


**STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION**

DATE: July 2, 2021

FROM:  Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of
Transportation

SUBJECT Amendment Request & RFMI Response
Danbury, 16303, NHDES 2019-03832

Bureau of
Environment

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

Forwarded herewith is the Amendment Request package prepared by NH DOT Bureau of Highway Design for the subject Major impact project. The application was originally submitted on December 10, 2019. On January 27, 2020 NHDES issued a Request for More Information (RFMI). While drafting a response to the RFMI, the project team had some unrelated project cost concerns and the decision was made in May of 2020 to change the proposed bridge structure from a pre-cast concrete arched-frame on knee-wall abutments to a traditional I-beam concrete-deck bridge. This alternative required a reworking of the slope impacts near the railroad corridor, with the shorter length of the new design resulting in a smaller footprint of slope/wetland impacts near the bridge (Plan 3 of 5 attached). Additional changes in wetland impacts are due to Cross Road being removed from the project as a formalized drive (Plan 2 of 5 attached), additional ditch line grading being explored to the south of the bridge (Plan 3 of 5 attached), minor adjustments of the Spear Hill Road tie-in (Plan 3 of 5 attached), and the shortening of a culvert at Station 115+00 resulting in a reduction of permanent wetland impacts (Plan 4 of 5 attached). The areas of these changes have been highlighted for clarity on the additional plan sheet copies provided and titled as Exhibits. A summary of the changes in impacts has been included below for clarity.

On *Wetland Impact Plans 2 of 5* exhibit, area F has decreased by 70 SF of permanent impacts and area G has increased by 11 SF of temporary impacts.

On *Wetland Impact Plans 3 of 5* exhibit, area J has increased by 204 SF of permanent impacts, area K has decreased by 15 SF of permanent impacts, and area U has decreased by 20 SF of permanent impacts. Areas L and M have been removed, resulting in 20 SF less of permanent impacts and 196 SF less of temporary impacts.

On *Wetland Impact Plans 4 of 5* exhibit, area Q has decreased by 61 SF of permanent impacts and area R has decreased by 86 SF of temporary impacts.

On the *Wetland Impact Summary Exhibit*, you will find the altered impacts as highlighted values in the wetland impact summary table.”

In Response to the January 27, 2020 Request for More Information, NHDOT offers the following responses below in *italics*:

Please note, rule references below are found in Env-Wt 100-900, effective prior to December 15, 2019, and accessible here:

<https://www.des.nh.gov/organization/divisions/water/wetlands/documents/pre20191215-rules.pdf>

1. This application requires compensatory mitigation and is being considered for an in-lieu mitigation payment. Pursuant to Rules Env-Wt 803.05(a) and Env-Wt 803.02(a), please provide a functional assessment of each impacted wetland area. "Chocura mucky peat" soils and the photo log by Stoney Ridge Environmental dated 2014 indicate the potential presence of bog and/or marsh habitat. Please confirm whether these resources have been identified in the project area.

Please find attached Wetland Delineation & Invasive Species Report 2020 Update, (February 2020) NH Route 4 NHDOT Project #16303 Danbury, New Hampshire containing functional assessment of each impacted wetland area. In addition, please find attached letter from Stoney Ridge Environmental dated 6/29/2021 indicating a bog is not present.

2. Provide photos of each wetland area proposed to be impacted.

Please find attached Wetland Delineation & Invasive Species Report 2019 (November 2019) Update, NH Route 4 NHDOT Project #16303 Danbury, New Hampshire containing photos of each wetland area proposed to be impacted.

3. Provide a plan stamped by a NH State certified wetland scientist.

Please find attached plans stamped by a NH State certified wetland scientist.

4. On the erosion control plan, the legend item "Perimeter Control" and "Natural Buffer / Perimeter Control" appear redundant, as they include the same six controls. NHDES recognizes the need for the contractor to have some flexibility on-site, but the categories in the legend are so broad so as to be problematic. Sediment, turbidity and dewatering controls are combined into a single category, "Perimeter Control", and should be broken into a minimum of several categories by control type. Finally, it is not clear what "Natural Buffer" means in the context of an erosion control plan, but regardless, the use of a natural buffer as sediment control within/adjacent to wetlands or surface waters is not an appropriate sediment control measure and should be removed from the plan.

Perimeter Control line style represents one row of sediment, turbidity or dewatering controls and NB/PC line style is incorporated to meet the requirements of perimeter controls and to also meet the requirements of the USEPA's NPDES Construction General Permit (CGP).

5. Provide all available cross-sections representative of proposed contours within/adjacent to wetlands.

Please find attached cross-sections representative of proposed contours within/adjacent to wetlands.

The lead people to contact for this project are David Scott, Bureau of Bridge Design (271-2731 or david.scott@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or andrew.o'sullivan@dot.nh.gov).

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 and David Scott, Bureau of Bridge Design.

AMO:amo
Enclosures

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

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Cover letter.doc

Amendment Request

Attachments



**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 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
<input type="checkbox"/> AMENDMENT TO PENDING PERMIT APPLICATION, NHDES FILE NUMBER: _____ (proceed to Section 2) <input checked="" type="checkbox"/> AMENDMENT TO EXISTING PERMIT NUMBER: 2019-03832 (proceed to Section 3)
Does the proposed change constitute a "significant amendment" as provided in RSA 482-A:3, XIV(e) and described above? If yes, you cannot request an amendment and must file a new permit application. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
SECTION 2 - AMENDMENT TO A PENDING PERMIT APPLICATION
<input type="checkbox"/> Not applicable To request an amendment to a pending permit application, the applicant must: <input type="checkbox"/> 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, and <input type="checkbox"/> 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 this notice.
SECTION 3 - AMENDMENT TO AN EXISTING PERMIT
<input type="checkbox"/> Not applicable To request an amendment to an existing permit, the permittee must: <input checked="" type="checkbox"/> Submit the information required and filed with the original permit application, and <input checked="" type="checkbox"/> 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 this notice.



WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management



Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: [RSA 482-A](#)/ [Env-Wt 100-900](#)

Administrative Fee	Administrative Fee	Administrative Fee	Check No.
			Amount
			Initials

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

- Standard Review (Minimum, Minor or Major Impact) Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required, a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if mitigation is required, please refer to the [Determine if Mitigation is Required Frequently Asked Questions](#).

Mitigation Pre-Application Meeting Date: Month: ___ Day: ___ Year: ____

- N/A - Mitigation is not required

3. PROJECT LOCATION:

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

ADDRESS: **US Route 4** TOWN/CITY: **Danbury**

TAX MAP: BLOCK: LOT: UNIT:

USGS TOPO MAP WATERBODY NAME: NA STREAM WATERSHED SIZE: NA

LOCATION COORDINATES (If known): **43.519449, -71.864194** Latitude/Longitude UTM State Plane

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Replacement of a red list bridge carrying US Route 4 over abandoned NHRR (Br. No. 156/104) in Danbury, NH just south of the town center. The intent of the project is to correct structural and safety deficiencies associated with the aging bridge while continuing to accommodate the multimodal use of the Northern Rail Trail by shifting the horizontal roadway geometry to the west while making the vertical geometry less dramatic. The new bridge will be an I-beam concrete-deck bridge.

5. SHORELINE FRONTAGE:

- N/A This does not have shoreline frontage. SHORELINE FRONTAGE:

Shoreline Frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line ([Env-Wt 101.89](#)).

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

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

To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Webpage](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the [Instructions & Required Attachments](#) document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB **19** - **3576**

b. This project is within a [Designated River](#) corridor. The project is within ¼ mile of: _____; and date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: ___ Day: ___ Year: ____

- N/A – This project is not within a Designated River corridor.

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

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

www.des.nh.gov

8. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **Scott, David L.**

TRUST / COMPANY NAME: **Nh Department of Transportation** MAILING ADDRESS: **7 Hazen Drive**

TOWN/CITY: **Concord** STATE: **NH** ZIP CODE: **03302**

EMAIL or FAX: **David.Scott@dot.nh.gov** PHONE: **603-271-2731**

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

9. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: **NH Department of Transportation**

TRUST / COMPANY NAME: **NH Department of Transportation** MAILING ADDRESS: **P.O. Box 438**

TOWN/CITY: **Concord** STATE: **NH** ZIP CODE: **03302**

EMAIL or FAX: PHONE:

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

10. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY: STATE: ZIP CODE:

EMAIL or FAX: PHONE:

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

11. PROPERTY OWNER SIGNATURE:

See the [Instructions & Required Attachments](#) document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the [Instructions and Required Attachment](#) document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for National Historic Preservation Act (NHPA) 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the NHDES is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned mail.

 Property Owner Signature	Andrew O'Sullivan Print name legibly	7/2/2021 Date
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MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

	Print name legibly	Date
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DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission’s signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will be reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), 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.

	Print name legibly	Town/City	Date
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DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. 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.
4. 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; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, 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.

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact.

Permanent: impacts that will remain after the project is complete.

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

Intermittent Streams: linear footage distance of disturbance is measured along the thread of the channel.

Perennial Streams/ Rivers: the total linear footage distance is calculated by summing the lengths of disturbance to the channel and each bank.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland	12793	<input type="checkbox"/> ATF	2213	<input type="checkbox"/> ATF
Scrub-shrub wetland	4377	<input type="checkbox"/> ATF	1325.5	<input type="checkbox"/> ATF
Emergent wetland	5516	<input type="checkbox"/> ATF	517.5	<input type="checkbox"/> ATF
Wet meadow		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Intermittent stream channel	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Perennial Stream / River channel	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Lake / Pond	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Bank - Intermittent stream	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Bank - Perennial stream / River	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Bank - Lake / Pond	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Tidal water	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Salt marsh		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Sand dune		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Prime wetland		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Prime wetland buffer		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Previously-developed upland in TBZ		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - Lake / Pond		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - River		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - Tidal Water		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Vernal Pool		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
TOTAL	22686 / 0		4056 / 0	

15. APPLICATION FEE: See the [Instructions & Required Attachments](#) document for further instruction

Minimum Impact Fee or Fee for Non-enforcement related, publicly-funded and supervised restoration projects, regardless of impact classification (see RSA 482-A:3, 1(c)): Flat fee of \$ 400

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 26742 sq. ft. X \$0.40 = \$ 10,696.80

Temporary (seasonal) docking structure: _____ sq. ft. X \$2.00 = \$

Permanent docking structure: _____ sq. ft. X \$4.00 = \$

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

No fee due, impacts decreased.

Total = \$ 10,696.80

The Application Fee is the above calculated Total or \$400, whichever is greater = \$ 10,696.80



WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS
 Land Resources Management
 Wetlands Bureau



Check the Status of your application: www.des.nh.gov/onestop

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

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project’s design in assessing the impact of the proposed project to areas and environments under the department’s jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The intent of the project is to correct structural and safety deficiencies associated with the aging red list bridge carrying US Route 4 over abandoned NHRR (Br. No. 156/104) in Danbury, NH just south of the town center. The work will improve corridor safety while accommodating the multimodal use of the Northern Rail Trail by shifting the horizontal roadway geometry to the west while making the vertical geometry less dramatic than the existing condition, as well as widening the roadway width. The new bridge will be an I-beam concrete-deck bridge.

The project includes replacement of the existing 3 span riveted steel girder bridge over the existing Railroad Corridor with an I-beam concrete-deck bridge, to be located west of the existing bridge. The proposed work will maintain the accessibility of the railroad corridor, and will incorporate geometric improvements to the vertical profile and horizontal alignment of US 4 to improve sight distance. Due to Spear Hill Road’s poor existing skew where it meets US 4 north of the existing bridge, the work will include realigning and raising the grade of the side road approach to improve sight distance and accessibility.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

The project area is constrained by a limited 66' right-of-way and Spear Hill Road on the northern side of the bridge. Shifting the roadway westward has been deemed the most appropriate option, as the ROW impacts will be lesser to the affected properties; this does move the roadway towards existing wetland, but avoids the need to acquire an entire parcel. To minimize wetland impacts 1.5:1 slopes will be used when appropriate.

The no-build or bridge rehabilitation options would fail to address the existing horizontal and vertical deficiencies along the roadway to either side of the bridge. Without the proposed roadway widening and the smoothing of the roadway geometry, the corridor will remain a dangerous high-speed affair for traveling vehicles and recreational pedestrians.

Shifting the roadway easterly was explored early in the design process, but was found to significantly impact properties along the east side of the road and potentially would require a total property acquisition. This would also require wetland impacts and substantial reconstruction to Spear Hill Road. This option was not selected.

An At-Grade crossing was evaluated, however the introduction of a rail trail crossing of US 4 in this location raises some safety concerns. The area is very wet; this would make it difficult to drain the road properly and would become a maintenance issue in the future. The extensive earthwork that would be required and future train accommodations, should the RR corridor ever revert to an active line, were also considerations. This option was not selected.

3. The type and classification of the wetlands involved.

The wetlands identified near the project limits are PF01E, PSS1E, PF01F, PEM1F, PEM1E, PF01Ex, PSS1F, and PEM1Ex.

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

A railroad bed recreational trail traverses the project site, separating two wetland systems on the west side of US Route 4. The wetlands between US 4 and the RR corridor to the north of the bridge location will be more significantly impacted than the wetlands on the western side of the recreational trail. The less impacted side has a stream running through it that eventually flows under the recreational trail via a culvert north of the project limits, connecting with the other wetland system and continuing towards the Smith River north of the Town center. The distance between these wetland bodies and the Smith River is significant enough (and the impact of the work insignificant enough) that the impact on the Smith River will be negligible.

South of the bridge, stormwater runoff from the proposed roadway is largely similar to the existing condition. There exists Frazier Brook, but it is far enough away so as to not be impacted by the work of the project.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

Neither Frazier Brook, Smith River nor the impacted wetlands have been identified as rare.

6. The surface area of the wetlands that will be impacted.

22686 sq. ft. of permanent and 4056 sq. ft. of temporary impacts to palustrine wetlands (see Item 3 for wetland classifications).

7. The impact on plants, fish and wildlife including, but not limited to:
- a. Rare, special concern species;
 - b. State and federally listed threatened and endangered species;
 - c. Species at the extremities of their ranges;
 - d. Migratory fish and wildlife;
 - e. Exemplary natural communities identified by the DRED-NHB; and
 - f. Vernal pools.

The proposed project has been reviewed by the NH Natural Heritage Bureau (NHNHB), NH Fish and Game and the US Fish and Wildlife Service. The following findings are based on coordination with these agencies.

- a) NHNHB did not identify any rare or special concern species in the project area.
- b) NHNHB did not identify any State listed threatened or endangered species in the project area. The US Fish and Wildlife Services IPaC web tool identified the Northern Long-eared Bat (NLEB), a Federally-listed threatened species, as a species that may occur within the proposed project. In accordance with the December 15, 2016 FHWA, FRA, FTA Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat, a determination was made and concurred in by the US Fish and Wildlife Services that the project may affect, is likely to adversely affect the NLEB. The USFWS has determined that the project may rely on the Programmatic Biological Opinion to comply with Section 7(a)(2) of the Endangered Species Act.
- c) There were no species at the extremities of their ranges identified in the project area by NHNHB or by the USFWS.
- d) There were no migratory birds, fish or wildlife identified in the project area by NHNHB or by the USFWS.
- e) NHNHB did not identify any exemplary natural communities in the project area.
- f) Streams and surrounding wetlands were delineated by Stoney Ridge Environmental LLC on November 5, 2019. Several wetland systems were identified in the project area, however, no vernal pools were observed. Project impacts are limited to 26742 sq. ft.

8. The impact of the proposed project on public commerce, navigation and recreation.

None of the impacted wetland areas are large enough to constitute a traversible waterway. Therefore, the roadway shift towards these wetlands will not impact public navigation or recreation. Some of the wetland area is fed via a stream that comes from a nearby pasture, though the project will remain far enough away from this area so as not to impact any livestock that may be using the pasture.

Coordination has occurred and is ongoing with the NH Bureau of Trails, and the Friends of the Northern Rail Trail regarding the continued use of and minimization of impacts to the recreational trail. In particular, they have expressed concerns about not impeding snowmobile traffic during the winter months; the intent of the project is to not construct during the winter, and to minimize the need to close the trail and to provide a detour when needed during the construction period. Temporary closures of the trail shall be for up to one week at a time.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The proposed I-beam concrete-deck bridge will appear to the driver as part of the continuous road with guardrail along US 4, with the style of guardrail changing when passing across the bridge similar to the condition today. Recreational users of the rail trail will pass through the structure, which will have a different feel than the existing condition. While the existing bridge is in fair condition structurally, it is aesthetically unappealing with noticeable visual deterioration. The new bridge structure will be an aesthetic improvement to travellers on the rail trail, and more comfortable to drive over as a vehicle due to the improved geometry and widened roadway typical.

At the Public Hearing, an abutting property owner voiced concerns about being able to see the bridge structure once construction is complete. The new bridge structure will be more aesthetically pleasing than that of the existing bridge. Additionally, DOT is evaluating the placing of humus and matting over any 1.5:1 structural stone slopes, so as to provide a more aesthetically pleasing façade.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

There are no traversible water bodies within the project limits. The current roadway condition makes US Route 4 unappealing and unsafe for bicycle and pedestrian travel, but the proposed widening and smoothing of the roadway geometries will improve the situation for non-vehicular users. While the Rail Trail may experience infrequent shutdowns throughout the construction phase of the project, temporary detours will be marked and accommodated; the end result of the project will leave an improved and well-draining Rail Trail underneath the bridge.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

Aside from general ROW concerns, the abutting property owners will not experience any impact from the proposed wetland encroachment. While there are wetland impacts, the proposed drainage layout emulates the existing drainage condition, with the addition of stormwater collection and treatment in the form of two grassed treatment swales.

12. The benefit of a project to the health, safety, and well being of the general public.

The current roadway and bridge construction was completed in 1929. The existing geometry has a poor vertical and horizontal layout resulting in poor sight distance for the traveling speed. Vehicles traveling the roadway today are often driving at a greater speed than the posted and designed limit of 35 MPH, and coupled with narrow roadway widths, this leads to an unsafe roadway condition. The proposed project seeks to address all of these issues by smoothing the horizontal and vertical curves to meet a 50 MPH design speed, and by widening the roadway to provide two 12 foot travel lanes with 5 foot shoulders.

Also of note is the condition of the existing bridge, originally constructed in 1929 and on the State's Red List. It was last rehabilitated in 1964. Due to the design and age of the structure it was deemed unsuitable for widening, which is why the proposed work involves the replacement of the structure and not another rehabilitation effort.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The proposed work will emulate the existing site conditions today, though with added stormwater treatment measures to counteract the increase in impervious area resulting from the realignment and widening. With these design goals having been considered and met, the drainage entering and exiting the site will be similar in method and mode to the existing conditions. Additionally, 0.86 acres of the site's 1.74 acres of impervious surfaces will be captured for treatment in two grassed treatment swales. This proposed work is in accordance with the Alteration of Terrain guidelines. Prior to commencement of construction a storm water pollution prevention plan will be submitted by the contractor that will detail the Best Management Practices to be used to prevent adverse effects on water quality during construction. The plan shall be approved by DOT and implemented and monitored as noted.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

The FEMA Flood Map Service identifies the project area as an "Area of Minimal Flood Hazard", a characterization that is not anticipated to change as a result of the project impacts.

While there is an increase in impervious area of approximately 0.43 acres, the introduction of a closed drainage system with sumped catch basins that ultimately deliver stormwater to grassed treatment swales will serve to reduce sedimentation and improve water quality from the existing condition. In the existing condition, all stormwater runoff sheet flows off of the pavement and into ditchlines or wetland areas.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

N/A

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

The majority of impacted wetlands are those located northwest of the bridge between US Route 4 and the railroad corridor, which is State Right-Of-Way. The wetland areas to the west of the railroad corridor have been documented as having six principal functions: groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, wildlife habitat, and uniqueness/heritage. This wetland is split between State ROW, property owned by the Ladds, and property owned by the Martins. A channelized stream emerges from this wetland area as it travels north-west along the RR corridor, and has historically aided in farming/pasturing efforts on the Martin property. If both Ladd and Martin endeavored to alter the wetland that falls within their property rights, there might be some negative effect felt downstream.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The value of the wetlands will not be altered due to the proposed work. The majority of impacted wetlands are those located northwest of the bridge between US Route 4 and the railroad corridor. These wetlands act as a storage area along the roadside that contribute to more natural and established waterways north of the project limits during rain events. The identified principal function of the system is sediment/toxicant retention, which will be improved upon with the inclusion of the grassed treatment swale in the proposed condition.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

This project is not located in or near any Natural Landmarks listed on the National Register.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

There are no such areas that will be impacted as a result of this project.

20. The degree to which a project redirects water from one watershed to another.

The project as proposed will not redirect water from one watershed to another.

Additional comments



**US Army Corps
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New England District

Appendix B

Regional General Permits (GPs) Required Information and Corps Secondary Impacts Checklist

In order for the Corps of Engineers to properly evaluate your application, applicants must submit the following information along with the New Hampshire DES Wetlands Bureau application or permit notification forms. Some projects may require more information. For a more comprehensive checklist, go to www.nae.usace.army.mil/regulatory, “Forms/Publications” and then “Application and Plan Guideline Checklist.” Check with the Corps at (978) 318-8832 for project-specific requirements. For your convenience, this Appendix B is also attached to the State of New Hampshire DES Wetlands Bureau application and Permit by Notification forms.

All Projects:

- Corps application form ([ENG Form 4345](#)) as appropriate.
- Photographs of wetland/waterway to be impacted.
- Purpose of the project.
- Legible, reproducible black and white (no color) plans no larger than 11”x17” with bar scale. Provide locus map and plan views of the entire property.
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- In navigable waters, show mean low water (MLW) and mean high water (MHW) elevations. Show the high tide line (HTL) elevations when fill is involved. In other waters, show ordinary high water (OHW) elevation.
- On each plan, show the following for the project:
 - Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. Don’t use local datum. In coastal waters this may be mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), mean lower low water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983-2001.
 - Horizontal state plane coordinates in U.S. survey feet based on the Traverse Mercator Grid system for the State of New Hampshire (Zone 2800) NAD 83.
- Show project limits with existing and proposed conditions.
- Limits of any Federal Navigation Project in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the Federal Navigation Project;
- Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the ordinary high water in inland waters and below the high tide line in coastal waters.
- Delineation of all waterways and wetlands on the project site,:
- Use Federal delineation methods and include Corps wetland delineation data sheets. See GC 2 and www.nero.noaa.gov/hcd for eelgrass survey guidance.
- GP 3, Moorings, contains eelgrass survey requirements for the placement of moorings.
- For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact the Corps for guidance.



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

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

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/ . The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)	<input type="checkbox"/> N/A	<input type="checkbox"/> N/A
2.5 The overall project site is more than 40 acres?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.6 What is the area of the previously filled wetlands?	Unknown	
2.7 What is the area of the proposed fill in wetlands?	22686 SF	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	<input type="text"/>	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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

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

Danbury, 16236

US Route 4 over Northern Rail Trail

Mitigation Narrative

Impacts to jurisdictional areas have been minimized to the extent practicable while still accomplishing the purpose and need of the project. The project requires compensatory mitigation for unavoidable permanent impacts to wetlands associated with the construction of a new bridge over the Northern Rail Trail and improvements to the US Route 4 approaches and alignment.

Permanent impacts from the proposed bridge are as follows:

Forested Wetlands: 12,793 sq. ft.

Scrub-Shrub Wetlands: 4,377 sq. ft.

Emergent Wetlands 5,516 sq. ft.

Total permanent wetland impacts: 22,686 sq. ft.

Coordination with stakeholders has occurred since January 2014. Not all of this coordination was directly applicable to seeking mitigation opportunities, especially early in the project's development; however, there have been opportunities for stakeholders to discuss concerns with proposed impacts and inquire about mitigation. A list of more recent public meetings is on the project website at: <https://www.nh.gov/dot/projects/danbury16303/index.htm>.

No opportunities for land preservation have been brought forward during the project's development. As the Town of Danbury does not have a Conservation Commission, NHDOT contacted the Town of Danbury officials in December 2018 to inquire about a list of local mitigation projects. No reply was received from the Town.

Due to the lack of information provided on local mitigation priorities, DOT determined that the best course of action was to mitigate via an in-lieu fee payment.

The 2019 NHDES Aquatic Resource Mitigation Fund Stream Payment Calculator was utilized to determine the total ARM Fund stream payment of \$ 88,809.33 for the total impacts described above.

**DES 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 =	22686.00
		43560.00
	Acres of impact =	0.5208
2 Determine acreage of wetland construction:		
	Forested wetlands:	0.7812
	Tidal wetlands:	1.5624
	All other areas:	0.7812
3 Wetland construction cost:		
	Forested wetlands:	\$72,687.69
	Tidal Wetlands:	\$145,375.37
	All other areas:	\$72,687.69
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:	1,690
	Forested wetlands:	\$1,320.09
	Tidal wetlands:	\$2,640.17
	All other areas:	\$1,320.09
5 Construction + land costs:		
	Forested wetland:	\$74,007.77
	Tidal wetlands:	\$148,015.54
	All other areas:	\$74,007.77
6 DES Administrative cost:		
	Forested wetlands:	\$14,801.55
	Tidal wetlands:	\$29,603.11
	All other areas:	\$14,801.55
***** TOTAL ARM PAYMENT*****		
	Forested wetlands:	\$88,809.33
	Tidal wetlands:	\$177,618.65
	All other areas:	\$88,809.33

Danbury 16303 - Construction Sequence

Advertising date: August 10, 2021

Begin Construction: November 8, 2021

Fall/Winter/Spring (2021-2022):

1. Install any necessary temporary erosion control measures prior to construction.
2. Perform necessary tree clearing and earthwork necessary to begin off-line bridge and roadway work.
3. Perform necessary tree clearing and earthwork to begin utility relocations.
4. Utilities will relocate over the winter months.
5. Install temporary drainage (pipe extension) as necessary to maintain culvert flow at Sta. 113+00.
6. Begin offline highway and bridge work (approx. Sta. 109+00 to approx. Sta. 113+00).

2022 Construction Season (TCP Phase 1):

1. Construct the offline section from approx. Sta. 109+00 to approx. Sta. 113+00 including the bridge structure and associated fill.
2. Begin proposed drainage installation on US 4.
 - a. Install the proposed closed system drainage in the new roadway.
 - b. Construct the proposed drainage at Sta. 202+50 and Spear Hill Road.
 - c. Construct temporary drainage (pipe extensions) to maintain flow in the culverts at approx. Sta. 115+00 and approx. Sta. 119+00.
3. Begin constructing roadway fills along the west and east sides of Rte 4 where appropriate without interrupting existing two lane traffic.
 - a. Use traffic barrels or concrete barrier as necessary to separate traffic from these construction areas.
 - b. Construct water quality treatment swale at Sta. 118+00, and connect to the proposed closed system drainage.
4. Rte 4 – south end construction:
 - a. Construct from the beginning of the project to approx. Sta. 107+00 utilizing one-lane alternating two-way traffic. Maintain a minimum 6" crushed gravel travel surface at the end of each work day.
 - b. Construct water quality treatment swale at Sta. 107+00.
 - c. Construct temporary tie-in (proposed surface to existing roadway) from Station 107+00 to approx. Sta. 109+00.
 - d. Connect proposed closed system drainage to the treatment swale at Sta. 107+00
7. Prepare project area for winter condition. Maintain two-lane two-way traffic flow for winter shutdown period (**TCP Phase 1a**).

2023 Construction Season

1. Rte 4-north end construction (TCP phase 2):
 - a. Construct from approx. Sta. 118+00 to end of the project utilizing one-lane alternating two-way traffic. Maintain a minimum 6" crushed gravel travel surface at the end of each work day.
 - b. Construct proposed drainage (culverts) at Sta. 115+00 and Sta. 119+00.
 - c. Construct temporary tie-in (proposed roadway surface to existing roadway) from approx. Sta. 115+00 to approx. Sta. 117+50.
2. Set-up temporary traffic signals at approx. Sta. 107+00 and approx. Sta. 118+00. Install appropriate signage, markings and PCB for running one-lane alternating two-way traffic from approx. Sta. 107+00 to approx. Sta. 118+00 on the existing roadway.
3. Shift traffic into one-lane alternating two-way traffic condition on the existing roadway (**TCP Phase 2**).
4. Construct from Sta. 107+00 to Sta. 109+00 and Sta. 113+00 to Sta. 117+50 (Left only; to accommodate one lane of traffic in the next phase of work).
5. Adjust traffic signal locations and shift traffic the newly constructed left side (west) of the roadway (approx. Sta. 107+00 to Sta. 117+50). Install appropriate signage, markings and PCB.
6. Shift traffic onto the newly constructed roadway (left side) and new bridge (**TCP Phase 3**), operating with one-lane alternating two-way traffic.
7. Complete construction for portions of unfinished roadway (from Sta. 107+00 to Sta. 109+00 and Sta. 113+00 to Sta. 118+00) on the right side (east).
8. Complete the proposed Spear Hill Road work.
 - a. Maintain access to Spear Hill Road during construction to the extent practicable while raising the grade and tying it into the new US Route 4 roadway. Short term roadway closures may be needed for this effort.
9. Shift traffic to final roadway layout/travel way (**TCP Phase 4**)
10. Remove the existing bridge structure and retaining wall.
11. Complete final grading efforts.
12. Final paving.

Notes:

1. Maintain the Rte 4 traffic on crushed gravel wearing surface a maximum of 4 weeks.
2. Temporary traffic signal operation will not be allowed during the winter shutdown period (Maintain 2 lanes of traffic).

Completion Date: October 20, 2023

NUMBER	DATE	STATION	STATION	REVISIONS AFTER PROPOSAL	DESCRIPTION

WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS			
			PERMANENT (NON-WETLAND)		TEMPORARY	
			N.H.W.B.	A.C.O.E.	SF	LF
1	PROIE/PSS31E	A	147			
2	PROIE	B	4330			333
3	PROIE	D				
3	PROIE	E	870			
3	PROIE	F	1467			10
3	PROIE	G				
6	PROIE	N	254			220
6	PROIE	M				
10	PROIE	K	20			
10	PROIE	L	131			
10	PROIE	M				116
14	PEMIE	N	448			375
14	PEMIE	D				
15	PROIF/PSS1F	P	483			
15	PROIF/PSS1F	D	4097			
15	PROIF/PSS1F	R	101			1197
15	PROIF/PSS1F	S				
12	PROIF	T	139			
13	PROIF/PSS1F	U	1086			586
13	PROIF/PSS1F	V				
16	PSS1F/PEM1F	X	1301			285
20	PROIF/PEM1F	Y	870			322
20	PROIF/PSS1F	Z				
18	PEM1E	AA	295			
19	PROIE	AB	404			25
22	PEM1E	AD				31
TOTAL			22468			4327

WETLAND CLASSIFICATION CODES		PERMANENT IMPACTS	TEMPORARY IMPACTS
PROIE	PALESTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED	2744	27
PSS1E	PALESTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED	423	0
PROIF	PALESTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEMIPERMANENTLY FLOODED	2819	0
PEM1F	PALESTRINE, EMERGENT, PERSISTENT, SEMIPERMANENTLY FLOODED		
PEM1E	PALESTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED		
PROIEA	PALESTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED, EXCAVATED		
PSS1F	PALESTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEMIPERMANENTLY FLOODED		
PEM1EA	PALESTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED, EXCAVATED		

Highlighted areas show for pre-amendment impacts areas that have changed

LEGEND

#	WETLAND DESIGNATION NUMBER
#	WETLAND IMPACT LOCATION
#	WETLAND MITIGATION AREA
#	MITIGATION

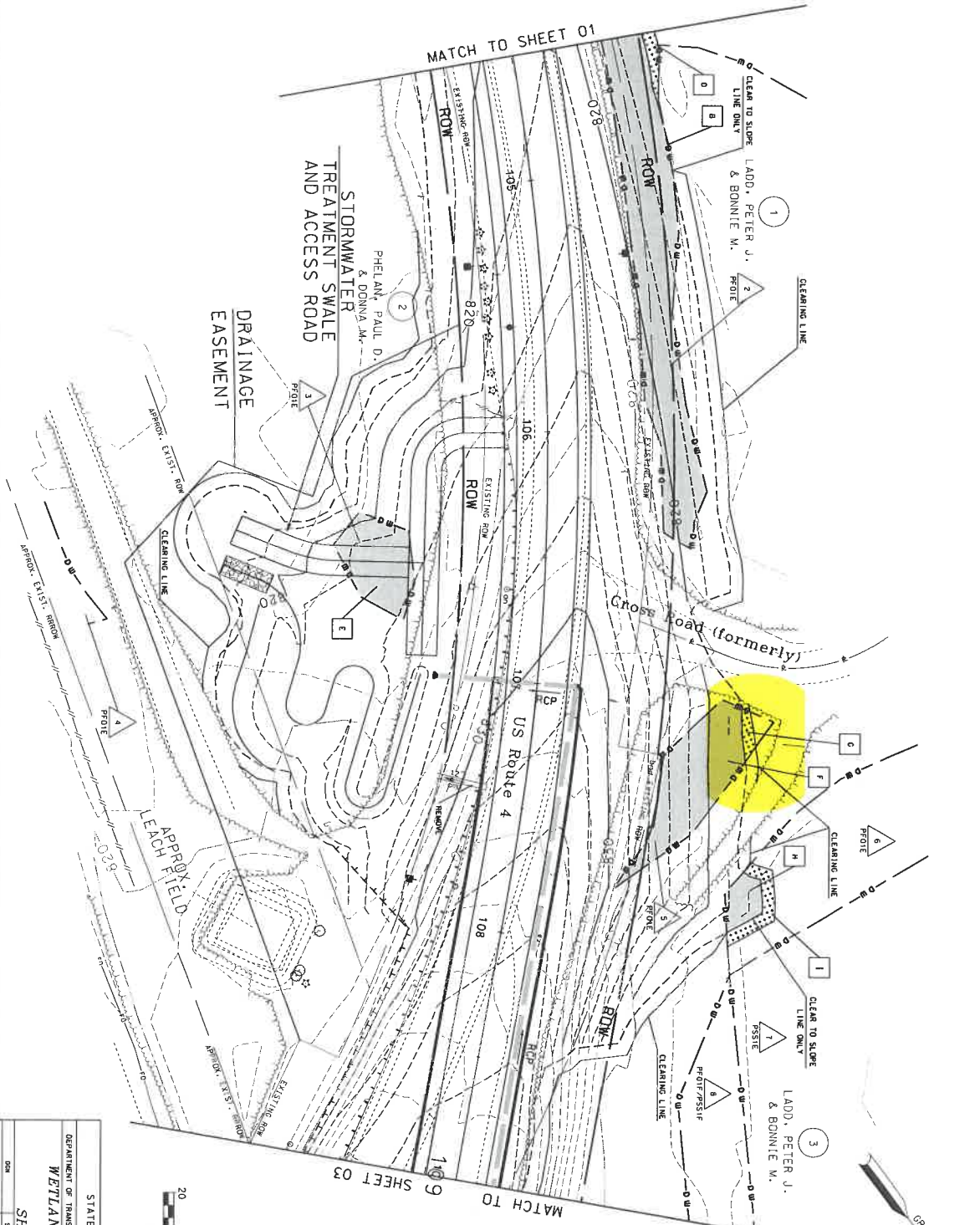
Jurisdictional Wetlands were delineated by Cynthia Malbaics CWS, CSS, CPESC, Inc November of 2019 utilizing the following standards:

- 1) United States Department of Agriculture, Natural Resources Conservation Service, 2016 *Field Indicator of Hydric Soils in the United States*, Version 8.0, L.M. Yegulis, G.W. Hart, and J.F. Beekunovitz (eds.), USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- 2) *Field Indicators for Identifying Hydric Soils in New England*, Version 4, May, 2017, New England Hydric Soils Technical Committee.
- 3) *North American Digital Flor. National Wetland Plant List, version 2.1.0* (<http://wetland.plant.nrcs.usda.gov/nwpl/>), U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and HONAP, CHESA HILL.
- 4) *The National Wetland Plant List: 2016 wetland ratings*, Liebner, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin, 2016. *Phytodiversity*, 2016-30: 1-17. Published 28 April 2016. ISSN 2153-733X.
- 5) *Corps of Engineers Wetlands Delineation Manual*, January 1987, Wetlands Research Program Technical Report X-87-1.
- 6) *Regional Supplement to the Corps of Engineers' Wetland Delineation Manual*, Northeast and Southeast Region, January 2012, version 2, U.S. Army Corps of Engineers.
- 7) *Guidelines for Wetland and Deepwater Habitats of the United States*, December 1979, L. Conwell, V. Clavin, F. G. and M. E. ~~LaRoe~~, US Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/31.

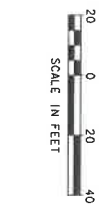
Stoney Ridge Environmental LLC, 239 Prospect Mountain Road, Alton, NH 03809
 (978) 603-776-8825, (603) 603-776-5550, info@stoneyridgeenv.com

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	

NUMBER	DATE	STATION	STATION	REVISIONS AFTER PROPOSAL	DESCRIPTION



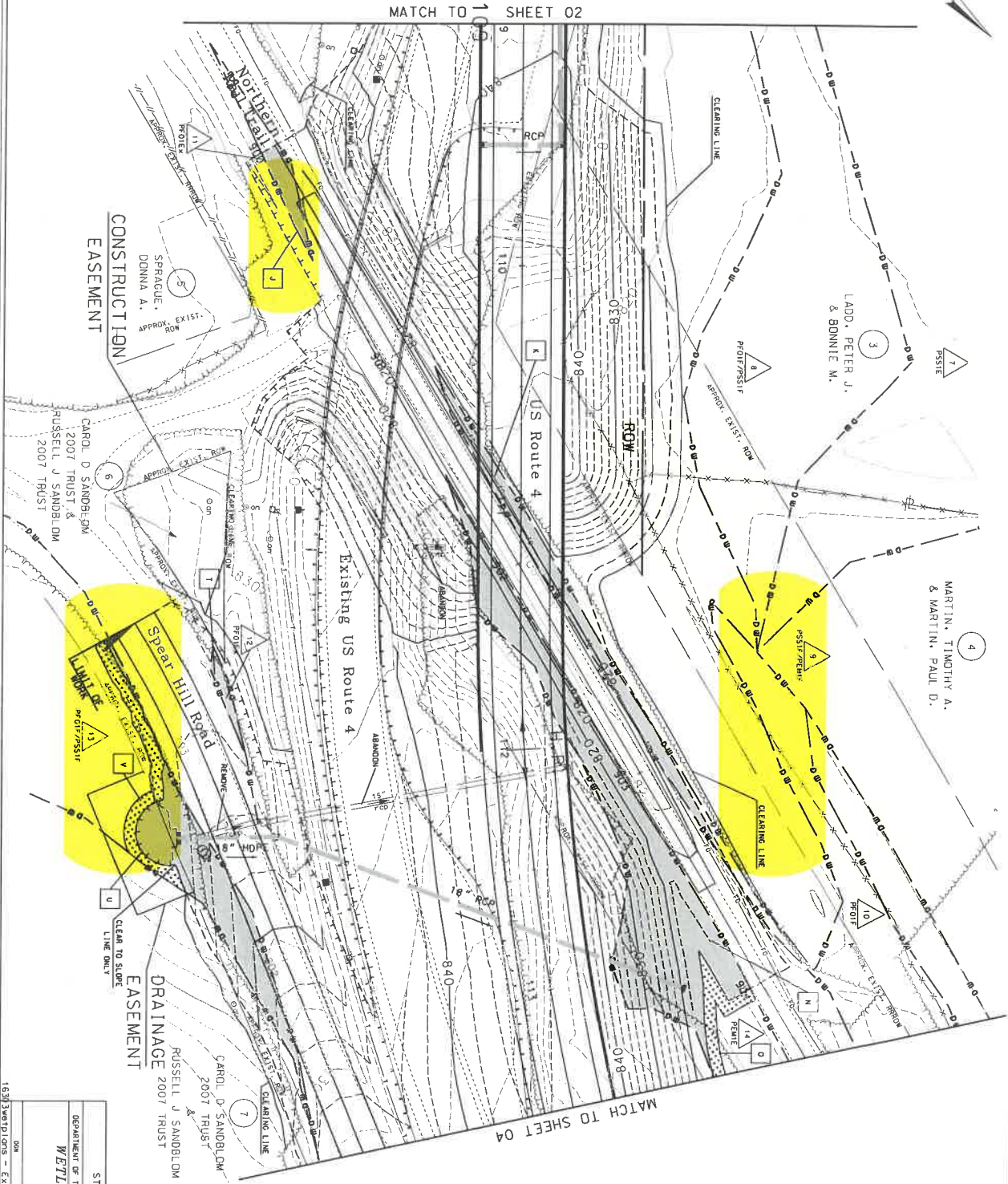
STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION & BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT PLANS
 EXHIBIT
SHEET 2 OF 6



16313wpl0010 - EXHIBIT 15303

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL				
NUMBER	DATE	STATION	STATION	DESCRIPTION



MATCH TO SHEET 02

MATCH TO SHEET 04



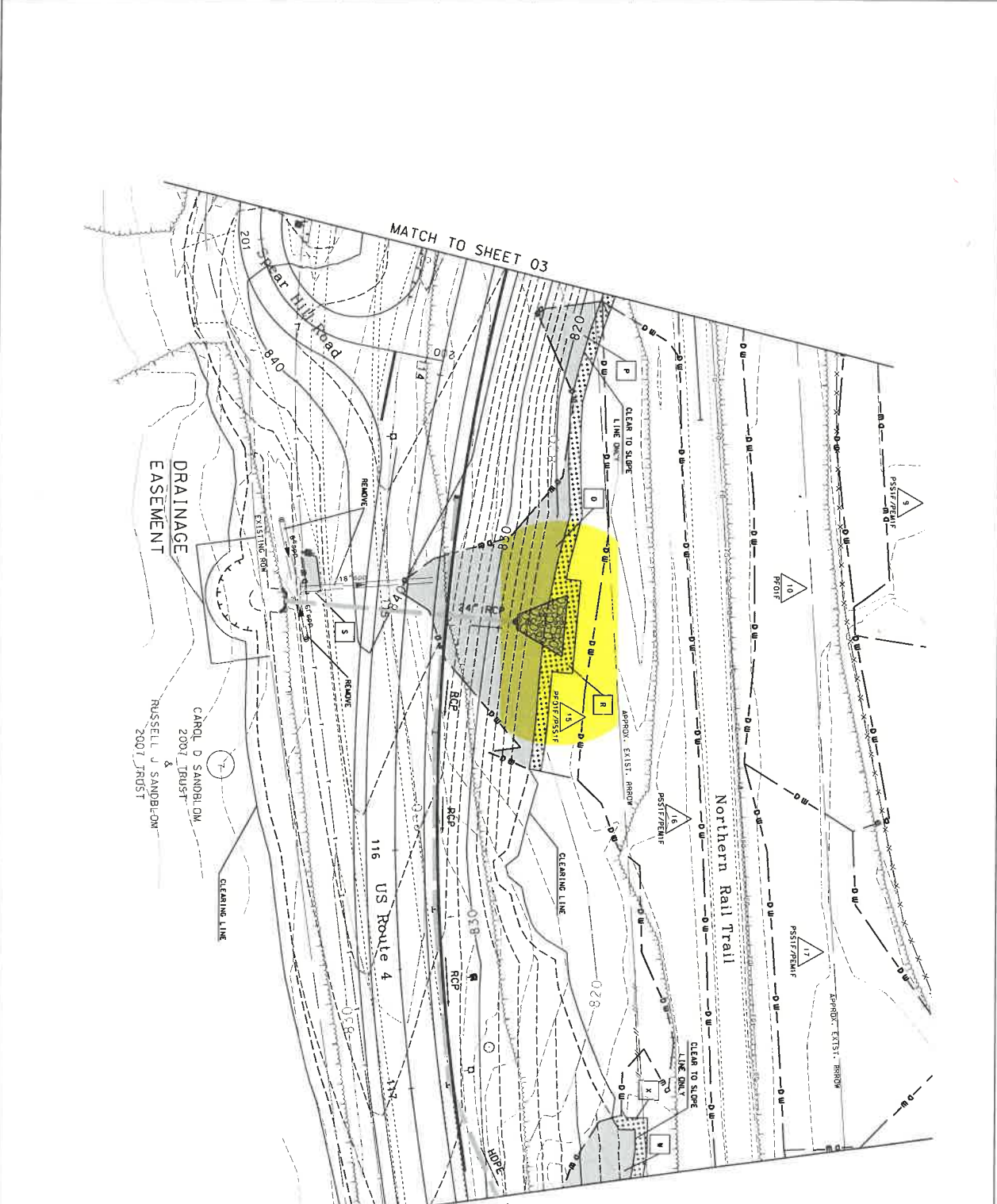
STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION & BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT PLANS
EXHIBIT
SHEET 3 OF 5

SDR	DATE	SHEET NO.	TOTAL SHEETS
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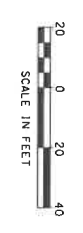
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SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSM	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL		NUMBER	DATE	STATION	STATION	DESCRIPTION



STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION & BUREAU OF HIGHWAY DESIGN
WETLAND IMPACT PLANS
EXHIBIT
SHEET 4 OF 5



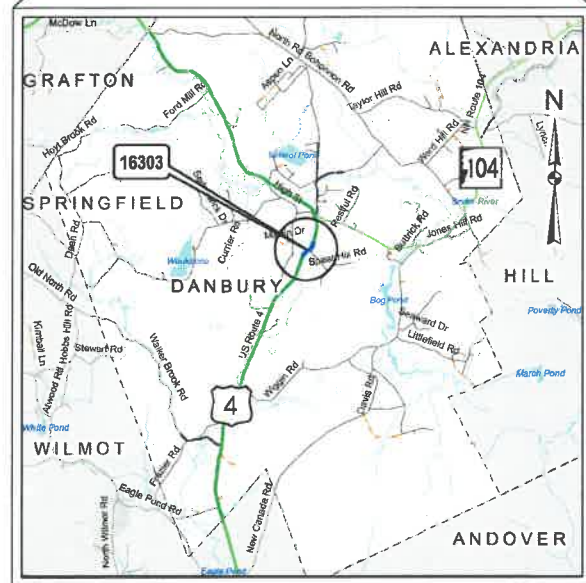
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15303hampshires - Exhibit 4a Wetlands 6/5/2021 8:18:54 AM 7734hsm

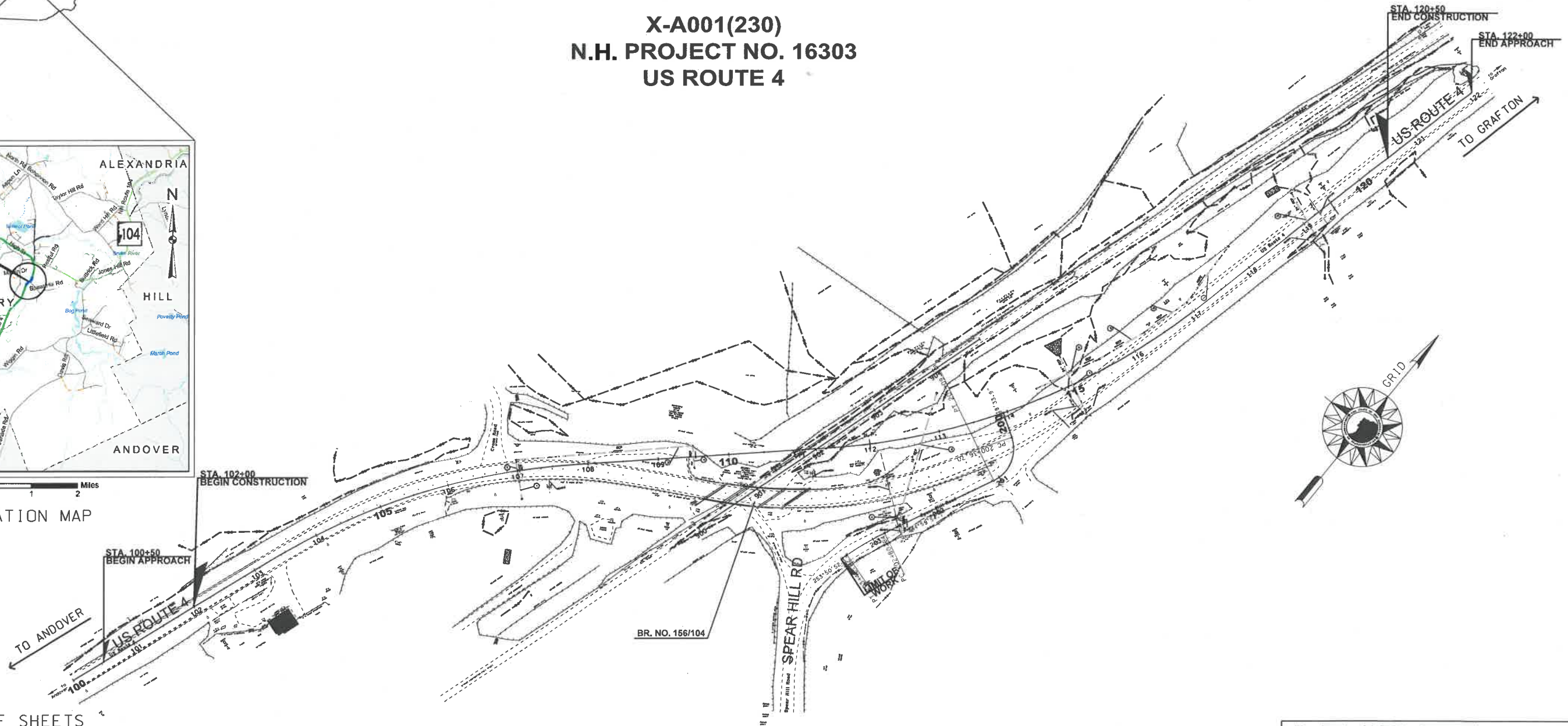
STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION
WETLAND IMPACT PLANS
FEDERAL AID PROJECT

X-A001(230)
 N.H. PROJECT NO. 16303
 US ROUTE 4

DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 16	2200
AVERAGE DAILY TRAFFIC 20 40	2800
PERCENT OF TRUCKS	8.4%
DESIGN SPEED	50
LENGTH OF PROJECT	0.41 MILES



LOCATION MAP



TOWN OF DANBURY
 COUNTY OF MERRIMACK

SCALE: 1" = 50'

FOR CONSTRUCTION AND ALIGNMENT DETAILS - SEE CONSTRUCTION PLANS

INDEX OF SHEETS

- 1 FRONT SHEET
- 2-3 STANDARD SYMBOLS SHEETS
- 4-9 WETLAND IMPACT PLANS
- 10-15 EROSION CONTROL PLANS

WETLANDS DELINEATED BY STONEY RIDGE
 ENVIRONMENTAL LLC ON NOVEMBER 5, 2019



DRAWN BY HSW
 CHECKED BY JAH
 DATE 11/15/19
 DATE 11/18/19

NHDOT THE STATE OF
 NEW HAMPSHIRE
 DEPARTMENT OF
 TRANSPORTATION

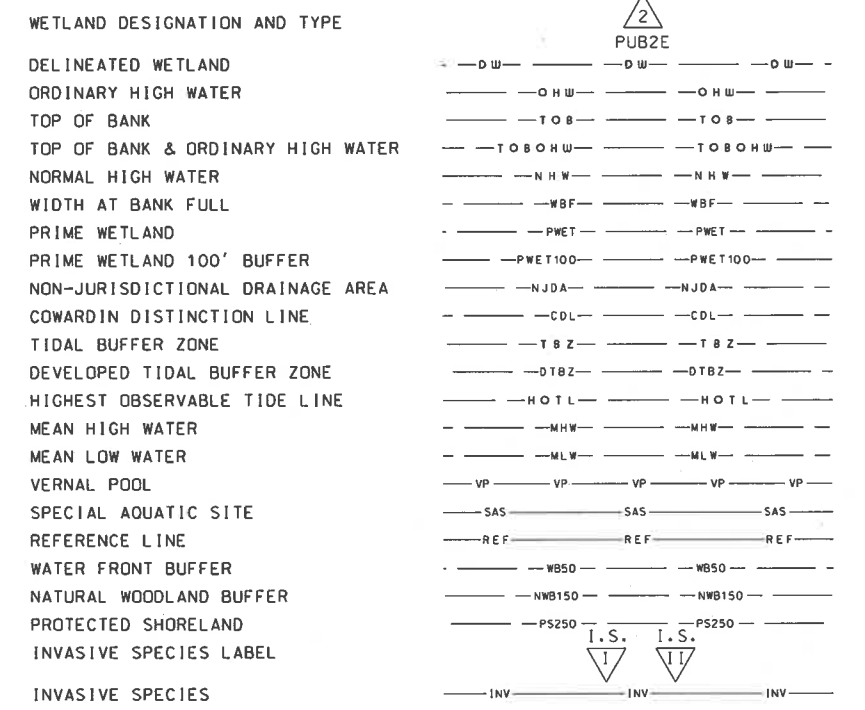
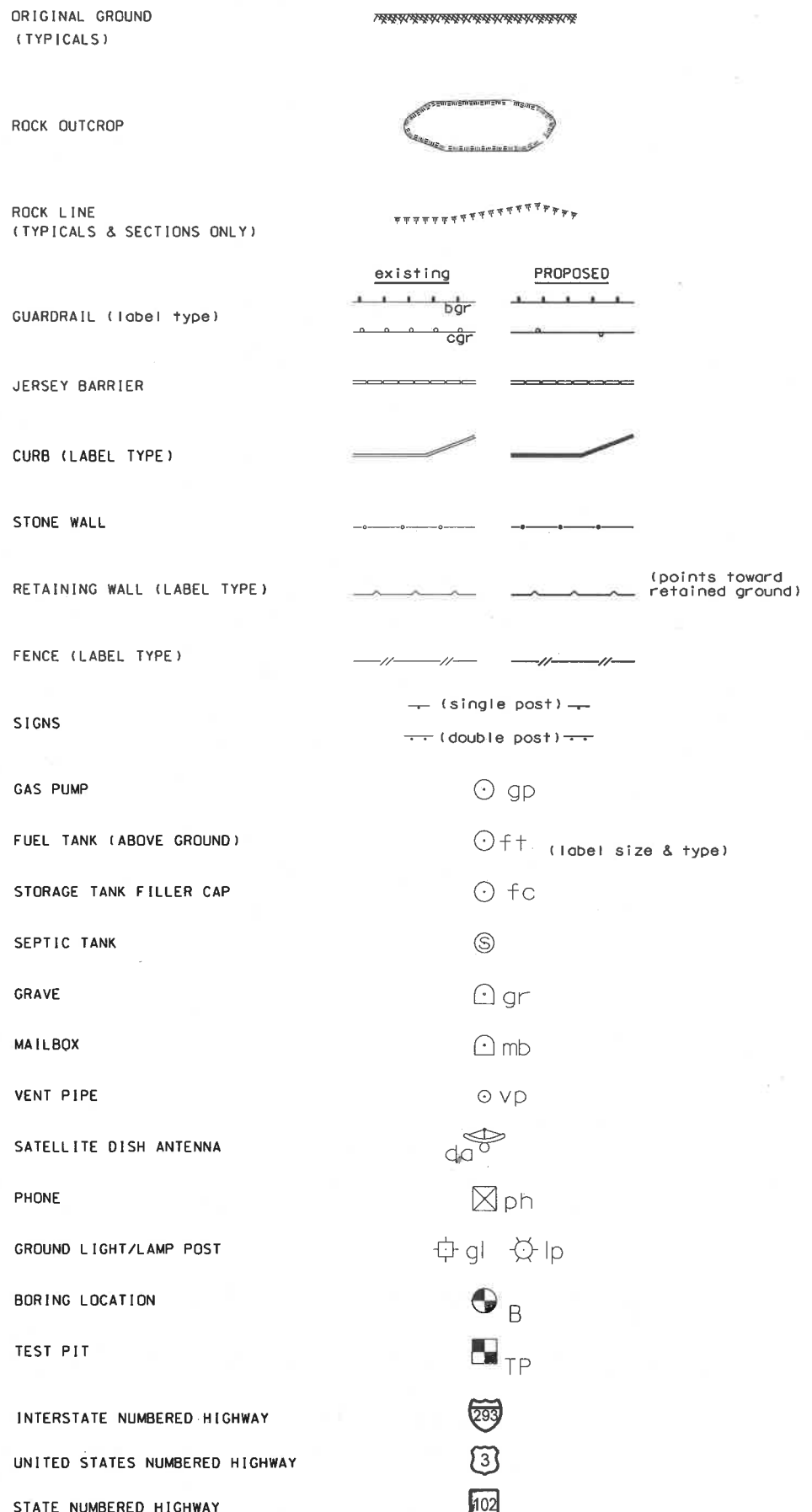
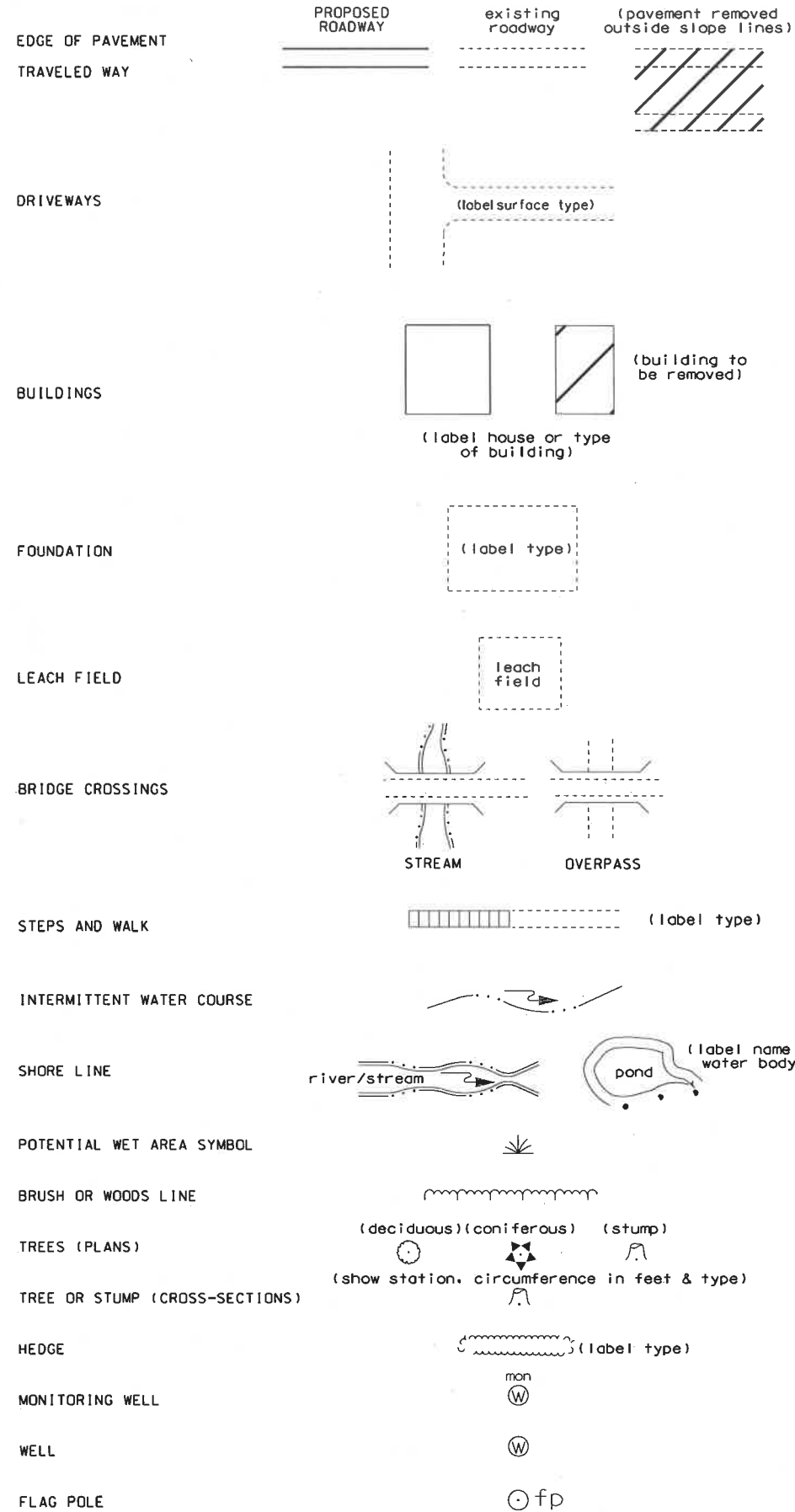
RECOMMENDED FOR APPROVAL:
 _____ DATE _____
 DIRECTOR OF PROJECT DEVELOPMENT

APPROVED:
 _____ DATE _____
 ASSISTANT COMMISSIONER AND CHIEF ENGINEER

DRAWING NAME	FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303FSW	X-A001(230)	16303	1	15

GENERAL

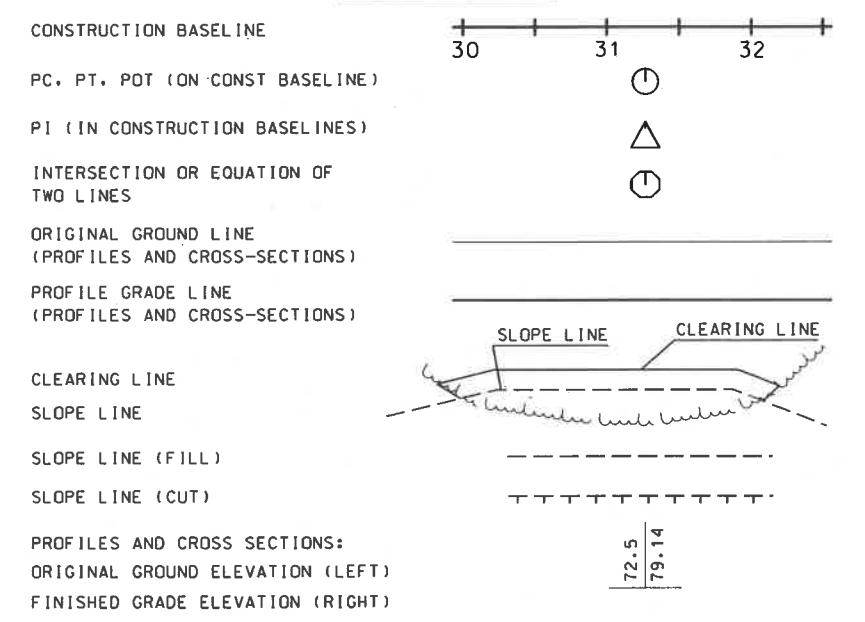
SHORELAND - WETLAND



FLOODPLAIN / FLOODWAY



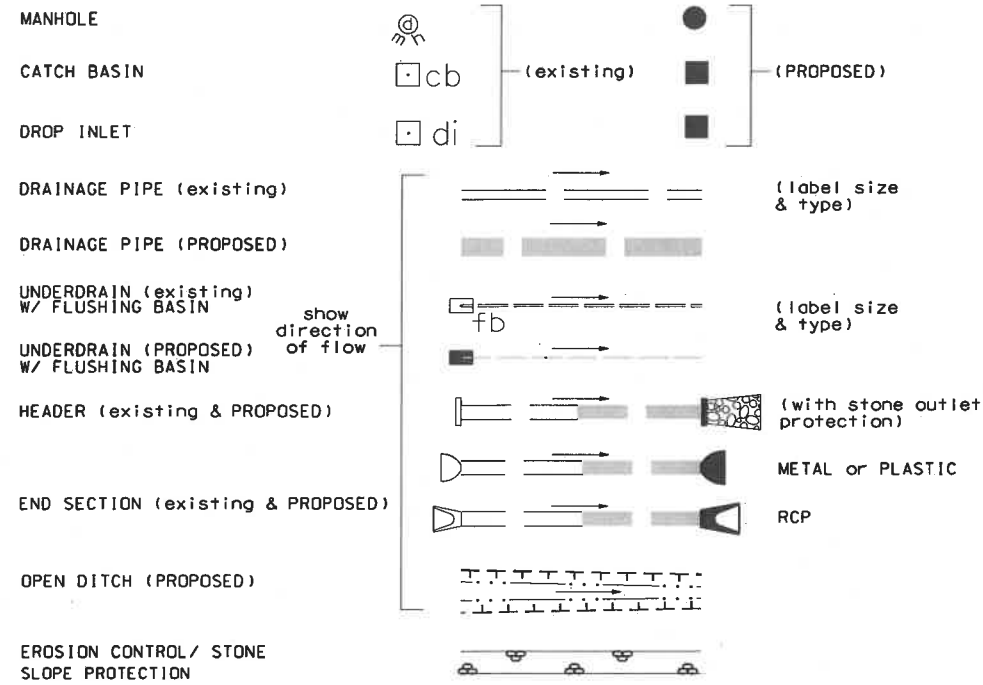
ENGINEERING



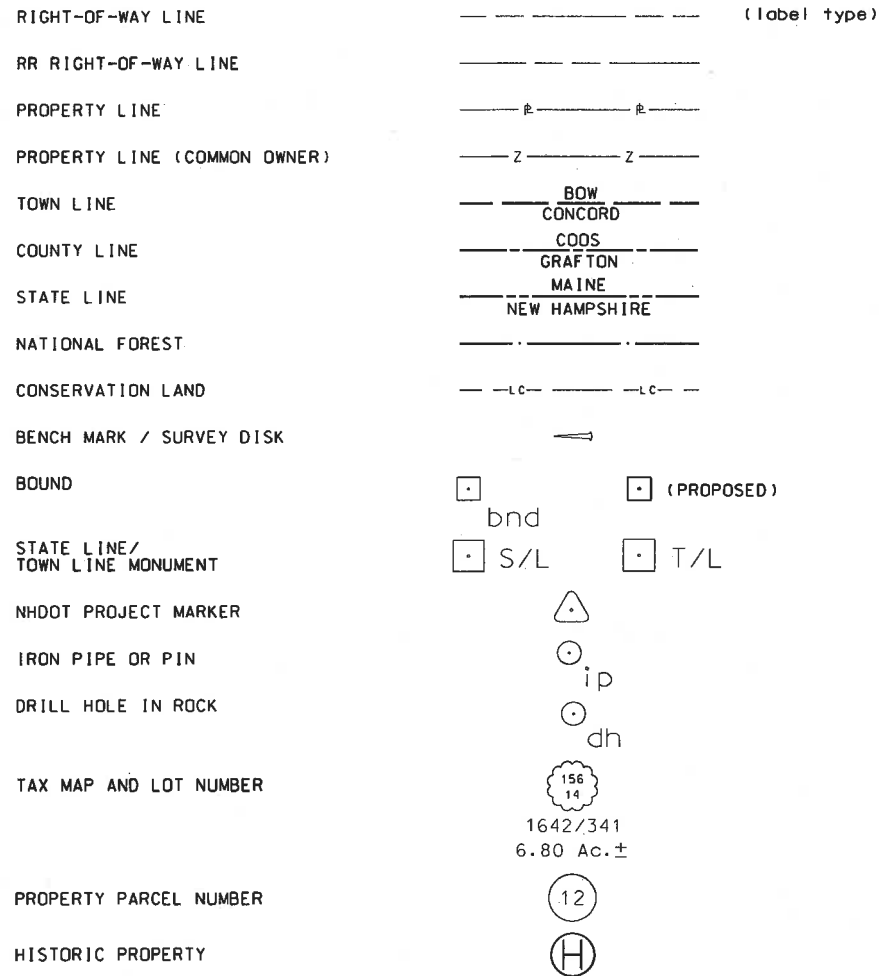
STATE OF NEW HAMPSHIRE
 DANBURY
 DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN
STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
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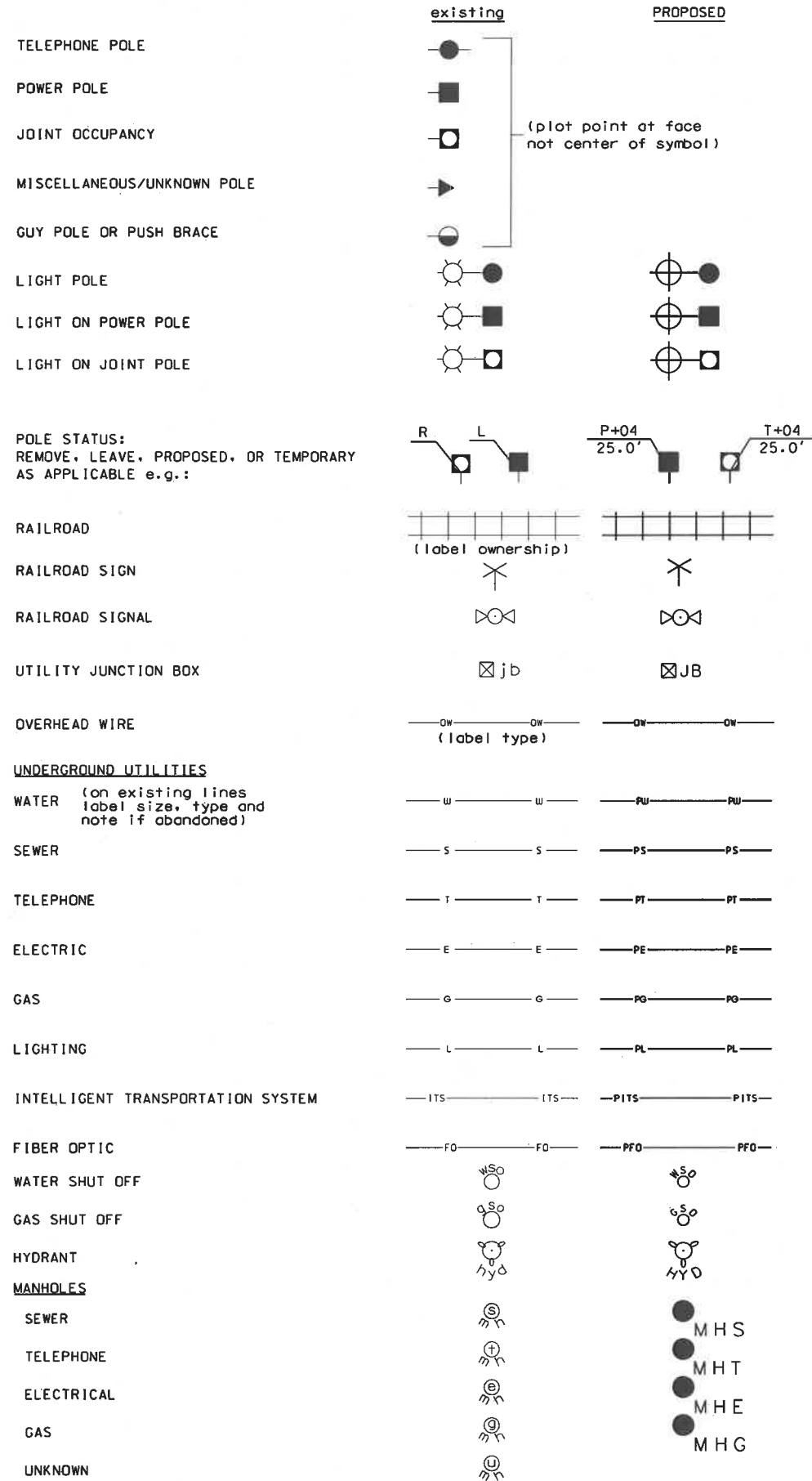
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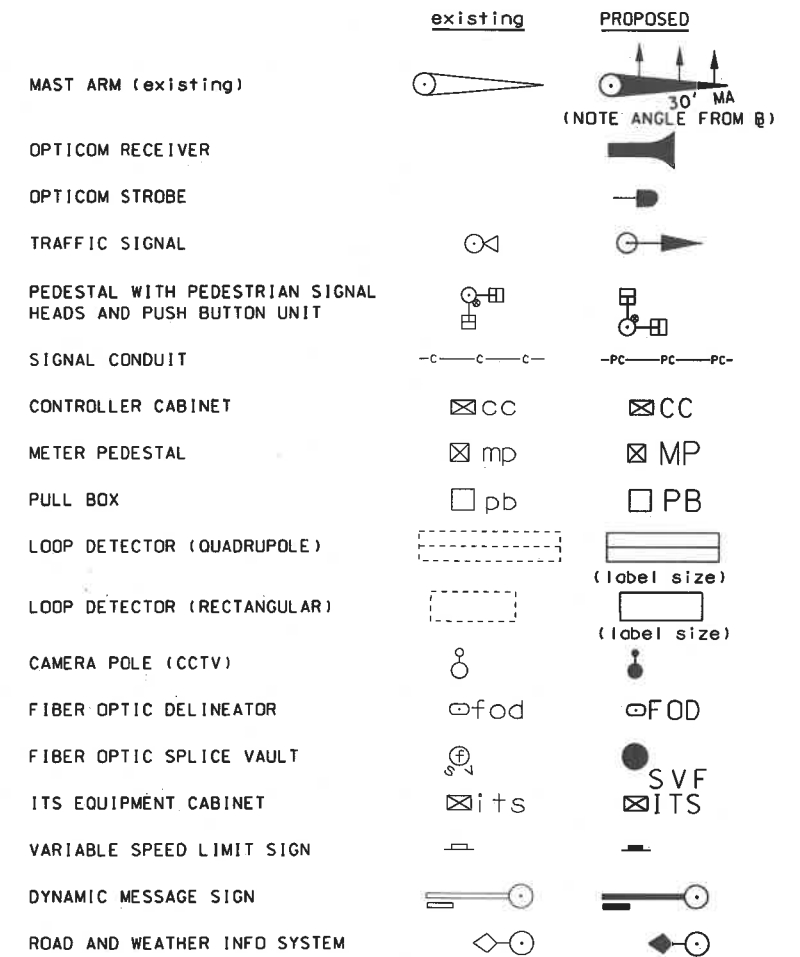
BOUNDARIES / RIGHT-OF-WAY



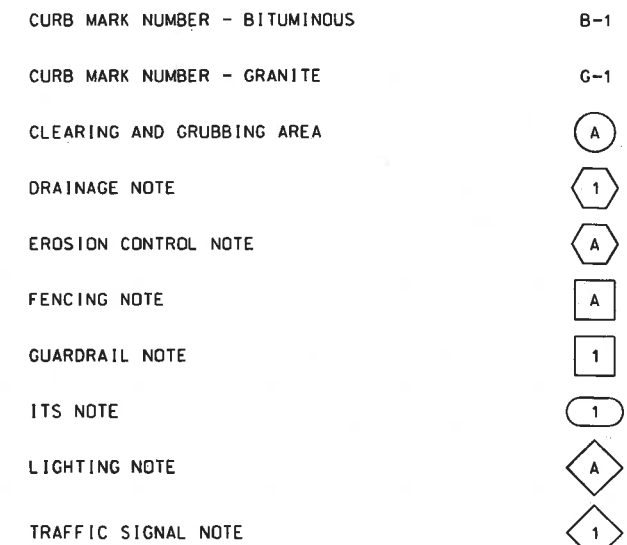
UTILITIES



TRAFFIC SIGNALS / ITS



CONSTRUCTION NOTES



STATE OF NEW HAMPSHIRE DANBURY				
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN				
STANDARD SYMBOLS				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
9-1-2016	stdsyml_2	16303	3	15

SDR PROCESSED NAME1 DATE DATE1 DATE DATE1 DATE DATE1 DATE DATE1
 NEW DESIGN HSW DATE 11/15/2019
 SHEET CHECKED NAME3 DATE DATE
 AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL

STATION

STATION

DATE

NUMBER

DATE

DATE

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DATE

DATE

DATE

DATE

WETLAND IMPACT SUMMARY							
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS				
			PERMANENT				TEMPORARY
			N.H.W.B. (NON-WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)		
SF	LF	SF	LF	SF	LF		
1	PF01E/PSS1E	A			147		
1	PF01E/PSS1E	B					335
2	PF01E	C			4530		
2	PF01E	D					704
3	PF01E	E			870		
5	PF01E	F			1397		
5	PF01E	G					81
6	PF01E	H			254		
6	PF01E	I					220
11	PF01Ex	J			277		
10	PF01F	K			1246		
14	PEM1E	N			4499		
14	PEM1E	O					375
15	PF01F/PSS1F	P			483		
15	PF01F/PSS1F	Q			3986		
15	PF01F/PSS1F	R					1113
15	PF01F/PSS1F	S			101		
12	PF01Ex	T			139		
13	PF01F/PSS1F	U			1866		
13	PF01F/PSS1F	V					596
16	PSS1F/PEM1F	W			1301		
16	PSS1F/PEM1F	X					285
20	PF01F/PSS1F	Y			870		
20	PF01F/PSS1F	Z					322
18	PEM1Ex	AA			295		
19	PF01E	AB			404		
19	PF01E	AC					25
22	PEM1Ex	AD			21		
TOTAL					22686		4056

PERMANENT IMPACTS: 22686 SF
 TEMPORARY IMPACTS: 4056 SF

TOTAL IMPACTS: 26742 SF

WETLAND CLASSIFICATION CODES	
PF01E	PALUSTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED
PSS1E	PALUSTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED
PF01F	PALUSTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEMIPERMANENTLY FLOODED
PEM1F	PALUSTRINE, EMERGENT, PERSISTENT, SEMIPERMANENTLY FLOODED
PEM1E	PALUSTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED
PF01Ex	PALUSTRINE, FORESTED, BROAD-LEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED, EXCAVATED
PSS1F	PALUSTRINE, SCRUB-SHRUB, BROAD-LEAVED DECIDUOUS, SEMIPERMANENTLY FLOODED
PEM1Ex	PALUSTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED, EXCAVATED

LEGEND

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

Jurisdictional Wetlands were delineated by Cynthia M Balcius CWS, CSS, CPESC in November of 2019 utilizing the following standards:

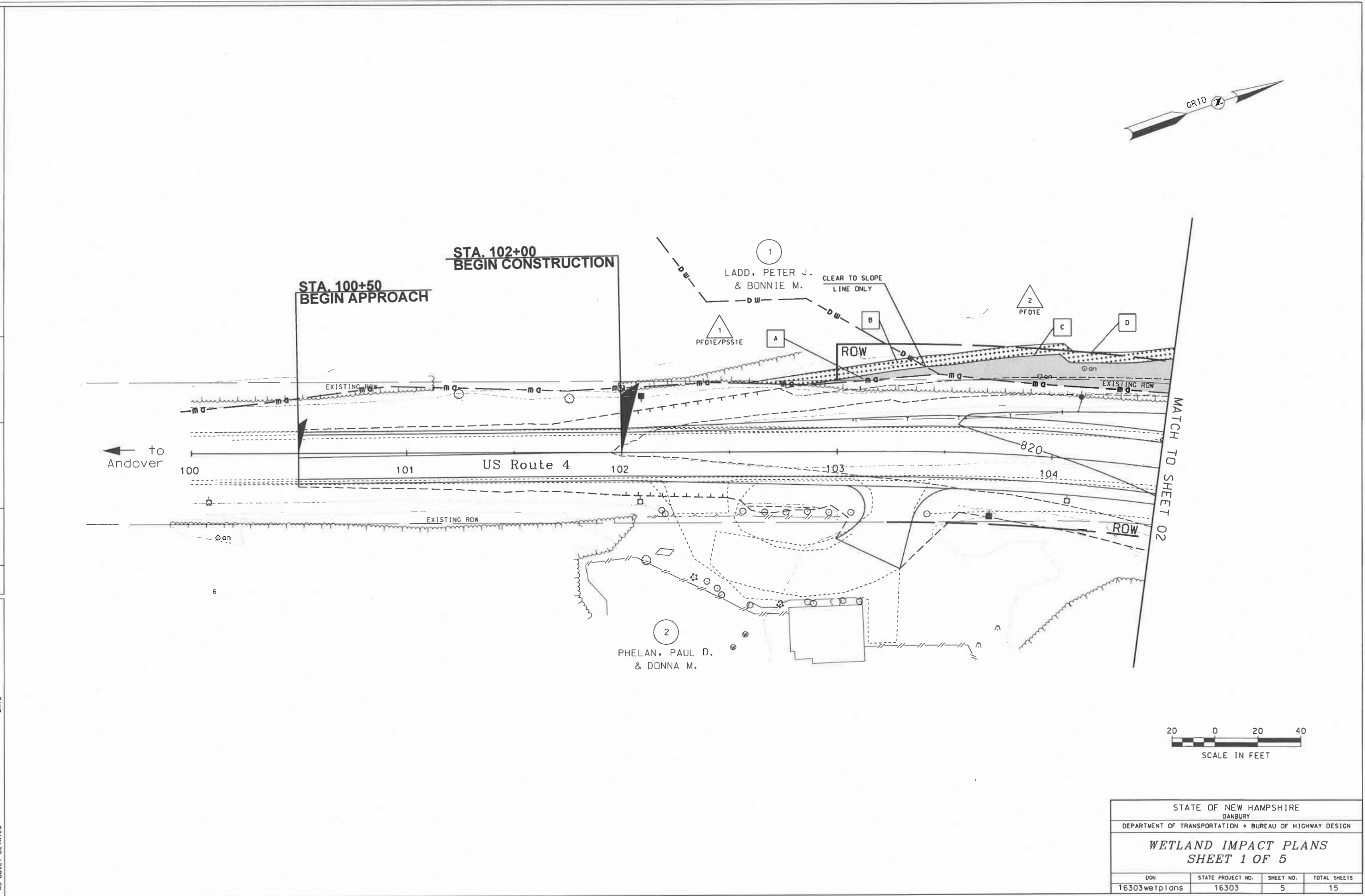
- 1) United States Department of Agriculture, Natural Resources Conservation Service. 2016. *Field Indicators of Hydric Soils in the United States*, Version 8.0. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCs, in cooperation with the National Technical Committee for Hydric Soils.
- 2) *Field Indicators for Identifying Hydric Soils in New England*. Version 4. May 2017. New England Hydric Soils Technical Committee.
- 3) *North American Digital Flora: National Wetland Plant List, version 2.1.0* (<http://wetland.plants.usace.army.mil>). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapen Hill.
- 4) *The National Wetland Plant List: 2016 wetland ratings*. Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- 5) *Corps of Engineers Wetlands Delineation Manual*. January 1987. Wetlands Research Program Technical Report Y-87-1.
- 6) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. January 2012, version 2. U.S. Army Corps of Engineers, Environmental Laboratory ERDC/EL TR-12-1.
- 7) *Classification of Wetlands and Deepwater Habitats of the United States*. December 1979. L. Cowardin, V. Carter, F. Golet, and E. LaRoe. US Department of the Interior. Fish and Wildlife Service. FWS/OBS-79/31.



Stoney Ridge Environmental LLC 229 Prospect Mountain Road Alton, NH 03809
 (p) 603-776-5825, (f) 603-776-5826, info@stoneyridgeenv.com

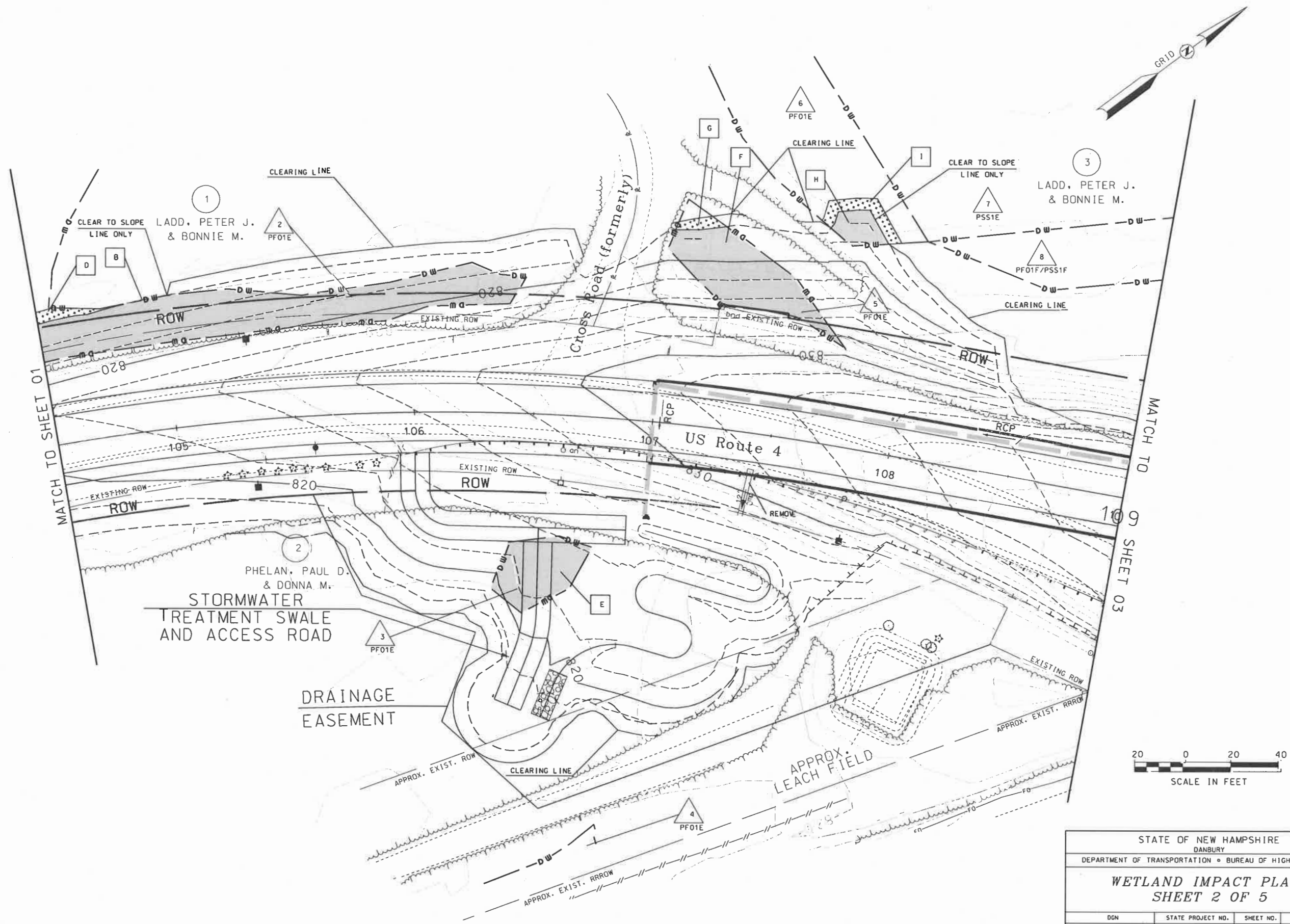
STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT SUMMARY			
DCN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303wetplans	16303	4	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	



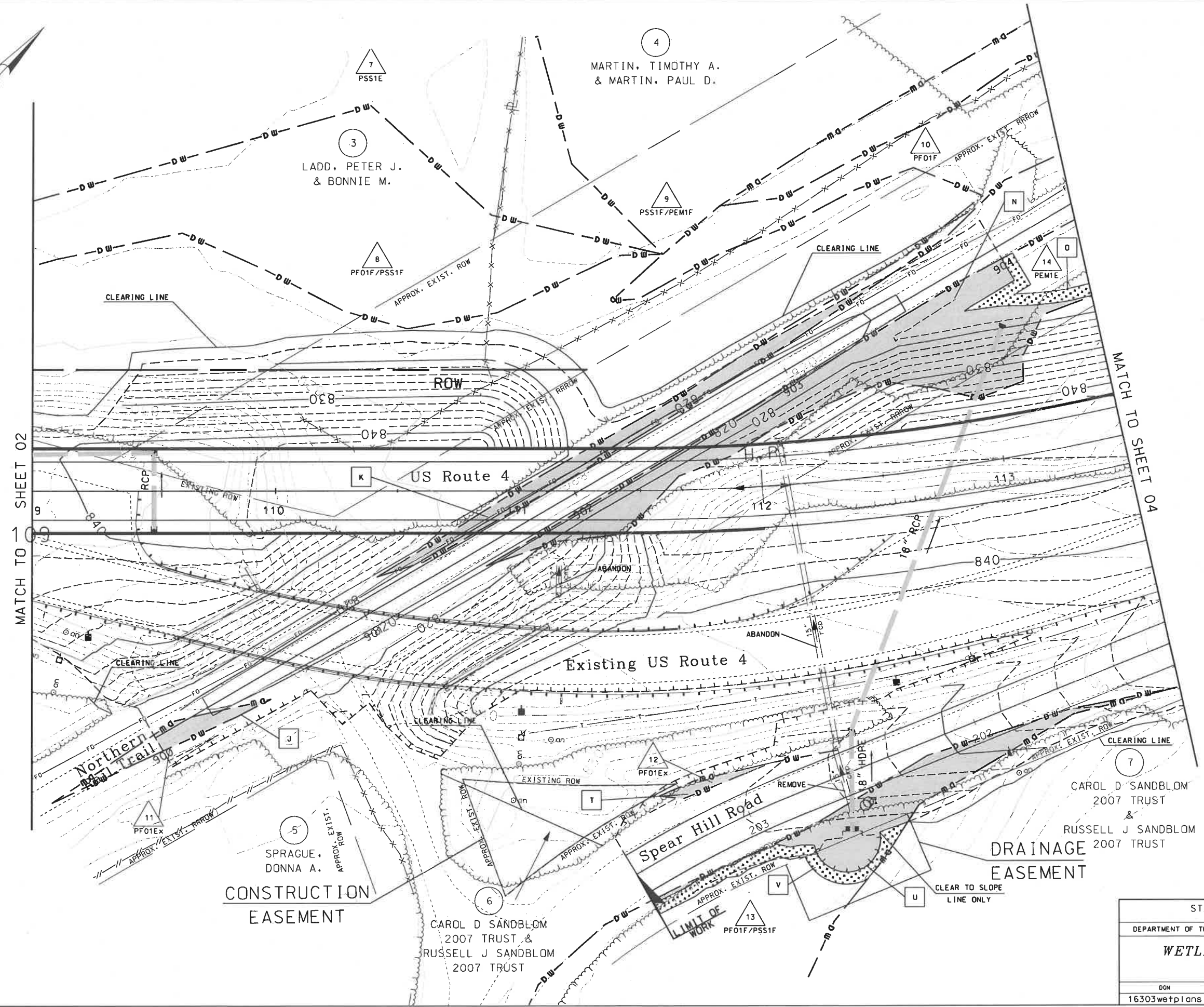
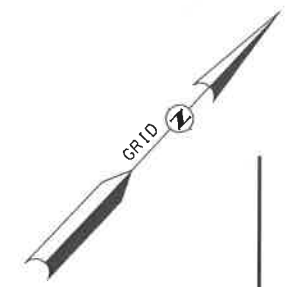
STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT PLANS SHEET 1 OF 5			
DN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303wetplans	16303	5	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	



STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT PLANS SHEET 2 OF 5			
DCN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303wetplans	16303	6	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	



CONSTRUCTION
EASEMENT

DRAINAGE
EASEMENT

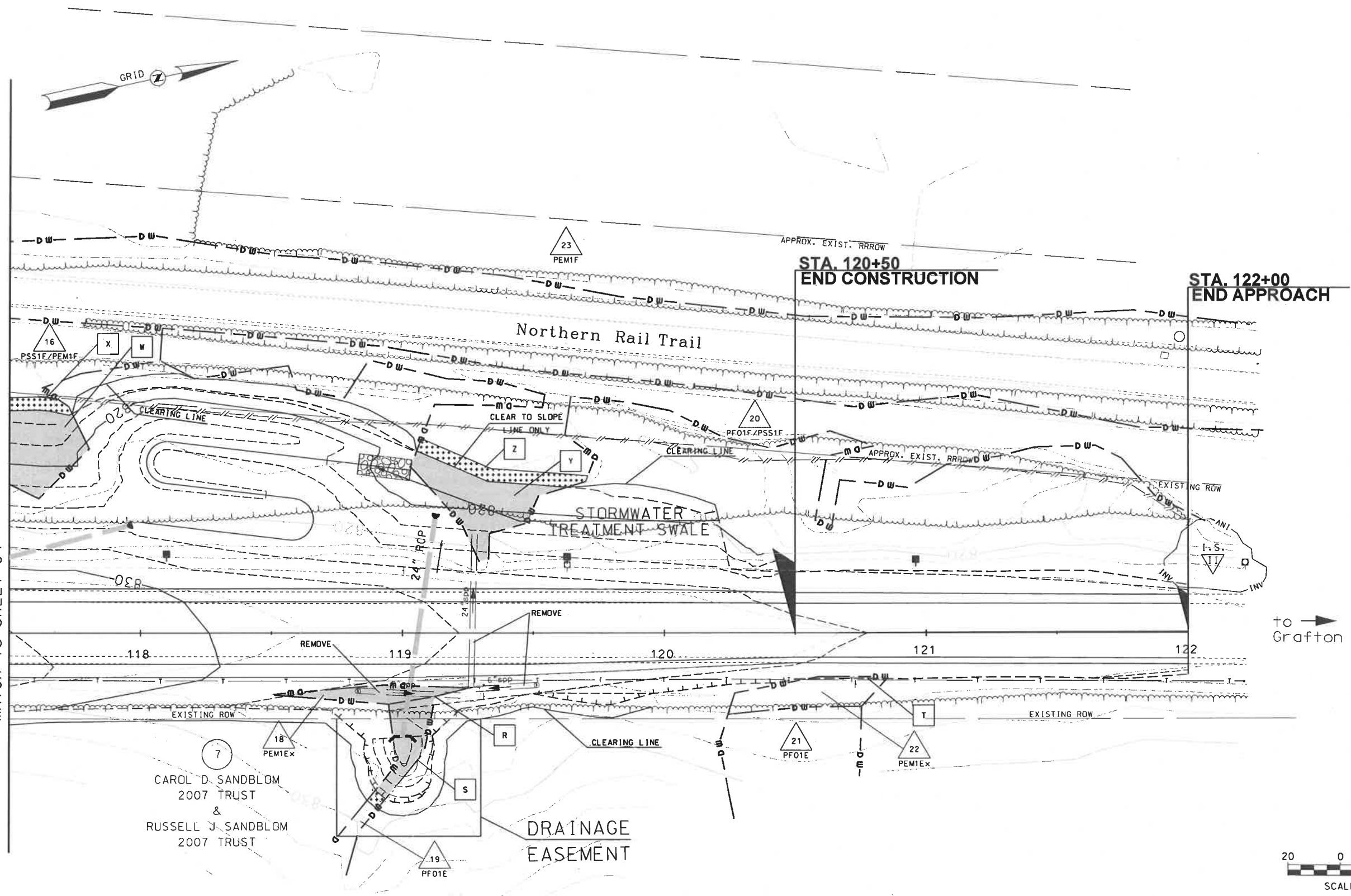
CAROL D SANDBLOM
2007 TRUST &
RUSSELL J SANDBLOM
2007 TRUST

CAROL D SANDBLOM
2007 TRUST
&
RUSSELL J SANDBLOM
2007 TRUST

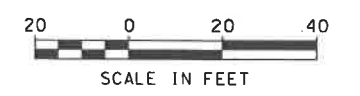
STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT PLANS SHEET 3 OF 5			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303wetplans	16303	7	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	

MATCH TO SHEET 04



to → Grafton



STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
WETLAND IMPACT PLANS SHEET 5 OF 5			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303wetplans	16303	9	15

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-WO 1500 REQUIREMENTS ([HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/LEGAL/RULES/INDEX.HTM](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 30th AND MAY 1st 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 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, 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 15th, OR WHICH ARE DISTURBED AFTER OCTOBER 15th, SHALL BE STABILIZED TEMPORARILY WITH STONE OR IN ACCORDANCE WITH TABLE 1.
 - (C) AFTER NOVEMBER 30th 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 STABILIZATION PLAN HAS BEEN APPROVED BY NHDOT.
 - (E) A SWPPP AMENDMENT SHALL BE SUBMITTED TO THE DEPARTMENT, FOR APPROVAL, ADDRESSING COLD WEATHER STABILIZATION (ENV-WO 1505.05) NO LESS THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK SCHEDULED AFTER NOVEMBER 30th.

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 1st THROUGH NOVEMBER 30th, 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-WO 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-WO 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-WO 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-WO 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-WO 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

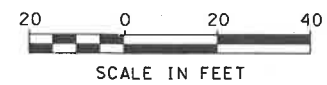
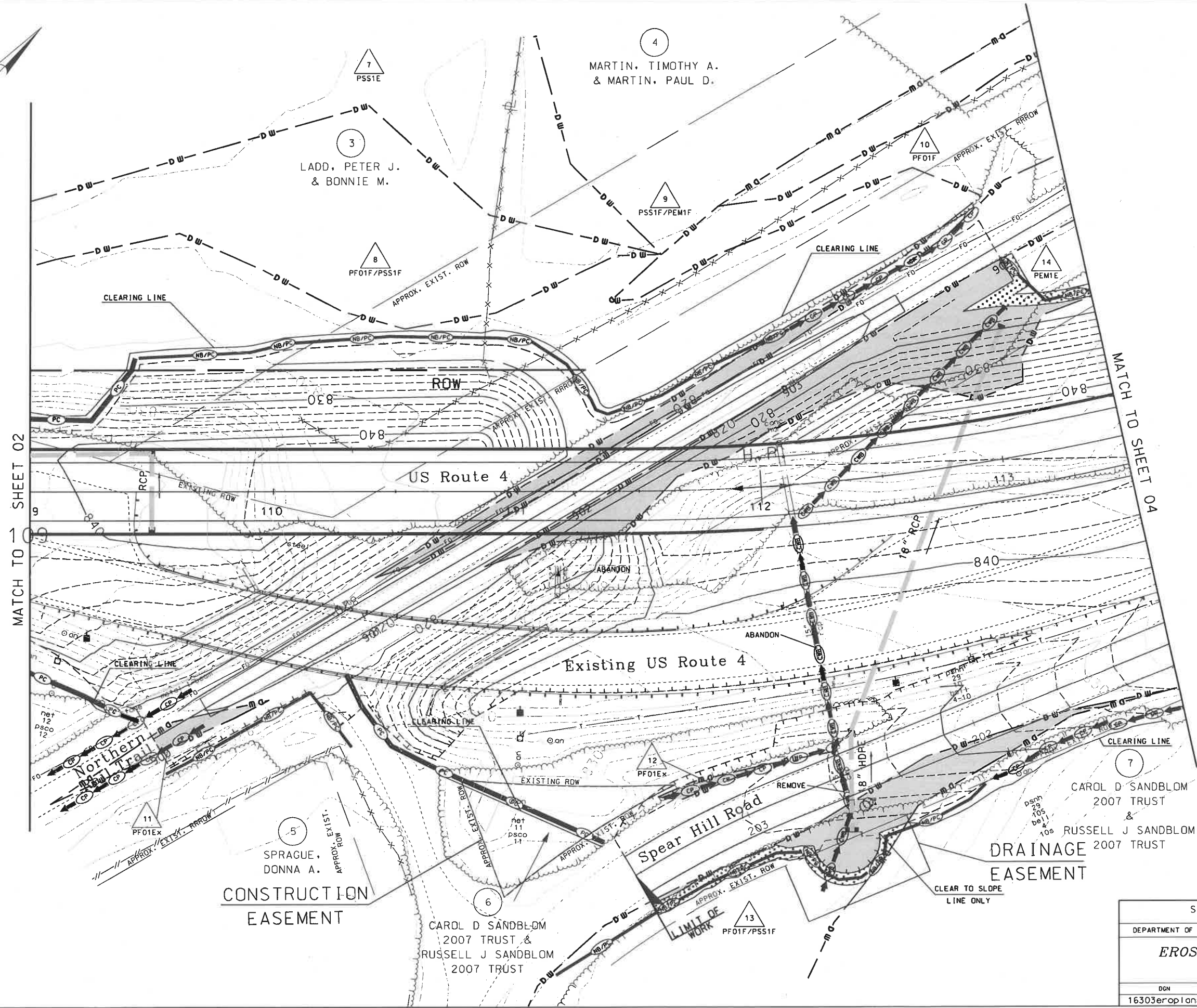
APPLICATION AREAS	DRY MULCH METHODS				HYDRAULICALLY APPLIED MULCHES ²				ROLLED EROSION CONTROL BLANKETS ³			
	HMT	WC	SG	CB	HM	SMM	BFM	FRM	SNSB	DNSB	DNSCB	DNCB
SLOPES ¹												
STEEPER THAN 2:1	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES
2:1 SLOPE	YES ¹	YES ¹	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES
3:1 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				
DANBURY				
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN				
EROSION CONTROL STRATEGIES				
REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
12-21-15	16303eroplans	16303	10	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	RSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/15/2019
AS BUILT DETAILS		DATE	



5
 SPRAGUE, DONNA A.
 CONSTRUCTION EASEMENT

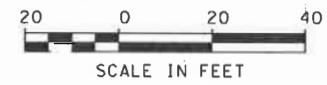
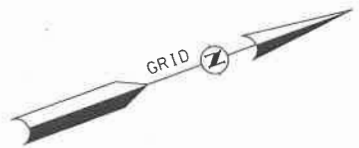
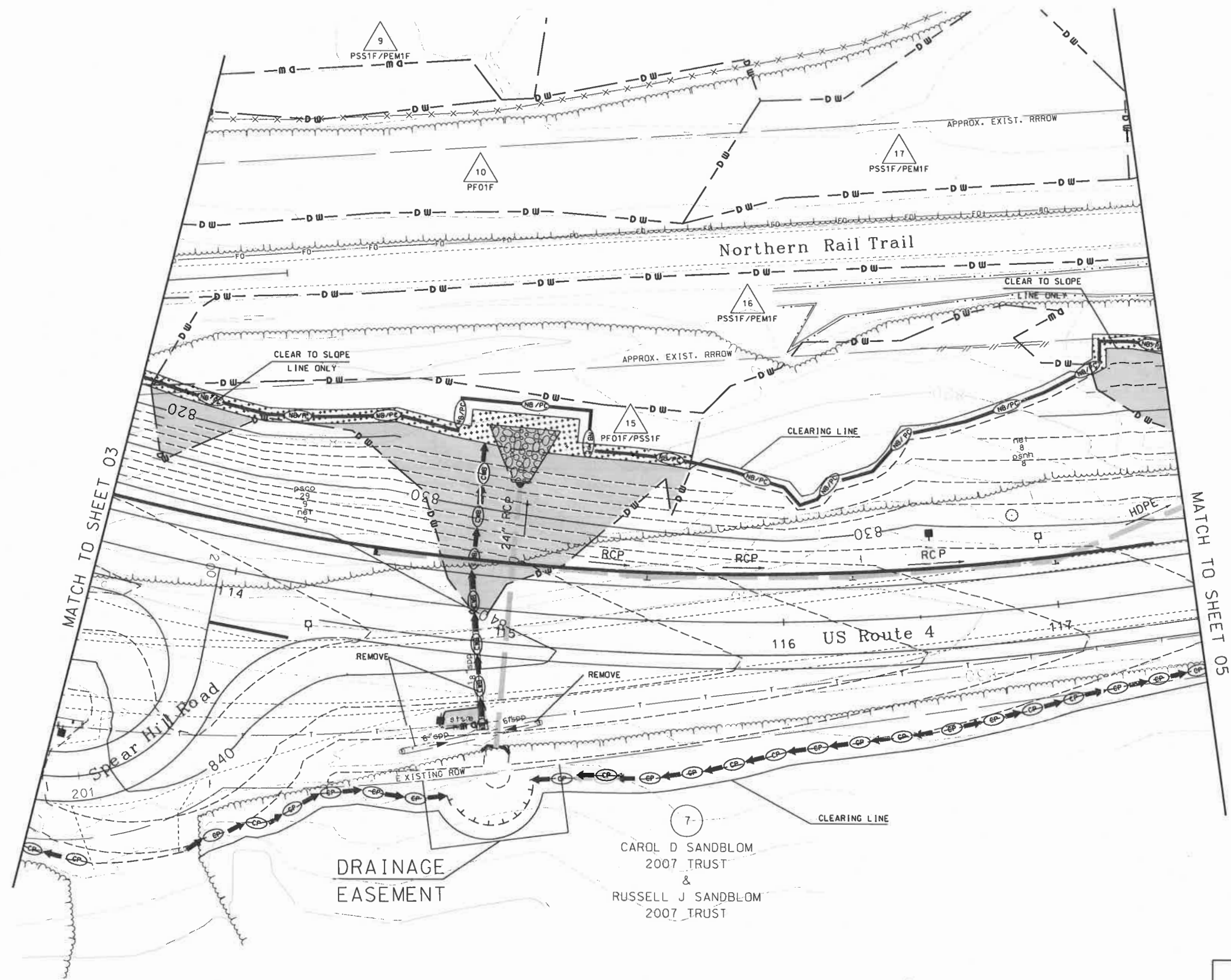
6
 CAROL D SANDBLOM 2007 TRUST & RUSSELL J SANDBLOM 2007 TRUST

7
 CAROL D SANDBLOM 2007 TRUST & RUSSELL J SANDBLOM 2007 TRUST
 DRAINAGE EASEMENT

STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
EROSION CONTROL PLANS SHEET 3 OF 5			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303eroplans	16303	13	15

SDR PROCESSED	PLAN PREP	DATE	2013/2019
NEW DESIGN	HSW	DATE	11/15/2019
SHEET CHECKED	JAH	DATE	11/18/2019
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL	DESCRIPTION
STATION	
STATION	
DATE	
NUMBER	



STATE OF NEW HAMPSHIRE DANBURY			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
EROSION CONTROL PLANS SHEET 4 OF 5			
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303erob1ans	16303	14	15

Response to Request for More Information.

Attachments



6/29/2021

NH Department of Transportation
Andy O'Sullivan
PO BOX 483
Concord, NH 03302

**RE: US Route 4 Danbury, Tax Map #ROW, Lot #ROW
NHDES File Number 2019-03823**

Dear Mr. O'Sullivan:

This letter is in response to the NHDES Request for More Information (RFMI) 2019-03823 sent by NHDOT on June 16, 2012 and received by Stoney Ridge Environmental, LLC (SRE) on June 16, 2021. SRE has reviewed the RFMI and is providing this letter in response to the NHDOT request to address NHDES RFMI conditions 1 thru 3 of the RFMI.

In response to Condition 1 of the NHDES RFMI, the Function & Value Assessment forms for all wetland systems delineated within the project area are included in the February 2020 updated report, submitted to NHDOT. There are no bogs within the project area as defined by Env-Wt 102.30: "Env-Wt 102.30 "Bog" means a wetland distinguished by stunted evergreen trees and shrubs, peat deposits, poor drainage, highly acidic soil conditions, highly acidic water conditions, or any combination thereof, as determined using "Natural Communities of New Hampshire", 2nd edition, published by UNH Cooperative Extension dated 2011, available as noted in Appendix B, effective 9-25-20." No stunted evergreens were observed during site work. The northern portion of Wetland System 2 is classified as Palustrine Emergent Persistent Semi-permanently Flooded (PEMIF) as shown on the attached plan. The area classified as PEMIF plan meets the State definition of a fresh water marsh. As defined in the NHDES rules, "Env-Wt 103.37 "Marsh" means a wetland that is distinguished by soft-stemmed herbaceous plants such as grasses, rushes, and sedges, where the water table is at or above the surface throughout the year but can fluctuate seasonally, as determined using the federal classification method. The term includes freshwater marshes and tidal marshes." The wetland data plots provided with the revised wetland report from February 2020 provided the soil profiles and vegetation community types for the data plot locations within the wetland systems. The NRCS maps indicate Chocorua mucky peat within the project area. Soils within the wetland areas were generally a mucky layer underlain by fine sandy loam to sand. The vegetation within the wetlands are generally forested hardwoods with a variable scrub-shrub layer. The northern most portion of Wetland System 2 is comprised of cattails and various other emergent plants and scattered scrub-shrub species. The plant communities throughout the project area are not indicative of highly acidic soils that are associated with bogs.

In response to Condition 2 of the NHDES RFMI, photographs for the wetlands were included with the original report dated September 2014 and submitted to NHDOT.

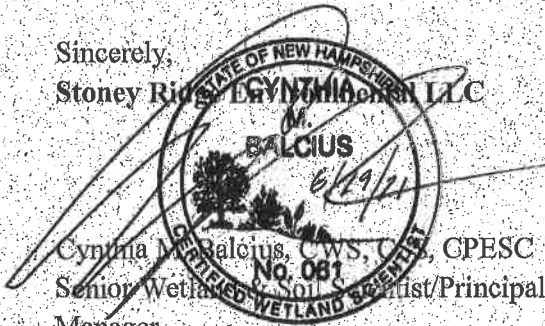
In response to Condition 3 of the NHDES RFMI, SRE has provided Certified Wetland Scientist (CWS) stamped plans for the delineation completed October 2012. The original wetland delineation was completed in September 2014 and the wetland delineation was subsequently re-done in October 2019. The stamped wetland delineation plans are for the most current (October 2019) wetland delineation.

Please email us or call us at 603.776.5825 if you have any questions.

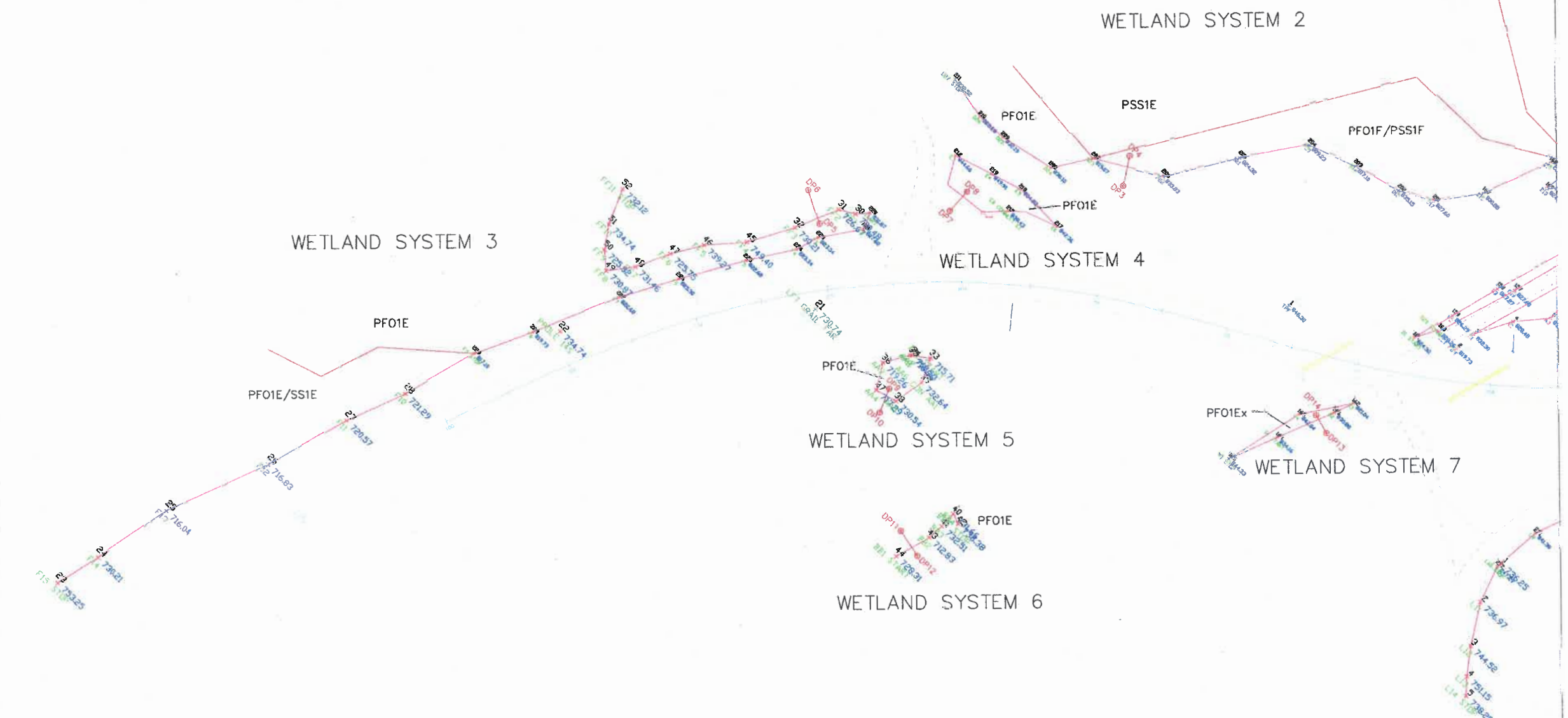
Sincerely,

Stoney Ridge Environmental LLC

Cynthia M. Balcius, CWS, CSS, CPESC
Senior Wetland Scientist/Principal
Manager



Michael S. Waterhouse
Senior Wetland Scientist/Project



Existing Conditions Survey Completed By NHDOT

WETLAND CLASSIFICATION KEY

F = Palustrine
EM = Emergent
I = Intermittent
E = Seasonally Flooded/Saturated
x = Excavated
F = Semi-permanently Flooded
SS = Shrub-Swamp
I = Broad-leaved Deciduous
E = Seasonally Flooded/Saturated
F = Semi-permanently Flooded
FO = Forested
I = Broad-leaved Deciduous
E = Seasonally Flooded/Saturated
x = Excavated
F = Semi-permanently Flooded

- Jurisdictional Wetlands were delineated by Stoney Ridge Environmental LLC on October 20, 2016 utilizing the following standards:
1. United States Department of Agriculture, Natural Resources Conservation Service. 2016. Field Indicators of Hydrologic Soils in the United States, Version 8.0. L.M. Varley, G.W. Hunt, and J.F. Burdette (eds.). USDA, NRCS, in cooperation with the National Technical Center for Hydrology, Soils.
 2. Field Indicators for Assessing Upland Soils in New England, Version 4, June 2018. New England Upland Soils Technical Committee.
 3. North American Wetland Plants: National Wetland Plant List, Version 2.1.0. <http://wetland.plants.usda.gov/>. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BORAN, Chapeau, NH.
 4. The National Wetland Plant List: 2016 wetland ratings. Lohrer, R.W., D.L. Becki, W.N. Ketchum, and M.C. Melvin. 2016. *Phytotaxa* 2016-30: 1-17. Published 28 April 2016. ISSN 2153-733X.
 5. Corps of Engineers Wetland Delineation Manual, January 1987. Wetlands Research Program Technical Report W-7-1.
 6. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and Midwest Region, January 2012, Version 3.11. U.S. Army Corps of Engineers, Environmental Laboratory (EL-C-11), TR-124.
 7. Classification of Wetlands and Deepwater Habitats of the United States, December 1979. L. Cowardin, V. Carter, F. Odum, and E. Lafron. US Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/51.

Approximate Wetland Boundary ———
 Approximate Wetland Class Boundary ———
 Wetland Data Point Transect ———
 Approximate Extent of Invasive Species ———

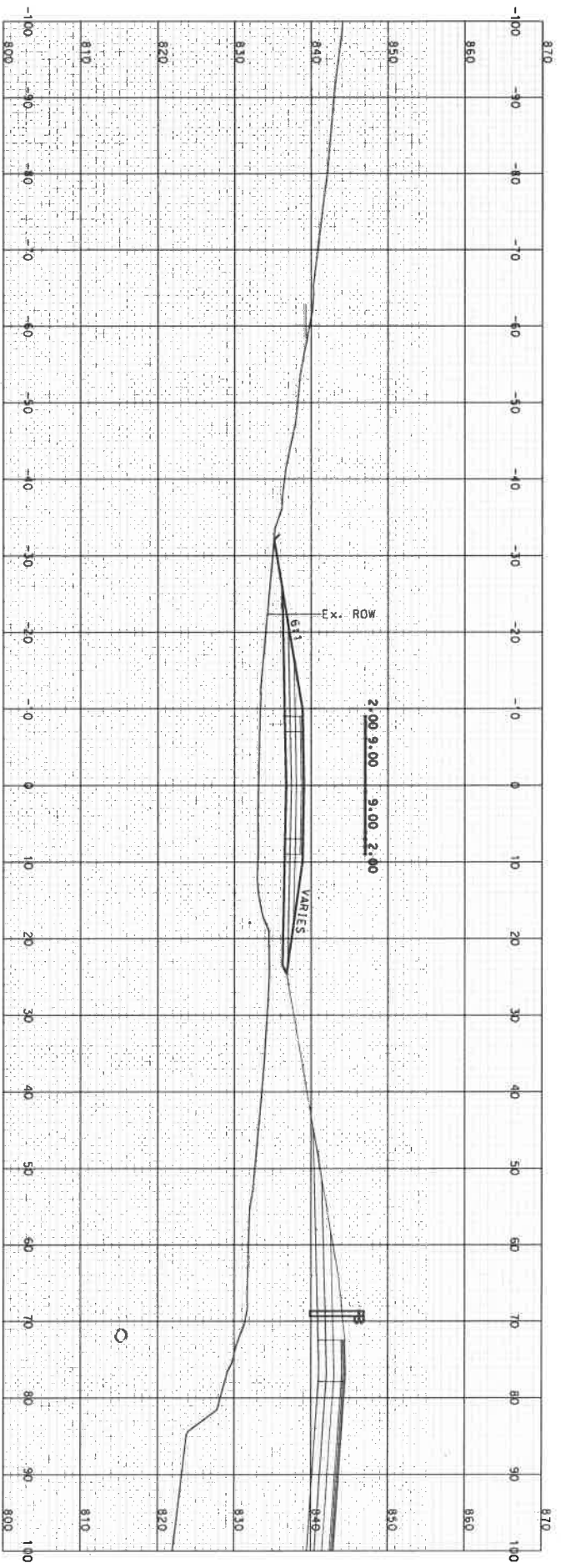
Wetland Delineation Plan
 NHDOT PROJECT NO. 16303
 ROUTE 4
 DANBURY, NEW HAMPSHIRE
 SHEET 1 OF 2

Stoney Ridge Environmental LLC
 229 Prospect Mountain Road, Allen, NH 01059
 Phone: 603-776-5825, (F) 603-776-5826, info@stoneyridge.com

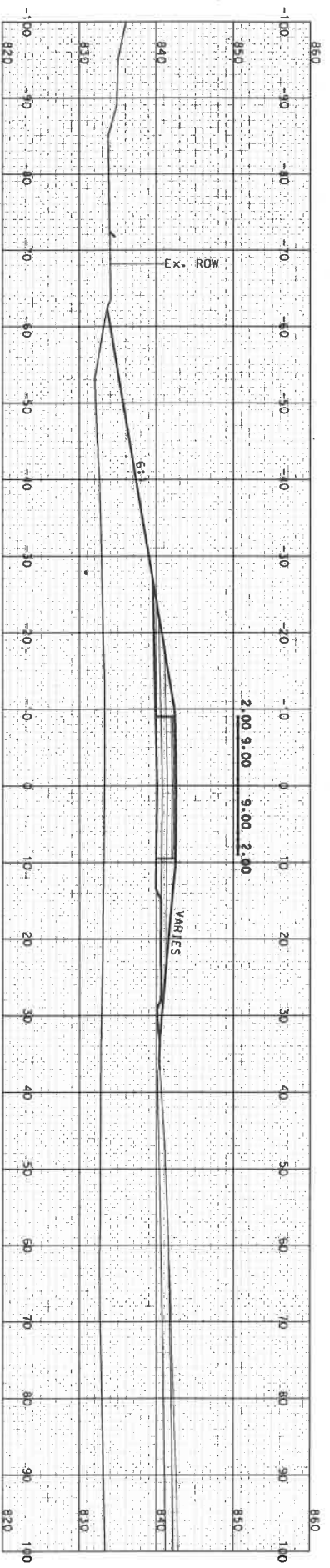


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SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

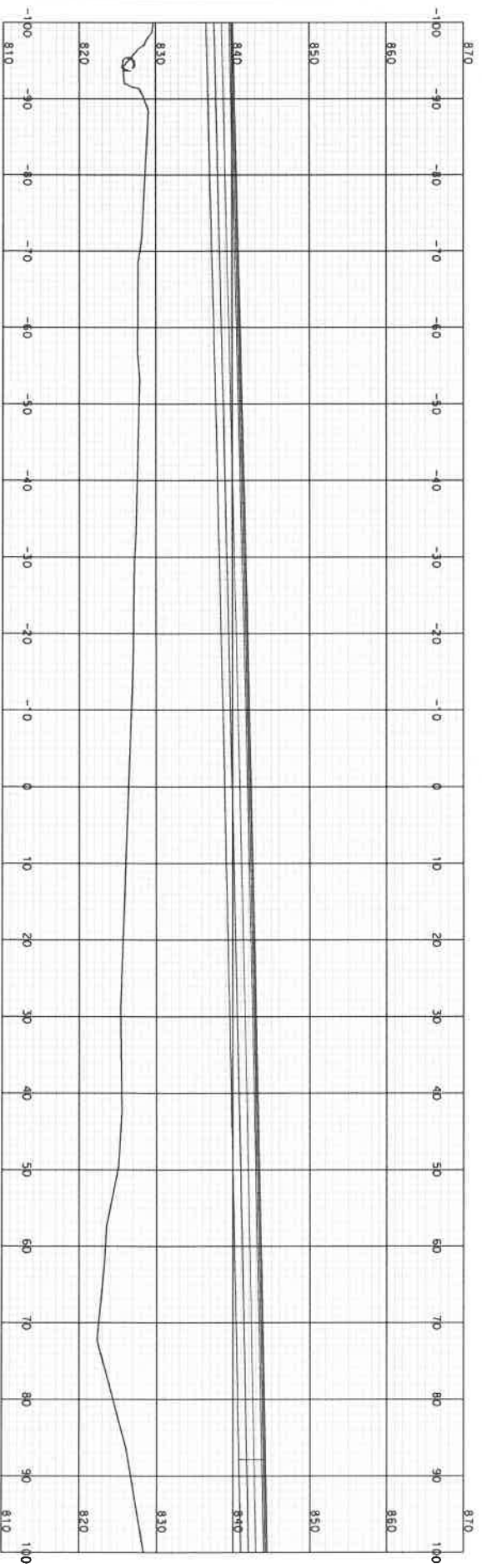
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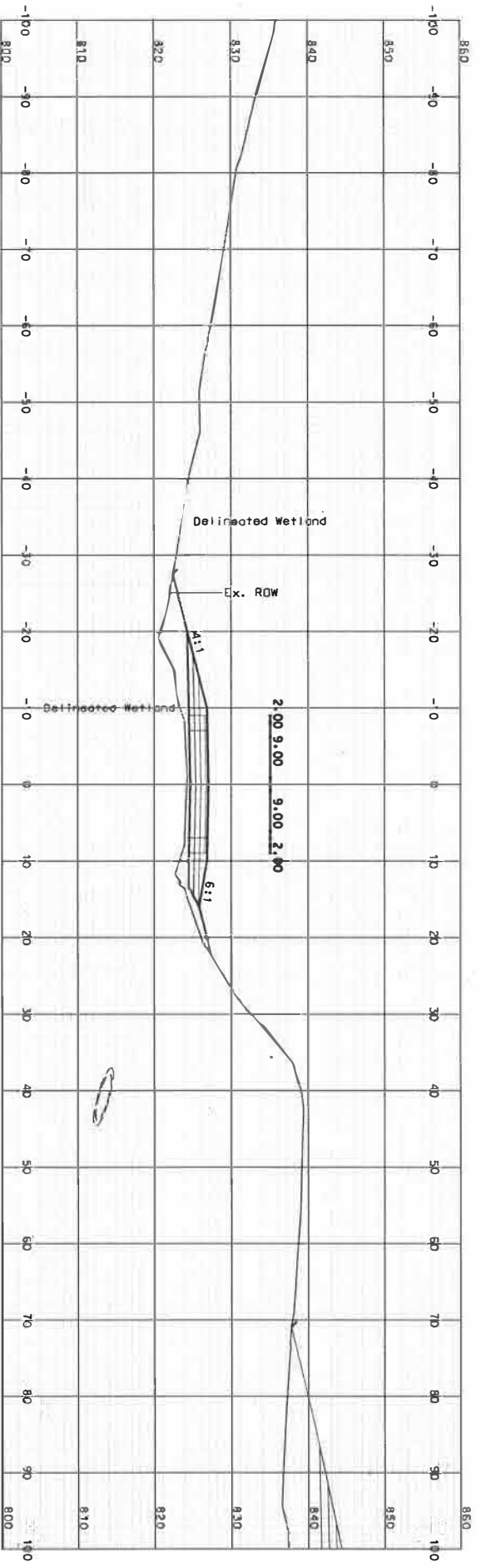


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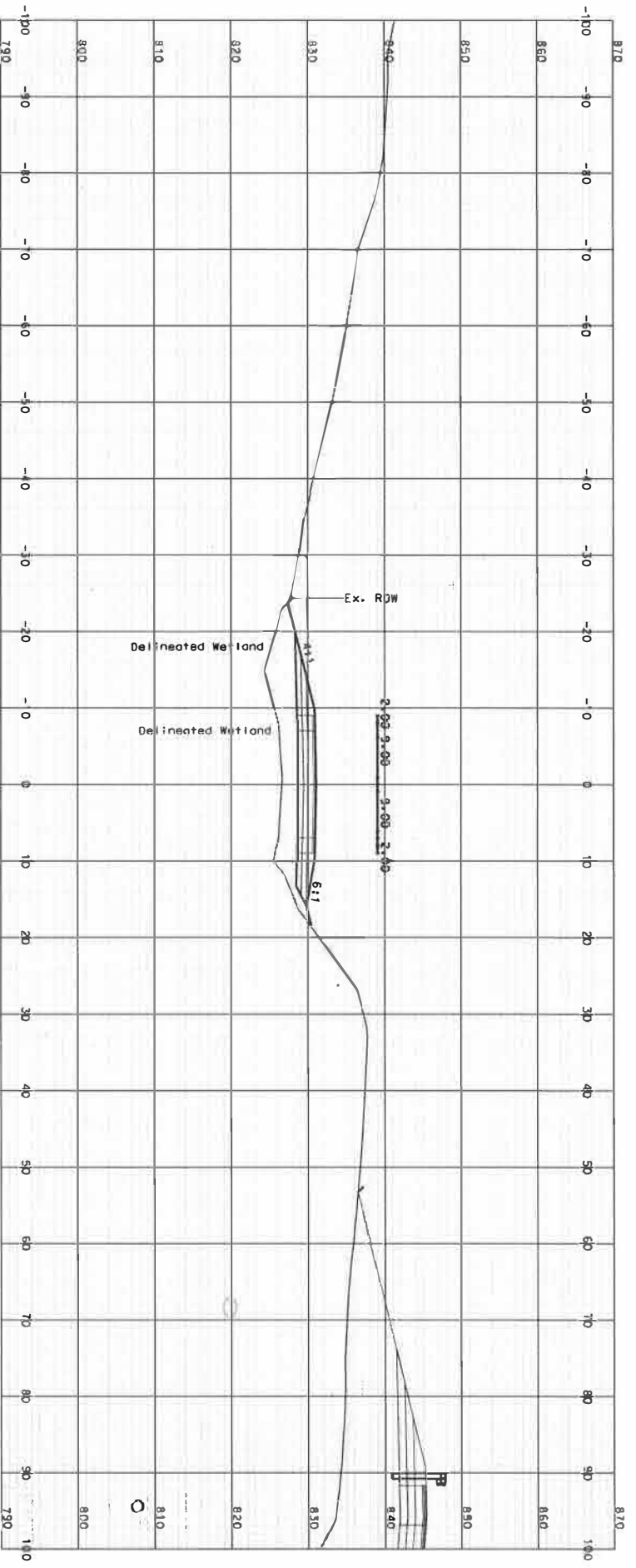
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FILL	-	C.Y.	-
ROCK EXCAV.	-	C.Y.	-
STATE PROJECT NO.	16303	SHEET NO.	1
DCN	16303-XSect10ns	TOTAL SHEETS	3

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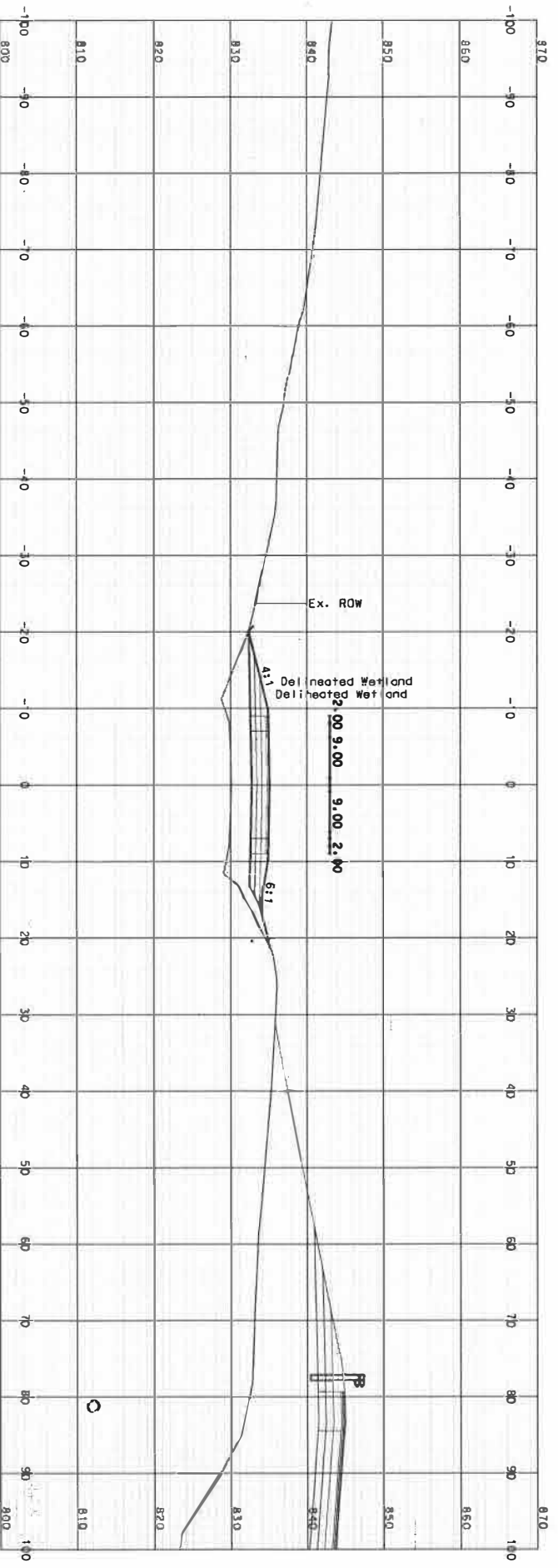
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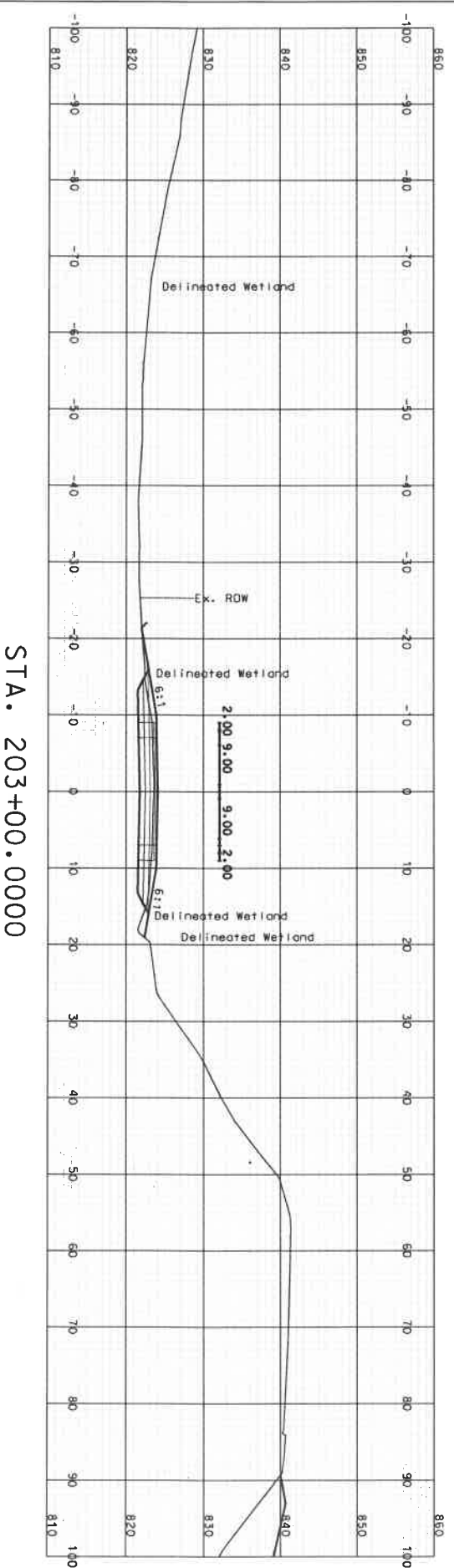
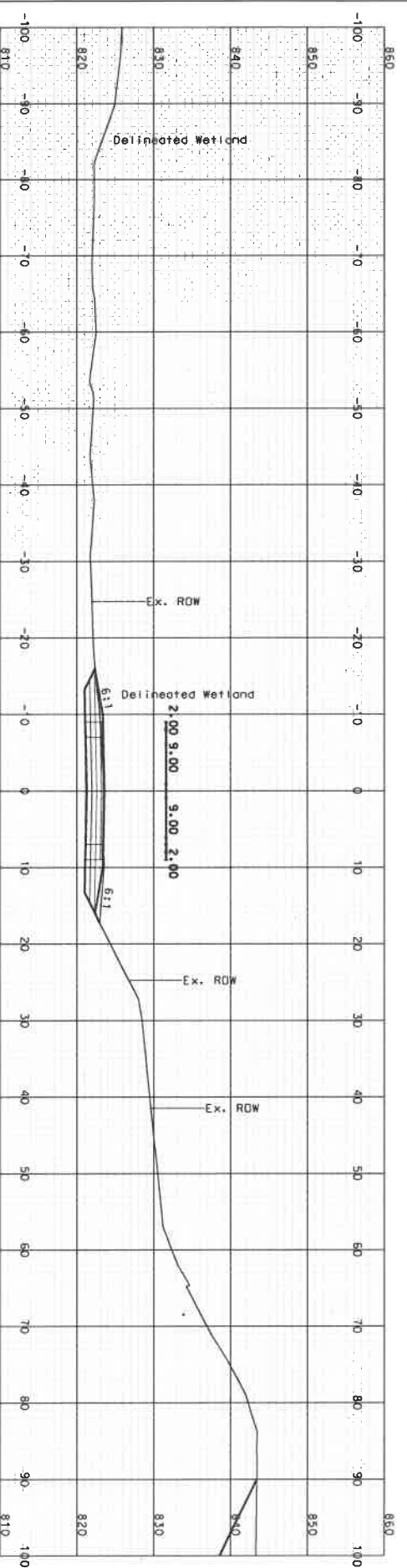
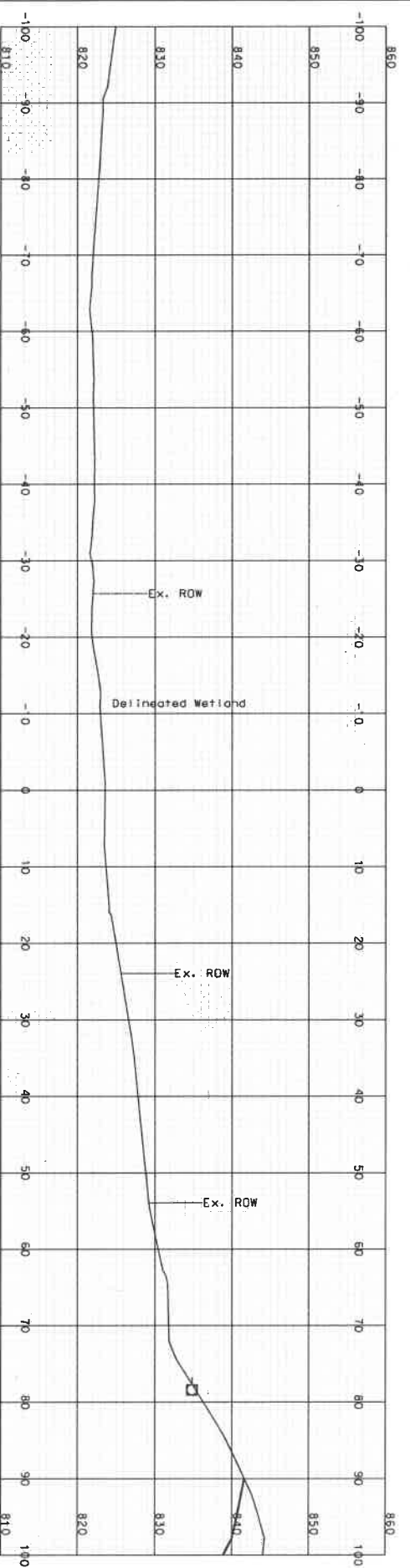


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DANBURY		SHEET TOTALS	
COMMON EXCAV.	C.Y.	ROCK EXCAV.	C.Y.
FILL	C.Y.	MUCK EXCAV.	C.Y.
OWN	STATE PROJECT NO.	16303	SHEET NO.
16303-X-sections	16303	2	TOTAL SHEETS
			3

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AS BUILT DETAILS		DATE	

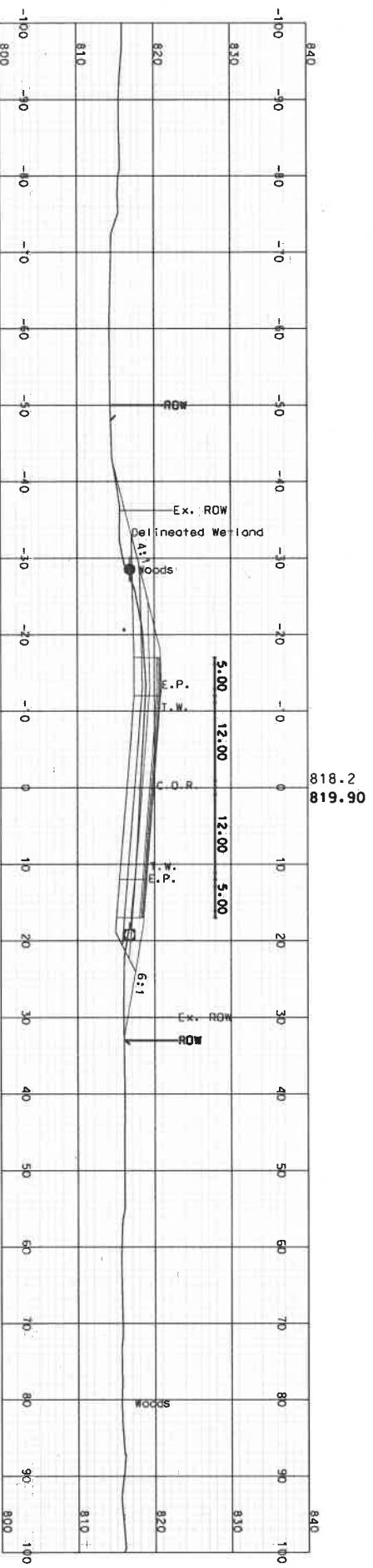
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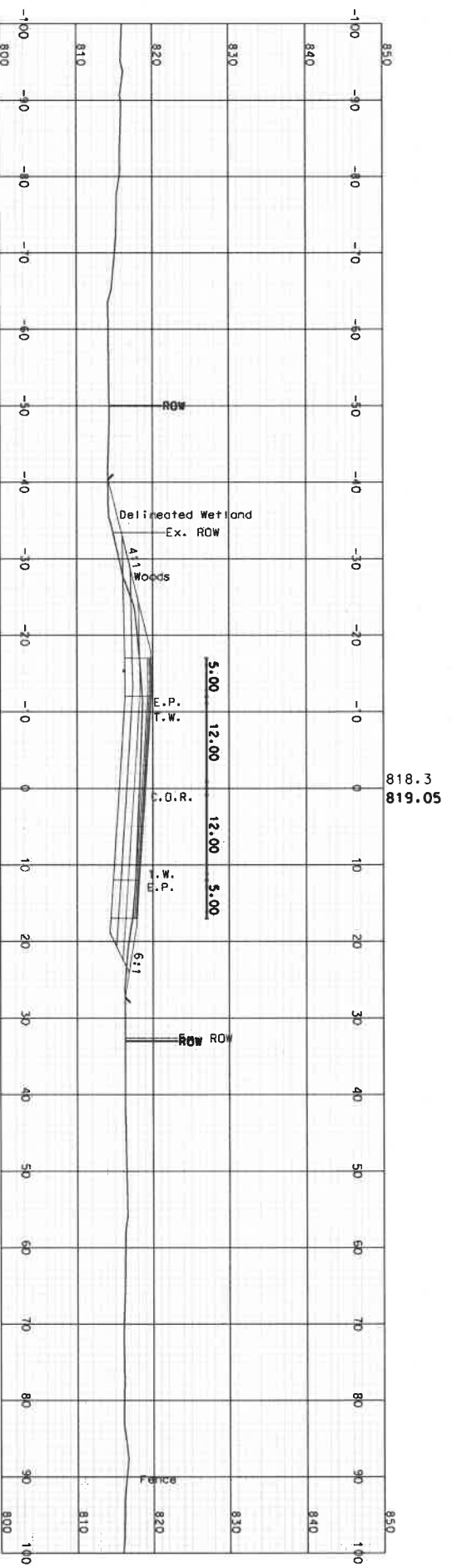
DRAINAGE		SHEET TOTALS	
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FILL	-	C.Y.	-
DOE	-	STATE PROJECT NO.	16303
		SHEET NO.	3
		TOTAL SHEETS	3

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SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

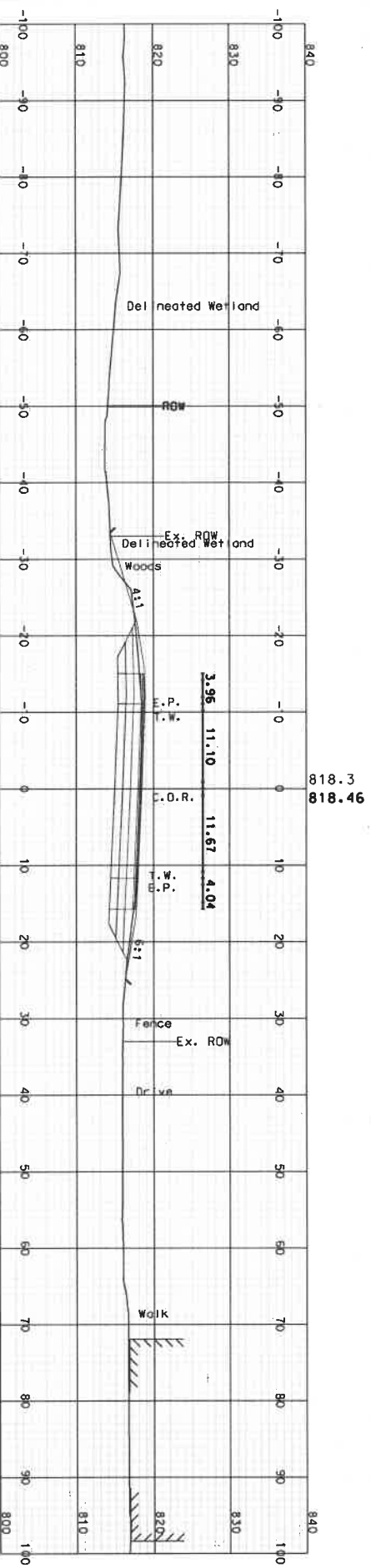
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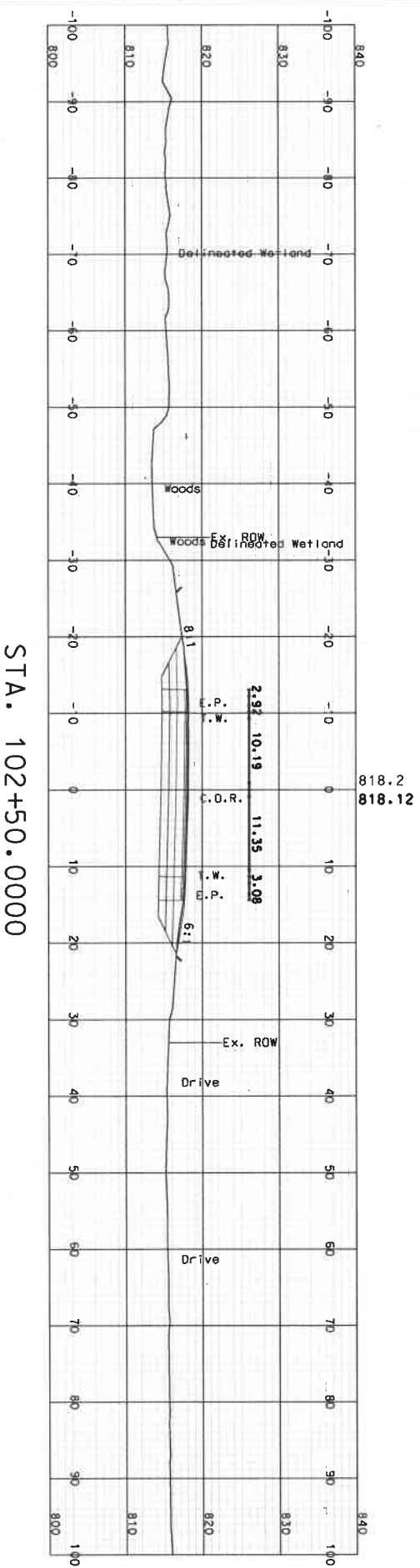
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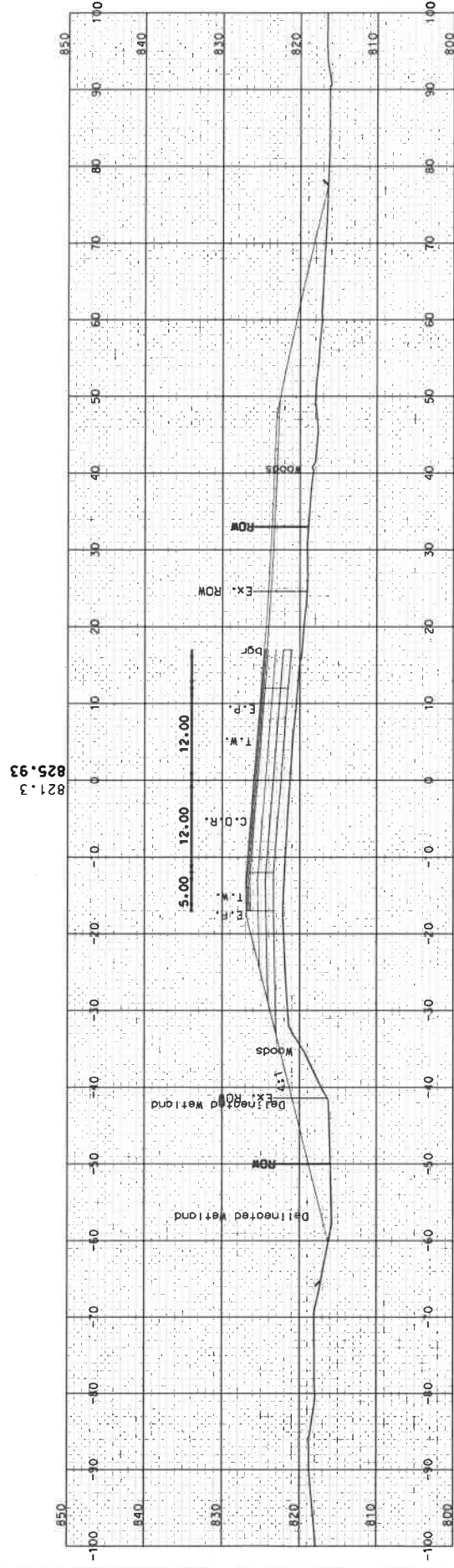


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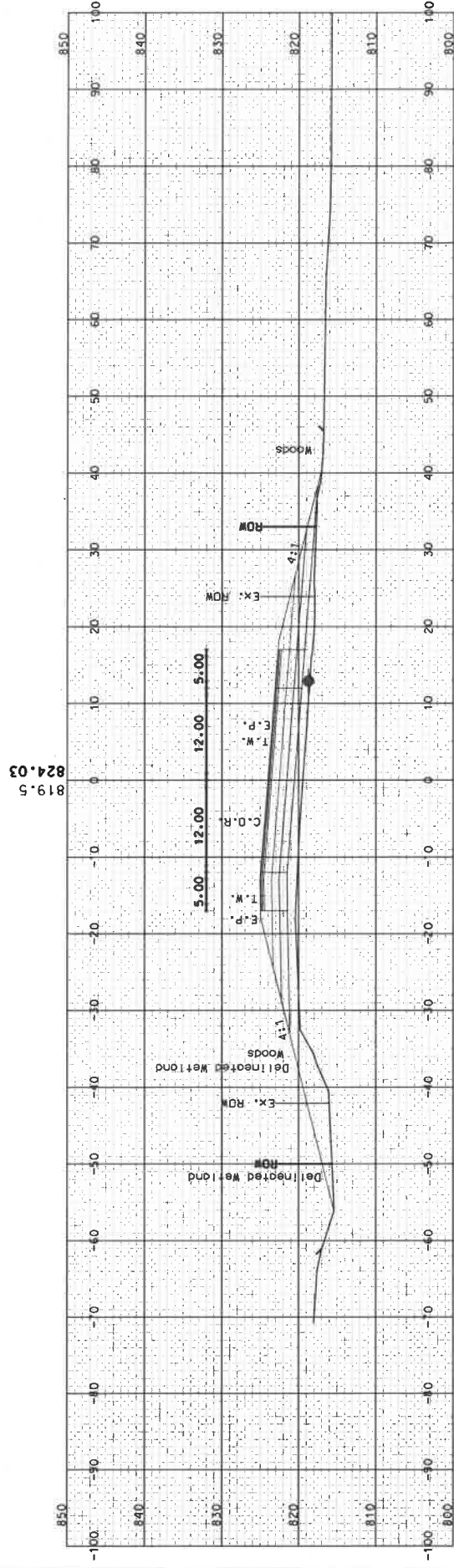
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FILL	—	ROCK EXCAV.	—
CON	—	SHEET NO.	2
STATE PROJECT NO.	15303	TOTAL SHEETS	13

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AS BUILT DETAILS		DATE	

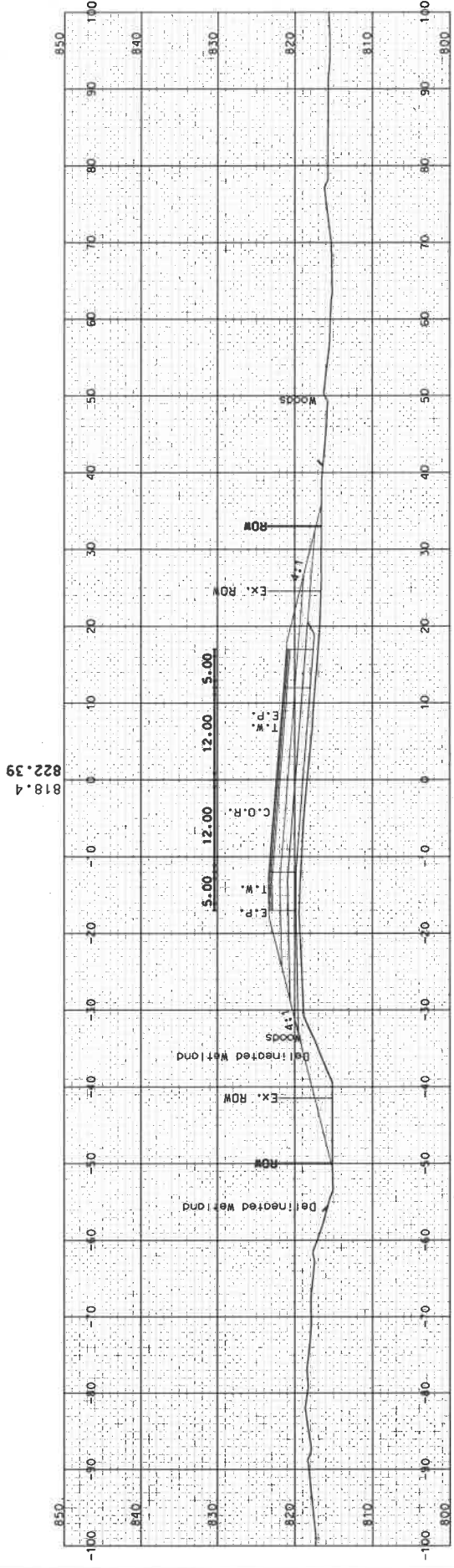
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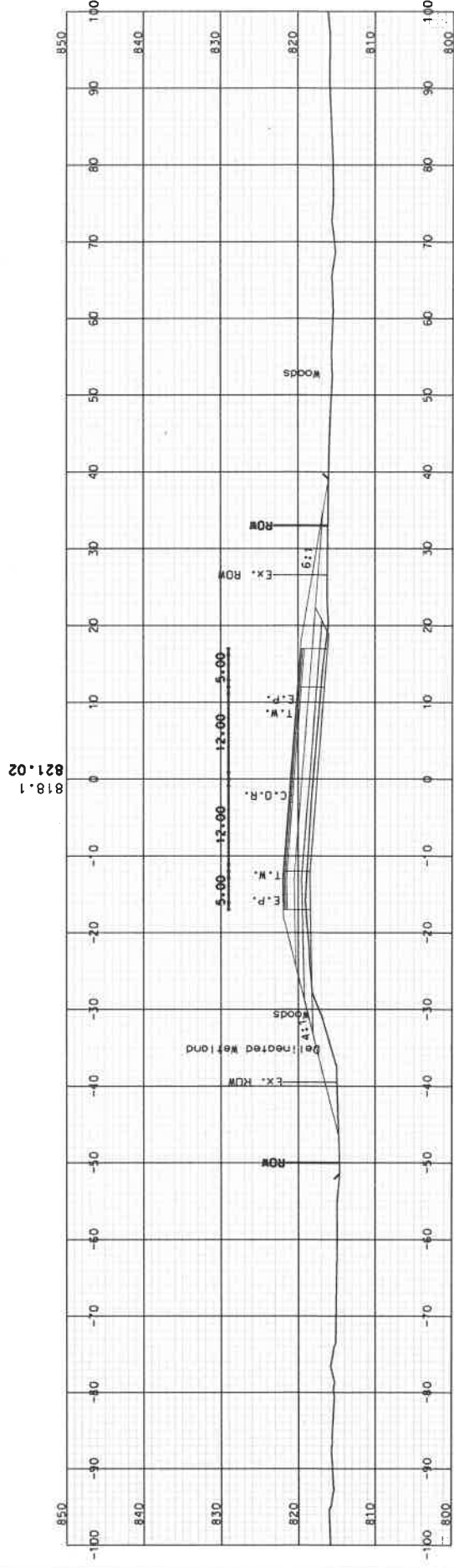
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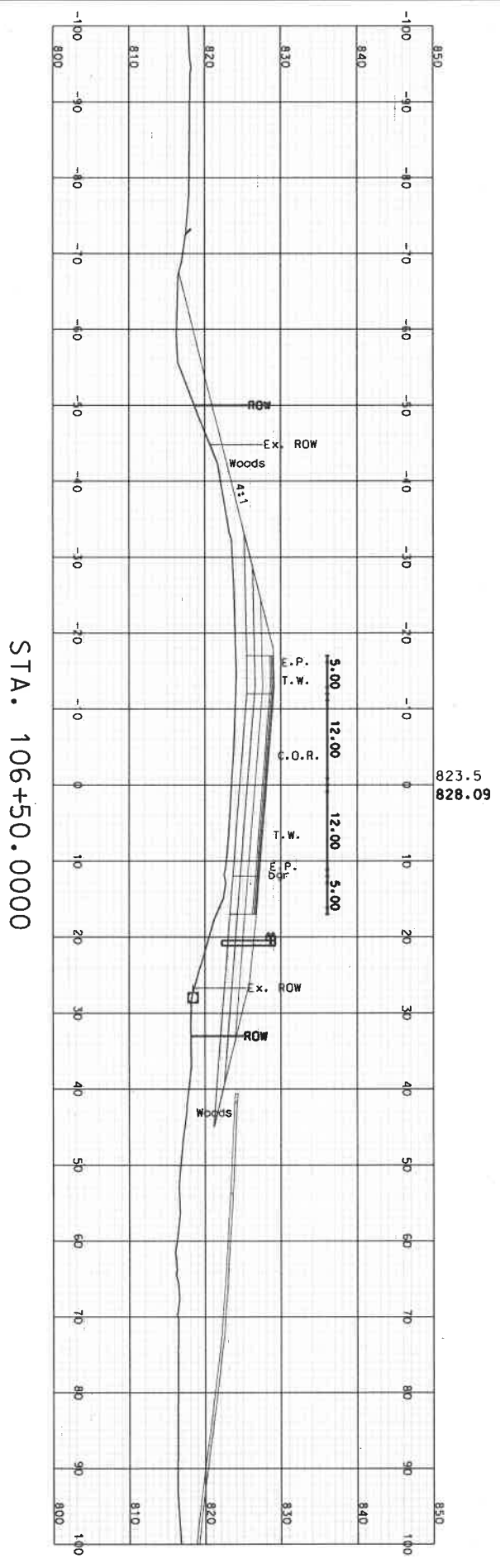
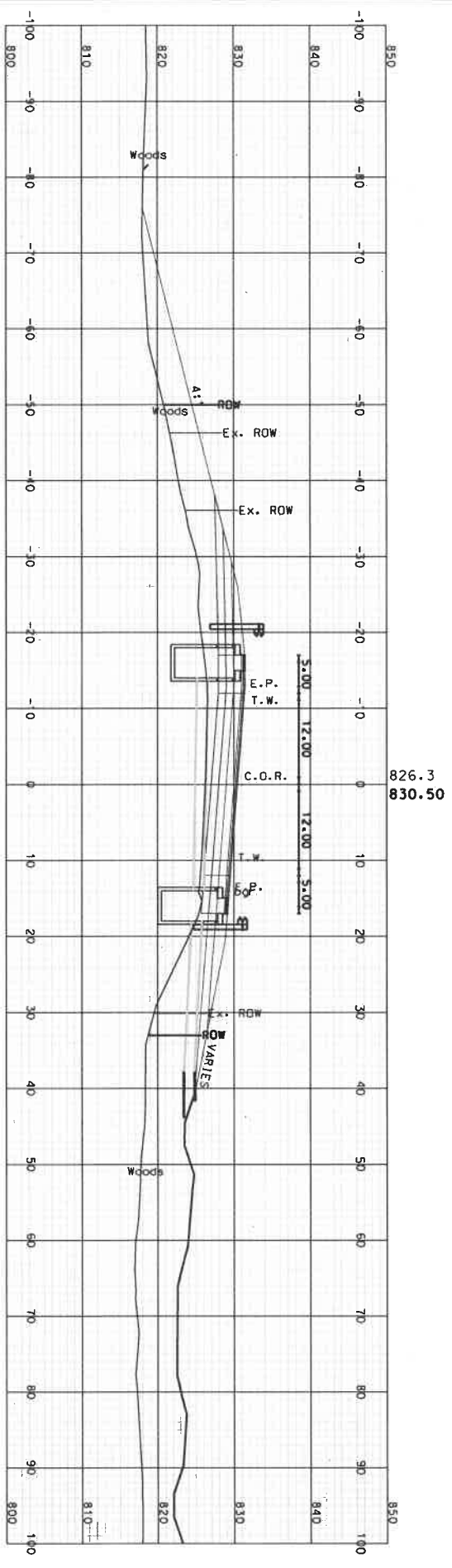
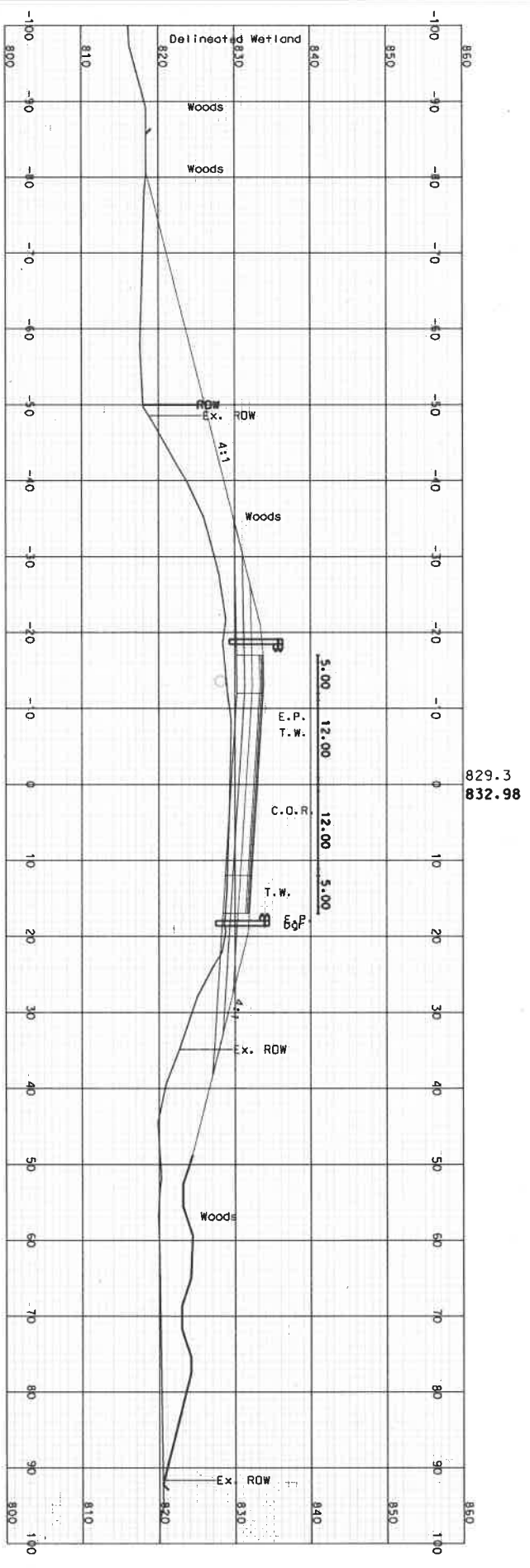
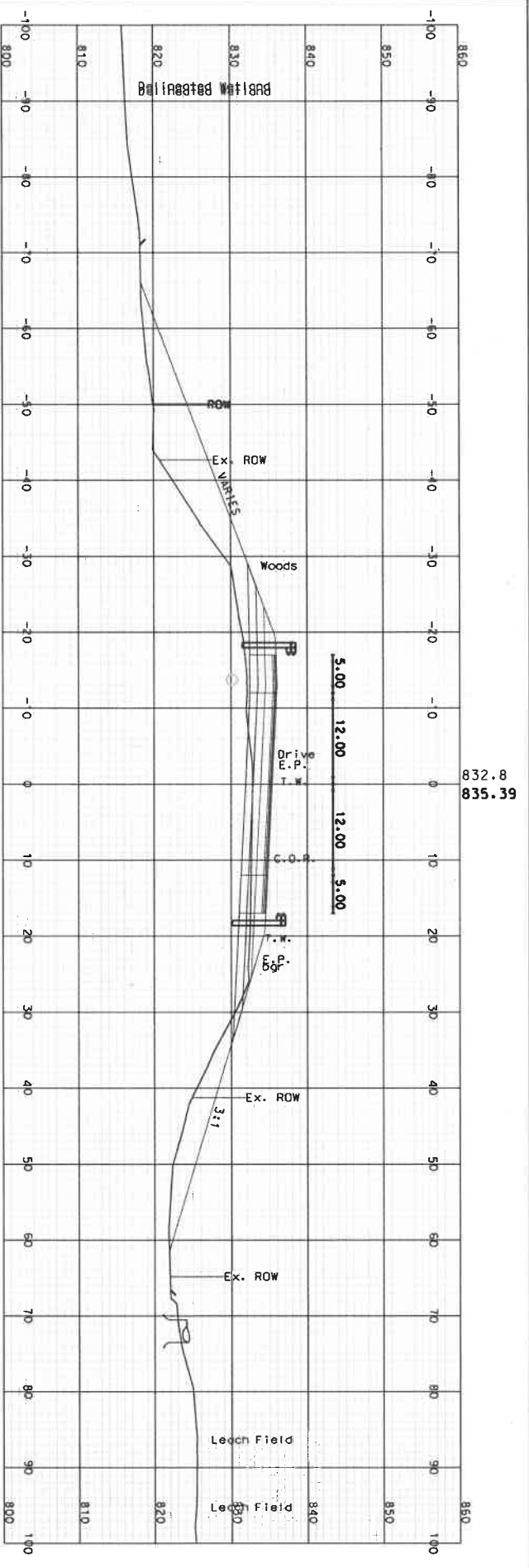


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DANBURY		SHEET TOTALS			
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FILL	—	C.Y.	MUCK EXCAV.	—	C.Y.
DGN	16303-XS8CTIONS	STATE PROJECT NO.	16303	SHEET NO.	3
				TOTAL SHEETS	13

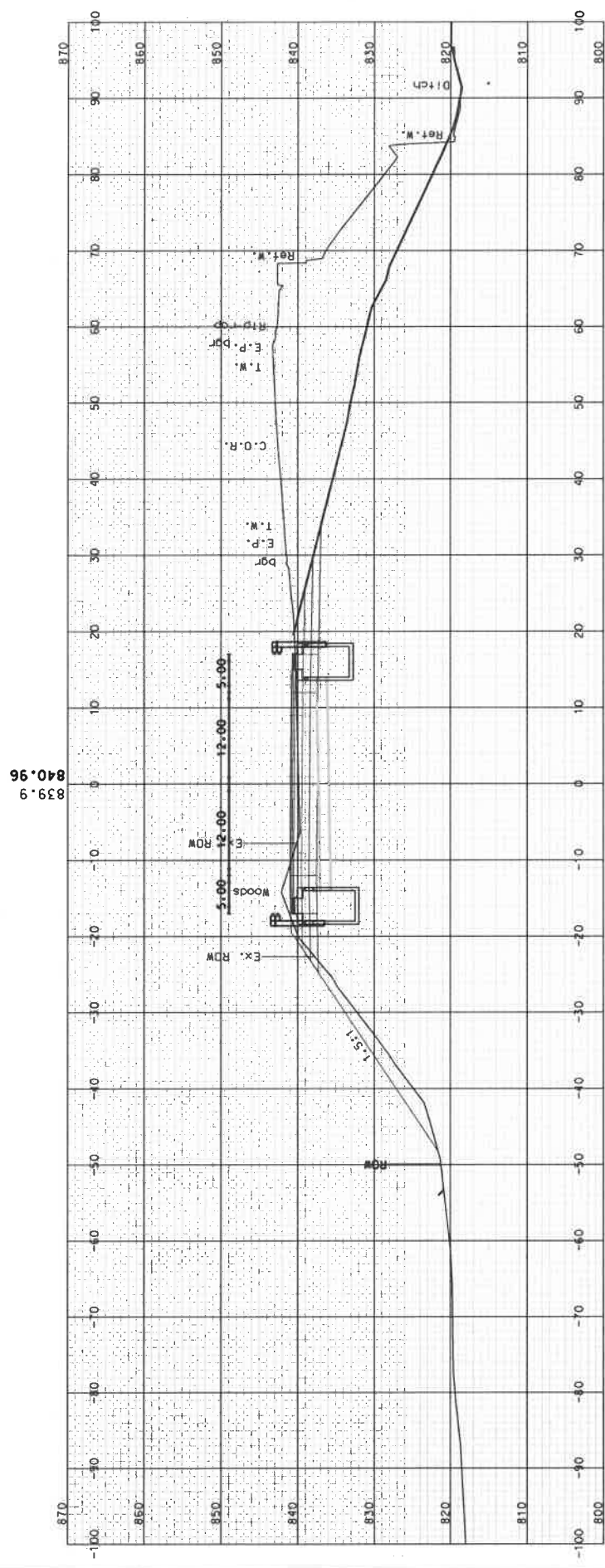
SUR PROCESSED NAME1	DATE DATE1
NEW DESIGN NAME2	DATE DATE2
SHEET CHECKED NAME3	DATE DATE3
AS BUILT DETAILS	DATE

REVISIONS AFTER PROPOSAL		DESCRIPTION
NUMBER	DATE	STATION

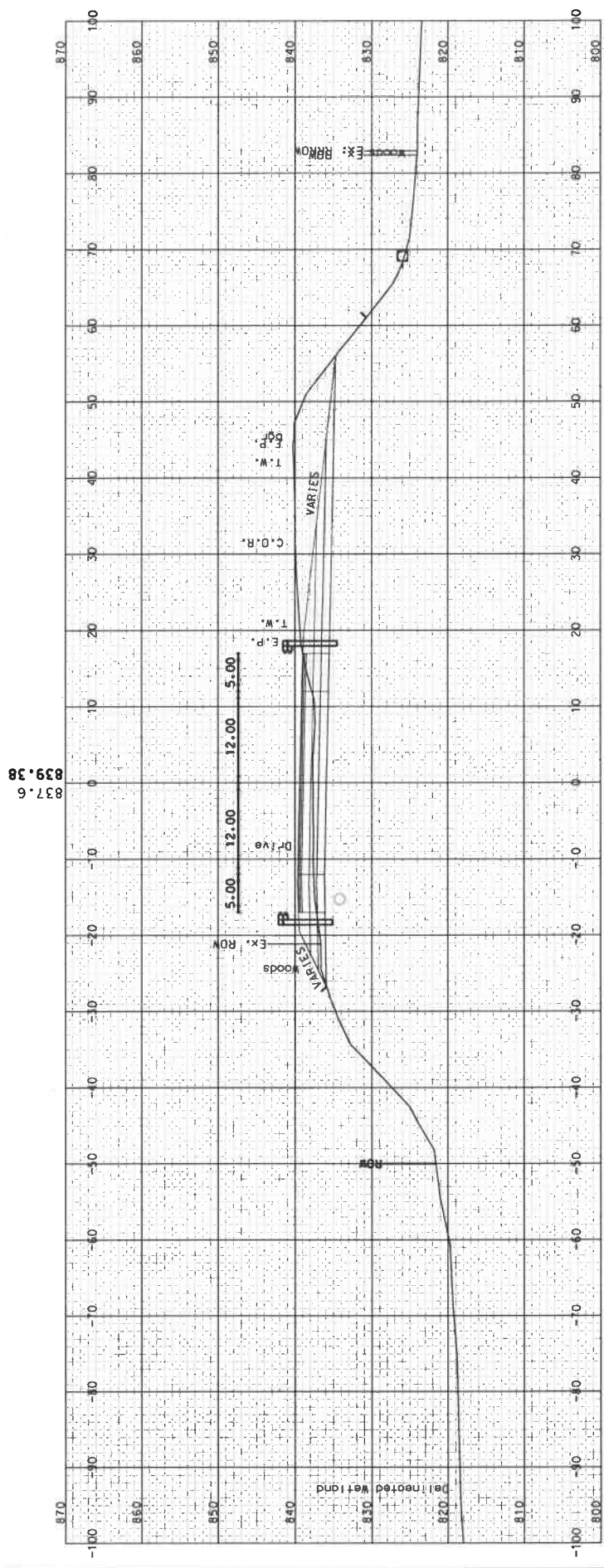


DANBURY		SHEET TOTALS	
COMMON EXCAV.	C.Y.	ROCK EXCAV.	C.Y.
FILL	C.Y.	MADE EXCAV.	C.Y.
DNM		STATE PROJECT NO.	16303
16303-x-sections		SHEET NO.	4
		TOTAL SHEETS	13

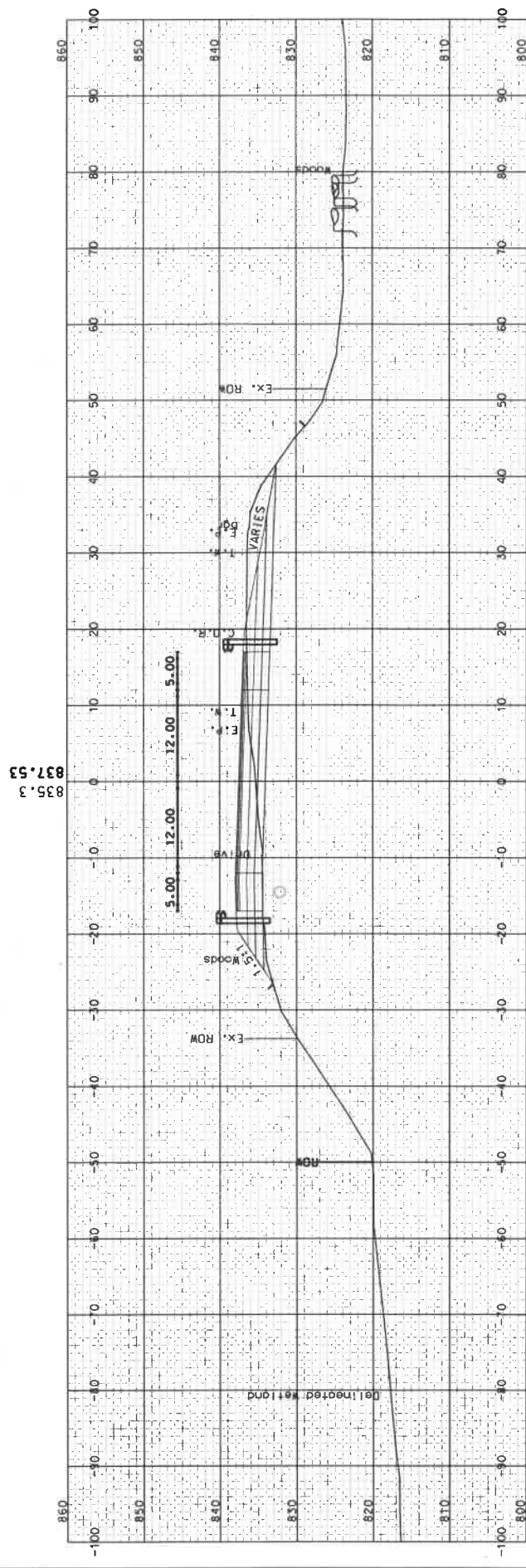
SOR PROCESSED			REVISIONS AFTER PROPOSAL			
NAME1	DATE	DATE1	NUMBER	DATE	STATION	DESCRIPTION
NEW DESIGN	NAME2	DATE	DATE2			
SHEET CHECKED	NAME3	DATE	DATE3			
AS BUILT DETAILS						



STA. 109+50.0000



STA. 109+00.0000

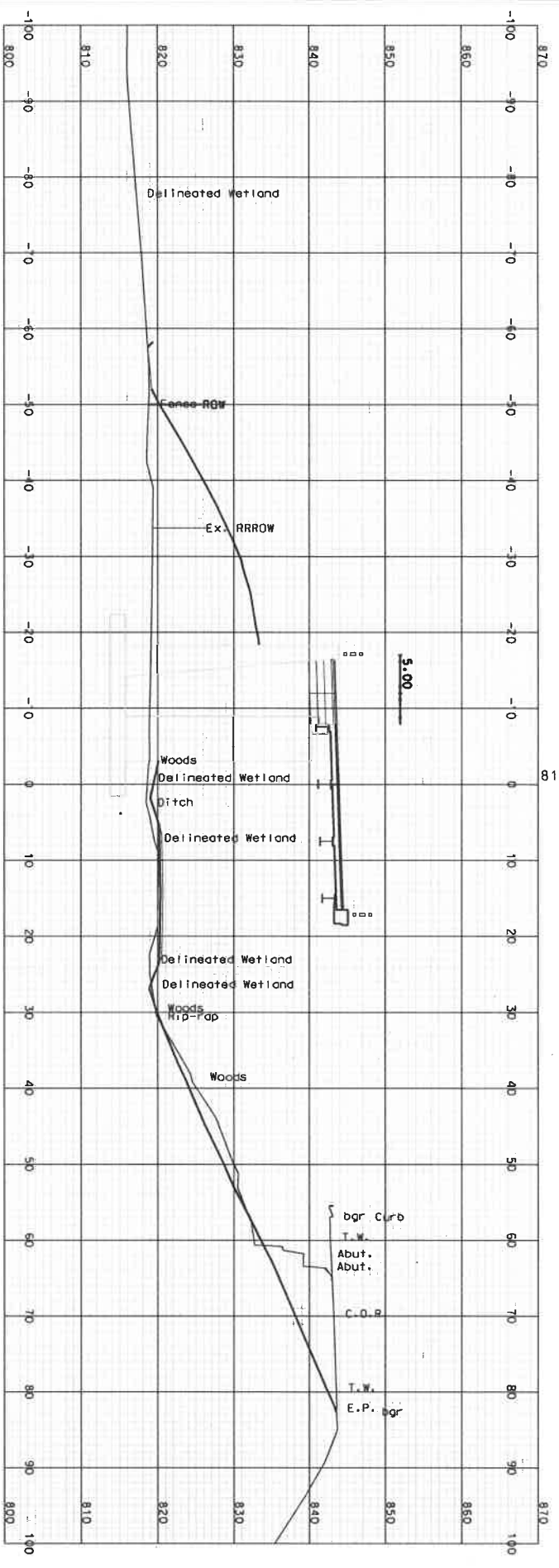


STA. 108+50.0000

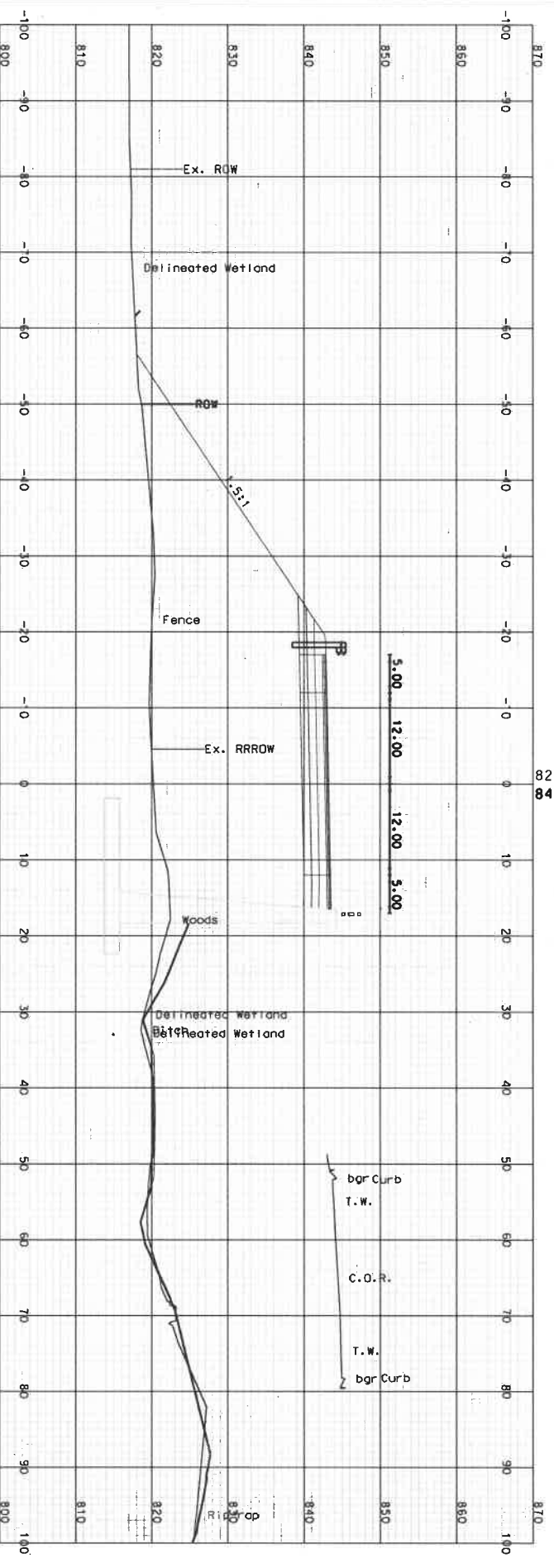
DANBURY		SHEET TOTALS		
COMMON EXCAV.	FILL	C.Y.	ROCK EXCAV.	C.Y.
DGN		STATE PROJECT NO.		TOTAL SHEETS
16303-XSBCCTIONS		16303		5
				13

SOS PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

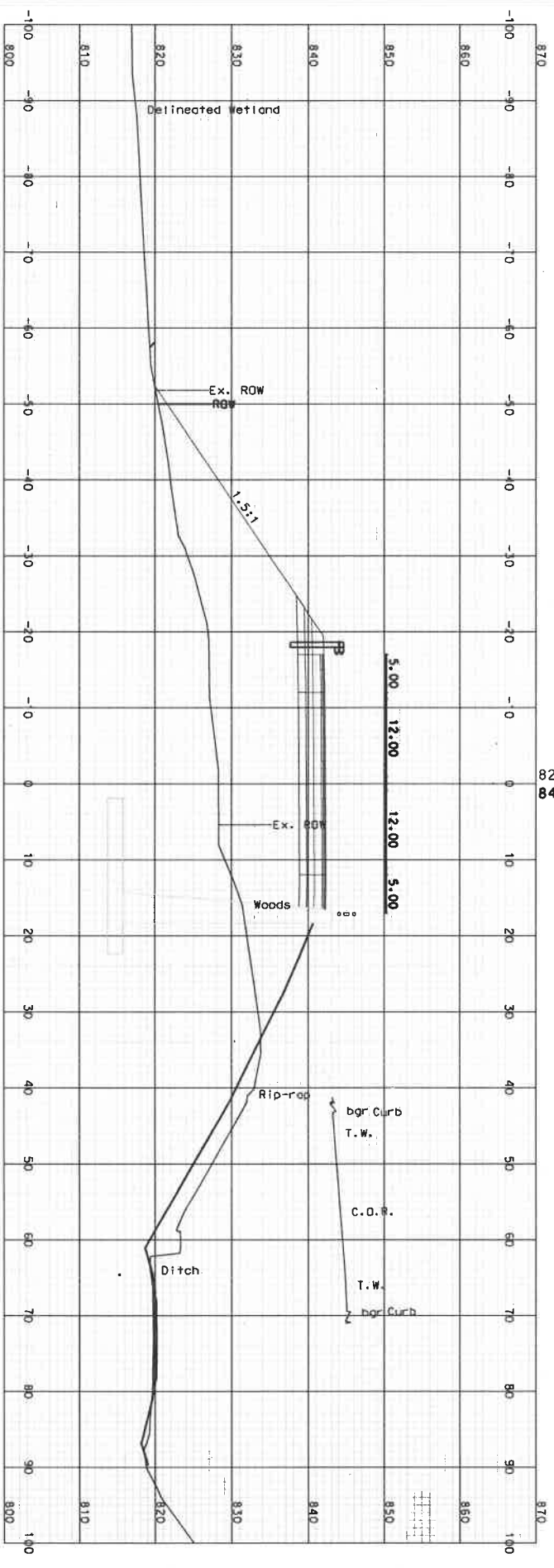
NUMBER	DATE	STATION	STATION	DESCRIPTION
REVISIONS AFTER PROPOSAL				



STA. 111+00.0000



STA. 110+50.0000

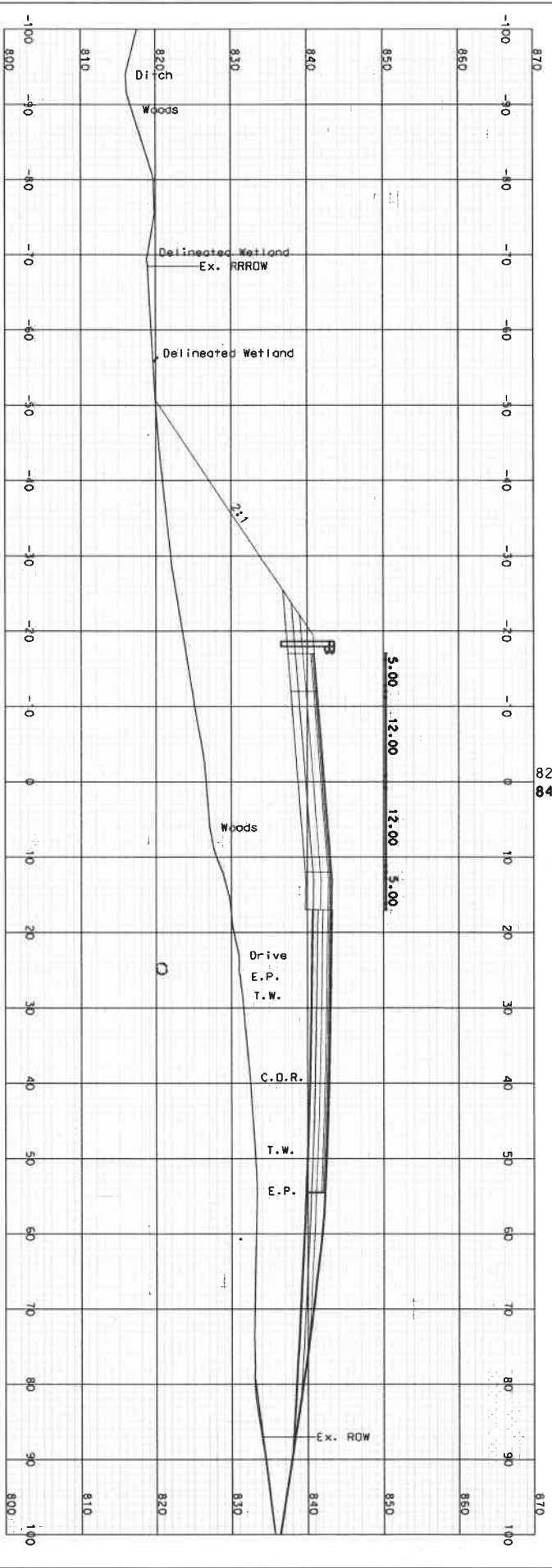


STA. 110+00.0000

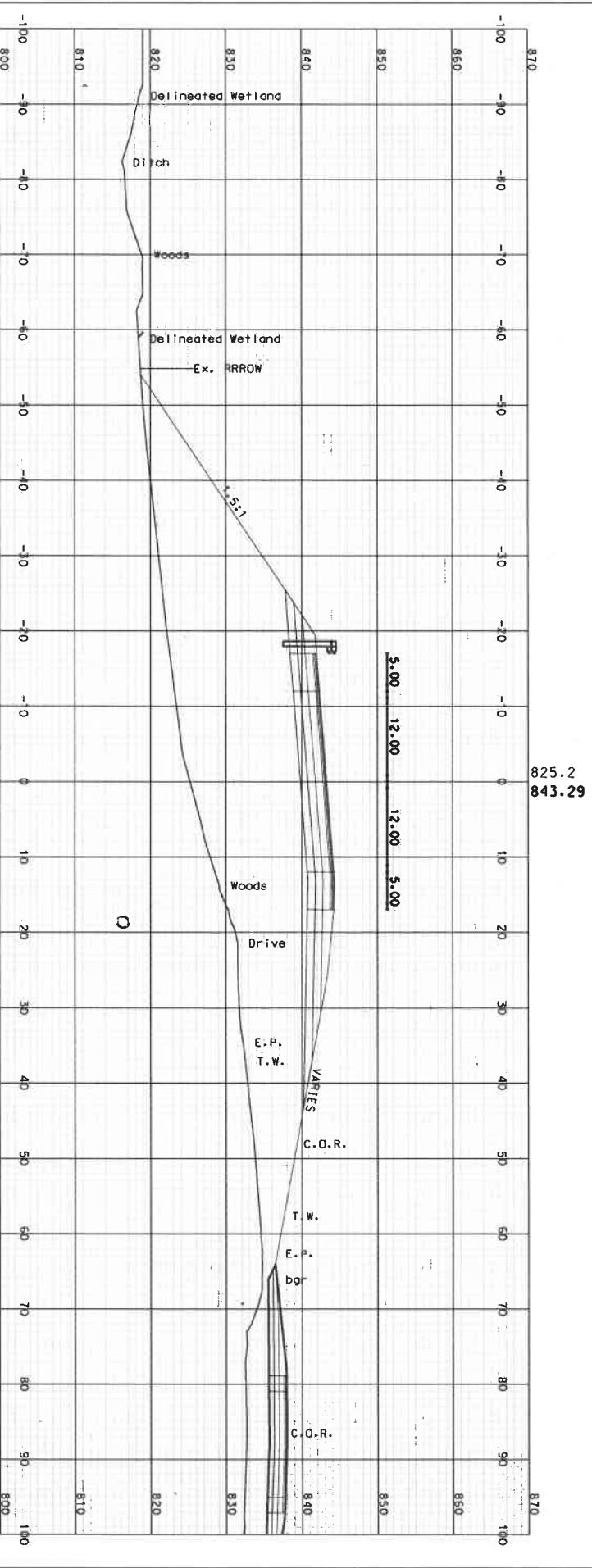
DRAINAGE		SHEET TOTALS	
COMMON EXCAV.	-	ROCK EXCAV.	-
FILL	-	C.Y.	-
CON	-	STATE PROJECT NO.	16303
		SHEET NO.	6
		TOTAL SHEETS	13

SDR PROCESSED	NAME1	DATE	DATE1
NEW DESIGN	NAME2	DATE	DATE2
SHEET CHECKED	NAME3	DATE	DATE3
AS BUILT DETAILS		DATE	

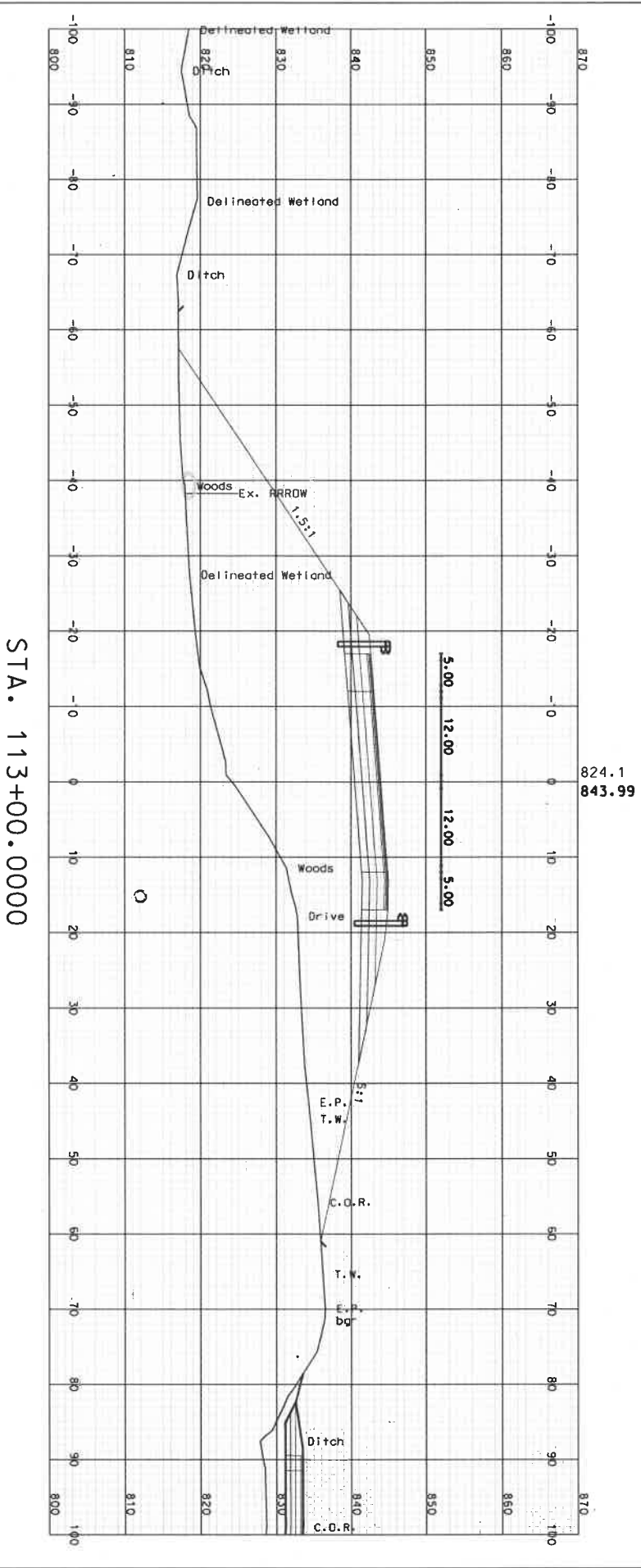
NUMBER	DATE	STATION	REVISIONS AFTER PROPOSAL	DESCRIPTION



STA. 114+00.0000



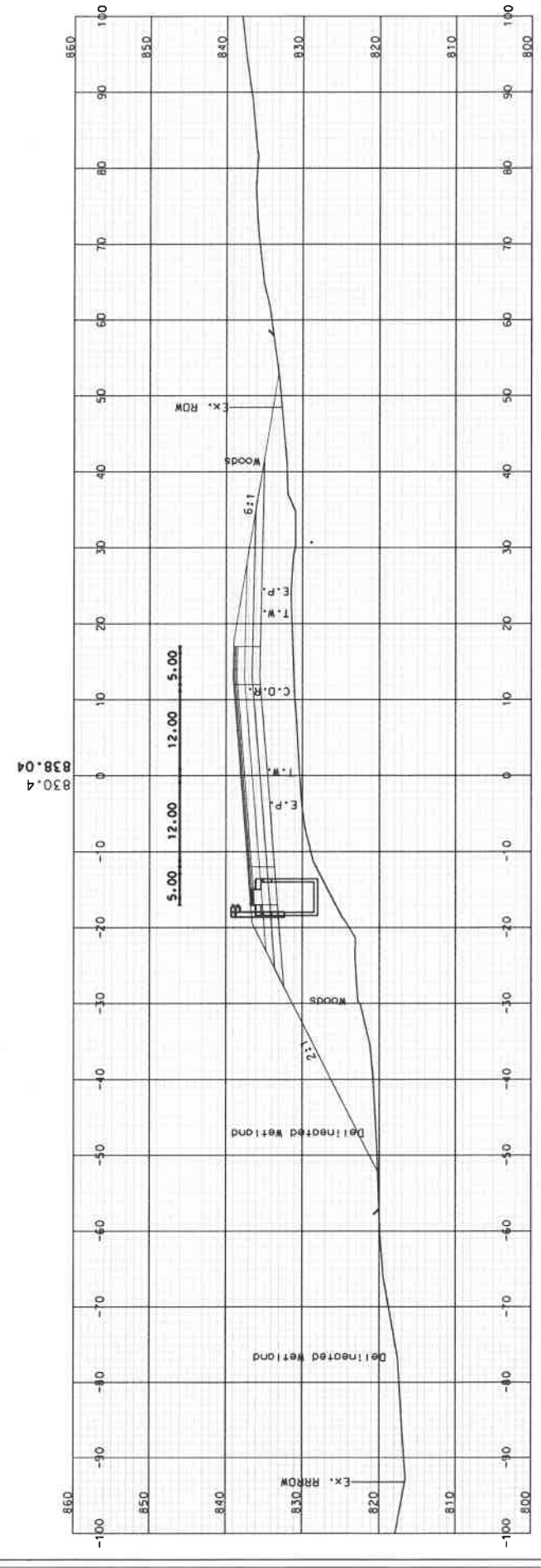
STA. 113+50.0000



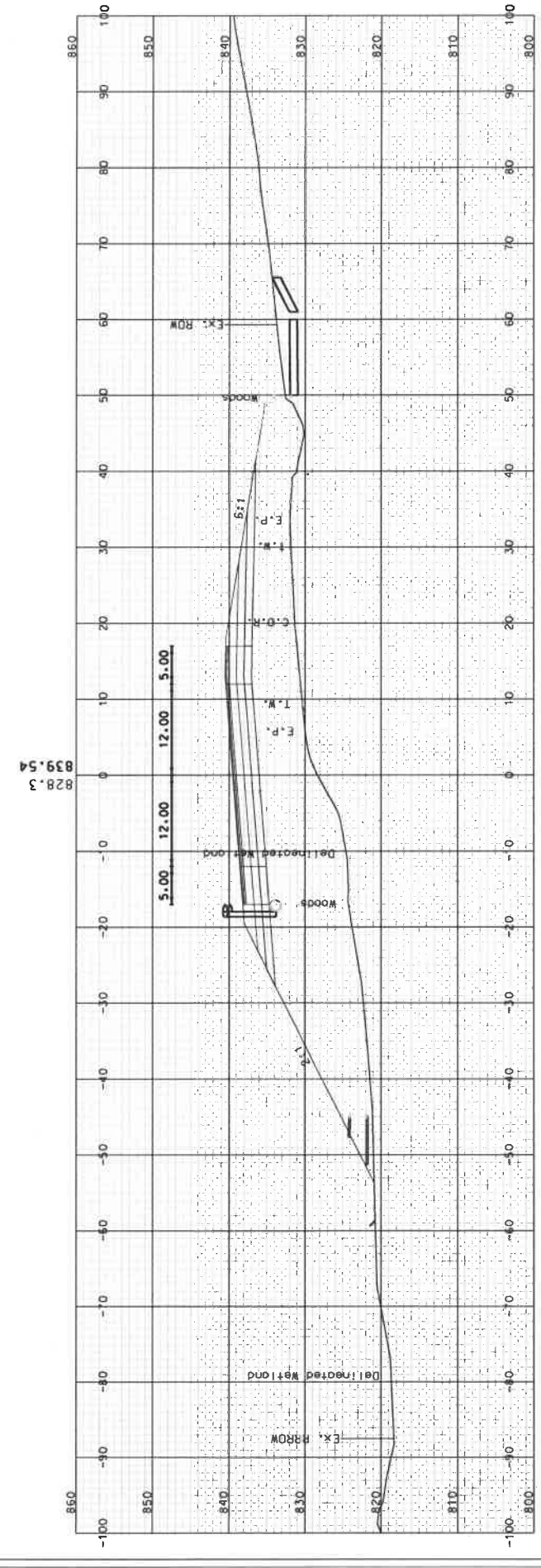
STA. 113+00.0000

DANBURY		SHEET TOTALS	
COMMON EXCAV.	—	ROCK EXCAV.	—
FILL	—	MUCK EXCAV.	—
DN	—	SHEET NO.	8
STATE PROJECT NO.	16303	TOTAL SHEETS	13

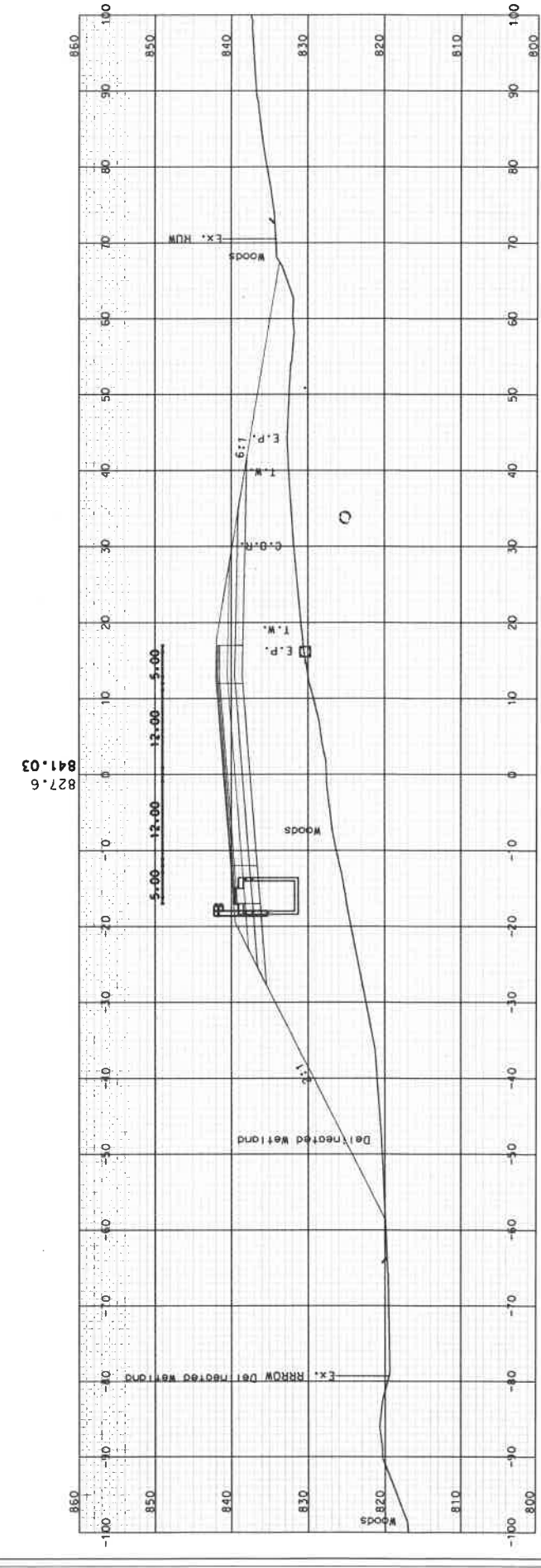
SDR PROCESSED			DATE			DATE			DATE			REVISIONS AFTER PROPOSAL		
NAME1	NAME2	NAME3	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	STATION	DESCRIPTION
AS BUILT DETAILS														



STA. 115+50.0000



STA. 115+00.0000

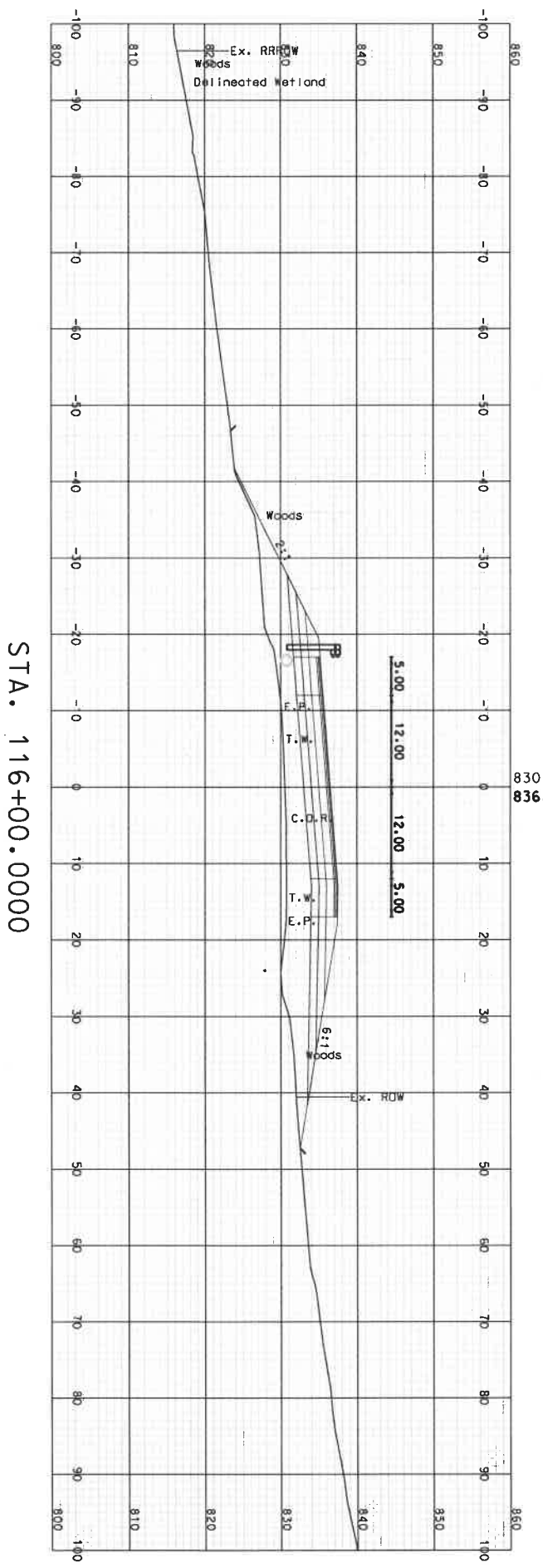
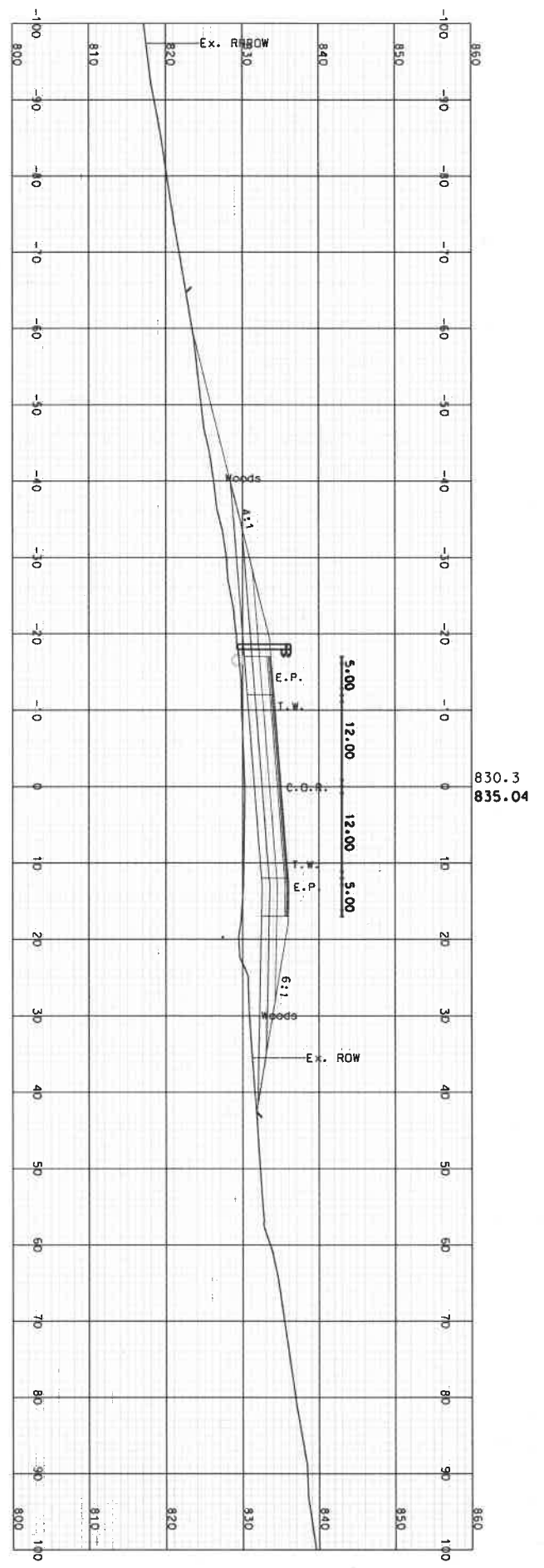
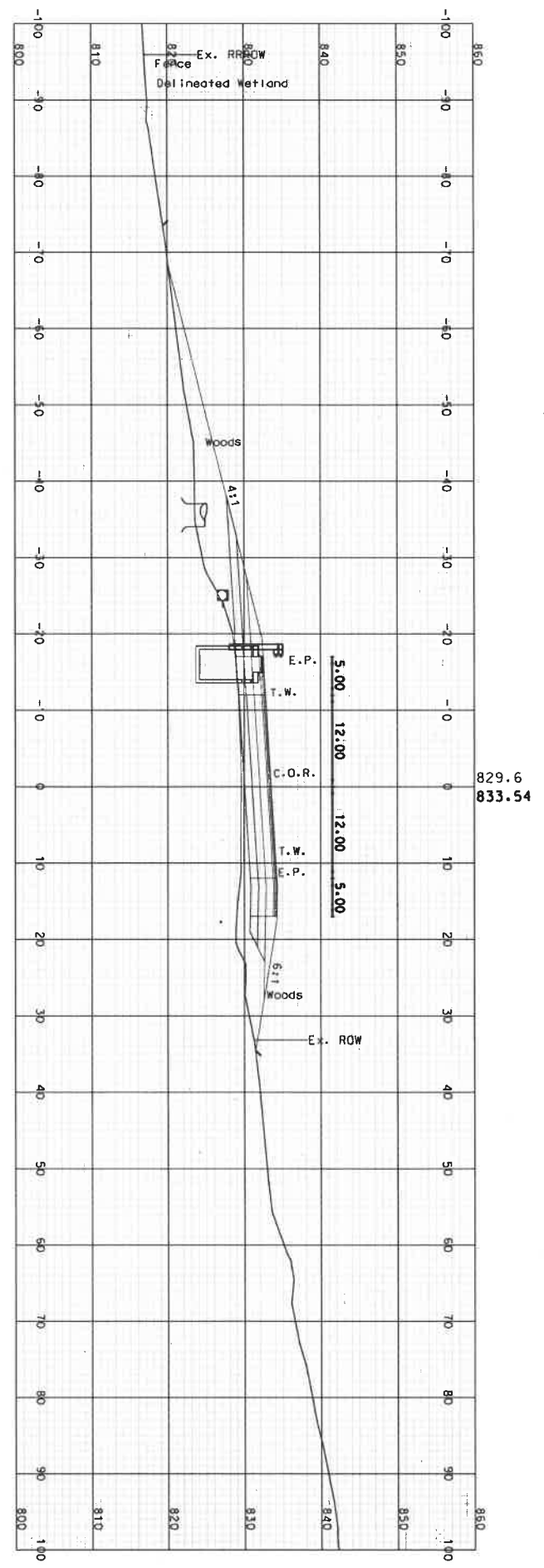


STA. 114+50.0000

DANBURY		SHEET TOTALS	
COMMON EXCAV.	—	C.Y.	—
FILL	—	C.Y.	—
ROCK EXCAV.	—	C.Y.	—
MUCK EXCAV.	—	C.Y.	—
DON	—	C.Y.	—
16303-XSECTIONS		STATE PROJECT NO.	16303
		SHEET NO.	9
		TOTAL SHEETS	13

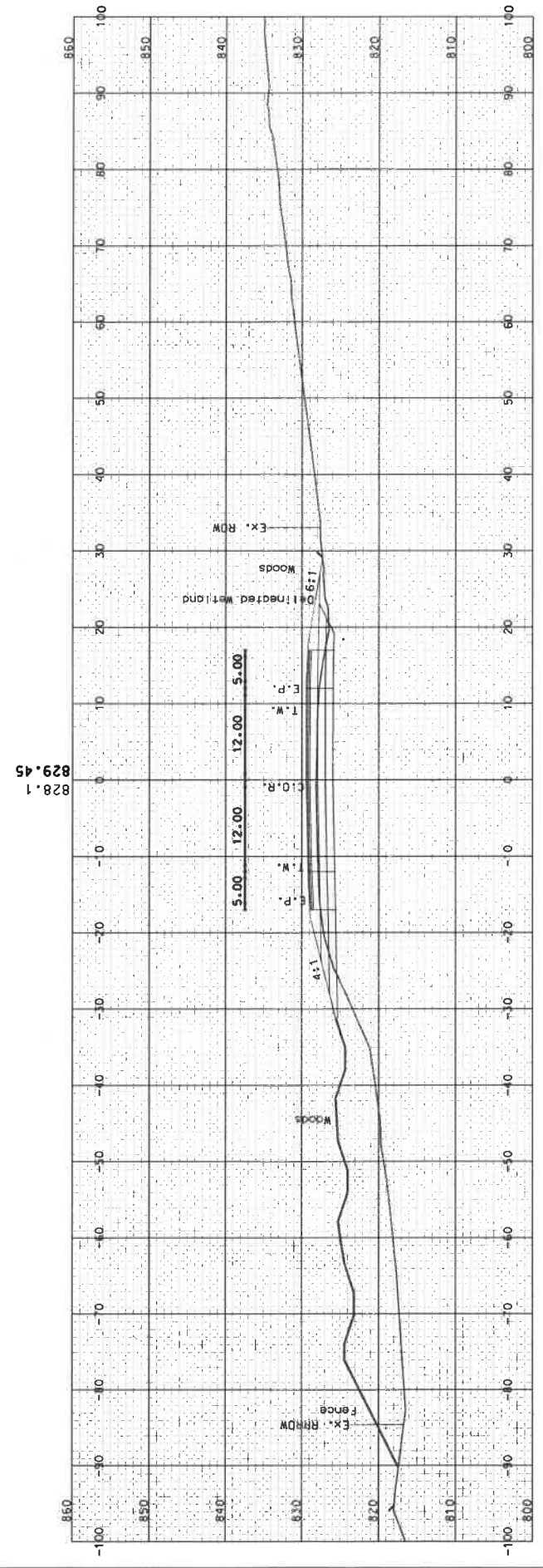
SUR PROCESSED NAME1	DATE DATE1
NEW DESIGN NAME2	DATE DATE2
SHEET CHECKED NAME3	DATE DATE3
AS BUILT DETAILS	DATE

REVISIONS AFTER PROPOSAL		DESCRIPTION
NUMBER	DATE	STATION

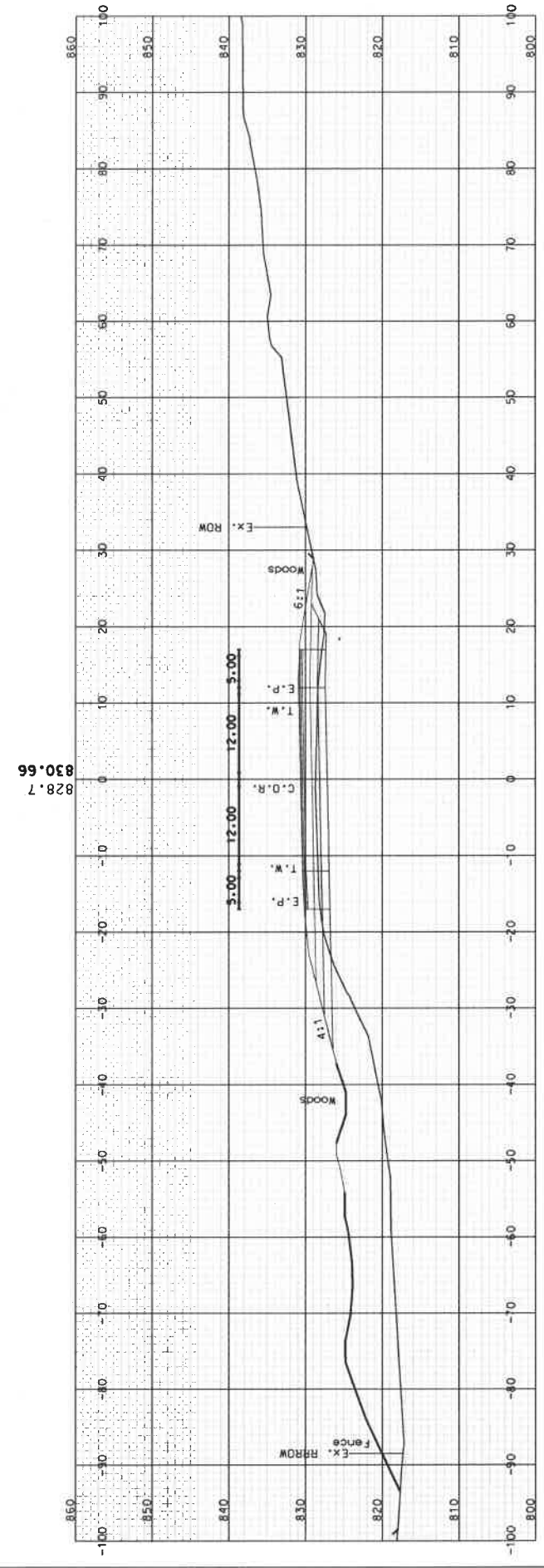


DUNBURY		SHEET TOTALS	
COMMON EXCAV.	—	ROCK EXCAV.	—
FILL	—	MARK EXCAV.	—
CON	—	SHEET NO.	10
STATE PROJECT NO.	16303	TOTAL SHEETS	13
16303-XSECTIONS			

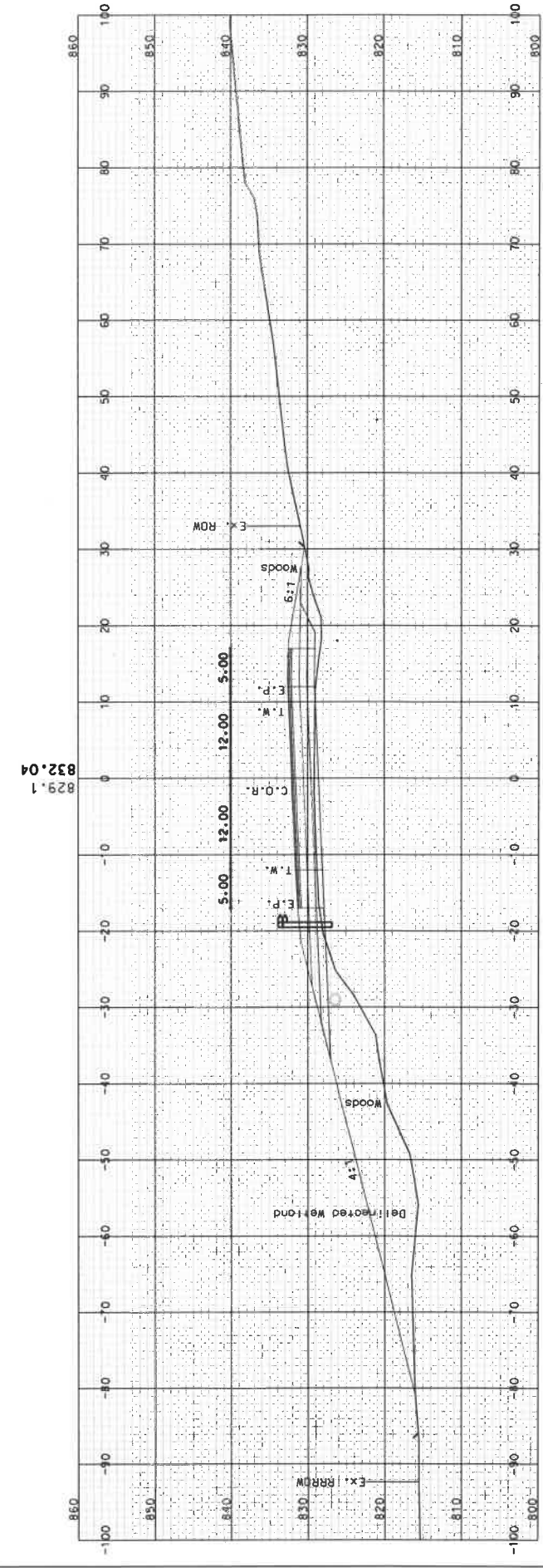
SOR PROCESSED			DATE			REVISIONS AFTER PROPOSAL		
NAME1	DATE	DATE	DATE	DATE	DATE	NUMBER	STATION	DESCRIPTION
NEW DESIGN	NAME2	DATE	DATE	DATE	DATE			
SHEET CHECKED	NAME3	DATE	DATE	DATE	DATE			
AS BUILT DETAILS								



STA. 118+50.0000



STA. 118+00.0000

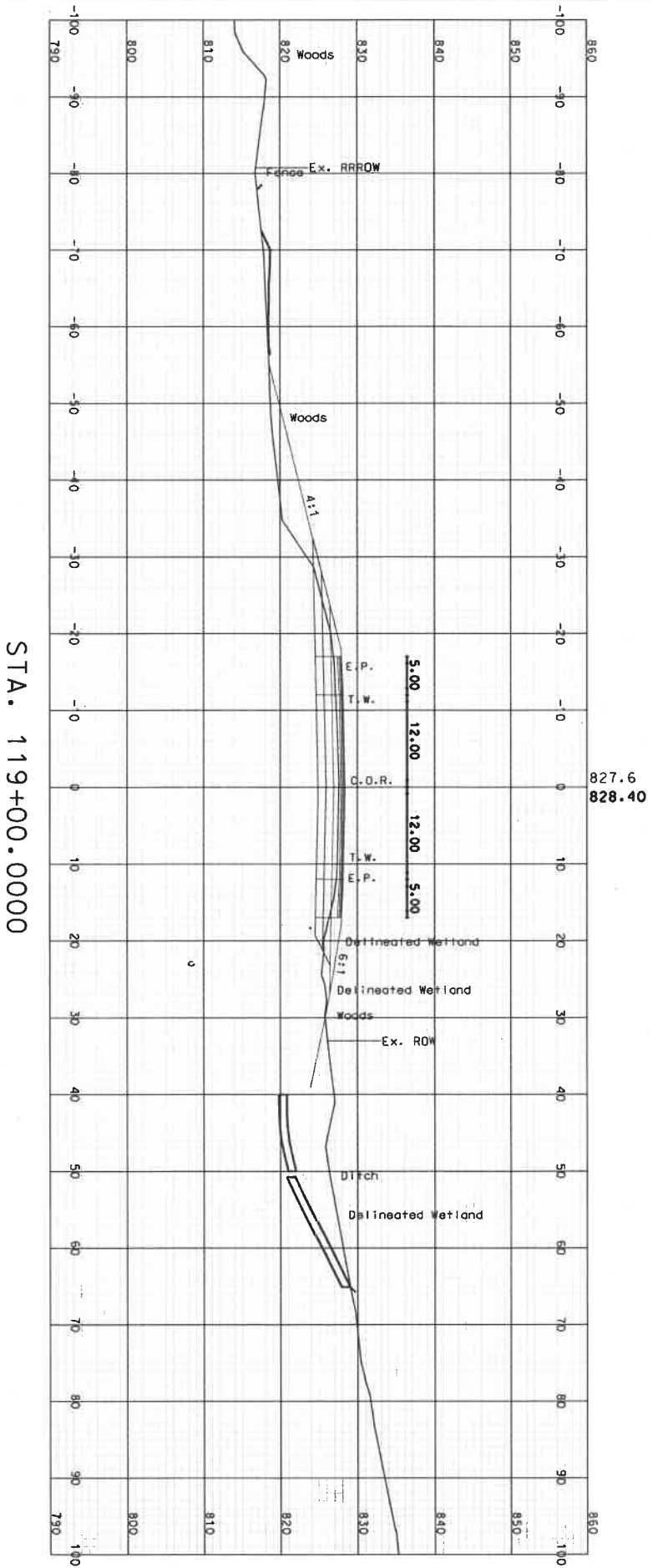
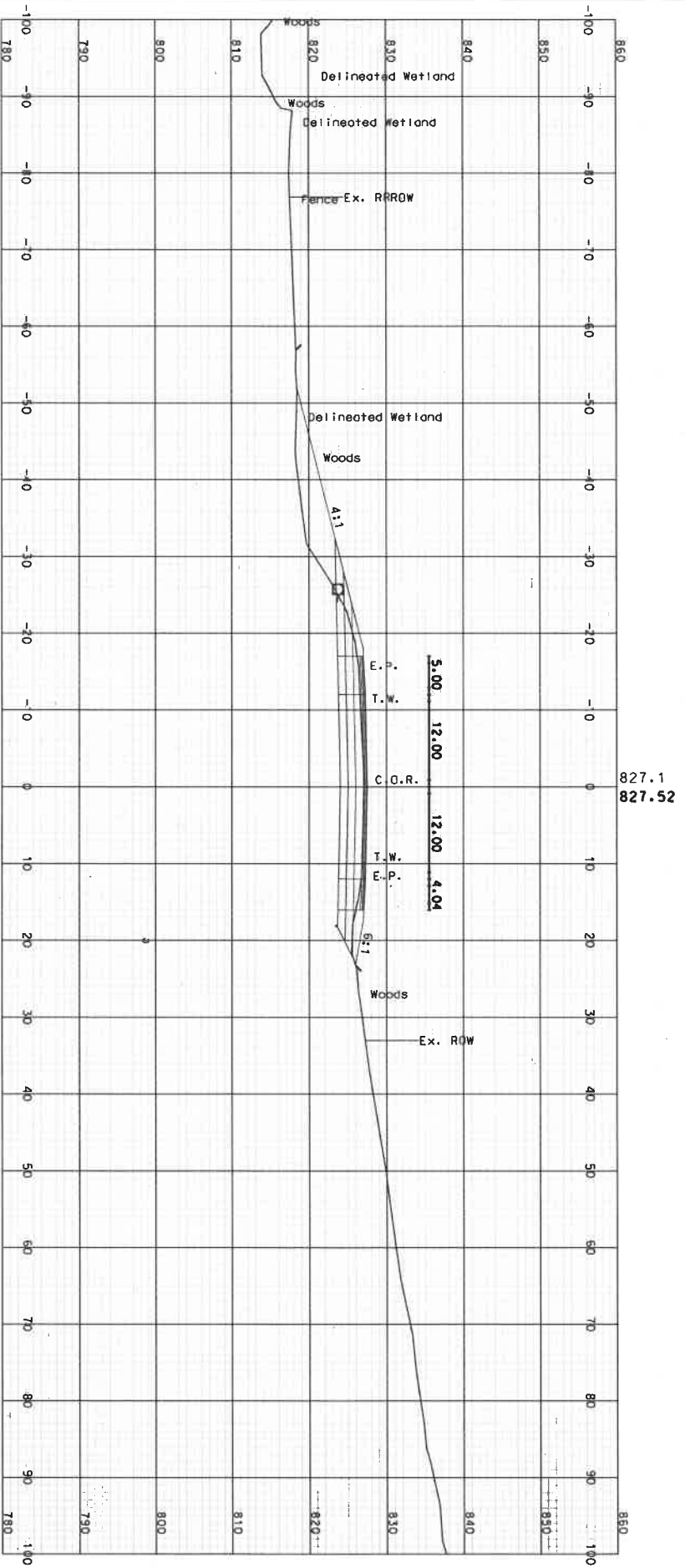
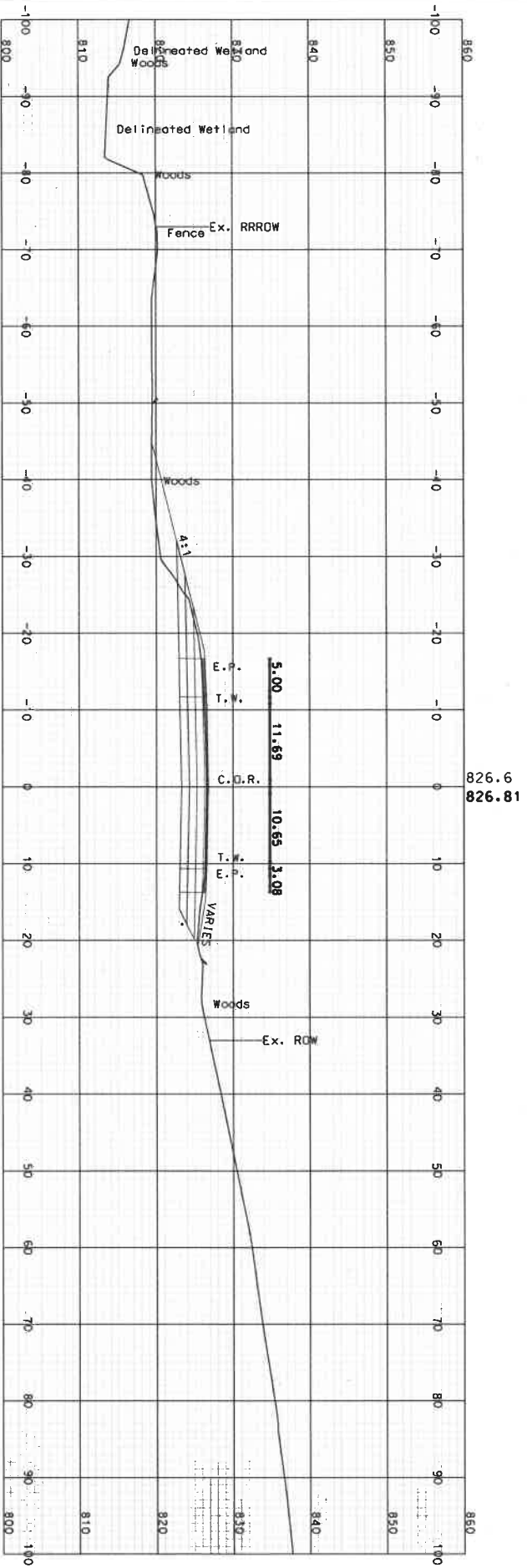


STA. 117+50.0000

DANBURY		SHEET TOTALS	
COMMON EXCAV.	FILL	C.Y.	ROCK EXCAV.
-	-	-	-
DGN		STATE PROJECT NO.	SHEET NO.
16303-XSECTIONS		16303	11
TOTAL SHEETS			13

SBR PROCESSED NAME1	DATE DATE1
NEW DESIGN NAME2	DATE DATE2
SHEET CHECKED NAME3	DATE DATE3
AS BUILT DETAILS	DATE

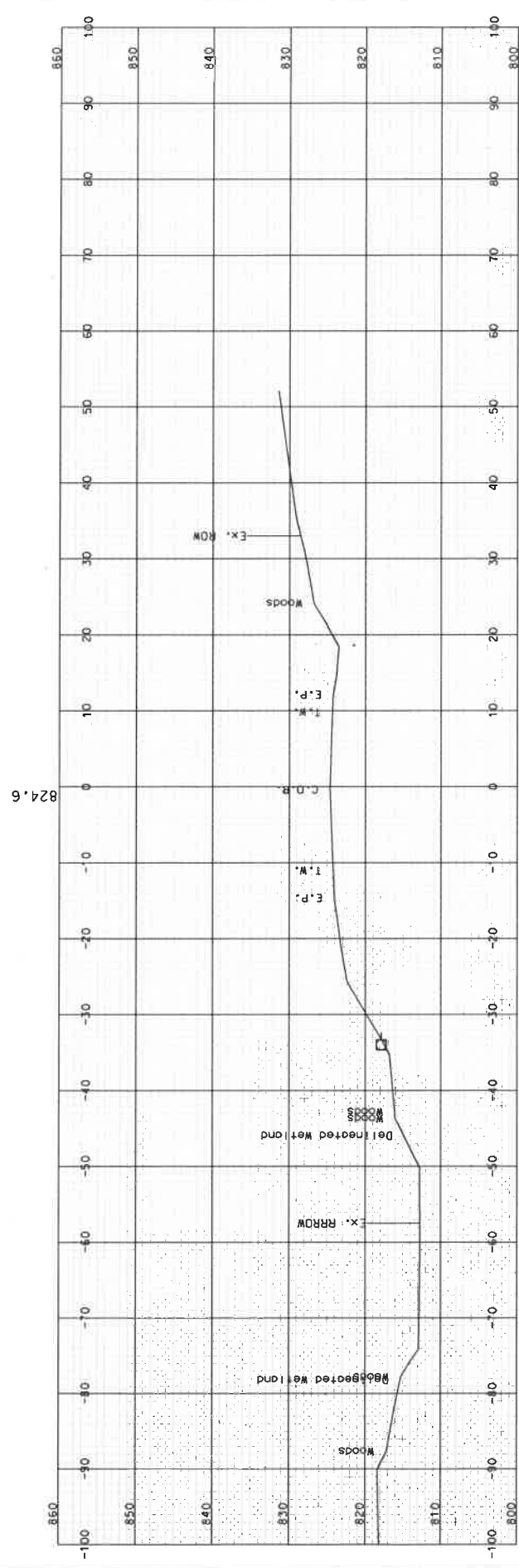
NUMBER	DATE	STATION	REVISIONS AFTER PROPOSAL	DESCRIPTION



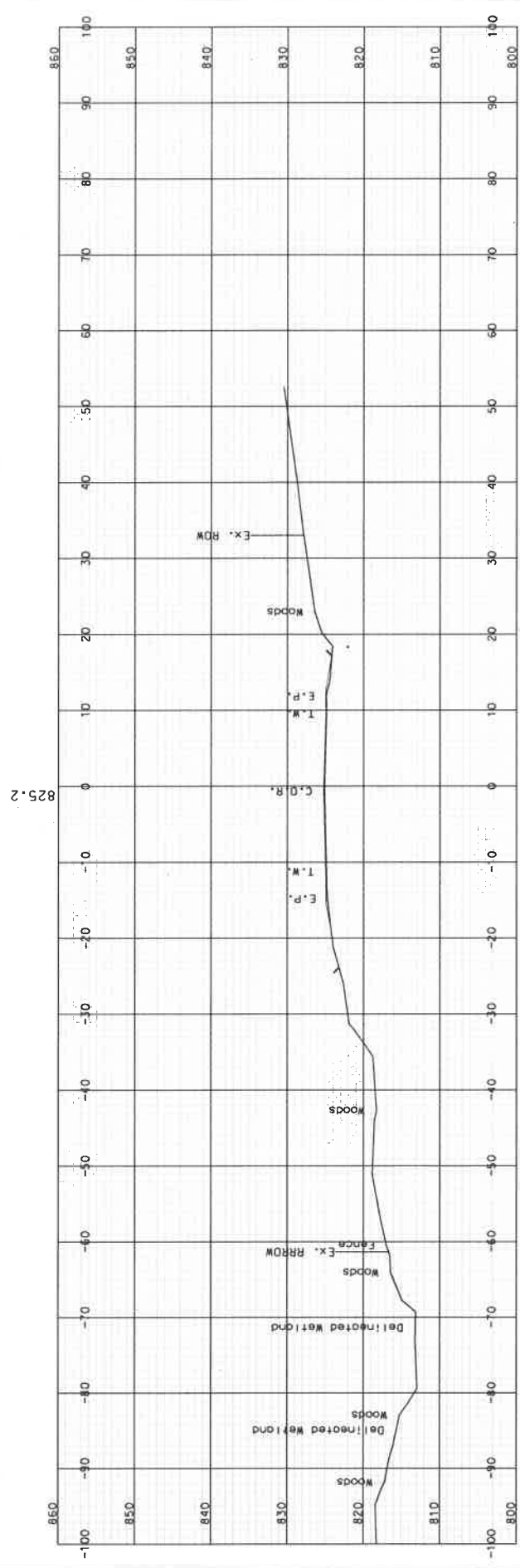
DANBURY		SHEET TOTALS	
COMMON EXCAV.	—	ROCK EXCAV.	—
FILL	—	WIDE EXCAV.	—
DCW	—	STATE PROJECT NO.	16303
16303-xsections		SHEET NO.	12
		TOTAL SHEETS	13

SDR PROCESSED NAME1	DATE	DATE1
NEW DESIGN NAME2	DATE	DATE2
SHEET CHECKED NAME3	DATE	DATE3
AS BUILT DETAILS	DATE	

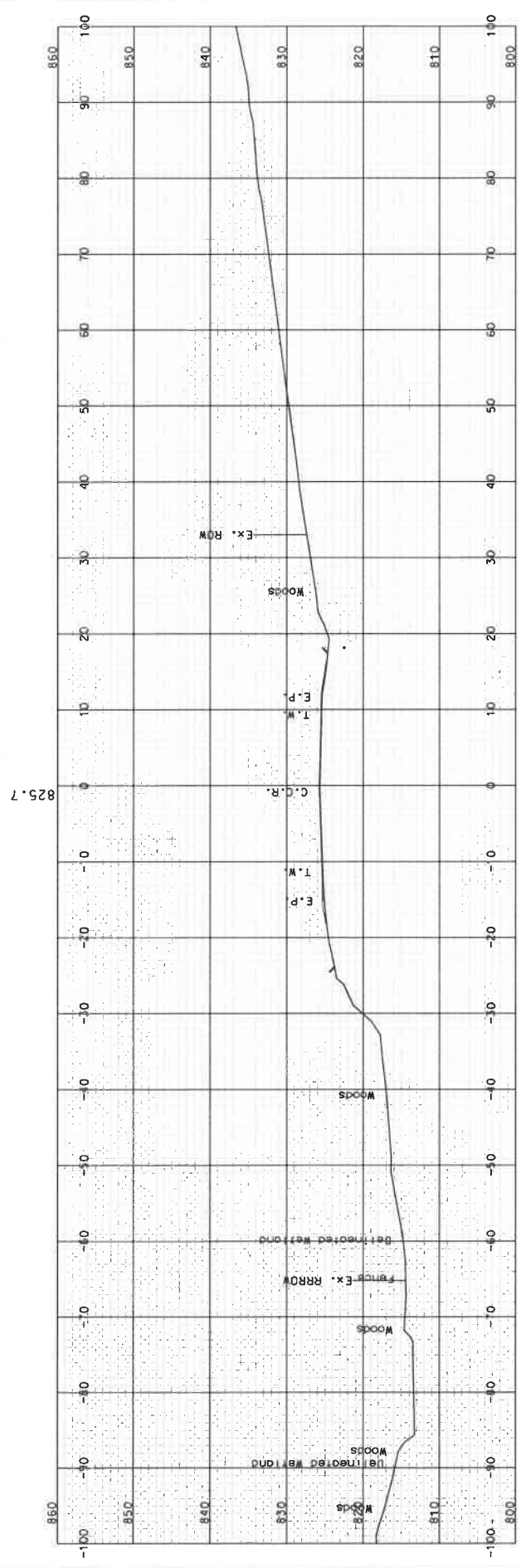
REVISIONS AFTER PROPOSAL	
NUMBER	DESCRIPTION



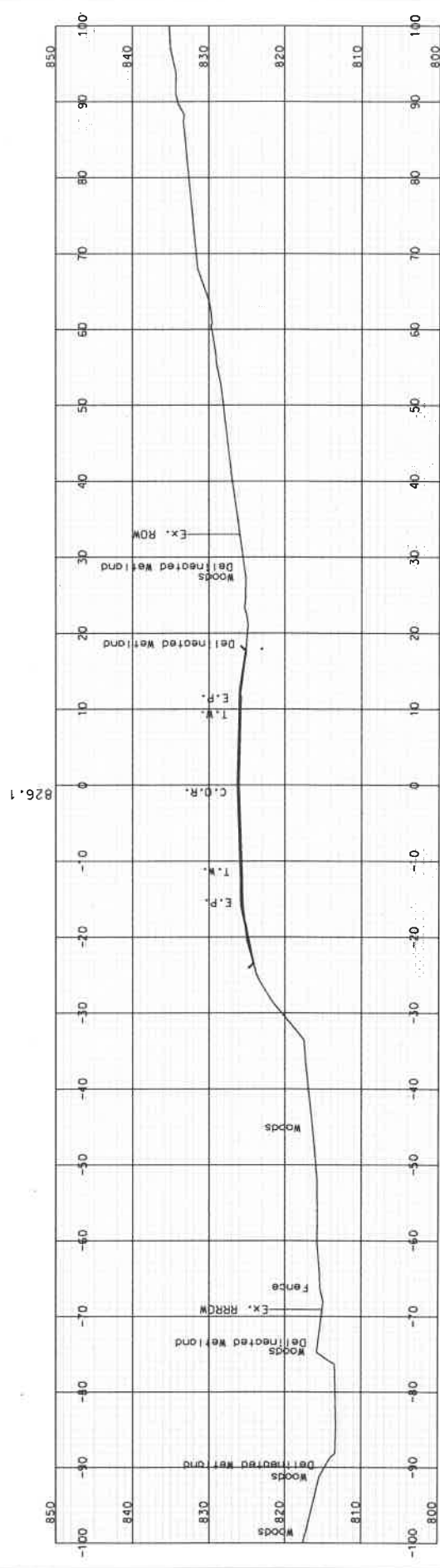
STA. 122+00.0000



STA. 121+50.0000



STA. 121+00.0000



STA. 120+50.0000

DANBURY COMMON		SHEET TOTALS	
EXCAV.	C.Y.	ROCK EXCAV.	C.Y.
FILL	C.Y.	MUCK EXCAV.	C.Y.
DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
16303-xsections	16303	13	13