



DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

February 19, 2025

Regulatory Division/1200A

Action ID No. SAW-2021-01091

North Carolina Department of Transportation
Attn: Mr. Michael Turchy
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Turchy:

Reference the Department of the Army (DA) permit SAW-2021-01091 dated February 9, 2024, issued to the North Carolina Department of Transportation (NCDOT) for impacts associated with the construction of a 3.32 mile, two-lane, fixed-span, high-rise bridge north of the existing alignment of the Lindsay C. Warren Bridge. The project is located on US 64 approximately 12 miles west of the town of Columbia in Tyrrell County, North Carolina, (STIP HB-0001). The project area contains the Alligator River and adjacent wetlands in the Pasquotank River Basin (8-Digit Cataloging Unit 03010205).

Also reference your permit modification request letter and attachments received December 19, 2024, proposing the following:

Summary of Changes to Jurisdictional Impact Sites

Site 3:

- Added 0.01 acre of Temporary Fill

0.01 acre of temporary fill will occur with the hand clearing area to account for erosion control measures.

Site 8:

- Added 0.015 acre of Hand Clearing in Wetland

Site 8 will add 0.015 acre of hand clearing in wetlands, for a total of 0.225 acre. This is to accommodate construction of roadway on the western side of the project.

Site 9:

- Added 0.714 acre of Temporary Fill in Wetland
- Added 0.045 acre of Hand Clearing in Wetland

Site 9 will add 0.714 acre of temporary fill in wetland, for a total of 0.714 acre. There will also be an increase of 0.045 acre of hand clearing in wetland, for a total of 0.390 acre. This is to shift the proposed staging area on the western side of the project to be in line with the proposed work trestle, which will now be positioned south of the proposed bridge rather than north.

Site 10:

- Added 0.287 acre of Temporary Fill in Wetland
- Added 1.042 acre of Hand Clearing in Wetland

Site 10 will add 0.287 acre of temporary fill in wetland, for a total of 0.287 acre. There will also be an increase of 1.042 acre of hand clearing in wetland, for a total of 1.663 acre. This is to shift the proposed staging area on the eastern side of the project to be in line with the proposed work trestle, which will now be positioned south of the proposed bridge rather than north.

Site 11:

- Decreased Hand Clearing in Wetland by 0.251 acre

The amount of hand clearing at Site 11 has decreased by 0.251 acre, for a total of 0.201 acre.

Site 12

- Added 0.01 acre of Temporary Fill

0.01 acre of temporary fill will occur with the hand clearing area to account for erosion control measures.

Site 18:

- Decreased Permanent Fill in Wetland by 0.002 acre
- Decreased Permanent Surface Water Impacts by 0.062 acre

Impacts at Site 18 have decreased due to revision in impacts at the site. There will be 0.002 acre less of permanent fill in wetlands, for a total of 0.006 acre. There will also be 0.062 acre less of permanent surface water impacts, for a total of 0.136 acre.

Site 20:

- Added 0.037 acre of Temporary Fill Wetland
- Added 0.001 acre of Temporary Surface Water Impacts

Site 20 is a new site, which accounts for impacts associated with a temporary access road. This site adds 0.037 acre of temporary fill in wetland and 0.001 acre of temporary surface water impacts.

The overall effect of these changes is a decrease in permanent wetland fill (-.002 acre), an increase of temporary wetland fill (+1.04 acre), an increase in hand clearing in wetlands (+0.85 acre), a decrease in permanent surface water impacts (-.062 acre), and an increase in temporary surface water impacts (+0.001 acre).

Following evaluation of the information submitted in your modification request, the U.S. Army Corps of Engineers, Wilmington District (Corps) has determined that it is appropriate and reasonable. This decision is not contrary to the public interest, and no public notice is required for this modification. Should you have questions, please contact Mr. Kyle Barnes, Washington Regulatory Field Office at telephone (910) 251-4584, or at kyle.w.barnes@usace.army.mil.

Sincerely,

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

, FOR

Brad A. Morgan, PE
Colonel, U.S. Army
Commander, Wilmington District

Copies Furnished without Attachment:

Mr. Gary Jordan
U.S. Fish and Wildlife Services
Fish and Wildlife Enhancement
Post Office Box 33726
Raleigh, North Carolina 28516

Ms. Amanetta Somerville
U.S. Environmental Protection Agency
Region 4 NEPA Program Office
61 Forsyth Street, SW
Atlanta, Georgia 30303

Mr. Travis Wilson
North Carolina Wildlife Resources Commission
1718 Hwy 56 West
Creedmoor, North Carolina 27522

Ms. Cathy Brittingham, Transportation Project Coordinator
North Carolina Division of Coastal Management
1617 Mail Service Center

Raleigh, North Carolina 27699-1617

Mr. Lee Cannady
North Carolina Division of Coastal Management
943 Washington Square Mall
Washington, North Carolina 27889

Mr. Garcy Ward
North Carolina Division of Water Resources
943 Washington Square Mall
Washington, North Carolina 27889

Mr. Fritz Rohde
Fisheries Biologist
Southeast Region, Habitat Conservation Division NOAA Fisheries
Beaufort, North Carolina 28516

JOSH STEIN
Governor

D. REID WILSON
Secretary

RICHARD E. ROGERS, JR.
Director



January 31, 2025

Mr. Michael Turchy
Environmental Coordination and Permitting Group Leader
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for the Proposed replacement of the Lindsay C. Warren Bridge (Bridge No. 7) over the Alligator River on U.S. 64 in Tyrrell and Dare Counties, Federal Aid Project No. NHPB-0001, TIP HB-0001.
NCDWR Project No. 20230935 v.2

Dear Mr. Turchy:

Attached hereto is a modification of Certification No. WQC006059 issued to The North Carolina Department of Transportation (NCDOT) dated October 20, 2023.

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:

Handwritten signature of Susan Locklear in blue ink.

375CAE2BB9F540C...

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

cc: Kyle Barnes, USACE, Washington Field Office
Lee Cannady, NC Division of Coastal Management
Cathy Brittingham, NC Division of Coastal Management
Paul Williams, NC Department of Transportation, Division One
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Jason Elliott, NCDOT, Natural Environment Section
Garcy Ward, NC Division of Water Resources, Washington Regional Office
File Copy



Modification to the 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 impact an additional **1.9 acres** of jurisdictional wetlands in Tyrrell and Dare Counties. The project shall be constructed pursuant to the application dated received December 19, 2024. The authorized impacts are as described below:

Wetland Impacts in the Pasquotank River Basin approved with the certification dated October 20, 2023

Site	Fill Permanent (ac)	Fill Temporary (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
Previously Authorized Project Totals	9.057	--	0.025	1.774	3.268	14.124
Additional Impacts approved with this modification						
3	--	0.01	--	--	--	0.01
8	--	--	--	--	0.015	0.015
9	--	0.714	--	--	0.045	0.759
10	--	0.287	--	--	1.042	1.329
11	--	--	--	--	- 0.251	-0.251
12	--	0.01	--	--	--	0.01
18	-0.002	--	--	--	--	-0.002
20	--	0.037	--	--	--	0.037
Total additional impacts	-0.002	1.058	--	--	0.851	1.907
Adjusted Project Totals	9.055	1.058	0.025	1.774	4.119	16.031

Open Water Impacts in the Pasquotank River Basin approved with the certification dated October 20, 2023

Site	Fill Permanent (ac)	Fill Temporary (ac)	Total Open Water Impact (ac)
Previously Authorized Project Totals	0.375	0.073	0.448
Additional Impacts approved with this modification			
18	- 0.062	--	-0.062
20	--	0.001	0.001
Total additional impacts	-0.062	0.01	-0.061
Adjusted Project Totals	0.313	0.074	0.387



The application provides adequate assurance that the discharge of fill material into the waters of the Pasquotank 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 December 19, 2024. 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 perennial stream impacts, for this project (now or in the future) exceed one tenth of one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (c).

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 certification is applicable only to the additional proposed activities. All of the authorized activities and conditions associated with the Water Quality Certification dated October 20, 2023, still apply except where superseded by this certification.
2. The post-construction removal of any temporary fill or 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)]
3. 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 at Sites 9, 10, and 20. 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 to be required. [15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)]
4. 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) and (c)(2)]

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 31st day of January 2025

DIVISION OF WATER RESOURCES

Signed by:

375CAE2BB9F540C...

Richard E. Rogers, Jr., Director

WQC No. 006059



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

Permit Class
MODIFICATION/MINOR

Permit Number
136-23

STATE OF NORTH CAROLINA
Department of Environmental Quality
and
Coastal Resources Commission

Permit

for

☒ Major Development in an Area of Environmental Concern
pursuant to NCGS 113A-118

☒ Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Tyrrell/Dare County at Alligator River/AIWW, Lindsay C. Warren
Bridge on US 64, as requested in the permittee's application dated 12/19/24, including
attached workplan drawings (79): 44 dated 12/28/23; 32 dated 11/18/24; 2 dated 11/22/24; & 1 dated 11/21/24.

This permit, issued on **February 7, 2025**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

- 1) Unless specifically altered herein, this Minor Modification authorizes changes to construction access and staging on both sides of the river, and changes to the pilings on the bridge structure, including the following: (1) Reduce the number of piles for most bridge bents; (2) Change the pile size at Bents 47-52 from 36" concrete piles to 54" hollow concrete piles; (3) Establish the area in and around the Alligator River Marina as a staging area with a concrete batch plant, two material laydown areas, an office, a parking area, and a temporary access road; (4) add a loadout trestle on the west side of the Alligator River; and (5) On both sides of the Alligator River, make changes to the design and location of the two previously authorized temporary crane trestles, make changes to the amount of hand clearing and temporary fill in wetlands and waters of the State at numerous Sites, and add undercutting of approximately 68,307 cubic yards of material for the new bridge approaches, all as depicted on the attached workplan drawings. [07J .0202(c)].

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

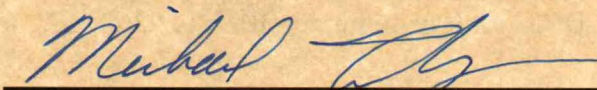
In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DEQ and the Chair of the Coastal Resources Commission.



for Tancred Miller, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

ADDITIONAL CONDITIONS

- NOTE:** In accordance with commitments made by the permittee, the revised on-site mitigation plan originally submitted with this modification request will be processed as a separate permit action at a later time.
- NOTE:** This minor modification will result in the following changes to the overall project's impacts to wetlands and waters of the State: decrease permanent wetland fill by approximately 0.002 acres; increase temporary wetland fill by approximately 1.04 acres; increase hand clearing in wetlands by approximately 0.85 acres; decrease permanent surface water impacts by approximately 0.062 acres; and increase temporary surface water impacts by approximately 0.001 acres. Impacts to Coastal Wetlands, excavation in wetlands, and mechanized clearing in wetlands have not changed.
- 2) In accordance with commitments made by the permittee, and in order to protect fisheries resources, no in-water work shall be conducted in the Alligator River from July 15 to September 30 of any year, and in addition, no in-water work shall be conducted in the deepwater channel of the Alligator River (between new bridge bents 44-57) from February 15 to June 30, without prior approval of the N.C. Division of Coastal Management (DCM), in consultation with the appropriate resource agencies. [07H .0208(a)(2)].
 - 3) No work shall occur within the Alligator National Wildlife Refuge managed by the United States Fish and Wildlife Service (USFWS) and/or the Alligator River Gameland managed by the N.C. Wildlife Resources Commission (WRC). [07J .0202(c)].
 - 4) No new land disturbing activities shall take place within 30 feet of the normal water level except for the authorized temporary construction access, without permit modification. The approved work within 30 feet of the normal water level shall be minimized to the maximum extent practicable. [07J .0202(c)].
 - 5) All construction access shall be through the use of the authorized temporary crane trestles, temporary loadout trestle, barges, temporary access road, existing bridge, high ground areas and/or the partially constructed new bridge. [07J .0202(c)].
 - 6) Any waste materials or debris generated during the authorized activities shall be disposed of at an approved upland site or shall be recycled in an environmentally appropriate manner provided appropriate authorizations are obtained from any relevant state, federal, or local authorities. [G.S 113A-120(b); 07J .0209(a)].
 - 7) In accordance with the attached workplan drawings, the authorized temporary trestles shall be elevated a minimum of 2 feet above the mean high water of the Alligator River as measured from the low chord of the structure. [07J .0202(c)].
 - 8) The installation and removal of the piles and other components for the new bridge, temporary crane trestles, temporary loadout trestle, and/or existing bridge including fender system, shall be accomplished by pile driving, vibratory hammer, and/or drilled pier. Should the permittee and/or its contractor propose to utilize another type of installation or removal, such as jetting, additional authorization from DCM shall be required. [07J .0202(c); 07J .0405(a)].

ADDITIONAL CONDITIONS

- 9) The existing bridge, including fender system, temporary crane trestles, and temporary loadout trestle, including piles, shall be removed in their entirety as soon as practicable after they are no longer needed and disposed of at an approved high ground site. However, if this timeframe occurs while the moratorium referenced in Condition No. 2 of this permit is in effect, then the permittee shall consult with DCM and the appropriate resource agencies to determine if in-water work to remove these structures may occur. [07H .0208(a)(2)].
- 10) Material excavated at the project site may be used in fill areas associated with the project once properly dewatered or shall be removed from the site and taken to an approved high ground location. [07H .0208(a)(2)].
- 11) All excavated materials shall be confined above normal water level and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids into any wetlands or surrounding waters. [07H .0208(a)(2)(B)].
- 12) The temporary placement and/or double handling of any excavated or fill material within wetlands or waters of the State is not authorized, with the exception of the temporary crane trestles, temporary loadout trestle and temporary access road. [07H .0208(a)(2)(B)].
- 13) Pilings and other components from the existing bridge, including the fender system, temporary crane trestles, and temporary loadout trestle as well as any remnant pilings from previous bridges, shall be removed in their entirety. If a piling or other component breaks during removal and cannot be removed in its entirety, it may be cut off flush with the bed of the water body, and DCM shall be notified of each occurrence within one working day. In areas within the federal navigational channel, the U.S. Coast Guard and/or the U.S. Army Corps of Engineers may have additional requirements. [07H .0208(a)(2)].
- 14) No excavation or filling shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification. [G.S 113A-120(b); 07J .0209(a); 07J .0405(a)].
- 15) All fill material shall be clean and free of any pollutants except in trace quantities. [07H .0208(a)(2)(B)].
- 16) There shall be no clearing or grubbing of wetlands outside of the areas indicated for impacts on the attached workplan drawings without prior approval from DCM. [07H .0208(a)(2)(B)].

Sedimentation and Erosion Control

- 17) Turbidity curtains shall be used to isolate work areas from the adjacent waters of the Alligator River and adjacent public trust areas, including but not limited to installation and removal of bridge piles, including the fender system, and other components, temporary crane trestles, and temporary loadout trestle. The turbidity curtains shall be sufficient to prevent a visible increase in the amount of suspended sediments in adjacent waters. The turbidity curtains shall be properly maintained and retained in the water until such a time as the areas have returned to ambient conditions. [07H .0208(a)(2); 07H .0209(d)(4)].

ADDITIONAL CONDITIONS

- 18) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and the N.C. Department of Transportation's (NCDOT's) Memorandum of Agreement with the N.C. Division of Energy, Mineral and Land Resources. [07J .0209(a)].

NOTE: An Erosion and Sedimentation Control Plan may be required for this project if upland disturbance is greater than 1 acre. Contact the Division of Energy, Mineral and Land Resources, Land Quality Section, 943 Washington Square Mall, Washington, NC 27889 for this determination.

Stormwater Management

NOTE: This project shall be constructed in accordance with the permittee's Stormwater Management Plan dated 8/7/19, and the provisions of the NCDOT's National Pollutant Discharge Elimination (NPDES) Stormwater Permit NCS000250, including the application requirements of the NCG01000.

General

- 19) Development authorized by this permit shall only be conducted on lands owned by NCDOT, appropriate utility entities, and/or Right-of-Ways and/or easements. Any necessary easements or similar legal instruments shall be obtained prior to the initiation of development. [G.S. 113-229(b)].
- 20) If a court of competent jurisdiction determines that a party other than the permittee has legal title to any part of the area approved for development under this permit, this permit shall be null and void as to the area the court determines is not owned by the permittee. This condition shall take effect on the date such court judgment becomes final. In such event, the permittee shall consult DCM prior to initiating or continuing any further development under this permit. [G.S. 113-229(b)].
- 21) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM may be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification. [07J .0201].
- 22) The permittee shall install and maintain at its expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized facilities. For further information, the permittee should contact the U.S. Coast Guard Marine Safety Office. At a minimum, permanent reflectors shall be attached to the structure in order to make it more visible during hours of darkness or inclement weather. [G.S. 113-229(e)].
- 23) All conditions and stipulations of the active permit remain in force under this minor modification unless specifically altered herein. [07J .0209(a)].

ADDITIONAL CONDITIONS

- NOTE:** A CAMA/Dredge and Fill Permit is a determination that the proposed development meets the CAMA/Dredge and Fill laws and CRC's rules for coastal development. It is not a determination of private property ownership or an authorization to trespass onto property owned by someone other than the Permittee.
- NOTE:** This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. Any development authorized under this permit that occurs prior to the expiration of the twenty (20) day appeal period or completion of an appeal process, shall be done at the permittee's risk.
- NOTE:** The permittee is strongly advised to review and understand all additional permits, approvals or authorizations that may be required, including but not limited to any permits, approvals or authorizations provided by the N.C Division of Water Resources, U.S. Army Corps of Engineers, the U.S. Coast Guard, and other state and local regulatory agencies.
- NOTE:** The N.C. Division of Water Resources (DWR) authorized the proposed project on 1/31/25 (DWR Project No. 20230935 v.2) under Water Quality Certification No. WQC006059.
- NOTE:** The U.S. Army Corps of Engineers has assigned the proposed project COE Action ID No. SAW-2021-01091.
- NOTE:** This minor modification does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required. This includes approval, if required, from the U.S. Army Corps of Engineers (USACE) and/or the U.S. Coast Guard.
- NOTE:** This Minor Modification shall be attached to the original of Permit No. 136-23, which was issued on 11/30/23, as well as the Minor Modifications which were issued on 1/19/24 and 1/13/25, and copies of all documents shall be readily available on site when a Division representative inspects the project for compliance.
- NOTE:** A minor modification application processing fee of \$100 was received by DCM for this project.

09/08/19

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C-1 For Survey Control Sheet

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TYRRELL & DARE COUNTY

LOCATION: REPLACE BRIDGE #7 ON US 64 IN TYRRELL AND
DARE COUNTIES OVER THE ALLIGATOR RIVER

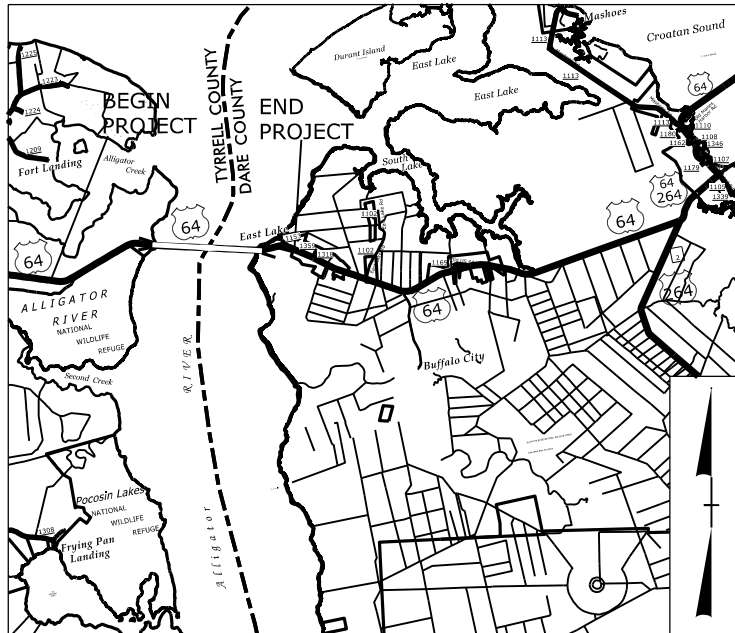
TYPE OF WORK: STRUCTURE, GRADING, PAVING, DRAINAGE

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 79

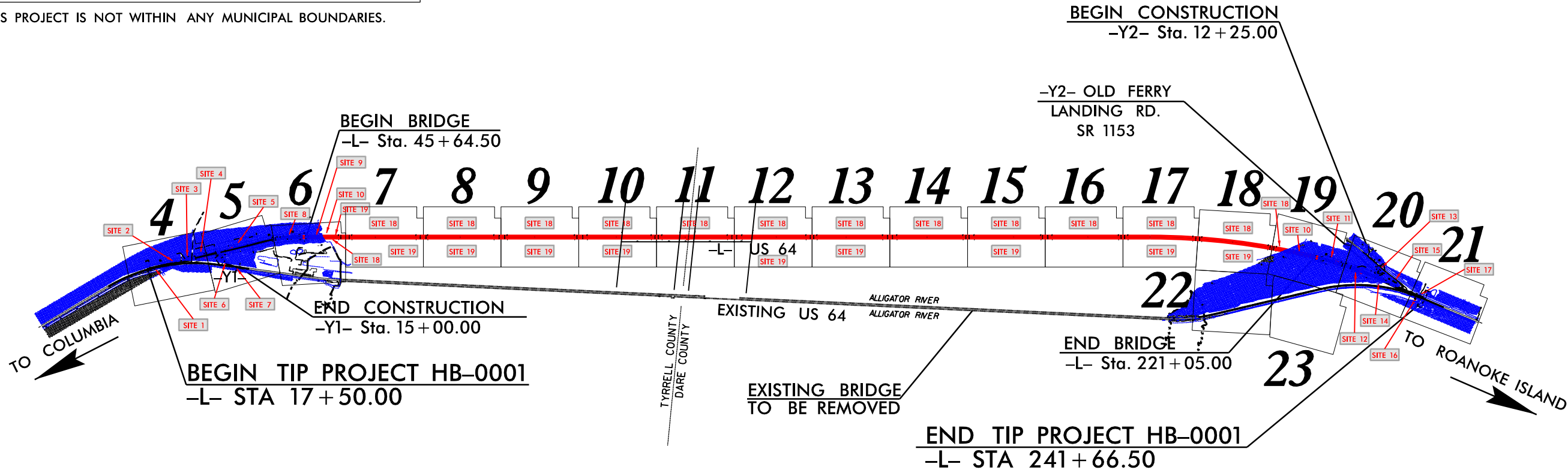
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HB-0001	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49475.1.1	NHPB-0001(156)	PE	
49475.2.1	NHPB-0001(156)	ROW	

ROW PLAN SET



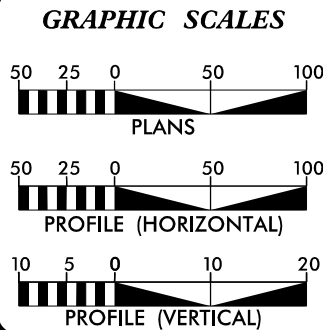
VICINITY MAP

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

CONTRACT:

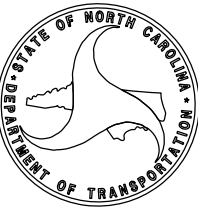


DESIGN DATA
ADT 2023 = 5734/9645**
ADT 2043 = 10400/13200**
K = 10 %
D = 60 %
T = 7 % *
V = 60 MPH
* TTST = 4% DUAL 3%
FUNC CLASS =
PRINCIPAL ARTERIAL
REGIONAL TIER
**WEEKDAY/WEEKEND

PROJECT LENGTH
TIP PROJECT HB-0001 ROADWAY LENGTH = 0.924 MILES
TIP PROJECT HB-0001 STRUCTURES LENGTH = 3.322 MILES
TIP PROJECT HB-0001 TOTAL PROJECT LENGTH = 4.246 MILES
NCDOT CONTACT: JOHN CONFORTI, REM
PROJECT MANAGER

Prepared In the Office of:
SUMMIT
320 Executive Ct.
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitnc.net
2018 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: DECEMBER 16, 2022
LETTING DATE: OCTOBER 2024
NEIL J. DEAN, PE
PROJECT ENGINEER
FAITH E. JAHNKE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.



28-DEC-2023 12:55
HB-0001-hyd-prm-tsh.dgn
patrik.hartnett

PROJECT REFERENCE NO.
HB-0001

SHEET NO.
4

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Prepared in the Office of:
SUMMIT
SUMMIT ENGINEERING & CONSULTING, INC.
320 Executive Ct.
Hillsborough, NC 27278
(919) 752-3883
(919) 752-6676 (FAX)

NC FIRM LICENSE No. P-0339

320 Executive Ct.
Hillsborough, NC 27278
(919) 752-3883
(919) 752-6676 (FAX)

PERMIT DRAWING
SHEET 3 OF 79

MATCHLINE -L- STATION 28+00.00 (SEE SHEET 5)

-L-
PI Sta 14+43.80
Δ = 17°10'13.3" (RT)
D = 1°57'30.0"
L = 876.78'
T = 441.70'
SE = 2925.74'
DS = EXIST.

BEGIN TIP PROJECT HB-0001
-L- STA 17+50.00

EXISTING FIBER OPTIC CABLES
TO REMAIN IN PLACE

THE CONSERVATION FUND
DB 214 PG 699

SITE 2

SITE 3

SITE 4

MCKEE INVESTMENTS, LLC
DB 244 PG 644

-L- PT. Sta. 18+78.88

MUTUAL GN COMPANY
DB 164 PG 100

DETAIL 4-1
BANK STABILIZATION
(Profile Scale)

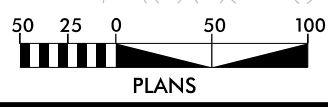
Place Geotextile Under
Riprap in Locations
Directed by Engineer

Type of Liner - 205 TONS, CL B Rip-Rap, Keyed-In

FROM STA. TO STA.

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

SEE SHEET 24 FOR -L- PROFILE

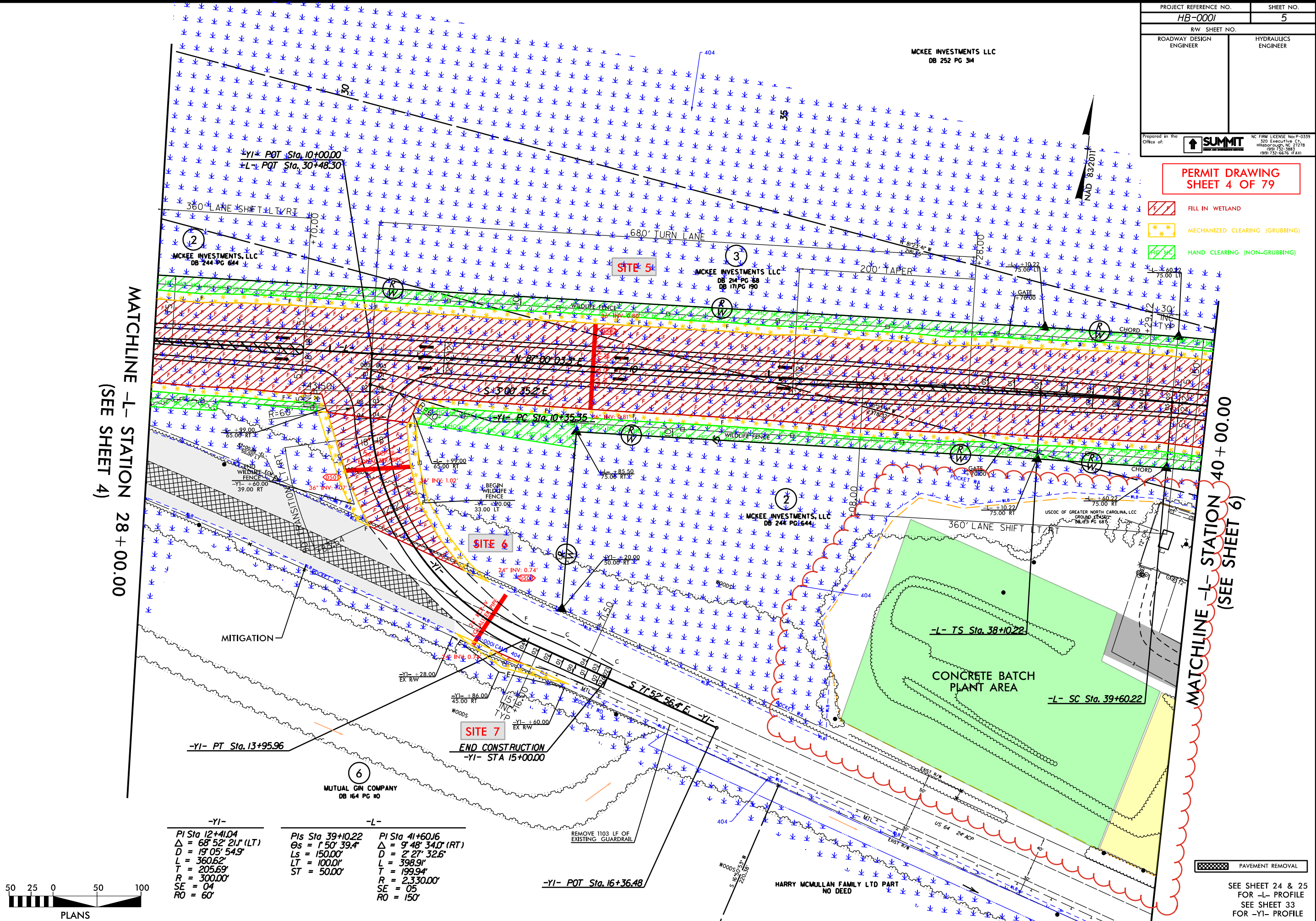


PLANS

8/17/99
28-DEC-2023 12:55
28-0001-Path-3.dgn
D:\PROJECTS\28-0001\28-0001-Path-3.dgn

PERMIT DRAWING
SHEET 4 OF 79

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



MATCHLINE -L- STATION 28+00.00
(SEE SHEET 4)

MATCHLINE -L- STATION 40+00.00
(SEE SHEET 6)

-YI-	-L-	-YI-
PI Sta 12+41.04	PIs Sta 39+10.22	PI Sta 41+60.16
$\Delta = 68^{\circ} 52' 21''$ (LT)	$\Theta_s = 1^{\circ} 50' 39.4''$	$\Delta = 9^{\circ} 48' 34.0''$ (RT)
$D = 19^{\circ} 05' 54.9''$	$L_s = 150.00'$	$D = 2^{\circ} 27' 32.6''$
$L = 360.62'$	$L = 398.91'$	$L = 199.94'$
$T = 205.69'$	$LT = 100.01'$	$R = 2,330.00'$
$R = 300.00'$	$ST = 50.00'$	$SE = 05'$
$SE = 04'$		$RO = 150'$
$RO = 60'$		



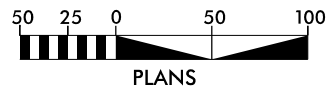
SEE SHEET 24 & 25
FOR -L- PROFILE
SEE SHEET 33
FOR -YI- PROFILE

**PERMIT DRAWING
SHEET 5 OF 79**

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

MATCHLINE -L- STATION 28+00.00
(SEE SHEET 4)

MATCHLINE -L- STATION 40+00.00
(SEE SHEET 6)



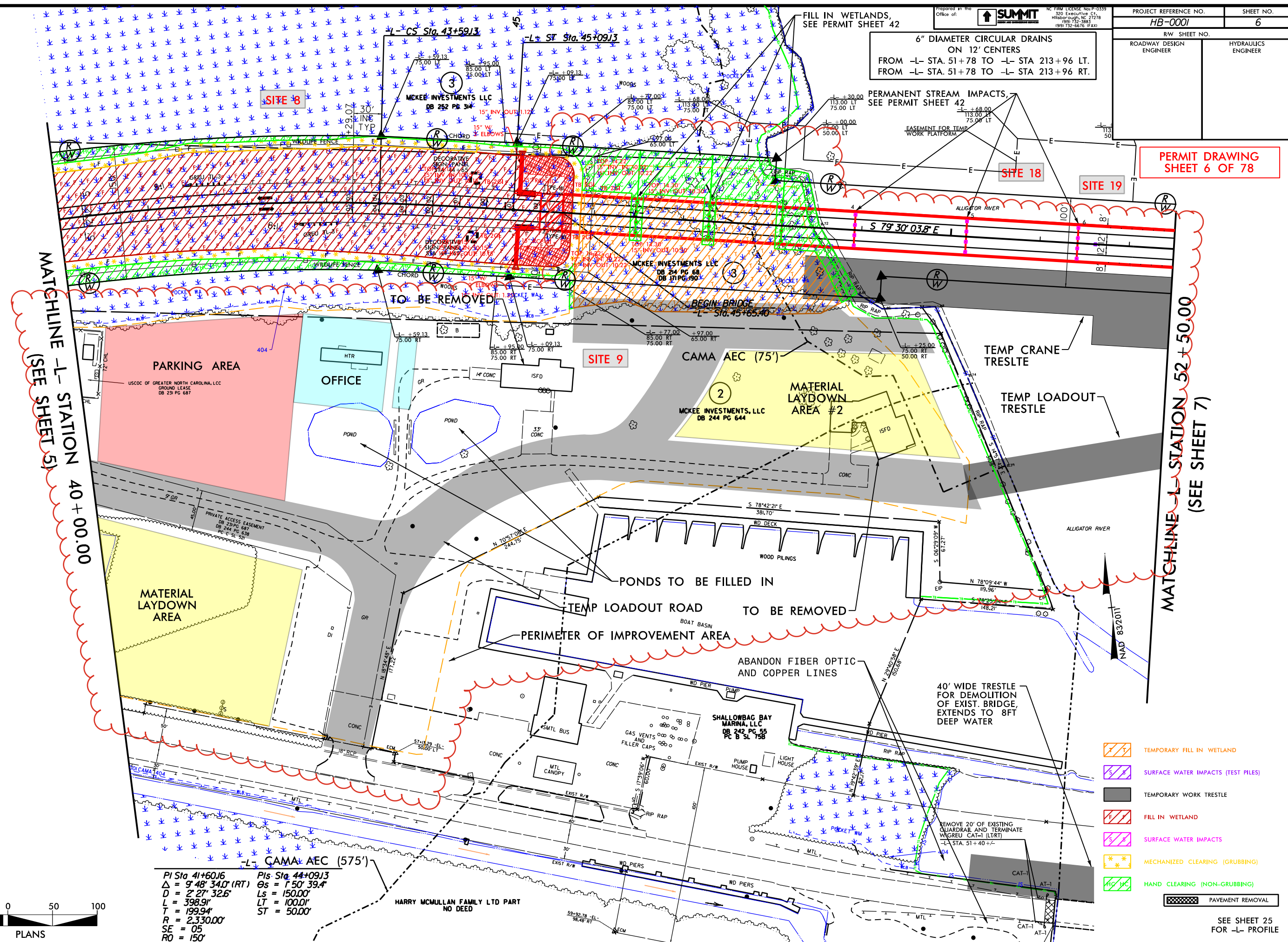
-YI-	-L-	-YI-
PI Sta 12+41.04 Δ = 68° 52' 21" (LT) D = 19° 05' 54.9" L = 360.62' T = 205.69' R = 300.00' SE = 04' RO = 60'	PI Sta 39+10.22 Δs = 1° 50' 39.4" Ls = 150.00' LT = 100.00' ST = 50.00'	PI Sta 41+60.16 Δ = 9° 48' 34.0" (RT) D = 2° 27' 32.6" L = 398.91' T = 199.94' R = 2,330.00' SE = 05' RO = 150'

PAVEMENT REMOVAL

SEE SHEET 24 & 25
FOR -L- PROFILE
SEE SHEET 33
FOR -YI- PROFILE

18-NOV-2024 10:42
HB-0001_Hyd-prm-psh_6_MOD.dgn
Josh.Ierom...

REVISIONS



18-NOV-2024 10:42
HB-0001_Hyd-prm-psh_7_MOD.dgn
Josh.Lerman

REVISIONS

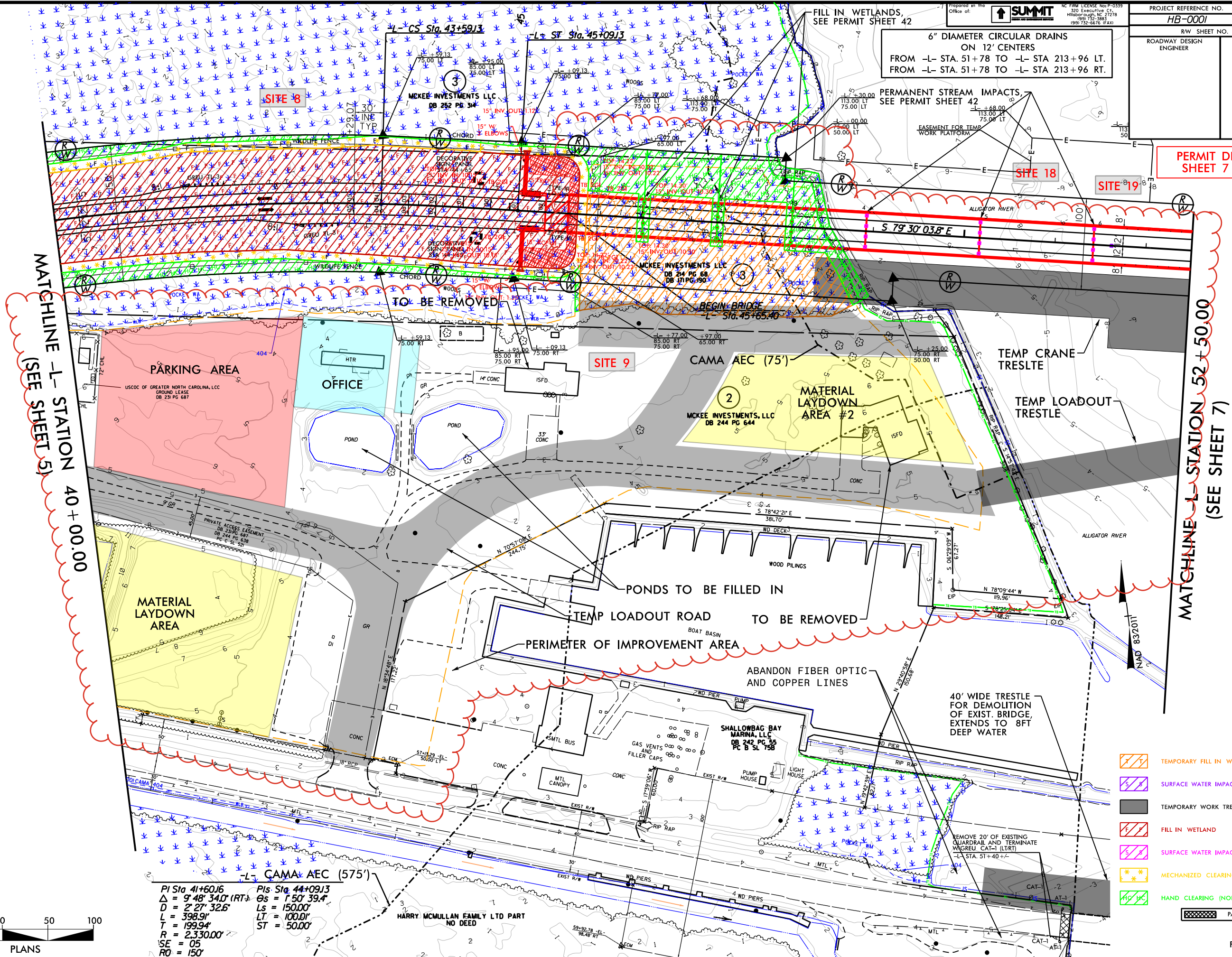
Prepared in the
Office of:

 **SUMMIT**
COURT AND ENGINEERING SERVICE

NC FIRM LICENSE No: P-0
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

PROJECT REFERENCE NO.	SHEET NO.
HB-0001	6

R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

[illegible]PERMIT DRAWING
SHEET 7 OF 79

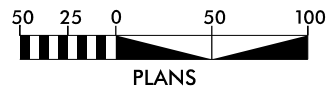
- | | |
|---|------------------------------------|
|  | TEMPORARY FILL IN WETLAND |
|  | SURFACE WATER IMPACTS (TEST PILES) |
|  | TEMPORARY WORK TRESTLE |
|  | FILL IN WETLAND |
|  | SURFACE WATER IMPACTS |
|  | MECHANIZED CLEARING (GRUBBING) |
|  | HAND CLEARING (NON-GRUBBING) |

SEE SHEET 25
FOR -L- PROFILE

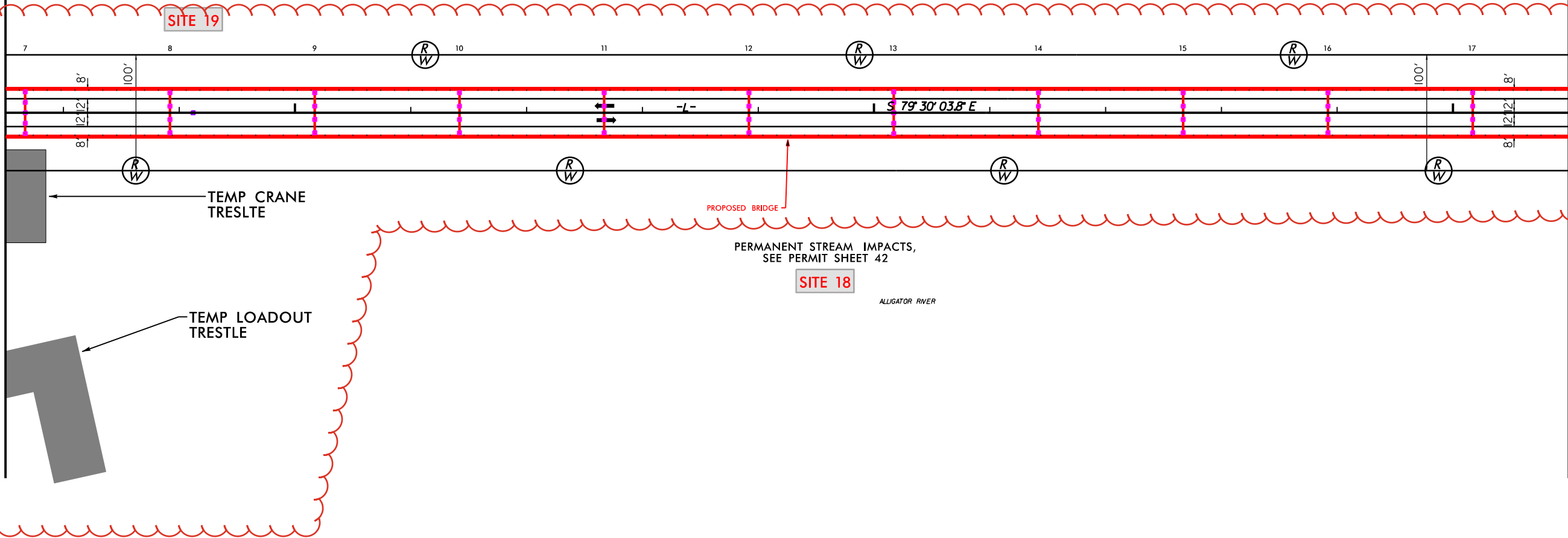
8/17/99

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HB-0001.dgn
18-NOV-2024 10:42
HB-0001.dgn
18-NOV-2024 10:42
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 52+50.00 (SEE SHEET 6)



SITE 19

SITE 18

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.



PROJECT REFERENCE NO. HB-0001		SHEET NO. 7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of: SUMMIT ENGINEERING AND CONSULTING, INC. 1000 S. 10TH ST., SUITE 100 HILLSBOROUGH, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)		NC FIRM LICENSE Nos P-0339 320 Executive CT Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 8 OF 79

- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

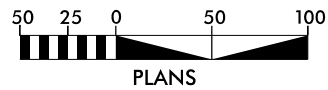
MATCHLINE -L- STATION 66+00.00
(SEE SHEET 8)

SEE SHEET 25 FOR -L- PROFILE

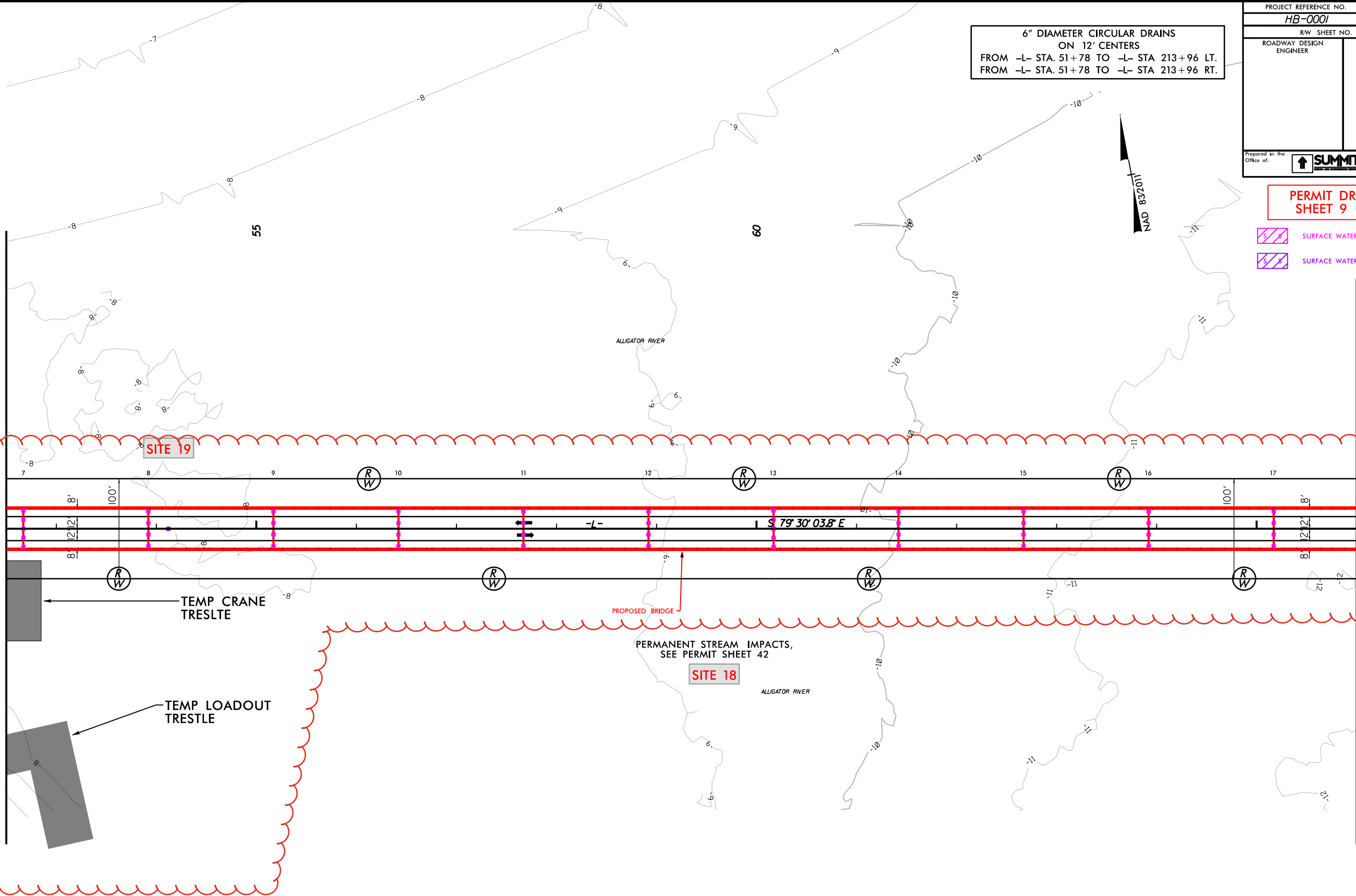
8/17/99

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18-NOV-2024 10:42
HB-0001.dgn
18-NOV-2024 10:42
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 52+50.00 (SEE SHEET 6)



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

PROJECT REFERENCE NO. HB-0001		SHEET NO. 7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
Prepared in the Office of: SUMMIT ENGINEERING & CONSTRUCTION, INC. NC FIRM LICENSE Nos P-0339 320 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)		

PERMIT DRAWING
SHEET 9 OF 79

-  SURFACE WATER IMPACTS
-  SURFACE WATER IMPACTS (TEST PILES)

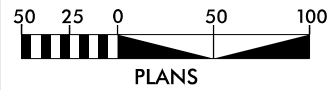
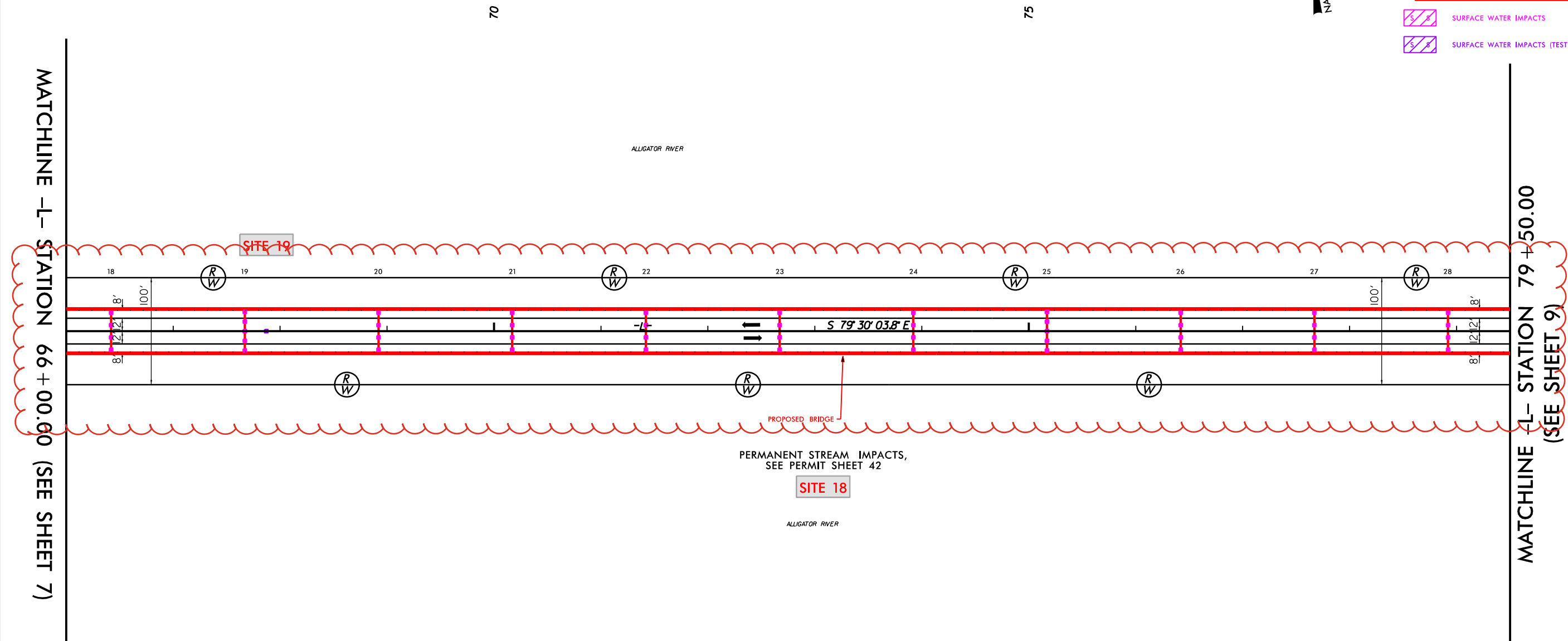
MATCHLINE -L- STATION 66+00.00
(SEE SHEET 8)

SEE SHEET 25 FOR -L- PROFILE

PERMIT DRAWING
SHEET 10 OF 79

	SURFACE WATER IMPACTS
	SURFACE WATER IMPACTS (TEST PILES)

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA. 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA. 213+96 RT.

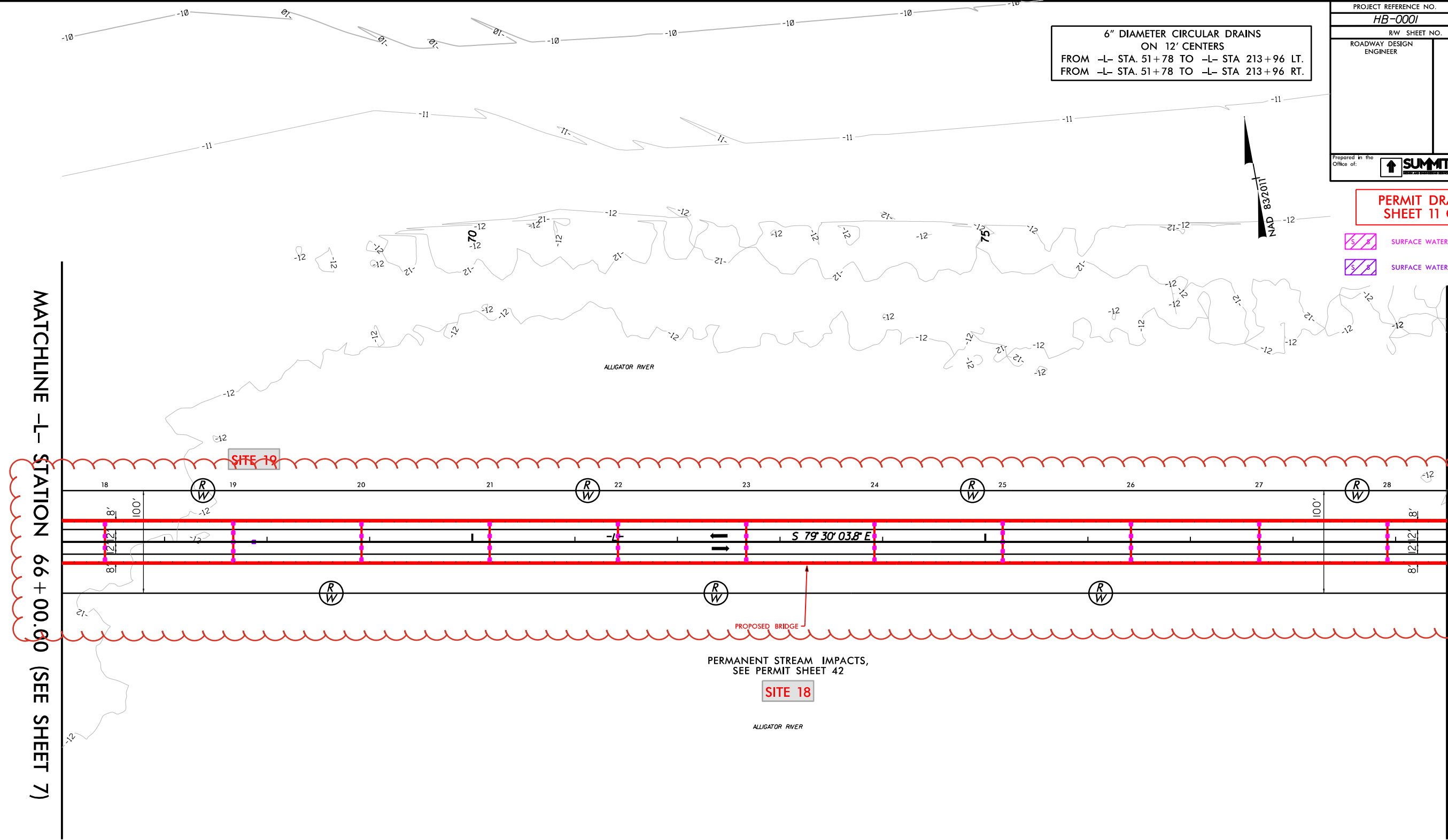


SEE SHEET 26 FOR -L- PROFILE

8/17/99

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HB-0001-11.dgn
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HB-0001-11.dgn
18-NOV-2024 09:44
HB-0001-11.dgn

REVISIONS



PROJECT REFERENCE NO.		SHEET NO.
HB-0001		8
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-2869 (919) 732-6616 (FAX)

PERMIT DRAWING
SHEET 11 OF 79

- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

SEE SHEET 26 FOR -L- PROFILE

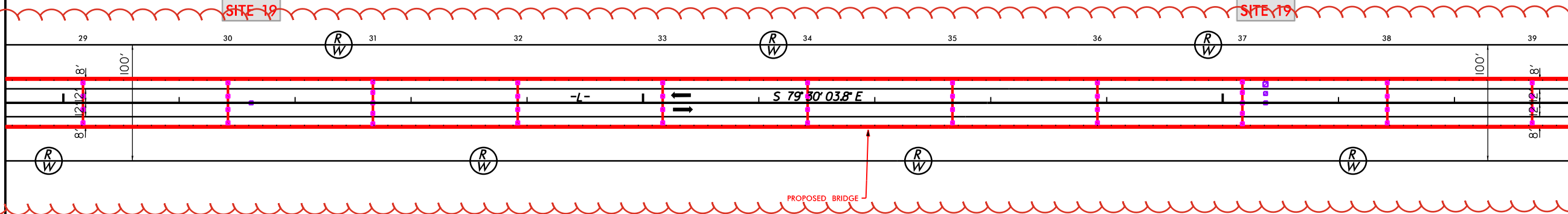
8/17/99

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HB-0001-11-12-0001-psd-12_M00.dgn
10/25/2024

REVISIONS



MATCHLINE -L- STATION 79+50.00 (SEE SHEET 8)



MATCHLINE -L- STATION 93+00.00
(SEE SHEET 10)

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.



PROJECT REFERENCE NO.		SHEET NO.
HB-0001		9
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-2869 (919) 732-6616 (FAX)

PERMIT DRAWING
SHEET 12 OF 79

- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

SEE SHEET 26 FOR -L- PROFILE

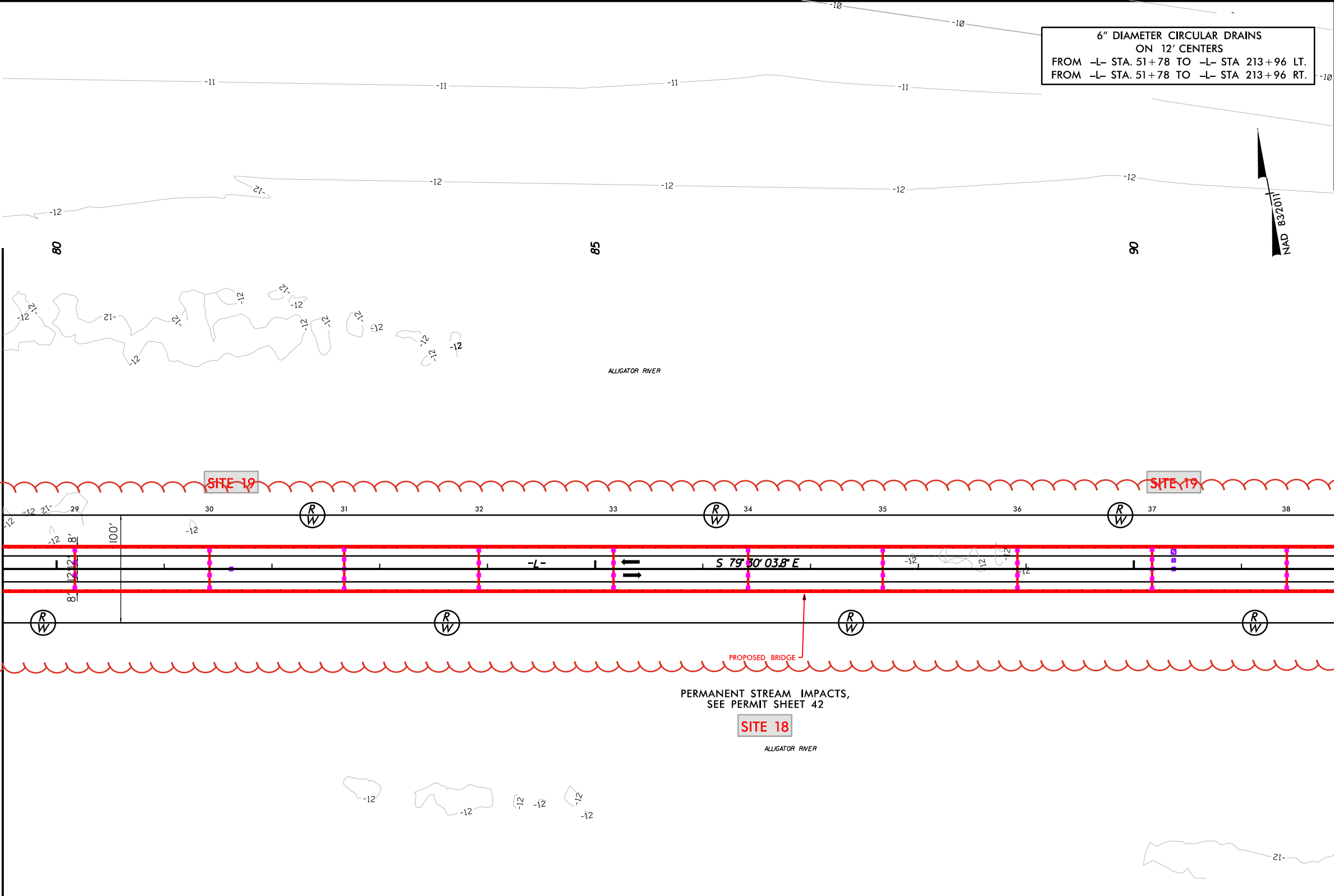
8/17/99

18-NOV-2024 09:44
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REVISIONS



MATCHLINE -L- STATION 79+50.00 (SEE SHEET 8)



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.
HB-0001		9
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-2869 (919) 732-6616 (FAX)

PERMIT DRAWING
SHEET 13 OF 79

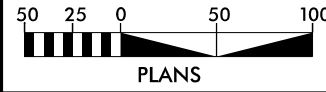
- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

MATCHLINE -L- STATION 93+00.00
(SEE SHEET 10)

SEE SHEET 26 FOR -L- PROFILE

NAD 83/2011



REVISIONS

I8-NOV-2024 09:44
HB-0001_Hyd-prm-psh-14_MOD.dgn
iosb.terrac

NAD 83/2011

MATCHLINE -L- STATION 106 + 50.00
(SEE SHEET 11)

SITE 18

PROPOSED BRIDGE -

MORATORIUM LIMIT
(FEB 15 - JUNE 30)

100/

S 79° 30' 03.8" E

1

IT SH

SITE 18

1

ALL

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

SEE SHEET 26 & 27 FOR -L- PROFILE

REVISIONS

8/17/99

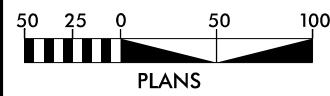
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HB-0001-Hyd-prm-psh-15-MOD.dgn
iosb.ieroloo



SUMMIT
DESIGN AND IMAGING

NC FIRM LICENSE No: P-033
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

NAD 83/2011



SEE SHEET 27 & 28 FOR -L- PROFILE

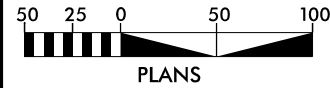
REVISIONS

3/17/99

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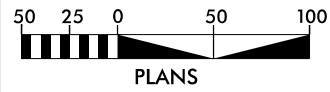
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HB-0001_Hyd-prm_psh_17_MOD.dgn

PERMIT DRAWING
SHEET 17 OF 79

 SURFACE WATER IMPACTS

SEE SHEET 27 & 28 FOR -L- PROFILE

NAD 83/2011



SEE SHEET 28 & 29 FOR -L- PROFILE

18-NOV-2024 09:44
HB-0001_Hyd-prm-psh_18.MOD.dgn
iosh.jerolgan

REVISIONS

NAD 83/2011

**MATCHLINE - L- STATION 133 + 50.00
(SEE SHEET 13)**



SITE 18



REVISIONS

8-NOV-2024 09:44
HB-0001-Hyd-prm-psh-19-MOD.dgn
iosh.fernando

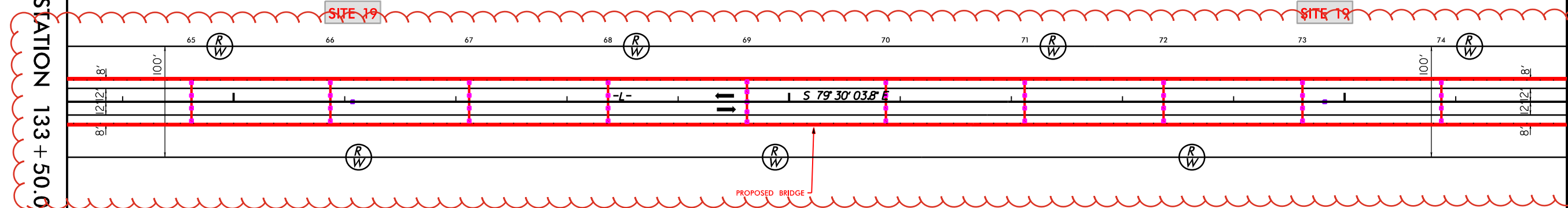
8/17/99

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lostb.levr000

REVISIONS



MATCHLINE -L- STATION 133 + 50.00 (SEE SHEET 12)



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		 SUMMIT SURVEY AND ENGINEERING SERVICES	
		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-2869 (919) 732-6616 (FAX)	

PERMIT DRAWING
SHEET 20 OF 79

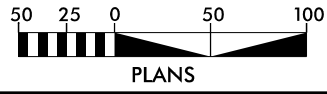
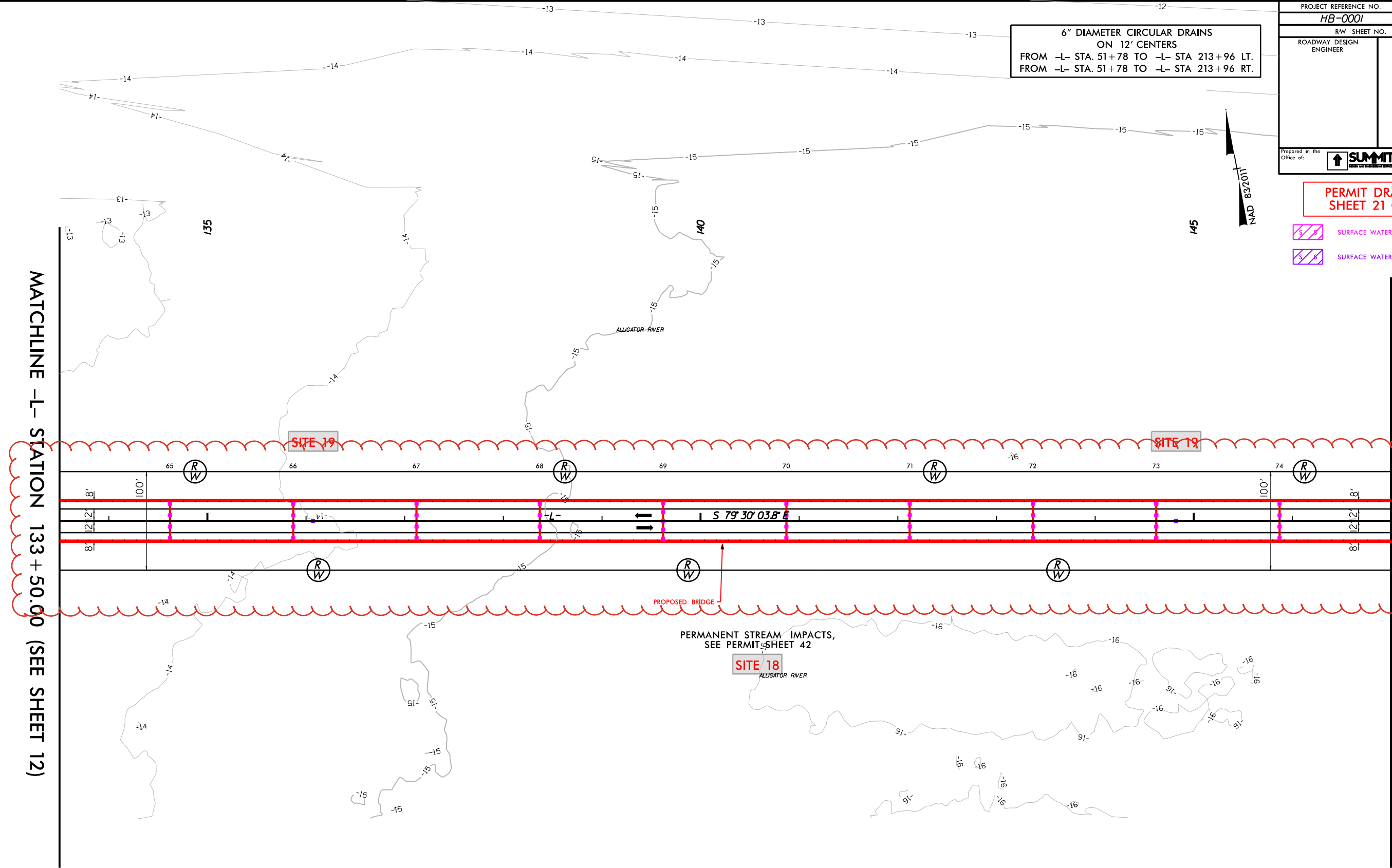
- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

SEE SHEET 29 FOR -L- PROFILE

8/17/99

18-NOV-2024 09:44
HB-0001-11.dwg
18-NOV-2024 09:44
HB-0001-11.dwg
18-NOV-2024 09:44
HB-0001-11.dwg

REVISIONS



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>13</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-6666 (919) 732-6676 (FAX)	

PERMIT DRAWING
SHEET 21 OF 79

-  SURFACE WATER IMPACTS
-  SURFACE WATER IMPACTS (TEST PILES)

SEE SHEET 29 FOR -L- PROFILE

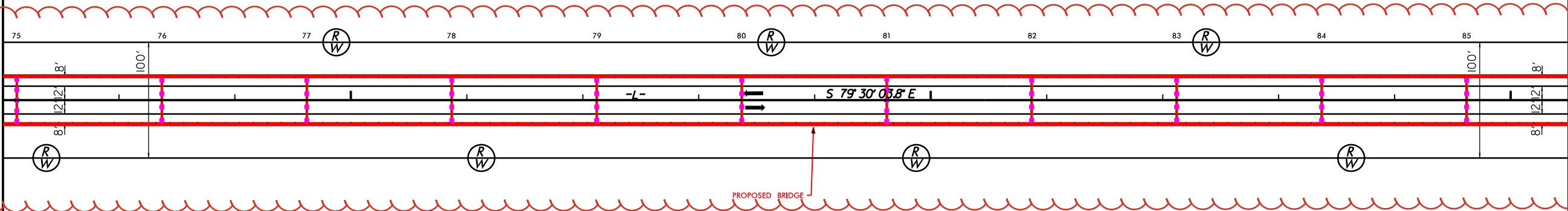
8/17/99

18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 147+00.00 (SEE SHEET 13)



SITE 18

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.



PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-2868 (919) 732-6616 (FAX)	

PERMIT DRAWING
SHEET 22 OF 79

SURFACE WATER IMPACTS

MATCHLINE -L- STATION 160+50.00
(SEE SHEET 15)

SEE SHEET 29 & 30 FOR -L- PROFILE

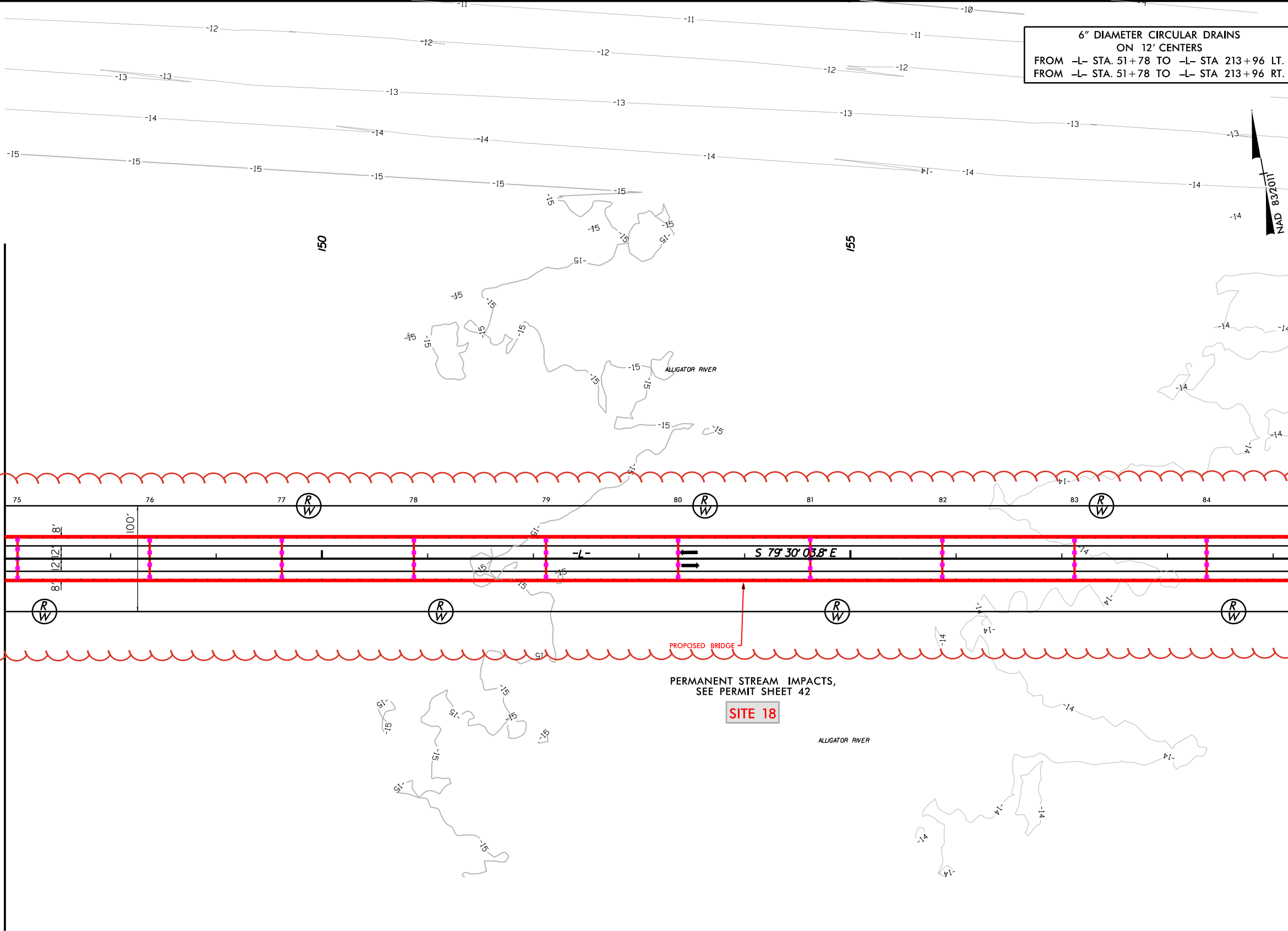
8/17/99

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HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 147+00.00 (SEE SHEET 13)



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.



PROJECT REFERENCE NO. HB-0001		SHEET NO. 14	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of: SUMMIT 320 Executive Ct. Hillsborough, NC 27278 (919) 732-6600 (FAX)		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-6600 (FAX)	

PERMIT DRAWING
SHEET 23 OF 79

 SURFACE WATER IMPACTS

MATCHLINE -L- STATION 160+50.00
(SEE SHEET 15)

SEE SHEET 29 & 30 FOR -L- PROFILE

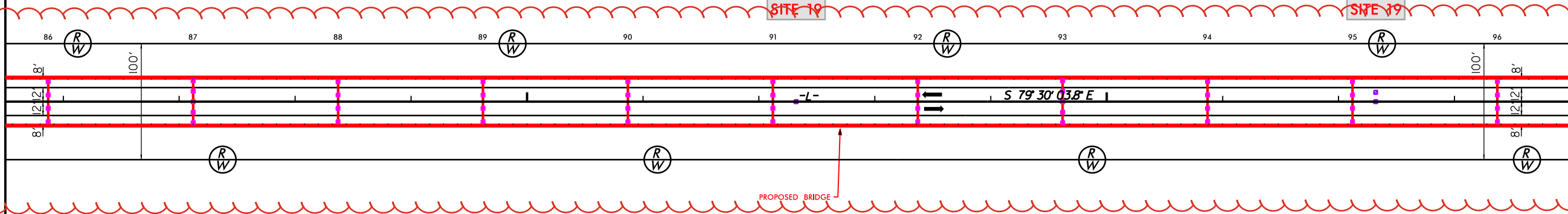
8/17/99

18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 160 + 50.00 (SEE SHEET 14)



MATCHLINE -L- STATION 174 + 00.00 (SEE SHEET 16)

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.



PROJECT REFERENCE NO.		SHEET NO.
HB-0001		15
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC P&M LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-5863 (919) 732-6676 (FAX)

PERMIT DRAWING
SHEET 24 OF 79

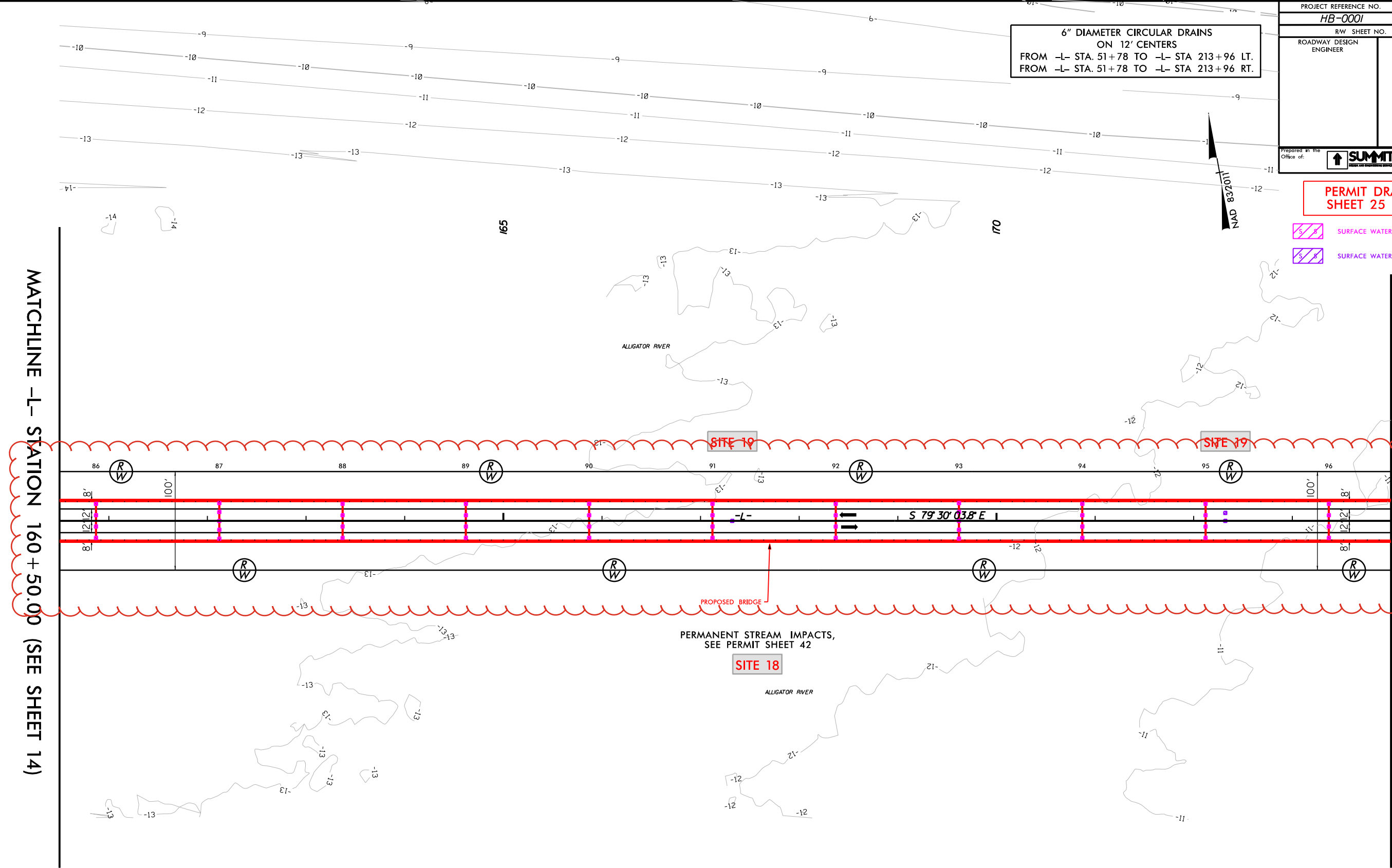
- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

SEE SHEET 30 FOR -L- PROFILE

8/17/99

18-NOV-2024 09:44
HB-0001.dgn
c:\p\proj\25_mod.dgn

REVISIONS



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

PROJECT REFERENCE NO. HB-0001		SHEET NO. 15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC P&M LICENSE No. P-03339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-5868 (919) 732-6676 (FAX)	

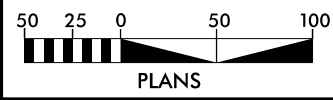
PERMIT DRAWING
SHEET 25 OF 79

-  SURFACE WATER IMPACTS
-  SURFACE WATER IMPACTS (TEST PILES)



SEE SHEET 30 FOR -L- PROFILE

NAD 83/2011



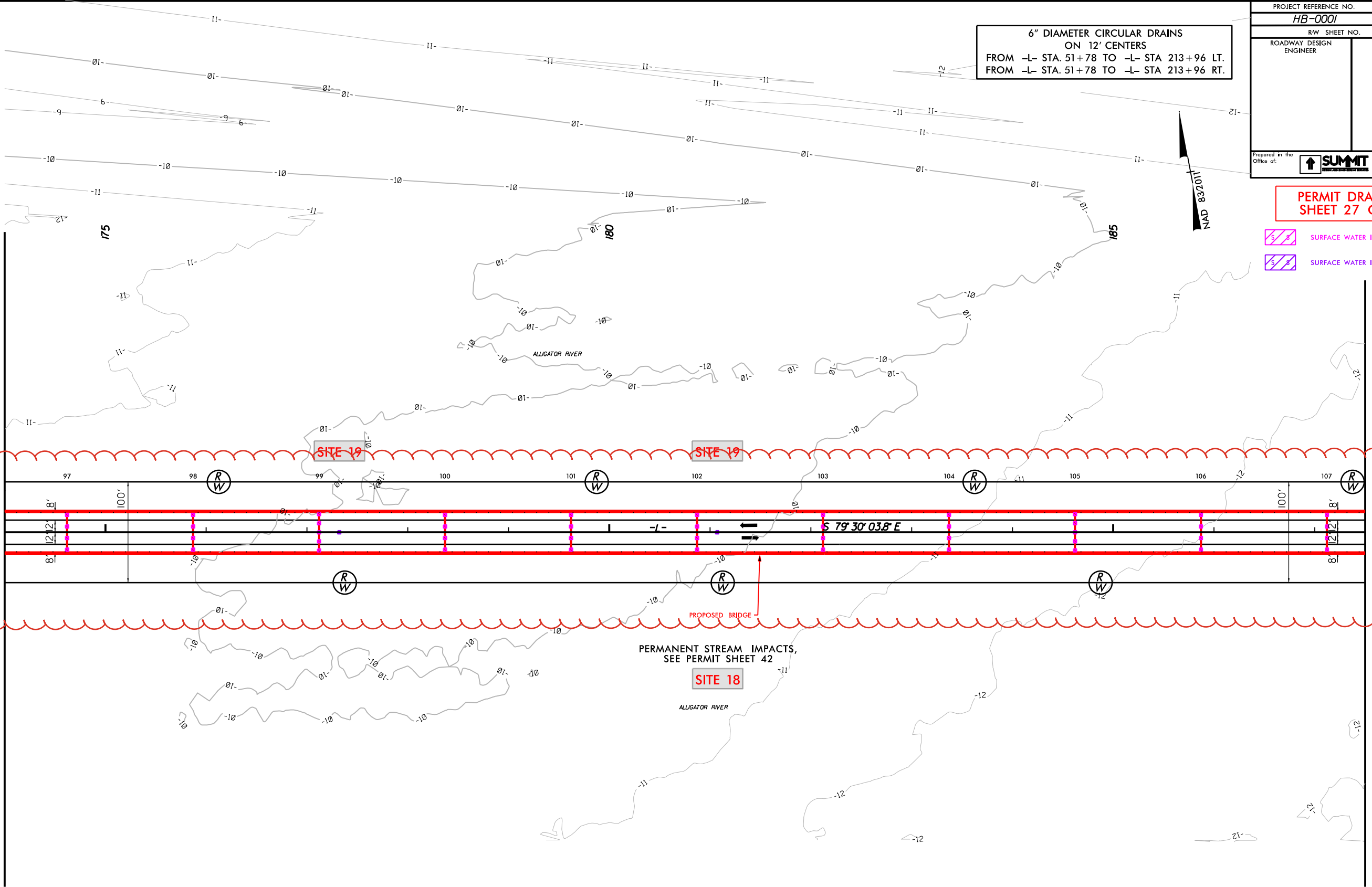
8/17/99

18-NOV-2024 09:44
HB-0001-11.dwg
c:\p\m\sh.27_M00.dgn
josh.levinson

REVISIONS



MATCHLINE -L- STATION 174 + 00.00 (SEE SHEET 15)



6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

NAD 83/2011

PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>16</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-2869 (919) 732-6616 (FAX)

PERMIT DRAWING
SHEET 27 OF 79

- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

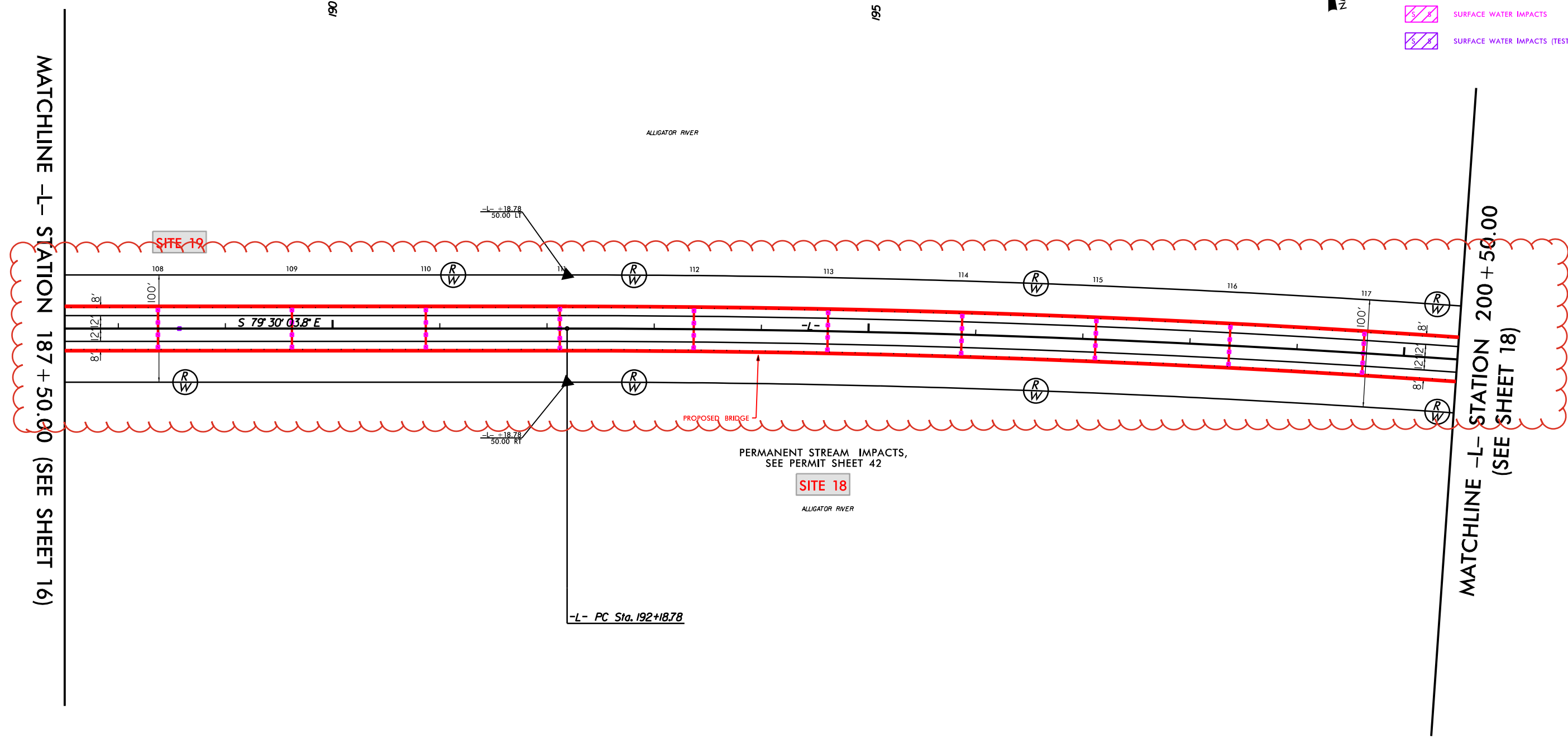
MATCHLINE -L- STATION 187 + 50.00
(SEE SHEET 17)

SEE SHEET 30 & 31 FOR -L- PROFILE

	SURFACE WATER IMPACTS
	SURFACE WATER IMPACTS (TEST PILES)

-L-

PI Sta 207+58.97
 $\Delta = 14^\circ 37' 40.0''$ (RT)
 $D = 0^\circ 28' 38.9''$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
 $SE = NC$



ALLIGATOR RIVER

MATCHLINE -L- STATION 200 + 50.00
(SEE SHEET 18)



SEE SHEET 31 FOR -L- PROFILE

18-NOV-2024 09:44
HB-0001_Hyd-prm-psh-28.MOD.dgn
iosb.fernand

REVISIONS

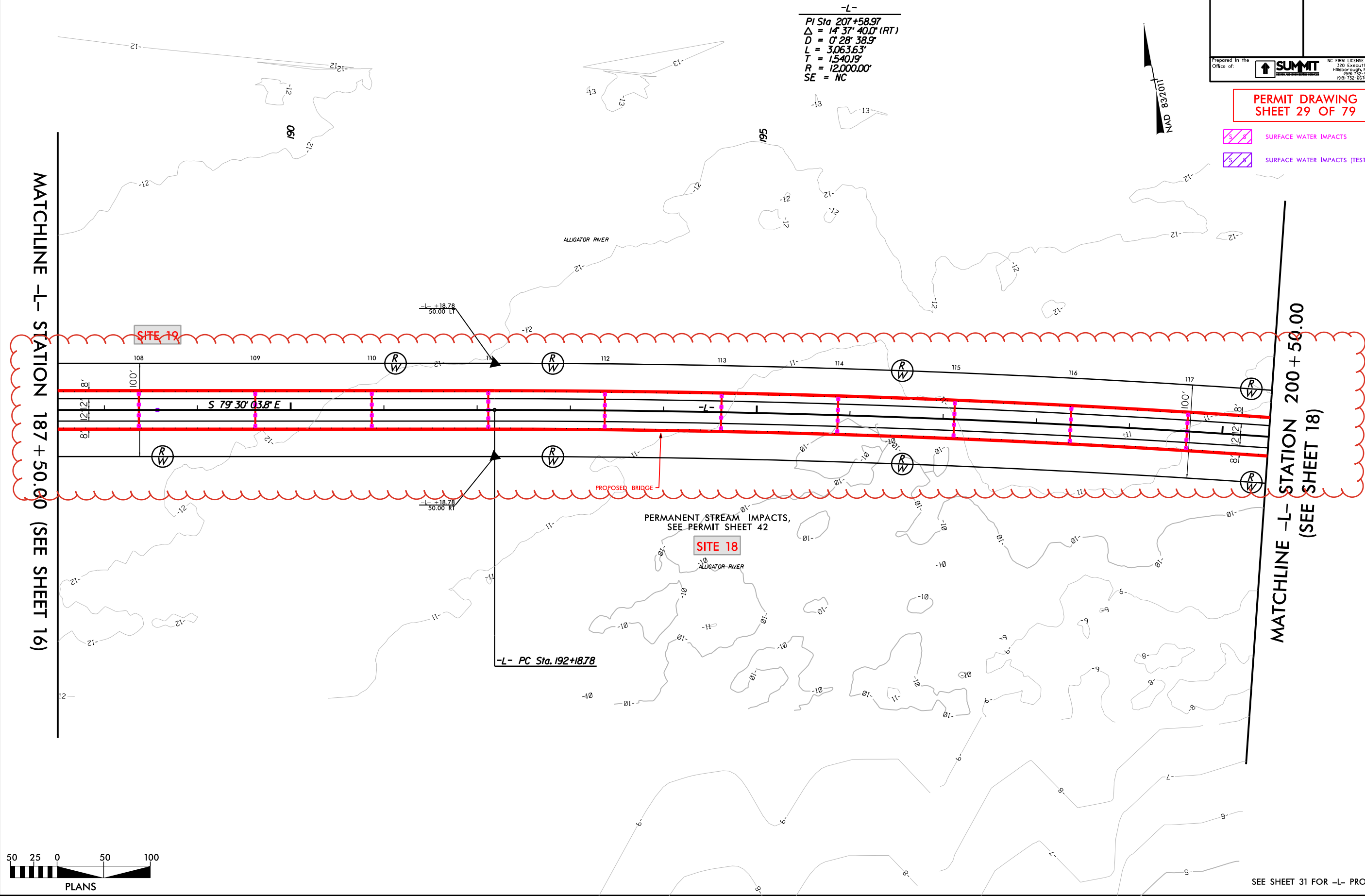
8/17/99

18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn
18-NOV-2024 09:44
HB-0001.dgn

REVISIONS



MATCHLINE -L- STATION 187+50.00 (SEE SHEET 16)



-L-
PI Sta 207+58.97
 $\Delta = 14^\circ 37' 40.0\"$ (RT)
 $D = 0^\circ 28' 38.9\"$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
SE = NC

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

NAD 83/2011

PROJECT REFERENCE NO.		SHEET NO.
HB-0001		17
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3668 (919) 732-6676 (FAX)

PERMIT DRAWING
SHEET 29 OF 79

- SURFACE WATER IMPACTS
- SURFACE WATER IMPACTS (TEST PILES)

MATCHLINE -L- STATION 200+50.00
(SEE SHEET 18)

SEE SHEET 31 FOR -L- PROFILE

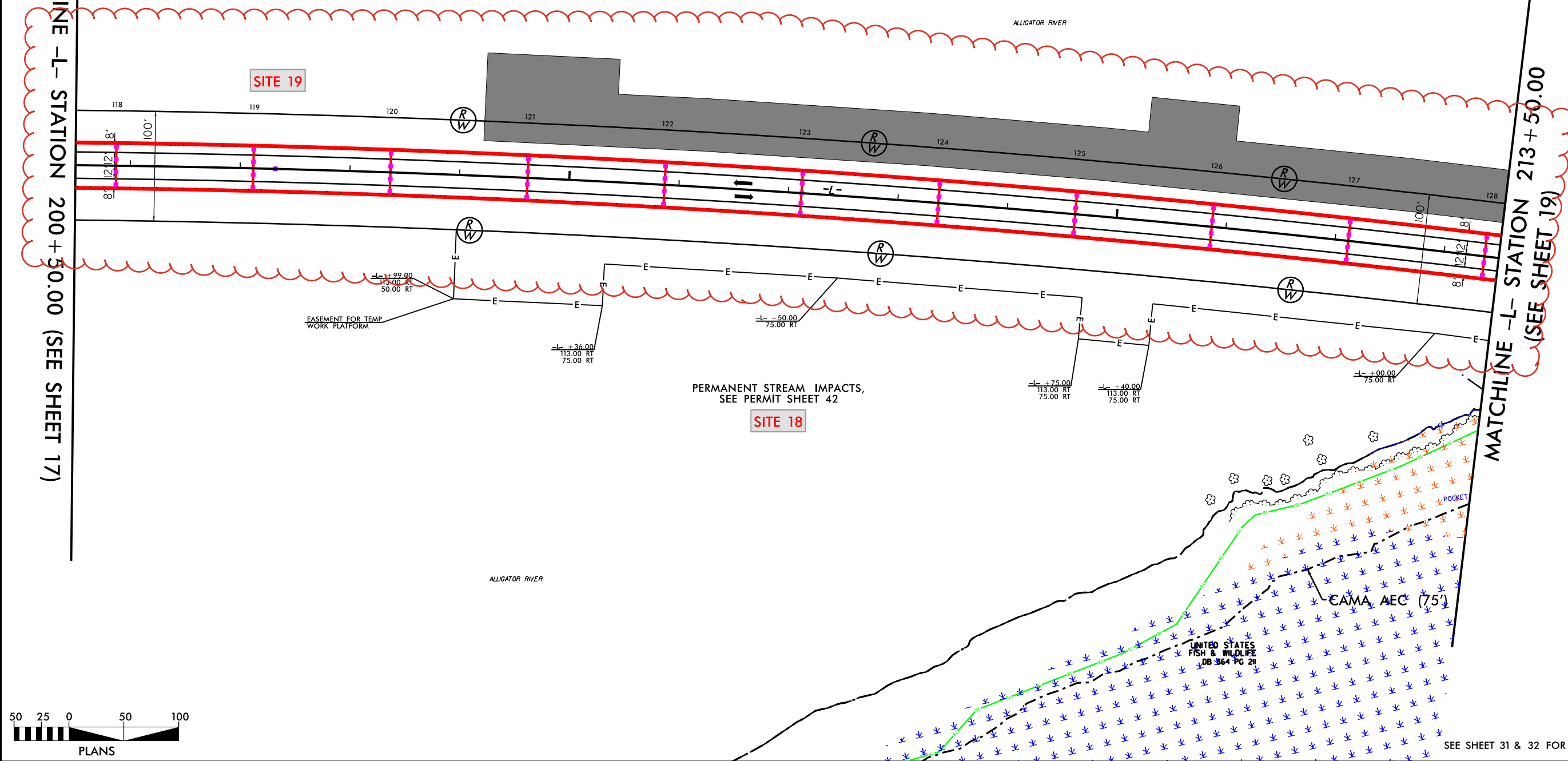
-L-

PI Sta 207+58.97
 $\Delta = 14^\circ 37' 40.0''$ (RT)
 $D = 0^\circ 28' 38.9''$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
SE = NC



MATCHLINE -L- STATION 200 + 50.00 (SEE SHEET 17)

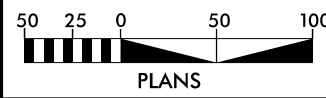
MATCHLINE -L- STATION 213 + 50.00
(SEE SHEET 19)



SEE SHEET 31 & 32 FOR -L- PROFILE

~~-L-~~

PI Sta	207+58.97
Δ	= 14° 37' 40.0" (RT)
D	= 0° 28' 38.9"
L	= 3,063.63'
T	= 1,540.19'
R	= 12,000.00'
SE	= NC



SEE SHEET 31 & 32 FOR -L- PROFILE

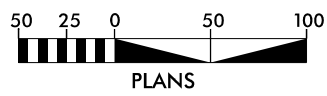
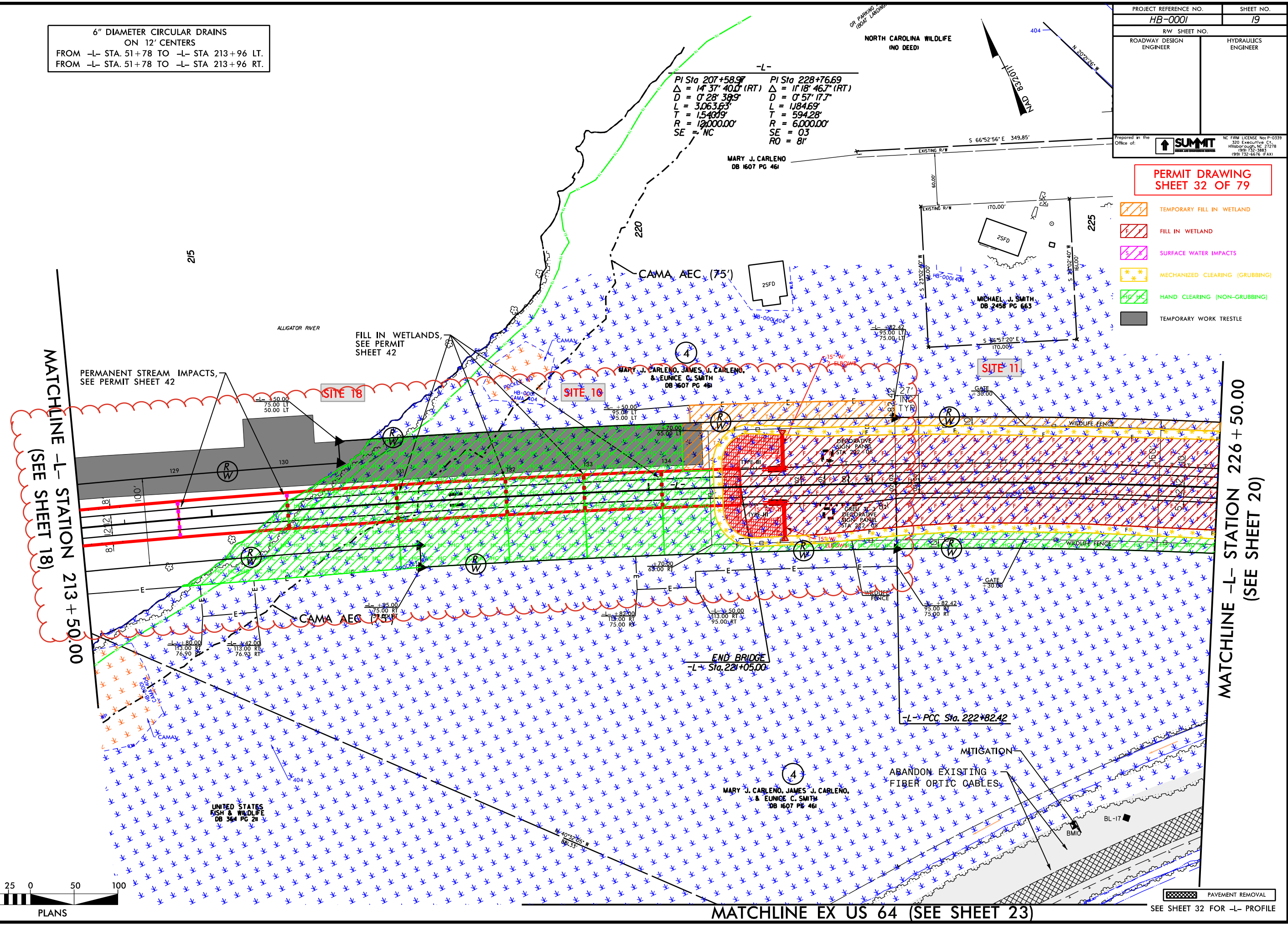
8/17/99
22-NOV-2024 09:41
HB-0001-Hd.dgn
Scanned
PLANS

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA 213+96 RT.

PROJECT REFERENCE NO. HB-0001		SHEET NO. 19
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of: SUMMIT 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3869 (919) 732-6676 (FAX)		

**PERMIT DRAWING
SHEET 32 OF 79**

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



SEE SHEET 32 FOR -L- PROFILE

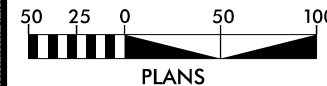
PERMIT DRAWING
SHEET 33 OF 79

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

6" DIAMETER CIRCULAR DRAINS
ON 12' CENTERS
FROM -L- STA. 51+78 TO -L- STA. 213+96 LT.
FROM -L- STA. 51+78 TO -L- STA. 213+96 RT.

PI Sta 207+58.97
 $\Delta = 14^\circ 37' 40.0" (RT)$
 $D = 0^\circ 28' 39.9"$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
SE = NC

PI Sta 228+76.69
 $\Delta = 11^\circ 18' 46.7" (RT)$
 $D = 0^\circ 57' 17.7"$
 $L = 1,844.69'$
 $T = 594.28'$
 $R = 6,000.00'$
SE = 03
RO = 81'



22-NOV-2024 09:41
HB-0001-Highway-33-MOD.dgn
S:\Projects\HB-0001\psh-33-MOD.dgn

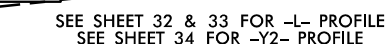
MATCHLINE -L- STATION 213+50.00
(SEE SHEET 18)

MATCHLINE -L- STATION 226+50.00
(SEE SHEET 20)

MATCHLINE EX US 64 (SEE SHEET 23)

SEE SHEET 32 FOR -L- PROFILE

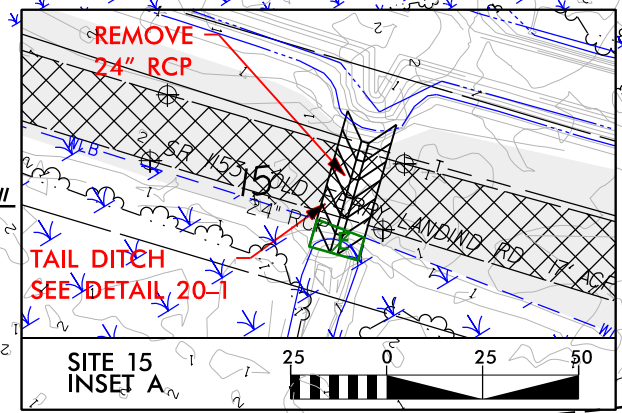
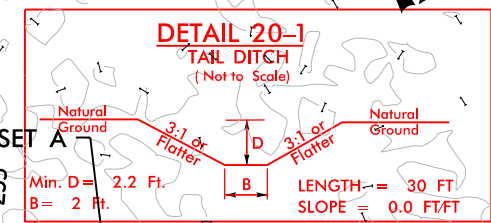
- MATCHLINE -L- STATION 239 + 00.00**
(SEE SHEET 21)



3-NOV-2024 13:29
FB-0001-Hyd-prm-psh_34_MOD.dgn

**PERMIT DRAWING
SHEET 35 OF 79**

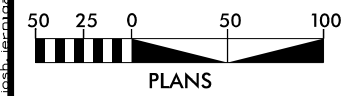
-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  TEMPORARY SURFACE WATER IMPACTS
-  MECHANIZED CLEARING (GRUBBING)
-  HAND CLEARING (NON-GRUBBING)
-  WETLAND EXCAVATION



-L-	-Y2-	-Y2-
PI Sta 228+76.69 Δ = 11° 18' 46.7" (RT) D = 0' 57' 12.7" L = 1,846.9' T = 594.28' R = 6,000.00' SE = 03 RO = 8'	PI Sta 237+92.08 Δ = 3° 06' 08.8" (LT) D = 0' 28' 38.9" L = 649.78' T = 324.97' R = 12,000.00' SE = NC	PI Sta 14+14.13 Δ = 73° 05' 07.5" (RT) D = 24' 54' 40.4" L = 293.38' T = 170.46' R = 230.00' SE = 04 RO = 60'

MATCHLINE -L- STATION 226 + 50.00
(SEE SHEET 19)

MATCHLINE -L- STATION 239 + 00.00
(SEE SHEET 21)



SEE SHEET 32 & 33 FOR -L- PROFILE
SEE SHEET 34 FOR -Y2- PROFILE

PROJECT REFERENCE NO.
HB-0001

SHEET NO.
21

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

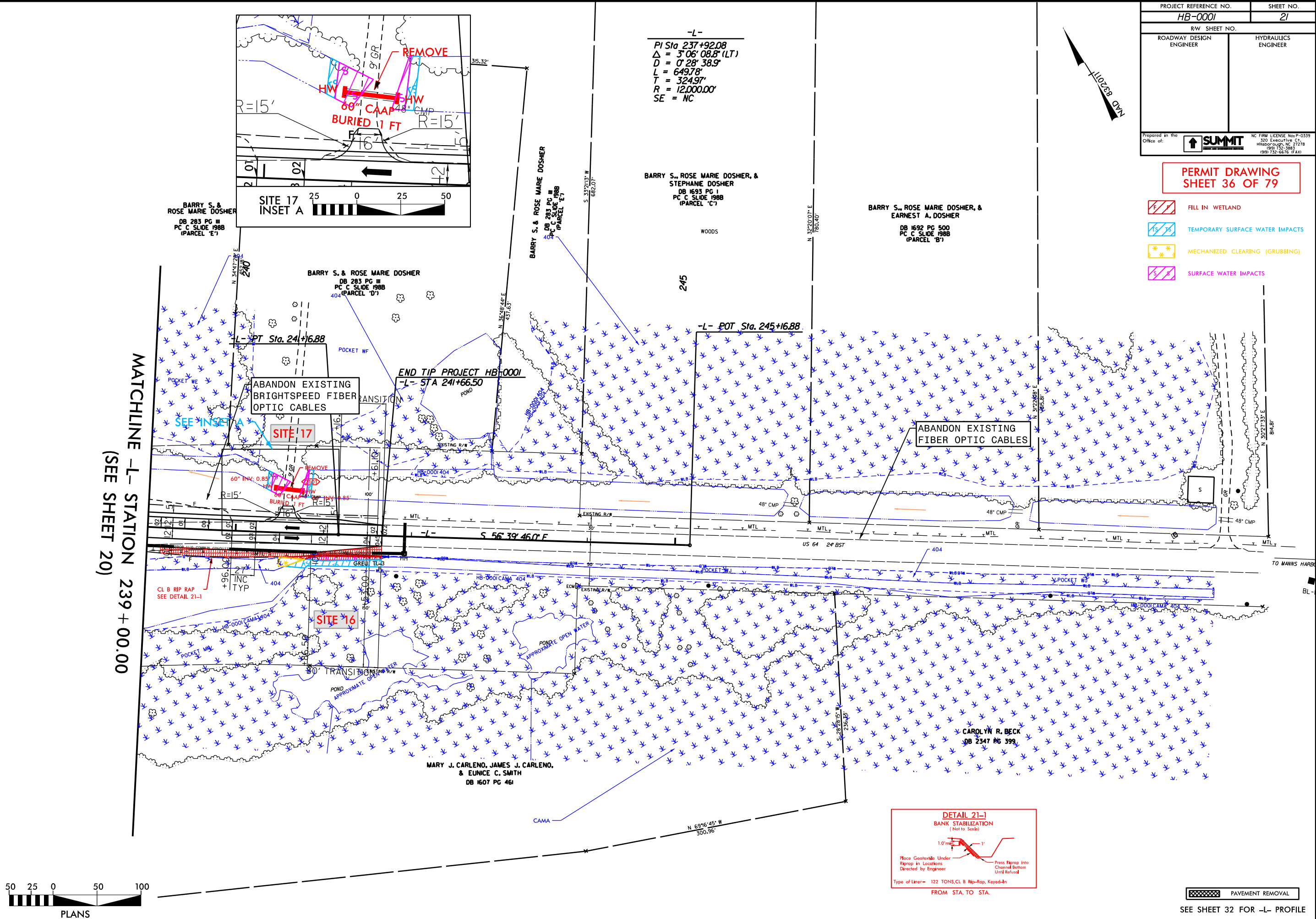
Prepared in the Office of:

**SUMMIT**
Engineering and Construction

NC FIRM LICENSE Nos P-0339
220 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6876 (FAX)

**PERMIT DRAWING
SHEET 36 OF 79**

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

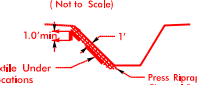


REVISIONS



PLANS

DETAIL 21-1
BANK STABILIZATION
(Not to Scale)



Place Geotextile Under Riprap in Locations Directed by Engineer

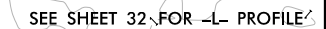
Press Riprap into Channel Bottom Until Retained

Type of Liner = 122 TONS/CL B Rip-Rap, Keyed-In

FROM STA. TO STA.

 PAVEMENT REMOVAL

SEE SHEET 32 FOR -L- PROFILE



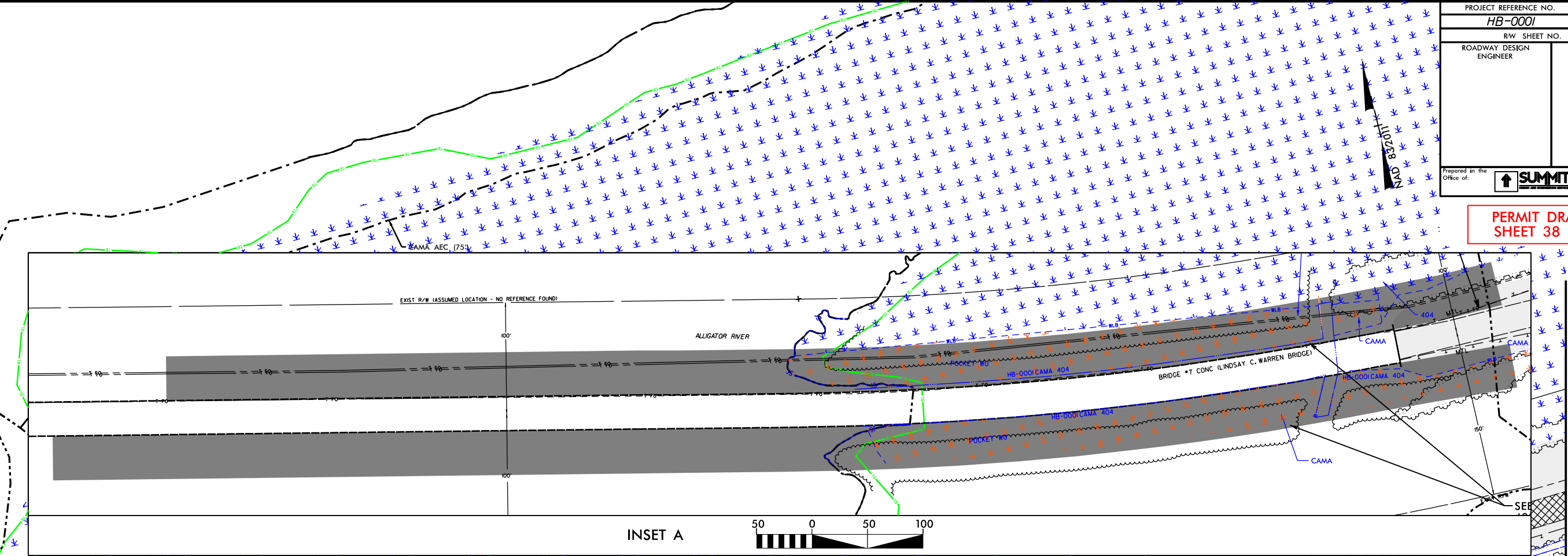
PROJECT REFERENCE NO. HB-0001		SHEET NO. 22	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No P-0339 320 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 38 OF 79

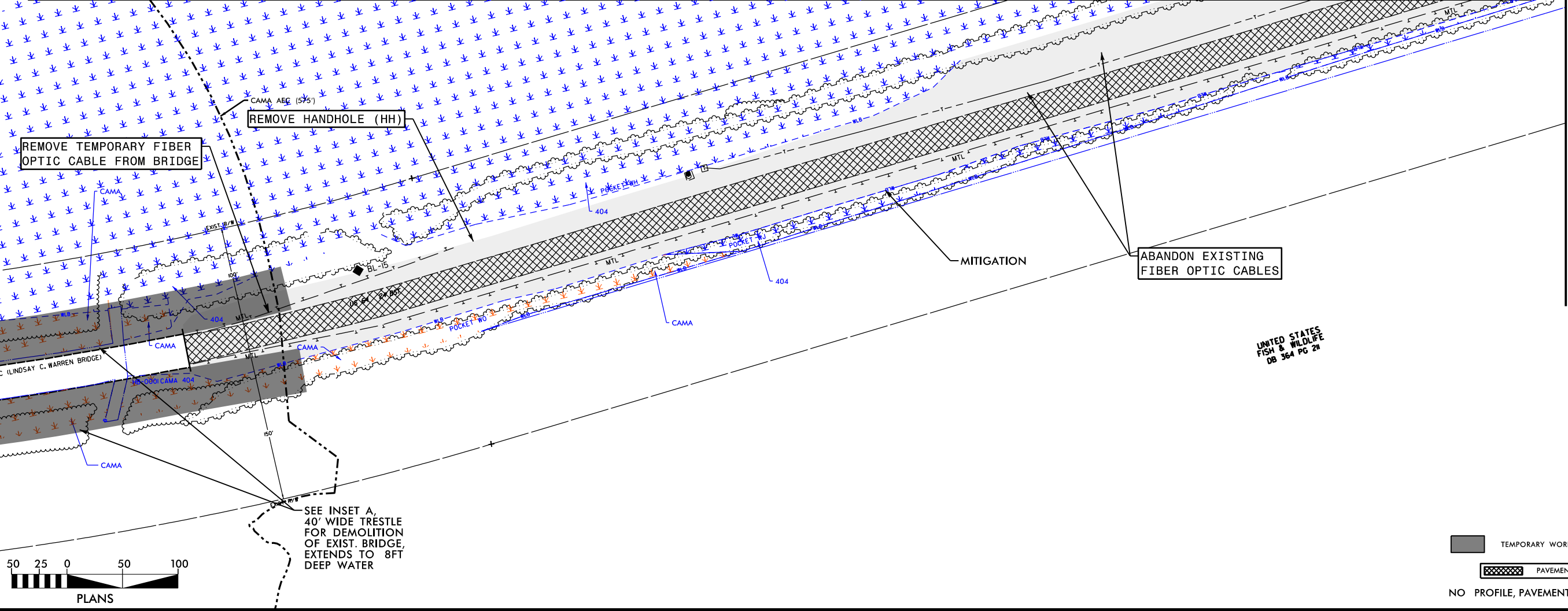


8/17/99

REVISIONS



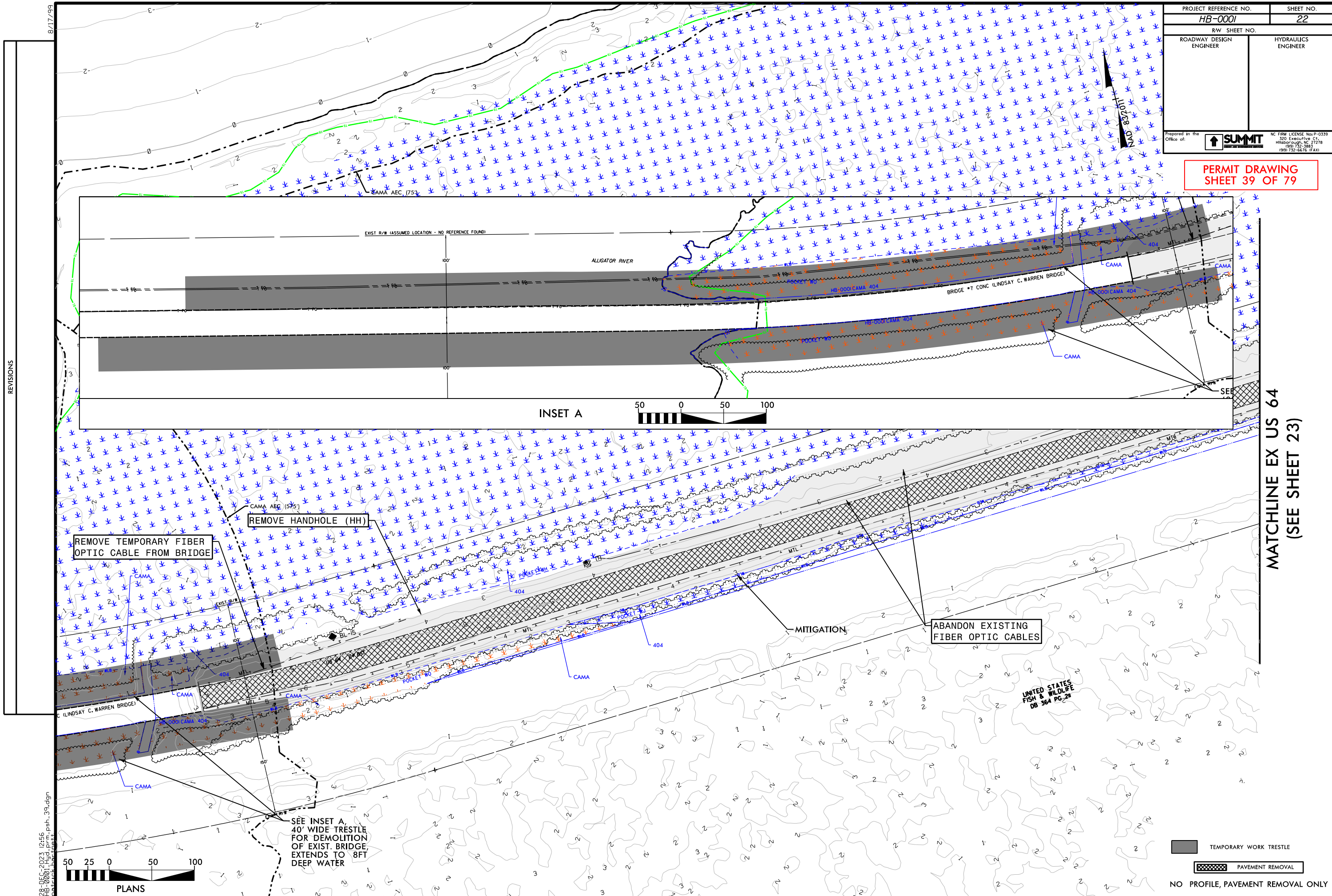
MATCHLINE EX US 64
(SEE SHEET 23)



	TEMPORARY WORK TRESTLE
	PAVEMENT REMOVAL

NO PROFILE, PAVEMENT REMOVAL ONLY

28-DEC-2023 12:56
28-0001-38.dgn
28-0001-38.dgn



PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		23	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27678 919/752-5881 (919) 752-6616 (FAX)	
			

NAD 832011

PLANS

NO PROFILE, PAVEMENT REMOVAL ONLY

8/17/99

REVISIONS

18-NOV-2024 10:52
HB-0001 TYP-psb-42.MXD.dgn
last version

BENT TYPICAL IMPACTS



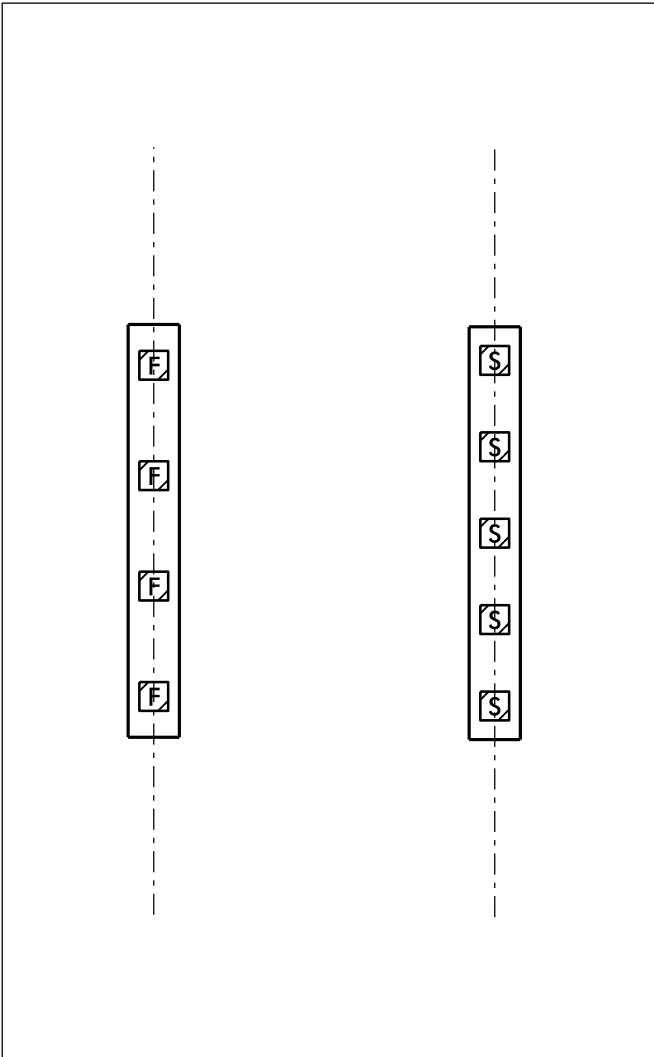
FILL IN WETLAND



SURFACE WATER IMPACTS

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001			
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339 320 EXECUTIVE CT. Hillsborough, NC 27278 (919) 732-2868 (919) 732-6616 (FAX)	

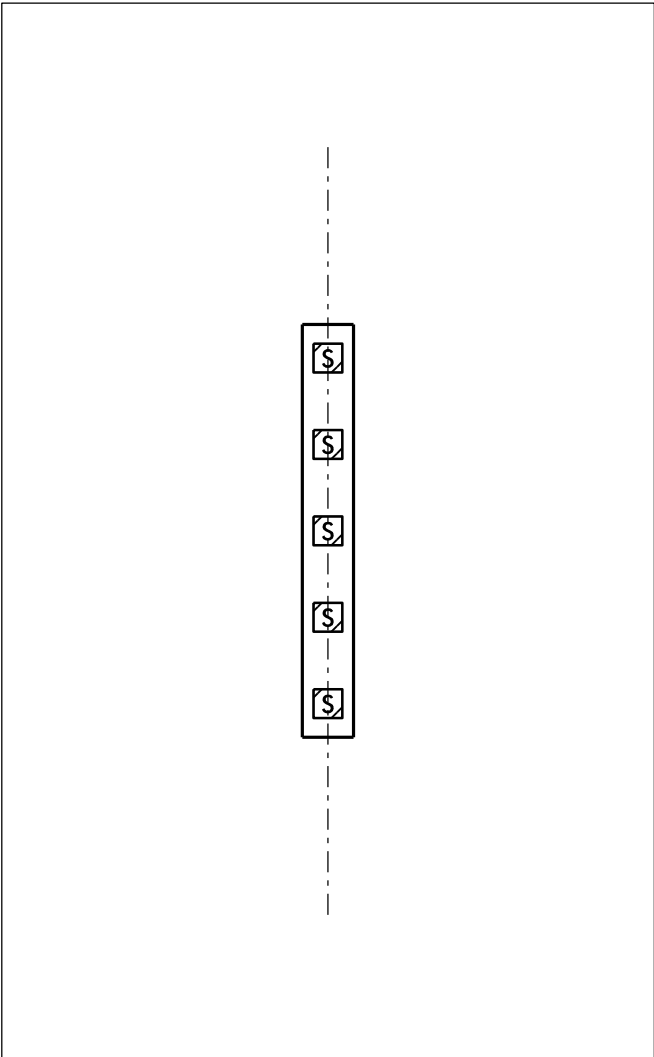
PERMIT DRAWING
SHEET 42 OF 79



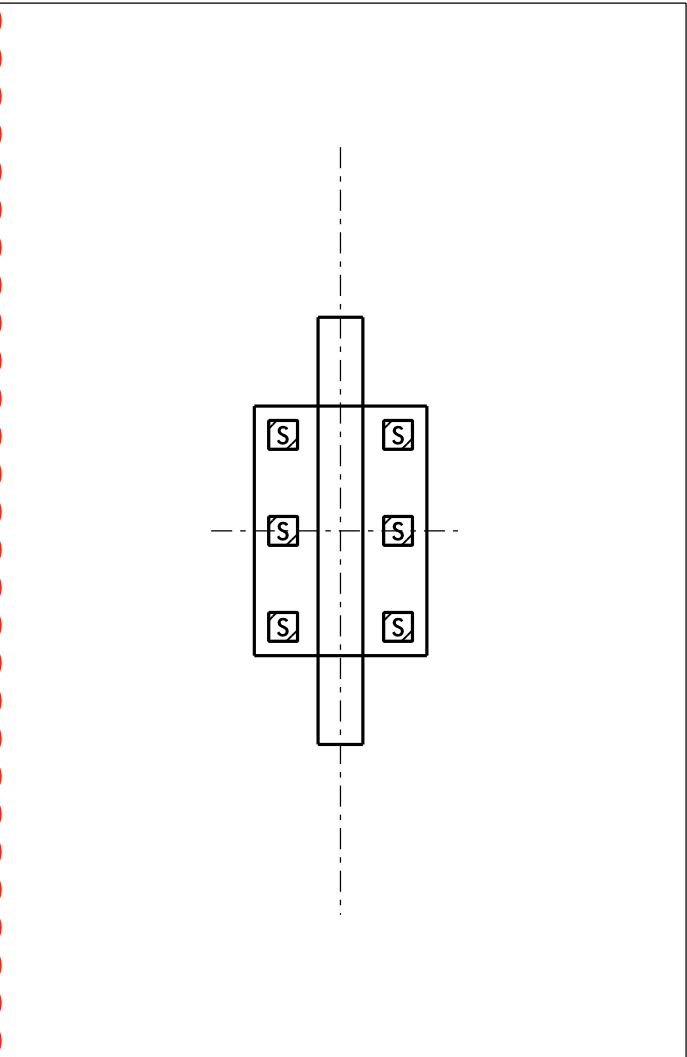
BENTS 1-6, 8-12, 14-18, 20-24,
26-30, 32-36, 38-39, 62-63, 65-68,
70-74, 76-80, 82-86, 88-92, 94-98,
100-104, 106-110, 112-116, 118-122,
124-128, 130-134
43'-0" x 5'-4"
36" PRESTRESSED CONCRETE PILE

Bents 1-3 and 130-134 are in Wetlands

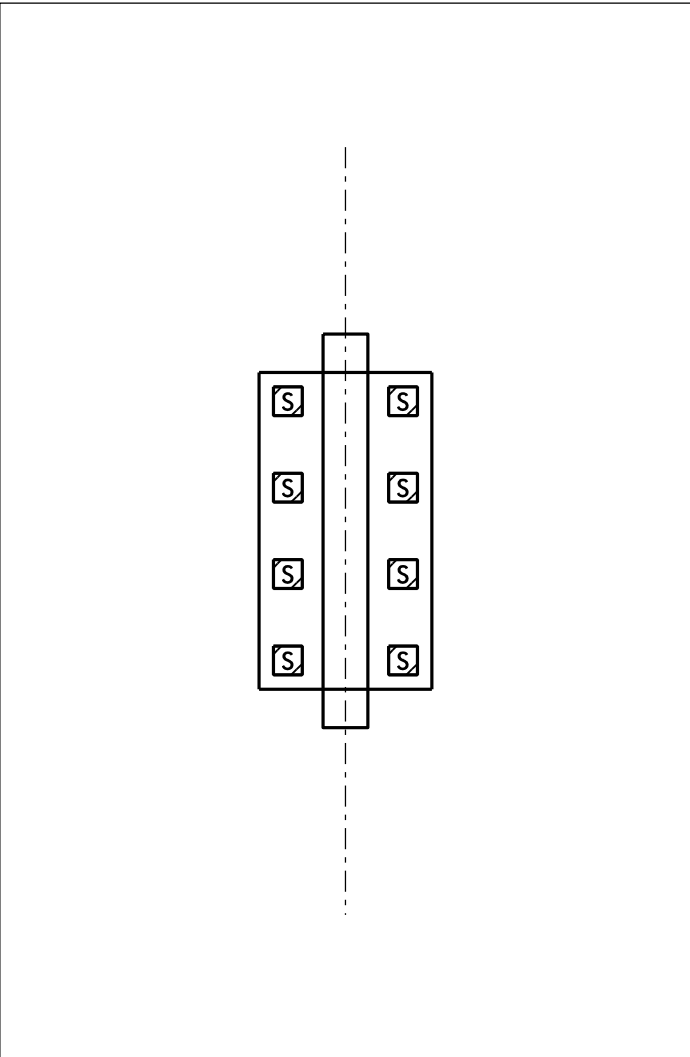
Remainder are in Surface Water



BENTS 7, 13, 19, 25, 31, 37, 64, 69,
75, 81, 87, 93, 99, 105, 111, 117, 123,
129
44'-6" x 5'-0"
36" PRESTRESSED CONCRETE PILE



BENTS 40 & 61
26'-0" x 18'-0"
36" PRESTRESSED CONCRETE PILE



BENTS 41-43, 58-60
33'-0" x 18'-0"
36" PRESTRESSED CONCRETE PILE



8/17/99

REVISIONS

18-NOV-2024 10:52
HB-0001 TYP.psh 43.MCD.dgn
last version

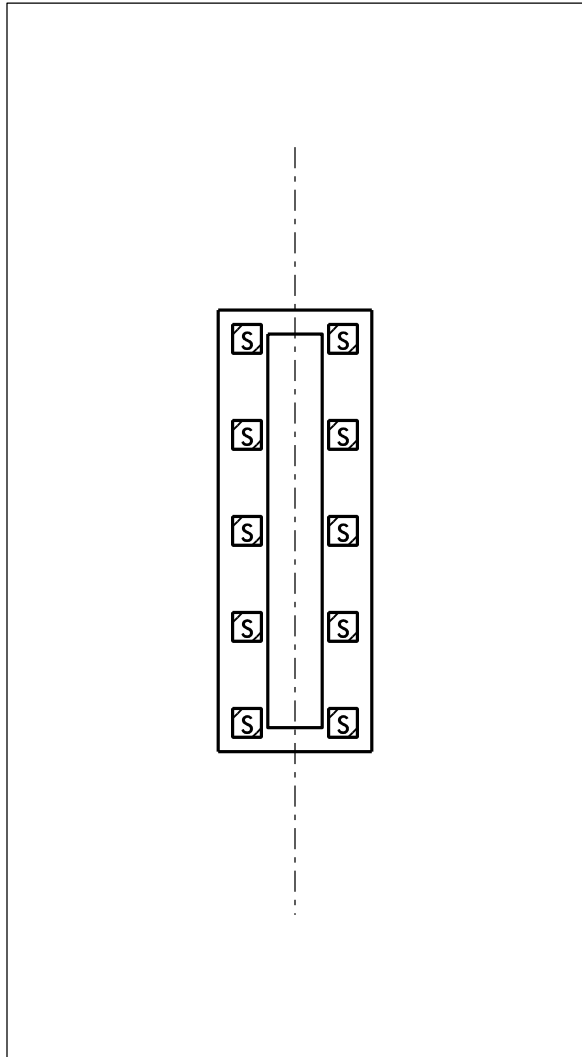
BENT TYPICAL IMPACTS



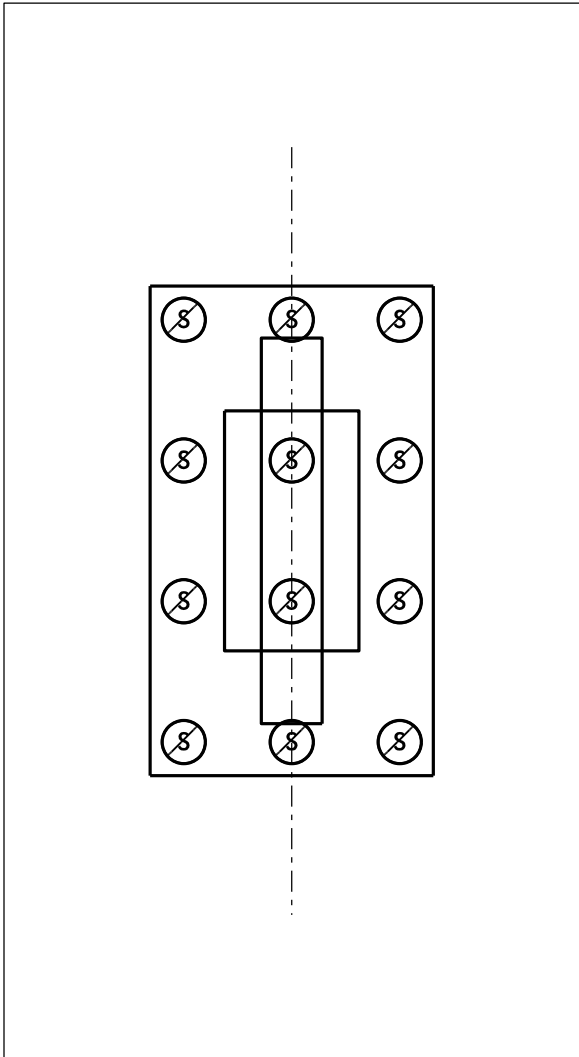
SURFACE WATER IMPACTS

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001			
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-2869 (919) 732-4616 (FAX)	

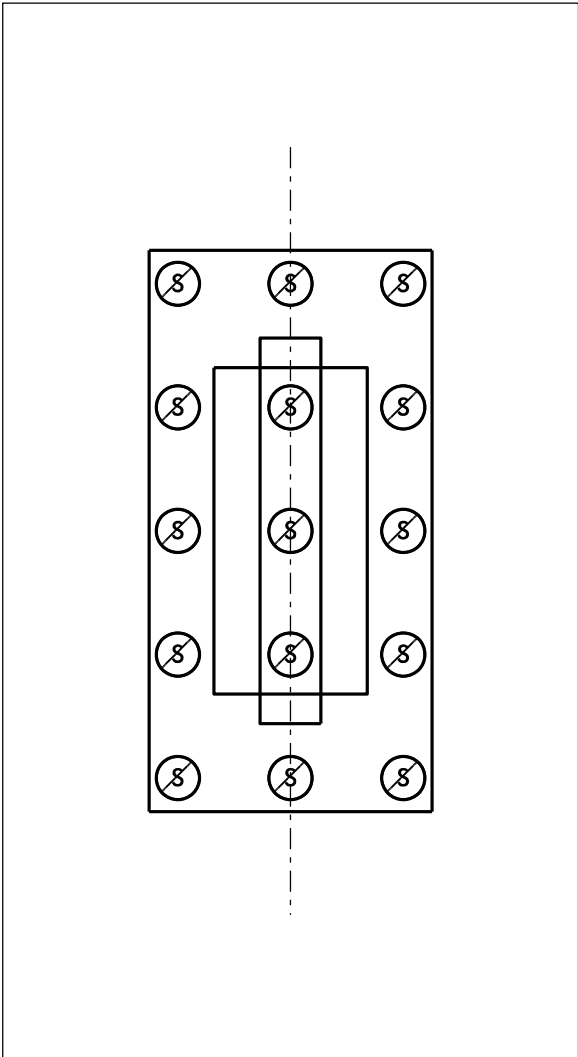
PERMIT DRAWING
SHEET 43 OF 79



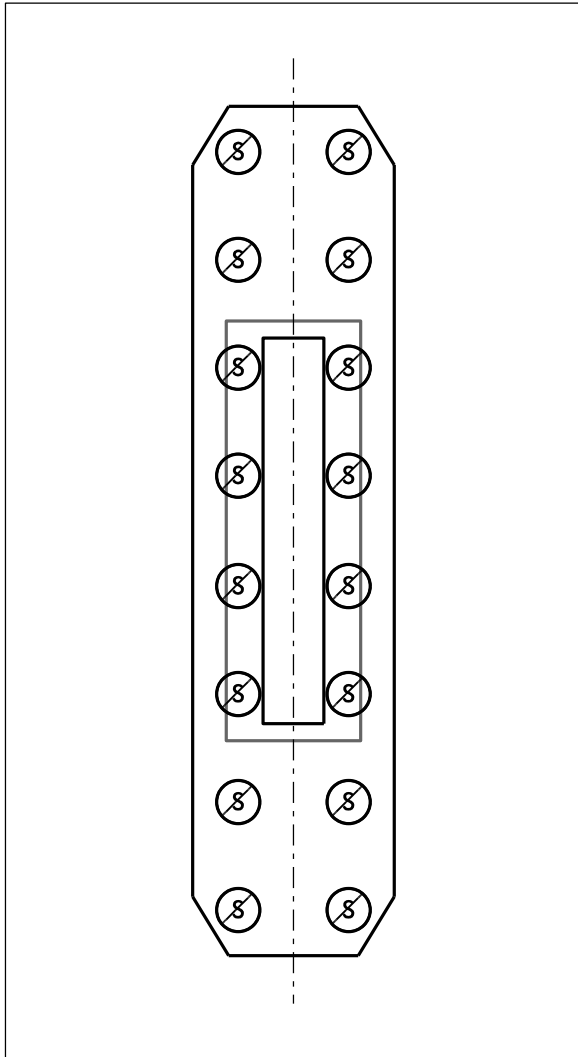
BENTS 44-46, 55-57
46'-0" x 16'-0"
36" PRESTRESSED CONCRETE PILE



BENTS 47-48, 53-54
51'-0" x 28'-6"
54" PRESTRESSED CONCRETE PILE



BENTS 49 & 52
58'-6" x 28'-6"
54" PRESTRESSED CONCRETE PILE

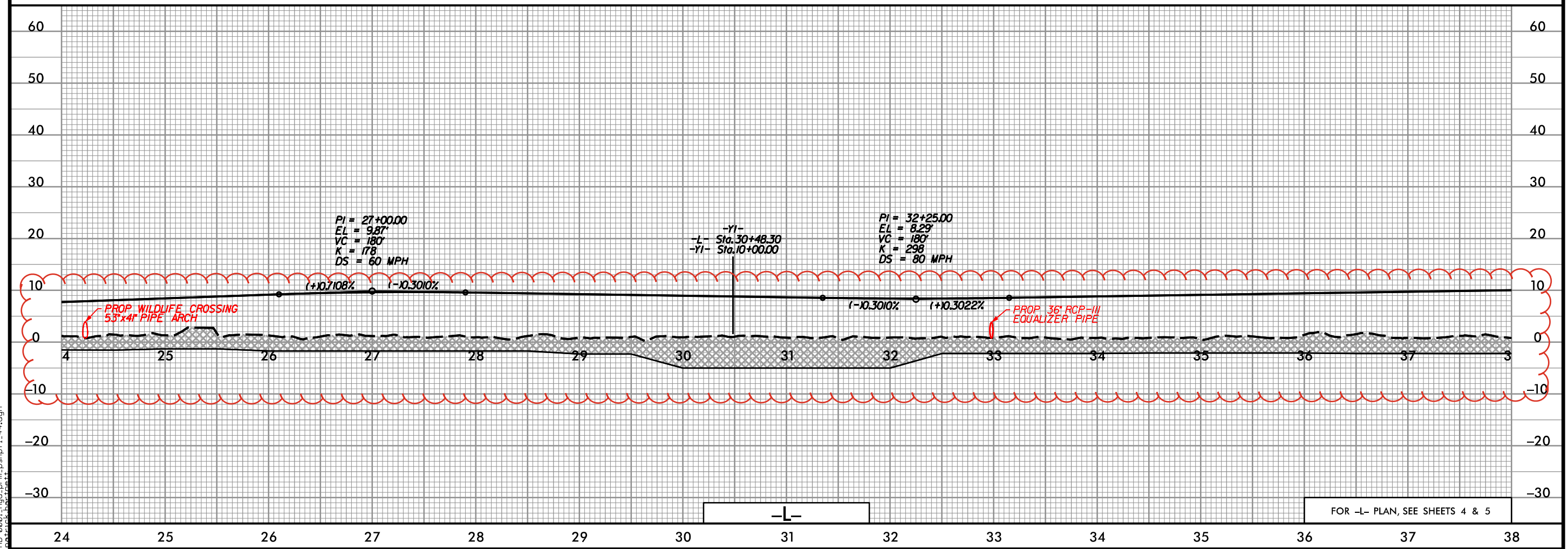
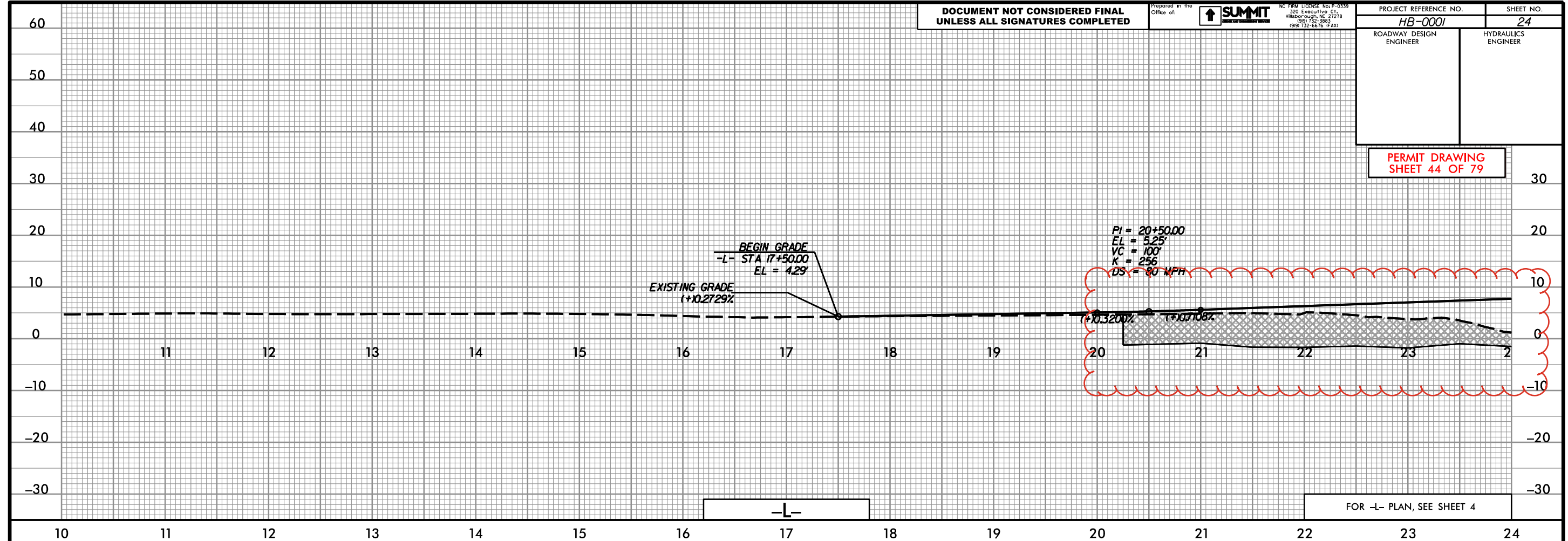


BENTS 50 & 51
88'-6" x 21'-0"
54" PRESTRESSED CONCRETE PILE



HB-00
ROADWAY DESIGN
ENGINEER

24
HYDRAULICS
ENGINEER

PERMIT DRAWING
SHEET 44 OF 79

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A ^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A ^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A ^E	FT

D REFERENCE HYDRODYNAMIC REPORT

^E BRIDGE DOES NOT OVERTOP

(+)0.0000%

PROPOSED BRIDGE :

-L-

FOR -L- PLAN, SEE SHEET 8 & 9

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A^E	FT

⁰ REFERENCE HYDRODYNAMIC REPORT

^E BRIDGE DOES NOT OVERTOP

$PI = 91+80.00$
 $EL = 24.50'$
 $VC = 500'$
 $K = 169$
 $DS = 65 \text{ MPH}$

(+)0.0000% (+)2.9675%

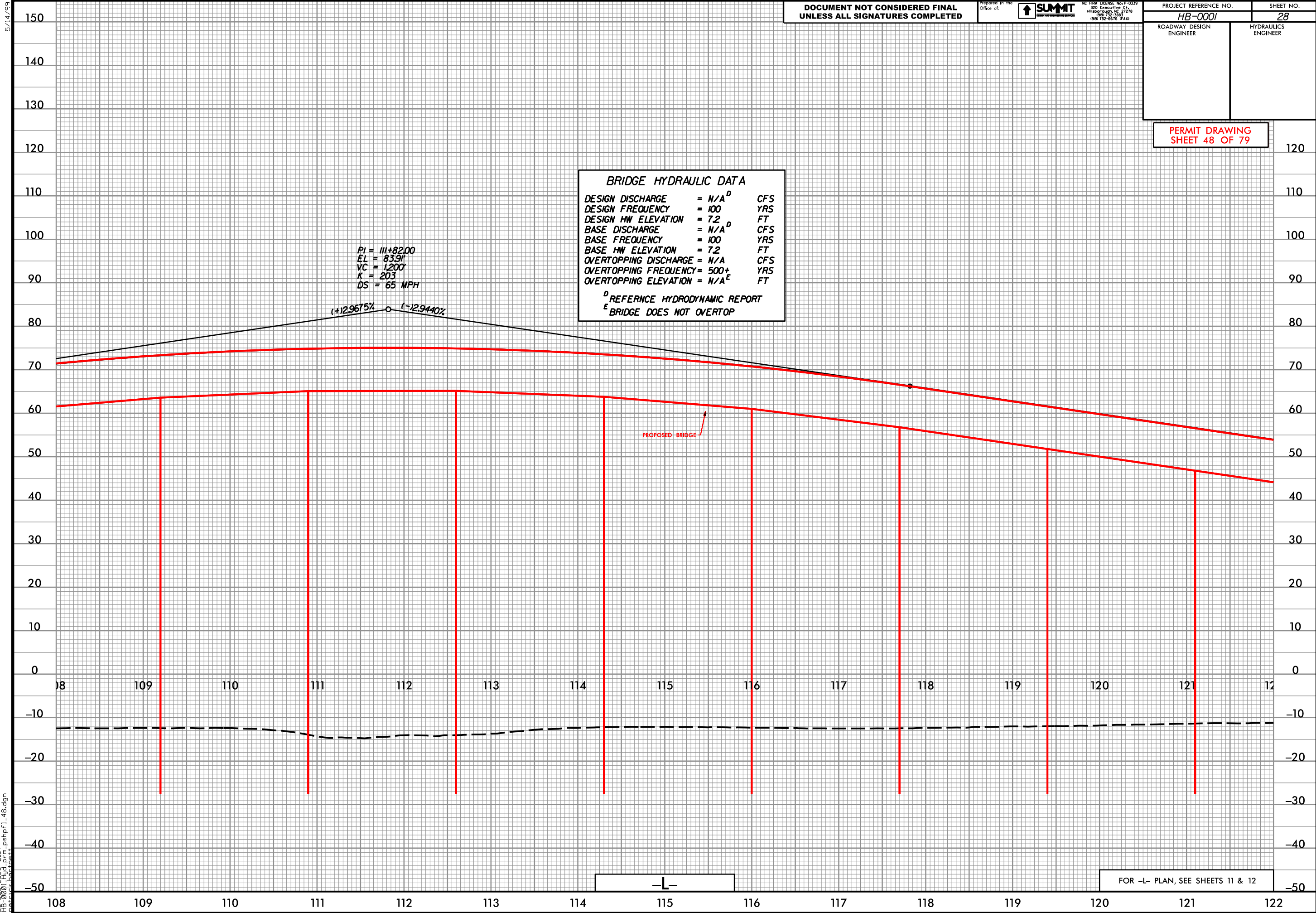
(+) 2.9675%

PROPOSED BRIDGE

— L —

FOR -L- PLAN, SEE SHEET 9 & 10

28-DEC-2023 12:57
HB-0001-Hyd-prm-pshpfl_47.dgn
carrick hartnett



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Prepared in the
Office of:
SUMMIT
ENGINEERING & CONSTRUCTION
INC. PERM LICENSE No. P-03399
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3383
(919) 732-6676 (FAX)

PROJECT REFERENCE NO.		SHEET NO.
HB-0001		28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

PERMIT DRAWING
SHEET 48 OF 79

BRIDGE HYDRAULIC DATA
DESIGN DISCHARGE = N/A^D CFS
DESIGN FREQUENCY = 100 YRS
DESIGN HW ELEVATION = 7.2 FT
BASE DISCHARGE = N/A^D CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 7.2 FT
OVERTOPPING DISCHARGE = N/A CFS
OVERTOPPING FREQUENCY = 500+ YRS
OVERTOPPING ELEVATION = N/A^E FT
^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

PI = 111+82.00
EL = 83.91'
VC = 1200'
K = 203
DS = 65 MPH

(+12.9675% (-12.9440%

PROPOSED BRIDGE

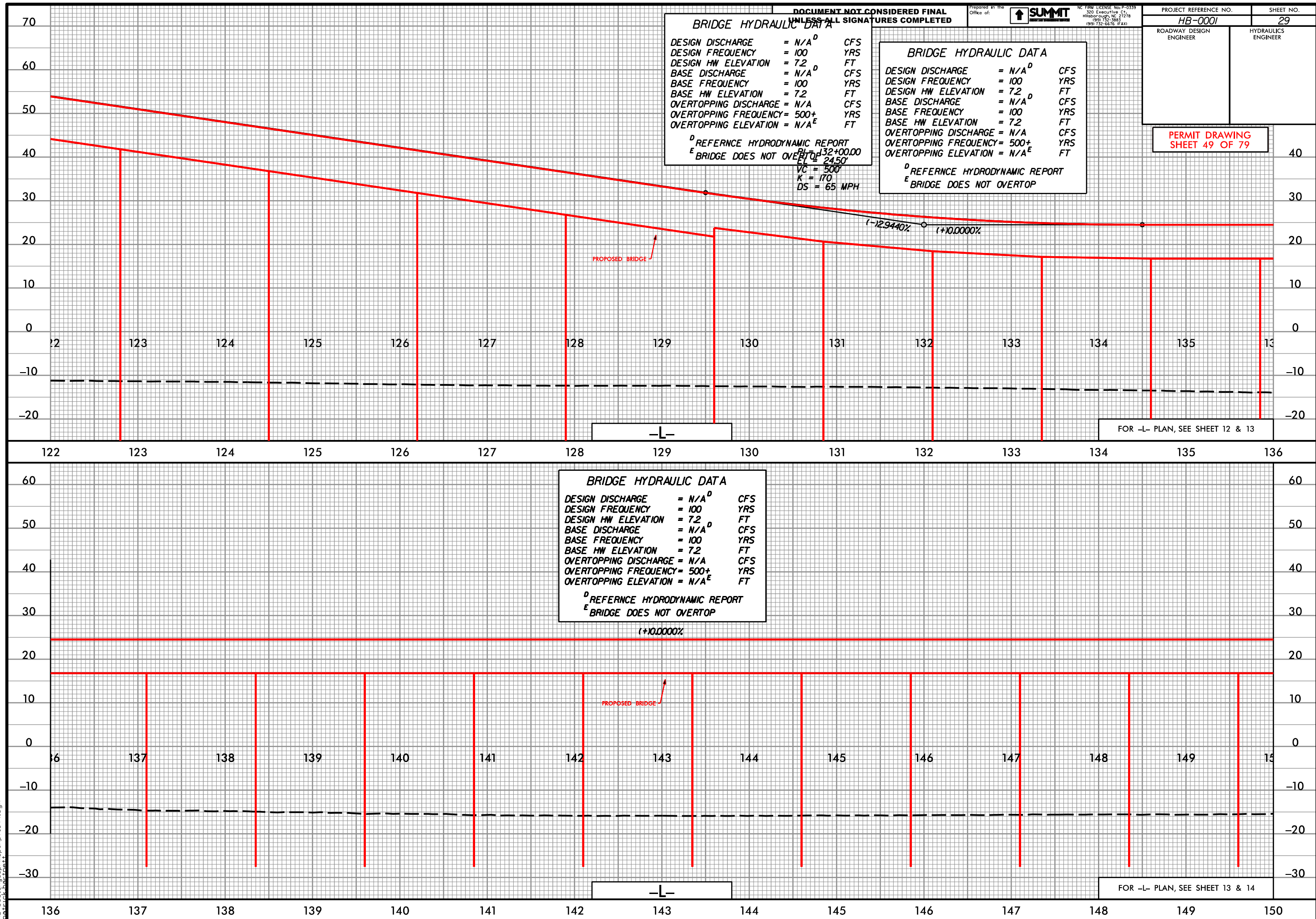
FOR -L- PLAN, SEE SHEETS 11 & 12

-L-

PERMIT DRAWING
SHEET 49 OF 79

DESIGN DISCHARGE	=	N/A ^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A ^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500 ⁺	YRS
OVERTOPPING ELEVATION	=	N/A ^E	FT

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A^E	FT

^D_E REFERENCE HYDRODYNAMIC REPORT

^E BRIDGE DOES NOT OVERTOP

(+10.0000%

PROPOSED BRIDGE

-L-

FOR -L- PLAN, SEE SHEETS 14 & 15

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A^E	FT

D REFERENCE HYDRODYNAMIC REPORT

^E BRIDGE DOES NOT OVERTOP

(+)0.0000%

PROPOSED BRIDGE

-L-

FOR -L- PLAN, SEE SHEET 15 & 16

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PERMIT DRAWING
SHEET 51 OF 79

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A ^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A ^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A ^E	FT

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

(+10.0000%

PROPOSED BRIDGE ↗

-L-

FOR -L- PLAN, SEE SHEETS 16 & 17

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	N/A ^D	CFS
DESIGN FREQUENCY	=	100	YRS
DESIGN HW ELEVATION	=	7.2	FT
BASE DISCHARGE	=	N/A ^D	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	7.2	FT
OVERTOPPING DISCHARGE	=	N/A	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	N/A ^E	FT

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

(+10.0000%

PROPOSED BRIDGE

-L-

FOR -L- PLAN, SEE SHEETS 17 & 18

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

PROPOSED BRIDGE

TEMPORARY WORK PLATFORM

-L-

FOR -L- PLAN, SEE SHEETS 18 & 19

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

$PI = 223 + 95.00$
 $EL = 8.65'$
 $VC = 450'$
 $K = 173$
 $DS = 65 \text{ MPH}$

PROP WILDLIFE CROSSING
53"x41" PIPE ARCH

CLASS II RIP RAP
KEYED IN 3.5 FT

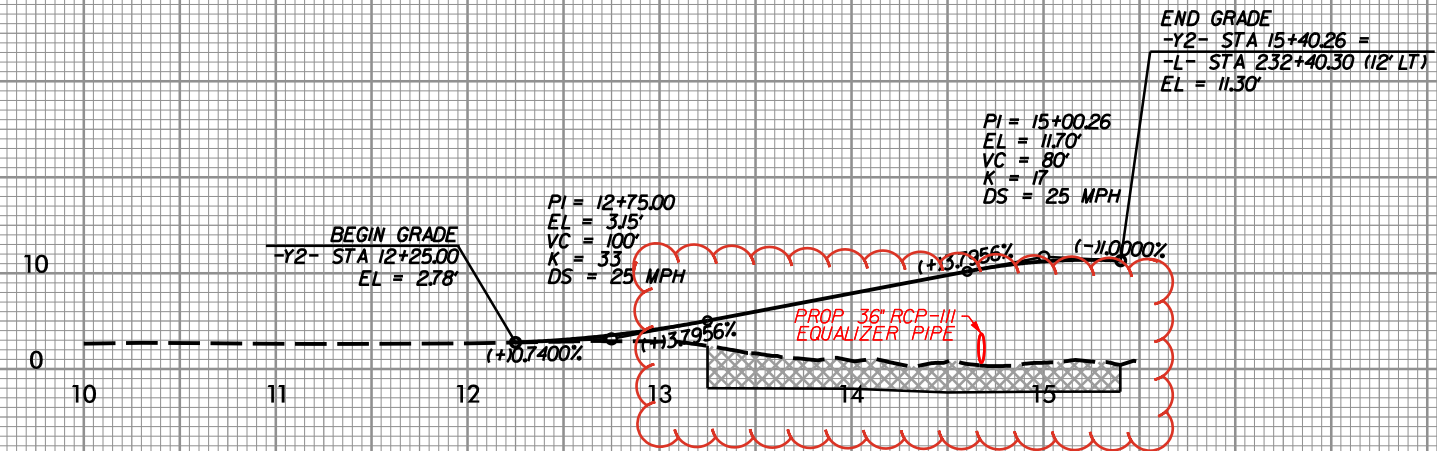
—L—

FOR -L- PLAN, SEE SHEET 19 & 20

HB-0001
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PERMIT DRAWING
SHEET 54 OF 79



-Y2-

FOR -Y2- PLAN, SEE SHEET 21

28-DEC-2023 12:57
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(919) 732-6676 (FAX)



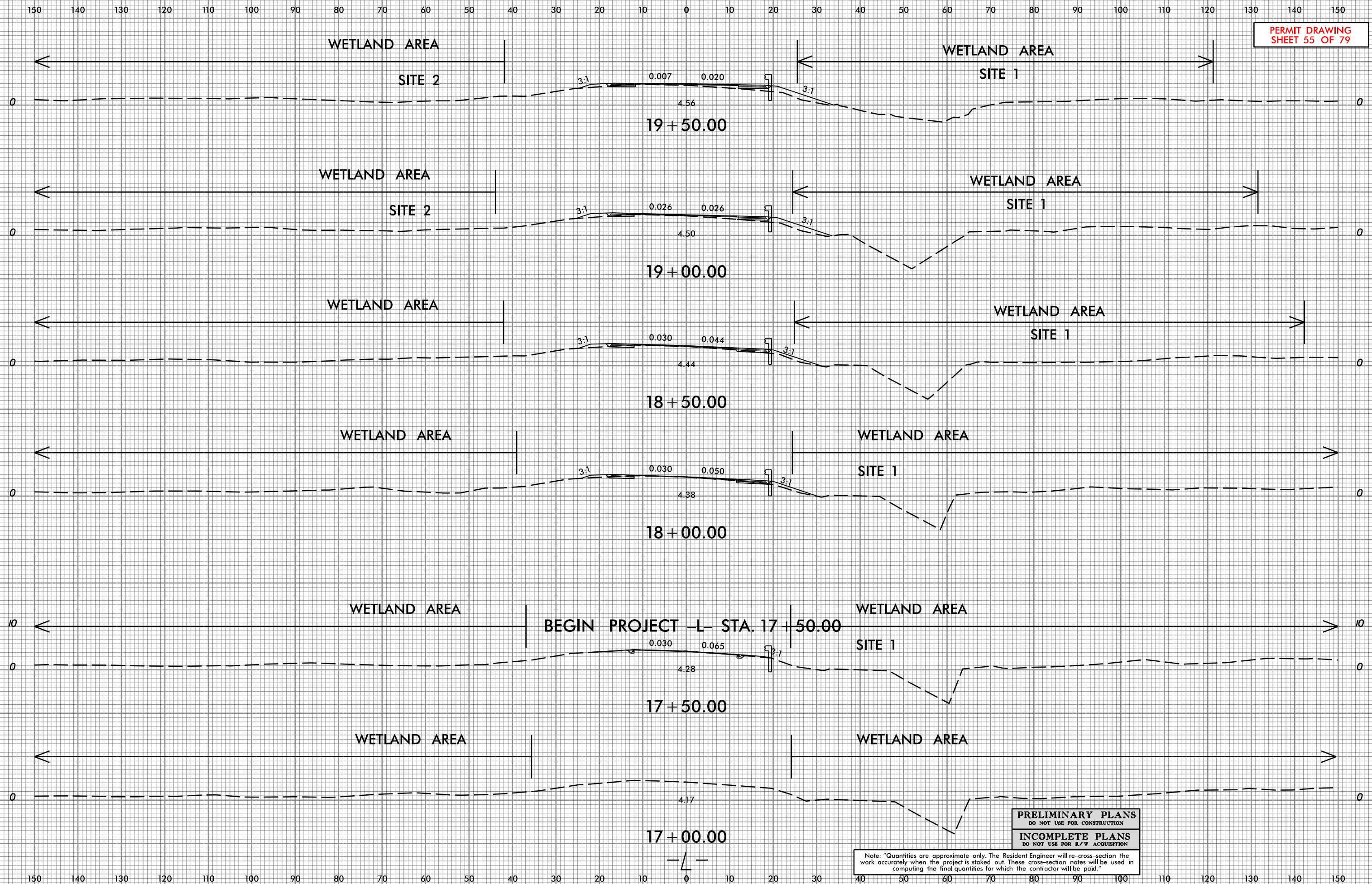
PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-1

PERMIT DRAWING
SHEET 55 OF 79



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

Note: "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

28-DEC-2023 12:57
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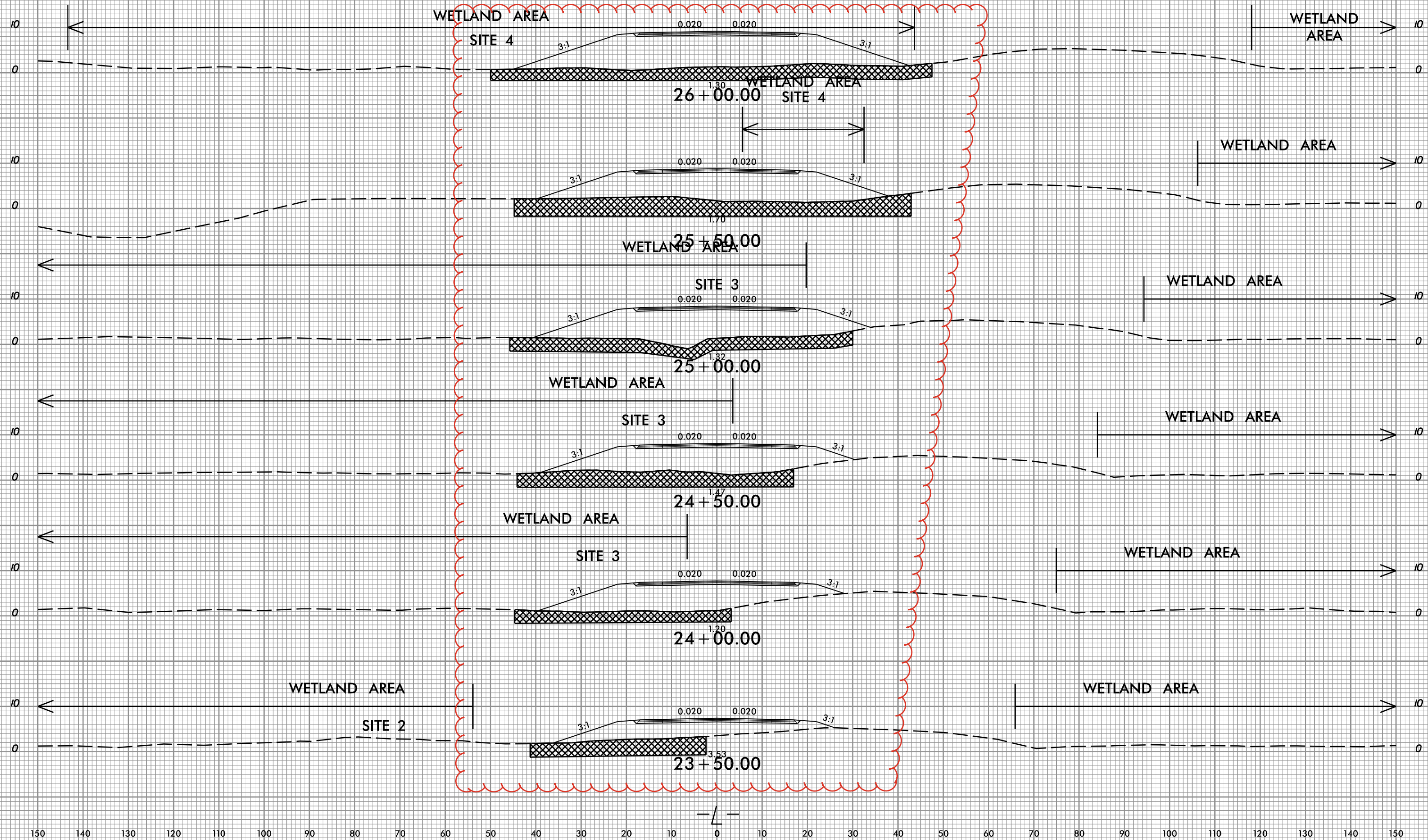
PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-3

PERMIT DRAWING
SHEET 57 OF 79



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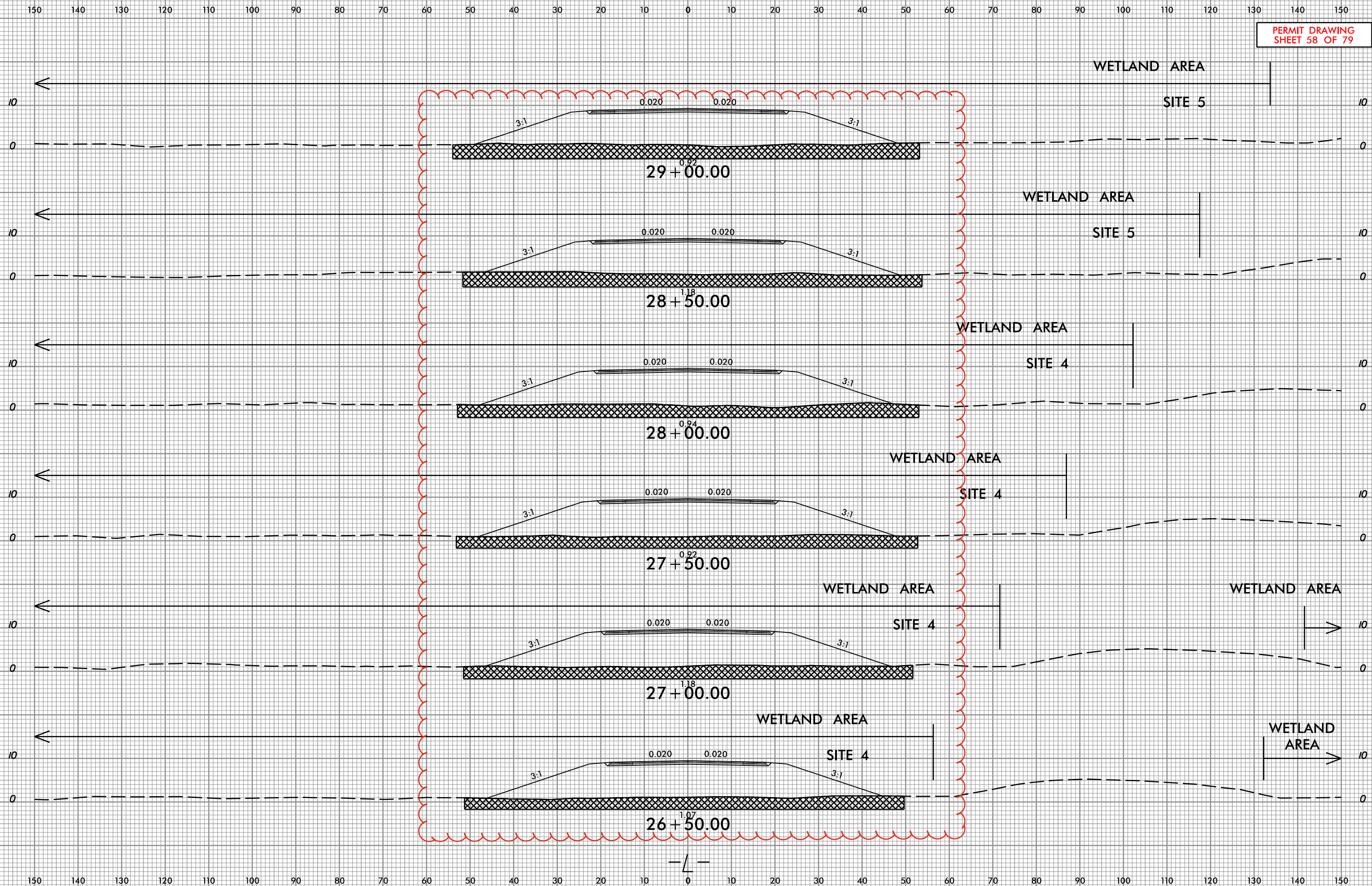
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HB-0001

SHEET NO.

X-4

PERMIT DRAWING
SHEET 58 OF 79



28-DEC-2023 12:57
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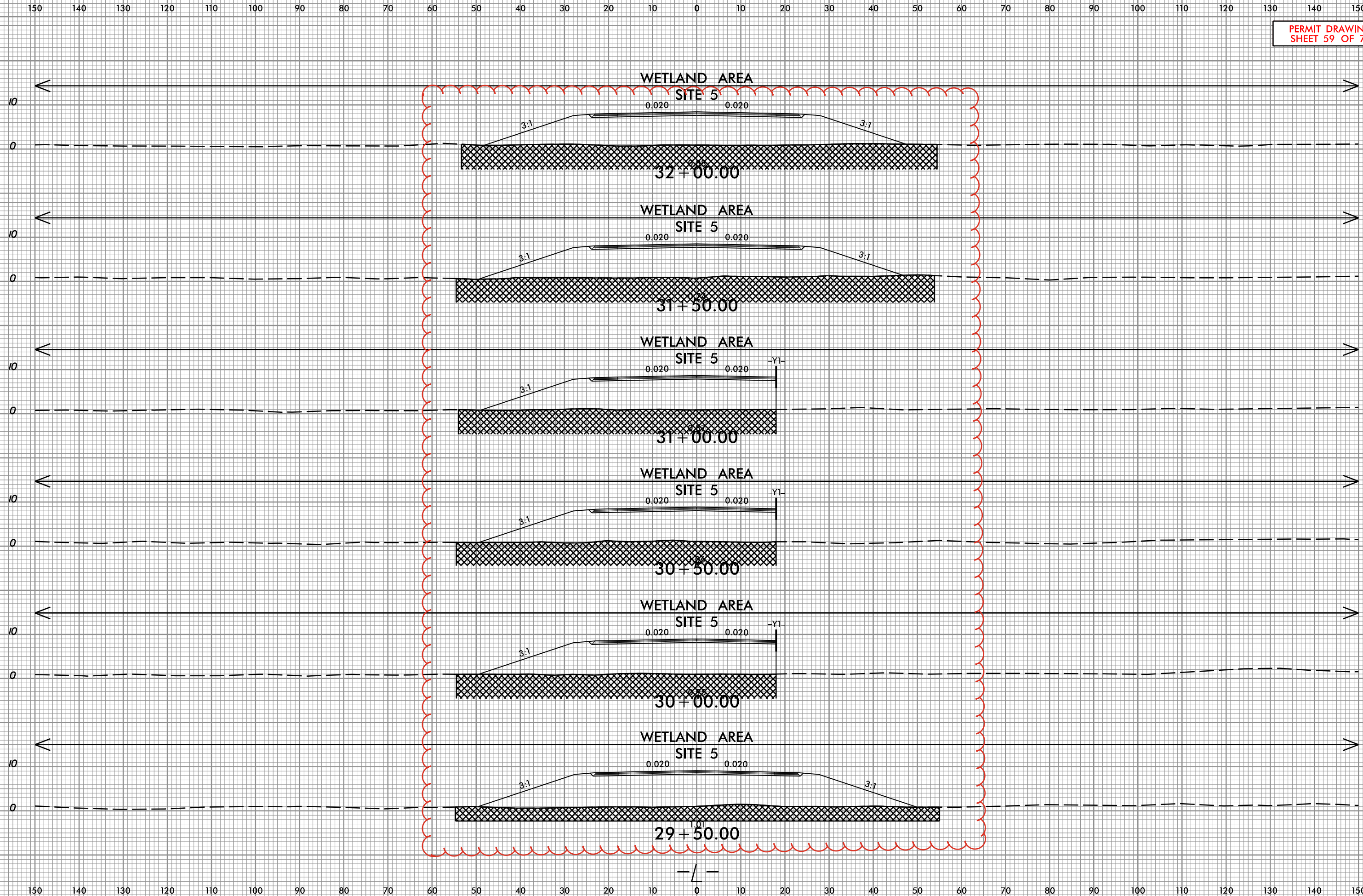
NC FIRM LICENSE No. P-0339
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PROJ. REFERENCE NO.
HB-0001

SHEET NO.
X-5

PERMIT DRAWING
SHEET 59 OF 79



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PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-6

PERMIT DRAWING
SHEET 60 OF 79

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

35 + 00.00

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

34 + 50.00

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

34 + 00.00

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

33 + 50.00

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

33 + 00.00

WETLAND AREA

SITE 5

0.020 0.020

3:1

3:1

32 + 50.00

-L-

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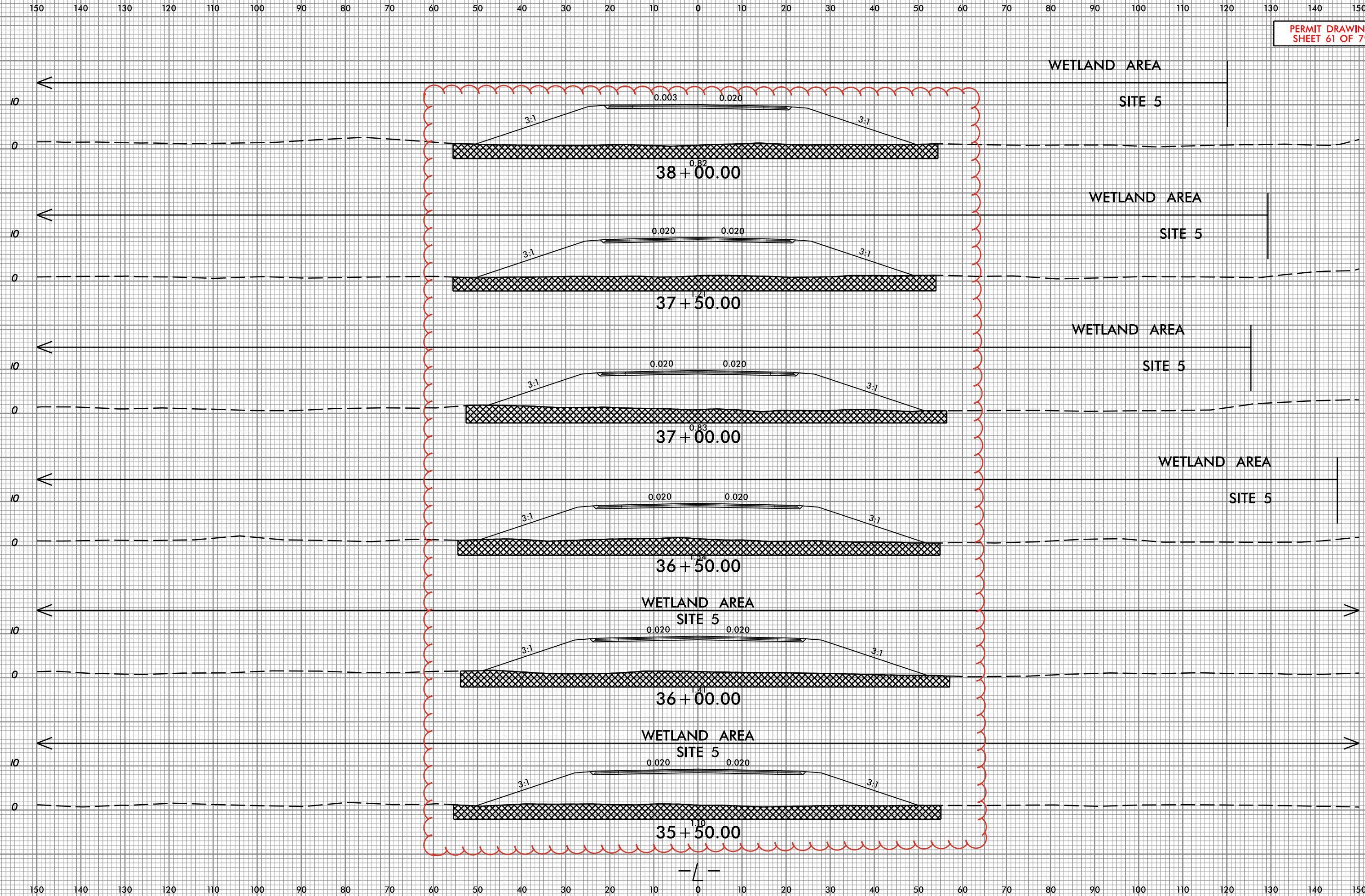
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HB-0001

SHEET NO.

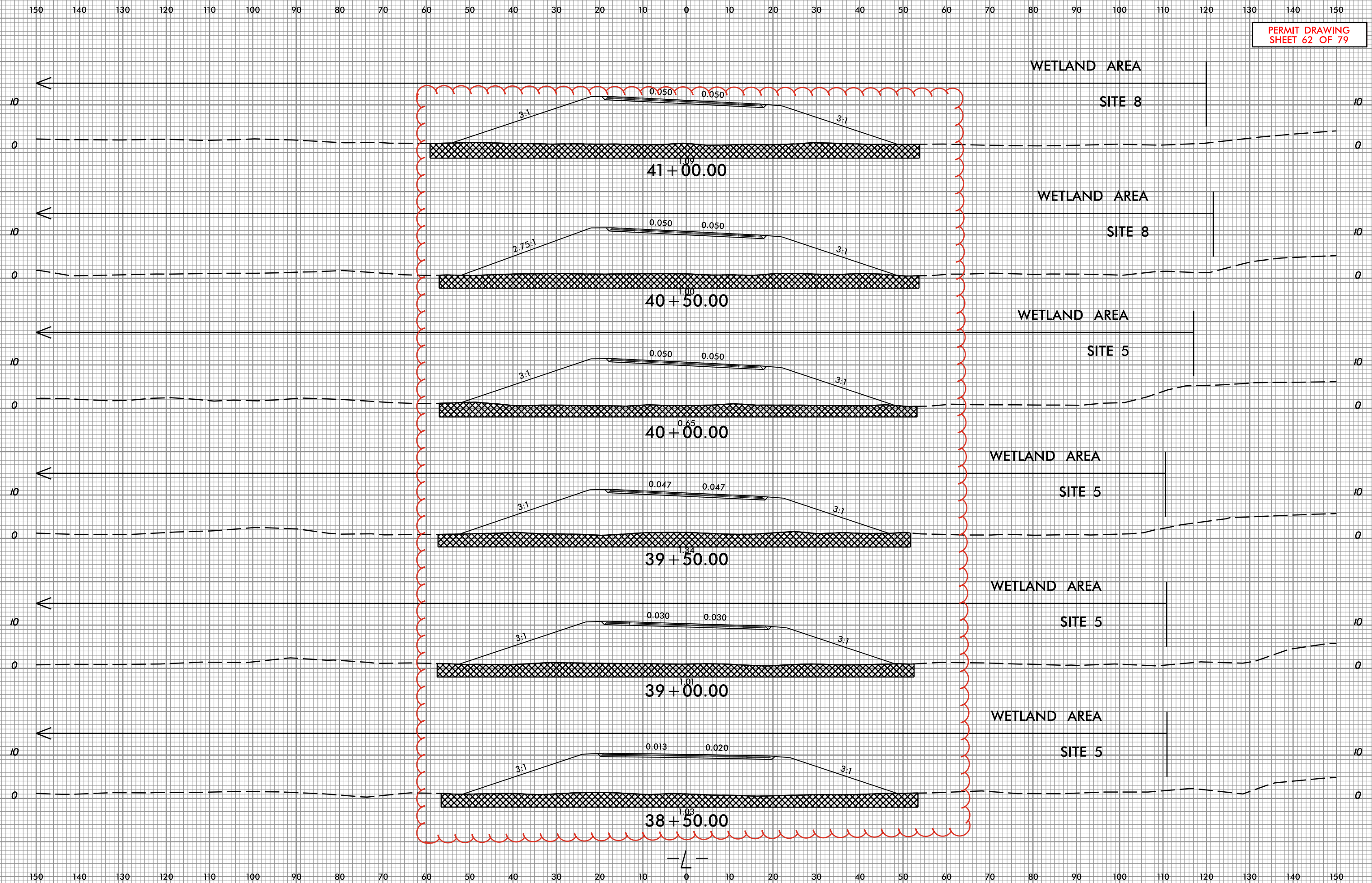
X-7

PERMIT DRAWING
SHEET 61 OF 79



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HB-0001_Hyd_xpl_L17+00-50+00.dgn
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PERMIT DRAWING
SHEET 62 OF 79



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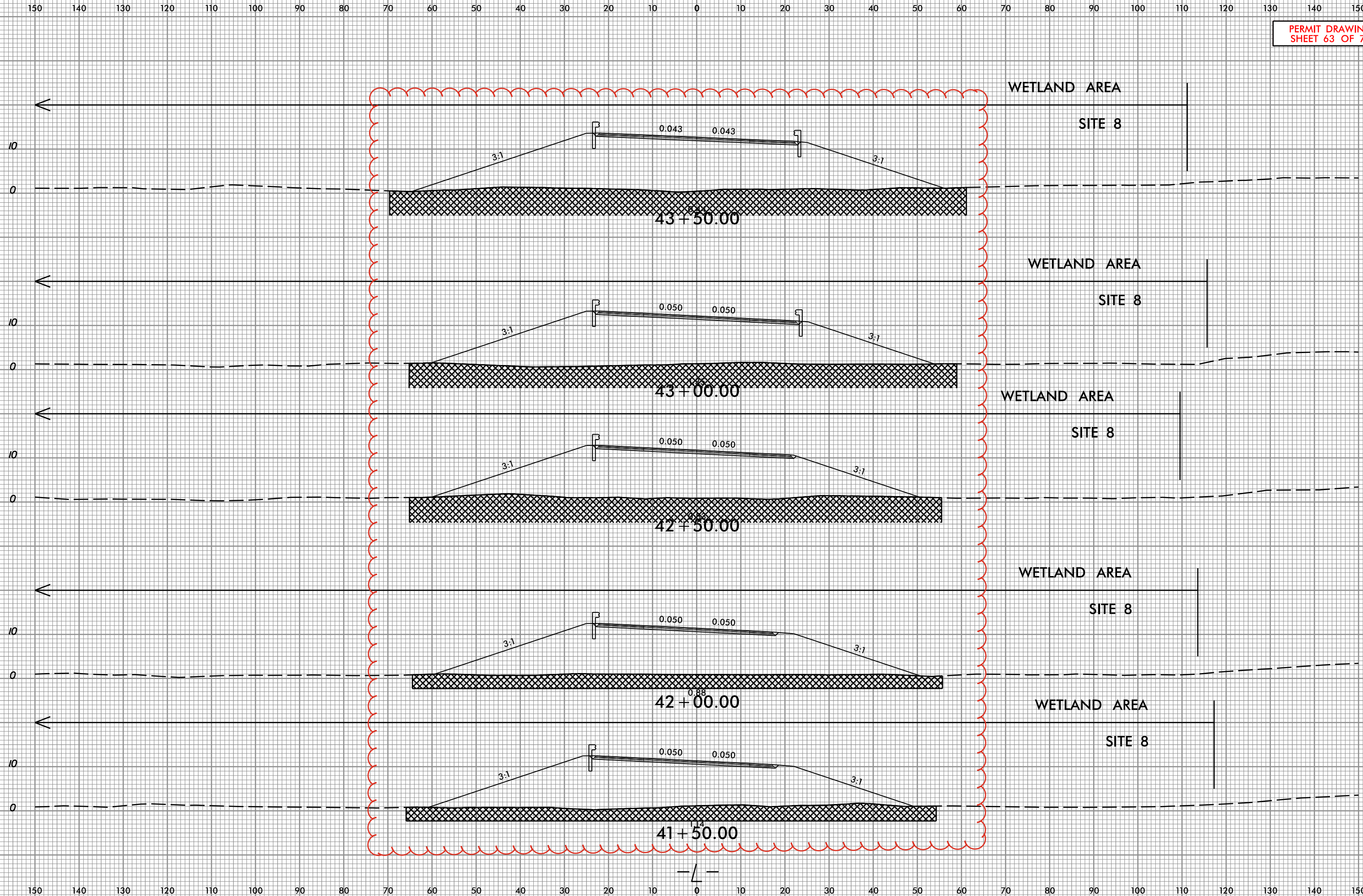
PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-9

PERMIT DRAWING
SHEET 63 OF 79



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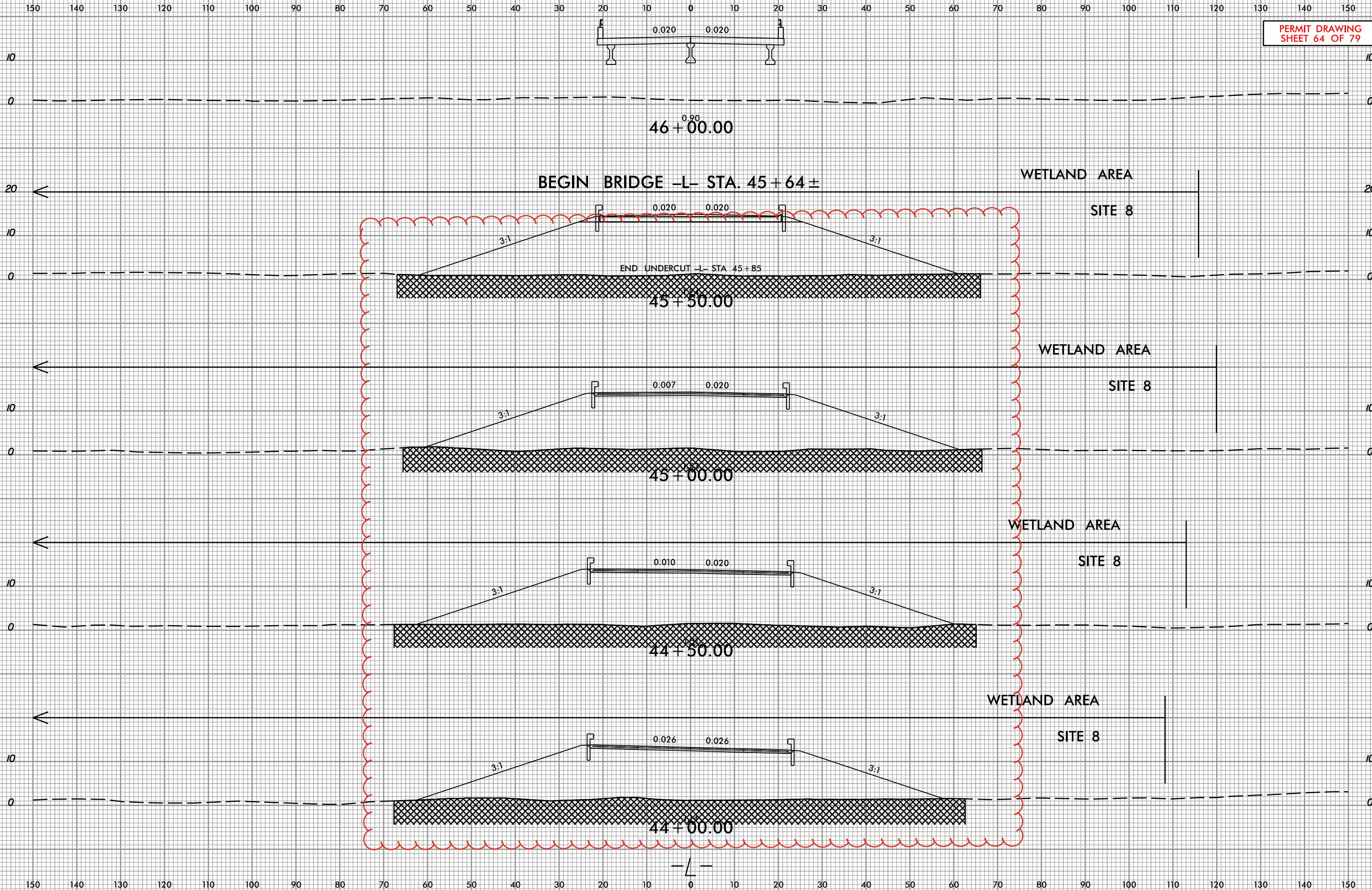
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HB-0001

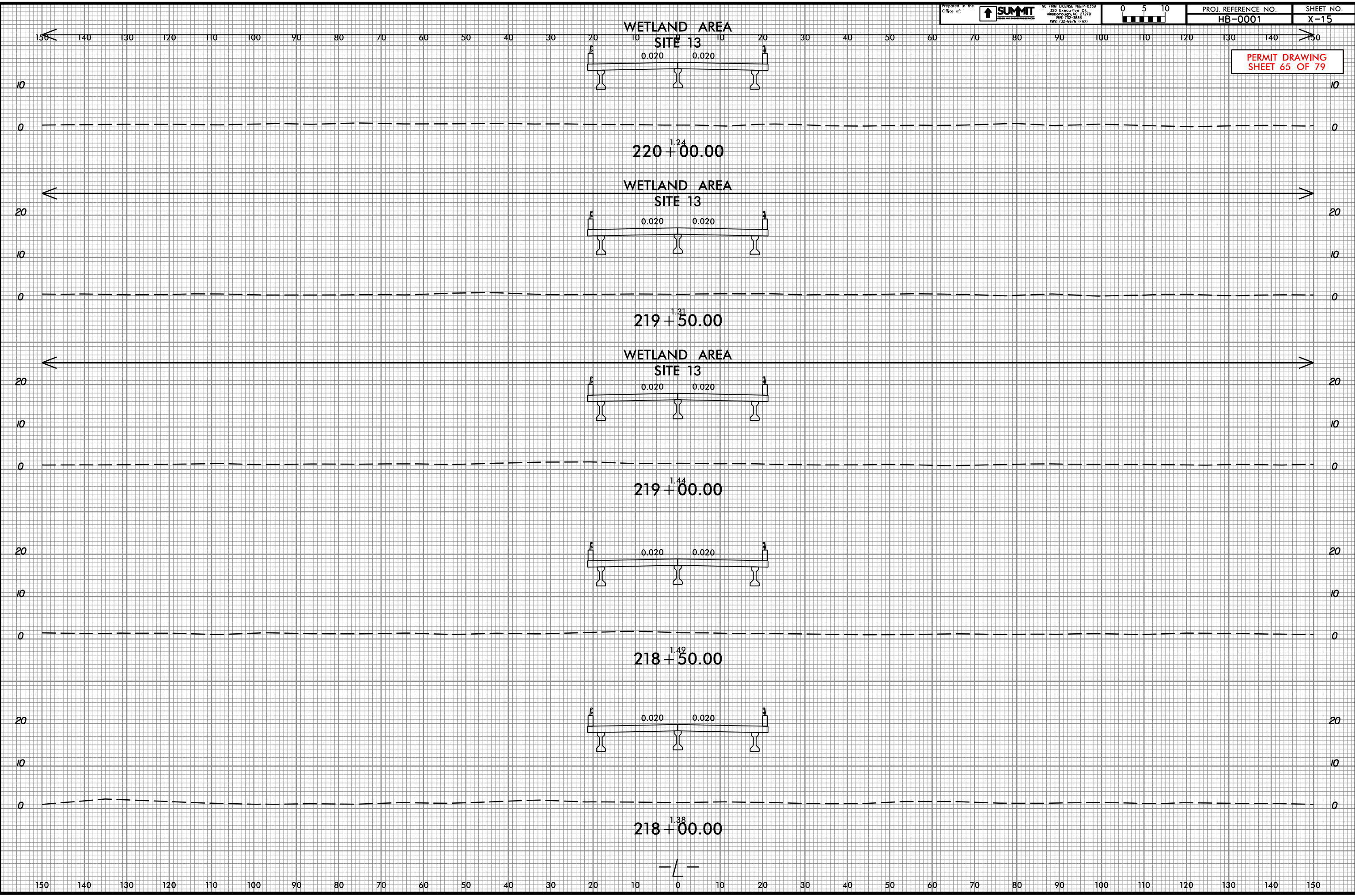
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X-10

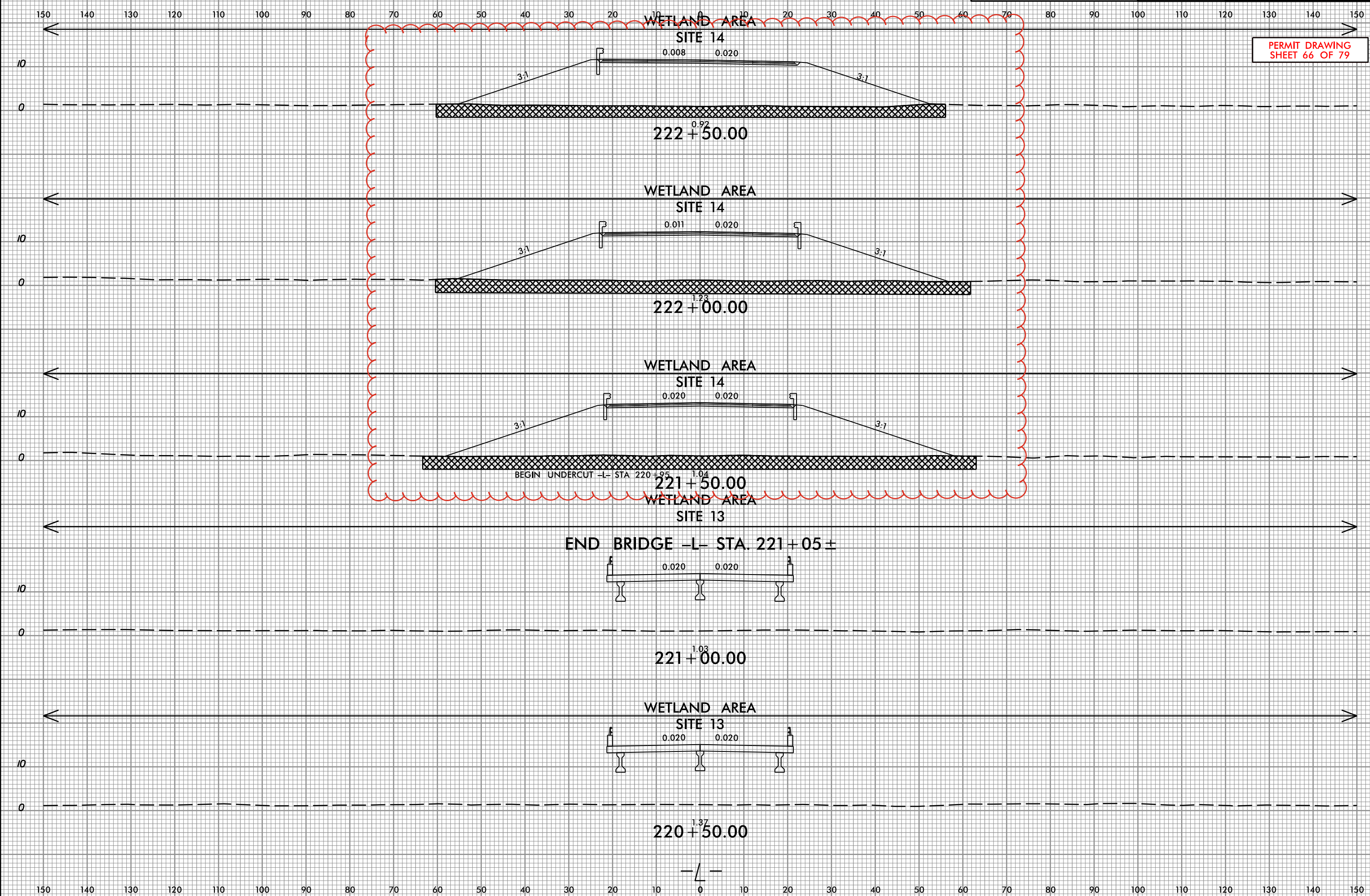
PERMIT DRAWING
SHEET 64 OF 79



28-DEC-2023 12:57
HB-0001_Hyd_xpl_L-214+00-242+00.dgn
patrick.hartnett

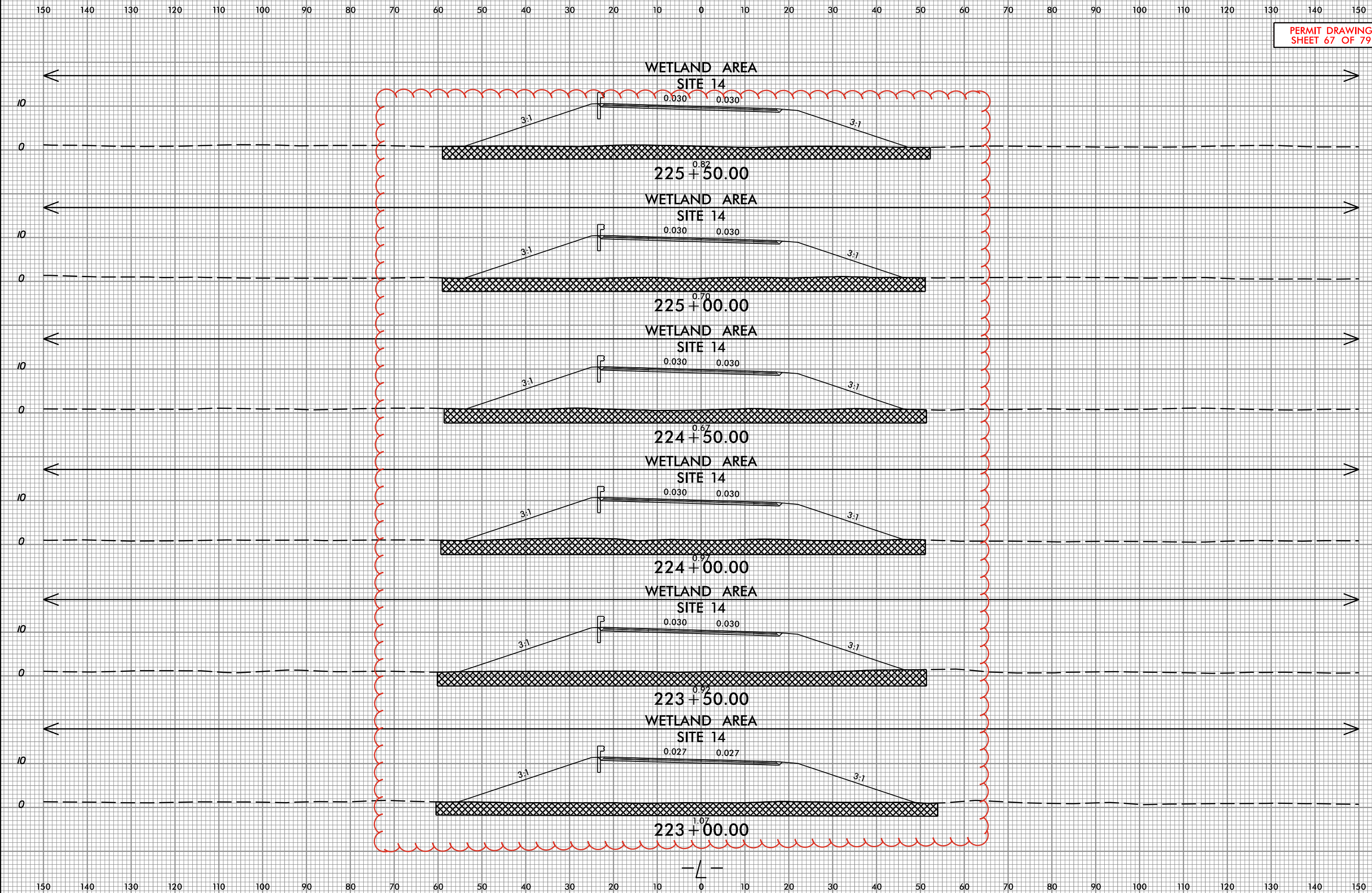


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patriciarhett



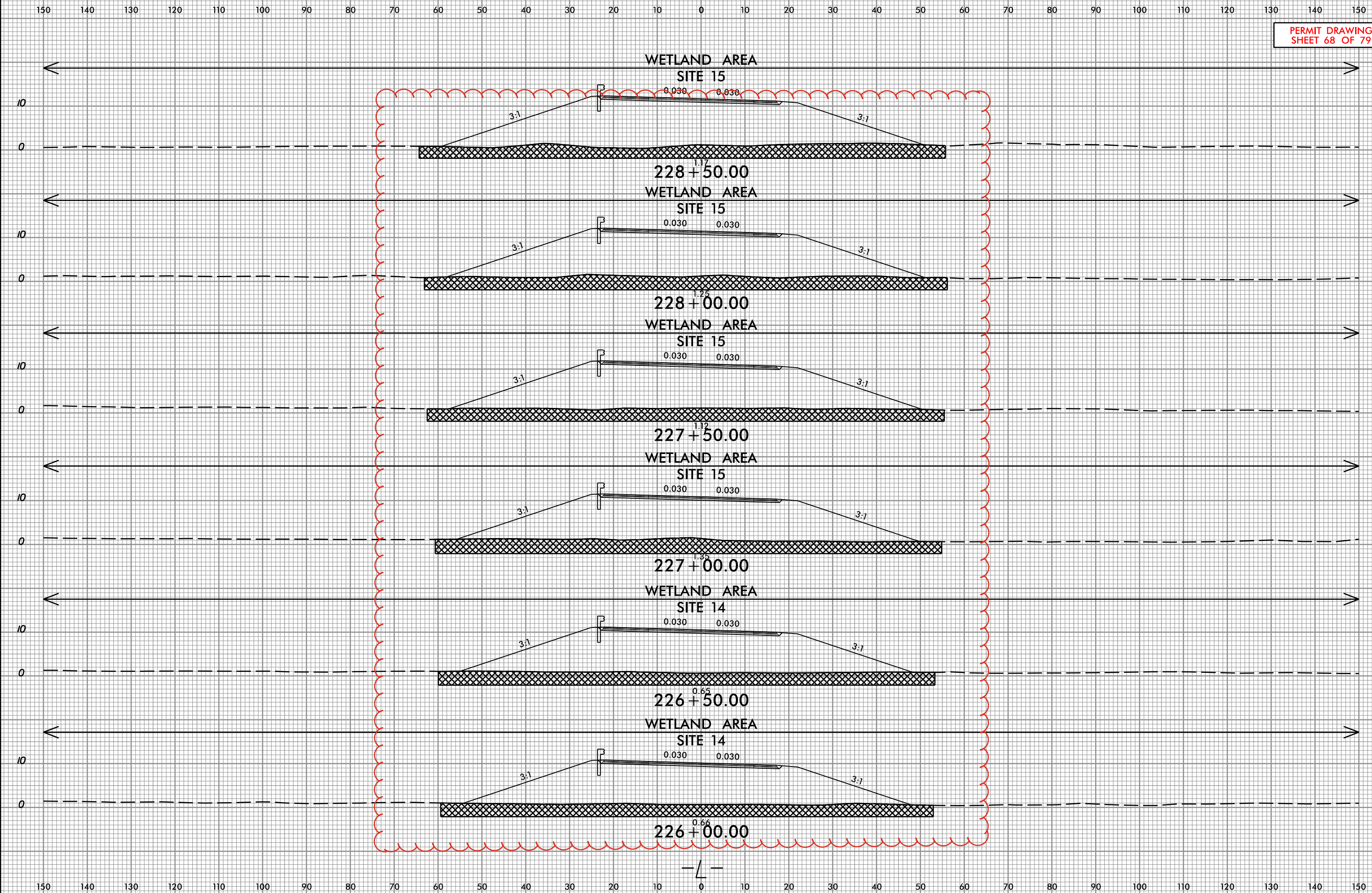
PERMIT DRAWING
SHEET 66 OF 79

28-DEC-2023 12:57
HB-0001_Hyd_xpl_L-214+00-242+00.dgn
patric.karstett



PERMIT DRAWING
SHEET 67 OF 79

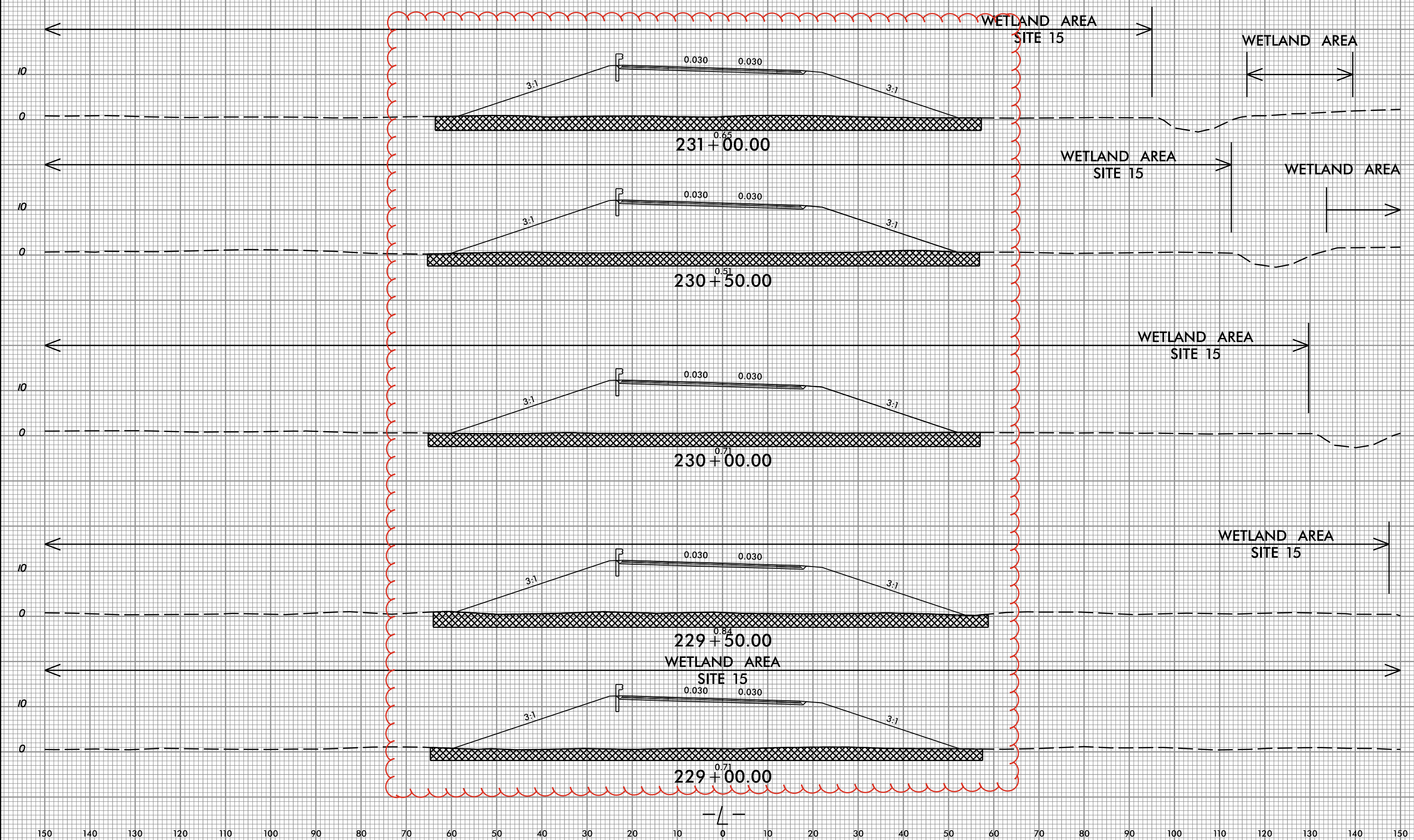
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patric.karim@sumit.com



PERMIT DRAWING
SHEET 68 OF 79

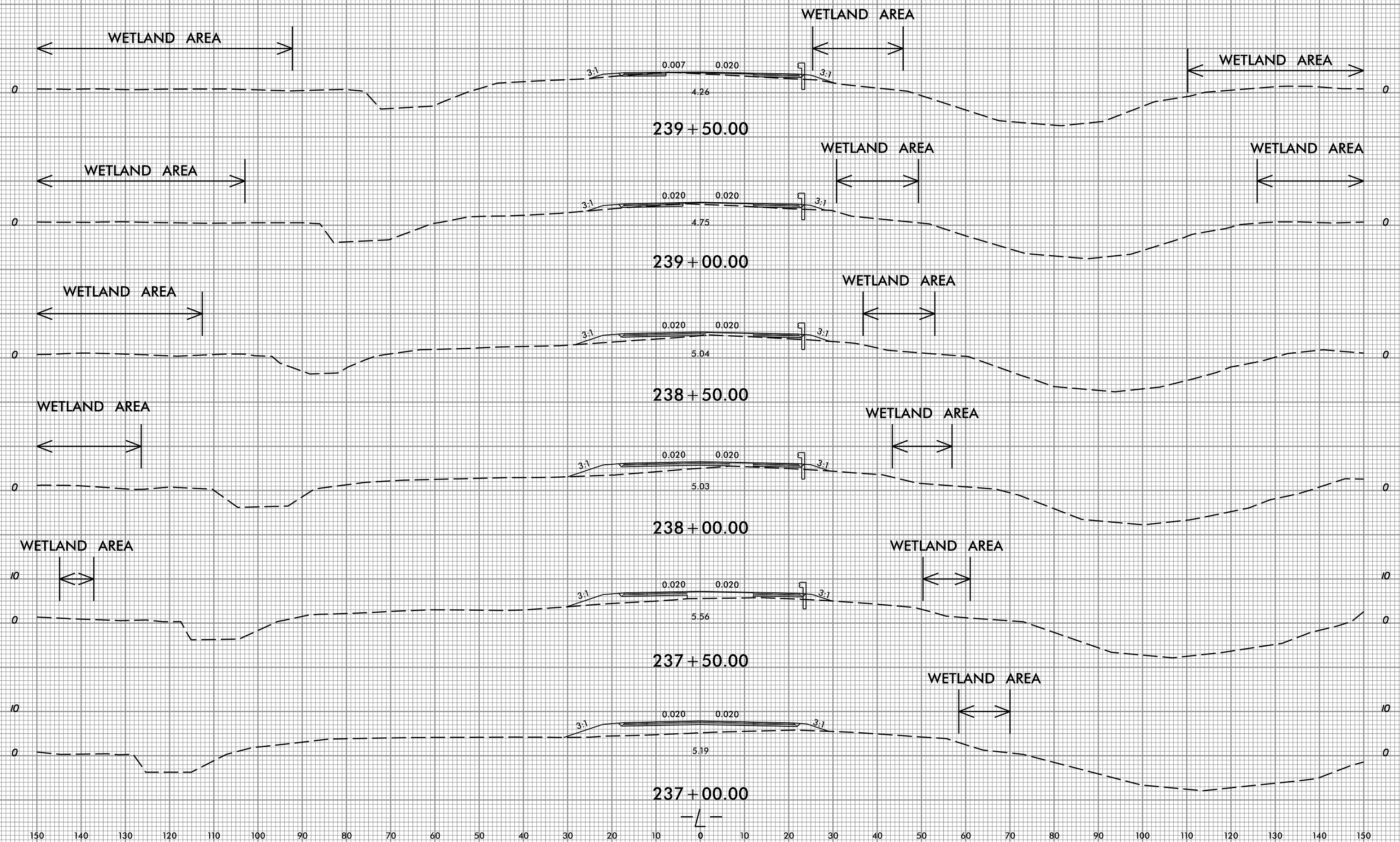
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patriciarhett

PERMIT DRAWING
SHEET 69 OF 79



28-DEC-2023 12:57
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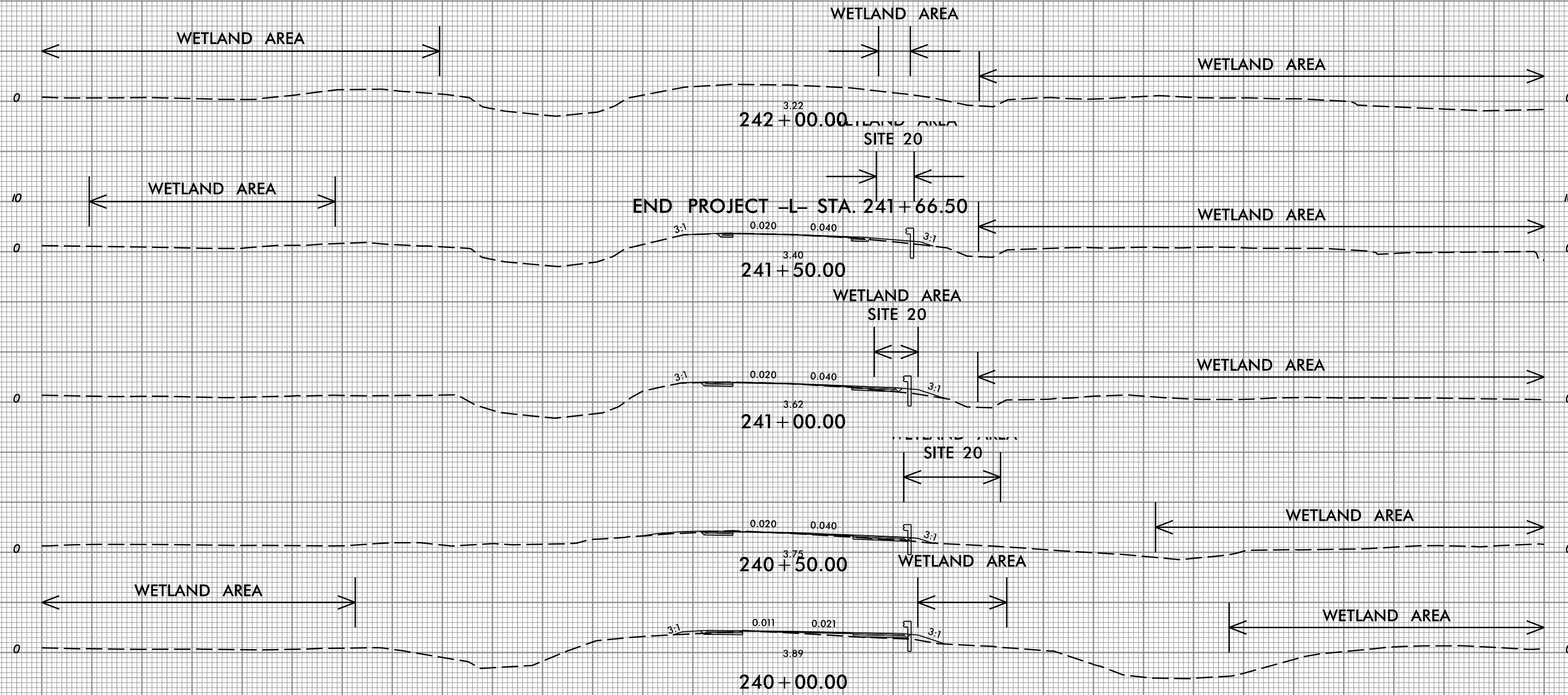
PERMIT DRAWING
SHEET 72 OF 79



28-DEC-2023 12:57
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patriciarhett

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

PERMIT DRAWING
SHEET 73 OF 79



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

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HB-0001_Hyd_xpl_Y1.dgn
patric.karim@net

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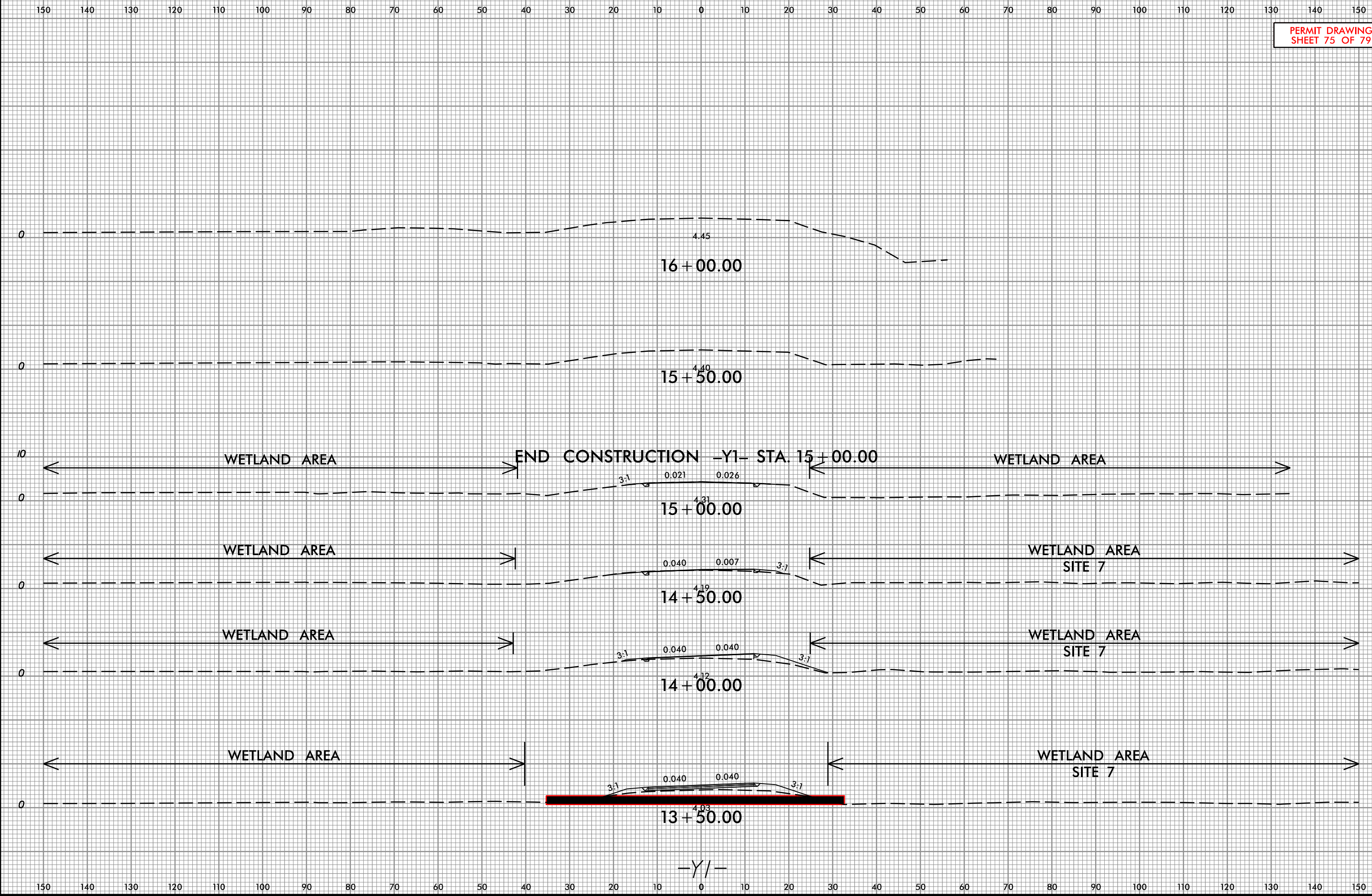
PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-25

PERMIT DRAWING
SHEET 75 OF 79



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HB-0001_Hyd_xpl_Y2.dgn
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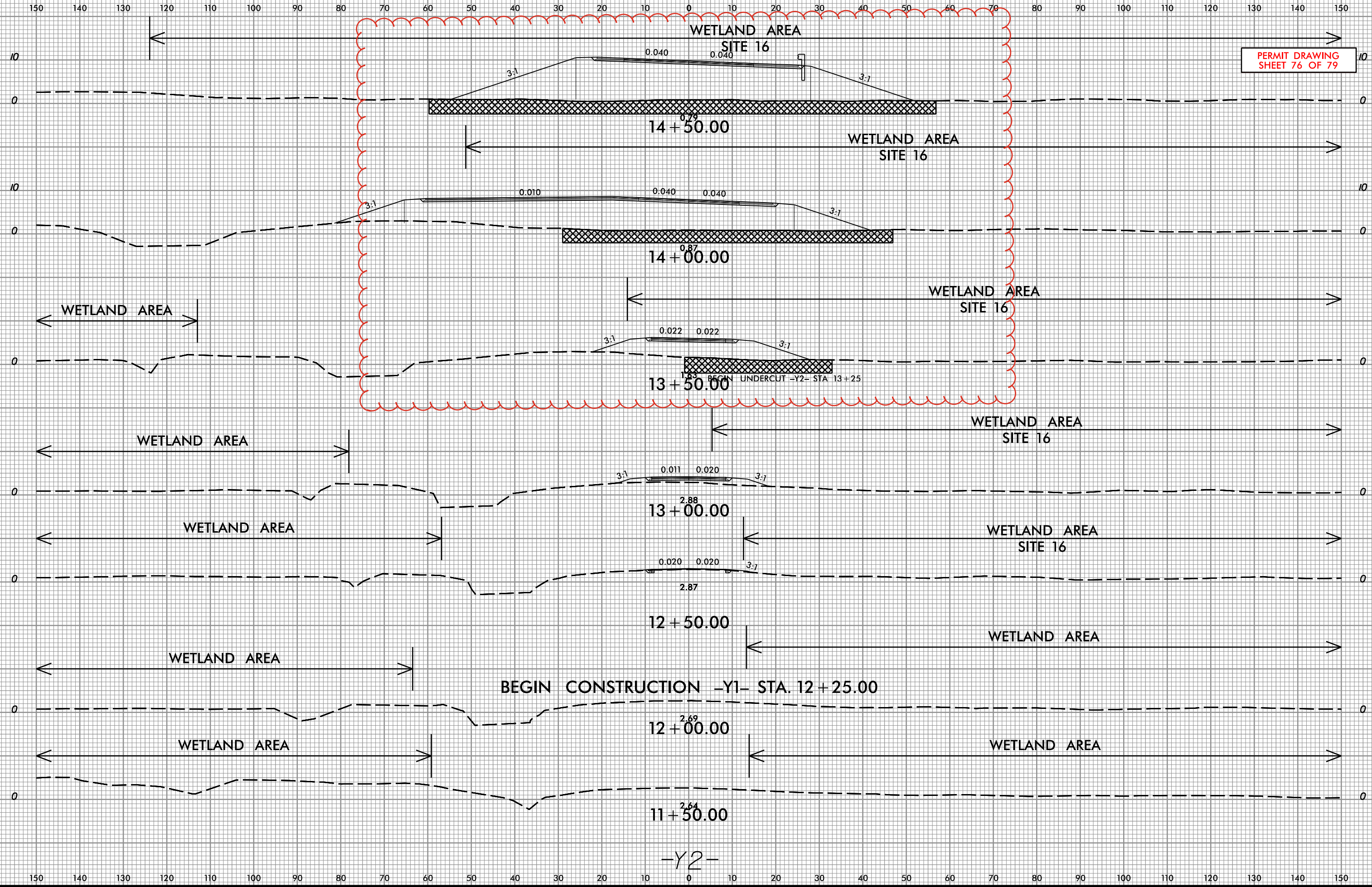


PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-26

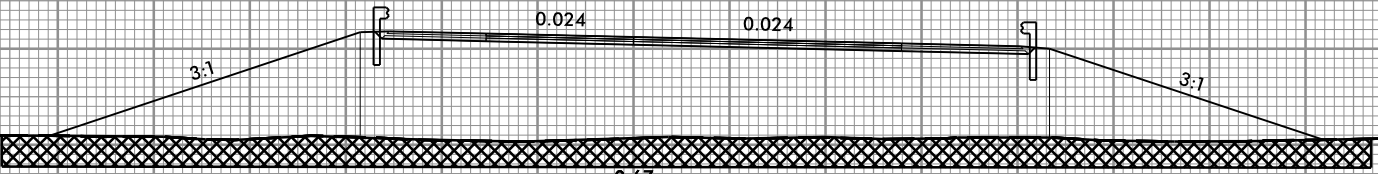


PERMIT DRAWING
SHEET 76 OF 79

PERMIT DRAWING
SHEET 77 OF 79

WETLAND AREA
SITE 16

END CONSTRUCTION -Y1- STA. 15 + 40.26



15 + 00.00 END UNDERCUT -Y2- STA 15 + 40

-Y2-

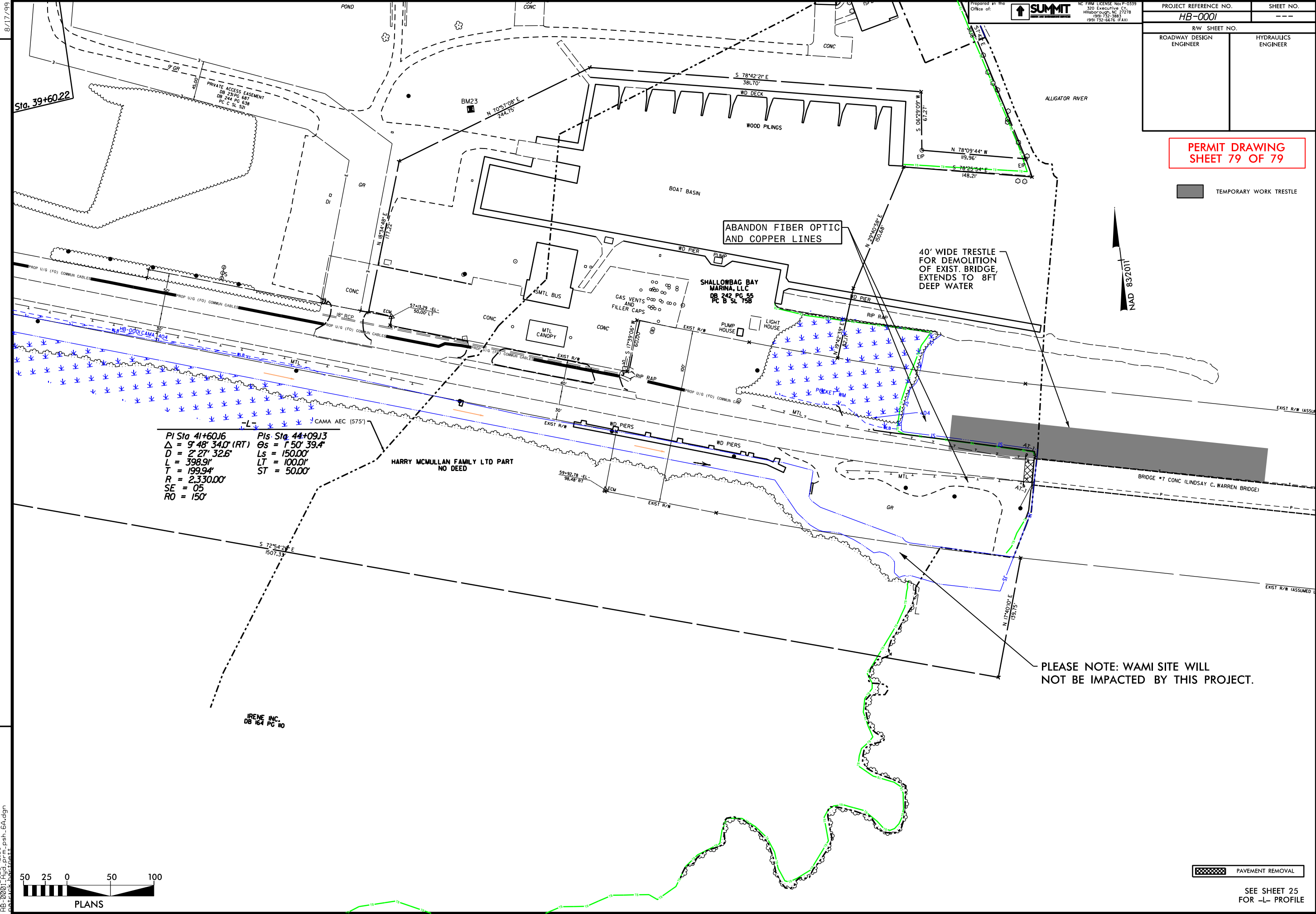
TOTALS*:	9.055	1.04	0.02	1.776	4.12	0.306	0.064	0	0	0
----------	-------	------	------	-------	------	-------	-------	---	---	---

NOTES:

The following CAMA impacts are included in the impact quantities shown in the table. Permanent fill in CAMA wetlands total 0.026 acres. Mechanized Clearing impacts in CAMA wetlands total 0.028 acres. These impacts occur at Site 1.

Please note, for sites 1, 3, 12, 16, 17 and 18 the "Surface Water" impacts are considered "Open Water" impacts and do not have an associated impact length.

SHEET 78 OF 79



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(919) 732-6616 (Fax)

PROJECT REFERENCE NO. HB-0001		SHEET NO. ---
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

**PERMIT DRAWING
SHEET 79 OF 79**

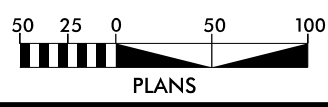
TEMPORARY WORK TRESTLE

NAD 83/2011

PI Sta 41+60.16
Δ = 9° 48' 34.0" (RT)
D = 2' 27" 32.6"
L = 398.91'
T = 199.94'
R = 2,330.00'
SE = 05
RO = 150'

PIs Sta 44+09.13
Θs = 1° 50' 39.4"
Ls = 150.00'
LT = 100.01'
ST = 50.00'

PLEASE NOTE: WAMI SITE WILL NOT BE IMPACTED BY THIS PROJECT.



PAVEMENT REMOVAL

SEE SHEET 25
FOR -L- PROFILE

REVISIONS

8/17/99
28-DEC-2023 12:58
28-0001-sh-5A.dgn
28-0001-sh-5A.dgn
28-0001-sh-5A.dgn