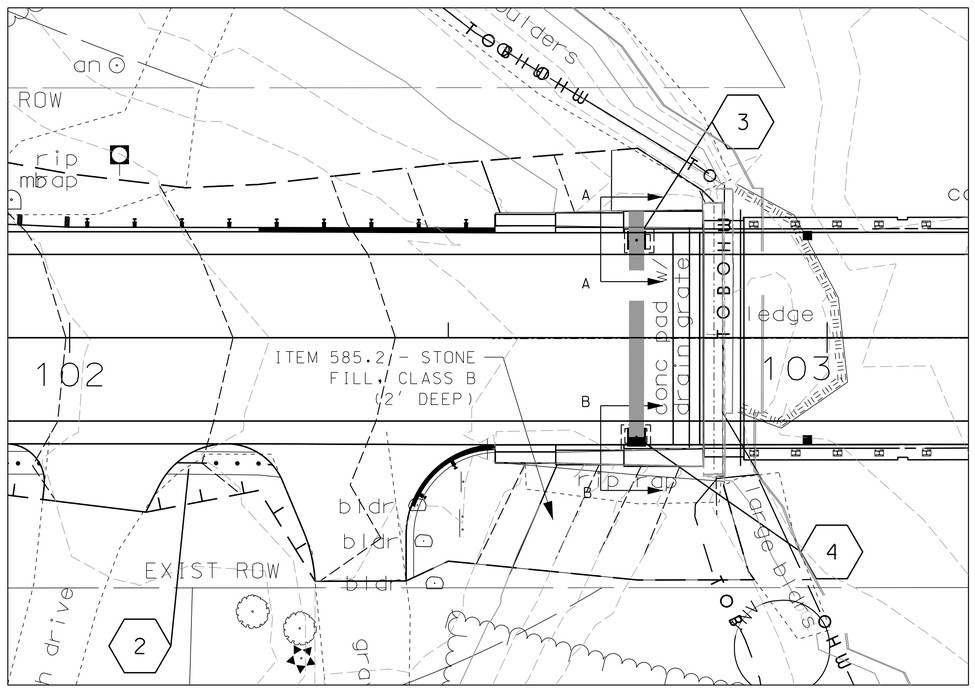
REVISIONS AFTER PROPOSAL			BY	DATE		BY	DATE
		DESIGNED	LNH	02/24	CHECKED	KZS	02/24
		DRAWN	CNJ	02/24	CHECKED	KZS	02/24
		QUANTITIES	CNJ	02/24	CHECKED	KZS	02/24
		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
		REV. DATE		X-A003(597)		9	14



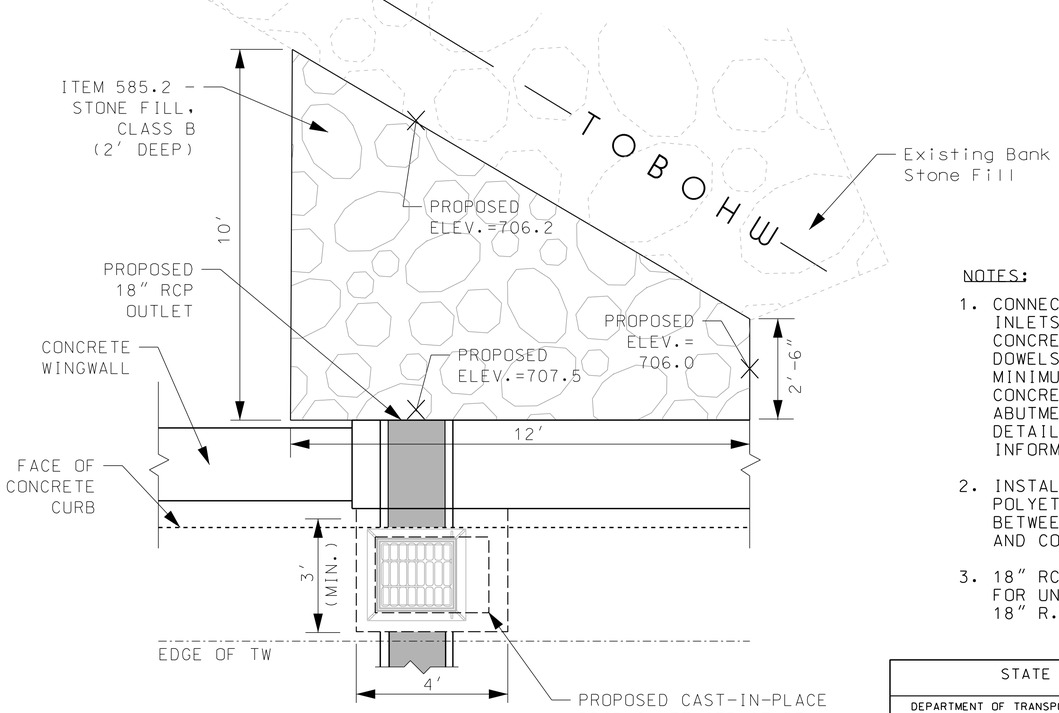
DRAINAGE NOTE 3
SECTION A-A
SCALE: 1"=2'



DRAINAGE NOTE 4
SECTION B-B
SCALE: 1"=2'



DRAINAGE AND GRADING PLAN
SCALE: 1"=10'



DRAINAGE NOTE 3
PLAN VIEW
SCALE: 1"=2'

NOTES:

1. CONNECT PROPOSED DROP INLETS TO EXISTING CONCRETE WINGWALLS WITH DOWELS. INSTALL #5 REBAR A MINIMUM OF 1 FT INTO CONCRETE WINGWALL. SEE WEST ABUTMENT REINFORCEMENT DETAILS FOR MORE INFORMATION.
2. INSTALL ITEM 604.0007 - POLYETHYLENE LINER BETWEEN GRATE & FRAME AND CONCRETE STRUCTURE.
3. 18" RCP SHALL BE PAID FOR UNDER ITEM 603.00318 - 18" R.C. PIPE, 3000D.

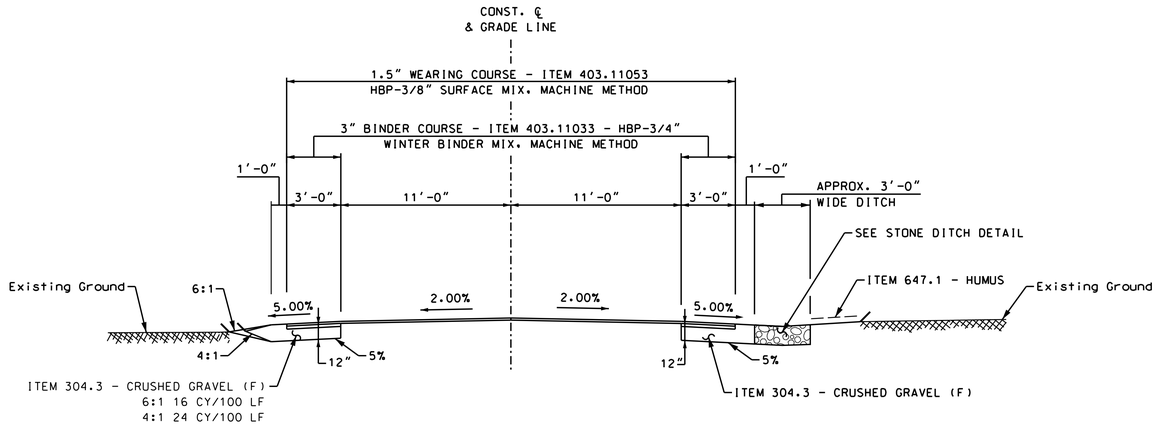
REVISIONS AFTER PROPOSAL	DESCRIPTION	STATION	NUMBER	DATE

		DATE
SDR PROCESSED	NHDOT	02-2024
NEW DESIGN	GRS	02-2024
SHEET CHECKED	SLM	02-2024
AS BUILT DETAILS		DATE

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

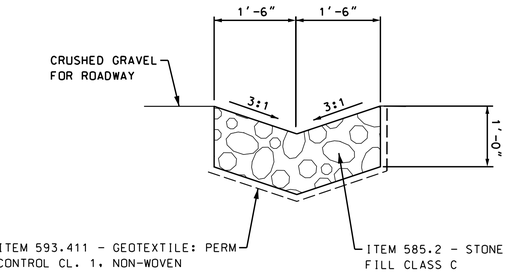
DRAINAGE DETAILS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713 drainage	27713	10	14



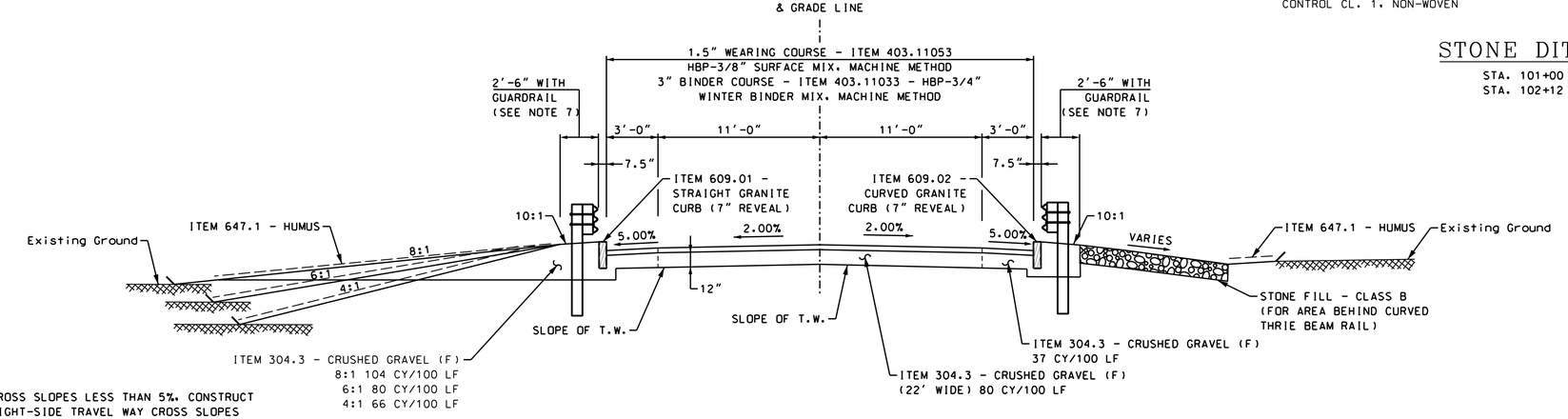
SHOULDER WIDENING
WEST APPROACH TYPICAL SECTION

STA. 101+00 TO STA. 101+75



STONE DITCH DETAIL

STA. 101+00 TO STA. 101+95
STA. 102+12 TO STA. 102+28



FULL BOX CONSTRUCTION
WEST APPROACH TYPICAL SECTION

STA. 101+75 TO STA. 102+79.66 (BRIDGE)

NOTES:

1. FOR RIGHT-SIDE TRAVEL WAY CROSS SLOPES LESS THAN 5%, CONSTRUCT SHOULDER SLOPE AT 5%. FOR RIGHT-SIDE TRAVEL WAY CROSS SLOPES GREATER THAN 5%, CONSTRUCT SHOULDER SLOPE AT SAME CROSS SLOPE AS TRAVEL WAY. REFER TO THE SUPERELEVATION TABLE FOR DESIGN CROSS SLOPES.
2. USE ITEM 403.16 - PAVEMENT JOINT ADHESIVE ON ALL LONGITUDINAL AND TRANSVERSE PAVEMENT JOINTS FOR EACH PAVEMENT LAYER.
3. SLOPE ROUNDINGS HAVE BEEN INTENTIONALLY OMITTED TO REDUCE SLOPE WORK AND AVOID RIGHT-OF-WAY IMPACTS.
4. IN AREAS OF HUMUS, USE ITEM 646.31 - TURF ESTABLISHMENT WITH MULCH AND TACKIFIERS.
5. USE THE MATERIAL EXCAVATED AS ITEM 203.11 - COMMON EXCAVATION LRS FOR ITEM 647.1 - HUMUS. EXCAVATED TOPSOIL MAY BE PLACED AT A DEPTH UP TO 12" TO EXHAUST THE SUPPLY OF LRS MATERIAL. USE REMAINDER OF ITEM 203.11 ON FILL SLOPE BEHIND GUARDRAIL ON OLD DUMP RD. AS SHOWN ON THE GENERAL PLANS, AND AS DIRECTED BY THE ENGINEER. ALL OF ITEM 203.11 SHALL BE RE-USED ON THIS PROJECT.
6. SEE CROSS SECTIONS FOR BOTTOM OF STONE DITCH ELEVATIONS.
7. IN SECTIONS WITHOUT GUARDRAIL OR CURB, USE A 1' SLOPE BREAK FROM EDGE OF PAVEMENT.

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

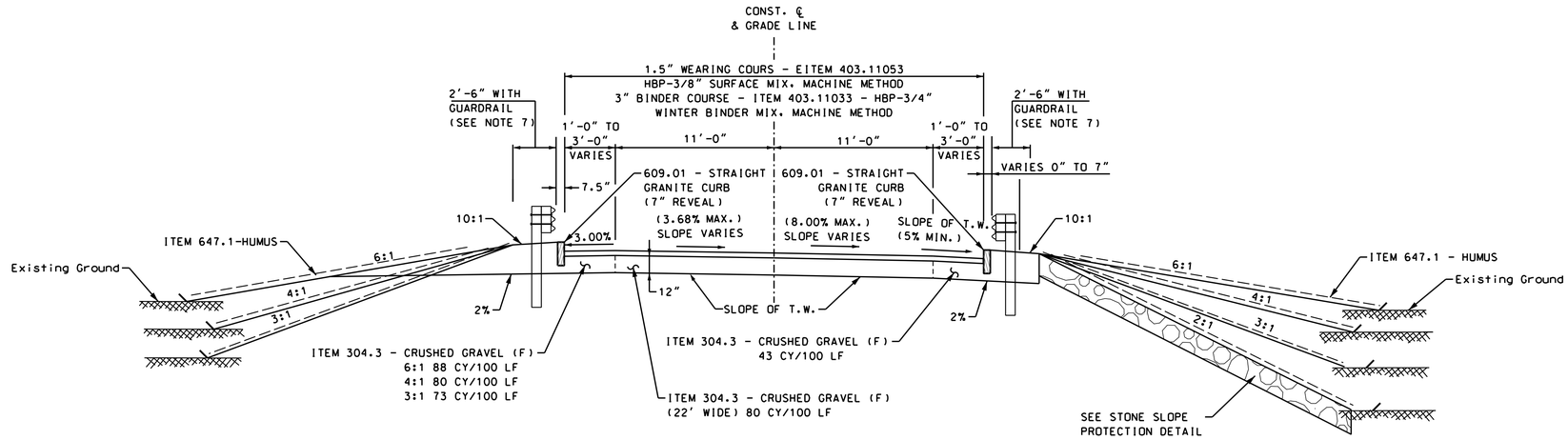
SDR PROCESSED	NHDOT	DATE 02-2024
NEW DESIGN	GRS	DATE 02-2024
SHEET CHECKED	SLM	DATE 02-2024
AS BUILT DETAILS		DATE

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

NH ROUTE 175
TYPICAL SECTIONS (1 OF 2)

NOT TO SCALE

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713typ	27713	11	14



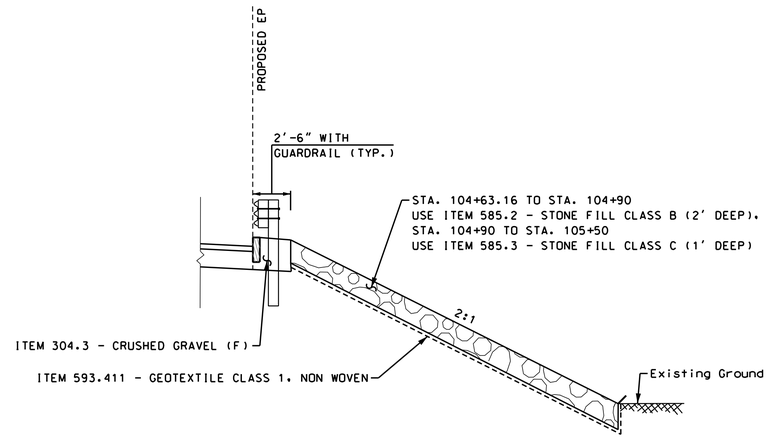
FULL BOX CONSTRUCTION
EAST APPROACH TYPICAL SECTION

STA. 104+63.16 (BRIDGE) TO STA. 106+50

NOTES:

1. FOR RIGHT-SIDE TRAVEL WAY CROSS SLOPES LESS THAN 5%. CONSTRUCT SHOULDER SLOPE AT 5%. FOR RIGHT-SIDE TRAVEL WAY CROSS SLOPES GREATER THAN 5%. CONSTRUCT SHOULDER SLOPE AT SAME CROSS SLOPE AS TRAVEL WAY. REFER TO THE SUPERELEVATION TABLE FOR DESIGN CROSS SLOPES.
2. USE ITEM 403.16 - PAVEMENT JOINT ADHESIVE ON ALL LONGITUDINAL AND TRANSVERSE PAVEMENT JOINTS FOR EACH PAVEMENT LAYER.
3. SLOPE ROUNDINGS HAVE BEEN INTENTIONALLY OMITTED TO REDUCE SLOPE WORK AND AVOID RIGHT-OF-WAY IMPACTS.
4. IN AREAS OF HUMUS. USE ITEM 646.31 - TURF ESTABLISHMENT WITH MULCH AND TACKIFIERS.
5. USE THE MATERIAL EXCAVATED AS ITEM 203.11 - COMMON EXCAVATION LRS FOR ITEM 647.1 - HUMUS. EXCAVATED TOPSOIL MAY BE PLACED AT A DEPTH UP TO 12" TO EXHAUST THE SUPPLY OF LRS MATERIAL. USE REMAINDER OF ITEM 203.11 ON FILL SLOPE BEHIND GUARDRAIL ON OLD DUMP RD. AS SHOWN ON THE GENERAL PLANS. AND AS DIRECTED BY THE ENGINEER. ALL OF ITEM 203.11 SHALL BE RE-USED ON THIS PROJECT.
6. USE ITEM 304.32 - CRUSHED GRAVEL FOR SHOULDER LEVELING AT EDGE OF PAVEMENT FROM STA. 106+50 TO 106+75 LT & RT. AS DIRECTED BY THE ENGINEER.
7. IN SECTIONS WITHOUT GUARDRAIL OR CURB. USE A 1' SLOPE BREAK FROM EDGE OF PAVEMENT.

	CURVE 1				
	Superelevation Table				
	STA.	LT. Shoulder	LT. TW	RT. TW	RT. Shoulder
BEGIN TRANSITION	104+63.16	-2.00%	-2.00%	-2.00%	-2.00%
	104+75.00	-2.67%	-1.30%	-2.70%	-2.70%
	104+81.03	-3.00%	-0.96%	-3.04%	-3.04%
	105+00.00	-3.00%	0.10%	-4.10%	-4.10%
	105+25.00	-3.00%	1.50%	-5.50%	-5.50%
	105+50.00	-3.00%	2.90%	-6.90%	-6.90%
BEGIN 3.68% LT TW	105+63.95	-3.00%	3.68%	-7.68%	-7.68%
BEGIN -8.00% RT TW	105+69.75	-3.00%	3.68%	-8.00%	-8.00%
	105+75.00	-3.00%	3.68%	-8.00%	-8.00%
	106+00.00	-3.00%	3.68%	-8.00%	-8.00%
	106+25.00	-3.00%	3.68%	-8.00%	-8.00%
END 3.68% LT TW / -8.00% RT TW	106+32.70	-3.00%	3.68%	-8.00%	-8.00%
	106+50.00	-3.00%	3.68%	-8.97%	-8.97%
END TRANSITION	106+75.00	Match Ex.	Match Ex.	Match Ex.	Match Ex.



STONE SLOPE PROECTION DETAIL

STA. 104+63.16 (BRIDGE) TO STA. 105+50

NUMBER	DATE	STATION	DESCRIPTION
			REVISIONS AFTER PROPOSAL

SDR PROCESSED	NHDOT	DATE 02-2024
NEW DESIGN	GRS	DATE 02-2024
SHEET CHECKED	SLM	DATE 02-2024
AS BUILT DETAILS		DATE

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

NH ROUTE 175
TYPICAL SECTIONS (2 OF 2)

NOT TO SCALE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
	27713typ	27713	12	14

EROSION CONTROL NOTES AND STRATEGIES

1. **Erosion Control/Stormwater Control Selection, Sequencing and Maintenance**
   - 1.1. Comply with RSA 485-A:17 Terrain Alteration.
   - 1.2. Install and maintain all erosion control/stormwater controls in accordance with the New Hampshire Stormwater Management Manual, Volume 3, Erosion and Sediment Controls During Construction, December 2008 (BMP Manual) , available from the NH Department of Environmental Services (NHDES).
   - 1.3. Install erosion control/stormwater control measures prior to the start of work and in accordance with the manufacturer's recommendations.
   - 1.4. Select erosion control/stormwater control measures based on the size and nature of the project and physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to jurisdictional areas.
   - 1.5. Install perimeter controls prior to earth disturbing activities.
   - 1.6. Install stormwater treatment ponds and drainage swales before rough grading the site.
   - 1.7. Clean, replace, and augment stormwater control measures and infiltration basins as necessary to prevent sedimentation beyond project limits throughout the project duration.
   - 1.8. Inspect erosion and sediment control measures in accordance with Section 645 of the specifications, weekly, and within 24 hours (during normal work hours), of any storm event greater than 0.25 inches of rain in a 24-hour period.
   - 1.9. Contain stockpiles with temporary perimeter controls. Protect inactive soil stockpiles with soil stabilization measures (temporary erosion control seed mix and mulch, soil binder) or cover them with anchored tarps. If the stockpile is to remain undisturbed for more than 14 days, mulch the stockpile.
   - 1.10. Maintain temporary erosion and stormwater control measures in place until the area has been permanently stabilized.
   - 1.11. An area is considered stable if one of the following has occurred:
     - · Base course gravels have been installed in areas to be paved;
     - · A minimum of 85% vegetative growth has been established;
     - · A minimum of 3"of non-erosive material such as stone or rip-rap has been installed;
     - · Temporary slope stabilization has been properly installed (see Table 1).
   - 1.12. Direct runoff to temporary practices until permanent stormwater infrastructure is constructed and stabilized.
   - 1.13. 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.
   - 1.14. Plan activities to account for sensitive site conditions
     - · Sequence construction to limit the duration and area of exposed soils.
     - · Clearly flag areas to be protected in the field and provide construction barrier to prevent trafficking outside of work areas.
     - · Protect and maximize existing native vegetation and natural forest buffers between construction activities and sensitive areas.
     - · When work is undertaken in a flowing watercourse, implement stream flow diversion methods prior to any excavation or filling activity.
   - 1.15. Utilize storm drain inlet protection to prevent sediment from entering a storm drainage system prior to the permanent stabilization of the contributing disturbed area.
   - 1.16. Use care to ensure that sediments do not enter any existing catch basins during construction. Place temporary inlet protection at inlets in areas of soil disturbance that are subject to sedimentation.
   - 1.17. Construct, stabilize, and maintain temporary and permanent ditches in a manner that will minimize scour. Direct temporary and permanent ditches to drain to sediment basins or stormwater collection areas.
   - 1.18. Supplement channel protection measures with perimeter control measures when ditch lines occur at the bottom of long fill slopes. Install the perimeter controls on the fill slope to minimize the potential for fill slope sediment deposits in the ditch line.
   - 1.19. Divert sediment laden water away from drainage inlet structures to the extent possible.
   - 1.20. Install sediment barriers and sediment traps at drainage inlets to prevent sediment from entering the drainage system.
   - 1.21. Clean catch basins, drainage pipes, and culverts if significant sediment is deposited.
   - 1.22. Construct and stabilize dewatering infiltration basins prior to any excavation that may require dewatering.
   - 1.23. Place and stabilize temporary sediment basins or traps at locations where concentrated flow (channels and pipes) discharge to the surrounding environment from areas of unstabilized earth disturbing activities.
   - 1.24. Stabilize, to appropriate anticipated velocities, conveyance channels or pumping systems needed to convey construction stormwater to basins and discharge locations prior to use.
   - 1.25. Size temporary sediment basins to contain the 2-year, 24 hour storm event.
   - 1.26. Size temporary sediment traps to contain 3,600 cubic feet of storage for each acre of drainage area.
   - 1.27. Construct detention basins to accommodate the 2-year, 24-hour storm event.

2. **Construction Planning**
   - 2.1. Divert off site runoff or clean water away from the construction activities to reduce the volume that needs to be treated on site.
   - 2.2. Divert storm runoff from upslope drainage areas away from disturbed areas, slopes and around active work areas to a stabilized outlet location.
   - 2.3. Construct impermeable barriers, as necessary, to collect or divert concentrated flows from work or disturbed areas.
   - 2.4. Locate staging areas and stockpiles outside of wetlands jurisdiction.
   - 2.5. Do not store, maintain, or repair mobile heavy equipment in wetlands, unless equipment cannot be practicably removed and secondary containment is provided.
   - 2.6. Provide a water truck to control excessive dust, at the discretion of the Contract Administrator.

3. Site Stabilization
   - **3.1. Stabilize all areas of unstabilized soil as soon as practicable, but no later than 45 days after initial disturbance.**
   - **3.2. Limit unstabilized soil to a maximum of 5 acres unless documentation is provided that demonstrates that cuts and fills are such that 5 acres is unreasonable.**
   - **3.3. Use erosion control seed mix 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.**
   - **3.4. Apply, and reapply as necessary, soil tackifiers in accordance with the manufacturer's specifications to minimize soil and mulch loss until permanent vegetation is established.**
   - **3.5. Stabilize basins, ditches and swales prior to directing runoff to them.**
   - **3.6. Stabilize roadway and parking areas within 72 hours of achieving finished grade.**
   - **3.7. Stabilize cut and fill slopes within 72 hours of achieving finished grade.**
   - **3.8. When temporarily stabilizing soils and slopes, utilize the techniques outlined in Table 1.**
   - **3.9. Stabilize all areas that can be stabilized prior to opening up new areas to construction activities.**
   - **3.10. Utilize Table 1 when selecting temporary soil stabilization measures.**
   - **3.11. Divert off-site water through the project in an appropriate manner so as not to disturb the upstream or downstream soils, vegetation or hydrology beyond the permitted area.**
   - **3.12. Install and maintain construction exits anywhere traffic leaves a construction site onto a public right-of-way.**
   - **3.13. Sweep all construction related debris and soil from the adjacent paved roadways, as necessary.**

4. **Slope Protection**
   - **4**.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.
   - 4.2. Consider how groundwater seepage on cut slopes may impact slope stability and incorporate appropriate measures to minimize erosion.
   - 4.3. Convey storm water down the slope in a stabilized channel or slope drain.
   - 4.4. The outer face of the fill slope should be in a loose, ruffled condition prior to turf establishment.

5. Winter Construction
   - 5.1. To minimize erosion and sedimentation impacts, limit the extent and duration of winter excavation and earthwork activities. 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 contractor's Critical Path Method (CPM) schedule, and the contractor has adequate resources available to ensure that environmental requirements will be met.
   - 5.2. Construction performed any time between November 30 " and May 1 " of any year is considered winter construction. During winter construction:
     - · Stabilize all proposed vegetation areas which do not exhibit a minimum of 85% vegetative growth by October 15 ", or which are disturbed after October 15 ", in accordance with Table 1.
     - · Stabilize all ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15 ", or which are disturbed after October 15 ", in accordance with Table 1.
     - · Protect incomplete road surfaces, where base course gravels have not been installed, and where work has stopped for the season after November 30 ", in accordance with Table 1.
     - · Unless a winter construction plan has been approved by NHDOT, conduct winter excavation and earthwork such that no more than 1 acre of the project is without stabilization an any one time.

6. Wildlife Protection Measures
   - 6.1. Report all observations of threatened and endangered species on the project site to the Department's Bureau of Environment by phone at 603-271-3226 or by email at Bureau16@dot.nh.gov , indicating in the subject line the project name, number, and that a threatened/endangered species was found.
   - 6.2. Photograph the observed species and nearby elements of habitat or areas of land disturbance and provide them to the Department's Bureau of Environment at the above email address.
   - 6.3. In the event that a threatened or endangered species is observed on the project during work, the species shall not be disturbed, handled, or harmed prior to receiving direction from the Bureau of Environment.
   - 6.4. Utilize wildlife friendly erosion control methods when:
     - · Erosion control blankets are used,
     - · A protected species or habitat is documented,
     - · The proposed work is in or adjacent to a priority resource area, and/or when specifically requested by NHB or NHF&G

GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES
TABLE 1

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

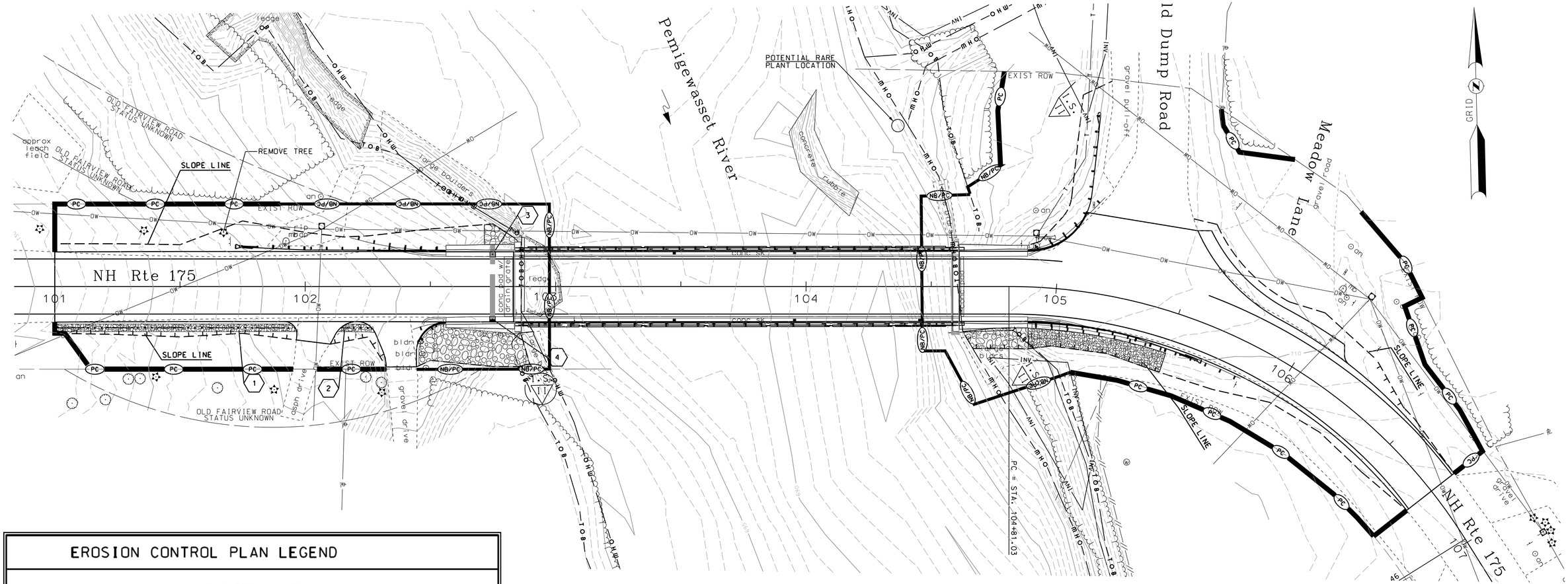
ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT 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. Do not apply products containing polyacrylamide (PAM) directly to, or within 100 feet of any surface water without NHDES approval.
3. Install all methods in Table 1 per the manufacturer's recommendation for time of year and steepness of slope.

STATE OF NEW HAMPSHIRE
WOODSTOCK
DEPARTMENT OF TRANSPORTATION ◦ BUREAU OF BRIDGE DESIGN

EROSION CONTROL STRATEGIES

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_Notes_Qnts	27713	13	14



EROSION CONTROL PLAN LEGEND

PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

NATURAL BUFFER/PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

CHANNEL PROTECTION
STONE CHECK DAMS
STRAW WATTLES
CHANNEL MATTING
CLASS D EROSION STONE
CLASS C STONE

STREAM DIVERSION
DRAIN THROUGH PIPE OR CHANNEL

UNIMPACTED RIVERINE SURFACE WATERS
NO WORK AND/OR IMPACT

ROUTINE ROADWAY QUALIFYING ACTIVITY
NO WORK AND/OR IMPACT

* BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY *

20 0 20 40
1" = 20'

NUMBER	DESCRIPTION	DATE	STATION
	REVISIONS AFTER PROPOSAL		

SDR PROCESSED	NHDOT	DATE 3/5/2024
NEW DESIGN	JGD	DATE 3/5/2024
SHEET CHECKED	SLM	DATE 3/5/2024
AS BUILT DETAILS		DATE

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

EROSION CONTROL PLAN

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
27713_pr_shore	27713	14	14