



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

November 7, 2024

MEMORANDUM TO: Division Environmental and Construction Units

FROM: *mat* Michael A. Turchy, ECAP Group Leader
Environmental Analysis Unit

SUBJECT: Environmental Permits for the Replacement of Bridge 7 on US 64 over
Alligator River in Tyrell and Dare Counties, Division 1, **TIP: HB-0001.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	USACE Individual Permit	December 31, 2029
NC Division of Water Resources Section 401 Water Quality Certification	NCDWR Individual Water Quality Certification	December 31, 2029
NC Division of Coastal Management Coastal Area Management Act	CAMA Major Development Permit	NA
US Coast Guard Bridge Permit	USCG Bridge Permit	November 7, 2029

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans.

The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) or accompanying drawings is required.

PROJECT COMMITMENTS

T.I.P. Project No HB-0001
Replacement of Bridge No. 7 over Alligator River
On US 64
Dare/Tyrell Counties
W.B.S. No. 49475.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

FEMA Floodplains and Floodways (NCDOT Division 1, NCDOT Hydraulics Unit)

This project involves construction activities on or adjacent to a FEMA-regulated stream(s). Therefore, the Division will submit sealed as-built construction plans to the NCDOT Hydraulics Unit upon completion of project 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.

NC Floodplain Mapping Program (NCDOT Division 1, NCDOT Hydraulics Unit)

NCDOT will coordinate with the NC Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Public Involvement and Outreach (NCDOT Public Involvement, NCDOT Division 1, NCDOT PMU)

Public engagement activities will be coordinated with NCDOT Public Involvement prior to completion of the final designs and right of way plans to ensure full and fair participation of all potentially affected communities in the transportation decision-making process.

Dare County Schools (NCDOT Division 1, NCDOT Roadway, NCDOT Traffic Safety Unit)

Alex Chandler, the Dare County School Transportation Director, reported in a telephone interview on June 2, 2021, that one school bus operates on U.S. 64 within the project limits, turning around prior to the bridge using a "vee" area at the Old Ferry Landing Road intersection with U.S. 64. One bus turns around twice each school day (morning and afternoon).

During the final design phase of the project, NCDOT will evaluate design revisions that accommodate a bus turnaround in the vicinity of Old Ferry Landing Road, as well as provisions for continued turnaround access during construction.

GeoEnvironmental Sites of Concern (NCDOT GeoEnvironmental Unit)

Sites of concern identified in the GeoEnvironmental Phase I Report should be reviewed by the NCDOT GeoEnvironmental Section once the Final Right of Way plans are complete to determine if Phase II Investigations and Right of Way Recommendations are necessary prior to right of way being acquired.

Outstanding Resource Water (NCDOT Division 1, NCDOT ECAP)

The Alligator River has been designated as an Outstanding Resource Water (ORW) from the mouth of Northwest Fork to U.S. Highway 64, south of the existing bridge. Best Management Practices from Design Standards in Sensitive Watersheds will be employed.

Wildlife Crossings (NCDOT Division 1, NCDOT Roadway Design, NCDOT Roadside Environmental Unit)

The proposed project includes two arched pipes (53"X41"), one located on each approach to the bridge, that are included to accommodate wildlife crossing the U.S. 64 corridor. Standard 4-to-5- foot directional fencing will be installed to direct wildlife to these pipes and to keep wildlife from crossing the roadway where it could potentially be struck by vehicular traffic. Herptile-excluding mesh will be attached to the fencing and will extend upwards a minimum of 2- feet and be buried 1-foot below ground to prevent small animals, reptiles, and amphibians from breaching the wildlife fence and entering the U.S. 64 travel way.

Fencing 10-feet in height will be provided in the area around the end of the bridge on both approaches, and along both the northern and southern sides of U.S.64, to prevent larger animals from gaining access to the U.S. 64 corridor. The fencing will extend underneath the bridge to provide a continuous length of fencing.

Access gates in the wildlife fencing will be installed at appropriately designated intervals to allow for maintenance and ease of access once the wildlife fencing is installed.

Anadromous Fish Habitat (NCDOT Division 1, NCDOT ECAP)

The Alligator River north of the existing US 64 bridge (30-16-21.5) is classified as coastal Anadromous Fish Spawning Area (AFSA) under Marine Fisheries Commission (MFC) jurisdiction. The Alligator River south of the existing US 64 bridge (30-16-7) is classified as joint AFSA waters under the jurisdiction of MFC and the North Carolina Wildlife Resource Commission (WRC). A construction moratorium from February 1 to October 31 will apply to this project.

The in-water work moratorium for the project is February 15 through June30 for the deepwater channel and July 15 through September 30 for the entire river.

Submerged Aquatic Vegetation (NCDOT Division 1, NCDOT ECAP)

Submerged aquatic vegetation (SAV) surveys conducted in May 2021 did not identify SAV within the study area; however, because the project is currently unfunded for Right of Way and construction in the 2020-2029 STIP, re-surveys may be required at a future, appropriate time prior to the permitting and construction phase if a considerable amount of time elapses.

No additional SAV surveys are required for the project.

Estuarine and Ocean System Area of Environmental Concern (AEC) (NCDOT Division 1, NCDOT ECAP, NCDOT Structures Management Unit, NCDOT Hydraulics Unit)

The proposed HB-0001 bridge structure is currently designed to span the public trust water shoreline buffers (30-foot and 75-foot buffer zones) on each side of the Alligator River. Because this bridge is a coastal/tidal bridge with a high criticality rating, additional structural, geotechnical, and 2D hydrodynamic modeling and design efforts are being conducted to address, among other items, sea level rise (2090), storm surge, coastal scour, and wave loads. These design efforts will further evaluate and assist in determining the optimal length for the new bridge structure and pier locations and will seek to avoid and minimize, to the extent practicable, impacts to adjacent jurisdictional wetlands, streams, and CAMA AECs.

West Indian Manatee (NCDOT Division 1, NCDOT ECAP)

Construction contracts will require compliance with the US Fish & Wildlife Service's *Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* (USFWS, 2003) to ensure no adverse effects occur to this species.

Atlantic and Shortnose Sturgeon (NCDOT Division 1, NCDOT ECAP)

Conservation measures for the project to protect shortnose sturgeon include no hopper dredging and measures to minimize habitat degradation. Such measures include Best Management Practices (BMPs) involving use, storage, and disposal of construction/demolition materials to minimize short-term turbidity or water quality degradation during over-water construction over the Alligator River and during periodic maintenance. In addition, the project will incorporate BMPs to reduce habitat degradation from stormwater runoff pollution. The same conservation measures will be applied to the Atlantic sturgeon.

Black Rail (NCDOT Division 1, NCDOT ECAP)

Informal Section 7 Consultation with USFWS will be required for the black rail, which has been assigned a Biological Conclusion of "May Affect, Not Likely to Adversely Affect." Consultation will occur and concurrence will be received from USFWS prior to project construction letting.

Black rail surveys have been completed and concurrence has been received from USFWS.

Red-cockaded woodpecker (NCDOT Division 1, NCDOT ECAP, NCDOT EPU)

Formal Section 7 Consultation with USFWS will be required for the red-cockaded woodpecker. A Biological Assessment (BA) has been completed and was submitted to USFWS so that a Biological Opinion (BO) can be rendered for the species. The BA/BO process will be completed prior to construction Let and any conservation measures recommended by USFWS in its BO will be employed on this project.

As compensation for impacts to Tyrell County (TYR) Cluster 63, one (1) credit will be debited from NCDOT's conservation credits at P3; post-project, 22 conservation credits will remain.

Consultation and concurrence has been completed with USFWS for the project. There are no conservation measures pertaining to the replacement of Bridge 7.

Waterfront Access Marine Industry (WAMI) Fund Site (NCDOT Division 1, NCDOT ECAP, NCDOT EPU)

In Tyrrell County on the south side of U.S. 64, a rock jetty with bulkhead, 10 boat slips, and unpaved parking is located within NCDOT right-of-way. This small facility supporting commercial fishing was constructed using funding from the Waterfront Access Marine Industry (WAMI) Fund. The WAMI program was established by the N.C. General Assembly to ensure existing and future waterfront-dependent uses. The WAMI site is operated by a waterman's association whose members pay dues to the association for access and maintenance of the site. The project is not anticipated to directly impact the facility; however, plans for demolition of the existing bridge have not yet been developed, and, therefore, proposed temporary construction easements are not yet known.

If demolition plans will impact the WAMI site, they should be coordinated with the waterman's association (Aron Gallop, -252-394-5185) prior to completion of final designs and right-of-way plans.

Section 106 Memorandum of Agreement (NCDOT HUE, NCDOT SMU, NCDOT PMU, Division 1)

A Section 106 Memorandum of Agreement (MOA) has been signed by NCDOT, FHWA, and the state historic preservation office (SHPO) that addresses the impacts to the existing Lindsay C. Warren Bridge, which has been determined eligible for listing in the National Register of Historic Places. Mitigation efforts outlined in the MOA include two-bar metal rail for the replacement structure, four stand-alone decorative panels and support structures, and photographic recordation of the existing bridge. Continued coordination with SHPO on these mitigation measures will occur as the project moves into the final design phase.

COMMITMENTS FROM PERMITTING

Onsite mitigation (NCDOT Division 1, NCDOT REU, NCDOT M&S)

CAMA Major Permit Condition #27:

Unless specifically altered herein, on-site mitigation shall be carried out as described in the document titled "Onsite Wetland Mitigation Plan Replacement of Alligator River Bridge" dated June 16, 2023 [07H .0208(a)(3)].

NOTE: The on-site mitigation is expected to restore approximately 0.50 acres of tidal freshwater marsh and approximately 7.75 acres of riverine swamp forest by removing approximately 35,000 cubic yards of fill material from approximately 8.25 acres of existing high ground area currently occupied by existing US 64 in Tyrrell County (0.75 acres) and Dare County (7.50 acres).

Bridge Removal (NCDOT Division 1)

USACE Individual Permit (Section 408 condition 17):

All pilings located within the Federal Channel and the federal channel setback shall be removed entirely or removed or cut to a depth of -15 feet MLLW.

DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation, Attn: Mr. Michael Turchy**

Permit No. **AID: SAW-2021-01091**

Issuing Office **CESAW-RG-W**

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: The project is to replace the Lindsay C. Warren Bridge (Tyrrell County Bridge No. 7) on U.S. 64 over the Alligator River portion of the Atlantic Intracoastal Waterway in Tyrrell and Dare Counties, North Carolina (at Atlantic Intracoastal Waterway Mile 84.2). The project will replace the existing 2.83-mile-long swing-span drawbridge with a modern 3.32-mile, two-lane, fixed-span, high-rise bridge north of the existing alignment. The new structure will be comprised of either driven piles or drilled piers, Florida I-beam concrete girders, concrete deck panels, and a drivable wearing surface will provide a vertical navigable channel clearance of 65 feet and a navigational channel horizontal clearance of 140 feet.

Project Location: The project area is located on US 64 spanning the Alligator River approximately 13.5 miles east of the town of Columbia in Tyrrell and Dare Counties, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2029**. 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.

DocuSigned by:
Michael Turchy
3CFE2BCE59604C1...

(PERMITTEE) **NC Department of Transportation**
Attn: Michael Turchy

02/09/2024

(DATE)

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

*Monte
Matthew*

FOR/

(DISTRICT COMMANDER) **BRAD A. MORGAN,**
COLONEL

2024.02.09 12:15:05 -05'00'

(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)

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FEBRUARY 9, 2024
ACTION ID. SAW-2021-01091
NC DEPARTMENT OF TRANSPORTATION
HB-0001 Dare/Tyrrell COUNTIES

Special Conditions

Action I.D. # SAW-2021-01091; NCDOT HB-0001; Replacement of the construction of the Lindsay C. Warren Bridge, Bridge #7, over the Alligator River in Tyrrell and Dare County, North Carolina

Work Limits

1. **CONSTRUCTION PLANS:** All work authorized by this permit must be performed in strict compliance with the attached plans dated June 5, 2023, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (Corps) prior to implementation.
2. **UNAUTHORIZED DREDGE OR FILL:** 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. **MAINTAIN CIRCULATION AND FLOW OF WATERS:** 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 waters or wetlands or to reduce the reach of waters or wetlands.
4. **DEVIATION FROM PERMITTED PLANS:** The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Mr. Kyle Barnes of the Washington Regulatory Field Office

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prior to any active construction in waters or wetlands.

5. **PRECONSTRUCTION MEETING:** The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives, and the appropriate Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting.
6. **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 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. 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.

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Related Laws

7. **WATER CONTAMINATION:** All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Resources at (919) 707-8787 or (919) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.
8. The Permittee shall fully abide by all conditions of the CAMA Major Development Permit No. 136-23, dated November 30, 2023, issued by the North Carolina Division of Coastal Management, which are incorporated herein by reference.

Project Maintenance

9. **NOTIFICATION OF CONSTRUCTION COMMENCEMENT AND COMPLETION:**
The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.
10. **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, shall be available at the project site during construction and maintenance of this project.

Prior to construction within any jurisdictional areas, the permittee must correctly install silt fencing (with or without safety fencing) parallel with the construction corridor, on both sides of the jurisdictional crossing. This barrier is to serve both as an erosion control measure and a visual identifier of the limits of construction within any jurisdictional area. The permittee must maintain the fencing, at minimum, until the wetlands have re-vegetated and stabilized.
11. **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.
12. **CLEAN FILL:** Unless otherwise authorized by this permit, all fill material placed in

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waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

13. **SILT-FENCING:** The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. 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 must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Fescue will not be planted within wetland areas.
14. **EROSION CONTROL MEASURES IN JURISDICTIONAL WATERS:**
- A. During the clearing phase of the project, heavy equipment must 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.
 - C. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.
15. **PROHIBITION ON CONCRETE:** The permittee shall take measures to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (i.e., concrete is set and cured).
16. **INSTALLATION OF CULVERTS:** Unless otherwise requested in the applicant's application and depicted on the approved work plans, culverts greater than 48

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inches in diameter will 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 must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert.

17. **AQUATIC PASSAGE:** Measures will 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 should 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 should 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, bankfull flow can be used as a comparable level.

ESA

18. **THREATENED AND ENDANGERED SPECIES:** This Department of the Army permit does not authorize you to take an endangered species, in particular the Red-cocaded Woodpecker, *Picoides borealis*. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service Biological Opinion (BO) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached BO, 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 BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your permit. The U.S. Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA. This BO is attached to the permit for this project.

19. **NORTHERN LONG-EARED BAT:** The Wilmington District, Federal Highway Administration, U.S. Fish and Wildlife Service (USFWS), and the North Carolina Department of Transportation (NCDOT) have conducted programmatic Section

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- 7(a)(2) consultation for the Northern long-eared bat (NLEB) for NCDOT projects located in Divisions 1-8. The result of this programmatic consultation is a Programmatic Biological Opinion (PBO) issued by the USFWS titled, "Programmatic Biological Opinion – Revised, NCDOT Program Effects on the Northern Long-eared Bat in Divisions 1-8", dated December 15, 2022. This PBO contains agreed upon conservation measures which would minimize take of NLEB. As noted in the PBO, applicability of these conservation measures varies depending on the location of the project. The USFWS has documented that no reasonable and prudent measures, nor terms and conditions, are necessary or appropriate to minimize the amount or extent of incidental take of NLEB caused by the Action; therefore, the incidental take statement does not provide reasonable and prudent measures for this species. Department of the Army (DA) authorization under general permit or standard permit (Individual Permit) is conditional upon the permittee's compliance with applicable, agreed upon conservations measures of the PBO, which is incorporated by reference in this verification letter. Failure to comply with the applicable conservation measures, where a take of the NLEB occurs, would constitute an unauthorized take by the permittee, and would also constitute permittee non-compliance with this verification letter. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO and the ESA. All PBOs can be found on our website at:
<https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>.
20. 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
21. The NCDOT shall implement the "Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters" as identified by the USFW Service.

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22. Anadromous Fish Habitat: An in-water construction moratorium from July 15 – September 30 for the entire river, and February 15 – June 30 for the deepwater channel would apply to this project.

Section 106

23. UNKNOWN CULTURAL RESOURCES: While accomplishing the authorized work, if the permittee discovers any previously unknown cultural resources, the District Engineer will be immediately notified so that required coordination can be initiated with the North Carolina Division of Cultural Resources.

NCDOT shall abide by all stipulations identified in the Memorandum of Agreement between the FHWA and the North Carolina State Historic Preservation Officer, executed on August 31, 2021. This MOA is attached to the permit for this project.

Enforcement

24. REPORTING ADDRESS: All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Washington Regulatory Field Office, c/o Mr. Kyle Barnes, 2407 West 5th Street, Washington, North Carolina 27889, and by telephone at: 910-251-4584. The Permittee shall reference the following permit number, SAW-2021-01091, on all submittals.
25. REPORTING VIOLATIONS OF THE CLEAN WATER ACT AND RIVERS AND HARBORS ACT: Violation of these conditions or violation of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.
26. COMPLIANCE INSPECTION: A representative of the Corps of Engineers will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is resolved to the satisfaction of the Corps.

Compensatory Mitigation

27. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined in the **"Onsite Wetland Mitigation Plan Replacement of the Alligator River Bridge Tyrrell/Dare Counties TIP HB-0001 WBS No. 49475.1.1 June 16, 2023"** plan provided with

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- the permit application. For all impacts that are not accounted for by the implementation of the permittee responsible mitigation plan, wetland mitigation credits shall be purchased from the NCDEQ_DMS at a ratio of 2:1 within the 8-digit HUC 03010205. The Mitigation Responsibility Transfer Form (form) is attached to the permit for this project. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit.
28. NCDOT will abide by the attached Section 408 conditions. These conditions are attached to the permit for this project and are hereby incorporated as conditions of this permit.

Section 408 Conditions

Standard Terms and Conditions

This appendix includes the standard conditions that must be included in all Section 408 approval notifications, except where marked as optional. Use of optional conditions should be based on scope and scale of the approved activity:

LIMITS OF THE AUTHORIZATION

1. This permission only authorizes you, the requester, to undertake the activity described herein under the authority provided in Section 14 of the Rivers and Harbors Act of 1899, as amended (33 USC 408). This permission does not obviate the need to obtain other federal, state, or local authorizations required by law. This permission does not grant any property rights or exclusive privileges, and you must have appropriate real estate instruments in place prior to construction and/or installation.
2. The time limit for completing the work authorized ends on **01 JANUARY 2028**. 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.
3. Without prior written approval of the USACE, you must neither transfer nor assign this permission nor sublet the premises or any part thereof, nor grant any interest, privilege or license whatsoever in connection with this permission. Failure to comply with this condition will constitute noncompliance for which the permission may be revoked immediately by USACE.
4. The requester understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the work herein authorized, or if, in the opinion of the Secretary of the Army or an authorized representative, said work will cause unreasonable conditions and/or obstruction of USACE project authorized design, the requester will be required upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim can be made against the United States on account of any such removal or alteration.

INDEMNIFICATION AND HOLD HARMLESS

5. The United States will in no case be liable for:
 - a. any damage or injury to the structures or work authorized by this permission that may be caused or result from future operations undertaken by the United States, and no claim or right to compensation will accrue from any damage;
or
 - b. damage claims associated with any future modification, suspension, or revocation of this permission.
6. The United States will not be responsible for damages or injuries which may arise from or be incident to the construction, maintenance, and use of the project

requested by you, nor for damages to the property or injuries to your officers, agents, servants, or employees, or others who may be on your premises or project work areas or the federal project(s) rights-of-way. By accepting this permission, you hereby agree to fully defend, **indemnify**, and **hold harmless** the United States and USACE from any and all such claims, subject to any limitations in law.

7. Any damage to the water resources development project or other portions of any federal project(s) resulting from your activities must be repaired at your expense.

REEVALUATION OF PERMISSION

8. The determination that the activity authorized by this permission would not impair the usefulness of the federal project and would not be injurious to the public interest was made in reliance on the information you provided.
9. This office, at its sole discretion, may reevaluate its decision to issue this permission at any time circumstances warrant, which may result in a determination that it is appropriate or necessary to modify or revoke this permission. 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 permission;
 - b. the information provided in support of your application for permission proves to have been inaccurate or incomplete; or
 - c. significant new information surfaces which this office did not consider in reaching the original decision that the activity would not impair the usefulness of the water resources development project and would not be injurious to the public interest.

CONDUCT OF WORK UNDER THIS PERMISSION

10. You are responsible for implementing any requirements for mitigation, reasonable and prudent alternatives, or other conditions or requirements imposed as a result of environmental compliance.
11. Work/usage allowed under this permission must proceed in a manner that avoids interference with the inspection, operation, and maintenance of the federal project.
12. In the event of any deficiency in the design or construction of the requested activity, you are solely responsible for taking remedial action to correct the deficiency.
13. The right is reserved to the USACE to enter upon the premises at any time and for any purpose necessary or convenient in connection with government purposes, to make inspections, to operate and/or to make any other use of the lands as may be necessary in connection with government purposes, and you will have no claim for damages on account thereof against the United States or any officer, agent or employee thereof.
14. You must provide copies of pertinent design, construction, and/or usage submittals/documents. USACE may request that survey and photographic documentation of the alteration work and the impacted project area be provided before, during, and after construction and/or installation.
15. You may be required to perform an inspection of the federal project with the USACE, prior to your use of the structure, to document existing conditions.

16. USACE shall not be responsible for the technical sufficiency of the alteration design nor for the construction and/or installation work.

SPECIAL CONDITIONS

17. Bridge Removal – All pilings located within the Federal Channel and the federal channel setback shall be removed entirely or removed or cut to a depth of -15 feet MLLW.

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

RICHARD E. ROGERS, JR.

Director



NORTH CAROLINA
Environmental Quality

October 20, 2023

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: 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


Dear Mr. Turchy:

Attached hereto is a copy 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,

DocuSigned by:

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

cc: Kyle Barnes, USACE, Washington Field Office
Greg Daisey, 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
Beth Harmon, Division of Mitigation Services
Garcy Ward, NC Division of Water Resources, Washington Regional Office
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 impact **14.1acres** of jurisdictional wetlands, and **0.45 acres** of open water in Tyrrell and Dare Counties. The project shall be constructed pursuant to the application dated received June 27, 2023. The authorized impacts are as described below:

Wetland Impacts in the Pasquotank River Basin

Site	Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
1	0.036	--	0.048	--	0.084
2	0.061	--	0.057	0.282	0.4
3	0.142	--	--	0.052	0.194
4	0.512	--	0.095	0.145	0.752
5	2.770	--	0.533	0.840	4.143
6	0.257	--	0.076	--	0.333
7	0.002	--	0.021	--	0.023
8	1.498	--	0.291	0.210	1.999
9	--	--	--	0.345	0.345
10	--	--	--	0.621	0.621
11	1.361	--	0.283	0.452	2.096
12	2.082	--	0.293	0.235	2.61
13	0.324	--	0.073	0.086	0.483
14	--	--	--	--	--
15	--	0.023	--	--	0.023
16	--	0.002	--	--	0.002
17	0.004	--	0.004	--	0.008
18	--	--	--	--	--
19	0.008	--	--	--	0.008
Total	9.057	0.025	1.774	3.268	14.124

Total Wetland Impact for Project: 14.1 acres.



Open Water Impacts in the Pasquotank River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	--	0.018	0.018
3	0.009	0.010	0.019
12	0.139	0.012	0.151
14	0.011	0.010	0.021
17	0.008	0.017	0.025
18	0.010	0.006	0.016
19	0.198	--	0.198
Total	0.375	0.073	0.448

Total Open Water Impact for Project: 0.45 acres.

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 June 27, 2023. 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. The permittee will need to adhere to all appropriate in-water work moratoria (including the use of pile driving or vibration techniques) prescribed by the NC Wildlife Resources Commission (WRC), the US Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) and the NC Division of Marine Fisheries (DMF). No in-water work is permitted in the entire river between July 15 and September 30 of any year. Additionally, no in-water work is allowed in the deepwater channel from February 15 through June 30 of any year. Exceptions to this require prior approval from the NC Division of Water Resources and the resource agency responsible for the given moratorium.
2. Compensatory mitigation for impacts to 10.86 acres of wetlands is required. This total includes 10.81 acres of riparian wetlands and 0.05 acres of coastal wetlands. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated April 27, 2023 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. [15A NCAC 02H .0506(c)]
3. Additional on-site mitigation is also proposed. This involves removing causeway fill material from the abandoned transportation corridor and subsequent grading and reforestation which will result in the restoration of approximately 8.25 acres of wetlands. The mitigation shall be conducted in accordance with the 'Onsite Wetland Mitigation Plan' dated June 16, 2023 that was submitted with the application. All on-site mitigation shall be protected in perpetuity by a conservation easement or other similar mechanism. Rolled Erosion Control Products (RECP) or other construction materials that contain nylon or plastic mesh, which has been found to be harmful to wildlife, is not allowed in the wetland mitigation area. Monitoring of the site shall be conducted annually for a minimum of 5 years after construction/planting to assess and ensure that the hydrological and vegetation success criteria are met. The final determination of the amount of mitigation will depend upon the successful completion of the monitoring requirements and meeting of the performance standards. Final credit quantities will be approved upon project close-out. [15A NCAC 02H .0506(c)]
4. Adherence to *The Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters* will be required throughout construction. [15A NCAC 02H .0506(b)(1)]
5. 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.
6. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2)]
7. 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.0506(b)]
8. 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)]
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. 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)]



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 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)]
13. 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)]
14. 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 (c)(3) and 15A NCAC 02B.0200]
 - a. 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*.
 - b. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits 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.
 - c. 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.
 - d. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-1, WS-11, 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 (c)(3); GC 4135]
15. Sediment and erosion control measures shall not be placed in wetlands or surface waters or within 5 feet of the top of bank without prior approval from DWR. [15A NCAC 02H.0506(b)(3)]
16. Erosion control matting in riparian areas shall not contain a plastic or nylon mesh grid which can impinge and entrap small animals. Matting should be secured in place by staples, stakes, or wherever possible live stakes of native trees. Riparian areas are defined as a distance 25 feet from top of stream bank. [15A NCAC 02B.0201]
17. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed from wetlands and waters and the natural grade restored within two (2) months of the date that the Division of Energy, Mining and Land Resources (DEMLR) or locally delegated program has released the specific area within the project. [15A NCAC 02H.0506(b)(3)]
18. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H.0507(d)(2) and 15A NCAC 02H.0506(b)(1)]
19. Bridge deck drains are not allowed where there is less than 12 feet of clearance from the deck drain to the water or wetland surface. Stormwater from this section of the bridge shall be directed across the deck and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) where possible before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual for approved measures. [15A NCAC 02H.0506(b)]



20. 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)]
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. 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)]
23. 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)]
24. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original streambed elevation and streambank contours are restored and maintained and shall consist of clean rock or masonry material free of debris or toxic pollutants. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or be installed in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)]
25. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows, and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0201]
26. 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 02H.0506(b)(2)]
27. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
28. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000.
29. 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]
30. 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)]
31. The NCDOT will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the permit conditions and any potential issues at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]
32. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete the "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]



33. 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 20th day of October 2023

DIVISION OF WATER RESOURCES

DocuSigned by:



4F4DD2F21EA846E...

Richard E. Rogers, Jr., Director

WQC No. 006059



Permit Class
NEW

Permit Number
136-23

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

Permit

for

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

X 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 6/27/23, including the
attached workplan drawings (98): as referenced in Condition No. 1 of this permit.

This permit, issued on November 30, 2023, 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.

TIP No. HB-0001, Replacement of Lindsay C. Warren Bridge (Tyrrell County Bridge No. 7)

- 1) Unless specifically altered herein, all work authorized by this permit shall be carried out in accordance with the following attached workplan drawings [07J .0202(c)]:
Wetland and Surface Water Impacts (78 sheets): dated 9/19/23.
Utility drawings (20 sheets): dated 9/13/13.
- 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)].

(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.



Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

ADDITIONAL CONDITIONS

- NOTE:** Condition No. 2 was agreed upon through coordination with the N.C. Division of Marine Fisheries (NC DMF). The Alligator River is designated as an Anadromous Fish Spawning Area, (typical in-water work moratorium February 15 – October 31). The permittee is strongly encouraged to organize the work plan to avoid in-water work during the full February 15-October 31 moratorium, to the greatest extent practicable.
- 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) In accordance with commitments made by the permittee, the applicant shall implement the “U.S. Fish & Wildlife Service’s Guidelines for Avoiding Impacts to the West Indian Manatee, *Trichechus manatus*: precautionary measures for construction activities in North Carolina’s Waters” [113-229(e)].
 - 5) Unless specifically altered herein, any mitigative measures or environmental commitments specifically made by the permittee in the CAMA permit application, the Categorical Exclusion document dated 8/31/21, including an update to the CE signed on 3/20/23, the United States Fish and Wildlife Service (USFWS) Biological Opinion dated 11/5/21, and/or during the NEPA/404 Merger Process, shall be implemented, regardless of whether or not such commitments are addressed by individual conditions of this permit. This includes, but is not limited to, the construction of wildlife crossings as depicted in the permit application [113-229(e); 07J .0209; 07H .0208(a)(3); 07J .0202(c)]:
 - 6) All pipe and culvert inverts shall be buried at least one foot below normal bed elevation to allow for passage of water and aquatic life when they are placed within the Public Trust Area of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by the Coastal Area Management Act (CAMA). Culverts placed in wetlands are not subject to this requirement [G.S. 113 229(e); 07H .0208(a)(2)(A)].
 - 7) All construction access shall be through the use of the existing bridge, the partially constructed new bridge, temporary work platforms, barges, and/or existing high ground areas [07J .0202(c)].
 - 8) Barges shall be utilized only in areas of sufficient depth such that the barges avoid contact with the bottom and do not rest on the bottom during periods of low water [07J .0201].
 - 9) The permittee shall submit final plans to DCM for review and approval of any new mooring points and/or breasting lines prior to their installation. Adjacent riparian property owner notification may be required [113-229(d); 07J .0201; 07J .0405(a)].
 - 10) The installation and removal of the piles and other components for the new bridge, temporary work platforms, 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

- 11) The existing bridge, including fender system, and temporary work platforms, 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)].
- 12) Pilings and other components from the existing bridge, including the fender system, temporary work platforms, 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)].
- 13) 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)].
- 14) All fill material shall be clean and free of any pollutants except in trace quantities [07H .0208(a)(2)(B)].
- 15) 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 a high ground location [07H .0208(a)(2)].
- 16) 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)].
- 17) 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 work platforms [07H .0208(a)(2)(B)].
- 18) All reasonable efforts shall be made to contain all debris and excess materials associated with the authorized activities, with the intent that materials/debris do not enter wetlands or waters of the State, even temporarily [07H .0208(a)(2)(B)].
- 19) The placement of riprap shall be limited to the areas as indicated on the attached workplan drawings. It shall be of a size sufficient to prevent its movement from the authorized alignment by wave or current action. If the riprap becomes dislodged from the approved alignment at any point in the future, the permittee shall immediately contact DCM to determine the appropriate course of action. The riprap material shall consist of clean rock or masonry materials such as but not limited to granite, marl, or broken concrete without exposed rebar, or other suitable materials approved by DCM [07J .0202(c)].
- 20) Uncured concrete or water that has been in contact with uncured concrete shall not be allowed to contact waters of the State, or water that will enter waters of the State [07H .0208(a)(2)(B)].

ADDITIONAL CONDITIONS

- 21) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State [07H .0208(a)(2)(B)].
- 22) The demolition plan for removal of the existing bridge, including the fender system, shall be submitted to DCM for review and approval prior to commencement of the demolition activities [07J .0201].
- 23) Any waste materials or debris generated in the demolition and removal of the existing bridge, including the fender system and roadway, construction of the new bridge and roadway, and/or construction and removal of the temporary work platforms, 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)].

NOTE: The bridge demolition debris may be suitable for use as artificial reef material. The permittee is encouraged to contact the Artificial Reef Coordinator at the N.C. Division of Marine Fisheries Morehead City Office to coordinate review of the suitability of the material and arrangements for such use.

Impacts to Wetlands and Waters of the State

NOTE: This project will permanently impact approximately 2,353 square feet (0.05 acres) of Coastal Wetlands [approximately 1,133 square feet (0.026 acres) due to permanent fill and approximately 1,219 square feet (0.028 acres) due to mechanized clearing]. This project will permanently impact approximately 10.80 acres of 404 Wetlands (approximately 9.03 acres due to permanent fill, approximately 0.02 acres due to excavation, and approximately 1.75 acres due to mechanized clearing). This project will temporarily impact approximately 3.27 acres of 404 Wetlands due to hand clearing.

NOTE: This project will permanently impact approximately 0.38 acres of surface waters and will temporarily impact approximately 0.07 acres of surface waters.

- 24) 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)].
- 25) The permittee shall minimize the need to cross wetlands in transporting equipment to the maximum extent practicable [07H .0208(a)(2)(B)].
- 26) Construction mats shall be utilized to support equipment within wetland areas to minimize temporary wetland impacts. These mats shall be removed immediately when they are no longer needed [07H .0208(a)(2)(B)].

ADDITIONAL CONDITIONS

Compensatory Mitigation

NOTE: In accordance with the N.C. Division of Mitigation Services (DMS) letter dated 4/27/23, compensatory mitigation for permanent impacts of 10.73 acres of riparian wetlands and 0.05 acres of Coastal Marsh associated with the authorized project shall be provided by the DMS in accordance with the DMS In-Lieu Fee Instrument dated 7/28/10.

- 27) Unless specifically altered herein, on-site mitigation shall be carried out as described in the document titled "Onsite Wetland Mitigation Plan Replacement of Alligator River Bridge" dated June 16, 2023 [07H .0208(a)(3)].

NOTE: The on-site mitigation is expected to restore approximately 0.50 acres of tidal freshwater marsh and approximately 7.75 acres of riverine swamp forest by removing approximately 35,000 cubic yards of fill material from approximately 8.25 acres of existing high ground area currently occupied by existing US 64 in Tyrrell County (0.75 acres) and Dare County (7.50 acres).

- 28) The wetland restoration areas shall be fully contained by silt fence until all of the unsuitable fill material has been removed and the restoration areas have been restored to the approximate natural elevation of the adjacent, similar undisturbed wetlands and stabilized with appropriate native wetland vegetation. Turbidity curtains shall be used between the wetland restoration areas and the adjacent water body in the location of the existing causeway, until such a time as the areas have returned to ambient conditions [07H .0208(a)(2)].
- 29) The fill material that is removed from the wetland restoration area shall be taken to an offsite high ground location [07J .0202(c)].
- 30) In accordance with the onsite wetland mitigation plan, if it is determined that the subsurface material is inappropriate for planting, additional grading may be necessary to undercut the restoration area and backfill with suitable topsoil to the target elevation of the adjacent wetland communities [07J .0202(c)].
- 31) An as-built survey report for the mitigation site shall be submitted to DCM within 60 days after the mitigation site has been constructed [07J .0202(c)].
- 32) The permittee shall submit annual monitoring reports to DCM for a minimum of five years after mitigation site construction, or until mitigation success criteria are met. Annual monitoring reports shall include photographs and an assessment of whether the site is achieving success based on the success criteria stated in the mitigation plan. Progress reports shall also be provided upon request. Monitoring may cease when the permittee can demonstrate that success criteria have been met and written concurrence is received from DCM [07H .0208(a)(3)].
- 33) The onsite wetland mitigation sites shall be protected in perpetuity in their restored state and owned by the permittee or its approved designee. An appropriate conservation easement, deed restriction or other appropriate instrument shall be attached to the title for the subject property. Failure to adequately protect mitigation sites may result in further mitigation requirements [07H .0208(a)(3)].

ADDITIONAL CONDITIONS

- 34) The wetland mitigation provided by this project shall not generate any excess mitigation credits for use on future projects [07H .0208(a)(3)].

Utility Impacts

NOTE: Construction of the new bridge will also require relocation of fiber optic utilities.

- 35) The authorized utility work shall not result in any permanent or temporary impacts to wetlands or waters of the State, without permit modification [07J .0202(c)].
- 36) Any utility work associated with this project that is not specifically depicted on the attached workplan drawings, or described within the attached permit application, shall require approval from DCM, either under the authority of this permit, or by the utility company obtaining separate authorization [07J .0202(c); 07J .0201; 07J .0405(a)].

Sedimentation and Erosion Control

- 37) 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, and temporary work platforms. 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)].
- 38) 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)].
- 39) In order to protect water quality, runoff from construction shall not visibly increase the amount of suspended sediments in adjacent waters [07H .0209(d)(4); G.S. 113A-102(a); 07H .0208(a)(2)].

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.

- 40) In accordance with commitments made by the permittee, riprap pads shall be constructed at the pipe outlets of the stormwater collection system drainage outlets to dissipate energy and minimize wetland impacts [07H .0208(a)(2); 113A-102(a)].

ADDITIONAL CONDITIONS

Historical and Cultural Resource Protection

- 41) The permittee shall adhere to stipulations contained within the Memorandum of Agreement dated 8/31/21 among the Federal Highway Administration, the N.C. Department of Transportation and the North Carolina Historic Preservation Officer for Replacement of Tyrrell County Bridge No. 7 on US 64 over the Alligator River in Tyrrell and Dare Counties [07H .0208(a)(2)(C); 07J .0202(c)].

Navigation/Public Trust Usage

NOTE: The project area includes multiple public trust usage areas, including but not limited to, the Alligator River, AIWW, a Waterfront Access Marine Industry Fund (WAMI) site on the southwestern side of the project, the Alligator River Marina on the northwestern side of the project, private docks and piers, and canals that connect with the Alligator River on the eastern and western side of the project.

- 42) Throughout project construction and demolition, the permittee shall make every attempt to allow the same navigation that is currently possible in the Alligator River and adjacent public trust areas. If this is not possible, then adequate notice shall be provided to the public, including the managers of the Alligator River Marina and the Waterfront Access Marine Industry Fund (WAMI) site, that navigation will be limited during construction and/or demolition. The notice shall include an estimate of the amount of time that the limited navigation will occur [07H .0208(a)(2)(G)].
- 43) Ingress and egress by land and water to the Waterfront Access Marine Industry Fund (WAMI) site and the Alligator River Marina by shall be maintained, and they shall not be used for staging or storage of project materials, without permit modification [07H .0203].
- 44) In accordance with the attached workplan drawings, the authorized temporary work platforms 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)].
- 45) No attempt shall be made by the permittee to prevent the use by the public of all navigable waters at or adjacent to the authorized work following completion of construction [07H .0208(a)(2)(G)].

General

NOTE: It is strongly recommended that the permittee exercise all available precautions in the construction, operation and maintenance of the bridge and adjacent roadway to prevent waste from entering the adjacent waters and wetlands. Such discharge, either directly or indirectly, to adjacent waters could contravene state water quality standards, thereby violating state law.

- 46) Development authorized by this permit shall only be conducted on lands owned by NCDOT, appropriate utility entities, and/or its Right-of-Ways and/or easements [G.S. 113-229(b)].

ADDITIONAL CONDITIONS

- 47) 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].
- 48) 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)].
- 49) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative by phone at (252) 955-4191 or by email at greg.daisey@deq.nc.gov to request a preconstruction conference prior to project initiation [G.S 113A-120(b); 07J .0209(a)].
- 50) 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 [113-229(e)].

NOTE: The N.C. Division of Water Resources (DWR) authorized the proposed project on 10/20/23 (DWR Project No. 20230935) 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 permit 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 the U.S. Coast Guard. This also includes approval, if required, from the United States Fish and Wildlife Service and/or the NOAA National Marine Fisheries Service under the federal Endangered Species Act and/or the Bald and Golden Eagle Protection Act.

NOTE: An application processing fee of \$475 was received by DCM for this project. This fee also satisfied the Section 401 application processing fee requirements of DWR.

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 1/5/2024, including the
attached workplan drawings (27): as referenced in Condition No. 2 of this permit.

This permit, issued on January 19, 2024, 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 the following: (1) installation of twenty exploratory test piles at fifteen in-water bent locations along the bridge alignment to collect pile driving data and to validate proposed installation options; and (2) installation of nineteen 30-inch steel pipe piles spaced approximately 60 feet apart for approximately 1,080 linear feet for securing barges during the test pile study and bridge construction, all as depicted on the attached workplan drawings [07J .0202].
- 2) Unless specifically altered herein, all work authorized by this permit shall be carried out in accordance with the following attached workplan drawings [07J .0202(c)]: 19 dated 12/28/23; 4 dated 1/2/24; 2 dated 1/4/24; and 2 dated as received 1/5/24.

(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.



Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

ADDITIONAL CONDITIONS

- 3) 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)].
- 4) In accordance with commitments made in the permit modification request, test piles at Bent 47 shall be driven first due to the upcoming in-water work moratorium [07H .0208(a)(2)].

NOTE: The permittee is strongly encouraged to contact the N.C. Division of Marine Fisheries Habitat Section to discuss the feasibility of collecting quantitative and qualitative data on the turbidity and noise that is generated during installation of the twenty exploratory test piles. This may result in a modification of the permit requirement to use turbidity curtains.

- 5) The installation and removal of the test piles and mooring piles 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 or drilled shaft construction, additional authorization from DCM shall be required [07J .0202(c); 07J .0405(a)].
- 6) The test piles may be left in place and shall be cut off below the mudline [07H .0208(a)(3)].
- 7) The authorized temporary mooring piles shall be removed in their entirety within 90 days after they are no longer needed, or within 30 days of written notification from DCM, whichever comes first, and disposed of at an approved high ground location. However, if this timeframe occurs while the in-water work moratorium of this permit modification is in effect, then the temporary mooring piles shall be removed in their entirety within 90 days of the moratorium end date. If a temporary mooring pile 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 [07H .0208(a)(2); 07H .0208(b)(10)(F)].
- 8) No sewage, whether treated or untreated, shall be discharged at any time from any vessels using the authorized facilities [07H .0208(a)(2)(B)].
- 9) This minor modification authorizes only the structures that are expressly and specifically set forth in the permit application, and/or depicted on the authorized workplan drawings. No other structures, whether floating or stationary, shall become a part of the facilities authorized by this Minor Modification without additional authorization from DCM. No non-water dependent uses of structures shall be conducted on, in or over Public Trust waters without permit modification [07J .0202(c); 07H .0208(a)(1)].

NOTE: The authorized activities will result in an increase of approximately 0.004 acres of permanent surface water impacts.

ADDITIONAL CONDITIONS**General**

- 10) Throughout project construction and demolition, the permittee shall make every attempt to allow the same navigation that is currently possible in the Alligator River and adjacent public trust areas. If this is not possible, then adequate notice shall be provided to the public, including the managers of the Alligator River Marina and the Waterfront Access Marine Industry Fund (WAMI) site, that navigation will be limited during construction and/or demolition. The notice shall include an estimate of the amount of time that the limited navigation will occur [07H .0208(a)(2)(G)].
- 11) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative by phone at (252) 955-4191 or by email at greg.daisey@deq.nc.gov to request a preconstruction conference prior to project initiation [G.S 113A-120(b); 07J .0209(a)].
- 12) The permittee shall install and maintain at their expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized facilities. At a minimum, permanent reflectors shall be attached to the temporary mooring piles in order to make them more visible during hours of darkness or inclement weather [G.S. 113-229(e); 07H .0208(a)(2)(G); 07J .0209(a)].
- 13) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawing or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall 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].
- 14) All conditions and stipulations of the active permit remain in force under this Minor Modification unless specifically altered herein [07J .0209(a)].

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 N.C. Division of Water Resources, the U.S. Army Corps of Engineers and 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, and copies of both 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.

ADDITIONAL CONDITIONS**General**

- 10) Throughout project construction and demolition, the permittee shall make every attempt to allow the same navigation that is currently possible in the Alligator River and adjacent public trust areas. If this is not possible, then adequate notice shall be provided to the public, including the managers of the Alligator River Marina and the Waterfront Access Marine Industry Fund (WAMI) site, that navigation will be limited during construction and/or demolition. The notice shall include an estimate of the amount of time that the limited navigation will occur [07H .0208(a)(2)(G)].
- 11) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative by phone at (252) 955-4191 or by email at greg.daisey@deq.nc.gov to request a preconstruction conference prior to project initiation [G.S 113A-120(b); 07J .0209(a)].
- 12) The permittee shall install and maintain at their expense any signal lights or signals prescribed by the U.S. Coast Guard, through regulation or otherwise, on the authorized facilities. At a minimum, permanent reflectors shall be attached to the temporary mooring piles in order to make them more visible during hours of darkness or inclement weather [G.S. 113-229(e); 07H .0208(a)(2)(G); 07J .0209(a)].
- 13) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawing or described in the authorized permit application, a permit modification and/or additional authorization from DCM shall 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].
- 14) All conditions and stipulations of the active permit remain in force under this Minor Modification unless specifically altered herein [07J .0209(a)].

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 N.C. Division of Water Resources, the U.S. Army Corps of Engineers and the U.S. Coast Guard.

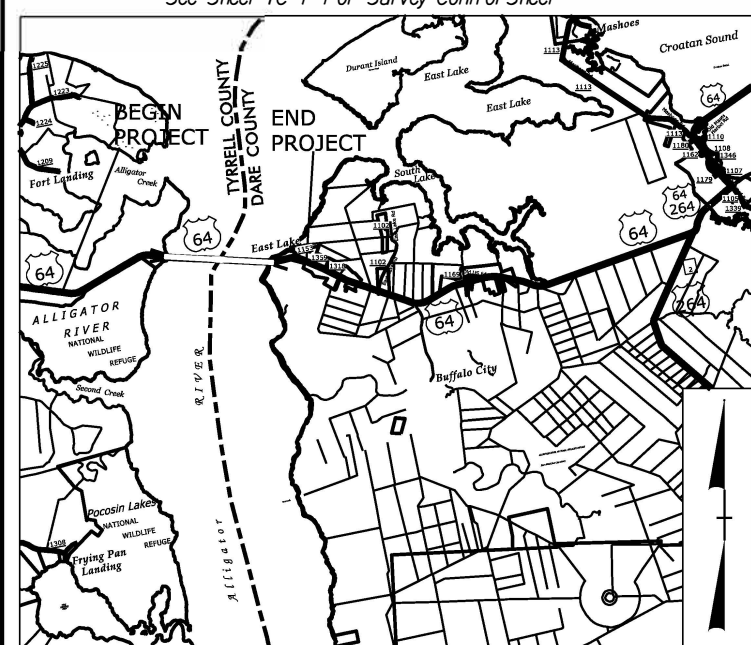
NOTE: This Minor Modification shall be attached to the original of Permit No. 136-23, which was issued on 11/30/23, and copies of both documents shall be readily available on site when a Division representative inspects the project for compliance.

NOTE: A minor modification application processing fee of \$100 was received by DCM for this project.

TIP PROJECT: HB-0001

CONTRACT:

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



VICINITY MAP

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

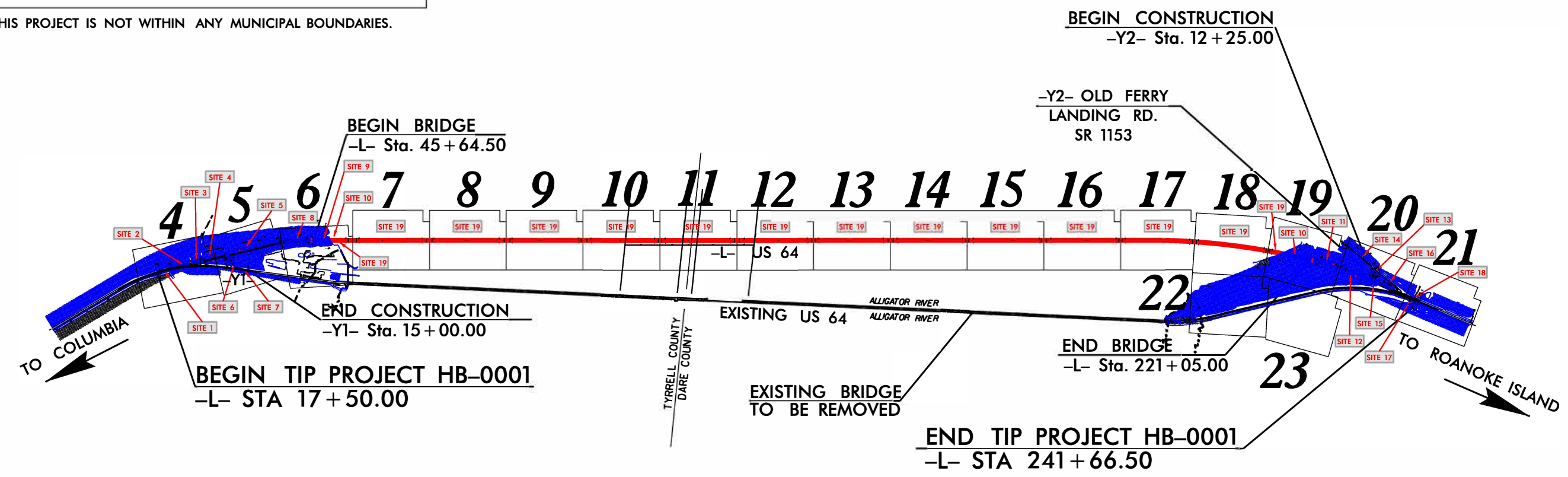
TYPE OF WORK: STRUCTURE, GRADING, PAVING, DRAINAGE

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 79
Updated 9/19/2023

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



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

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2023 = 57349645**
ADT 2043 = 1040013200**

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
FIRM NO. P-4339

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 16, 2022

LETTING DATE:
OCTOBER 2024

320 Executive Ct.
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitde.net

NEIL J. DEAN, PE
PROJECT ENGINEER

FAITH E. JAHNKE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

8/17/99

19-SEP-2023 09:08
HB-0001.dgn
C:\Users\jph\OneDrive\Documents\HB-0001.dgn

PROJECT REFERENCE NO. HB-0001		SHEET NO. 4
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		

Prepared in the Office of:
SUMMIT
SUMMIT ENGINEERING & CONSTRUCTION, INC.
320 Executive Ct.
Hillsborough, NC 27278
(919) 752-3883
(919) 752-6675 (FAX)

NC FIRM LICENSE No. P-0339

PERMIT DRAWING
SHEET 2 OF 79
Updated 9/19/2023

-L-
PI Sta 14+43.80
 $\Delta = 17^{\circ}10'13.3"$ (RT)
D = 157' 30.0"
L = 876.78'
T = 441.70'
SE = EXIST.
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

SITE 1

MUTUAL GN COMPANY
DB 164 PG 10

-L- PT Sta. 18+78.88

DETAIL 4-1
BANK STABILIZATION
(Not to Scale)

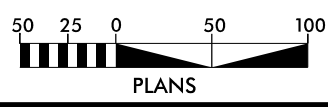
Place Geotextile Under Riprap in Locations Directed by Engineer

Press Riprap into Channel Bottom Until Refusal

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

FROM STA. TO STA.

STATE OF NORTH CAROLINA
DB 192 PG 595



- 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

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

PROJECT REFERENCE NO.
HB-0001


SHEET NO.
4

RW SHEET NO.

ROADWAY DESIGN ENGINEER

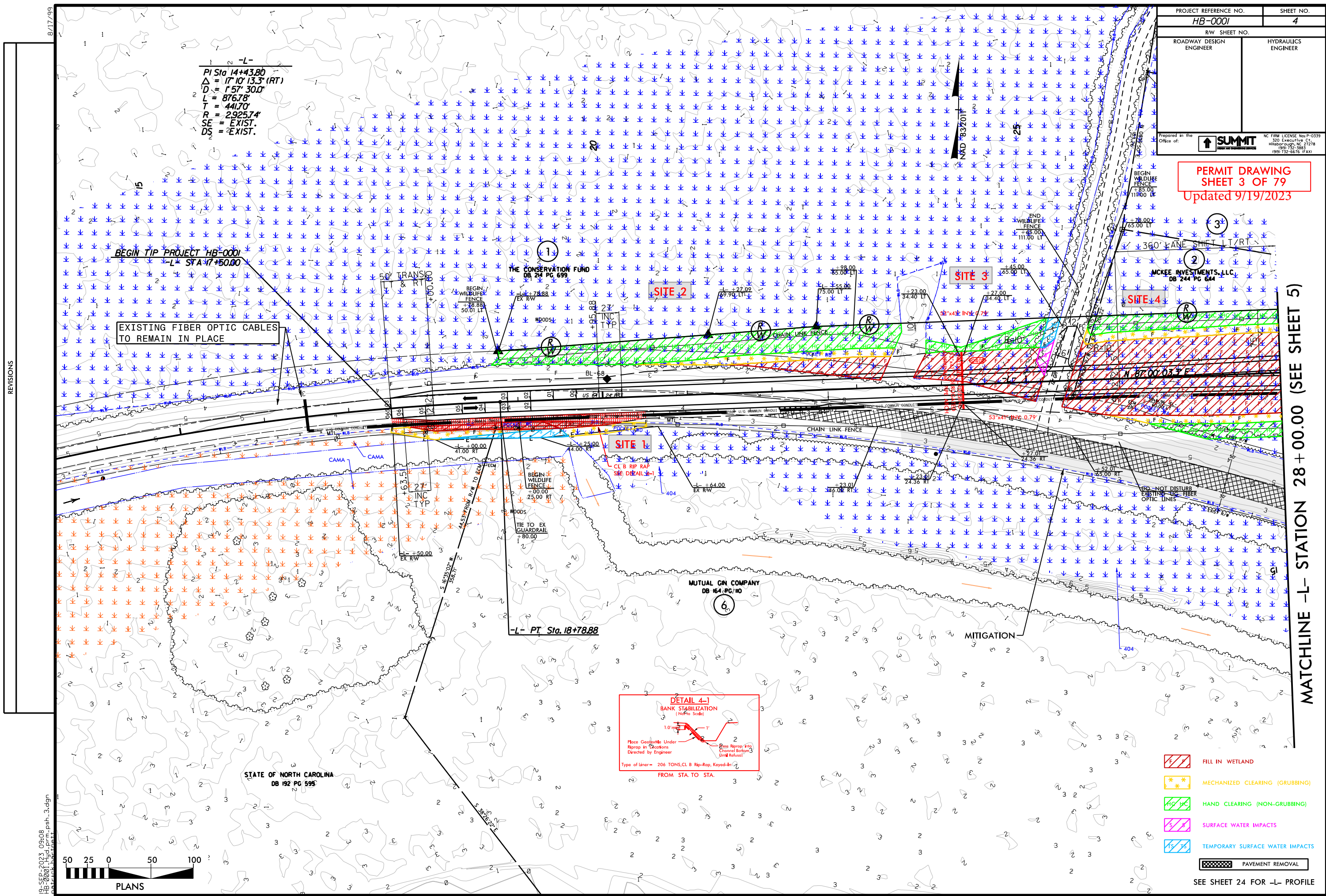
HYDRAULICS ENGINEER

Prepared in the Office of:

 **SUMMIT**
Survey and Engineering Services

NC FIRM LICENSE No. P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 752-3883
(919) 732-6676 (Fax)

PERMIT DRAWING
SHEET 3 OF 79
Updated 9/19/2023



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

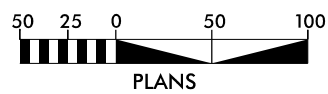
8/17/99
19-SEP-2023 09:08
HB-0001.dwg
Network Administrator

PERMIT DRAWING
SHEET 4 OF 79
Updated 9/19/2023
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	PI Sta 39+10.22	PI Sta 41+60.16
$\Delta = 68^{\circ} 52' 21''$ (LT)	$\Delta = 1^{\circ} 50' 39.4''$	$\Delta = 9^{\circ} 48' 34.0''$ (RT)
$D = 19^{\circ} 05' 54.9''$	$Ls = 150.00'$	$D = 2^{\circ} 27' 32.6''$
$L = 360.62'$	$L = 398.91'$	$L = 199.94'$
$T = 205.69'$	$LT = 100.01'$	$R = 2,330.00'$
$R = 300.00'$	$ST = 50.00'$	$R = 05'$
$SE = 04'$		$RO = 150'$
$RO = 60'$		



 PAVEMENT REMOVAL

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

8/17/99

REVISIONS

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19-SEP-2023 09:08
HB-0001.dgn
C:\Users\j...

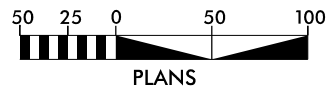
PERMIT DRAWING
SHEET 5 OF 79
Updated 9/19/2023

- 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	PI Sta 39+10.22	PI Sta 41+60.16
$\Delta = 68^{\circ} 52' 21"$ (LT)	$\Delta = 1^{\circ} 50' 39.4"$	$\Delta = 9^{\circ} 48' 34.0"$ (RT)
$D = 19^{\circ} 05' 54.9"$	$L_s = 150.00'$	$D = 2^{\circ} 27' 32.6"$
$L = 360.62'$	$L = 398.91'$	$L = 199.94'$
$T = 205.69'$	$T = 2330.00'$	$R = 150'$
$R = 300.00'$	$SE = 04'$	
$RO = 60'$		



PAVEMENT REMOVAL

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

8/17/99

REVISIONS

19-SEP-2023 09:08
HB-0001.dwg -psh-5.dgn
hatch.tbl

PERMIT DRAWING
SHEET 7 OF 79
Updated 9/19/2023

**MATCHLINE -L- STATION 52 + 50.00
(SEE SHEET 7)**

✓ PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

40' WIDE TRESTLE
FOR DEMOLITION
OF EXIST. BRIDGE,
EXTENDS TO 8FT
DEEP WATER

HARRY MCMULLAN FAMILY LTD PART
NO DEED

TEMPORARY WORK TRESTLE

F F

FILL IN WETLAND

S S

SURFACE WATER IMPACTS

* * *

* *

MECHANIZED CLEARING (GRUBBING)

HC HC

HAND CLEARING (NON-GRUBBING)

PAVEMENT REMOVAL

SEE SHEET 25
FOR -L- PROFILE



PROJECT REFERENCE NO.	SHEET NO.
HB-0001	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:	NC FIRM LICENSE Nos P-0339 320 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

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.



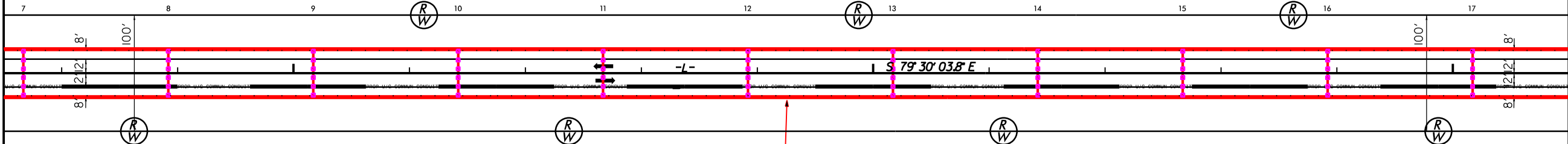
PERMIT DRAWING
SHEET 8 OF 79

SURFACE WATER IMPACTS

Updated 9/19/2023

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

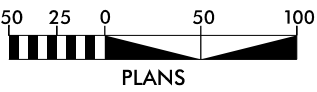
MATCHLINE -L- STATION 66+00.00
(SEE SHEET 8)



PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER



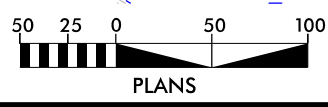
SEE SHEET 25 FOR -L- PROFILE

REVISIONS

19-SEP-2023 09:08
HB-0001-7.dgn
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psh-8.dgn

 SURFACE WATER IMPACTS

Updated 9/19/2023



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

SEE SHEET 25 FOR -L- PROFILE

REVISIONS

19-SEP-2023 09:08 HB-0001_Hyd_prm-psb_9.dgn patric.bartlett	8/17/99
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PROJECT REFERENCE NO.
HB-0001

SHEET NO.
8

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Prepared in the Office of:
**SUMMIT**
ENGINEERING

NC FIRM LICENSE No. P-0339
320 Executive Ct.
Hillsborough, NC 27578
(919) 732-3883
(919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 10 OF 79

 SURFACE WATER IMPACTS

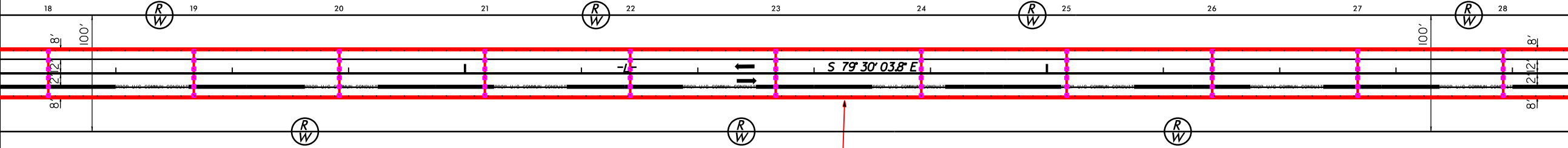
Updated 9/19/2023

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.



MATCHLINE -L- STATION 66+00.00 (SEE SHEET 7)

MATCHLINE -L- STATION 79+50.00
(SEE SHEET 9)

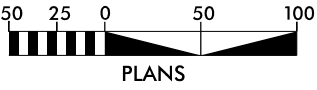


PROPOSED BRIDGE

PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER



SEE SHEET 26 FOR -L- PROFILE

REVISIONS

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PROJECT REFERENCE NO.
HB-0001


SHEET NO.
8

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Prepared in the Office of:

**SUMMIT**
Engineering and Construction, Inc.

NC FIRM LICENSE No. P-0339
220 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 11 OF 79

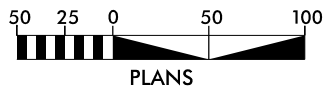
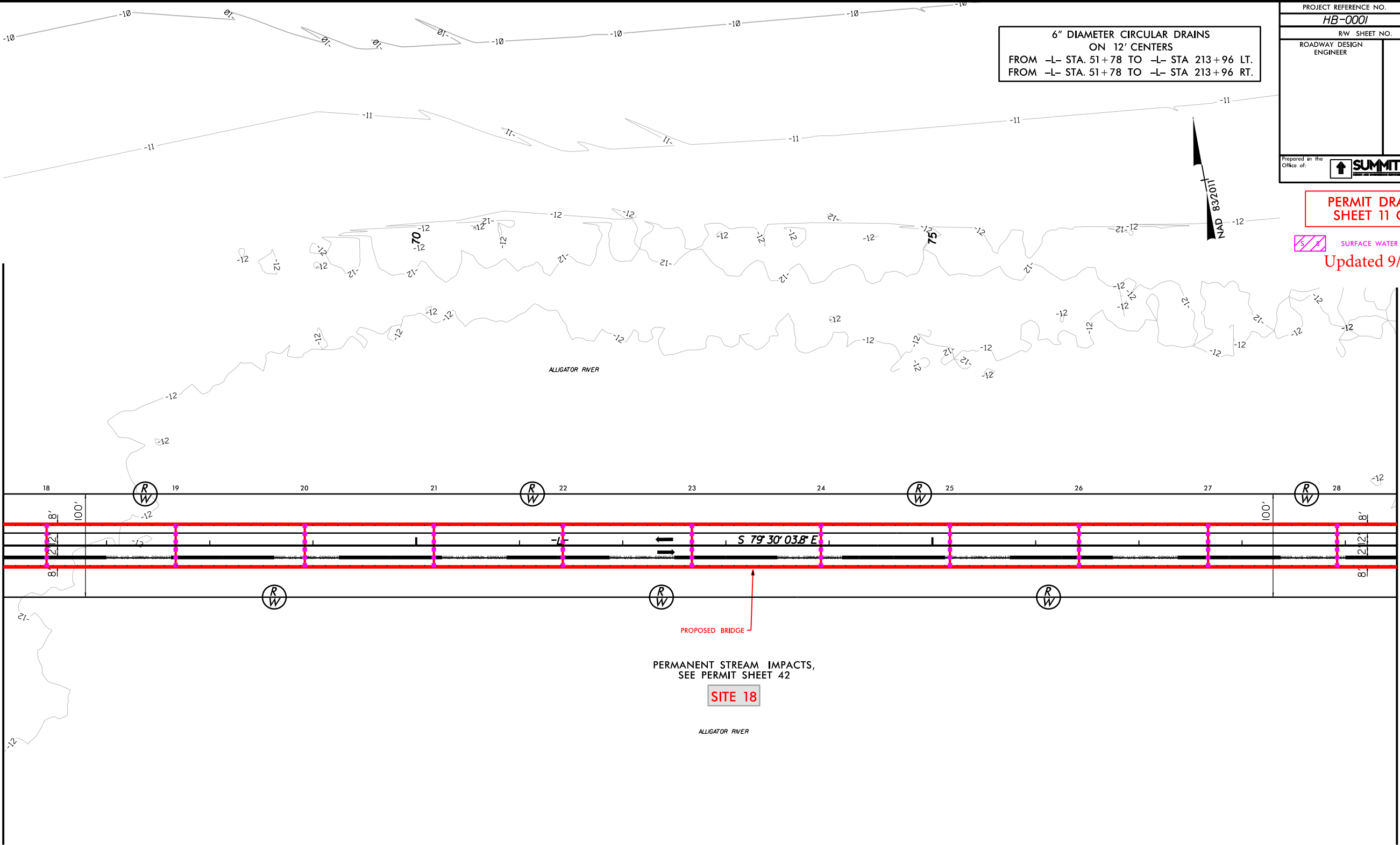
 SURFACE WATER IMPACTS
Updated 9/19/2023

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

MATCHLINE -L- STATION 66+00.00 (SEE SHEET 7)


MATCHLINE -L- STATION 79+50.00
(SEE SHEET 9)



SEE SHEET 26 FOR -L- PROFILE

REVISIONS

19-SEP-2023 09:08
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psh-11.dgn
psh-11.dgn

PROJECT REFERENCE NO.	SHEET NO.
HB-0001	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:  NC FIRM LICENSE Nos P-0339 320 Executive Ct Hendersonville, NC 27578 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 12 OF 79

 SURFACE WATER IMPACTS

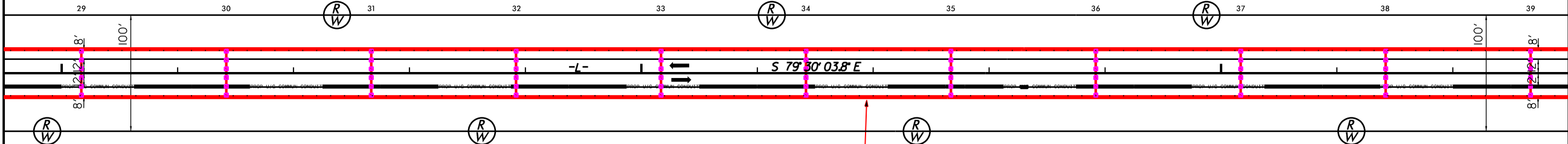
Updated 9/19/2023

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.



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

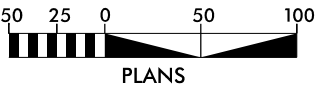
MATCHLINE -L- STATION 93 + 00.00
(SEE SHEET 10)



PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER



SEE SHEET 26 FOR -L- PROFILE

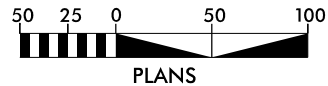
REVISIONS

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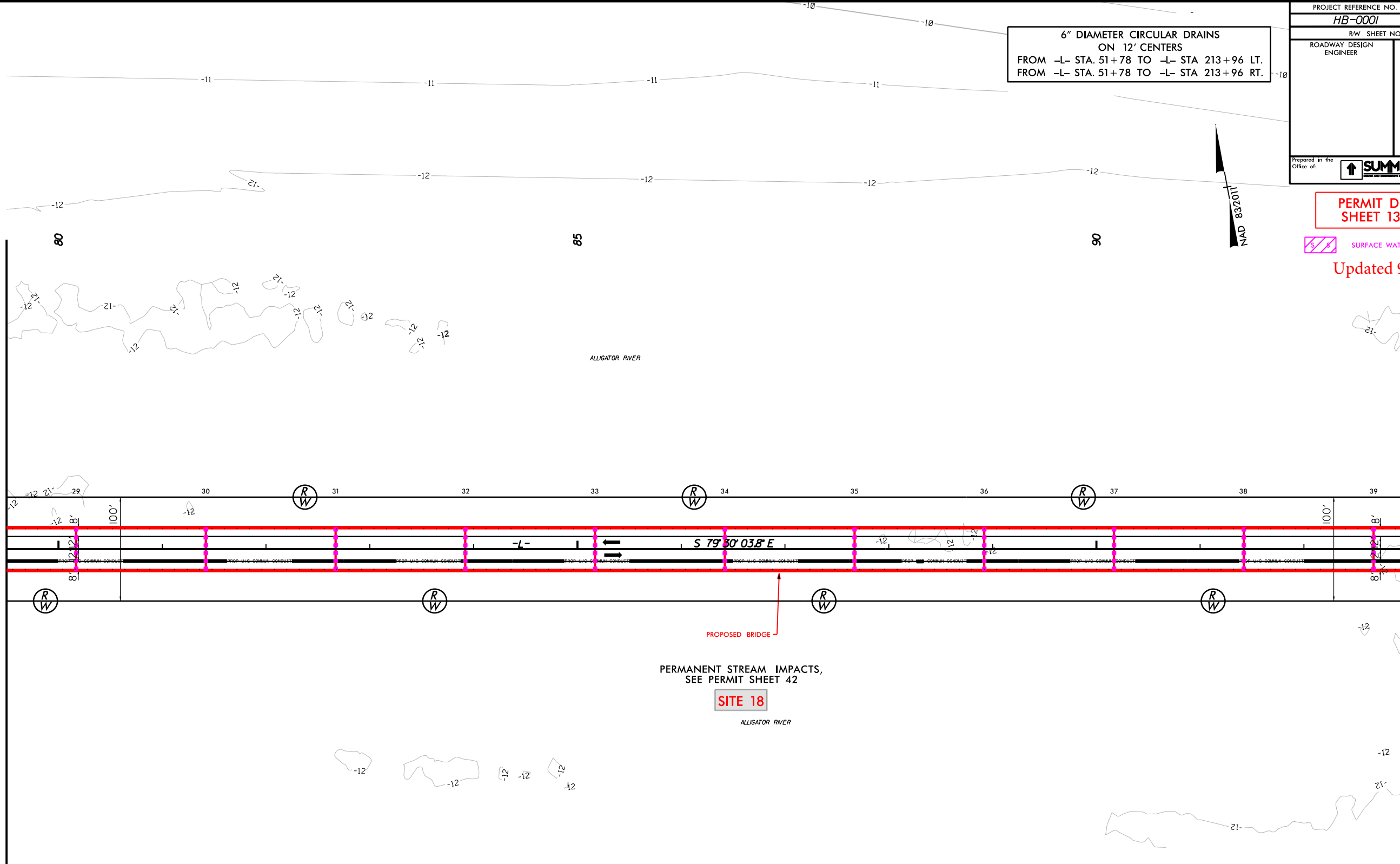
8/17/99

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psh-13.dgn
psh-13.dgn

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.

PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>9</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 919 732-3883 (919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 13 OF 79

SURFACE WATER IMPACTS

Updated 9/19/2023

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

SEE SHEET 26 FOR -L- PROFILE

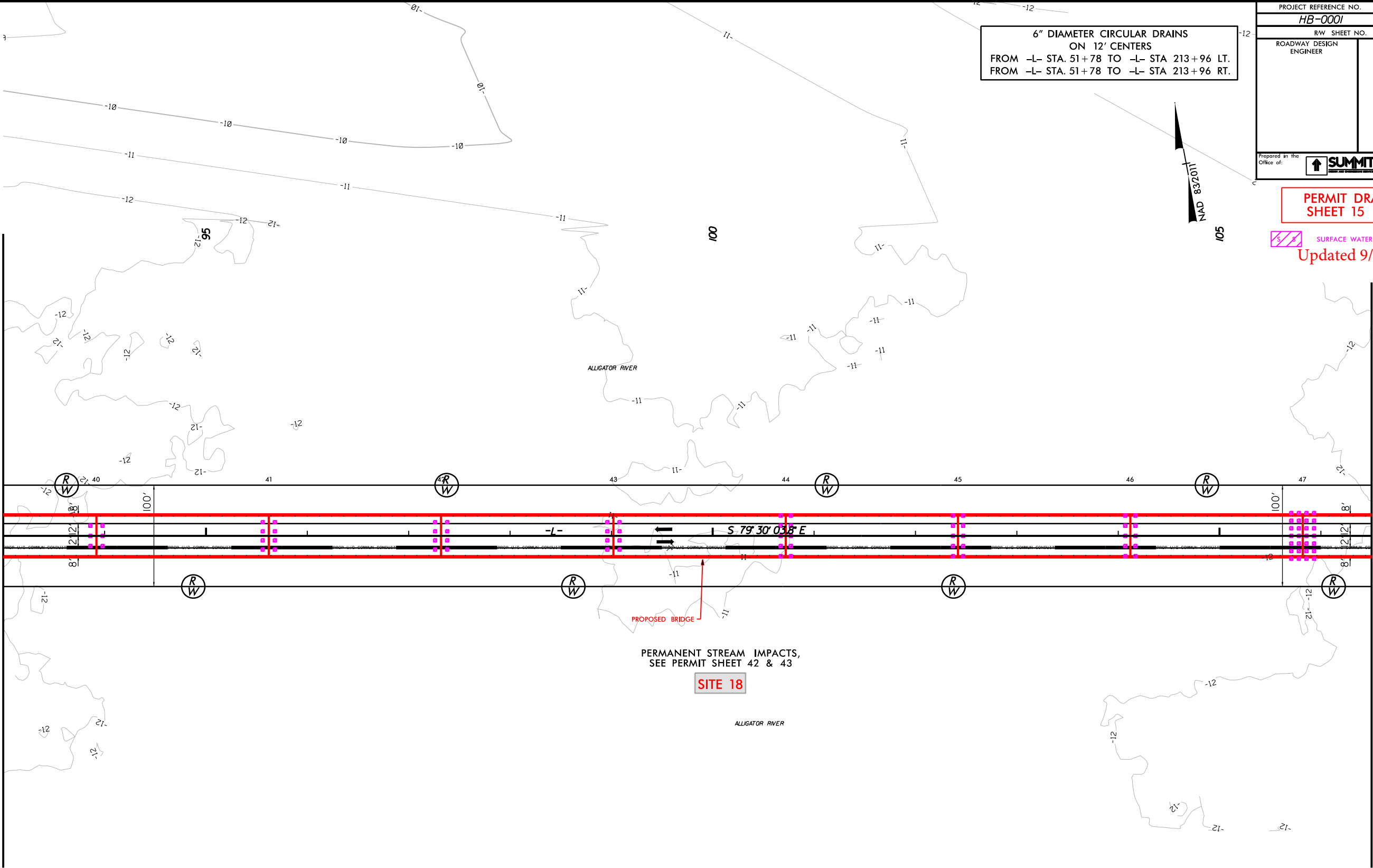
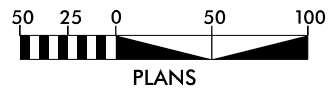
REVISIONS

8/17/99

19-SEP-2023 09:09
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psh-15.dgn

REVISIONS

MATCHLINE -L- STATION 93+00.00 (SEE SHEET 9)



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>10</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 15 OF 79

 SURFACE WATER IMPACTS
Updated 9/19/2023

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

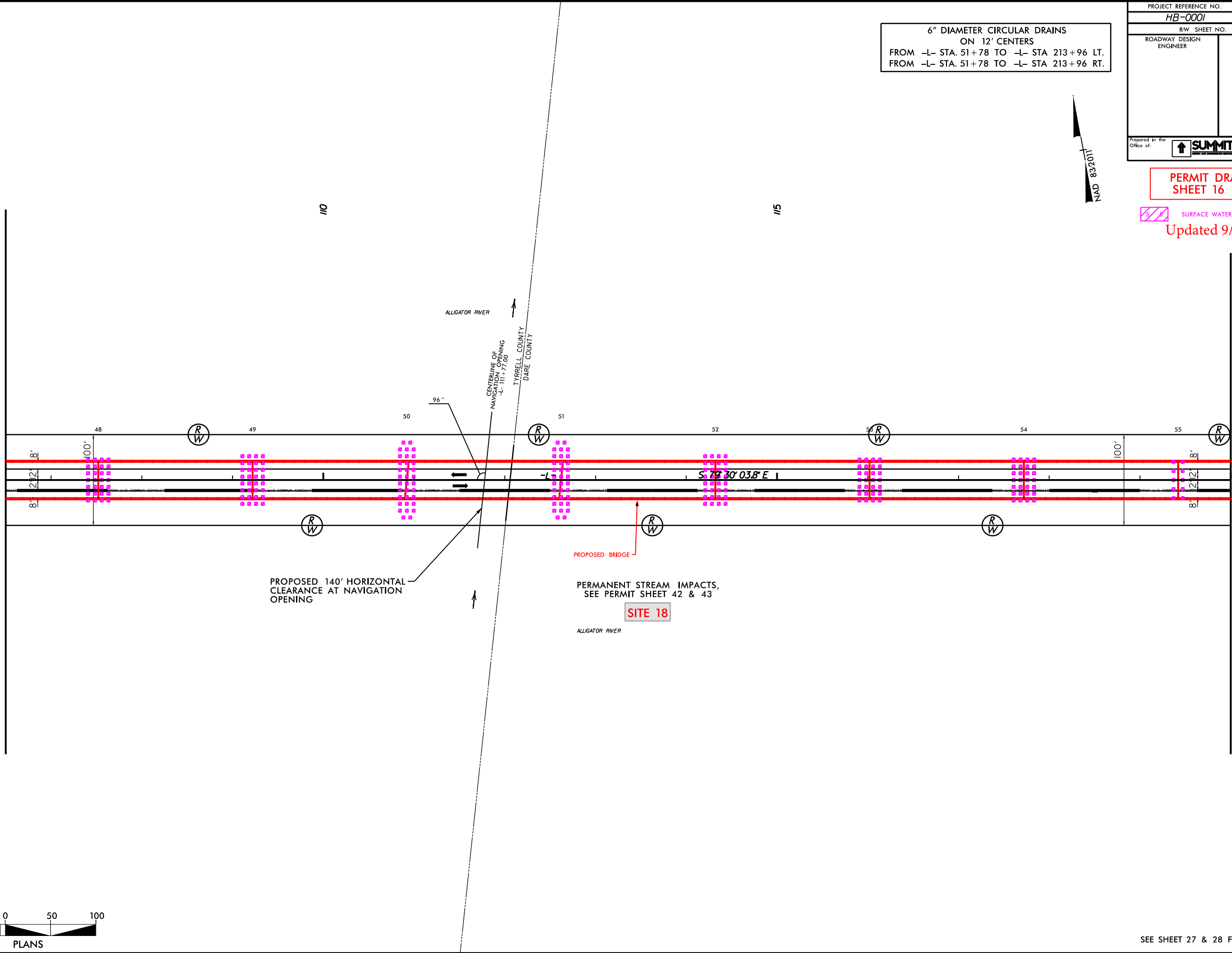
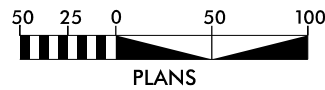
SEE SHEET 26 & 27 FOR -L- PROFILE

8/17/99

19-SEP-2023 09:09
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psh-16.dgn
psh-16.dgn

REVISIONS

MATCHLINE -L- STATION 106+50.00 (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. HB-0001		SHEET NO. 11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 16 OF 79

 SURFACE WATER IMPACTS
Updated 9/19/2023

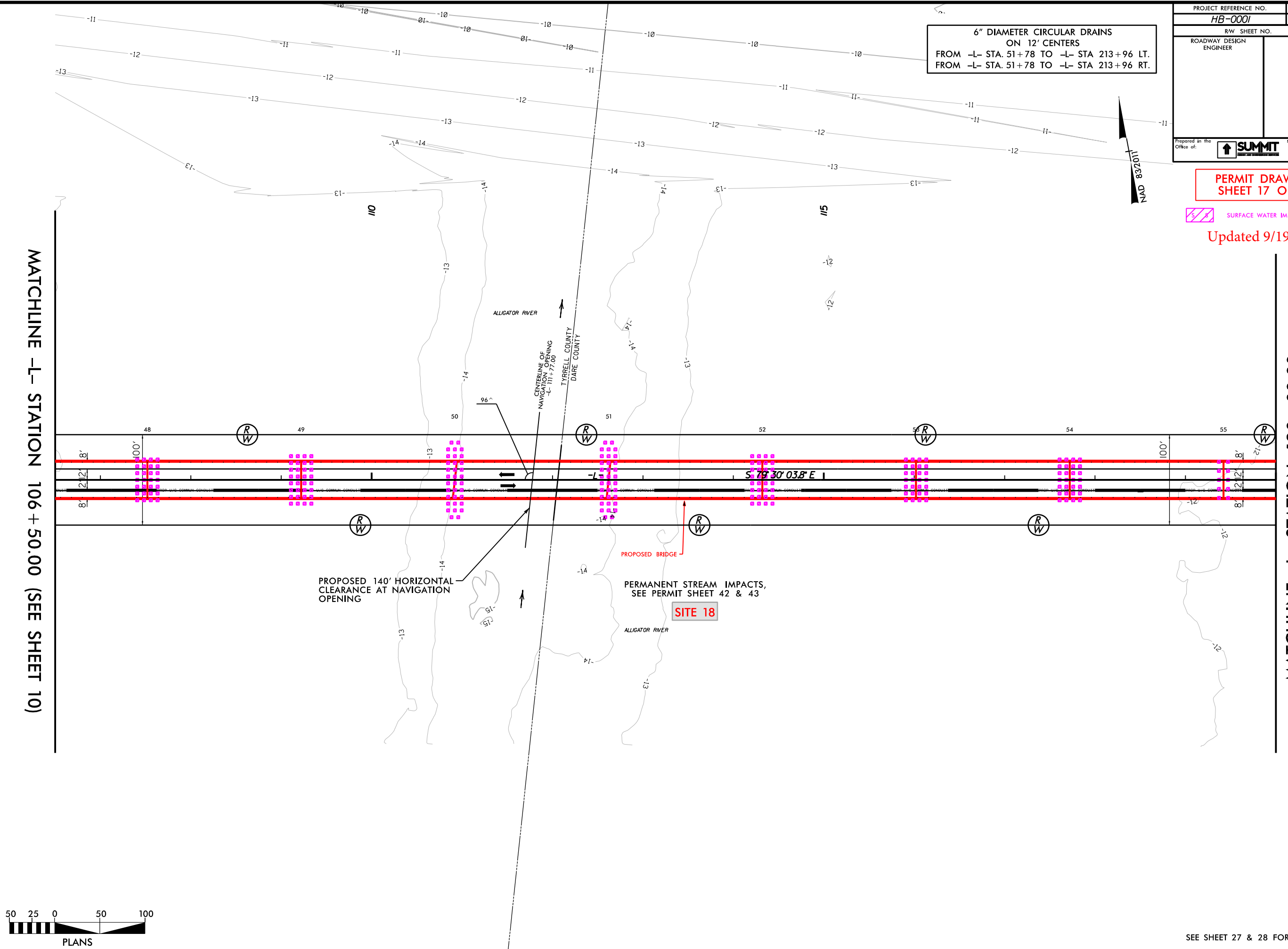
MATCHLINE -L- STATION 120+00.00
(SEE SHEET 12)

SEE SHEET 27 & 28 FOR -L- PROFILE

PERMIT DRAWING
SHEET 17 OF 79

5 8 SURFACE WATER IMPACTS

Updated 9/19/2023

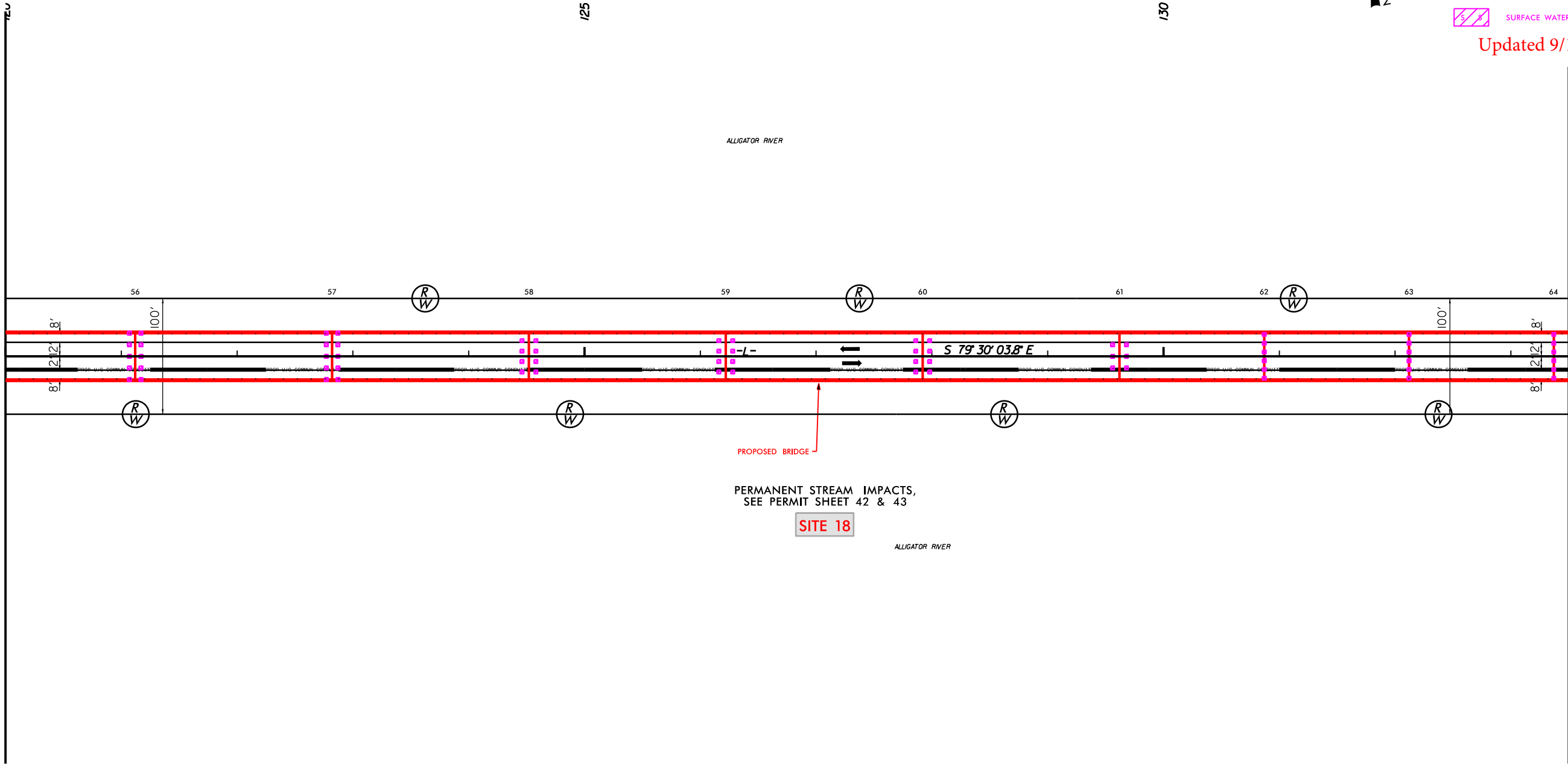
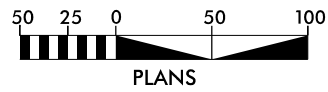


8/17/99


19-SEP-2023 09:09
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psh-18.dgn

REVISIONS

MATCHLINE -L- STATION 120+00.00 (SEE SHEET 11)



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. 12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:  SUMMIT <small>ENGINEERING AND CONSTRUCTION SERVICES</small>		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 18 OF 79

 SURFACE WATER IMPACTS

Updated 9/19/2023

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

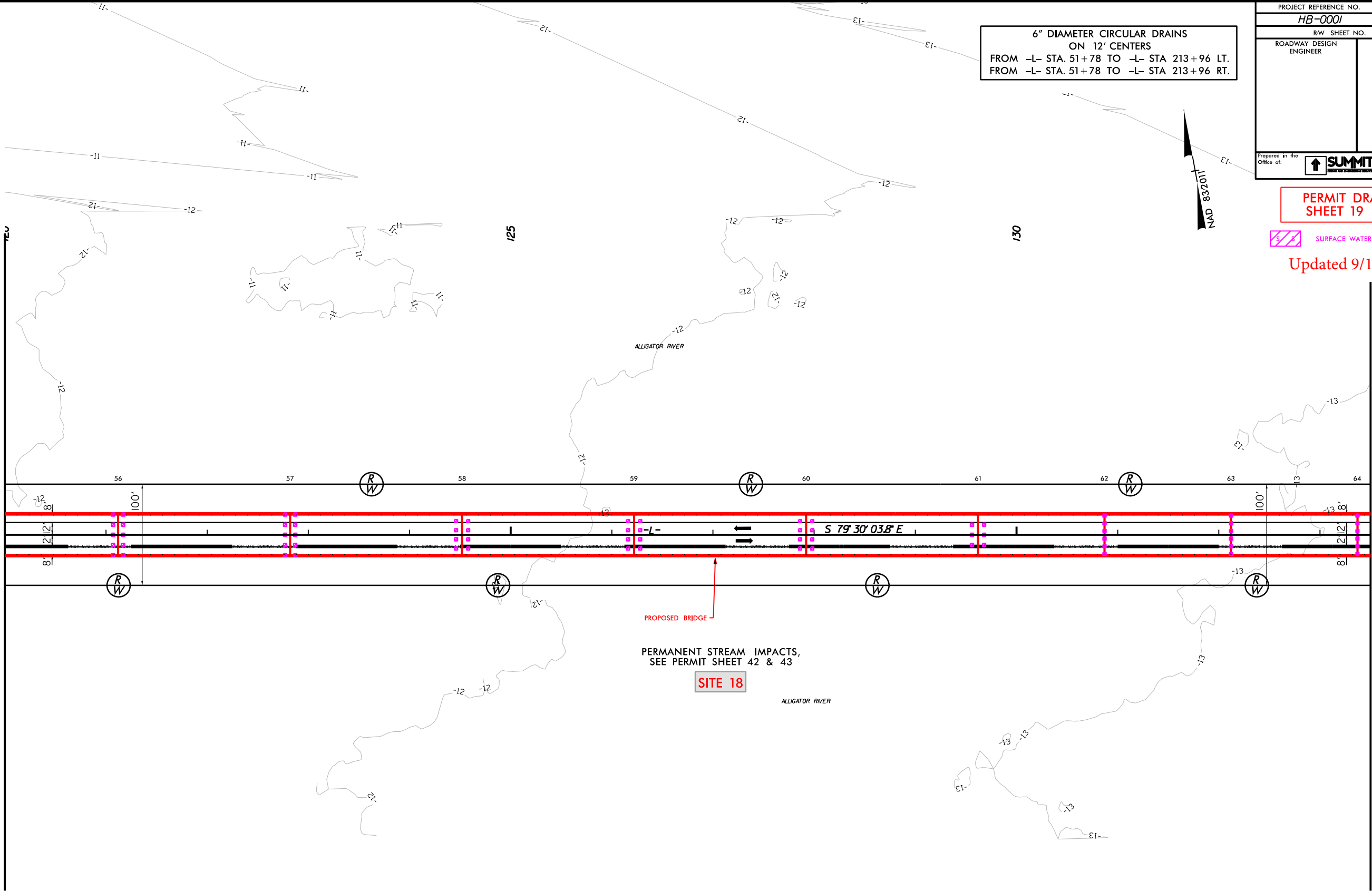
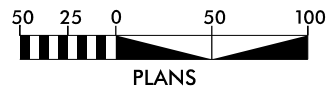
SEE SHEET 28 & 29 FOR -L- PROFILE

8/17/99

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C:\Users\psh\OneDrive\Documents\psh\19.dgn

REVISIONS

MATCHLINE -L- STATION 120+00.00 (SEE SHEET 11)



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>12</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 19 OF 79

SURFACE WATER IMPACTS

Updated 9/19/2023

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

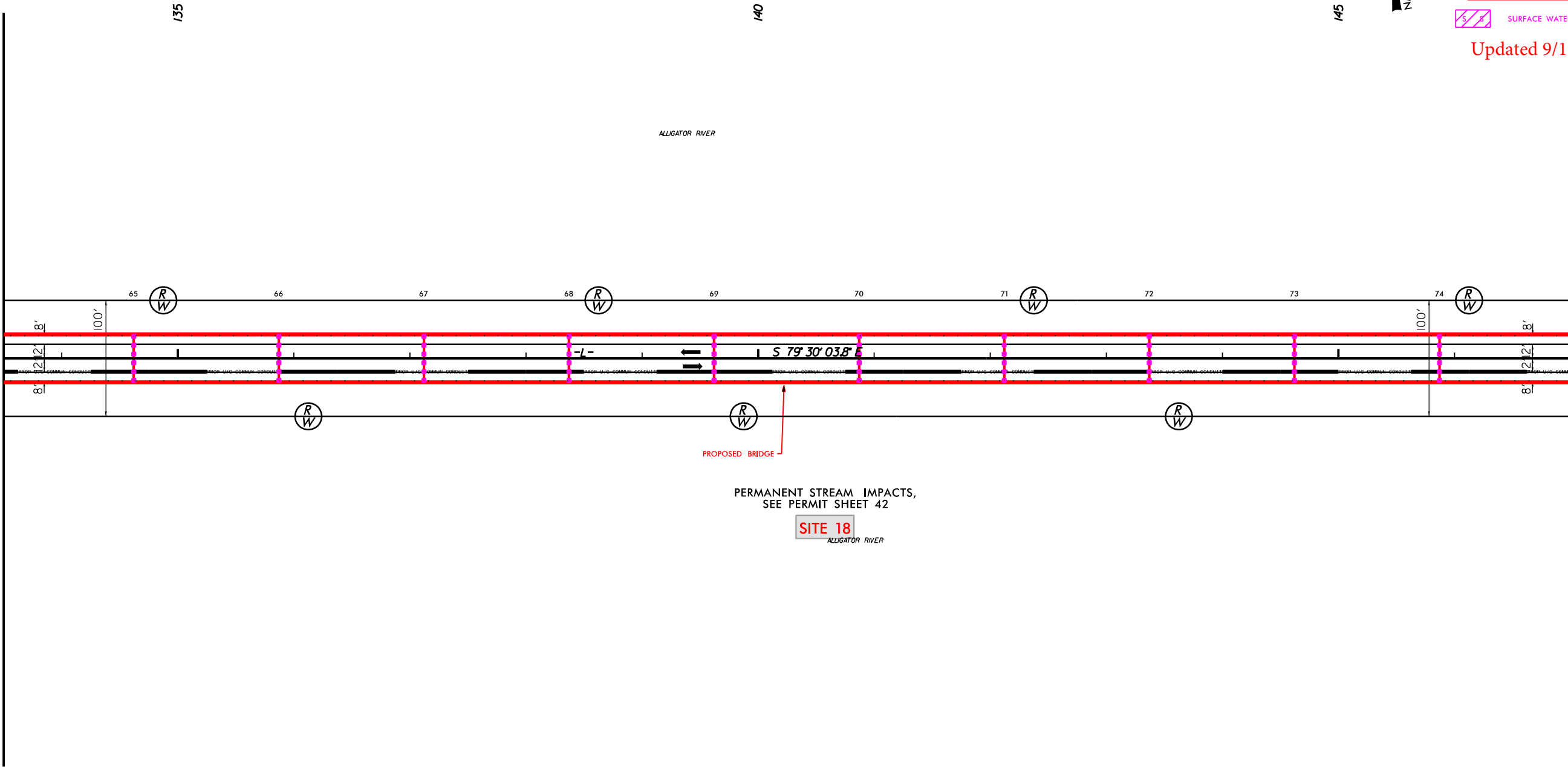
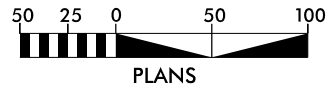
SEE SHEET 28 & 29 FOR -L- PROFILE

8/17/99


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HB-0001.dgn
psh-20.dgn
psh-20.dgn

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. HB-0001	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:  SUMMIT ENGINEERING	
NC FIRM LICENSE Nos P-0339 220 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

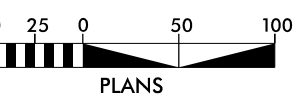
PERMIT DRAWING
SHEET 20 OF 79

 SURFACE WATER IMPACTS

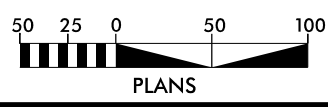
Updated 9/19/2023

MATCHLINE -L- STATION 147 + 00.00
(SEE SHEET 14)

SEE SHEET 29 FOR -L- PROFILE



NAD 83/2011



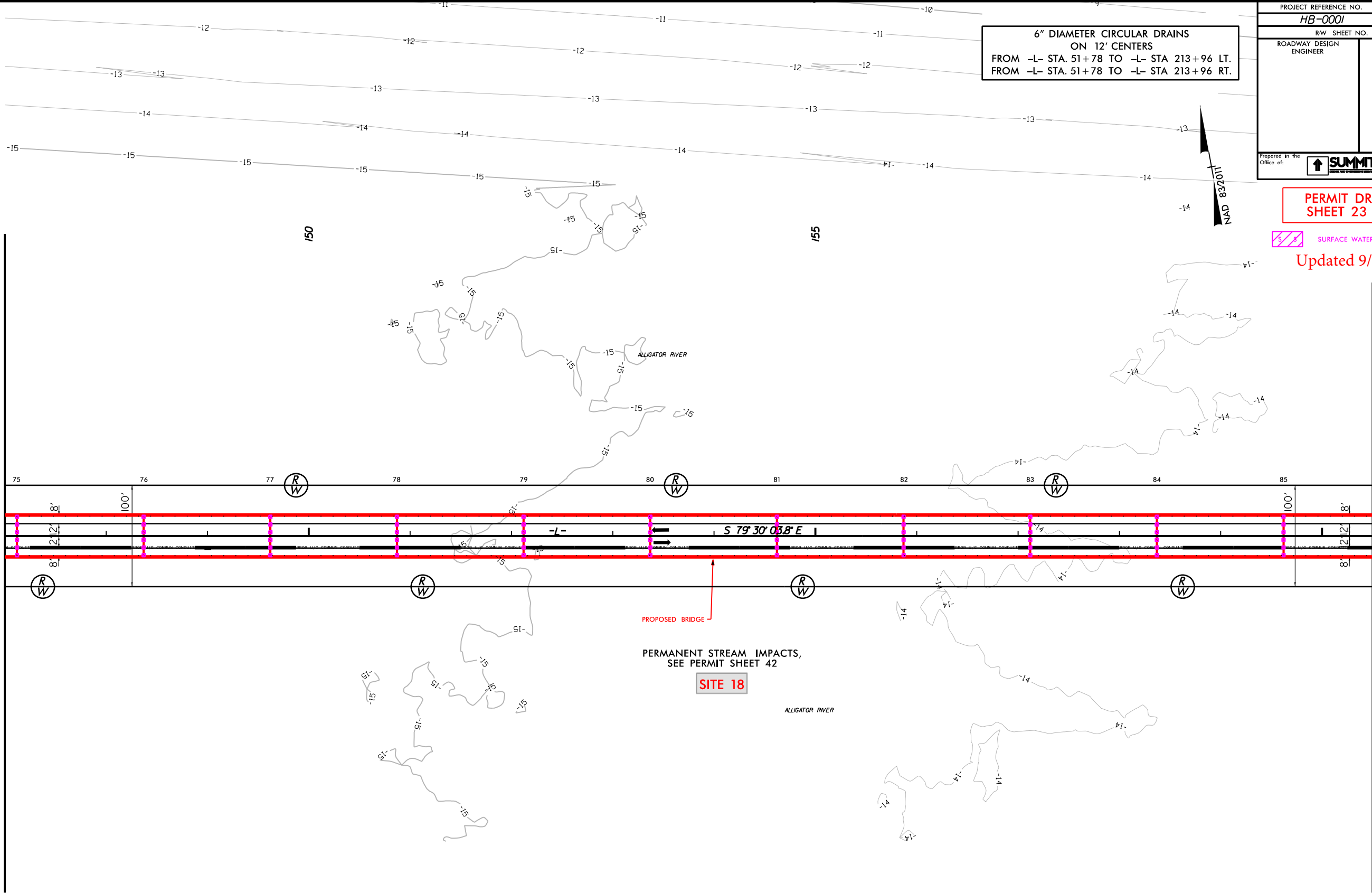
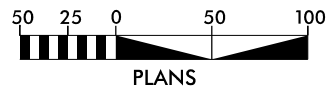
SEE SHEET 29 & 30 FOR -L- PROFILE

8/17/99

19-SEP-2023 09:09
HB-0001.dgn
psh-23.dgn
psh-23.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. <i>HB-0001</i>		SHEET NO. <i>14</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 23 OF 79

 SURFACE WATER IMPACTS
Updated 9/19/2023

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

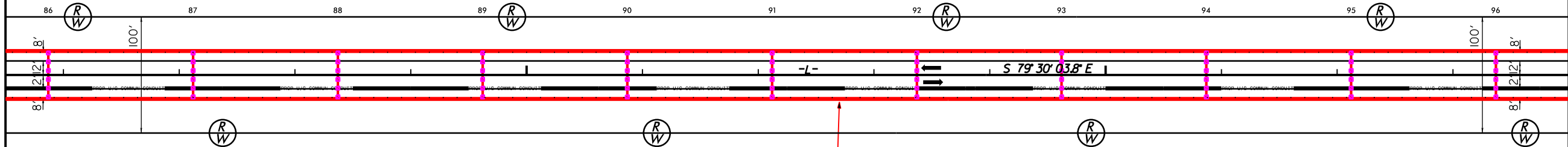
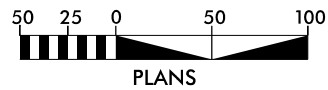
SEE SHEET 29 & 30 FOR -L- PROFILE

8/17/99

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REVISIONS

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



PROPOSED BRIDGE

PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER

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>15</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 27578 (919) 732-3883 (919) 732-6616 (FAX)	

PERMIT DRAWING
SHEET 24 OF 79

 SURFACE WATER IMPACTS

Updated 9/19/2023

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

SEE SHEET 30 FOR -L- PROFILE

PROJECT REFERENCE NO. HB-0001		SHEET NO. 15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27578 (919) 732-3888 (919) 732-6616 (FAX)	

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

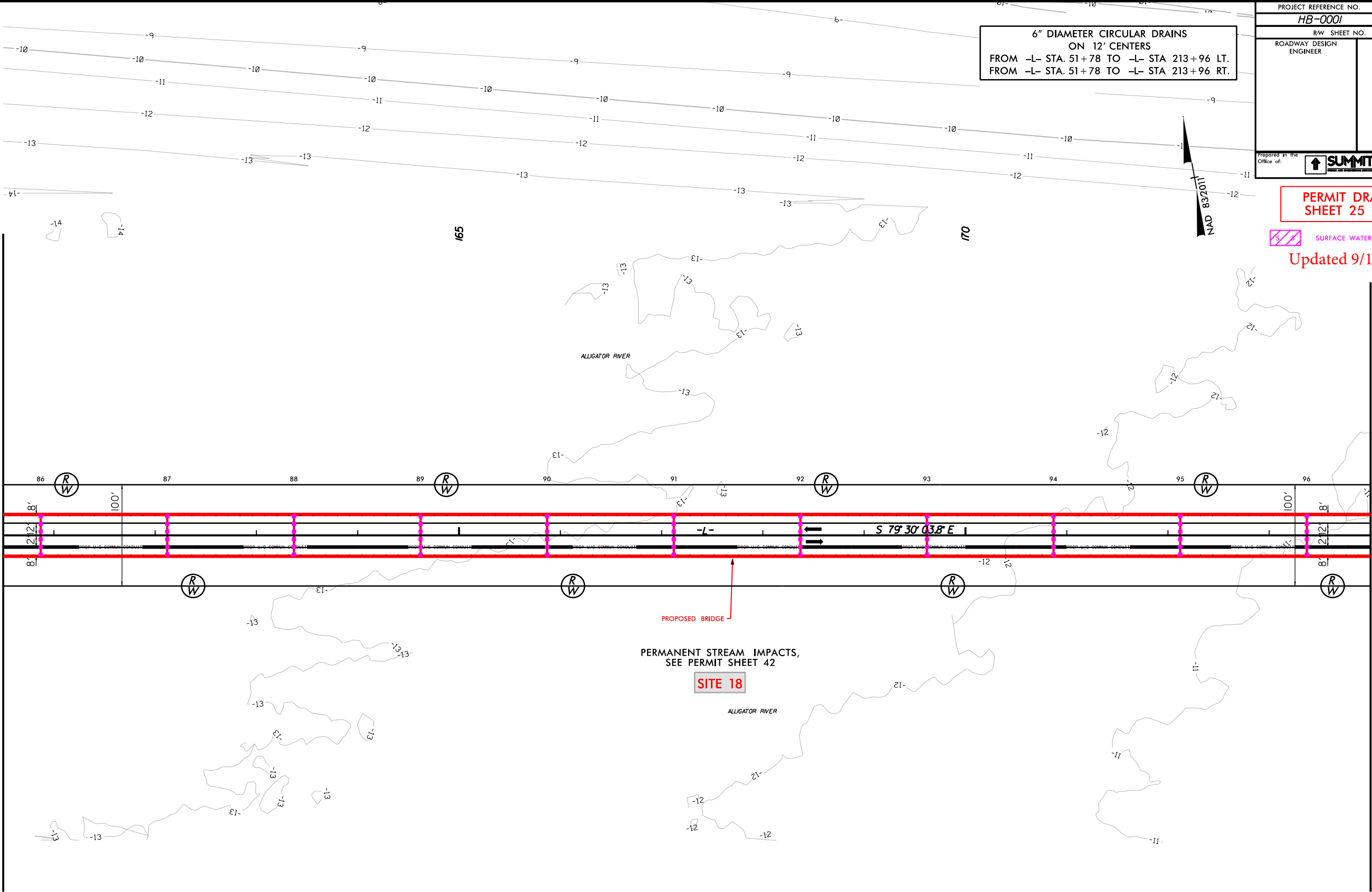
PERMIT DRAWING
SHEET 25 OF 79

 SURFACE WATER IMPACTS

Updated 9/19/2023

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

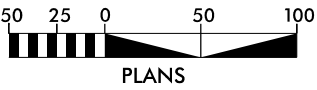
MATCHLINE -L- STATION 174+00.00
(SEE SHEET 16)



PROPOSED BRIDGE

PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18



SEE SHEET 30 FOR -L- PROFILE

REVISIONS

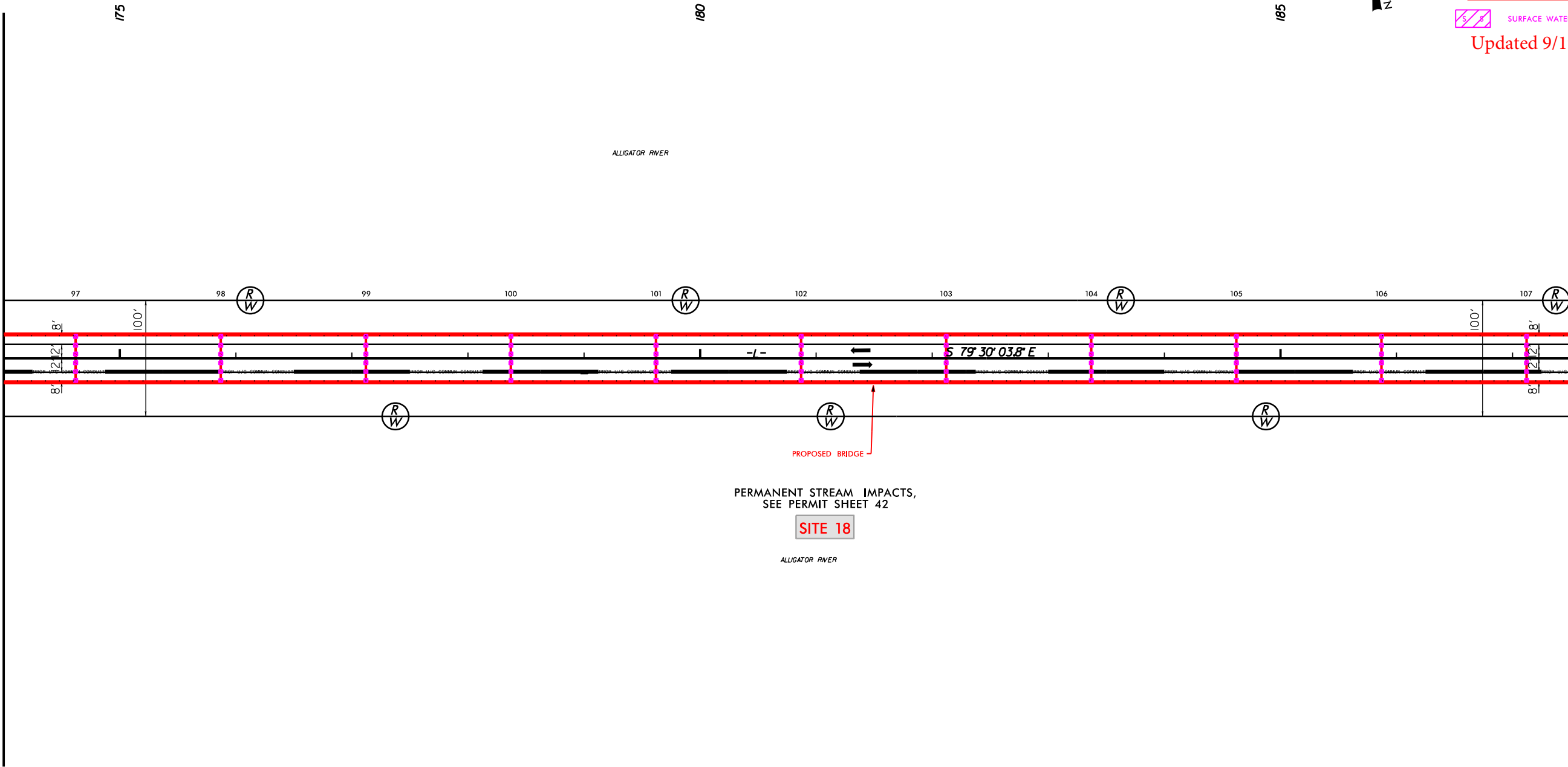
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psh-25.dgn

8/17/99


19-SEP-2023 09:09
HB-0001.dgn
psh-26.dgn
psh-26.dgn

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.

PROJECT REFERENCE NO. HB-0001	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:  SUMMIT ENGINEERING	
NC FIRM LICENSE Nos P-0339 220 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 26 OF 79

 SURFACE WATER IMPACTS

Updated 9/19/2023

SEE SHEET 30 & 31 FOR -L- PROFILE

PROJECT REFERENCE NO.
HB-0001


SHEET NO.
16

RW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Prepared in the Office of:

**SUMMIT**
Engineering & Construction

NC FIRM LICENSE Nos P-0339
320 Executive Ct
Hillsborough, NC 27578
(919) 732-3883
(919) 732-6876 (FAX)

PERMIT DRAWING
SHEET 27 OF 79

 SURFACE WATER IMPACTS

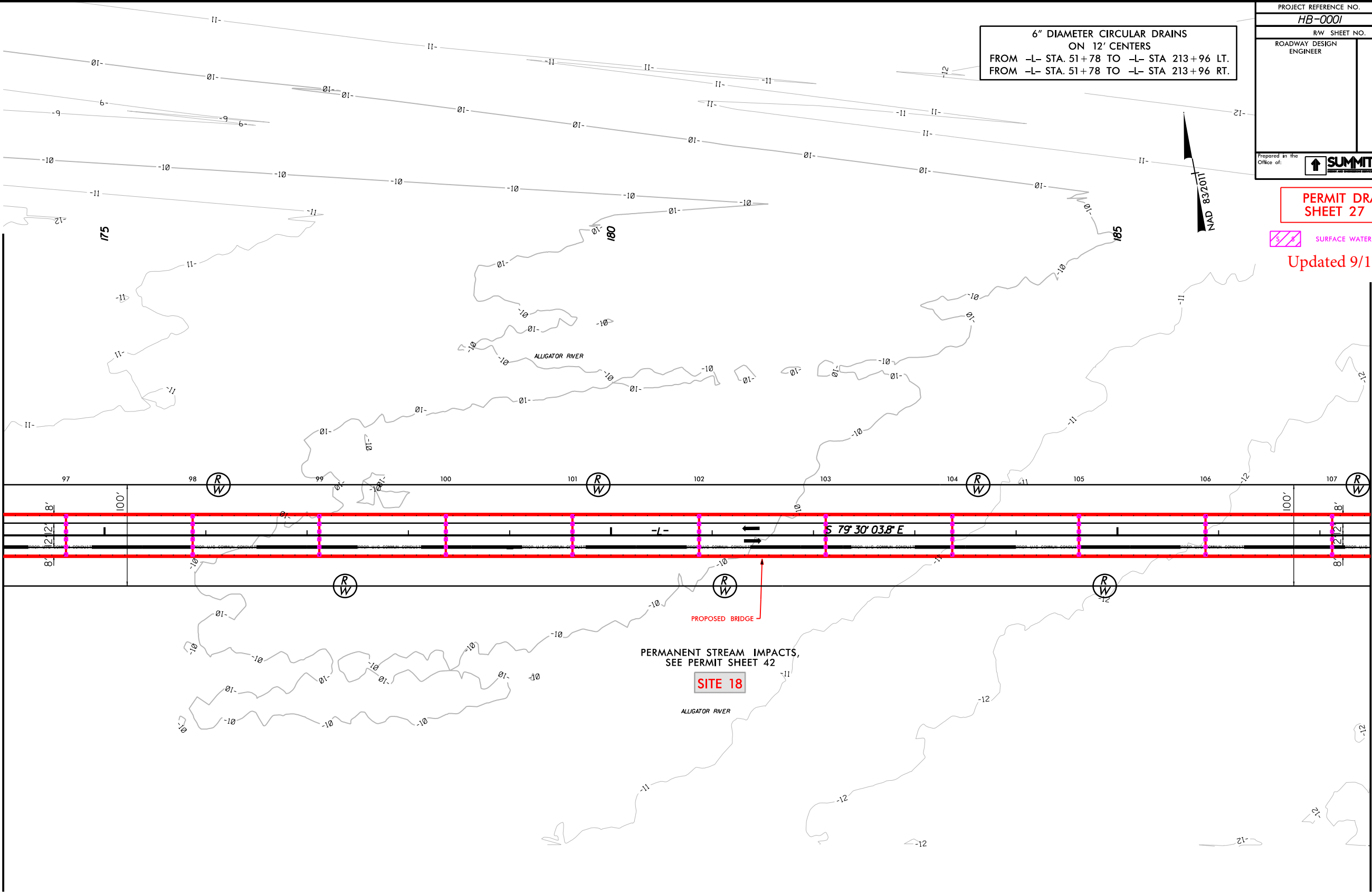
Updated 9/19/2023



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.

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

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

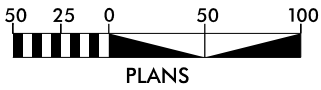


PERMANENT STREAM IMPACTS,
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER

PROPOSED BRIDGE



SEE SHEET 30 & 31 FOR -L- PROFILE

REVISIONS

19-SEP-2023 09:09
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8/17/99

PERMIT DRAWING
SHEET 28 OF 79

 SURFACE WATER IMPACTS

Updated 9/19/2023

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.

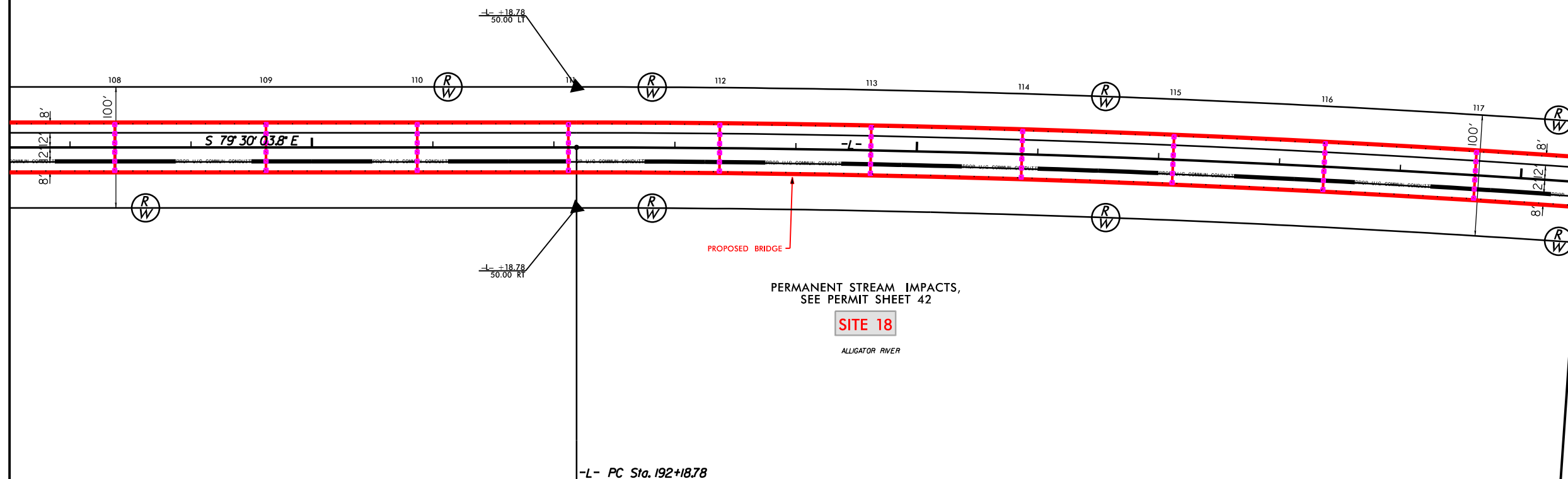
-L-

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

AD 832011

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

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

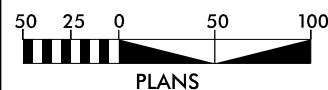


PERMANENT STREAM IMPACTS
SEE PERMIT SHEET 42

SITE 18

ALLIGATOR RIVER

-L- PC Sta. 192+18.78



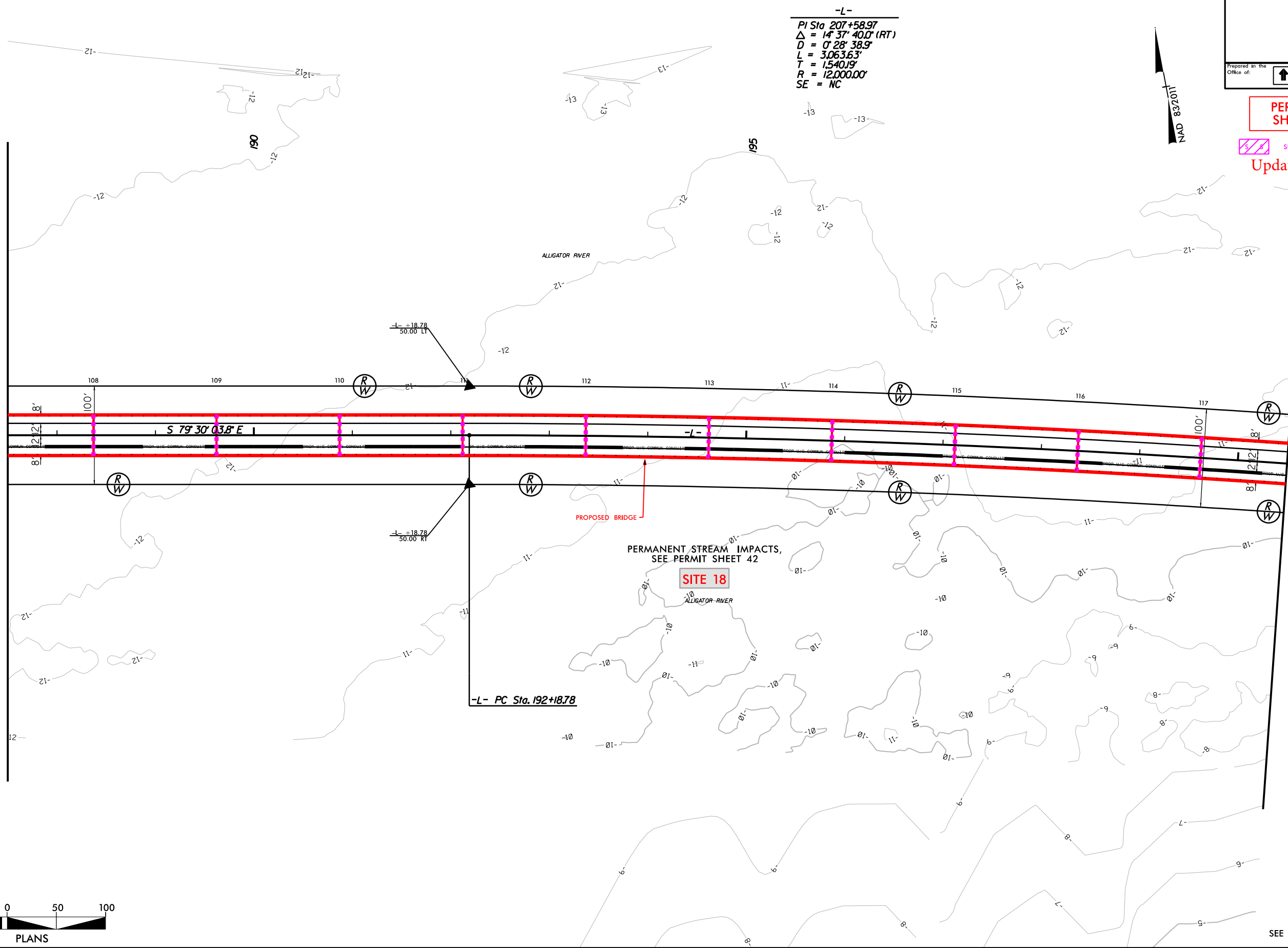
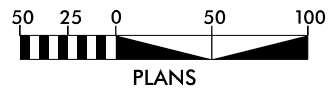
SEE SHEET 31 FOR -L- PROFILE

8/17/99

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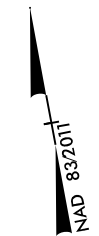
REVISIONS

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.



PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>17</i>	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No P-0339 320 Executive Ct. Hillsborough, NC 27578 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 29 OF 79

SURFACE WATER IMPACTS

Updated 9/19/2023

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

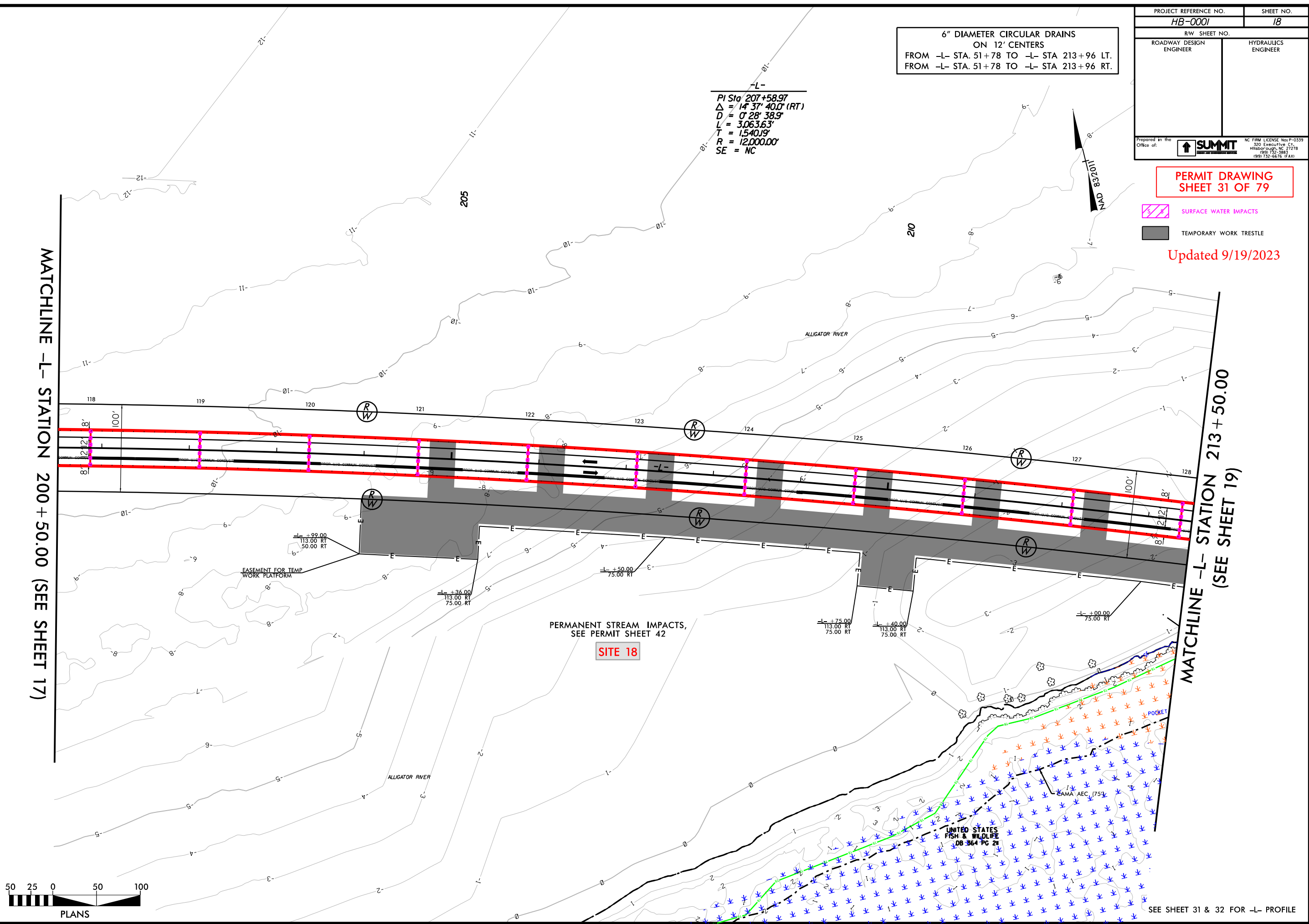
SEE SHEET 31 FOR -L- PROFILE

REVISIONS


 SURFACE WATER IMPACTS

TEMPORARY WORK TRESTLE

Updated 9/19/2023



SEE SHEET 31 & 32 FOR -L- PROFILE






PROJECT REFERENCE NO.	SHEET NO.
HB-0001	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
Prepared in the Office of:  NC FIRM LICENSE No. P-0339 220 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

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)
 $D = 0' 28' 39.9"$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
SE = NC

PI Sta 228+76.69
 $\Delta = 11^{\circ} 18' 46.7"$ (RT)
 $D = 0' 57' 17.7"$
 $L = 1,184.69'$
 $T = 594.28'$
 $R = 6,000.00'$
SE = 03
RO = 8'

PERMIT DRAWING
SHEET 32 OF 79

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

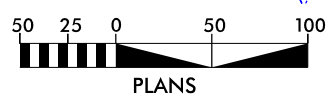
Updated 9/19/2023

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



PLANS

8/17/99
19-SEP-2023 09:09
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REVISIONS

PROJECT REFERENCE NO. HB-0001		SHEET NO. 19	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			

Prepared in the Office of: **SUMMIT**

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

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
 $\Delta = 11^\circ 18' 46.7" (RT)$
 $D = 0^\circ 57' 17.7"$
 $L = 1,184.69'$
 $T = 594.28'$
 $R = 6,000.00'$
SE = 03
RO = 8"

**PERMIT DRAWING
SHEET 33 OF 79**

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

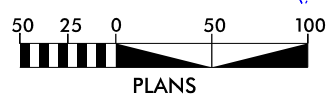
Updated 9/19/2023

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)

PAVEMENT REMOVAL
SEE SHEET 32 FOR -L- PROFILE



PLANS

8/17/99
19-SEP-2023 09:09
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psh-33.dgn
Network Administrator

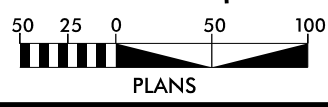
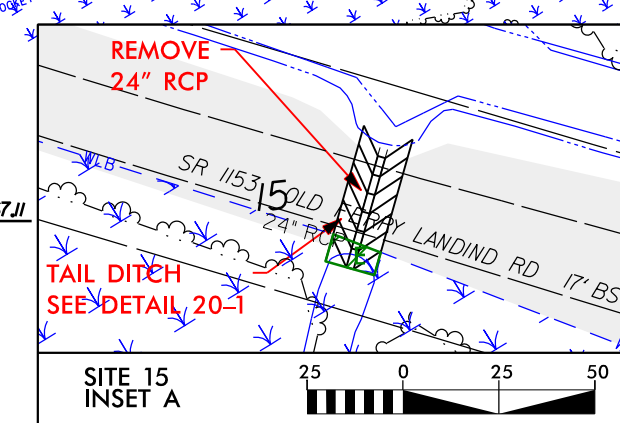
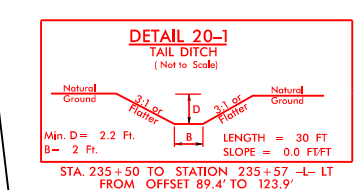
PERMIT DRAWING
SHEET 34 OF 79

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

Updated 9/19/2023

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

-L-	-Y2-	-Y2-
PI Sta 228+76.69	PI Sta 237+92.08	PI Sta 14+14.13
$\Delta = 11^{\circ} 18' 46.7''$ (RT)	$\Delta = 3^{\circ} 06' 08.8''$ (LT)	$\Delta = 13^{\circ} 05' 07.5''$ (RT)
$D = 0^{\circ} 57' 17.7''$	$D = 0^{\circ} 28' 38.9''$	$D = 24^{\circ} 54' 40.4''$
$L = 1184.69'$	$L = 649.78'$	$L = 293.38'$
$T = 594.28'$	$T = 324.97'$	$T = 170.46'$
$R = 6000.00'$	$R = 12000.00'$	$R = 230.00'$
$SE = 03'$	$SE = NC$	$SE = 04'$
$RO = 81'$		$RO = 60'$



8/17/99

REVISIONS

19-SEP-2023 09:09
HB-0001-2023-09-09-34.dgn
HB-0001-2023-09-09-34.dgn

PERMIT DRAWING
SHEET 35 OF 79

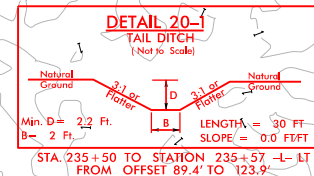
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- HAND CLEARING (NON-GRUBBING)
- WETLAND EXCAVATION

Updated 9/19/2023

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

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

-L-	-Y2-	-Y2-
PI Sta 228+76.69 Δ = 17° 18' 46.7" (RT) D = 0° 57' 17.7" L = 1184.69' T = 594.28' R = 6000.00' 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 = 12000.00' 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"

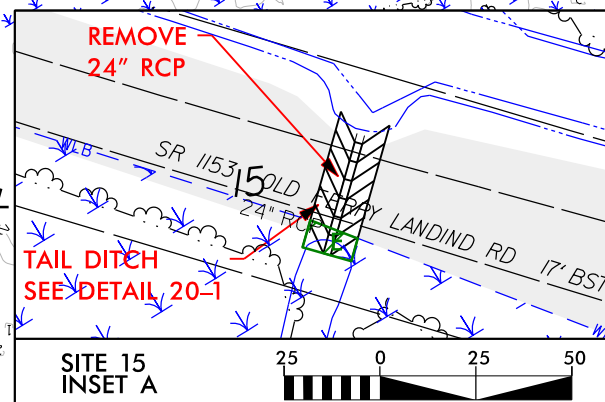
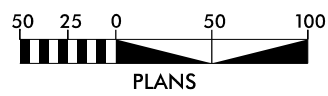


SITE 15

SITE 14

SITE 12

SITE 13



PAVEMENT REMOVAL

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:

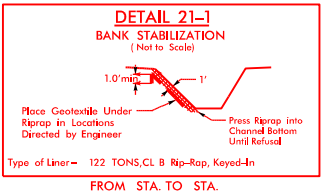
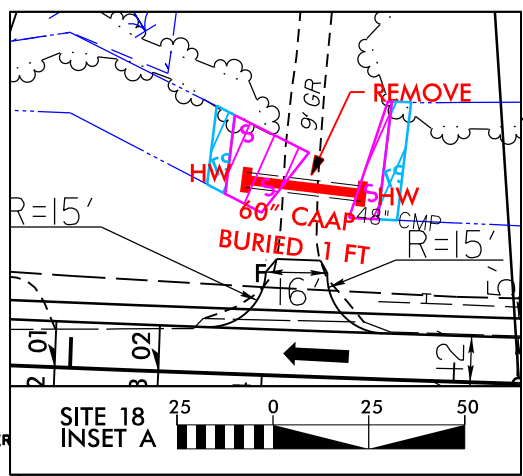
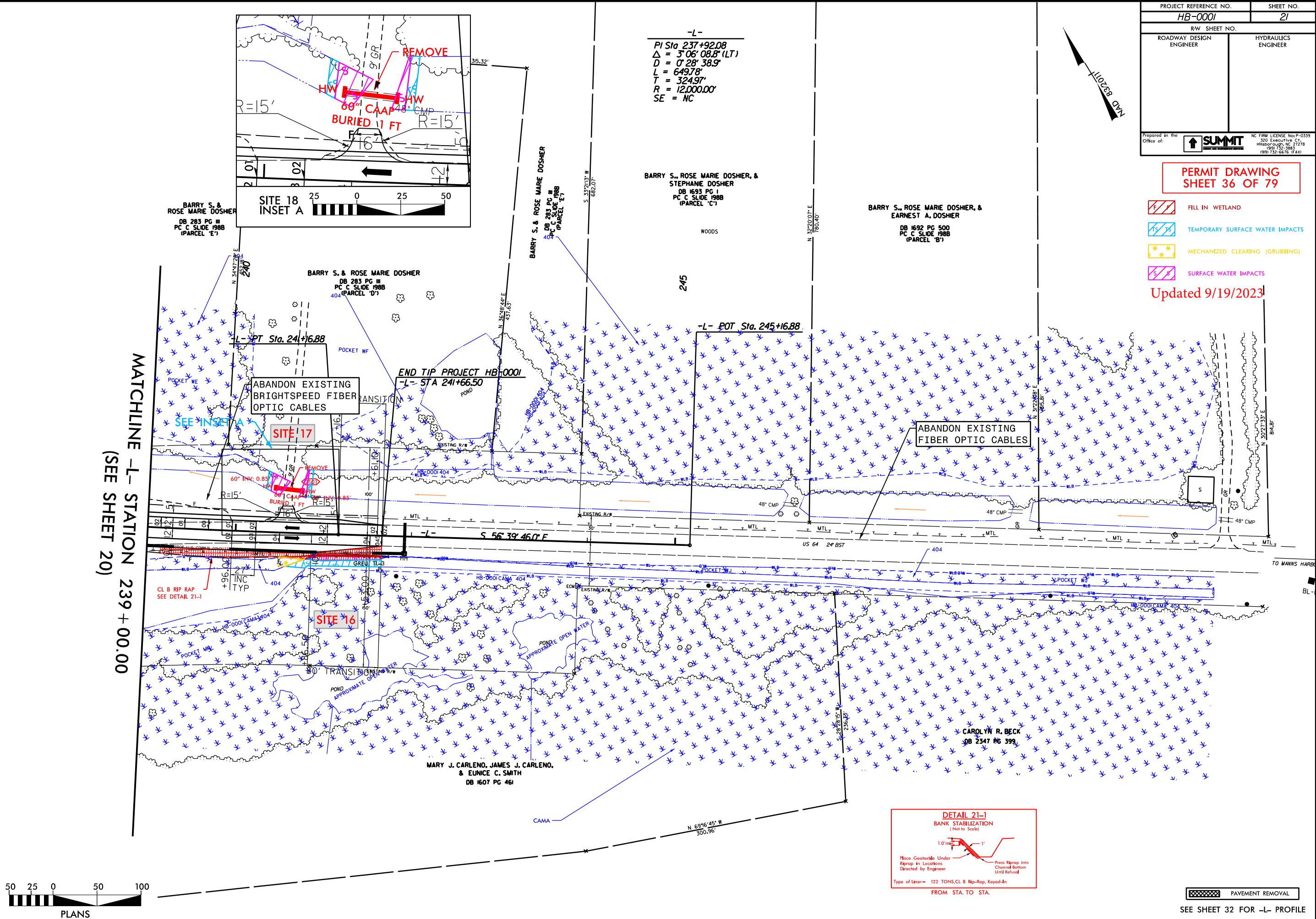
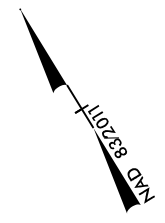
**SUMMIT**
Engineering & Construction

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

Updated 9/19/2023



 PAVEMENT REMOVAL

SEE SHEET 32 FOR -L- PROFILE

REVISIONS

8/17/99

19-SEP-2023 09:09
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psh-36.dgn

PROJECT REFERENCE NO.
HB-0001

SHEET NO.
21

RW SHEET NO.

ROADWAY DESIGN ENGINEER

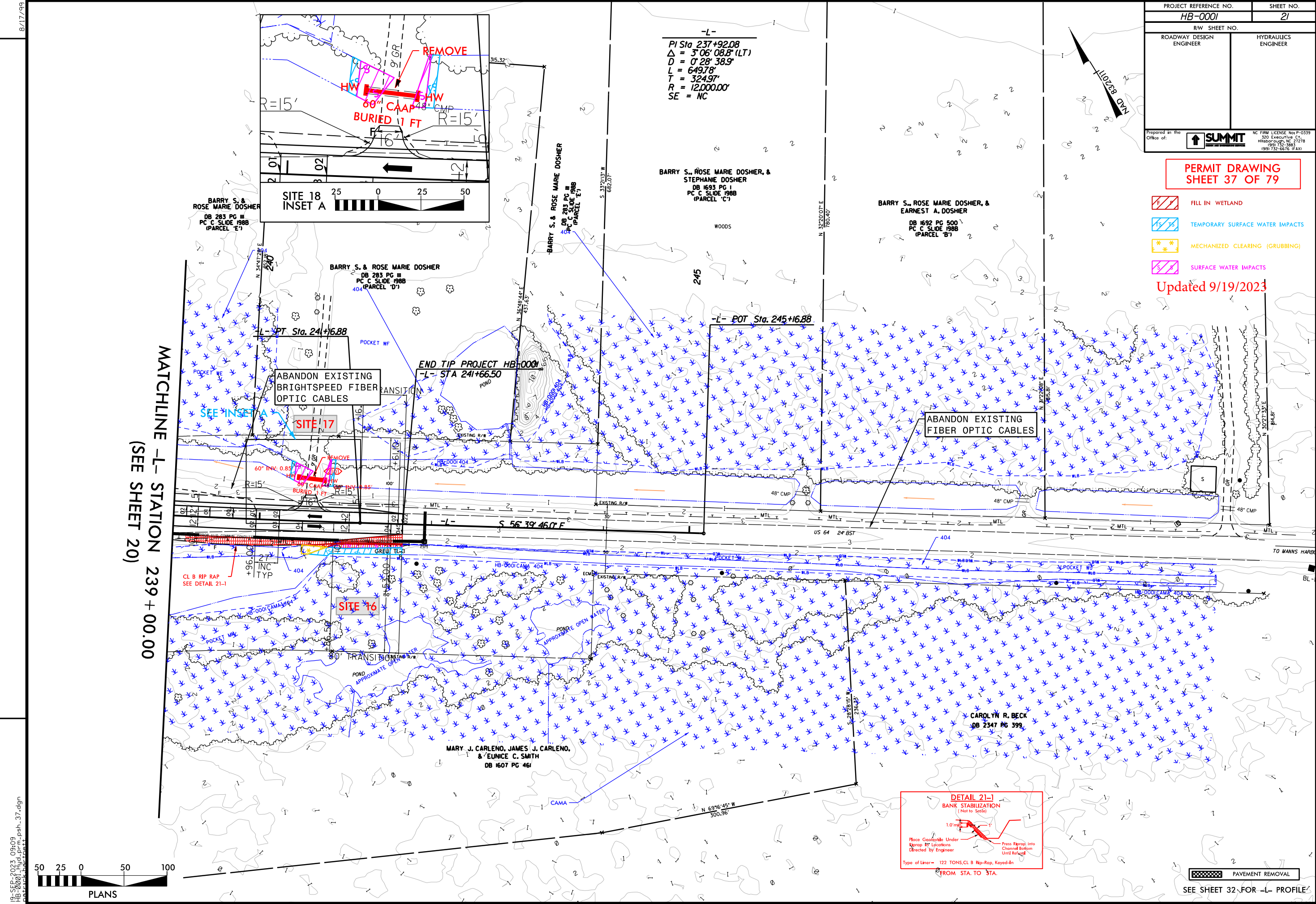
HYDRAULICS ENGINEER

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

PERMIT DRAWING
SHEET 37 OF 79

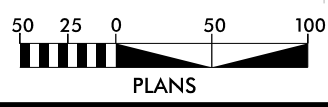
- FILL IN WETLAND
- TEMPORARY SURFACE WATER IMPACTS
- MECHANIZED CLEARING (GRUBBING)
- SURFACE WATER IMPACTS

Updated 9/19/2023



REVISIONS

MATCHLINE -L- STATION 239 + 00.00
(SEE SHEET 20)



PLANS

DETAIL 21-1
BANK STABILIZATION
(Not to Scale)

Place Geotextile Under
Rip-rap for Locations
Directed by Engineer

Press Rip-rap into
Channel Bottom
Until Relaxed

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

FROM STA. TO STA.

PAVEMENT REMOVAL

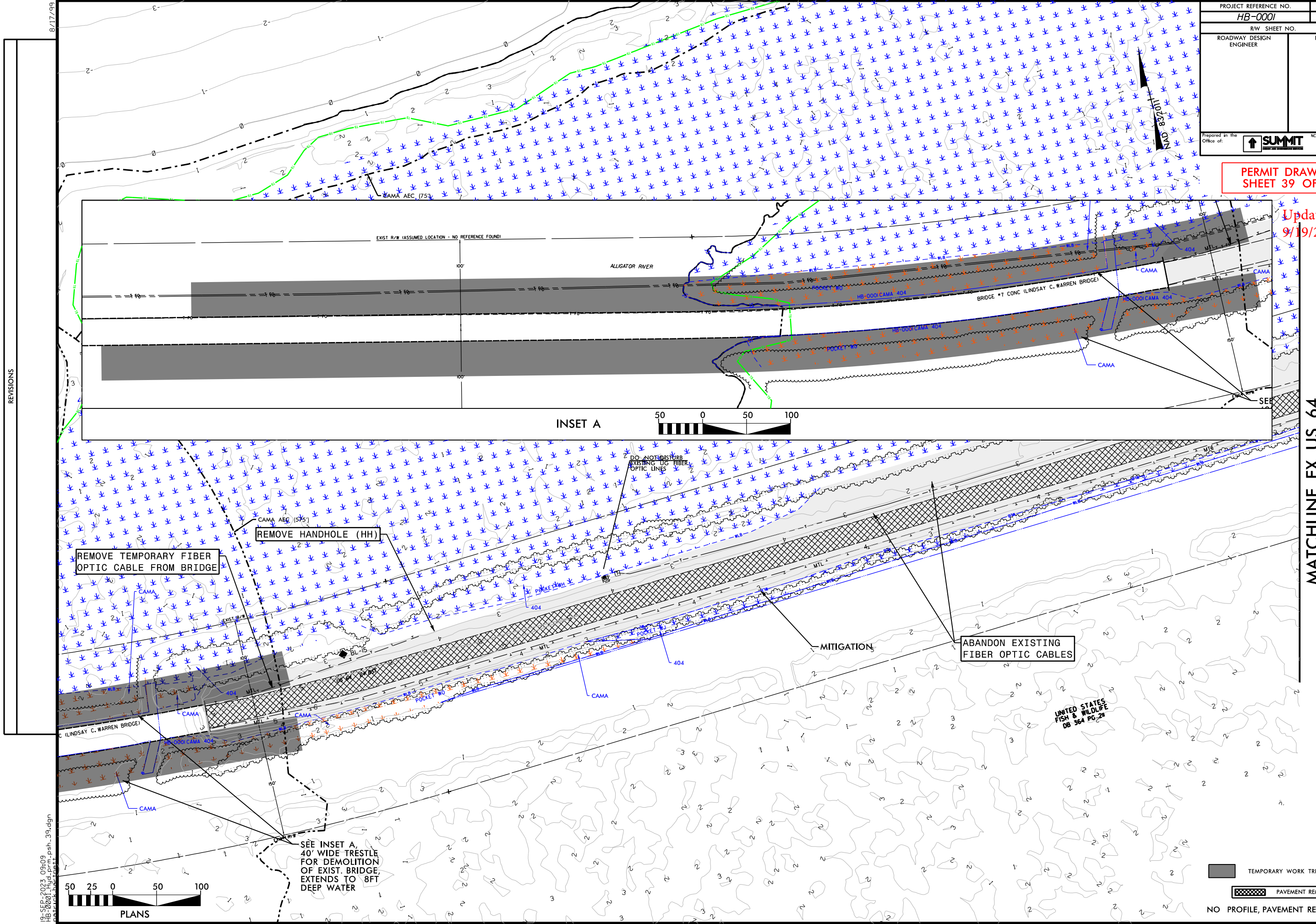
SEE SHEET 32 FOR -L- PROFILE

8/17/99
19-SEP-2023 09:09
HB-0001.dwg
psh-37.dgn
psh-37.dgn

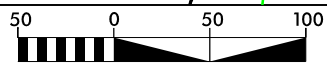
**PERMIT DRAWING
SHEET 39 OF 79**

**Updated
9/19/2023**

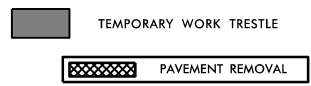
**MATCHLINE EX US 64
(SEE SHEET 23)**



INSET A



PLANS



NO PROFILE, PAVEMENT REMOVAL ONLY

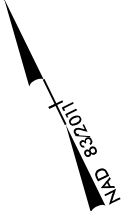
REVISIONS

19-SEP-2023 09:09
HB-0001-22-39.dgn
psh-39.dgn

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		23	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No P-0339	
SUMMIT		320 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

MARY J. CARLENO, JAMES J. CARLENO,
& EUNICE C. SMITH
DB 1607 PG 461

PERMIT DRAWING
SHEET 40 OF 79
Updated 9/19/2023

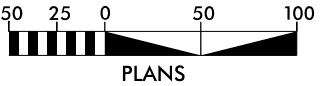


MATCHLINE EX US 64 (SEE SHEET 19)

MATCHLINE EX US 64
(SEE SHEET 22)

ABANDON EXISTING
FIBER OPTIC CABLES

MITIGATION




PAVEMENT REMOVAL

NO PROFILE, PAVEMENT REMOVAL ONLY

REVISIONS

8/17/99

19-SEP-2023 09:09
HB-0001.dgn
psh-40.dgn
psh-40.dgn

PROJECT REFERENCE NO. HB-0001		SHEET NO. 23
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
MARY J. CARLENO, JAMES J. CARLENO, & EUNICE C. SMITH DB 1607 PG 461		
Prepared in the Office of:  SUMMIT NC FIRM LICENSE Nos P-0339 320 Executive Five Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)		

PERMIT DRAWING
SHEET 41 OF 79
Updated 9/19/2023

 PAVEMENT REMOVAL
NO. PROFILE, PAVEMENT REMOVAL ONLY



REVISIONS

8/17/99

19-SEP-2023 09:10
HB-0001-19-SEP-2023-09:10
HB-0001-19-SEP-2023-09:10
HB-0001-19-SEP-2023-09:10

MATCHLINE EX US 64 (SEE SHEET 19)

MATCHLINE EX US 64
(SEE SHEET 22)

ABANDON EXISTING
FIBER OPTIC CABLES

MITIGATION

NAD 83
110.011

8/17/99

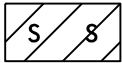
REVISIONS

19-SEP-2023 09:10
HB-0001_TYP_psh_42.dgn
pattack haddett

BENT TYPICAL IMPACTS



FILL IN WETLAND



SURFACE WATER IMPACTS

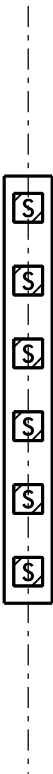
PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO.	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE Nos P-0339 320 Executive Ct Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)	

PERMIT DRAWING
SHEET 42 OF 79

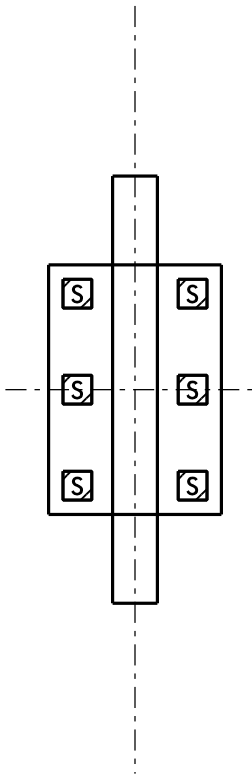
Updated 9/19/2023



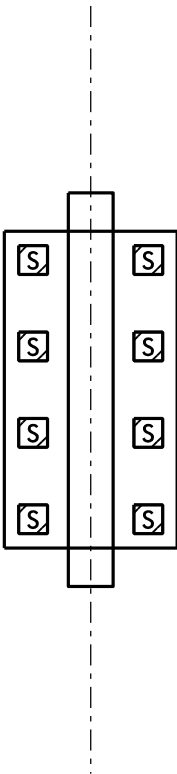
BENTS 1-3, 133-134
44'-6" x 5'-0"
36" PRESTRESSED CONCRETE PILE



BENTS 4-39, 62-132
44'-6" x 5'-0"
36" PRESTRESSED CONCRETE PILE




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



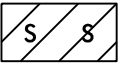
BENTS 41-43, 58-60
33'-0" x 18'-0"
36" PRESTRESSED CONCRETE PILE



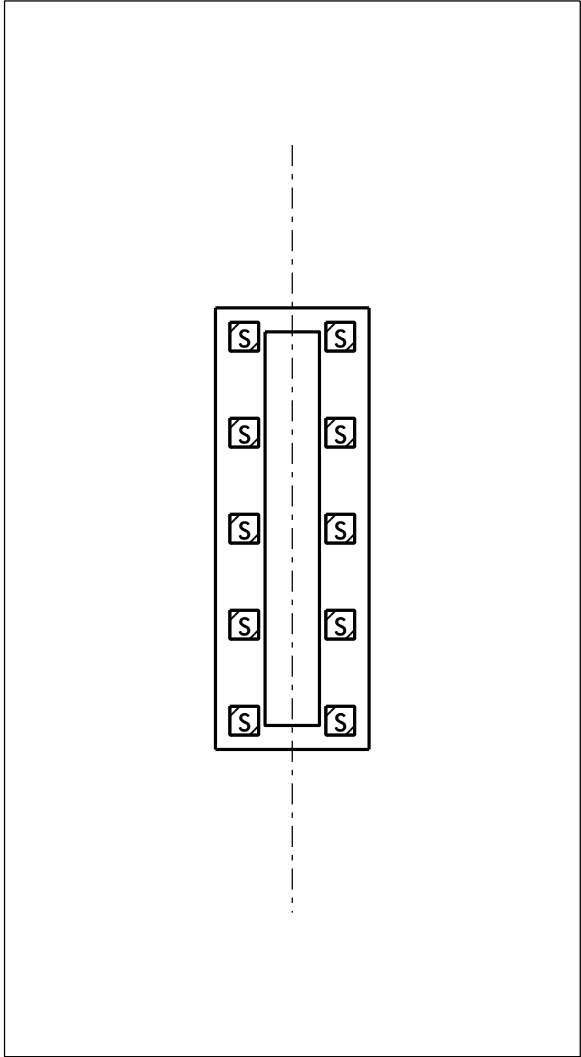
PROJECT REFERENCE NO.		SHEET NO.	
HB-0001			
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Prepared in the Office of:		NC FIRM LICENSE No. P-0339	
		320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6876 (FAX)	

PERMIT DRAWING
SHEET 43 OF 79
Updated 9/19/2023

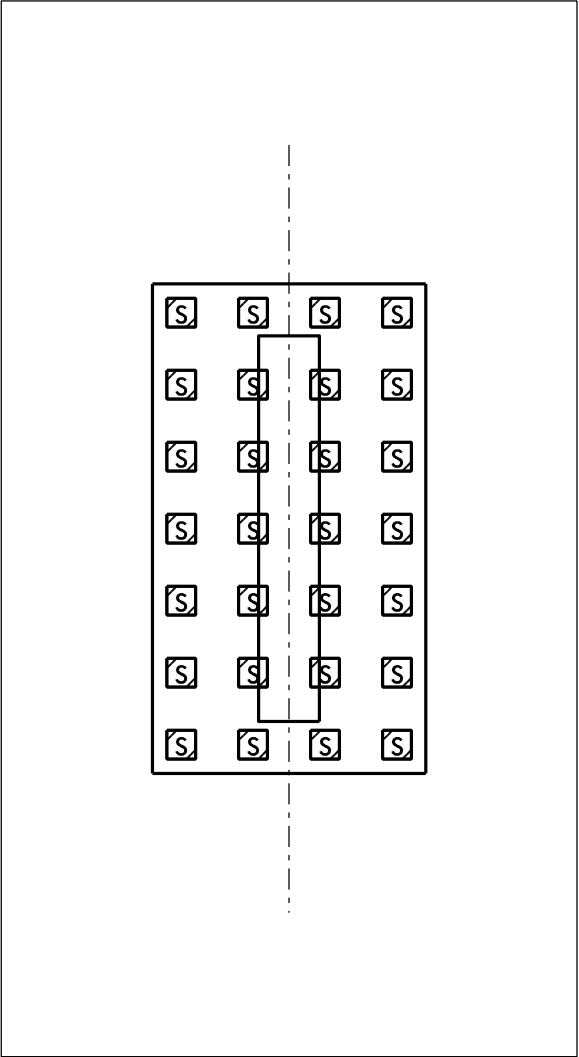
BENT TYPICAL IMPACTS



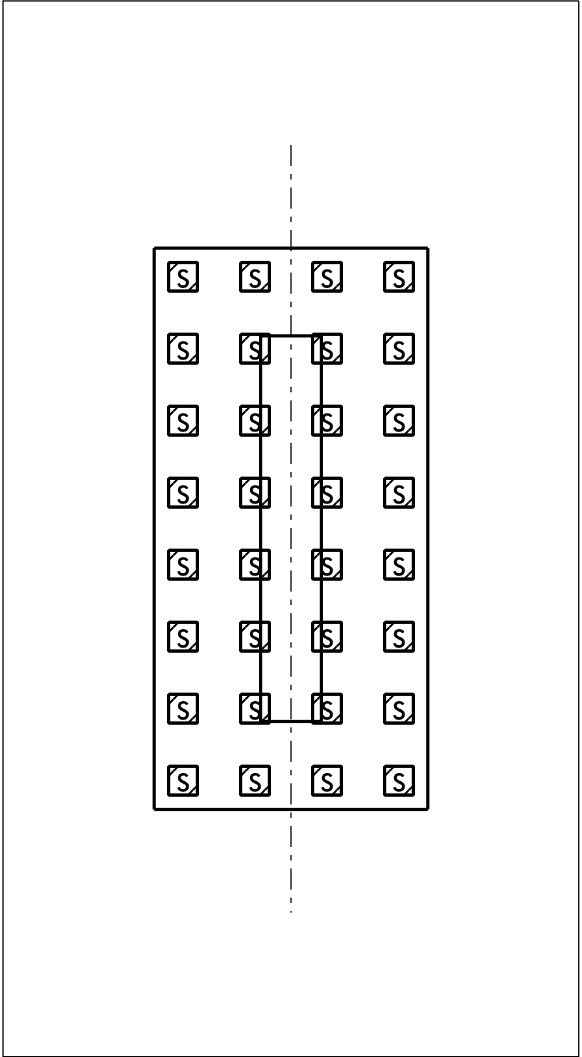
SURFACE WATER IMPACTS



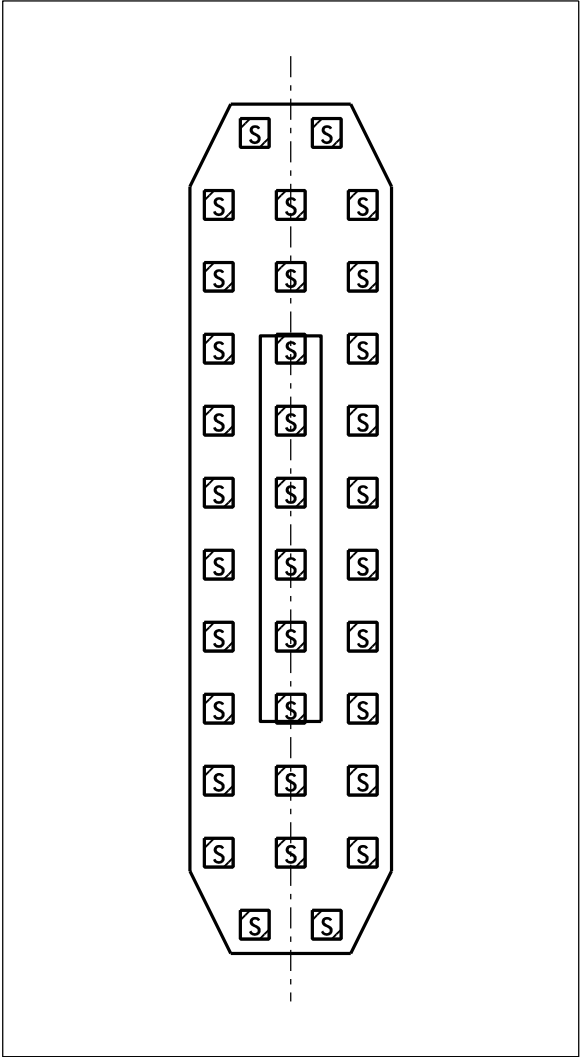
BENTS 44-46, 55-57
46'-0" x 16'-0"
36" PRESTRESSED CONCRETE PILE



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



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

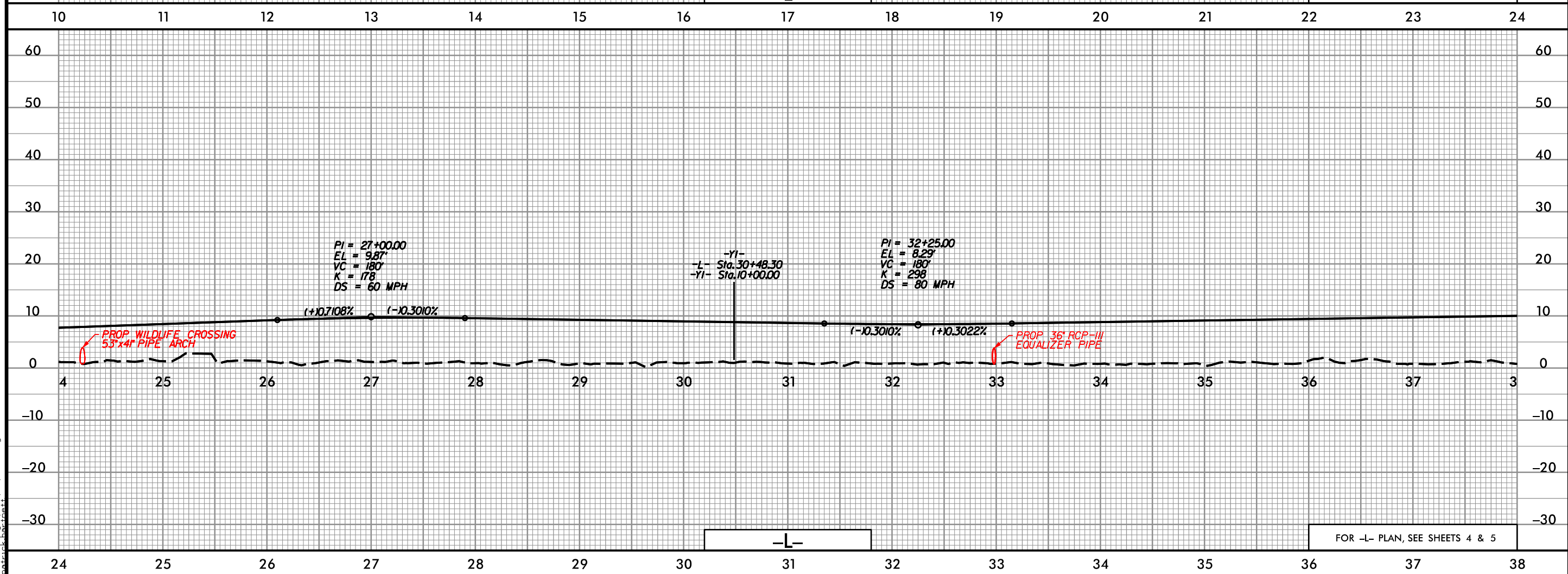
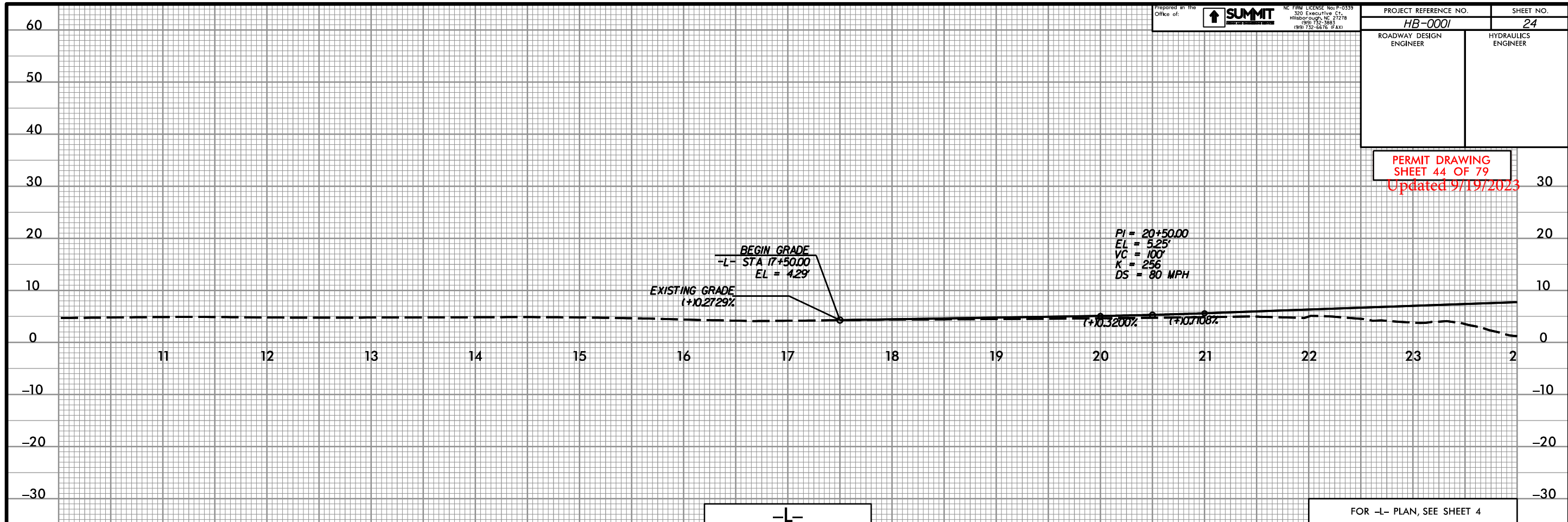


BENTS 50 & 51
88'-6" x 21'-0"
36" PRESTRESSED CONCRETE PILE

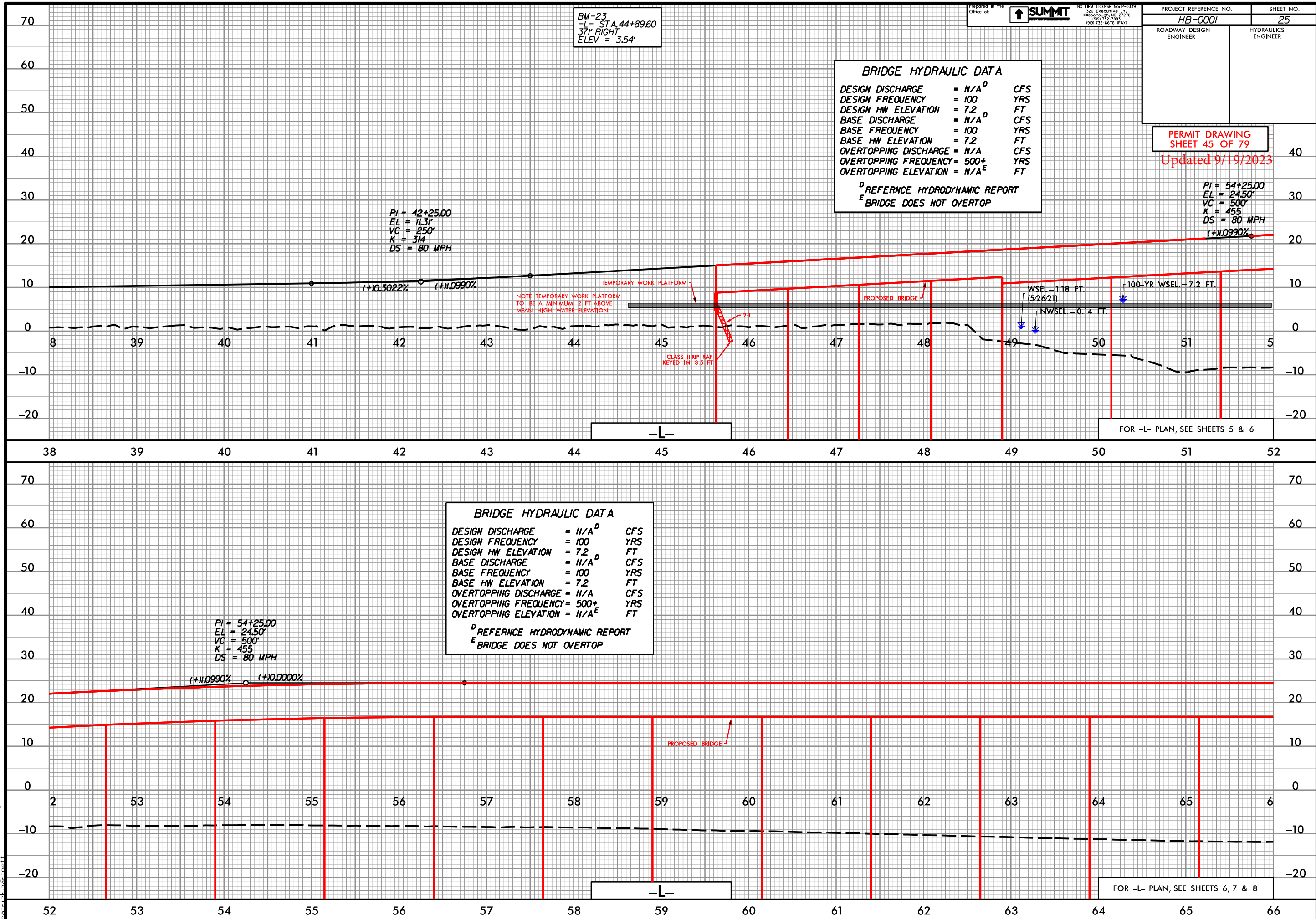
REVISIONS



19-SEP-2023 09:10
HB-0001_TYP_psh_43.dgn
pattack harrington



18-SEP-2023 09:10
hp0001-1-bshpfl_45.dgn
petrucci-bor-1081



BM-23
-L- STA. 44+89.60
37' RIGHT
ELEV = 3.54'



NC FIRM LICENSE No. P-0339
320 Executive Ct.
Hillsborough, NC 27278
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(919) 732-6676 (Fax)

PROJECT REFERENCE NO.		SHEET NO.
HB-0001		25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

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		

PERMIT DRAWING
SHEET 45 OF 79

Updated 9/19/2023

$PI = 54+25.00$
 $EL = 24.50'$
 $VC = 500'$
 $K = 455$
 $DS = 80$ MPH

NOTE: TEMPORARY WORK PLATFORM
TO BE A MINIMUM 2 FT ABOVE
MEAN HIGH WATER ELEVATION

CLASS II RIP RAP
KEYED IN 3.5 FT

FOR -L- PLAN, SEE SHEETS 5 & 6

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		

FOR -L- PLAN, SEE SHEETS 6, 7 & 8

26

HYDRAULICS
ENGINEER

Updated 9/19/2023

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

^E BRIDGE DOES NOT OVERTOP

(+10.0000%

PROPOSED BRIDGE -

-L-

FOR -L- PLAN, SEE SHEET 8 & 9

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

BRIDGE DOES NOT OVERTOP

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

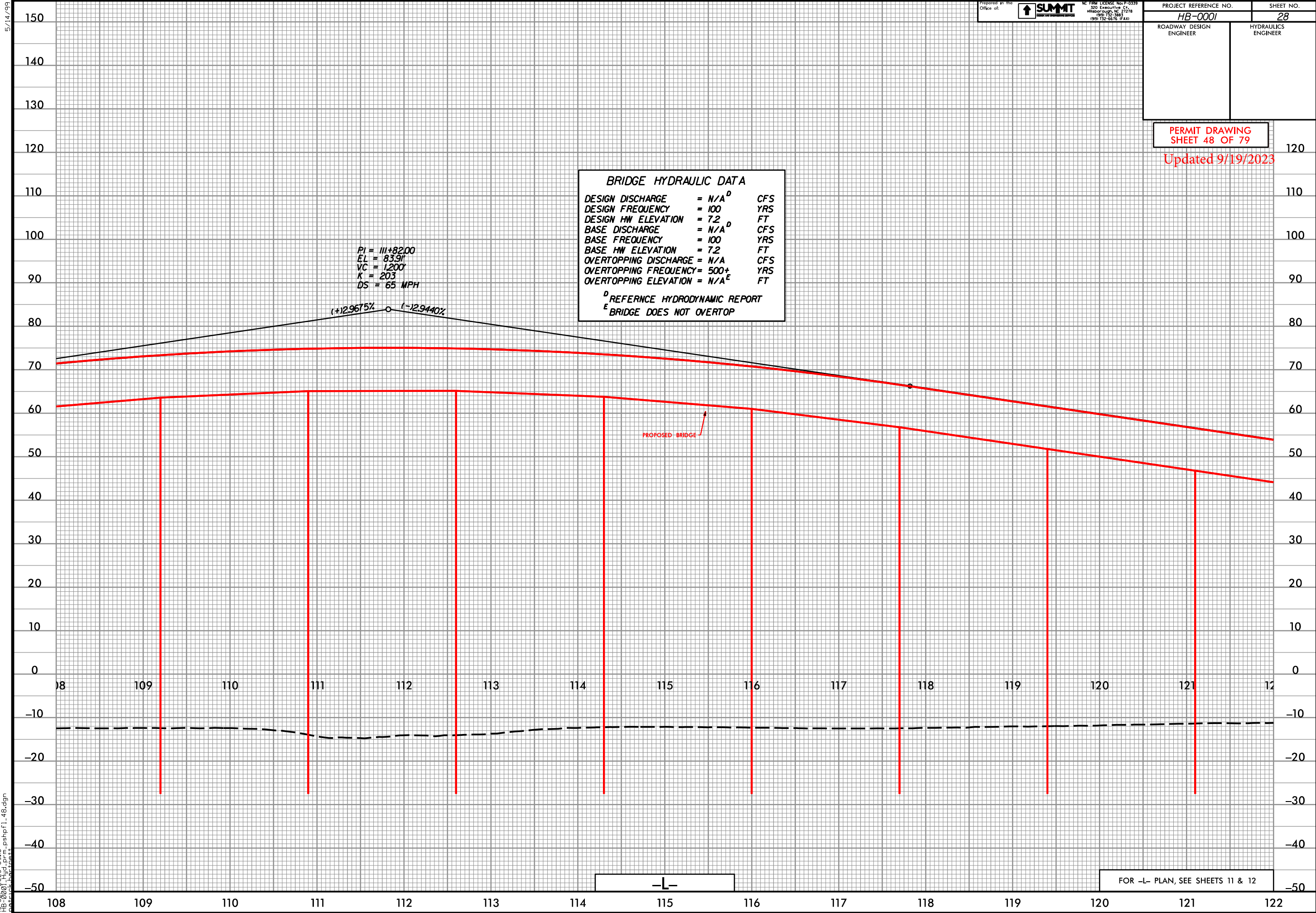
(+)0.0000%

(+12.9675%

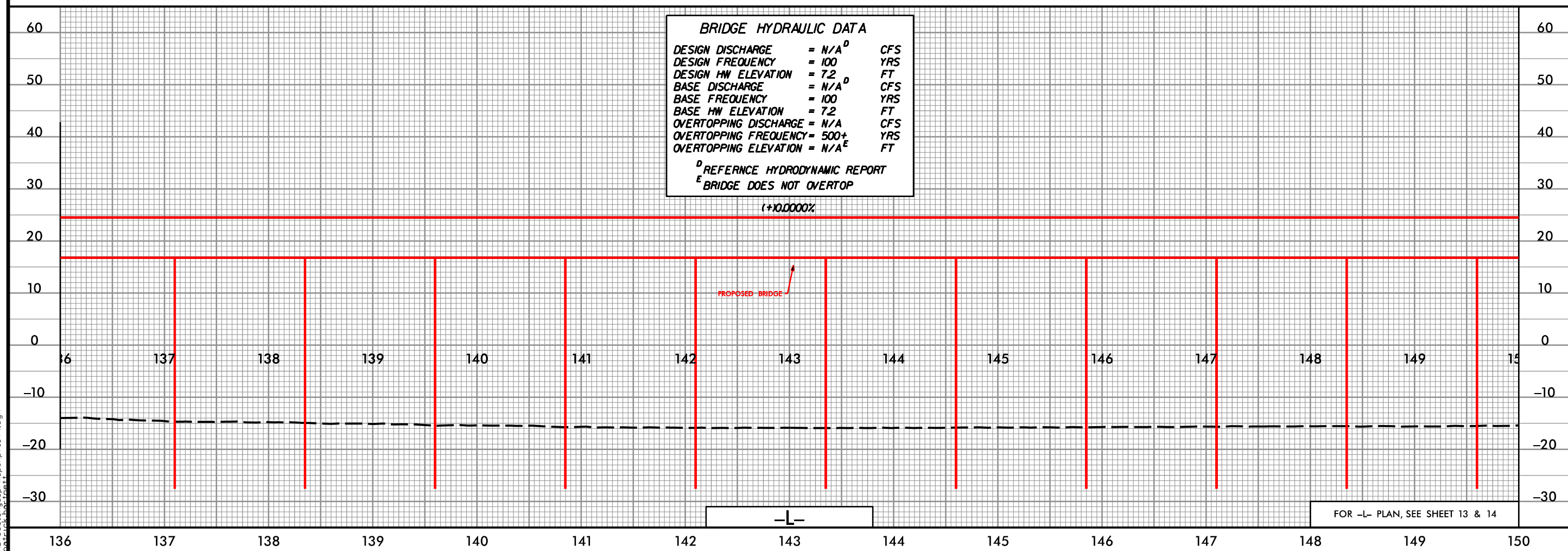
PROPOSED BRIDGE

-L-

FOR -L- PLAN, SEE SHEET 9 & 10



Updated 9/19/2023



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Hillsborough, NC 27278
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	SHEET NO.
--	-----------

30
HYDRAULICS
ENGINEER

Updated 9/19/2023

^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP

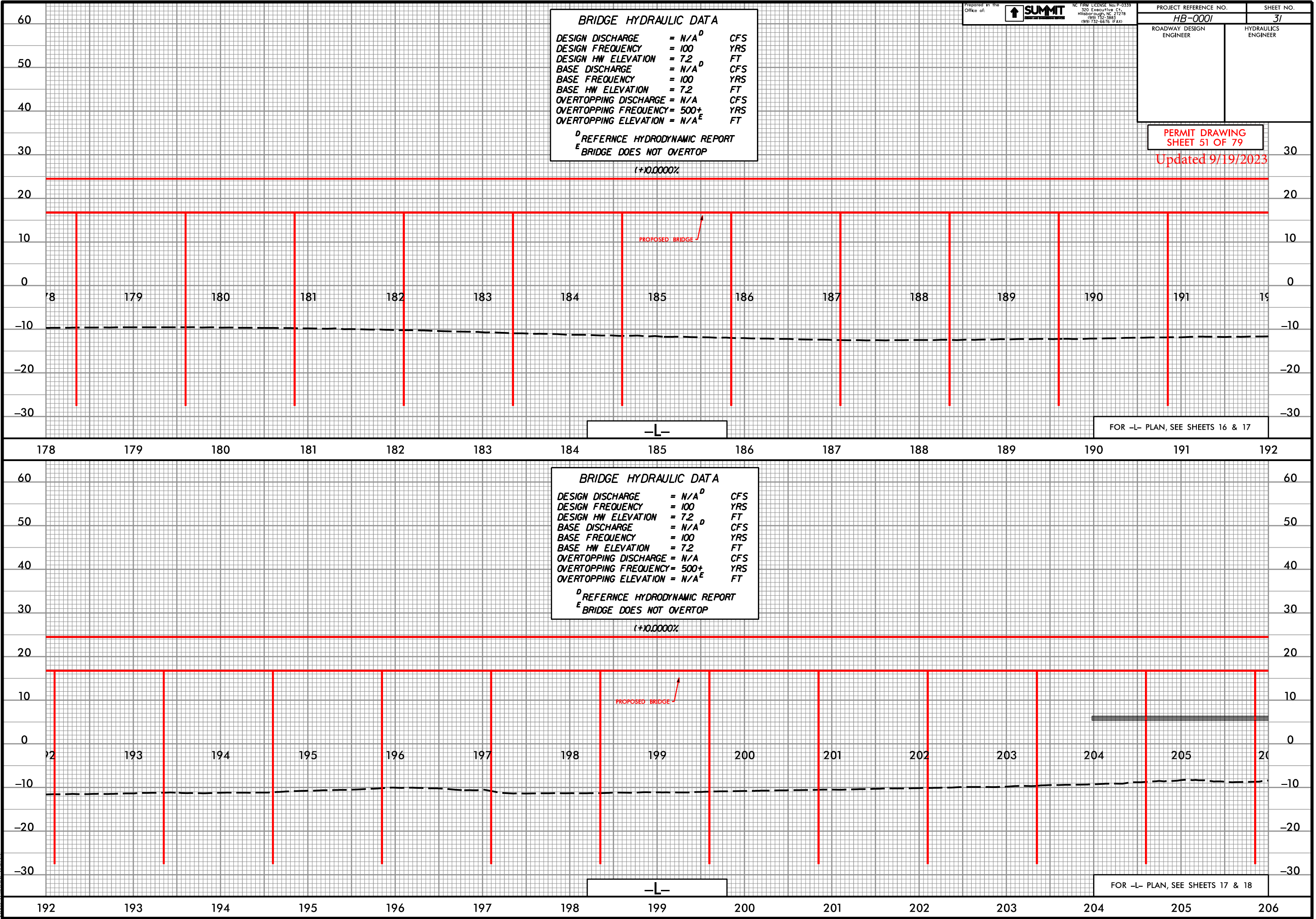


^D REFERENCE HYDRODYNAMIC REPORT
^E BRIDGE DOES NOT OVERTOP



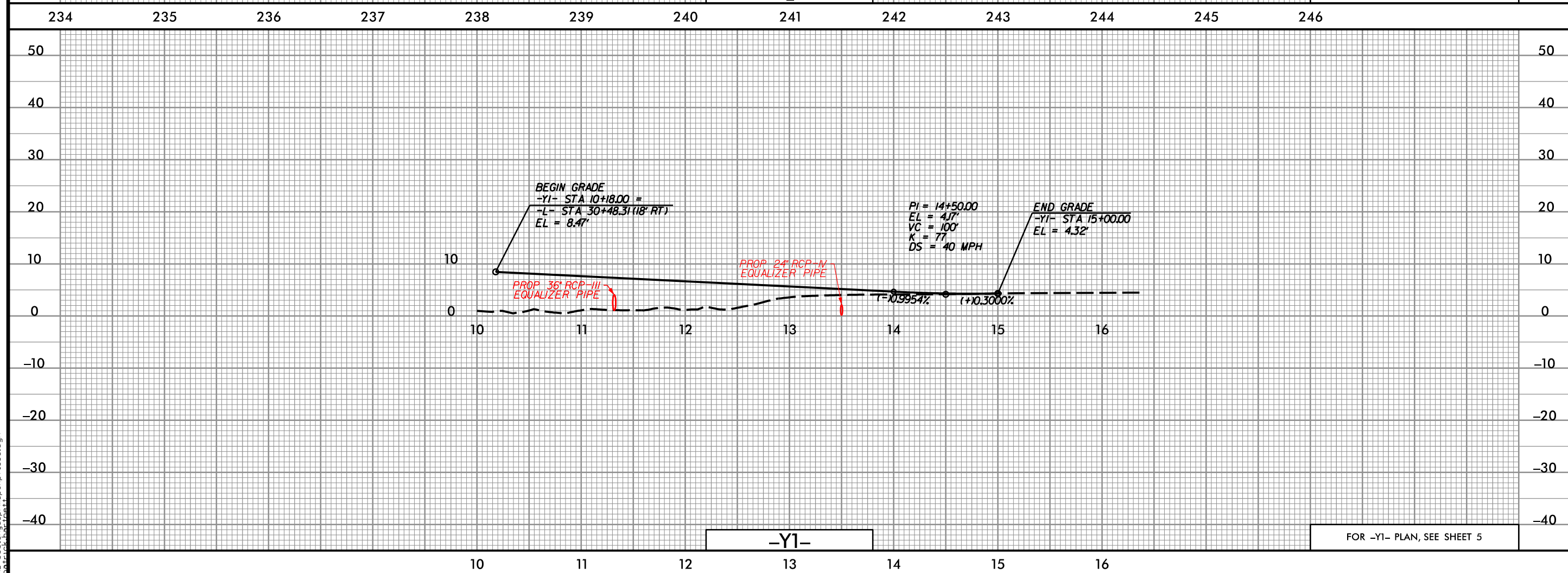
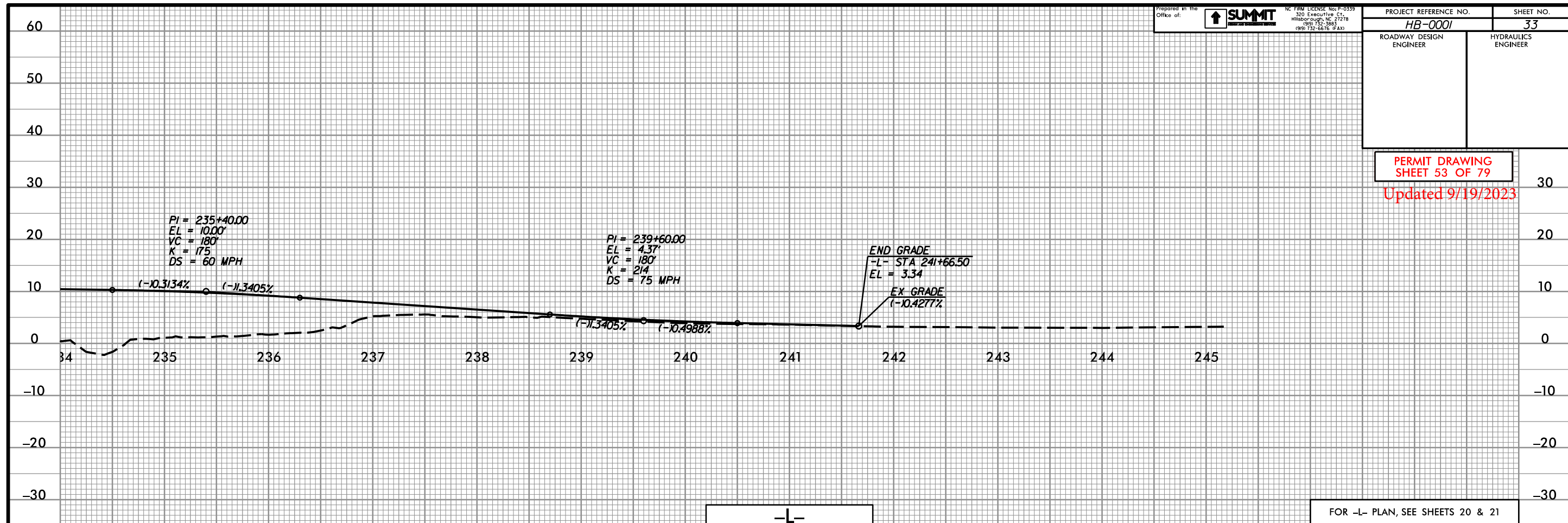
9-SEP-2023 09:10
HB-0001_Hyd-prm-pshpf1-50.dgn

18-SEP-2023 09:10
hp00017-1-bshpfl_51.dgn
petrukk-bor-transt

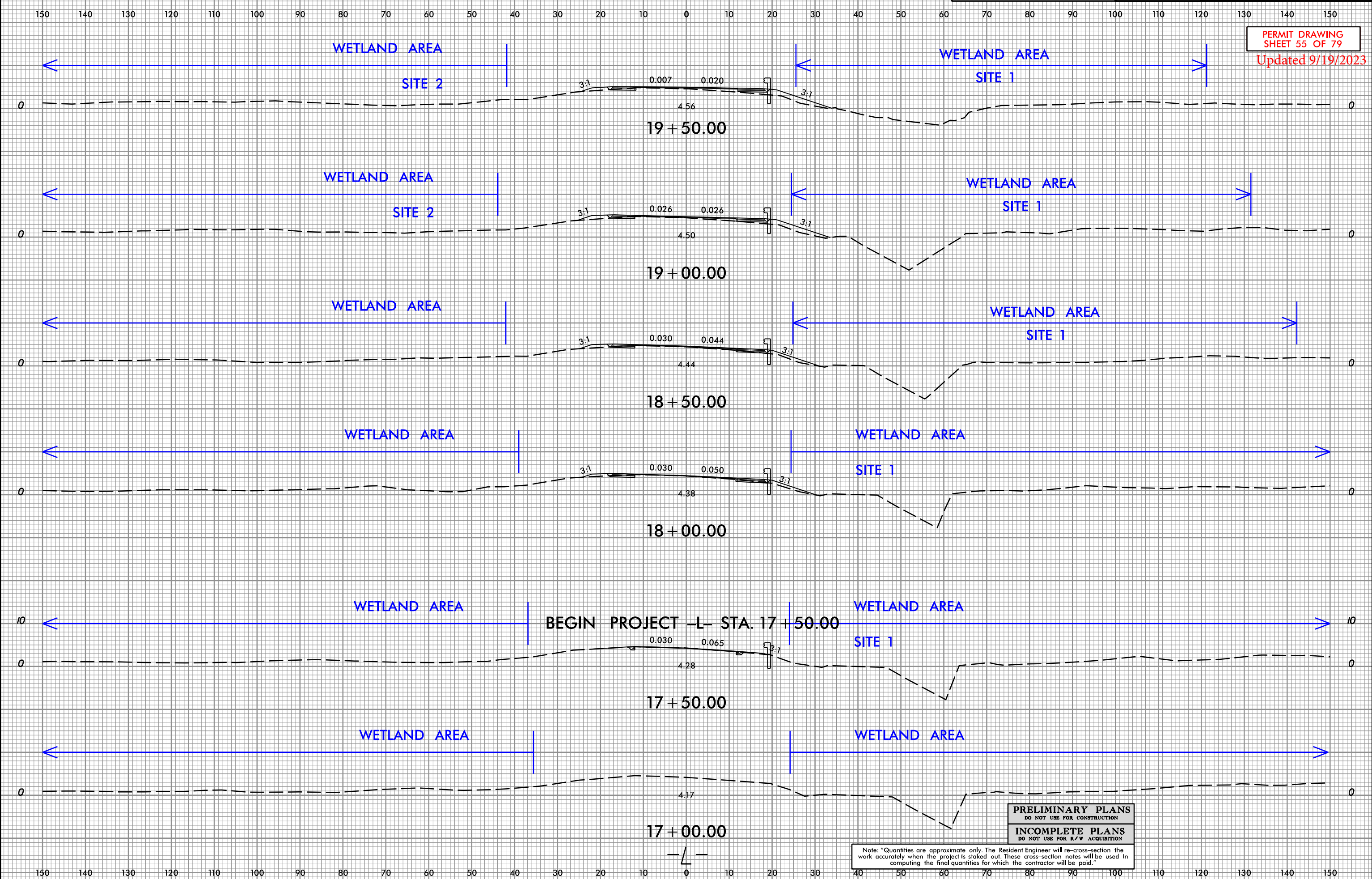


PERMIT DRAWING
SHEET 53 OF 79

Updated 9/19/2023

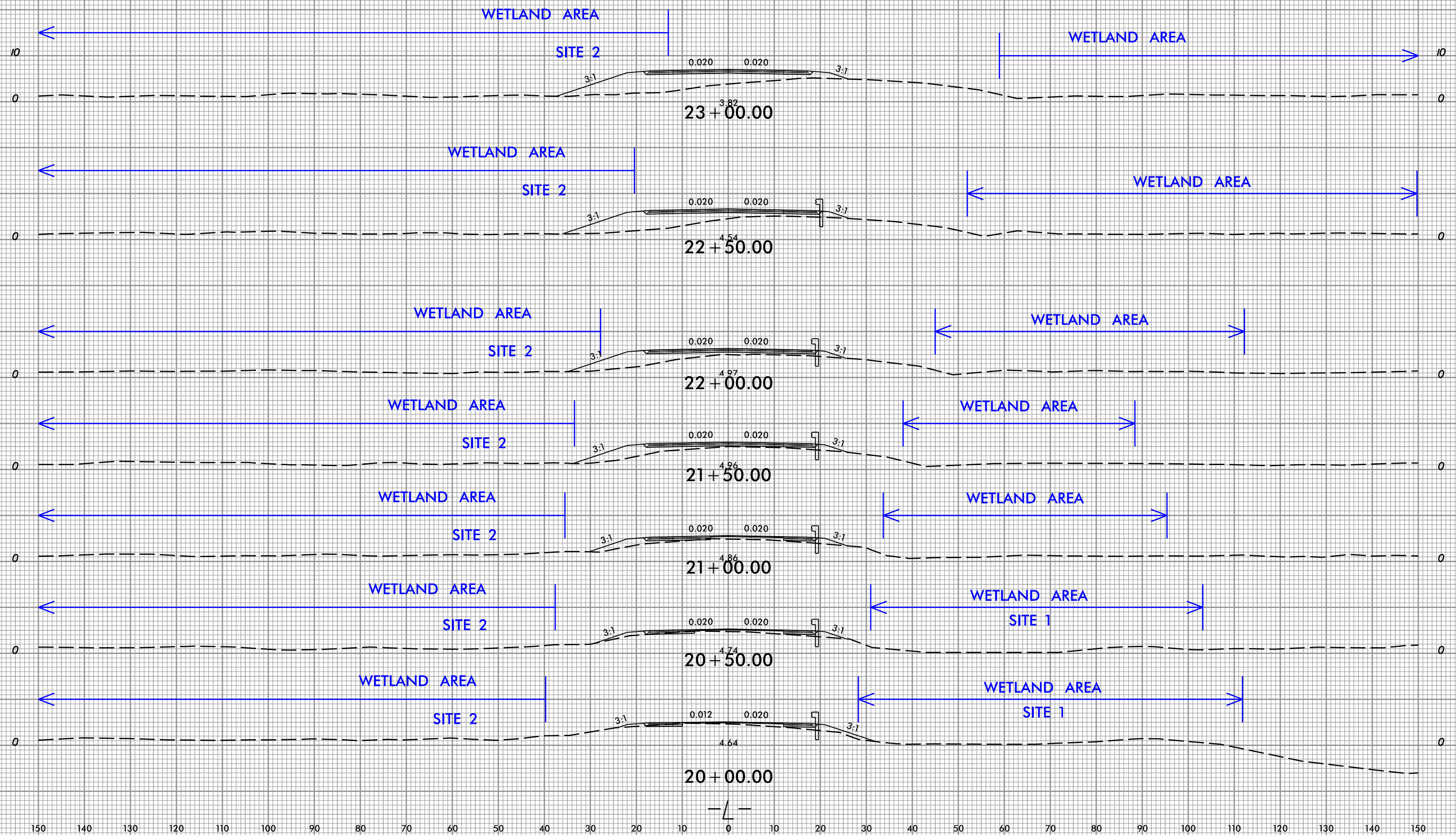


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patrick.hartnett



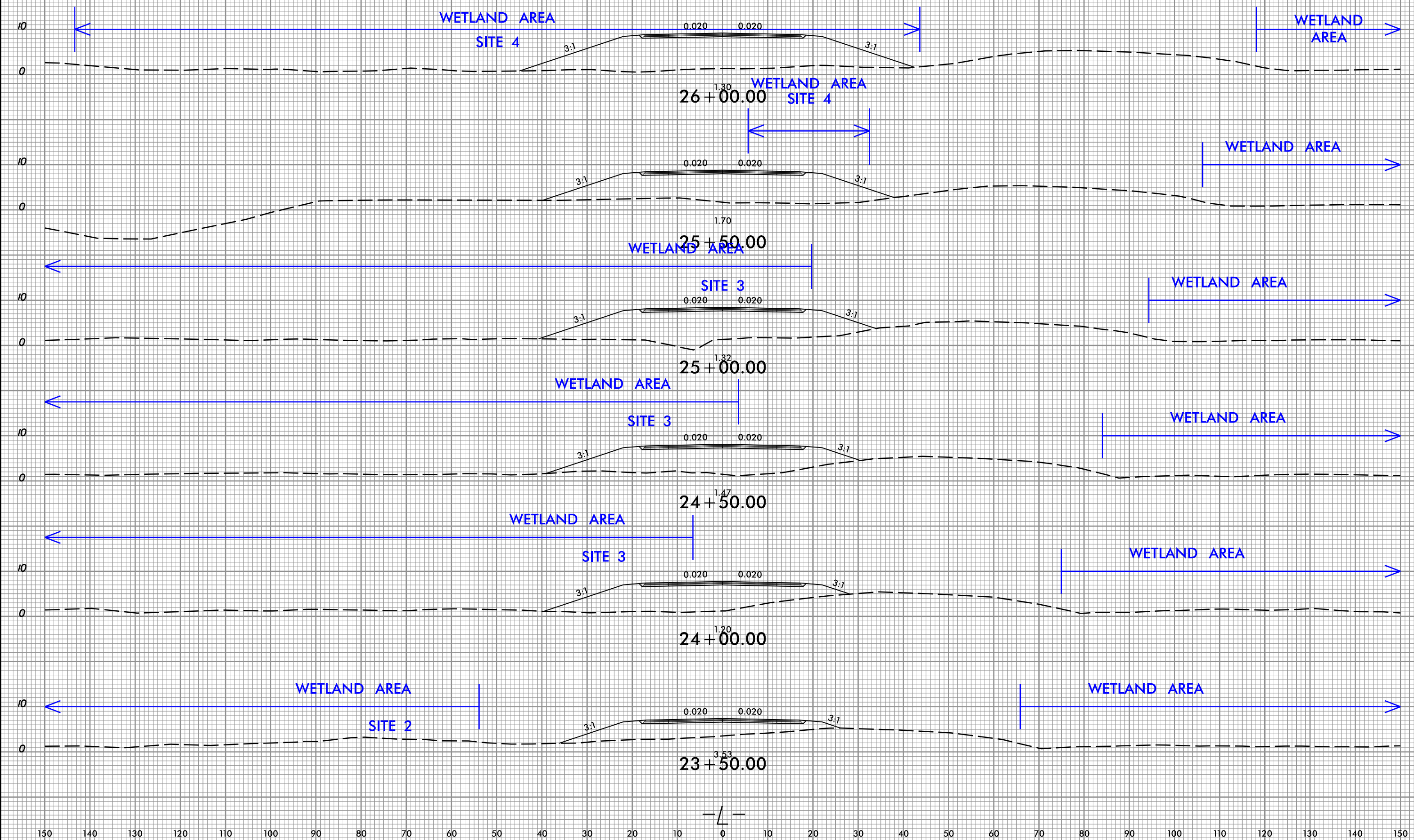
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patrick.hartnett

PERMIT DRAWING
SHEET 56 OF 79
Updated 9/19/2023

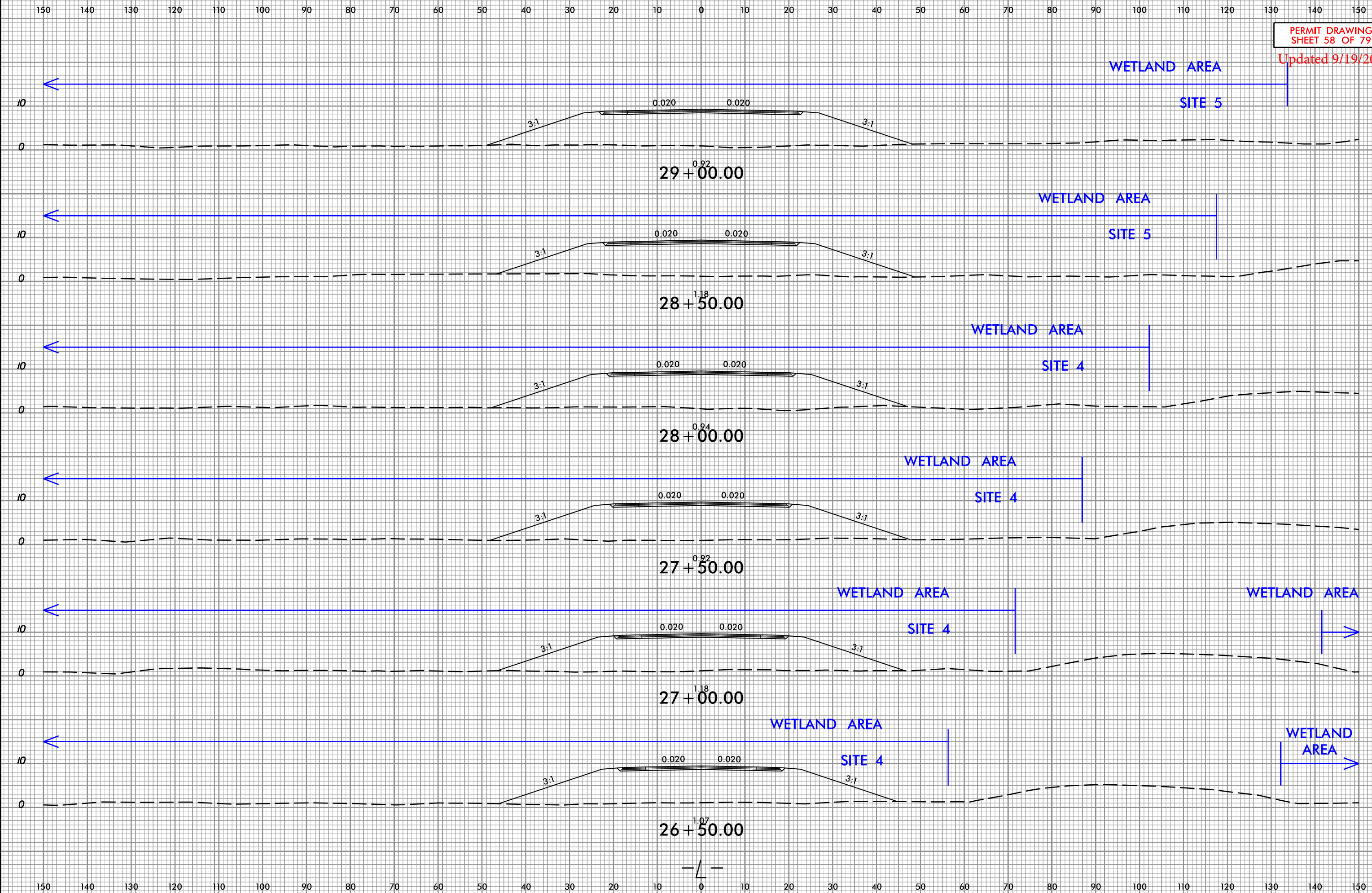


19-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
patrick.hartnett

PERMIT DRAWING
SHEET 57 OF 79
Updated 9/19/2023

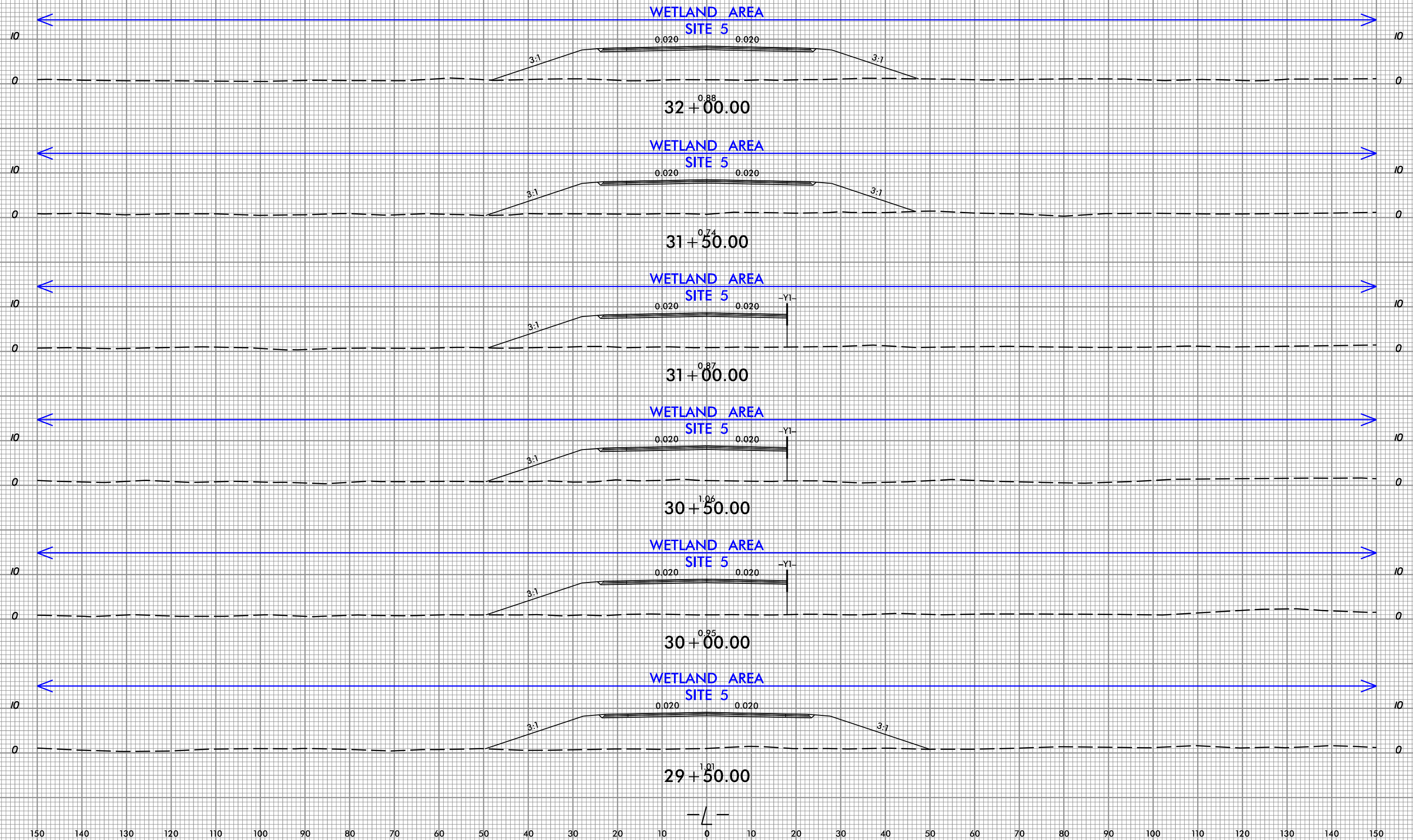


19-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
patrick.hartnett



I9-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
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PERMIT DRAWING
SHEET 59 OF 79
Updated 9/19/2023



I:\19-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
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(919) 732-6676 (FAX)



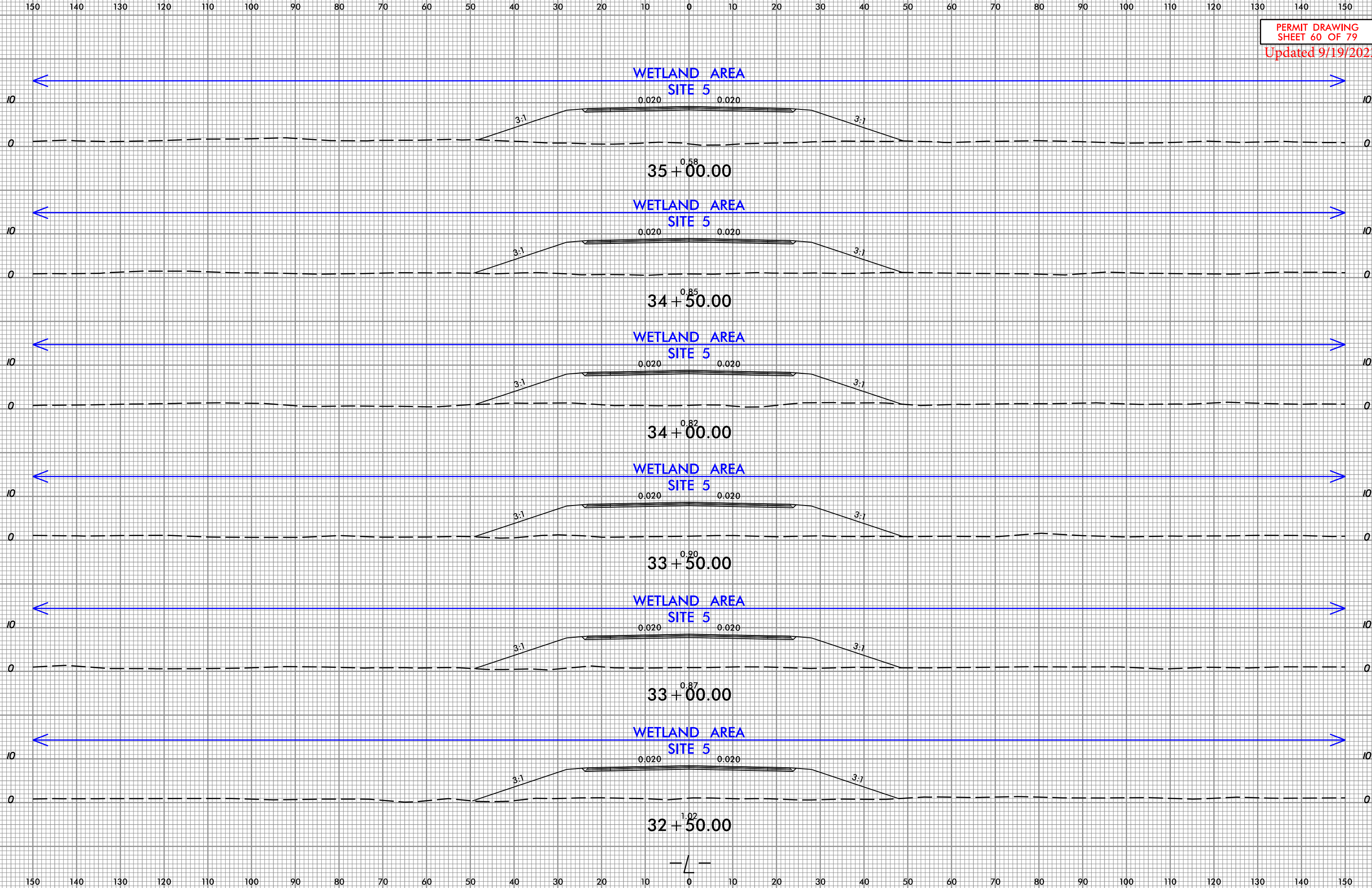
PROJ. REFERENCE NO.

HB-0001

SHEET NO.


X-6

PERMIT DRAWING
SHEET 60 OF 79
Updated 9/19/2023




19-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
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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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ENGINEERING & CONSTRUCTION

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0 5 10



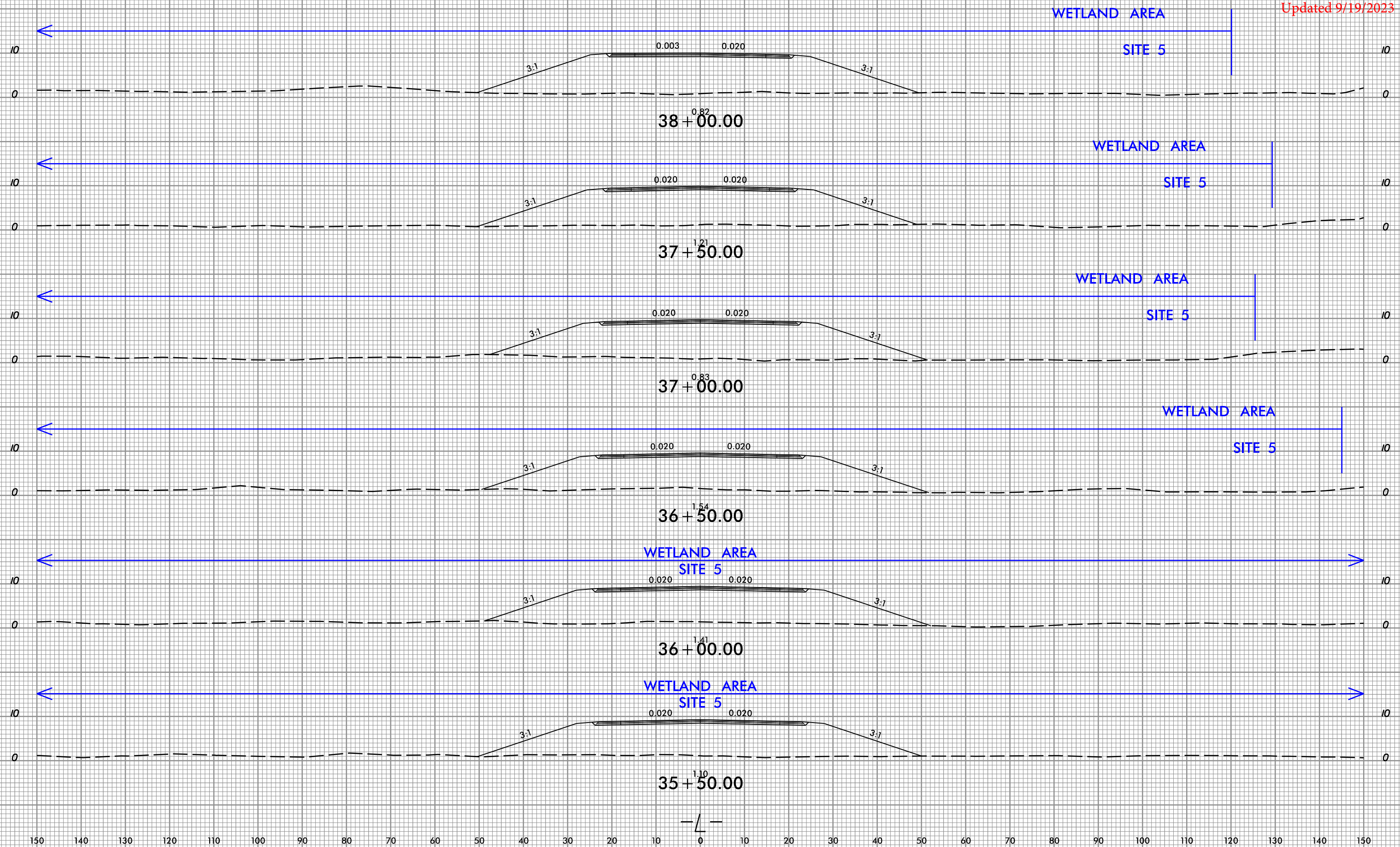
PROJ. REFERENCE NO.

HB-0001

SHEET NO.

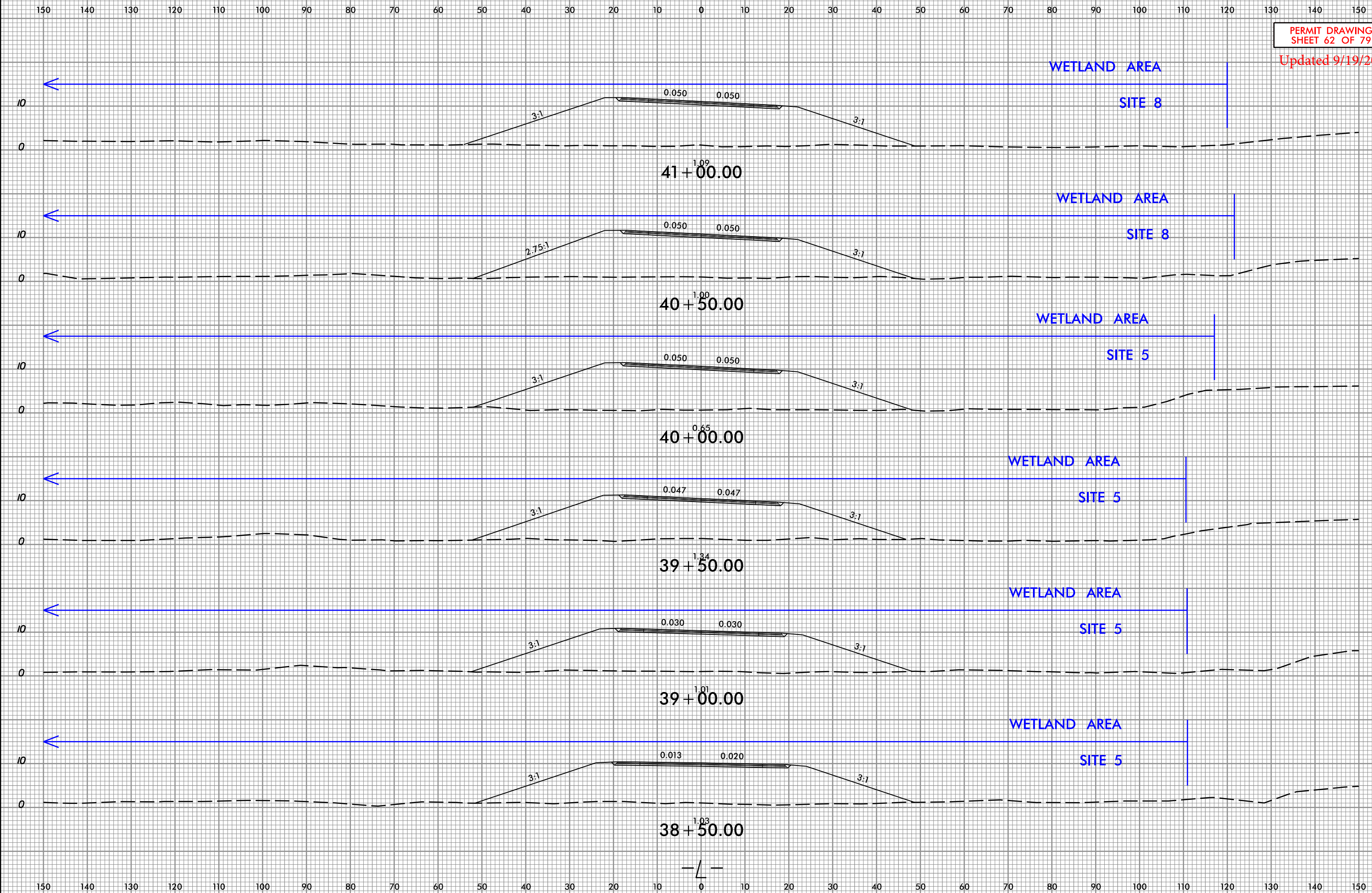
X-7

PERMIT DRAWING
SHEET 61 OF 79
Updated 9/19/2023



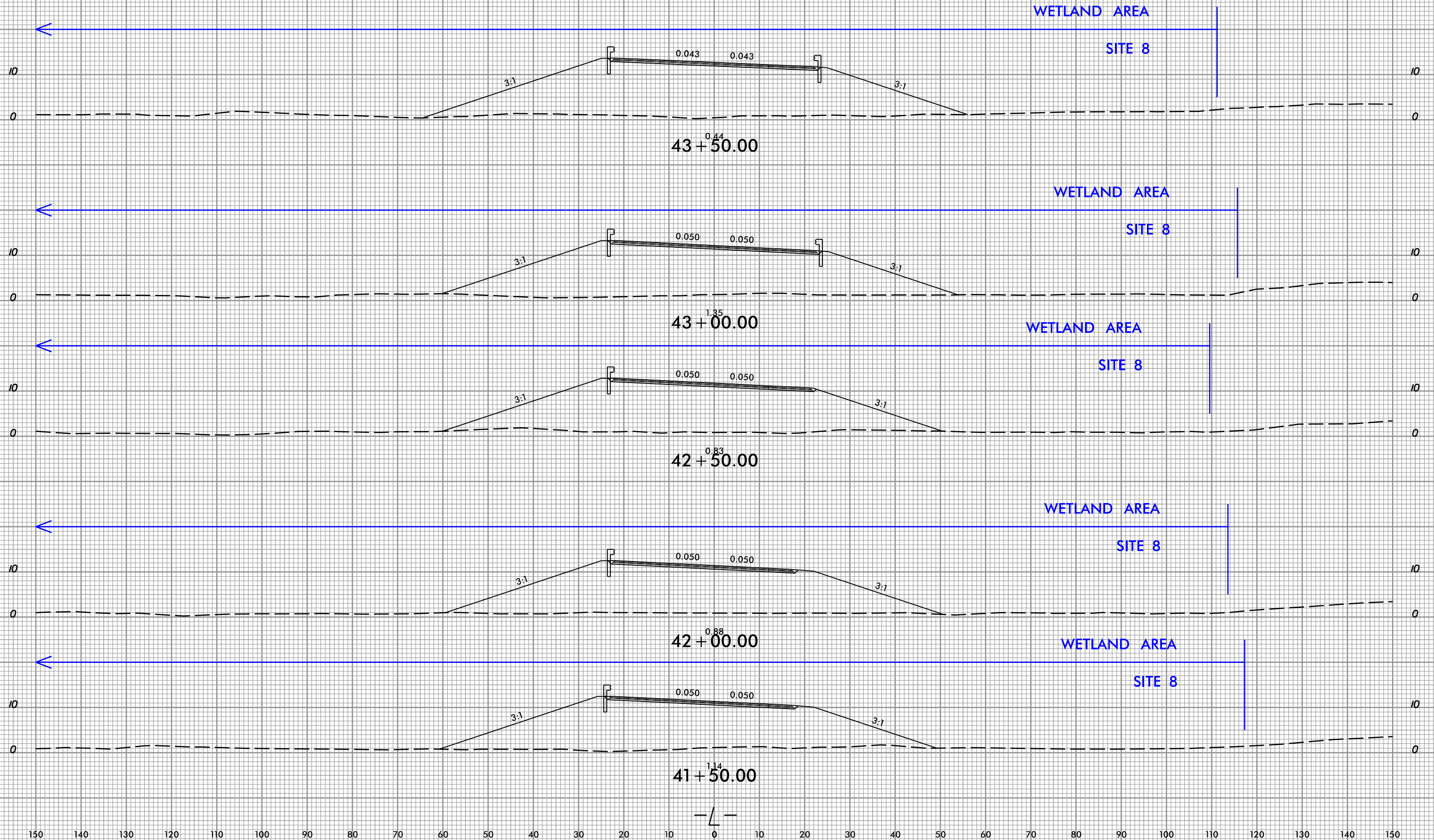
19-SEP-2023 09:10
HB-0001_Hyd_xpl_L17+00-50+00.dgn
patrick.hartnett

PERMIT DRAWING
SHEET 62 OF 79
Updated 9/19/2023



PERMIT DRAWING
SHEET 63 OF 79

Updated 9/19/2023



19-SEP-2023 09:10
HB-0001_Hyd_xpl_L-17+00-50+00.dgn
patric.karim

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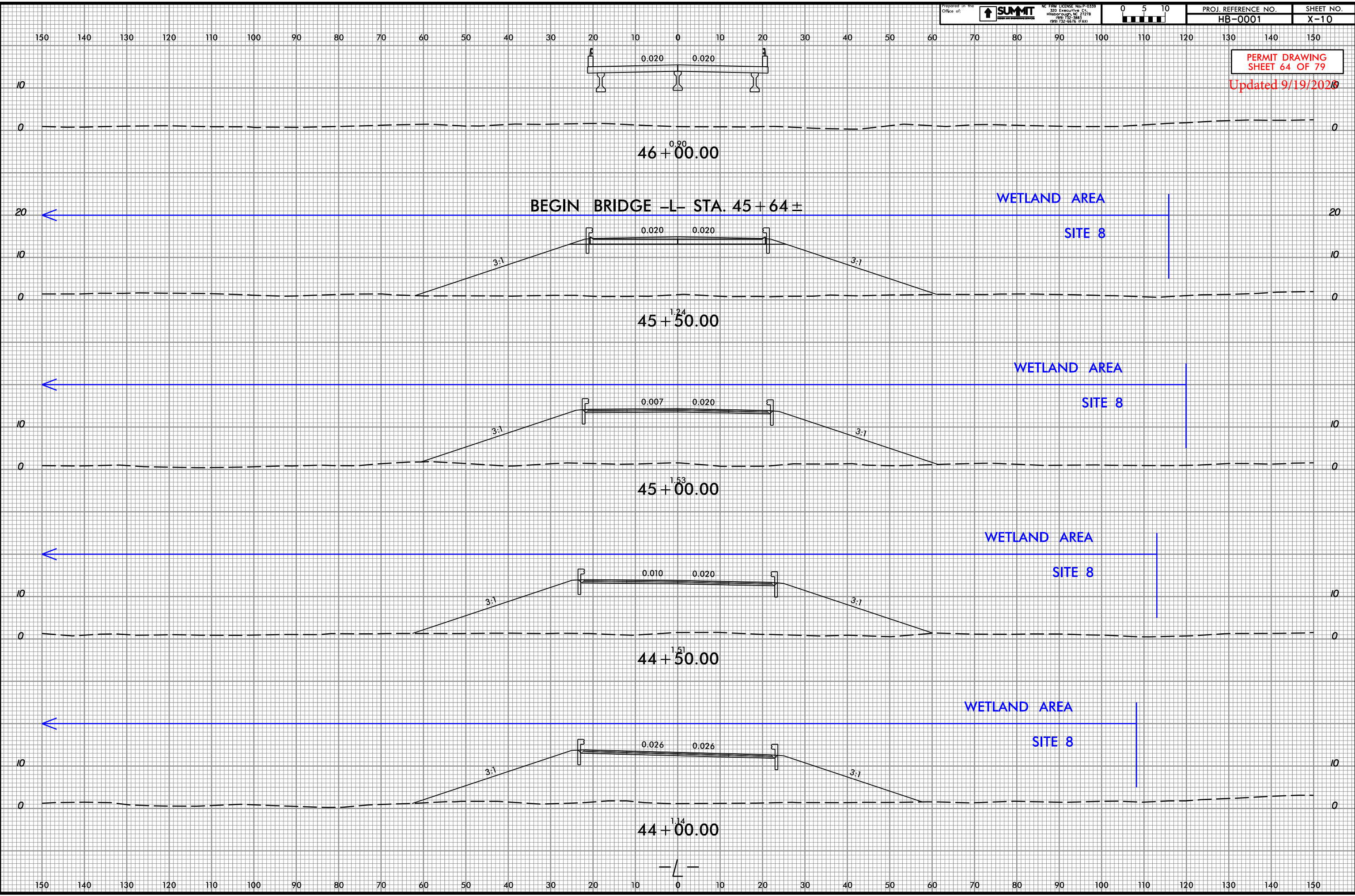
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HB-0001

SHEET NO.

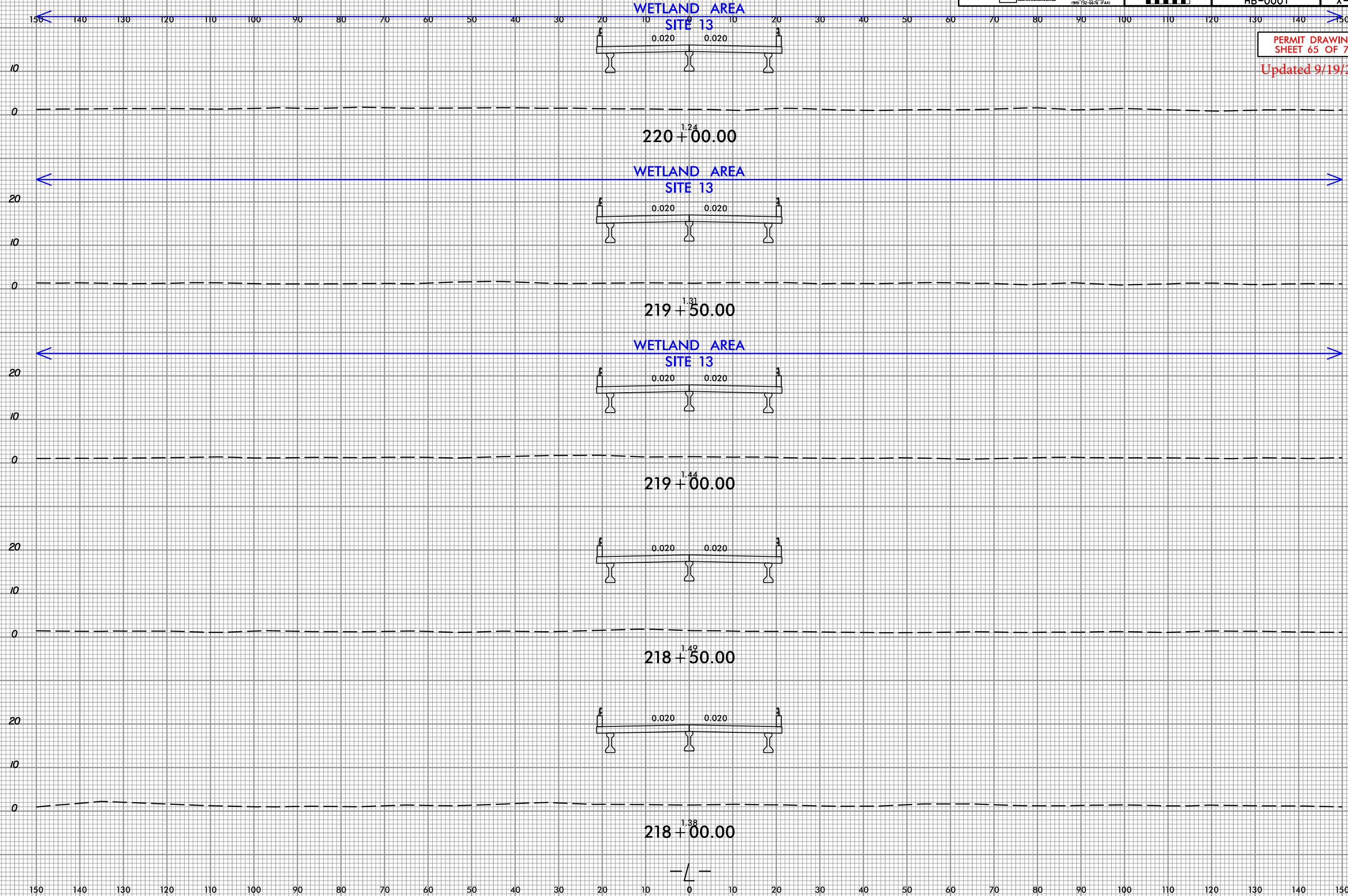
X-10

PERMIT DRAWING
SHEET 64 OF 79
Updated 9/19/2020



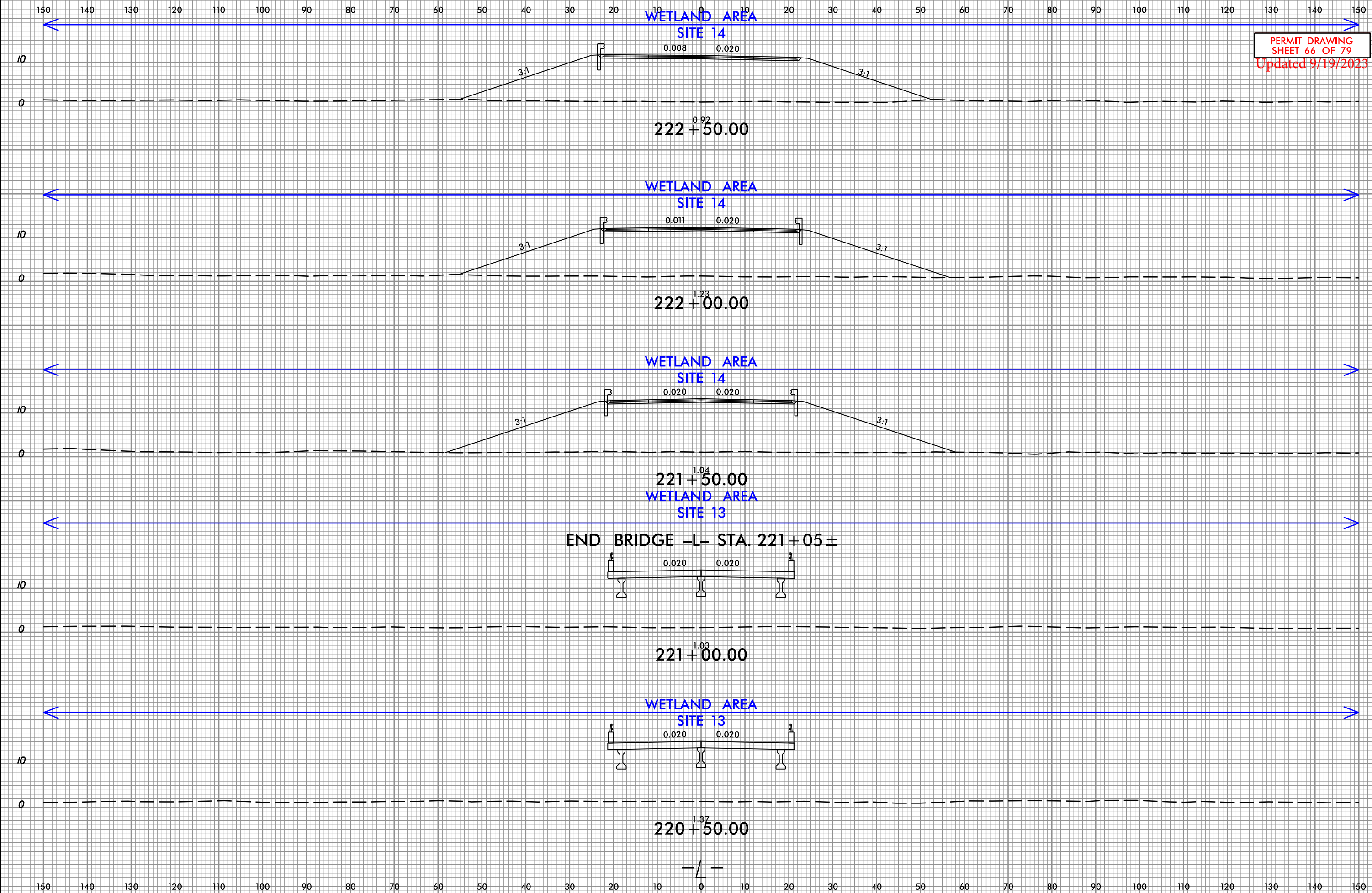
-L-

19-SEP-2023 09:10
HB-0001_Hyd_xpl_L-214+00-242+00.dgn
patrick.hartnett

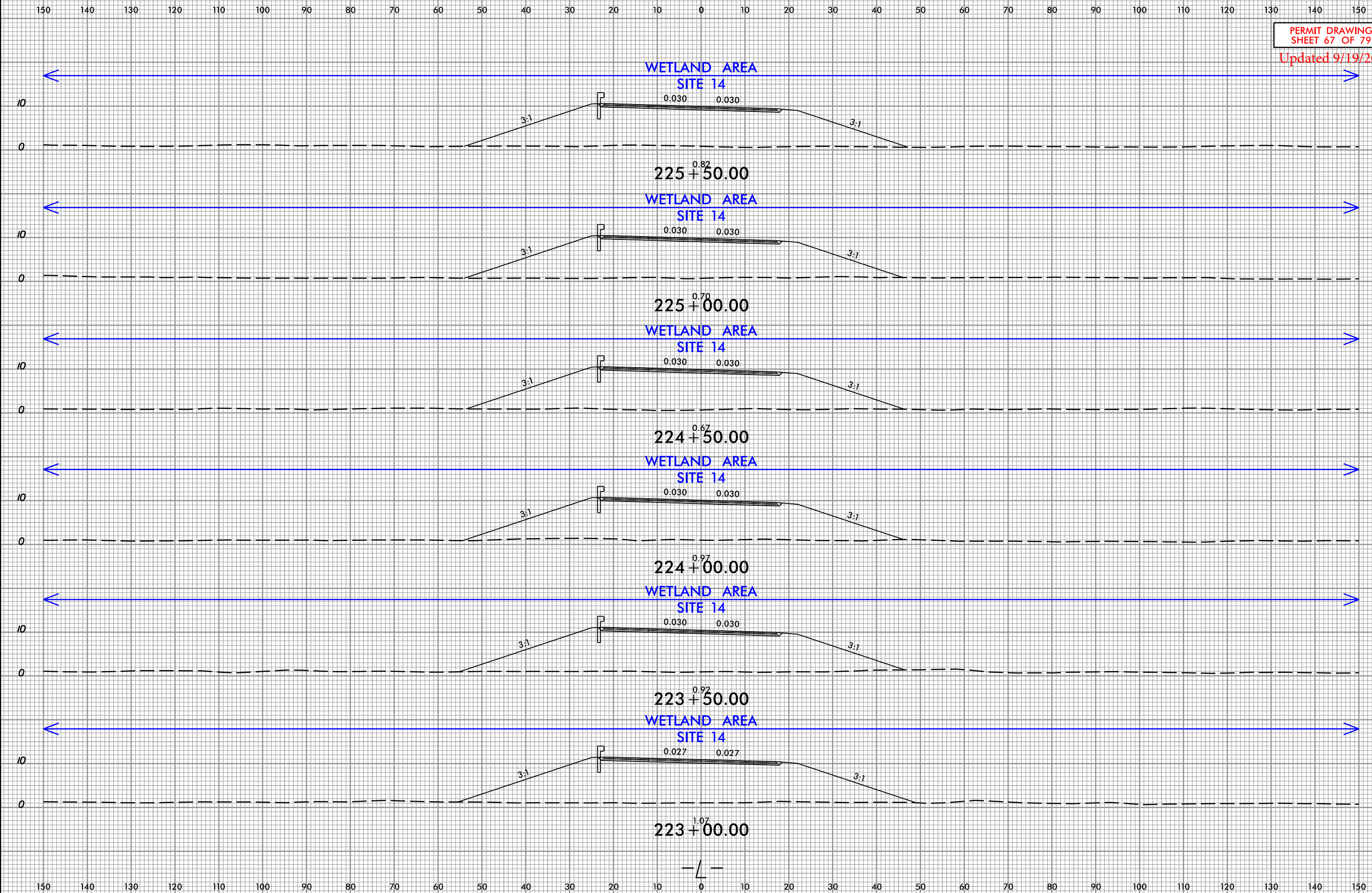


PERMIT DRAWING
SHEET 65 OF 79
Updated 9/19/2023

19-SEP-2023 09:10
HB-0001_Hyd_xpl_L-214+00-242+00.dgn
patrick.hartnett

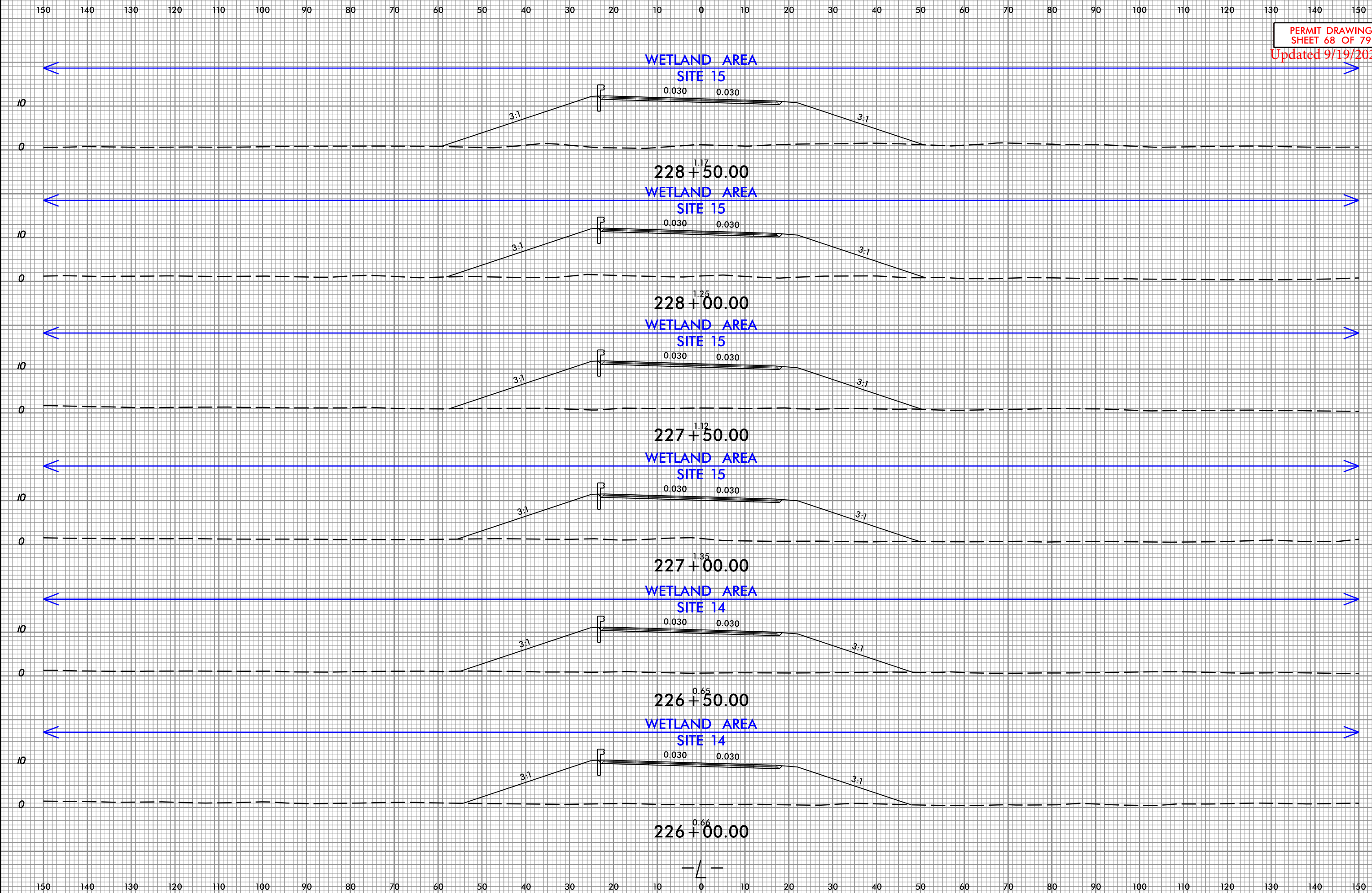


19-SEP-2023 09:10
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patrick.hartnett



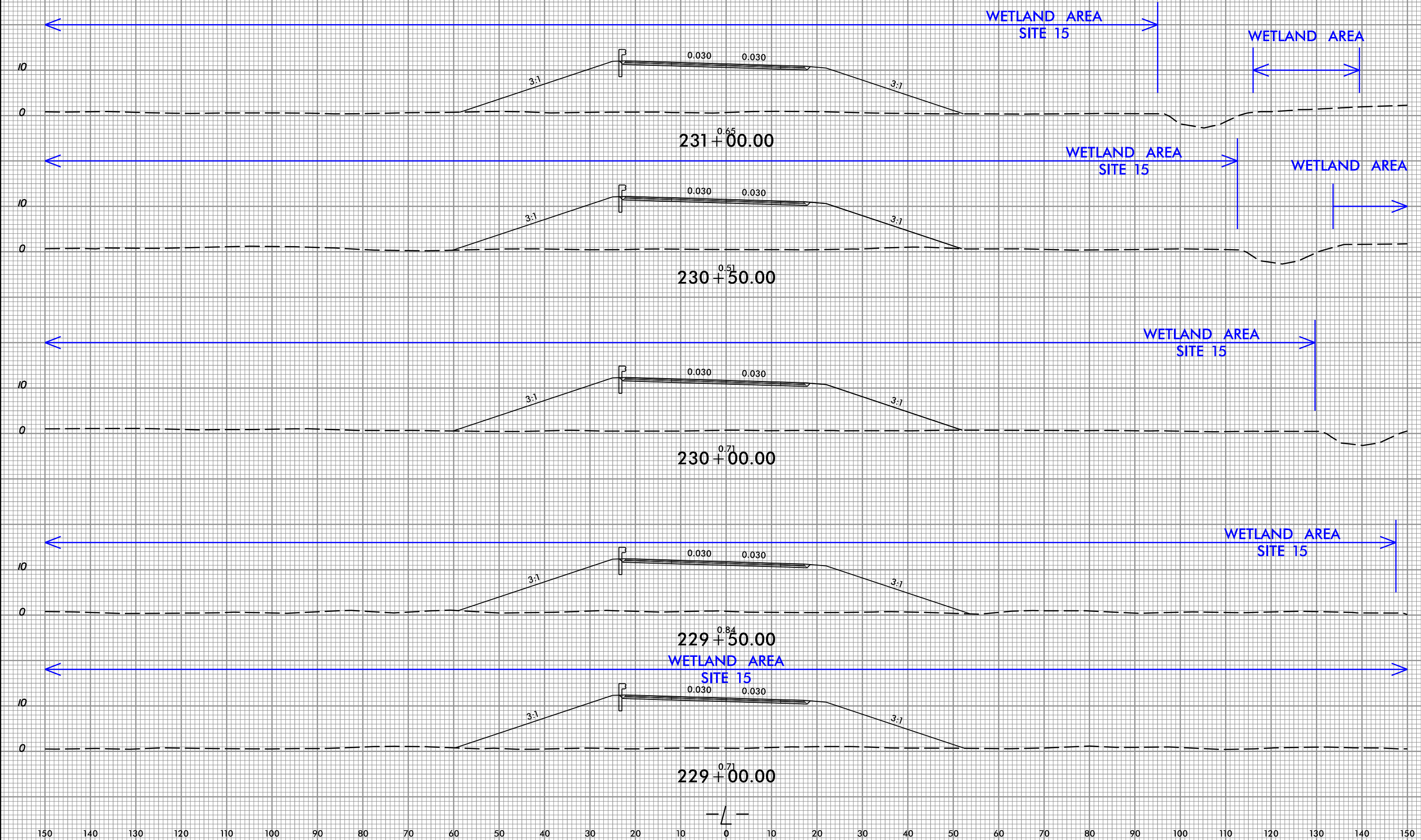
PERMIT DRAWING
SHEET 67 OF 79
Updated 9/19/2023

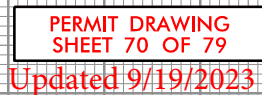
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patrick.hartnett



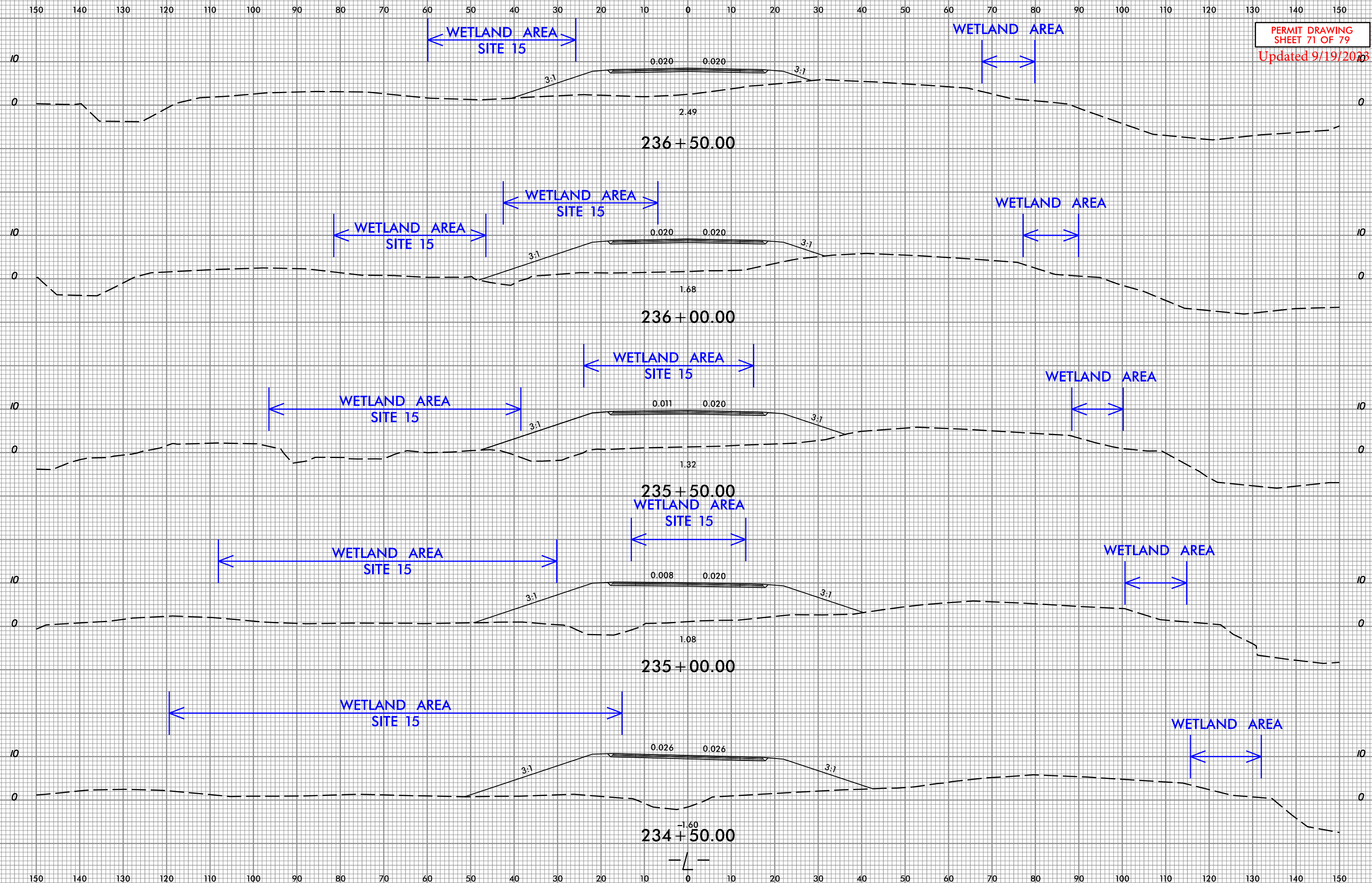
19-SEP-2023 09:10
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patriciarhett

PERMIT DRAWING
SHEET 69 OF 79
Updated 9/19/2023



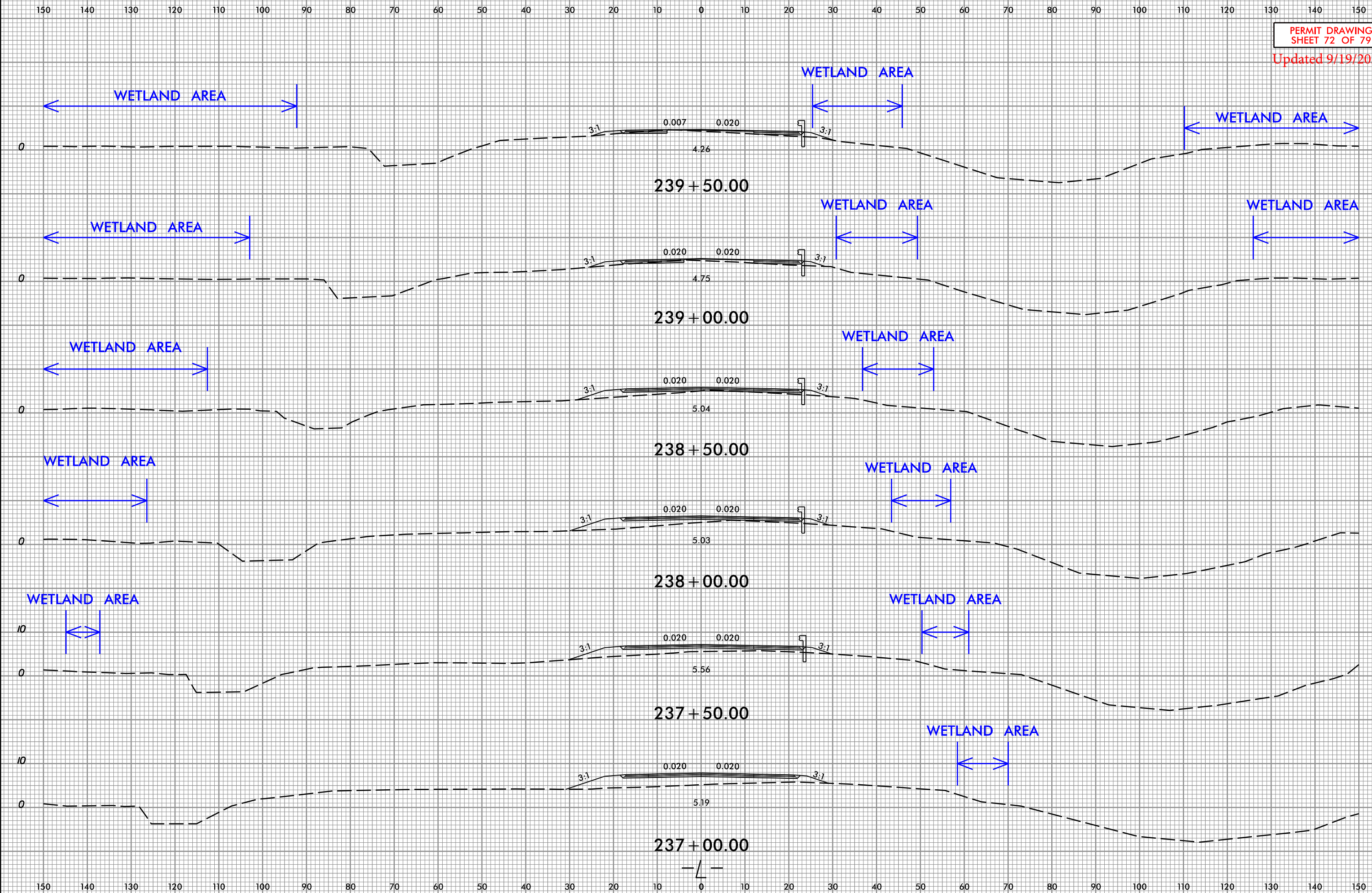


PERMIT DRAWING
SHEET 71 OF 79
Updated 9/19/2023



19-SEP-2023 09:10
HB-0001_Hyd_xpl_L-214+00-242+00.dgn
patriciarhett

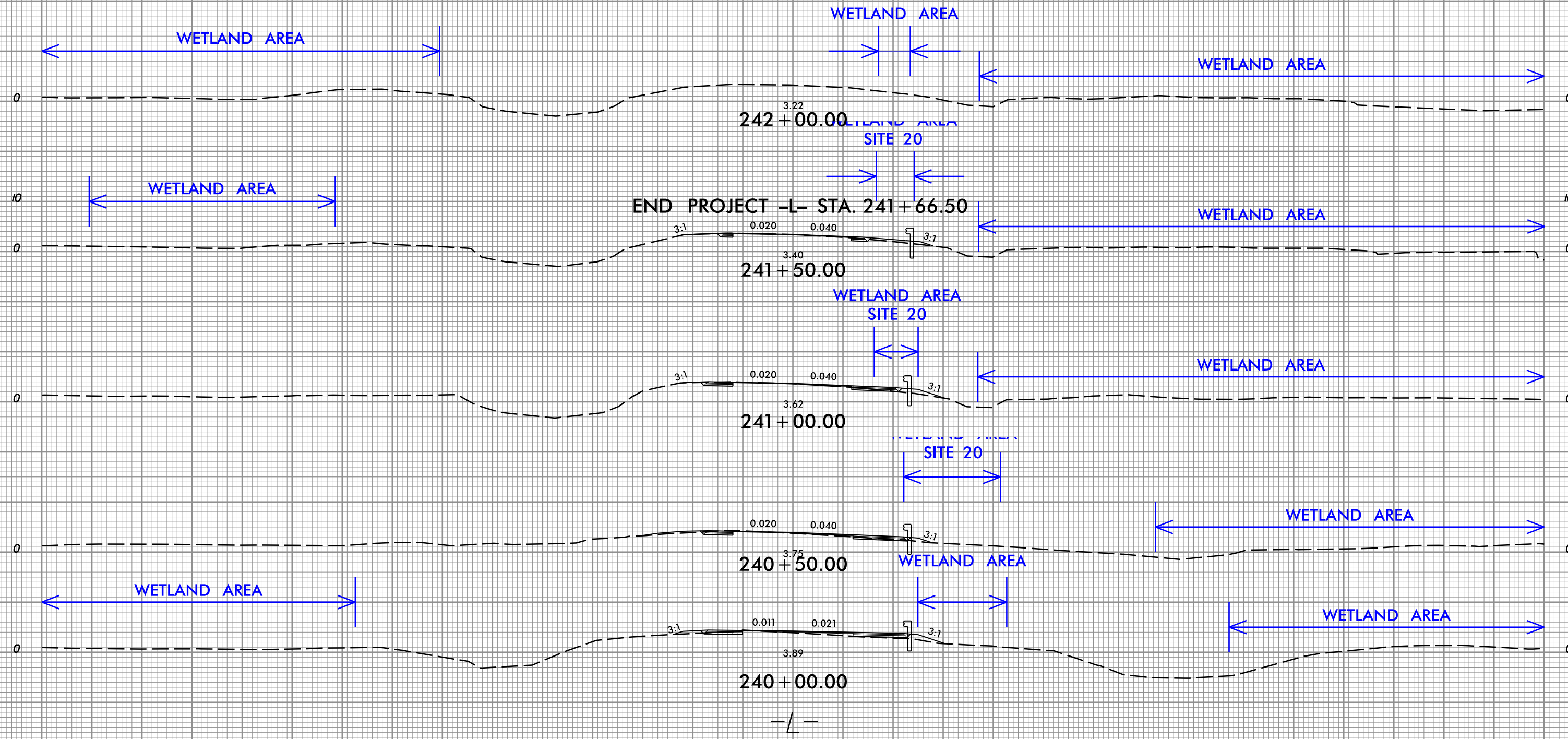
PERMIT DRAWING
SHEET 72 OF 79
Updated 9/19/2023



19-SEP-2023 09:10
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patrick.hartnett

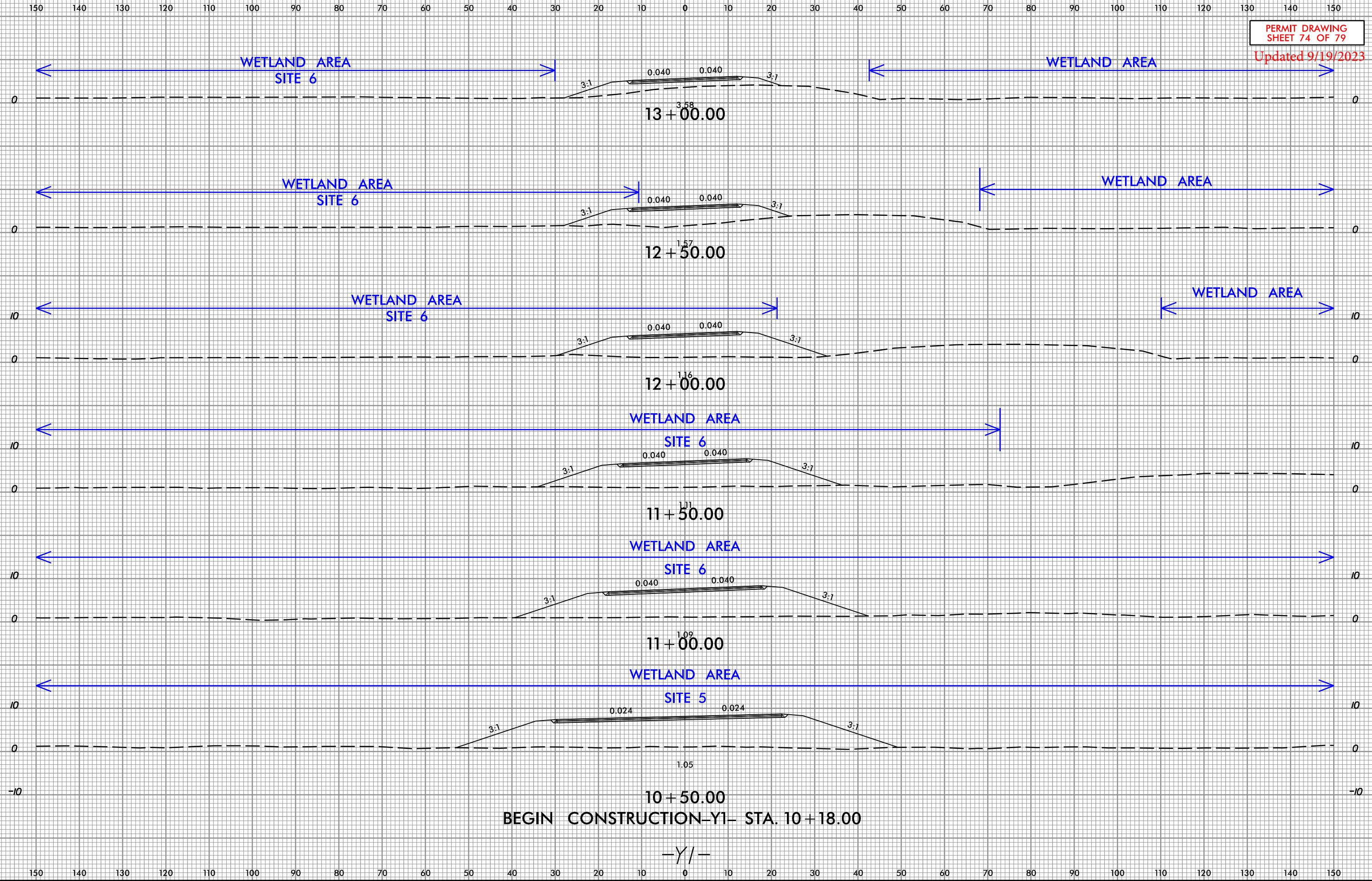
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PERMIT DRAWING
SHEET 73 OF 79
Updated 9/19/2023



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19-SEP-2023 09:10
HB-0001_Hyd_xpl_Y1.dgn
patric.karim@sumit.com



I9-SEP-2023 09:10
HB-0001_Hyd_xpl_Y1.dgn
patric.karim

Prepared in the
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320 Executive Ct.
Hillsborough, NC 27278
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(919) 732-6676 (FAX)



PROJ. REFERENCE NO.

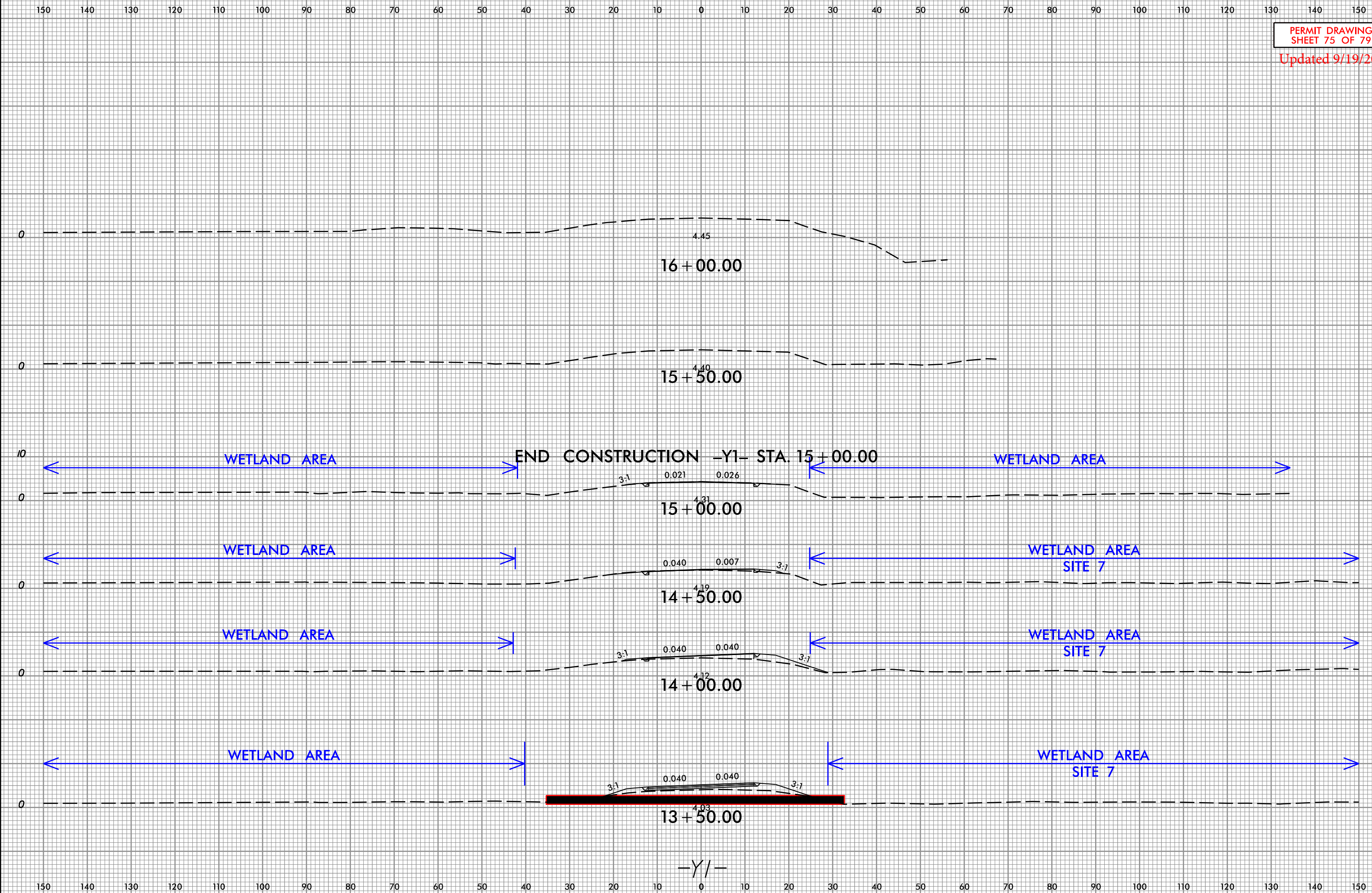
HB-0001

SHEET NO.

X-25

PERMIT DRAWING
SHEET 75 OF 79

Updated 9/19/2023

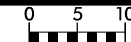


19-SEP-2023 09:11
HB-0001_Hyd_xpl_Y2.dgn
patric.karim@net

Prepared in the
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(919) 732-3883
(919) 732-6676 (FAX)

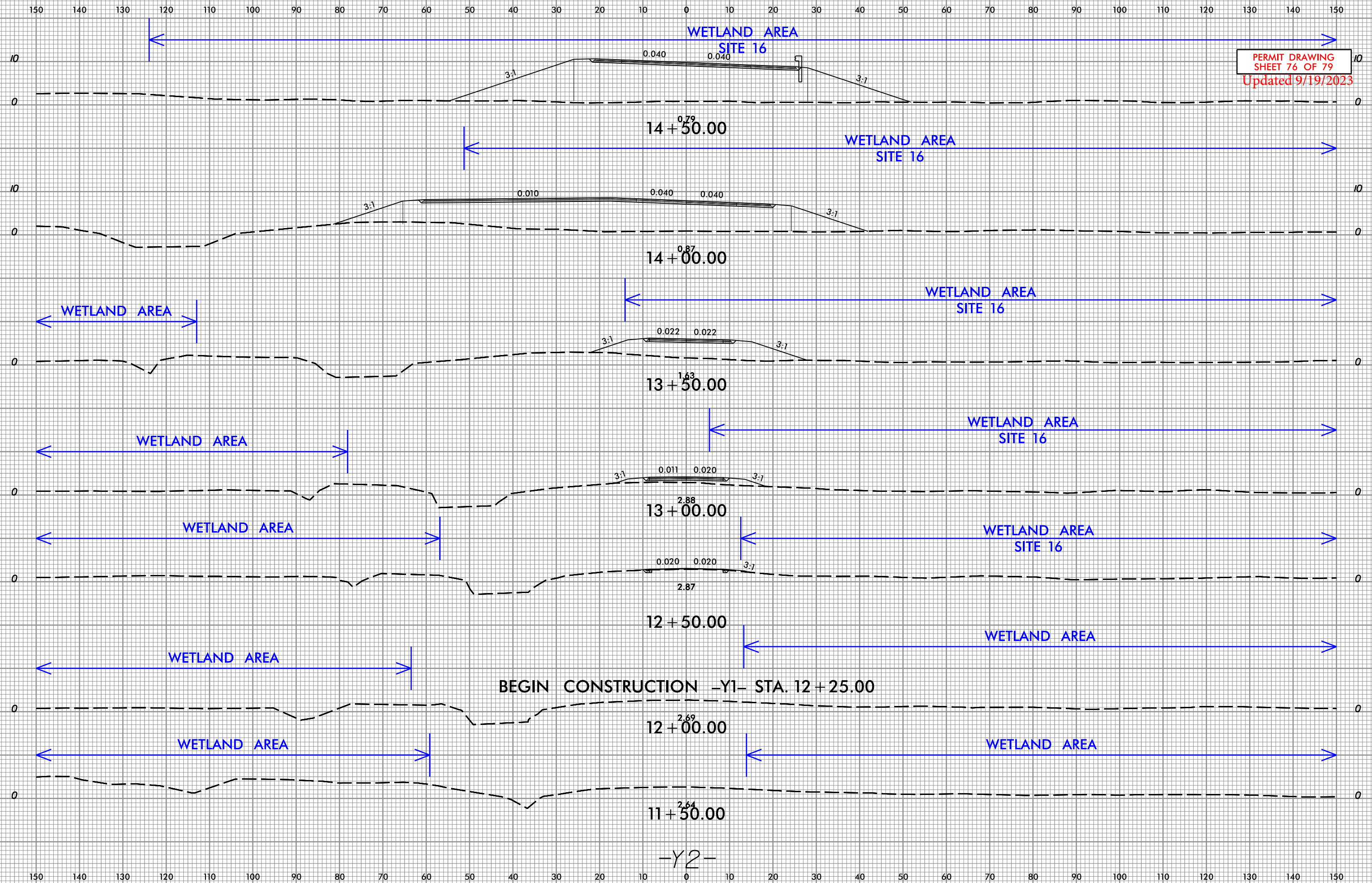


PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-26

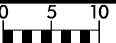


I9-SEP-2023 09:11
HB-0001_Hyd_xpl_Y2.dgn
patric.karim@tt

Prepared in the
Office of:



NC PERM LICENSE No. P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



PROJ. REFERENCE NO.

HB-0001

SHEET NO.

X-27

PERMIT DRAWING
SHEET 77 OF 79

Updated 9/19/2023

WETLAND AREA
SITE 16

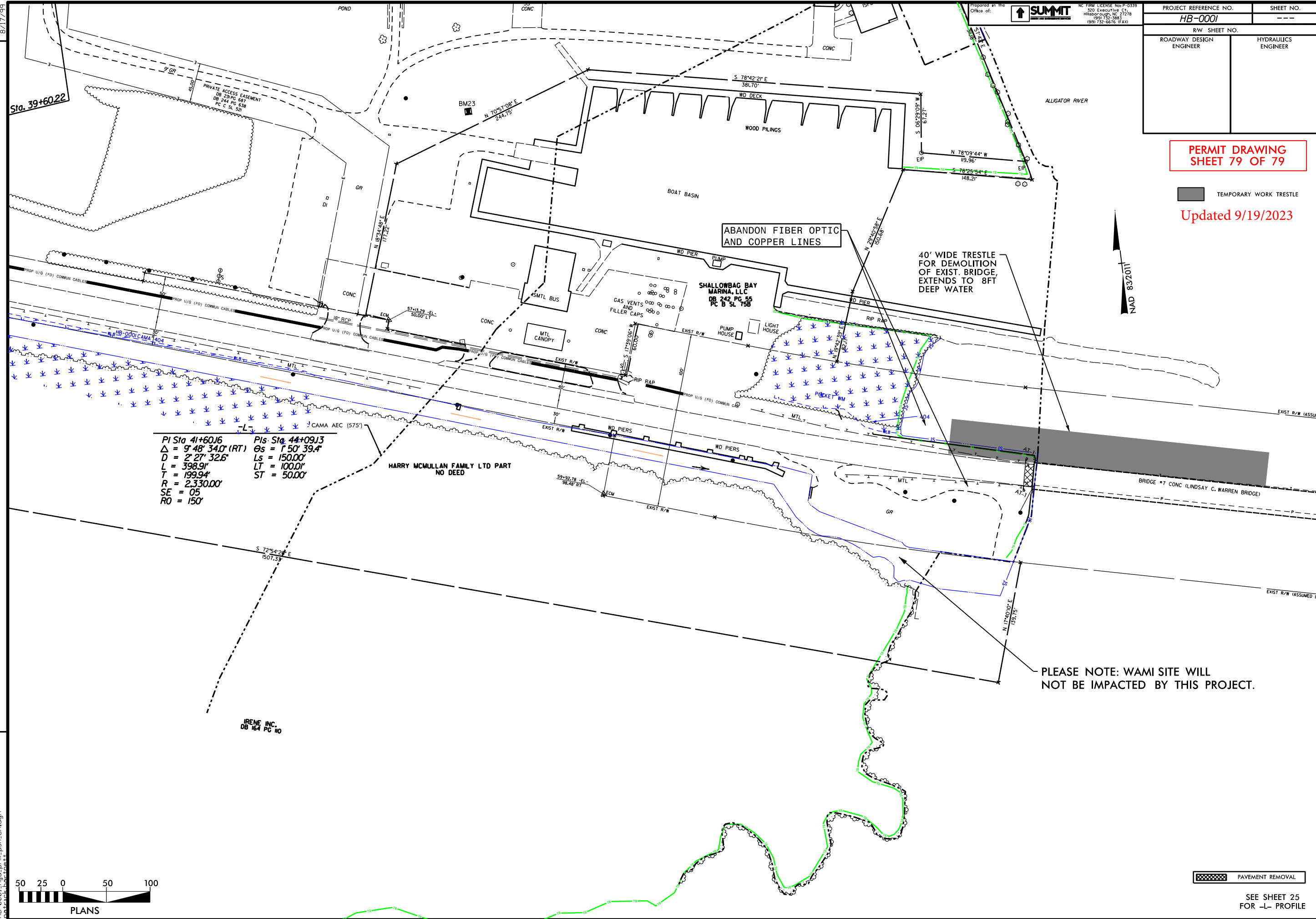
END CONSTRUCTION -Y1- STA. 15 + 40.26

15 + 00.00

-Y2-

TEMPORARY WORK TRESTLE

Updated 9/19/2023



REVISIONS


9-SEP-2023 09:11
HB-0001-Hyd-prm_psh_6A.dan

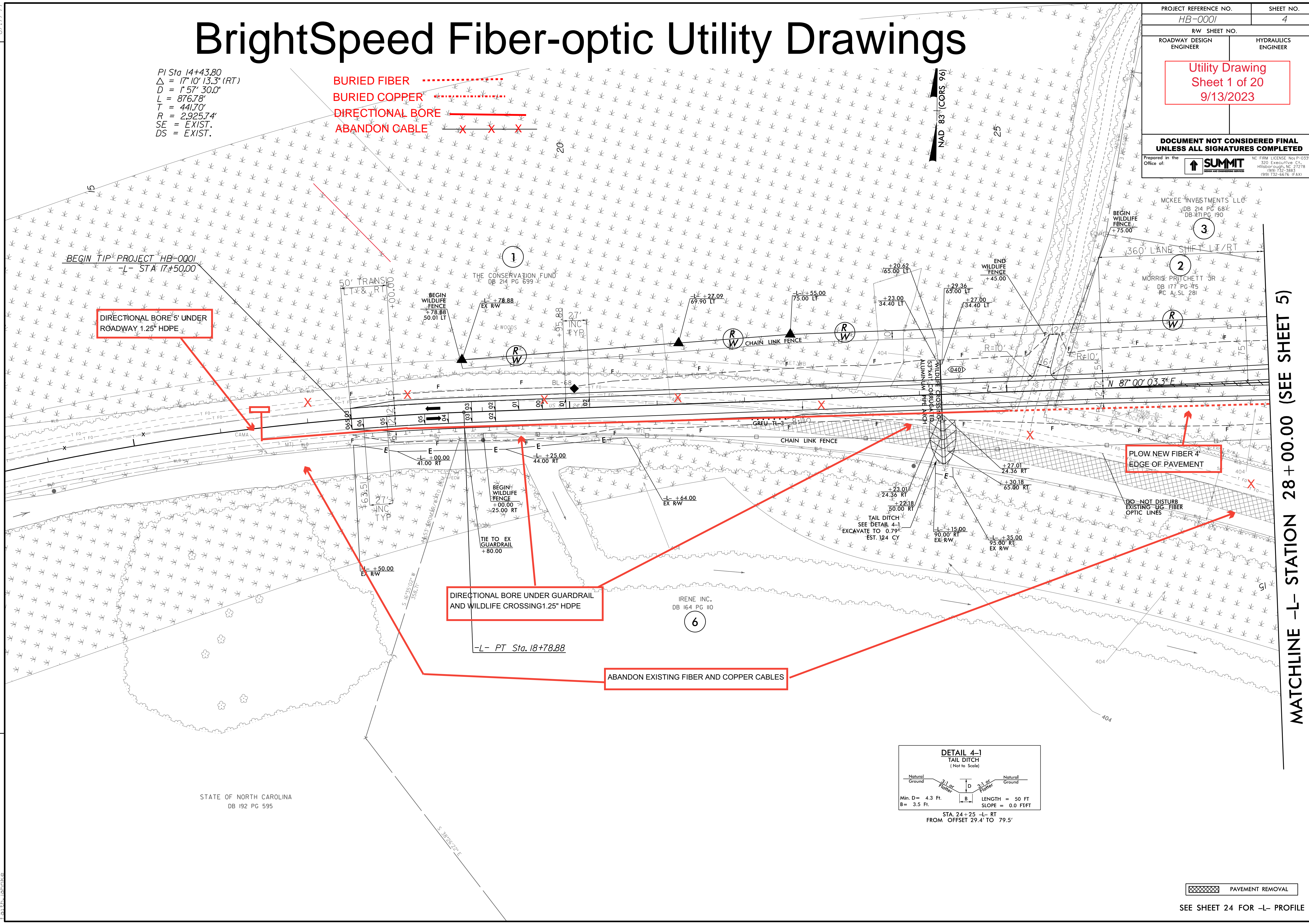
SEE SHEET 25
FOR -L- PROFILE

BrightSpeed Fiber-optic Utility Drawings

PI Sta 14+43.80
 $\Delta = 17^{\circ}10'13.3"$ (RT)
 $D = 1^{\circ}57'30.0"$
 $L = 876.78'$
 $T = 441.70'$
 $R = 2,925.74'$
SE = EXIST.
DS = EXIST.

BURIED FIBER
BURIED COPPER
DIRECTIONAL BORE
ABANDON CABLE X X X

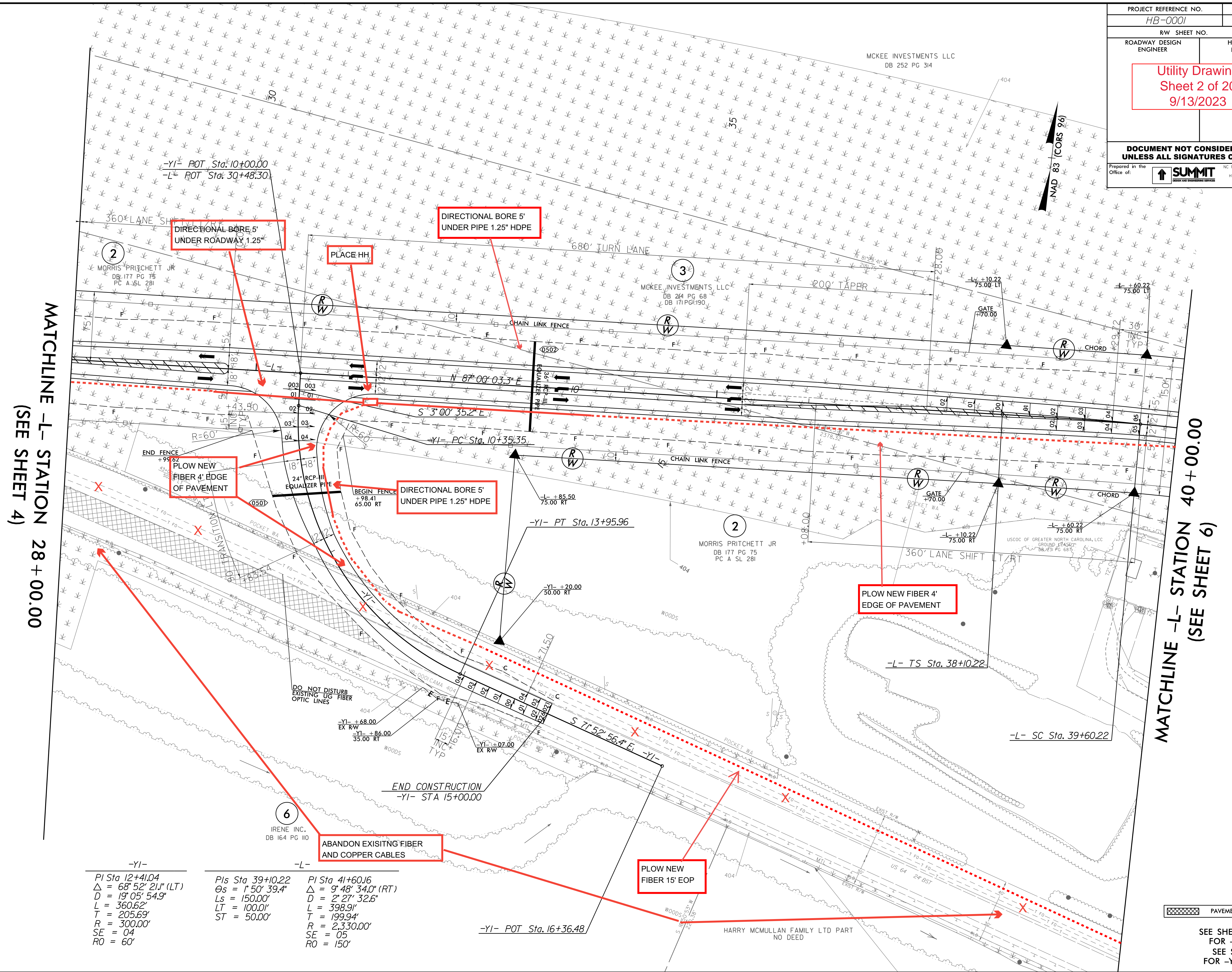
PROJECT REFERENCE NO. HB-0001		SHEET NO. 4
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
Utility Drawing Sheet 1 of 20 9/13/2023		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared in the Office of:  SUMMIT ENGINEERING & CONSTRUCTION, INC. NC FIRM LICENSE NO. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)		



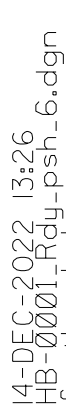
MATCHLINE -L- STATION 28 + 00.00 (SEE SHEET 5)

 PAVEMENT REMOVAL

SEE SHEET 24 FOR -L- PROFILE



EE SHEET 24 & 25
FOR -L- PROFILE
SEE SHEET 33
FOR -Y1- PROFILE



**MATCHLINE -L- STATION 52 + 50.00
(SEE SHEET 7)**

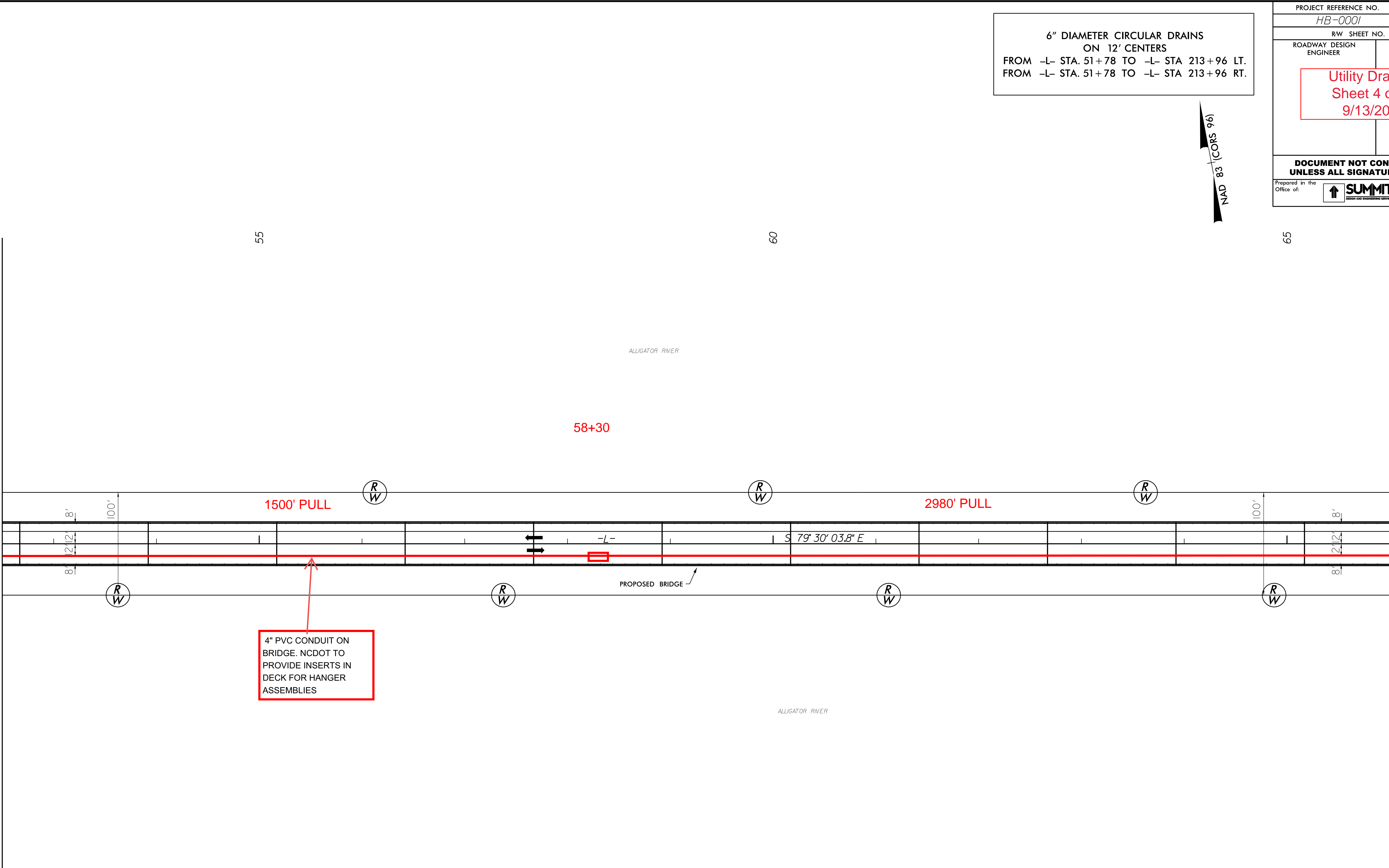
SEE SHEET 25
OR -L- PROFILE

8/17/99

14-DEC-2022 13:26
HB-0001.dwg
fauhhobke

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.

NAD 83 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.
HB-0001		7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Utility Drawing Sheet 4 of 20 9/13/2023		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 322-3883 (919) 732-6676 (FAX)

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

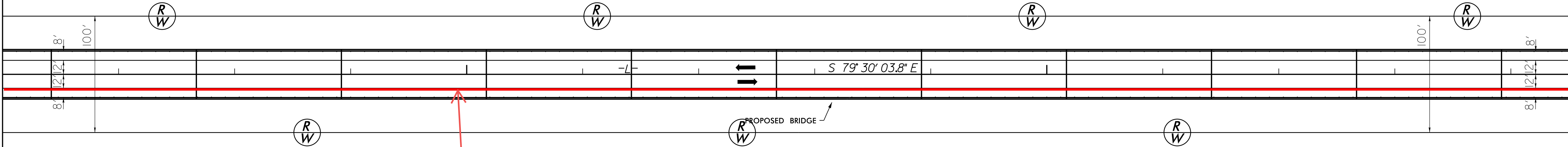
SEE SHEET 25 FOR -L- PROFILE

8/17/99

14-DEC-2022 13:26
HB-0001-14-psi-8.dgn
fauhh@hbk

REVISIONS



MATCHLINE -L- STATION 66+00.00 (SEE SHEET 7)



4\"/>

6\"/>

NAD 83 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 5 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	
			

MATCHLINE -L- STATION 79+50.00
(SEE SHEET 9)

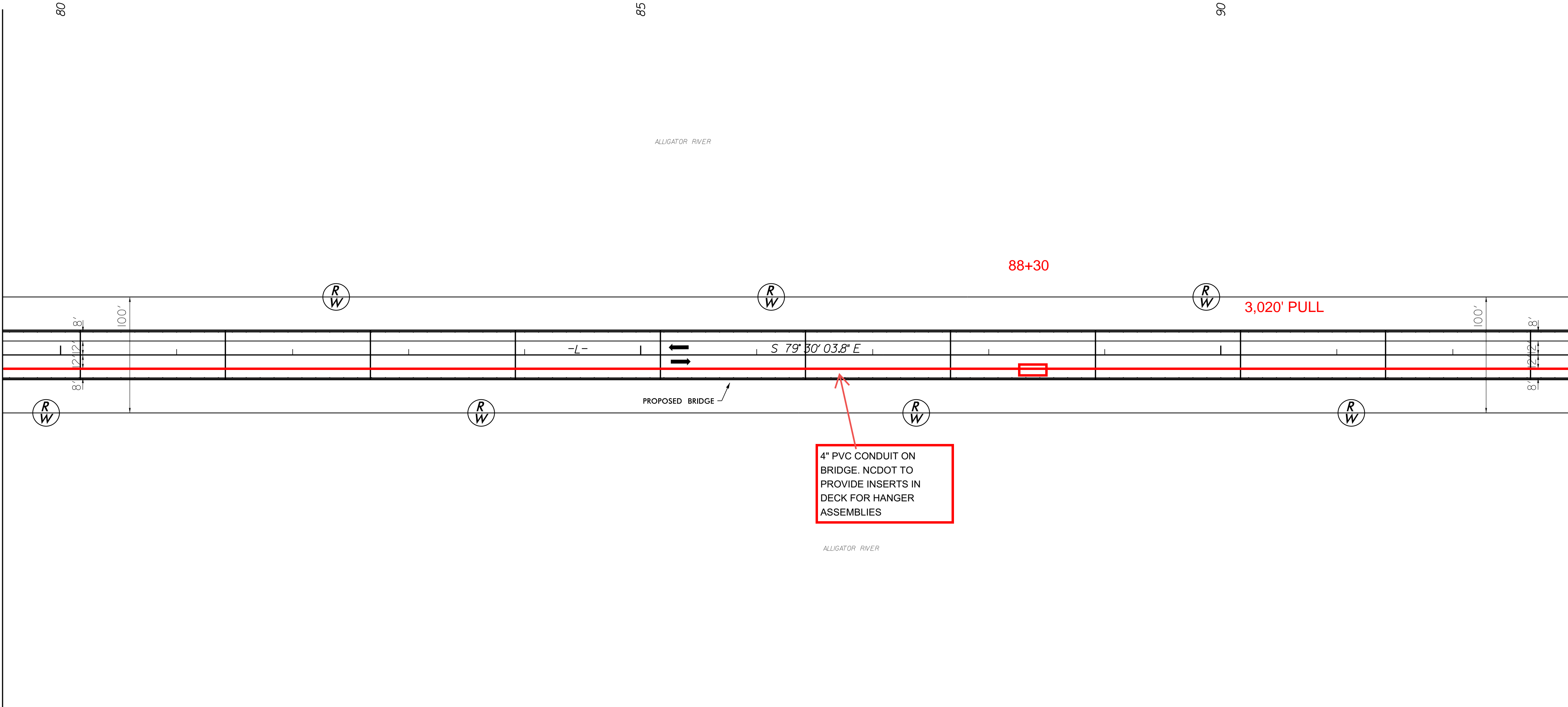
SEE SHEET 26 FOR -L- PROFILE

8/17/99

14-DEC-2022 13:26
HB-0001.dgn
fathuboke

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 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 6 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 322-3883 (919) 732-6676 (FAX)	

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

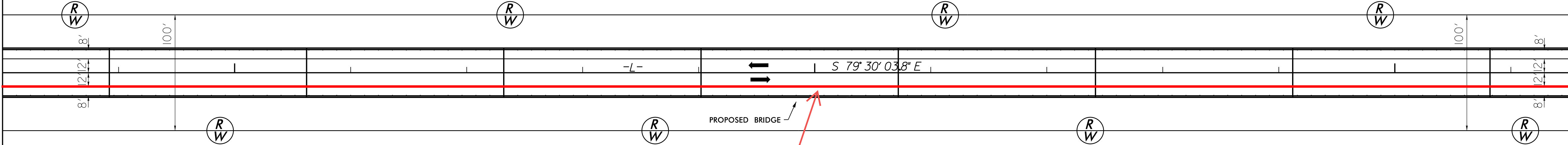
SEE SHEET 26 FOR -L- PROFILE

8/17/99

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HB-0001.dgn
fauhhobke

REVISIONS



MATCHLINE -L- STATION 93+00.00 (SEE SHEET 9)



4" PVC CONDUIT ON
BRIDGE. NCDOT TO
PROVIDE INSERTS IN
DECK FOR HANGER
ASSEMBLIES

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 (CORS 96)
105

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 7 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	
			

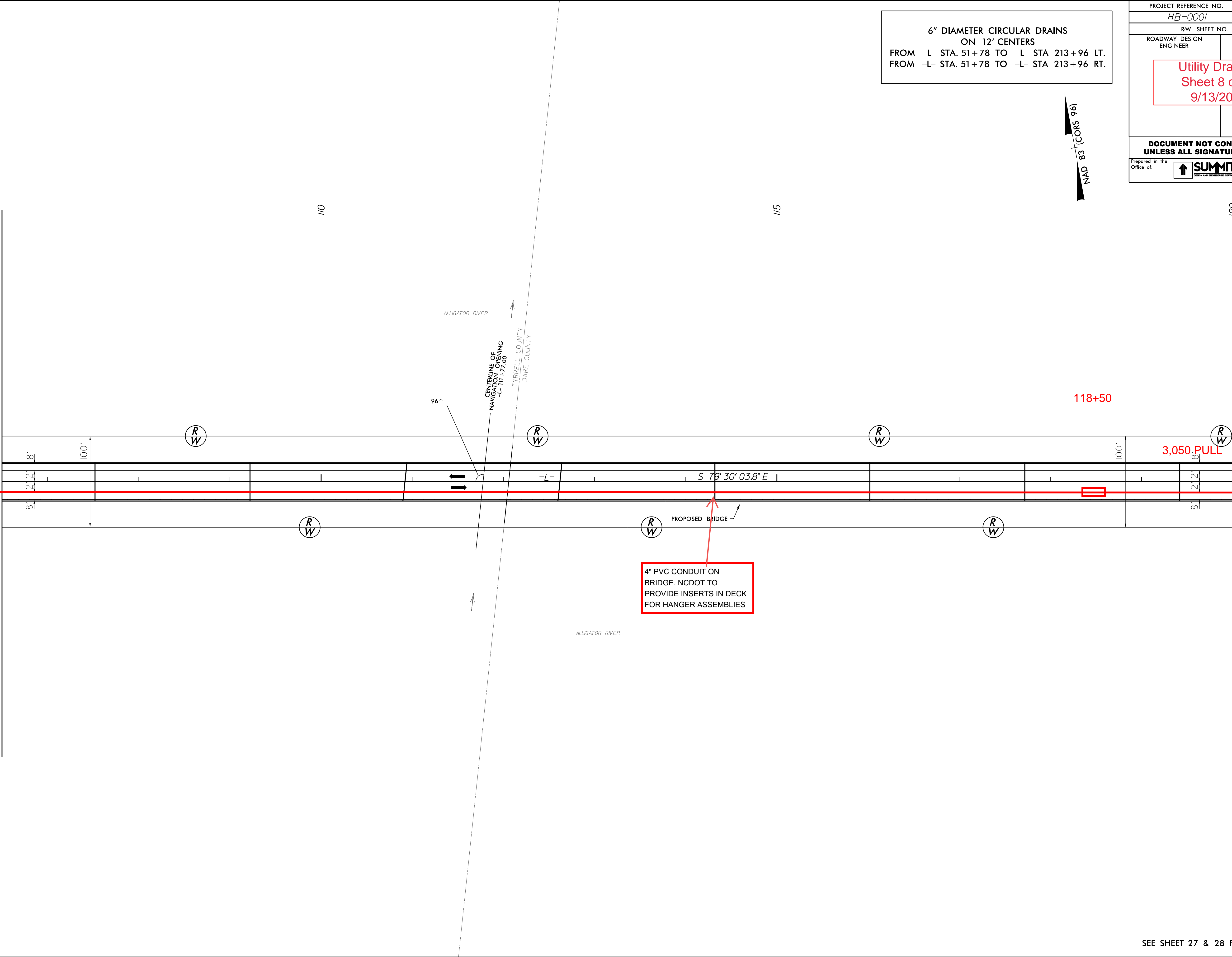
MATCHLINE -L- STATION 106+50.00
(SEE SHEET 11)

8/17/99

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HB0001.dgn
fauhuhake

REVISIONS



MATCHLINE -L- STATION 106 + 50.00 (SEE SHEET 10)



MATCHLINE -L- STATION 120 + 00.00
(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.

NAD 83 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 8 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	
			

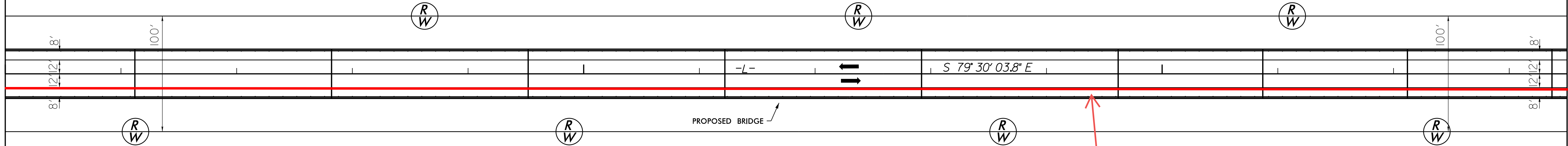
8/17/99

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HB-0001.dwg
fauhhb

REVISIONS

MATCHLINE -L- STATION 120 + 00.00 (SEE SHEET 11)

121



125

ALLIGATOR RIVER

ALLIGATOR RIVER



130

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 (CORS 96)

4" PVC CONDUIT ON
BRIDGE. NCDOT TO
PROVIDE INSERTS IN DECK
FOR HANGER ASSEMBLIES

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

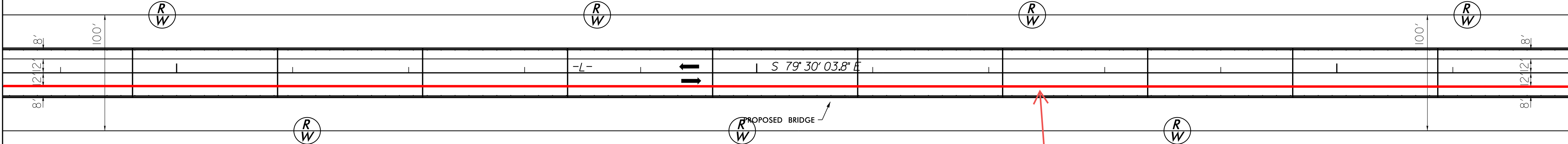
PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 9 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	
			

8/17/99

14-DEC-2022 13:26
HB-0001.dwg
fathub@bke

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.

NAD 83 (CORS 96)

4" PVC CONDUIT ON BRIDGE.
NCDOT TO PROVIDE INSERTS
IN DECK FOR HANGER
ASSEMBLIES

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		13	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>Utility Drawing Sheet 10 of 20 9/13/2023</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	

SEE SHEET 29 FOR -L- PROFILE

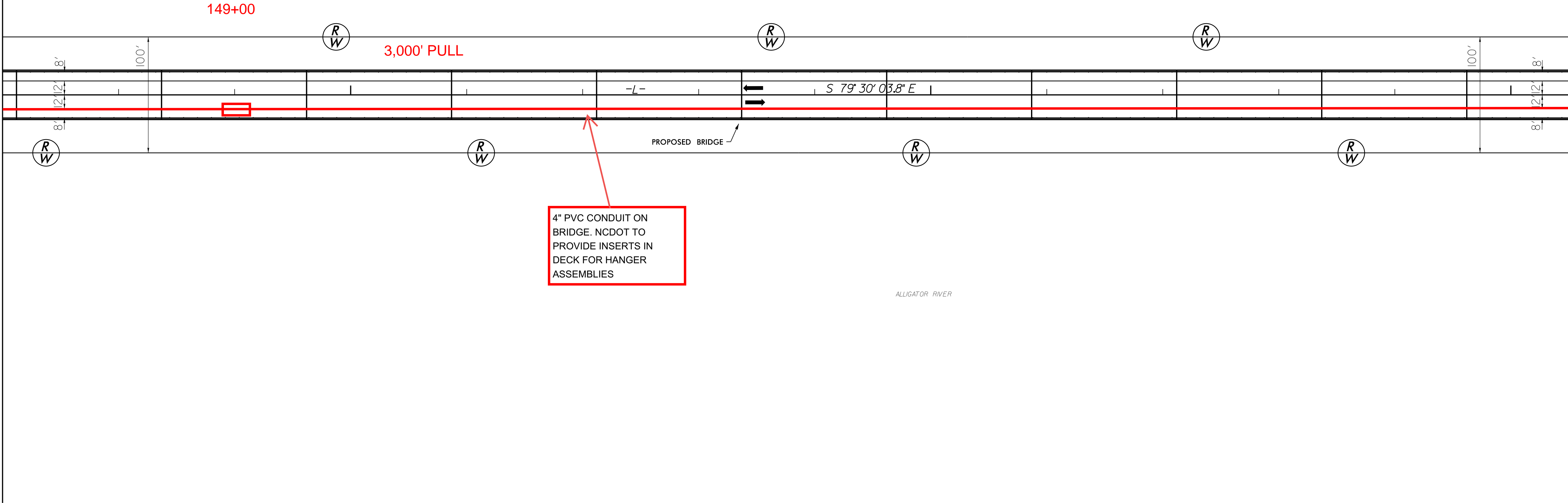
MATCHLINE -L- STATION 147 + 00.00
(SEE SHEET 14)

8/17/99

14-DEC-2022 13:26
HB-0001.dgn
fathu@hbk


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.

NAD 83 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		14	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>Utility Drawing Sheet 11 of 20 9/13/2023</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 322-3883 (919) 732-6676 (FAX)	
<div> SUMMIT ROAD AND HYDRAULIC SERVICES</div>			

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

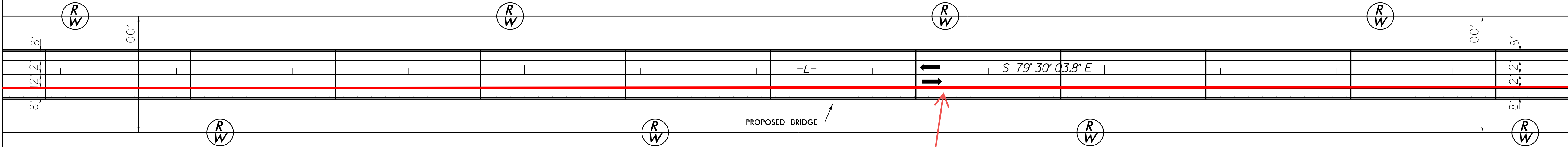
SEE SHEET 29 & 30 FOR -L- PROFILE

8/17/99

14-DEC-2022 13:26
HB-0001.dwg
fauha@hbk.com

REVISIONS


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



4" PVC CONDUIT ON
BRIDGE. NCDOT TO
PROVIDE INSERTS IN
DECK FOR HANGER
ASSEMBLIES

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 (CORS 96)

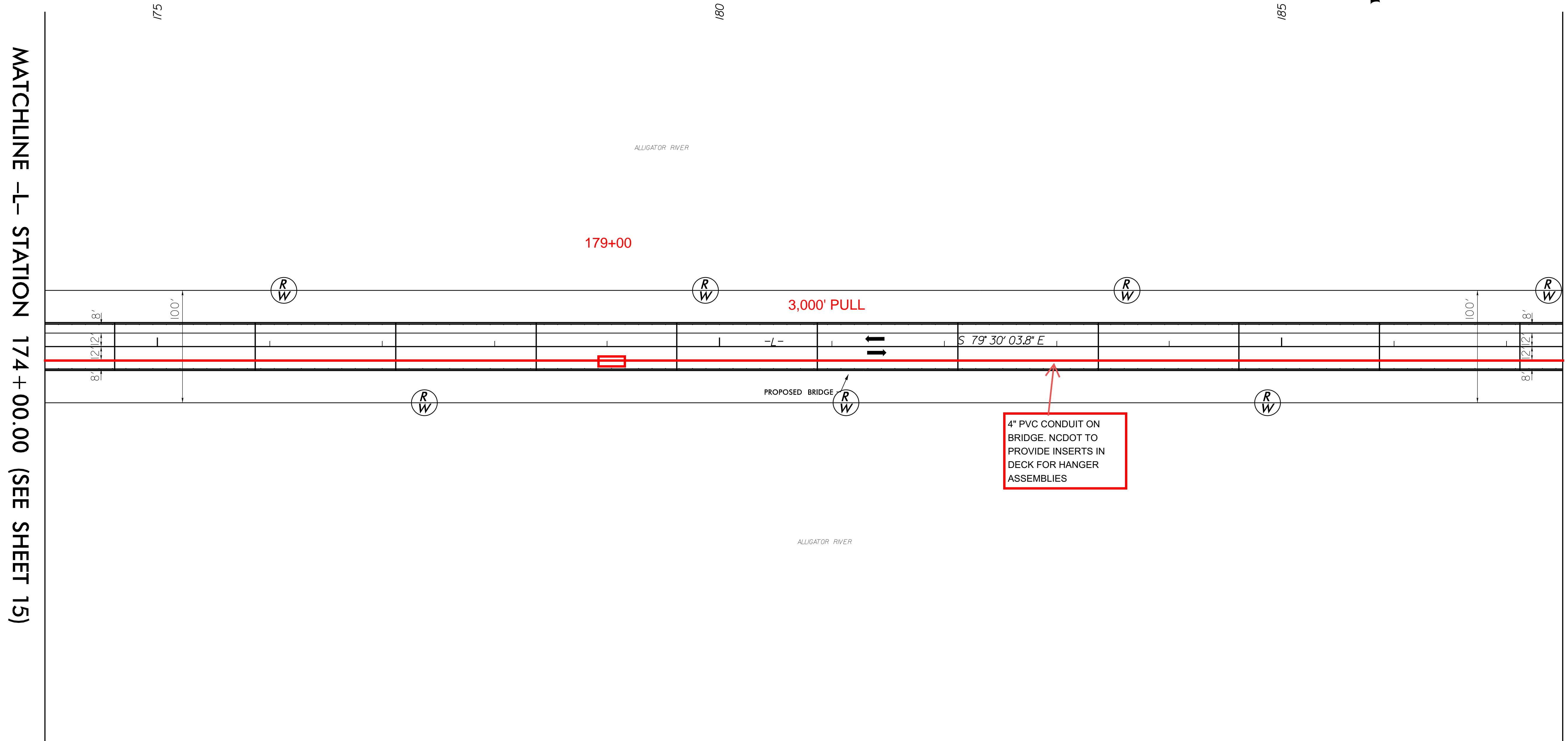
PROJECT REFERENCE NO.		SHEET NO.
HB-0001		15
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Utility Drawing Sheet 12 of 20 9/13/2023		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared in the Office of: 		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)

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

SEE SHEET 30 FOR -L- PROFILE

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 (CORS 96)



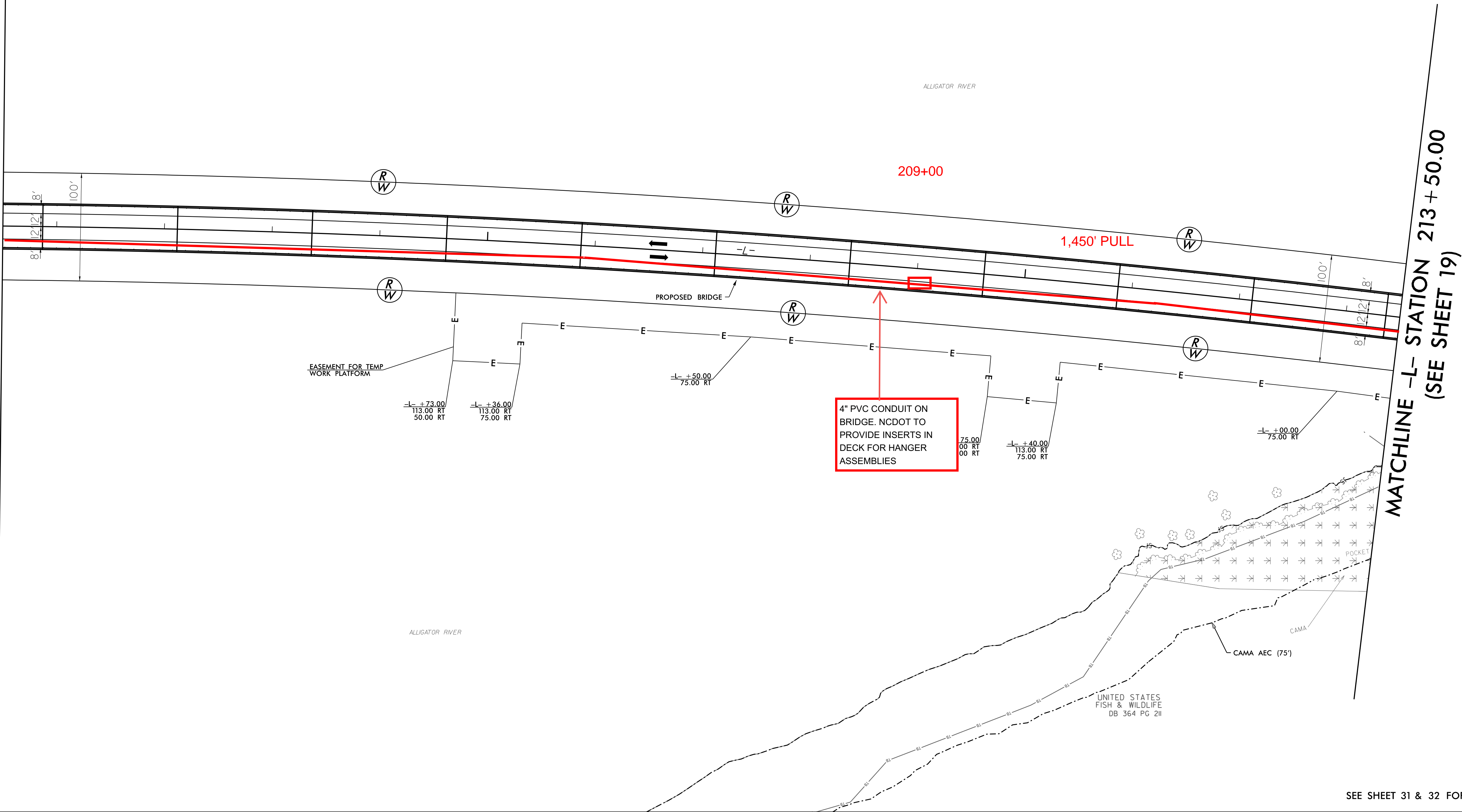
4" PVC CONDUIT ON
BRIDGE. NCDOT TO
PROVIDE INSERTS IN
DECK FOR HANGER
ASSEMBLIES

8/17/99

14-DEC-2022 13:26
HB-0001.dgn
fathu@hbk.com

REVISIONS

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

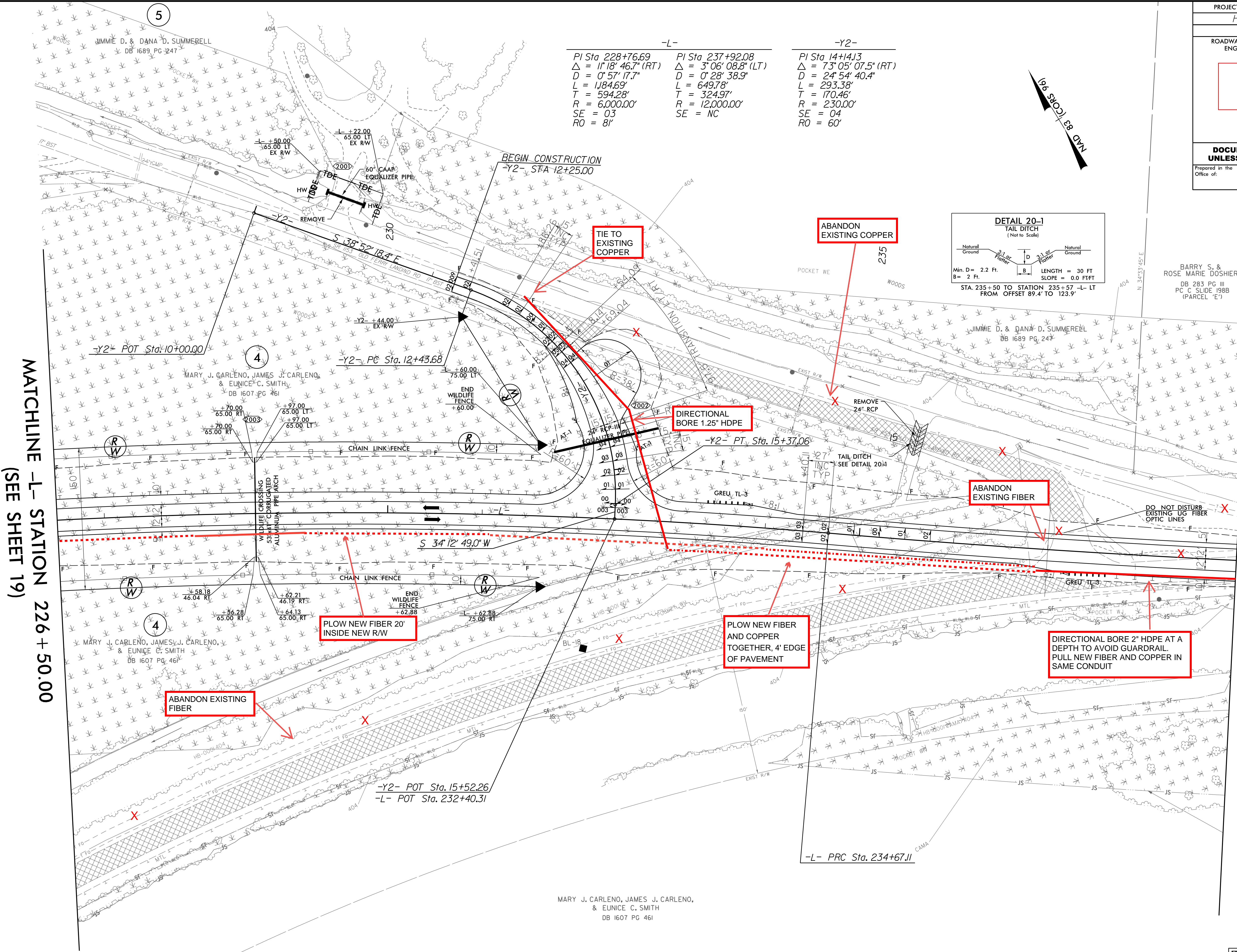


-L-
PI Sta 207+58.97
 $\Delta = 14^{\circ} 37' 40.0''$ (RT)
 $D = 0^{\circ} 28' 38.9''$
 $L = 3,063.63'$
 $T = 1,540.19'$
 $R = 12,000.00'$
SE = NC

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 (CORS 96)

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		18	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
Utility Drawing Sheet 15 of 20 9/13/2023			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	



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

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

MARY J. CARLENO, JAMES J. CARLENO,
& EUNICE C. SMITH
DB 1607 PG 461

PAVEMENT REMOVAL

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

REVISIONS

8/17/99

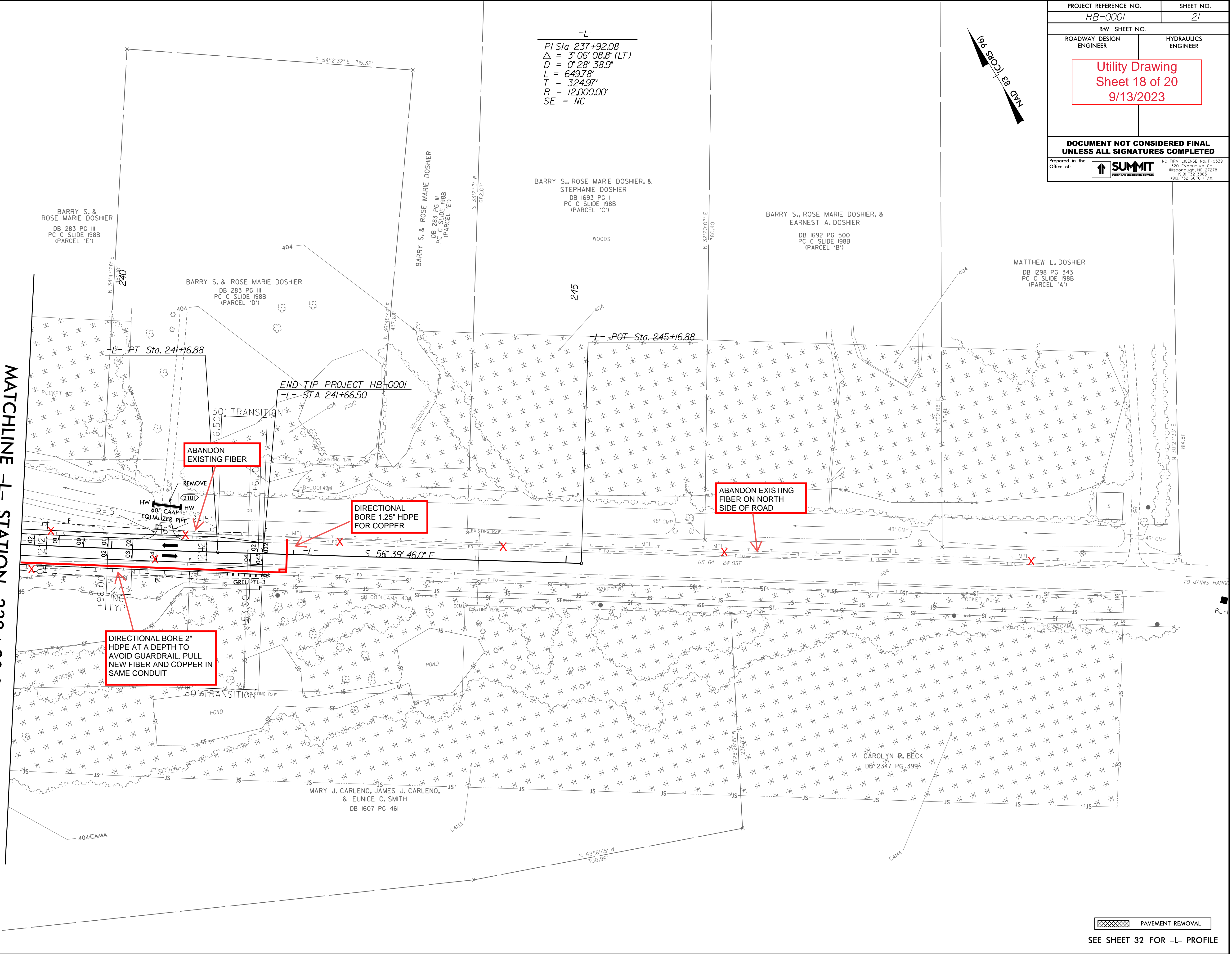
14-DEC-2022 13:26
HB-0001-14-DEC-2022-13-26.dgn
faubahn


8/17/99

14-DEC-2022 13:26
HB-0001.dgn
fathub@hbsi.com

REVISIONS

MATCHLINE -L- STATION 239 + 00.00
(SEE SHEET 20)



PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>21</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>Utility Drawing Sheet 18 of 20 9/13/2023</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of: 		NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)	

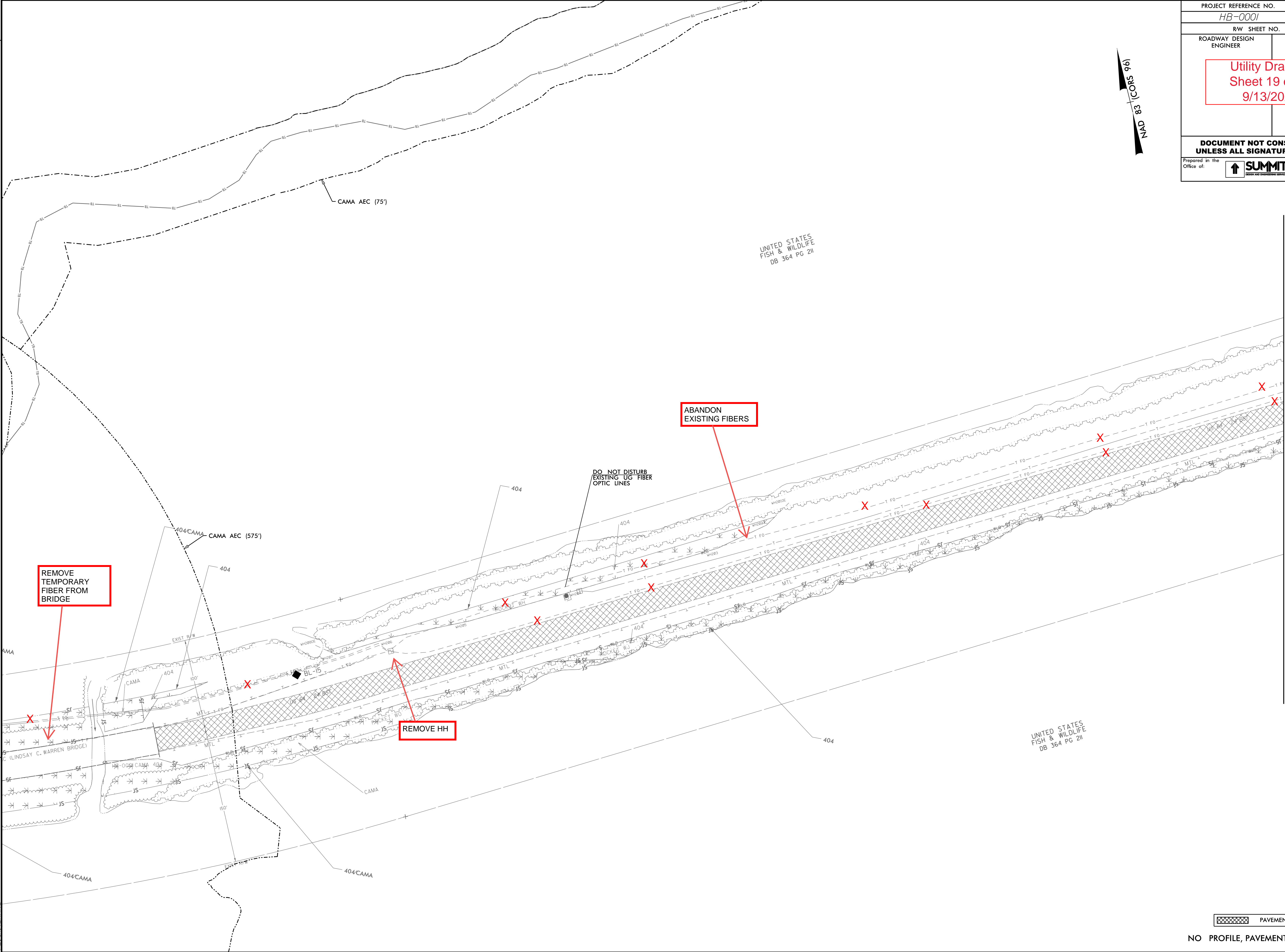
 PAVEMENT REMOVAL


SEE SHEET 32 FOR -L- PROFILE

8/17/99

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14-DEC-2022 13:26
HB-0001-14-001-22.dgn
fath\johke



PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>22</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
Utility Drawing Sheet 19 of 20 9/13/2023		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared in the Office of:	 SUMMIT ROAD AND INFRASTRUCTURE SERVICES	NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

MATCHLINE EX US 64
(SEE SHEET 23)

 PAVEMENT REMOVAL

NO PROFILE, PAVEMENT REMOVAL ONLY

8/17/99

14-DEC-2022 13:26
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REVISIONS

MATCHLINE EX US 64 (SEE SHEET 19)

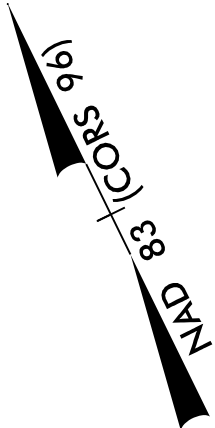
MATCHLINE EX US 64
(SEE SHEET 22)

ABANDON FIBER
CABLES

WOODS

MARY J. CARLENO, JAMES J. CARLENO,
& EUNICE C. SMITH
DB 1607 PG 461

PROJECT REFERENCE NO.		SHEET NO.	
HB-0001		23	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>Utility Drawing Sheet 20 of 20 9/13/2023</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
Prepared in the Office of:		<div><div>↑</div><div>SUMMIT</div><div>ROAD AND HYDRAULIC SERVICES</div></div> <div>NC FIRM LICENSE No. P-0359 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)</div>	



PAVEMENT REMOVAL

NO PROFILE, PAVEMENT REMOVAL ONLY

8/17/99

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HB-0001.dgn
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REVISIONS


MATCHLINE EX US 64 (SEE SHEET 19)

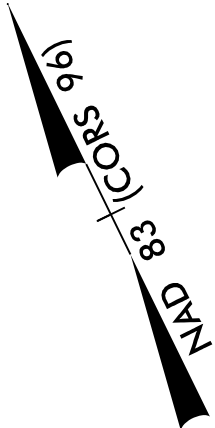
MATCHLINE EX US 64
(SEE SHEET 22)

ABANDON FIBER
CABLES

WOODS

MARY J. CARLENO, JAMES J. CARLENO,
& EUNICE C. SMITH
DB 1607 PG 461

PROJECT REFERENCE NO. <i>HB-0001</i>		SHEET NO. <i>23</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
<div>Utility Drawing Sheet 20 of 20 9/13/2023</div>		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared in the Office of:	<div>SUMMIT <small>ROAD AND INFRASTRUCTURE SERVICES</small></div>	NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)



 PAVEMENT REMOVAL

NO PROFILE, PAVEMENT REMOVAL ONLY

**U.S. Department of
Homeland Security**

**United States
Coast Guard**



Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, VA 23704-5004
Staff Symbol: (dpb)
Phone: (757) 398-6222
Fax: (757) 398-6334
Email: Hal.R.Pitts@uscg.mil

16591
30 OCT 2024

Mr. John Conforti
North Carolina Department of Transportation
1581 Mail Service Center
Raleigh, NC 27699-1581

Dear Mr. Conforti:

Enclosed is Coast Guard Bridge Permit (3-24-5) dated October 30, 2024, approving the proposed construction of the highway, fixed bridge – Lindsay C. Warren Bridge across Alligator River, Atlantic Intracoastal Waterway, mile 83.5, at Tyrell County and Dare County, NC. The following stipulations shall be adhered to:

a. The contractor shall submit the plans and schedule of operation for approval at least 45 days prior to commencement of work in the waterway. One copy of such information shall be submitted concurrently to this office at the address above and Commander, U. S. Coast Guard Sector North Carolina, 721 Medical Center Drive Wilmington, NC 28401. The information shall include a sketch of the waterway; the bridge; the location of any restrictions that will be placed in the waterway such as barges, anchors, and anchor lines; the location and height above mean high water and detailed description of any scaffolding or netting; and a detailed description indicating the placement, type and dimension of any cofferdams, if used. The schedule should also include the hours of operation and whether the equipment will be moved at night. No deviation from the approved plans and schedule of operation may be made unless the modification has previously been submitted to and approved by the Coast Guard. The contractor shall submit to this office a copy of all correspondence with the Coast Guard concerning this project.

b. The contractor shall comply with all provisions of the Navigation Rules International - Inland, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

c. At no time during the work will the waterway be closed to navigation without prior approval from the Coast Guard. The bridge owner or contractor is required to maintain close and regular contact with Coast Guard Sector North Carolina at (910) 772-2230 or D05-SMB-SecNC-MarineEvents@uscg.mil to keep them informed of activities on the waterway.

d. Barges that are used in the waterway during the project must be marked. Enclosure (2) outlines temporary marking and lighting requirements for barges and structures not part of the bridge that will be used during construction. If barge or float anchor lines are used, they must be marked by buoys, which should be lighted. If you should have any questions, regarding lights on the barges or work floats, please contact the Chief, Waterways Management Section, at (757) 398-6230. Floating equipment shall have a radiotelephone capable of operation from its main

control station in accordance with Part 26 of Title 33, Code of Federal Regulations and shall be monitored during all periods the floating equipment is on station.

e. During the progress of work, while the channel is in operation, should any material, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced which may be dangerous to or obstruct navigation, immediate notice shall be given to the Coast Guard and the object removed with the utmost dispatch. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the Coast Guard shall give a description and location of any such object and the action taken or being taken to protect navigation. Except as shown on the plans, no dredging, excavation, filling, rip-rap, or other work affecting the bottoms, shall be done in conjunction with this work.

f. If during the periods of construction, permanent lighting cannot be maintained operable, the fenders of each pier shall be marked with a battery or power operated white light of not less than 60 flashes per minute and visible for a range of 2,000 yards on 90% of the nights of the year. Generally, a lamp of 20-candle power will meet these requirements. If necessary to obtain the coverage required, a light or lights on the upstream and downstream sides shall be installed. The piers shall be so marked until the construction has been completed and permanent navigational lighting has been installed and determined to be operating satisfactorily. Written approval from the Coast Guard of temporary lighting during periods of construction is required. No existing bridge navigation lights shall be impaired or blocked during darkness or periods of reduced visibility.

g. Compliance with the requirements stated herein does not relieve the bridge owner or contractor of the obligation or responsibility for compliance with the provisions of any other law or regulation, as may be under the jurisdiction of any other federal, state or local authority having cognizance over any aspect of the location, construction or maintenance of the authorized structure. The Coast Guard can levy monetary civil penalties for violations of bridge statutes and regulations.

h. In accordance with Title 33 Code of Federal Regulations Part 118.25 – Application procedure, approval of lights and other signals required shall be obtained prior to construction. Application shall be by letter accompanied by duplicate sets of drawings showing (1) the plan and elevation of the structure showing lights and signals proposed, and (2) a small scale vicinity chart showing the proposed bridge and all other bridges within 1,000 feet above or below the proposed bridge.

i. Upon completion of the proposed project, an inspection of the waterway bottom shall be performed to ensure that all construction waste materials have been completely removed. Certification will be required in writing by a licensed engineer or licensed surveyor that the waterways have not been impaired and that all construction related debris has been cleared from it. The certification shall include the actual method(s) used to conduct the inspection. The contractor shall remove any bridge related debris, resulting from the current or prior work or occurrences, discovered during this survey.

j. Upon completion of the bridgework, a responsible official of the bridge owner or a licensed surveyor or registered professional engineer shall submit to this office certified as-built drawings or certification of the following:

- (1) Bridge name
- (2) Action type (new construction, modification, relocation, (fixed/draw), etc.)
- (3) Dates (commenced and completed)
- (4) Location (latitude and longitude at bridge center and centerline of channel, statute miles above mouth of waterway, and bridge or causeway orientation or geographic positions of approaches)
- (5) Type of bridge (fixed, vertical lift, bascule, suspension, swing, trestle, pontoon, etc.)
- (6) Navigation clearances (vertical at mean high water and horizontal)
(Moveable – vertical at mean high water in open and closed positions)
- (7) Whether or not the bridge is fitted with clearance gauges
- (8) Whether or not the bridge has pier protection and/or fender system.
- (9) Type of land traffic (highway, railroad, pedestrian, pipeline, etc.)

This office shall be notified immediately upon completion of the project. If you should have any questions regarding this matter, please contact Mr. Jack H Williams, project officer, at the above listed address or telephone number.

Sincerely,

PITTS.HAL.R.
1121267272

Digitally signed by
PITTS.HAL.R.11212672
72
Date: 2024.10.30
11:29:27 -04'00'

HAL R. PITTS
Bridge Program Manager
By direction

Encl: (1) Permit (3-24-5) dated October 30, 2024
(2) Coast Guard Bridge Lighting & Other Signals

Copy: Commander, Fifth Coast Guard District (dpw)
Commander, Coast Guard Sector North Carolina, Waterways Management
Sladjana Maksimovic, National Ocean Service (NOS)
U. S. Army Corps of Engineers, Wilmington District
Federal Highway Administration, Raleigh NC Division

LIGHTING REQUIREMENTS FOR BARGES AND STRUCTURES NOT PART OF A BRIDGE OR APPROACH STRUCTURE

33 CFR 83.30 Lights on barges.

- (h) The following barges shall display at night and if practicable in periods of restricted visibility the lights described in paragraph (b) of this section:
 - (1) Every barge projecting into a buoyed or restricted channel.
 - (2) Every barge so moored that it reduces the available navigable width of any channel to less than 80 meters.
 - (3) Barges moored in group's more than two barges wide or to a maximum width of over 25 meters.
 - (4) Every barge not moored parallel to the bank or dock.
- (i) Barges described in paragraph (h) of this section shall carry two unobstructed all-round white lights of an intensity to be visible for at least 1 nautical mile and meeting the technical requirements as prescribed in Annex I (33 CFR part 84).
- (j) A barge or group of barges at anchor or made fast to one or more mooring buoys or other similar device, in lieu of the provisions of Inland Navigation Rule 30, may carry unobstructed all-round white lights of an intensity to be visible for at least 1 nautical mile that meet the requirements of Annex I (33 CFR part 84) and shall be arranged as follows:
 - (i) Any barge that projects from a group formation shall be lighted on its outboard corners.
 - (ii) On a single barge moored in water where other vessels normally navigate on both sides of the barge, lights shall be placed to mark the corner extremities of the barge.
 - (iii) On barges moored in group formation, moored in water where other vessels normally navigate on both sides of the group, lights shall be placed to mark the corner extremities of the group.
- (k) The following are exempt from the requirements of this Rule:
 - (1) A barge or group of barges moored in a slip or slough used primarily for mooring purposes.
 - (2) A barge or group of barges moored behind a pier head.
 - (3) A barge less than 20 meters in length when moored in a special anchorage area designated in accordance with §109.10 of this chapter.

33 CFR 118.95 Lights on structures not part of a bridge or approach structure.

Lights on sheer booms, isolated piers, obstructions, and other structures not part of a bridge or approach structure must meet the requirements for aids to navigation in Subpart 66.01 of Part 66 of this chapter.



BRIDGE PERMIT

7 NOV 2024

(3-24-5)

WHEREAS by Title V of an act of Congress approved August 2, 1946, entitled "General Bridge Act of 1946," as amended (33 U.S.C. §§ 525-533), the consent of Congress was granted for the construction, maintenance and operation of bridges and approaches thereto over the navigable waters of the United States;

AND WHEREAS the Secretary of Homeland Security has delegated the authority of Section 502(b) of that act to the Commandant, U.S. Coast Guard by Department of Homeland Security Delegation Number: 0170.1;

AND WHEREAS before construction is commenced, the Commandant must approve the location and plans of any such bridge and may impose any specific conditions relating to the construction, maintenance and operation of the structure deemed necessary in the interest of public navigation, such conditions to have the force of law;

AND WHEREAS the - STATE OF NORTH CAROLINA - has submitted for approval the location and plans of a bridge to be constructed across the Alligator River, Atlantic Intracoastal Waterway, between Alligator and East Lake, North Carolina;

NOW THEREFORE, This is to certify that the location and plans dated 18 April 2024 are hereby approved by the Commandant, subject to the following conditions:

1. No deviation from the approved plans may be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant.

2. The construction of falsework, pilings, cofferdams or other obstructions, if required, shall be in accordance with plans submitted to and approved by the Commander, Fifth Coast Guard District, prior to construction of the bridge. All work shall be so conducted that the free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that may affect navigation shall be given to the District Commander during construction of the bridge. The channel or channels through the structure shall be promptly cleared of all obstructions placed therein or caused by the construction of the bridge to the satisfaction of the District Commander, when in the judgment of the District Commander the construction work has reached a point where such action should be taken.

3. Issuance of this permit does not relieve the permittee of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of the U.S. Department of the Interior, Fish

**Bridge over Alligator River,
Atlantic Intracoastal Waterway, between
Alligator and East Lake, North Carolina**

and Wildlife Service; U.S. Department of Commerce, National Marine Fisheries Service; the State of North Carolina, Department of Environmental Quality, or any other Federal, state or local authority having cognizance of any aspect of the location, construction or maintenance of said bridge.

4. A bridge protective system shall be installed and maintained in good condition by and at the expense of the owner of the bridge when so required by the District Commander. Said installation and maintenance shall be for safety of navigation and be in accordance with plans submitted to and approved by the District Commander prior to its construction.

5. Clearance gauges shall be installed and maintained in a good and legible condition by and at the expense of the owner of the bridge. The type of gauges and the locations in which they are to be installed will be submitted to the District Commander for approval.

6. All parts of the existing to-be-replaced Route 64 Bridge across Alligator River, Atlantic Intracoastal Waterway, mile 84.2, not utilized in the new bridge, shall be removed in their entirety to the extent practicable. Piles located in the Federal channel and the Federal channel setback shall be removed in their entirety or removed down to or below -15 feet, Mean Lower Low Water. Such removal and clearance shall be completed when the District Commander determines that the construction of the new bridge, mile 83.5, has reached a point where such action should be taken.

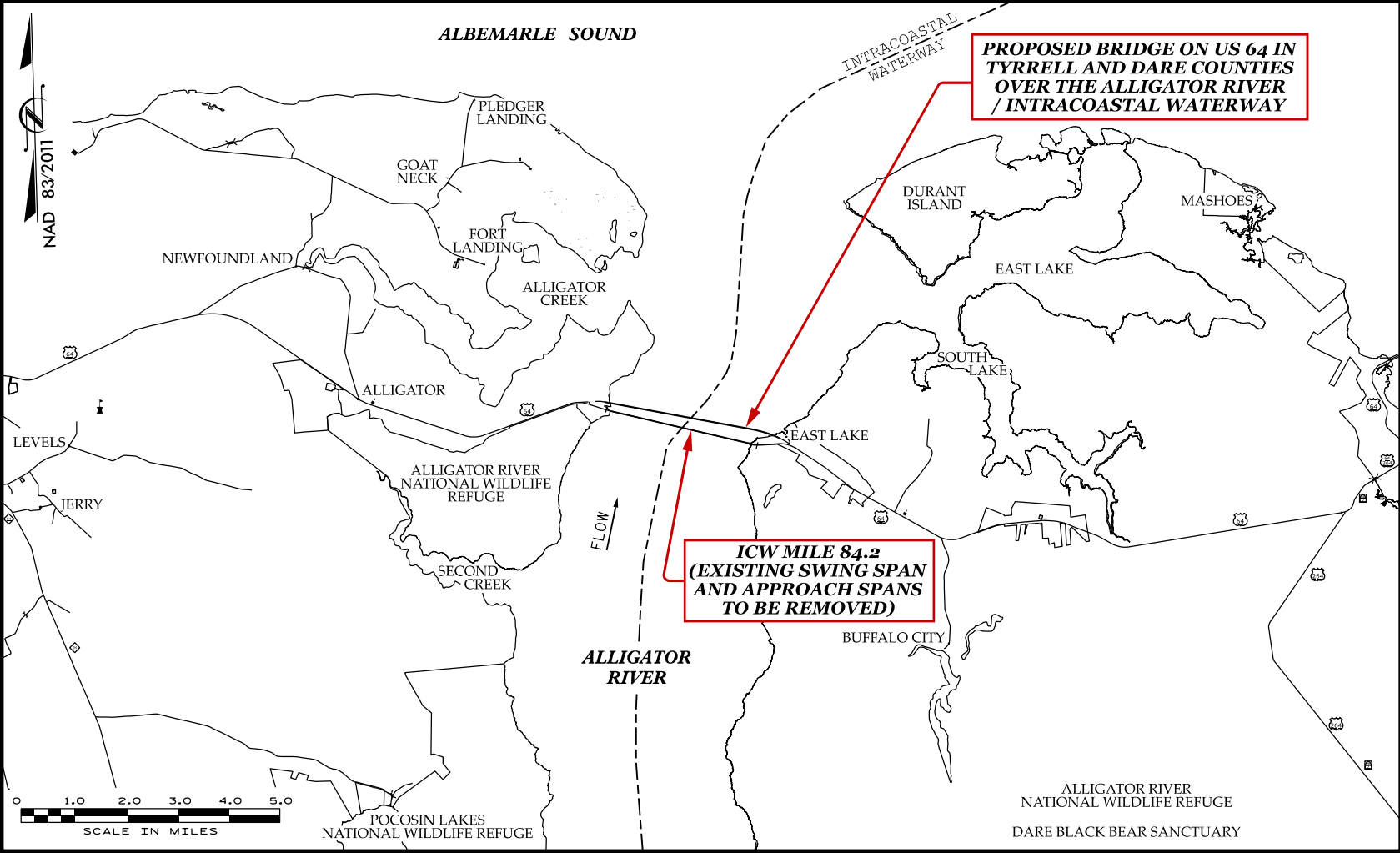
7. When the proposed bridge is no longer used for transportation purposes, it shall be removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander. Such removal and clearance shall be completed by and at the expense of the owner of the bridge upon due notice from the District Commander.

8. The approval hereby granted shall cease and be null and void unless construction of the bridge is commenced within three years and completed within five years after the date of this permit.



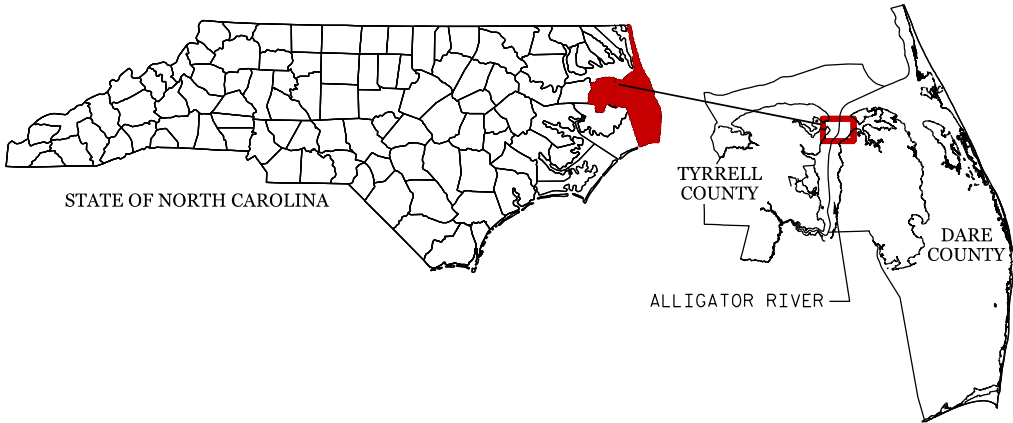
Brian L. Dunn
Chief, Office of Bridge Programs
U.S. Coast Guard
By direction of the Commandant

VICINITY MAP

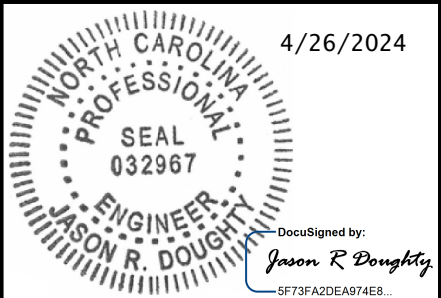


DATUM DESCRIPTION
VERTICAL DATUM: NAVD 88

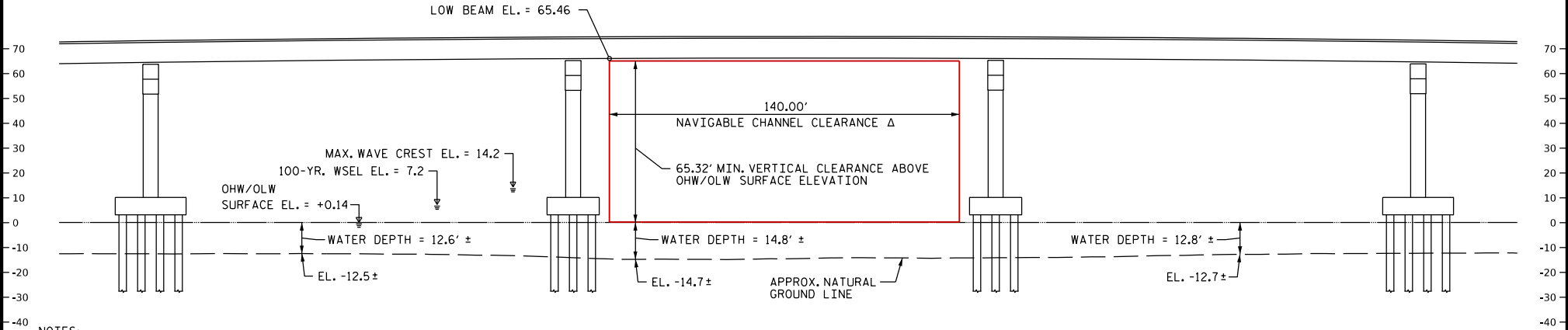
CONCEPTUAL PLANS
UTILIZED TO OBTAIN
COAST GUARD
BRIDGE PERMIT



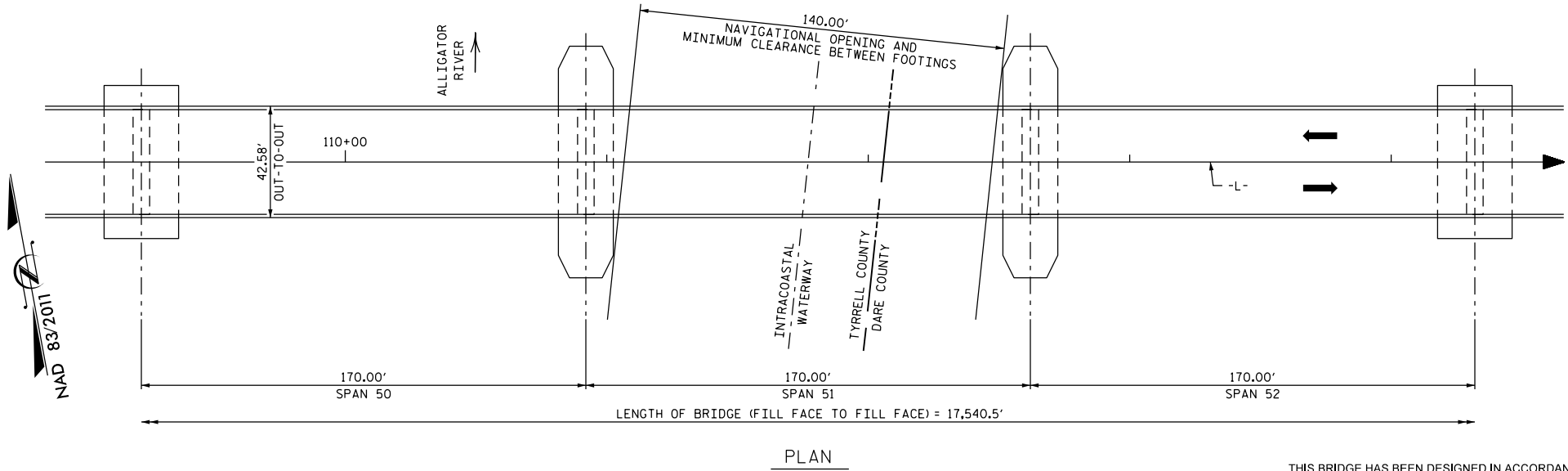
THIS BRIDGE HAS BEEN DESIGNED IN
ACCORDANCE WITH THE REQUIREMENTS
OF THE 9TH EDITION AASHTO LRFD
BRIDGE DESIGN SPECIFICATIONS.



State of North Carolina	
Department of Transportation Raleigh, NC	
Alligator River Bridge over Alligator River / Intracoastal Waterway, Mile 83.5	
Tyrrell and Dare County	
State Project No. : HB-0001	
April 18, 2024	Sheet 1 of 4



NOTES:
ELEVATIONS ARE SHOWN IN DECIMAL FEET
DATUM: NAVD 1988



THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



CONCEPTUAL PLANS
UTILIZED TO OBTAIN
COAST GUARD
BRIDGE PERMIT

4/26/2024

DocuSigned by:
Jason R Doughty
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NORTH CAROLINA
PROFESSIONAL
SEAL
032967
ENGINEER
JASON R. DOUGHTY

State of North Carolina
Department of Transportation Raleigh, NC
Alligator River Bridge over Alligator River / Intracoastal Waterway, Mile 83.5
Tyrrell and Dare County
State Project No. : HB-0001
April 18, 2024
Sheet 2 of 4

