



PAT McCrory
Governor

NICHOLAS J. TENNYSON
Secretary

January 14, 2016

Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403

ATTN: Mr. Brad Shaver
NCDOT Coordinator

Dear Sir:

Subject: **Application for a Section 404 Nationwide Permits 23, 13, and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 163 over Mulberry Branch (Swamp) on SR 1349 (Bridgers Rd) in Brunswick County, North Carolina; TIP No. B-4440; Federal Aid Project No. BRZ-1349 (1);

The North Carolina Department of Transportation (NCDOT) proposes to replace the 41-foot, 2-span Bridge No. 163 with an 85-foot, 2-span bridge. Bridge No. 163 will be replaced on the existing alignment while traffic will be detoured off-site during construction. Permanent impacts to riparian wetlands are 0.08 acre.

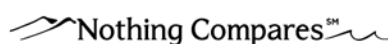
Please see enclosed copies of the Pre-Construction Notification (PCN), Jurisdictional Determination Form, stormwater management plan, utility drawings, and roadway plans for the above referenced project. The Programmatic Categorical Exclusion (PCE) was completed in October 2012 and distributed shortly thereafter. Additional copies are available at the NCDOT website: <http://207.4.62.65/PDEA/EnvironmentalDocs/>.

This project calls for a letting date of August 16, 2016 and a review date of June 28, 2016. The project schedule may be advanced if funding becomes available.

Regulatory Approvals

Section 404 Permit: This project was processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that the project be authorized by NW 23 for bridge construction and NW 13 for bank stabilization.

Section 401 Permit: We anticipate 401 General Certification numbers 3891 and 3885 will apply to this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental and Natural Resources, Division of Water Resources.



CAMA Major Permit: An application for a CAMA Major Development Permit for this project will be request under a separate letter.

A copy of this permit application and its distribution list will be posted at the NCDOT Website at <https://connect.ncdot.gov/resources/Environmental>. If you have any questions or need additional information, please contact John Merritt at jsmerritt@ncdot.gov or (919) 707-6140.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Hancock', with a long horizontal flourish extending to the right.

for

Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List



Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit <input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 13	or General Permit (GP) number:
1c. Has the NWP or GP number been verified by the Corps?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply): <input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> Riparian Buffer Authorization	
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 163 over Mulberry Branch (Swamp) on SR 1349 (Bridgers Rd)
2b. County:	Brunswick
2c. Nearest municipality / town:	Shallotte
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4440

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6140
3g. Fax no.:	(919) 250-4224
3h. Email address:	jsmerritt@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify:
4b. Name:	<i>not applicable</i>
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	<i>not applicable</i>
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 33.977221 (DD.DDDDDD) Longitude: -78.399292 (-DD.DDDDDD)
1c. Property size:	6.80 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Mulberry Branch
2b. Water Quality Classification of nearest receiving water:	C;Sw
2c. River basin:	Lumber
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Existing conditions at the site include maintained/disturbed roadside shoulder and forested areas. Land use in the project vicinity is predominantly forested with some agriculture, and light residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.57	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 200	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing the 41-foot, 2-span Bridge No. 163 with an 85-foot, 2-span bridge on the existing alignment. Traffic will follow an onsite detour during construction. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Chris Underwood	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. May 11, 2011	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
<input checked="" type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input type="checkbox"/> Buffers		
<input type="checkbox"/> Open Waters		<input type="checkbox"/> Pond Construction				
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	Riverine	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.05	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Excavation	Riverine	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01	
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Mech. Clearing	Riverine	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.03	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
2g. Total wetland impacts					0.08 Permanent	
2h. Comments: - There will be 0.08 acre of hand clearing due to aerial power line						
3. Stream Impacts						
If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.						
3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Bank Stabilization	Mulberry Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ		71
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts					71	
3i. Comments: Impact due to interior bent pile is < 0.01 acre						

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				X Permanent X Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.


6a. Project is in which protected basin?			<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba			<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)		
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
6h. Total buffer impacts							
6i. Comments:							

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge is 44 feet longer than the existing bridge. The removal of existing road fill for longer bridge and increasing bridge opening will improve hydrological conveyance and wildlife passage, and reduce bridge opening velocities.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Construction will be top-down. Best Management Practices for Construction and Maintenance Activities will be implemented.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, explain: Compensatory mitigation is not proposed due to minimal impacts.	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments: EEP acceptance letter forthcoming (request letter attached)		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. Total buffer mitigation required:			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings and stormwater management plan.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NCNHP, USFWS website, field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Richard W. Hancock, P.E. Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	01-14-2016 Date

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

Action Id. **2009 1814**

County: **Brunswick**

U.S.G.S. Quad: **Shalotte**

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: **NCDOT**
Address: **attn: Chris Underwood, NEU**
1598 Mail Service Center
Raleigh, NC 27699-1598

Property description:

Size (acres) **+/- 5**

Nearest Town **Shalotte**

Nearest Waterway **Mulberry Swamp**

River Basin **Lower Pee Dee**

USGS HUC **03040201**

Coordinates **N 33.97713 W 78.39927**

Location description **The site is located along SR 1349 in Shalotte as it crosses Mulberry Swamp at Bridge 163, Brunswick County.**

Indicate Which of the Following Apply:

A. Preliminary Determination

- ☐ Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

- ☐ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- ☒ There are wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

☐ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

☒ The wetland on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years. **The delineation is represented on Figure 3 entitled Jurisdictional Features provided by NCDOT, NEU, attached. There was one change to the submitted JD, WD was not considered to be wet after a recent field review.**

☐ The wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- ☐ There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

Action ID: 20091814

☒ The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Wilmington, NC at (910) 796-7215 to determine their requirements.

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Brad Shaver** at **910-251-4611**.

C. Basis For Determination

The subject area exhibits characteristics of wetlands as described in the 1987 Corps Delineation Manual and is abutting a perennial channel locally known as Mulberry Swamp that ultimately empties into the Shallotte River, a navigable water of the US.

D. Remarks

The site was originally visited on 9/22/2009 at which time comments were generated for a potential bridge replacement project. Post a site visit on 5/11/11, the feature labeled WD was considered to be non jurisdictional as it did not possess characteristics as described in the 1987 Corps Delineation Manual and regional supplement.

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Division
Attn: Brad Shaver, Project Manager,
Wilmington Regulatory Field Office
69 Darlington Ave.
Wilmington, North Carolina 28403

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **7/11/2011**.

****It is not necessary to submit an RFA form to the District Office if you do not object to the determination in this correspondence.****

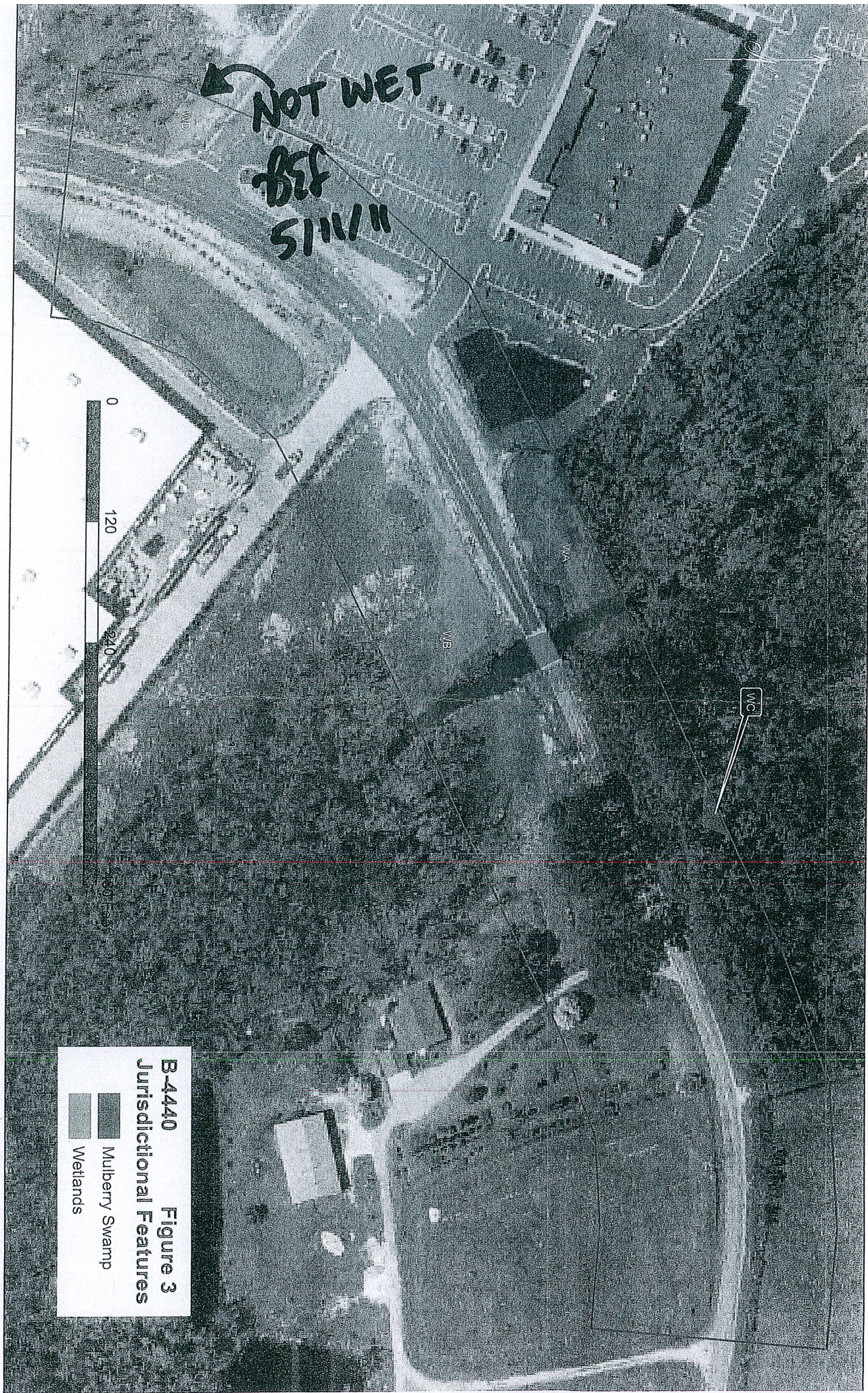
Corps Regulatory Official: 

Date **5/11/2011**



Expiration Date **5/11/2016**



Copy furnished:

Mr. Stonewall Mathis DEO, Division 3 5501 Barbados Blvd Castle Hayne, North Carolina 28429



B-4440 **Figure 3**
Jurisdictional Features

	Mulberry Swamp
	Wetlands

		<div>North Carolina Department of Transportation</div> <div>Highway Stormwater Program</div> <div>STORMWATER MANAGEMENT PLAN</div> <div>FOR NCDOT PROJECTS</div>											
(Version 2.02; Released April 2015)													
WBS Element: 38367.1.1		TIP No.: B-4440		County(ies): Brunswick			Page 1 of 1						
General Project Information													
WBS Element:		38367.1.1		TIP Number:		B-4440		Project Type: Bridge Replacement		Date: 9/10/2015			
NCDOT Contact:		Paul Atkinson, PE				Contractor / Designer:		Craig A. Freeman Jr., PE					
	Address:		NCDOT Hydraulics 1020 Birch Ridge Road Raleigh, NC 27610					Address:		NCDOT Hydraulics 1020 Birch Ridge Road Raleigh, NC 27610			
	Phone:		919-707-6707					Phone:		919-707-6721			
	Email:		patkinson@ncdot.gov					Email:		cafreeman2@ncdot.gov			
City/Town:		Shallote				County(ies):		Brunswick					
River Basin(s):		Lumber				CAMA County?		Yes					
Wetlands within Project Limits?		Yes											
Project Description													
Project Length (lin. miles or feet):		597 feet		Surrounding Land Use:		Commercial and rural residential							
		Proposed Project				Existing Site							
Project Built-Upon Area (ac.)		0.6 ac.				0.4 ac.							
Typical Cross Section Description:		Two lane roadway with 12 foot travel lanes and 4 foot paved shoulders. Proposed bridge width is now 45.5 feet across to allow for future sidewalk installation.				Two lane roadway with 12 foot travel lanes. Existing bridge width is 24 feet across.							
Annual Avg Daily Traffic (veh/hr/day):		Design/Future: 6,432		Year: 2036		Existing: 3,792		Year: 2016					
General Project Narrative: (Description of Minimization of Water Quality Impacts)		B-4440 is the planned replacement of bridge 163 in Brunswick County. The project lies within a CAMA county but no CAMA wetlands are involved. The existing structure over Mulberry Branch is a dual span bridge with RC floors on I-beams with a total length of 41'. The proposed structure will be a dual span 21" Cored Slab structure with an overall length of 85'. The final proposed structure does not require deck drains. All stormwater drainage structure outlets were designed to be placed outside of wetland boundaries. 3:1 fill slopes were used in wetland areas to minimize impacts.											
Waterbody Information													
Surface Water Body (1):		Mulberry Swamp				NCDWR Stream Index No.:		15-25-2-7					
NCDWR Surface Water Classification for Water Body				Primary Classification:		Class C							
				Supplemental Classification:		Swamp Waters (Sw)							
Other Stream Classification:		None											
Impairments:		None											
Aquatic T&E Species?		No		Comments:									
NRTR Stream ID:		N/A								Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		Yes		Deck Drains Discharge Over Buffer?		N/A		Dissipator Pads Provided in Buffer?		N/A			
Deck Drains Discharge Over Water Body?		No		(If yes, provide justification in the General Project Narrative)				(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)					
		(If yes, provide justification in the General Project Narrative)											

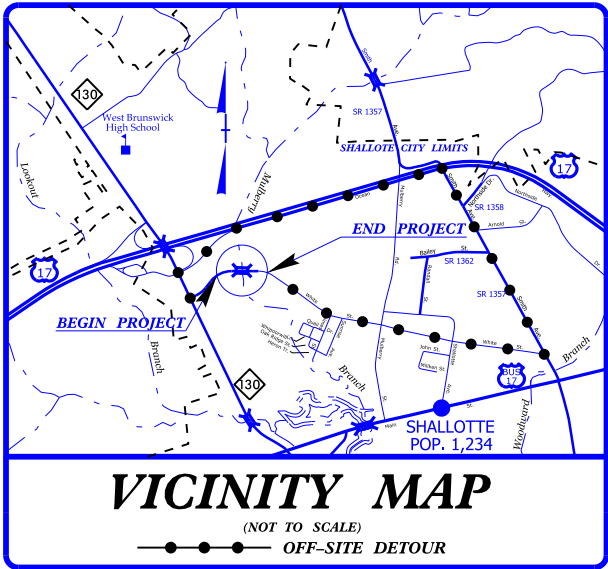
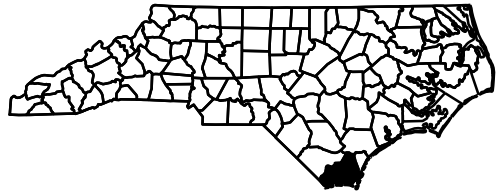
09/08/99

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

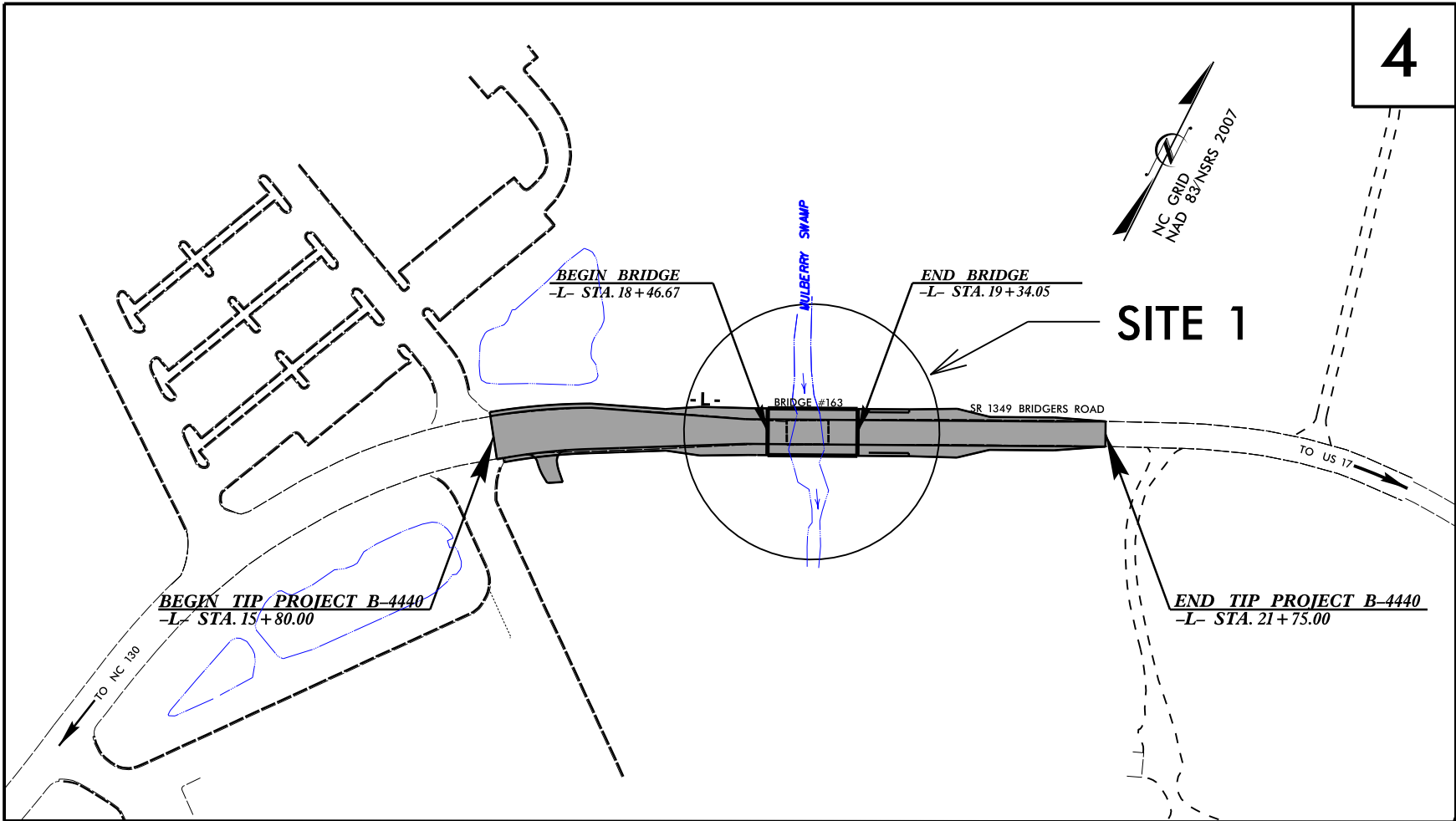
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BRUNSWICK COUNTY

PERMIT DRAWING
SHEET 1 OF 8

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4440	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38367.1.1	BRZ-1349(1)	P.E.	
38367.2.FD1	BRZ-1349(1)	R/W & UTIL.	



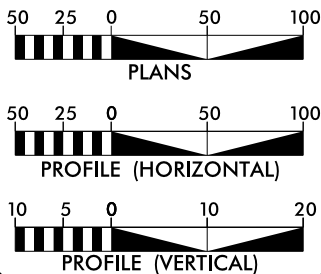
LOCATION: REPLACE BRIDGE NO. 163 OVER
MULBERRY SWAMP ON SR 1349
WETLAND AND SURFACE WATER IMPACTS PERMIT
TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE



THIS PROJECT IS WITHIN THE SHALLOTTE MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 3,792
ADT 2036 = 6,432
K = 11 %
D = 55 %
T = 7 % *
V = 40 MPH
*(TTST 1% + DUAL 6%)
FUNC CLASS = RURAL
LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4440 = 0.097 MI
LENGTH STRUCTURE TIP PROJECT B-4440 = 0.016 MI
TOTAL LENGTH OF TIP PROJECT B-4440 = 0.113 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 19, 2015

LETTING DATE:
AUGUST 16, 2016

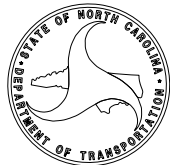
GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



TIP PROJECT: B-4440

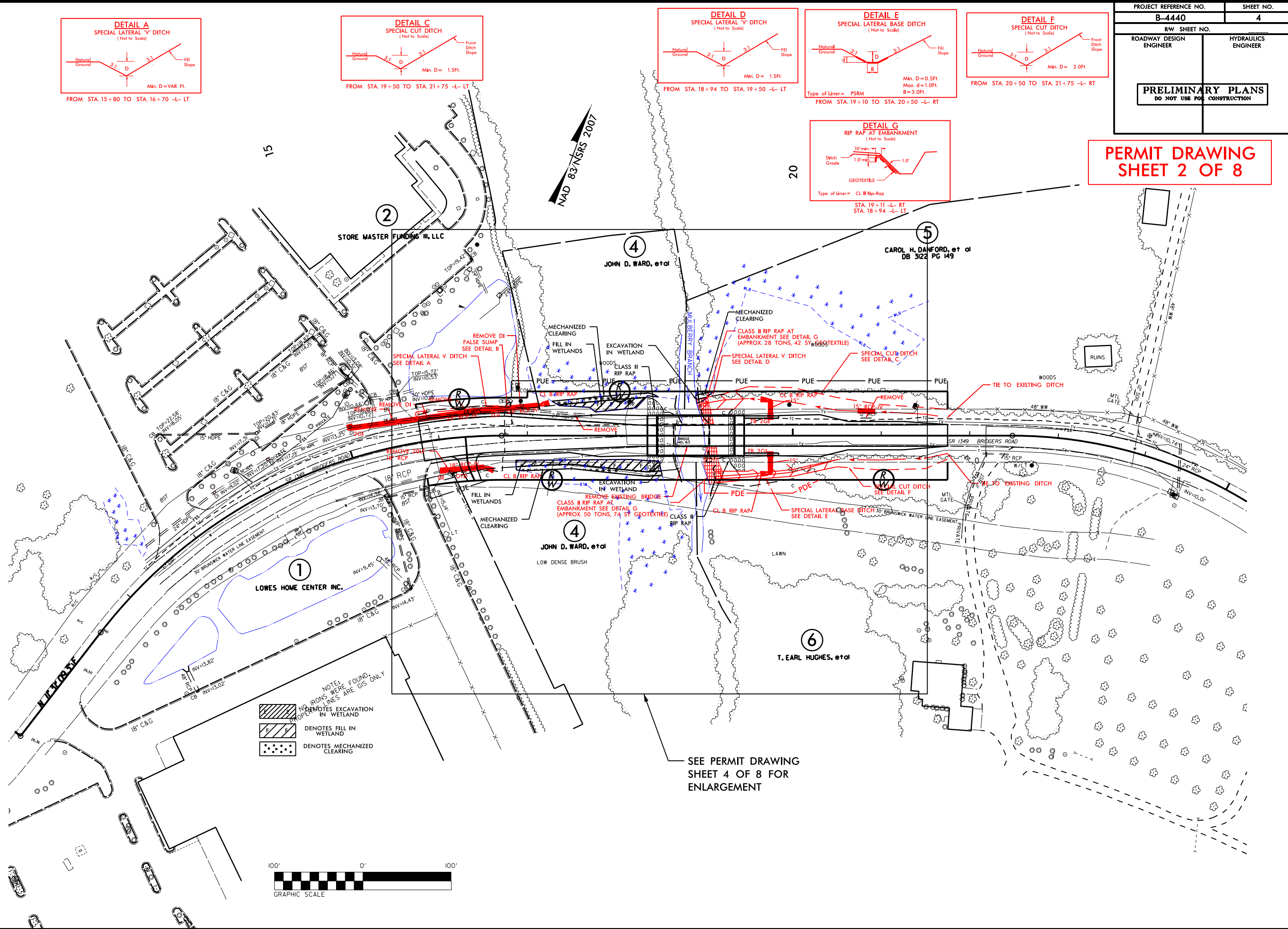
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9/17/2015
miyork
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DESIGN REVISION (4/15/15): ADDED A DRIVEWAY ON PARCEL 3. DDL
 REVISION (4/28/15): COMBINED PARCELS 3 AND 4 INTO PARCEL 4, ADDED A DRIVEWAY ON PARCEL 4, AND ADDED A DO NOT DISTURB POND NOTE TO PARCEL 2. SCL
 REVISION (5/06/15): MODIFIED PUE ON NORTHWEST CORNER OF BRIDGE. JDG
 REVISION (7/31/15): CHANGED OWNER'S NAME, DEED BOOK NUMBER, AND PAGE NUMBER ON PARCEL 5. DDL

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\$\$\$SYSTEM\$\$\$\$\$NAME\$\$\$\$\$
\$\$\$UC\$\$\$\$\$C\$\$\$\$\$
\$\$\$C\$\$\$\$\$C\$\$\$\$\$



9/10/2015
mijork

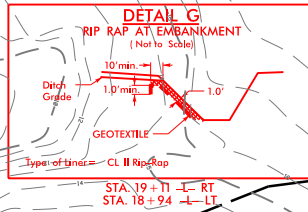
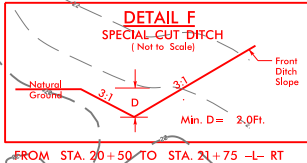
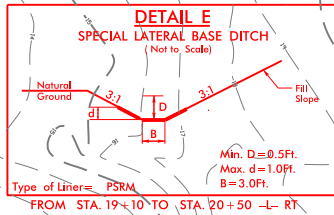
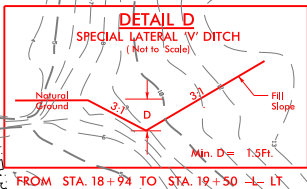
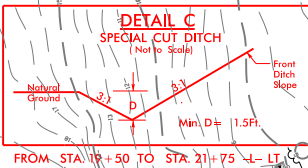
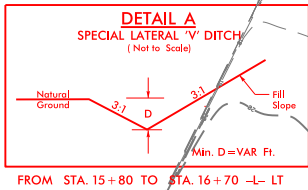
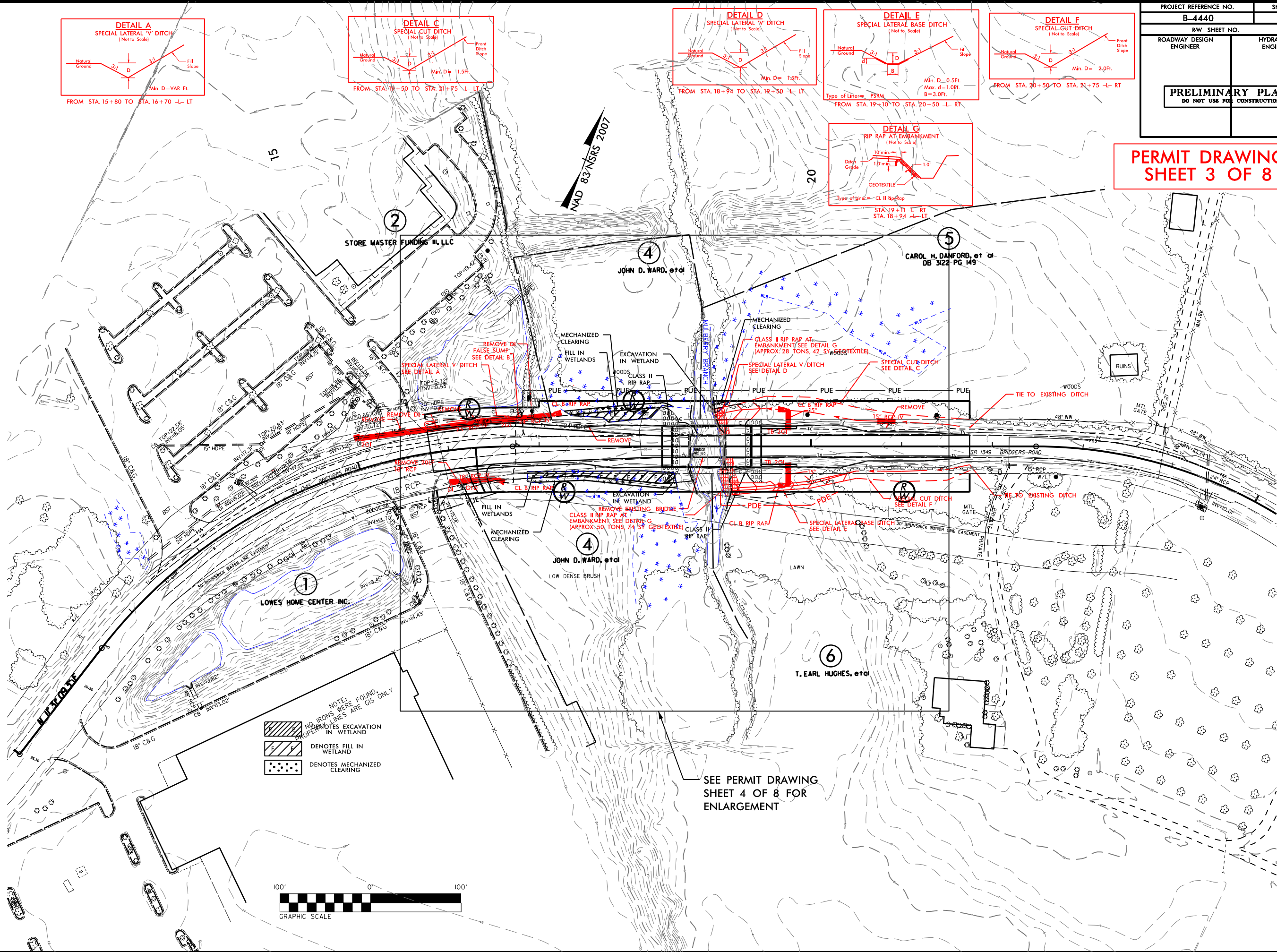
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REVISIONS

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RW REVISION (4/28/15): COMBINED PARCELS 3 AND 4 INTO PARCEL 4, ADDED A DRIVEWAY ON PARCEL 4, AND ADDED A DO NOT DISTURB POND NOTE TO PARCEL 2. SCL
RW REVISION (5/06/15): MODIFIED PUE ON NORTHWEST CORNER OF BRIDGE JDG
RW REVISION (7/31/15): CHANGED OWNER'S NAME, DEED BOOK NUMBER, AND PAGE NUMBER ON PARCEL 5. DDL

*****SYTIME*****
*****DATE*****
*****DRAWN*****
*****CHECKED*****
*****APPROVED*****

8/17/99



**PERMIT DRAWING
SHEET 3 OF 8**

PROJECT REFERENCE NO.	SHEET NO.
B-4440	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

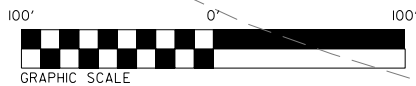
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PROPOSED LINES ARE GIS ONLY

--- DENOTES EXCAVATION IN WETLAND

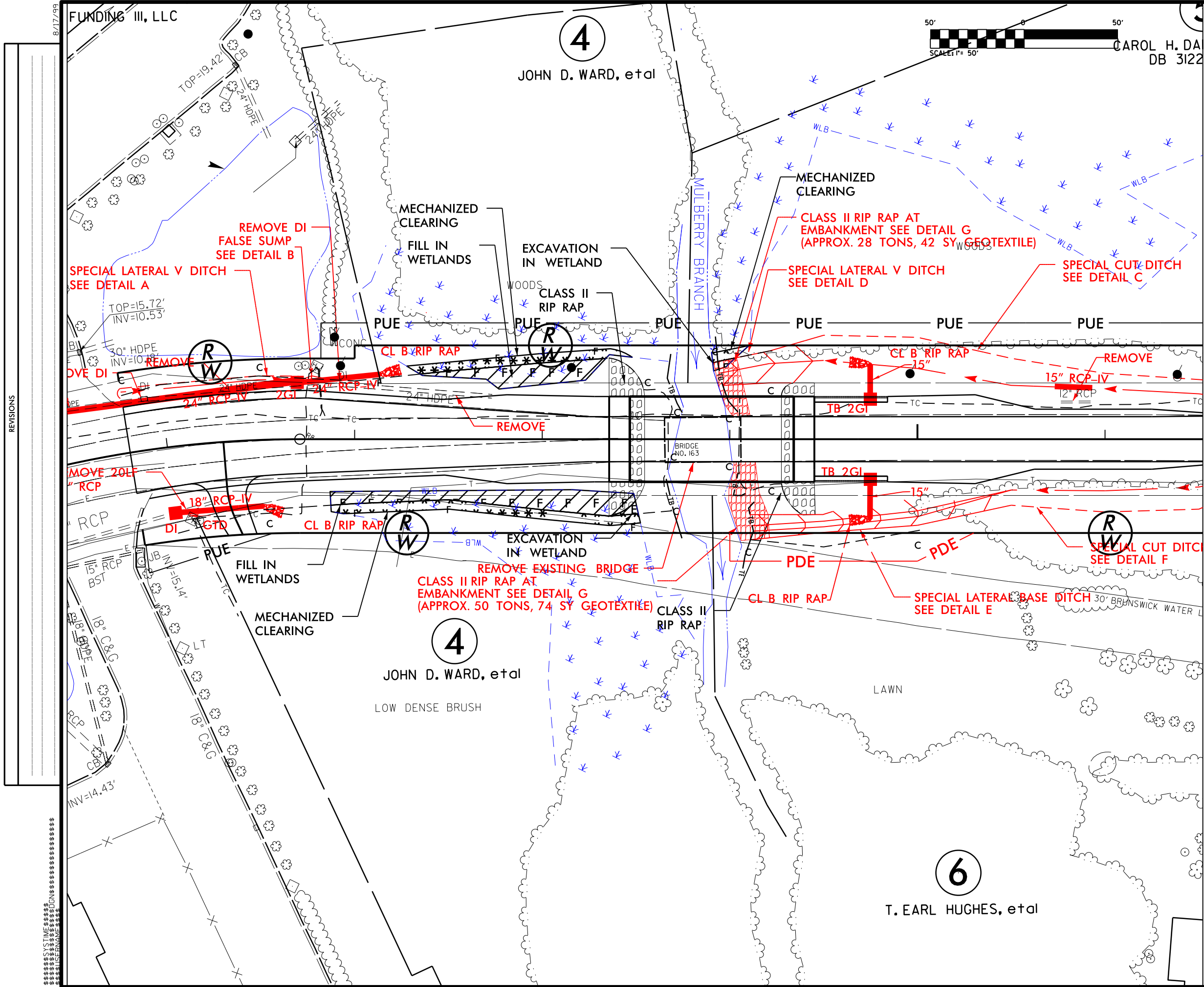
--- DENOTES FILL IN WETLAND

--- DENOTES MECHANIZED CLEARING

SEE PERMIT DRAWING
SHEET 4 OF 8 FOR
ENLARGEMENT



9/10/2015
miyork
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PROJECT REFERENCE NO.	SHEET NO.
B-4440	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

PERMIT DRAWING
SHEET 4 OF 8



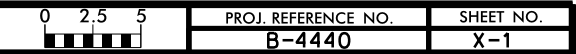
DENOTES EXCAVATION
IN WETLAND



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING

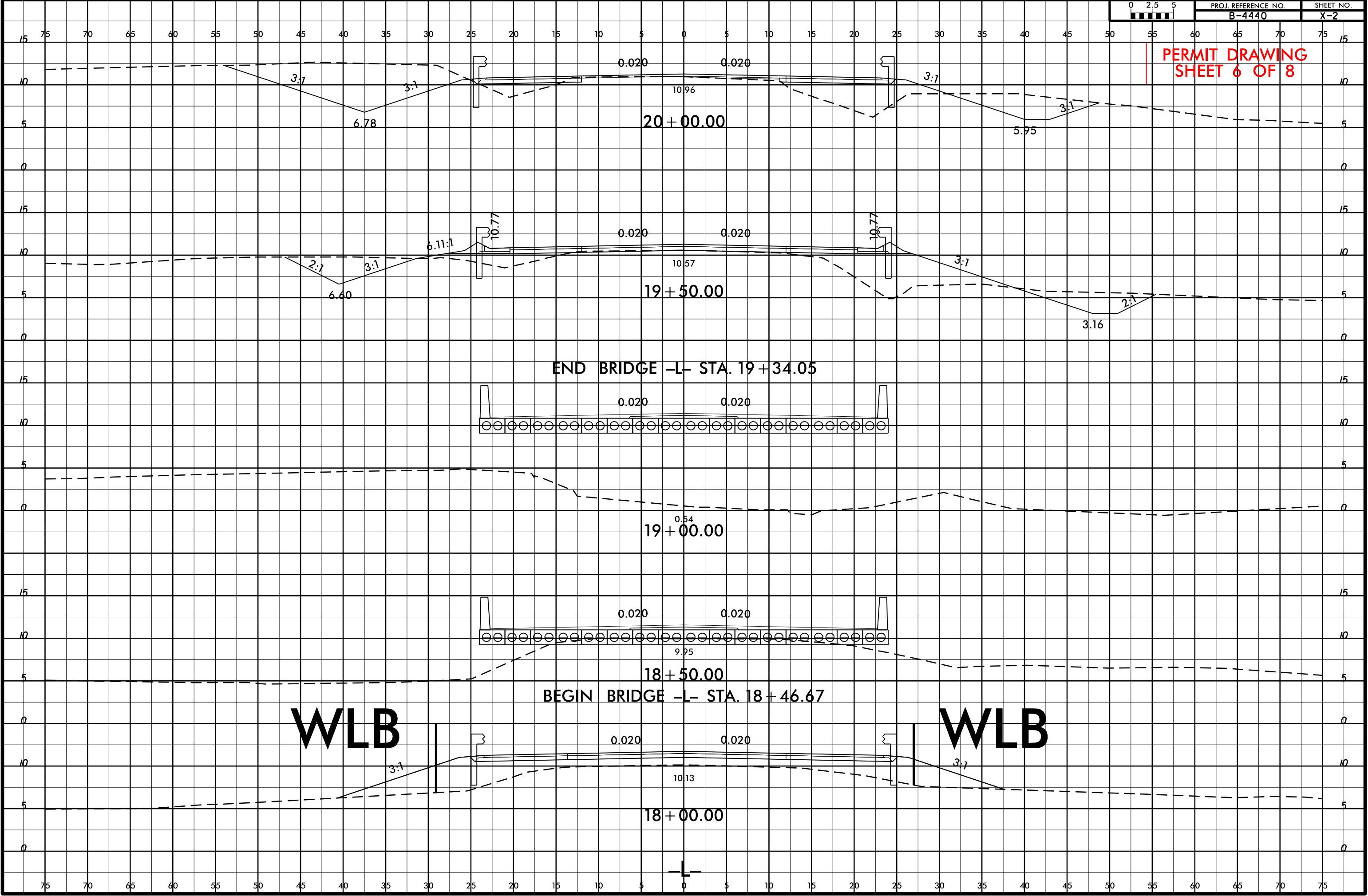


9/10/2015
miyork

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\$\$\$\$\$CJG\$\$\$\$\$
\$\$\$\$\$USERAME\$\$\$\$\$

8/23/99



DITCH LEGEND	
LEFT DITCH	- - - -
RIGHT DITCH	- - - - -

PROJECT REFERENCE NO.		SHEET NO.
B-4440		5
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

PERMIT DRAWING
SHEET 7 OF 8

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 1,300	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 8.7	FT
BASE DISCHARGE	= 1,700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 9.47	FT
OVERTOPPING DISCHARGE	= 2,700	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 11.2	FT

FOR -L- PLAN SEE SHEET 4
FOR STRUCTURE PLANS SEE SHEETS S-1 THROUGH S-?

Utility Owners:**Power** (Distribution): Brunswick EMC-contact

Josh Winslow
910-755-4080
Josh.winslow@bemc.org

Telephone/CATV: ATMC-contact

Phil Hill (Byers Engineering)
910-279-7499
byersphill@gmail.com
pshill@atmc.net

Water: Town of Shallotte-contact

Albert Hughes
910-279-2766
shallotepwd@atmc.net

Water: Brunswick County Public Utilities-contact

William Pinnix
910-253-2408
William.pinnix@brunswickcountync.gov

Cory Sumner
910-520-4473
Cory.sumner@brunswickcountync.gov

Sanitary Sewer: Town of Shallotte-contact

Albert Hughes
910-279-2766
shallotepwd@atmc.net

General Utility Relocation:

All utility lines inside project limits currently within construction limits will be adjusted as necessary or relocated away from construction before project is let.

Existing Utilities:

- **Power** (Distribution): Existing power lines run overhead on poles crossing SR1349 from the south side to the north side at Station 22+00, then runs along the north side of the project and parallel to SR1349 and near Station 16+90 it turns 90 degrees and runs down an easement behind the movie theaters.
- **Telephone & CATV:** Existing copper telephone lines and cable tv lines run underground, one each along the north side and one each along the south side of SR1349 with three perpendicular crossings, cable tv at Station 15+90, telephone at Station 16+75, and cable tv at Station 18+10.

- **Water:** Existing 6" DIP on the south side and parallel to SR1349 and under existing pavement from the beginning of the project to approximately Station 17+50 is abandoned. Existing Brunswick County 24" DIP waterline which is the main feed to south Brunswick County on the south side of SR1349 inside of its own 31 foot easement, outside of existing pavement. Existing Town of Shallotte 12" AC waterline on the south side of SR 1349 and under pavement from the beginning of the project to approximately Station 17+00.
- **Sanitary Sewer Force Main:** Two existing Sanitary Sewer Force mains on the north side of SR1349, both outside of the project limits. One crosses the road perpendicularly and runs down the west side of a private driveway at Station 22+20 and one that remains on the north side of the road and stops at the movie theater property.

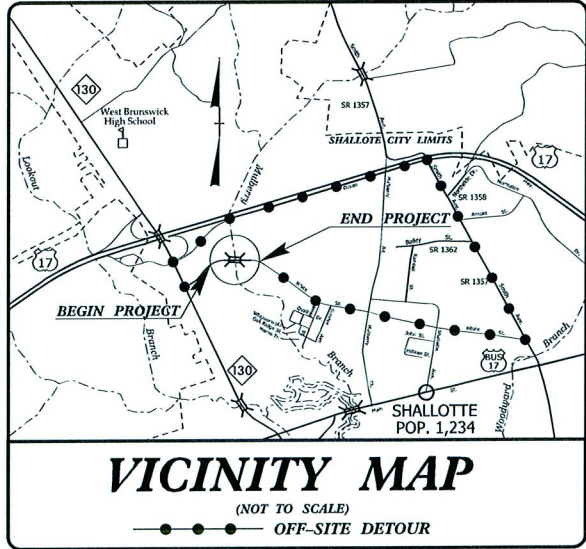
Proposed Utility Relocation:

- **Power (Distribution):** Overhead power lines and power poles will relocate to a position 10 feet farther north and parallel to SR1349 to avoid conflict with bridge construction with an additional 15 feet of PUE and tree clearing. The relocated power line will cross SR1349 diagonally at Station 22+25.
- **Telephone & CATV:** proposed telephone and cable tv line will be direct bored under the stream on the north side of SR1349 from Station 16+90 to Station 21+25, one foot inside of the new right of way line. The existing telephone and cable tv lines within these stations will be abandoned in place.
- **Water:** 593 linear feet of proposed 12" DIP Town of Shallotte waterline will be installed with 417 linear feet of trenchless installation by direct bore under the stream on the south side of the project from approximately Station 15+80 to Station 21+80. The existing 6" DIP Town of Shallotte waterline has previously been abandoned in place. The existing 12" AC Town of Shallotte water line within the project boundaries will be either removed or abandoned in place.
- **Sanitary Sewer Force Main:** Existing Sanitary Sewer Force main is not in conflict and will remain in place.

09/28/99

TIP PROJECT: B-4440

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BRUNSWICK COUNTY

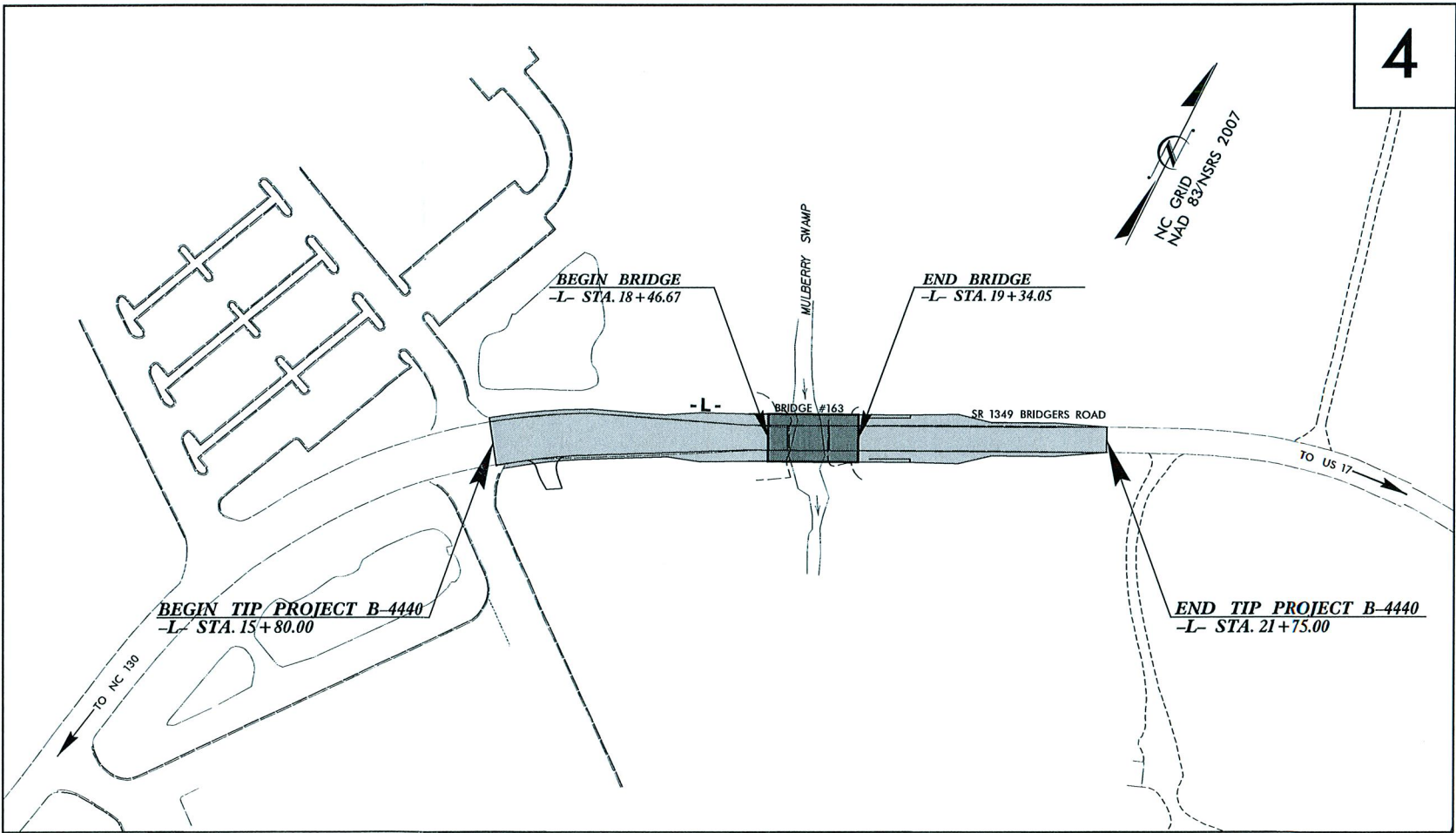
Utility Permit Drawing
Sheet 1 of 4

LOCATION: REPLACE BRIDGE NO. 163 OVER
MULBERRY SWAMP ON SR 1349

NES PERMIT PLANS
(September 22, 2015)

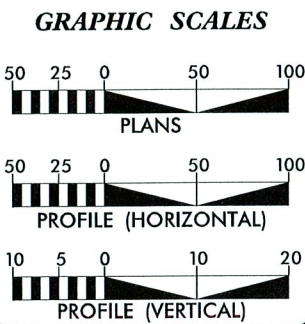
TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4440	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
38367.1.1	BRZ-1349(1)	P.E.	
38367.2.FD1	BRZ-1349(1)	R/W & UTIL.	



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA	
ADT 2016 =	3,792
ADT 2036 =	6,432
K =	11 %
D =	55 %
T =	7 % *
V =	40 MPH
*(TTST 1% + DUAL 6%)	
FUNC CLASS =	RURAL LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT B-4440 =	0.097 MI
LENGTH STRUCTURE TIP PROJECT B-4440 =	0.016 MI
TOTAL LENGTH OF TIP PROJECT B-4440 =	0.113 MI

Prepared In the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh, NC 27610	
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: FEBRUARY 19, 2015	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE: AUGUST 16, 2016	SUSAN C. LANCASTER, PE PROJECT DESIGN ENGINEER

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



9/17/2015
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5/14/99

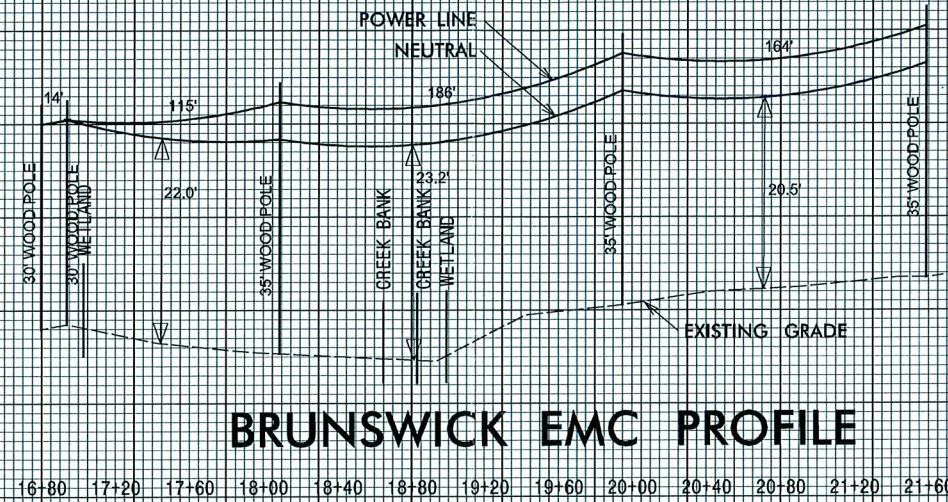
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NES PERMIT PLANS
(September 22, 2015)

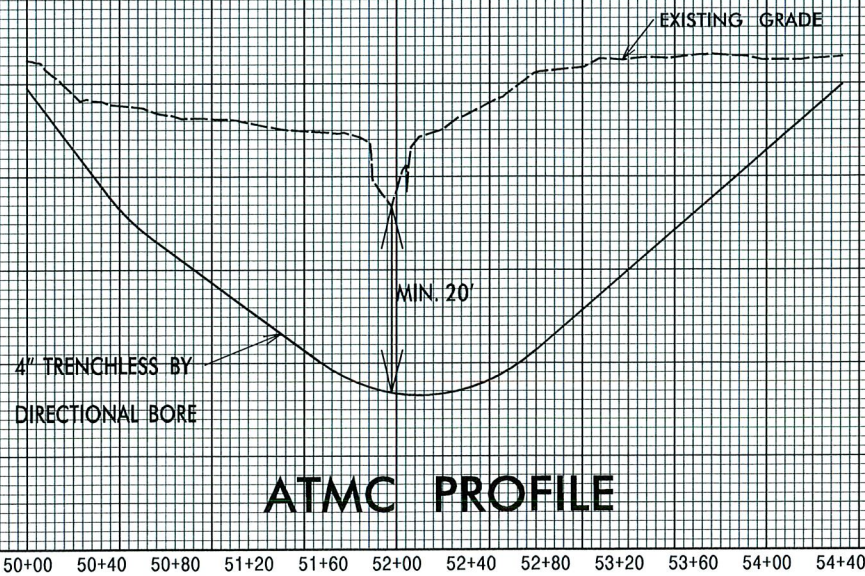
PROJECT REFERENCE NO. B-4440 SHEET NO. 5

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

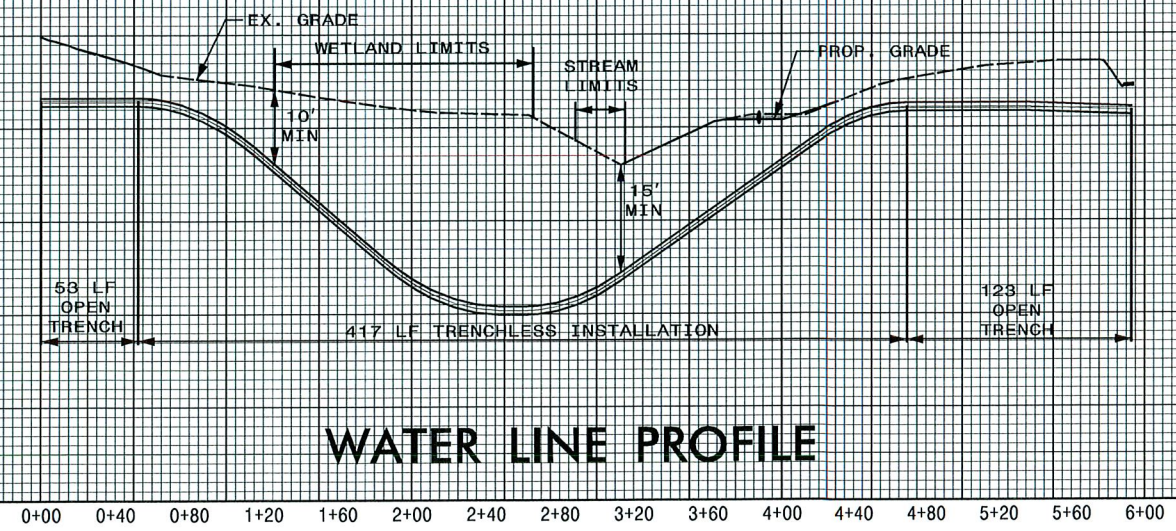
Utility Permit Drawing
Sheet 3 of 4



BRUNSWICK EMC PROFILE



ATMC PROFILE



WATER LINE PROFILE

WETLAND PERMIT IMPACT 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	-L-17+02 TO 19+12	Aerial Power line					0.08					
1	-L-18+16	Power Pole	<0.01									
TOTALS:			<0.01	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00

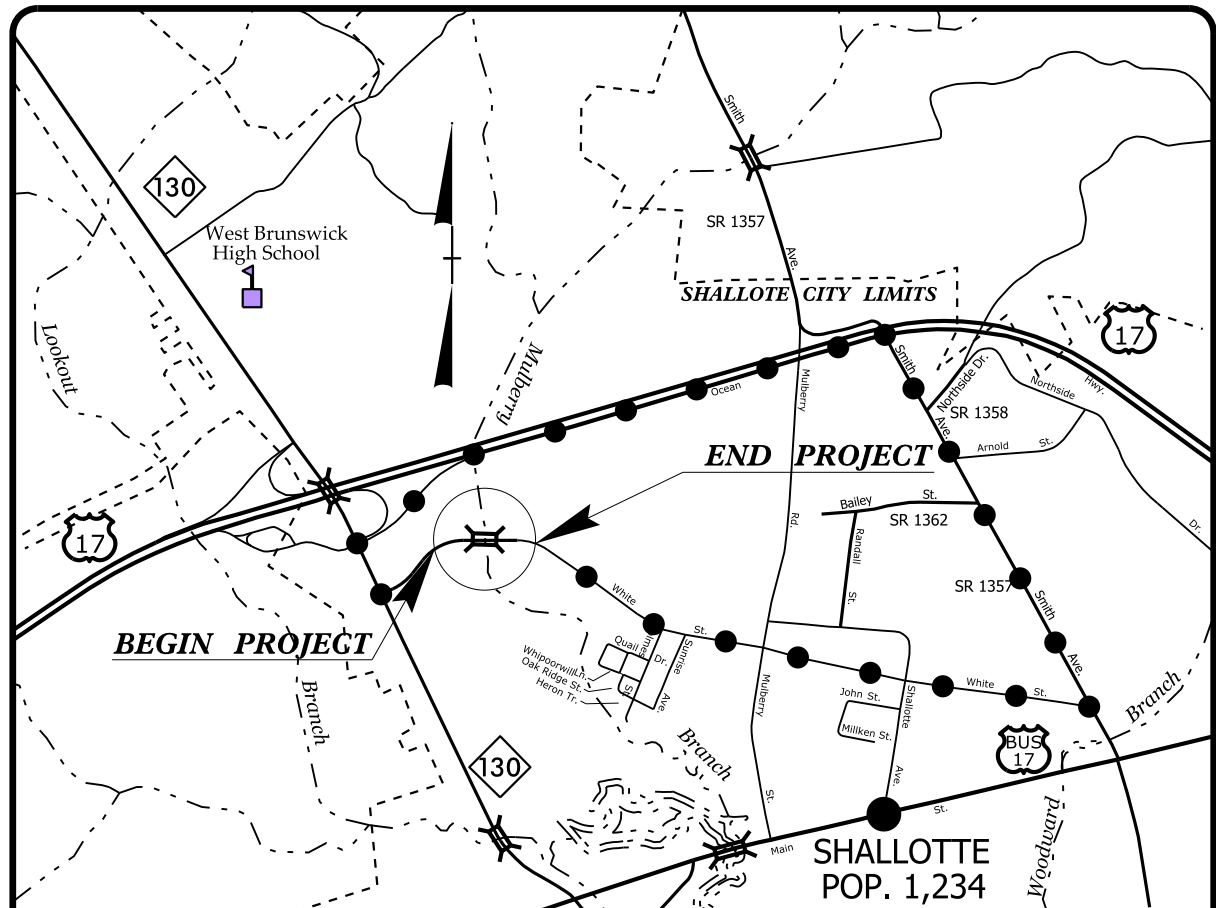
Note :

Utility Permit Drawing
 Sheet 4 of 4

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BRUNSWICK COUNTY
 TIP PROJECT (B-4440)

09/08/99

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



VICINITY MAP

(NOT TO SCALE)

—•••— OFF-SITE DETOUR

STATE OF NORTH CAROLINA

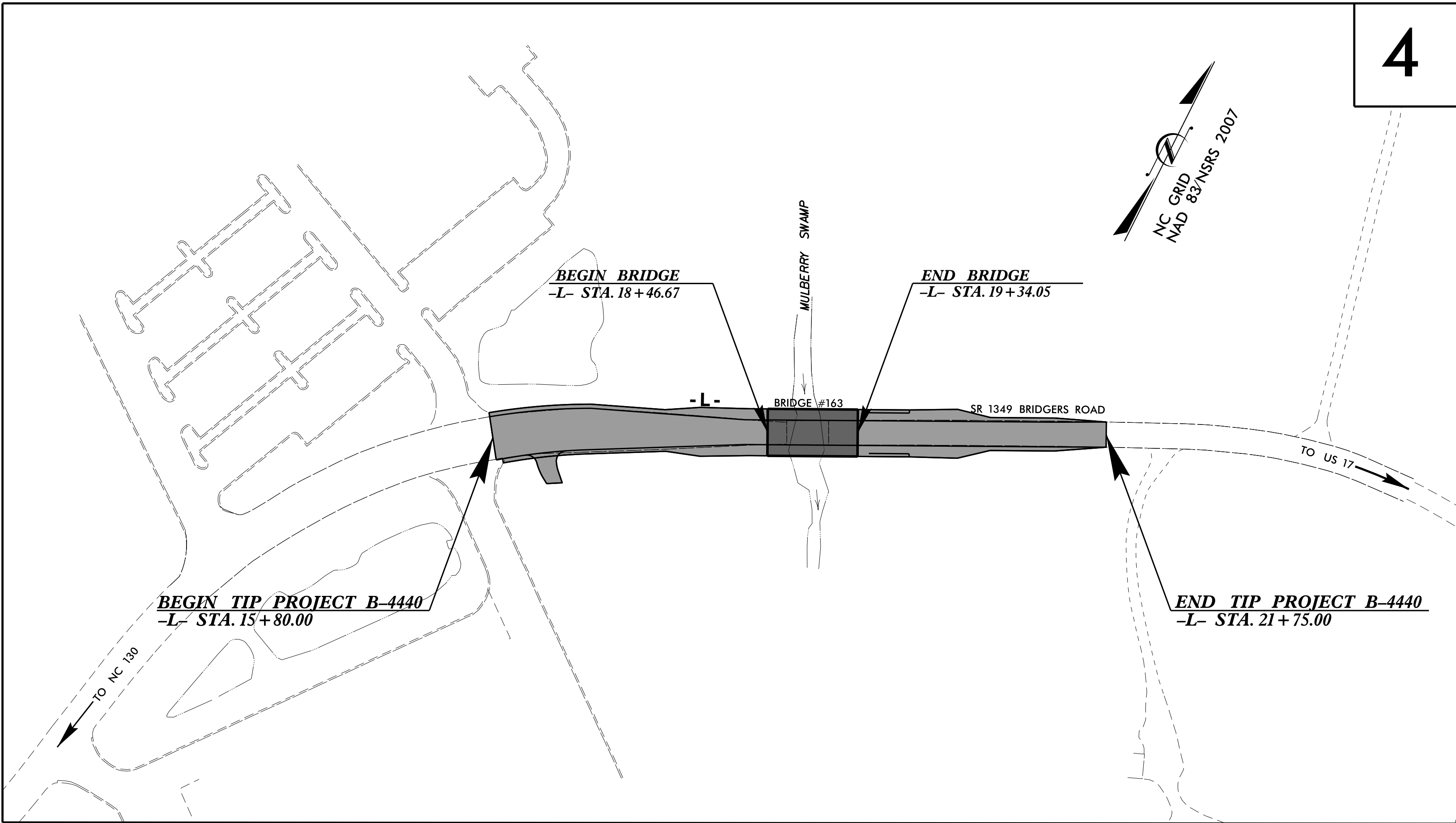
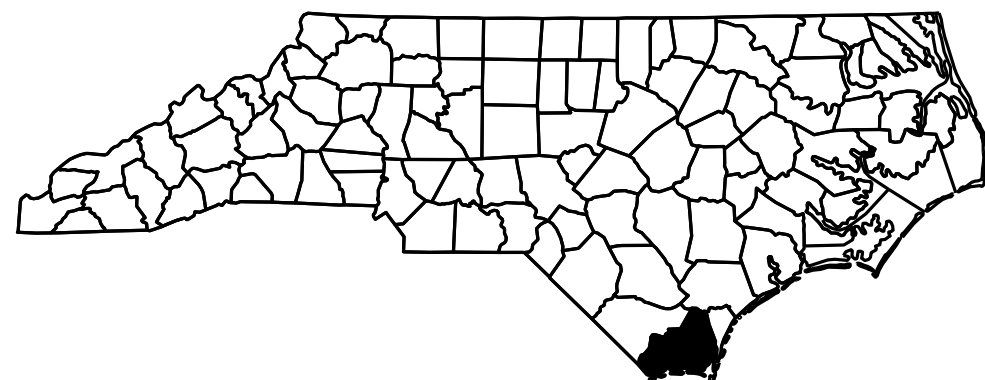
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

**LOCATION: REPLACE BRIDGE NO. 163 OVER
MULBERRY SWAMP ON SR 1349**

TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4440	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38367.1.1	BRZ-1349(1)	P.E.	
38367.2.FD1	BRZ-1349(1)	R/W & UTIL.	



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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 3,792

ADT 2036 = 6,432

K = 11 %

D = 55 %

T = 7 % *

V = 40 MPH

*(TTST 1% + DUAL 6%)

FUNC CLASS = RURAL

LOCAL

SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4440 = 0.097 MI

LENGTH STRUCTURE TIP PROJECT B-4440 = 0.016 MI

TOTAL LENGTH OF TIP PROJECT B-4440 = 0.113 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 19, 2015

LETTING DATE:
AUGUST 16, 2016

GARY LOVERING, PE
PROJECT ENGINEER

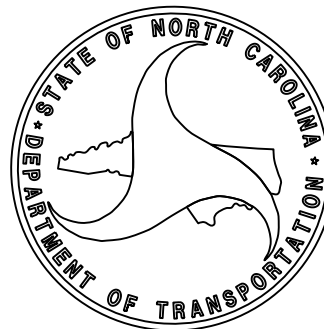
SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



17-SEP-2015 14:18
R:\Roadway\Proj\B-4440_Rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: B-4440

CONTRACT:

Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4440	1B

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	→
Property Monument	□ ECM
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- WLB ---
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	?? ??

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	--- JS ---
Buffer Zone 1	--- BZ 1 ---
Buffer Zone 2	--- BZ 2 ---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	✕
Proposed Lateral, Tail, Head Ditch	→
False Sump	◇

RAILROADS:

Standard Gauge	CSX TRANSPORTATION
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite R/W Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	XXXX

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	~~~~~
Woods Line	~~~~~

Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	□
H-Frame Pole	● ●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	①
Telephone Booth	②
Telephone Pedestal	③
Telephone Cell Tower	④
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	A/G Water

TV:

TV Satellite Dish	☼
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

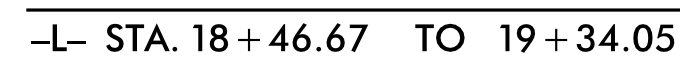
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

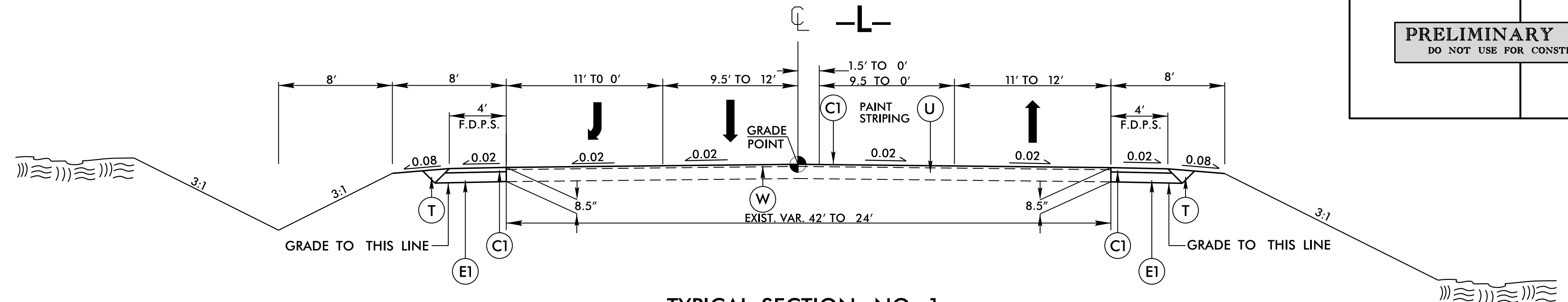
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⑤
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

PROJECT REFERENCE NO.		SHEET NO.	
B-4440		2A-1	
ROADWAY DESIGN ENGINEER		PAVEMENT DESIGN ENGINEER	
<div style="border: 1px solid black; padding: 10px; text-align: center;"> PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION </div>			

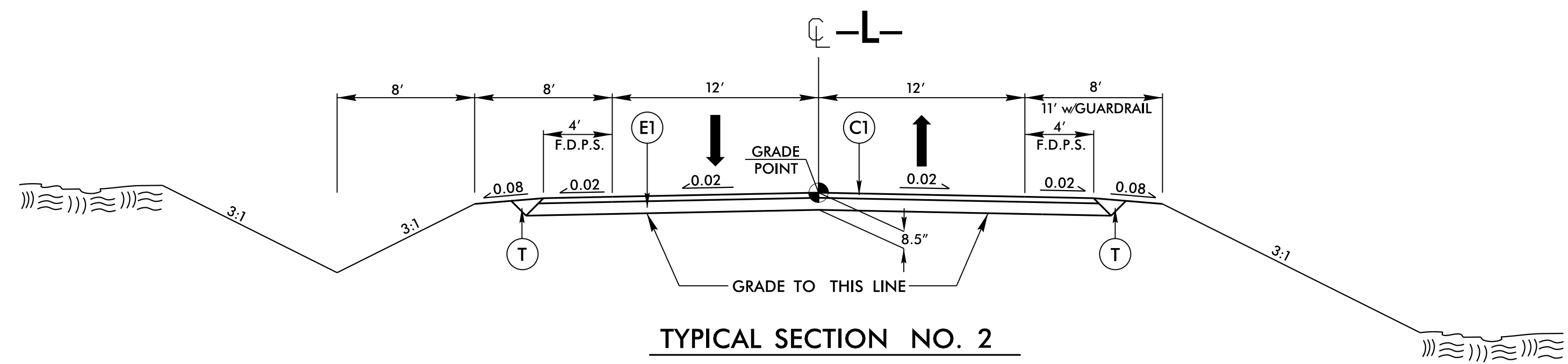
-L- STA. 19+45.05 TO -L- STA. 19+84.05 (LT)
-L- STA. 19+45.05 TO -L- STA. 19+84.05 (RT)



Detail Showing Method of Wedging



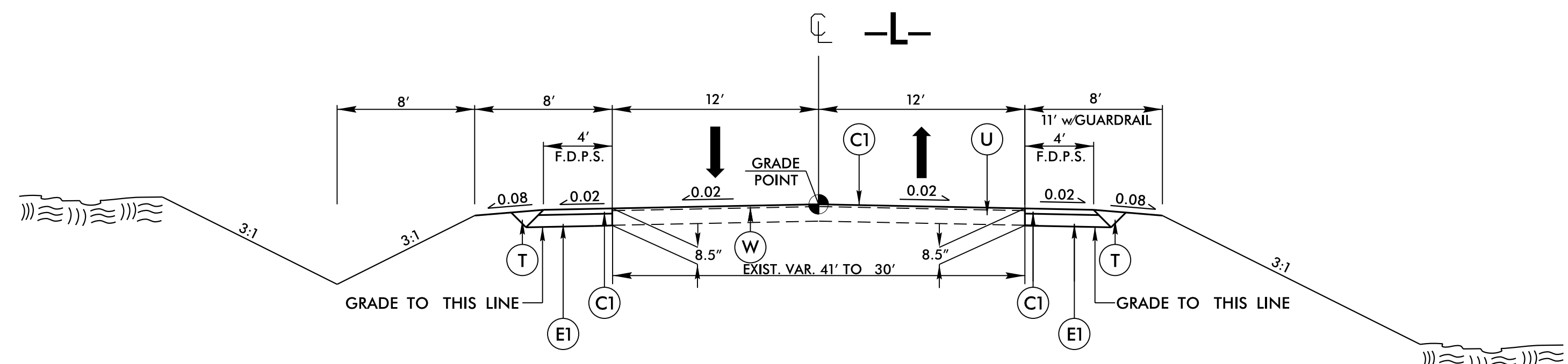
-L- STA. 15+80.00 TO 17+50.00



—L— STA. 17+50.00 TO 18+46.67 (BEGIN BRIDGE)

-L- STA. 19+34.05 (END BRIDGE) TO 19+88.94

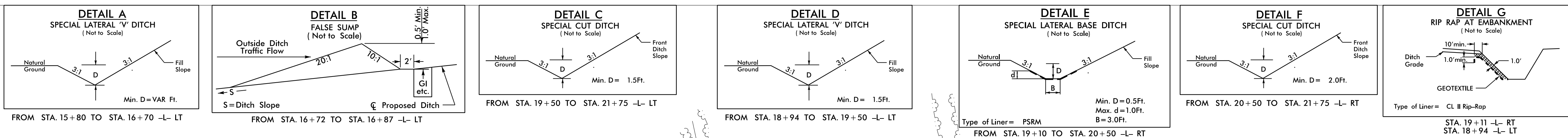
* PAVE TO FACE OF GUARDRAIL



-L- STA. 19+88.94 TO 21+75

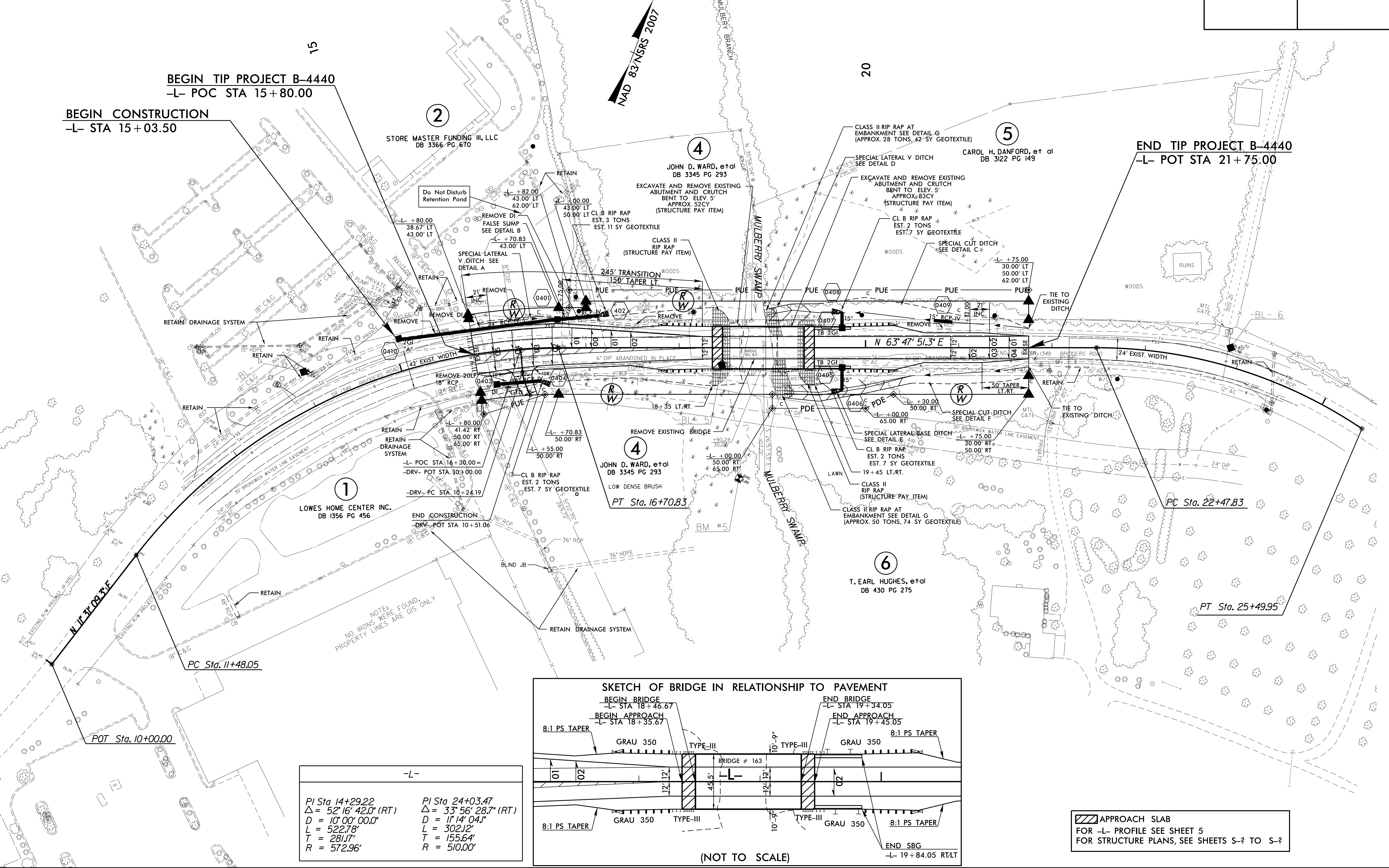
* PAVE TO FACE OF GUARDRAIL

8/17/99



PROJECT REFERENCE NO.	SHEET NO.
B-4440	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

DESIGN REVISION (4/15/15): ADDED A DRIVEWAY ON PARCEL 3. DDL
RW REVISION (4/28/15): COMBINED PARCELS 3 AND 4 INTO PARCEL 4, AND ADDED A DO NOT DISTURB POND NOTE TO PARCEL 2. SCL
RW REVISION (5/06/15): MODIFIED PUE ON NORTHWEST CORNER OF BRIDGE. JRG
RW REVISION (7/31/15): CHANGED OWNER'S NAME, DEED BOOK NUMBER, AND PAGE NUMBER ON PARCEL 5. DDL



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DITCH LEGEND

LEFT DITCH -----

RIGHT DITCH -----

PROJECT REFERENCE NO.

B-4440

ROADWAY DESIGN ENGINEER

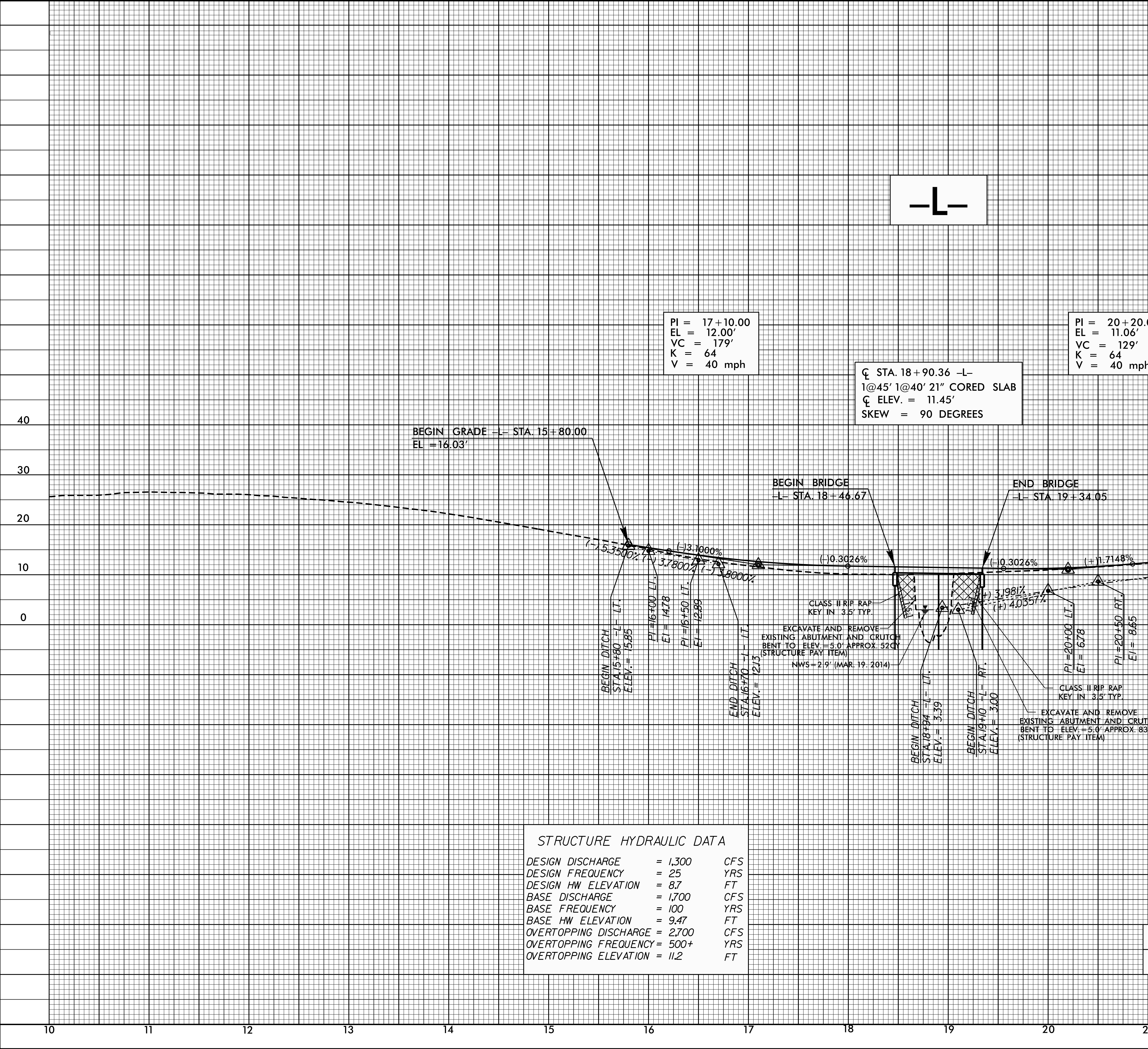
SHEET NO.

5

HYDRAULICS ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION



STRUCTURE HYDRAULIC DATA			
DESIGN DISCHARGE	= 1,300	CFS	
DESIGN FREQUENCY	= 25	YRS	
DESIGN HW ELEVATION	= 8.7	FT	
BASE DISCHARGE	= 1,700	CFS	
BASE FREQUENCY	= 100	YRS	
BASE HW ELEVATION	= 9.47	FT	
OVERTOPPING DISCHARGE	= 2,700	CFS	
OVERTOPPING FREQUENCY	= 500+	YRS	
OVERTOPPING ELEVATION	= 11.2	FT	

FOR -L- PLAN SEE SHEET 4

FOR STRUCTURE PLANS SEE SHEETS S-1 THROUGH S-?