



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

February 18, 2025

MEMO TO: Division 3 Environmental and Construction Units

FROM: Mason Herndon
Division 3 PDEA Engineer *MH*

SUBJECT: Section 404 Individual Permit Modification and Section 401 Water Quality Certification Modification for construction of the Hampstead Bypass from NC 140 (Wilmington Bypass) to NC 210 in New Hanover and Pender Counties. WBS 40237.1.3, TIP No. R-3300A

Please find enclosed the following modifications to the U.S. Army Corps of Engineers Individual Section 404 Permit, N.C. Division of Water Resources (NCDWR) 401 Water Quality Certification and Division of Coastal Management Federal Consistency Determination for construction of the Hampstead Bypass from NC 140 (Wilmington Bypass) to NC 210 in New Hanover and Pender Counties. The current U-4751/R-3300 permit expiration date is **December 31, 2030**.

The Division Environmental Office must be consulted if any deviations from the permit(s) or accompanying permit drawings are required.

NCDOT PROJECT COMMITMENTS

Proposed US 17 Hampstead Bypass A - Section New Hanover and Pender Counties State Project 40237.1.3 STIP Projects R-3300A

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Division 3 Construction

R-3300A involves construction activities on or adjacent to two FEMA-regulated streams, permit Sites 21 and 27, which are both unnamed tributaries to Island Creek. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of construction, certifying the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

At individual project sites where a total of 1.0 acre or more of tree clearing will occur, no tree clearing will occur during the portion of the day that the air temperature is <40 degrees F to protect northern long-eared bats (NLEBs) that may be in torpor. This restriction is only subject to the known/potential range (30 coastal counties) identified in the PBO which includes New Hanover and Pender Counties.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
WASHINGTON REGULATORY OFFICE
2407 WEST FIFTH STREET
WASHINGTON, NORTH CAROLINA 27889

February 18, 2025

Regulatory Program

Sent Via Email: tmherndon@ncdot.gov

NC Department of Transportation (NCDOT)
Mr. Mason Herndon
5501 Barbados Boulevard
Castle Hayne, North Carolina 28429-5647

Dear Mr. Herndon:

The U.S. Army Corps of Engineers (Corps) is pleased to enclose the Department of the Army permit to construct the Hampstead Bypass (R-3300-A) on new location, in New Hanover and Pender Counties, North Carolina, which should be made available at the construction site. R-3300-A is located between the terminus of Military Cutoff Road (T.I.P. No. U-4751) at I-140 and NC-210 at the terminus of R-3300 B. Work may begin immediately but the Corps must be notified of:

- a. The date of commencement of the work,
- b. The dates of work suspensions and resumptions of work, if suspended over a week, and
- c. The date of final completion.

This information should be emailed to the Wilmington District South Atlantic Division at NCDOT_REG@usace.army.mil. The Corps is also responsible for inspections to determine whether Permittees have strictly adhered to permit conditions. Other notable conditions:

- a. You must complete construction before **December 31, 2030**.
- b. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

Should you require any changes to the work authorized or obligated by this permit, it is the responsibility of the Permittee to submit a modification request to the South Atlantic, Washington Field Office. The Corps will evaluate the request and determine whether it is appropriate to modify the terms and conditions of the permit. The Permittee

must obtain written approval of the requested modifications from the Corps prior to initiation of those changes.

If you have any questions concerning this correspondence, please contact Thomas Steffens, WRDA Project Manager of the Washington Field Office at (910) 251-4615, by mail at the above address, or by email at thomas.a.steffens@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

FOR THE CHIEF, REGULATORY DIVISION

A handwritten signature in black ink that reads "M. Scott Jones". The signature is written in a cursive, flowing style.

M. Scott Jones, PWS
NCDOT/WRDA Branch Chief
USACE - Wilmington District

Enclosures

Department of the Army Permit
Special Conditions
Plans

E-Copy Furnished w/attachments:

NC DEQ, DWR – Holly Snider holley.snider@deq.nc.gov
NC DEQ, DCM – Cathy Brittingham cathy.brittingham@deq.nc.gov
NC DEQ, DCM – Stephen Lane stephen.lane@deq.nc.gov
USFWS, Gary Jordan - gary_jordan@fws.gov
USEPA, Todd Bowers - bowers.todd@epa.gov

DEPARTMENT OF THE ARMY PERMIT

Permittee **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**
ATTN: MR. MASON HERNDON

Permit No. **SAW-2007-01386, STIP R-3300-A**

Issuing Office **CESAW-RG-WRDA**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Construction of STIP R-3300-A, involves the discharge of fill to permanently impact 13.894 acres of riparian wetlands and 19.269 acres of non-riparian wetlands. Construction includes permanent impacts to streams of 4,868 linear feet. Temporary impacts include temporary fill and hand-clearing in wetlands. This includes 0.9230 acres of riparian wetlands and 1.863 acre of non-riparian wetlands, and temporary impacts to surface waters of 460 linear feet. The hand clearing totals due to the project construction are 1.163 acres.

Project Location: The R-3300-A project, (aka Hampstead Bypass), is located between the terminus of Military Cutoff Road (T.I.P. No. U-4751) at I-140 and NC-210 at the terminus of R-3300 B in New Hanover and Pender Counties, North Carolina. (Action ID SAW-2007-01386)

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2030**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



 (PERMITTEE) NC DEPARTMENT OF TRANSPORTATION
 ATTN: MR. MASON HERNDON

2/14/25

 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


 _____, FOR
 (DISTRICT COMMANDER) BRAD A. MORGAN, COLONEL

18 FEB 2025

 (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

 (TRANSFeree)

 (DATE)

SPECIAL CONDITIONS

1. Green sheets: All Green Sheet and/or Categorical Exclusion (CE) project commitments for R-3300-A Hampstead Bypass project are hereby incorporated by reference as special conditions of this permit.
2. Work Limits: All work authorized by this permit shall be performed in strict compliance with the attached permit plans dated November 22, 2024, which are a part of this permit. The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the US Army Corps of Engineers prior to any active construction in waters or wetlands.
 - a. Except as authorized by this permit or any U.S. Army Corps of Engineers approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and waste activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.
3. Permit Distribution: The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions, drawings and attachments shall be available at the project site during the construction and maintenance of this project.
4. Pre-Construction Meeting: The Permittee shall schedule and attend a preconstruction meeting between its representatives, the contractors' representatives, and the U.S. Army Corps of Engineers, Washington Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit. The Permittee shall provide the Corps, Washington Regulatory Field Office, NCDOT Project Manager, with a copy of the final permit plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The Permittee shall schedule the

preconstruction meeting for a time frame when the Corps, NCDCM, and NCDWR Project Managers can attend. The Permittee shall invite the Corps, NCDCM, and NCDWR Project Managers a minimum of thirty (30) days in advance of the scheduled meeting to provide those individuals with ample opportunity to schedule and participate in the required meeting. The thirty (30) day requirement can be waived with the concurrence of the Corps.

5. Notification of Construction Commencement and Completion: The Permittee shall notify the U.S. Army Corps of Engineers in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

6. Reporting Address: All reports, documentation, and correspondence required by the conditions of this permit shall be submitted to the following: U.S. Army Corps of Engineers, Wilmington District Washington Regulatory Field Office, Attn: Mr. Thomas Steffens, 2407 West 5th St., Washington, NC 27889. The Permittee shall reference the following permit number, SAW-2007-01386, on all submittals.

7. Permit Revocation: The Permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition. Reporting Violations: Violation of these permit conditions or violation of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act shall be reported to the Corps in writing and by telephone at: 910-251-4615 within 24 hours of the Permittee's discovery of the violation.

8. Clean Fill: The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, construction debris, metal and plastic products, and concrete block with exposed reinforcement bars. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source.

9. Endangered Species Act: The Permittee shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally listed threatened or endangered species. While accomplishing the authorized work, if the Permittee discovers or observes an injured or dead threatened or endangered species, the U.S. Army Corps of Engineers, Wilmington District, Washington Regulatory Field Office, Attn: Thomas Steffens at 910-251-4615, or thomas.a.steffens@usace.army.mil will be immediately notified to initiate the required Federal coordination.

a. Northern long-eared bat

The USFWS has issued a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers

(USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this programmatic covers Divisions 1-8, The USFWS only considers NLEBs to be known or potentially found in 30 counties within Divisions 1-8. NCDOT, FHWA, and USACE have agreed to two conservation measures which will avoid/minimize mortality of NLEBs. These conservation measures only apply to the 30 current known/potential counties shown on Figure 2 of the PBO at this time. The programmatic determination for NLEB for the NCDOT program is May Affect, Likely to Adversely Affect. The PBO will ensure compliance with Section 7 of the Endangered Species Act for ten years (effective through December 31, 2030) for all NCDOT projects with a federal nexus in Divisions 1-8, which includes New Hanover and Pender Counties, where R-3300A is located.

b. Tricolored bat

The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Conference Opinion (PCO) titled "NCDOT Program Effects on the Tricolored Bat in Divisions 1-8", dated November 20, 2023, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the PCO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the PCO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the PCO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PCO, and with the ESA.

10. Culverts:

a.) Unless otherwise requested in the application and depicted on the approved permit plans, culverts greater than 48 inches in diameter shall be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert shall be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Culverts shall be designed and constructed in a Manner that minimizes destabilization and head cutting.

b.) Measures shall be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bank full flow can be used as a comparable level.

c.) The Permittee shall implement all reasonable and practicable measures to ensure that equipment, structures, fill pads, work, and operations associated with this project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, flooding, and/or stream bank erosion. The Permittee shall routinely monitor for these effects, cease all work when detected, take initial corrective measures to correct actively eroding areas, and notify this office immediately. Permanent corrective measures may require additional authorization by the Corps.

d.) Culverts placed within wetlands must be installed in a manner that does not restrict the flows and circulation patterns of waters of the United States. Culverts placed across wetland fills purely for the purposes of equalizing surface water shall not be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

11. Sediment and Erosion Control:

a.) During the clearing phase of the project, heavy equipment shall not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

b.) No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit. This includes, but is not limited to, sediment control fences and other barriers intended to catch sediment losses.

c.) The Permittee shall remove all sediment and erosion control measures placed in waters and/or wetlands, orange safety fencing and shall restore natural grades on those areas, prior to project completion.

d.) The Permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to ensure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to ensure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project shall remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A, Article 4). Adequate sedimentation and erosion control measures shall be implemented prior to

any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures shall be inspected and maintained regularly, especially following rainfall events. All fill material shall be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters and wetlands.

12. Temporary Fills: Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability.

Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact areas from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the USACE, the permittee shall schedule an agency field meeting with the USACE to determine if the temporarily impacted wetlands by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the USACE shall determine if additional compensatory wetland mitigation is required.

13. Borrow and Waste: To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the Permittee shall require its contractors and/or agents to identify all areas to be used as borrow and/or waste sites associated with this project. The Permittee shall provide the U.S. Army Corps of Engineers with appropriate maps indicating the locations of proposed borrow and/or waste sites as soon as such information is available. The Permittee shall submit to the Corps site-specific information needed to ensure that borrow and/or waste sites comply with all applicable Federal requirements, to include compliance with the Endangered Species Act and the National Historic Preservation Act, such as surveys or correspondence with agencies (e.g., the USFWS, the NC-HPO, etc.). The required information shall also include the location of all aquatic features, if any, out to a distance of 400 feet beyond the nearest boundary of the site. The Permittee shall not approve any borrow and/or waste sites before receiving written confirmation from the Corps that the proposed site meets all Federal requirements, whether or not waters of the U.S., including wetlands, are located in the proposed borrow and/or waste site. All delineations of aquatic sites on borrow and/or waste sites shall be verified by the U.S. Army Corps of Engineers and shown on the approved reclamation plans. The Permittee shall ensure that all borrow and/or waste sites comply with Special Condition 2.a. of this permit. Additionally, the Permittee shall produce and maintain documentation of all borrow and waste sites associated with this project. This documentation will include data regarding soils, vegetation, hydrology, any delineation(s) of aquatic sites, and any jurisdictional determinations made by the Corps to clearly demonstrate compliance with Special

Condition 2.a. All information will be available to the U.S. Army Corps of Engineers upon request. The Permittee shall require its contractors to complete and execute reclamation plans for each borrow and/or waste site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the U.S. Army Corps of Engineers within 30 days of the completion of the reclamation work.

14. Mitigation: To compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit.

15. Utilities and Temporary Impacts Restoration Measures: Within thirty (30) days of the date of completing the authorized work, the Permittee shall remove all temporary fills in waters of the United States and restore the affected areas to pre-construction contours and elevations. The affected areas shall be re-vegetated with native, non-invasive vegetation as necessary to minimize erosion and ensure site stability. In wetland areas where pipeline installation via trenching is authorized, wetland topsoil shall be segregated from the underlying subsoil, and the top 6 to 12 inches of the trench shall be backfilled with topsoil from the trench.

Cleared wetland areas shall be re-vegetated with a wetland seed mix or a mix of native woody species. Fescue grass or any invasive species such as Lespedeza spp., shall not be used within the wetland areas.

Rationale: The above Special Conditions reflect the reasoning of how the permittee will perform the work and remain compliant with Cultural Resources (Section 106), Endangered Species (Section 7), Soil and Erosion Control, Mitigation and other compliance measures.

JOSH STEIN

Governor

D. REID WILSON

Secretary

RICHARD E. ROGERS, JR.

Director



February 11, 2025

Mason Herndon, Project Development Environmental Engineer
NC DOT Division 3
5501 Barbados Drive
Castle Hayne, NC 28429

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for the proposed Hampstead Bypass in Pender County, State Project No.
40237.3.2, TIP R-3300A.
NCDWR Project No. 20161268v8

Dear Mr. Herndon:

Attached hereto is a copy of Certification No. 004116 (this is the Individual Certification No.) issued to The North Carolina Department of Transportation (NCDOT) dated June 5, 2017 and modified on March 1, 2019, June 17, 2020, October 22, 2021, January 20, 2022, August 25, 2022, April 26, 2023 and February 11, 2025.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,
Signed by:


375CAE2BB9F540C...

Richard E. Rogers, Jr., Director
Division of Water Resources

Attachments

cc: Tom Steffens, USACE Washington Regulatory Field Office (via email)
Jon Giles, NCDOT Division 3 Environmental Officer
Amanetta Somerville, US Environmental Protection Agency



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Stephen Lane, NC Division of Coastal Management
Jason Elliott, NCDOT, Natural Environment Section
Beth Harmon, Division of Mitigation Services
Holley Snider, NCDWR Transportation Branch - WiRO
File Copy

401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to permanently impact 33.163 acres of jurisdictional wetlands, 0.579 acres of open water and 4,220 linear feet of jurisdictional streams (Intermittent: 107 linear feet and perennial 3,653 linear feet) in Pender County. The project shall be constructed pursuant to the application dated received November 22, 2024. The authorized impacts are as described below:

Stream Impacts in the Cape Fear River Basin

Permit Drawing Site Number	Permanent Fill Intermittent Stream (ft)	Temporary Fill in Intermittent Stream (ft)	Permanent Fill in Perennial Stream (lf)	Temporary Fill in Perennial Stream (lf)	Bank Stabilization	Total Stream Impact	Mitigation Required ^a
Site 3 Y33 77+38 LT Bank Stabilization				27	89	27	
Site 6 Y33RPCA47+84 LT to 49+50 LT Bank Stabilization					300		
Site 6 Y33RPCA 49+50 LT TO 58+15 RT			***940	36		976	24
Site 7 253+29			226			226	
Site 7 253+29 Bank Stabilization				30	77	30	
Site 7 252+86 RT Bank Stabilization				12	75	12	
Site 8 258+25 LT Bank Stabilization				10	20	10	
Site 9 283+46			375	93		468	375
Site 10 306+20 LT Bank Stabilization				17	50	17	
Site 10 306+00			182			182	
Site 10 305+81 RT Bank Stabilization				8	53	8	
Site 11 312+06 to 312+33 LT Outlet Protection		56			22	56	
Site 11 313+03	107					107	
Site 15 SR1 14+86 LT Bank Stabilization				10	53	10	
Site 15 SR1 15+38			231			231	
Site 21 383+67-385+75 LT			61			61	

Site 21 383+85 - 385+20 LT Bank Stabilization				26	42	26	
Site 21 385+75 LT - 389+03 LT			219	37		256	
Site 28 434+12 LT-436+70 RT			235			235	
Site 28 434+12 LT-436+70 RT Bank Stabilization				33	31	332	
Site 29 442+28 LT-445+38 RT			273			273	
Site 29 442+28 LT-445+38 RT Bank Stabilization				8	80	8	
Site 37 REV 519+89 RT-Y35 20+28 LT			285			285	
Site 37 REV 519+89 RT-Y35 20+28 LT Channel Relocation			294	30		324	
Site 37 REV 519+89 RT-Y35 20+28 LT Bank Stabilization					100	100	
Site 46 564+45 LT-568+65 RT			332	12		344	332
Site 46 564+45 LT-568+65 RT Bank Stabilization					102	102	
Site 49 Y33 100+10 LT Bank Stabilization		15			14	15	
Totals	*107	61	3,653	389	**1,108	4220	731

Total Stream Impacts for Project: 4,220 linear feet (intermittent 107 lf and Perennial 3,653 lf)

1,108 lf of permanent bank stabilization not calculated as impacts

916 lf. of channel relocation at Site 6 not calculated as impacts

*Intermittent stream impacts not calculated

Permanent Stream Impacts in the Cape Fear River Basin Requiring Mitigation 731 linear feet

Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (temporar y) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
Site 1 Y33RPCA 23+50 to Y33LPC 21+45 Impacts Located at Y33RPCA Fill, Y33LPC Fill, and Ditch Inside Y33LPC	4.493		0.205	0.476		5.174

Site 2 Y33RPCA 29+35 RT to 30+87 LT, Y33LPC 5+47 to 8+09 RT	0.672		0.016	0.036		0.724
Site 4 Y33RPB 15+70 to 14+00 RT	0.103			0.220		0.125
Site 7 L1 249+91 to 254+73	1.655		0.009	0.126		1.790
Site 7 Temporary Diversion Channel***			0.040		0.017	0.040
Site 8 L1 254+84 to 260+33	2.188		0.030	0.224		2.442
Site 9 L1 282+72 to 285+60	0.605				0.097	0.605
Site 11 L1 312+20 LT to 315+52 RT	0.278			0.031		0.309
Site 12 L1 335+64 to 337+84 LT	0.211			0.045		0.256
Site 13 L1 337+91 to 350+22 RT	3.762				0.405	3.762
Site 14 L1 350+22 RT to 353+09 LT	0.918		0.057		0.040	0.975
Site 15 SR1 11+87 to 15+36 RT	0.332		0.004	0.018	0.005	0.354
Site 15 Temporary Diversion Channel**			0.015	0.006		0.021
Site 16 Y34 12+86 to 13+92 RT			0.018		0.018	0.018
Site 17 Y34 13+88 to 15+70 LT	0.046		0.025		0.010	0.071
Site 18 SR9 13+67 to 14+16	0.083				0.013	0.083
Site 19 Y34 35+75 to 36+11 RT			0.015		0.008	0.015
Site 20 L1 357+54 to 360+03 LT	0.758		0.005	0.037		0.800
Site 20**** L1 358+61 to 360+03 LT	0.035					0.035

Site 21** L1 383+67 LT - 385+75 LT	0.110		0.025	0.079	0.075	0.214
Site 21 L1 383+85 LT - 385+20 LT			0.006	0.004		0.010
Site 21 L1 385+75 LT - 389+03 LT	0.620		0.021	0.076		0.717
Site 22 L1 394+75 LT - 397+33 RT	0.196		0.008	0.044		0.248
Site 23 L1 399+85 LT - 401+69 RT	0.192		0.002	0.020		0.214
Site 24 L1 408+64 LT - 412+19 RT	0.384		0.006	0.003		0.393
Site 25 L1 412-20 LT - 414+78 LT	0.240			0.013		0.253
Site 25 L1 414+86 LT - 415+77 LT	0.134			0.014		0.148
Site 26 L1 415+39 RT - 415+69 RT				0.003		0.003
Site 27*** L1 425+74 RT - 429+10 LT	0.192		0.023	0.111	0.415	0.326
Site 27 L1 428+70 RT - 429+37 LT	0.020			0.002		0.022
Site 28 L1 434+12 LT - 436+70 RT	0.141			0.012	0.008	0.153
Site 29 L1 442+28 LT - 445+38 RT	0.498	0.009	0.020	0.052	0.010	0.570
Site 29*** L1 442+28 LT - 445+38 RT			0.022			0.022
Site 30 L1 447+37 - 451+09 LT	0.625			0.031		0.656
Site 31 L1 452+05 RT - 452+66 RT	0.070		0.002	0.010		0.082
Site 32 L1 454+25 RT- 455+48 RT	0.106		0.004	0.009		0.119
Site 33 L1 455+52 RT - 467+46 RT	0.798		0.017	0.061		0.876
Site 34 L1 467+39 LT - 470+68 RT	0.197			0.015		0.212

Site 35 L1 469+64 LT - 485+61 RT	5.599		0.002	0.434		6.035
Site 36 L1REV 518+59 LT - 520+73 RT	0.108			0.005		0.113
Site 37 L1REV 519+89 RT - Y35 20+28 LT	0.489					0.489
Site 37 L1REV 519+59 RT - Y35 20+28 LT Channel relocation	0.242		0.081	0.054		0.377
Site 37*** L1REV 519+89 RT - Y35 20+28 LT			0.020			0.020
Site 38 L1REV 528+18 LT - 529+81 LT	0.185			0.024		0.209
Site 39 L1REV 532+78 RT	0.023					0.023
Site 40 L1REV 534+46 - 535+20 RT	0.067					0.067
Site 41 L1REV 537+11 - 538+10 LT	0.151					0.151
Site 42 L1REV 537+60 RT			0.005	0.003		0.008
Site 42 *** L1REV 537+60 RT			0.010			0.010
Site 43 L1REV 538+02 - 538+47 LT	0.006		0.005	0.015		0.026
Site 44 L1REV 545+23 LT - 546+61 RT	0.268			0.027		0.295
Site 45 L1 560+15 RT	0.001			0.001		0.002
Site 46 L1 562+69 LT - 563+66 LT	0.015			0.025		0.040
Site 46 L1 564+45 LT - 568+65 RT	1.827	0.026	0.049	0.172		2.048
Site 46*** L1 564+45 LT-568+65 RT			0.058			0.058
Site 47 Y35 13+45 RT - 14+17 RT	0.014		0.001	0.008		0.023
Site 47 Y35 DET		0.047			0.009	0.000

Site 48 Y35 36+00 LT			0.001	0.006		0.007
Site 50 SR2 14+30	0.005				0.022	0.005
Site 51 Y34DET 33+42 to 34+04 LT	0.001				0.011	0.001
Site 52 Y33 101+22 to 101+65 LT				0.017		0.000
PNG1 Y34 11+71 RT to Y34 14+26 RT		0.310		0.017		0.017
PNG2 Y34 18+28 RT to Y34 20+39 RT		0.211		0.064		0.064
PNG3 Y34 25+10 RT to Y34 29+97 RT		1.020		0.221		0.221
Total	29.663	1.623	0.827	2.673	1.163	33.163

Total Wetland Impact for Project: 33.163 acres permanent impact (1.623 acres temporary impact).

** hand clearing not calculated as impact **

** bank stabilization not calculated as impact **

Riparian Wetland Impacts: 13.894 acres permanent (0.923 acres temporary)

Non-Riparian Wetland Impacts: 19.269 acres permanent (1.863 acres temporary)

Open Water (Ponds/Lakes/Rivers/Sound/Ocean/etc) Impacts in the River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
Site 2 216+22 LT	0.002	0.002	0.004
Site 5 234+23 to 243+02 RT	0.440		0.440
Site 11 313+03	0.122	0.013	0.135
Total	0.564	0.015	0.579

Total Open Water Impact for Project: 0.579 acres.

The application provides adequate assurance that the discharge of fill material into the wetlands and waters of the **Cape fear River Basin** in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received November 22, 2024. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated June 5, 2017, and modified on March 1, 2019, June 17, 2020, October 22, 2021, January 20, 2022, August 25, 2022, April 26, 2023 still apply except where superseded by this certification. Should your

project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed 1 acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

Condition(s) of Certification:

1. This modification is applicable only to the additional proposed activities. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated June 5, 2017, and modified on March 1, 2019, June 17, 2020, October 22, 2021, January 20, 2022, August 25, 2022, April 26, 2023 still apply except where superseded by this certification.
2. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
3. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
4. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
5. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
6. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where

- appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
7. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
 8. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
 9. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
 10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
 11. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
 12. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3)].
 13. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel. [15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 04B .0125]
 14. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
 15. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
 16. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
 17. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
 18. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506(b)(3) and 15A NCAC 02B .0200] Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits and waste sites associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment

- shall be on site at all times. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watershed*. [15A NCAC 02H.0506(b)(3) and GC 4135]
19. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
 20. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
 21. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]
 22. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]
 23. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank, or during the removal of bents from an old bridge. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
 24. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water. [15A NCAC 02H .0506(b)(3)]
 25. Where placement of sediment and erosion control devices in wetlands and/or waters is unavoidable, they shall be removed and the natural grade restored upon completion of the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]
 26. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
 27. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is required.
 28. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B .0505(b)(2)]
 29. Tall fescue shall not be used in the establishment of temporary or permanent groundcover within riparian areas. For the establishment of permanent herbaceous cover, erosion control matting shall be used in conjunction with an appropriate native seed mix on disturbed soils within the riparian area and on disturbed steep slopes with the following exception. Erosion control matting is not necessary if the area is contained by perimeter erosion control devices such as silt fence, temporary sediment ditches, basins, etc. Matting should be secured in place with staples, stakes, or wherever possible, live stakes of native trees. Erosion control matting placed in riparian areas shall not contain a nylon mesh grid, which can impinge and entrap small animals. For the establishment of temporary groundcover within riparian areas, hydroseeding along with wood or cellulose based hydro mulch applied from a fertilizer- and limestone-free tank is allowable at the appropriate rate in conjunction with the erosion control

- measures. Discharging hydroseed mixtures and wood or cellulose mulch into surface waters is prohibited. Riparian areas are defined as a distance 25 feet landward from top of stream bank.
30. DWR approves the stormwater drainage design as shown in the 401 application, under the assumption that it meets the requirements of the NCDOT NPDES permit #NCS000250. These plans are enforceable by DWR. Changes to the approved plans are prohibited without prior approval from DWR. If sediment or other pollutants are found to be discharged from the stormwater outfalls, DWR may take enforcement action. NCDOT and DWR shall assess the damage to water quality standards and implement an appropriate action plan to address the impacts. The action plan shall provide an appropriate timeline for implementation as agreed upon by both DWR and NCDOT. This may require NCDOT to obtain a modification to its current 401 and 404 permits.
 31. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2)]
 32. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
 33. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed.
 34. Compensatory mitigation for impacts to 33.163 acres of non-riparian wetlands is required. The permittee shall comply with the final on-site wetland mitigation plan (all components) dated August 2021 received by DWR on January 19, 2022. All on-site mitigation sites shall be protected in perpetuity by a conservation easement or through NCDOT fee simple acquisition and recorded in the NCDOT Natural Environment Unit mitigation geodatabase.
 35. Compensatory mitigation for 731 linear feet of impacts to streams in the Cape Fear River basin is required. DWR understands that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Services (DMS), and that DMS has agreed to implement mitigation for the project. DMS has indicated in a letter dated November 14, 2024 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS'S Mitigation Banking Instrument signed July 28, 2010.

This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 11th day of February 2025

DIVISION OF WATER RESOURCES

Signed by:

375CAE2BB9F540C...

Richard E. Rogers, Jr., Director

WQC No. 004116

NCDWR Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____
Date _____

JOSH STEIN
Governor

D. REID WILSON
Secretary

TANCRED MILLER
Director



February 12, 2025

Mr. Trevor Carroll, P.E.
Division 3 Engineer
N.C. Department of Transportation
5501 Barbados Blvd
Castle Hayne, NC 28429

SUBJECT: **CD 17-018** - Supplemental Consistency Concurrence, SR 1409 (Military Cutoff Road) extension and US 17 Hampstead Bypass in New Hanover and Pender Counties, TIP Nos. U-4751 and R-3300.

Dear Mr. Carroll:

The N.C. Division of Coastal Management (DCM) received a supplemental consistency certification from the N.C. Department of Transportation (NCDOT) dated November 20, 2024 for TIP R-3300A, which is the final segment of the Military Cutoff Road Extension (TIP U-4751) and US 17 Hampstead Bypass (TIP R-3300) project in New Hanover and Pender Counties. TIP R-3300A is proposed as a four-lane divided roadway approximately 6.9 miles in length with full control of access from NC 140 (Wilmington Bypass) in New Hanover County to NC 210 in Pender County.

DCM issued a conditional concurrence (CD-017) on June 16, 2017 for the final design of U-4751 and the preliminary design of R-3300. TIP R-3300 includes an A-Section and a B-Section. DCM issued a Supplemental Consistency Concurrence on June 25, 2020 for the final design of TIP R-3300B.

The November 20, 2024 submittal includes the following: a cover letter; supporting information document; green sheet project commitments; a Memorandum of Agreement (MOA) among the U.S. Army Corps of Engineers, NCDOT, and the N.C. State Historic Preservation Officer; a mitigation proposal to utilize the Beane Mitigation Site to offset all wetland impacts; and a mitigation acceptance letter dated November 14, 2024 from the N.C. Division of Mitigation Services (DMS) to mitigate for 2,844 linear feet of stream impacts.

DCM circulated the supplemental consistency certification to state agencies that would have a regulatory or resource interest in the proposed development. No comments were received asserting that the proposed project would be inconsistent with North Carolina's Coastal Management Program. North Carolina's coastal zone management program consists of, but is not limited to, the Coastal Area Management Act, the State's Dredge and Fill Law, Chapter 7 of Title 15A of North Carolina's Administrative Code, and the land use plan(s) of the county and/or local municipalities in which the proposed project is located. It is the objective of DCM to manage the State's coastal resources to



North Carolina Department of Environmental Quality | Division of Coastal Management
Morehead City Office | 400 Commerce Avenue | Morehead City, North Carolina 28557
252.515.5400

ensure that proposed Federal activities would be compatible with safeguarding and perpetuating the biological, social, economic and aesthetic values of the State's coastal resources.

DCM has reviewed the submitted information, and the comments received from state agencies, pursuant to the management objectives and enforceable policies of Subchapters 7H and 7M of Chapter 7 in Title 15A of the North Carolina Administrative Code. DCM concurs that the proposed project is consistent, to the maximum extent practicable, with North Carolina's certified coastal management program, with the following conditions:

1. This project shall be implemented in accordance with the Modification of the 401 Water Quality Certification No. WQ004116 which was issued by the N.C. Division of Water Resources (DWR) on February 11, 2025 (NCDWR Project No. 20161268 v.8).

Prior to the initiation of the described activities, NCDOT should obtain any required State approvals or authorizations. Should the proposed action be modified, a revised consistency determination could be necessary. This might take the form of either a supplemental consistency certification pursuant to 15 CFR 930.46, or a new consistency certification pursuant to 15 CFR 930.36. Likewise, if further project assessments reveal environmental effects not previously considered by the proposed development, a supplemental consistency certification may be required.

If you have any questions or concerns, please contact DCM Transportation Project Coordinator Cathy Brittingham by phone at (919) 707-9149 or via e-mail at cathy.brittingham@deq.nc.gov. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,

Cameron Luck



Cameron Luck
Federal Consistency Coordinator
N.C. Division of Coastal Management

cc: Mason Herndon, NCDOT
Jon Giles, NCDOT
Tom Steffens, USACE
Holley Snider, DWR
Beth Harmon, DMS
Travis Wilson, WRC
Gregg Bodnar, DCM
Tara MacPherson, DCM
Stephen Lane, DCM





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11/20/2024

		North Carolina Department of Transportation Highway Stormwater Program STORMWATER MANAGEMENT PLAN FOR NCDOT PROJECTS					
(Version 2.08; Released April 2018)							
WBS Element: 40237.1.1		TIP No.: R-3300A		County(ies): New Hanover, Pender		Page 1 of 2	
General Project Information							
WBS Element: 40237.1.1		TIP Number: R-3300A		Project Type: New Location		Date: 7/31/2024	
NCDOT Contact: Trace Howell, P.E.		Contractor / Designer: Andrea Hayden, PE					
Address: 5501 Barbados Blvd Castle Hayne, NC 28429		Address: Dewberry-9300 Harris Corners Pkwy, Ste 220, Charlotte, NC 28269 Linda Johns PE MI-Engineering - 1011 Schaub Drive Suite 100 Raleigh NC 27606					
Phone: (910) 341-2000		Phone: Hayden - (704) 672-5264 Johns - (919) 851-6606 Ext 115					
Email: trhowell1@ncdot.gov		Email: ahayden@Dewberry.com / ljohns@mi-engineers.com					
City/Town: Kirkland, Hampstead		County(ies): New Hanover Pender					
River Basin(s): Cape Fear		CAMA County? Yes Yes					
Wetlands within Project Limits? Yes							
Project Description							
Project Length (lin. miles or feet): 7.05		Surrounding Land Use: Rural, wooded, wetlands, light residential and hunting grounds					
Proposed Project				Existing Site			
Project Built-Upon Area (ac.) 76.0 ac.		11.0 ac.					
Typical Cross Section Description:		<p>Four lane divided highway with two 12' lanes in each direction, 10' full depth paved outside shoulders and 4' paved inside shoulders. Grass median ditches are 34' wide. Y33 has approximately 2570'+/- of added paved shoulder. Y35 (Harrison Creek Road) has two 10' lanes with 5' full depth paved shoulders and grass ditches.</p> <p>The Hampstead bypass is a new location, that begins at the ending of U-4751. Y33 (I-140) is a 4-lane divided highway with (2) 12' travel lanes in each direction with grass shoulders and median. Y35 Harrison Creek Rd (SR 1573): is two 10' lanes in each direction with no paved shoulder and grass ditches.</p>					
Annual Avg Daily Traffic (veh/hr/day):		Design/Future: 54800 Year: 2040		Existing: N/A		Year:	
General Project Narrative: (Description of Minimization of Water Quality Impacts)		<p>The project begins at the ending of U-4751. Best Management Practices include utilization of an open shoulder typical section to promote roadway runoff to grass ditches, as well as steepening fill slopes (and providing guardrail) to minimize impacts to jurisdictional features. Rip rap pads are proposed upstream of wetlands if needed to reduce the 10 year velocities to less than 2fps and diffuse flow of proposed ditches. Due to seasonal high water table and poor drainage conditions, special ditches were added along the corridor to reduce the water and minimize shoulder failure. Major structures include: CSR #1 (psh 5) at an Unnamed Tributary to Island Creek (Island Creek) is a 12'X8' RCBC buried 1' with native material. Culvert has a top edge beveled and wingwalls. This culvert is downstream of 12'X8" RCBC from the U-4751 project. CSR#2 (psh 6) at an Unnamed Tributary to Island Creek (Island Creek) is a 2@ 9'X7' RCBC buried 1' with native material. Culvert has a top edge beveled and wingwalls with a 2' sill in the right box. CSR#3 (psh 9) at an Unnamed Tributary to Island Creek (Island Creek) is a 3@ 12'X7' RCBC buried 1' with native material. Culvert has a top edge beveled and wingwalls. CSR#4 (psh 10) at an Unnamed Tributary to Island Creek (Island Creek) is a 7'X5' RCBC buried 1' with native material. Culvert has a top edge beveled and wingwalls. Dual bridges (2@115 72" MBT Girder) over Waynes Branch (Island Creek) (psh 16) which requires deck drains along the south bound bridge deck only, due to 4' shoulders. These deck drains will not outlet over surface water or within 10' of surface waters. The excess bridge runoff will collect on the shoulders and routed via shoulder berm gutter to a storm drain system that outlets to obtain overland treatment prior to entrance to the stream. Dual bridges (1@125, 1@117, 72" MBT Girder) over Island Creek Trib (psh 20), (aka Old House Branch) do not require deck drains. The bridge runoff will collect on the shoulders and routed via shoulder berm gutter to storm drain systems that outlet and obtain overland treatment prior to entrance to wetland areas. CSR #5 (psh 21) at UT to Island Creek Trib (Island Creek) is 2@6'X7' RCBC buried 1.0', with 2.5' sills in south barrel to create a flood plain bench and 1.0' sills and baffles in the north barrel to maintain the low flow channel. Native material will be provided between sills and baffles in the culvert. CSR #6 (psh 27) at Seeley's Branch (Harrison Creek) is 2@7'X8' RCBC buried 1.0' with 2.0' sills in west barrel to create a flood plain bench and 1.0' sills in the east barrel to maintain the low flow channel. Native bed material is required in the low flow channel, while rip rap may be used to supplement the native material in the flood plain bench barrel. Native material should be placed on top to fill voids and provide a flat surface for animal passage. CSR #7 (psh 31) at Harrison Creek Tributary (Harrison Creek) is 3@12'X8' RCBC buried 1.0' with 2.5' sills in west barrel and 1.0' sills in the center and east barrels. Native bed material is required in the low flow channels, while rip rap may be used to supplement the native material in the flood plain bench barrel. Native material should be placed on top to fill voids and provide a flat surface for animal passage. Rip Rap bank stabilization is included at the upstream and downstream ends of all major stream crossings, and downstream of all minor jurisdictional stream crossings. Equalizer pipes (typically 36" RCP) have been provided to maintain hydraulic connectivity between wetlands under the roadway.</p>					
Waterbody Information							
Surface Water Body (1): Island Creek		NCDWR Stream Index No.: 18-74-50					
NCDWR Surface Water Classification for Water Body		Primary Classification: Class C					
		Supplemental Classification: Swamp Waters (Sw)					
Other Stream Classification: None							
Impairments: mercury (Hg)							
Aquatic T&E Species?		Comments:					
NRTR Stream ID: HBSF		Buffer Rules in Effect: N/A					
Project Includes Bridge Spanning Water Body? Yes		Deck Drains Discharge Over Buffer? N/A		Dissipator Pads Provided in Buffer? N/A			
Deck Drains Discharge Over Water Body? No		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

11/20/2024

		North Carolina Department of Transportation					
		Highway Stormwater Program					
		STORMWATER MANAGEMENT PLAN					
		FOR NCDOT PROJECTS					
(Version 2.08; Released April 2018)							
WBS Element:	40237.1.1	TIP No.:	R-3300A	County(ies):	New Hanover Pender	Page	2 of 2
Additional Waterbody Information							
Surface Water Body (2):		UT to Island Creek		NCDWR Stream Index No.:		18-74-50	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		Swamp Waters (Sw)			
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		HBSG, HBSH, HBSD(1), HBSD(2), HBSA, HBSC, HBSB, HBSAA				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?		Yes		Deck Drains Discharge Over Buffer?		N/A	
Deck Drains Discharge Over Water Body?		No		(If yes, provide justification in the General Project Narrative)		Dissipator Pads Provided in Buffer?	
(If yes, provide justification in the General Project Narrative)						(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
Surface Water Body (3):		Harrisons Creek		NCDWR Stream Index No.:		18-74-49	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		Swamp Waters (Sw)			
Other Stream Classification:		None					
Impairments:		mercury (Hg)					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		HSC, HSCA, HSX, HSB				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?				Deck Drains Discharge Over Buffer?		N/A	
Deck Drains Discharge Over Water Body?				(If yes, provide justification in the General Project Narrative)		Dissipator Pads Provided in Buffer?	
(If yes, provide justification in the General Project Narrative)						(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	

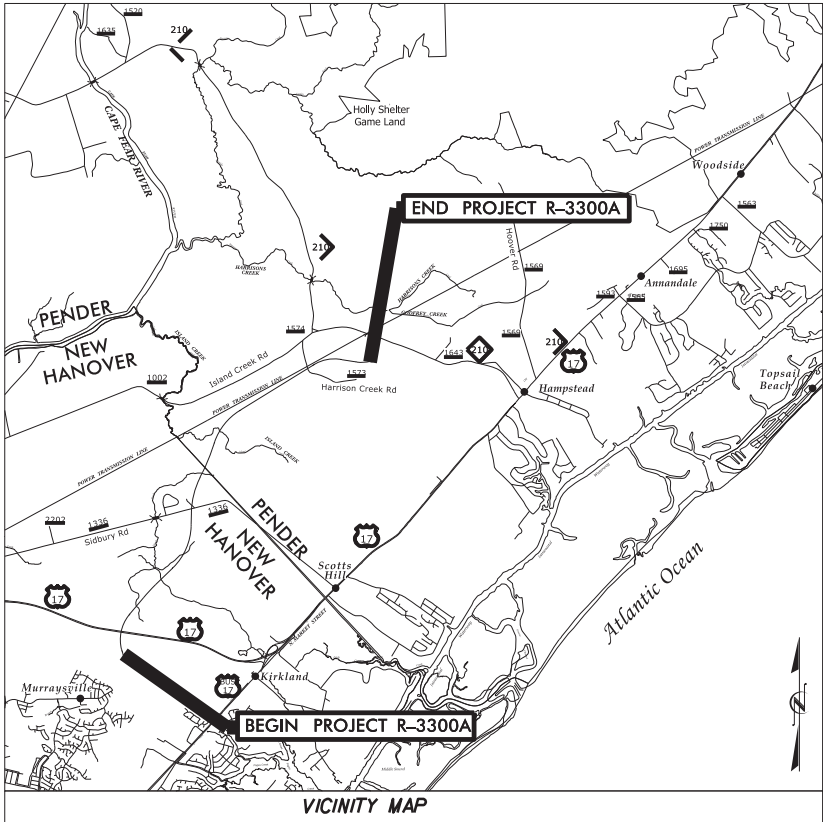
11/20/2024

09/08/99

TIP PROJECT: R-3300A

CONTRACT:

See Sheet 1A For Index of Sheets See Sheet 1B for Conventional Symbols



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER &
PENDER COUNTIES

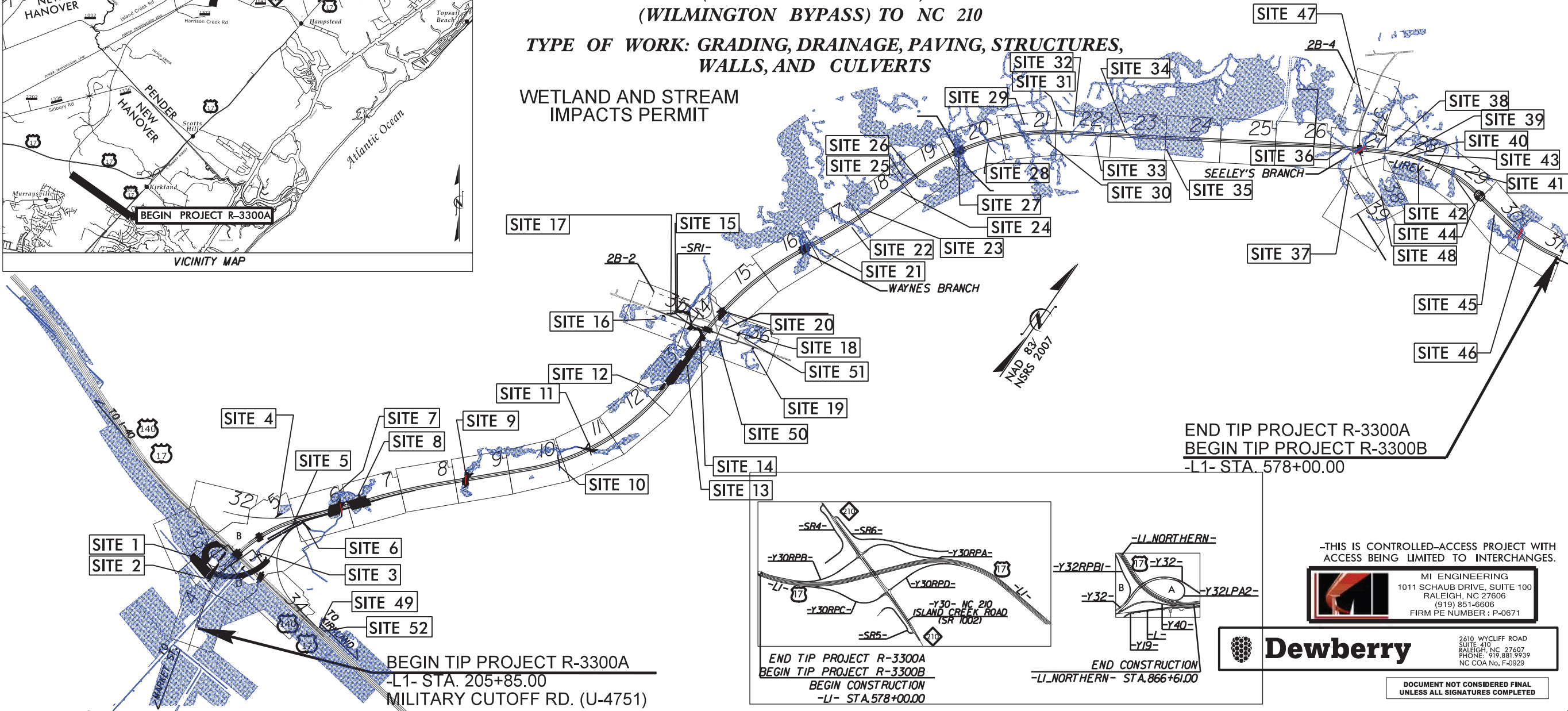
LOCATION: US 17 (HAMPSTEAD BYPASS) FROM NC 140
(WILMINGTON BYPASS) TO NC 210

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES,
WALLS, AND CULVERTS

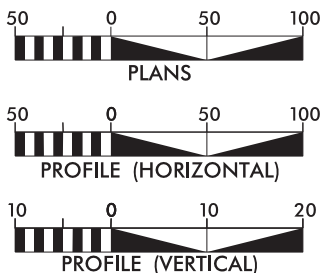
WETLAND AND STREAM
IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 120

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3300A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40237.1.3	N/A	PE	
40237.2.4	N/A	R/W	
40237.2.6	N/A	UTILITIES	
40237.3.2	N/A	CONST	



GRAPHIC SCALES



DESIGN DATA

ADT 2016 = N/A
ADT 2040 = 54,800
K = 8 %
D = 60 %
T = 6 % *
V = 70 MPH
*(TTST 2% + DUALS 4%)
FUNC CLASS = FREEWAY
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3300A = 6.892 MILES
LENGTH STRUCTURE TIP PROJECT R-3300A = 0.152 MILES
(NORTHBOUND LANES STATIONS USED)
TOTAL LENGTH TIP PROJECT R-3300A = 7.044 MILES



PREPARED IN THE OFFICE OF:
STANTEC CONSULTING
301 Jones Franklin Road (Suite 300) Raleigh, NC 27606
Tel. (919) 851-6866 | Fax. (919) 851-7024 | www.stantec.com
License No. F-0672

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 1, 2019

LETTING DATE:
JULY 25, 2025

KATRINA N. HAZEL, P.E.
PROJECT DESIGN ENGINEER

TRACE HOWELL, P.E.
NCDOT DIVISION 3 CONTACT

HYDRAULICS ENGINEERS

SIGNATURES: P.E. P.E.

ROADWAY DESIGN
ENGINEER

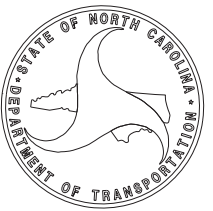
SIGNATURE: P.E.

-THIS IS CONTROLLED-ACCESS PROJECT WITH
ACCESS BEING LIMITED TO INTERCHANGES.

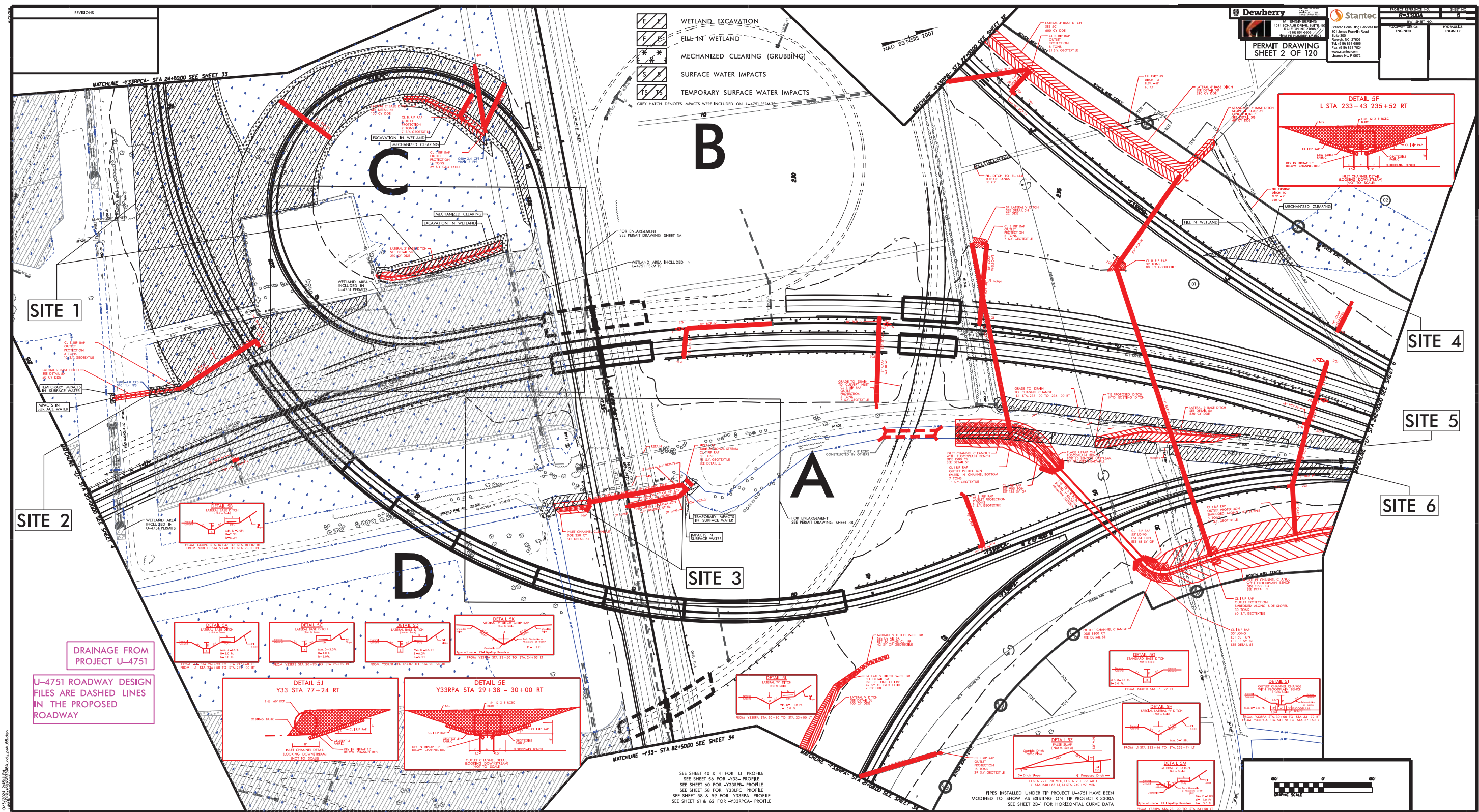


2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

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11/20/2024



REVISIONS

No.	Description	Date
1	ISSUED FOR PERMIT	10/18/2017

Dewberry
1011 BOWEN DRIVE, SUITE 100
FALLS CHURCH, VA 22046
TEL: (703) 441-9000
WWW.DEBERRY.COM
License No. F-0072

Stantec
Stantec Consulting Services Inc.
100 JAMES STREET
Raleigh, NC 27601
TEL: (919) 851-1204
WWW.STANTEC.COM
License No. F-0072

PERMIT DRAWING SHEET 3 OF 120

LEGEND:

- E F WETLAND EXCAVATION
- F F FILL-IN WETLAND
- * * * MECHANIZED CLEARING (GRUBBING)
- S S SURFACE WATER IMPACTS
- T S TEMPORARY SURFACE WATER IMPACTS

DETAIL 5F L STA 233+43 235+52 RT

DETAIL 5J Y33 STA 77+24 RT

DETAIL 5K Y33RPA STA 29+38 - 30+00 RT

DETAIL 5L Y33RPA STA 20+80 TO STA 23+00 RT

DETAIL 5M Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5N Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5O Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5P Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5Q Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5R Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5T Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5U Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5V Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5W Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5X Y33RPA STA 24+28 TO STA 27+00 RT

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DETAIL 5Z Y33RPA STA 24+28 TO STA 27+00 RT

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DETAIL 5CR Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CS Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CT Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CU Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CV Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CW Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CX Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CY Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5CZ Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5DA Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5DB Y33RPA STA 24+28 TO STA 27+00 RT

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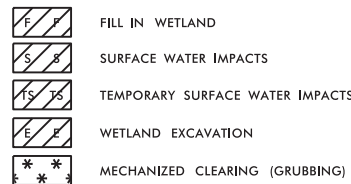
DETAIL 5DE Y33RPA STA 24+28 TO STA 27+00 RT

DETAIL 5DF Y33RPA STA 24+2

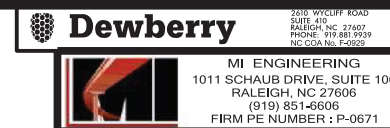
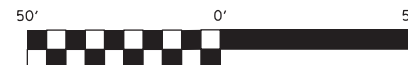
REVISIONS

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8/17/99



PERMIT DRAWING
SHEET 3A OF 120



 **Stantec**
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801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.	SHEET NO.
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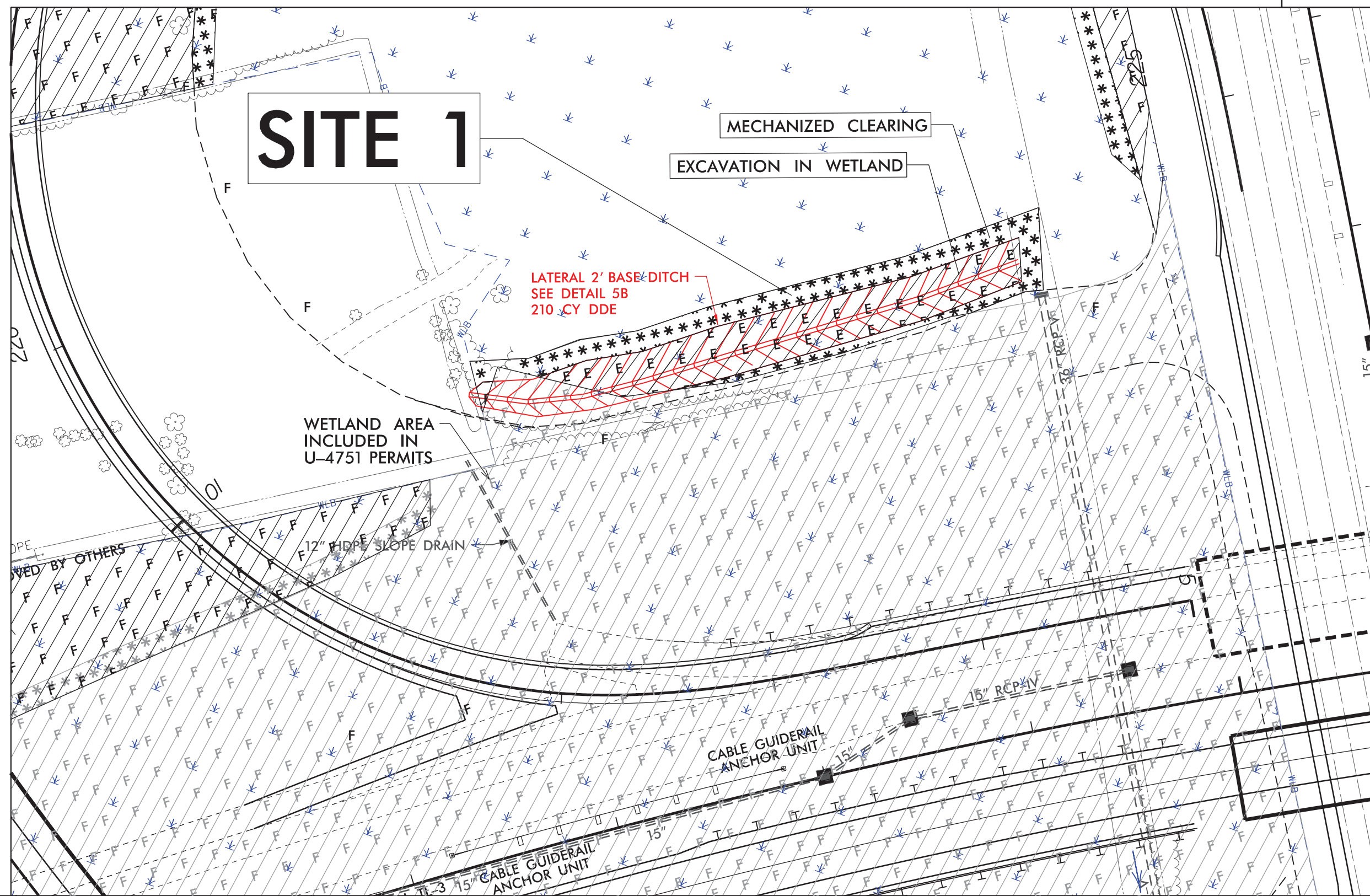
R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION






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UNLESS ALL SIGNATURES COMPLETED**



11/20/2024

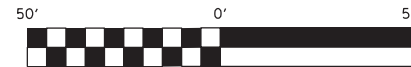
REVISIONS

7/12/2024 11:46:14 AM
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-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  TEMPORARY SURFACE WATER IMPACTS
-  WETLAND EXCAVATION
-  MECHANIZED CLEARING (GRUBBING)

WETLAND AREA INCLUDED IN U-4751 PERMITS

PERMIT DRAWING
SHEET 3B OF 120

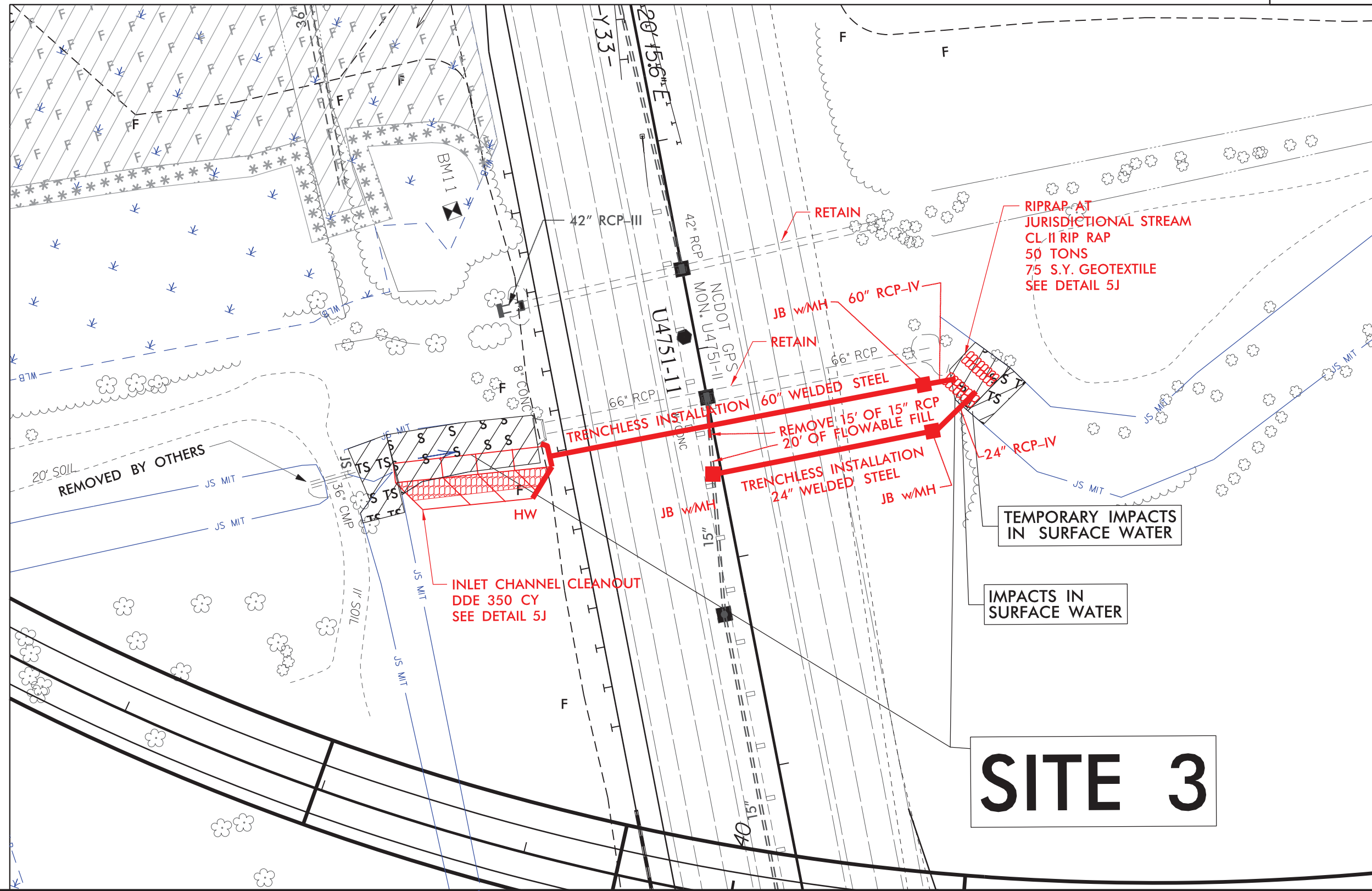


DOCUMENT NOT CONSIDERED FINAL
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Dewberry
MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

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Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.		SHEET NO.	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



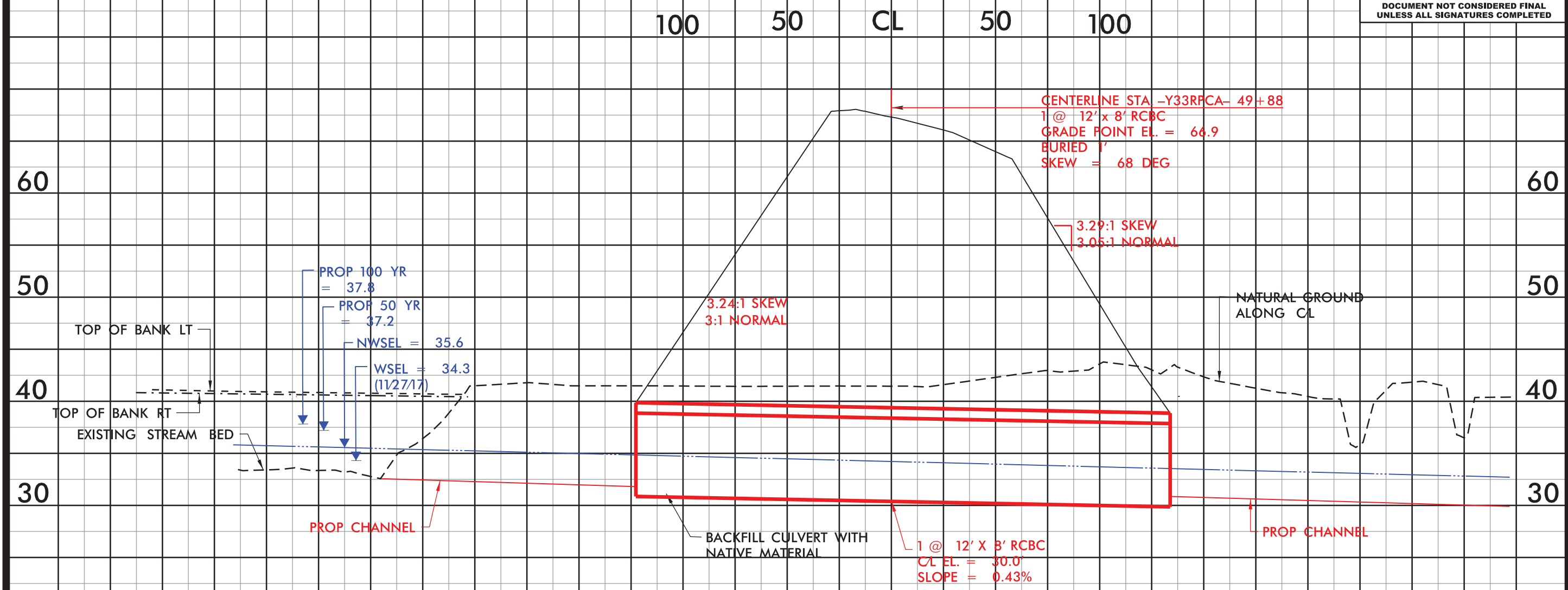
SITE 3

11/20/2024

SITE 5/6

PERMIT DRAWING
SHEET 4 OF 120

PROJECT REFERENCE NO. <i>R-3300A</i>		SHEET NO.	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

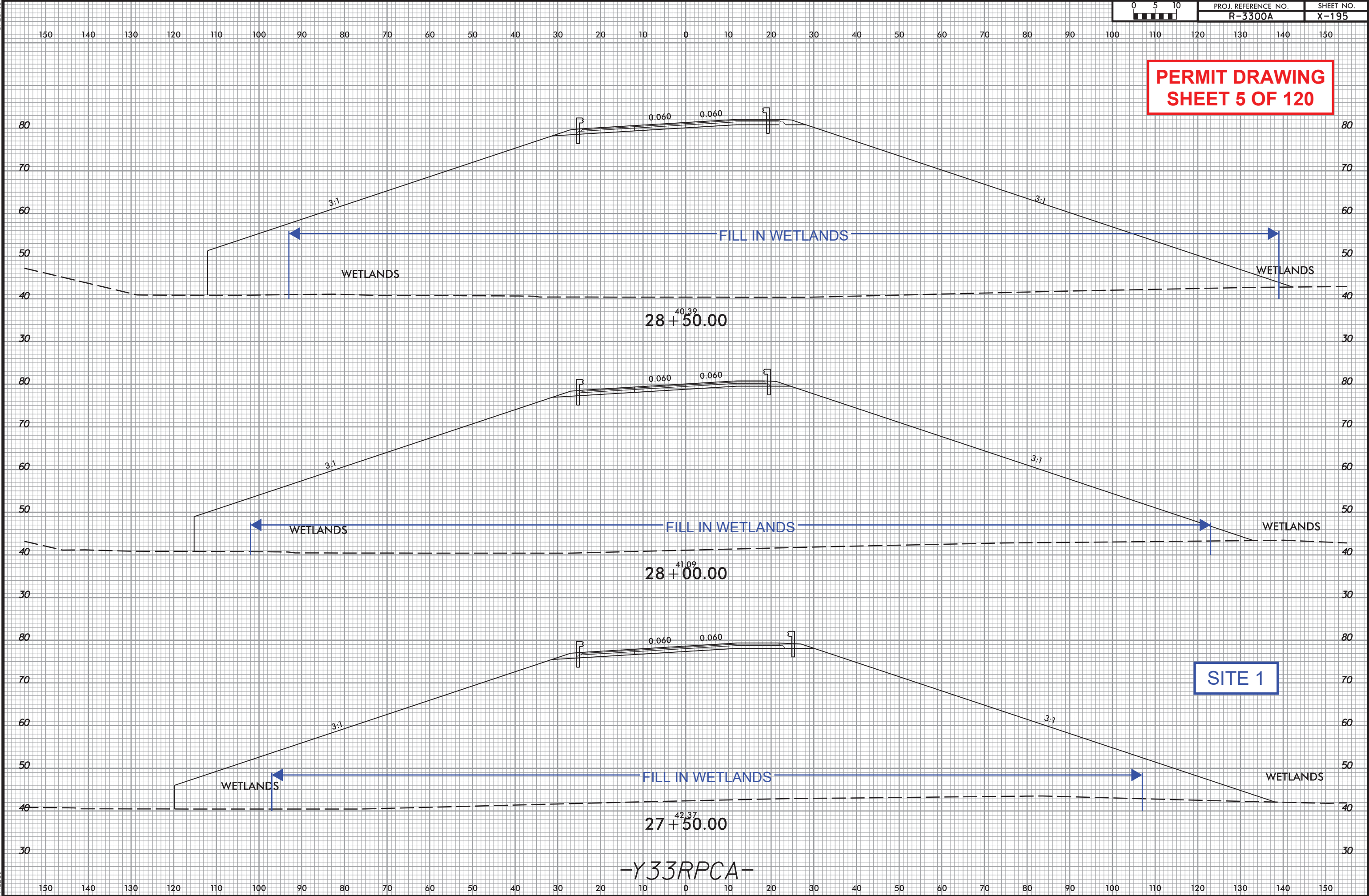


6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-3300A	X-195

PERMIT DRAWING
SHEET 5 OF 120



-Y33RPCA-

SITE 1

11/20/2024

8/15/2023
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khoez

11/20/2024

6/23/16

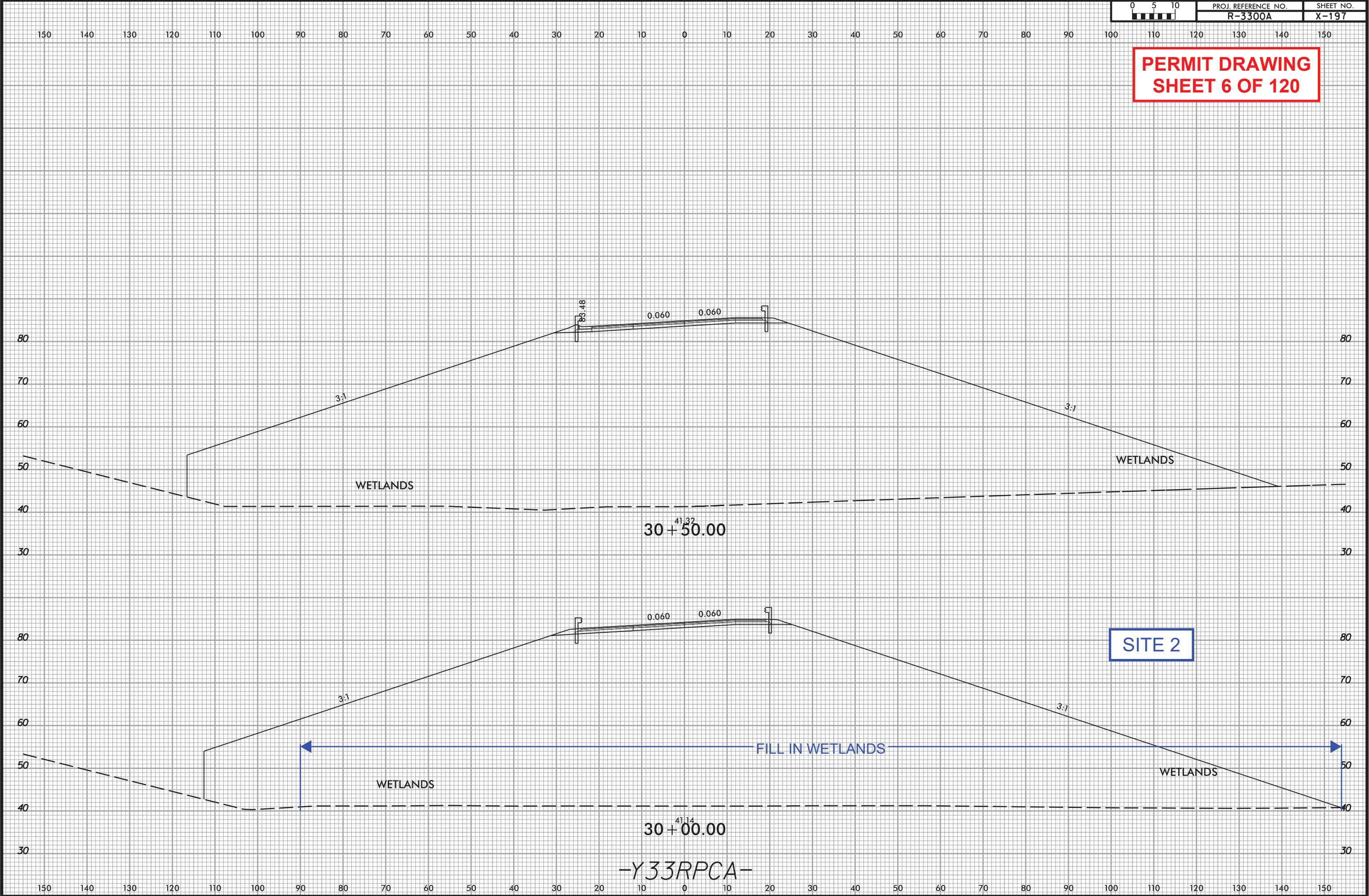
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khazei



PROJ. REFERENCE NO.
R-3300A

SHEET NO.
X-197

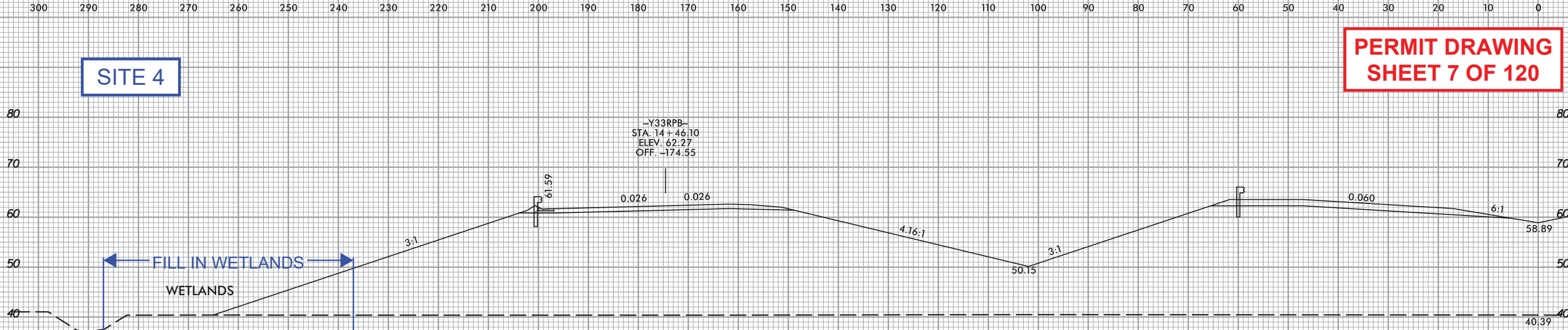
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SHEET 6 OF 120



6/23/16

SITE 4

PERMIT DRAWING
SHEET 7 OF 120



SITE 4

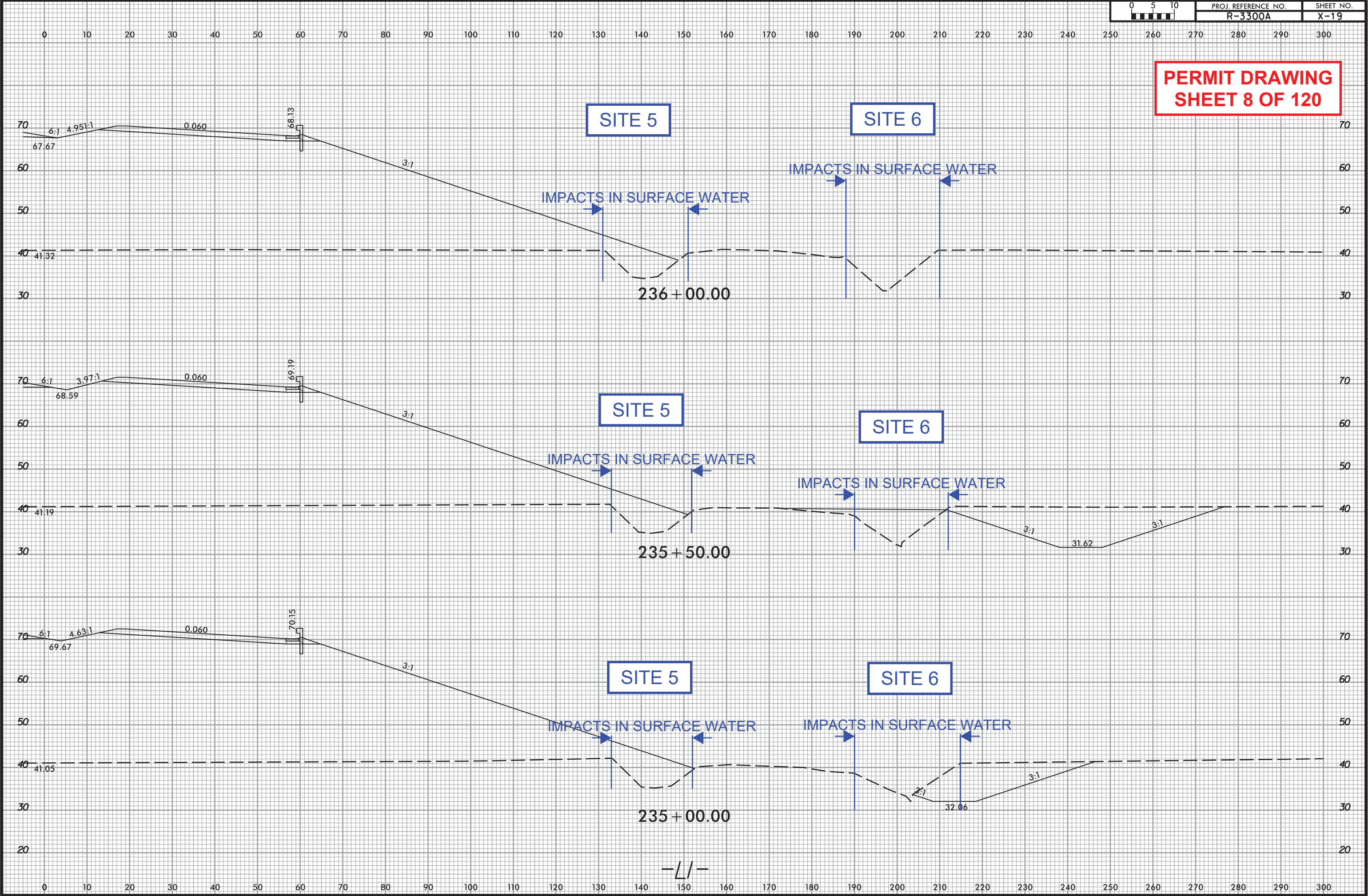


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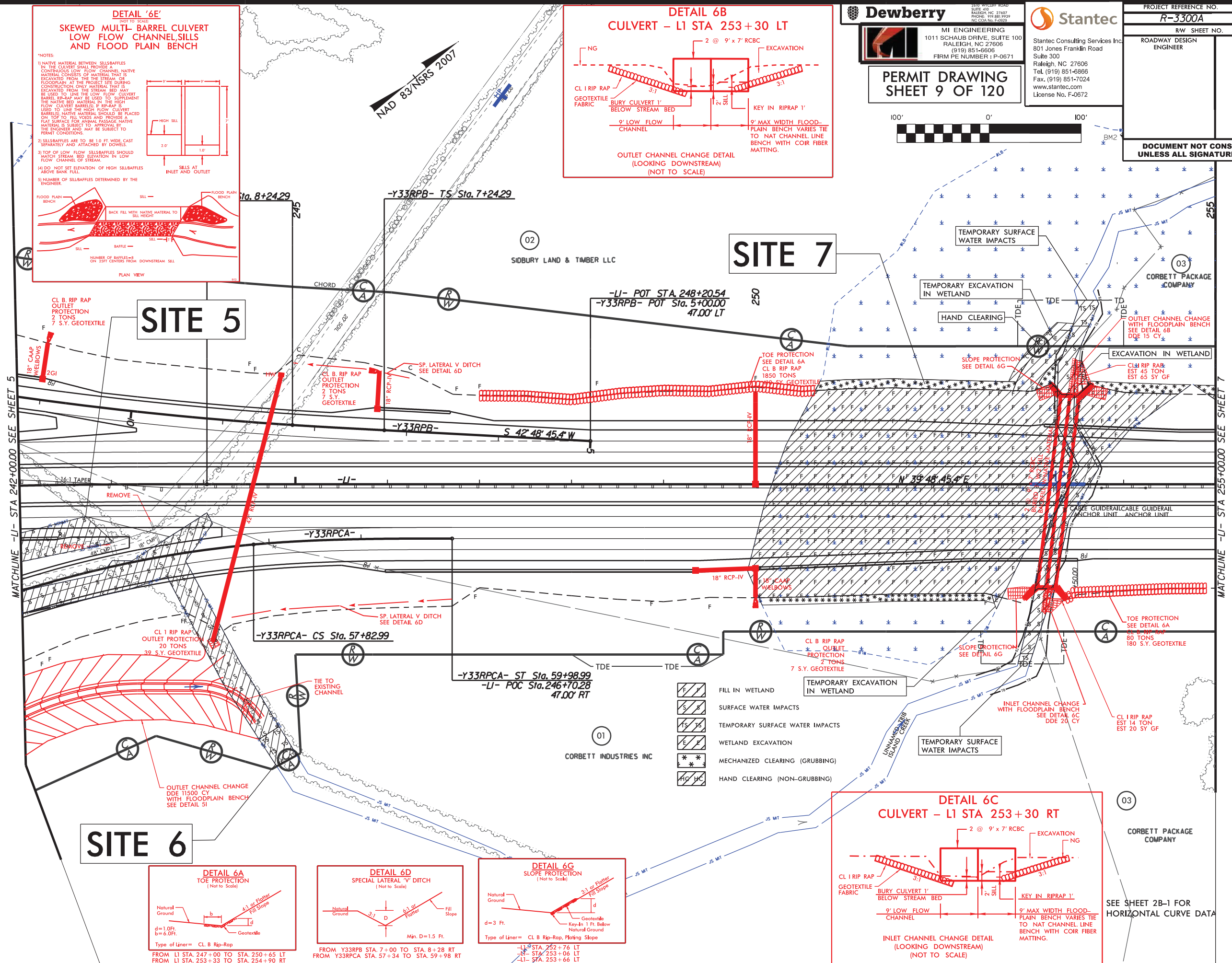
11/20/2024

6/23/16

8/15/2023
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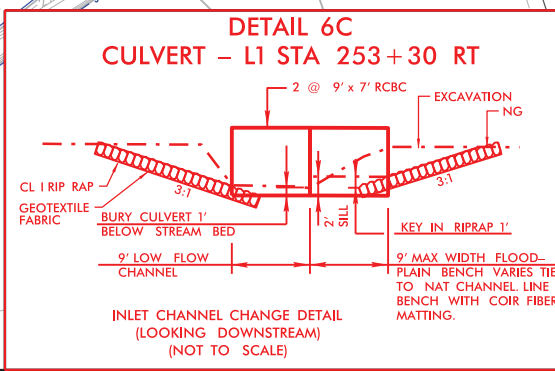
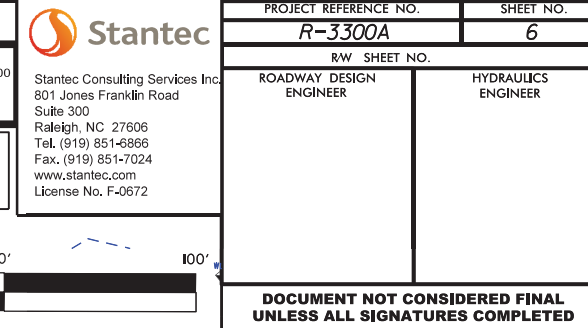


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\$11,000



SEE SHEET 2B-1 FOR
HORIZONTAL CURVE DATA

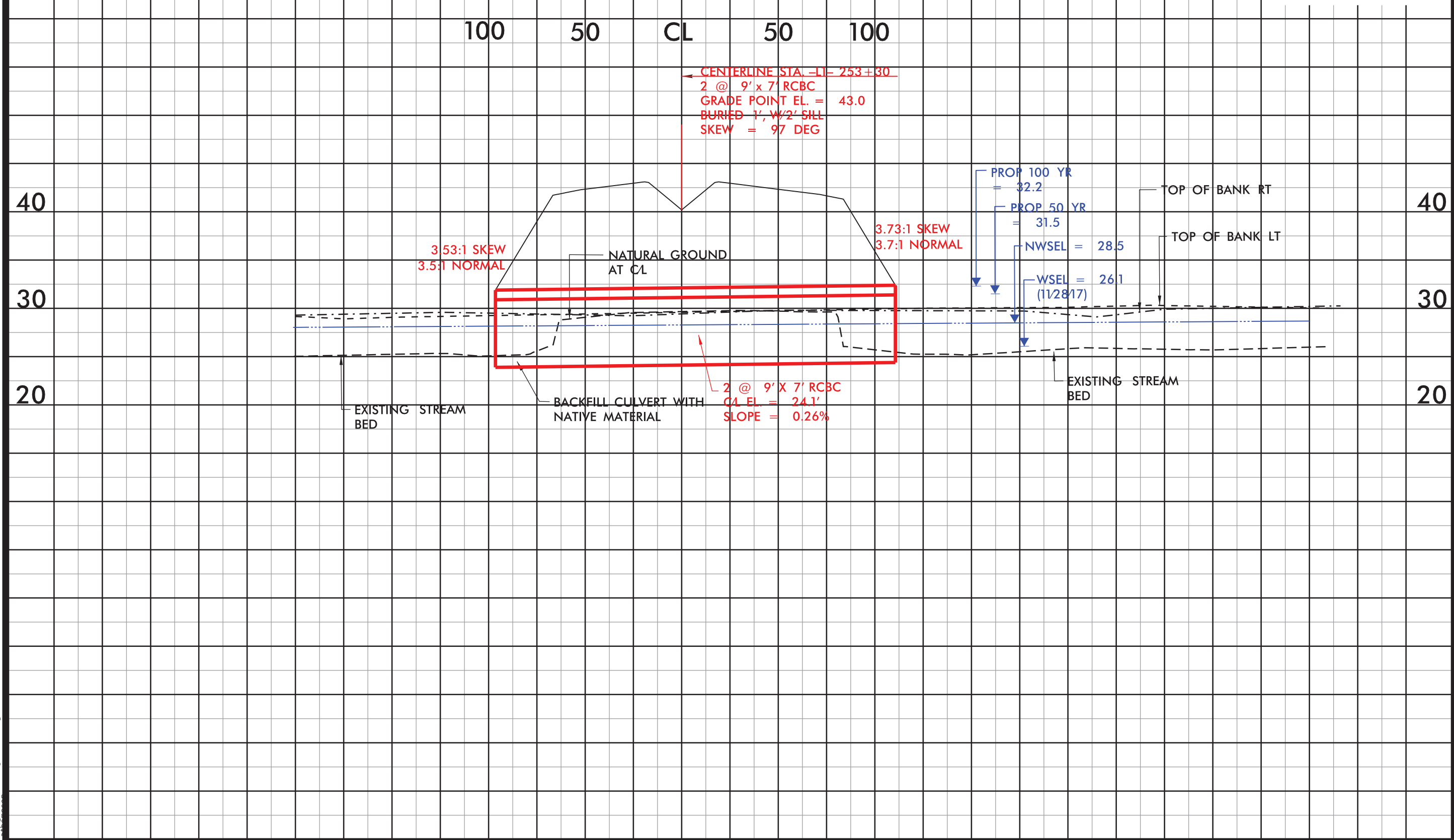


11/20/2024

SITE 7

PERMIT DRAWING
SHEET 11 OF 120

PROJECT REFERENCE NO. <i>R-3300A</i>		SHEET NO.	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			



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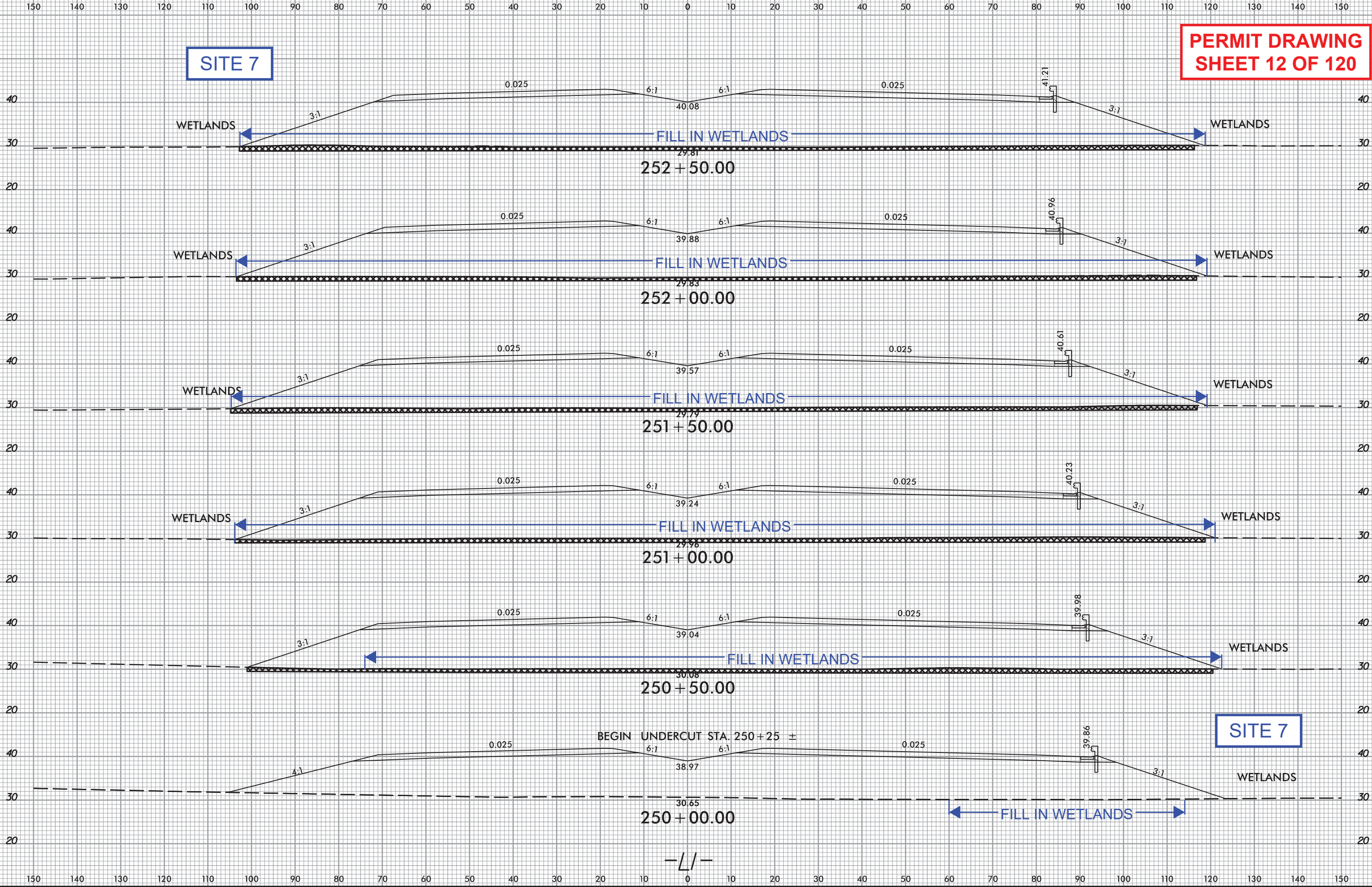


PROJ. REFERENCE NO.
R-3300A

SHEET NO.
X-36

SITE 7

PERMIT DRAWING
SHEET 12 OF 120



—L/I—

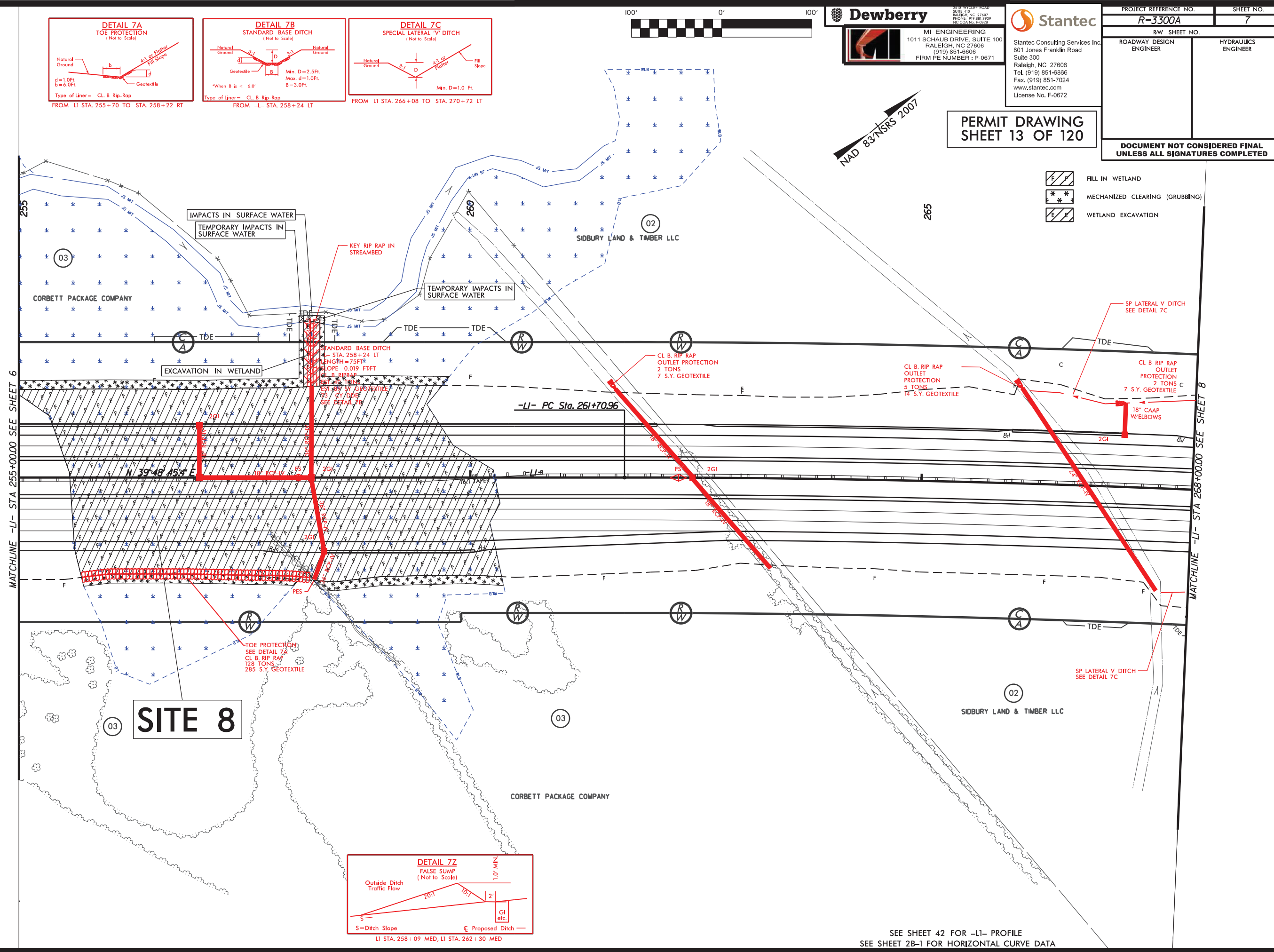
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11/20/2024

8/15/2023
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khaze

11/20/2024

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10/3/2024 2:32:50 PM
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SEE SHEET 42 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

6/23/16

SITE 8

PERMIT DRAWING
SHEET 15 OF 120

SITE 8

SITE 8

SITE 8

SITE 8

257 + 50.00

257 + 00.00

256 + 50.00

256 + 00.00

255 + 50.00

-L/-

11/20/2024

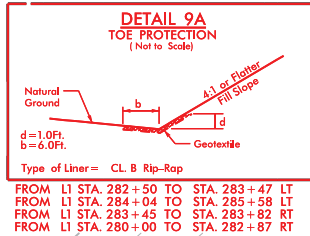
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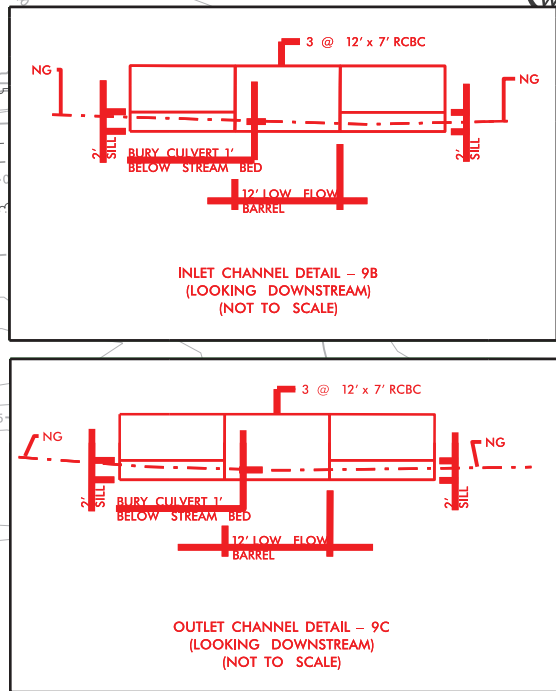
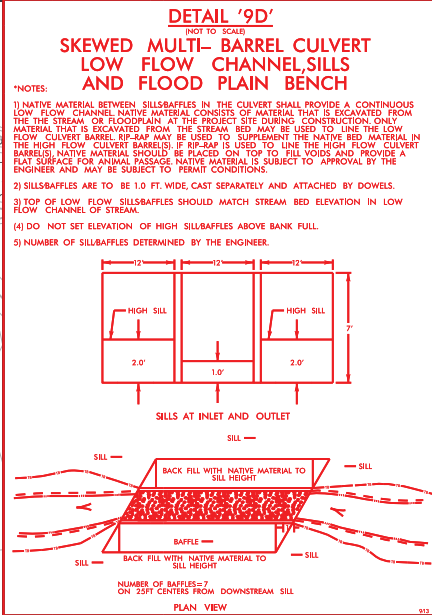
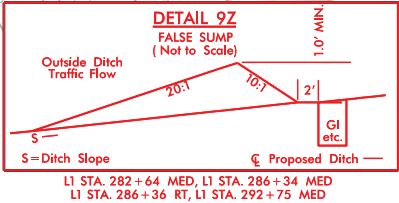
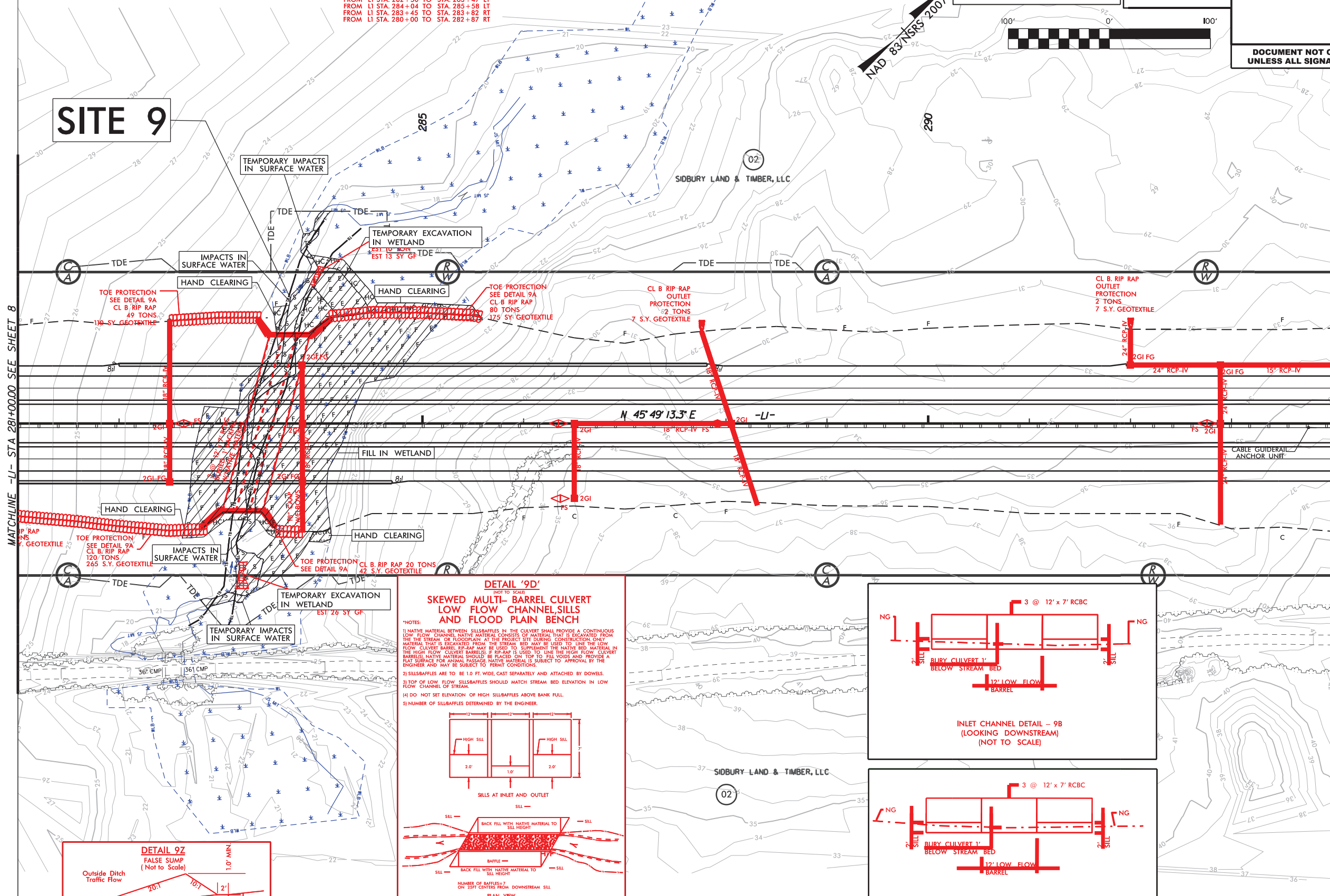
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	FILL IN WETLAND
	SURFACE WATER IMPACTS
	TEMPORARY SURFACE WATER IMPACTS
	WETLAND EXCAVATION
	HAND CLEARING (NON-GRUBBING)



SITE 9

MATCHLINE -L1- STA 281+00.00 SEE SHEET 8



SEE SHEET 43 FOR -L1- PROFILE

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PERMIT DRAWING
SHEET 17 OF 120

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PROJECT REFERENCE NO. R-3300A	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

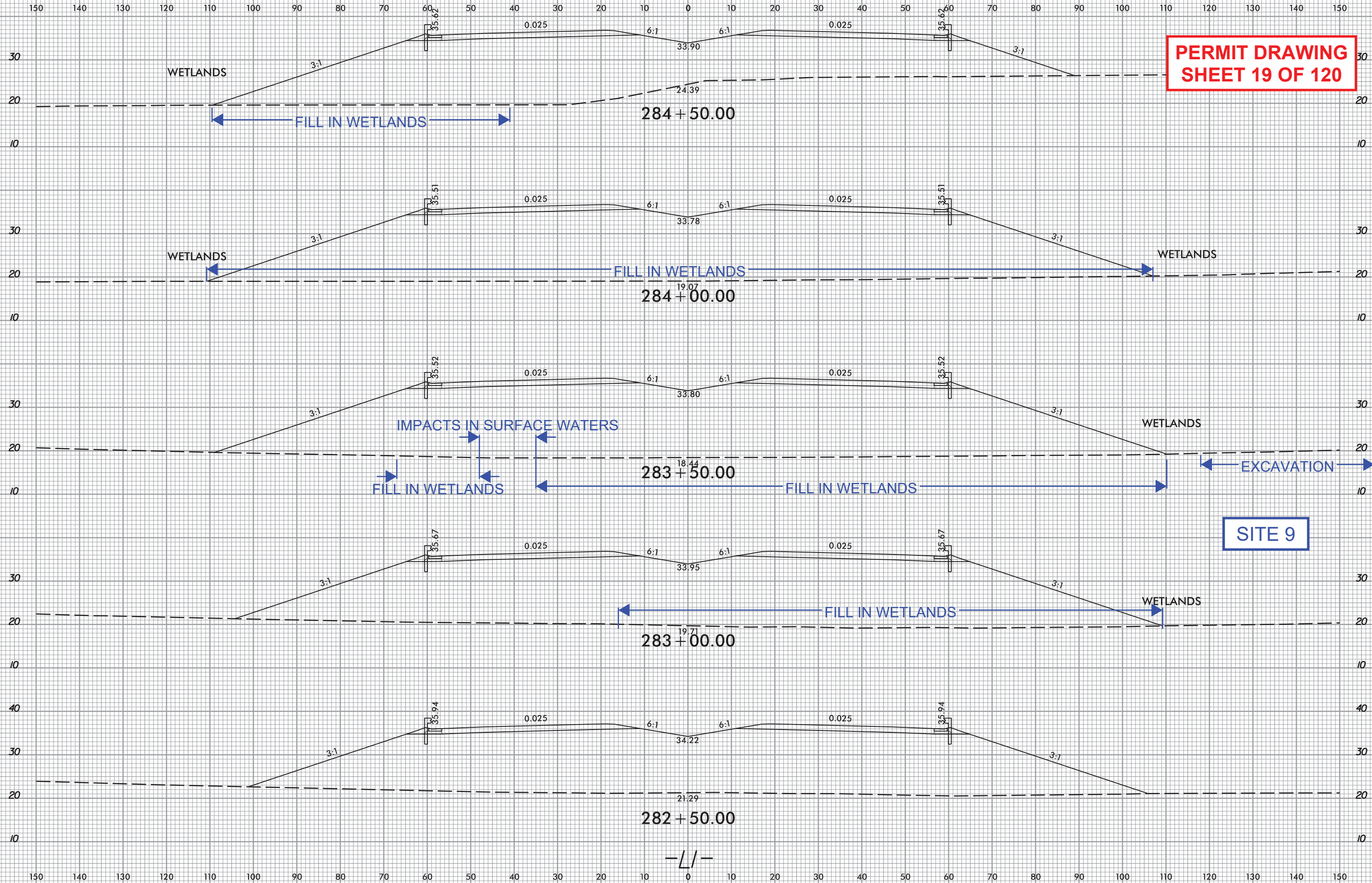
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

SITE 9

EXISTING	STREAM
BED	

11/20/2024

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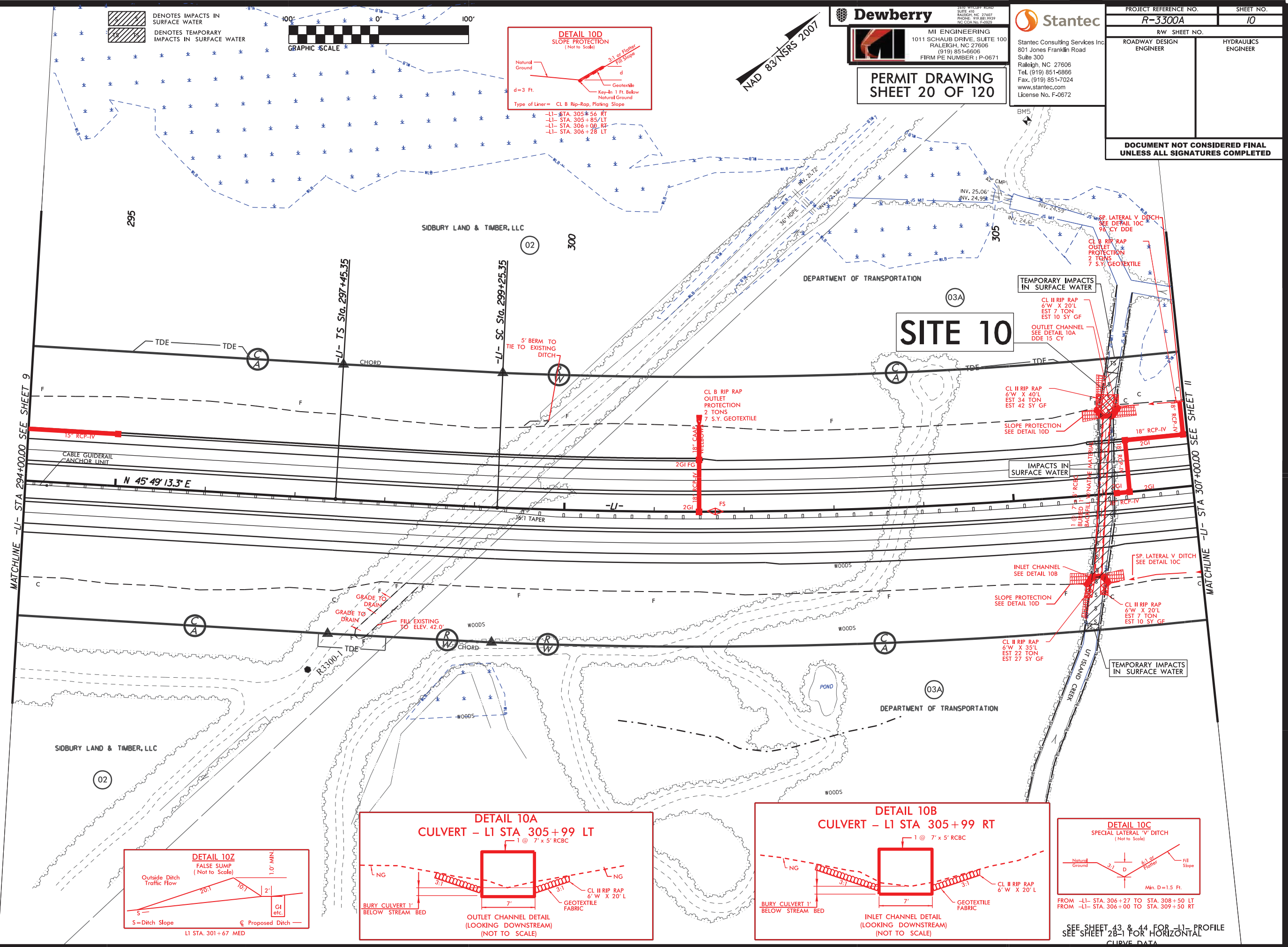
**PERMIT DRAWING
SHEET 19 OF 120**

SITE 9

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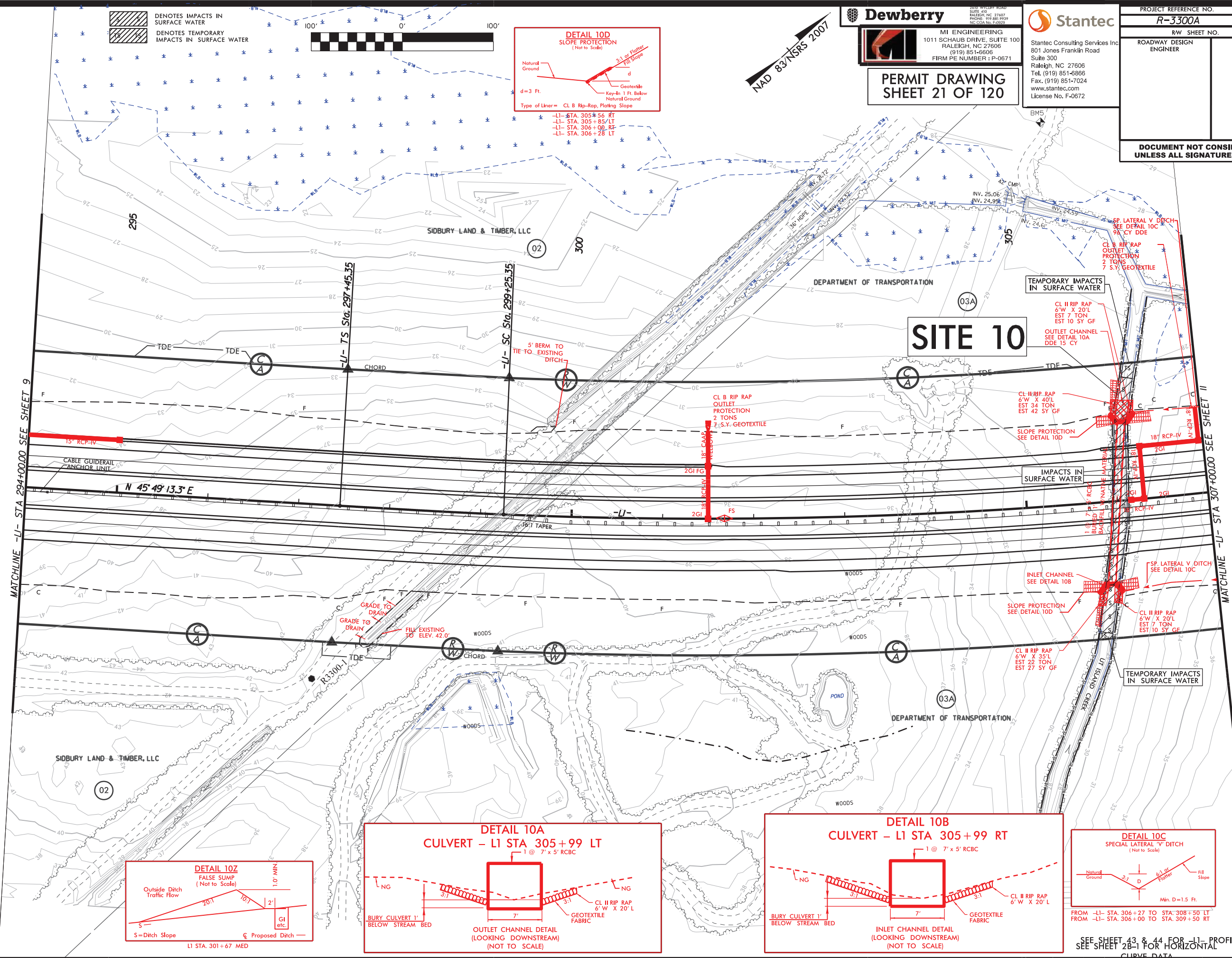
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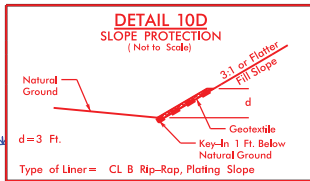
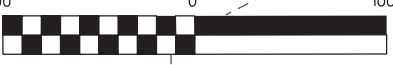


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DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER



-LI- STA. 305+56 RT
-LI- STA. 305+85/LT
-LI- STA. 306+00 RT
-LI- STA. 306+28 LT

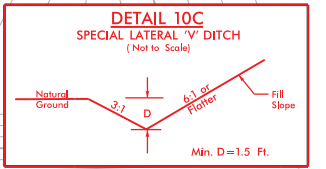
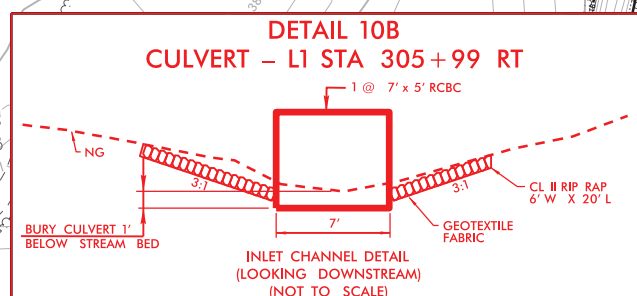
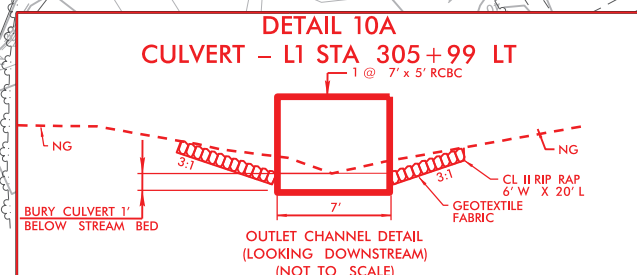
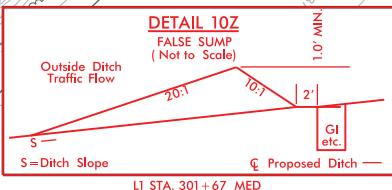
NAD 83/NRS 2007

Dewberry
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

**PERMIT DRAWING
SHEET 21 OF 120**

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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



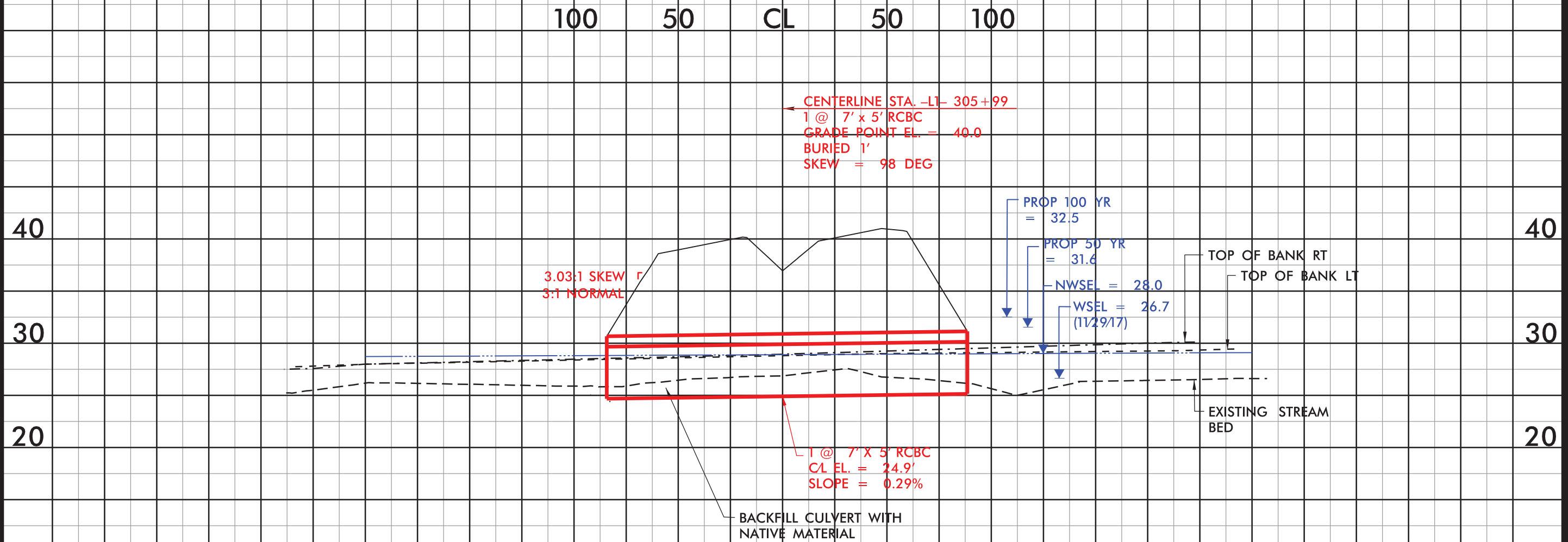
SEE SHEET 43 & 44 FOR -LI- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

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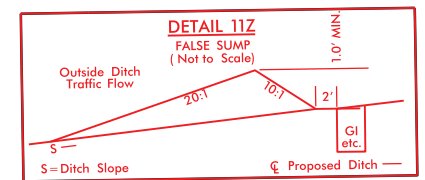
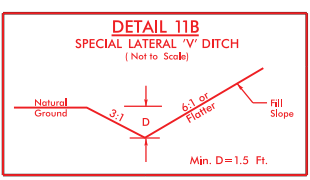
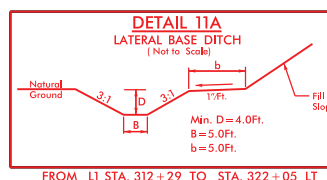
PERMIT DRAWING
SHEET 22 OF 120

PROJECT REFERENCE NO.	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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11/20/2024

11/7/2024 8:42:04 AM
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Dewberry

200 WILSON ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: (919) 851-9939
NC CDA NO. F-0629

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

Stantec

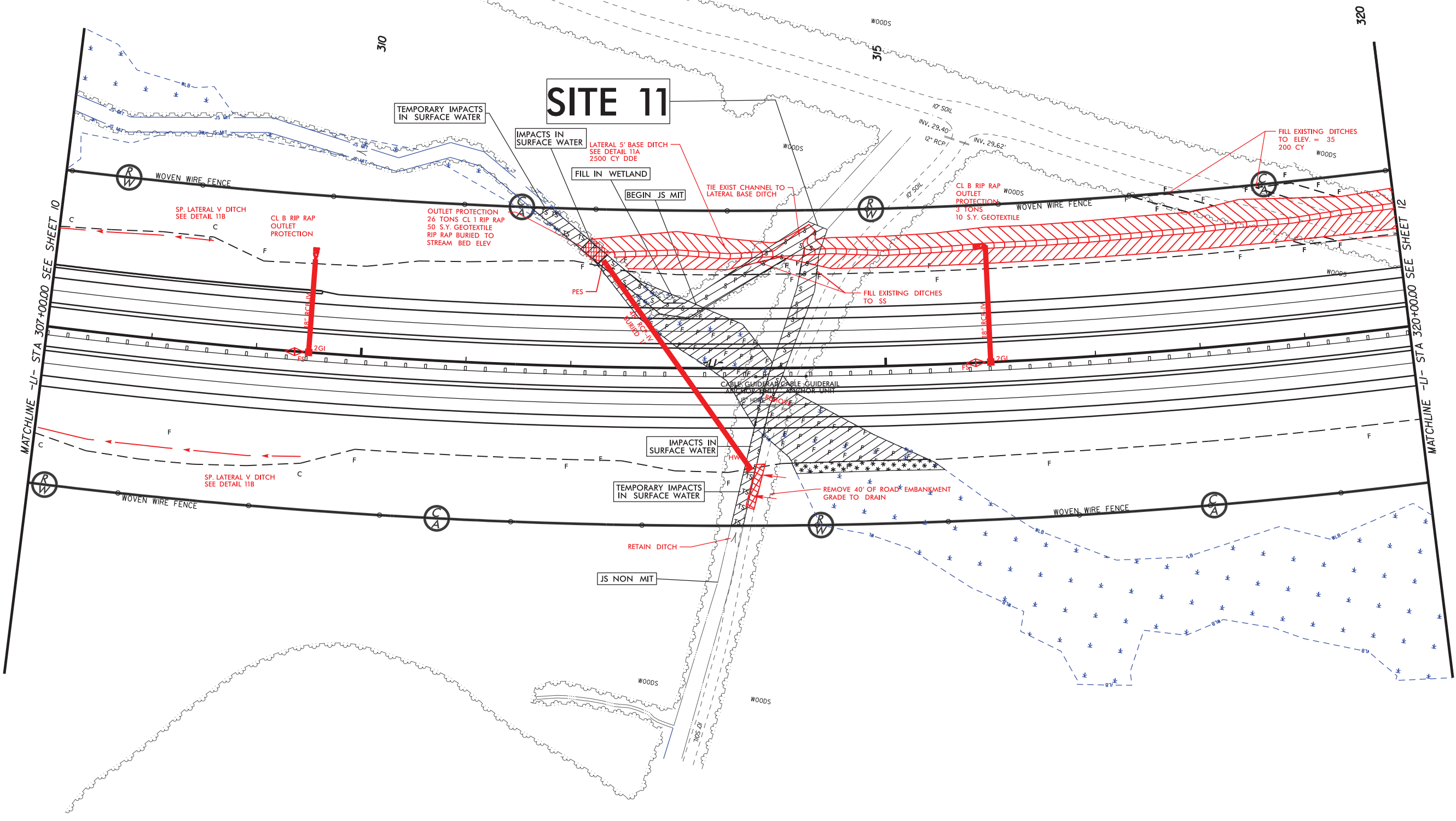
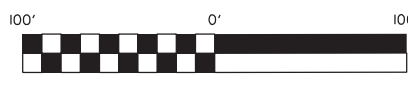
Stantec Consulting Services Inc.
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Fax. (919) 851-7024
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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

NAD 83/NSRS 2007

PERMIT DRAWING
SHEET 23 OF 120

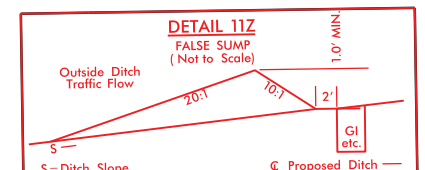
- DENOTES FILL IN WETLAND
- DENOTES HAND CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 44 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

1/7/2024 8:37:34 AM
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100



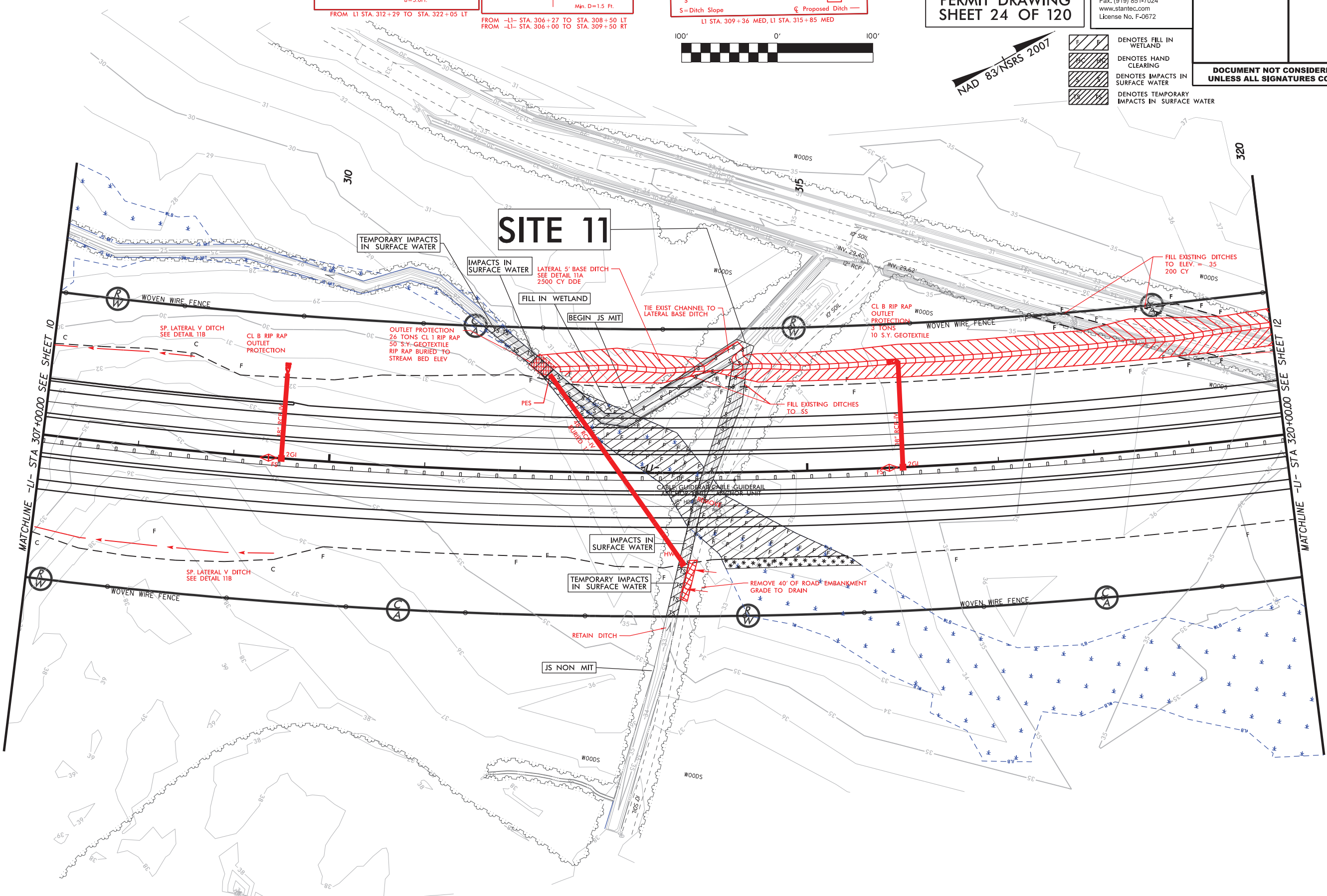
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

PROJECT REFERENCE NO.	SHEET NO.
R-3300A	11

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
----------------------------	------------------------

NAD 83/NSRS 2007

	DENOTES FILL IN WETLAND
	DENOTES HAND CLEARING
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER



SEE SHEET 44 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

6/23/16

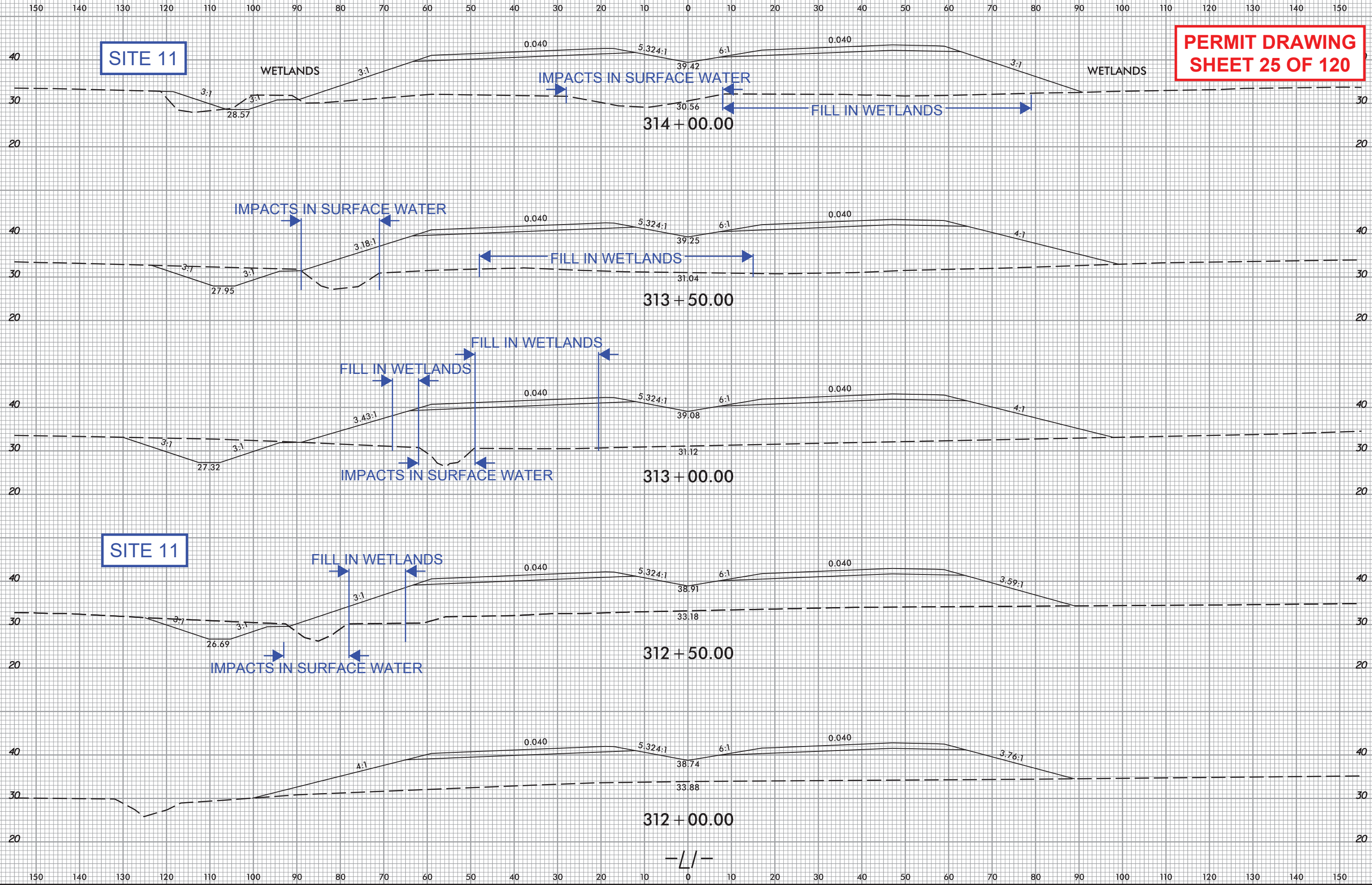


PROJ. REFERENCE NO.
R-3300A

SHEET NO.
X-60

SITE 11

PERMIT DRAWING
SHEET 25 OF 120



-L/-

8/15/2023
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khaze

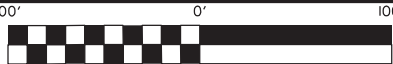
11/20/2024

11/20/2024

5/14/2024

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jg

FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)



Dewberry



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1011 SCHUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

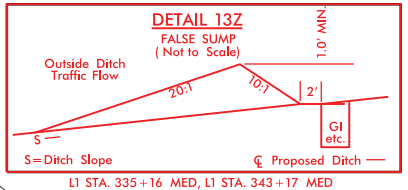
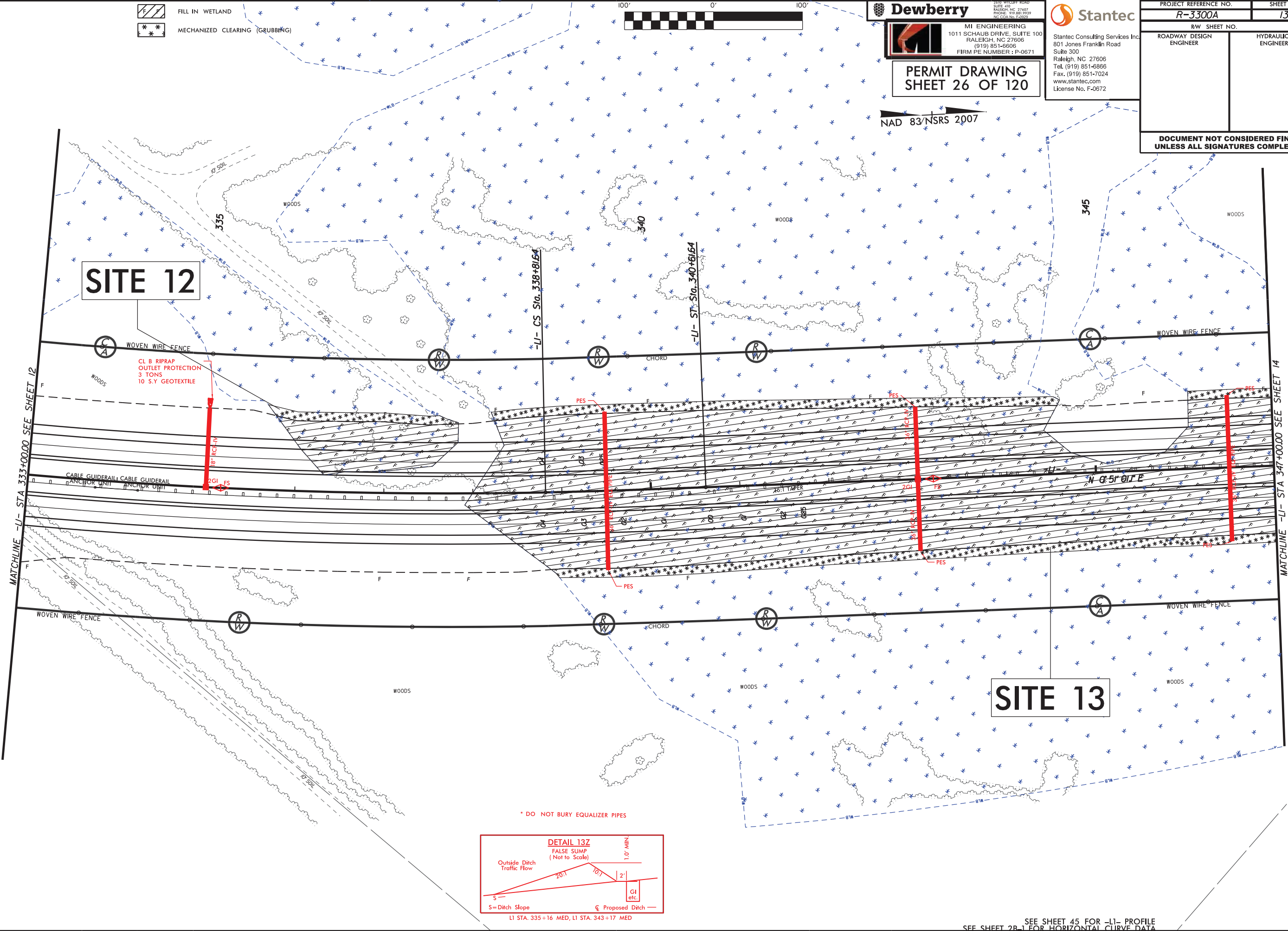
PERMIT DRAWING
SHEET 26 OF 120

NAD 83/NSRS 2007

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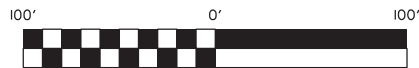
PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



SEE SHEET 45 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

11/20/2024

FILL IN WETLAND
MECHANIZED CLEARING (GRUBBING)



Dewberry

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RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

PERMIT DRAWING
SHEET 27 OF 120

NAD 83/NSRS 2007

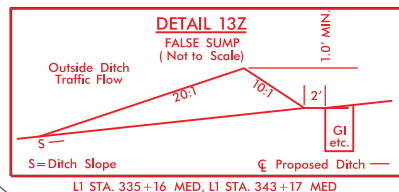
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Fax. (919) 851-7024
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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		13	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

SITE 12

SITE 13



SEE SHEET 45 FOR -L1- PROFILE
SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

**PERMIT DRAWING
SHEET 28 OF 120**

SITE 13

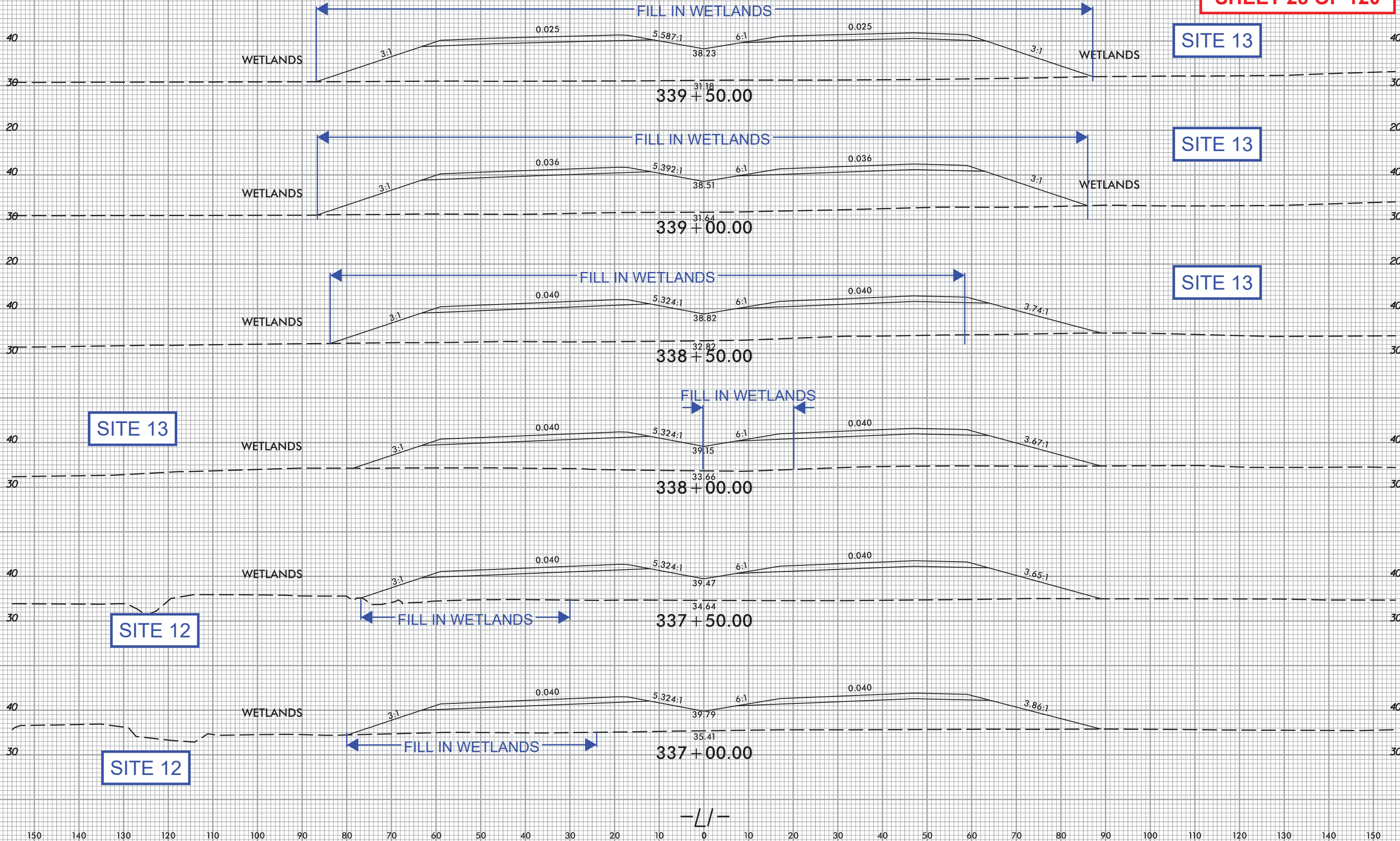
SITE 13

SITE 13

SITE 13

SITE 12

SITE 12


$$-L-$$

11/20/2024

6/23/16



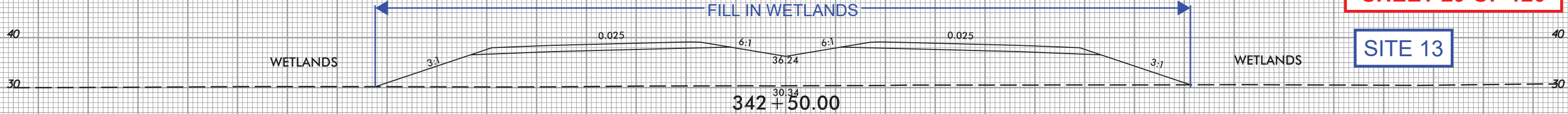
PROJ. REFERENCE NO.
R-3300A

SHEET NO.
X-70

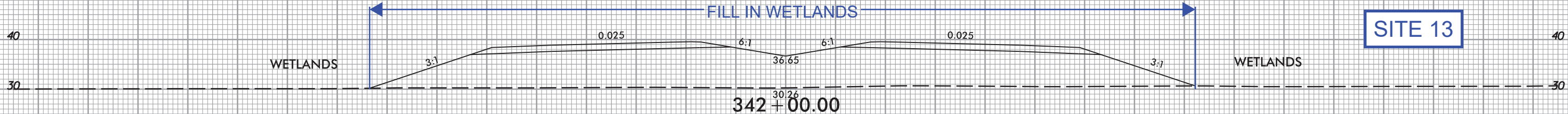
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PERMIT DRAWING
SHEET 29 OF 120

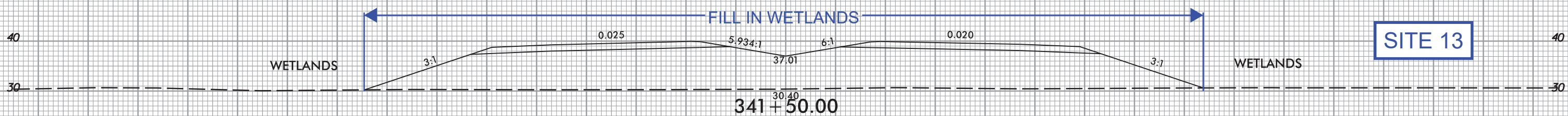
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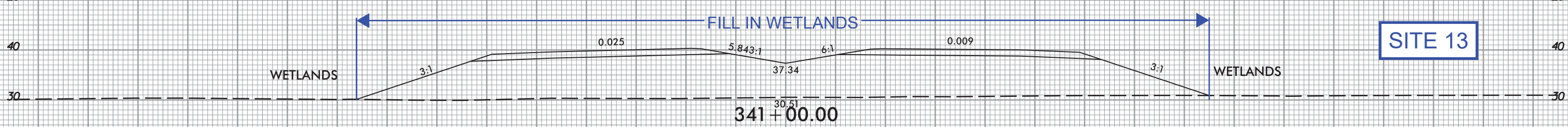
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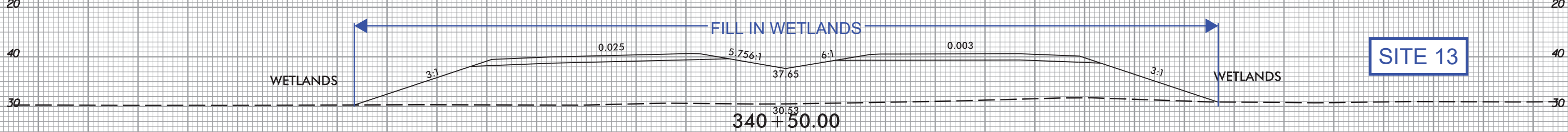
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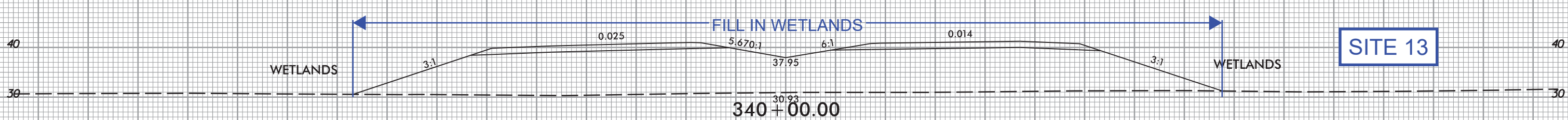
SITE 13



SITE 13



SITE 13

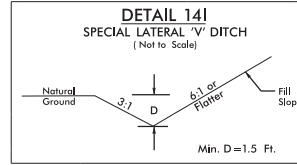
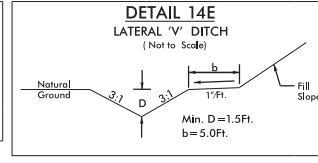
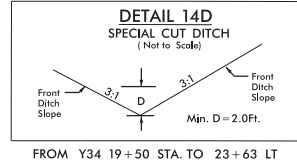
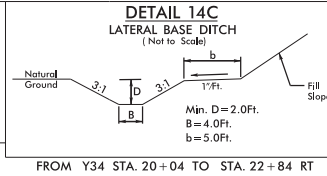
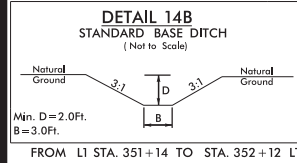


-L/-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

11/20/2024

RAW REV. FEB 2024; REVISED PUE ON PARCEL 12. -STANTEC



SITE 14

SITE 13

SITE 15

NAD 83/NSRS 2007


Dewberry

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1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

PERMIT DRAWING
SHEET 30 OF 120



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PROJECT REFERENCE NO.	SHEET NO.
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R-3300A	14
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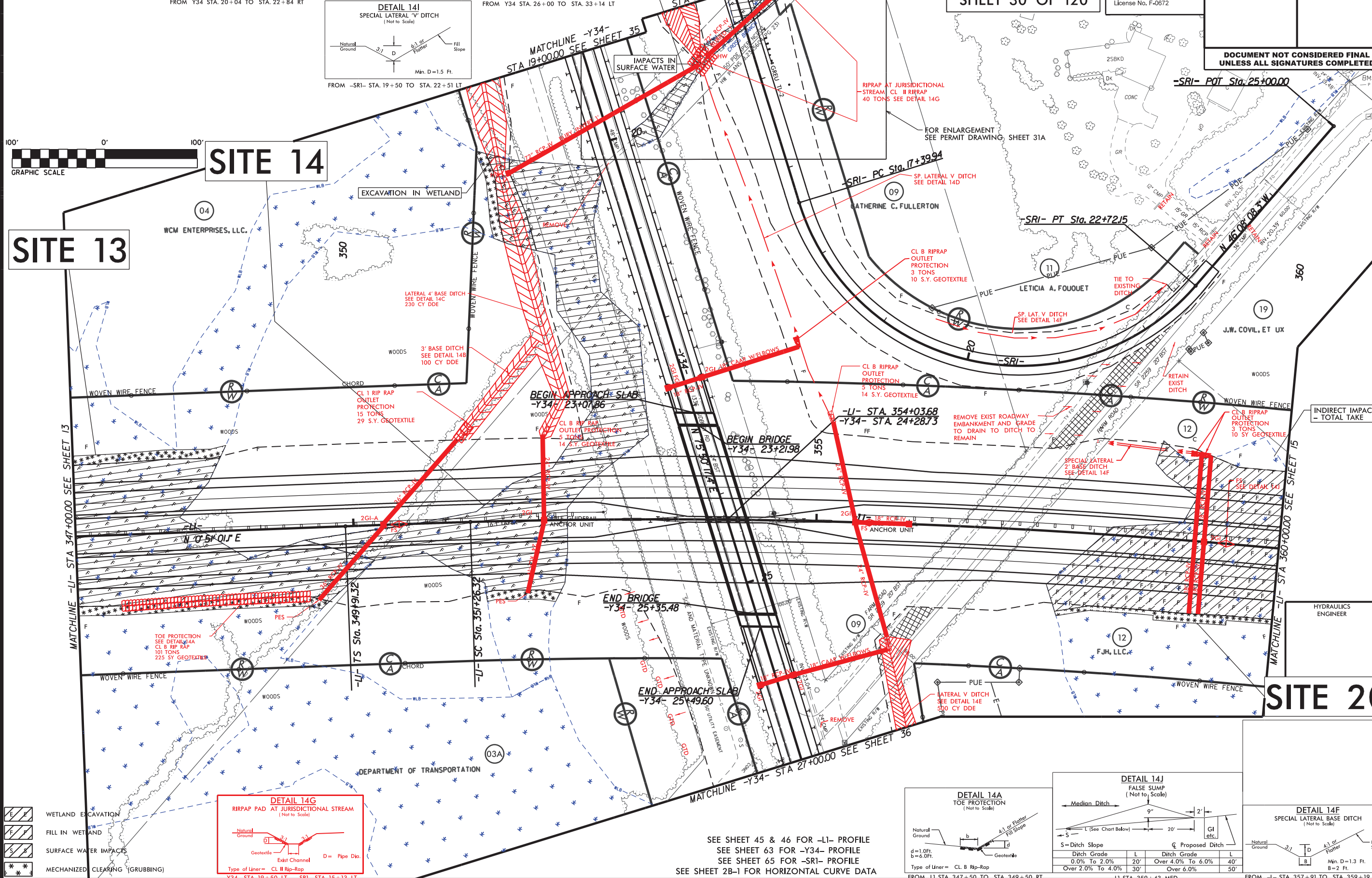
R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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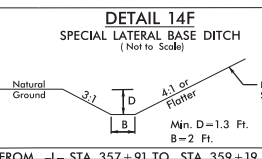
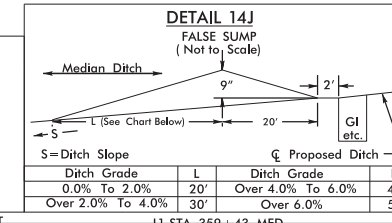
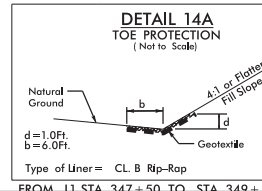
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SITE 20

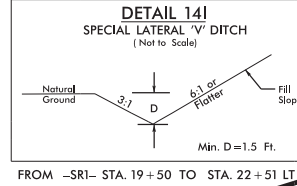
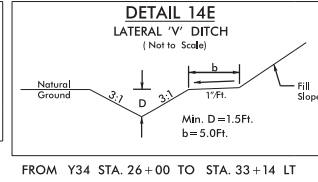
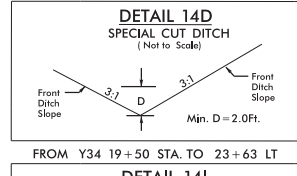
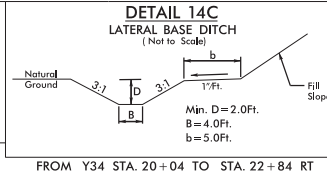
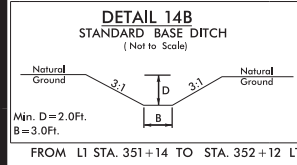
HYDRAUL

SEE SHEET 45 & 46 FOR -L1- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA



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SITE 15

NAD 83/NSRS 2007



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FIRM PE NUMBER : P-0671



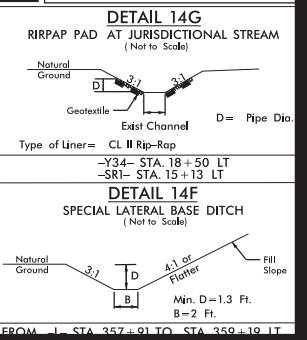
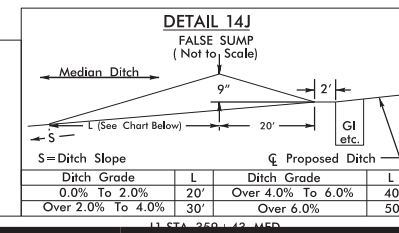
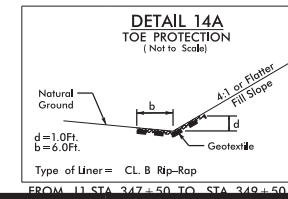
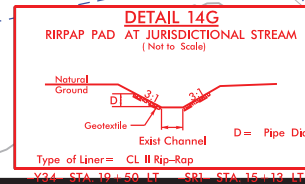
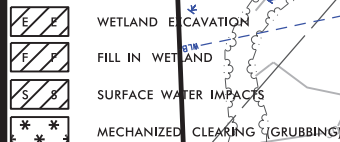
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PROJECT REFERENCE NO.	SHEET NO.
<i>R-3300A</i>	<i>14</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SITE 13

SITE 14

SITE 20








SEE SHEET 45 & 46 FOR -L1- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

11/20/2024

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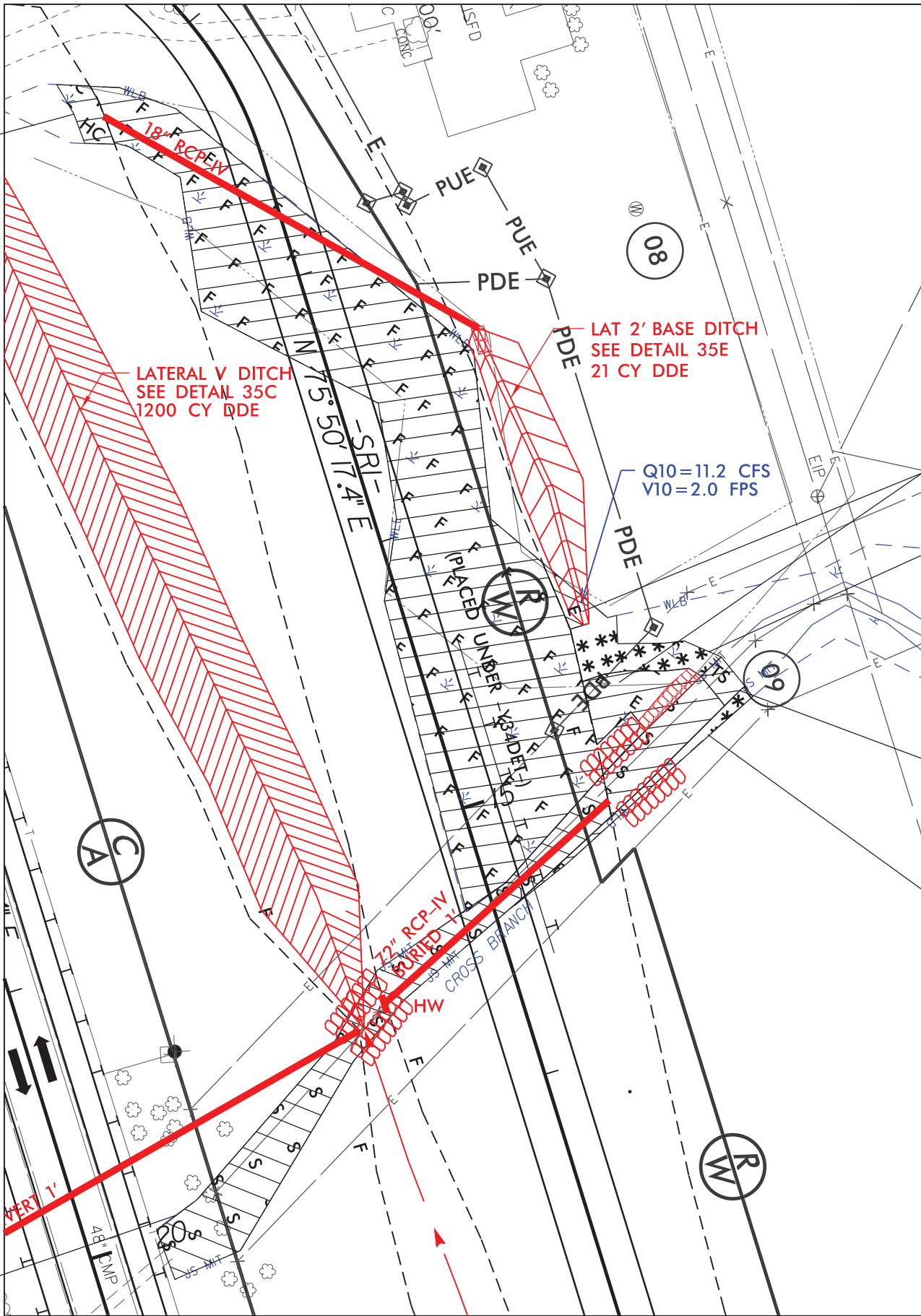
REVISIONS

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-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  TEMPORARY SURFACE WATER IMPACTS
-  WETLAND EXCAVATION
-  MECHANIZED CLEARING (GRUBBING)

HAND CLEARING

IMPACTS IN
SURFACE WATER



NAD 83/NSRS 2007

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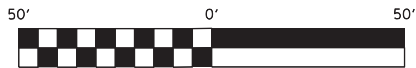


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SHEET 31A OF 120



SITE 15

EXCAVATION IN WETLAND

MECHANIZED
CLEARING

TEMPORARY IMPACTS
IN SURFACE WATER

MECHANIZED
CLEARING

PROJECT REFERENCE NO. SHEET NO.

R/W SHEET NO.

ROADWAY DESIGN
ENGINEER HYDRAULICS
ENGINEER

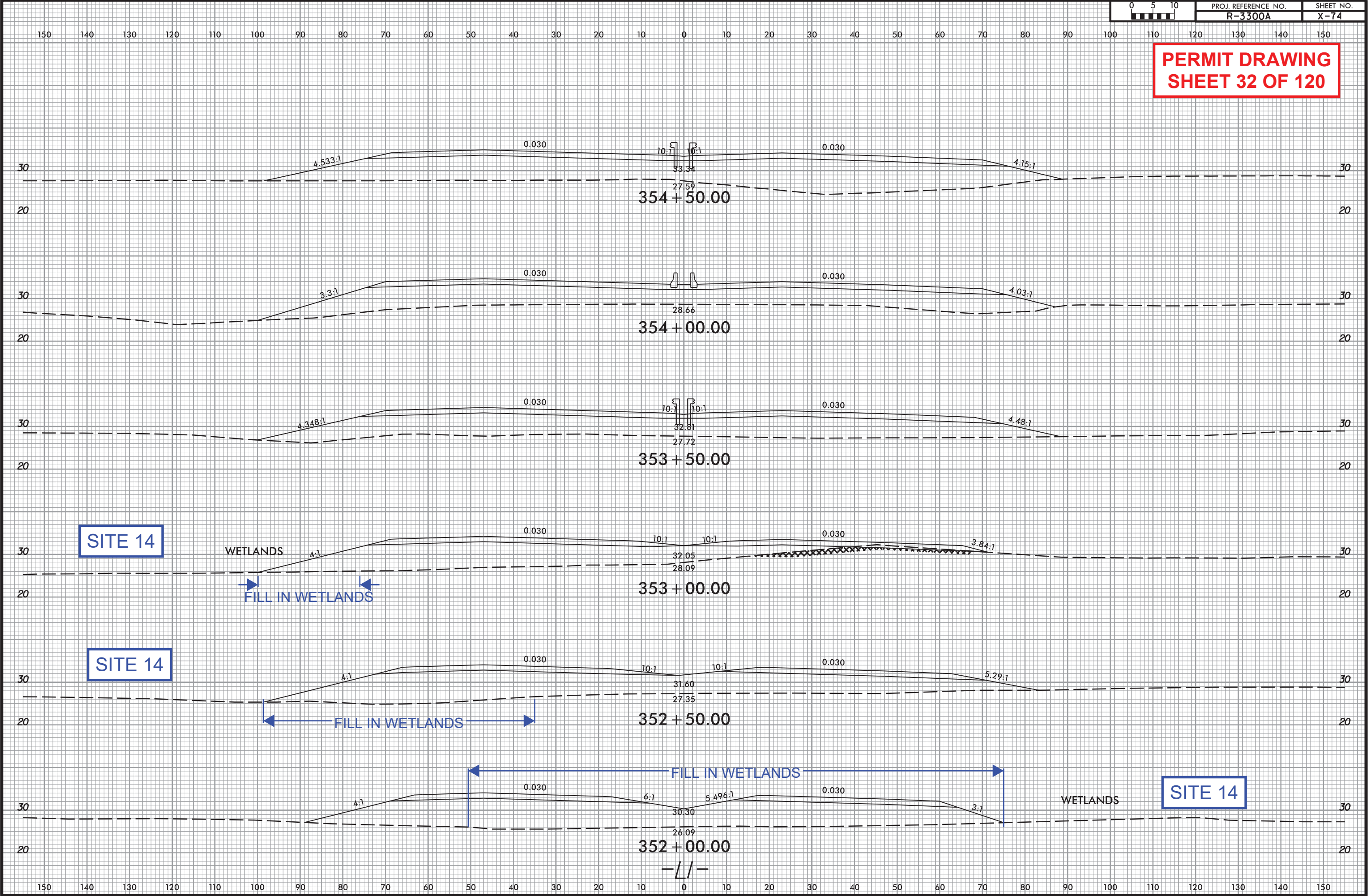
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khazei

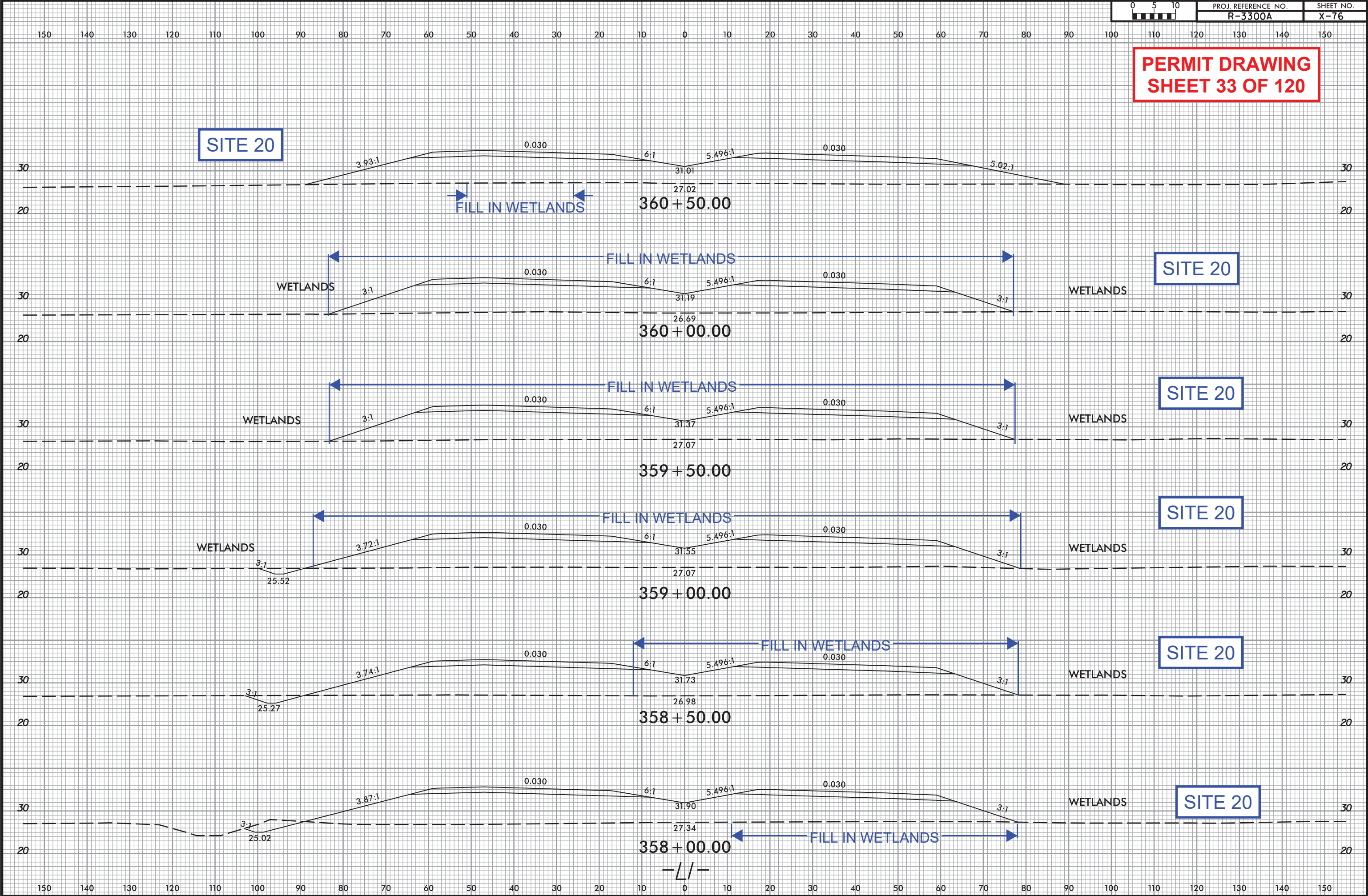


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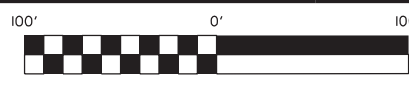
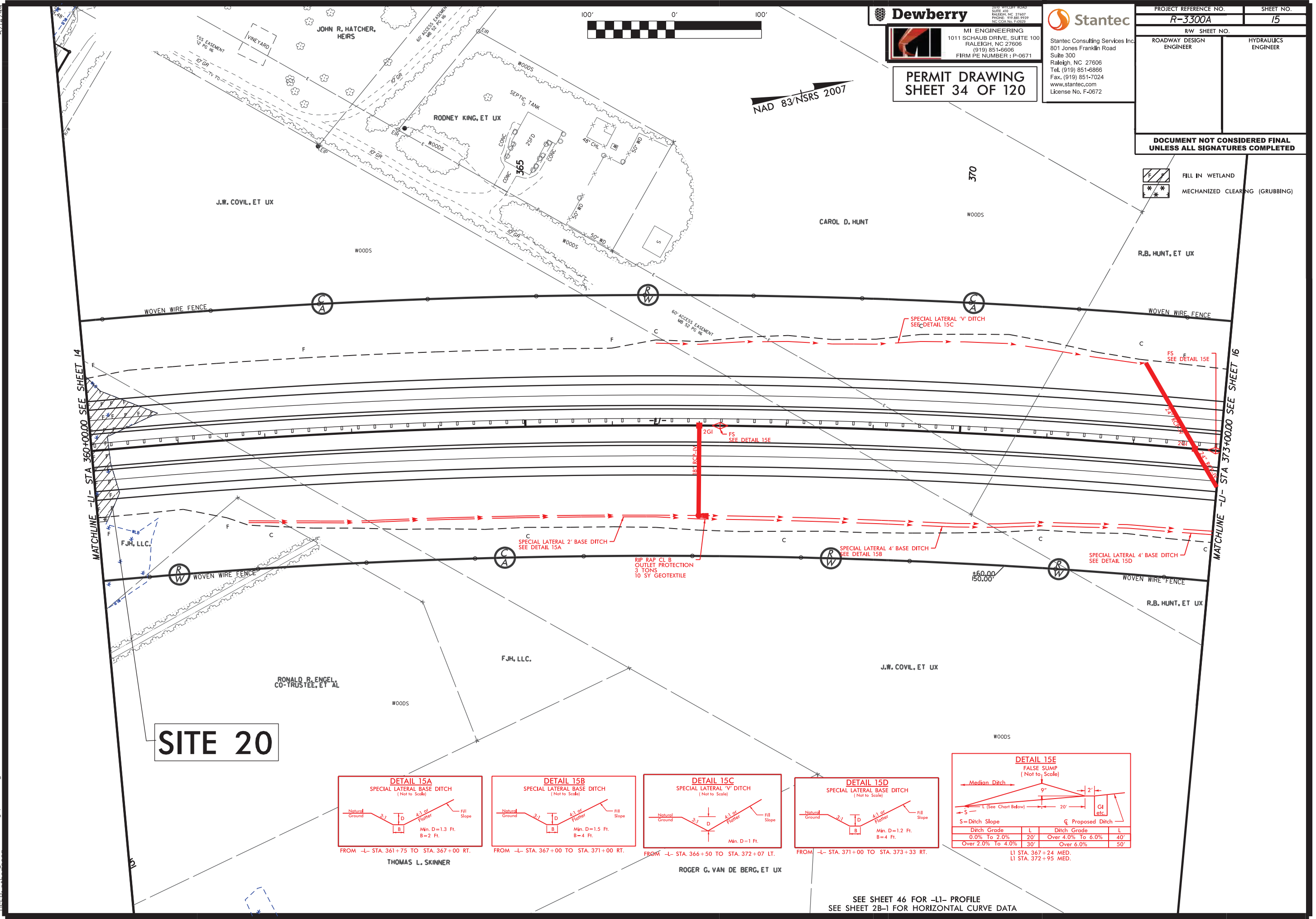
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SHEET 33 OF 120



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SHEET 34 OF 120**

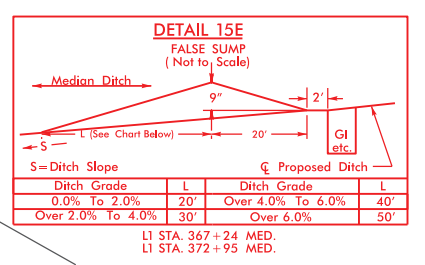
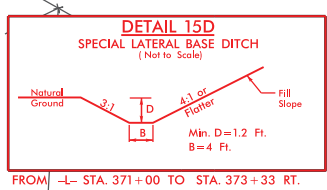
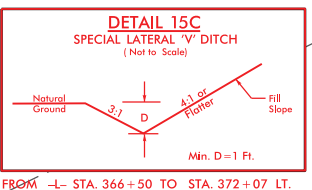
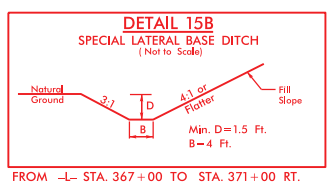
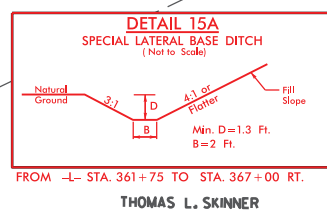
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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

FILL IN WETLAND

MECHANIZED CLEARING (GRUBBING)

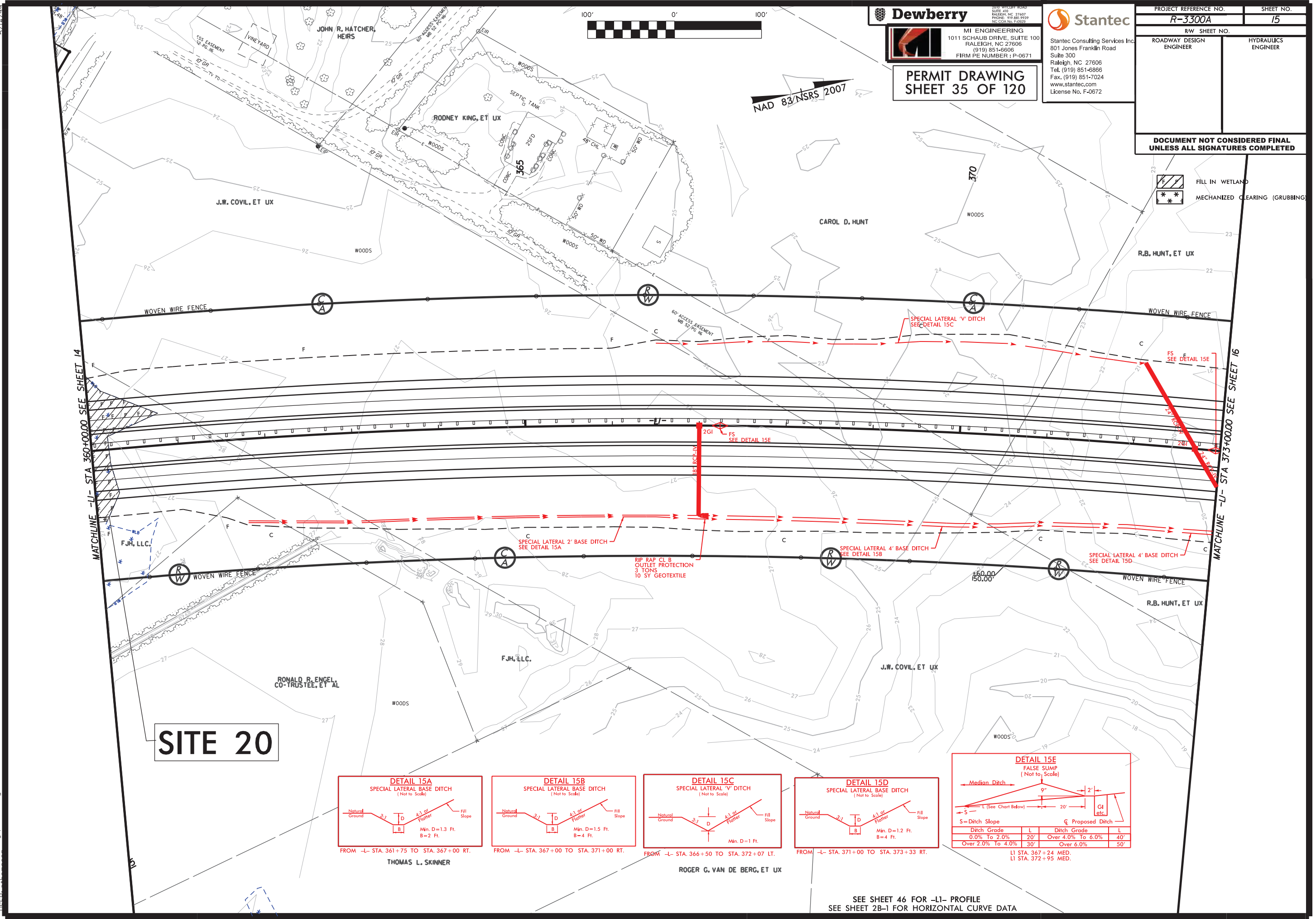
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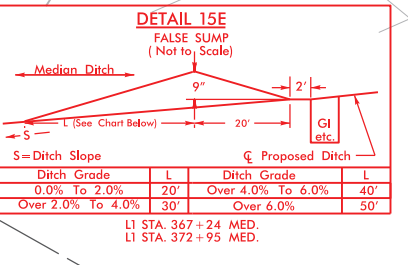
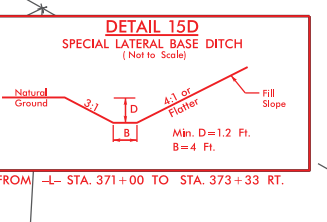
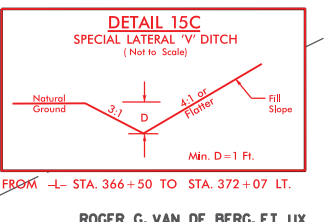
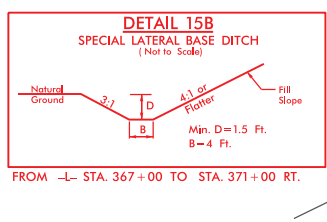
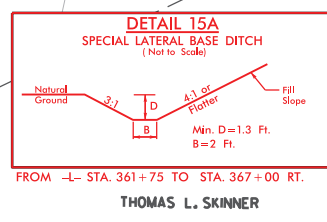
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SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

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SITE 20



SEE SHEET 46 FOR -L1- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA



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(919) 851-8606
FIRM PE NUMBER: P-0671

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SHEET 35 OF 120

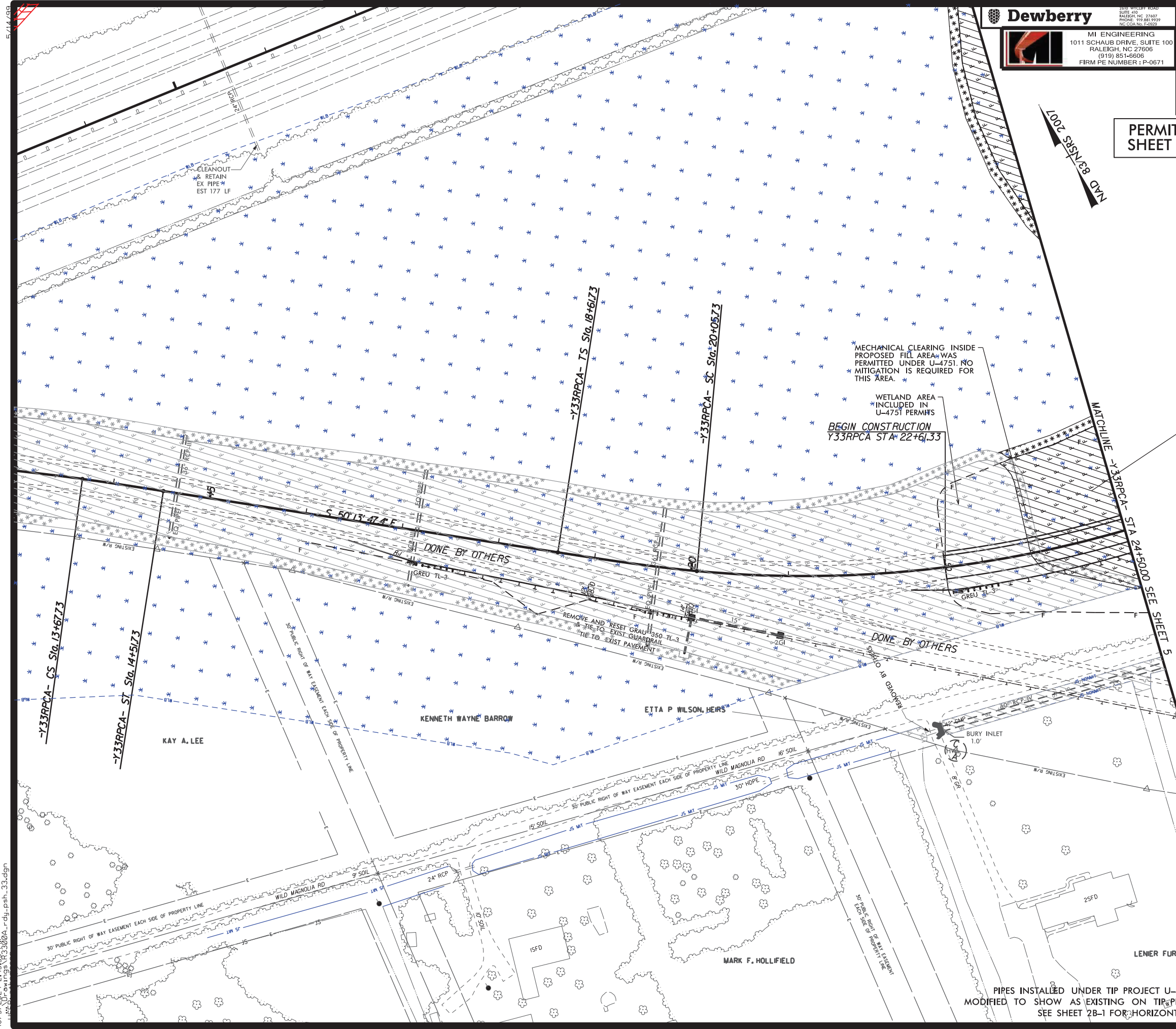
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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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FILL IN WETLAND
 MECHANIZED CLEARING (GRUBBING)

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PROJECT REFERENCE NO. R-3300A		SHEET NO. 33	
RW SHEET NO.		ROADWAY DESIGN ENGINEER	
		HYDRAULICS ENGINEER	

**PERMIT DRAWING
SHEET 36 OF 120**

- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)

SITE 1

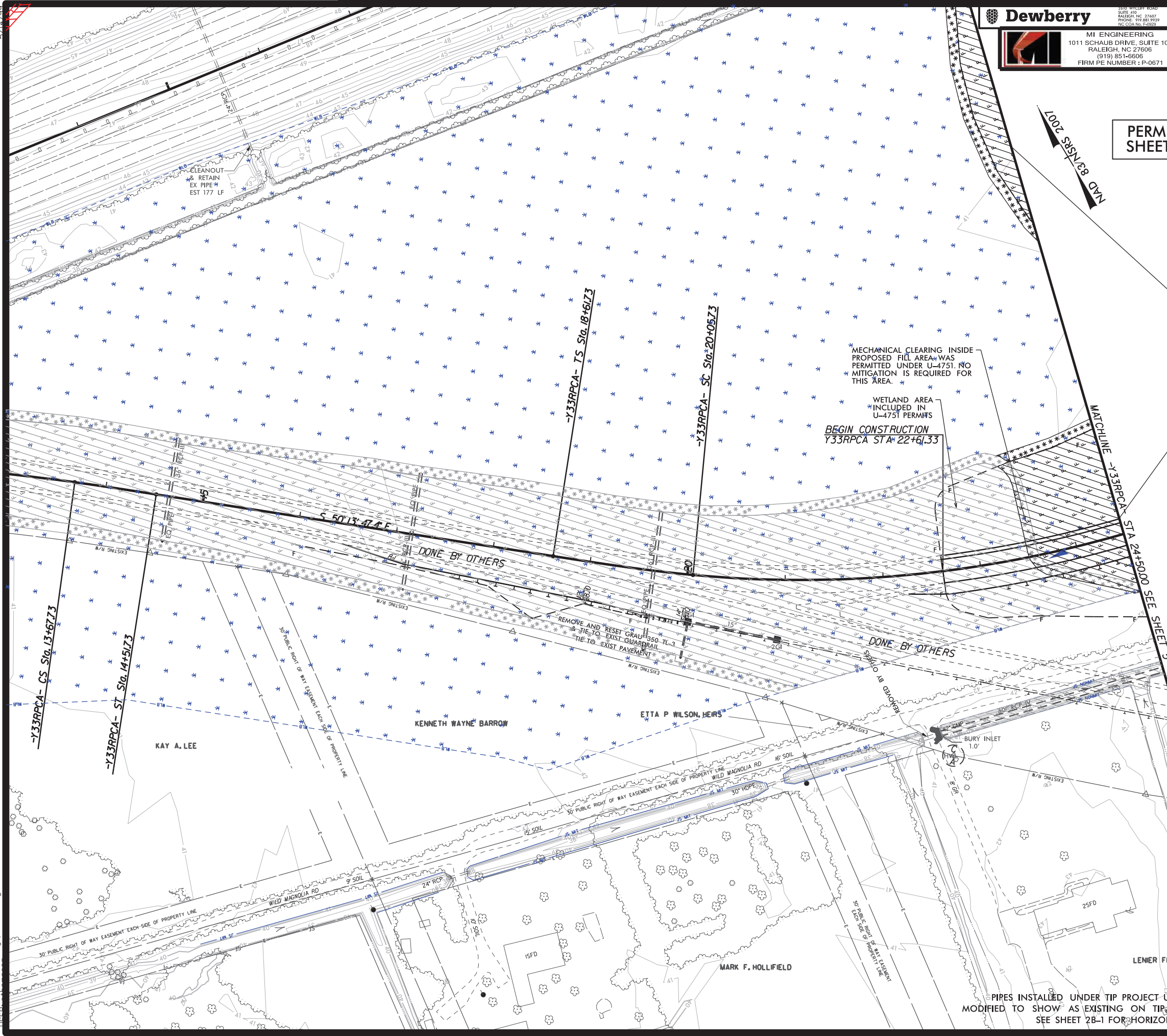
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MODIFIED TO SHOW AS EXISTING ON TIP PROJECT R-3300A
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

SEE SHEET 61 FOR -Y33RPCA- PROFILE

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PROJECT REFERENCE NO. <i>R-3300A</i>		SHEET NO. <i>33</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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PERMIT DRAWING
SHEET 37 OF 120

SITE 1

- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)

DRAINAGE FROM
PROJECT U-4751
U-4751 ROADWAY DESIGN
FILES ARE DASHED LINES
IN THE PROPOSED
ROADWAY

PIPES INSTALLED UNDER TIP PROJECT U-4751 HAVE BEEN
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SEE SHEET 28-1 FOR HORIZONTAL CURVE DATA

SEE SHEET 61 FOR -Y33RPCA- PROFILE

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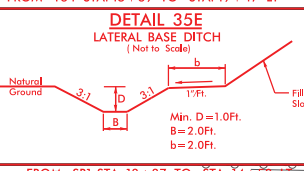
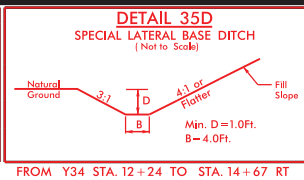
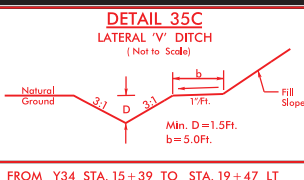
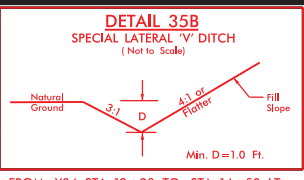
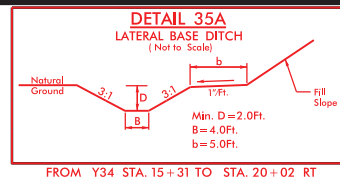


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- HC HC HAND CLEARING (NON-GRUBBING)
- F F FILL IN WETLAND
- TS TS TEMPORARY SURFACE WATER IMPACTS
- E E WETLAND EXCAVATION
- * * MECHANIZED CLEARING (GRUBBING)

Dewberry



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FIRM PE NUMBER: P-0671

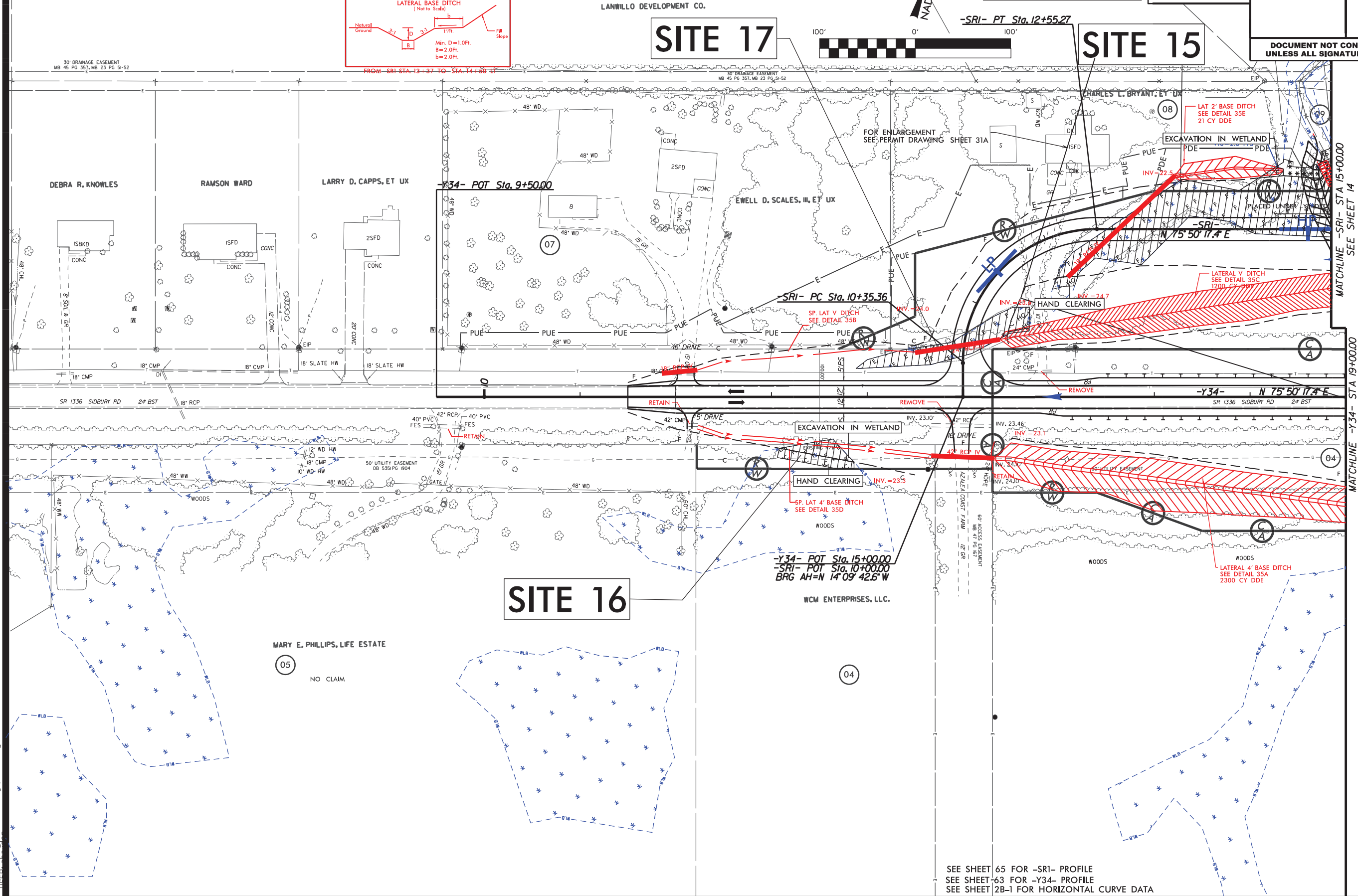
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SHEET 38 OF 120

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PROJECT REFERENCE NO.	SHEET NO.
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RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

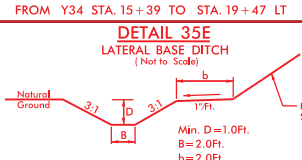
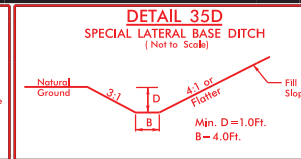
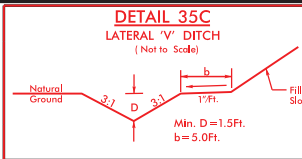
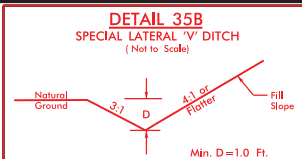
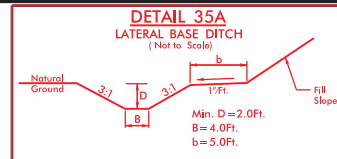
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SEE SHEET 65 FOR -SRI- PROFILE
SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

11/20/2024

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- HAND CLEARING (NON-GRUBBING)
- FILL IN WETLAND
- TEMPORARY SURFACE WATER IMPACTS
- WETLAND EXCAVATION
- MECHANIZED CLEARING (GRUBBING)

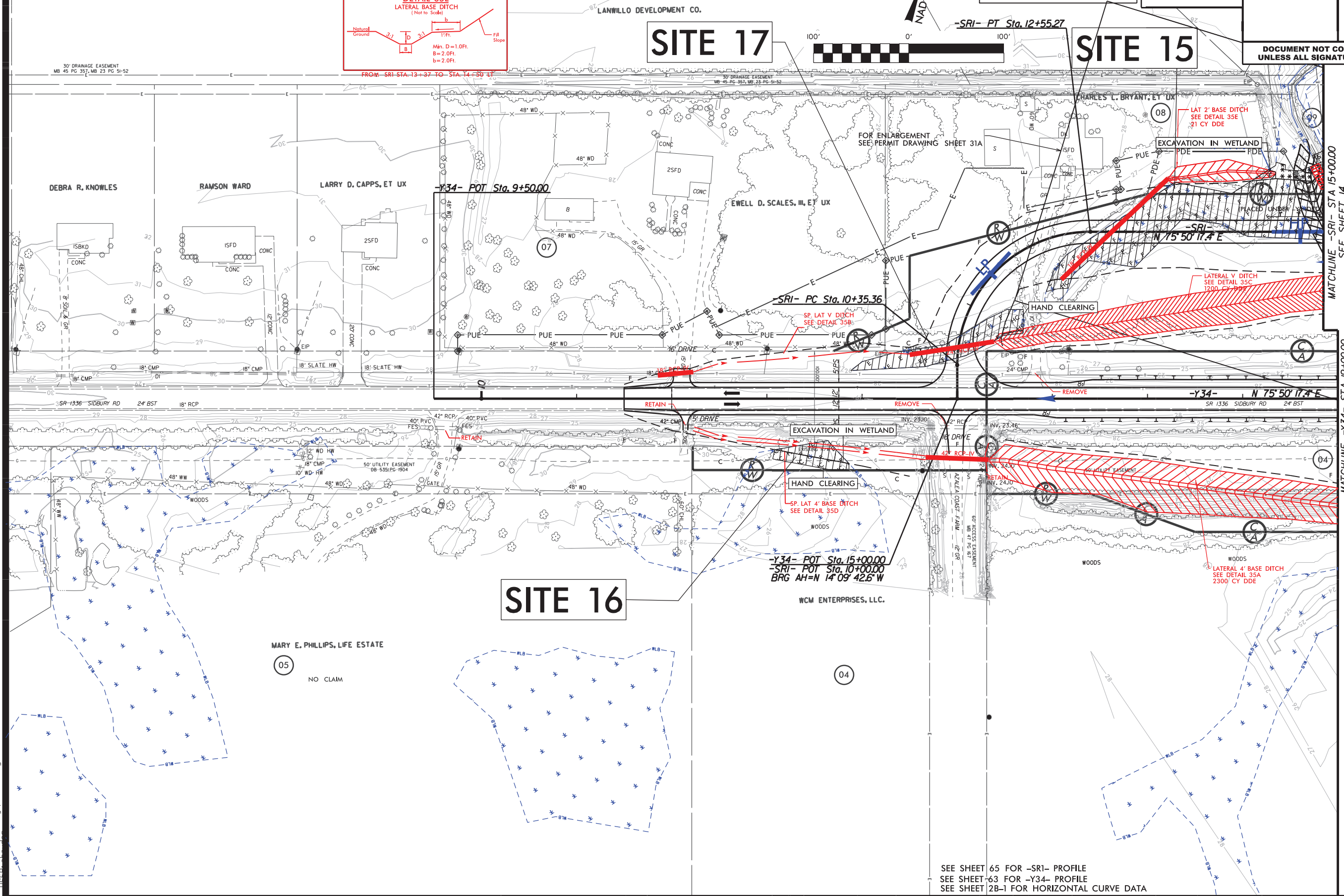
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SHEET 39 OF 120

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PROJECT REFERENCE NO. R-3300A	SHEET NO. 35
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

SITE 15

IMPACTS IN SURFACE WATER

WETLANDS

- FILL IN WETLANDS

WETLANDS

WETLANDS

FILL IN WETLANDS

WETLANDS

FILL IN WETLANDS

SITE 15

WETLANDS

← FILL IN WETLANDS →

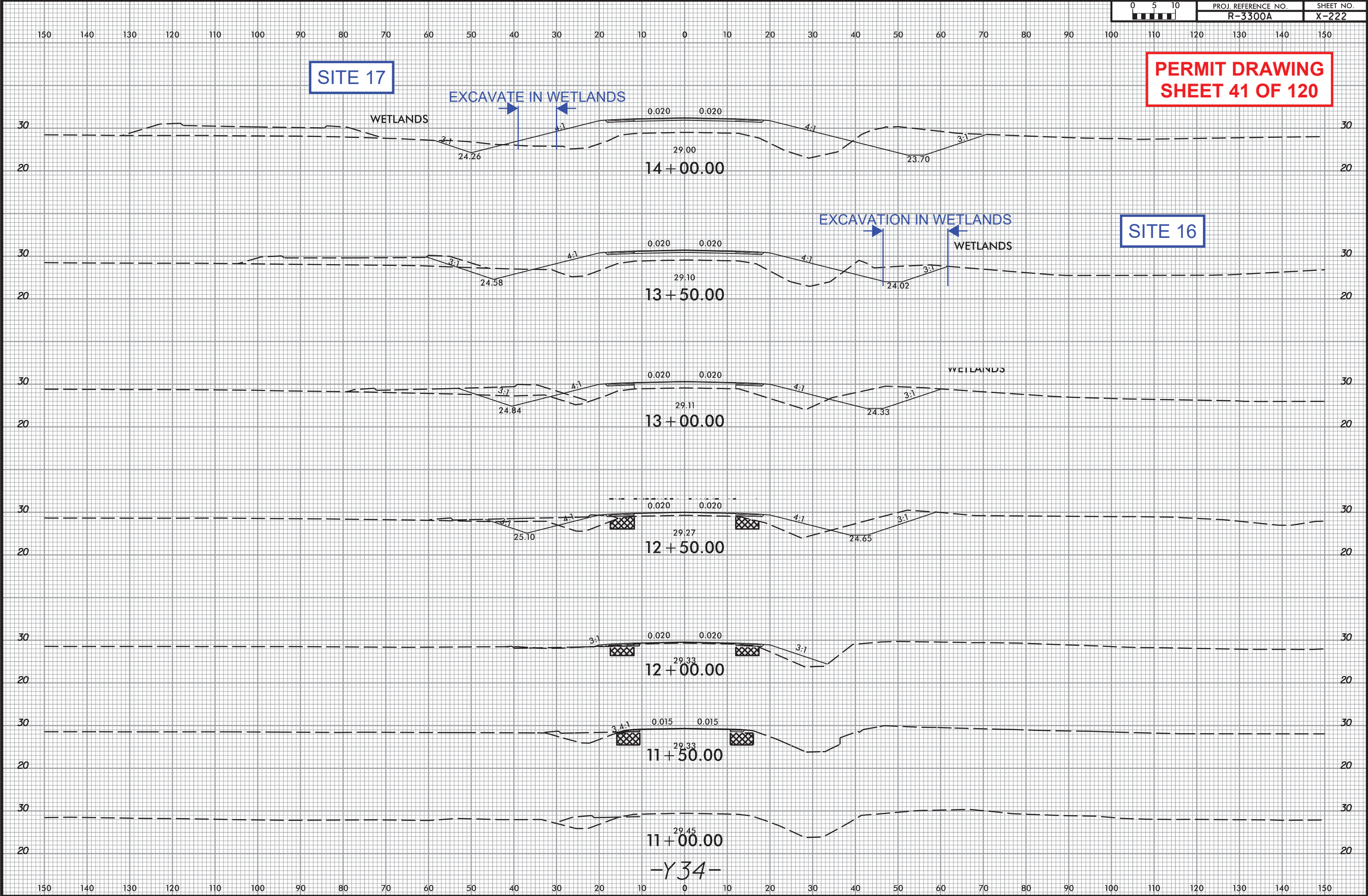
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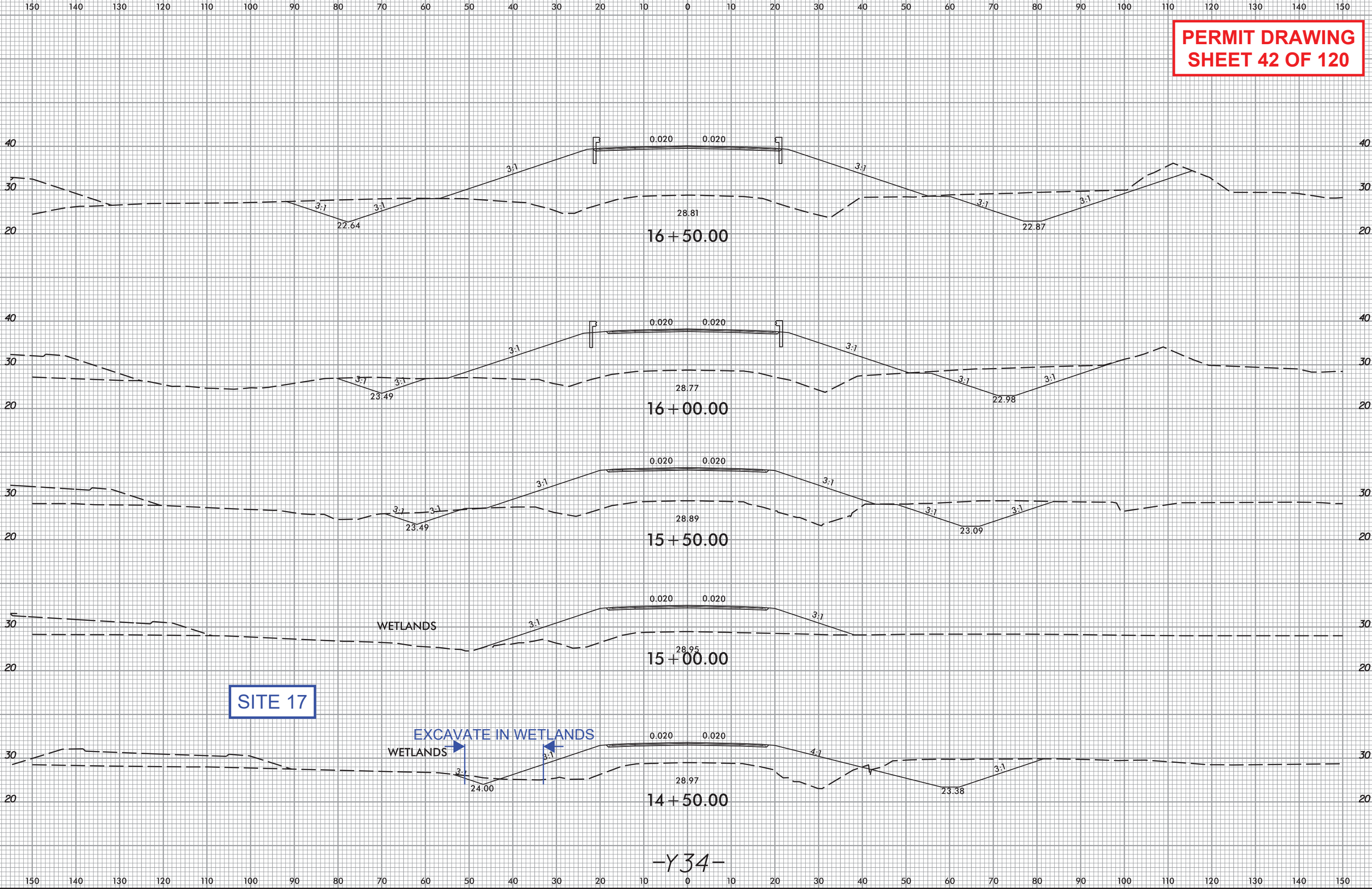
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khazei



6/23/16

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SHEET 42 OF 120



SITE 17

EXCAVATE IN WETLANDS

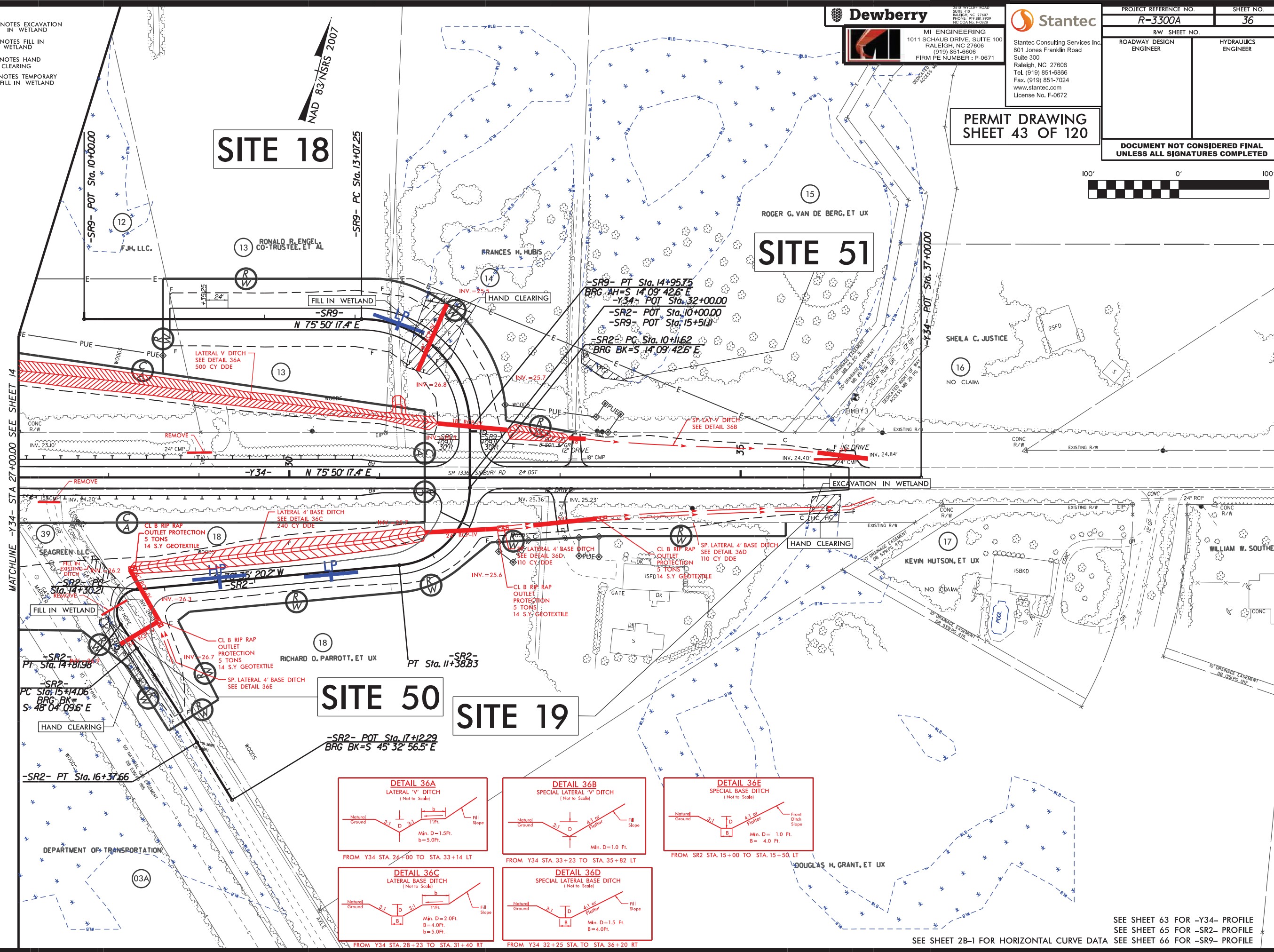
WETLANDS

-Y34-

11/20/2024

R/W	REV. MARCH 2023:	REVISED ROW ON PARCELS 18 & 39. --STANTEC
R/W	REV. FEB 2024:	REVISED PUE ON PARCEL 12. --STANTEC

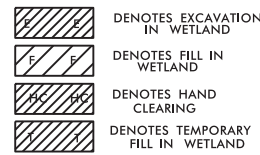
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SEE SHEET 63 FOR -Y34- PROFILE
SEE SHEET 65 FOR -SR2- PROFILE
SEE SHEET 66 FOR -SR9- PROFILE

SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA

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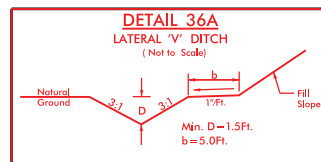


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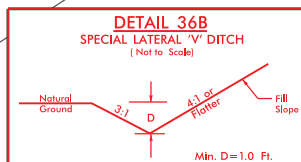
SITE 51

SITE 50

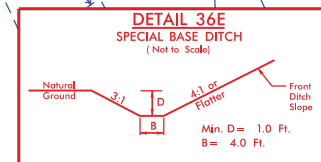
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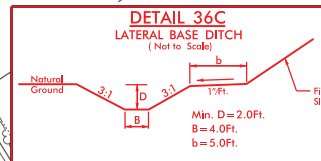
FROM Y34 STA. 26+00 TO STA. 33+14 LT



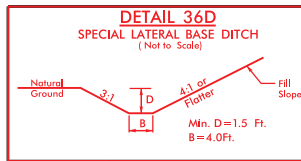
FROM Y34 STA. 33+23 TO STA. 35+82 IT



FROM SR2 STA. 15+00 TO STA. 15+50 LT



FROM Y34 STA. 28+23 TO STA. 31+40 RT



FROM Y34 32+25 STA. TO STA. 36+20 RT

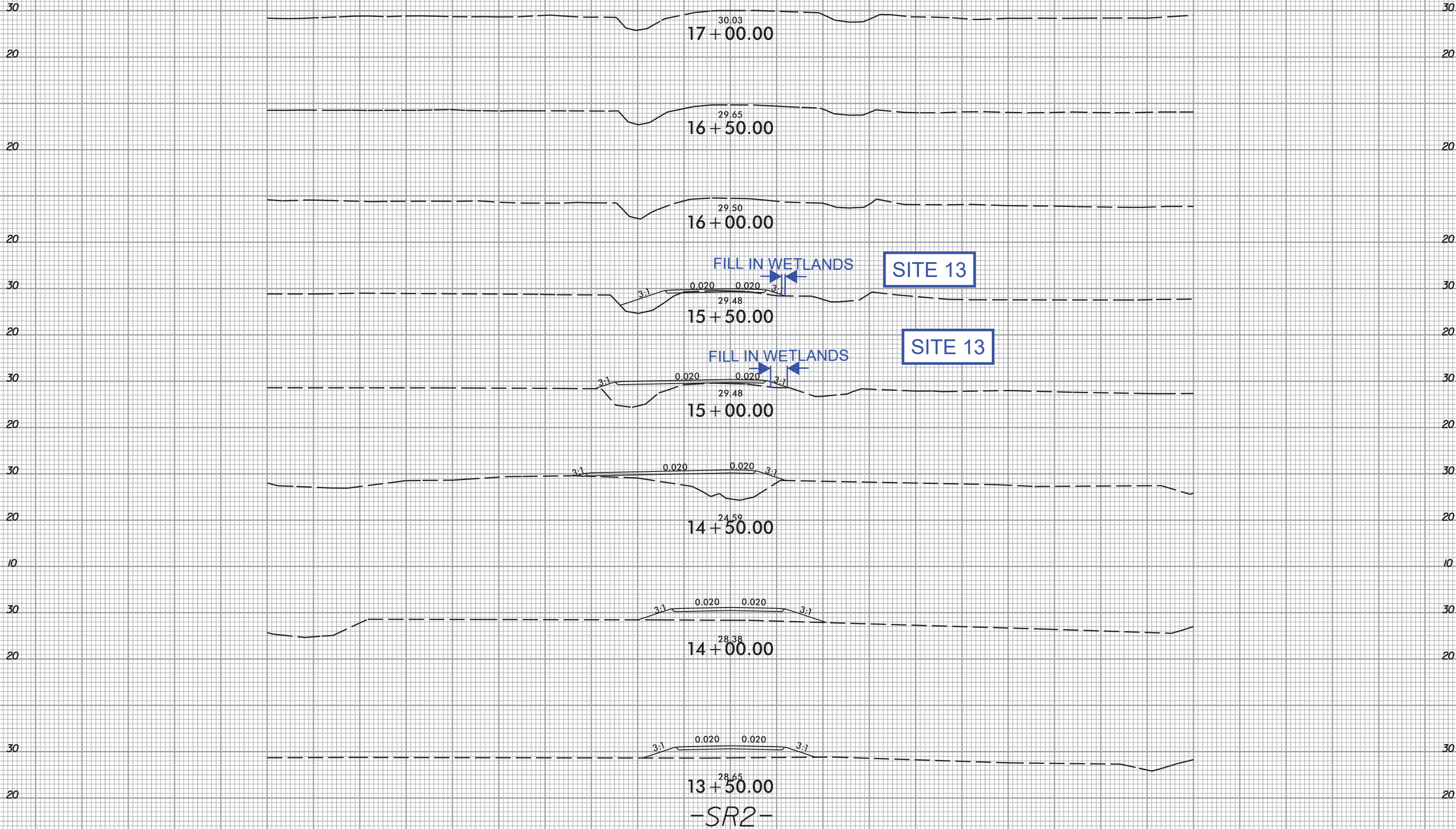
SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA SEE SHEET 66 FOR -SR9- PROFILE

6/23/16

PERMIT DRAWING
SHEET 45 OF 120

11/20/2024

8/15/2023
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khazei



6/23/16

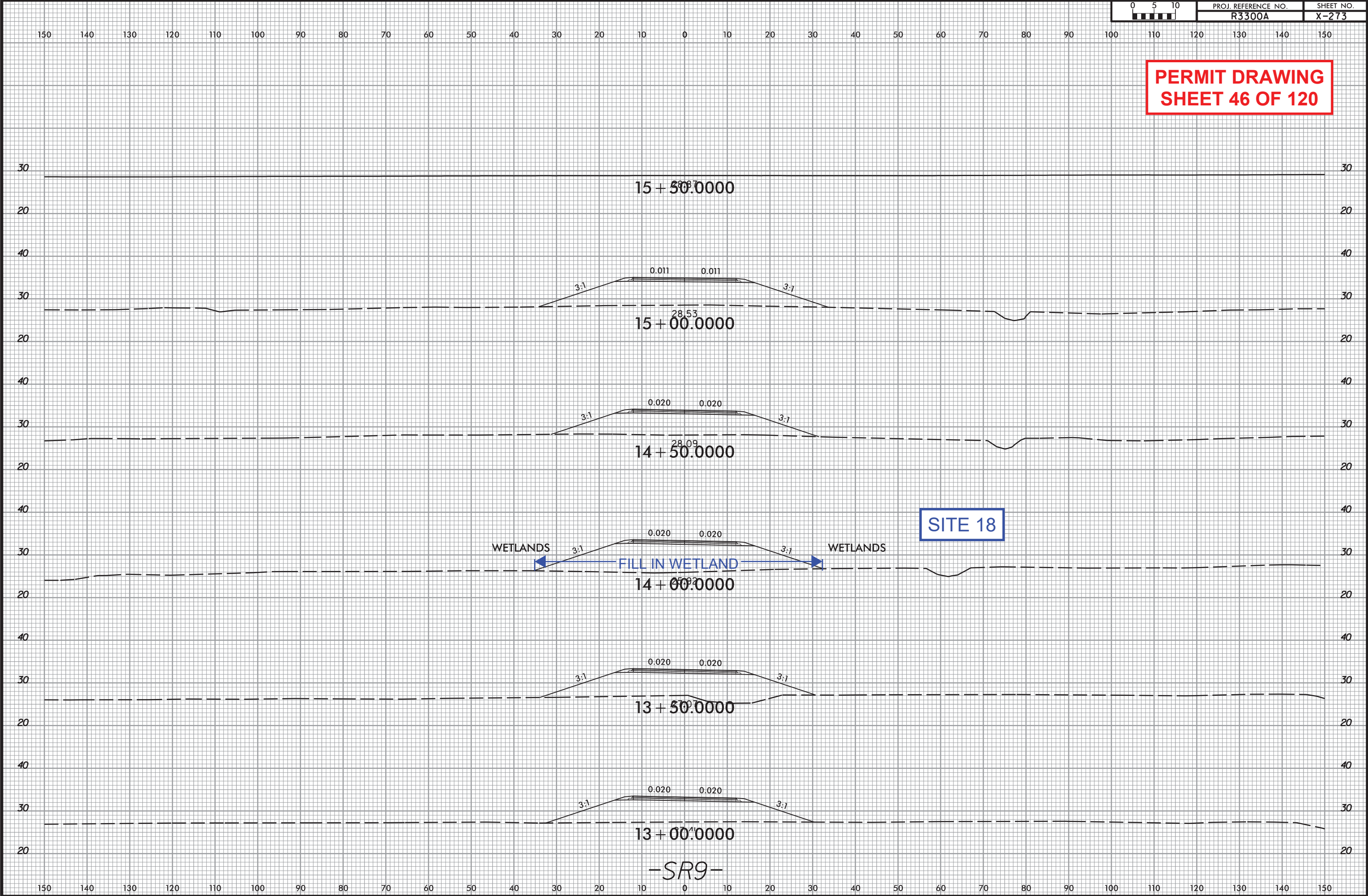


PROJ. REFERENCE NO.	SHEET NO.
R3300A	X-273

PERMIT DRAWING
SHEET 46 OF 120

11/20/2024

8/15/2023
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kha2e



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-3300A	X-233

SITE 19

PERMIT DRAWING
SHEET 47 OF 120

EXCAVATION IN WETLAND

WETLANDS

36 + 00.00

35 + 50.00

35 + 00.00

34 + 50.00

34 + 00.00

33 + 50.00

33 + 00.00

-Y 34-

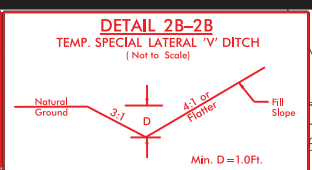
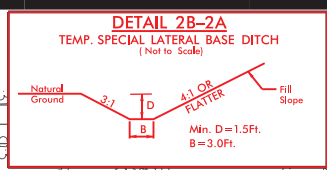
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kha2e

11/20/2024

11/20/2024

REVISIONS

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-Y34DET-

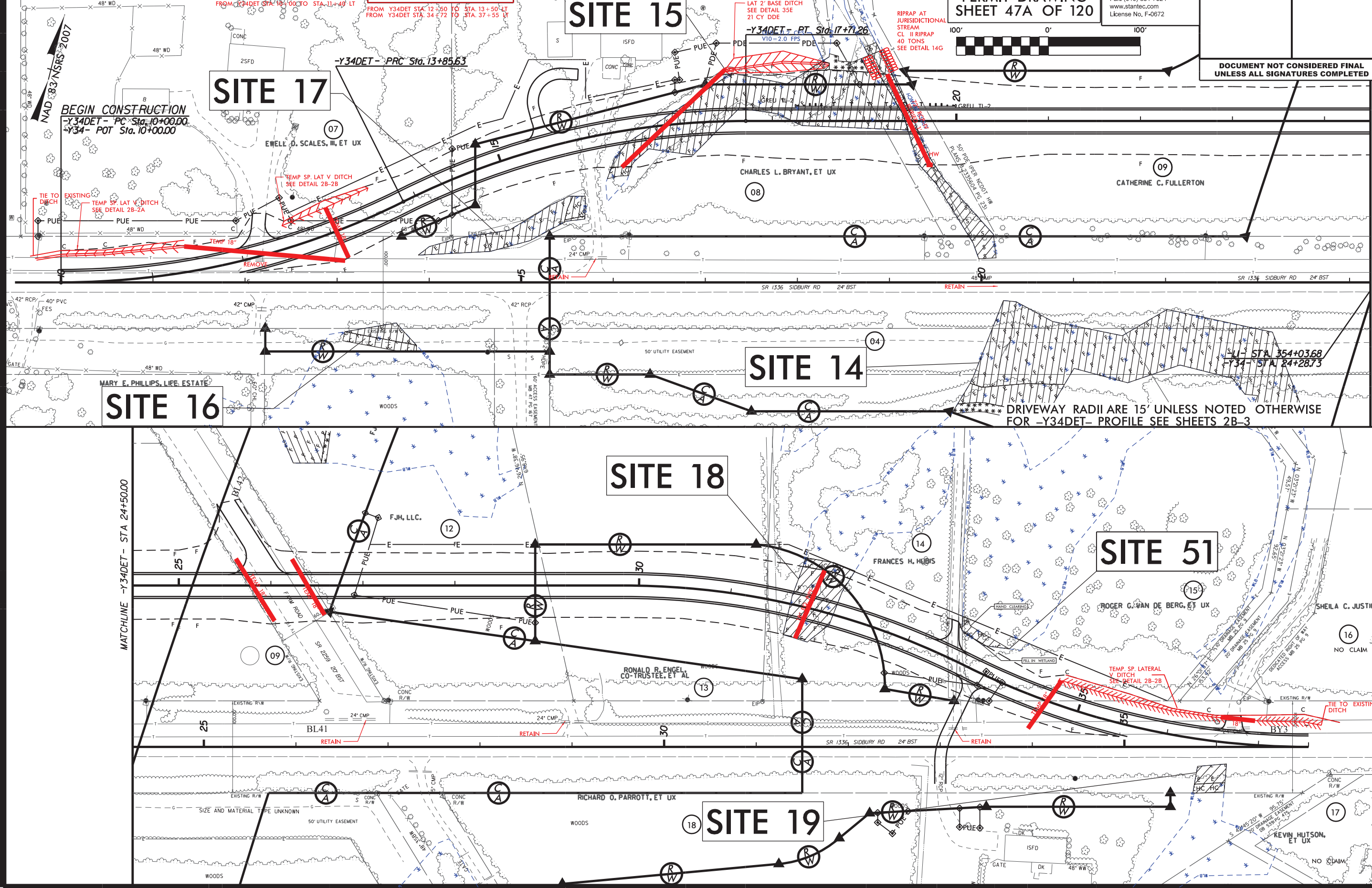
Dewberry
MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

Stantec
Stantec Consulting Services Inc.
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Suite 300
Raleigh, NC 27606
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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.		SHEET NO.
R-3300A		2B-2
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		

PERMIT DRAWING
SHEET 47A OF 120

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MATCHLINE -Y34DET- STA 24+50.00

7/31/2024
\$USERNAME\$
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 **Dewberry**

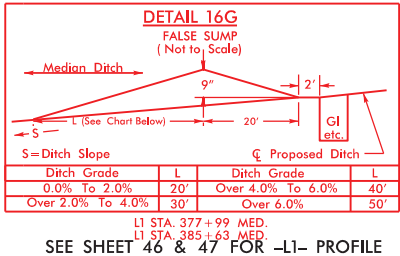
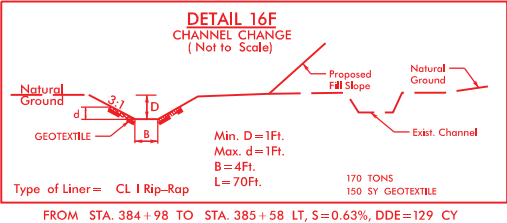
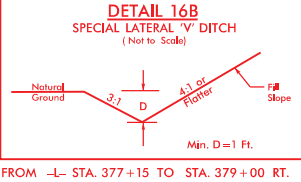
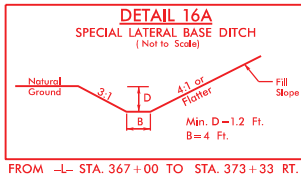
 M
1011 SC
R
FIRM

2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

ENGINEERING
DRIVE, SUITE 1
H, NC 27606
851-6606
NUMBER: P-0671

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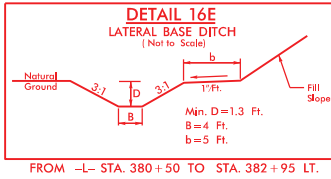
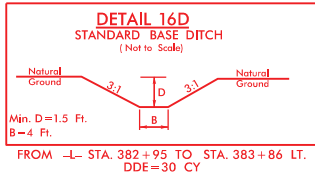
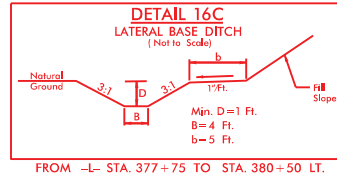
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R-3300A		16	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

PERMIT DRAWING
SHEET 48 OF 120

11/20/2024

7/2/2024
7:58 AM
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5/14/2019



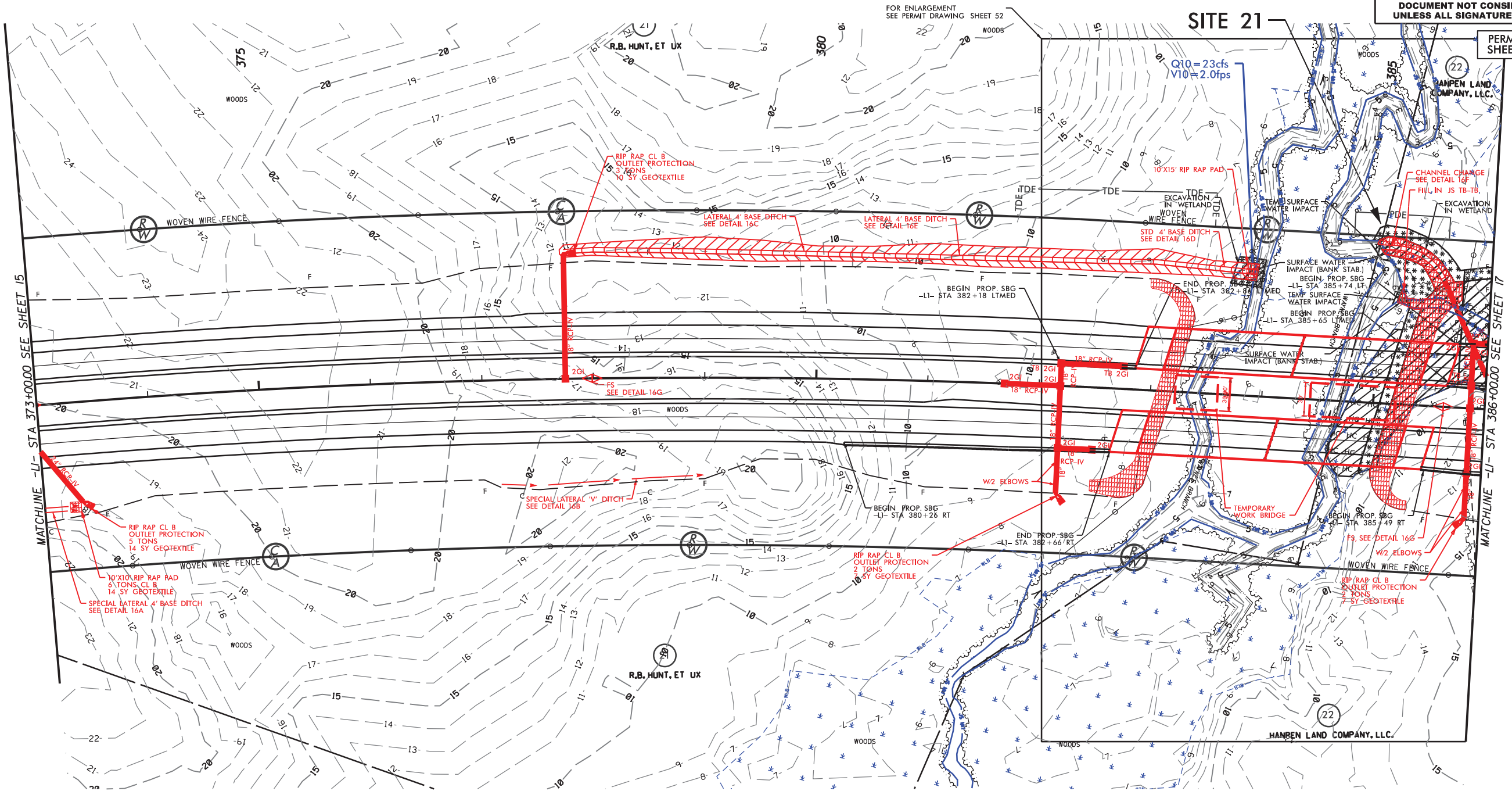
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671



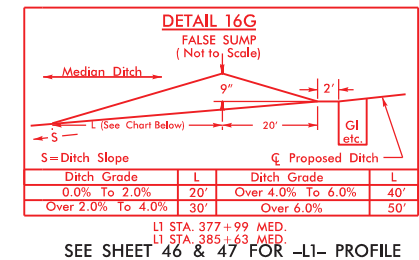
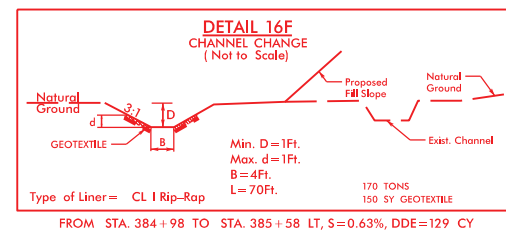
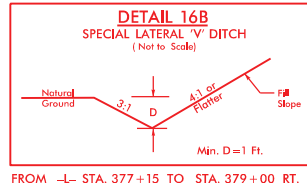
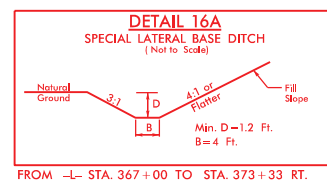
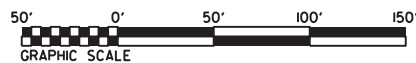
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R-3300A		16
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
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PERMIT DRAWING
SHEET 49 OF 120



- TEMPORARY SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS
- FILL IN WETLAND
- WETLAND EXCAVATION
- MECHANIZED CLEARING (GRUBBING)
- HAND CLEARING (NON-GRUBBING)



11/20/2024

2/3/2024
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Dewberry



MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
RALEIGH, NC 27606
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FIRM PE NUMBER: P-0671

2410 WYCLIFF ROAD
SUITE 401
RALEIGH, NC 27607
PHONE: 919.801.9939
NC COA No. F-26226

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R-3300A

SHEET NO.

17

R/W SHEET NO.

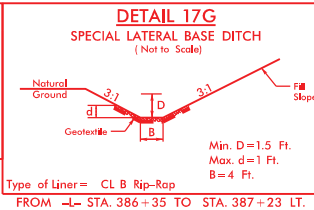
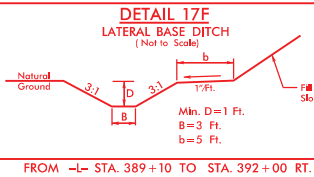
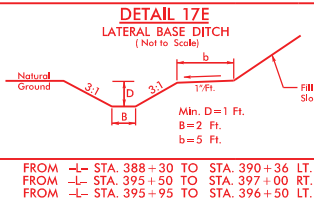
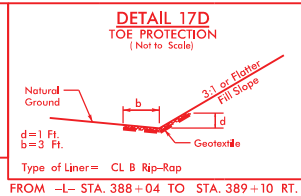
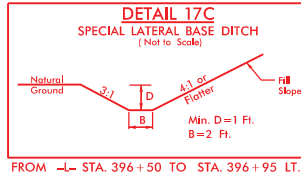
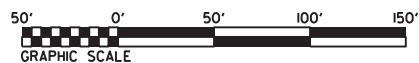
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

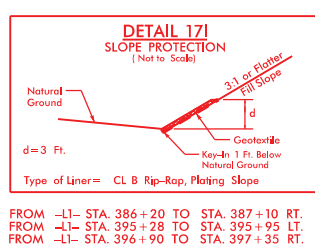
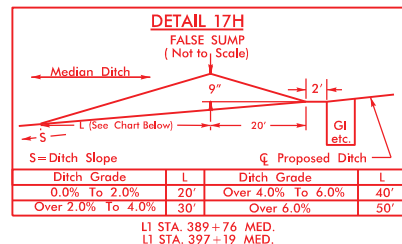
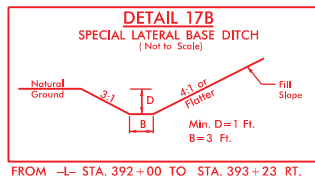
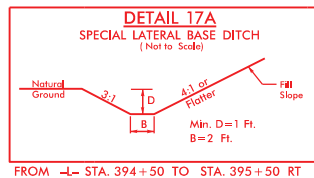
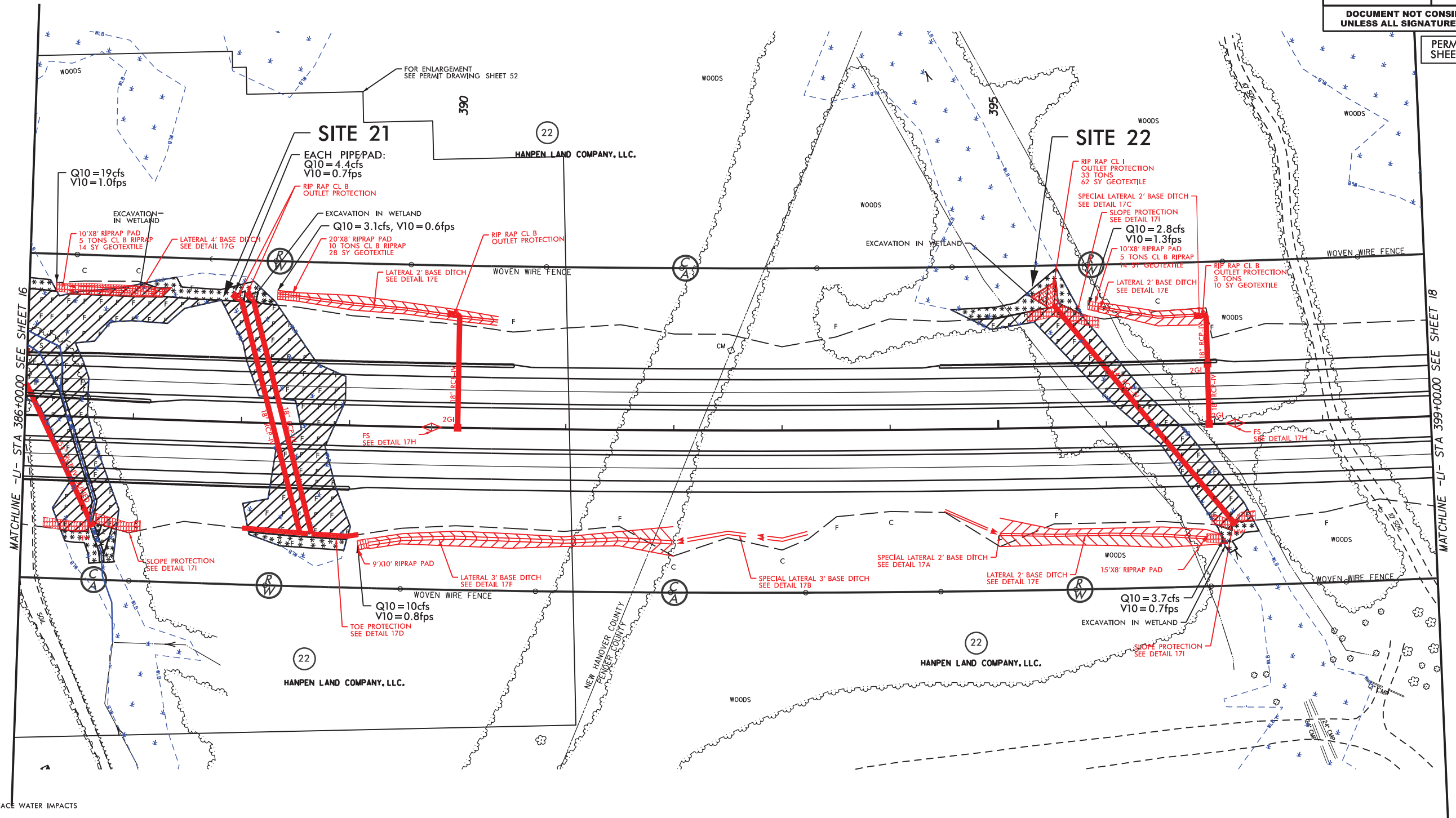
DOCUMENT NOT CONSIDERED FINAL
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PERMIT DRAWING
SHEET 50 OF 120

- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS
- WETLAND EXCAVATION
- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)



NAD 83/NSRS 2007



SEE SHEET 47 FOR -L1- PROFILE

11/20/2024

2/3/2024
N:\NC Hydro\171006_R-3300A Hampstead Bypass\Hydraulics\PERMITS Environmental Drawings\R3300A_hyd_psh_17_con.dgn

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MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

2410 WYCLIFF ROAD
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PHONE: 919.881.9939
NC COA No. F-0626

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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

17

R/W SHEET NO.

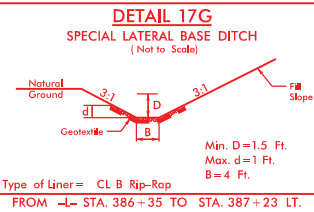
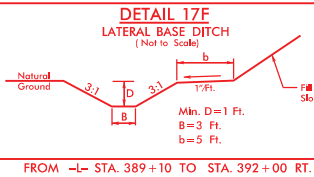
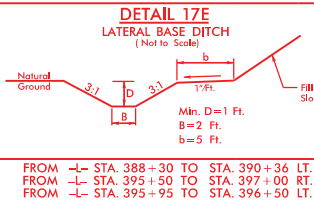
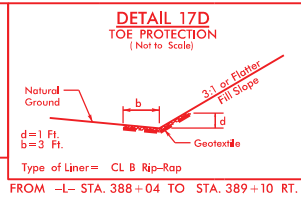
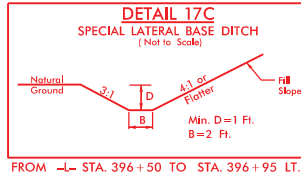
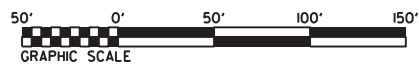
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

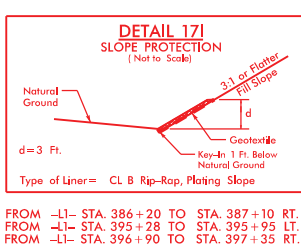
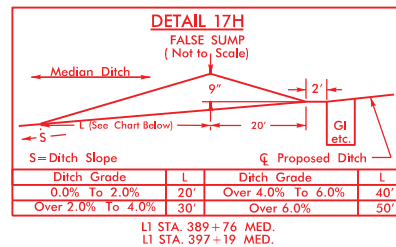
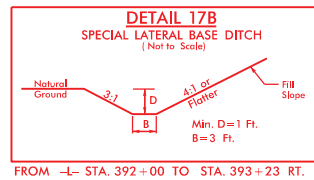
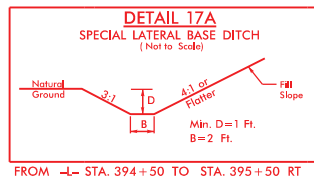
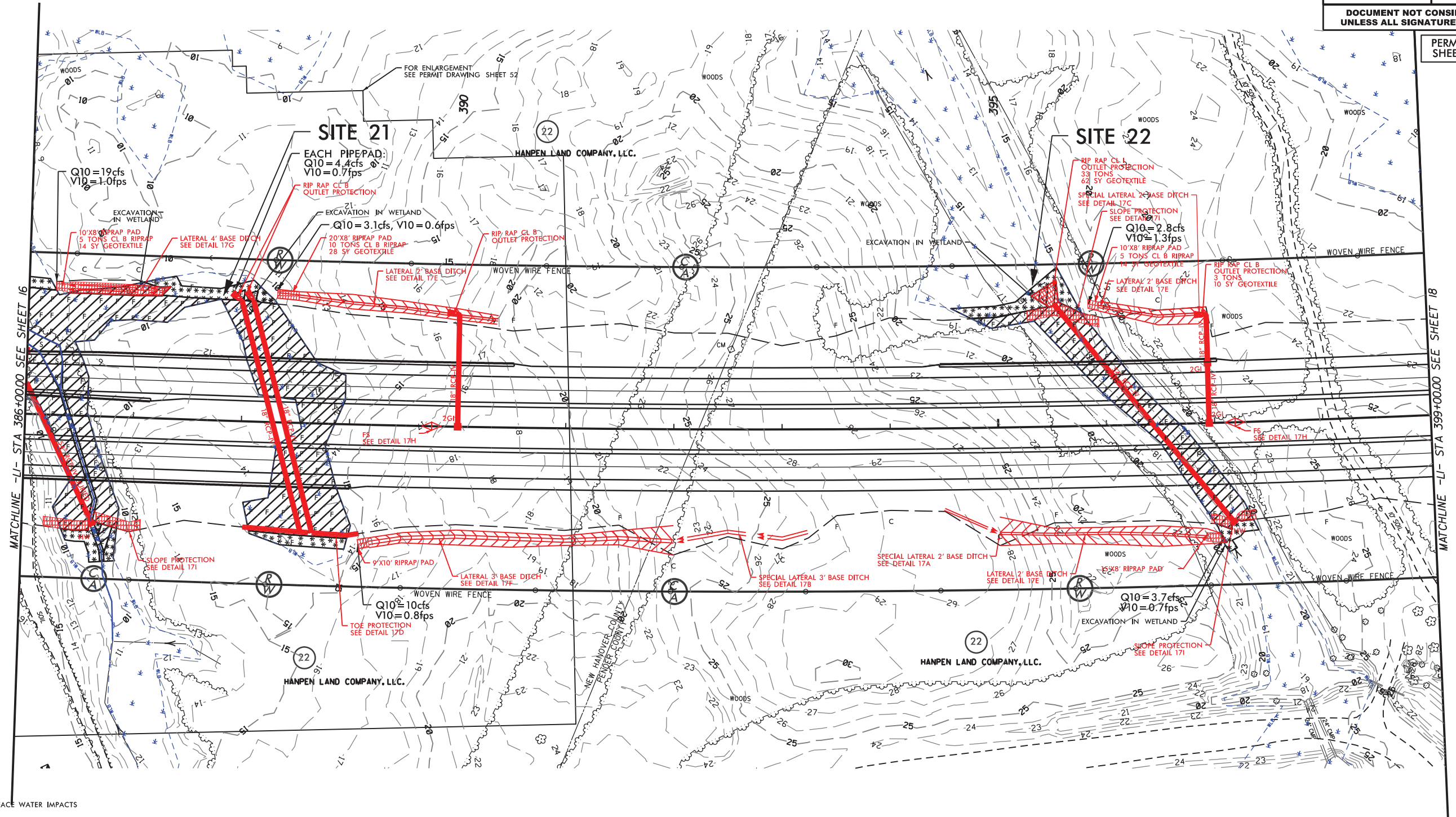
DOCUMENT NOT CONSIDERED FINAL
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PERMIT DRAWING
SHEET 51 OF 120

- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS
- WETLAND EXCAVATION
- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)



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SEE SHEET 47 FOR -L- PROFILE

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(919) 851-6606
FIRM PE NUMBER : P-0671



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SHEET NO.

HYDRAULICS
ENGINEER

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PERMIT DRAWING
SHEET 53 OF 120
$$385 + 00$$

$PI = 382 \pm 00.00$
 $EL = 19.93'$
 $VC = 500'$
 $K = 189$
 $DS = 70 \text{ mph}$

SITE 21

WAYNE'S BRANCH

CL BRIDGE STA. 384+26.42 -L- GP LT (SBL)
2@115' 72" MBT GIRDER WITH 4.0' BENT CAPS
CL GP EL. = 22.72'
SKEW = 105 DEGREE

30

20

10

0

30

20

10

0

504

 θ'

50

100

50

GRAPHIC SCALE

$PI = 382+00.00$
 $EL = 19.93'$
 $VC = 500'$
 $K = 189$
 $DS = 70 \text{ mph}$

CL BRIDGE STA. 384+14.63 -L- GP RT (NBL)
2@115' 72" MBT GIRDER WITH 4.0' BENT CAPS
CL GP EL. = 22.59'
SKEW = 105 DEGREE

$$(-) 1.4286\% \quad \triangle \quad (+) 1.2236\%$$

LOW CHORD ALONG GP

LOWEST LOW CHORD

3.5' KEY-IN (TYP.)

TEMPORARY WORK BRIDGES
LOW CHORD EL=7.7'

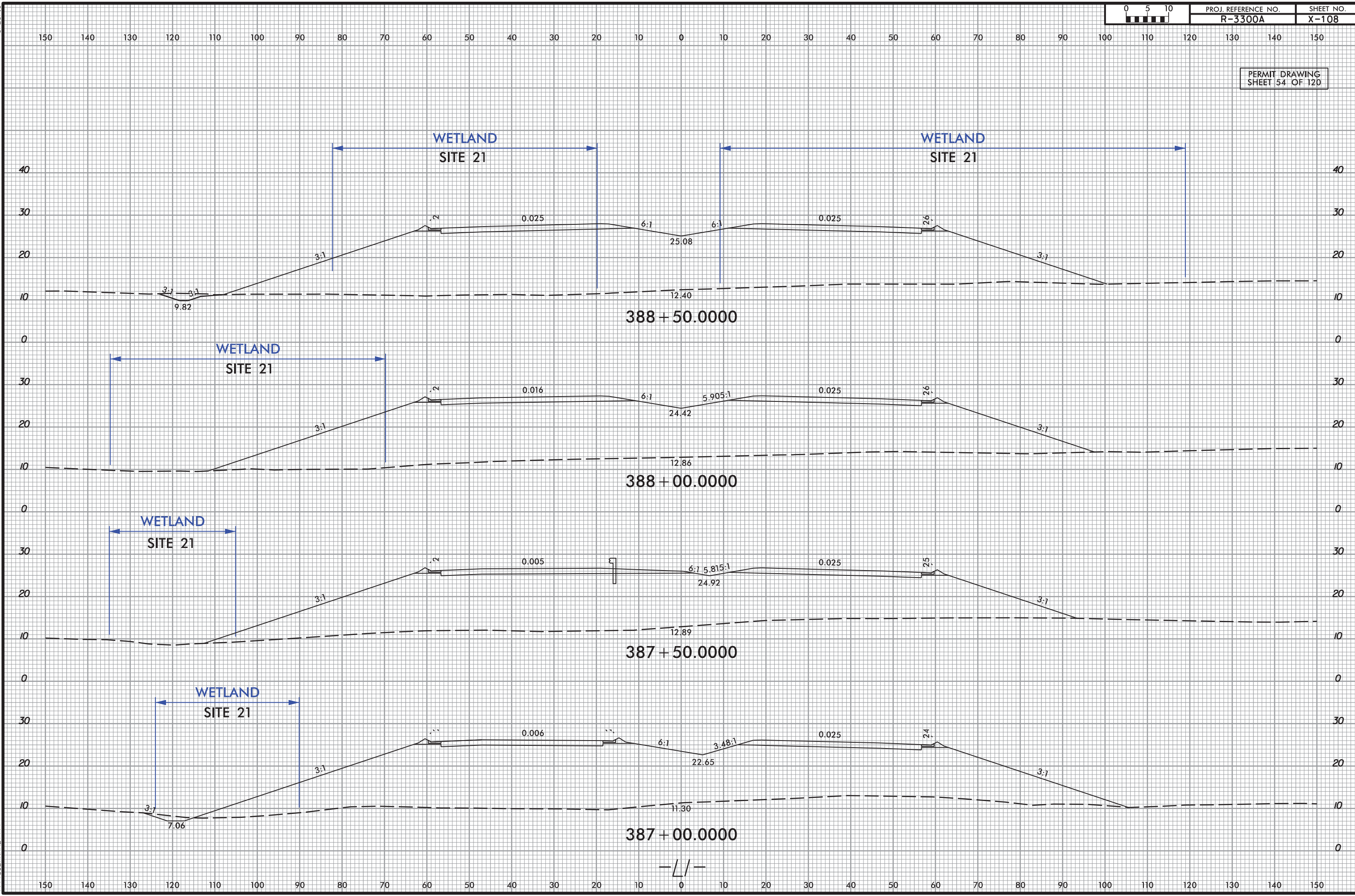
3.5' KEY-IN (TYP.)

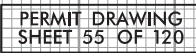
- CLASS II RIP RAP (TYP.)

NORMAL WSE = 5.7

11/20/2024

12/15/2023 MI ENGINEERING
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\$\$\$\$\$USERNAME\$\$\$\$\$





12/15/2023
MI ENGINE
N:\NC Hy
15-DEC-20
N:\NC Hy
\$\$\$\$\$USE

11/20/2024

2/10/2024
S:\ENR\AMBS
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5/14/99

Dewberry



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

2410 WYCLIFF ROAD
SUITE 400
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-2629

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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

18

R/W SHEET NO.

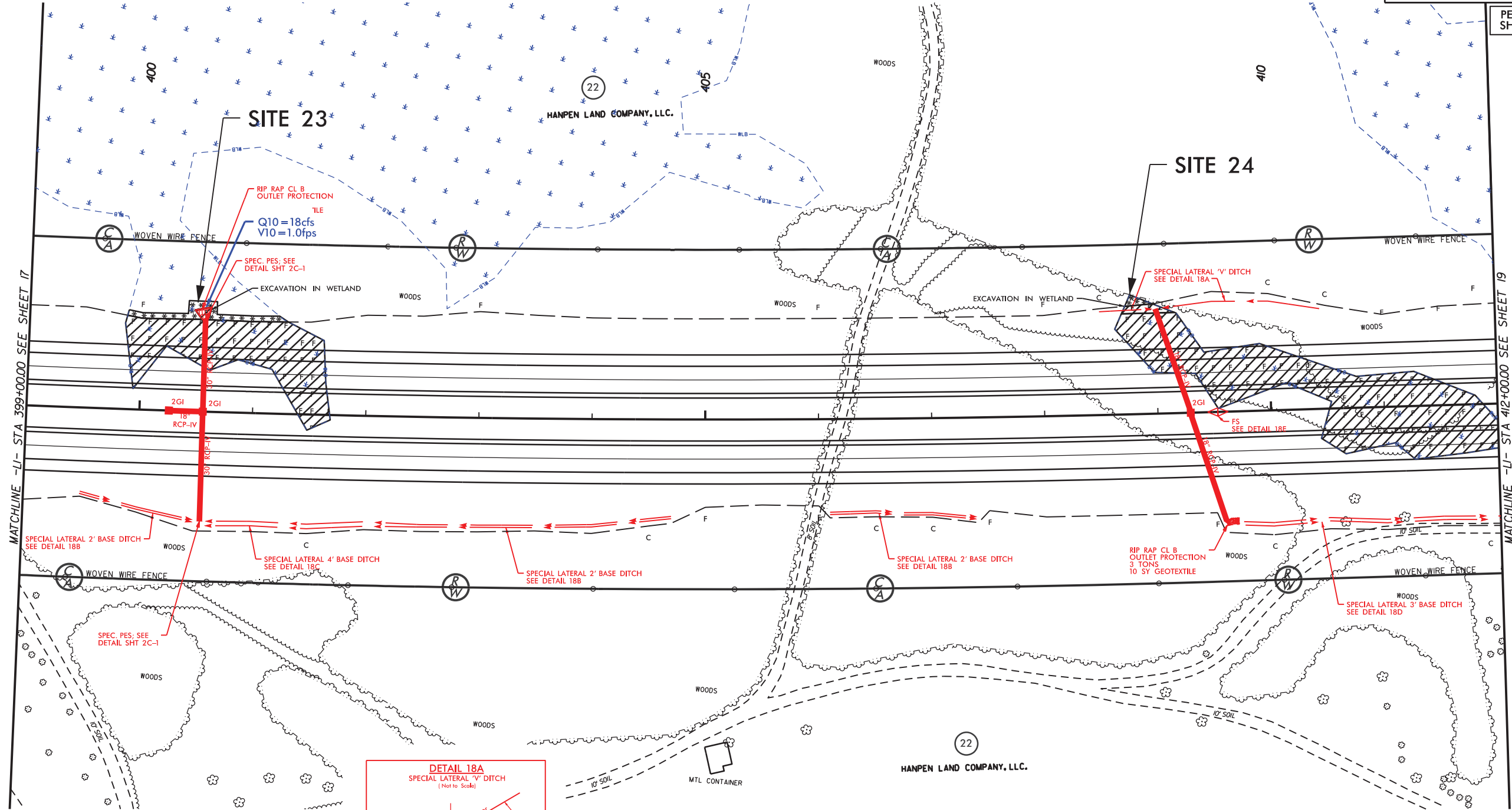
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

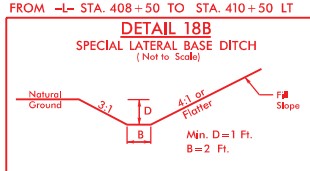
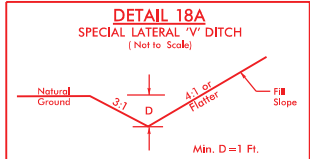
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SHEET 56 OF 120

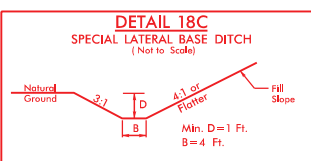
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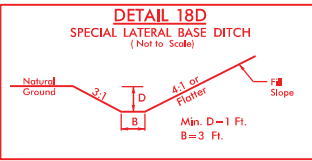
- WETLAND EXCAVATION
- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)



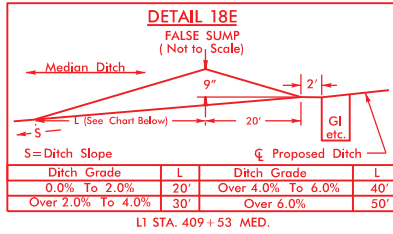
FROM -L- STA. 399+50 TO STA. 400+56 RT
FROM -L- STA. 402+50 TO STA. 404+70 RT
FROM -L- STA. 406+10 TO STA. 407+40 RT



FROM -L- STA. 400+56 TO STA. 402+50 RT



FROM -L- STA. 409+58 TO STA. 414+15 RT



SEE SHEET 47 & 48 FOR -L1- PROFILE

11/20/2024

2/10/2024
SUSANMBS
N:\NC Hydro\17006_R-3300A Hamptonstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh_18_con.dgn

5/14/99

Dewberry



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-8806
FIRM PE NUMBER : P-0671

Stantec

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6886
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.

R-3300A

SHEET NO.

18

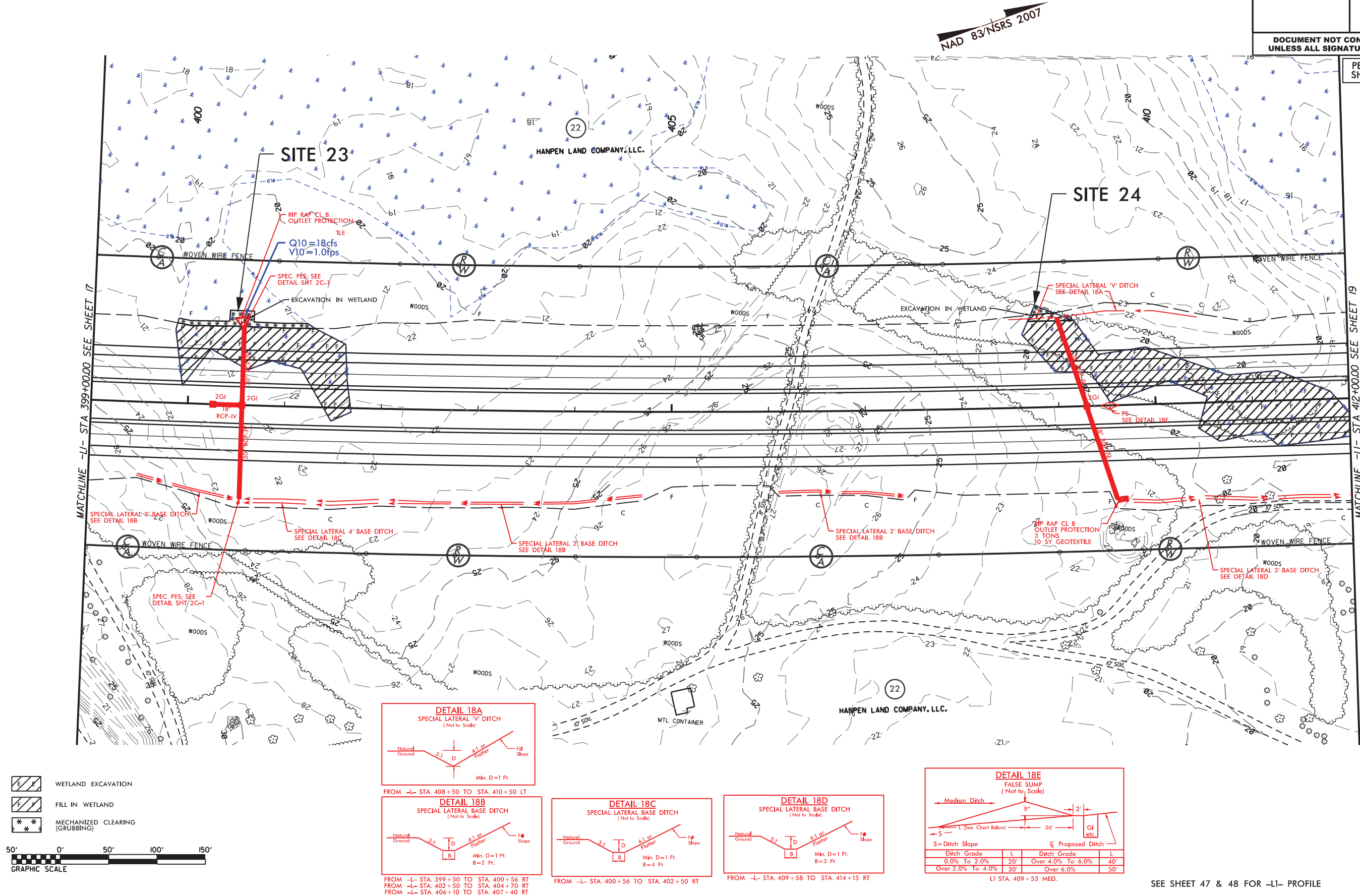
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

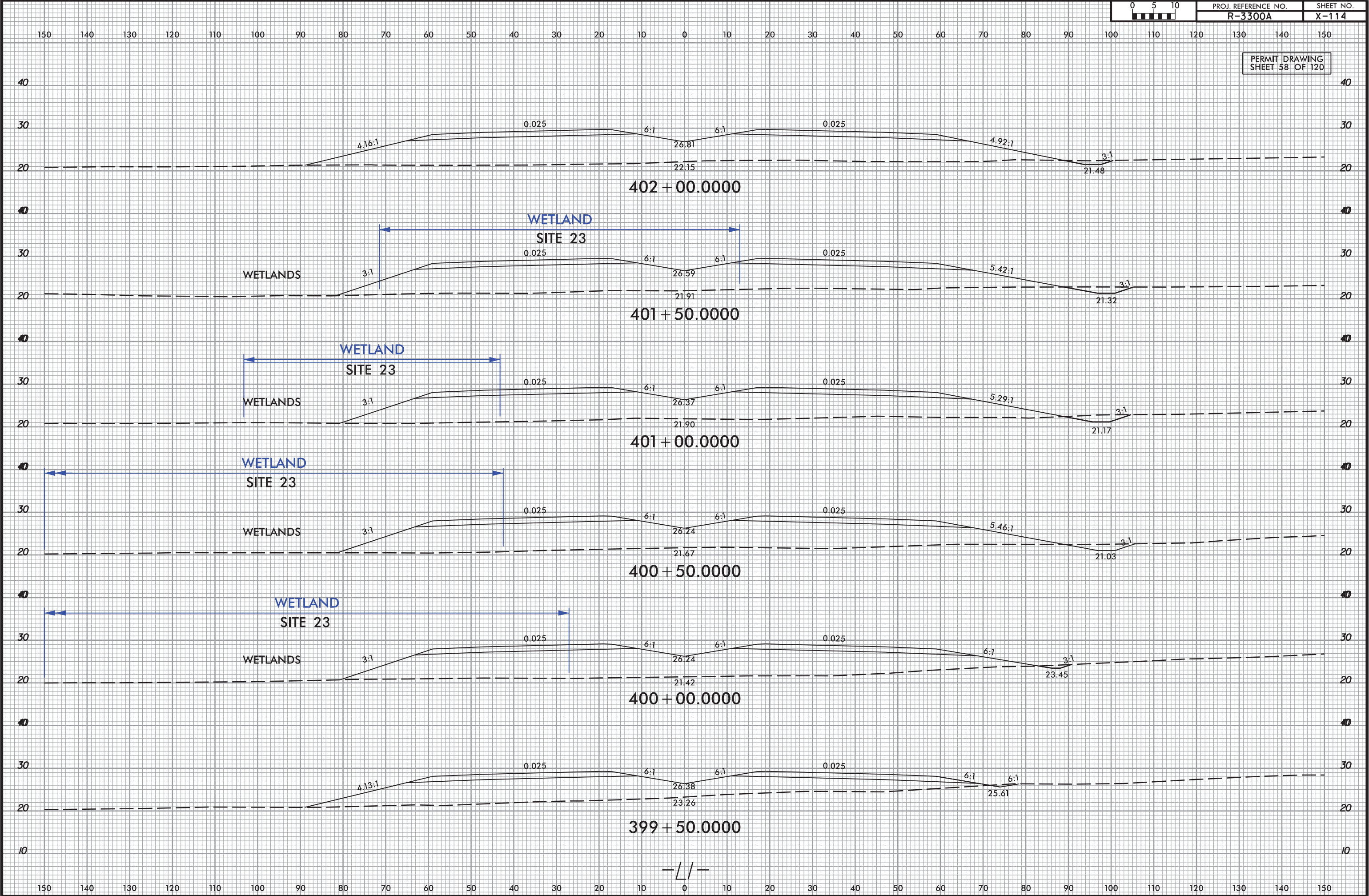
PERMIT DRAWING
SHEET 57 OF 120



SEE SHEET 47 & 48 FOR -L1- PROFILE

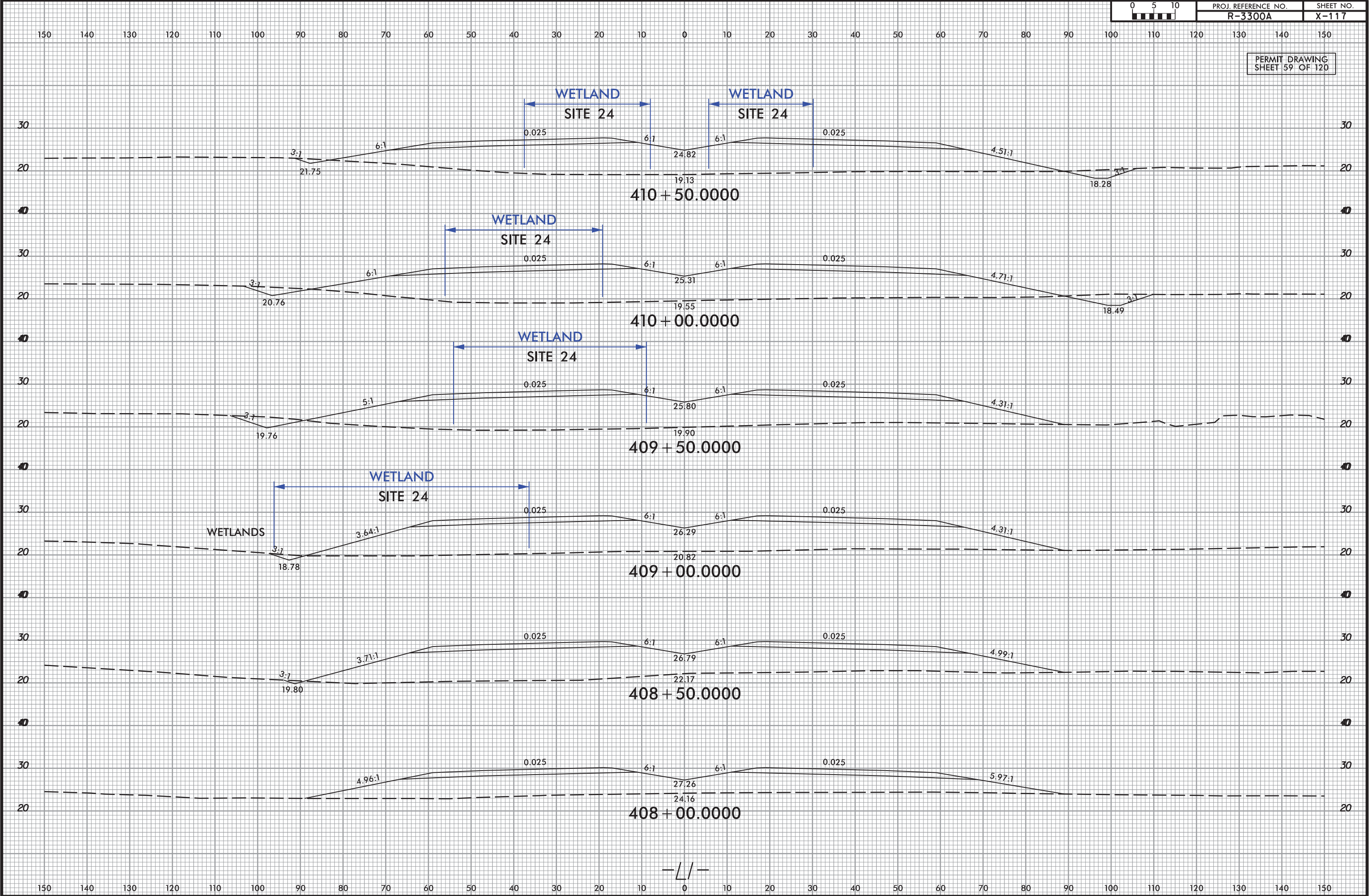
11/20/2024

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\$\$\$\$\$USERNAME\$\$\$\$\$

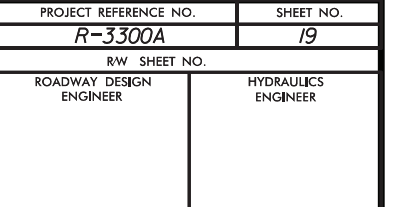
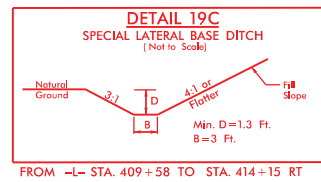


11/20/2024

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11/20/2024



ERMIT DRAWING
HEET 60 OF 120



50' 0' 50' 100' 150'

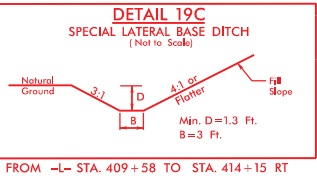
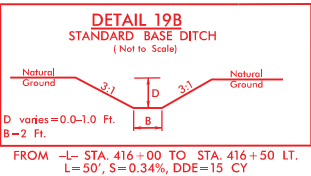
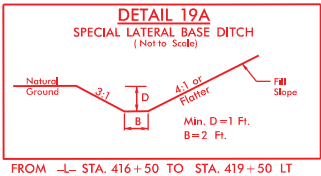
GRAPHIC SCALE

SEE SHEET 48 FOR -L1- PROFILE

11/20/2024

7/3/2024
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5/14/2019



Dewberry



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

2410 WYCLIFF ROAD
SUITE 401
RALEIGH, NC 27607
PHONE: 919.801.9939
NC COA No. F-2629

Stantec

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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

19

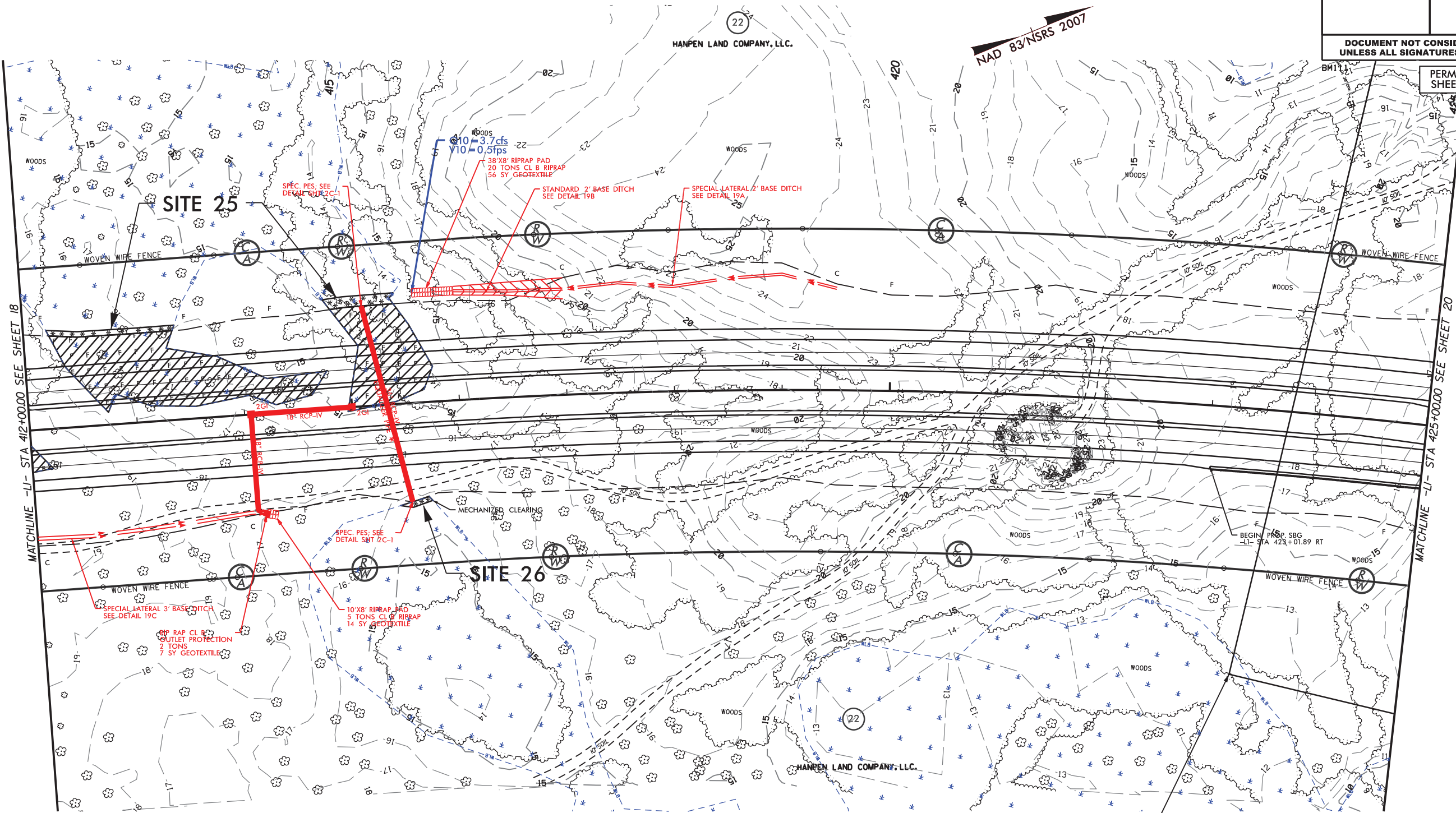
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 61 OF 120



FOR ENLARGEMENT
SEE PERMIT DRAWING SHEET 65

* DO NOT BURY EQUALIZER PIPES



FILL IN WETLAND



MECHANIZED CLEARING (GRUBBING)



SEE SHEET 48 FOR -L1- PROFILE

7/31/2024 \$USERNAME\$ N:\NC Hydro\M17006_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh_20.dgn

DETAIL 20A
LATERAL BASE DITCH
(Not to Scale)

Natural Ground

3:1

3:1

$\frac{1}{4}$ ft.

b

D

Fill Slope

Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.

FROM -1- STA. 425+00 TO STA. 426+37 LT.
FROM -1- STA. 428+00 TO STA. 430+50 RT.
FROM -1- STA. 435+00 TO STA. 436+34 RT.
FROM -1- STA. 437+00 TO STA. 439+00 LT.

DETAIL 20B
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1 Ft.
B = 2 Ft.

FROM -L- STA. 426 + 37 TO STA. 426 + 68 LT
DDE = 6 CY
FROM -L- STA. 428 + 17 TO STA. 428 + 50 RT

DETAIL 20C
SPECIAL LATERAL BASE DITCH
(Not to Scale)

3:1

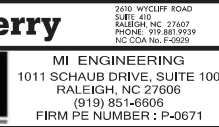
D

4:1 or
Flatter

Fill
Slope

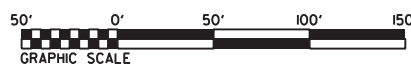
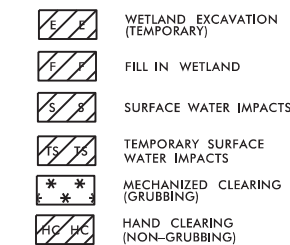
Min. D = 1 Ft.
B = 2 Ft.

FROM STA. 431+00 TO STA. 432+00 RT.
FROM STA. 433+50 TO STA. 434+00 RT.



PROJECT REFERENCE NO.	SHEET NO.
<i>R-3300A</i>	<i>20</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 63 OF 120



DETAIL 20E
RIP RAP AT EMBANKMENT
(Not to Scale)

Ditch Grade

10' min.

1.0' min.

12%

GEOTEXTILE

Type of Liner = 5 TONS/CL B Rip-Rap
Geotextile = 14sy

FROM STA. 434+55 TO STA. 434+69 RT.
FROM STA. 434+71 TO STA. 434+87 RT.

FOR ENLARGEMENT
SEE PERMIT DRAWING SHEET 65

DETAIL 20F
LATERAL BASE DITCH
 (Not to Scale)

Natural Ground
 GEOTEXTILE
 b
 d
 1'-ft.
 Ft. ST

Min. Df = 1 Ft.
 Max. d=1 Ft.
 B=2 Ft.
 b=5 Ft.

"When B is < 6.0"

Type of Liner = 8 Rip-Rap

FROM -L1- STA. 434+00 TO STA. 434+65 RT
 FROM -L1- STA. 434+74 TO STA. 435+00 RT

DETAIL 20H
RIRPAP AT JURISDICTIONAL STREAM
(Not to Scale)

When $B > 5.0'$
Std. No. 876.01

Min. $D = 2.5$ Ft.
Max. $d = 3$ Ft.
 $B = 2$ Ft.
 $L = 16$ Ft.

Type of Liner = CL I Rip-Rap 26 TONS/50SY GEOTEXTILE

FROM L STA. 434+19 LT.

**DETAIL 20G
TOE PROTECTION**
(Not to Scale)

Natural Ground

3:1 or Flatter Fill Slope

Geotextile

d = 1 Ft.
b = 3 Ft.

Type of Liner = CL B Rip-Rap

FROM —L— STA. 434 + 19 TO STA. 435 + 10 LT.
FROM —L— STA. 436 + 60 TO STA. 437 + 00 LT.
FROM —L— STA. 434 + 34 TO STA. 436 + 76 RT.

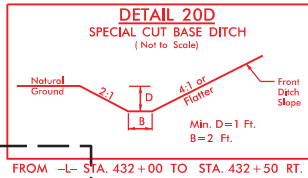
DETAIL 201
FALSE SUMP
(Not to Scale)

S = Ditch Slope G Proposed Ditch

Ditch Grade	L	Ditch Grade	L
Over 2.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

SEE SHEETS 48 & 49 FOR -L1- PROFILE

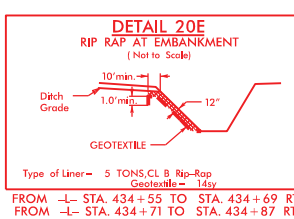
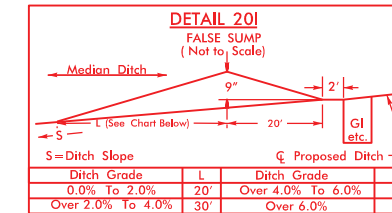
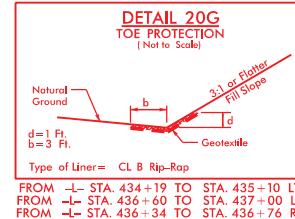
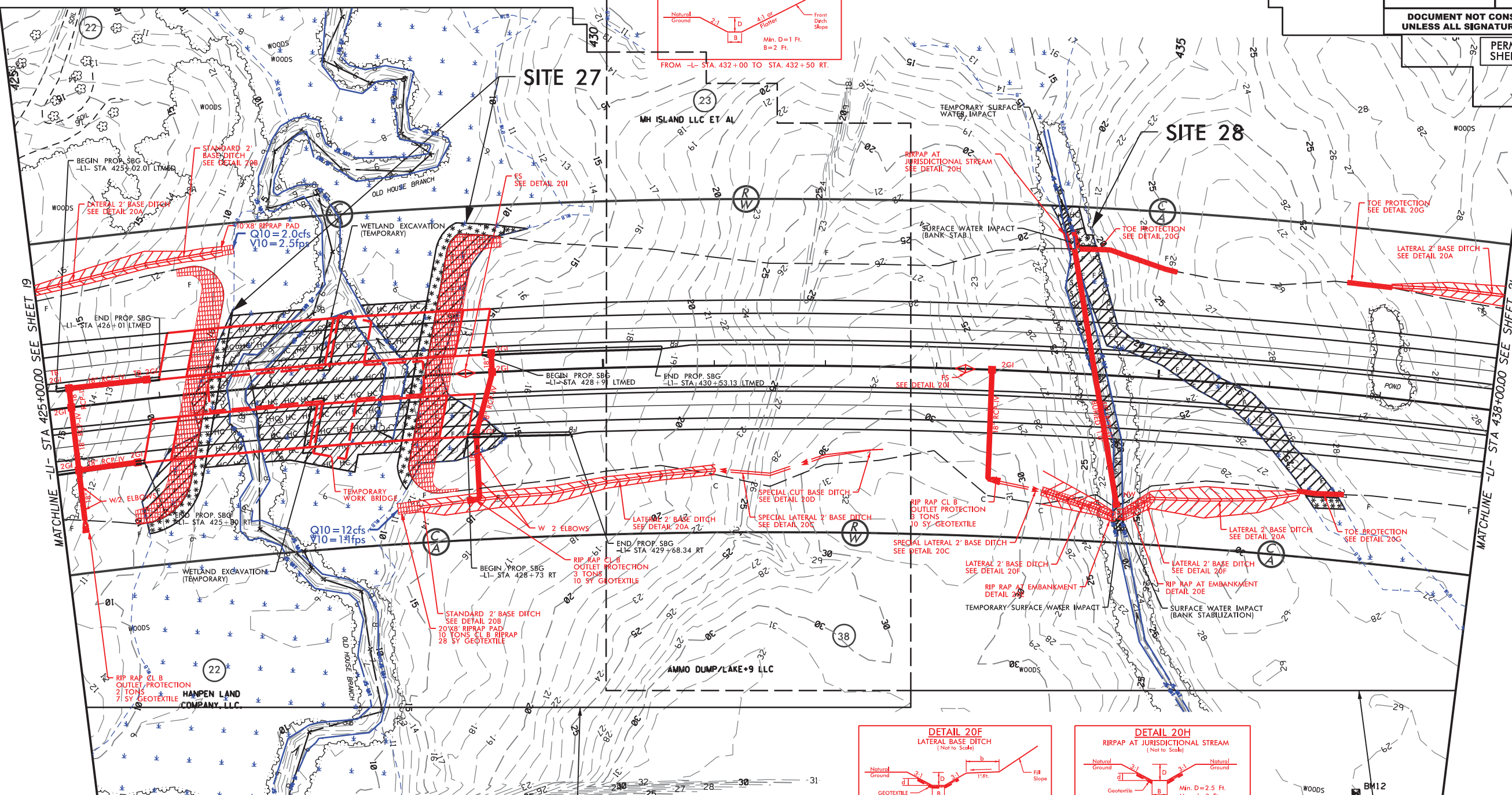
NAD 83/NSRS 2007









PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		20	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

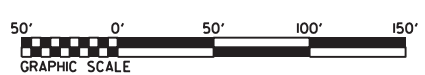
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PERMIT DRAWING
SHEET 64 OF 120



FOR ENLARGEMENT
SEE PERMIT DRAWING SHEET 65

- | | |
|---|------------------------------------|
|  | WETLAND EXCAVATION
(TEMPORARY) |
|  | FILL IN WETLAND |
|  | SURFACE WATER IMPACTS |
|  | TEMPORARY SURFACE
WATER IMPACTS |
|  | MECHANIZED CLEARING
(GRUBBING) |
|  | HAND CLEARING
(NON-GRUBBING) |



L1 STA. 428+76 MED.
L1 STA. 433+26 MED.
SEE SHEETS 48 & 49 FOR -L1- PROFILE



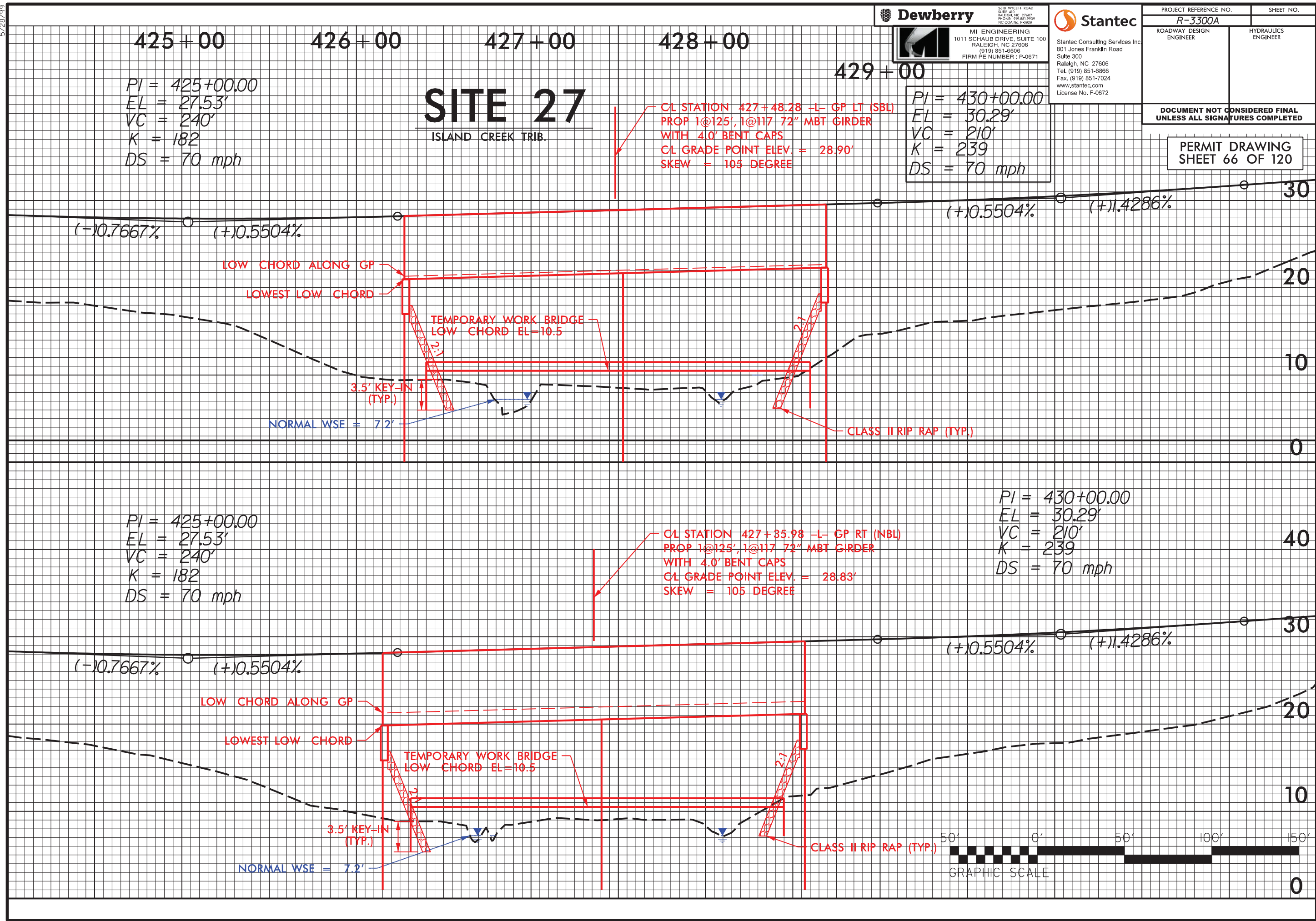
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC CMA No. E-0929

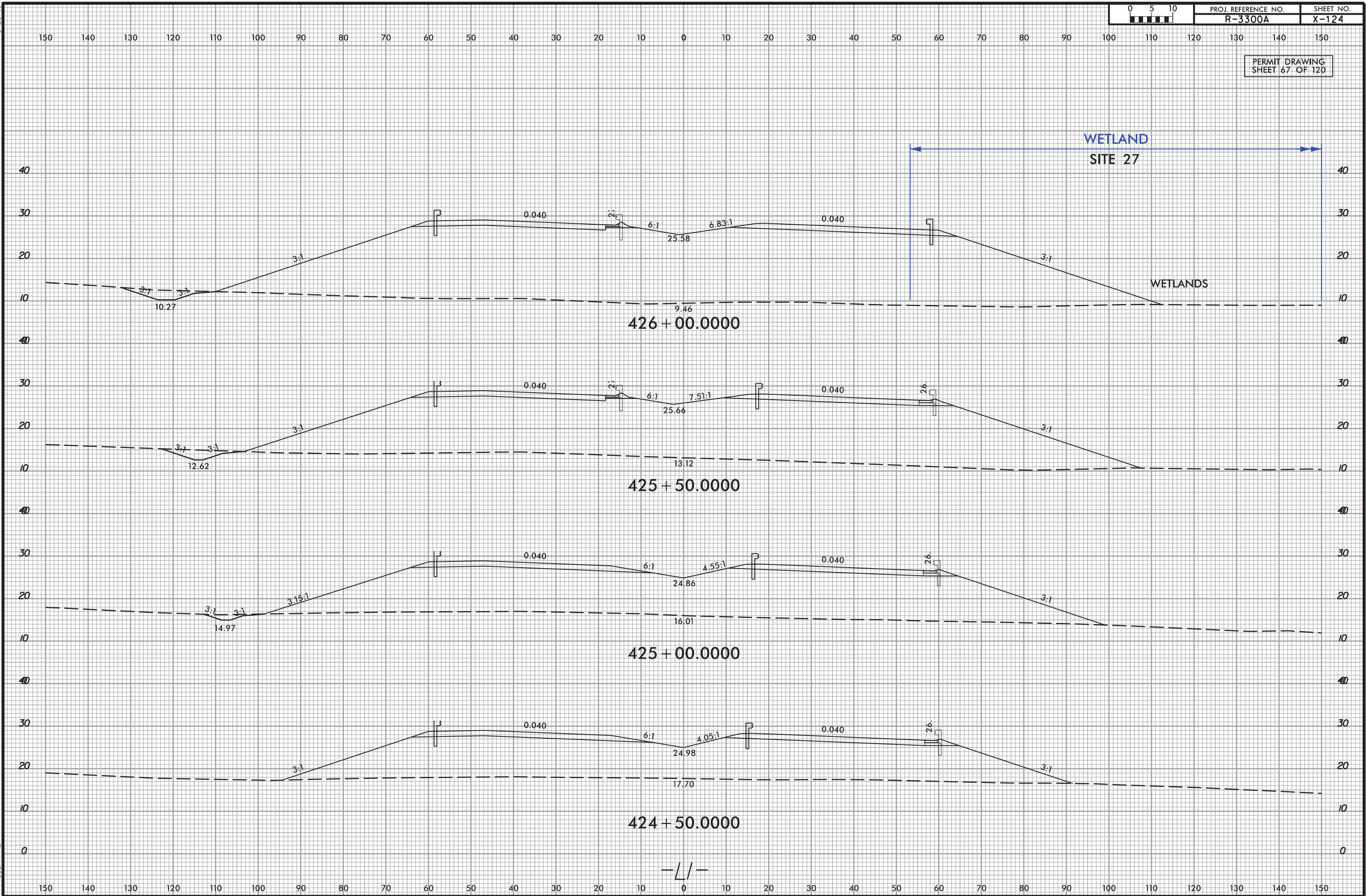


R-3300A

HYDRAULICS
ENGINEER

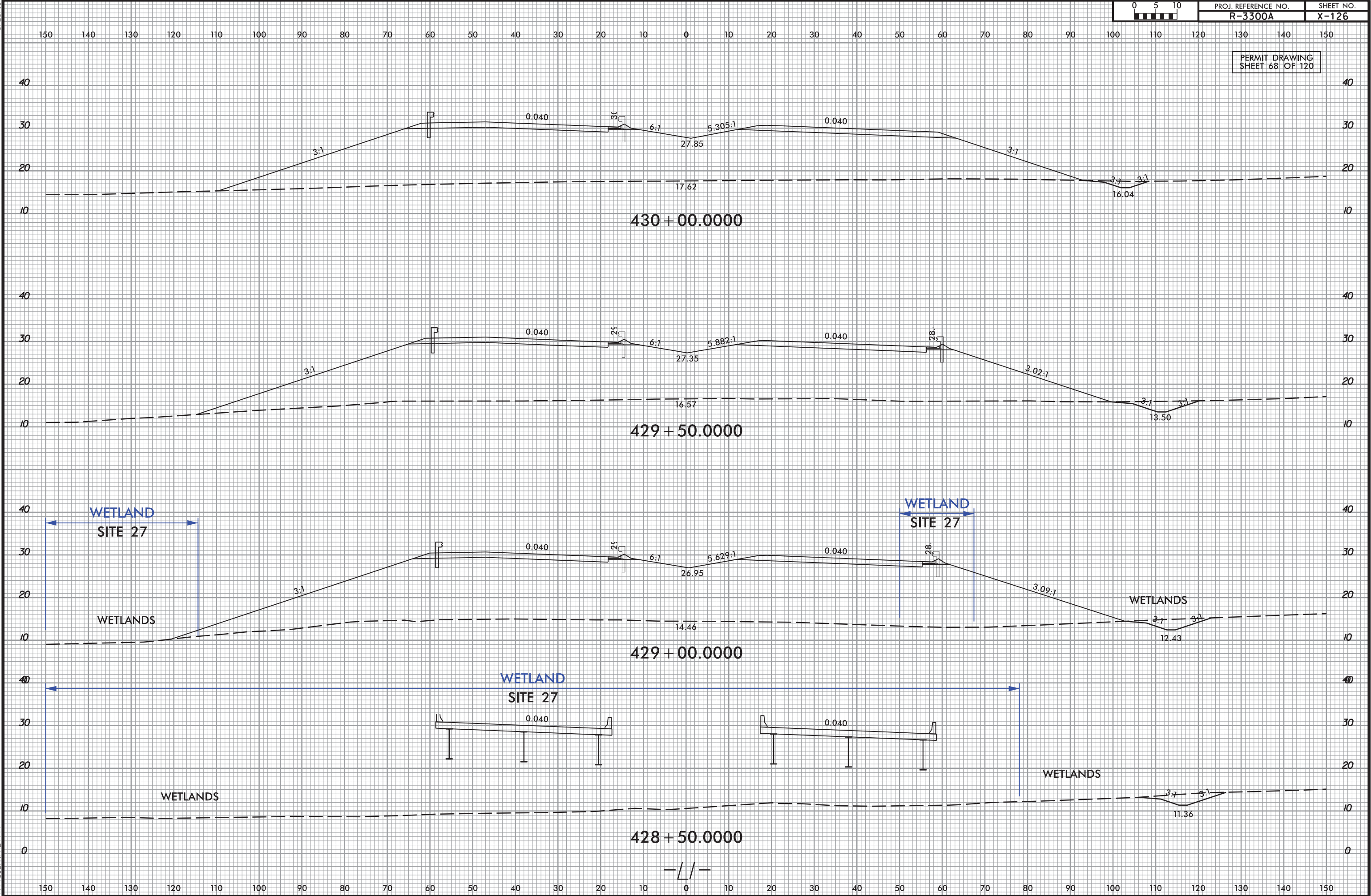
**DOCUMENT NOT CONSIDERED FINAL
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PERMIT DRAWING
SHEET 66 OF 120



11/20/2024

12/15/2023 MI ENGINEERING
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\$\$\$\$\$USERNAME\$\$\$\$\$



7/31/2024 (USERNAME)S:\NC Hydro\M17006_R-3300A_Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh_E220.dgn

SITE 28 ENLARGEMENT

Legend:

- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- HAND CLEARING (NON-GRUBBING)

Scale: 0' 30' 60' 90'

Graphic Scale

Notes:

- END PROP. SBG -L1- STA 430+53.13 LT MED
- END PROP. SBG -L1- STA 429+68.34 RT
- RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE
- LATERAL 2' BASE DITCH SEE DETAIL 20A
- SPECIAL CUT BASE DITCH SEE DETAIL 20D
- SPECIAL LATERAL 2' BASE DITCH SEE DETAIL 20C
- LATERAL 2' BASE DITCH SEE DETAIL 20F
- RIP RAP AT EMBANKMENT DETAIL 20E
- TOE PROTECTION SEE DETAIL 20G
- LATERAL 2' BASE DITCH SEE DETAIL 20A
- SPECIAL LATERAL 'V' DITCH SEE DETAIL 21A
- RIP RAP CL B OUTLET PROTECTION 3 TONS 10 SY GEOTEXTILE

Project Information:

PROJECT REFERENCE NO.	R-3300A	SHEET NO.	E2-20
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

Dewberry
MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
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(919) 851-6606
FIRM FE NUMBER : P-0671

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Raleigh, NC 27606
Tel. (919) 851-6866
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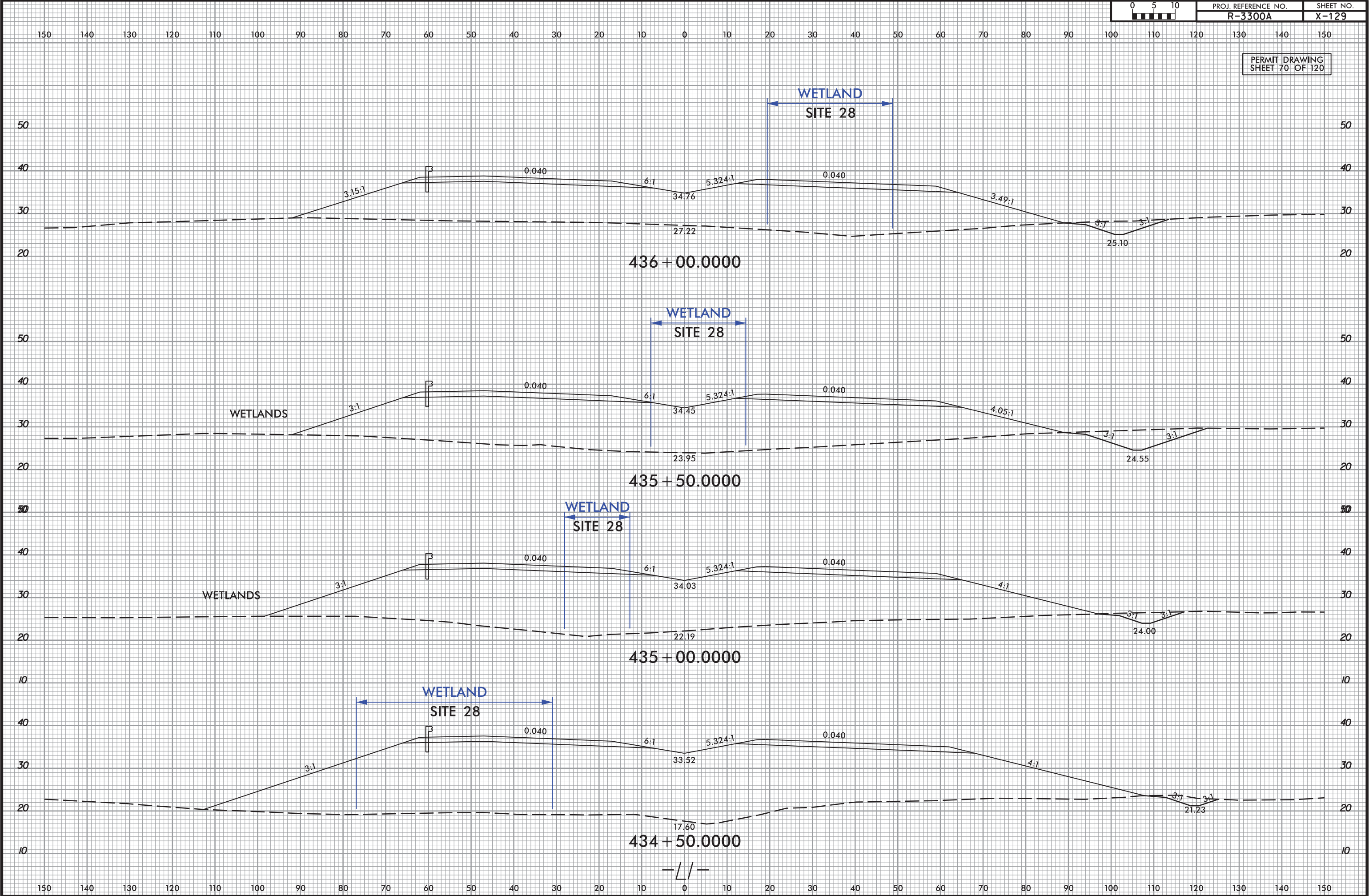
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Permit Drawing Sheet 69 OF 120

PERMIT DRAWING
SHEET 69 OF 120

11/20/2024

12/15/2023 MI ENGINEERING
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\$\$\$\$\$USERNAME\$\$\$\$\$



10/2/2024
\$USERNAME\$
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Dewberry

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RALEIGH, NC 27607
PHONE: 919.881.9939
NC GCM No. E-0929



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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.

R-3300.

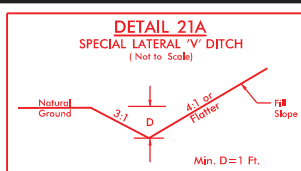
SHEET NO.

21

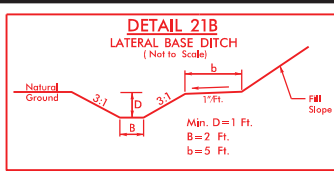
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

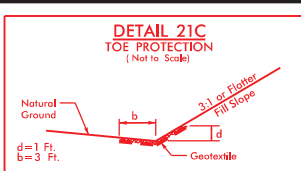
**DOCUMENT NOT CONSIDERED FINAL
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PERMIT DRAWING
SHEET 71 OF 120

FROM — STA. 438 + 77 TO STA. 439 + 77 RT.
FROM — STA. 445 + 94 TO STA. 447 + 50 LT.
FROM — STA. 450 + 90 TO STA. 454 + 04 LT.
FROM — STA. 446 + 55 TO STA. 447 + 25 RT.

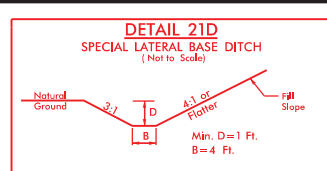


FROM ~~LT~~ STA. 437+50 TO STA. 439+00 LT

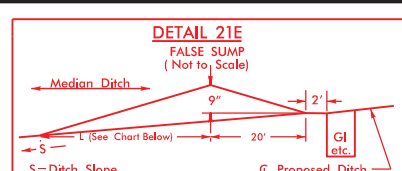


Type of Liner= CL B Rip-Rap

FROM -L- STA. 447+50 TO STA. 450+03 LT.
FROM -L- STA. 447+34 TO STA. 449+43 RT.

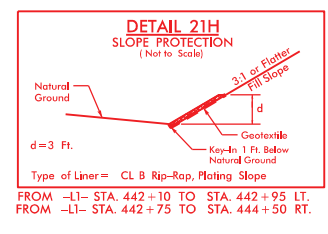
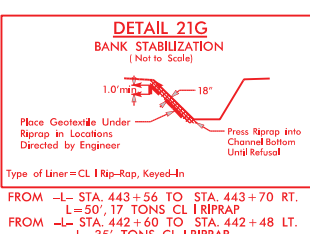
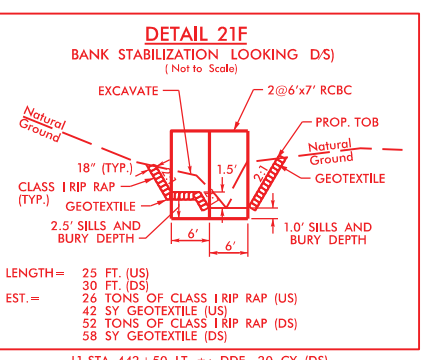
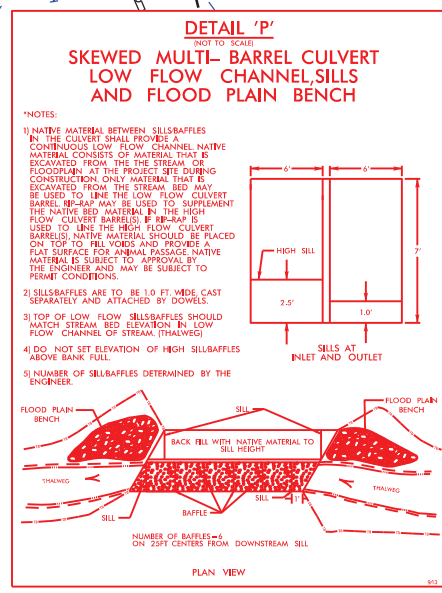
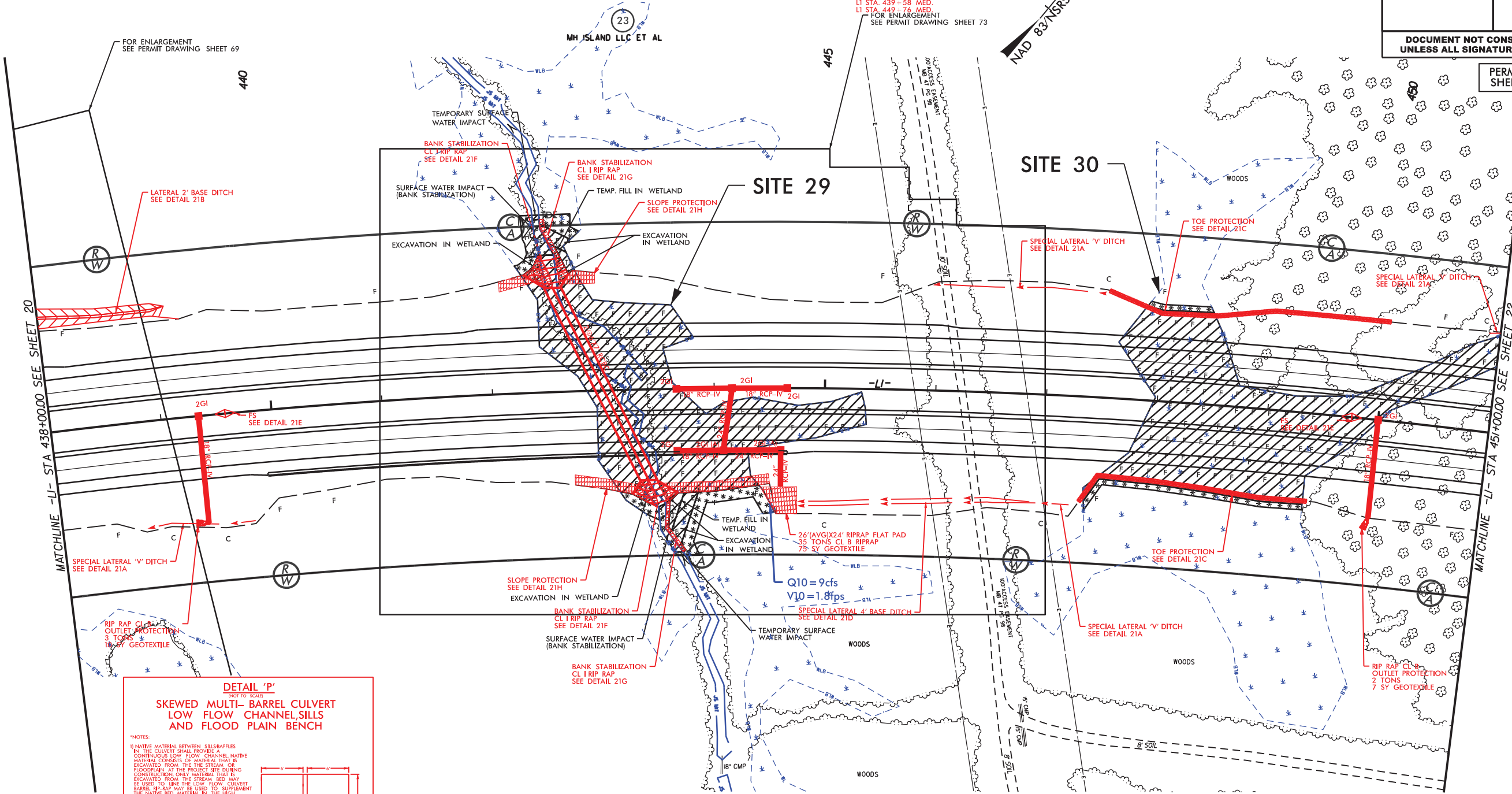


FROM -L- STA. 444+75 TO STA. 446+55 RT.



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

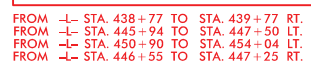
FOR ENLARGEMENT
SEE PERMIT DRAWING SHEET 73



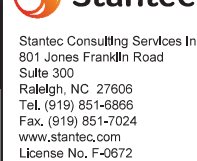
SEE SHEET 49 FOR -L1- PROFILE

10/2/2024
\$(USERNAME)\$
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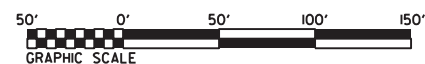
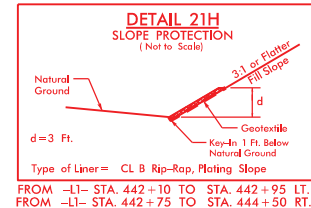
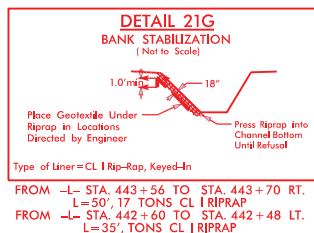
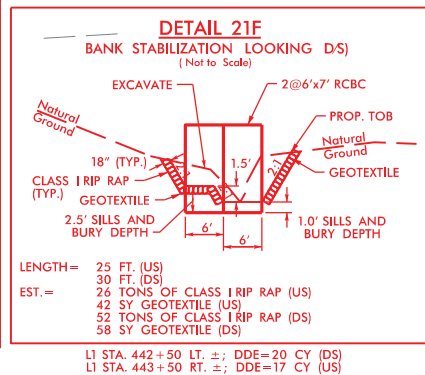
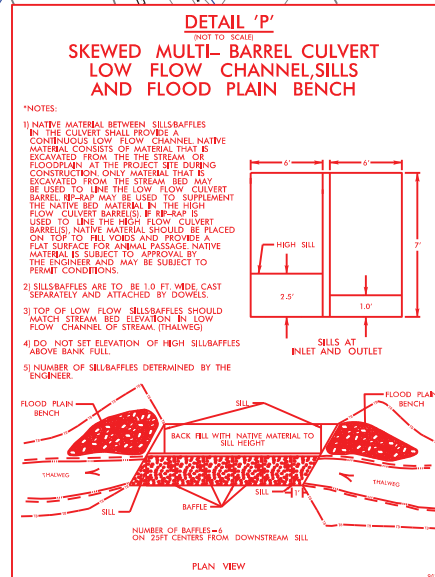
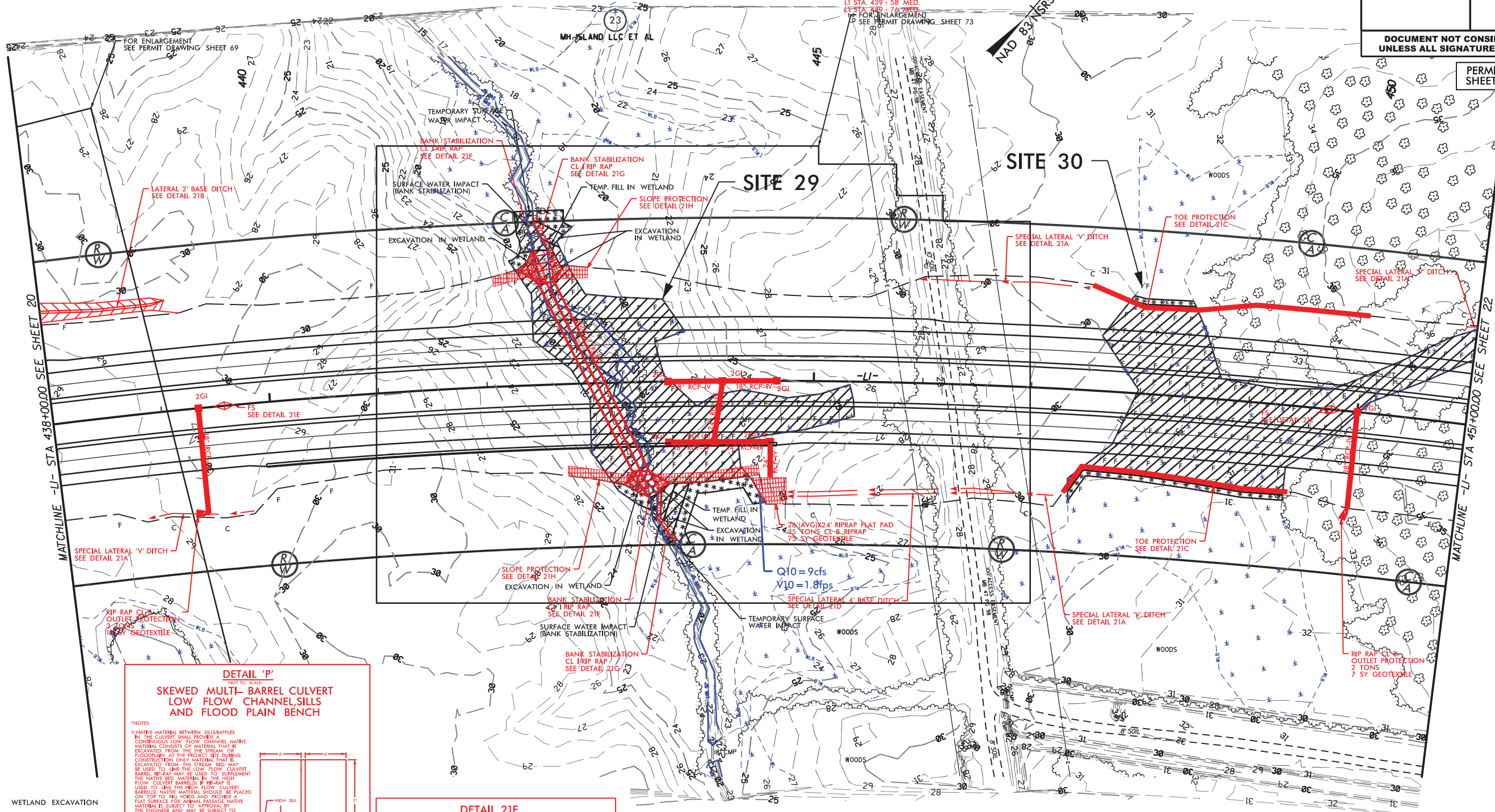
10/2/2024
\$(USERNAME)\$
N:\NC Hydro\



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671



PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		21	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p align="center">DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			



SEE SHEET 49 FOR -L1- PROFILE

10/2/2024
S:\USER\NAME\S
N:\NC Hydro\M17006 R-3300A Hampstead Bypass\Hydraulics\PERMITS Environmental Drawings\R3300A_hyd_psh_E21.dgn

	WETLAND EXCAVATION
	FILL IN WETLAND
	SURFACE WATER IMPACTS
	MECHANIZED CLEARING (GRUBBING)
	HAND CLEARING (NON-GRUBBING)
	TEMPORARY SURFACE WATER IMPACTS
	TEMPORARY FILL IN WETLAND

20' 0' 20' 40' 60'

GRAPHIC SCALE

TEMPORARY SURFACE WATER IMPACT

SURFACE WATER IMPACT (BANK STABILIZATION)

EXCAVATION IN WETLAND
FILL IN WETLAND

**BANK STABILIZATION
CL I RIP RAP
SEE DETAIL 21G**

EXCAVATION IN WETLAND
TEMP. FILL IN WETLAND

- SLOPE PROTECTION
SEE DETAIL 21H

EXCAVATION IN WETLAND

SITE 29 ENLARGEMENT


Dewberry

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.

R-3300A

SHEET NO.

E-21

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWING
SHEET 73 OF 120

**- SPEC
SEE**

NAD 83/NSRS 2007

442

445

-//-

- $Q_{10} = 9 \text{ cfs}$
 $V_{10} = 1.8 \text{ fps}$

TEMP. FILL
IN WETLAND

- 26'(AVG)X24' RIPRAP FLAT PAD
35 TONS CL B RIPRAP
75 SY GEOTEXTILE

- EXCAVATION IN WETLAND

**SLOPE PROTECTION
SEE DETAIL 21H**

EXCAVATION IN WETLAND

BANK STABILIZATION

SPECIAL LATERAL 4' BASE DITCH

100' ACCESS E
MB 47 P

11/20/2024

5/14/99

7/3/2024
S:\SENAWES
N:\NC Hydro\17004_R-3300A Hampton Bypass\Hydro\17004_R-3300A_Hyd_perm_wet_C.dgn

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

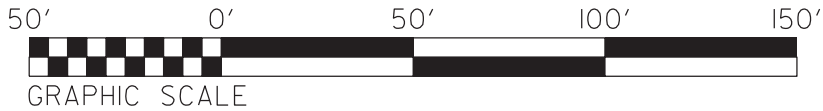
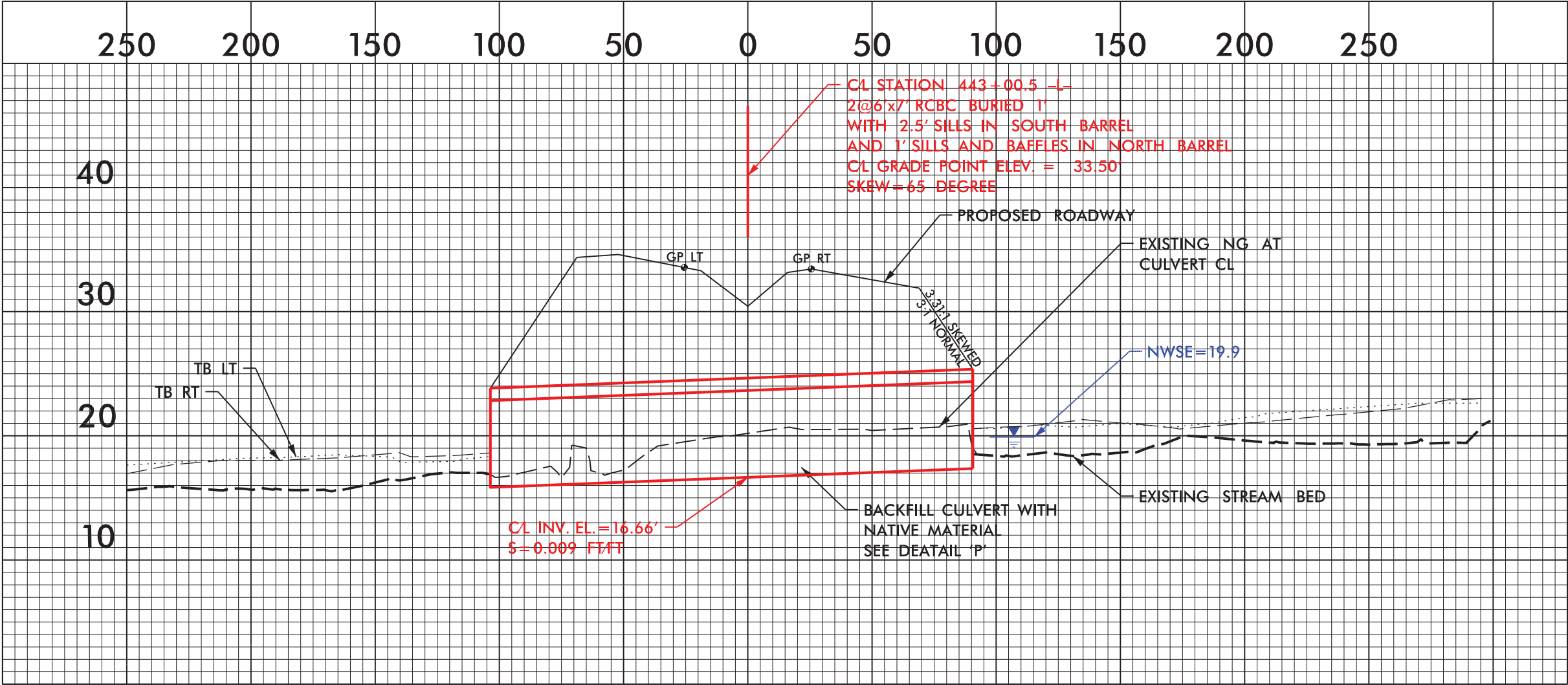


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PROJECT REFERENCE NO.		SHEET NO.
R-3300A		
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING
SHEET 74 OF 120

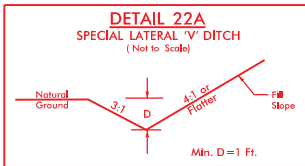
SITE 29



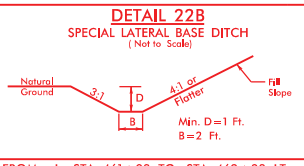


11/20/2024

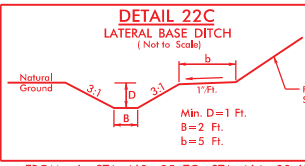
5/14/99



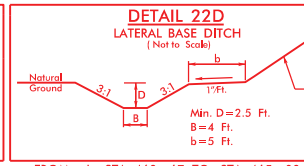
FROM -L- STA. 450+90 TO STA. 454+04 LT.
FROM -L- STA. 454+40 TO STA. 455+30 LT.
FROM -L- STA. 455+37 TO STA. 456+78 LT.



FROM -L- STA. 461+83 TO STA. 462+33 LT.



FROM -L- STA. 463+25 TO STA. 464+00 LT.



FROM -L- STA. 460+67 TO STA. 465+00 RT.

Dewberry



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(919) 851-6806
FIRM PE NUMBER: P-0671

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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

22

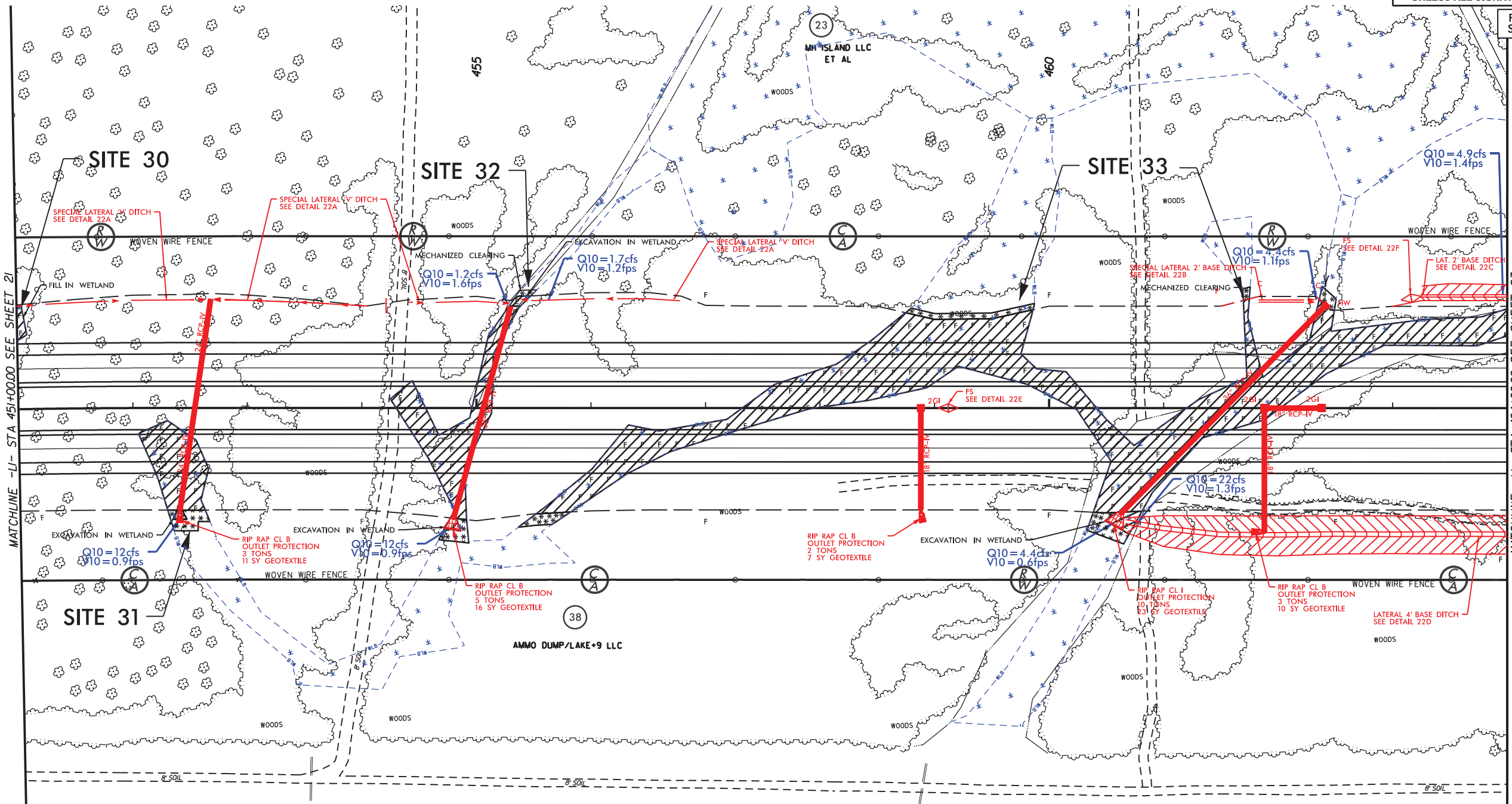
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

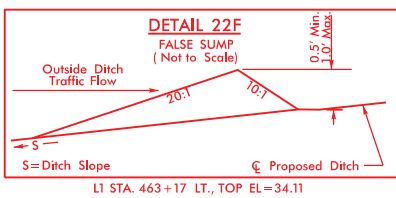
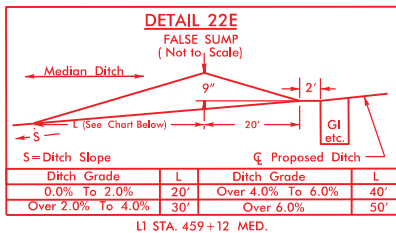
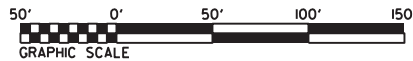
HYDRAULICS
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 77 OF 120



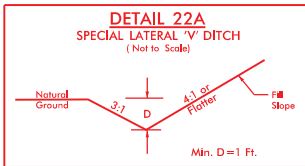
- WETLAND EXCAVATION
- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)



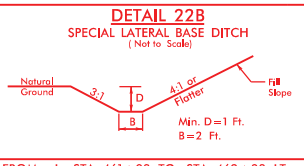
SEE SHEET 49 & 50 FOR -L1- PROFILE

11/20/2024

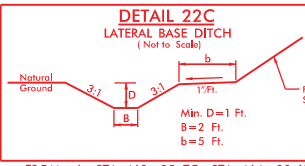
5/14/99



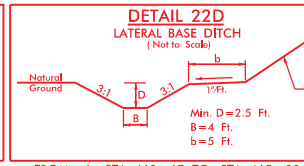
FROM -L- STA. 450+90 TO STA. 454+04 LT.
FROM -L- STA. 454+40 TO STA. 455+30 LT.
FROM -L- STA. 455+37 TO STA. 456+78 LT.



FROM -L- STA. 461+83 TO STA. 462+33 LT.



FROM -L- STA. 463+25 TO STA. 464+00 LT.



FROM -L- STA. 460+67 TO STA. 465+00 RT.

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(919) 851-6806
FIRM PE NUMBER: P-0671

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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

22

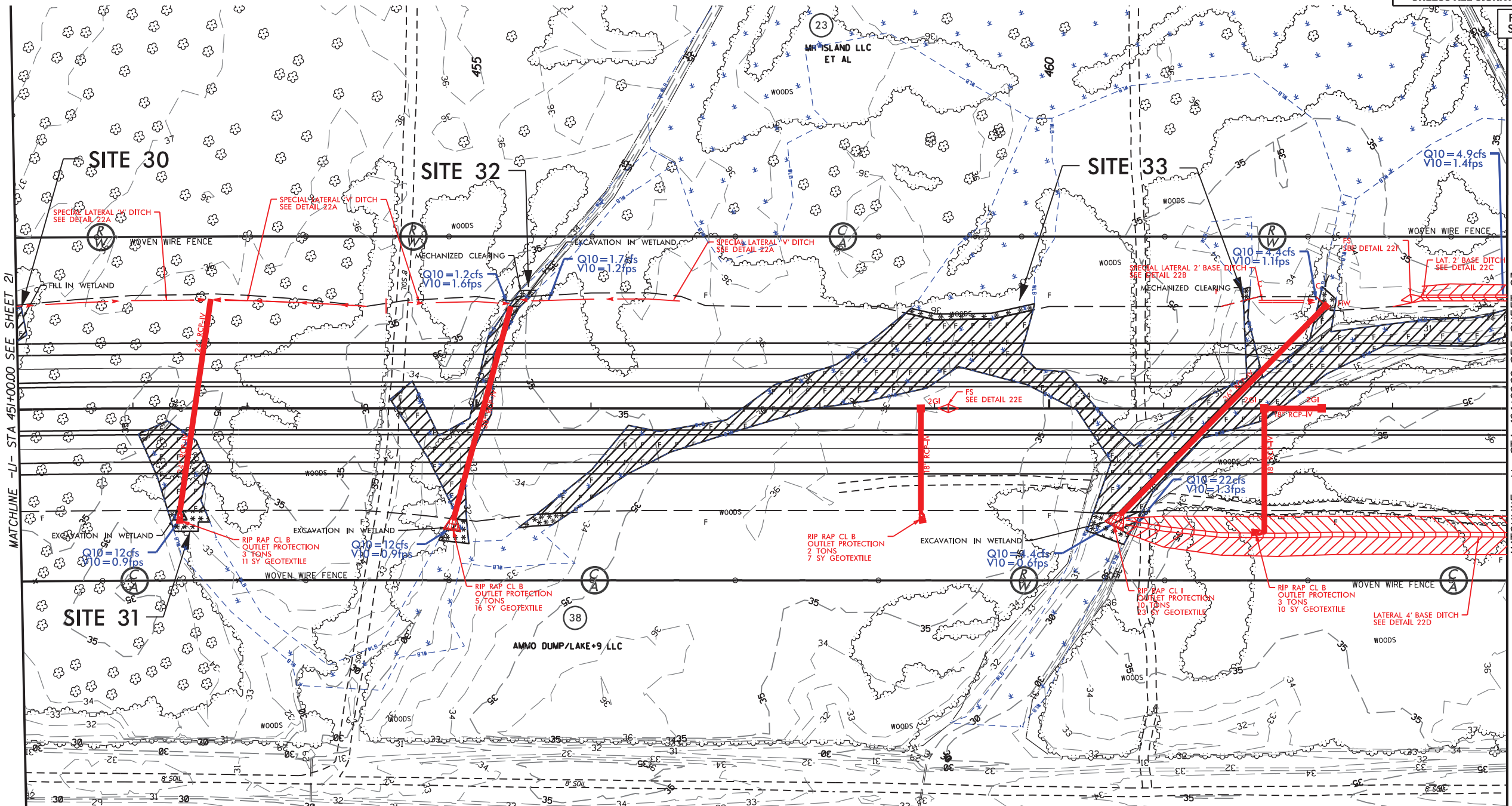
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

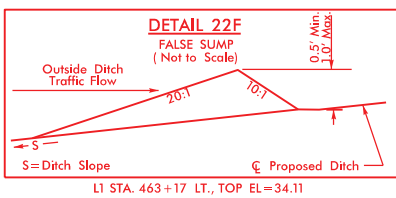
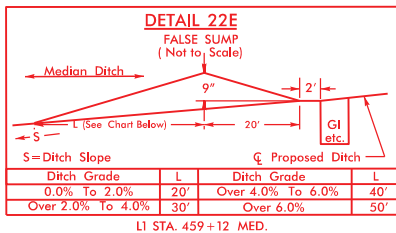
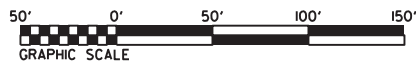
HYDRAULICS
ENGINEER

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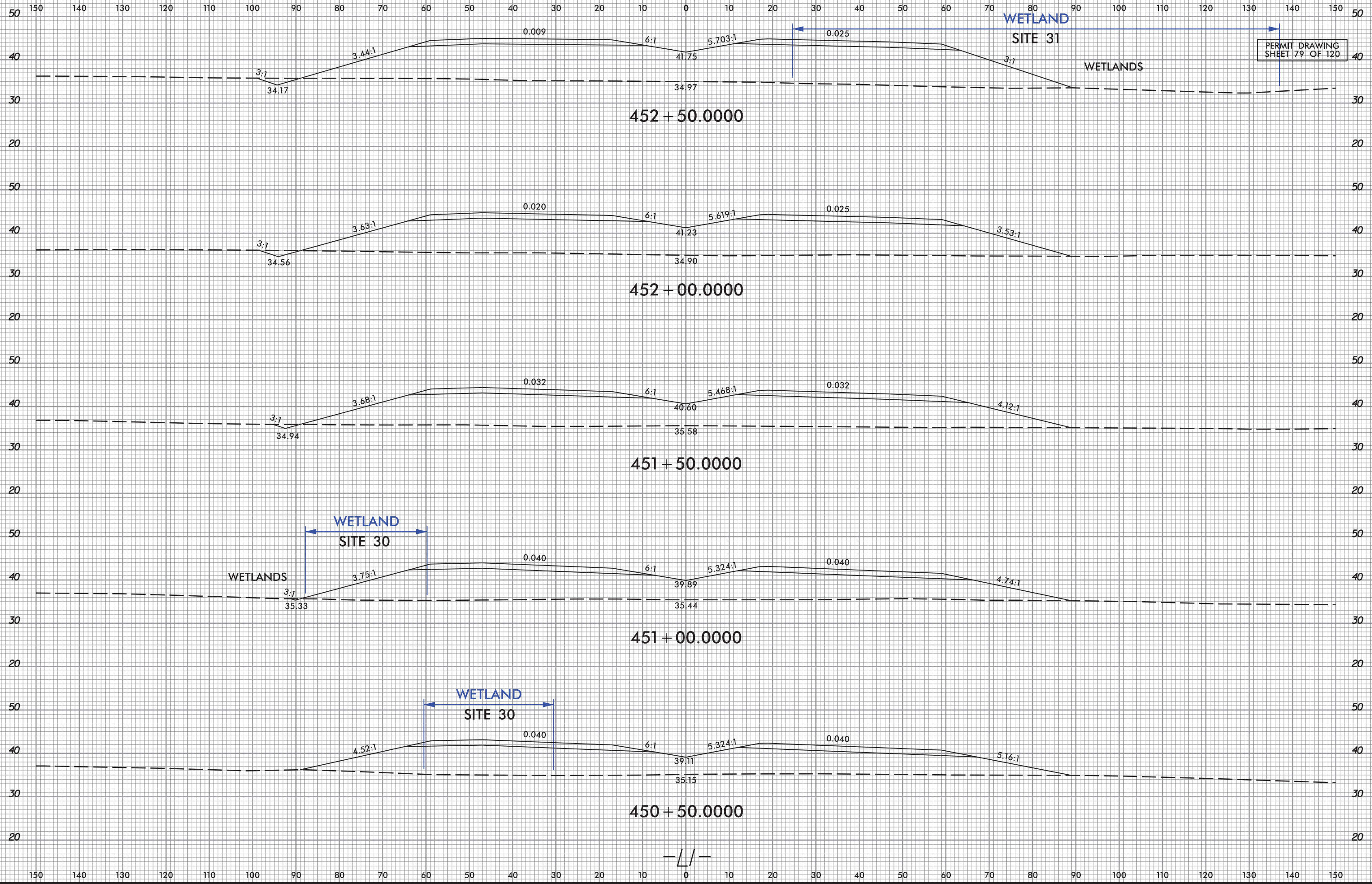
PERMIT DRAWING
SHEET 78 OF 120



- WETLAND EXCAVATION
- FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)

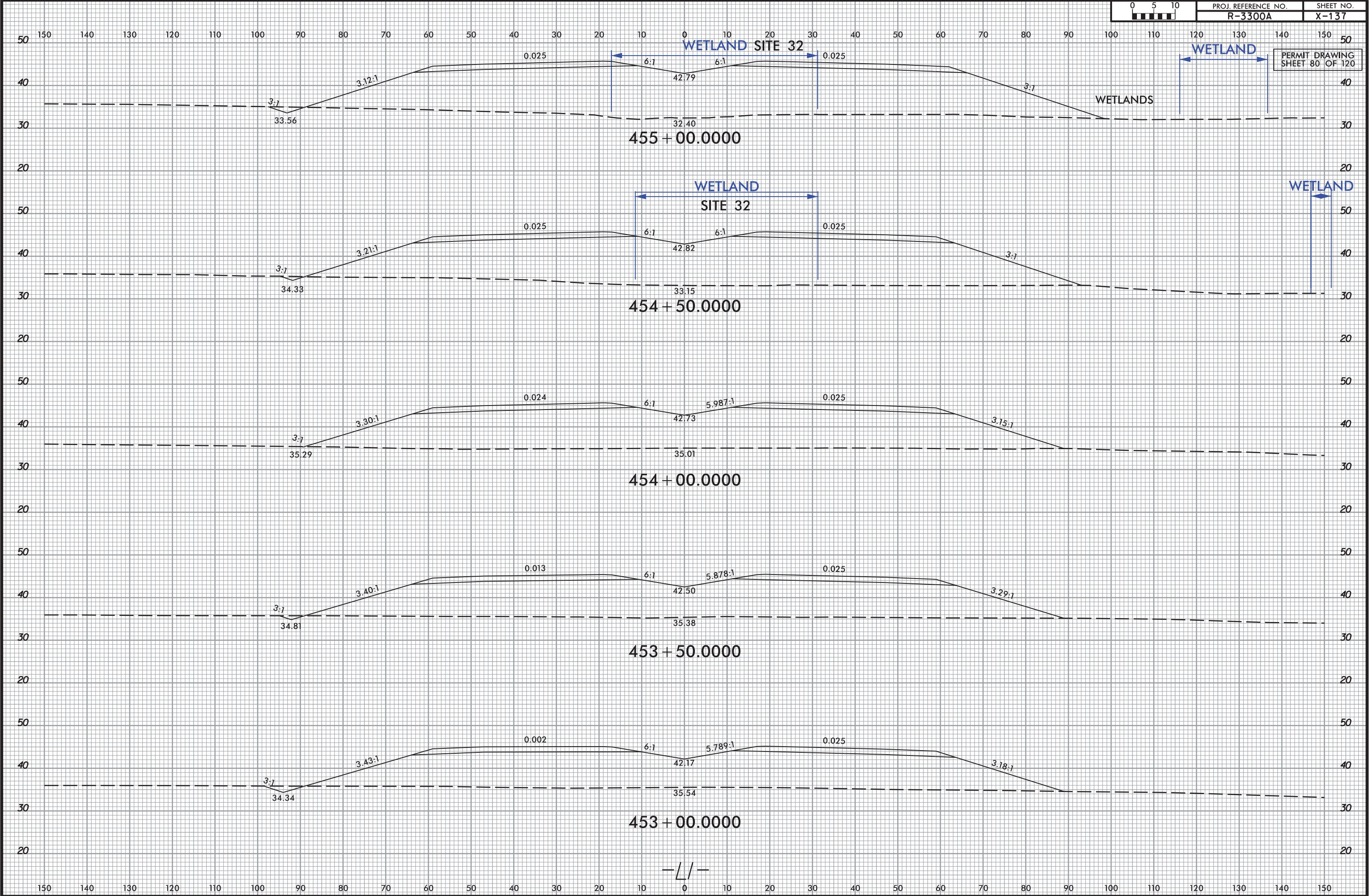


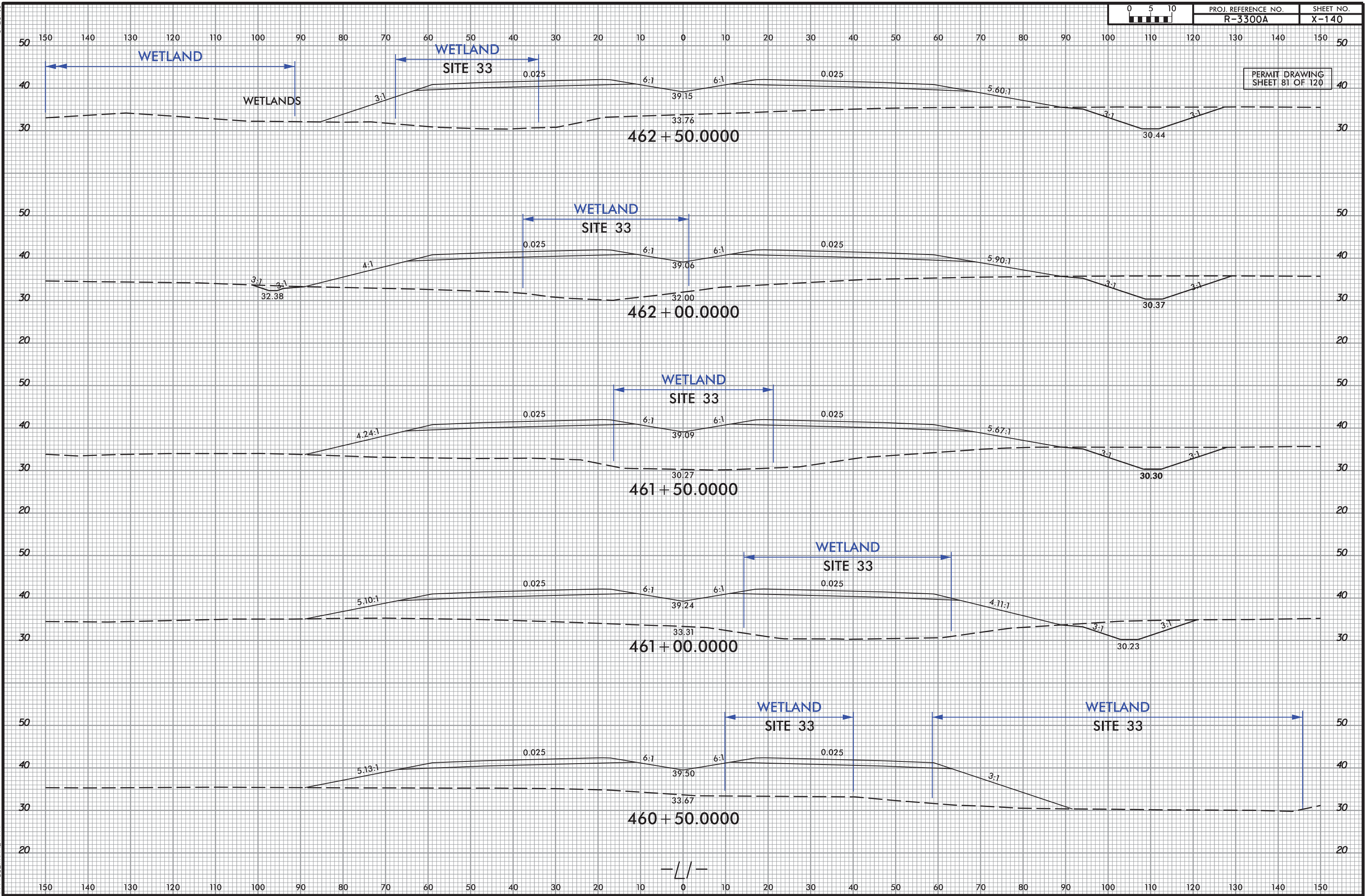
SEE SHEET 49 & 50 FOR -L1- PROFILE



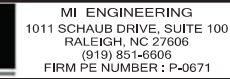
11/20/2024

12/15/2023 MI ENGINEERING R:\NC_Hydro\MI7006_R-3300A_Hampstead_Bypass\Hydraulics\PERMITS\Environmental\Drawings\XSC\R3300A_Hyd_perm_xpl.dgn
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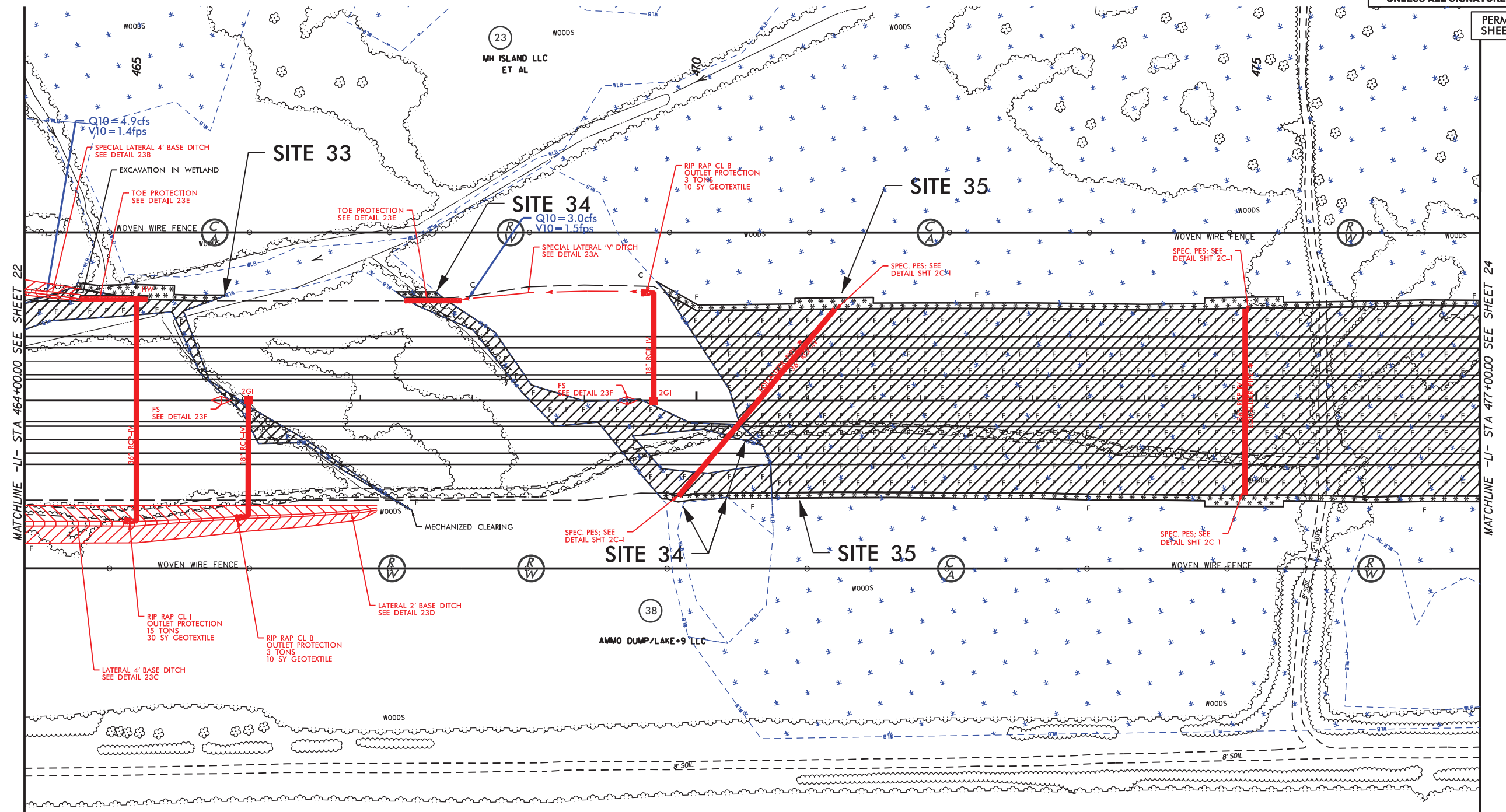




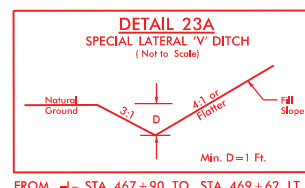
7/31/2024
S:\USER\NAME\Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh_23.dgn



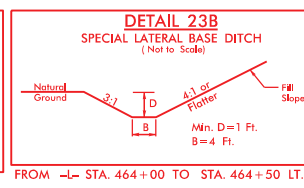
PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		23	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p align="center">DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

PERMIT DRAWING
SHEET 82 OF 120

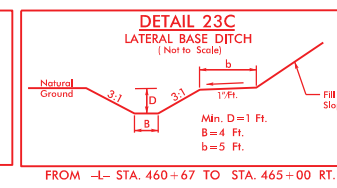
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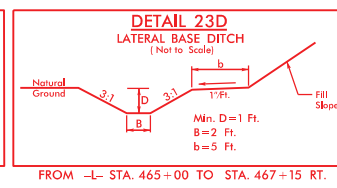
FROM -L- STA. 467+90 TO STA. 469+62 LT.



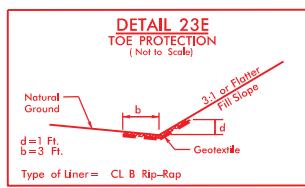
FROM -L- STA. 464+00 TO STA. 464+50 LT.



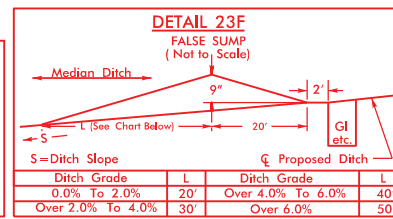
FROM -L- STA. 460+67 TO STA. 465+00 RT.



FROM -L- STA. 465+00 TO STA. 467+15 RI.



FROM -L- STA. 464+50 TO STA. 465+10 LT.
FROM -L- STA. 467+40 TO STA. 467+90 LT.





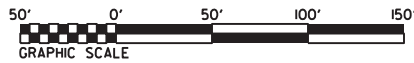
4.0%	30'	Over
L1 STA. 465+76	MED.	
L1 STA. 469+38	MED.	

SEE SHEET 50 FOR -L1- PROFILE

11/20/2024

5/14/2007

-  WETLAND EXCAVATION
-  FILL IN WETLAND
-  MECHANIZED CLEARING (GRUBBING)



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1011 SCHAUB DRIVE, SUITE 100
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(919) 851-6806
FIRM PE NUMBER: P-0671

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License No. F-0672

PROJECT REFERENCE NO.

R-3300A

SHEET NO.

23

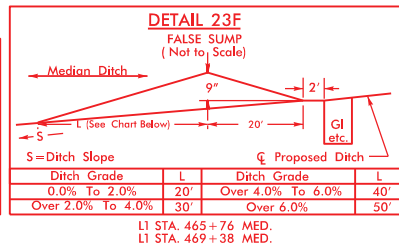
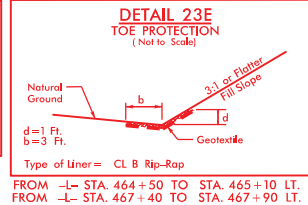
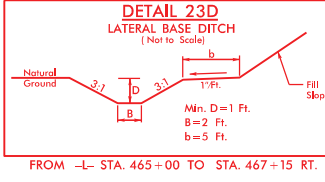
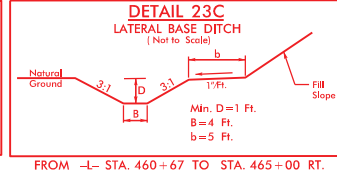
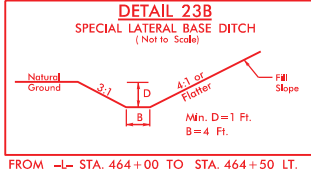
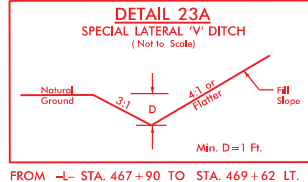
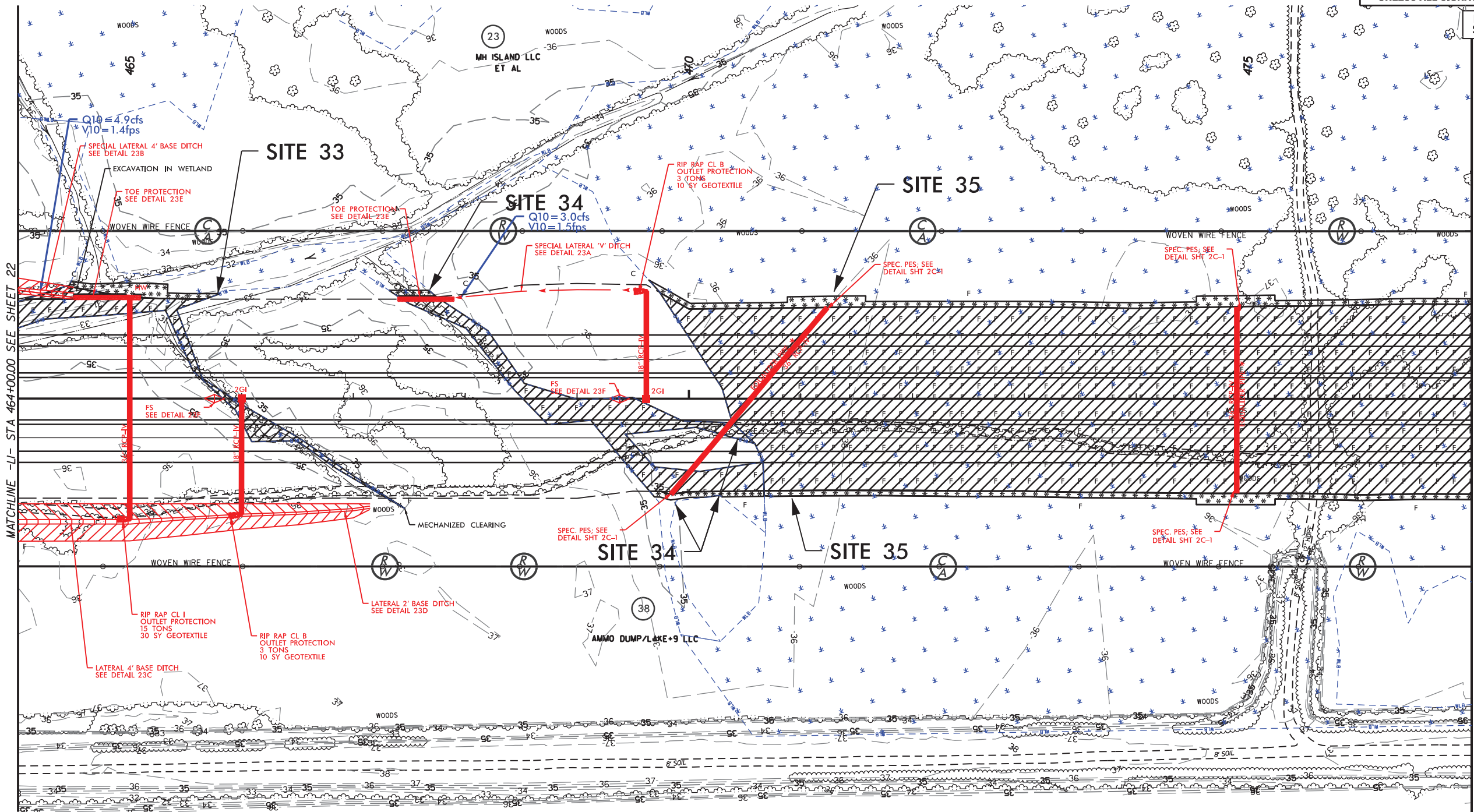
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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PERMIT DRAWING
SHEET 83 OF 120



* DO NOT BURY EQUALIZER PIPES

SEE SHEET 50 FOR -L- PROFILE

7/31/2024
\$(USERNAME)\$
N:\NC Hydro\17006_R-3300A Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh 24.dgn

Dewberry



2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929



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PROJECT REFERENCE NO.

R-3300A

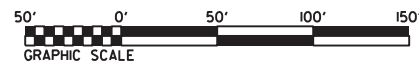
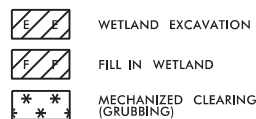
SHEET NO.

24

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

HYDRAULICS
ENGINEER

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

PERMIT DRAWING
SHEET 84 OF 120

SEE SHEETS 50 & 51 FOR -L1- PROFILE

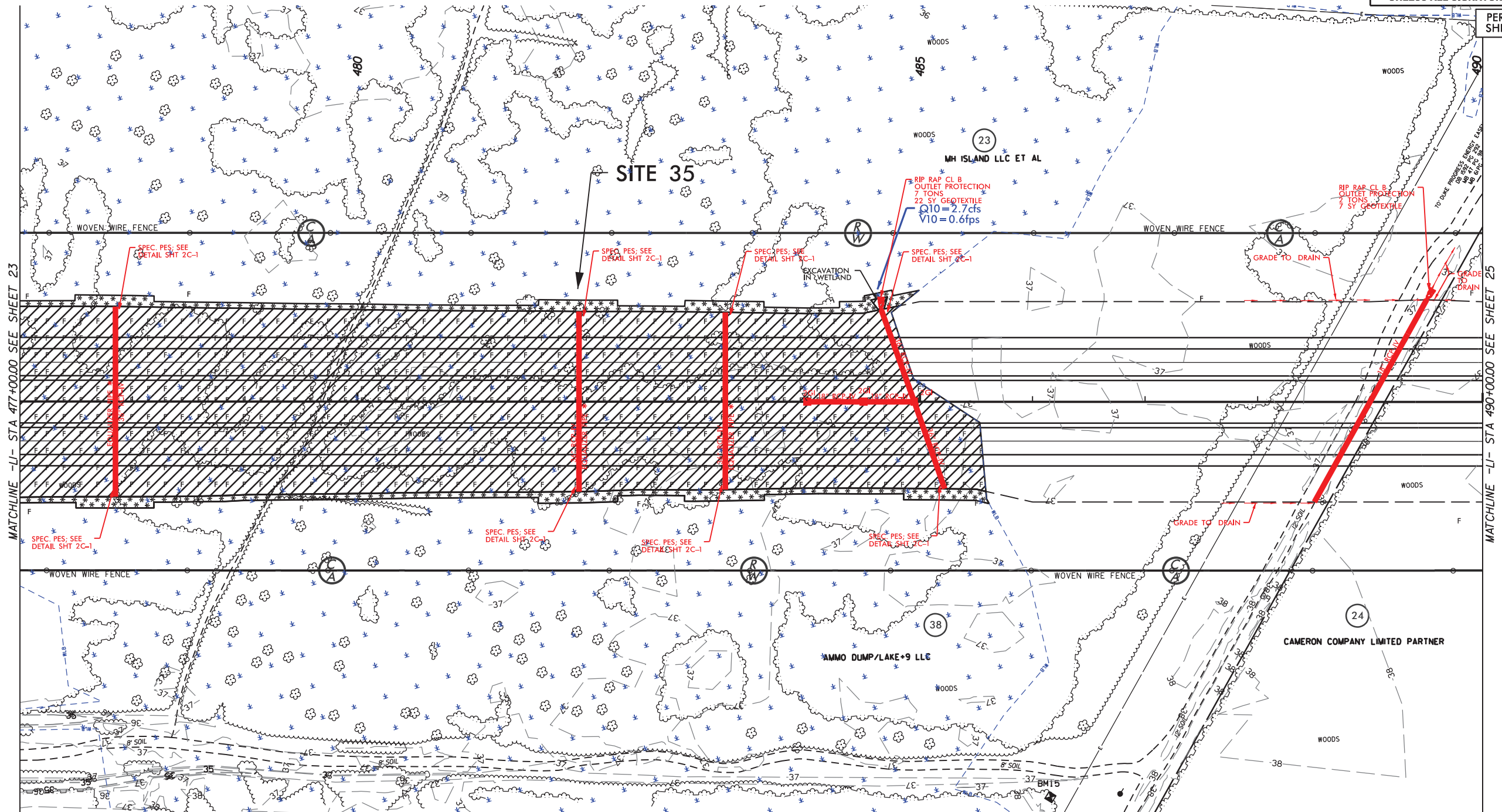
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NAD 83/NSRS 2007

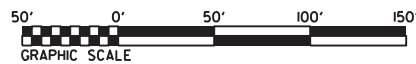
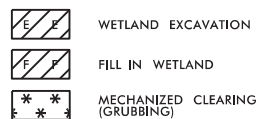


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PROJECT REFERENCE NO.		SHEET NO.	
R-3300A		24	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			

PERMIT DRAWING
SHEET 85 OF 120

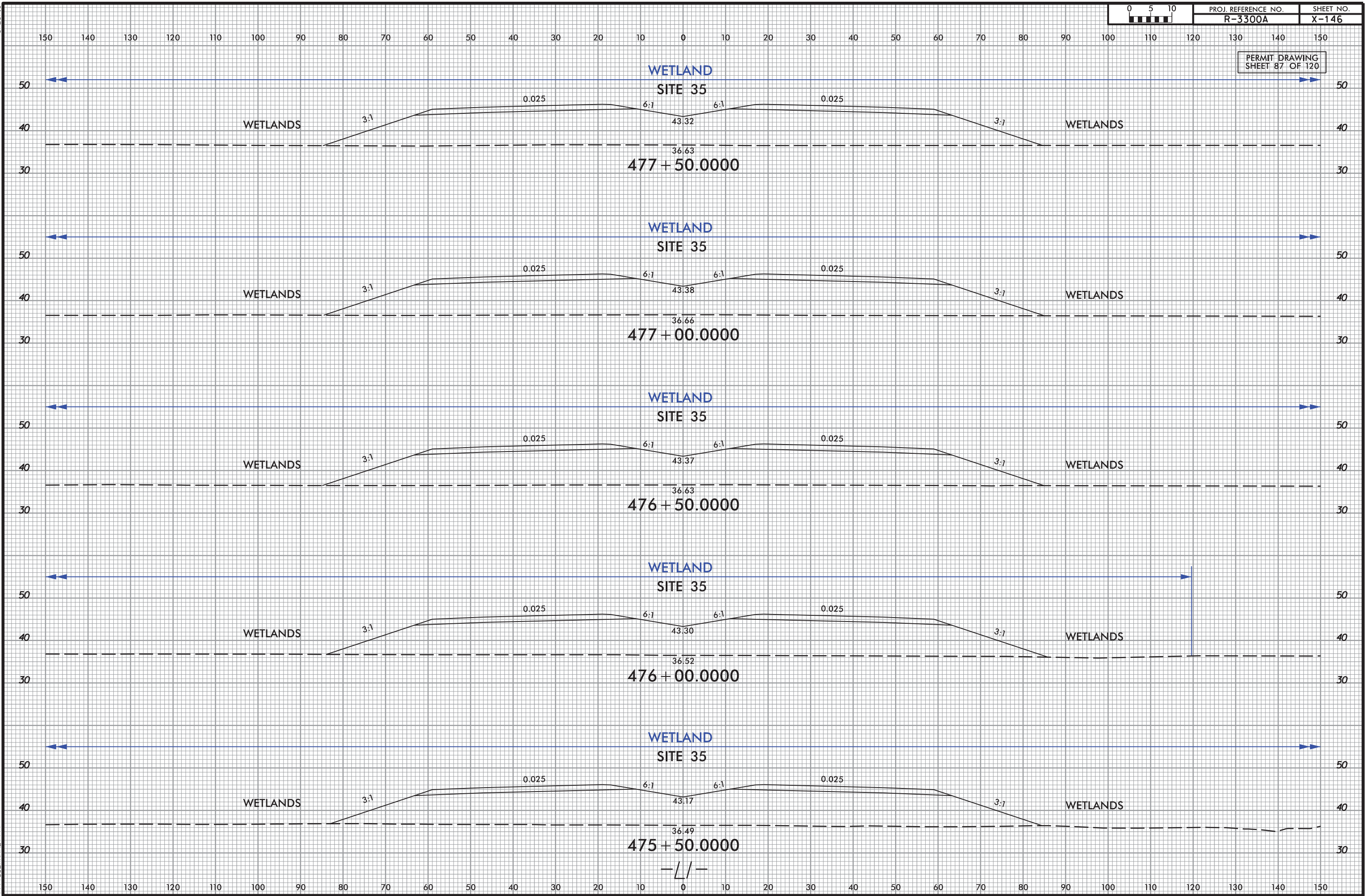
*** DO NOT BURY EQUALIZER PIPES**



SEE SHEETS 50 & 51 FOR -L1- PROFILE



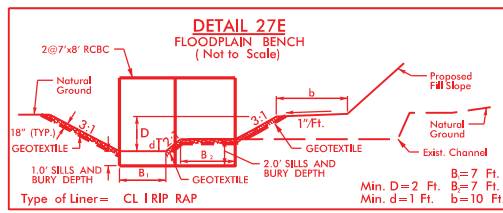
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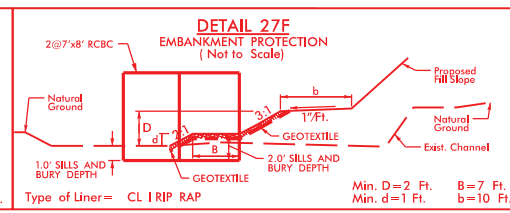
11/20/2024

REVISIONS
RW REV. MAY 2024: ADDED PARCEL NO. 252, WHICH SHOWS ADDITIONAL 1506SF OF PUE OWNED BY NCDOT. -STANTEC

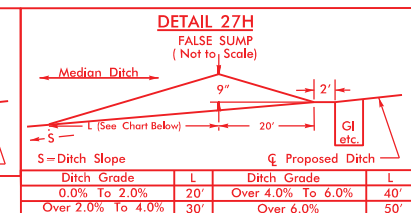
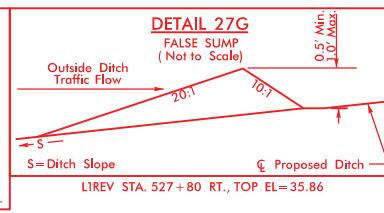
2/3/2024
JAMES
N:\NC Hydro\W7006_R-3300A Hampton Bypass\Hydraulics\PERMITS Environmental Drawings\83300A_hyd_psh_27.dgn



FROM -LIREV- STA. 520+34 TO STA. 522+15 RT., L=203'
DDE=1125 CY, 621 TONS RIP RAP, 1100 SY GEOTEXTILE
FROM -Y35- STA. 20+80 TO STA. 22+71 LT., L=191'
DDE=430 CY, 400 TONS RIP RAP, 700 SY GEOTEXTILE



FROM -Y35- STA. 20+25 TO STA. 20+80 LT., L=55'
DDE=20 CY, 52 TONS RIP RAP, 105 SY GEOTEXTILE



Dewberry



MI ENGINEERING
1011 SCHAU DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

PERMIT DRAWING
SHEET 88 OF 120

WETLAND EXCAVATION
FILL IN WETLAND
SURFACE WATER IMPACTS

Stantec

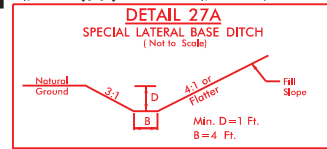
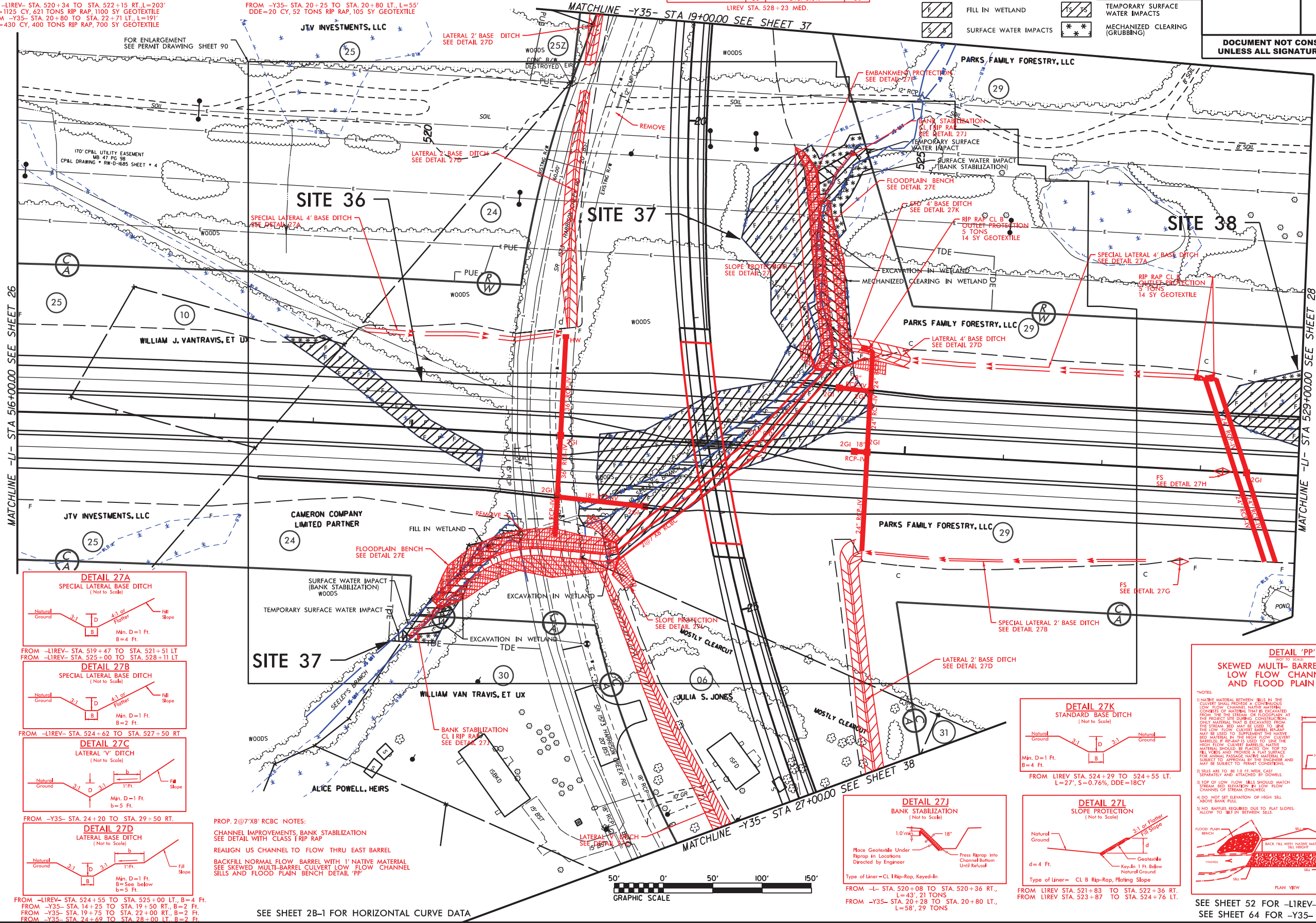


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www.stantec.com
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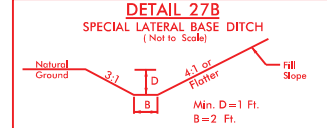
TEMPORARY SURFACE WATER IMPACTS
MECHANIZED CLEARING (GRUBBING)

PROJECT REFERENCE NO.	SHEET NO.
R-3300A	27
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

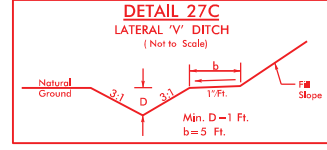
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



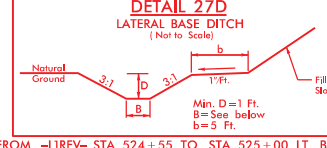
FROM -LIREV- STA. 519+47 TO STA. 521+51 LT
FROM -LIREV- STA. 525+00 TO STA. 528+11 LT



FROM -LIREV- STA. 524+62 TO STA. 527+50 RT

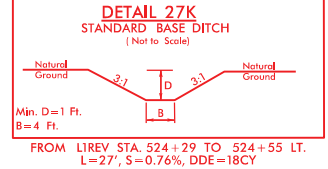


FROM -Y35- STA. 24+20 TO STA. 29+50 RT.

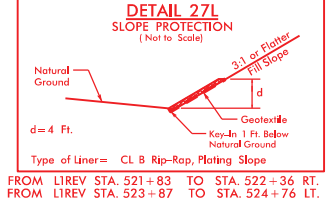


FROM -LIREV- STA. 524+55 TO STA. 525+00 LT., B=4 Ft.
FROM -Y35- STA. 14+25 TO STA. 19+50 RT., B=2 Ft.
FROM -Y35- STA. 19+75 TO STA. 22+00 RT., B=2 Ft.
FROM -Y35- STA. 24+69 TO STA. 28+00 LT., B=2 Ft.

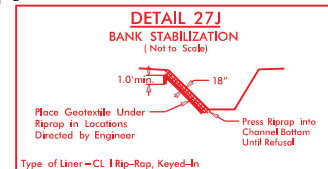
PROP. 2' x 8' RCBC NOTES:
CHANNEL IMPROVEMENTS, BANK STABILIZATION
SEE DETAIL WITH CLASS I RIP RAP
REALIGN US CHANNEL TO FLOW THRU EAST BARREL
BACKFILL NORMAL FLOW BARREL WITH 1' NATIVE MATERIAL
SEE SKEWED MULTI-BARREL CULVERT LOW FLOW CHANNEL
SILLS AND FLOOD PLAIN BENCH DETAIL 'PP'



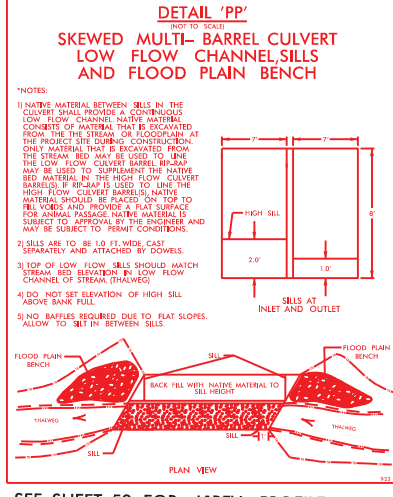
FROM LIREV STA. 524+29 TO STA. 524+55 LT.
L=27', S=0.76%, DDE=18CY



FROM LIREV STA. 521+83 TO STA. 522+36 RT.
FROM LIREV STA. 523+87 TO STA. 524+76 LT.



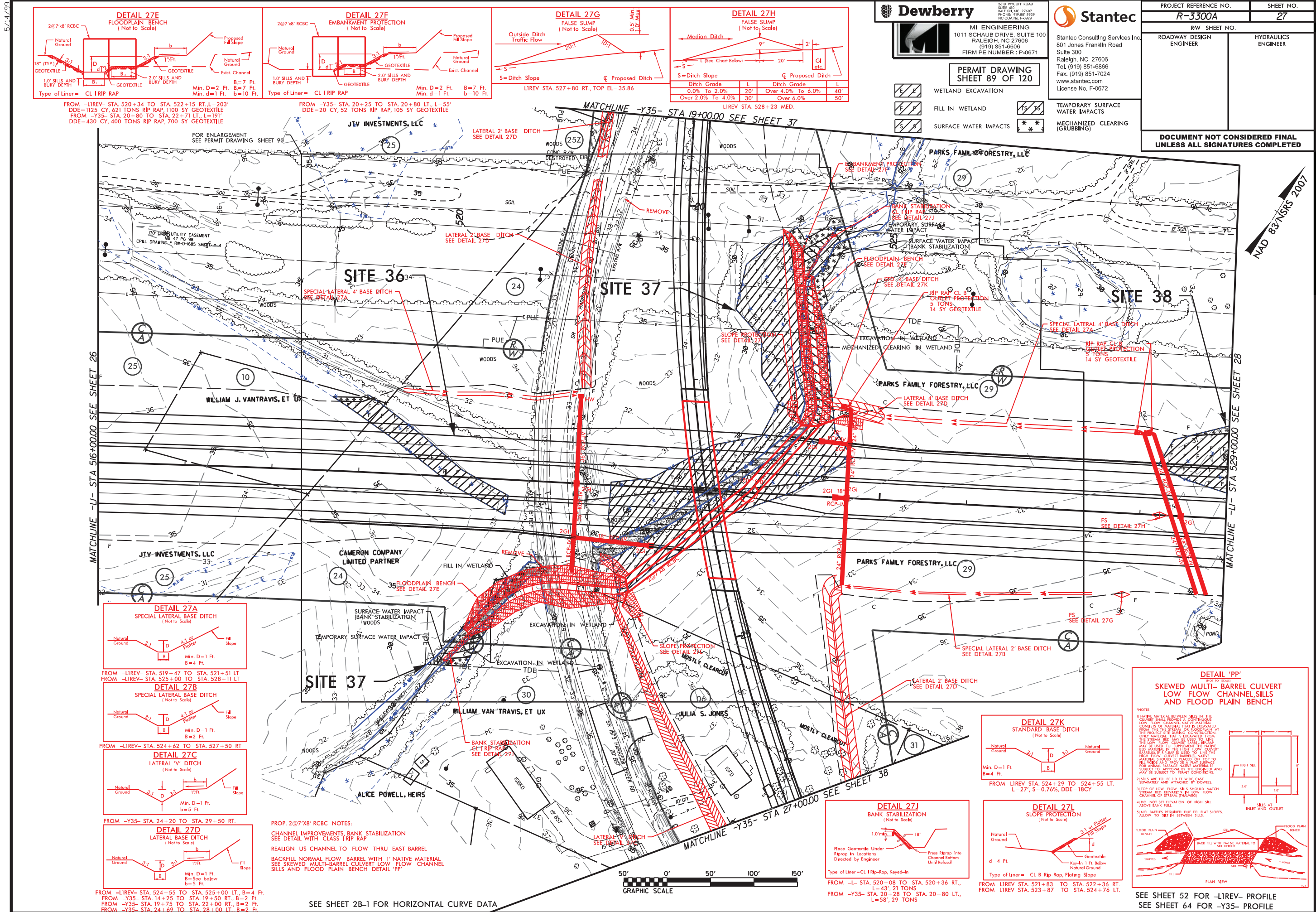
FROM -L- STA. 520+08 TO STA. 520+36 RT.,
L=43', 21 TONS
FROM -Y35- STA. 20+28 TO STA. 20+80 LT.,
L=58', 29 TONS



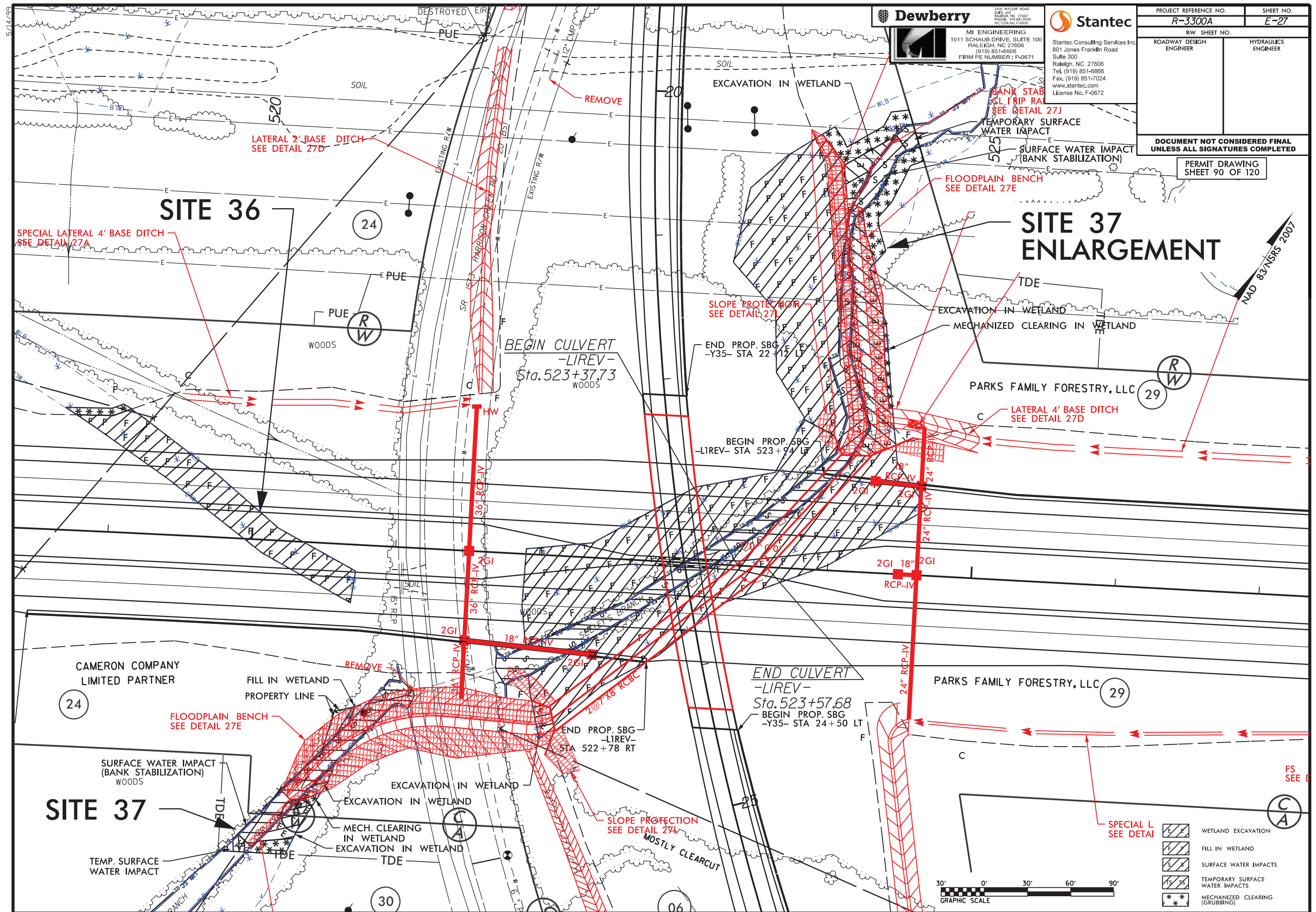
SEE SHEET 52 FOR -LIREV- PROFILE
SEE SHEET 64 FOR -Y35- PROFILE

11/20/2024

2/3/2024
JAMES
N:\NC Hydro\W7000_R-3300A Hampton Bypass\Hydraulics\PERMITS Environmental Drawings\83300A_hyd_psh_27_con.dgn



7/31/2024 \$(USERAME)\$ Hampstead Bypass\Hydraulics\PERMITS_Environmental\Drawings\R3300A_hyd_psh_E27.dgn



11/20/2024

7/31/2024
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5/14/99



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671



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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

R/W SHEET NO.

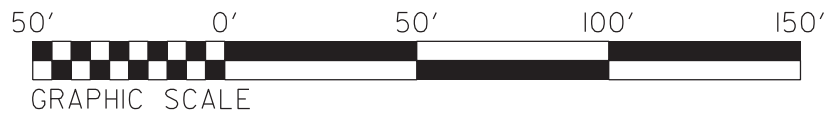
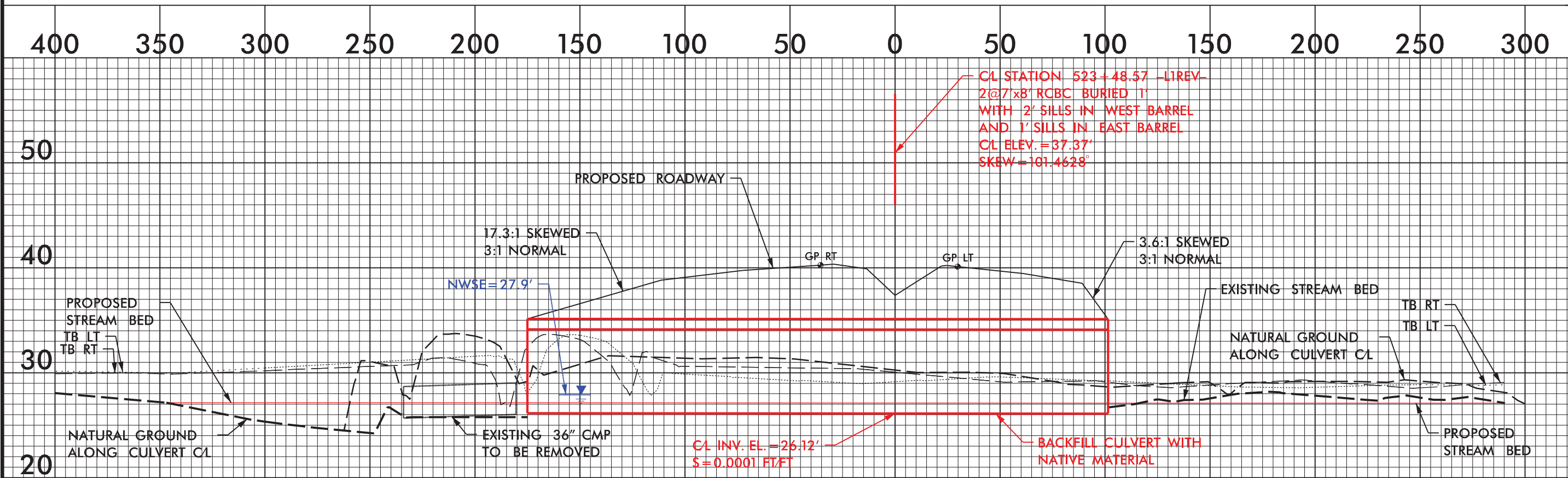
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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UNLESS ALL SIGNATURES COMPLETED

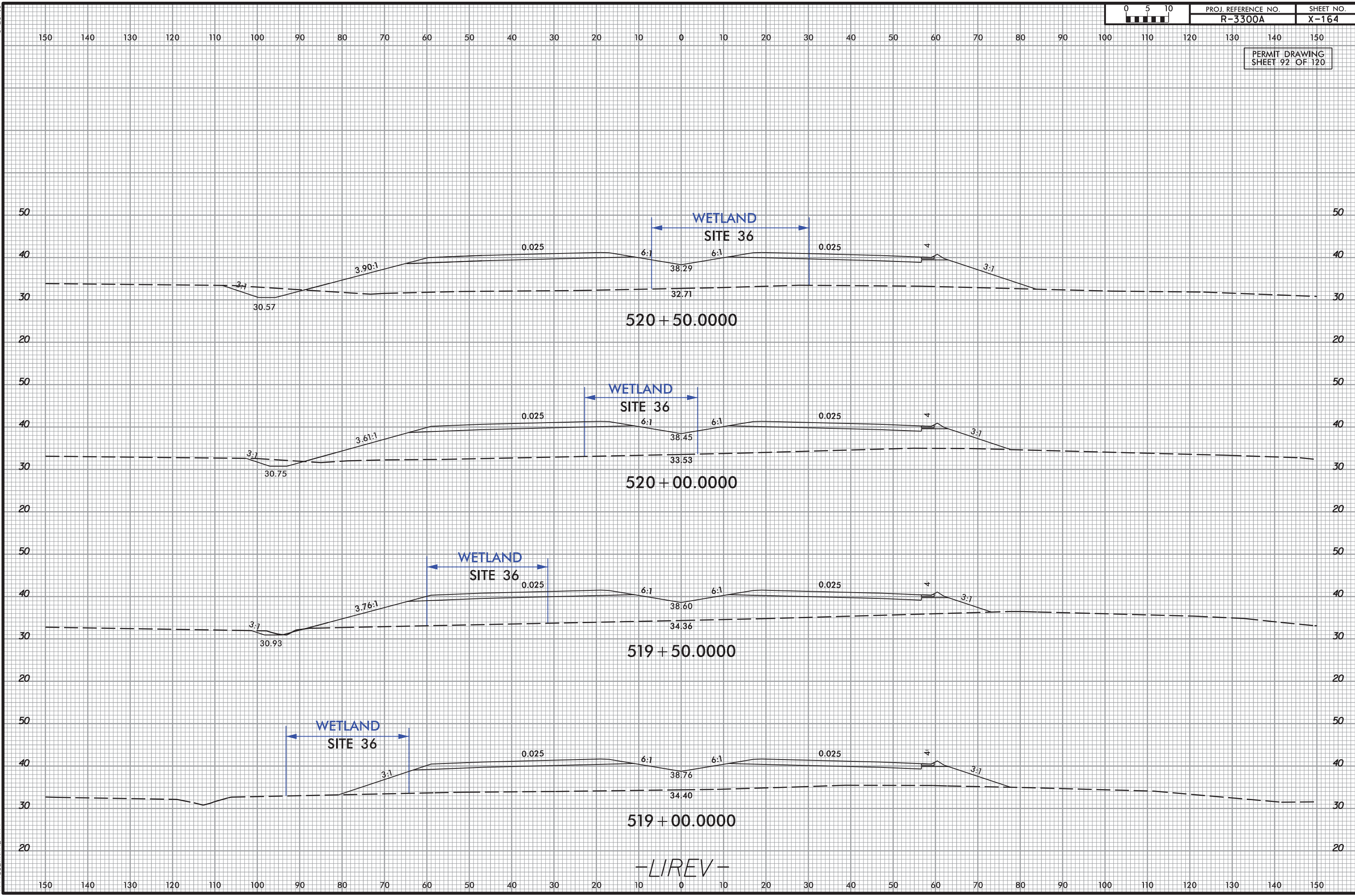
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SHEET 91 OF 120

SITE 37



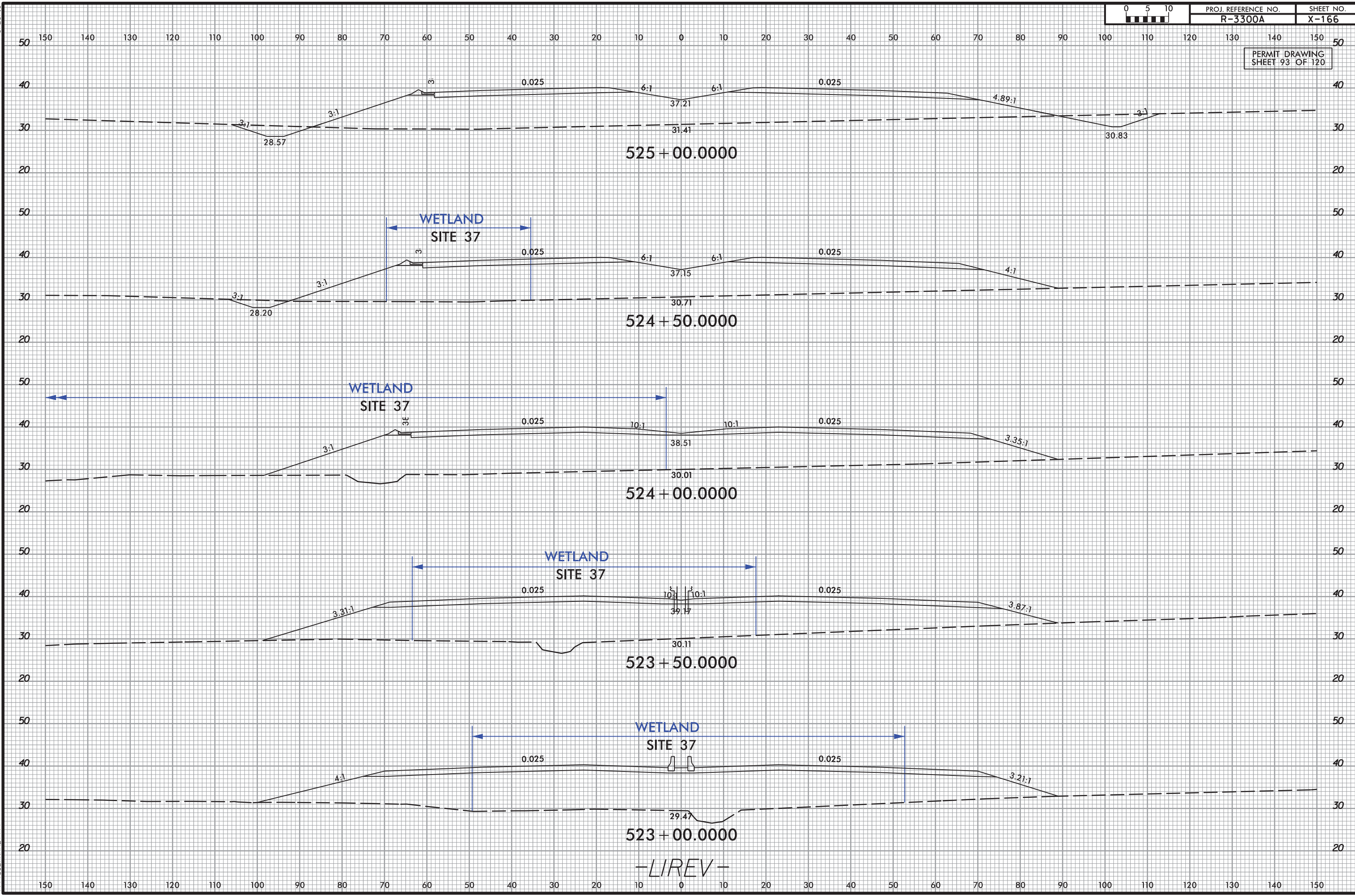
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12/15/2023
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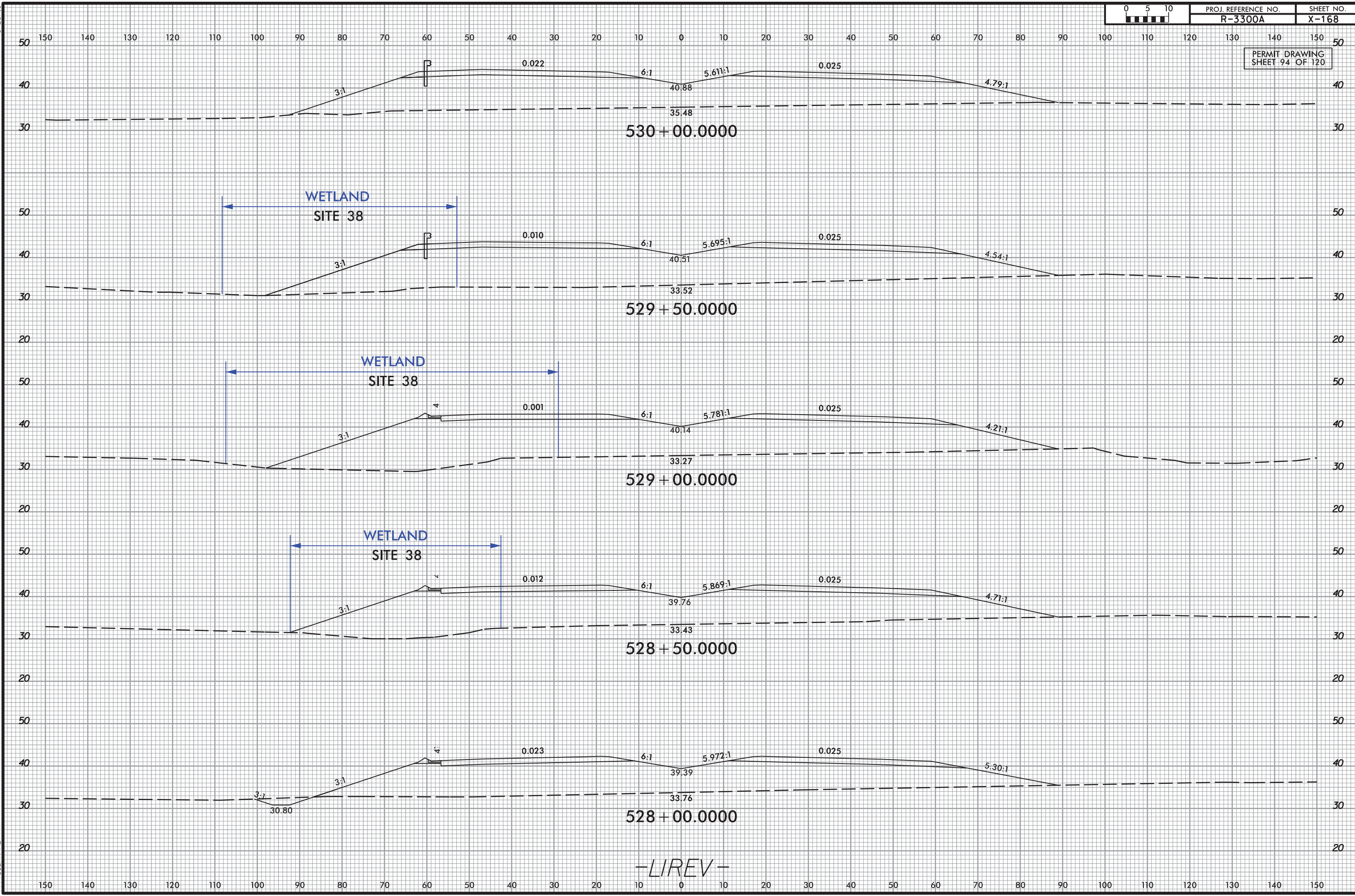
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12/15/2023
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11/20/2024

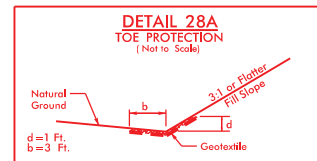
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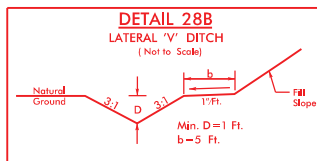
11/20/2024

2/10/2024
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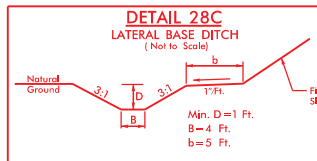
5/14/99



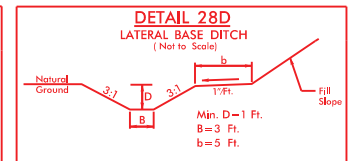
Type of liner= CL B Rip-Rap
FROM -LIREV- STA. 536+25 TO STA. 537+00 LT.



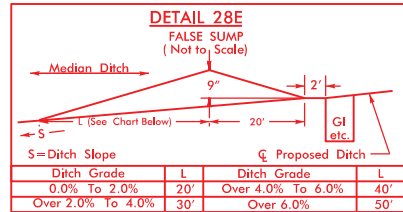
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FROM -LIREV- STA. 540+50 TO STA. 542+50 RT.



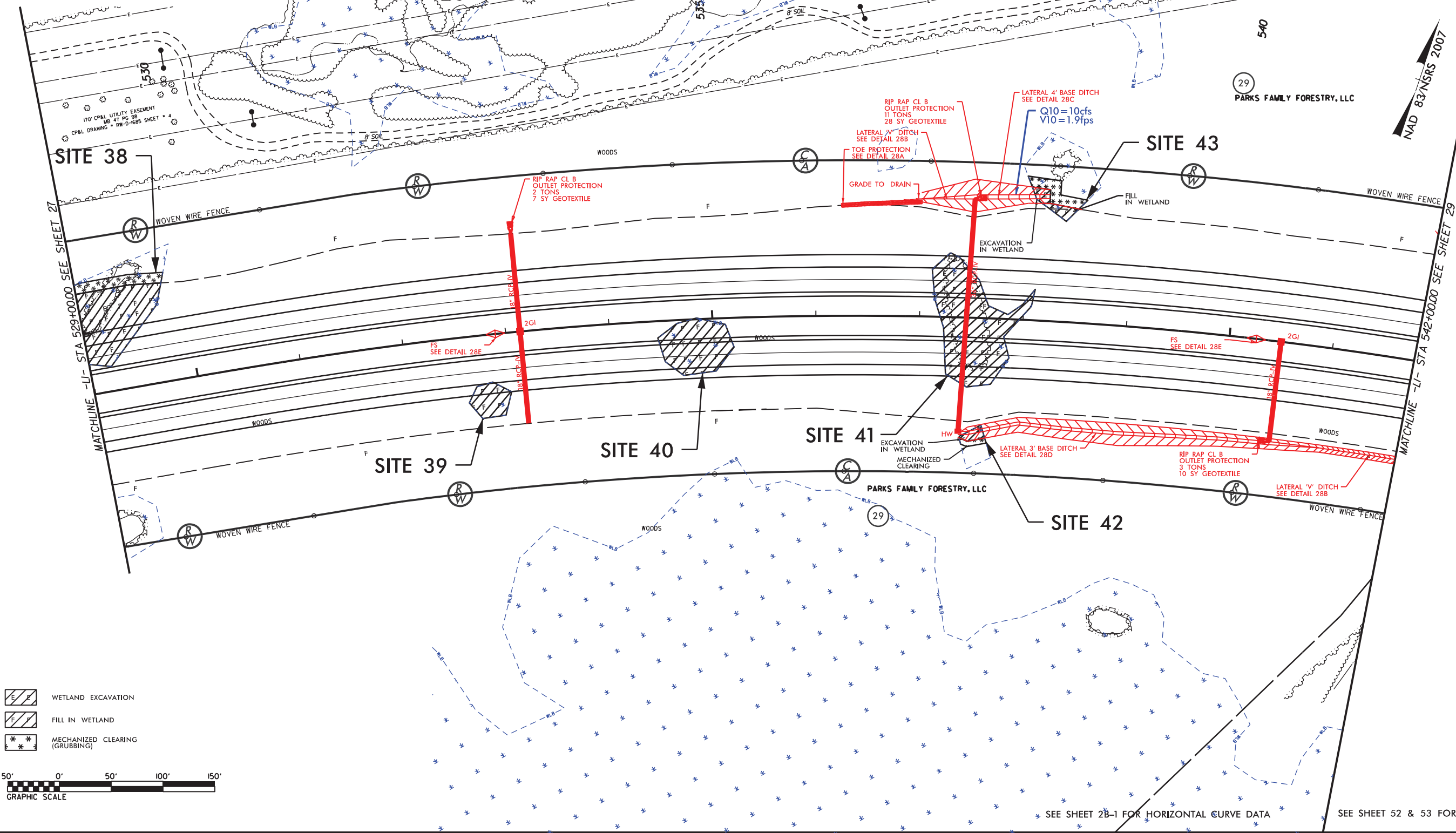
FROM -LIREV- STA. 537+50 TO STA. 538+20 LT.



FROM -LIREV- STA. 537+41 TO STA. 540+50 RT.



LIREV STA. 532+90 MED.
LIREV STA. 540+26 MED.



Dewberry



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1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

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www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.

R-3300A

SHEET NO.

28

R/W SHEET NO.




ROADWAY DESIGN
ENGINEER

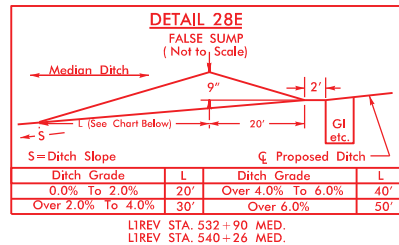
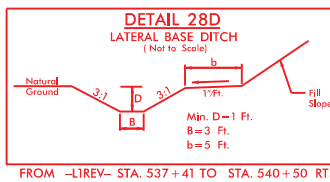
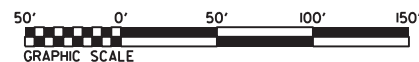
HYDRAULICS
ENGINEER

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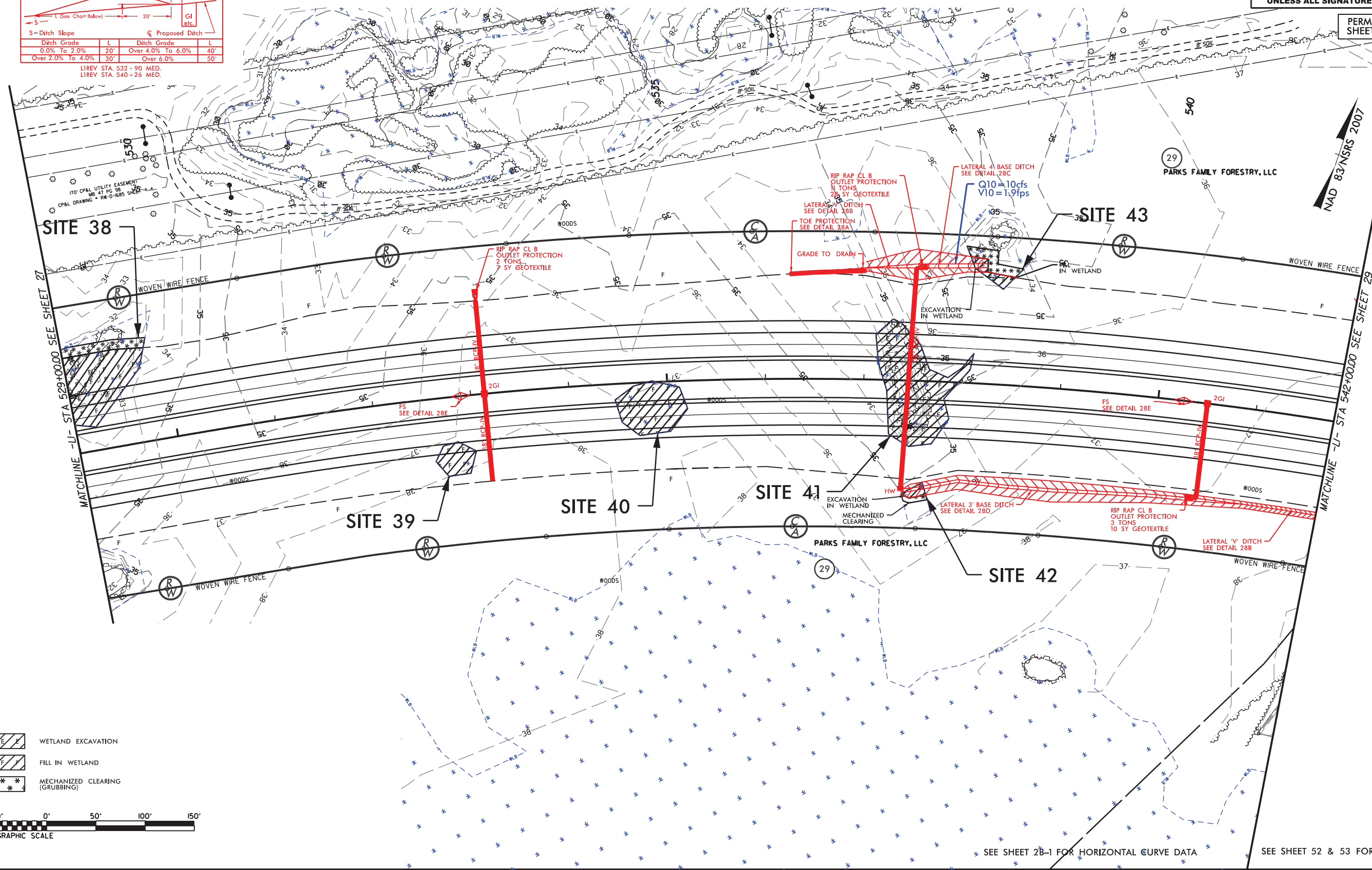
PERMIT DRAWING
SHEET 95 OF 120

7/31/2024
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	WETLAND EXCAVATION
	FILL IN WETLAND
	MECHANIZED CLEARING (GRUBBING)



L1REV STA. 532+90 MED.
L1REV STA. 540+26 MED.



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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(919) 851-6606
FIRM PE NUMBER : P-0671



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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

28

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

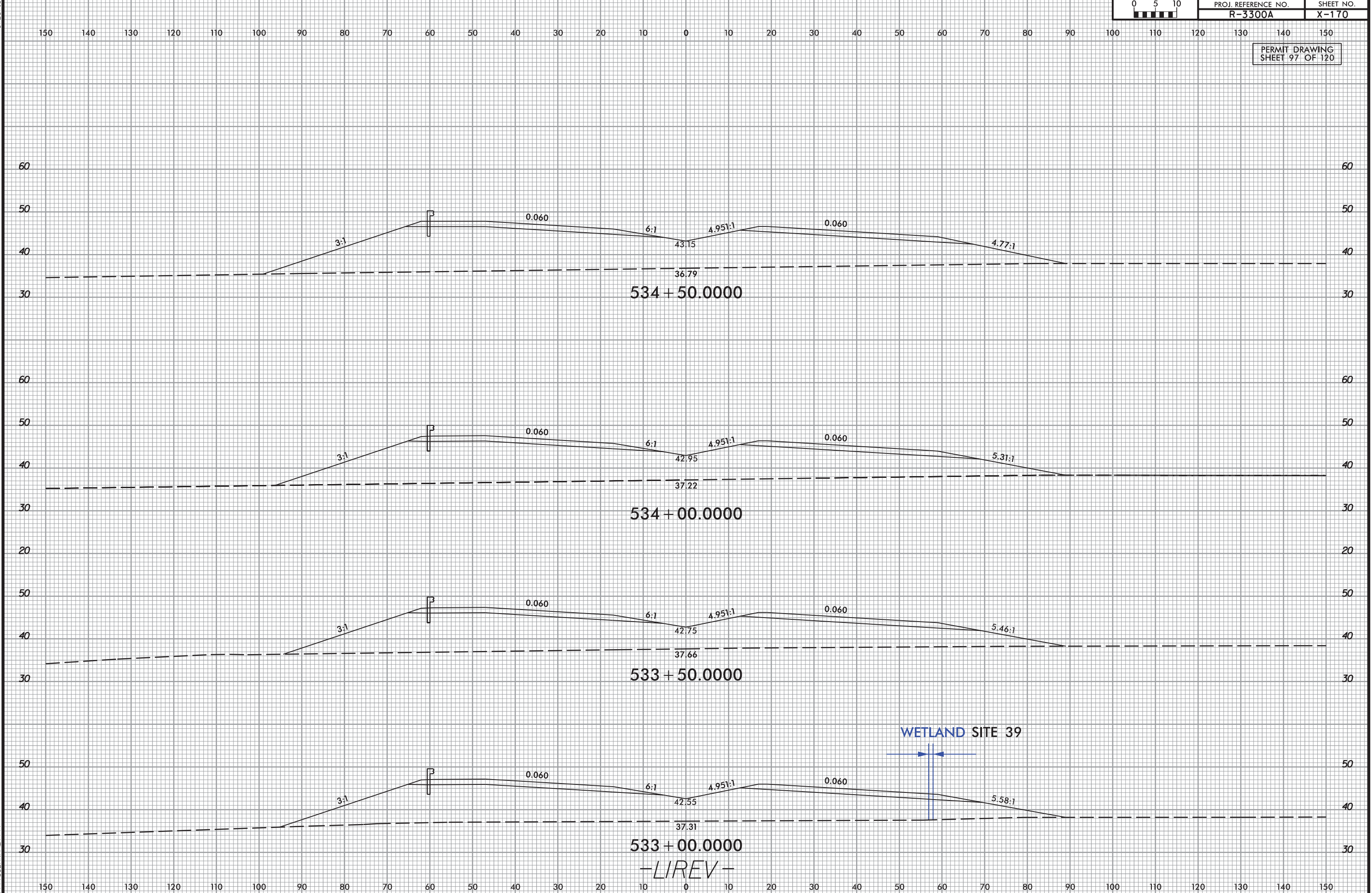
HYDRAULICS
ENGINEER

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PERMIT DRAWING
SHEET 96 OF 120

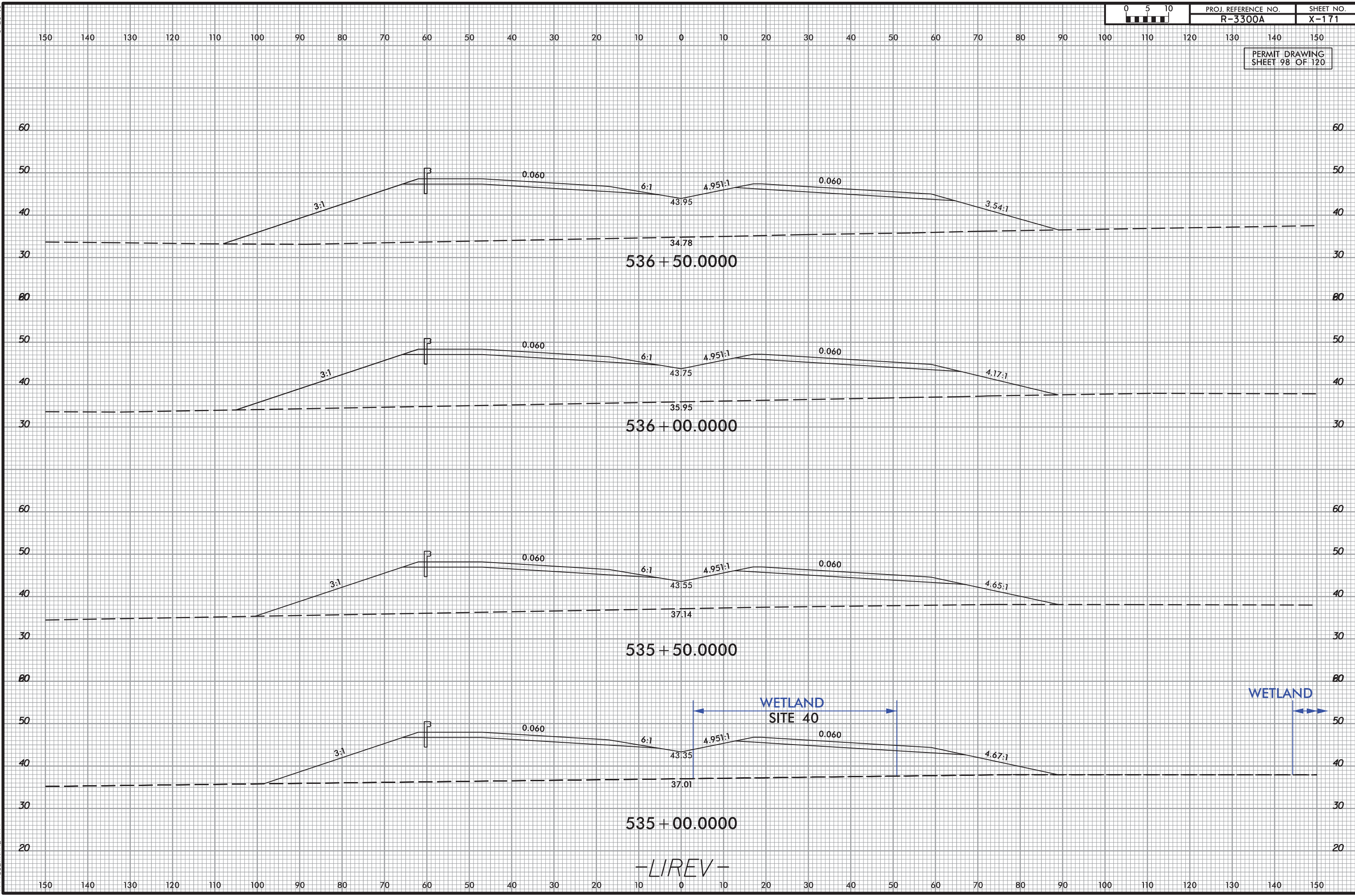
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12/15/2023
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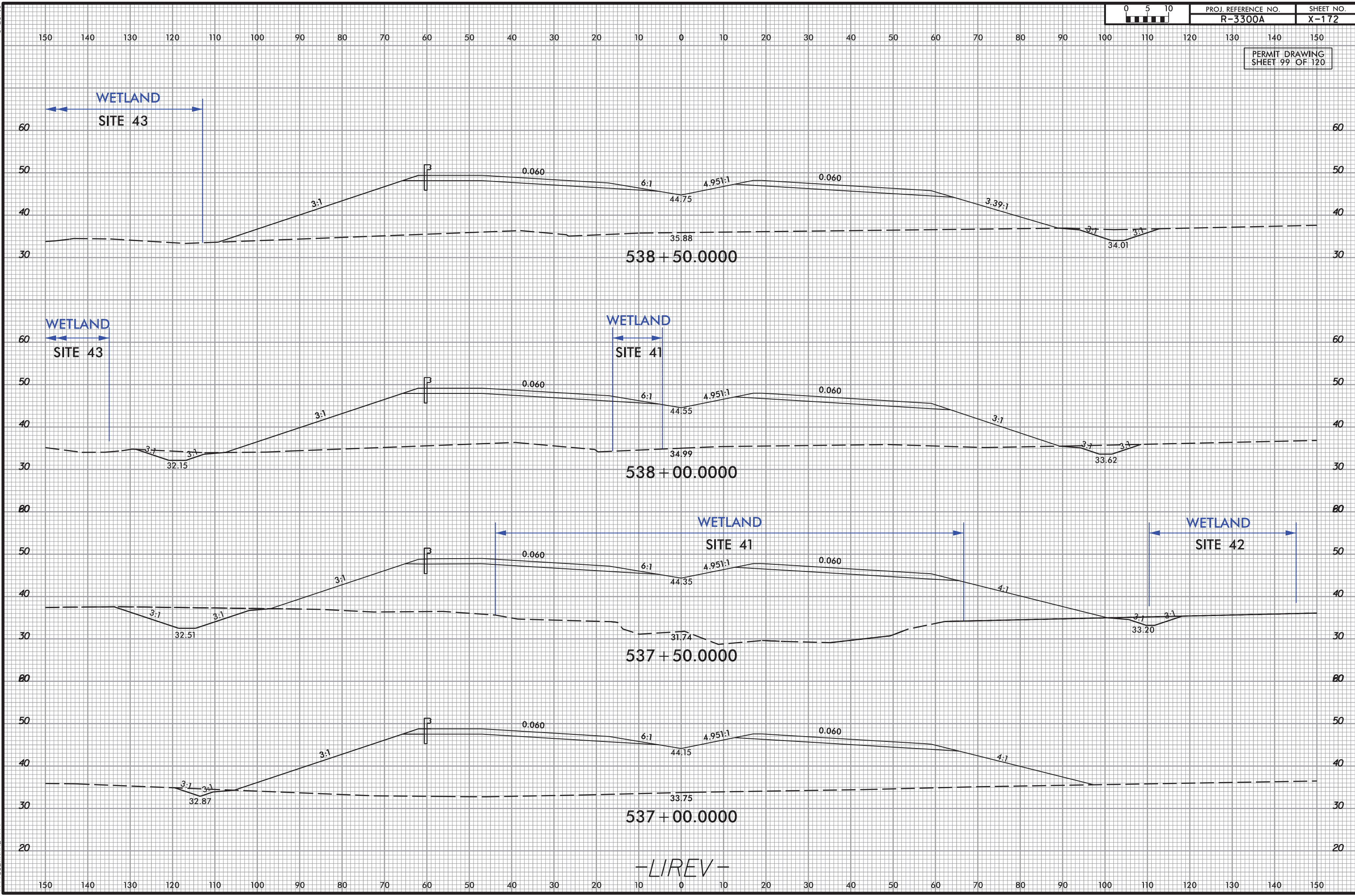
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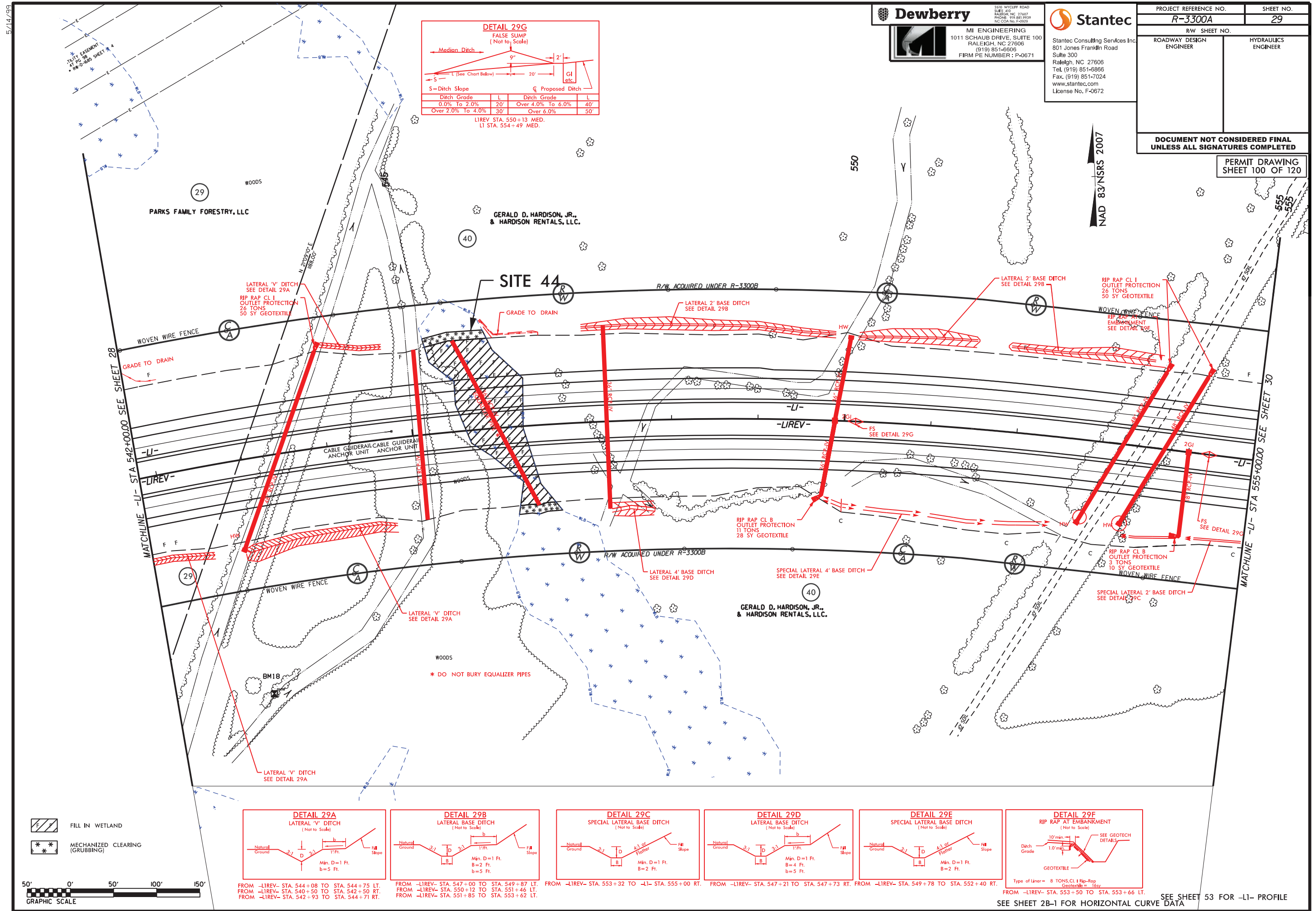


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12/15/2023
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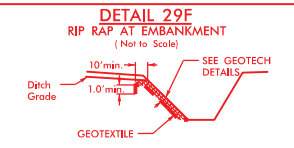
7/31/2024
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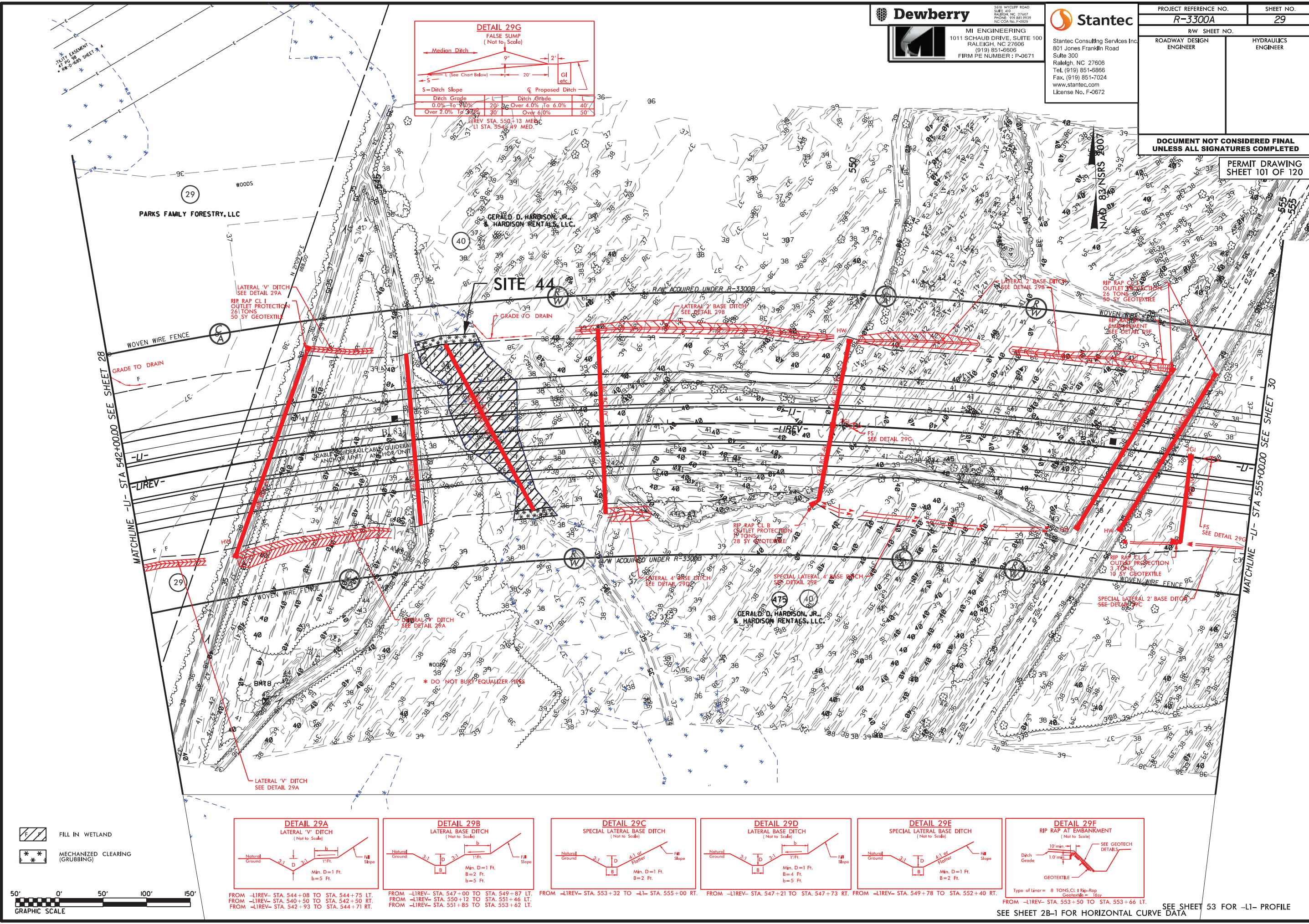
50' 0' 50' 100' 150'

GRAPHIC SCALE



OM -L1REV- STA. 553+50 TO STA. 553+66 L

SEE SHEET 53 FOR -L1- PROFILE





7/31/2024
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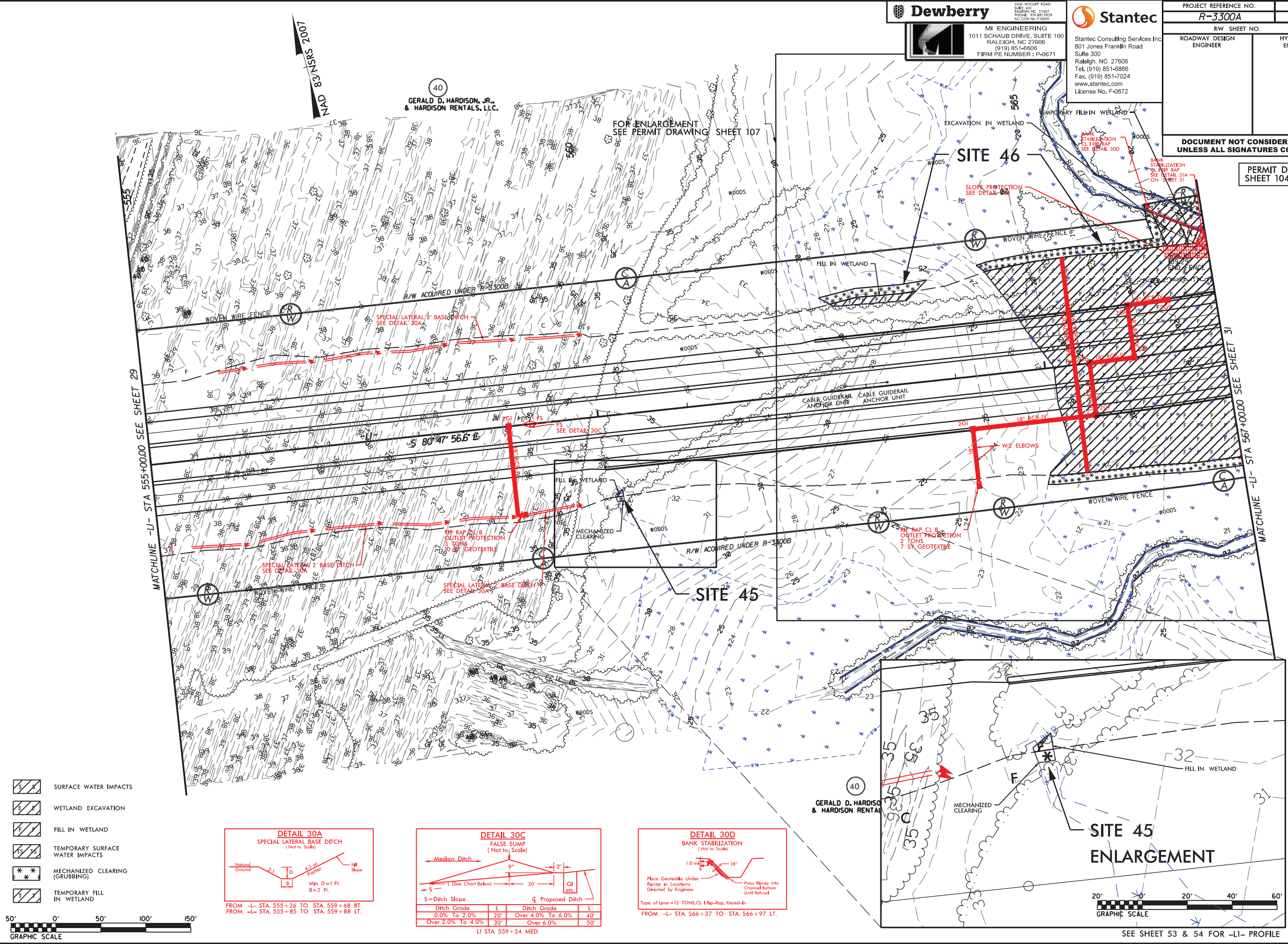
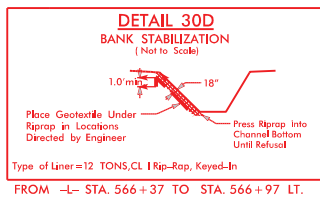
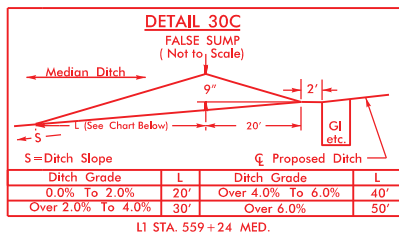
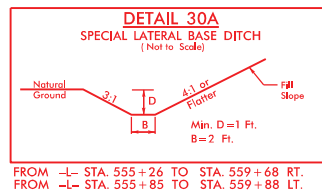
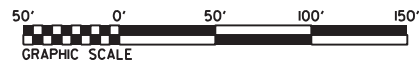
SEE SHEET 53 & 54 FOR -L1- PROFILE

11/20/2024

2/10/2024
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5/14/99

- SURFACE WATER IMPACTS
- WETLAND EXCAVATION
- FILL IN WETLAND
- TEMPORARY SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- TEMPORARY FILL IN WETLAND



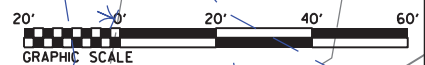
MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6806
FIRM PE NUMBER: P-0671

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PROJECT REFERENCE NO.		SHEET NO.
R-3300A		30
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

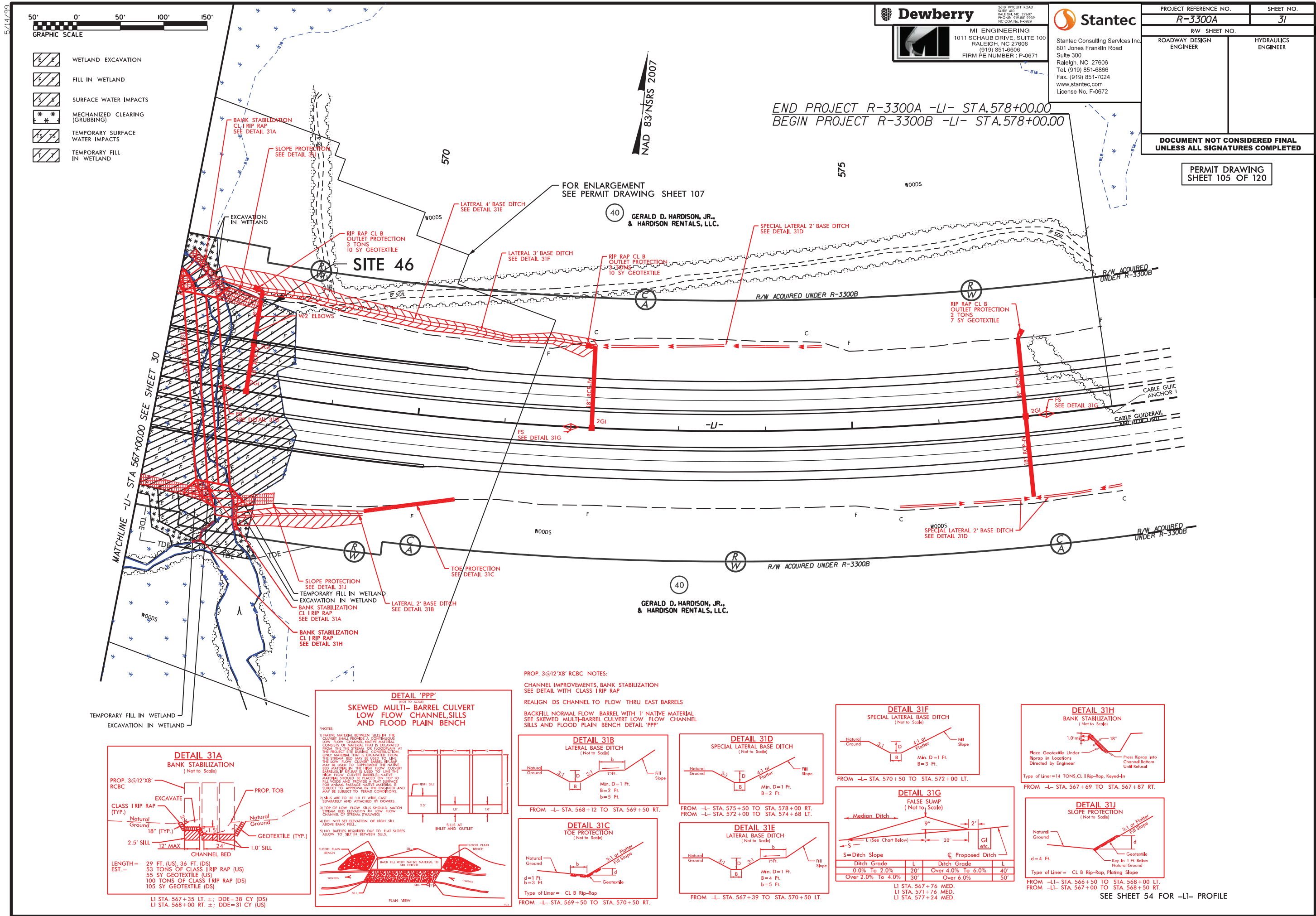
PERMIT DRAWING
SHEET 104 OF 120

SITE 45
ENLARGEMENT

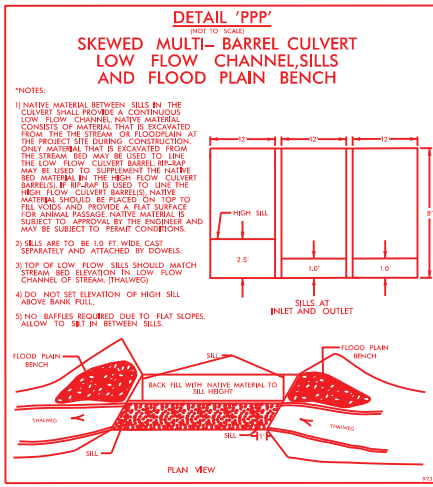
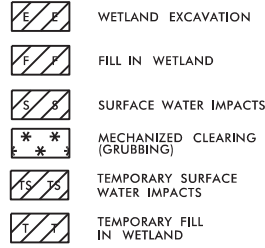


SEE SHEET 53 & 54 FOR -L1- PROFILE

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7/31/2024
\$USERNAME\$
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DETAIL 31C
TOE PROTECTION
 (Not to Scale)

Natural Ground

b

d

$d = 1 \text{ Ft.}$
 $b = 3 \text{ Ft.}$

3:1 or Flatter Fill Slope

Geotextile

Type of Liner = CL B Rip-Rap

FROM -L- STA. 569+50 TO STA. 570+50 RT.

DETAIL 31D
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground

3:1

D

A:1 or Flatter

Fall Slope

B

Min. D = 1 Ft.
B = 2 Ft.

DETAIL 31E
LATERAL BASE DITCH
 (Not to Scale)

Min. D = 1 Ft.
 B = 4 Ft.
 b = 5 Ft.

FROM -L- STA. 567+39 TO STA. 570+50 LT.

DETAIL 31G
FALSE SUMP
(Not to Scale)

S = Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

L1 STA. 567 + 76 MED.
 L1 STA. 571 + 76 MED.
 L1 STA. 577 + 24 MED.

DETAIL 31H
BANK STABILIZATION
 (Not to Scale)

1.0' riprap 18°

Place Geotextile Under Riprap in Locations Directed by Engineer

Press Riprap into Channel Bottom Until Refusal

Type of liner = 14 TONS, CL I Rip-Rap, Keyed-In

FROM -L- STA. 567+69 TO STA. 567+87 RT.

DETAIL 311
SLOPE PROTECTION
 (Not to Scale)

Natural Ground

3:1 or Flatter Fill Slope

Geotextile

Key-In 1 Ft. Below Natural Ground

d = 4 Ft.

Type of Liner =	CL B Rip-Rap, Plating Slope
-----------------	-----------------------------

FROM	-11- STA. 566 + 50	TO	STA. 568 + 00	LT
	STA. 567 + 00		STA. 568 + 50	RT

SEE SHEET 54

SEE SHEET 54 FOR -L1- PROFILE

11/20/2024

5/14/99

NIAD 83/NSRS 2007

SITE 46

SITE 46 ENLARGEMENT

Dewberry

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671



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PROJECT REFERENCE NO. _____

R-3300A

SHEET NO.

E-30_3

RW SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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PERMIT DRAWING
SHEET 107 OF 120

	WETLAND EXCAVATION		
	FILL IN WETLAND		TEMPORARY FILL IN WETLAND
	SURFACE WATER IMPACTS		TEMPORARY SURFACE WATER IMPACTS
	MECHANIZED CLEARING (GRUBBING)		HAND CLEARING (NON-GRUBBING)

30' 0' 30' 60' 90'

GRAPHIC SCALE

2/31/2024 [\\USER\\NAME\$\\
\\NC Hydro\\M17006_P-3300A Hampstead Bypass\\Hydraulics\\PERMITS_Environmental\\Drawings\\R3300A_hyd_psh_E3031.dgn

11/20/2024

7/31/2024
S:\USER\NAME\S
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5/14/99



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

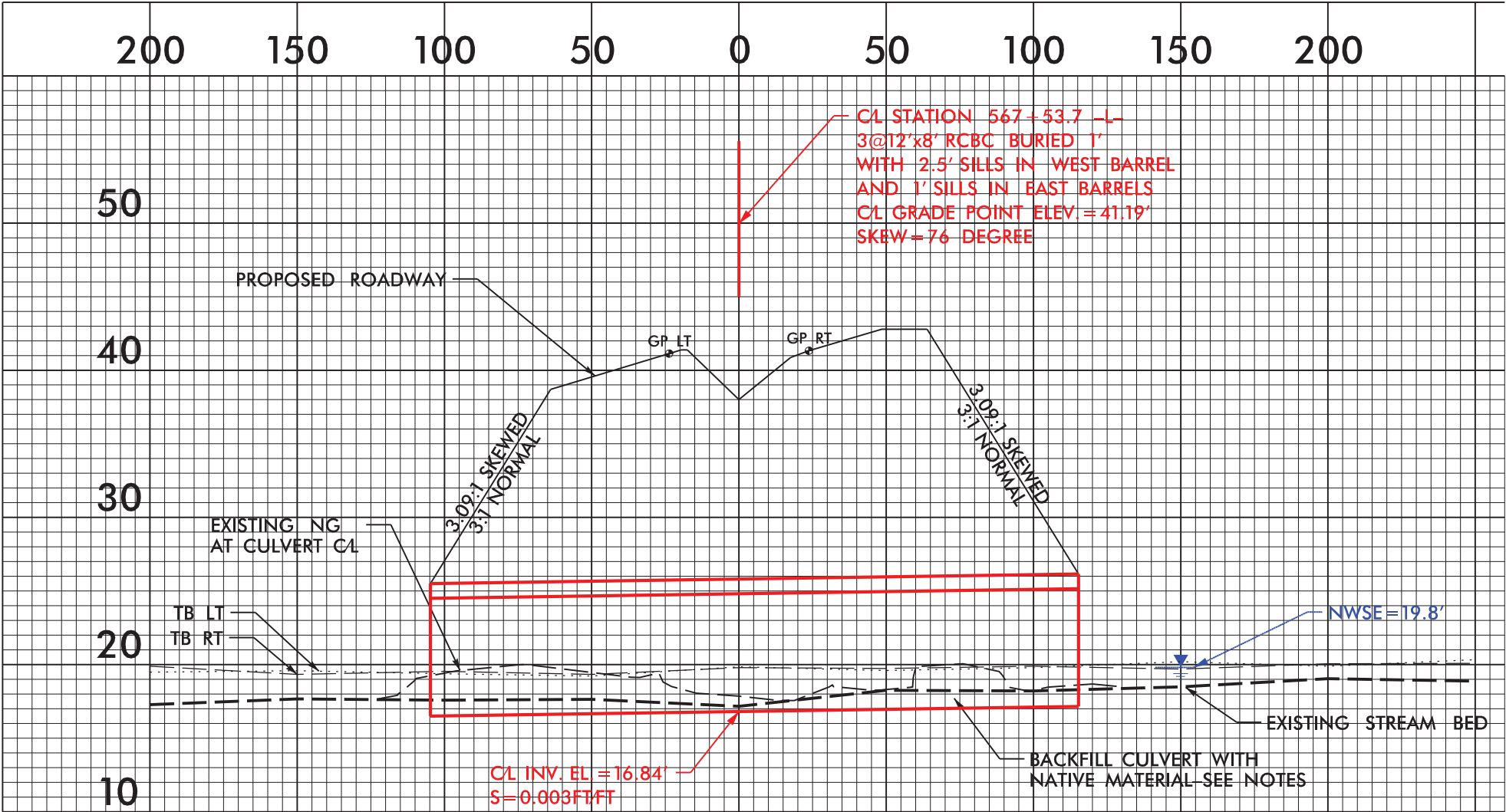


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Suite 300
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Tel. (919) 851-6866
Fax. (919) 851-7024
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PROJECT REFERENCE NO.		SHEET NO.
R-3300A		
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING
SHEET 108 OF 120

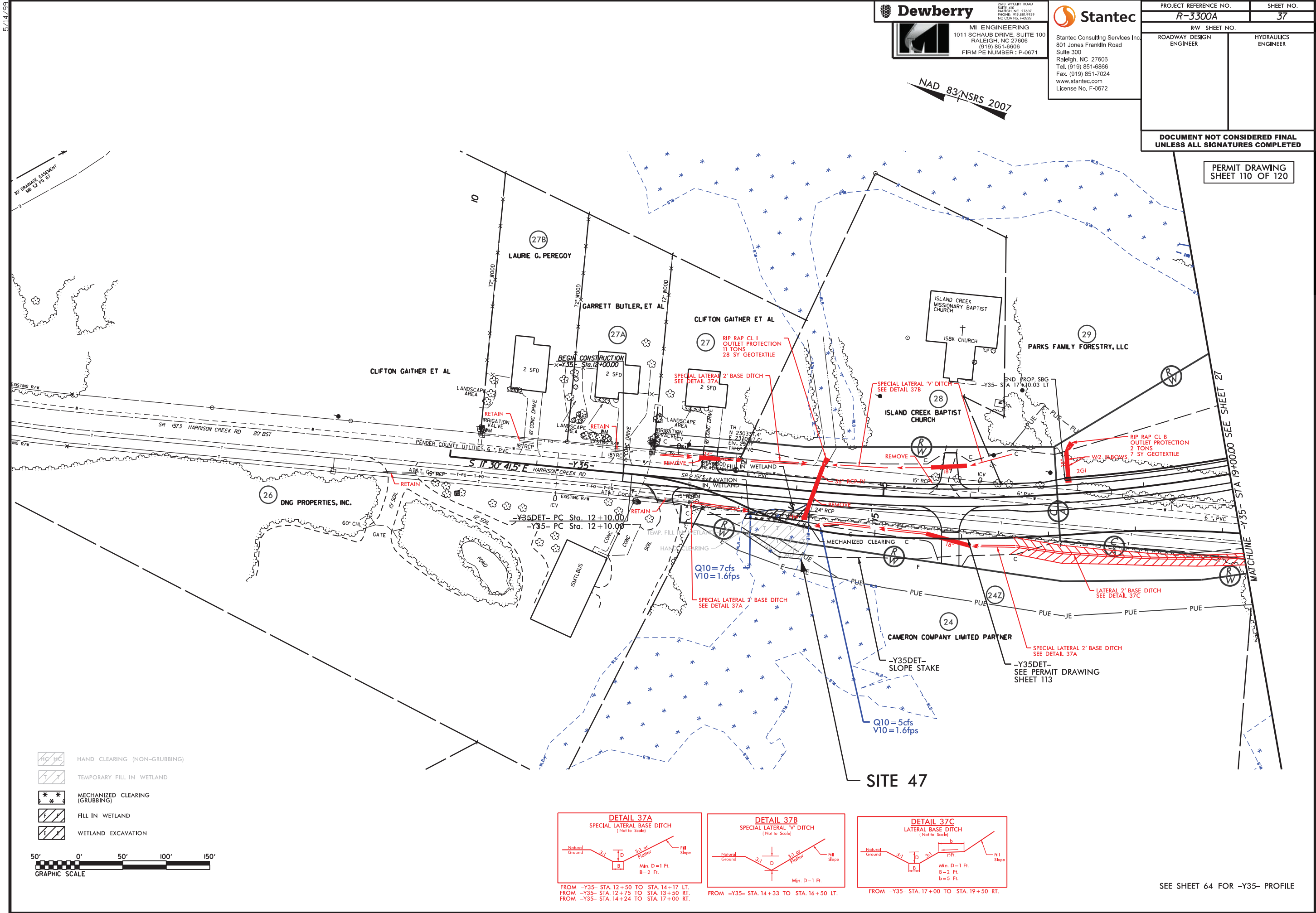
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11/20/2024

2010024
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2010024
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11/20/2024

5/14/99

2010024
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Dewberry



MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
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FIRM PE NUMBER: P-0671

2410 WYCLIFF ROAD
SUITE 401
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-26226

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Fax. (919) 851-7024
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PROJECT REFERENCE NO.

R-3300A

SHEET NO.

37

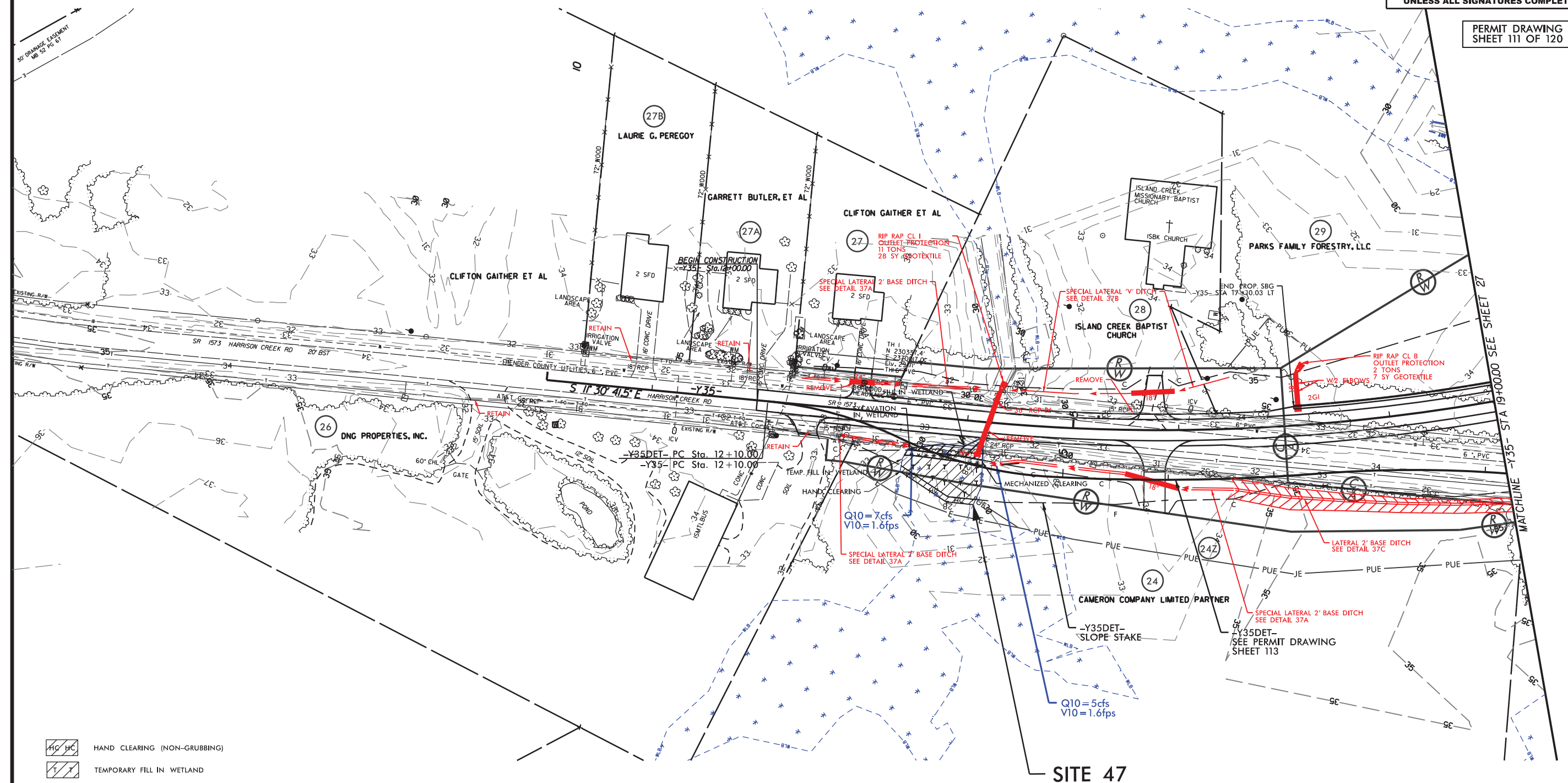
R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

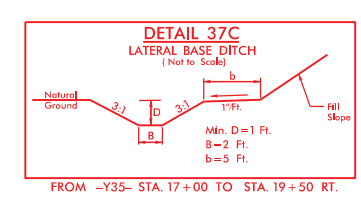
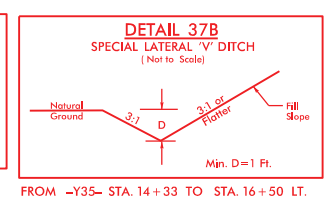
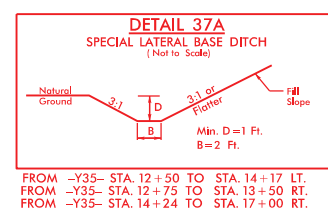
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PERMIT DRAWING
SHEET 111 OF 120



SITE 47

- HAND CLEARING (NON-GRUBBING)
- TEMPORARY FILL IN WETLAND
- MECHANIZED CLEARING (GRUBBING)
- FILL IN WETLAND
- WETLAND EXCAVATION



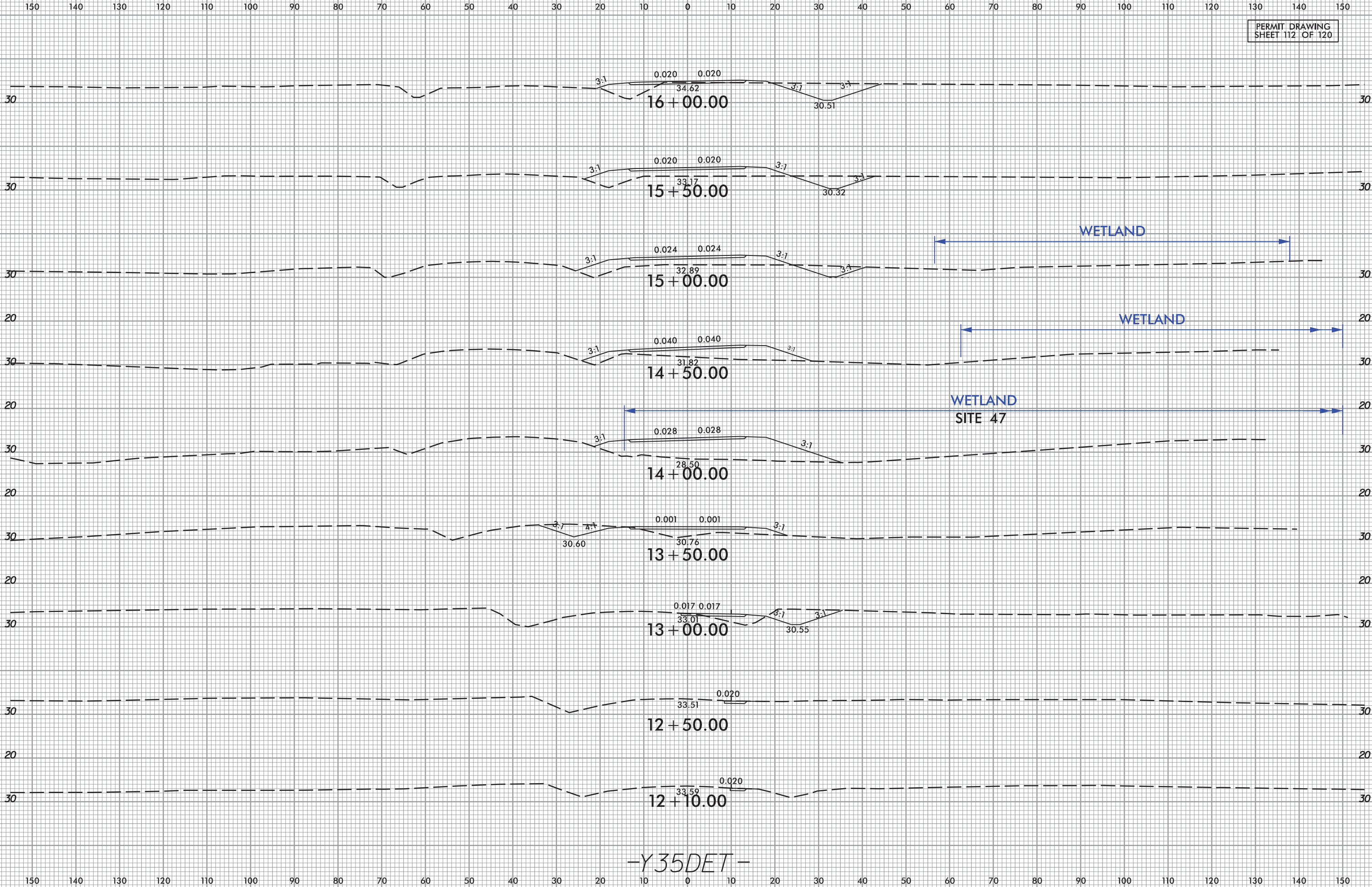
SEE SHEET 64 FOR -Y35- PROFILE

6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-3300A	X-257

PERMIT DRAWING
SHEET 112 OF 120

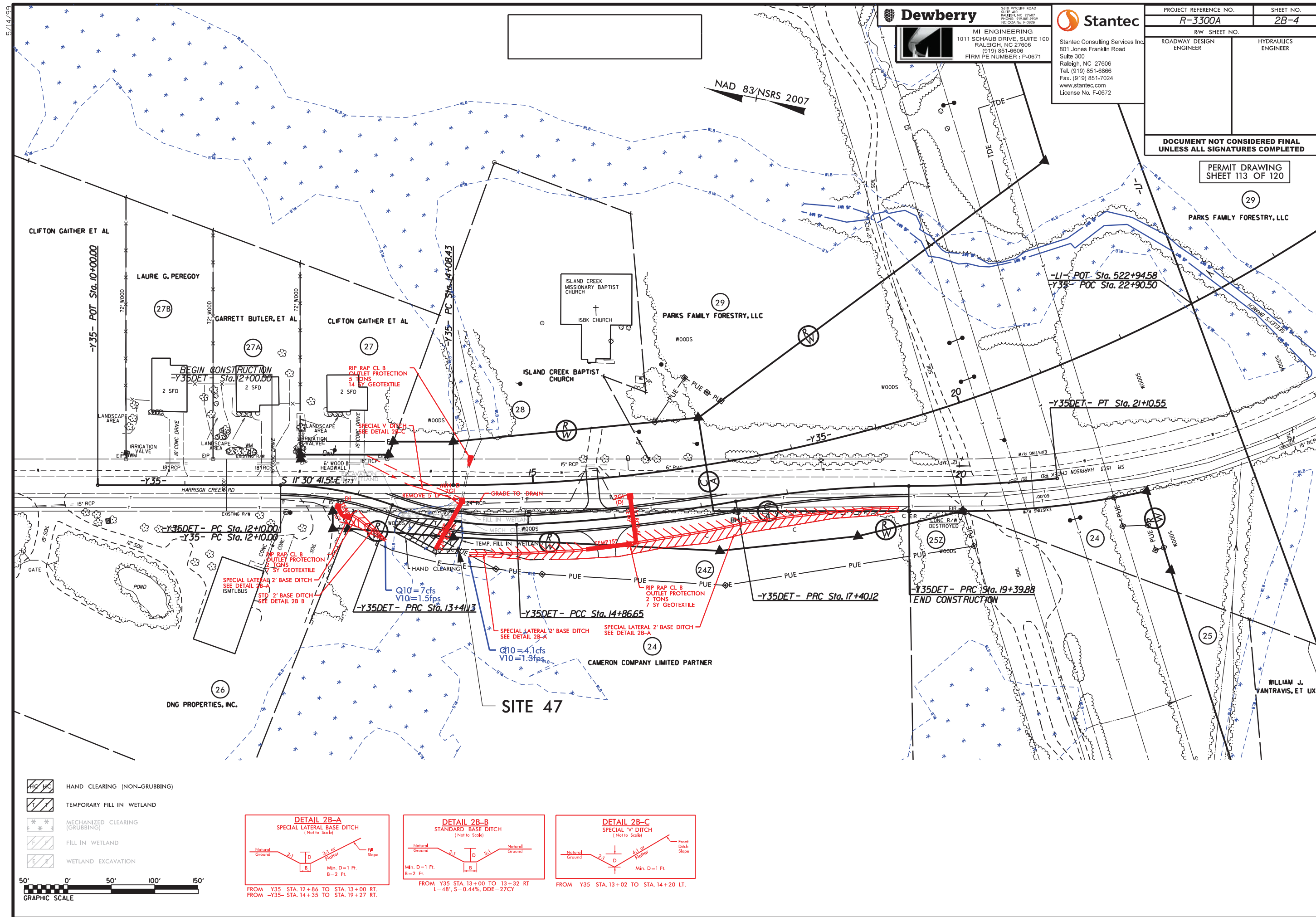


-Y35DET-

11/20/2024

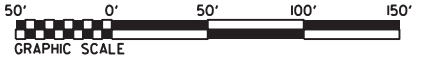
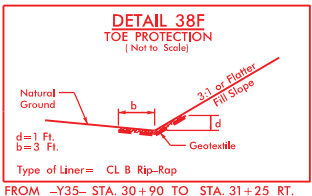
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7/31/2024
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7/31/2024
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N: \\NC Hydro\



SEE SHEET 64 FOR -Y35- PROFILE
SEE SHEET 65 FOR -SR3- PROFILE

PERMIT DRAWING
SHEET 114 OF 120

7/31/2024 \$[USERNAME]\$ N:\NC Hydra\171706 R-3300A Hampstead Bypass\Hydraulics\PERMITS Environmental\Drawings\R3300A hyd psh 38 con.dgn

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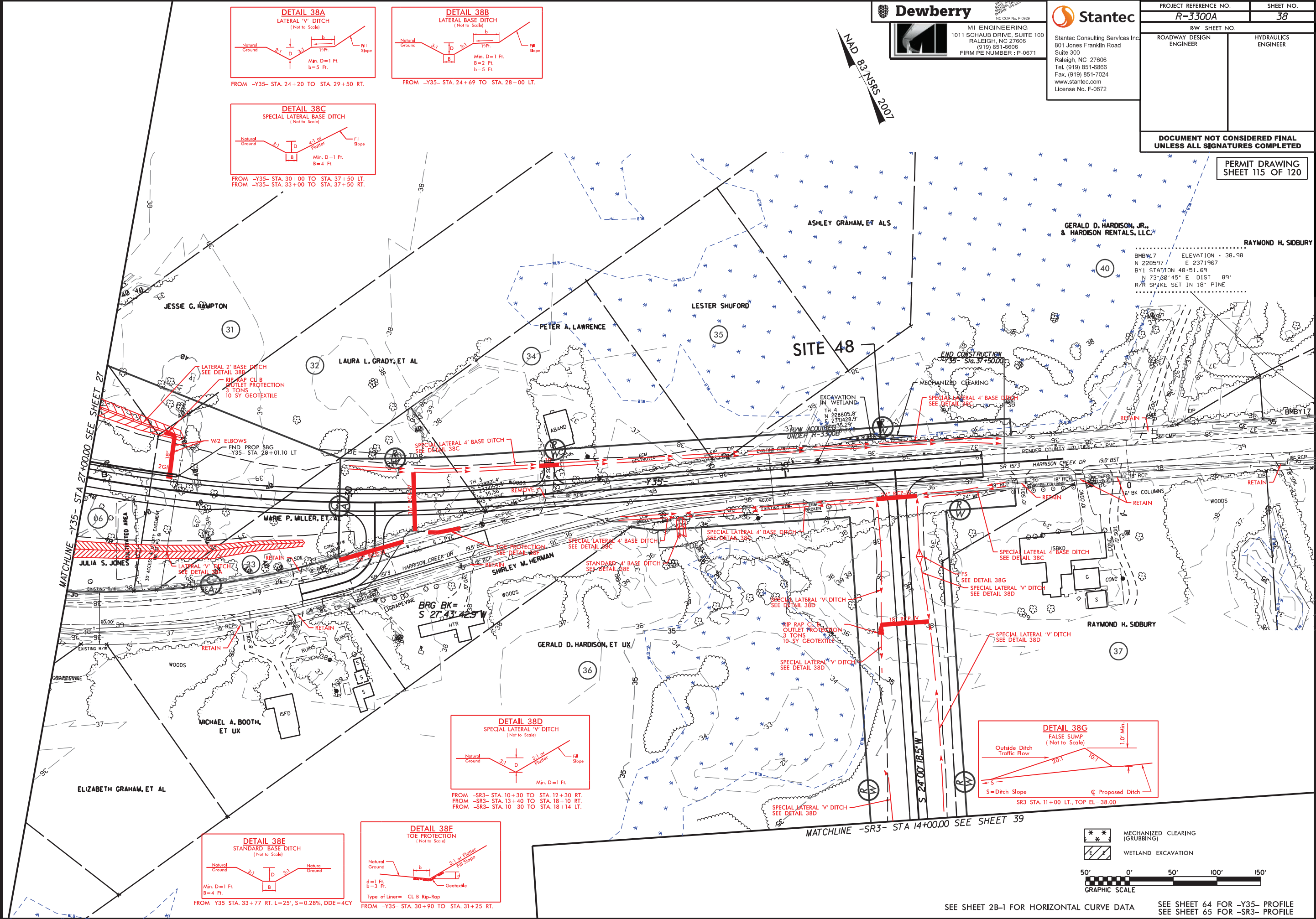


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PERMIT DRAWING
SHEET 115 OF 120



6/23/16

PERMIT DRAWING
SHEET 116 OF 120

WETLAND
SITE 48

WETLAND

36+00.00

35+50.00

35+00.00

34+50.00

34+00.00

33+50.00

33+00.00

32+50.00

-Y35-

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11/20/2024

11/20/2024

WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Site 1	Y33RPCA 23+50 TO Y33LPC 21+45 IMPACTS LOCATED AT Y33RPCA FILL, Y33LPC FILL, AND DITCH INSIDE Y33LPC	Roadway Fill	4.493		0.205	0.476						
Site 2	Y33RPCA 29+35 RT TO 30+87 LT, Y33LPC 5+47 TO 8+09 RT	Roadway Fill	0.672		0.016	0.036						
Site 2	L1 216+22 LT	Bank Stabilization						0.002	0.002			
Site 3	Y33 77+38 LT	Bank Stabilization						0.049	0.021	89	27	
Site 49	Y33 100+10 LT	Bank Stabilization						0.004	0.007	14	15	
Site 52	Y33 101+22 TO 101+65 LT	Roadway Fill				0.017						
Site 4	Y33RPB 15+70 TO 14+00 RT	Roadway Fill	0.103			0.022						
Site 5	L 234+23 TO 243+02 RT	Roadway Fill						0.440				
Site 6	Y33RPCA 47+84 LT TO 49+50 LT	Bank Stabilization						0.108		300		
Site 6	Y33RPCA 49+50 LT TO 58+15 RT	Roadway Fill**						0.592	0.021	940	36	
Site 7	L1 249+91 TO 254+73	Roadway Fill	1.655		0.009	0.126						
Site 7	L1 253+29 LT	Bank Stabilization						0.030	0.013	77	30	
Site 7	L1 253+29	2-9'X7' RCBC						0.096		226		
Site 7		Temp. Diversion Channel***			0.040		0.017					
Site 7	L1 252+86 RT	Bank Stabilization						0.027	0.003	75	12	
Site 8	L1 254+84 TO 260+33	36" Pipe/Roadway Fill	2.188		0.030	0.224						
Site 8	L1 258+25 LT	Bank Stabilization						0.003	0.002	20	10	
Site 9	L1 282+72 TO 285+60	Roadway Fill	0.605				0.097					
Site 9	L1 283+46	3-12'X7' RCBC						0.088	0.016	375	93	
Site 10	L1 306+20 LT	Bank Stabilization						0.013	0.005	50	17	
Site 10	L1 306+00	7'X5' RCBC						0.059		182		
Sub Totals*:			9.716		0.300	0.901	0.114	1.511	0.090	2348	240	

NOTES:

** Site 6 - 916 LF of stream channel will be relocated to partially offset the 940 lf of permanent stream impacts at this site. The remaining 24 LF of stream loss will require mitigation at 1:1 per email correspondence from DWR and USACE on 4/30/21.

*** Temporary Excavation Impact for the Diversion Channel

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40237.1.1

SHEET117OF120

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WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Site 10	L1 305+81 RT	Bank Stabilization						0.017	0.002	53	8	
Site 11	L1 312+06 TO 312+33 LT	Outlet Protection (keyed in)						0.006	0.028	22	56	
Site 11	L1 313+03	48" Pipe (JS mit)						0.029		107		
Site 11	L1 313+03	48" Pipe (JS non-mit)						0.122	0.013			
Site 11	L1 312+20 LT TO 315+52 RT	Roadway Fill	0.278			0.031						
Site 12	L1 335+64 to 337+84 LT	Roadway Fill	0.211			0.045						
Site 13	L1 337+91 TO 350+22RT	Roadway Fill	3.762				0.405					
Site 50	SR2 14+30	24" Pipe	0.005				0.022					
Site 14	L1 350+22 RT to 353+09 LT	Roadway Fill	0.918		0.057		0.040					
Site 15	SR1 14+86 LT	Bank Stabilization						0.017	0.003	53	10	
Site 15	SR1 15+38	72" Pipe						0.073		231		
Site 15		Temp. Diversion Channel**			0.015	0.006						
Site 15	SR1 11+87 to 15+36 RT	Roadway Fill	0.332		0.004	0.018	0.005					
Site 16	Y34 12+86 to 13+92 RT	Lateral 4' Base Ditch			0.018		0.018					
Site 17	Y34 13+88 to 15+70 LT	24" Pipe	0.046		0.025		0.010					
Site 18	SR9 13+67 to 14+16	18" Pipe	0.083				0.013					
Site 19	Y34 35+75 to 36+11 RT	Special Lateral 4' Base Ditch			0.015		0.008					
Site 20	L1 357+54 to 360+80	2 @ 18" Pipe	0.758		0.005	0.037						
Site 20***	L1 358+61 to 360+03 LT	Indirect Impacts - Total Take	0.035									
Site 51	Y34DET 33+42 to 34+04 LT	Roadway Fill	0.001				0.011					
Sub Totals*:			6.429		0.139	0.137	0.532	0.264	0.046	466	74	

NOTES:
** Temporary Excavation Impact for the Diversion Channel
*** Site 20: Total Site Impact of 0.79 acres includes 0.76 acres of direct impacts and 0.03 acres of indirect impacts. Total Take impacts 1:1 mitigation.

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WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Site 21 **	L1 383+67 LT - 385+75 LT	Dual 2@115', 72" MBT	0.110		0.025	0.079	0.075	0.009		61		
Site 21	L1 383+85 LT - 385+20 LT	Bank Stabilization			0.006	0.004		0.003	0.007	42	26	
Site 21	L1 385+75 LT - 389+03 RT	54" RCP & 2@18" RCP	0.620		0.021	0.076		0.035	0.003	219	37	
Site 22	L1 394+75 LT - 397+33 RT	54" RCP	0.196		0.008	0.044						
Site 23	L1 399+85 LT - 401+69 RT	30" RCP	0.192		0.002	0.020						
Site 24	L1 408+64 LT - 412+19 RT	18" RCP	0.384		0.006	0.003						
Site 25	L1 412+20 LT - 414+78 LT	Roadway fill	0.240			0.013						
Site 25	L1 414+86 LT - 415+77 LT	36" RCP	0.134			0.014						
Site 26	L1 415+39 RT - 415+69 RT	36" RCP				0.003						
Site 27 ***	L1 425+74 RT - 429+10 LT	Dual 1@125',1@117', 72" MBT	0.192		0.023	0.111	0.415					
Site 27	L1 428+70 RT - 429+37 LT	Roadway fill	0.020			0.002						
Site 28	L1 434+12 LT - 436+70 RT	48" RCP	0.141			0.012	0.008	0.059		235		
Site 28	L1 434+12 LT - 436+70 RT	Bank Stabilization						0.005	0.005	31	33	
Site 29	L1 442+28 LT - 445+38 RT	2@6'x7' RCBC	0.498	0.009	0.020	0.052	0.010	0.079		273		
Site 29 ****	L1 442+28 LT - 445+38 RT	Bank Stabilization			0.022			0.012	0.001	80	8	
Site 30	L1 447+37 RT - 451+09 LT	Roadway fill	0.625			0.031						
Site 31	L1 452+05 RT - 452+66 RT	24" RCP	0.070		0.002	0.010						
Site 32	L1 454+25 LT - 455+48 LT	30" RCP	0.106		0.004	0.009						
Site 33	L1 455+52 RT - 467+46 RT	Roadway fill & 2@36" RCP	0.798		0.017	0.061						
Site 34	L1 467+39 LT - 470+68 RT	Roadway fill & 36" RCP	0.197			0.015						
Site 35	L1 469+64 LT - 485+61 RT	5@36" RCP	5.599		0.002	0.434						
Site 36	L1REV 518+59 LT - 520+73 RT	Roadway fill	0.108			0.005						
Sub Totals*:			10.230	0.009	0.158	0.998	0.508	0.202	0.016	941	104	

NOTES:

- ** Site 21: Temp. work brg, "Temp Fill in Wetlands" (14HP piles): 40 sf total. (not included in quantities above)
- *** Site 27: Temp. work brg, "Temp Fill in Wetlands": (14HP piles) 244sf total. (not included in quantities above)
- *** Site 27: Temp. work brg, "Temp Fill in SW": (14HP piles) 20 sf total. (not included in quantities above)
- *** Site 27: Interior Bent "Fill in Wetlands" (15@ 2'x2' sq. piles): 60 sf total. (not included in quantities above)
- *** Site 27: Within the footprint of the interior bents, a 10 ft wide swath of Temp "Excavation in Wetlands" is shown for stump removal for pile installation.
- **** Site 29: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.

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WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Site 37	L1REV 519+89 RT - Y35 20+28 LT	2@7'x8' RCBC	0.489					0.076		285		
Site 37	L1REV 519+89 RT - Y35 20+28 LT	Channel Relocation	0.242		0.081	0.054		0.068	0.007	294	30	
Site 37 **	L1REV 519+89 RT - Y35 20+28 LT	Bank Stabilization			0.020			0.024		100		
Site 38	L1REV 528+18 LT - 529+81 LT	Roadway fill	0.185			0.024						
Site 39	L1REV 532+78 RT	Roadway fill	0.023									
Site 40	L1REV 534+46 - 535+20 RT	Roadway fill	0.067									
Site 41	L1REV 537+11 - 538+10 LT	36" RCP	0.151									
Site 42	L1REV 537+60 RT	Lateral ditch			0.005	0.003						
Site 42 ***	L1REV 537+60 RT **	Indirect Impacts - Total Take			0.010							
Site 43	L1REV 538+02 - 538+47 LT	Lateral ditch	0.006		0.005	0.015						
Site 44	L1REV 545+23 LT - 546+61 RT	36" RCP	0.268			0.027						
Site 45	L1 560+15 RT	Roadway fill	0.001			0.001						
Site 46	L1 562+69 LT - 563+66 LT	Roadway fill	0.015			0.025						
Site 46	L1 564+45 LT - 568+65 RT	1@36" RCP,3@12'X8' RCBC	1.827	0.026	0.049	0.172		0.130	0.014	332	12	
Site 46 ****	L1 564+45 LT - 568+65 RT	Bank Stabilization			0.058			0.050		102		
Site 47	Y35 13+45 RT - 14+17 RT	36" RCP	0.014		0.001	0.008						
Site 47	Y35DET	Temp Detour		0.047			0.009					
Site 48	Y35 36+00 LT	Lateral ditch			0.001	0.006						
Sub Totals	THIS SHEET		3.288	0.073	0.230	0.335	0.009	0.348	0.021	1113	42	
Sub Totals	SHEETS 117-119		26.375	0.009	0.597	2.036	1.154	1.977	0.152	3755	418	
TOTALS*:			29.663	0.082	0.827	2.371	1.163	2.325	0.173	4868	460	

NOTES:

- ** Site 37: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.
- *** Site 42: Total Take - total site impact of 0.018 acres includes includes 0.008 acres of direct impacts and 0.010 acres of indirect impacts.
- **** Site 46: Temp Excavation impacts acreage includes temp fill impacts for bank stabilization shown on diversion channel.

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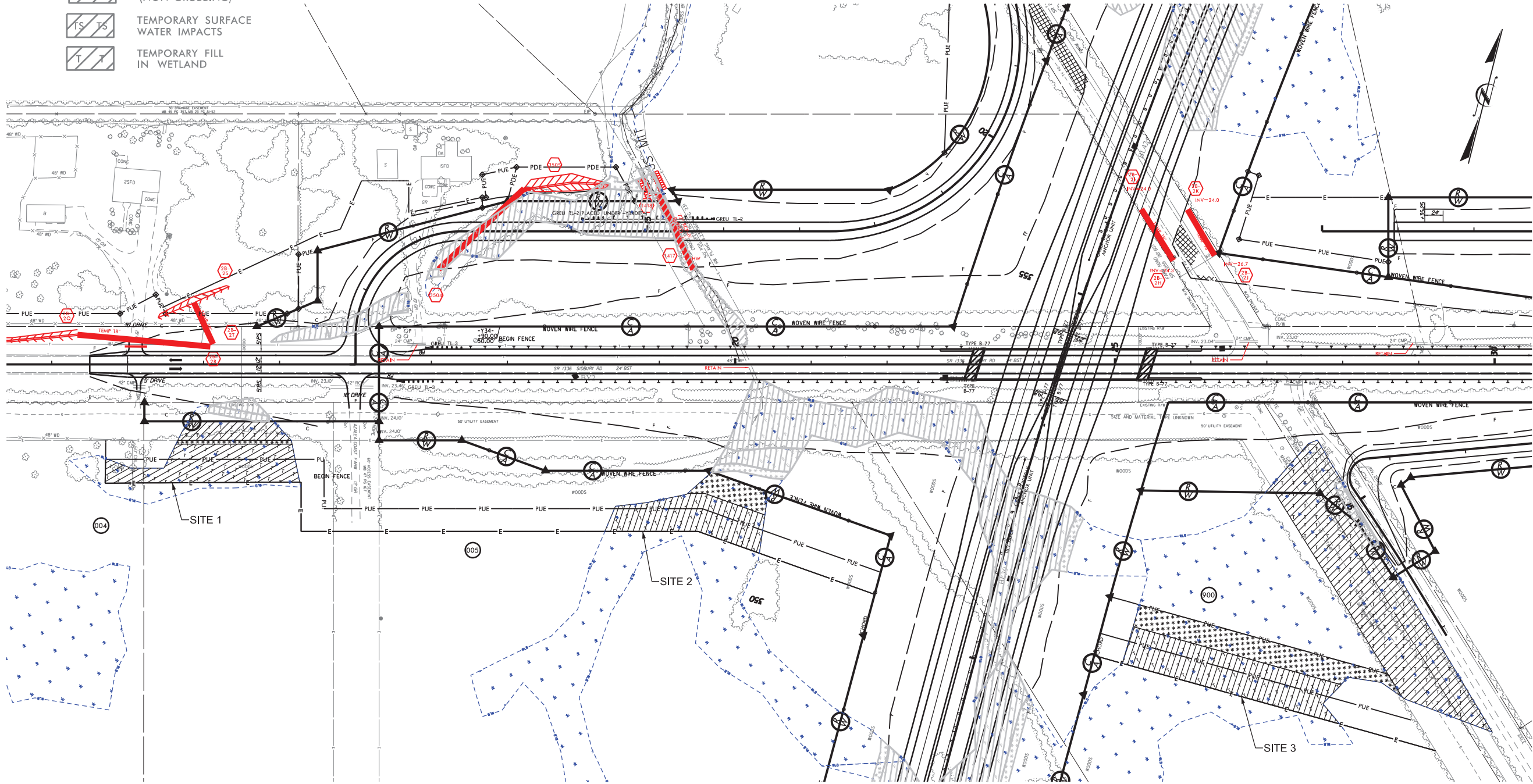
SHEET120OF120

PROJECT REFERENCE NO. <i>R-3300A</i>		SHEET NO. <i>PNG</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
PNG PERMIT DRAWING SHEET 1 OF 2		

R-3300A Impacts

- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- DENOTES TEMPORARY FILL IN WETLAND
- HAND CLEARING (NON-GRUBBING)
- TEMPORARY SURFACE WATER IMPACTS
- TEMPORARY FILL IN WETLAND

R-3300A PNG Utility Permit Drawings



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WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Site 1 **	Y34 11+71 RT TO Y34 14+26 RT	PNG GAS LINE		0.310		0.017						
Site 2 **	Y34 18+28 RT TO Y34 20+39 RT	PNG GAS LINE		0.211		0.064						
Site 3 **	Y34 25+10 RT TO Y34 29+97 RT	PNG GAS LINE		1.020		0.221						
Sub Totals*:				1.541		0.302						

*Rounded totals are sum of actual impacts

NOTES:

**Impacts are based on information and routing provided by PNG

PNG = Piedmont Natural Gas (Duke Energy)

NC DEPARTMENT OF TRANSPORTATION

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9/10/2024

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R-3300A - PNG

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