

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. SAW-2012-01414

County: Wake County U.S.G.S. Quad: Cary

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: Philip Harris III
North Carolina Department of Transportation
Address: 1598 Mail Service Center
Raleigh NC, 27699
Telephone Number: 919-707-6111 (Jason Dilday)

Size (acres)	<u>N/A</u>	Nearest Town	<u>Raleigh</u>
Waterways	<u>Walnut Creek & UTs</u>	River Basin	<u>Neuse</u>
USGS HUC	<u>03020201</u>	Coordinates	<u>Latitude: 35.774 N; Longitude: -78.716 W.</u>

Location description: Existing I-440 Beltline, from south of SR 1313 (Walnut Street) to north of SR 1728 (Wade Avenue), west of downtown Raleigh, NC; White Oak Lake between I-440, Ravenwood Drive, Melbourne Road, and Powell Drive.

Description of projects area and activity: TIP U-2719; Improve existing I-440 Beltline; additional impacts (2.69 acres wetlands; 5.10 acres open water/pond; 417 linear feet of stream) to drain White Oak Lake and remove the pond dam. Note: This verification authorizes additional impacts, and the attached Mitigation Responsibility Transfer form (MRT) requires additional mitigation, beyond those in the previous RGP 31 verification and MRT for this project, dated July 17, 2020. The following special conditions from the original authorization have been updated to include the new compensatory mitigation requirements.

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344); Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Numbers: 31.

SEE ATTACHED RGP GENERAL, REGIONAL AND/OR SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions, your submitted application and attached revision information dated April 23, 2021. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide and/or regional general permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Eric Alsmeyer at (919) 554-4884 X 23 or Eric.C.Alsmeier@usace.army.mil.

Corps Regulatory Official: _____

Date: April 30, 2021

Expiration Date of Verification: May 25, 2025

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy furnished (by email): B. Harmon, NCDMS

Special Conditions

1. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent versions of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.
2. 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. 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-SHPO, 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.
4. This USACE permit does not authorize you to take a threatened or endangered species, in particular, the Northern Long-eared Bat (NLEB) (*Myotis septentrionalis*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., a Biological Opinion (BO) under the ESA, Section 7, with 'incidental take' provisions with which you must comply). The U.S. Fish and Wildlife Service's (USFWS's) Programmatic BO titled 'Northern Long-eared Bat (NLEB) Programmatic Biological Opinion for North Carolina Department of Transportation (NCDOT) Activities in Eastern North Carolina (Divisions 1-8),' dated March 25, 2015, and adopted on May 4, 2015, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with 'incidental take' that are specified in the BO. Your authorization under this USACE permit is conditioned upon your compliance with all the mandatory terms and conditions (incorporated by reference into this permit) associated with incidental take of the BO. 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 would also constitute non-compliance with your USACE permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

Action ID Number: SAW-2012-01414

County: Wake

Permittee: Philip Harris III
North Carolina Department of Transportation

Project Name: NCDOT/U-2719/I-440 Beltline Wid. I-40 to Wade Ave/Div5 (Revised)

Date Verification Issued: April 29, 2021

Project Manager: Eric Alsmeyer

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Eric Alsmeyer
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587
919.554.4884, Ext. 23

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NCDOT
 Project Name: TIP U-2719_I-440 Beltline Wid._I-40 to Wade Ave (Revision 2)

Action ID: SAW-2012-01414
 County: Wake

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements

Permitted Impacts Requiring Mitigation*: **8-digit HUC and Basin:** 03020201, Neuse River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
				2.73		

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: **8-digit HUC and Basin:** 03020201, Neuse River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
				2.73		

Mitigation Site Debited: NCDMS

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: _____

Name of Sponsor's Authorized Representative: _____

 Signature of Sponsor's Authorized Representative

 Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions: Note: This Mitigation Responsibility Transfer form (MRT) requires additional mitigation (Revision 2) to that required in the previous revised MRT for this project, dated July 16, 2020.

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. *Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).* Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Eric Alsmeyer
USACE Field Office: Raleigh Regulatory Field Office
US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587
Email: eric.c.alsmeyer@usace.army.mil



USACE Project Manager Signature

April 29, 2021

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

DIONNE DELLI-GATTI
Secretary

S. DANIEL SMITH
Director

April 28, 2021
Wake County
DWR Project No. 20190992 ver 4
I-440 / US 1
TIP No. U-2719

**MODIFICATION of APPROVAL of 401 WATER QUALITY CERTIFICATION and NEUSE BUFFER AUTHORIZATION,
with ADDITIONAL CONDITIONS**

Mr. Philip S. Harris, III, P.E., CPM
Natural Environment Section Head
Project Development and Environmental Analysis
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Dear Mr. Harris:

You have our approval, in accordance with the conditions listed below, for the following Revised impacts for the purpose of widening and improving I-440/US-1 from SR 1313 to SR 1728 in Wake County:

Revised Wetland Impacts in the Neuse River Basin

Site	Permanent Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Drawdown (ac)	Total Wetland Impact (ac)
2	0	0	0.01	0	0.01
6	0.01	0	0.05	0	0.06
7A	< 0.01	0	< 0.01	0	0.01
10	0	0	0	0	0
11	0	0	0	0	0
22	0	0	0	2.65	2.65
Total	0.01	0	0.07	2.65	2.73

Revised Total Wetland Impact for Project: 2.73 acres.

Revised Open Water (Ponds) Impacts in the Neuse River Basin

Site	Permanent Impact to Open Waters (ac)	Total Impact to Open Waters (ac)
5	1.25	1.25
22	5.10	5.10
Total	6.35	6.35

Revised Total Open Water Impact for Project: 6.35 acres.



Revised Stream Impacts in the Neuse River Basin

Site	Permanent Impact to Intermittent Stream (linear ft)	Temporary Impact to Intermittent Stream (linear ft)	Permanent Impact to Perennial Stream (linear ft)	Temporary Impact to Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1	7	10	0	0	17	0
3	0	0	102	138	240	0
4	0	0	0	112	112	0
7	0	0	395	22	417	0
8	244	0	0	0	244	0
9	147	0	0	0	147	0
12	0	0	34	65	99	0
13	0	0	117	50	167	0
14	0	0	508	110	618	508
15	0	0	56	10	66	0
16	70	24	0	0	94	0
17	0	0	97	40	137	0
18	0	0	31	39	70	0
19	29	22	0	0	51	0
20	0	0	163	18	181	0
Total	497	56	1503	604	2660	508

Revised Total Stream Impact for Project: 2660 linear feet.

Revised Neuse Riparian Buffer Impacts

Site	Zone 1 Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
1	1272	N/A	0	N/A
3	5365	N/A	2135	N/A
4 (i)	5604	N/A	4248	N/A
4 (ii)	3711	11133	0	0
7	14399	N/A	6548	N/A
9 (i)	3931	11793	1346	2019
9 (ii)	2708	N/A	1392	N/A
10	10337	N/A	4597	N/A
12	6199	N/A	3968	N/A
13	7989	23967	6169	9254
14 (i)	6846	N/A	1384	N/A
14 (ii)	14827	44481	7423	11134
14 Utility	4075	N/A	1396	N/A
15	3767	N/A	3730	N/A
16 (i)	3379	N/A	367	N/A
16 (ii)	775	2325	206	309
17	3660	N/A	1592	N/A
18	3035	9105	2070	3105
19	2179	N/A	926	N/A
20	5515	N/A	3172	N/A
21	433	1299	406	609
Totals	110006	104103	53075	26430

* N/A = Site impact Allowable; no mitigation required

Revised Total Buffer Impact for Project: 163081 square feet.



The project shall be constructed in accordance with your application received July 23, 2019 and modification requests dated May 5, 2020, July 8, 2020, and April 23, 2021. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 4135. This certification corresponds to the General Permit 31 issued by the Corps of Engineers. This approval is also valid for the Neuse Riparian Buffer Rules (15A NCAC 2B.0233). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must 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. [15A NCAC 2H.0507(d)(2)]. The permittee shall report to DWR any noncompliance with, or any violation of, stream or wetland standards [15A NCAC 02B .0200] including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became aware of the non-compliance circumstances. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0233. For this approval to remain valid, you must adhere to the conditions listed in the General Certification and any additional conditions listed below.

Conditions of Certification:

1. Compensatory mitigation for permanent impacts to jurisdictional wetlands is required. We understand that you have chosen to perform compensatory mitigation for 2.73 acres impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated April 15, 2021 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.
2. Compensatory mitigation for impacts to 35753 square feet of protected riparian buffers in Zone 1 and 18491 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC .02B .0295. The DMS has indicated in a letter dated July 3, 2019 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.
3. Compensatory mitigation for 508 linear feet of impact to perennial streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated July 3, 2019 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
4. Channel relocations shall be completed and stabilized, and approved by NCDWR staff, prior to diverting water into the new channel. Stream banks shall be matted with coir-fiber matting. Vegetation used for bank stabilization shall be limited to native riparian vegetation, and should include establishment of a vegetated buffer on both sides of the relocated channel to the maximum extent practical. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills. [15A NCAC 02H .0506(b)(3)]
5. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]



6. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
7. Riprap shall not be placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
8. All streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species. [15A NCAC 02H.0506(b)(2)]
9. Stream channels shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
10. At locations where ponds will be drained, proper measures will be taken to drain the pond with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with NC Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. [15A NCAC 2H.0506(b)(3)]
11. All portions of the proposed project draining to 303(d) listed impaired watersheds shall be designed, constructed, and operated with sediment and erosion control measures that meet Design Standards in Sensitive Watersheds (15A NCAC 4B .0124). However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres.
12. All portions of the proposed project draining to 303(d) listed impaired watersheds shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.
13. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 2B.0233]
14. Pursuant to 15A NCAC 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
15. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 2B.0233]
16. 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]
17. 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)]
18. 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)]
19. 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)]



20. 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) and (c)(2)]
21. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
22. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
23. 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)]
24. 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)]
25. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
26. 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]
27. 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)]
28. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
29. 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.
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. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
32. Native riparian vegetation (ex. list herbaceous, trees, and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0233(10)] & [15A NCAC 02B.0506(b)(2)]
33. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]



34. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

35. 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) and (c)(3)]

36. 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]

37. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified 303(d) impaired, 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]

This approval and its conditions are final and binding unless contested. [G.S. 143-215.5] Please be aware that by having impacted waters without first applying for and securing the issuance of a 401 Water Quality Certification, you have violated 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.

One (1) copy of the Petition must also be served to the North Carolina Department of Environmental Quality:

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



This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act and 15A NCAC 2H.0500. If you have any questions, please contact Rob Ridings at rob.ridings@ncdenr.gov.

Sincerely,

DocuSigned by:
Amy Chapman
9C9886312DCD474...
S. Daniel Smith, Director
Division of Water Resources

Electronic copy only distribution:

Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Heather Montague, Division 5 Environmental Officer
Chris Rivenbark, NC Department of Transportation
Beth Harmon, Division of Mitigation Services
File Copy

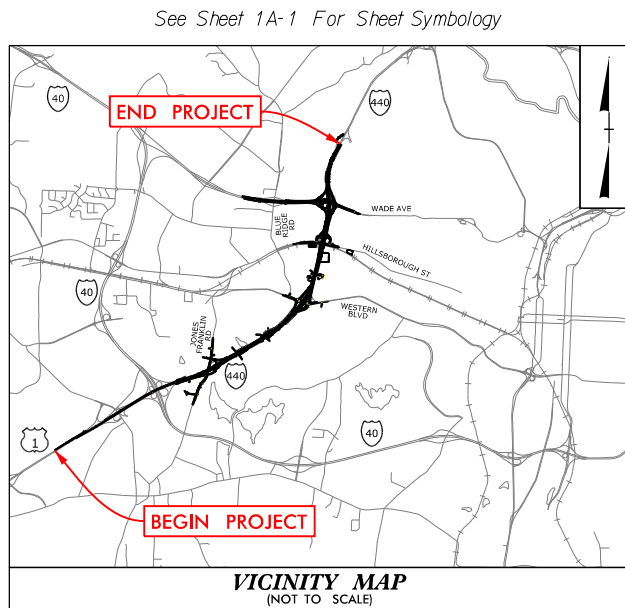


Submitted 4/23/2021

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

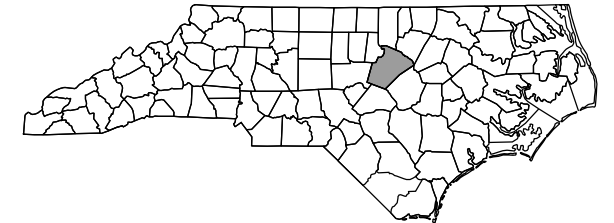
WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2719	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35869.3.1	IMSNHS-0440(10)	PE, ROW, UTILITIES	
35868.3.4	STBG-0054(030)	& CONSTR.	



LOCATION: I-440 /US 1 FROM SOUTH OF SR 1313 (WALNUT STREET) TO NORTH OF SR 1728 (WADE AVENUE)

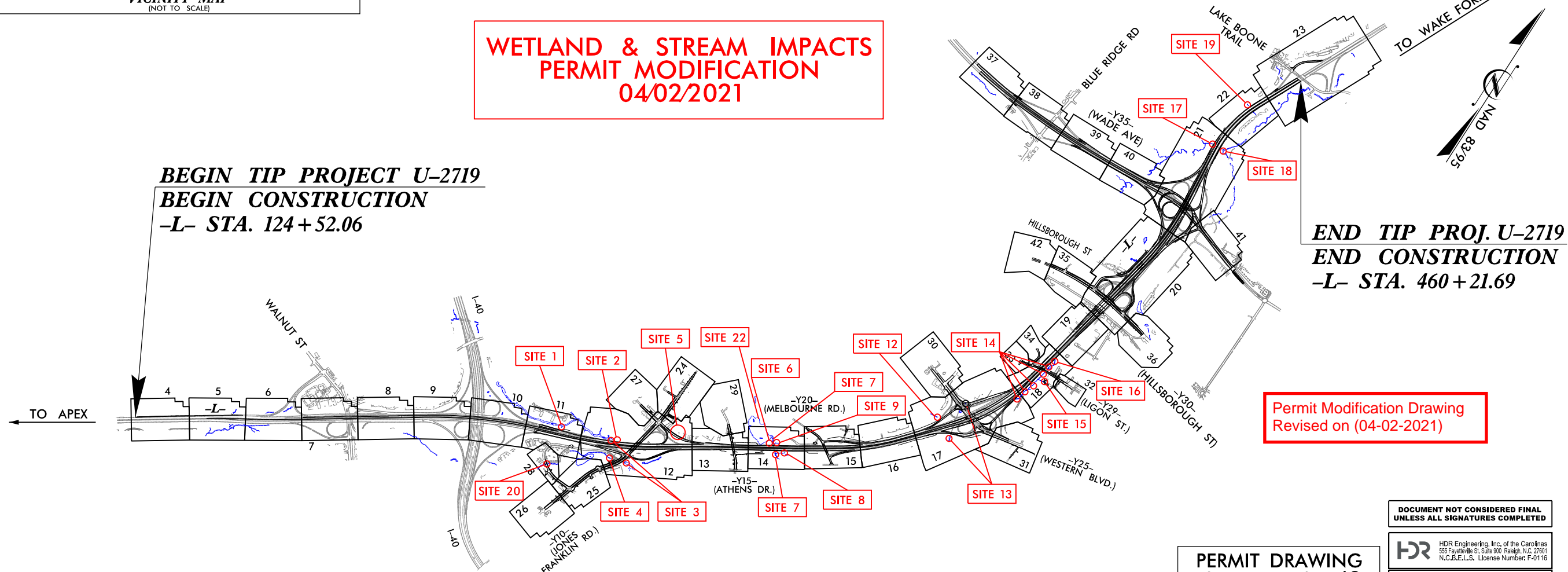
TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS



WETLAND & STREAM IMPACTS PERMIT MODIFICATION 04/02/2021

**BEGIN TIP PROJECT U-2719
BEGIN CONSTRUCTION
-L- STA. 124 + 52.06**

**END TIP PROJ. U-2719
END CONSTRUCTION
-L- STA. 460 + 21.69**



Permit Modification Drawing Revised on (04-02-2021)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 1 OF 48

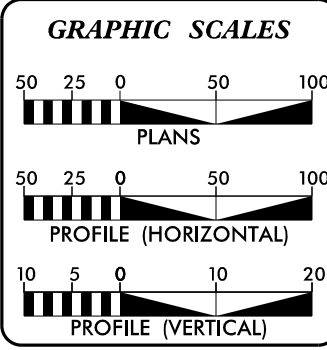
HDR HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

LANE

TIP PROJECT: U-2719 /U-4437

CONTRACT: C204157

PLOT DRIVER: NCDOT_pof_color_eng_100.plt
USER: NWOMACK
DATE: 4/5/2021
TIME: 12:12:31 PM
FILE: Lane_Construction_Corp\Lane_I-440_Widening\6.0_CAD_BIM\6.2_WIP-U-2719\Hydraulics\PERMITS_Environmental\Drawings\U2719_PRM_WET_TSH.dgn



DESIGN DATA

ADT 2018 =	144,810
ADT 2040 =	183,700
K =	10 %
D =	55 %
T =	9 % *
V =	70 MPH
* TTST =	5% DUAL = 4%
FUNC CLASS =	INTERSTATE STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2719 /U-4437 =	6.087 MILES
LENGTH STRUCTURES TIP PROJECT U-2719 /U-4437 =	0.162 MILES
TOTAL LENGTH TIP PROJECT U-2719 /U-4437 =	6.249 MILES

NCDOT CONTACT: **DAVID HERING, PE**
DESIGN-BUILD UNIT - PROJECT ENGINEER

Prepared for the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 2, 2018

LETTING DATE:
OCTOBER 2, 2018

PAUL MEEHAN, PE
PROJECT ENGINEER

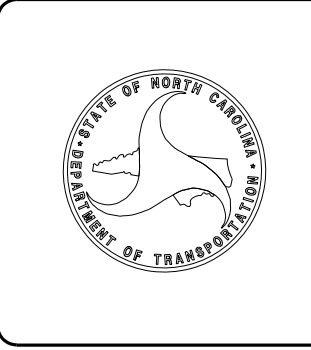
ERSKINE BROOKS, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



LANE

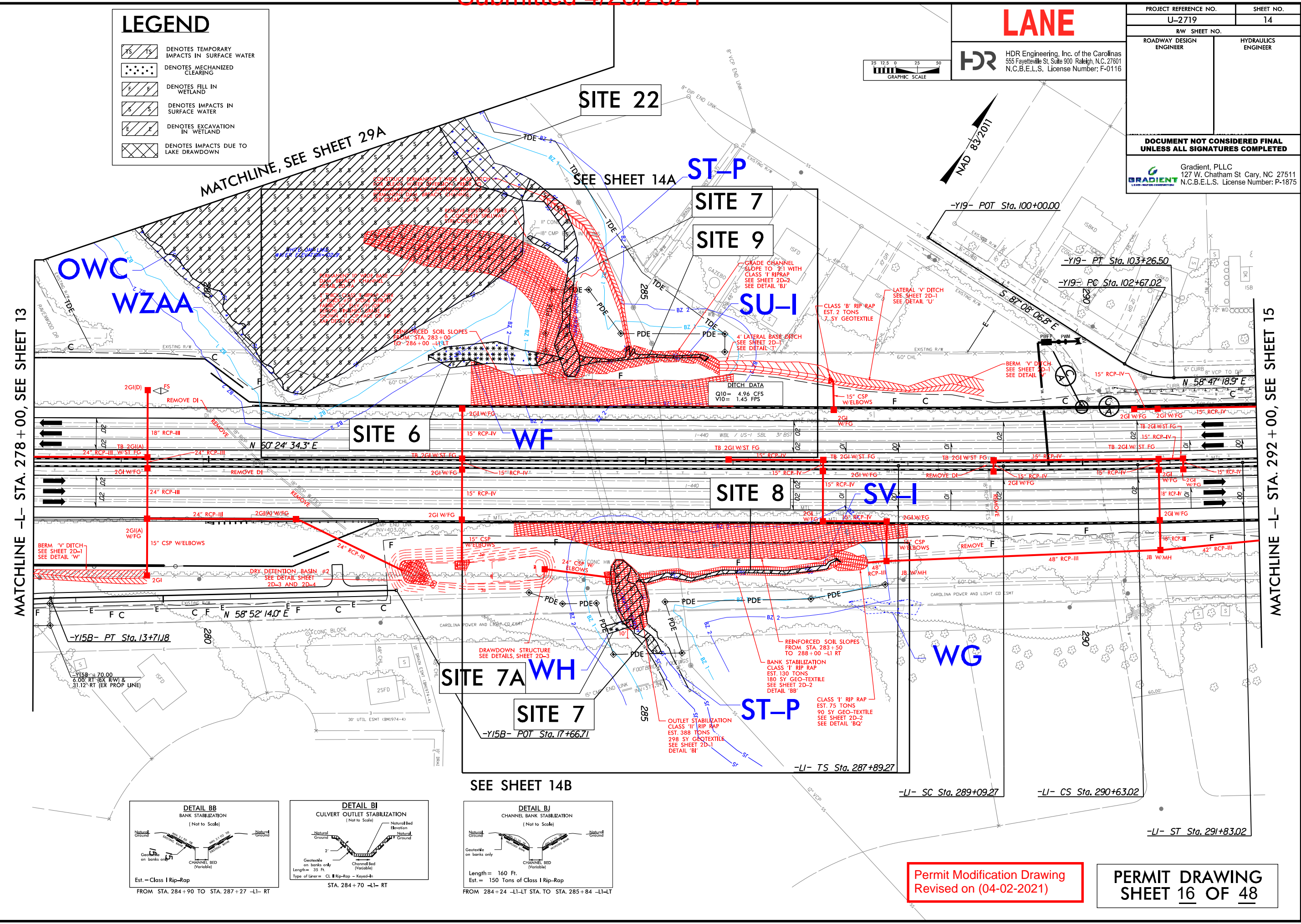


HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO.	SHEET NO.
U-2719	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Gradiant, PLLC 127 W. Chatham St Cary, NC 27511 N.C.B.E.L.S. License Number: P-1875	

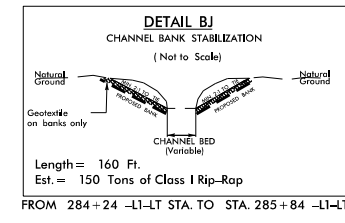
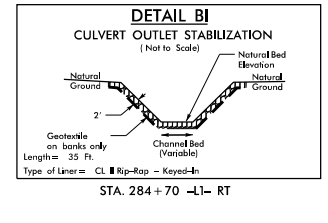
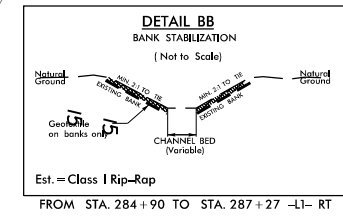
LEGEND

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES IMPACTS DUE TO LAKE DRAWDOWN



MATCHLINE -L- STA. 278 + 00, SEE SHEET 13

MATCHLINE -L- STA. 292 + 00, SEE SHEET 15



Permit Modification Drawing
Revised on (04-02-2021)

PERMIT DRAWING
SHEET 16 OF 48

PLOT DRIVER: NCDOT_permitting.ncocon.tbl
 USER: CMYERS
 FILE: Lane_Construction_Corp\lane_I-440_Widening\6.0_CAD_BTM\6.2_WTP-U-2719\Hydraulics\PERMITS_Envr\environmental\Drawings\U2719-U4437_PRR_PSH.dgn
 PENTABLE: NCDOT_permitting.ncocon.tbl
 TIME: 12:07:44 PM
 DATE: 4/5/2021

LEGEND

- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING
- SS SS DENOTES FILL IN WETLAND
- SS SS DENOTES IMPACTS IN SURFACE WATER
- SS SS DENOTES EXCAVATION IN WETLAND
- SS SS DENOTES IMPACTS DUE TO LAKE DRAWDOWN

LANE

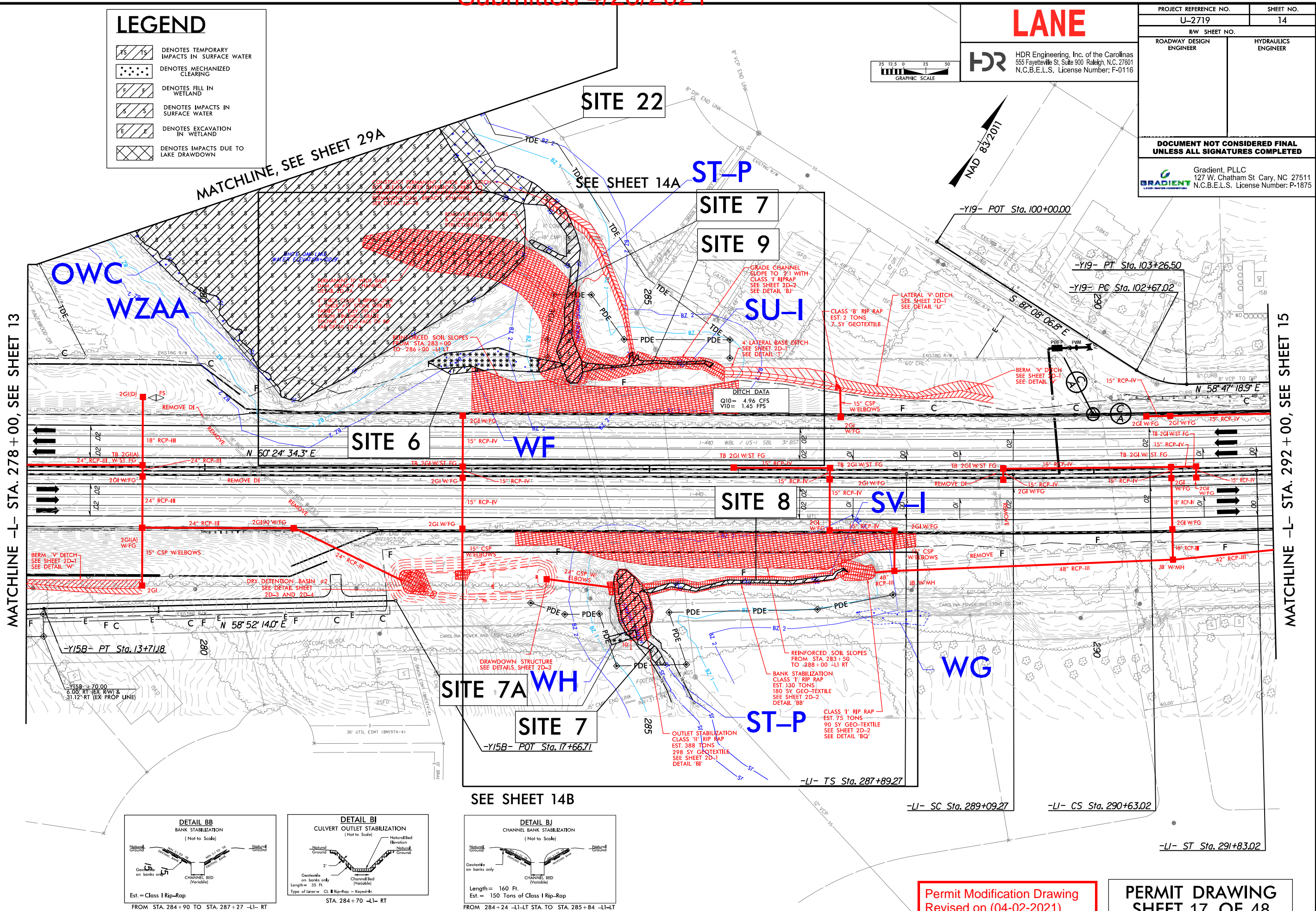


HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. U-2719	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

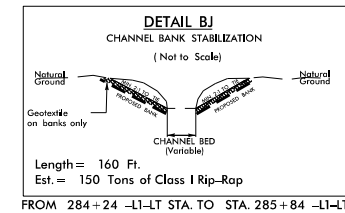
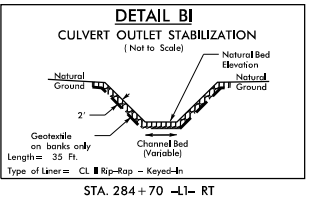
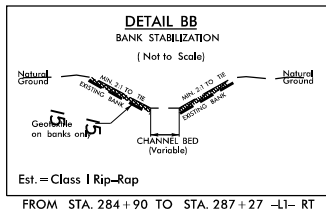
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Gradient, PLLC
127 W. Chatham St Cary, NC 27511
N.C.B.E.L.S. License Number: P-1875



MATCHLINE -L- STA. 278 + 00, SEE SHEET 13

MATCHLINE -L- STA. 292 + 00, SEE SHEET 15



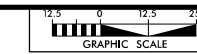
Permit Modification Drawing Revised on (04-02-2021)

PERMIT DRAWING SHEET 17 OF 48

PLOT DRIVER: NCDOT_color_eng_100.plt
USER: CMYERS
FILE: Lane_Construction_Corp\lane_I-440_Widening\6.0_CAD_BTM\6.2_WTP-U-2719\Hydraulics\PERMITS_Envr\environmental\Drawings\U2719-U4437_PRR_PSH.dgn

PENTABLE: NCDOT_permits.CON.tbl
TIME: 12:22:27 PM
DATE: 4/5/2021

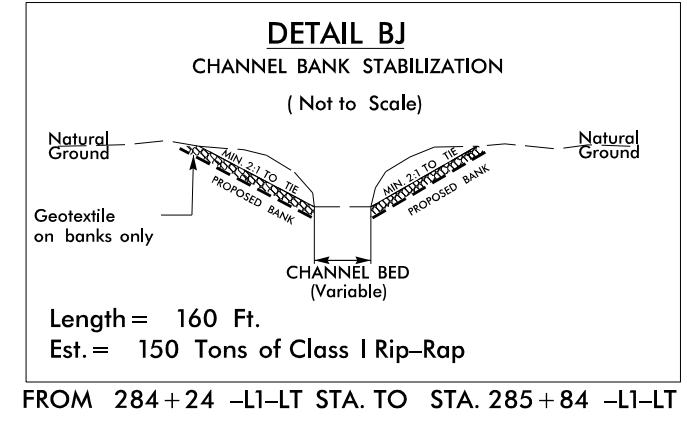
REVISIONS



PROJECT REFERENCE NO. U-2719	SHEET NO. 14A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
HDR Engineering, Inc. of the Carolinas 555 Fayetteville St. Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116	
LANE	

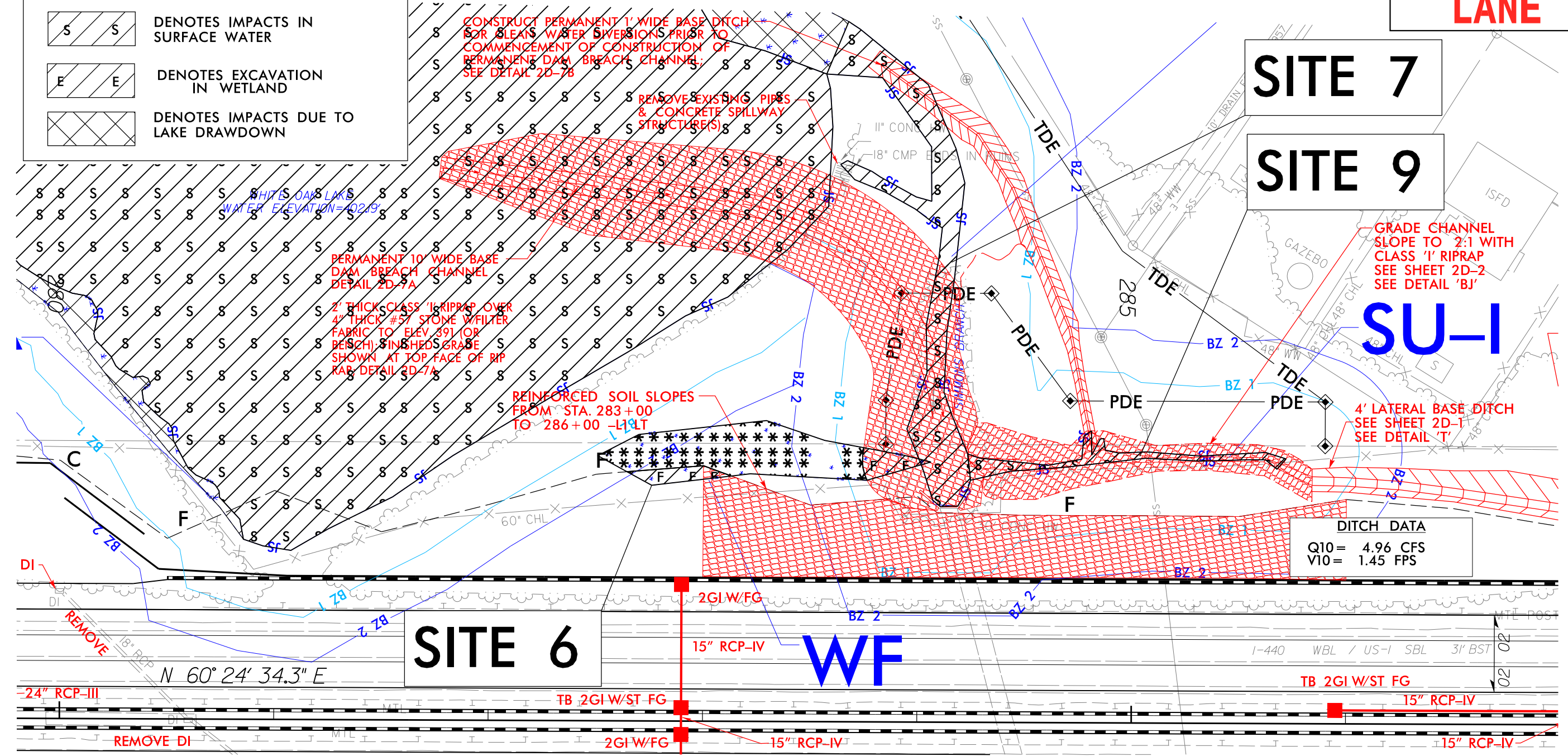
LEGEND

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES EXCAVATION IN WETLAND
- DENOTES IMPACTS DUE TO LAKE DRAWDOWN



SITE 7

SITE 9



Permit Modification Drawing
Revised on (04-02-2021)

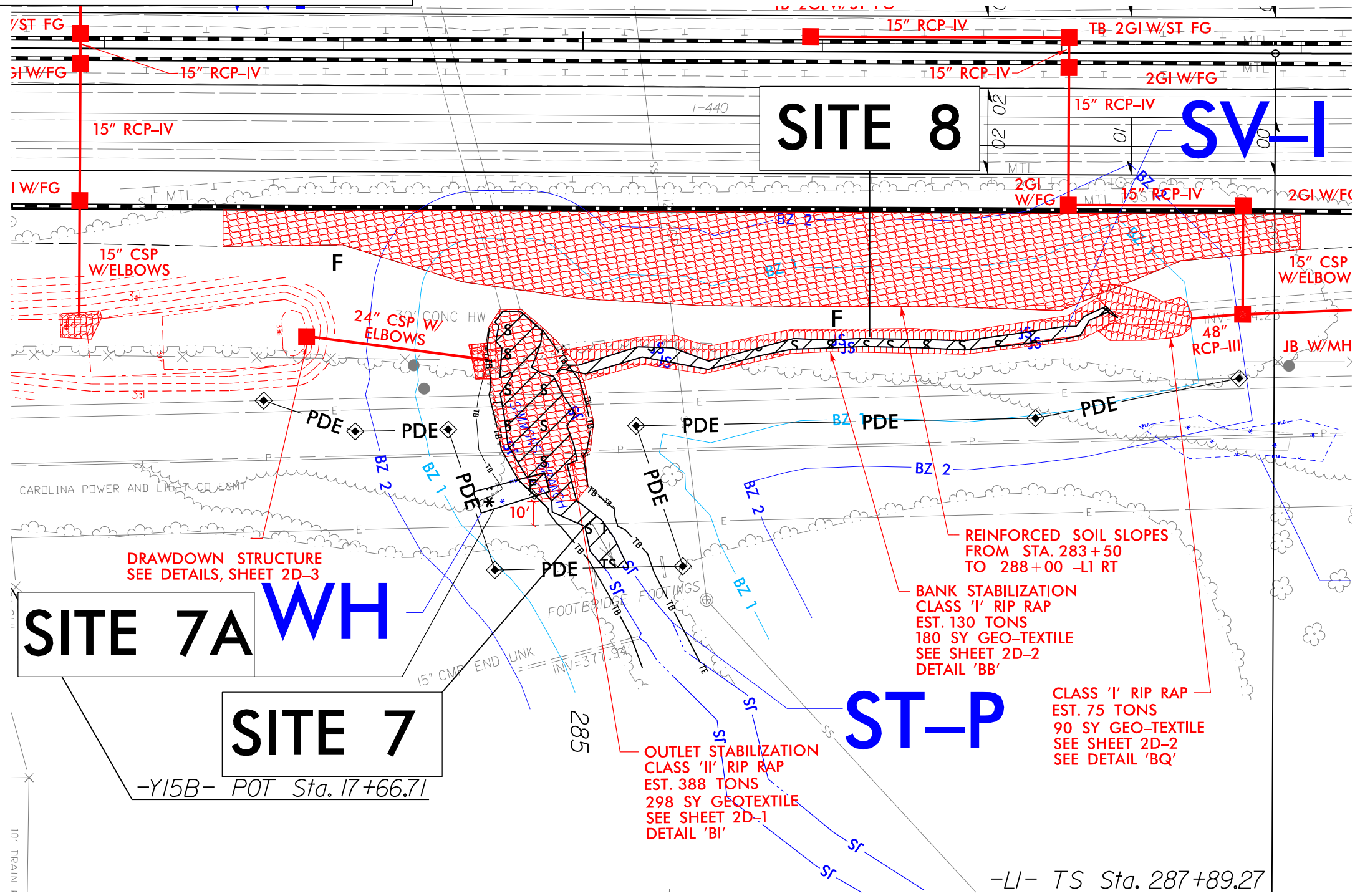
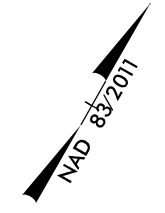
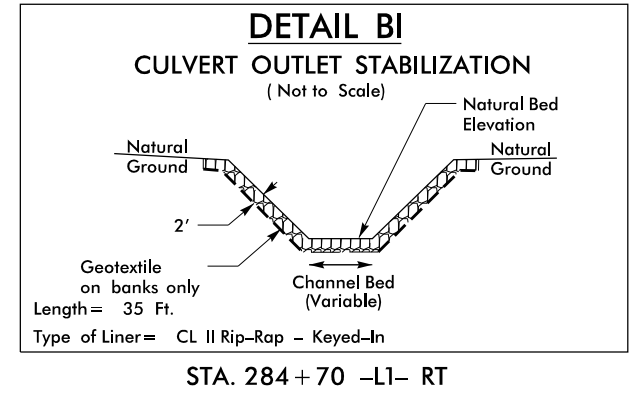
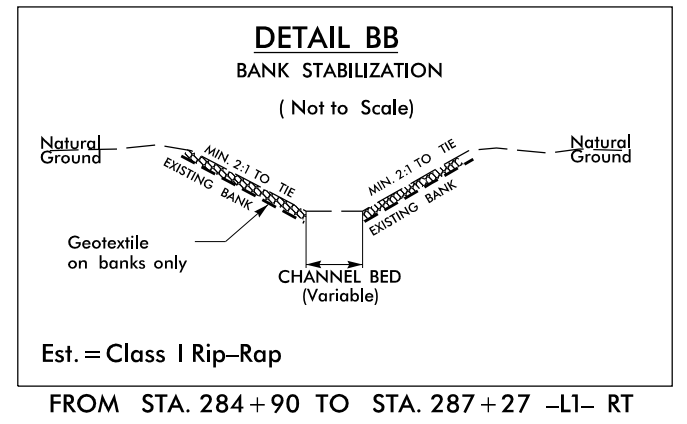
PERMIT DRAWING
SHEET 18 OF 48

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: CMYERS
 FILE: Lone_Construction_Corp\lane_1-440_widening\6.0_CAD_BTM\6.2_WTP-U-2719\Hydraulics\PERMITS_Envr\environmental\Drawings\U2719-U4437_PRRM_PSH.dgn
 PENTABLE: NCDOT_permits.NCON.tbl
 TIME: 12:10:11 PM
 DATE: 4/5/2021
 REVISIONS

LANE

LEGEND

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



SITE 7A WH
SITE 7
-Y15B- POT Sta. 17+66.71

SITE 8

SV-I

ST-P

-L1- TS Sta. 287+89.27

PERMIT DRAWING
SHEET 19 OF 48

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: CMYERS
 FILE: Lone_Construction_Corp_Lane_I-440_Widening_V6.0_CAD_BIM_V6.2_WTP-U-2719-Hydraulics_PERMITS_Environmental_Dr-awings_U2719-U4437_PRRM_PSH.dgn
 PENTABLE: NCDOT_permits.NCON.tbl
 TIME: 2:45:12 PM
 DATE: 3/22/2021
 REVISIONS

LANE

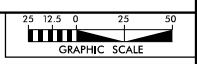


HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. U-2719	SHEET NO. 29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

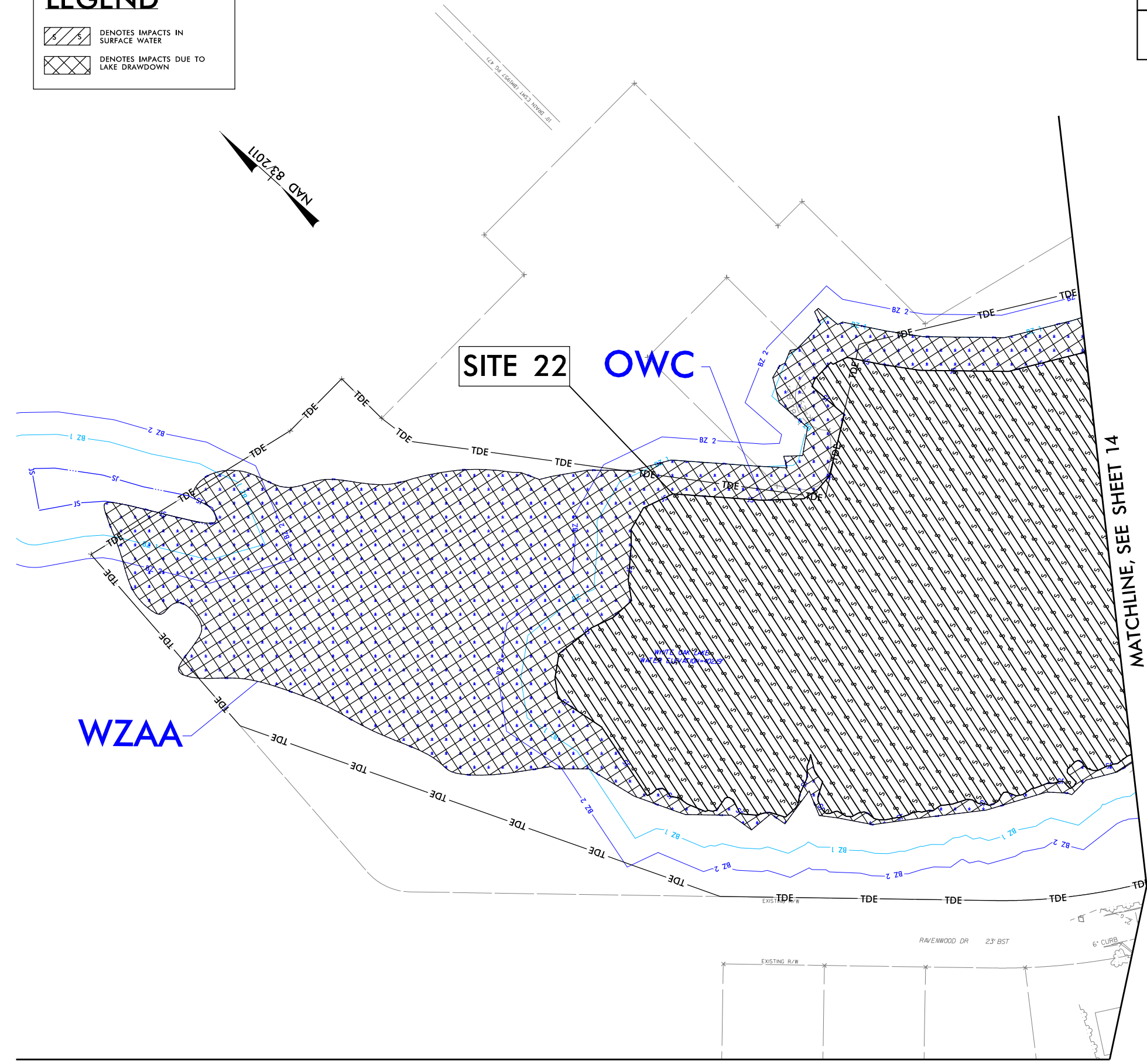
Gradient, PLLC
127 W. Chatham St Cary, NC 27511
N.C.B.E.L.S. License Number: P-1875



LEGEND

DENOTES IMPACTS IN SURFACE WATER

DENOTES IMPACTS DUE TO LAKE DRAWDOWN



PLOT DRIVER: NCDOT_permit_color_eng_100.plt
 USER: CMYERS
 FILE: Lone_Construction_Corp\lone_I-440_Widening\6.0_CAD_BITMAP\6.2_WTP-U-2719\Hydraulics\PERMITS_Environmental\Drawings\U2719-U4437_PRRM_PSH.dgn

REVISIONS

REV 001 - 10/27/2020: NEW SHEET; ADDED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.
 REV 002 - 02/17/2021: REVISED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.

Permit Modification Drawing
Revised on (04-02-2021)

**PERMIT DRAWING
SHEET 17A OF 48**

SEE SHEET NO. 71 FOR -Y15A- PROFILE

LANE

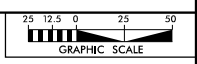


HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. U-2719	SHEET NO. 29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

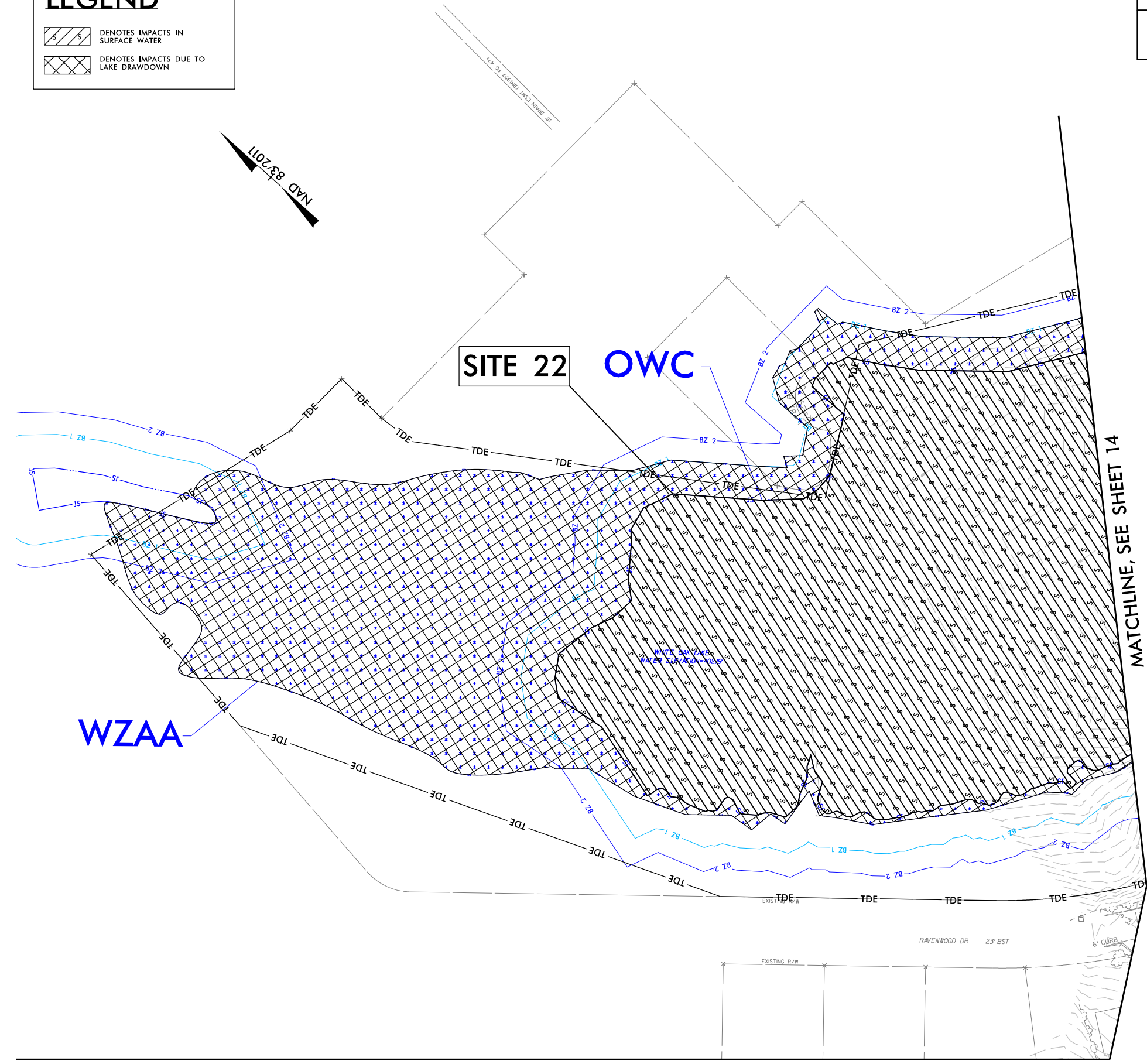
Gradient, PLLC
127 W. Chatham St Cary, NC 27511
N.C.B.E.L.S. License Number: P-1875



LEGEND

DENOTES IMPACTS IN SURFACE WATER

DENOTES IMPACTS DUE TO LAKE DRAWDOWN



PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: CMYERS
 FILE: Lone_Construction_Corp\lone_I-440_Widening\6.0.CAD.BTM\6.2.WTP\U-2719\Hydraulics\PERMITS_Environmental\Drawings\U2719-U4437_PRRM_PSH.dgn

REVISIONS

REV 001 - 10/27/2020: NEW SHEET; ADDED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.
 REV 002 - 02/17/2021: REVISED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.

Permit Modification Drawing
Revised on (04-02-2021)

**PERMIT DRAWING
SHEET 17B OF 48**

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	SAK - 230+75 -L1A- Lt	Rip Rap at 18" Outlet						< 0.01	< 0.01	7	10	
2	WK - 244+95 -L1A- Lt	Lateral Ditch				0.01						
3	SX - 245+72 -L1A-	Culvert Clean Out						< 0.01	0.03	9	41	
3	SX - 245+72 -L1A-	Bank Stabilization						0.03	0.09	93	97	
4	SW - 41+85 -Y10- Rt	Rip Rap in Stream							0.03		112	
5	OWD - 21+50 -Y10RPA-	Draining/Filling Pond						1.25				
6	WF - 282+90 -L1- Lt	Roadway Fill	0.01			0.05						
7	ST - 284+75 -L1- Rt	Outlet Stabilization						0.04	< 0.01	97	22	
7	ST- 584+75 -L1- Lt	Inlet Stabilization						0.08		298		
7A	WH-284+75 -L1- RT	Outlet Stabilization	< 0.01			< 0.01						
8	***SV - 286+00 -L1- Rt	Bank Stabilization						0.02		244		
9	SU - 284+50 -L1- Lt	Fill/Stabilization						0.01		147		
12	SS - 17+50 -Y25RB- Lt	Channel Imp./Bank Stab.						0.01	0.01	34	65	
13	SR -16+20 -Y25RC- Rt	Roadway Fill/Outlet Stab.						0.04	0.01	117	50	
14	**SO - 15+79 -Y25RD-	Roadway Fill/Outlet Stab.						0.05	< 0.01	388	40	
14	to 364+68 -L2RT- Rt	Bank Stabilization						0.01	< 0.01	85	70	
14	Utilities	Bank Stabilization						< 0.01		35		
15	SP - 11+90 -Y29E-	30" CSP						< 0.01	< 0.01	56	10	
16	SN - 365+75 -L3- Rt	36" WSP & 36" CSP						0.01	< 0.01	70	24	
17	SC - 433+33 -L3-	8' x 8' Culvert Extension/Stab.						0.04	< 0.01	97	40	
18	SAN - 433+00 -L3- Rt	Lateral Ditch						0.01	< 0.01	31	39	
19	SE - 466+00 -L3-	48" RCP Extension						< 0.01	< 0.01	29	22	
SHEET TOTALS*:			0.01			0.07		1.62	0.21	1837	642	0

*Rounded totals are sum of actual impacts

NOTES:

**Stream SO is being daylighted for approx. 825 LF that was previously being piped through a 66" RCP.

***Streams SV banks are being stabilized due to existing stream erosion along the banks.

Site 10 and 11 removed due to revised delineation.

Permit Modification
Revised on (04-02-2021)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
04-02-2021
Wake County
U-2719
35869.3.1

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
20	SW - 18+75 -Y9-	14x7 RCBC						0.02		98		
20	SW - 18+75 -Y9-	Bank Stabilization						0.02	< 0.01	65	18	
22	OWC- 280+00 -284+00 -L1- RT	Pond Dam Breach						5.10				
		TOTAL SHEET 1	0.01			0.07		1.62	0.21	1837	642	
PROJECT TOTALS*:			0.01			0.07		6.76	0.22	2000.00	660.00	

*Rounded totals are sum of actual impacts

NOTES:

Site 22 wetland WZAA along OWC are shown as impacted due to lake drawdown. Impact area is 2.65 ac.

Permit Modification
Revised on (04-02-2021)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
4-02-2021
Wake County
U-2719
35869.3.1

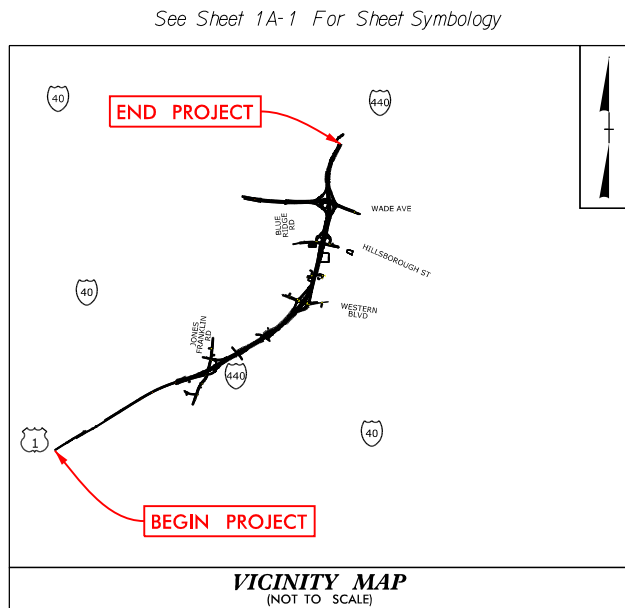
SHEET **48** OF **48**

Submitted 4/23/2021

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

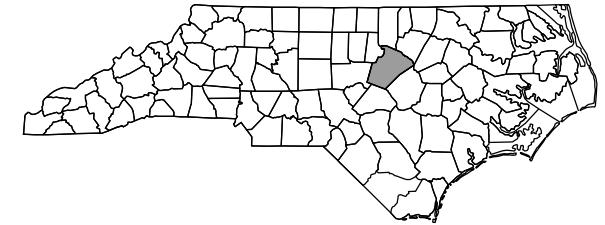
WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2719	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35869.3.1	IMSNHS-0440(10)	PE, ROW, UTILITIES	
35868.3.4	STBG-0054(030)	& CONSTR.	



LOCATION: I-440 / US 1 FROM SOUTH OF SR 1313 (WALNUT STREET) TO NORTH OF SR 1728 (WADE AVENUE)

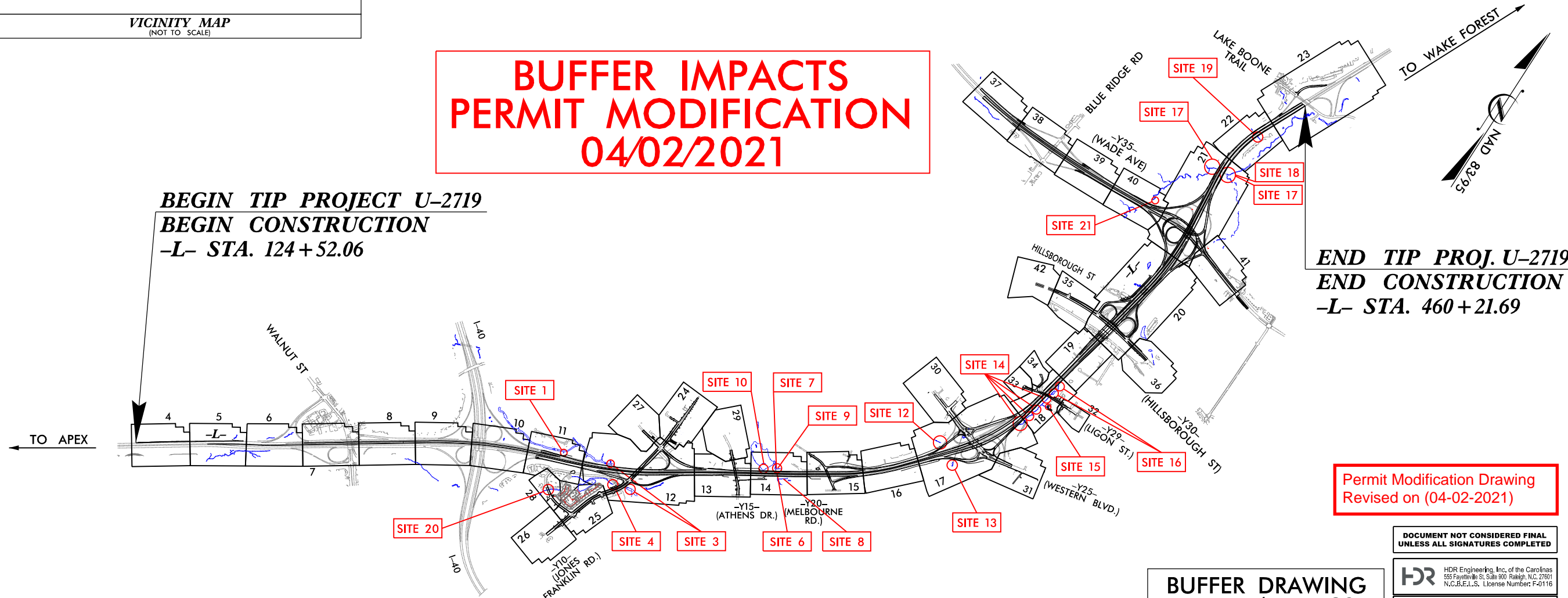
TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS



BUFFER IMPACTS PERMIT MODIFICATION 04/02/2021

**BEGIN TIP PROJECT U-2719
BEGIN CONSTRUCTION
-L- STA. 124 + 52.06**

**END TIP PROJ. U-2719
END CONSTRUCTION
-L- STA. 460 + 21.69**



**Permit Modification Drawing
Revised on (04-02-2021)**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

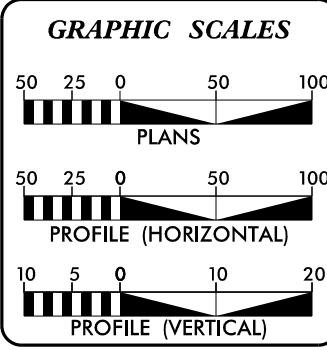
**BUFFER DRAWING
SHEET 1 OF 23**

LANE

TIP PROJECT: U-2719 / U-4437

CONTRACT: C204157

PLOT DRIVER: NCDOT_pof_color_eng_100.plt
USER: NWOMACK
DATE: 4/5/2021
FILE: Lane_Construction_Corp\Lane_I-440_Widening\6.0_CAD_BIM\6.2_WIP-U-2719\Hydraulics\PERMITS_Environmental\Drawings\Buffers\U2719_PPM_BUF_TSH.dgn



DESIGN DATA

ADT 2018 =	144,810
ADT 2040 =	183,700
K =	10 %
D =	55 %
T =	9 % *
V =	70 MPH
* TTST =	5% DUAL = 4%
FUNC CLASS =	INTERSTATE STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2719 /U-4437 =	6.087 MILES
LENGTH STRUCTURES TIP PROJECT U-2719 /U-4437 =	0.162 MILES
TOTAL LENGTH TIP PROJECT U-2719 /U-4437 =	6.249 MILES

NCDOT CONTACT: **DAVID HERING, PE**
DESIGN-BUILD UNIT - PROJECT ENGINEER

Prepared for the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 2, 2018

LETTING DATE:
OCTOBER 2, 2018

PAUL MEEHAN, PE
PROJECT ENGINEER

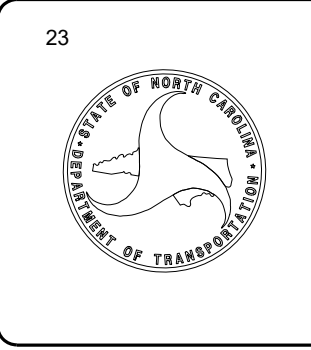
ERSKINE BROOKS, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



LEGEND

- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 1
- EXISTING TRANSPORTATION FACILITY

LANE

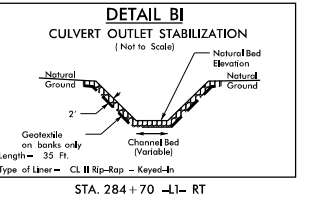
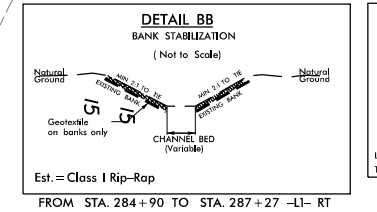
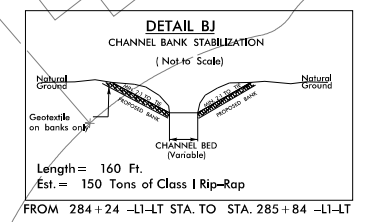
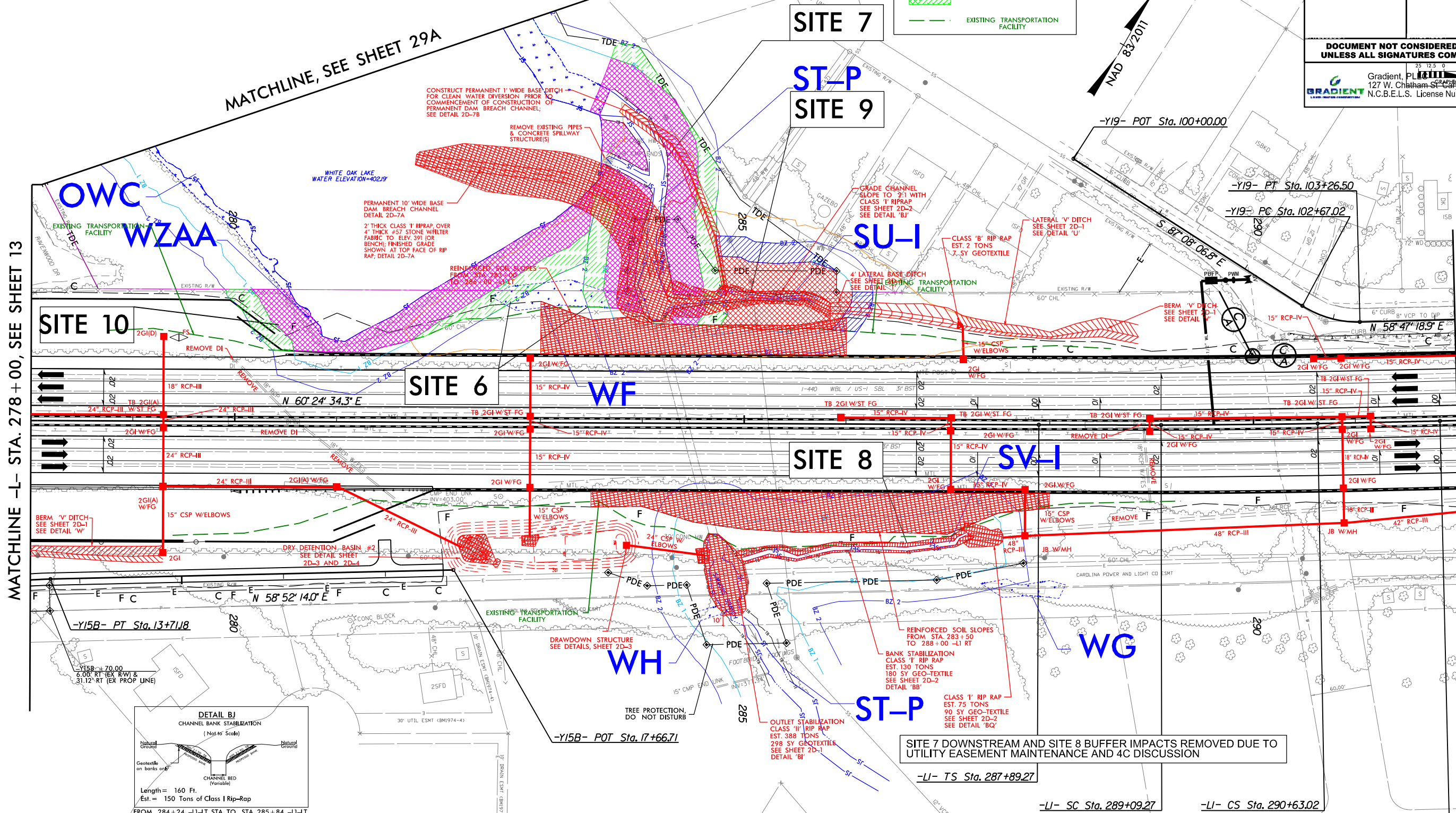
HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. U-2719	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Gradient, PL 1111 127 W. Chatham St., Cary, NC 27511 N.C.B.E.L.S. License Number: P-1875	

MATCHLINE, SEE SHEET 29A

MATCHLINE -L- STA. 278 + 00, SEE SHEET 13

MATCHLINE -L- STA. 292 + 00, SEE SHEET 15



SITE 7 DOWNSTREAM AND SITE 8 BUFFER IMPACTS REMOVED DUE TO UTILITY EASEMENT MAINTENANCE AND 4C DISCUSSION

Permit Modification Drawing
Revised on (04-02-2021)

BUFFER DRAWING
SHEET 7 OF 23

REVISIONS
 PENTABLE: NCDOT_permits_ncon.tbl
 TIME: 12:50:30 PM
 DATE: 4/15/2021
 USER: CMYERS
 FILE: Lane_Construction_Corp\lane_I-440_widening\6.0_CAD_BITMAP\6.2_WTP_U-2719\Hydraulics\PERMITS_Envr\environmental\Drawings\Buffer\U2719-U4437-BUF_PSH.dgn

LANE

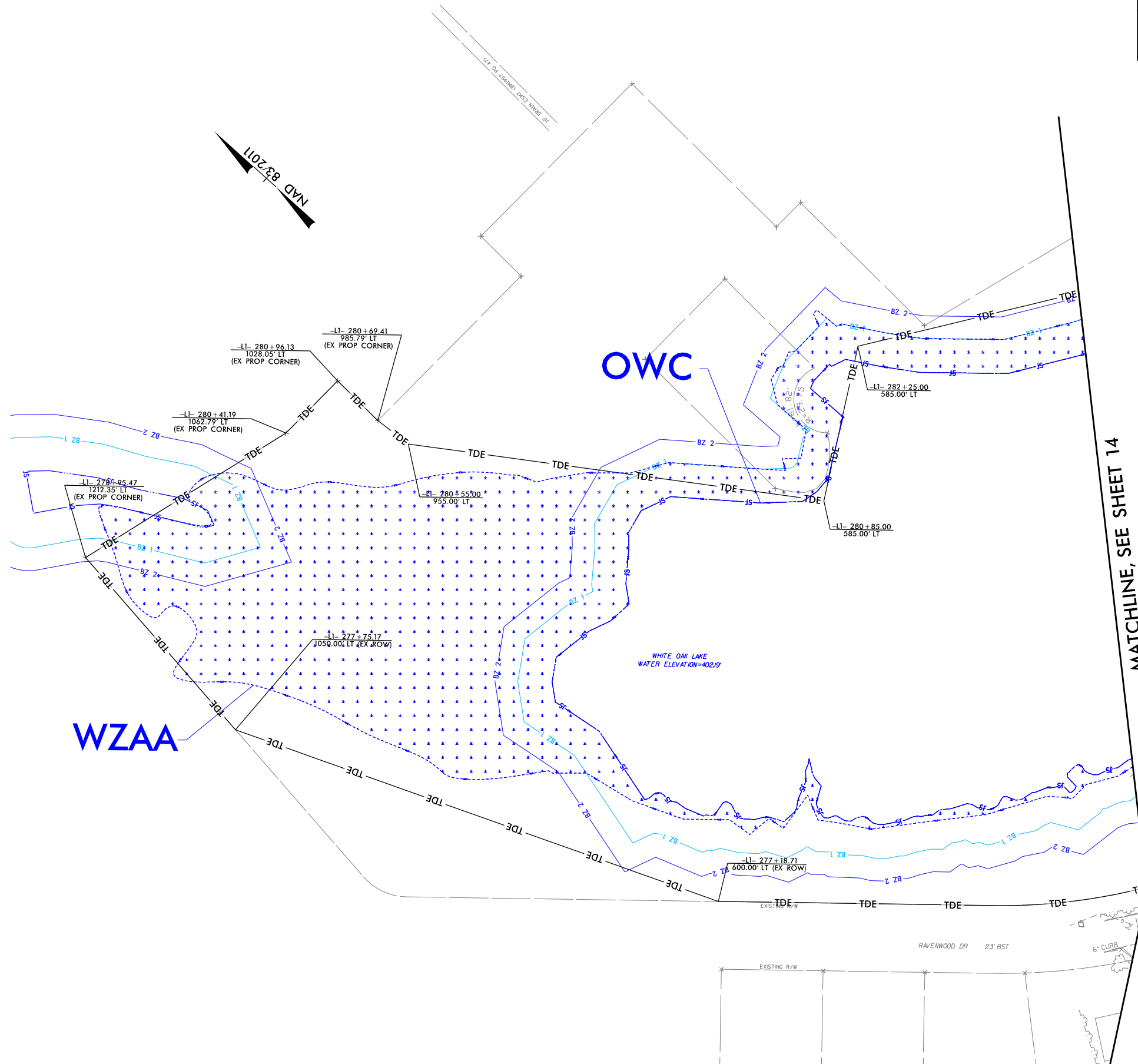


HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO. U-2719	SHEET NO. 29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Gradient, PLLC
127 W. Chatham St Cary, NC 27511
N.C.B.E.L.S. License Number: P-1875



MATCHLINE, SEE SHEET 14

MATCHLINE, SEE SHEET 29

BUFFER DRAWING
SHEET 7A OF 23

SEE SHEET NO. 71 FOR -Y15A- PROFILE

PLOT DRIVER: NCDOT_color_eng_100.plt
 USER: CMYERS
 FILE: Lone_Construction_Corp\Lane_I-440_Widening\6.0_CAD_BTM\6.2_WTP\U-2719\Hydraulics\PERMITS_Environmental\Drawings\Buffers\U2719-U4437-BUF_PSH.dgn
 PENTABLE: NCDOT_permits_NCON.tbl
 TIME: 3:02:40 PM
 DATE: 3/19/2021
 REV 001 - 10/27/2020: NEW SHEET; ADDED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.
 REV 002 - 02/17/2021: REVISED TDE ON PARCEL 71 AROUND WHITE OAK LAKE.

REVISIONS

RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	SAK - 230+75 -L1A- Lt	Rip Rap at 18" Outlet	X			1272		1272					
3	SX - 245+72 -L1A-	Culvert Clean Out	X			1753	212	1965					
		Bank Stabilization	X			3612	1923	5535					
4	SW - 41+85 -Y10- Rt	Rip Rap in Stream			X	5604	4248	9852	3711		3711		
6	WF				X								
7	ST - 284+75 -L1- Lt	Inlet Stabilization	X			14399	6548	20947					
8**	SV - 286+00 -L1- Rt												
9	SU - 284+50 -L1- Lt	Fill/ Stabilization			X				6639	2738	9377		
10	OWC- 280+00 -284+00 -L1- Lt	Pond Dam Breach			X	10337	4597	14934					
12	SS - 17+50 -Y25RB- Lt	Channel Imp./Bank Stab.	X			6199	3968	10167					
13	SR -16+20 -Y25RC- Rt	Roadway Fill/Outlet Stabilization	X						7989	6169	14158		
14	SO - 15+79 -Y25RD-	Roadway Fill	X		X	6846	1384	8230	14827	7423	22250		
	SO - 360+64 -L2RT-	8" SS				4075	1396	5471					
15	SP - 11+90 -Y29E-	30" CSP	X			3767	3730	7497					
16	SN - 365+75 -L3- Rt	36" WSP & 36" CSP			X	3379	367	3746	775	206	981		
17	SC - 433+33 -L3-	8' x 8' Culvert Extension/Stab.	X			3660	1592	5252					
18	SAN - 433+00 -L3- Rt	2' Base Lateral Ditch			X				3035	2070	5105		
19	SE - 466+00 -L3-	48" RCP Extension	X			2179	926	3105					
20	SW - 18+75 -Y9-	14' x 7' RCBC	X			5515	3172	8687					
21	SC - 38+70 -Y35RA- Rt	Bank Stabilization			X				433	406	839		
TOTALS*:						72597	34063	106660	37409	19012	56421	0	0

NOTES:

** SITE 7 DOWNSTREAM SITE 8 BUFFER IMPACTS REMOVED DUE TO UTILITY EASEMENT MAINTENANCE AND 4C DISCUSSION

Permit Modification
Revised on (04-02-2021)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

04/02/2021

WAKE COUNTY

U-2719

35869.3.1

SHEET 22 OF 23

WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)	WETLANDS IN BUFFERS	
		ZONE 1 (ft ²)	ZONE 2 (ft ²)
6	WF	392	876
10	WZAA	348	
TOTAL:		740	876

Permit Modification
Revised on (04-02-2021)

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
04/02/2021
WAKE COUNTY
U-2719
35869.3.1

SHEET **23** OF **23**