STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

January 24, 2017

US Army Corps of Engineers
Regulatory Field Office
2407 West 5th Street
Washington, NC 27889

Attention: Tom Steffens
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide 14, Section 401 Water Quality Certification, and Tar-Pamlico Riparian Buffer Authorization** for the construction of US 301 Bypass Improvements between NC 43/48 (Benvenue Road) to SR 1836 (May Drive) in Nash County. TIP No. U-3330. Debit $570 from WBS 36596.1.2.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to widen the US 301 Bypass in Rocky Mount from Benvenue Road to May Drive in Nash County, NC.

The purpose of this letter is to request approval for a Section 404 Nationwide Permit No. 14, Section 401 Water Quality Certification, and Riparian Buffer Authorization. In addition to this cover letter, this application package includes the following for U-3330: stormwater management plan, permit drawings, utility drawings, roadway plans, DMS acceptance letter and 4B/4C merger meeting minutes.

The Final Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI) were approved in April 30, 2009 and January 8, 2013 respectively. A Right-of-Way Consultation was completed in October, 2014. A request for a Jurisdictional Determination for the wetland delineation was submitted to the U.S. Army Corps of Engineers (USACE) on November 6, 2014, although no verification has been received. Updated information about the wetlands and streams can be found in the Jurisdictional Determination request (2014) which includes figures showing the jurisdictional features within the project area. Copies of the EA and FONSI are available at the following website under the Environmental Documents link:
https://connect.ncdot.gov/resources/Environmental

Construction of U-3330 is scheduled to begin after project letting on May 16, 2017.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
NATURAL ENVIRONMENT SECTION
1598 MAIL SERVICE CENTER
RALEIGH, NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 212-5785
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27699

Impacts to Jurisdictional Resources

Impacts to jurisdictional wetlands and surface waters for U-3330 are summarized below in Tables 1 and 2 respectively. Proposed permanent impacts to jurisdictional areas total 0.26 acre of permanent wetland impacts and 250 linear feet of permanent stream impacts. There will also be impacts to Tar-Pamlico River Riparian Buffers totaling 21,289 sq. ft. in Zone 1 and 10,764 sq. ft. in Zone 2 (including temporary impacts for construction access). Please note that wetland Site 5 (0.04 acre) along the Y-line was inadvertently omitted from the JD request, although the consultant's records show the area as wetland. We have included these impacts in the attached permit drawings.

Table 1. U-3330 Wetland Impacts

Permit Drawing Site Number	JD Request Label (2014)	Type	Permanent Impacts (ac.)	Temporary Impacts (ac.)	Mitigation Required
2	WF	Riparian	0.04	0.03	No
3	WY	Riparian	0.15		Yes
4	WLBA	Riparian	0.03		No
5	Not included	Riparian	0.04		No
6	WX	Riparian	<0.02		No
7	WGA	Riparian	0.01		No
		Total:	**0.27**	**0.03**	

Table 2. U-3330 Surface Water Impacts

Permit Drawing Site Number	JD Request Label (2014)	Permanent (lf)	Temporary (lf)	Permanent (ac.)	Temporary (ac.)	Mitigation Required
1	Stony Creek & TA	119*	324	0.01	0.24	No
4	Lowe's Tributary		99		0.01	No
7	Goose Branch	131*	147	0.02	0.05	No
	Total:	**250**	**570**	**0.03**	**0.30**	No

Note-*Site 1 includes 119 lf of bank stabilization. Site 7 includes 88 lf of bank stabilization.

Regulatory Approvals

Section 404: Application is hereby made for a USACE Nationwide 14 Permit as required for the above-described activities.

Section 401: We are requesting a Section 401 Water Quality Certification from NCDWR. We are providing this application to NCDWR for their approval. Authorization to debit the $570 Permit Application Fee from WBS Element 36596.1.2 is hereby given.

Tar-Pamlico River Riparian Buffer Authorization: We are requesting a Tar-Pamlico Riparian Buffer Authorization from the NCDWR.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at https://connect.ncdot.gov/resources/Environmental under Quick Links > Permit Applications.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Gordon Cashin at or (919) 707-6107.

Sincerely,

for Philip S. Harris III, P.E., CPM, Manager
Natural Environment Section

cc: NCDOT Permit Application Standard Distribution List

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.4 January 2009

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 14	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☒ 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: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ 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.		☒ Yes ☐ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.		☐ Yes ☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?		☐ Yes ☒ No

2. Project Information

2a. Name of project:	US 301 Bypass Improvements
2b. County:	Nash
2c. Nearest municipality / town:	Rocky Mount
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	U-3330

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6107
3g. Fax no.:	(919) 212-5785
3h. Email address:	gcashin@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
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:	*not applicable*
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):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 35.961741 (DD.DDDDDD)	Longitude: - 77.820641 (-DD.DDDDDD)
1c. Property size:	195 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Goose Branch, Stony Creek	
2b. Water Quality Classification of nearest receiving water:	C, NSW	
2c. River basin:	Tar Pamlico	
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: The study area includes the existing roadway for US 301 and surrounding urban development.		
3b. List the total estimated acreage of all existing wetlands on the property: 1.48 acres (from Table 2 of the 11/6/2014 JD Request)		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 981 feet (from Table 1 of the 11/6/2014 JD Request)		
3d. Explain the purpose of the proposed project: To improve traffic conditions on US 301 Byapss.		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves improving the existing roadway of US 301 Bypass. 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: JD requested on 11/6/2014	☒ Yes	☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☐ Preliminary	☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Carolina Ecosystems Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes	☒ No ☐ Unknown
5b. If yes, explain in detail according to “help file” instructions.		
6. Future Project Plans		
6a. Is this a phased project?	☐ Yes	☒ 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):

☒ Wetlands ☒ Streams - tributaries ☒ Buffers

☒ Open Waters ☐ 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	2f. Area of impact (acres)
Site 2 ☒ P ☒ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. <0.01 Temp. 0.03
Site 2 ☒ P ☐ T	Mechanized land clearing	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.04
Site 3 ☒ P ☐ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.07
Site 3 ☒ P ☐ T	Mechanized land clearing	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.08
Site 4 ☒ P ☐ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.02
Site 4 ☒ P ☐ T	Mechanized land clearing	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.02
Site 5 ☒ P ☐ T	Fill	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.02
Site 5 ☒ P ☐ T	Mechanized land clearing	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.02
Site 6 ☒ P ☐ T	48” Pipe	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. <0.01
Site 6 ☒ P ☐ T	Mechanized land clearing	Non-Tidal Freshwater Marsh	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. <0.01
Site 7 ☒ P ☐ T	Culvert, Bank stabilization	Bottomland Hardwood	☐ Yes ☒ No	☒ Corps ☒ DWQ	Perm. 0.01
				2g. **Total wetland impacts**	0.27 Permanent 0.03 ac Temporary

2h. Comments:

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 ☐ P ☒ T	Fill, work bridges, bank stabilization	Stoney Creek & TA	☒ PER ☐ INT	☒ Corps ☒ DWQ	50	119 perm. 324 temp.

Site 4 ☒ P ☐ T	Roadway Fill	Lowe's tributary	☒ PER ☐ INT	☒ Corps ☒ DWQ	2	99 perm.
Site 7 ☒ P ☒ T	Culvert, bank stabilization	Goose Branch	☒ PER ☐ INT	☒ Corps ☒ DWQ	15	131 per. 147 temp.
				3h. **Total stream and tributary impacts**		250 Perm 570 Temp.
3i. Comments: Included above: 119 feet of bank stabilization at Site 1, 88 feet of bank stabilization at Site 7						

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 ☒ P ☒ T	Stoney Creek	Roadway fill, Temp work bridges, Bank stabilization	stream	0.01 perm. 0.24 temp.
O1 ☐ P ☒ T	Lowe's tributary	Roadway fill	stream	0.00 perm. 0.01 temp.
O7 ☒ P ☒ T	Goose Branch	Culvert	stream	0.02 perm. 0.05 temp.
			4f. Total open water impacts	0.03 Perm. 0.30 Temp.
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?	☐ Yes ☐ 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?	☐ Neuse ☐ Catawba	☒ Tar-Pamlico ☐ Randleman	☐ 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 ☒ P ☐ T	Roadway Construction	Stoney Creek	☐ Yes ☒ No	10,422	4,880
B7 ☒ P ☐ T	Roadway Construction	Goose Branch	☐ Yes ☒ No	8,501	3,732
U1* ☐ P ☒ T	Utilities	Stoney Creek	☐ Yes ☒ No	1,682	261
U2* ☐ P ☒ T	Utilities	Goose Branch	☐ Yes ☒ No	684	1,891
			6h. **Total buffer impacts**	21,289	10,764

6i. Comments: *See Utility Buffer Impact Summary sheet for details. B1 impacts above include 1,416 sq.ft. of temporary impacts in Zone 1 and 949 sq.ft. of temporary impacts in Zone 2 needed for temporary access.

D. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.

Wetland impacts were reduced through design modifications.Fill slopes in wetlands will be 3:1.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques.

Design Standards in Sensitive Watersheds will be implemented during project construction. The riparian buffers with temporary impacts will be revegetated per the 4C meeting.

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?	☒ Yes ☐ No If no, explain:
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ 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.	☒ Yes
4b. Stream mitigation requested:	linear feet
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold
4d. Buffer mitigation requested (DWQ only):	square feet
4e. Riparian wetland mitigation requested:	0.15 acres
4f. Non-riparian wetland mitigation requested:	acres
4g. Coastal (tidal) wetland mitigation requested:	acres

4h. Comments:

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?			☐ Yes	☒ 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?	☒ Yes ☐ No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: See attached buffer permit drawings.	☒ Yes ☐ 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?	☒ Yes ☐ 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.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ 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):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☐ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☐ Yes ☐ 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?	☒ Yes	☐ 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)?	☒ Yes	☐ 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:	☒ Yes	☐ 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)?	☐ Yes	☒ No
2b. Is this an after-the-fact permit application?	☐ Yes	☒ 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?	☐ Yes ☒ 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 improvement and existing urban development, 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?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☐ Yes	☒ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? USFWS website, field surveys. All species have biological conclustions of No Effect.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ 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)?	☐ Yes	☒ 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?	☒ Yes	☐ 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		

for Philip S. Harris III, 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.)	01-24-2017 Date

Environmental Quality

ROY COOPER
Governor

January 6, 2017

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

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

U-3330, US 301 Business from NC 43 / 48 (Benvenue Road) to SR 1836 (May Drive), Nash County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory wetland mitigation for the subject project. Based on the information supplied by you on January 6, 2017, the impacts are located in CU 03020101 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Tar-Pamlico 03020101 NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.15	0	0	0	0

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

This mitigation acceptance letter replaces the mitigation acceptance letter issued on September 22, 2016. DMS commits to implementing sufficient compensatory wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Mr. Tom Steffens, USACE – Washington Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: U-3330 Revised

Subject: Draft Meeting Minutes from 4B Preliminary Drainage Design Review
May 8, 2014 for U-3330 in Nash County

Team Members:

Tom Steffens-USACE	(present)
Gary Jordan-USFWS	(present)
Travis Wilson-NCWRC	(present-via phone)
Ron Lucas -FHWA	(present)
Cynthia Van Der Wilde-EPA	(present)
Rob Ridings -NCDWR	(present)

Participants:

Bill Zerman, NCDOT Hydraulics
Vincent Rivers, NCDOT Hydraulics
Dan Duffield, Mulkey E & C
Christopher Dustin, Mulkey E & C
Tim Coggins, NCDOT Structures Design
Andy Young, NCDOT Roadway Design
Jillian Hinson, NCDOT Roadway Design
Mark Staley, NCDOT REU
Ted Devens – NCDOT PDEA
Wendi Johnson – Division 4
Emily Murray-NCDOT Structures Design
Chris Rivenbark-NES

Introductions were initiated by Bill Zerman. Introductions were made by all in attendance. Dan Duffield proceeded with the review.

General

- The JD expired in 2011
- The division has concerns with preformed scour holes and would prefer rock splash pads if they serve the same purpose and diffuse the flow as a preformed scour hole.
- Make sure flow is dissipated before entering the buffer zones when using rock splash pads.
- Need to use bank stabilization where ditches are entering the streams.
- When using ditches for grass swale criteria, ditches must have 3:1 side slopes.

Plan Sheet 4

The stream located at station 27+00 –L- Rt (downstream portion) and at station 29+50 – L- Lt (upstream portion) was not called as JD but will be reviewed for consideration during the re-verification process.

Plan Sheet 6 – The bridge crossing

- Concerns over removing the concrete slope protection and leaving the ground bare and unstable. The division would prefer it be covered with something like Class II riprap because of the height of Stoney Creek.

- When impacting the JS stream in-between the road and BoJangles make sure you account for impacts associated with construction installation.

Plan Sheet 7 – 42" Pipe outfall and large wetlands

- Make sure that impacts are accounted for when going outside control of access with regards to easements.
- Change the PSH to rock slash pad due to the inaccessible location of outlet of pipe. This is for shoulder berm gutter outlet, behind the guardrail.

Plan Sheet 10 – Box Culvert and cross pipe on Y line

- Make sure ditches have stream bank stabilization when entering streams.
- Change the PSH to a rock splash pad as the contours don't look flat in this area. Check to make sure the velocities are diffused before entering the buffers.

Questions?

- Ted Devens would like preliminary impact numbers to compare with the FONSI

Some folks could not access the redline drainage; it could be that the name of the file had a "%" in the file name. The file has been renamed so it can be accessed.

Meeting Adjourned.

Subject: Meeting Minutes from 4C Permit Drawings Review
November 9, 2016 for U-3330 in Nash County

Team Members:

Tom Steffens-USACE	(absent)
Gary Jordan-USFWS	(absent)
Travis Wilson-NCWRC	(absent)
Ron Lucas -FHWA	(absent)
Cynthia Van Der Wilde-EPA	(absent)
Rob Ridings -NCDWR	(present)

Participants:

Stephen Morgan, NCDOT Hydraulics
Vincent Rivers, NCDOT Hydraulics
David Bocker, CALYX E & C
J.R. Hopson, CALYX E & C
David Stutts, NCDOT Structure Design
Tatia White, NCDOT Roadway Design
Piotr Stojda, NCDOT Roadway Design
Mark Staley, NCDOT REU
Gordan Cashin – NCDOT PDEA-NEU
Chad Coggins – NCDOT Division 4
Larry James – NCDOT Utilities

Introductions were initiated by Stephen Morgan. Introductions were made by all in attendance. David Bocker proceeded with the review.

General

- The JD expired in 2011; however an updated wetlands file was received from NCDOT on 7/19/2016.
- At the 4B meeting, the division had concerns with preformed scour holes and preferred rock splash pads as long as they serve the same purpose and diffuse the flow as a preformed scour hole. Every effort was also made to ensure flow was dissipated before entering the buffer zones when using rock splash pads.
- Bank stabilization has been incorporated into the design where ditches are entering the streams.
- Ditches throughout the project have 3:1 side slopes or flatter.

Title Sheet

- Update the letting date to match Roadway plans.

Site 1 - Plan Sheet 6 – Wetlands

- The Division requested that hand clearing be replaced with mechanized clearing (10') or to the temporary construction easement.

Site 2 - Plan Sheet 7 – 42" Pipe outfall and large wetlands (70+00 RT)

- The Division requested that hand clearing be replaced with mechanized clearing (10') or to the temporary construction easement.

- CALYX explained that although an updated wetlands file was received in July 2016, the study limits did not extend to the wetland impacts shown along –Y2RPC-. Currently, there are no wetlands currently shown in this area on the plans. It was decided that CALYX would edit the wetlands file to show the "older" more accurate wetlands in the area to ensure that the wetlands are flagged during construction and impacts are accurately accounted. This updated file would be sent to NCDOT to officially update the fs file accordingly for distribution to the project team.
- It was noted that a pocket of wetlands is shown within a channel in Quadrant C (75+50 RT); a proposed 48" RCP is impacting this area. These impacts need to be added to the permit drawings and summary tables accordingly.

Site 3 - Plan Sheet 7 – Wetlands (73+00 LT)

- The Division requested that hand clearing be replaced with mechanized clearing (10') or to the temporary construction easement.
- It was noted that a JS is located just outside of the existing R/W between 70+00 and 73+25 LT; current plans to do not show impacts to this JS, however construction easement is shown going across the JS. It was requested that Erosion Control Devices do not cross this JS.

Site 4 - Plan Sheet 10 – Goose Branch - Box Culvert and cross pipe on Y line

- Consider adding riprap at the outlet of the 72" RCP-IV under –Y9- since it is outside of the Jurisdiction Stream. Also, consider adding bank stabilization in this area.
- The Division requested that hand clearing be replaced with mechanized clearing (10') or to the temporary construction easement.
- Correct level symbology for 66" RCP overflow pipe at outlet.

Site 5 - Plan Sheet 6 – Stony Creek - Bridge Crossing

- CALYX explained that the permanent bridge spans the creek. Since the 4B meeting, due to constructability, phased construction of the bridge is no longer possible, therefore a detour with temporary bridge located to the south of US 301 will be utilized. NCDOT Structures provided Temporary Causeway/Work Bridge drawings which were used to show the temporary impacts accordingly.
- Add buffer impacts to the northwest quadrant of the bridge crossing.
- Turn off Bridge approach slab hatching.
- Add Detail of Temporary Causeway / Work Bridge. It was suggested to simply add the sheets (provided by Structures which shows these actual locations) to the permit drawing set.
- Include/show temporary impacts for entire JS that is between –L- and Bojangles.
- CALYX to relook at the need for concrete slope protection between the proposed retaining wall and bridge at –L- 59+50 LT. Discussion between CALYX and Division 4 Construction staff are pending.
- Temporary impacts should be increased at the bridge to ensure the contractor has sufficient room for construction.

- Add 5'-10' temporary impacts around existing bents to be removed.
- Show temporary buffer impacts on the south side of the bridge in the area of the temporary bridge.
- The Division requested that stream bank stabilization be added on the south side of the bridge from drip line to drip line.

Impact Summary Tables

- Revise Title block to show correct Project info (TIP & County)
- Add "Temp." Roadway/Fill notation for areas that are impacted due to the Detour.
- Eliminate note showing "0.05 acres of Temporary……" since all hand clearing impacts are to be removed from the project.

Misc. Information

- An attempt will be made to clean-up the permit drawings (levels, etc.) in order to make them a bit more legible, especially Plan Sheet 6 which shows the –L- alignment as well as the various –DET- alignments.
- Remove 1 ft grids from all Cross Section Sheets for legibility.
- Sites will be renumbered according to the stationing along the –L- alignment for consistency.
- NCDOT Hydraulics to check with NCDOT Utilities regarding any additional areas that may be impacted.
- Add Avoidance & Minimization language to the Stormwater Management Plan such as: locations where Curb & Gutter sections were eliminated and use of temporary work bridges.

Meeting Adjourned.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.06; Released June 2016)

WBS Element:	36596.3.FR1	TIP No.:	U-3330	County(ies):	Nash

General Project Information

WBS Element:	36596.3.FR1	**TIP Number:**	U-3330	**Project Type:**	Roadway Widening	**Date:**	12/1/2016
NCDOT Contact:	Vincent Rivers			**Contractor / Designer:**	CALYX Engineers and Consultants / David P. Bocker, PE		
	Address: 1020 Birch Ridge Drive Raleigh, NC 27610-150				**Address:** 7500 East Independence Blvd. Suite 100 Charlotte, NC 28227		
	Phone: 919-707-6748				**Phone:** 704-566-4342		
	Email: vnrivers@ncdot.gov				**Email:** dbocker@CALYXengineers.com		
City/Town:	Rocky Mount			**County(ies):**	Nash		
River Basin(s):	Tar-Pamlico			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	2.044 Miles	**Surrounding Land Use:**	Commercail / Business

	Proposed Project	Existing Site
Project Built-Upon Area (ac.)	29.8 ac.	27.2 ac.
Typical Cross Section Description:	6-lane Divided Highway with Grass median and Intersection Improvements throughout the project corridor (3 @ 12' lanes in each direction)	Existing 4-lane Divided Highway with Grass median (2 @ 12' lanes in each direction)
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 47100 Year: 2036	Existing: 38580 Year: 2016
General Project Narrative: (Description of Minimization of Water Quality Impacts)	The project consists of roadway widening along US 301, bridge replacement of Bridge #630173 & #630175 over Stony Creek and culvert extension at Goose Branch in Nash County. The proposed stormwater runoff from the proposed bridge is conveyed to storm draiange systems that outlet outside of the buffers and then outlet to riprap splash pads. The Division has requested the use of riprap splash pads instead of PSH to provide diffused flow and treatment of stormwater. It should also be noted that there are no deck drains and thus no direct discharge into the creek. Curb & Gutter was also removed in various sections to utilize grassed ditches and swales for stormwater treatment. Additionally, temporary work bridges are being used to construct the proposed bridge which avoided bents within the stream.	

Waterbody Information

Surface Water Body (1):	Stony Creek	**NCDWR Stream Index No.:**	28-68		
NCDWR Surface Water Classification for Water Body	**Primary Classification:**	Class C			
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)			
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:			**Buffer Rules in Effect:**	Tar-Pamlico	
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**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)					

WBS Element: 36596.3.FR1	TIP No.: U-3330	County(ies): Nash	Page 2 of 2

Additional Waterbody Information

Surface Water Body (2):	Goose Branch		**NCDWR Stream Index No.:**	28-70		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	(NSW)			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?	Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**	Tar-Pamlico	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(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)						

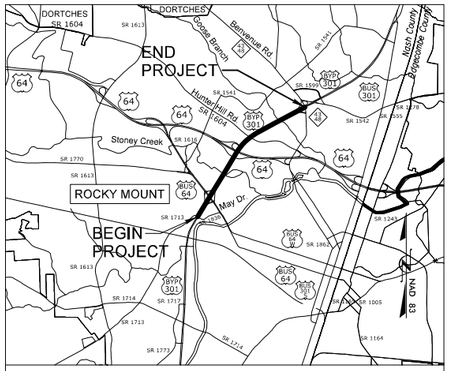
09/08/99

TIP PROJECT: U-3330

CONTRACT:

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$
$$$$$$$$DGN$$$$$$$$

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–3330	1	

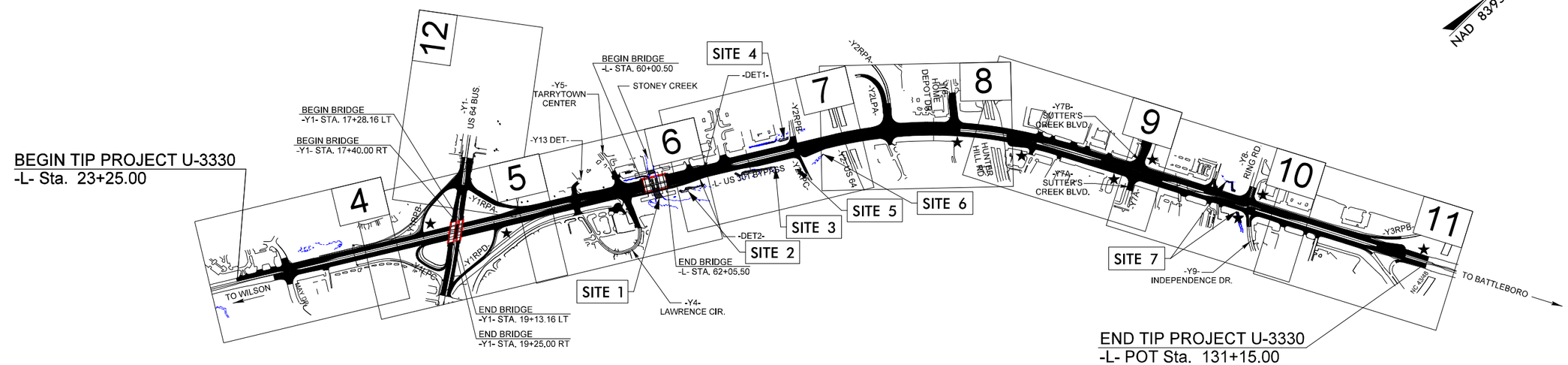
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

PERMIT DRAWING
SHEET 1 OF 28

LOCATION: *ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, STRUCTURES, AND CULVERT*

WETLAND AND SURFACE WATER IMPACTS PERMIT



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330 ..... 2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330 ..... 0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330 ..... 2.044 Miles

Prepared in the Office of:
CALYX ENGINEERS + CONSULTANTS NC License # F-1333
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 21, 2014

LETTING DATE: MAY 16, 2017

NCDOT CONTACT: *Brenda Moore, P.E., CPM* — *PROJECT ENGINEER – ROADWAY DESIGN*

Steve A. Drum, P.E. — *PROJECT ENGINEER*

Michael A. Holt, P.E. — *PROJECT DESIGN ENGINEER*

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

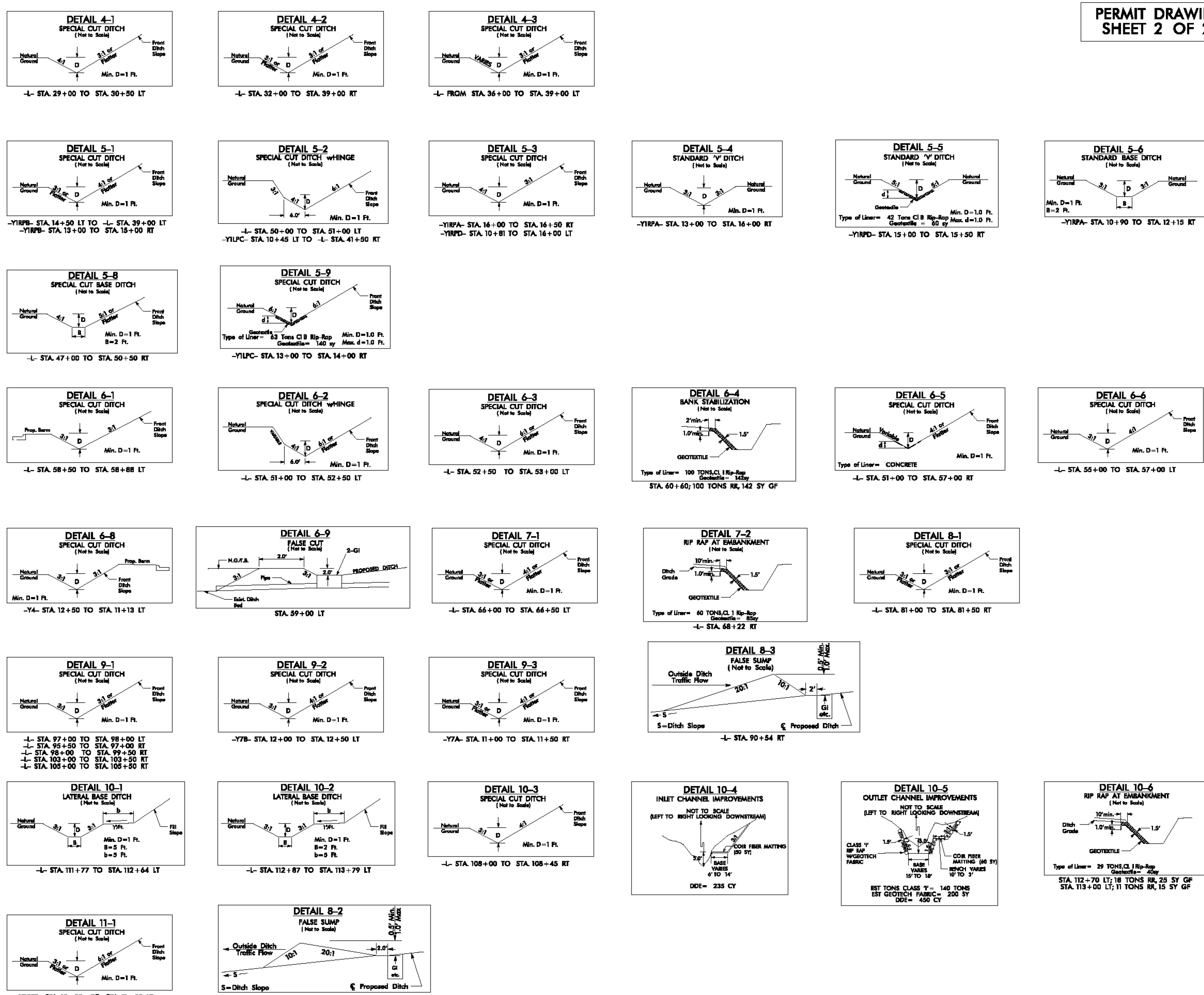
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2D-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 2 OF 28



CALYX
ENGINEERS + CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com
NC License # F-1333

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6

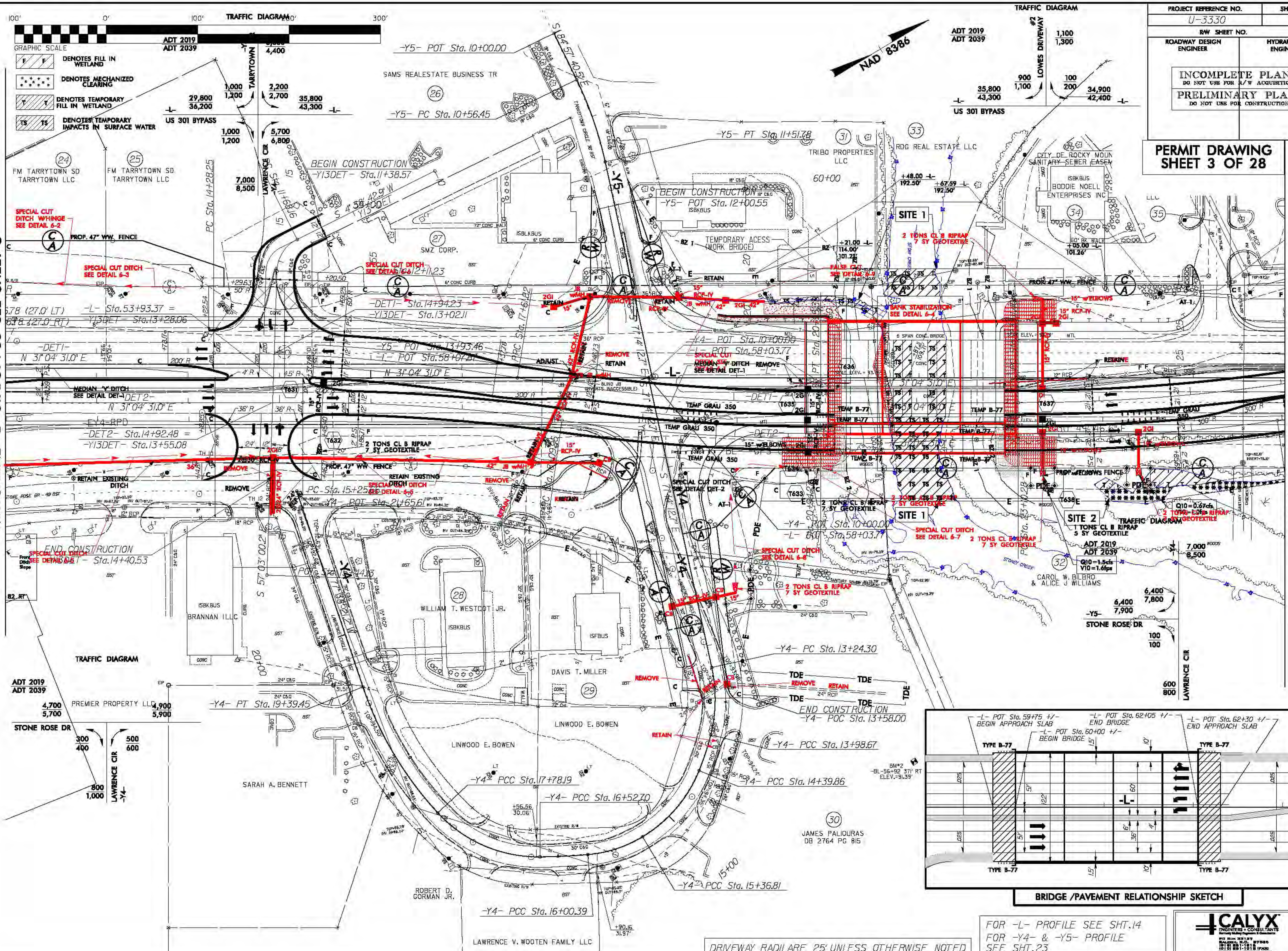
R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 3 OF 28



DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.14
FOR -Y4- & -Y5- PROFILE SEE SHT.23

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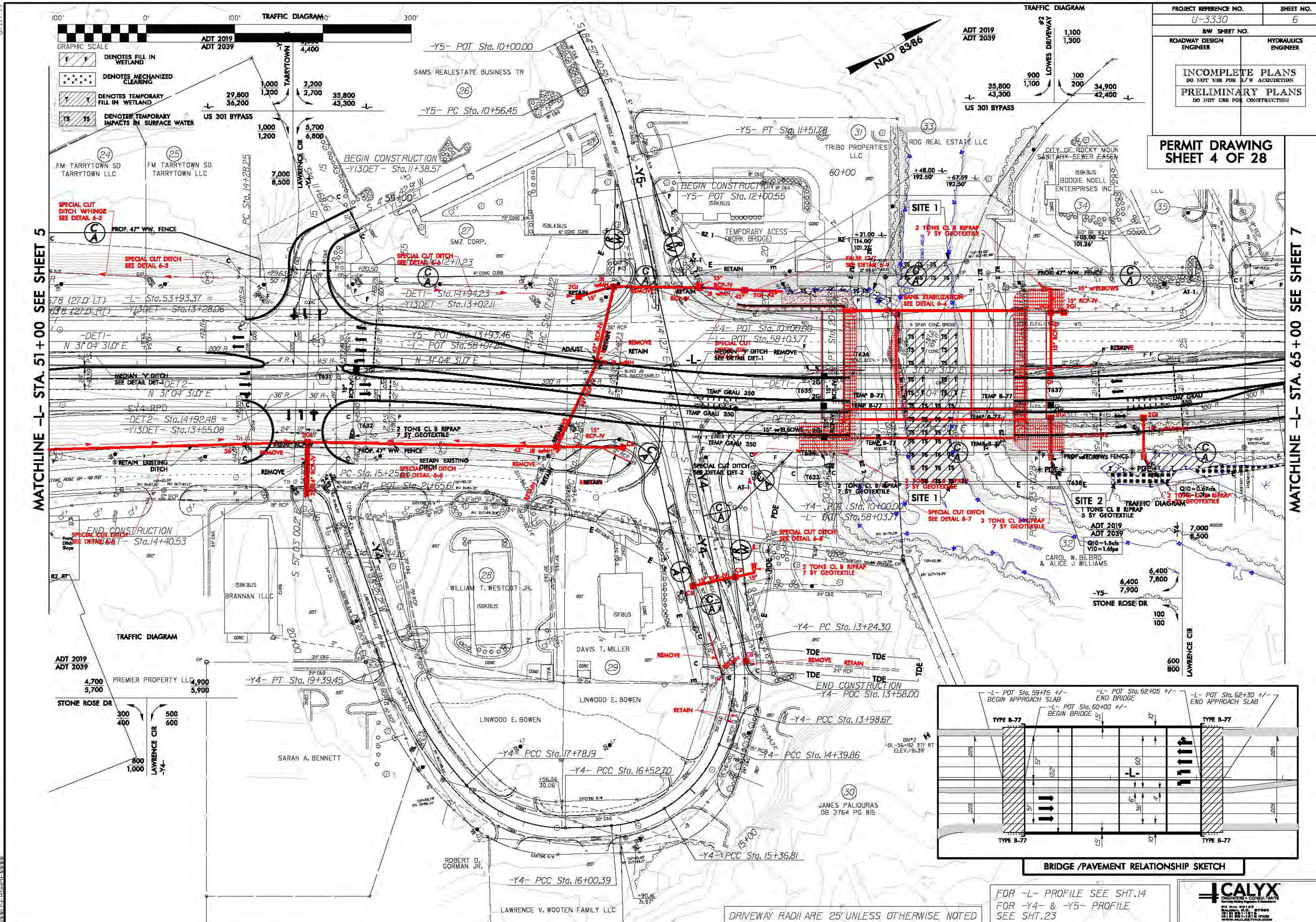

PROJECT REFERENCE NO.
SHEET NO.
U-3330
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 4 OF 28
8/17/99
TRAFFIC DIAGRAM
GRAPHIC SCALE
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
NAD 83/86
US 301 BYPASS
MATCHLINE -L- STA. 51+00 SEE SHEET 5
MATCHLINE -L- STA. 65+00 SEE SHEET 7
BEGIN CONSTRUCTION -Y13DET- Sta. 11+38.57
BEGIN CONSTRUCTION -Y5- POT Sta. 12+00.55
END CONSTRUCTION -DET- Sta. 14+40.53
END CONSTRUCTION -Y4- POC Sta. 13+58.00
-Y5- POT Sta. 10+00.00
-Y5- PC Sta. 10+56.45
-Y5- PT Sta. 11+51.78
-Y4- POT Sta. 10+00.00
-L- POT Sta. 58+03.77
SITE 1
SITE 2
2 TONS CL B RIPRAP 7 SY GEOTEXTILE
1 TONS CL B RIPRAP 5 SY GEOTEXTILE
BANK STABILIZATION SEE DETAIL 6-4
SPECIAL CUT DITCH SEE DETAIL 6-3
SPECIAL CUT DITCH SEE DETAIL 6-7
SPECIAL CUT DITCH SEE DETAIL 6-8
PROP. 47" WW FENCE
STONY CREEK
STONE ROSE DR
LAWRENCE CIR
TARRYTOWN
LOWES DRIVEWAY #2
BRIDGE /PAVEMENT RELATIONSHIP SKETCH
-L- POT Sta. 59+75 +/- BEGIN APPROACH SLAB
-L- POT Sta. 60+00 +/- BEGIN BRIDGE
-L- POT Sta. 62+05 +/- END BRIDGE
-L- POT Sta. 62+30 +/- END APPROACH SLAB
TYPE B-77
FOR -L- PROFILE SEE SHT.14
FOR -Y4- & -Y5- PROFILE SEE SHT.23
DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED
CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

PERMIT DRAWING SHEET 5 OF 28

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

T T DENOTES TEMPORARY FILL IN WETLAND

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

GRAPHIC SCALE 50' 0' 50' 100' 150'

TRIBO PROPERTIES

RDG REAL ESTATE LLC DB 2565 PG 135

CITY OF ROCKY MOUNT SANITARY SEWER EASEMENT DB 1278 PG 967

ISBKBUS BODDIE NOELL ENTERPRISES INC DB 2341 PG 500

ARCLWRMTNCOOI, LLC DB 2693 PG 640

60' BK WALK

SITE 1

SITE 2

2 TONS CL B RIPRAP
7 SY GEOTEXTILE

FALSE CUT SEE DETAIL 6-9

BANK STABILIZATION SEE DETAIL 6-4

SPECIAL CUT MEDIAN V DITCH REMOVE SEE DETAIL DET-1

SPECIAL CUT DITCH SEE DETAIL 6-1

SPECIAL CUT DITCH SEE DETAIL 6-7

SPECIAL CUT DITCH SEE DETAIL 6-8

PROP. 47" WW FENCE

PROP. W/ELBOWS FENCE

15" RCP-IV 2GI

15" w/ELBOWS

42" 2GI 42"

5 SPAN CONC. BRIDGE

PROP. SBG

PROP. 5' MONO. ISLAND

PROP. SHLDR. BERM GUTTER

200' LEFT-TURN TAPER

TEMP GRAU 350

TEMP B-77

T634 T635 T636 T637 T638 T633

Q10=0.67cfs
V10=1.0fps

Q10=1.5cfs
V10=1.6fps

CAROL W. BILBRO & ALICE J WILLIAMS DB 2693 PG 316

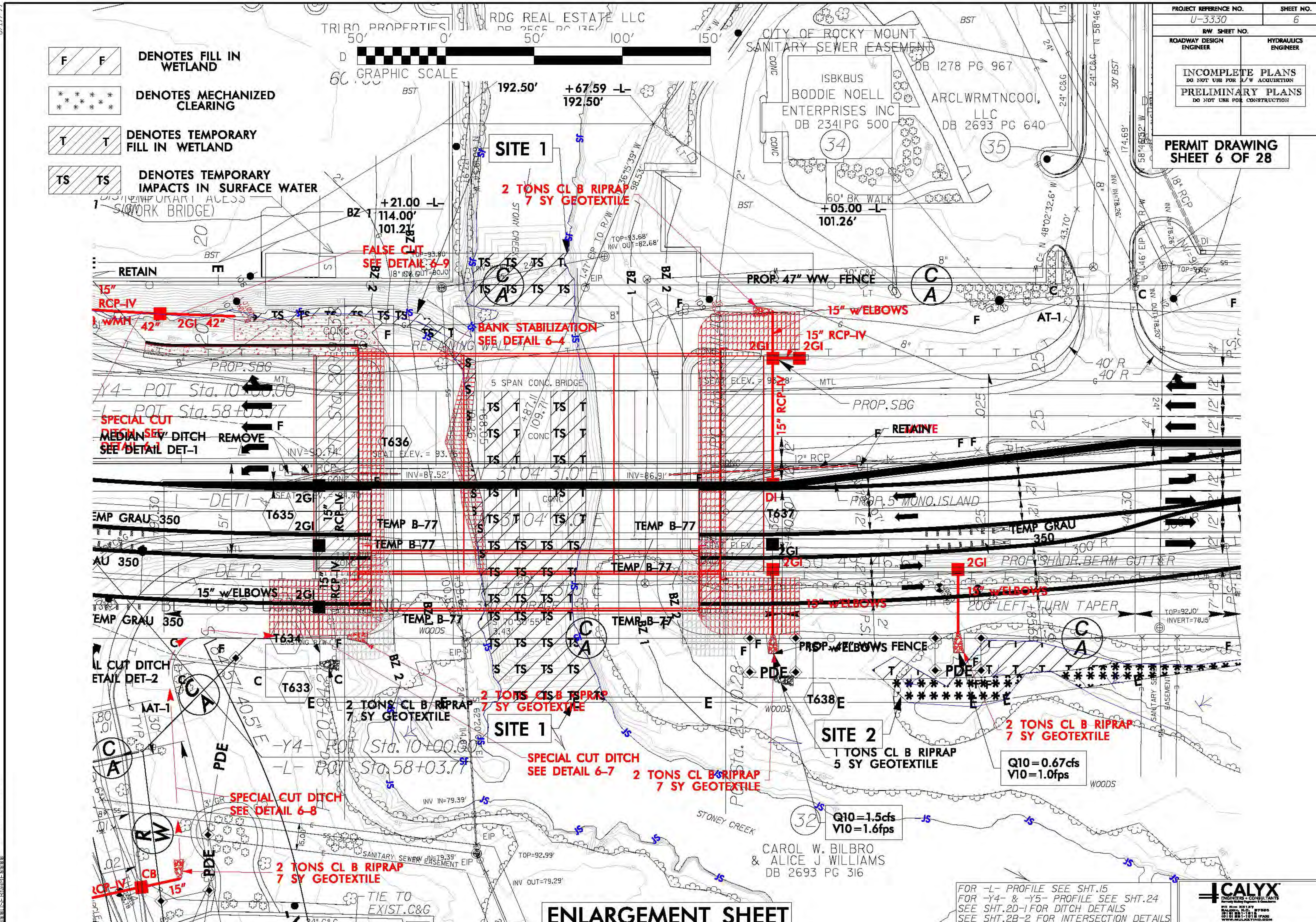
STONEY CREEK

WOODS

FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

ENLARGEMENT SHEET

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333


PROJECT REFERENCE NO.
U-3330
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 6 OF 28
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
GRAPHIC SCALE
50' 0' 50' 100' 150'
TRIBO PROPERTIES
RDG REAL ESTATE LLC
CITY OF ROCKY MOUNT SANITARY SEWER EASEMENT
DB 1278 PG 967
BODDIE NOELL ENTERPRISES INC
DB 2341 PG 500
ARCLWRMTNCOOI, LLC
DB 2693 PG 640
SITE 1
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
TEMPORARY ACCESS (WORK BRIDGE)
FALSE CUT
SEE DETAIL 6-9
BANK STABILIZATION
SEE DETAIL 6-4
PROP. 47" WW. FENCE
15" w/ELBOWS
15" RCP-IV
5 SPAN CONC. BRIDGE
SPECIAL CUT DITCH
SEE DETAIL 6-1
MEDIAN "V" DITCH
SEE DETAIL DET-1
REMOVE
RETAIN
TEMP B-77
TEMP GRAU 350
PROP. 5' MONO. ISLAND
PROP. SHLDR. BERM GUTTER
200' LEFT-TURN TAPER
PROP. WW FENCE
PDE
SITE 2
1 TONS CL B RIPRAP
5 SY GEOTEXTILE
Q10=0.67cfs
V10=1.0fps
Q10=1.5cfs
V10=1.6fps
SPECIAL CUT DITCH
SEE DETAIL 6-7
SPECIAL CUT DITCH
SEE DETAIL 6-8
STONEY CREEK
CAROL W. BILBRO
& ALICE J WILLIAMS
DB 2693 PG 316
TIE TO EXIST. C&G
FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS
ENLARGEMENT SHEET
CALYX ENGINEERS + CONSULTANTS
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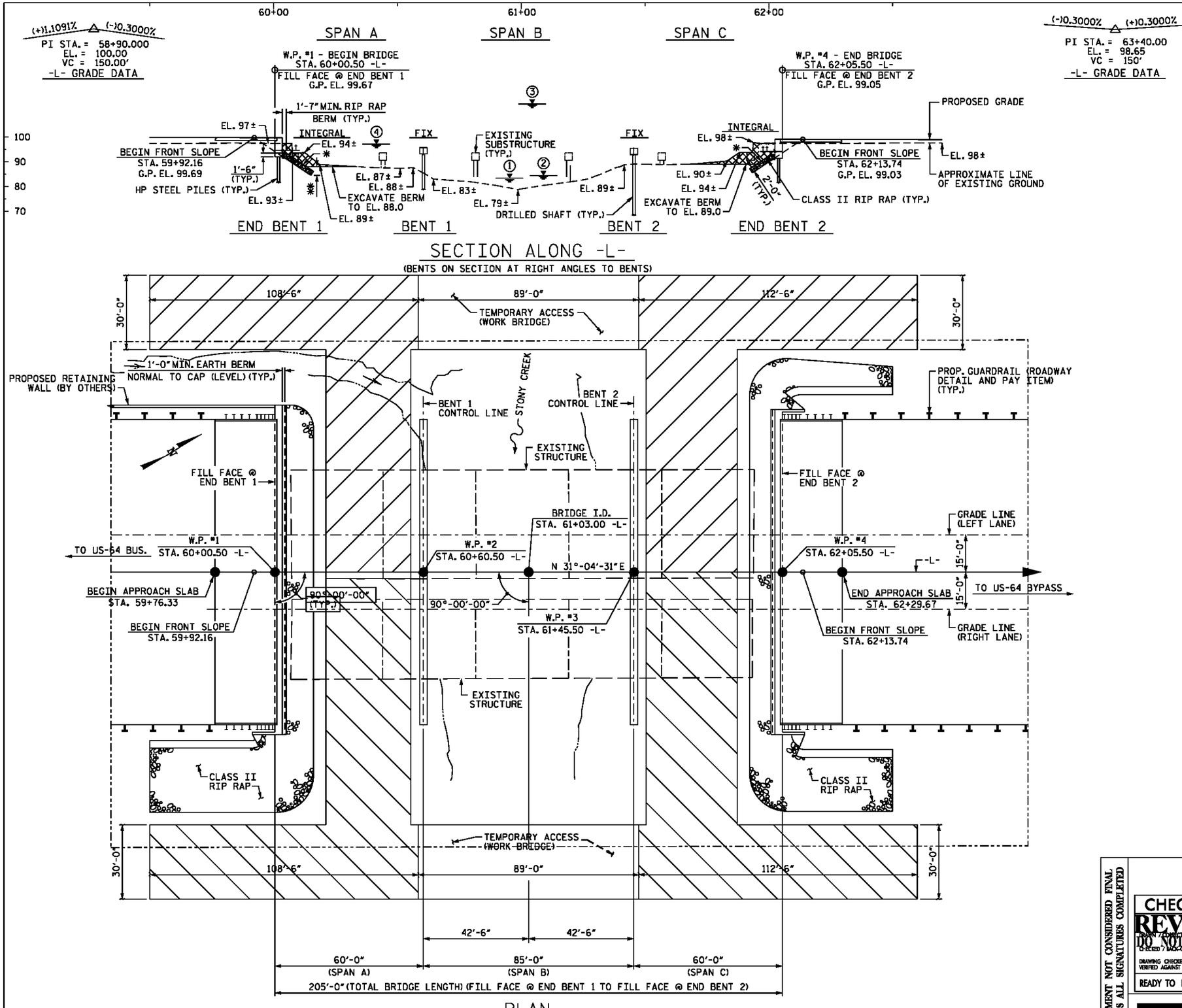
8/17/99

F.A. PROJECT NO. : STP-0301(28)



SECTION ALONG -L-

(BENTS ON SECTION AT RIGHT ANGLES TO BENTS)

PLAN

(PILES AND DRILLED SHAFTS NOT SHOWN FOR CLARITY)

NOTES:

- DENOTES UNCLASSIFIED STRUCTURE EXCAVATION
- ① WATER SURFACE EL. 83.3 ON 11-19-13
- ② NORMAL WATER SURFACE EL. 84.4
- ③ HIGH WATER EL. 102.9 ON 09-1999
- ④ BASE DISCHARGE (Q100) EL. 97.1
- * SLOPE 1.5:1 (NORMAL TO CAP)
- ** 3'-6" MIN. (TYP.)
- † LOW CHORD @ END BENT 1 EL. 95.13
- †† LOW CHORD @ END BENT 2 EL. 94.53

DENOTES STAGE I TEMPORARY ACCESS (ROCK CAUSEWAY)

DENOTES STAGE II TEMPORARY ACCESS (ROCK CAUSEWAY)

PERMIT DRAWING
SHEET 7 OF 28

PROJECT NO. U-3330

NASH COUNTY

STATION: 61+03.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 173 & 175

DRAWN BY : M. D. MAYHEW DATE : 5-11-16

CHECKED BY : _____ DATE : _____

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHECK PRINT No. ____

REVIEW INITIALS DATE PLANS

DRAWN / CORRECTED BY: _____ _____

DO NOT USE FOR CONSTRUCTION

CHECKED / MADE CHECKED BY: _____ _____

DRAWING CHECKED AND VERIFIED AGAINST CALCS: _____ _____

READY TO PRINT: _____ _____

Michael Baker INTERNATIONAL

Michael Baker Engineering
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
NC License No. : F-1084

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER STONY CREEK
ON US-301 BYPASS
BETWEEN US-64 BUS.
AND US-64 BYPASS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	$SHT#$
1			3			TOTAL SHEETS
2			4			$TOT#$

SITE 2

$USER$ $TIME$
$DATE$
Filename: $FILE$

F.A. PROJECT NO. : STP-0301(28)

(+)1.1091% (-)0.3000%
PI STA. = 58+90.000
EL. = 100.00
VC = 150.00'
-L- GRADE DATA

(-)0.3000% (+)0.3000%
PI STA. = 63+40.00
EL. = 98.65
VC = 150'
-L- GRADE DATA

60+00 61+00 62+00

SPAN A SPAN B SPAN C

W.P. #1 - BEGIN BRIDGE
STA. 60+00.50 -L-
FILL FACE @ END BENT 1
G.P. EL. 99.67

W.P. #4 - END BRIDGE
STA. 62+05.50 -L-
FILL FACE @ END BENT 2
G.P. EL. 99.05

PROPOSED GRADE

1'-7" MIN. RIP RAP
BERM (TYP.)

INTEGRAL

EL. 97±
EL. 94±

FIX

EXISTING SUBSTRUCTURE (TYP.)

FIX

INTEGRAL

EL. 98±

BEGIN FRONT SLOPE
STA. 59+92.16
G.P. EL. 99.69

1'-6" (TYP.)

HP STEEL PILES (TYP.)

EL. 93±

EL. 87±
EL. 88±

EXCAVATE BERM TO EL. 88.0

EL. 89±

EL. 83±

EL. 79±

EL. 89±

DRILLED SHAFT (TYP.)

EL. 90±
EL. 94±

EXCAVATE BERM TO EL. 89.0

2'-0" (TYP.)

CLASS II RIP RAP (TYP.)

BEGIN FRONT SLOPE
STA. 62+13.74
G.P. EL. 99.03

EL. 98±

APPROXIMATE LINE OF EXISTING GROUND

END BENT 1 BENT 1 BENT 2 END BENT 2

SECTION ALONG -L-
(BENTS ON SECTION AT RIGHT ANGLES TO BENTS)

Causeway/Work Bridge

NOTES:

- DENOTES UNCLASSIFIED STRUCTURE EXCAVATION
- ① WATER SURFACE EL. 83.3 ON 11-19-13
- ② NORMAL WATER SURFACE EL. 84.4
- ③ HIGH WATER EL. 102.9 ON 09-1999
- ④ BASE DISCHARGE (Q100) EL. 97.1
- * SLOPE 1.5:1 (NORMAL TO CAP)
- ** 3'-6" MIN. (TYP.)
- † LOW CHORD @ END BENT 1 EL. 95.13
- †† LOW CHORD @ END BENT 2 EL. 94.53

PROPOSED RETAINING WALL (BY OTHERS)

1'-0" MIN. EARTH BERM
NORMAL TO CAP (LEVEL) (TYP.)

BENT 1 CONTROL LINE

STONY CREEK

Causeway

EXISTING STRUCTURE

BENT 2 CONTROL LINE

PROP. GUARDRAIL (ROADWAY DETAIL AND PAY ITEM) (TYP.)

Drawing NTS

FILL FACE @ END BENT 1

67'-6"

61'-8" (TYP.)

65'-7½"

FILL FACE @ END BENT 2

GRADE LINE (LEFT LANE)

TO US-64 BUS.

W.P. #1
STA. 60+00.50 -L-

W.P. #2
STA. 60+60.50 -L-

BRIDGE I.D.
STA. 61+03.00 -L-
N 31°-04'-31"E

W.P. #3
STA. 61+45.50 -L-

W.P. #4
STA. 62+05.50 -L-

-L-

15'-0"

15'-0"

TO US-64 BYPASS

END APPROACH SLAB
STA. 62+29.67

BEGIN APPROACH SLAB
STA. 59+76.33

BEGIN FRONT SLOPE
STA. 59+92.16

90°-00'-00" (TYP.)

EXISTING STRUCTURE

90°-00'-00"

133'-1½"

123'-4" (TYP.)

131'-3"

61'-8" (TYP.)

65'-7½"

BEGIN FRONT SLOPE
STA. 62+13.74

GRADE LINE (RIGHT LANE)

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

CLASS II RIP RAP

CLASS II RIP RAP

TEMPORARY BRIDGE

42'-6" 42'-6"

60'-0" (SPAN A) 85'-0" (SPAN B) 60'-0" (SPAN C)

205'-0" (TOTAL BRIDGE LENGTH) (FILL FACE @ END BENT 1 TO FILL FACE @ END BENT 2)

Causeway/Work Bridge

PLAN
(PILES AND DRILLED SHAFTS NOT SHOWN FOR CLARITY)

PERMIT DRAWING
SHEET 8 OF 28

PROJECT NO. U-3330
NASH COUNTY
STATION: 61+03.00 -L-
SHEET 1 OF 2 REPLACES BRIDGE NO. 173 & 175

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVIEW PLANS
DO NOT USE FOR CONSTRUCTION.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PRELIMINARY
GENERAL DRAWING
FOR BRIDGE OVER STONY CREEK
ON US-301 BYPASS
BETWEEN US-64 BUS.
AND US-64 BYPASS

Michael Baker INTERNATIONAL
Michael Baker Engineering
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
NC License No. : F-1084

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S-1
TOTAL SHEETS 2

DRAWN BY : M. D. MAYHEW DATE : 4-5-16
CHECKED BY : B. J. BELL DATE : 5-2-16

mdmayhew
5/3/2016 8:47:43 AM
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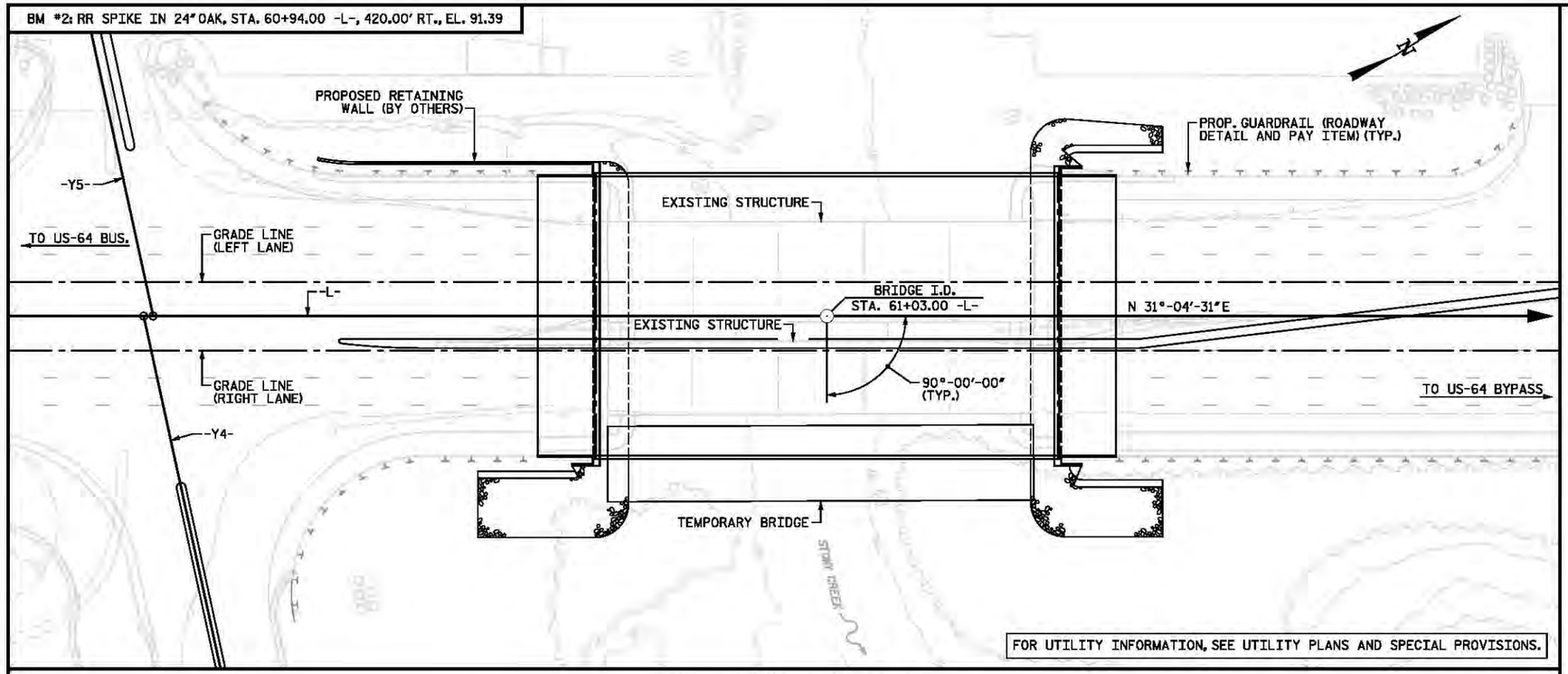
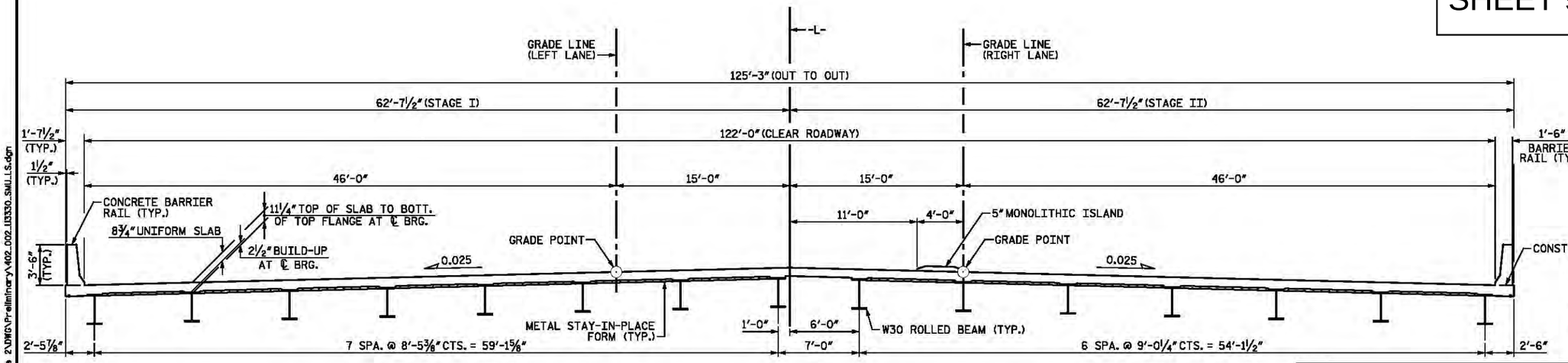
SITE 2



LOCATION SKETCH



TYPICAL SECTION

(3 SPAN CONTINUOUS BRIDGE WITH COMPOSITE DECK SUPPORTED ON STEEL ROLLED BEAMS)

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

HYDRAULIC DATA

DESIGN DISCHARGE	=11,800 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YR
DESIGN HIGH WATER ELEVATION	= 95.1
DRAINAGE AREA	= 118 SQ. MI.
BASE DISCHARGE (Q100)	=14,000 CFS
BASE HIGH WATER ELEVATION	= 97.1

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	=16,225 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 100+ YR
OVERTOPPING FLOOD ELEVATION	= 99.3

PERMIT DRAWING
SHEET 9 OF 28

PROJECT NO. U-3330
NASH COUNTY
STATION: 61+03.00 -L-
SHEET 2 OF 2

DRAWN BY : M. D. MAYHEW DATE : 4-5-16
CHECKED BY : B. J. BELL DATE : 5-2-16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVIEW PLANS
DO NOT USE FOR CONSTRUCTION.

Michael Baker INTERNATIONAL
Michael Baker Engineering
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
NC License No.: F-1084

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PRELIMINARY
GENERAL DRAWING
FOR BRIDGE OVER STONY CREEK
ON US-301 BYPASS
BETWEEN US-64 BUS.
AND US-64 BYPASS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			2

SITE 2

mdmayhew 5/3/2016 8:47:44 AM
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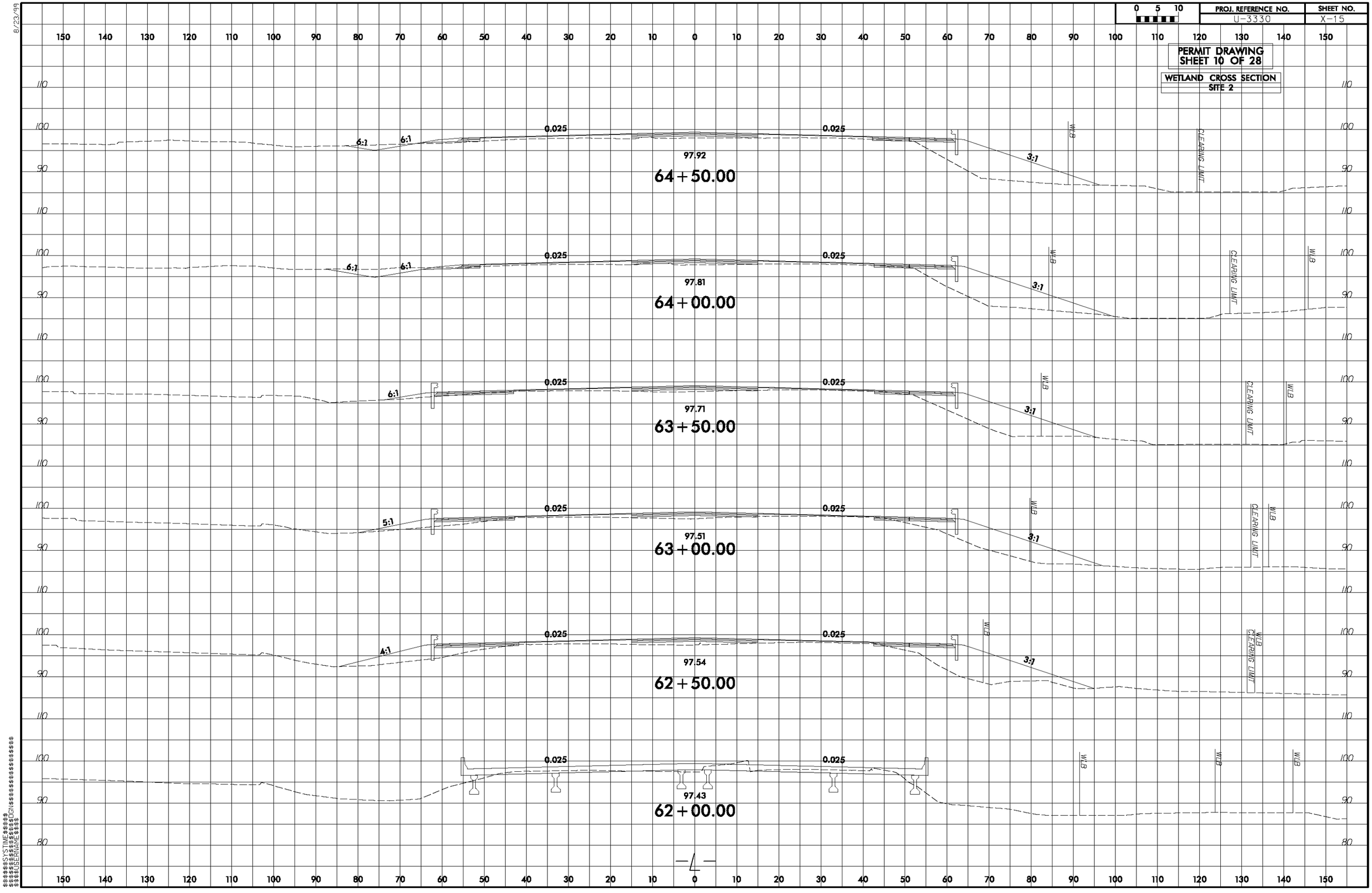
8/23/99

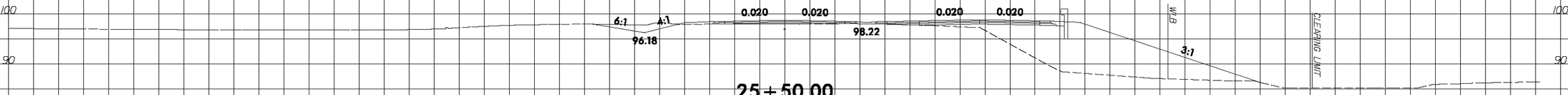
PROJ. REFERENCE NO. U-3330

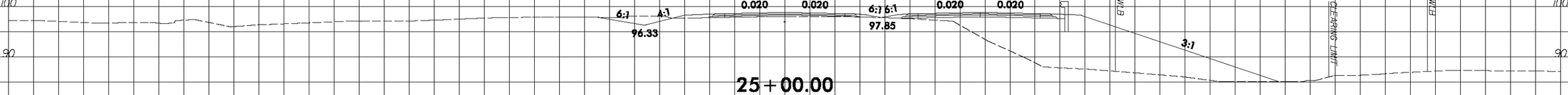
SHEET NO. X-15

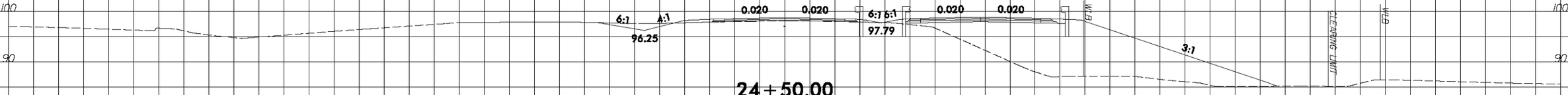
PERMIT DRAWING
SHEET 10 OF 28

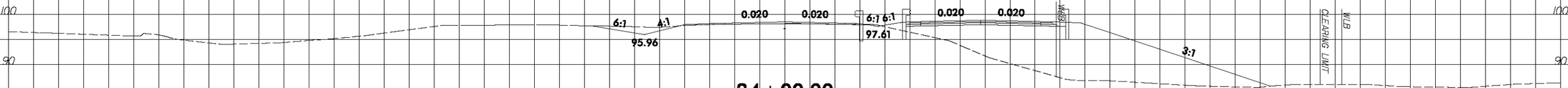
WETLAND CROSS SECTION
SITE 2

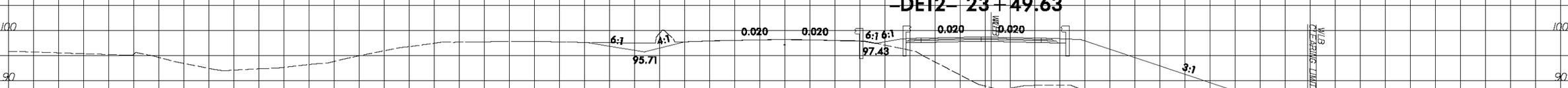


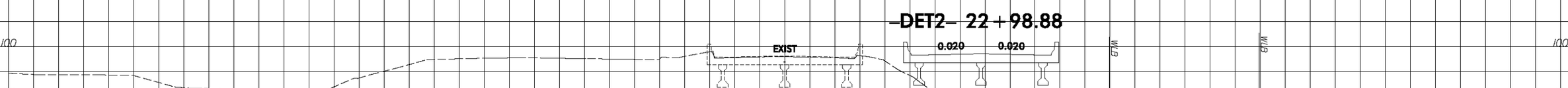












8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-78

PERMIT DRAWING
SHEET 11 OF 28

WETLAND CROSS SECTION
SITE 2

$$$$$$SYSTIME$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

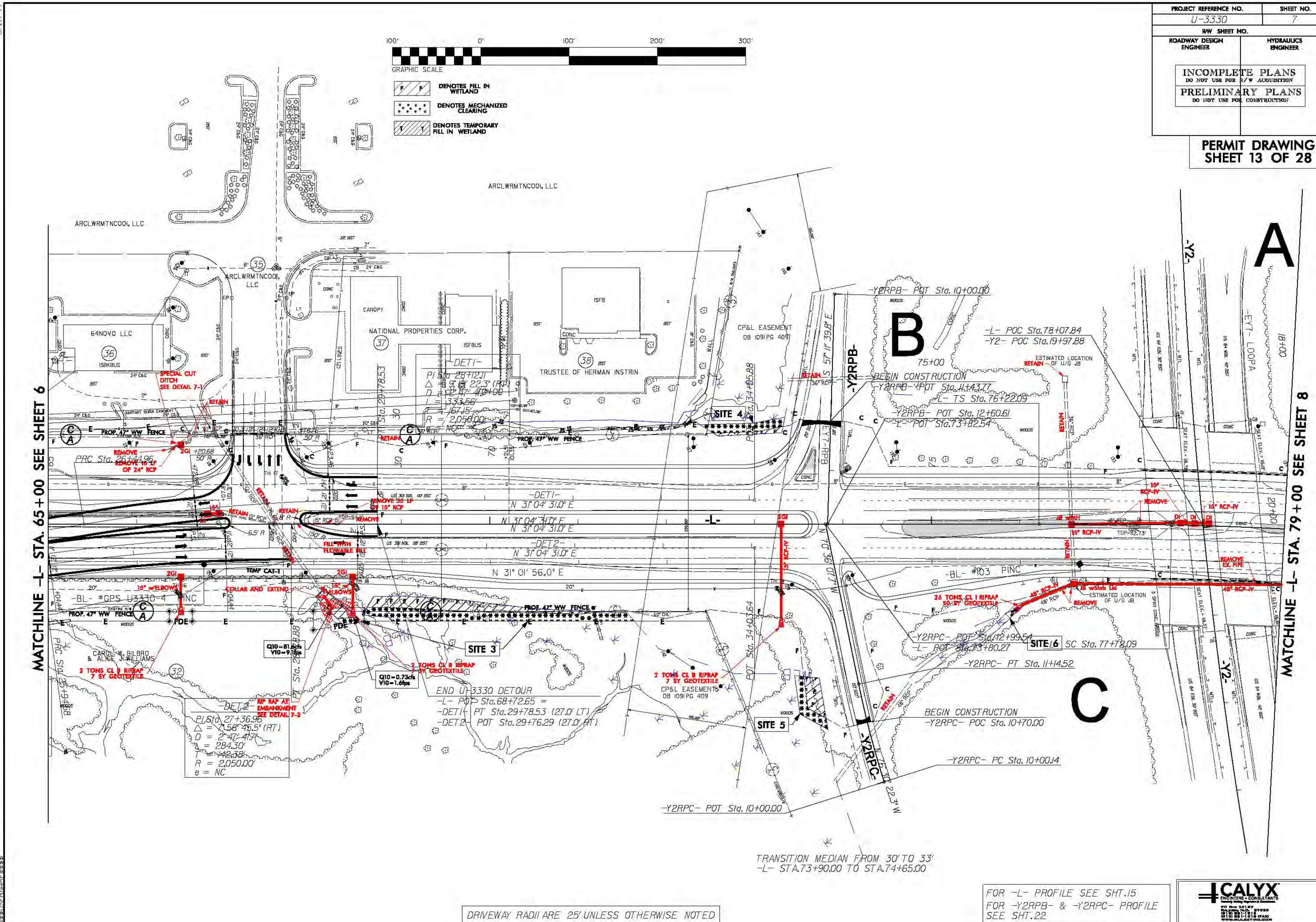
8/23/99

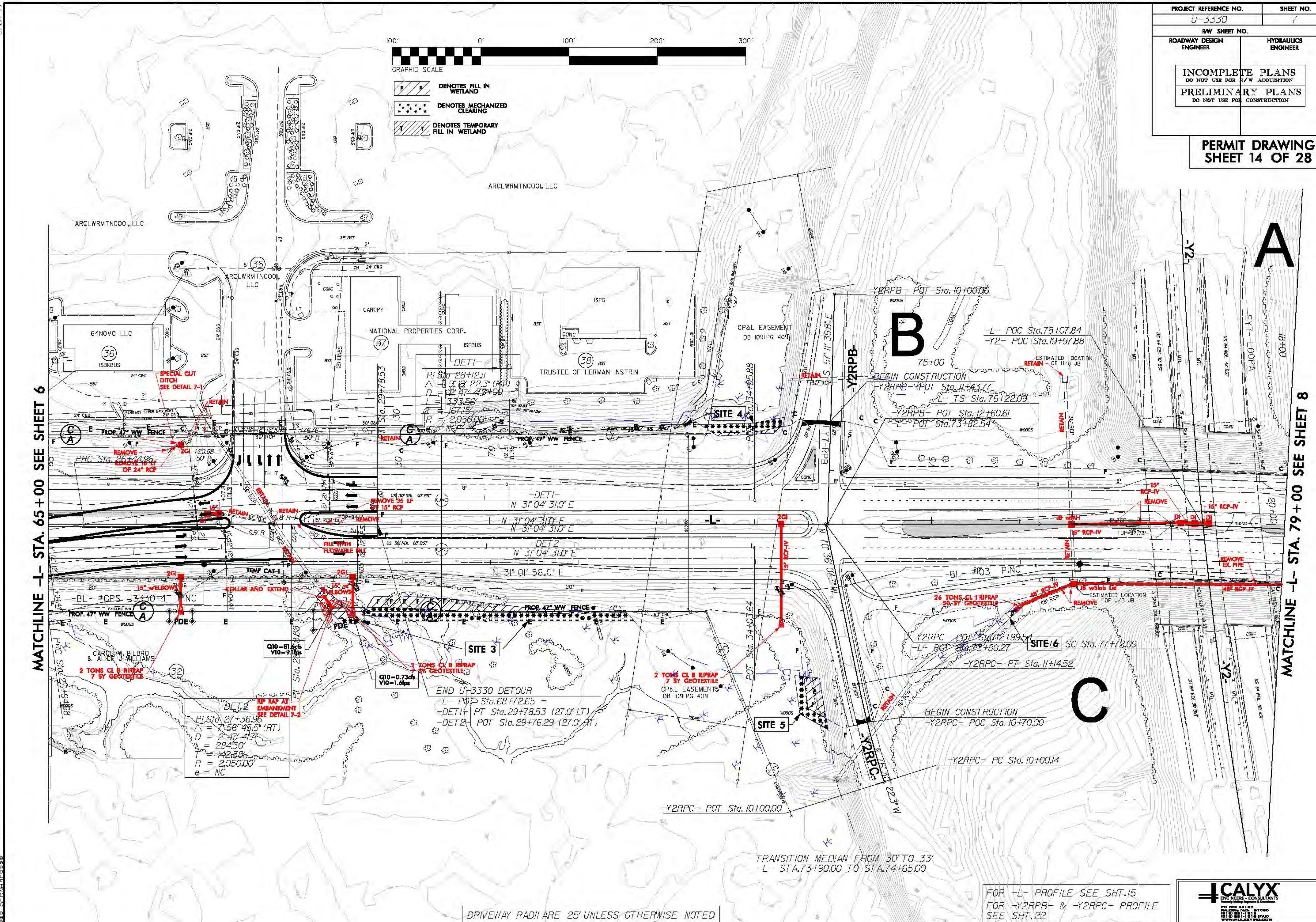
PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-79

PERMIT DRAWING
SHEET 12 OF 28

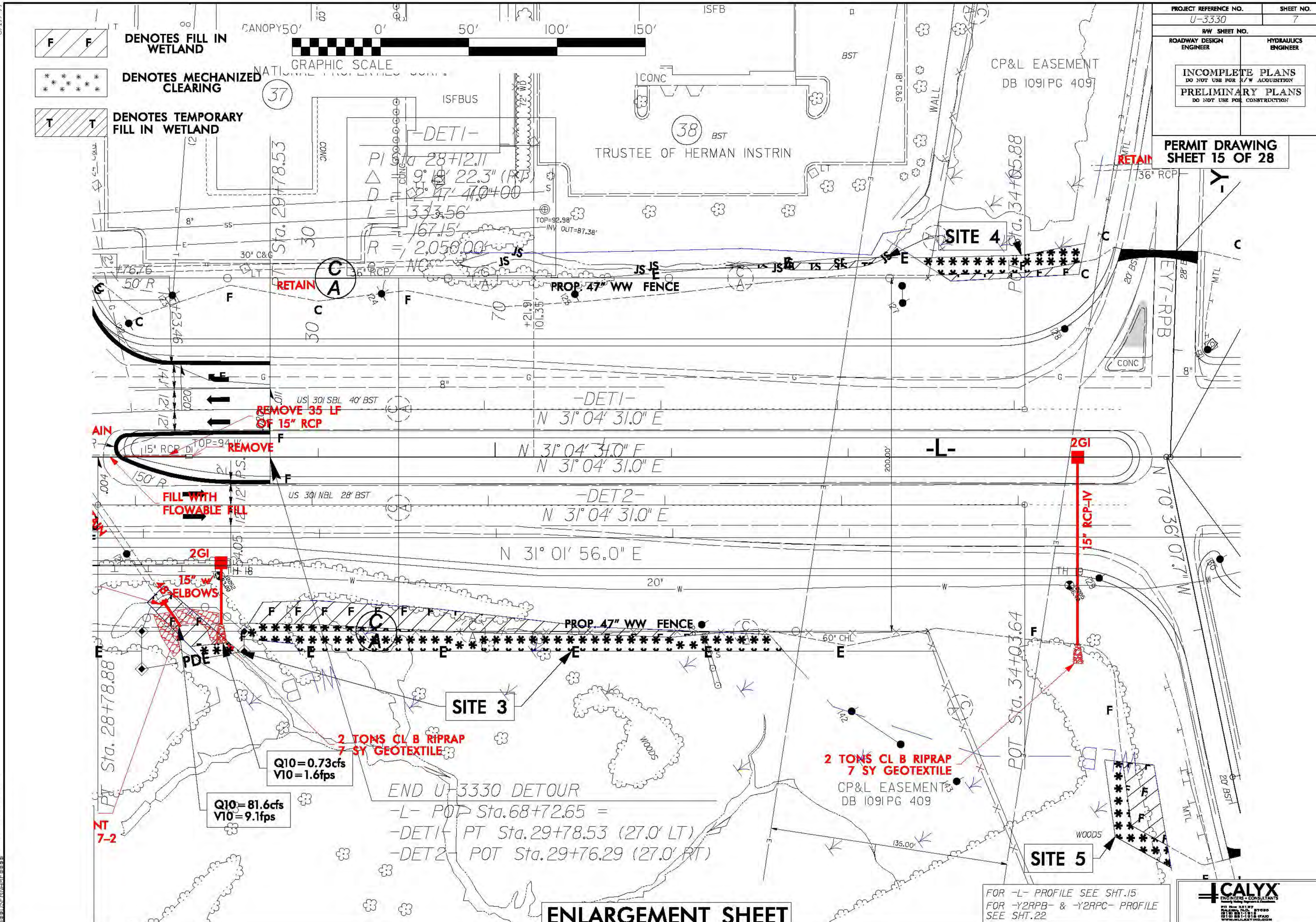
WETLAND CROSS SECTION
SITE 2

$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$


PROJECT REFERENCE NO.
SHEET NO.
U-3330
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 13 OF 28
GRAPHIC SCALE
100'
0'
100'
200'
300'
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
ARCLWRMTNCOOL LLC
NATIONAL PROPERTIES CORP.
TRUSTEE OF HERMAN INSTRIN
CP&L EASEMENT
DB 1091PG 409
64NOVD LLC
CAROL W. BILBRO & ALICE J. WILLIAMS
A
B
C
SITE 3
SITE 4
SITE 5
SITE 6
MATCHLINE -L- STA. 65+00 SEE SHEET 6
MATCHLINE -L- STA. 79+00 SEE SHEET 8
-DET1-
PI Sta 28+12.11
R = 2,050.00'
-DET2-
PI Sta 27+36.96
△ = 7°56' 45.5" (RT)
D = 2°47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
N 31° 04' 31.0" E
N 31° 01' 56.0" E
-Y2RPB- POT Sta. 10+00.00
-L- POC Sta.78+07.84
-Y2- POC Sta.19+97.88
BEGIN CONSTRUCTION
-Y2RPB- POT Sta. 11+43.77
-L- TS Sta.76+22.09
-Y2RPB- POT Sta. 12+60.61
-L- POT Sta.73+82.54
-Y2RPC- POT Sta. 12+99.54
-L- POT Sta.73+80.27
SC Sta. 77+72.09
-Y2RPC- PT Sta. 11+14.52
BEGIN CONSTRUCTION
-Y2RPC- POC Sta. 10+70.00
-Y2RPC- PC Sta. 10+00.14
-Y2RPC- POT Sta. 10+00.00
TRANSITION MEDIAN FROM 30' TO 33'
-L- STA.73+90.00 TO STA.74+65.00
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
26 TONS CL I RIPRAP
50 SY GEOTEXTILE
RIP RAP AT EMBANKMENT SEE DETAIL 7-2
SPECIAL CUT DITCH SEE DETAIL 7-1
FILL WITH FLOWABLE FILL
COLLAR AND EXTEND
PROP. 47" WW FENCE
Q10 = 81.6cfs
V10 = 9.1fps
Q10 = 0.73cfs
V10 = 1.6fps
ESTIMATED LOCATION OF U/G JB
FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22
DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED
CALYX ENGINEERS + CONSULTANTS
8/17/99



PROJECT REFERENCE NO.
U-3330
SHEET NO.
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING
SHEET 14 OF 28
GRAPHIC SCALE
100' 0' 100' 200' 300'
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
A
B
C
SITE 3
SITE 4
SITE 5
SITE 6
MATCHLINE -L- STA. 65+00 SEE SHEET 6
MATCHLINE -L- STA. 79+00 SEE SHEET 8
ARCLWRMTNCOOL LLC
64NOVO LLC
NATIONAL PROPERTIES CORP.
TRUSTEE OF HERMAN INSTRIN
CP&L EASEMENT DB 1091PG 409
CAROL W. BILBRO & ALICE J. WILLIAMS
-DET1-
N 31° 04' 31.0" E
-DET2-
N 31° 01' 56.0" E
-BL- #103 PINC
-Y2RPB- POT Sta. 10+00.00
-L- POC Sta.78+07.84
-Y2- POC Sta.19+97.88
BEGIN CONSTRUCTION
-Y2RPB- POT Sta. 11+43.77
-L- TS Sta. 76+22.09
-Y2RPB- POT Sta. 12+60.61
-L- POT Sta.73+82.54
-Y2RPC- POT Sta. 12+99.54
-L- POT Sta.73+80.27
SC Sta. 77+78.09
-Y2RPC- PT Sta. 11+14.52
BEGIN CONSTRUCTION
-Y2RPC- POC Sta. 10+70.00
-Y2RPC- PC Sta. 10+00.14
-Y2RPC- POT Sta. 10+00.00
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
26 TONS CL I RIPRAP 50 SY GEOTEXTILE
2 TONS CL B RIPRAP 7 SY GEOTEXTILE
Q10=81.6cfs V10=9.1fps
Q10=0.73cfs V10=1.6fps
RIP RAP AT EMBANKMENT SEE DETAIL 7-2
SPECIAL CUT DITCH SEE DETAIL 7-1
FILL WITH FLOWABLE FILL
COLLAR AND EXTEND
TRANSITION MEDIAN FROM 30' TO 33'
-L- STA.73+90.00 TO STA.74+65.00
DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22
CALYX ENGINEERS + CONSULTANTS
NC License # F-1333
8/17/99


PROJECT REFERENCE NO. U-3330
SHEET NO. 7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
PERMIT DRAWING SHEET 15 OF 28
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
50' 0' 50' 100' 150'
NATIONAL PROPERTIES CORP.
TRUSTEE OF HERMAN INSTRIN
CP&L EASEMENT DB 1091 PG 409
-DET1-
PI Sta 28+12.11
SITE 4
SITE 3
SITE 5
RETAIN
PROP. 47" WW FENCE
US 301 SBL 40' BST
US 301 NBL 28' BST
REMOVE 35 LF OF 15" RCP
REMOVE
FILL WITH FLOWABLE FILL
N 31° 04' 31.0" E
-DET2-
N 31° 01' 56.0" E
-L-
2GI
15" RCP-IV
15" w/ ELBOWS
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
Q10=0.73cfs
V10=1.6fps
Q10=81.6cfs
V10=9.1fps
PDE
WOODS
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22
CALYX ENGINEERS + CONSULTANTS
ENLARGEMENT SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3330	7

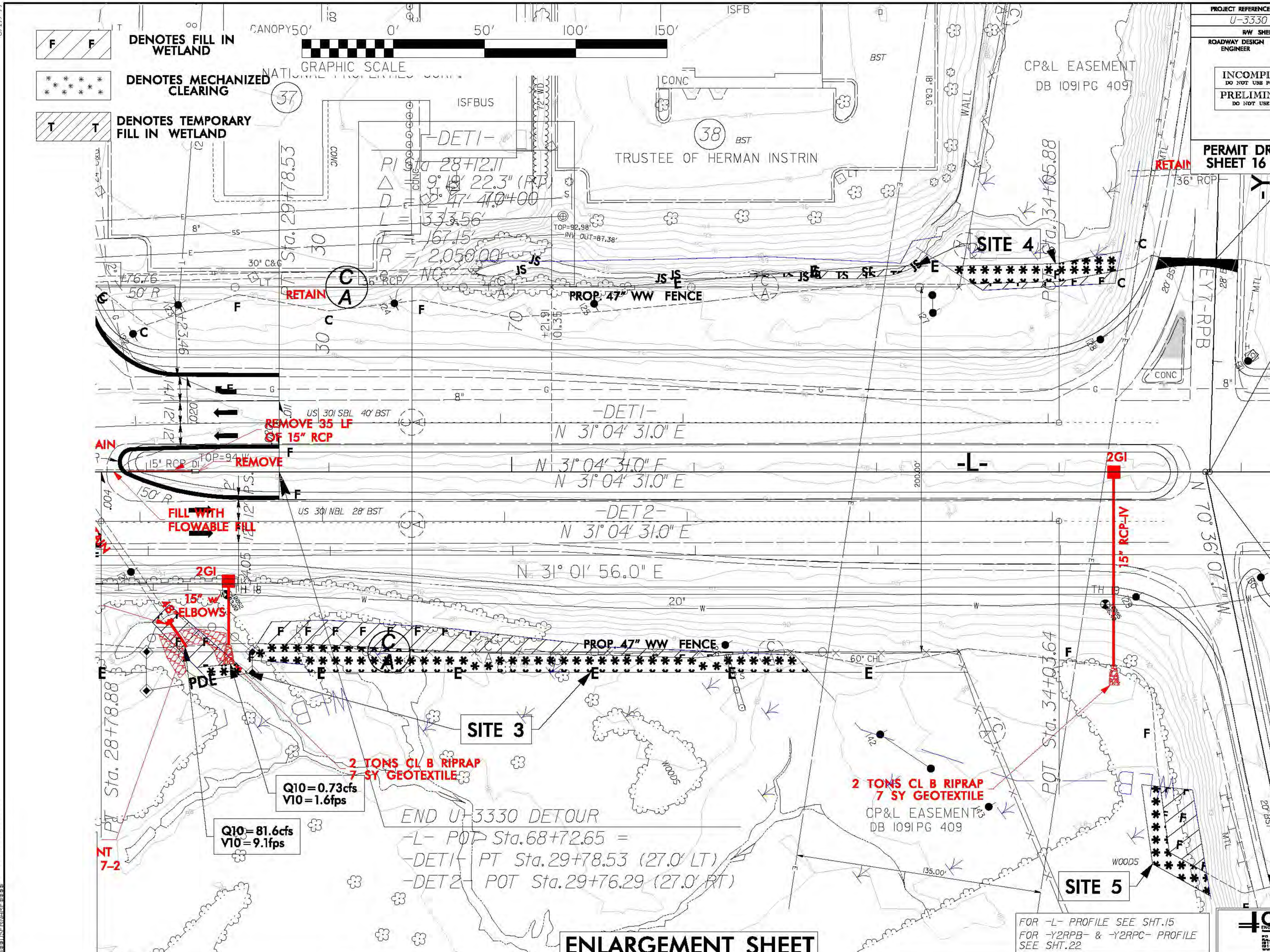
RW SHEET NO.

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 16 OF 28



DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY FILL IN WETLAND
GRAPHIC SCALE
50' 0' 50' 100' 150'
TRUSTEE OF HERMAN INSTRIN
CP&L EASEMENT DB 1091 PG 409
SITE 4
SITE 3
SITE 5
PROP. 47" WW FENCE
REMOVE 35 LF OF 15" RCP
REMOVE
FILL WITH FLOWABLE FILL
2GI
15" RCP-IV
15" w/ ELBOWS
2 TONS CL B RIPRAP
7 SY GEOTEXTILE
Q10=0.73cfs
V10=1.6fps
Q10=81.6cfs
V10=9.1fps
END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)
N 31° 04' 31.0" E
N 31° 01' 56.0" E
N 70° 36' 07.7" W
-DET1-
-DET2-
-L-
US 301 SBL 40' BST
US 301 NBL 28' BST
POT Sta. 34+03.64
POT Sta. 34+05.88
PT Sta. 28+78.88
Sta. 29+78.53
RETAIN

ENLARGEMENT SHEET

FOR -L- PROFILE SEE SHT.15
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT.22

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

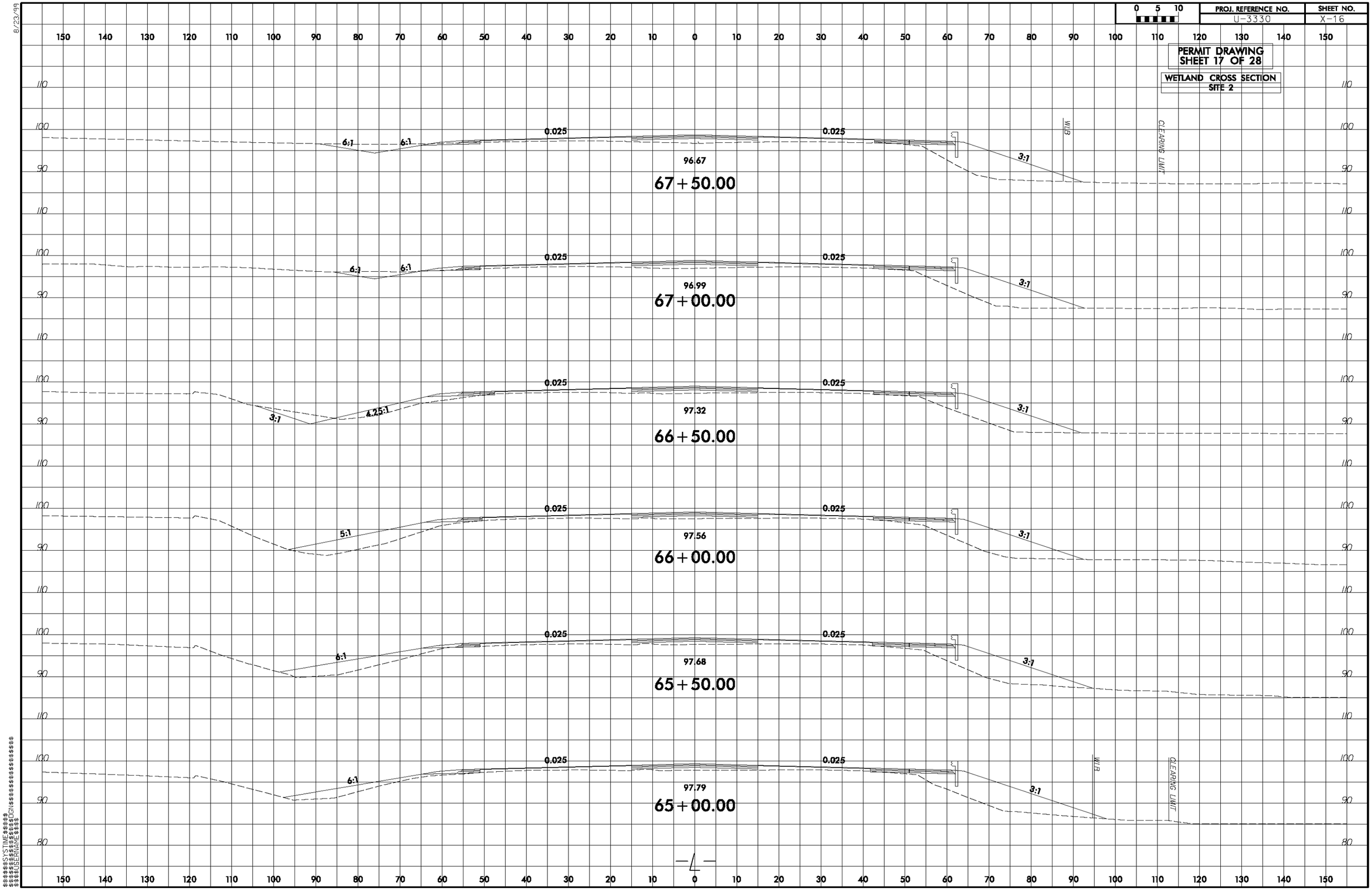
8/17/99

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-16

PERMIT DRAWING
SHEET 17 OF 28

WETLAND CROSS SECTION
SITE 2



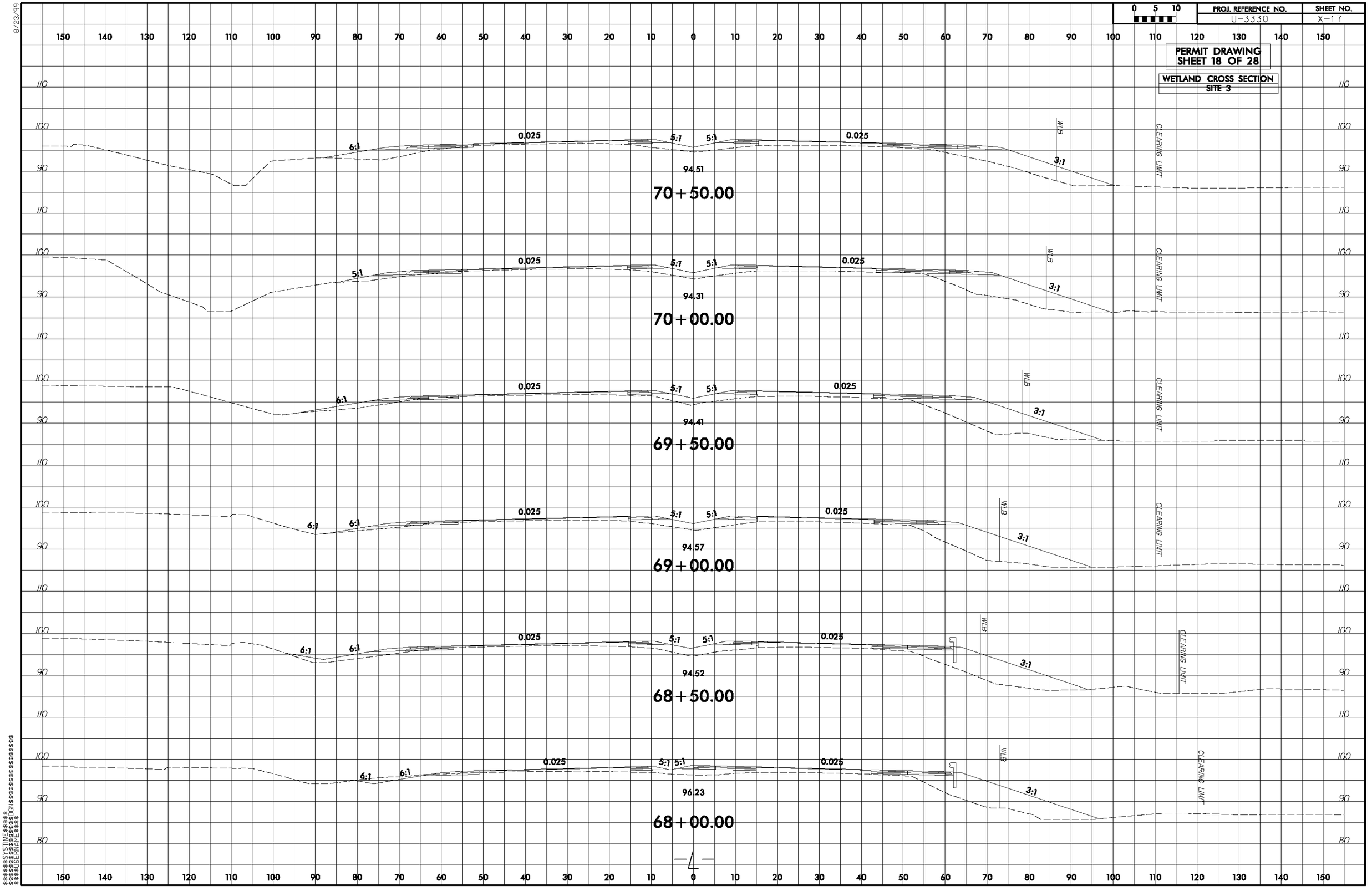
$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-17

PERMIT DRAWING
SHEET 18 OF 28

WETLAND CROSS SECTION
SITE 3



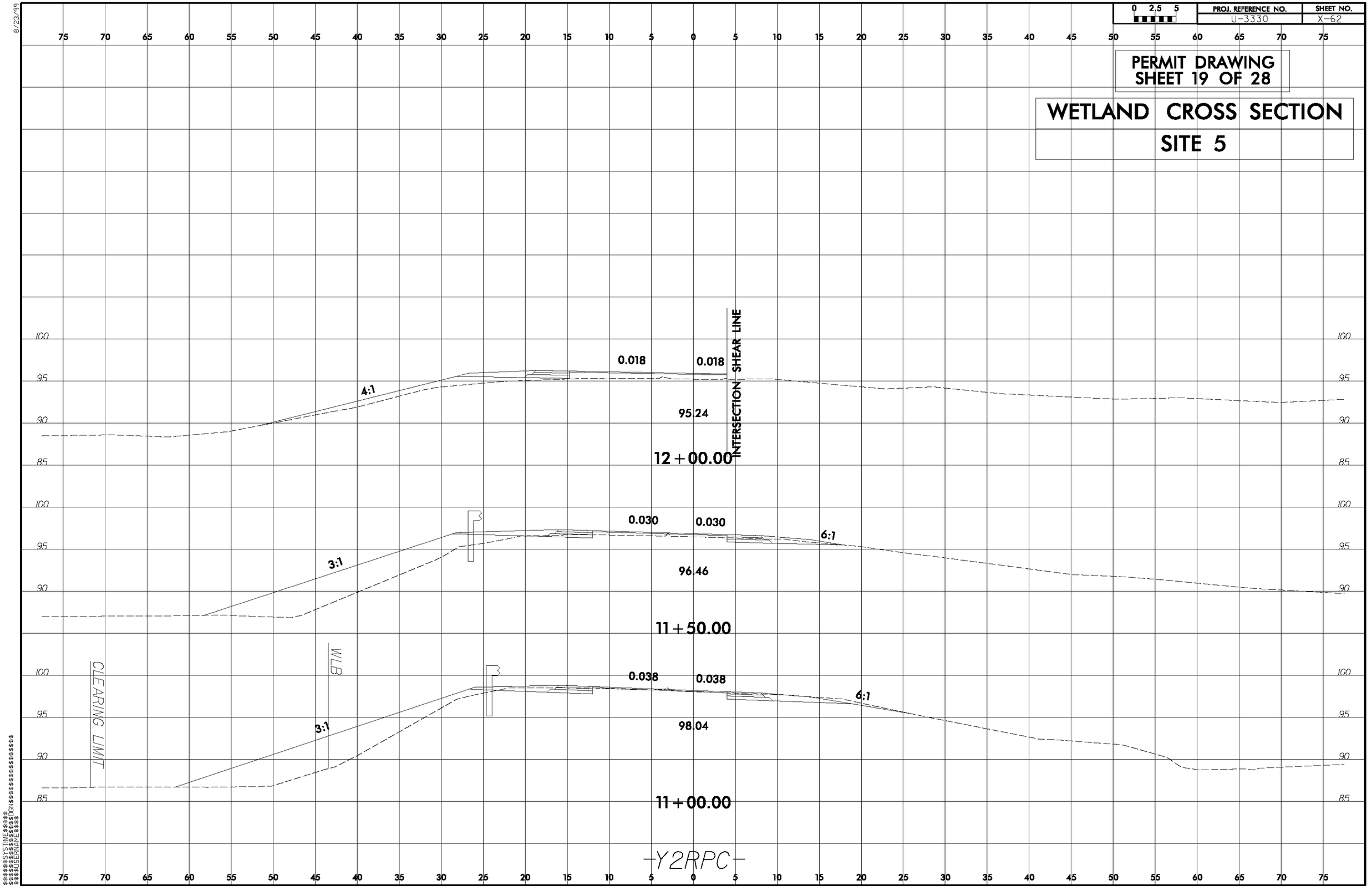
$$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3330	X-62

PERMIT DRAWING
SHEET 19 OF 28

WETLAND CROSS SECTION
SITE 5



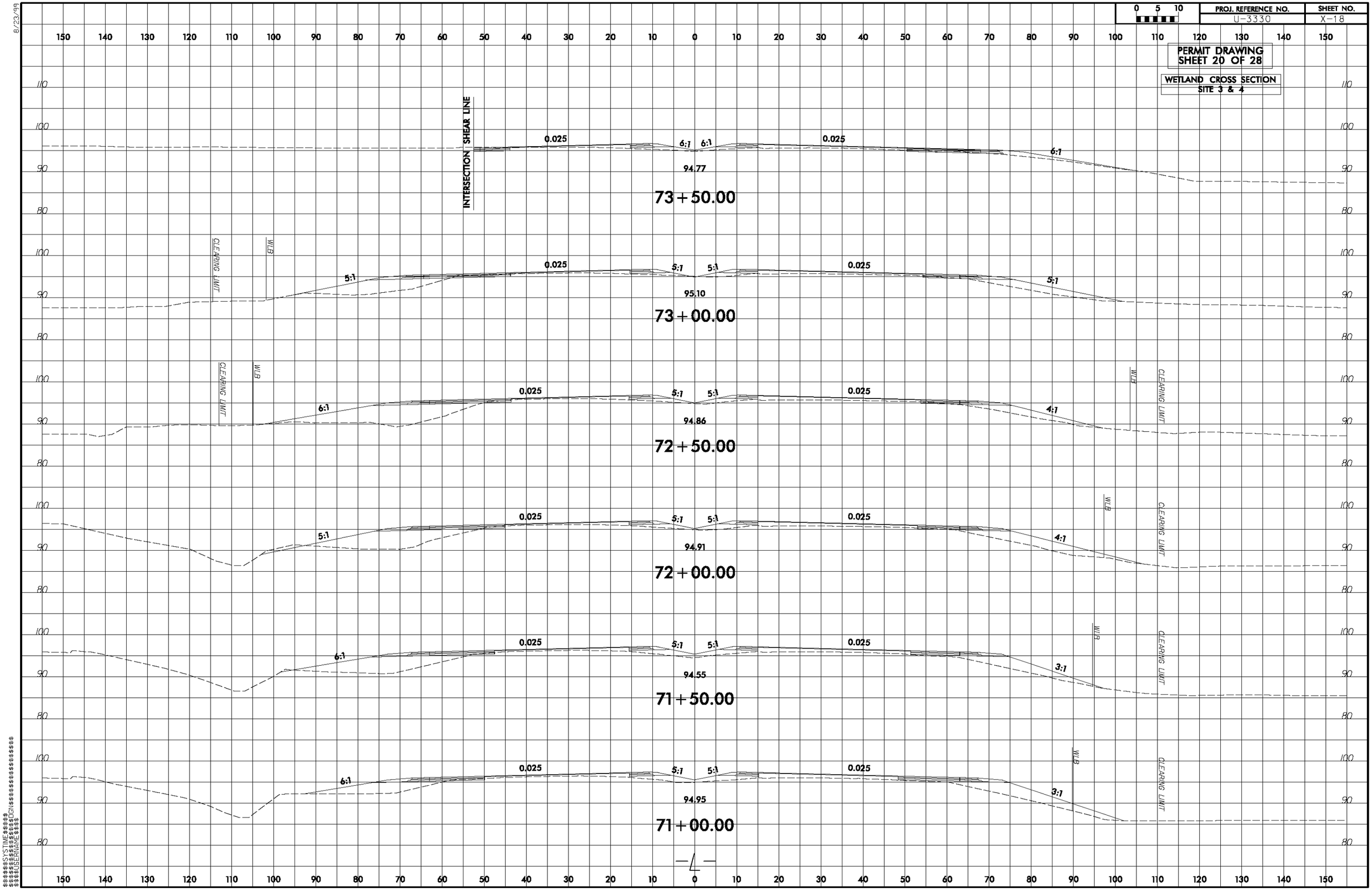
$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-18

PERMIT DRAWING
SHEET 20 OF 28

WETLAND CROSS SECTION
SITE 3 & 4



$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

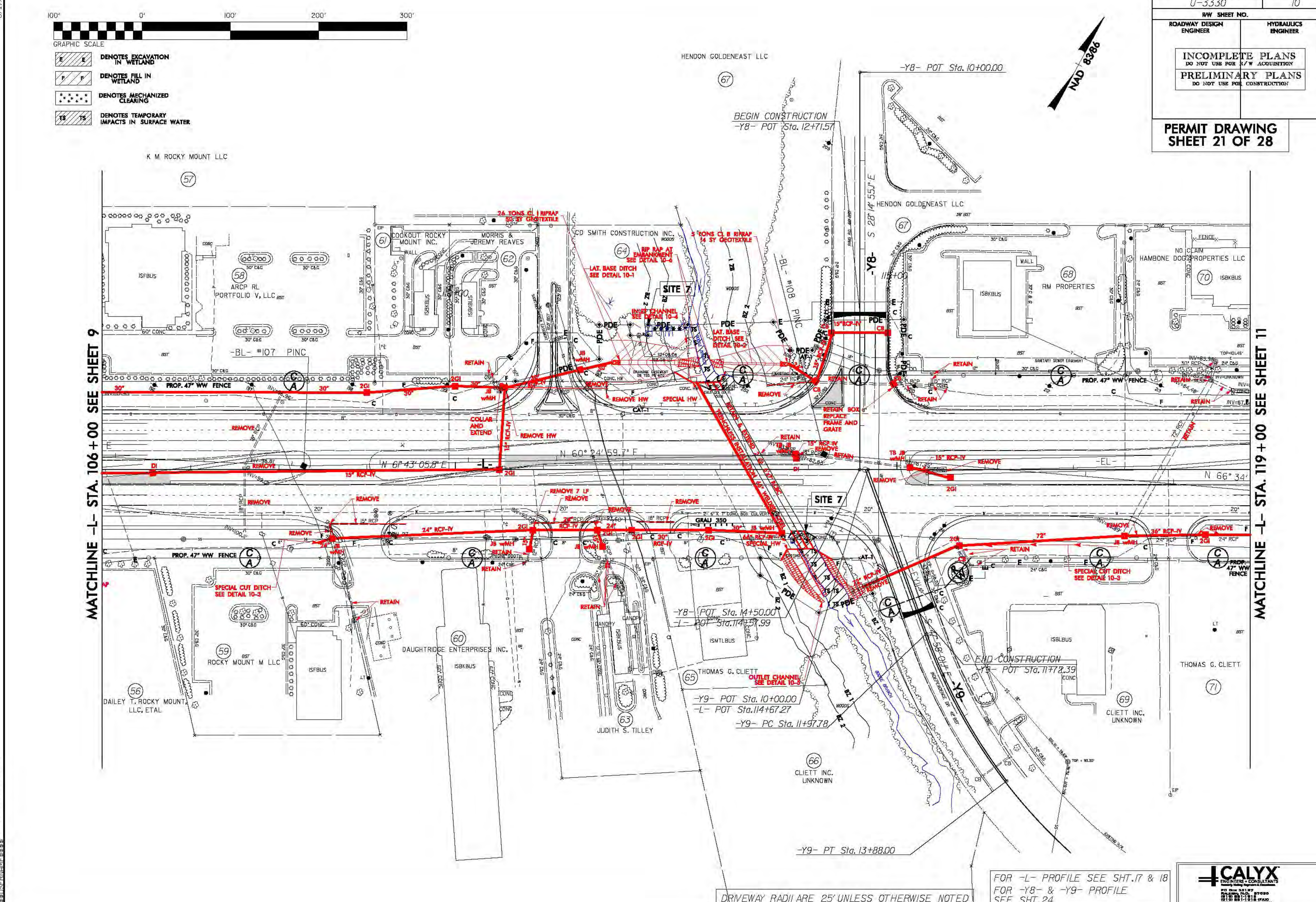
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 21 OF 28

GRAPHIC SCALE

- E E — DENOTES EXCAVATION IN WETLAND
- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER



100' 0' 100' 200' 300'
NAD 83/86
K M ROCKY MOUNT LLC
HENDON GOLDENEAST LLC
BEGIN CONSTRUCTION
-Y8- POT Sta. 12+71.57
-Y8- POT Sta. 10+00.00
COOKOUT ROCKY MOUNT INC.
MORRIS & JEREMY REAVES
CD SMITH CONSTRUCTION INC.
ARCP RL PORTFOLIO V, LLC
RM PROPERTIES
HAMBONE DOGS PROPERTIES LLC
SITE 7
-BL- #107 PINC
-BL- #108 PINC
N 60° 24' 59.7" E
N 61° 43' 05.8" E
N 66° 34'
PROP. 47" WW FENCE
MATCHLINE -L- STA. 106+00 SEE SHEET 9
MATCHLINE -L- STA. 119+00 SEE SHEET 11
SPECIAL CUT DITCH SEE DETAIL 10-3
ROCKY MOUNT M LLC
DAUGHTRIDGE ENTERPRISES INC.
DAILEY T. ROCKY MOUNT LLC, ETAL
JUDITH S. TILLEY
THOMAS G. CLIETT
CLIETT INC. UNKNOWN
-Y8- POT Sta. 14+50.00
-L- POT Sta. 114+57.99
-Y9- POT Sta. 10+00.00
-L- POT Sta. 114+67.27
-Y9- PC Sta. 11+97.78
-Y9- PT Sta. 13+88.00
END CONSTRUCTION
-Y9- POT Sta. 11+72.39
OUTLET CHANNEL SEE DETAIL 10-5

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

CALYX ENGINEERS + CONSULTANTS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

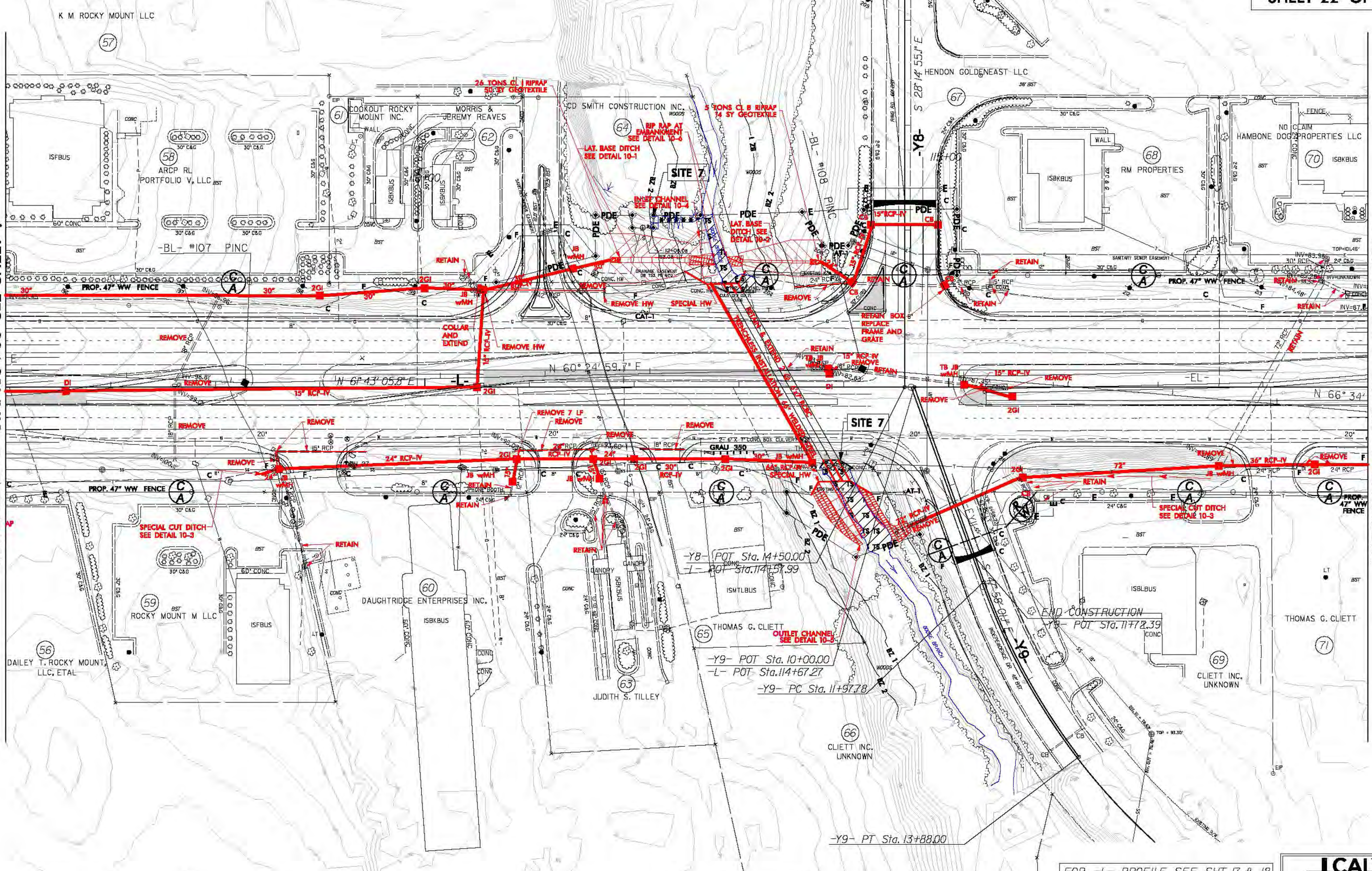
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING SHEET 22 OF 28

100' 0' 100' 200' 300'
GRAPHIC SCALE

- E — DENOTES EXCAVATION IN WETLAND
- F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER



NAD 83/86
MATCHLINE -L- STA. 106+00 SEE SHEET 9
MATCHLINE -L- STA. 119+00 SEE SHEET 11
K M ROCKY MOUNT LLC
HENDON GOLDENEAST LLC
BEGIN CONSTRUCTION -Y8- POT Sta. 12+71.57
-Y8- POT Sta. 10+00.00
COOKOUT ROCKY MOUNT INC.
MORRIS & JEREMY REAVES
CD SMITH CONSTRUCTION INC.
ARCP RL PORTFOLIO V, LLC
RM PROPERTIES
HAMBONE DOG PROPERTIES LLC
NO CLAIM
SITE 7
26 TONS CL I RIPRAP 30 SY GEOTEXTILE
5 TONS CL B RIPRAP 14 SY GEOTEXTILE
RIP RAP AT EMBANKMENT SEE DETAIL 10-6
LAT. BASE DITCH SEE DETAIL 10-1
INLET CHANNEL SEE DETAIL 10-4
LAT. BASE DITCH SEE DETAIL 10-2
-BL- #107 PINC
-BL- #108 PINC
PROP. 47" WW FENCE
N 60° 24' 59.7" E
N 61° 43' 05.8" E
N 66° 34'
-L-
-EL-
S 28° 14' 55.1" E
SPECIAL CUT DITCH SEE DETAIL 10-3
ROCKY MOUNT M LLC
DAUGHTRIDGE ENTERPRISES INC.
DAILEY T. ROCKY MOUNT LLC, ETAL
JUDITH S. TILLEY
THOMAS G. CLIETT
CLIETT INC. UNKNOWN
-Y8- POT Sta. 14+50.00
-L- POT Sta. 114+57.99
OUTLET CHANNEL SEE DETAIL 10-5
-Y9- POT Sta. 10+00.00
-L- POT Sta. 114+67.27
-Y9- PC Sta. 11+97.78
END CONSTRUCTION -Y9- POT Sta. 11+72.39
-Y9- PT Sta. 13+88.00

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT. 24

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

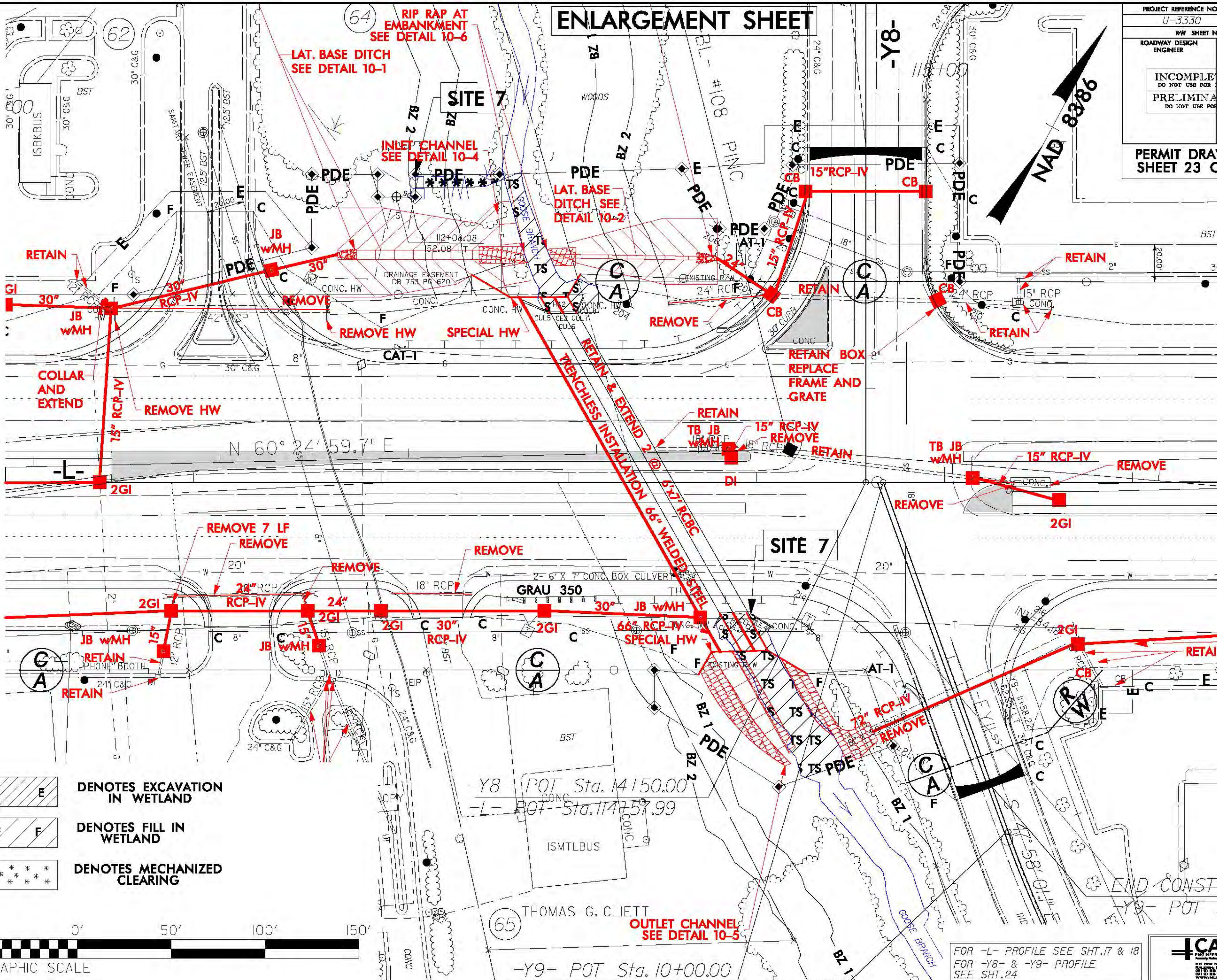
ENLARGEMENT SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 23 OF 28



SITE 7
RIP RAP AT EMBANKMENT SEE DETAIL 10-6
LAT. BASE DITCH SEE DETAIL 10-1
INLET CHANNEL SEE DETAIL 10-4
LAT. BASE DITCH SEE DETAIL 10-2
NAD 83/86
-Y8-
-L-
N 60° 24' 59.7" E
RETAIN
REMOVE
REMOVE HW
SPECIAL HW
COLLAR AND EXTEND
RETAIN BOX REPLACE FRAME AND GRATE
RETAIN & EXTEND 2 @ 6'x7' RCBC
TRENCHLESS INSTALLATION 66" WELDED STEEL
2- 6' X 7' CONC. BOX CULVERT
REMOVE 7 LF
JB wMH
TB JB wMH
2GI
CB
DI
15" RCP-IV
30" RCP-IV
72" RCP-IV
66" RCP-IV
DRAINAGE EASEMENT DB 753 PG 620
GOOSE BRANCH
THOMAS G. CLIETT
-Y8- POT Sta. 14+50.00
-L- POT Sta. 114+57.99
-Y9- POT Sta. 10+00.00
OUTLET CHANNEL SEE DETAIL 10-5
END CONSTR

E E DENOTES EXCAVATION IN WETLAND

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

50' 0' 50' 100' 150'
GRAPHIC SCALE

FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

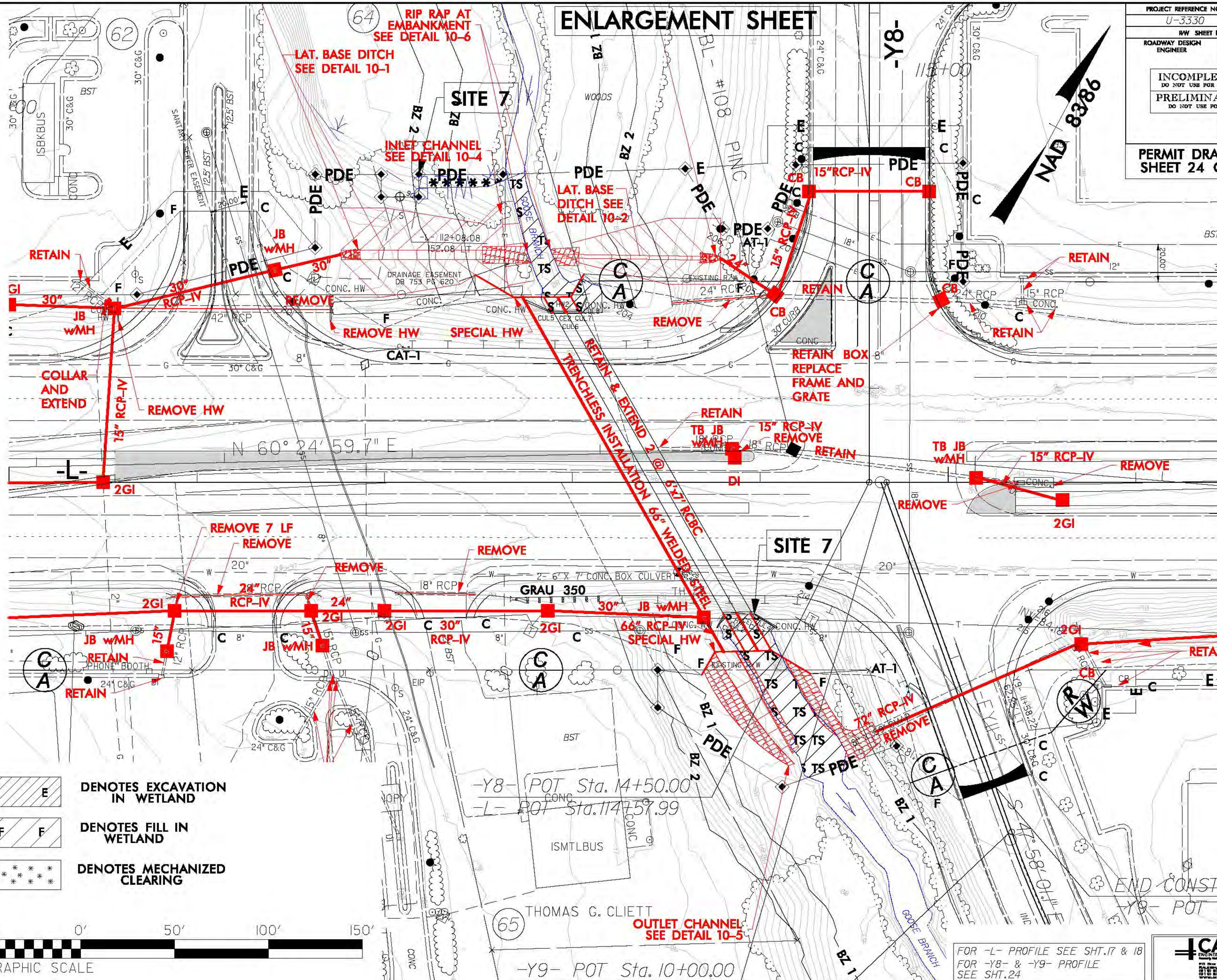
ENLARGEMENT SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING
SHEET 24 OF 28



SITE 7
RIP RAP AT EMBANKMENT SEE DETAIL 10-6
LAT. BASE DITCH SEE DETAIL 10-1
INLET CHANNEL SEE DETAIL 10-4
LAT. BASE DITCH SEE DETAIL 10-2
-Y8-
NAD 83/86
RETAIN
JB wMH
COLLAR AND EXTEND
REMOVE HW
SPECIAL HW
RETAIN & EXTEND 2 @ 6'x7' RCBC
TRENCHLESS INSTALLATION 66" WELDED STEEL
RETAIN BOX REPLACE FRAME AND GRATE
15" RCP-IV
30" RCP-IV
TB JB wMH
-L-
N 60° 24' 59.7" E
2GI
REMOVE 7 LF
2- 6' X 7' CONC. BOX CULVERT
GRAU 350
66" RCP-IV
72" RCP-IV
-Y8- POT Sta. 14+50.00
-L- POT Sta. 114+57.99
-Y9- POT Sta. 10+00.00
THOMAS G. CLIETT
OUTLET CHANNEL SEE DETAIL 10-5
GOOSE BRANCH
END CONSTR

DENOTES EXCAVATION IN WETLAND

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

50' 0' 50' 100' 150'
GRAPHIC SCALE

FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

8/17/99

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-3330	X-33

0 5 10

PERMIT DRAWING
SHEET 25 OF 28

WETLAND CROSS SECTION
SITE 7

$$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

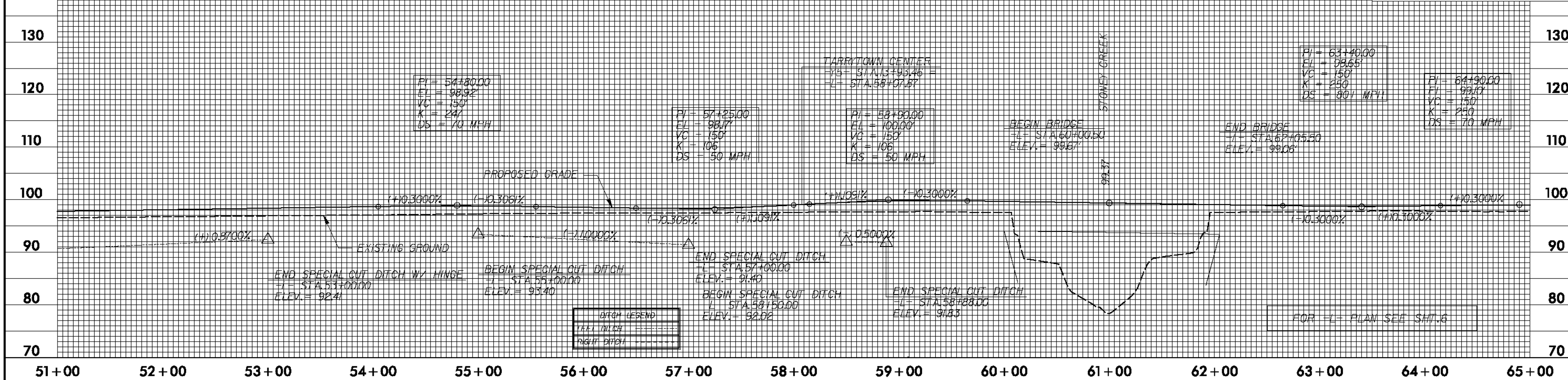
PROJECT REFERENCE NO.	SHEET NO.
U-3330	15

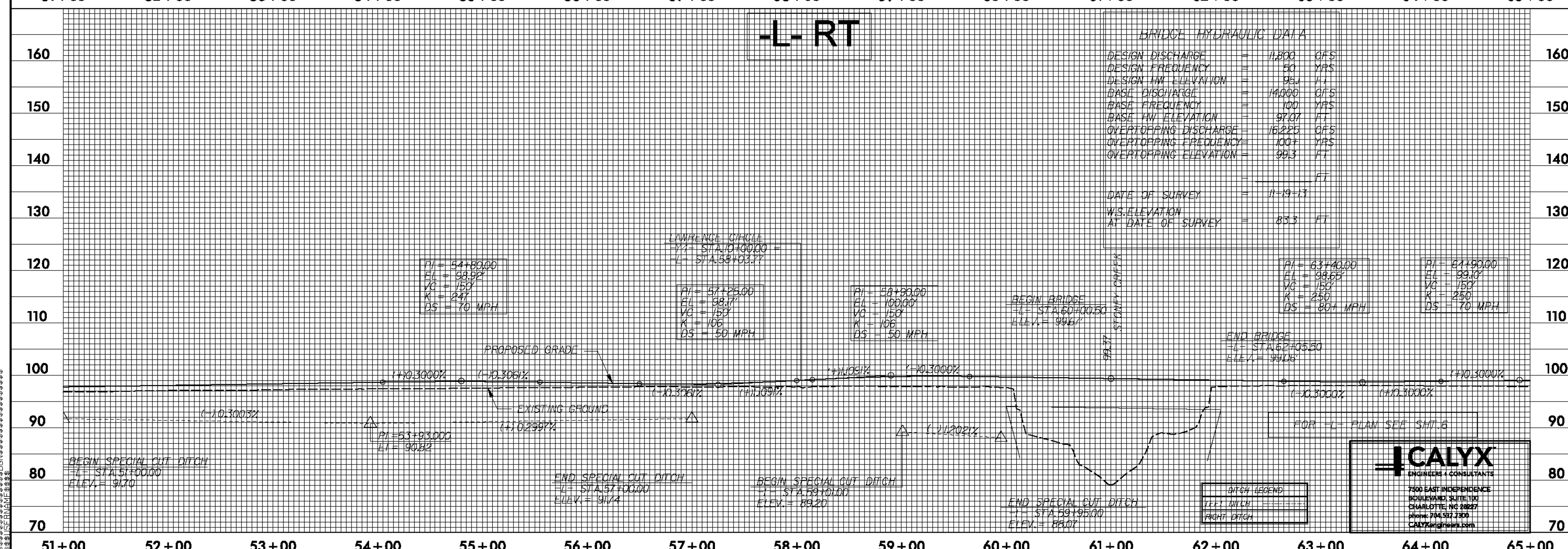
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 26 OF 28





CALYX ENGINEERS + CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD, SUITE 110
CHARLOTTE, NC 28227
phone: 704.537.2300
CALYXengineers.com

5/28/99

5/28/99

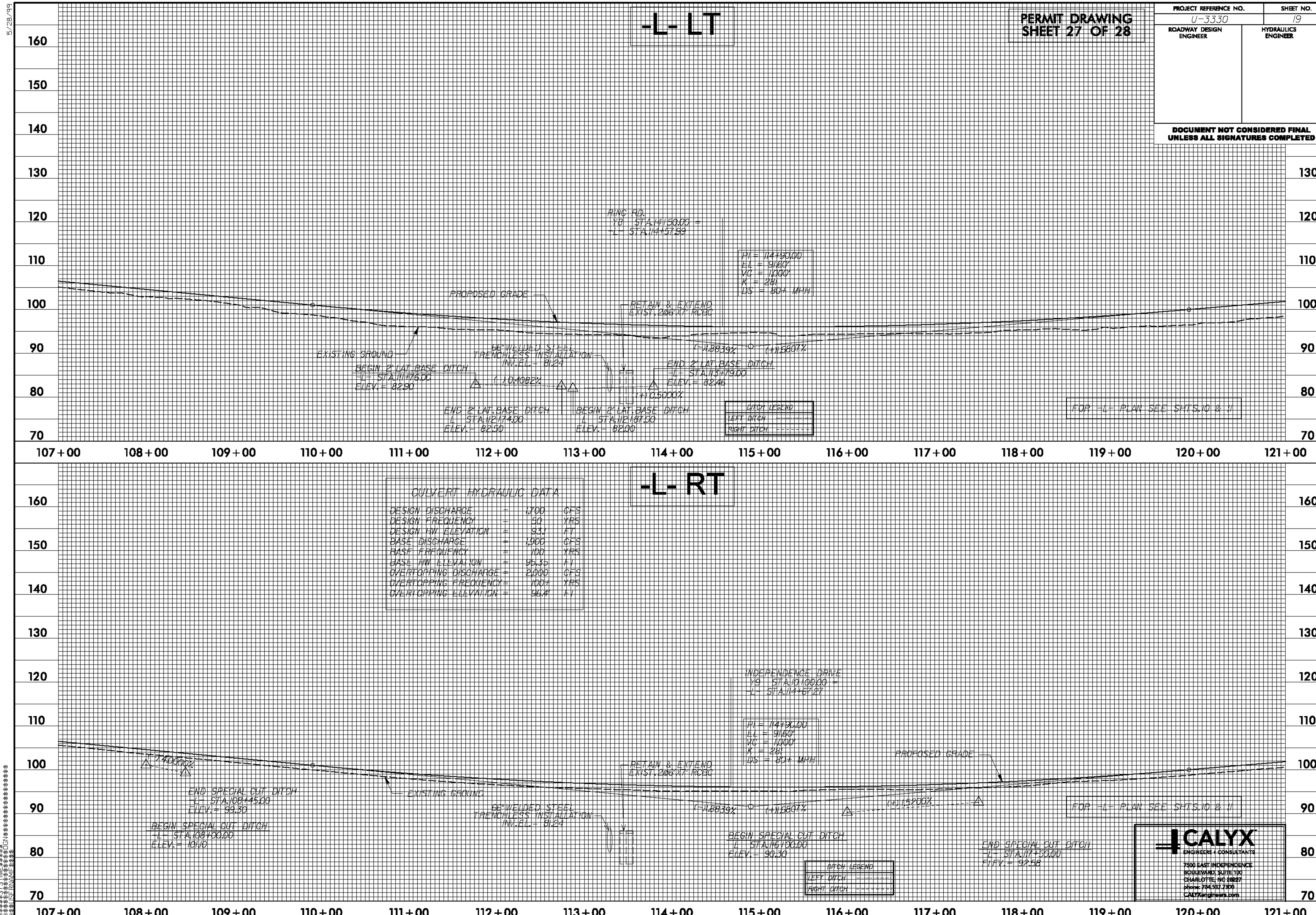
PROJECT REFERENCE NO.	SHEET NO.
U-3330	19

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 27 OF 28



CALYX ENGINEERS + CONSULTANTS
7500 EAST INDEPENDENCE BOULEVARD, SUITE 1XX
CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com

$$$$$$SYSTIME$$$$$$ $$$$$$DGN$$$$$$ $$$$$$USERNAME$$$$$$

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 59+41 to 61+42 LT/RT	Roadway Fill							0.02		116	
		Temp. Work Bridges							0.22		208	
		Bank Stabilization						0.01		119		
2	-L- 62+91 to 65+25 RT	Temp. Roadway Fill	<0.01	0.03		0.04						
3	-L- 68+03 to 71+64 RT	Roadway Fill	0.07			0.08						
4	-L- 71+23 to 73+34 LT	Roadway Fill	0.01			0.02			0.01		99	
5	-Y2RPC- 10+73 to 11+39 LT	Roadway Fill	0.02			0.02						
6	-L- 75+84 to 76+01 RT	48" Pipe	<0.01			<0.01						
7	-L- 112+18 to 114+46 LT/RT	2@6'x7' Culvert				0.01		0.02	0.05	43	147	
		Bank Stabilization								88		
TOTALS:			0.10	0.03	0.00	0.17	0.00	0.03	0.30	250	570	0

Stream Bank Stabilization = 207 feet

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
WBS - 36596.1.2 (U-3330)

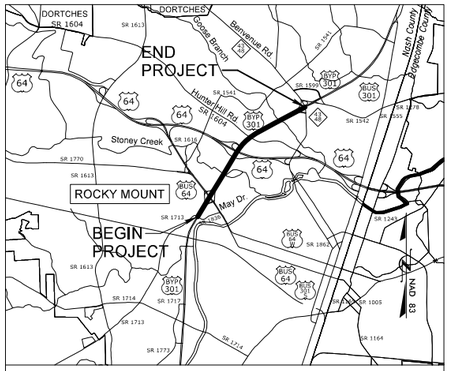
09/08/99

TIP PROJECT: U-3330

CONTRACT:

$$$$USERNAME$$$$ $$$$SYSTIME$$$$

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–3330	1	

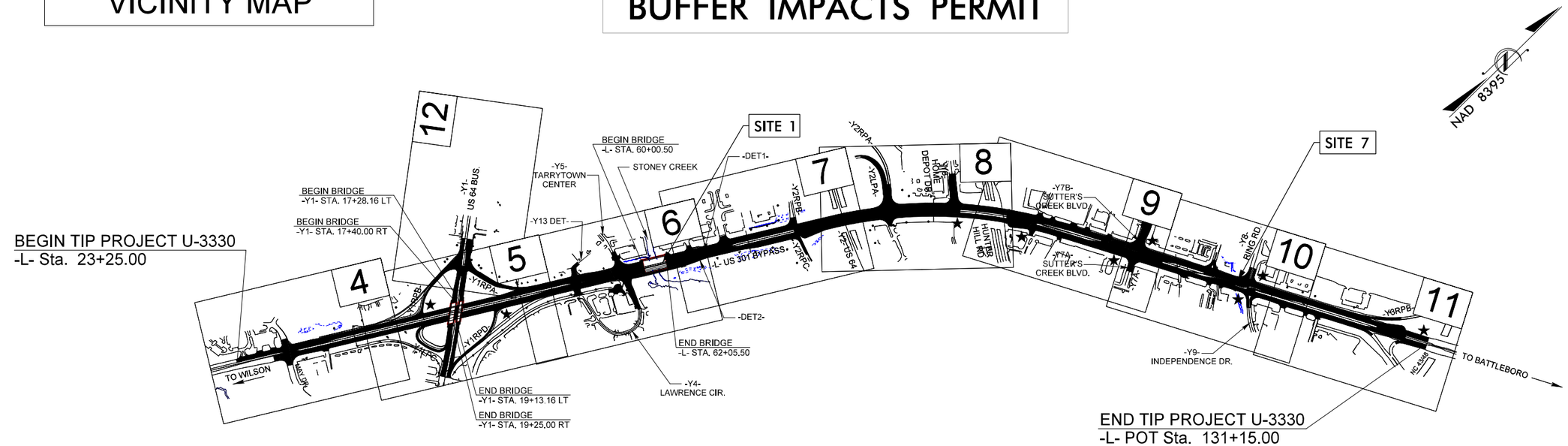
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

LOCATION: *ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE*

BUFFER DRAWING SHEET 1 OF 4

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, STRUCTURES, AND CULVERT*

BUFFER IMPACTS PERMIT



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330 ..... 2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330 ..... 0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330 ..... 2.044 Miles

Prepared in the Office of:
CALYX ENGINEERS + CONSULTANTS NC License # F-1333
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 21, 2014

LETTING DATE: MAY 16, 2017

NCDOT CONTACT: *Tatia L. White, PE, PLS* — *PROJECT ENGINEER – ROADWAY DESIGN*

Steve A. Drum, P.E. — *PROJECT ENGINEER*

Michael A. Holt, P.E. — *PROJECT DESIGN ENGINEER*

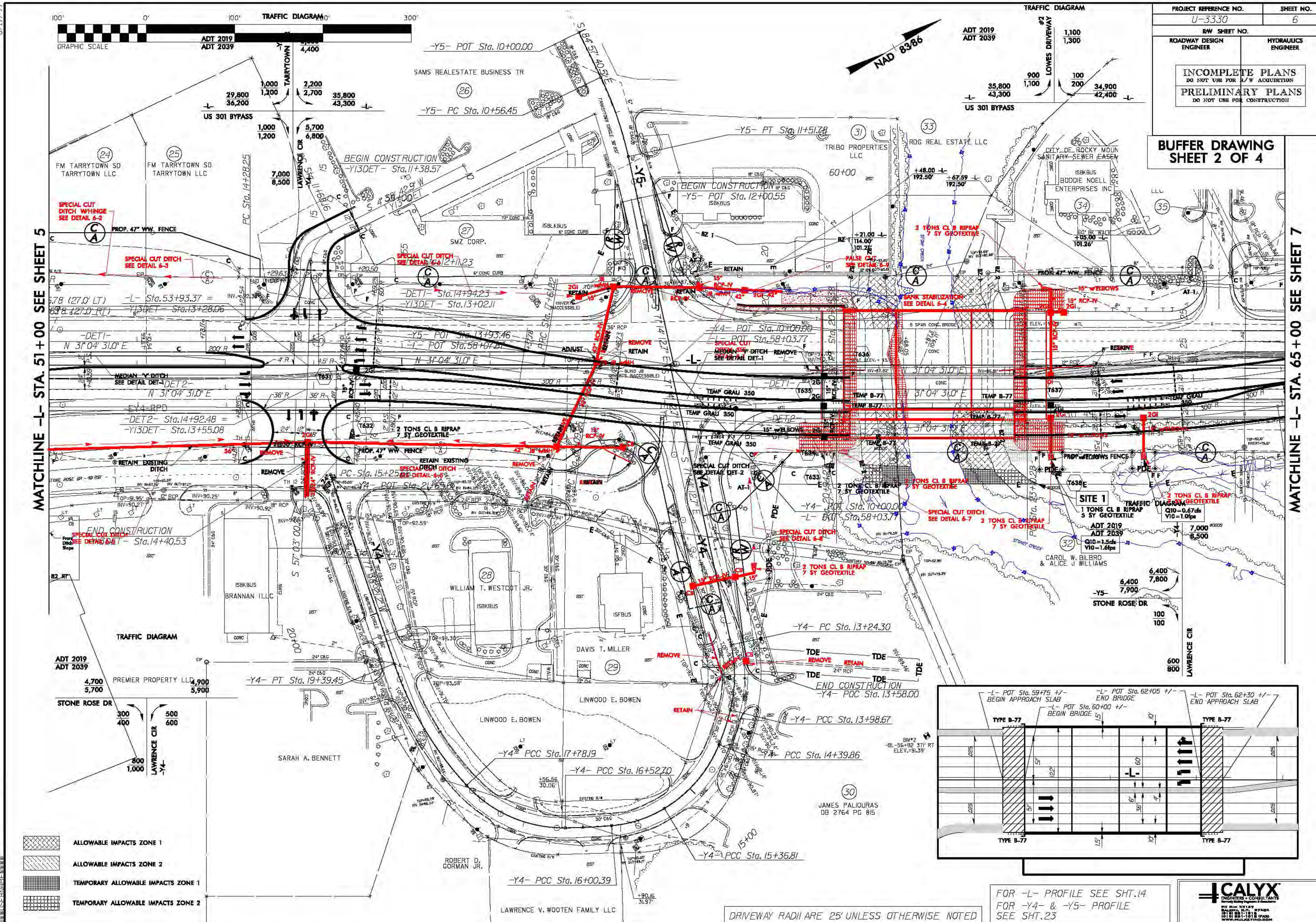
HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •


PROJECT REFERENCE NO.
U-3330
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
BUFFER DRAWING
SHEET 2 OF 4
GRAPHIC SCALE
TRAFFIC DIAGRAM
ADT 2019
ADT 2039
US 301 BYPASS
NAD 83/86
MATCHLINE -L- STA. 51+00 SEE SHEET 5
MATCHLINE -L- STA. 65+00 SEE SHEET 7
-Y5- POT Sta. 10+00.00
-Y5- PC Sta. 10+56.45
-Y5- PT Sta. 11+51.78
BEGIN CONSTRUCTION
-Y13DET- Sta. 11+38.57
BEGIN CONSTRUCTION
-Y5- POT Sta. 12+00.55
SAMS REALESTATE BUSINESS TR
FM TARRYTOWN SD TARRYTOWN LLC
SMZ CORP.
TRIBO PROPERTIES LLC
RDG REAL ESTATE LLC
CITY OF ROCKY MOUNT SANITARY SEWER EASEMENT
BODDIE NOELL ENTERPRISES INC
BRANNAN LLC
WILLIAM T. WESTCOT JR.
DAVIS T. MILLER
PREMIER PROPERTY LLC
LINWOOD E. BOWEN
SARAH A. BENNETT
JAMES PALIOURAS DB 2764 PG 815
ROBERT D. GORMAN JR.
LAWRENCE V. WOOTEN FAMILY LLC
CAROL W. BILBRO & ALICE J WILLIAMS
STONE ROSE DR
LAWRENCE CIR
TARRYTOWN
LOWES DRIVEWAY #2
SPECIAL CUT DITCH SEE DETAIL 6-3
MEDIAN "V" DITCH SEE DETAIL DET-1
BANK STABILIZATION SEE DETAIL 6-4
6 SPAN CONC. BRIDGE
TEMP GRAU 350
TEMP B-77
2 TONS CL B RIPRAP 7 SY GEOTEXTILE
SITE 1
1 TONS CL B RIPRAP 5 SY GEOTEXTILE
Q10=1.5cfs V10=1.6fps
Q10=0.67cfs V10=1.0fps
END CONSTRUCTION -Y4- POC Sta. 13+58.00
-Y4- PC Sta. 13+24.30
-Y4- PCC Sta. 13+98.67
-Y4- PCC Sta. 14+39.86
-Y4- PCC Sta. 15+36.81
-Y4- PCC Sta. 16+00.39
-Y4- PCC Sta. 16+52.70
-Y4- PCC Sta. 17+78.19
-Y4- PT Sta. 19+39.45
-L- POT Sta. 59+75 +/- BEGIN APPROACH SLAB
-L- POT Sta. 60+00 +/- BEGIN BRIDGE
-L- POT Sta. 62+05 +/- END BRIDGE
-L- POT Sta. 62+30 +/- END APPROACH SLAB
TYPE B-77
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
TEMPORARY ALLOWABLE IMPACTS ZONE 1
TEMPORARY ALLOWABLE IMPACTS ZONE 2
DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED
FOR -L- PROFILE SEE SHT.14
FOR -Y4- & -Y5- PROFILE SEE SHT.23
CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

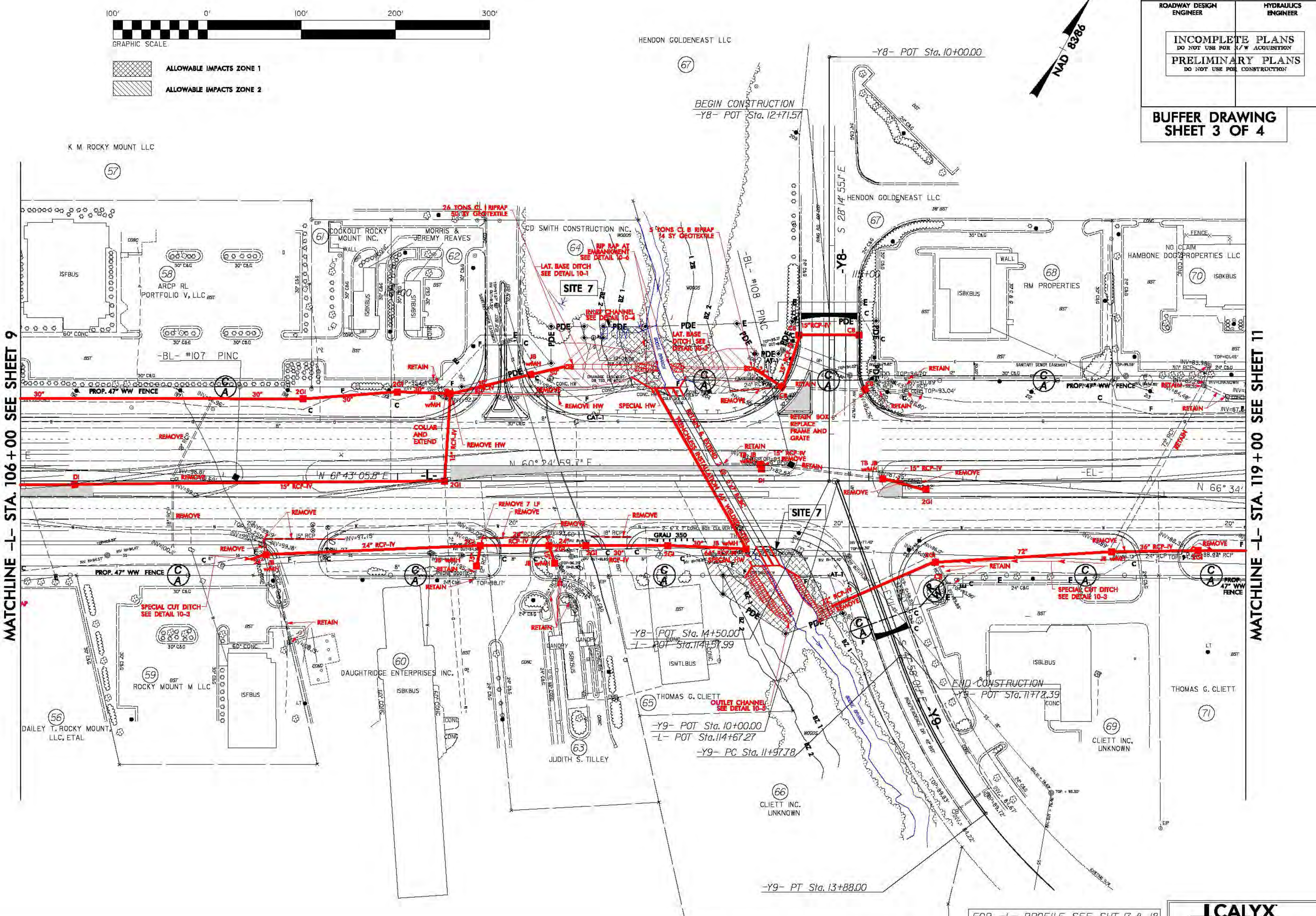
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 3 OF 4



100' 0' 100' 200' 300'
GRAPHIC SCALE
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
NAD 83/86
HENDON GOLDENEAST LLC
-Y8- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y8- POT Sta. 12+71.57
K M ROCKY MOUNT LLC
COOKOUT ROCKY MOUNT INC.
MORRIS & JEREMY REAVES
CD SMITH CONSTRUCTION INC.
ARCP RL PORTFOLIO V, LLC
-BL- #107 PINC
-BL- #108 PINC
SITE 7
RM PROPERTIES
HAMBONE DOGS PROPERTIES LLC
N 60° 24' 59.7" E
N 61° 43' 05.8" E
N 66° 34'
MATCHLINE -L- STA. 106+00 SEE SHEET 9
MATCHLINE -L- STA. 119+00 SEE SHEET 11
PROP. 47" WW FENCE
ROCKY MOUNT M LLC
DAILEY T. ROCKY MOUNT LLC, ETAL
DAUGHTRIDGE ENTERPRISES INC.
JUDITH S. TILLEY
THOMAS G. CLIETT
CLIETT INC. UNKNOWN
-Y8- POT Sta. 14+50.00
-L- POT Sta. 114+57.99
-Y9- POT Sta. 10+00.00
-L- POT Sta. 114+67.27
-Y9- PC Sta. 11+97.78
-Y9- PT Sta. 13+88.00
END CONSTRUCTION
-Y9- POT Sta. 11+72.39
SPECIAL CUT DITCH SEE DETAIL 10-3
OUTLET CHANNEL SEE DETAIL 10-5

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.17 & 18
FOR -Y8- & -Y9- PROFILE SEE SHT.24

CALYX ENGINEERS + CONSULTANTS
NC License # F-1333

BUFFER IMPACTS SUMMARY

			IMPACT											
			TYPE			ALLOWABLE			MITIGABLE			BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 PERM. (ft^2)	ZONE 2 PERM. (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)	TOTAL (ft^2)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1*	Span Conc. Bridge	L 60+16 to 61+85		X		10422	4880	15302					
7	2@6'x7' BOX CULVERT	L 112+23 to 114+26	X			8501	3732	12233					
TOTAL:						18923	8612	27535					

Note: * Site 1 impacts include 1416 ft^2 of temporary impacts in Zone 1 and 949 ft^2 of temporary impacts in Zone 2

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

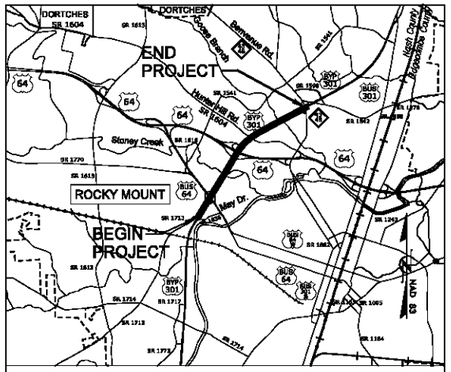
NASH COUNTY
PROJECT: U-3330

1/19/2017
SHEET 4 OF 4

Rev. May 2006

09/08/99

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3330	1	

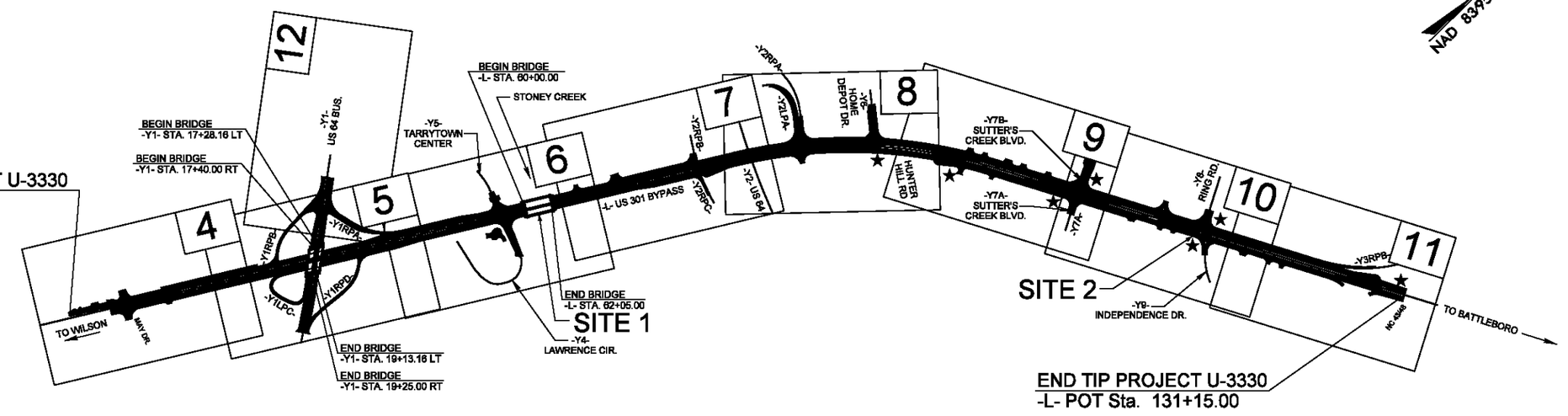
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.1		R/W
36596.2.U1		UTIL.

NES PERMIT DRAWING PLANS

NES PERMIT PLANS REV (August 31, 2016)

LOCATION: *ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE*

TYPE OF WORK: *TELEPHONE, WATER AND GRAVITY SEWER RELOCATIONS*



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: U-3330

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
NOVEMBER 15, 2016

NCDOT CONTACT:
Brenda Moore, P.E., CPM
PROJECT ENGINEER – ROADWAY DESIGN

PLANS PREPARED BY:
CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

Mary Jo Lee, P.E.
UTILITIES PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

8/31/2016
R:\Utilities\Engineering\NEU\U3330_rdy01_UE01_tsh.dgn
USERNAME=

NES PERMIT PLANS
REV (August 31, 2016)

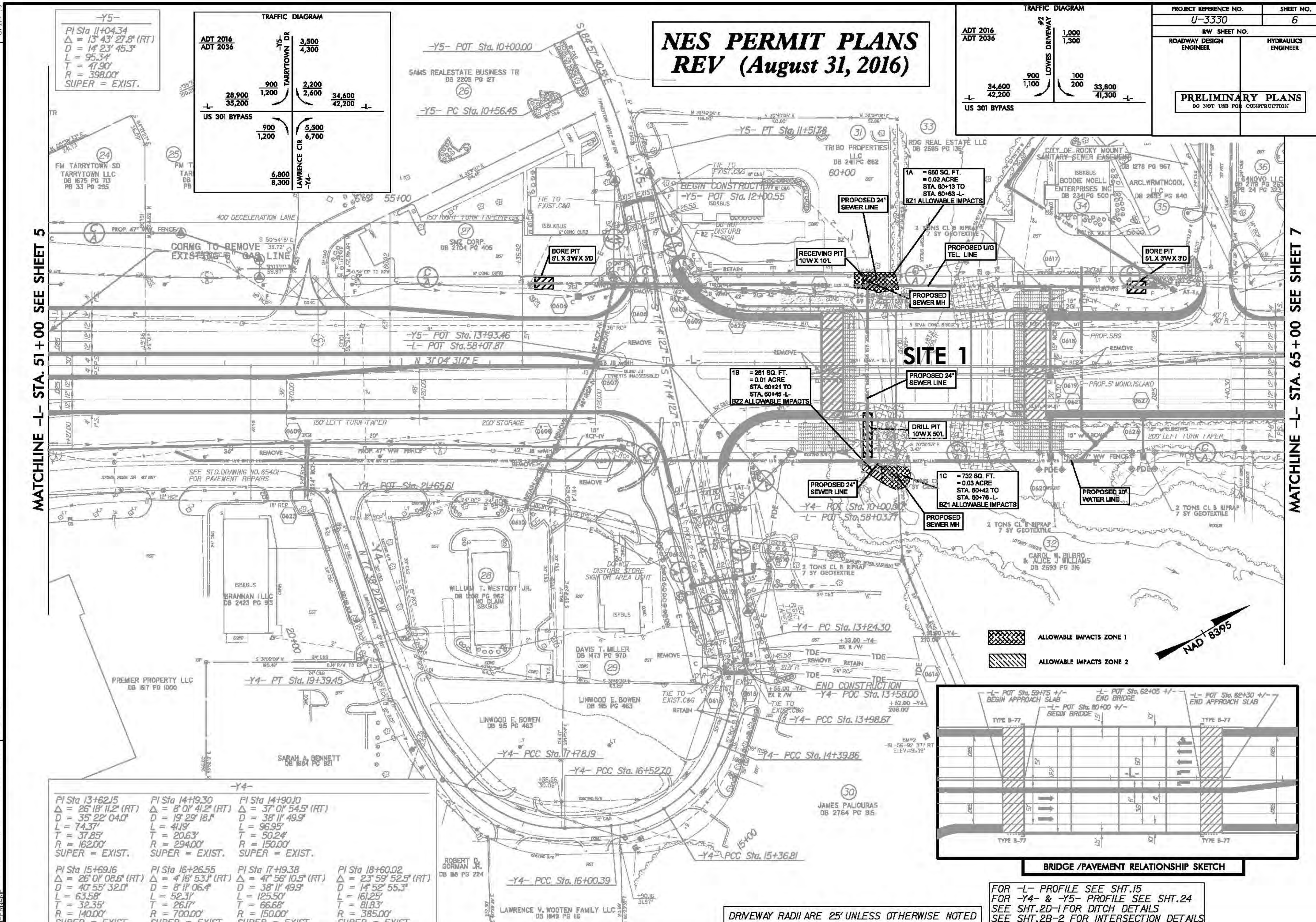
PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

4/29/2015 : REVISED NAME AND DEED REFERENCES FOR PARCELS 30, 32, 33, 35, & 36; REVISED DEED REFERENCE FOR PARCELS 25 & 27; REVISED PROPERTY LINES AND EXISTING C/A FOR PARCELS 24 - 26; PARCEL 28 - REMOVED THE TEMPORARY CONSTRUCTION EASEMENT THEREBY ELIMINATED CLAIM. - SD

1/10/2015 : ADDED A STATION LABEL FOR PROPOSED CONTROL OF ACCESS LIMIT ON PARCEL 26; ADDED "DO NOT DISTURB SIGN OR AREA LIGHT" NOTE ON PARCEL 29; REVISED PROPOSED RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN" ON PARCEL 31. - SD



TRAFFIC DIAGRAM
ADT 2016
ADT 2036
-Y5- TARRYTOWN DR
3,500 / 4,300
900 / 1,200
2,200 / 2,600
28,900 / 35,200
34,600 / 42,200
US 301 BYPASS
900 / 1,200
5,500 / 6,700
6,800 / 8,300
LAWRENCE CIR -Y4-
TRAFFIC DIAGRAM
LOWES DRIVEWAY #2
1,000 / 1,300
900 / 1,100
100 / 200
34,600 / 42,200
33,800 / 41,300
US 301 BYPASS
MATCHLINE -L- STA. 51+00 SEE SHEET 5
MATCHLINE -L- STA. 65+00 SEE SHEET 7
SITE 1
1A = 950 SQ. FT. = 0.02 ACRE STA. 60+13 TO STA. 60+63 -L- BZ1 ALLOWABLE IMPACTS
1B = 261 SQ. FT. = 0.01 ACRE STA. 60+21 TO STA. 60+45 -L- BZ2 ALLOWABLE IMPACTS
1C = 732 SQ. FT. = 0.03 ACRE STA. 60+42 TO STA. 60+78 -L- BZ1 ALLOWABLE IMPACTS
PROPOSED 24" SEWER LINE
PROPOSED U/G TEL. LINE
PROPOSED SEWER MH
RECEIVING PIT 10'W X 10'L
BORE PIT 5'L X 3'W X 3'D
DRILL PIT 10'W X 50'L
PROPOSED 20" WATER LINE
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
NAD 83/95
-Y5- POT Sta. 10+00.00
-Y5- PC Sta. 10+56.45
-Y5- PT Sta. 11+51.78
-Y5- POT Sta. 12+00.55
-Y5- POT Sta. 13+93.46
-L- POT Sta. 58+07.87
-Y4- POT Sta. 10+00.00
-L- POT Sta. 58+03.77
-Y4- POT Sta. 21+65.61
-Y4- PT Sta. 19+39.45
-Y4- PC Sta. 13+24.30
-Y4- POC Sta. 13+58.00
-Y4- PCC Sta. 13+98.67
-Y4- PCC Sta. 14+39.86
-Y4- PCC Sta. 15+36.81
-Y4- PCC Sta. 16+00.39
-Y4- PCC Sta. 16+52.70
-Y4- PCC Sta. 17+78.19
BEGIN CONSTRUCTION
END CONSTRUCTION
400' DECELERATION LANE
150' RIGHT TURN TAPER
150' LEFT TURN TAPER
200' STORAGE
200' LEFT TURN TAPER
CORMG TO REMOVE EXISTING 6" GAS LINE
SEE STD. DRAWING NO. 654.01 FOR PAVEMENT REPAIRS
2 TONS CL B RIPRAP 7 SY GEOTEXTILE
FM TARRYTOWN SD TARRYTOWN LLC DB 1675 PG 713 PB 33 PG 285
SAMS REALESTATE BUSINESS TR DB 2205 PG 127
SMZ CORP. DB 2704 PG 405
TRIBO PROPERTIES LLC DB 2411 PG 662
RDG REAL ESTATE LLC DB 2585 PG 135
CITY OF ROCKY MOUNT SANITARY SEWER EASEMENT
BODDIE NOELL ENTERPRISES INC DB 2341 PG 500
ARCLWRMTMCOOL LLC DB 2693 PG 640
CAROL W. GILBRO & ALICE J. WILLIAMS DB 2693 PG 316
BRANNAN LLLC DB 2423 PG 93
WILLIAM T. WESTCOTT JR. DB 1208 PG 962 NO CLAIM
DAVIS T. MILLER DB 1473 PG 970
PREMIER PROPERTY LLC DB 1517 PG 1000
LINWOOD E. BOWEN DB 915 PG 463
SARAH A. BENNETT DB 1664 PG 821
JAMES PALIOURAS DB 2764 PG 815
ROBERT D. GORMAN JR. DB 188 PG 224
LAWRENCE V. WOOTEN FAMILY LLC DB 1849 PG 116
-L- POT Sta. 59+75 +/- BEGIN APPROACH SLAB
-L- POT Sta. 60+00 +/- BEGIN BRIDGE
-L- POT Sta. 62+05 +/- END BRIDGE
-L- POT Sta. 62+30 +/- END APPROACH SLAB
TYPE B-77

BRIDGE /PAVEMENT RELATIONSHIP SKETCH

-Y5-

PI Sta 11+04.34
Δ = 13° 43' 27.8" (RT)
D = 14° 23' 45.3"
L = 95.34'
T = 47.90'
R = 398.00'
SUPER = EXIST.

-Y4-

PI Sta 13+62.15	PI Sta 14+19.30	PI Sta 14+90.10	
Δ = 26° 18' 11.2" (RT)	Δ = 8° 01' 41.2" (RT)	Δ = 37° 01' 54.5" (RT)	
D = 35° 22' 04.0"	D = 19° 29' 18.1"	D = 38° 11' 49.9"	
L = 74.37'	L = 41.19'	L = 96.95'	
T = 37.85'	T = 20.63'	T = 50.24'	
R = 162.00'	R = 294.00'	R = 150.00'	
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	
PI Sta 15+69.16	PI Sta 16+26.55	PI Sta 17+19.38	PI Sta 18+60.02
Δ = 26° 01' 08.6" (RT)	Δ = 4° 16' 53.1" (RT)	Δ = 47° 56' 10.5" (RT)	Δ = 23° 59' 52.5" (RT)
D = 40° 55' 32.0"	D = 8° 11' 06.4"	D = 38° 11' 49.9"	D = 14° 52' 55.3"
L = 63.58'	L = 52.31'	L = 125.50'	L = 161.25'
T = 32.35'	T = 26.17'	T = 66.68'	T = 81.83'
R = 140.00'	R = 700.00'	R = 150.00'	R = 385.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.15
FOR -Y4- & -Y5- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-2 FOR INTERSECTION DETAILS

8/17/99
8/31/2016
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5/28/99

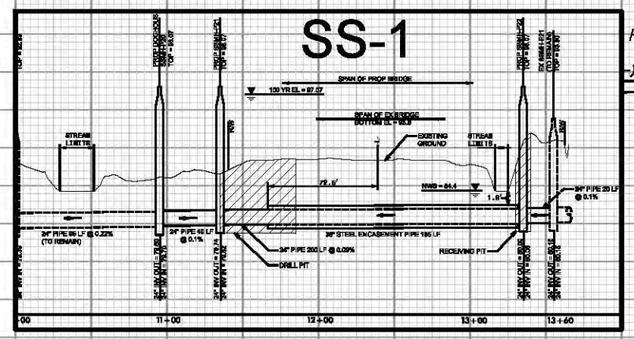
PROJECT REFERENCE NO.	SHEET NO.
U-3330	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NES PERMIT PLANS
REV (August 31, 2016)

-L- LT

TEL-1



PI = 54+80.00
EL = 98.92'
VC = 150'
K = 247
DS = 70 MPH

PI = 57+25.00
EL = 98.17'
VC = 150'
K = 106
DS = 50 MPH

TARRYTOWN CENTER
-Y5- STA.13+93.46 =
-L- STA.58+07.87

PI = 58+90.00
EL = 100.00'
VC = 150'
K = 106
DS = 50 MPH

BEGIN BRIDGE
-L- STA.60+00.50
ELEV. = 99.67'

STOWEY CREEK

99.37

END BRIDGE
-L- STA.62+05.50
ELEV. = 99.06'

PI = 63+40.00
EL = 98.65'
VC = 150'
K = 250
DS = 80+ MPH

PI = 64+90.00
EL = 99.10'
VC = 150'
K = 250
DS = 70 MPH

PROPOSED GRADE

(-)0.306I%

(+)1.109I%

(-)0.3000%

(+)0.3000%

EXISTING GROUND
(LT @ U/G TEL CABLES)

24" PROPOSED SEWER
(TRENCHLESS)

TRENCHLESS INSTALL
BY DIRECTIONAL BORE

18' DEPTH

OPEN CUT

START TRENCHLESS
INSTALLATION AT STA. 56+50

END TRENCHLESS
INSTALLATION AT STA. 63+50

OPEN CUT

FOR -L- PLAN SEE SHT.6

150 140 130 120 110 100 90 80 70

130 120 110 100 90 80 70

51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00

-L- RT

WL-1

PI = 54+80.00
EL = 98.92'
VC = 150'
K = 247
DS = 70 MPH

LAWRENCE CIRCLE
-Y4- STA.10+00.00 =
-L- STA.58+03.77

PI = 57+25.00
EL = 98.17'
VC = 150'
K = 106
DS = 50 MPH

PI = 58+90.00
EL = 100.00'
VC = 150'
K = 106
DS = 50 MPH

BEGIN BRIDGE
-L- STA.60+00.50
ELEV. = 99.67'

STOWEY CREEK

99.37

END BRIDGE
-L- STA.62+05.50
ELEV. = 99.06'

PI = 63+40.00
EL = 98.65'
VC = 150'
K = 250
DS = 80+ MPH

PI = 64+90.00
EL = 99.10'
VC = 150'
K = 250
DS = 70 MPH

PROPOSED GRADE

(+)0.3000%

(-)0.306I%

(+)1.109I%

(-)0.3000%

(+)0.3000%

EXISTING GROUND

EXISTING GROUND
(RT @ WATER LINE)

24" PROPOSED SEWER
(OPEN CUT)

26' DEPTH

20" TRENCHLESS INSTALL
BY DIRECTIONAL BORE

OPEN CUT

START TRENCHLESS
INSTALLATION AT STA. 56+22

END TRENCHLESS
INSTALLATION AT STA. 62+67

OPEN CUT

FOR -L- PLAN SEE SHT.6

130 120 110 100 90 80 60 50 40

160 150 140 130 120 110 100 90 80 70

51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00

8/31/2016
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USERNAME

PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NES PERMIT PLANS
REV (August 31, 2016)

NAD 83/95

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036	-Y8- RING RD	5,400 / 6,600
30,500 / 37,200	-L- US 301 BYPASS	3,800 / 4,600
25,400 / 31,000	-L-	500 / 700
2,600 / 3,200	-Y9- INDEPENDENCE DR	800 / 1,000
4,400 / 5,400		

REVISIONS

1/1/2015 : UPDATED PROPERTY OWNER NAME ON PARCEL 56; UPDATED PARCEL 57 OWNER NAME AND DEED REFERENCE ON PARCEL 58; ADDED "DO NOT DISTURB AREA, LIGHT" ON PARCEL 62; REMOVED PARCEL 67 OWNER NAME AND DEED REFERENCE; ADDED "DO NOT DISTURB SIGN" NOTE ON PARCEL 67; UPDATED EXISTING RIGHT OF WAY TO INCLUDE CA SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCEL 70. - SD

8/17/99

MATCHLINE -L- STA. 106+00 SEE SHEET 9

MATCHLINE -L- STA. 119+00 SEE SHEET 11

SITE 2

K M ROCKY MOUNT LLC
DB 2633 PG 344
(57)

ARCP RL PORTFOLIO V, LLC
DB 2740 PG 628
(58)

ROCKY MOUNT N LLC
DB 2132 PG 624
(59)

DAILEY T. ROCKY MOUNT, LLC, ETAL
DB 2267 PG 543
(56)

COOKOUT ROCKY MOUNT INC
DB 2286 PG 584
(61)

MORRIS & JEREMY REAVES
DB 2482 PG 553
(62)

DAUGHTRIDGE ENTERPRISES INC.
DB 1331 PG 337
(60)

JUDITH S. TILLEY
DB 2101 PG 790
(63)

CD SMITH CONSTRUCTION INC.
DB 1344 PG 660
(64)

THOMAS G. CLIETT
DB 1127 PG 444
(65)

CLIETT INC.
UNKNOWN
(66)

HENDON GOLDENEAST LLC
DB 2144 PG 108
(67)

RM PROPERTIES
DB 1282 PG 570
(68)

CLIETT INC.
UNKNOWN
(69)

NO CLAIM
HAMBONE DOG PROPERTIES LLC
DB 2116 PG 85
(70)

THOMAS G. CLIETT
DB 1130 PG 87
(71)

-Y8- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y8- POT Sta. 12+71.51

-Y8- POT Sta. 11+72.39

END CONSTRUCTION
-Y8- POT Sta. 11+72.39

-Y9-
PI Sta 12+93.66
Δ = 17° 43' 17.2" (LT)
D = 9° 18' 59.0"
L = 190.22'
T = 95.87'
R = 615.00'
SUPER = EXIST.

-Y9- PT Sta. 13+88.00

PROPOSED U/G TEL LINE

BORE PIT 5'L X 3'W X 3'D

PROPOSED 8" SEWER LINE

2A = 1648 SQ. FT.
= 0.04 ACRE
STA. 113+31 TO
STA. 114+00 -L-
BZ2 ALLOWABLE IMPACTS

DRILL PIT 10'W X 50'L

PROPOSED SEWER MH

2B = 360 SQ. FT.
= 0.01 ACRE
STA. 113+86 TO
STA. 114+08 -L-
BZ1 ALLOWABLE IMPACTS

RECEIVING PIT 10'W X 10'L

2D = 243 SQ. FT.
= 0.01 ACRE
STA. 114+82 TO
STA. 115+09 -L-
BZ2 ALLOWABLE IMPACTS

2C = 334 SQ. FT.
= 0.01 ACRE
STA. 114+71 TO
STA. 114+98 -L-
BZ1 ALLOWABLE IMPACTS

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 18 & 19
FOR -Y8- & -Y9- PROFILE SEE SHT. 25
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-4 FOR INTERSECTION DETAILS

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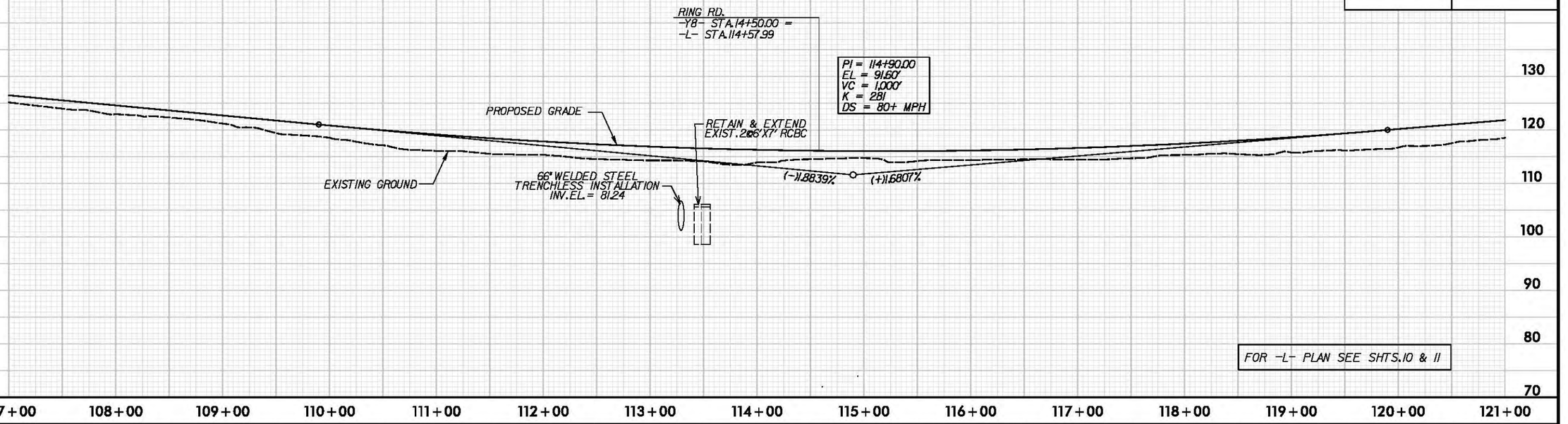
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

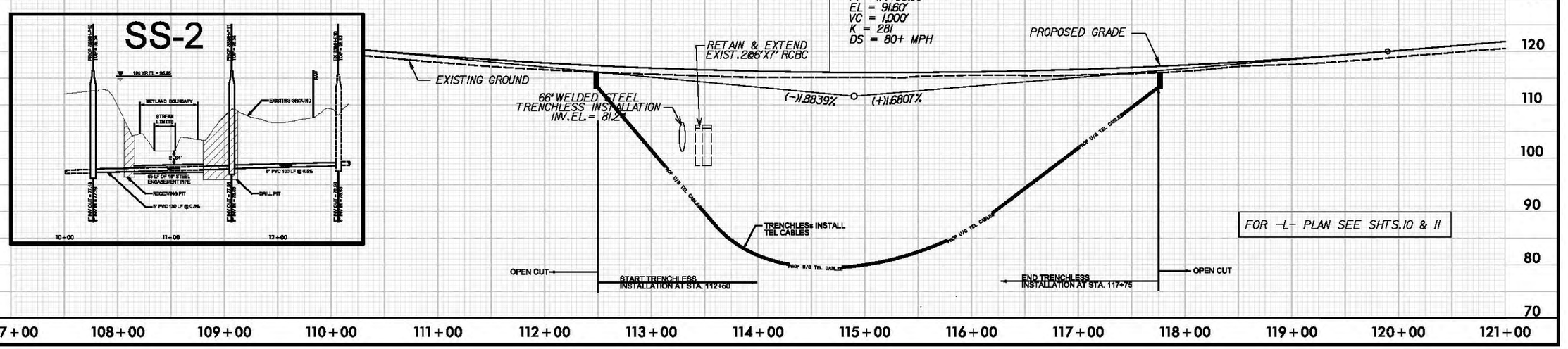
NES PERMIT PLANS
REV (August 31, 2016)

-L- LT



-L- RT

TEL-2



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BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	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)	ZONE 1 (ft^2)	ZONE 2 (ft^2)
1 A	24" SS	60+13 to 60+63 -L-				950		950					
1 B	24" SS	60+21 to 60+45 -L-					261	261					
1 C	24" SS	60+42 to 60+76 -L-				732		732					
2 A	8"SS	113+31 to 114+00 -L-					1648	1648					
2 B	8"SS	113+85 to 144+08 -L-				350		350					
2 C	8"SS	114+71 to 114+96 -L-				334		334					
2 D	8"SS	114+82 to 115+09 -L-					243	243					
TOTAL:						2366	2152	4518					

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

NASH COUNTY
PROJECT: 36596.1.2 (U-3330)

REVISED 8/31/2016
SHEET 1 OF 1

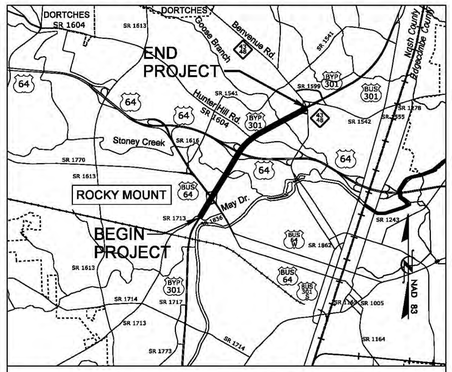
Rev. May 2006

09/08/09

TIP PROJECT: U-3330

CONTRACT: C203907

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

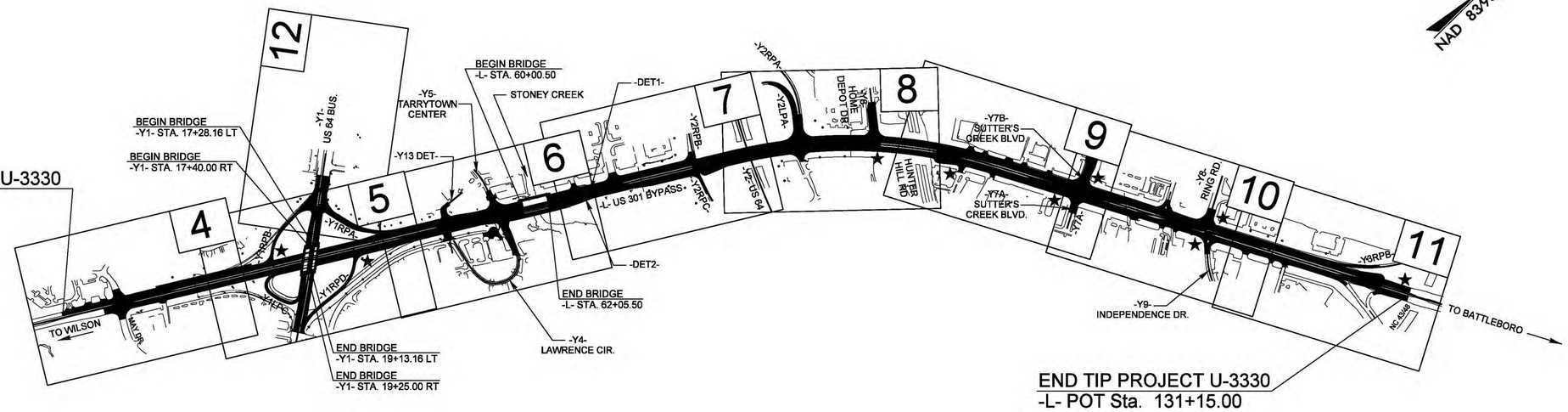
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–3330	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
36596.1.2	STP – 0301 (28)	PE
36596.2.FR1	STP – 0301 (28)	R/W
36596.2.FRU1	STP – 0301 (28)	UTIL.
36596.3.FR1	STP – 0301 (28)	CONST.

PLFI PLANS

LOCATION: ***ROCKY MOUNT – US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43–48 (BENVENUE ROAD) INTERCHANGE***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, SIGNALS, NOISE WALL, STRUCTURES, AND CULVERT***



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
2. THIS IS A PARTIAL CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
3. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR –Y1LPC–

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 38,580
ADT 2036 = 47,100
K = 10%
D = 55%
T = 4%*
V = 50 mph

*TTST 2% DUAL 2%
FUNCTIONAL CLASS.:URBAN ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U–3330	2.005 Miles
LENGTH STRUCTURE TIP PROJECT U–3330	0.039 Mile
TOTAL LENGTH TIP PROJECT U–3330	2.044 Miles

Prepared in the Office of:
CALYX ENGINEERS + CONSULTANTS
Formerly McAvoy Engineers & Consultants
NC License # F-1333

FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2014

LETTING DATE:
MAY 16, 2017

NCDOT CONTACT:

Steve A. Drum, PE
PROJECT ENGINEER

Michael A. Holt, PE
PROJECT DESIGN ENGINEER

Tatia L. White, PE, PLS
PROJECT ENGINEER – ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

8/18/2016
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04/06/15

PROJECT REFERENCE NO.	SHEET NO.
U-3330	1-B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

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
- 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
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

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 — FLOW
- 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 — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- 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

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 — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

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

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

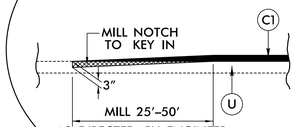
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PAVEMENT SCHEDULE

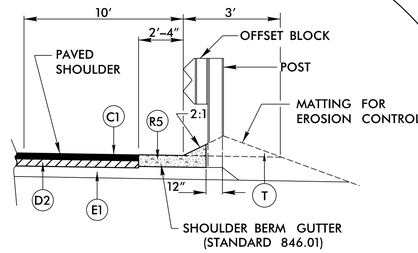
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D4	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
J1	PROP. 8" AGGEGRATE BASE COURSE
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YARD
R1	2'-6" CONCRETE CURB & GUTTER
R2	1'-6" CONCRETE CURB & GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
R4	CONCRETE EXPRESSWAY GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 3" DEPTH
V2	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

MILLING DETAIL

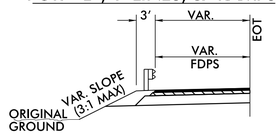


DETAIL SHOWING SHOULDER BERM GUTTER

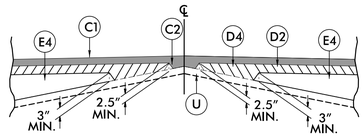


USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2
–L– STA. 58+78.00 TO STA. 59+75 +/– LT
–L– STA. 62+30 +/– TO STA. 62+55.00 LT
–L– STA. 62+30 +/– TO STA. 68+50.00 RT

SHOULDER WIDENING DETAILS FOR –L–, Y–LINES, & RAMPS

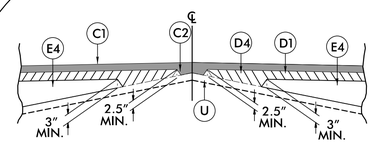


WEDGING DETAILS



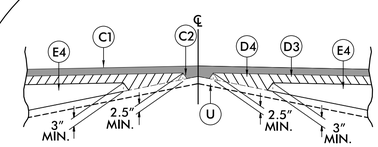
DETAIL SHOWING METHOD OF WEDGING NO. 1 FOR
–L– STA. 26+50.00 TO STA. 131+15.00

WEDGING DETAILS

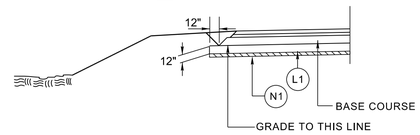


DETAIL SHOWING METHOD OF WEDGING NO. 2 FOR
–L– STA. 23+25.00 TO STA. 26+00.00
–Y1–, –Y1RPA–, –Y1RPB–, –Y1LPC–, –Y2RPA–, –Y2RPB–
–Y2RPC–, –Y2LPA–, –Y4–, –Y5–, –Y6–, –Y7A–,
–Y7B–, –Y8–, –Y9–

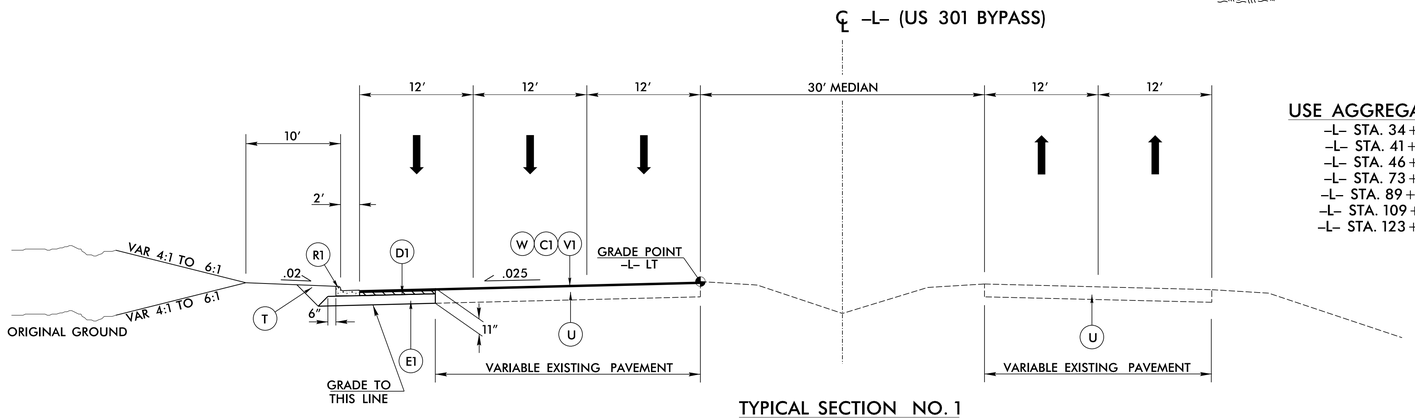
WEDGING DETAILS



DETAIL SHOWING METHOD OF WEDGING NO. 3 FOR
–Y1RPD–, –Y3RPB–



TYPICAL SECTION NO. 1



–L– STA. 23+25.00 TO 26+50.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS

USE AGGREGATE SUBGRADE DETAIL

–L– STA. 34+25.00 TO 35+75.00
–L– STA. 41+25.00 TO 43+25.00
–L– STA. 46+75.00 TO 49+75.00
–L– STA. 73+25.00 TO 85+75.00
–L– STA. 89+25.00 TO 106+75.00
–L– STA. 109+75.00 TO 112+25.00
–L– STA. 123+75.00 TO 126+75.00

CALYX ENGINEERS + CONSULTANTS
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7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com
NC License # F-1333

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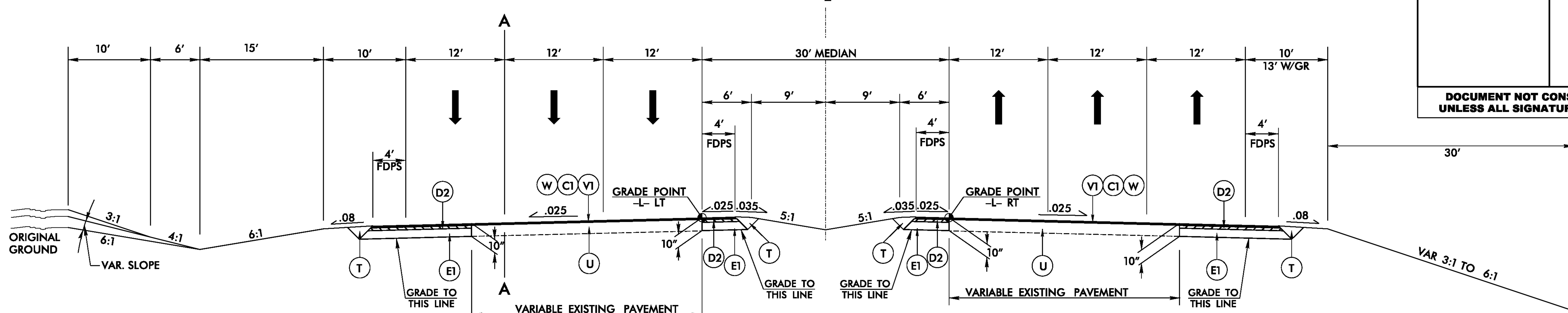
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

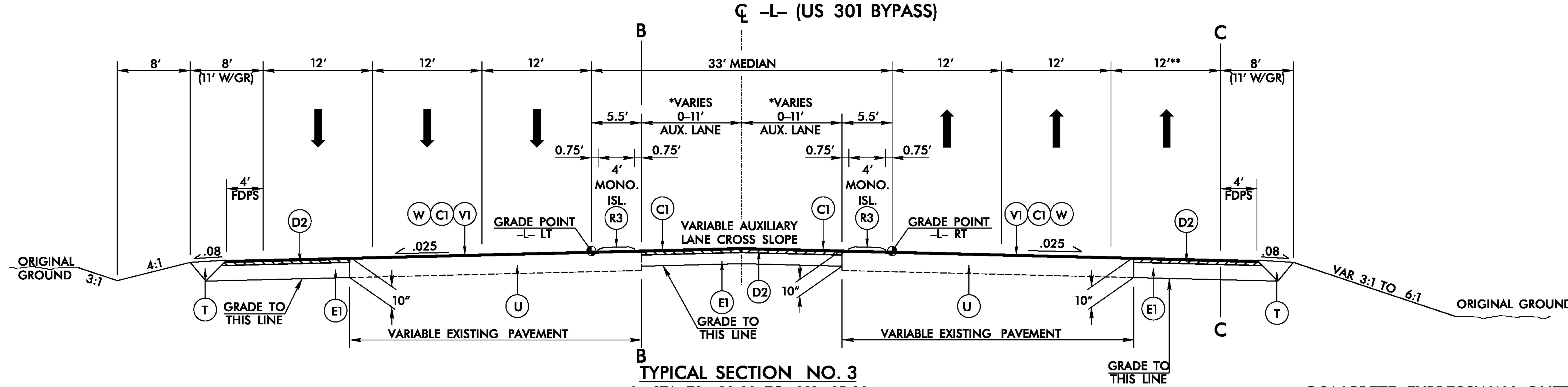
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



TYPICAL SECTION NO. 2

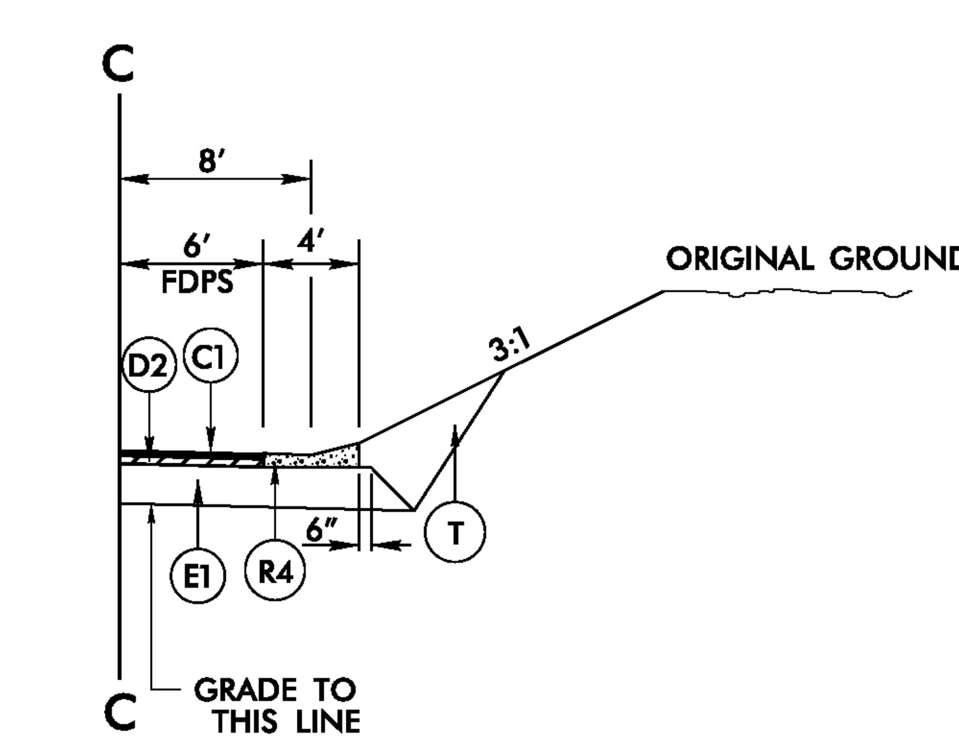
-L- STA. 26+50.00 TO 60+00.50 (BEGIN BRIDGE)
-L- STA. 62+05.50 (END BRIDGE) TO 73+90.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS



TYPICAL SECTION NO. 3

-L- STA. 73+90.00 TO 131+15.00
* SEE PLANS FOR AUXILIARY LANE LOCATIONS AND BULBOUTS
- TRANSITION FROM 30' TO 33' MEDIAN STA. 73+90.00 TO 74+65.00
** 0' FROM -L- STA. 125+38.00 TO 131+15.00

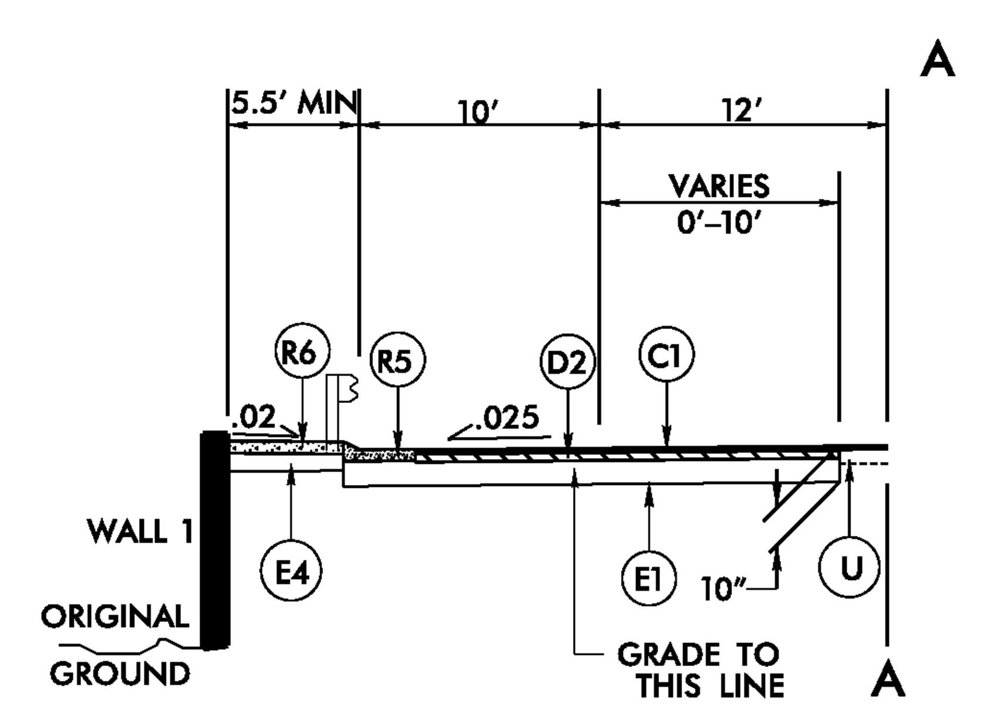
CONCRETE EXPRESSWAY GUTTER



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3

-L- STA. 92+40.00 TO STA. 94+10.00 RT

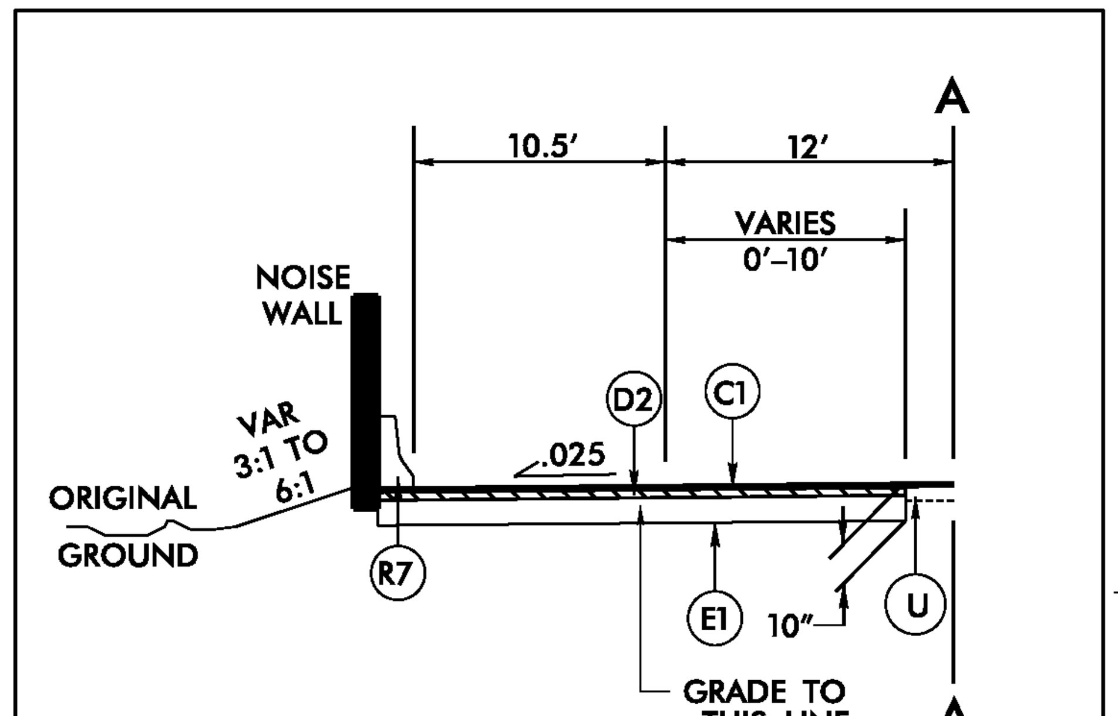
PROPOSED RETAINING WALL



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

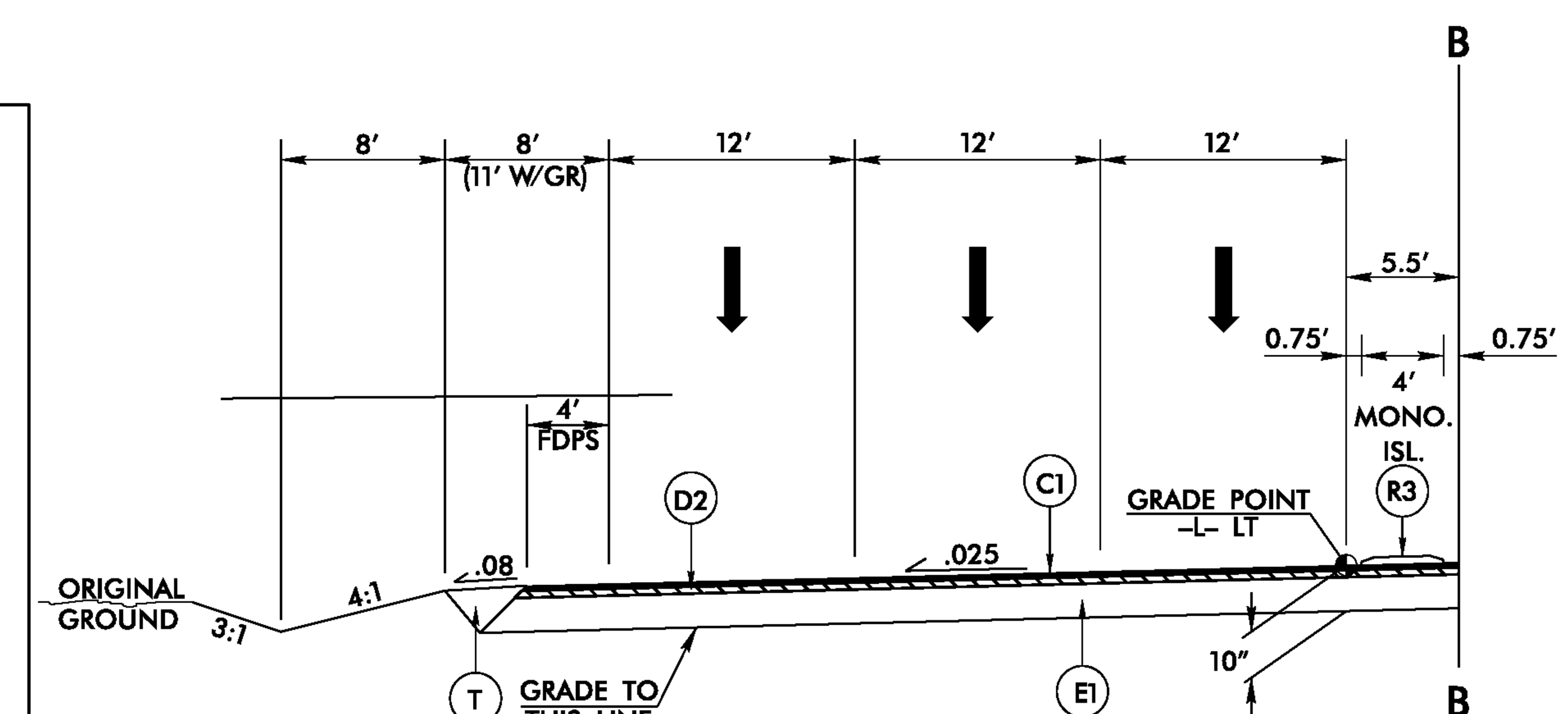
-L- STA. 58+80+/- TO STA. 60+00+/- LT

PROPOSED NOISE WALL



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

-L- STA. 30+80.70 TO STA. 38+45.70 LT



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3

-L- STA. 76+00.00 LT. TO 81+00.00 LT.
SEE PLANS FOR AUXILIARY LANE LOCATIONS

CALYX ENGINEERS + CONSULTANTS
Formerly Mulkey Engineers & Consultants
7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
phone: 704.537.7300
CALYXengineers.com
NC License # F-1333

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8/18/2016
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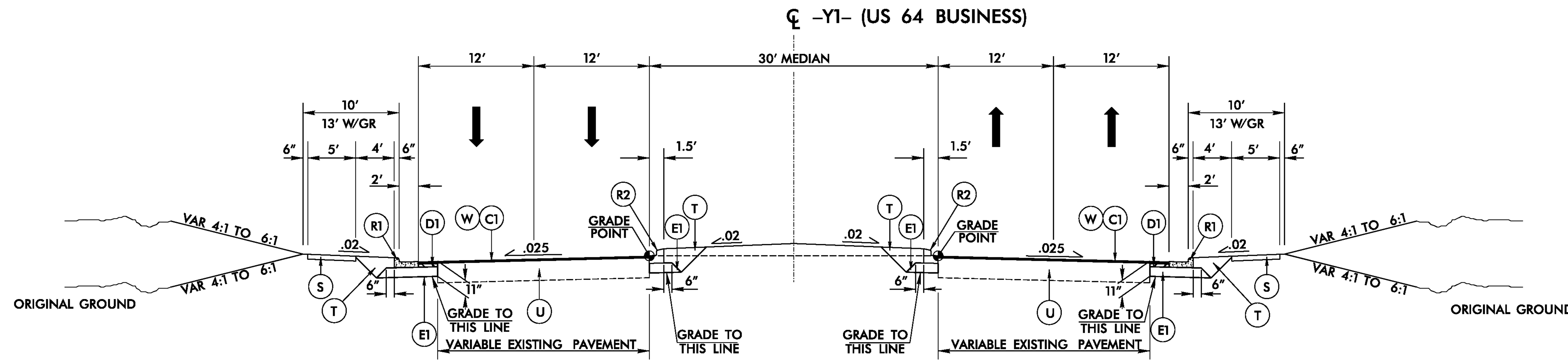
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

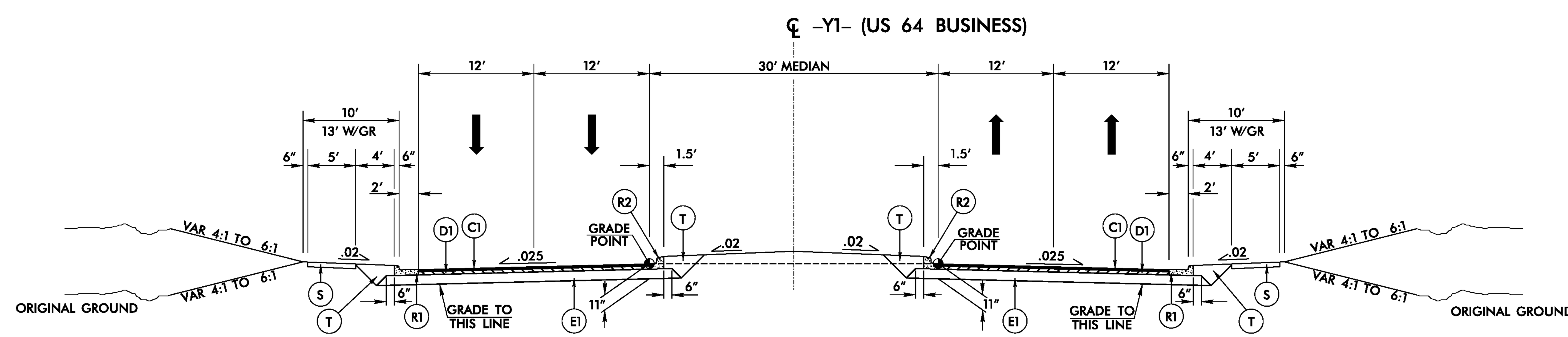
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-3
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 4

-Y1- STA. 11+75.00 TO 15+00.00
-Y1- STA. 21+00.00 TO STA. 24+04.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS
SEE PLANS FOR SIDEWALK LOCATIONS



TYPICAL SECTION NO. 5

-Y1- STA. 15+00.00 TO 17+40.00 (BEGIN BRIDGE RT)
-Y1- STA. 19+25.00 (END BRIDGE RT) TO STA. 21+00.00
SEE PLANS FOR AUXILIARY LANE LOCATIONS

CALYX ENGINEERS + CONSULTANTS
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7500 EAST INDEPENDENCE BOULEVARD, SUITE 100
CHARLOTTE, NC 28227
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CALYXengineers.com
NC License # F-1333

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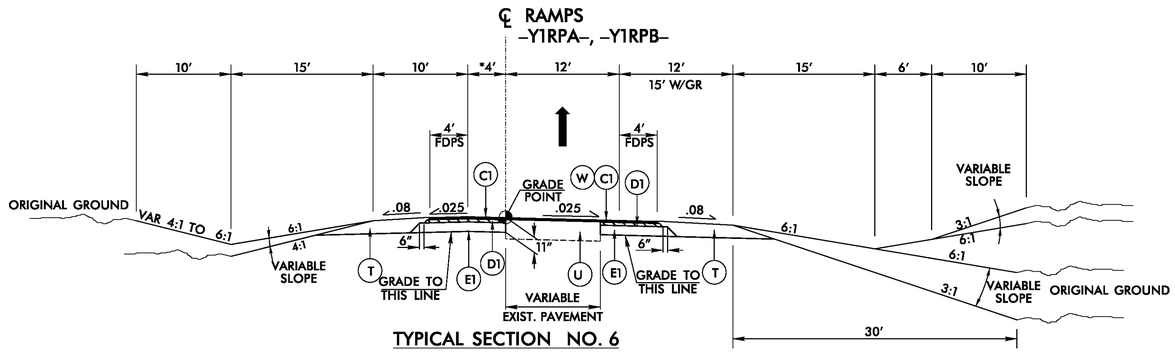
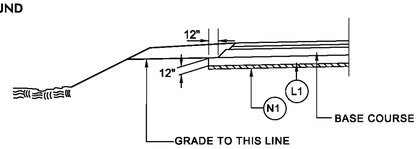
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



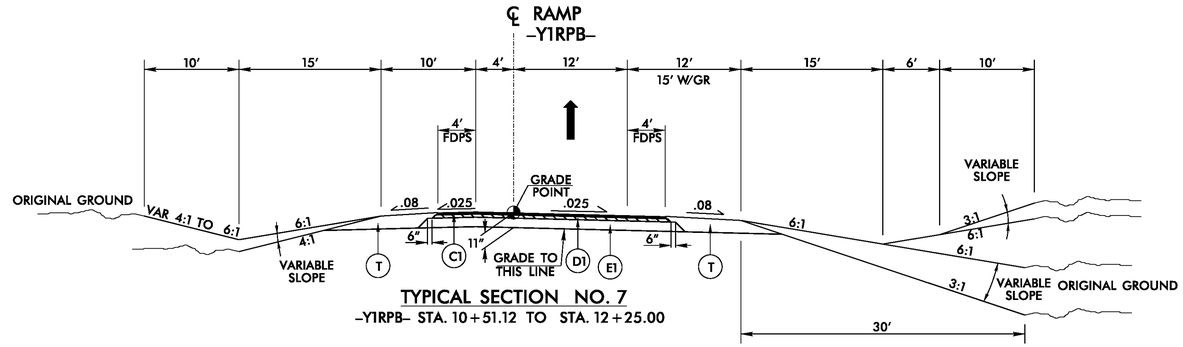
TYPICAL SECTION NO. 6

–Y1RPA– STA. 10+00.00 TO STA. 17+03.62
–Y1RPB– STA. 12+25.00 TO STA. 16+83.66
* VARIES FROM 6' TO 24' FOR –Y1RPA–



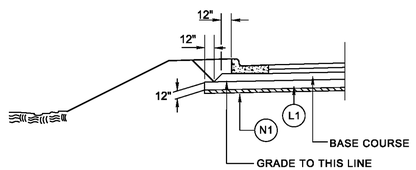
USE AGGREGATE SUBGRADE DETAIL

–Y1RPA– STA. 11+75.00 TO 15+25.00
–Y1RPB– STA. 11+00 TO 13+75.00



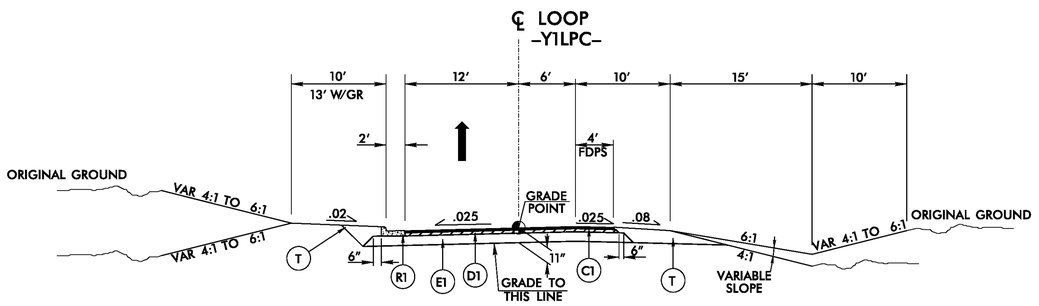
TYPICAL SECTION NO. 7

–Y1RPB– STA. 10+51.12 TO STA. 12+25.00



USE AGGREGATE SUBGRADE DETAIL

–Y1LPC– STA. 11+75.00 TO 15+00.00



TYPICAL SECTION NO. 8

–Y1LPC– STA. 10+00.00 TO STA. 15+34.11

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-4
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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CALYX
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NC License # F-1333

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Figure

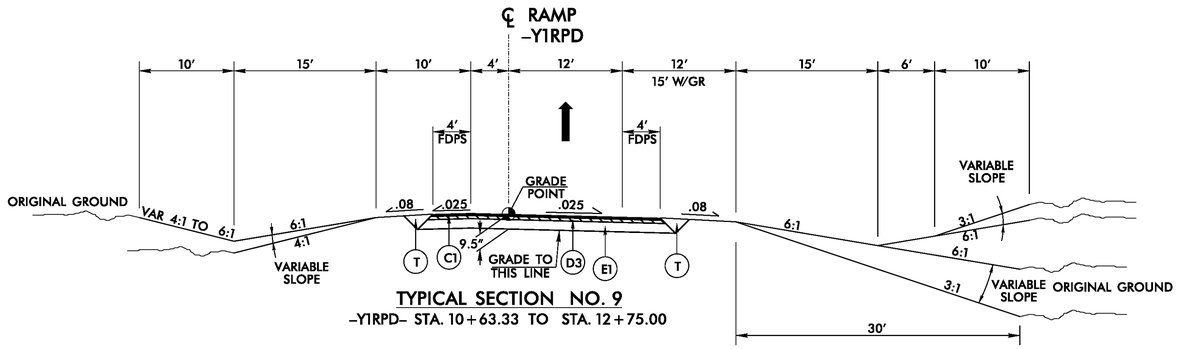
6/2/99

PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

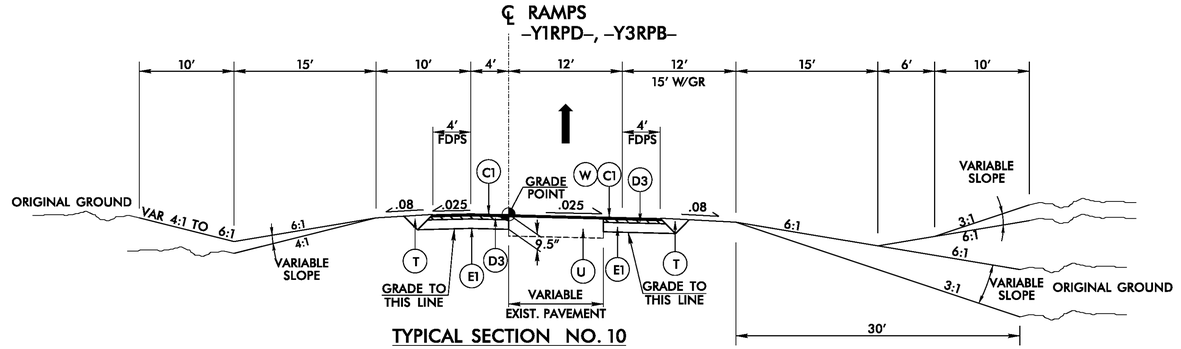
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



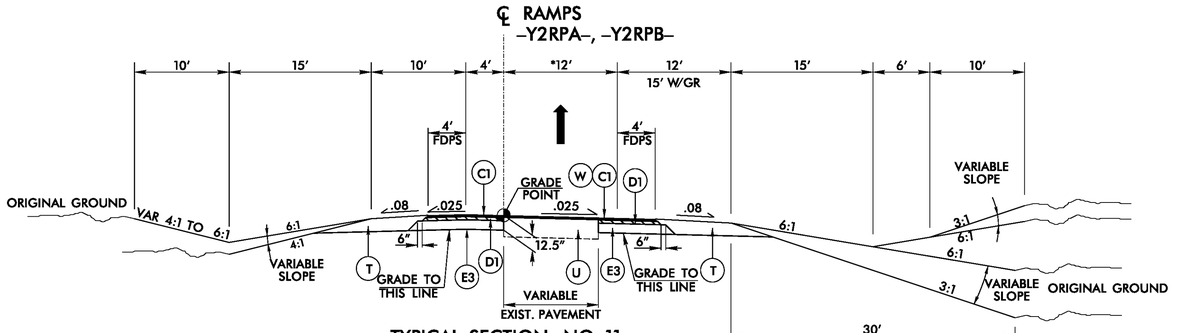
TYPICAL SECTION NO. 9

–Y1RPD– STA. 10+63.33 TO STA. 12+75.00



TYPICAL SECTION NO. 10

–Y1RPD– STA. 12+75.00 TO STA. 17+09.17
–Y3RPB– STA. 10+00.00 TO STA. 14+94.70



TYPICAL SECTION NO. 11

–Y2RPA– STA. 16+85.00 TO STA. 18+77.44 (LT)
–Y2RPB– STA. 11+43.77 TO STA. 12+09.59
* 30′ FOR –Y2RPB–

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CHARLOTTE, NC 28227
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CALYXengineers.com
NC License # F-1333

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ESplus

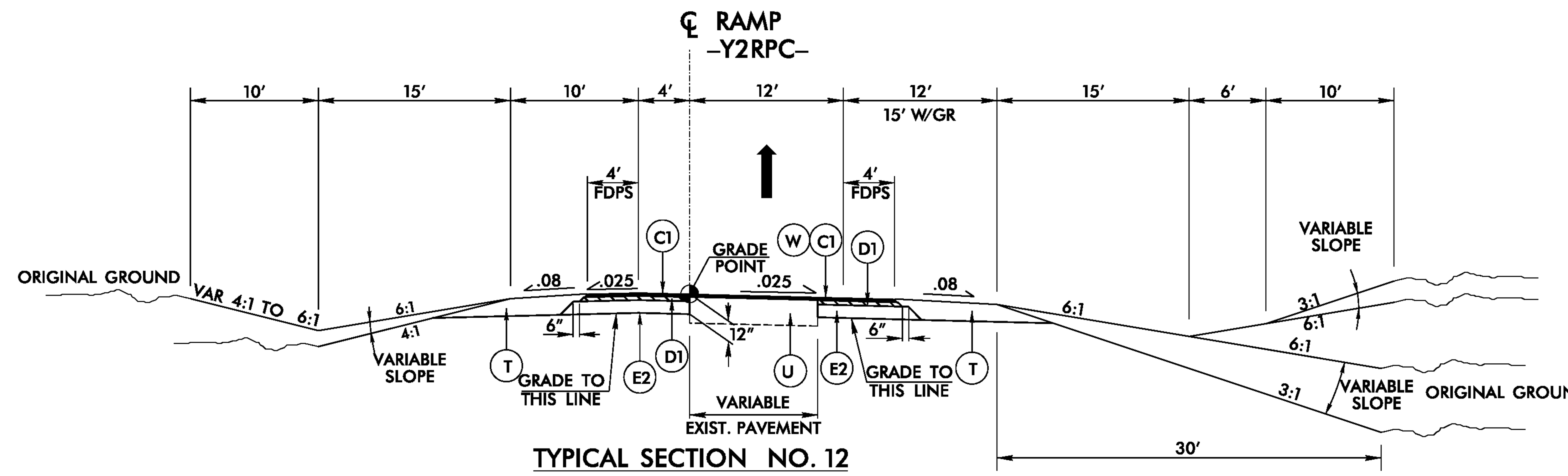
6/2/99

PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

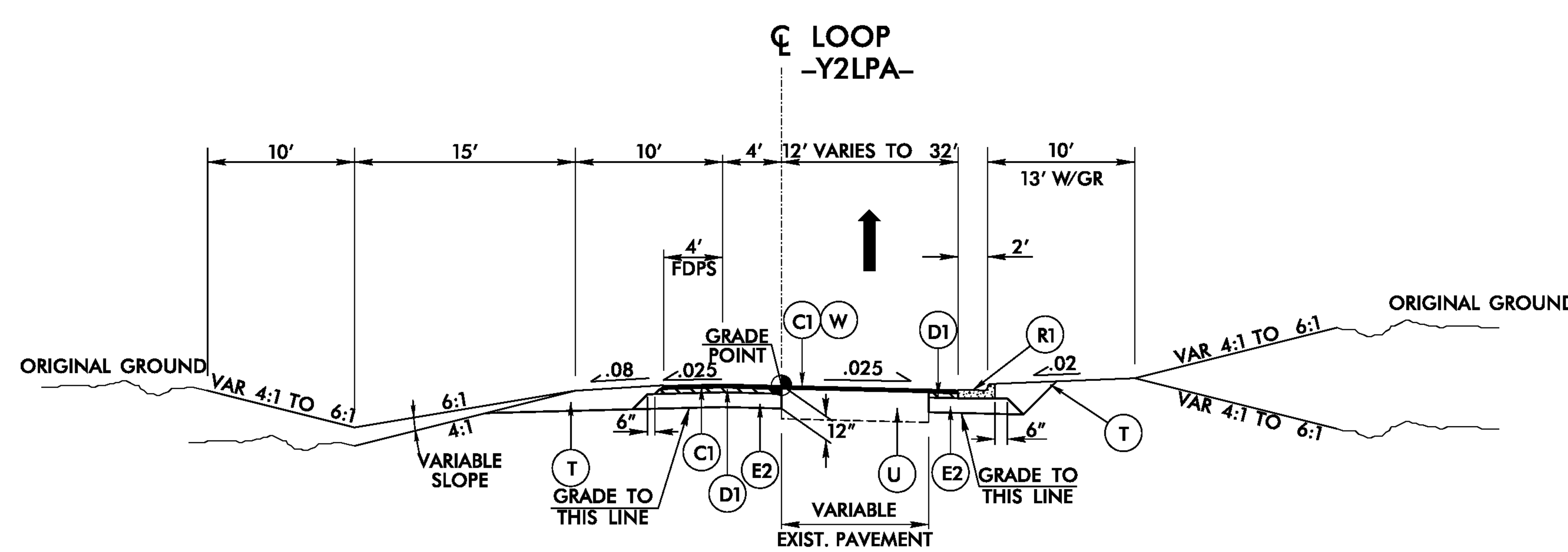
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-6
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 12

-Y2RPC- STA. 10+70.00 TO STA. 12+47.46



TYPICAL SECTION NO. 13

-Y2LPA- STA. 10+50.03 TO STA. 16+13.30 (RT)

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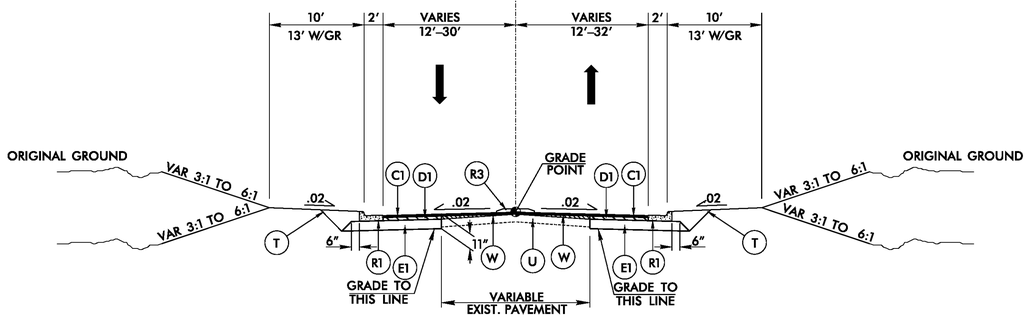
PRELIMINARY PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	VAR. S9.5B
C3	1.5" S9.5B
D1	4" I19.0B
D2	3" I19.0B
D3	2.5" I19.0B
D4	VAR. I19.0B
E1	4" B25.0B
E2	5" B25.0B
E3	5.5" B25.0B
E4	VAR. B25.0B
J1	8" ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2'-6" CURB & GUTTER
R2	1'-6" CURB & GUTTER
R3	5" MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4" CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3" MILLING
V2	1.5" MILLING
W	WEDGING

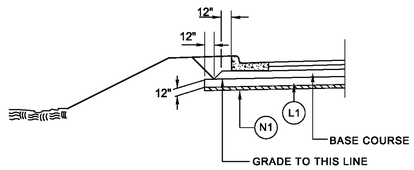
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

℄ –Y LINES–



TYPICAL SECTION NO. 14

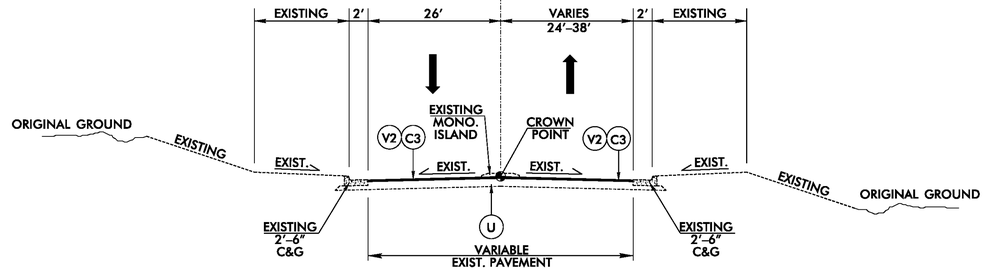
–Y4– STA. 10+52.20 TO STA. 13+58.00
–Y5– STA. 12+00.55 TO STA. 13+41.26
–Y6– STA. 12+75.05 TO STA. 13+75.65
–Y7A– STA. 10+63.50 TO STA. 11+04.84
–Y7B– STA. 10+68.04 TO STA. 12+86.47
–Y8– STA. 12+71.57 TO STA. 13+86.50
–Y9– STA. 10+55.76 TO STA. 11+72.39
SEE PLAN SHEETS FOR MONO ISLAND LOCATIONS



USE AGGREGATE SUBGRADE DETAIL

–Y7A– STA. 11+00.00 TO 11+04.84

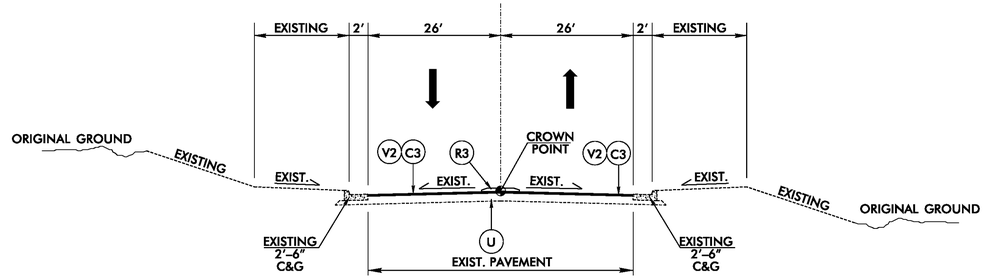
℄ –Y6–



TYPICAL SECTION NO. 15

–Y6– STA. 11+12.05 TO STA. 12+75.05

℄ –Y7A–



TYPICAL SECTION NO. 16

–Y7A– STA. 11+04.84 TO STA. 11+70.00

PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-7
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

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kevin

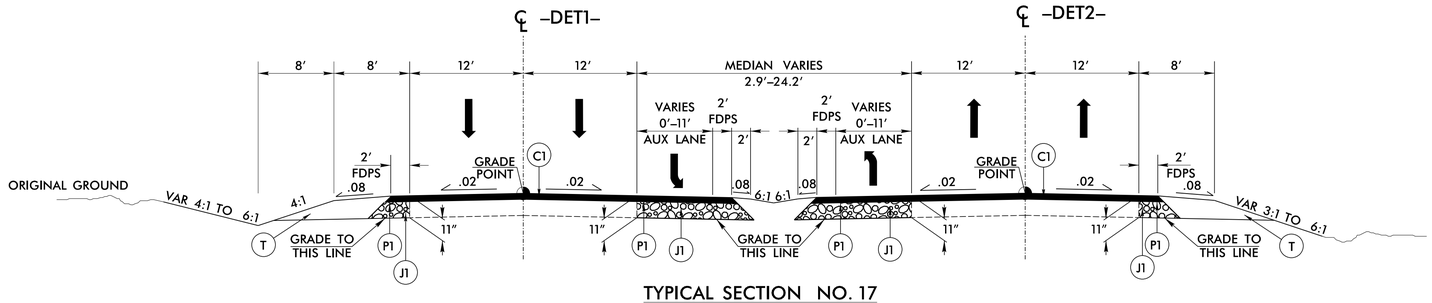
6/2/99

PRELIMINARY PAVEMENT SCHEDULE	
C1	3″ S9.5B
C2	VAR. S9.5B
C3	1.5″ S9.5B
D1	4″ I19.0B
D2	3″ I19.0B
D3	2.5″ I19.0B
D4	VAR. I19.0B
E1	4″ B25.0B
E2	5″ B25.0B
E3	5.5″ B25.0B
E4	VAR. B25.0B
J1	8″ ABC
L1	CLASS IV SUBGRADE STABILIZATION
N1	GEOTEXTILE FOR SOIL STABILIZATION
P1	PRIME COAT
R1	2′-6″ CURB & GUTTER
R2	1′-6″ CURB & GUTTER
R3	5″ MONO. ISLAND
R4	CONC. EXP. GUTTER
R5	SHOULDER BERM GUTTER
R6	4″ CONCRETE ISLAND COVER
R7	SINGLE FACED CONCRETE BARRIER
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	3″ MILLING
V2	1.5″ MILLING
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

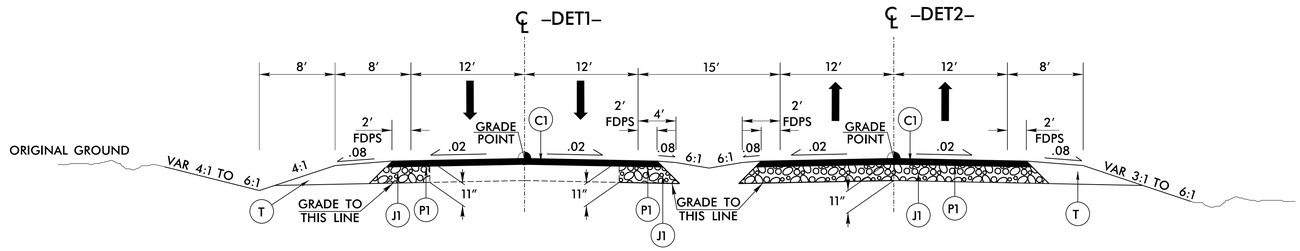
PROJECT REFERENCE NO.	SHEET NO.
U-3330	2A-8
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



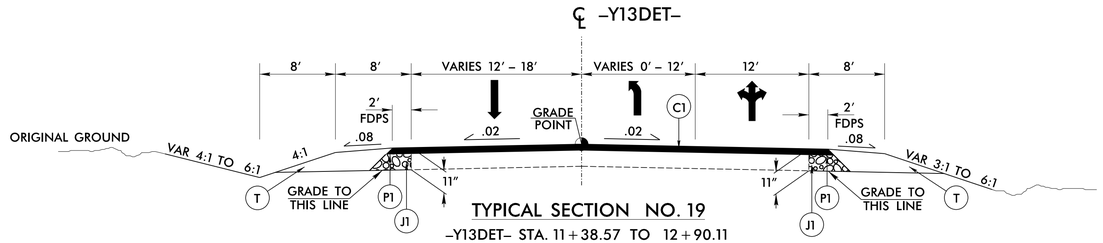
TYPICAL SECTION NO. 17

–DET1– STA. 10+96.78 TO 19+55.00
–DET1– STA. 24+97.56 TO 29+78.53
–DET2– STA. 10+96.78 TO 19+51.15
–DET2– STA. 25+00.00 TO 29+76.29
SEE PLANS FOR AUXILIARY LANE LOCATIONS



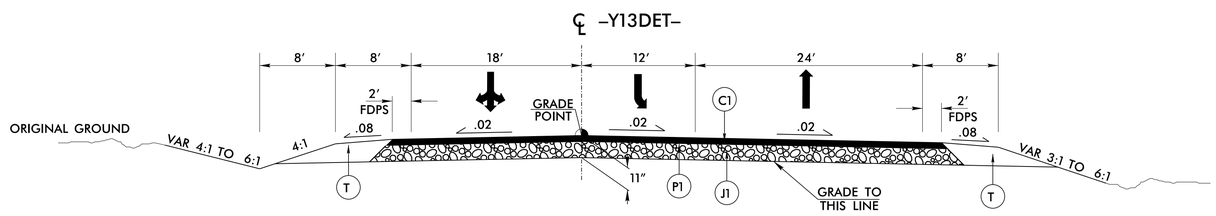
TYPICAL SECTION NO. 18

–DET1– STA. 19+55.00 TO 21+10.14 (BEGIN EXIST. BRIDGE)
–DET1– STA. 22+96.40 (END EXIST. BRIDGE) TO 24+97.56
–DET2– STA. 19+51.15 TO 21+09.27 (BEGIN BRIDGE)
–DET2– STA. 22+95.28 (END BRIDGE) TO 25+00.00



TYPICAL SECTION NO. 19

–Y13DET– STA. 11+38.57 TO 12+90.11



TYPICAL SECTION NO. 20

–Y13DET– STA. 13+67.08 TO 14+40.55

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	2B-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

-YI3DET-
PI Sta 11+92.05
Δ = 61° 41' 43.1" (LT)
D = 143° 14' 22.0"
L = 43.07'
T = 23.89'
R = 40.00'
e = NC

-DET1-
PI Sta 15+95.41
Δ = 9° 19' 22.3" (RT)
D = 2° 47' 41.7"
L = 333.56'
T = 167.15'
R = 2,050.00'
e = NC

-DET1-
PI Sta 19+28.97
Δ = 9° 19' 22.3" (LT)
D = 2° 47' 41.7"
L = 333.56'
T = 167.15'
R = 2,050.00'
e = NC

-DET2-
PI Sta 19+52.34
Δ = 7° 56' 45.5" (LT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC

-DET2-
PI Sta 16+68.04
Δ = 7° 56' 45.5" (RT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC

-DET2-
PI Sta 24+52.66
Δ = 7° 56' 45.5" (LT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC

-DET1-
PI Sta 24+78.55
Δ = 9° 19' 22.3" (LT)
D = 2° 47' 41.7"
L = 333.56'
T = 167.15'
R = 2,050.00'
e = NC

-DET2-
PI Sta 24+52.66
Δ = 7° 56' 45.5" (LT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC

-DET2-
PI Sta 27+36.96
Δ = 7° 56' 45.5" (RT)
D = 2° 47' 41.7"
L = 284.30'
T = 142.38'
R = 2,050.00'
e = NC

-DET1-
PI Sta 28+12.11
Δ = 9° 19' 22.3" (RT)
D = 2° 47' 41.7"
L = 333.56'
T = 167.15'
R = 2,050.00'
e = NC

BEGIN CONSTRUCTION
-YI3DET- Sta.11+38.57

BEGIN U-3330 DETOUR
-L- POT Sta.49+96.78 =
-DET1- POT Sta.10+96.78 (27.0' LT)
-DET2- POT Sta.10+96.78 (27.0' RT)

-L- Sta.53+93.37 =
-YI3DET- Sta.13+28.06

-DET2- Sta.14+92.48 =
-YI3DET- Sta.13+55.08

-DET1- Sta.14+94.23 =
-YI3DET- Sta.13+02.11

END CONSTRUCTION
-YI3DET- Sta.14+40.53

-Y4- POT Sta.10+00.00
-L- POT Sta.58+03.77

END U-3330 DETOUR
-L- POT Sta.68+72.65 =
-DET1- PT Sta.29+78.53 (27.0' LT)
-DET2- POT Sta.29+76.29 (27.0' RT)

PC Sta. 11+68.16
PT Sta. 12+11.23
PRC Sta. 17+61.82
PC Sta. 15+25.66
PCC Sta. 15+44.13
PRC Sta. 18+09.96
PT Sta. 20+95.38
PC Sta. 23+11.40
PT Sta. 20+10.28
PRC Sta. 26+44.96
PRC Sta. 25+94.98
PT Sta. 28+78.88
PT Sta. 29+78.53
PT Sta. 34+05.88
PT Sta. 34+03.64

S 4° 38' 42.9" W
S 57° 03' 00.2" W
S 14° 12' 12.7" E

MATCHLINE -DET1- STA. 24+50 SEE THIS SHEET

MATCHLINE -DET1- STA. 24+50 SEE THIS SHEET

FOR -DET1-, -DET2-, AND -YI3DET- PROFILES SEE SHTS.26 & 27

DETAIL DET-2
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground · 3:1 · D · 4:1 · Front Ditch Slope
Min. D=1 Ft.
-DET1- STA. 20+00 TO -L- STA. 20+82 RT

DETAIL DET-1
MEDIAN V DITCH
(Not to Scale)
Shoulder Point · 6:1 or Flatter · 6:1 or Flatter · Shoulder Point
-DET1- STA. 11+00 TO STA. 14+00 MEDIAN
-DET1- STA. 19+00 TO STA. 20+00 MEDIAN
-DET1- STA. 29+32 TO STA. 29+78 MEDIAN

NAD 8395

FM TARRYTOWN SD TARRYTOWN LLC DB 1675 PG 713 PB 33 PG 295 (24)
FM TARRYTOWN SD TARRYTOWN LLC DB 1675 PG 713 PB 33 PG 295 (25)
SMZ CORP. DB 2704 PG 405 (27)
TRIBU PROPERTIES LLC DB 2411 PG 662
DB 2565 PG 135
CAROL W. BILBRO & ALICE J. WILLIAMS DB 2693 PG 316 (32)
TRUSTEE OF HERMAN INSTRIN DB 2422 PG 138 (38)
DB 2693 PG 640 (35)
CAROL W. BILBRO & ALICE J. WILLIAMS DB 2693 PG 316 (36)
CP&L EASEMENT DB 1091 PG 409

-BL- #GPS U3330-3 PINC
-BL- #GPS U3330-4 PINC
-BL- #103 PINC

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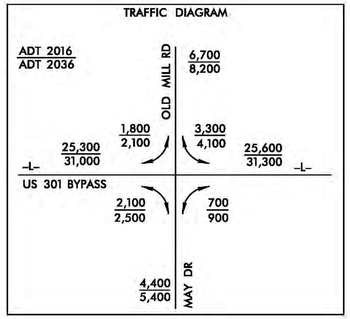
PROJECT REFERENCE NO.	SHEET NO.
U-3330	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRAFFIC DIAGRAM

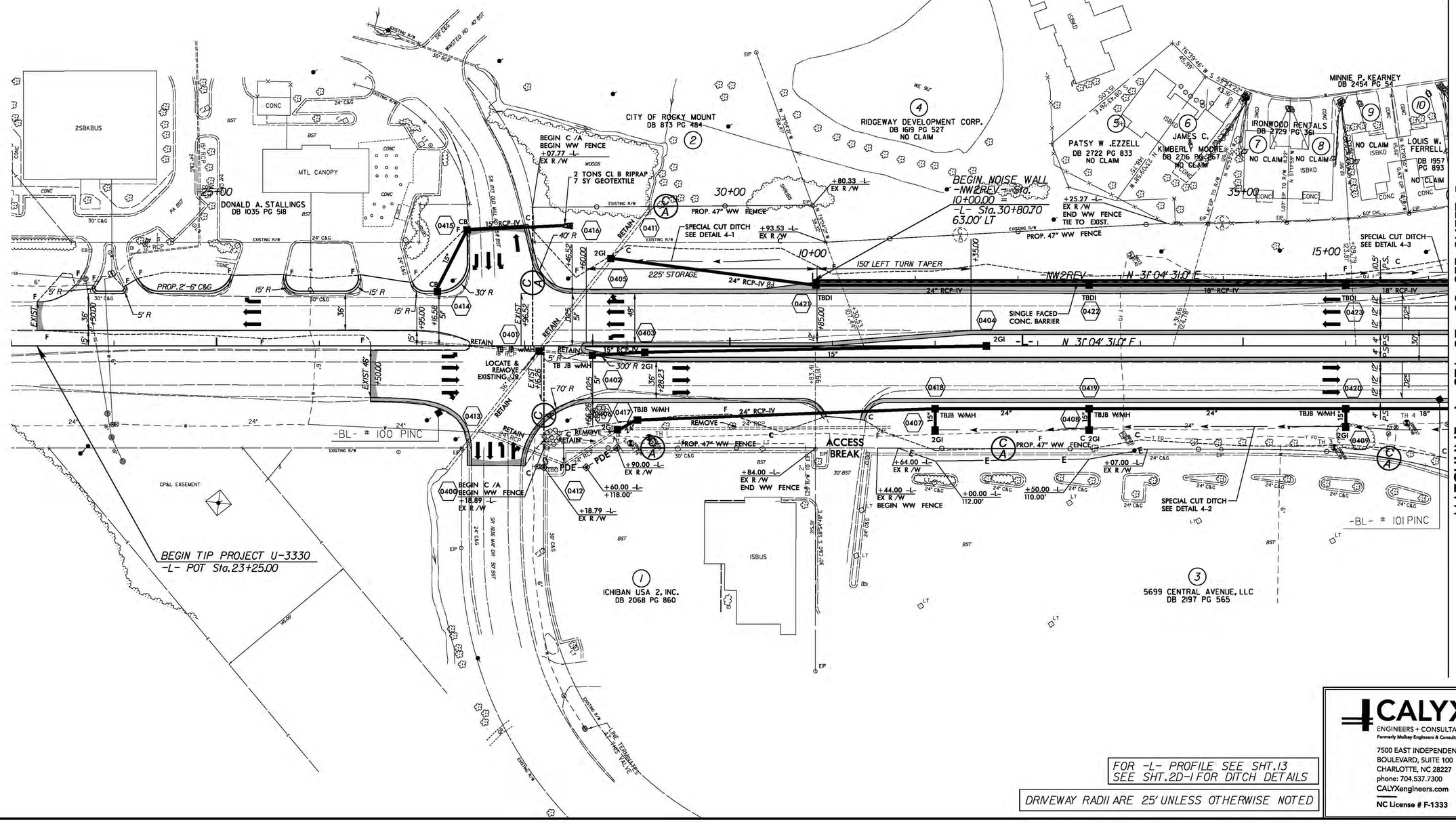


NAD 83/95

REVISIONS

11/02/2015 : UPDATED PROPERTY OWNER NAME ON PARCELS 1 AND 3; REVISED PDE ON PARCEL 1; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM"

8/17/99



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kevin

8/17/99

-Y1-	-Y1RPD-		
PI Sta 21+01.37	PI Sta 11+50.77	PIs Sta 13+31.55	PI Sta 16+02.58
Δ = 3° 09' 11.4" (RT)	Δ = 49° 46' 29.7" (RT)	Θs = 14° 35' 51.5"	Δ = 7° 07' 03.0" (LT)
D = 1° 12' 04.2"	D = 18° 14' 49.4"	Ls = 160.00'	D = 4° 00' 04.0"
L = 262.51'	L = 272.78'	LT = 107.03'	L = 177.89'
T = 131.29'	T = 145.67'	ST = 53.67'	T = 89.06'
R = 4,770.00'	R = 314.00'		R = 1,432.00'
SUPER = NC	SUPER = 0.08		SUPER = 0.01

-Y1LPC-			
PIs Sta 11+05.80	PI Sta 12+01.11	PI Sta 13+24.78	PI Sta 14+91.88
Θs = 57° 17' 44.8"	Δ = 68° 32' 29.1" (LT)	Δ = 24° 00' 33.3" (LT)	Δ = 96° 50' 39.0" (LT)
Ls = 150.00'	D = 76° 23' 39.7"	D = 14° 19' 26.2"	D = 76° 23' 39.7"
LT = 105.80'	L = 89.72'	L = 167.62'	L = 126.77'
ST = 55.31'	T = 51.11'	T = 85.06'	T = 84.54'
	R = 75.00'	R = 400.00'	R = 75.00'
	SUPER = 0.08	SUPER = 0.08	SUPER = 0.08

REVISIONS	
4/29/2015 :	REVISED PROPERTY LINES AND EXISTING C /A FOR PARCELS 3, 11 – 20, & 22 – 24; ELIMINATED CLAIMS FOR PARCELS 11 – 19 DUE TO EXISTING C /A; REVISED DEED REFERENCES FOR PARCELS 22 – 24; – SD
11/10/2015 :	UPDATED PROPERTY OWNER NAME ON PARCEL 3; ADDED "NO CLAIM" NOTE ON PARCEL 13; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCEL 19. – SD

PROJECT REFERENCE NO.	SHEET NO.
U-3330	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -Y1- STA. 13+90 SEE SHEET 12

MATCHLINE -L- STA. 37+00 SEE SHEET 4

MATCHLINE -L- STA. 51+00 SEE SHEET 6

NAD 83/95

WAYNE D. NEWNAM DB 1447 PG 380 NO CLAIM

MAGGIE S. SMITH DB 1774 PG 166 NO CLAIM

ELSIE E. EDWARDS DB 1783 PG 293 NO CLAIM

WINFRED W. PORTER DB 1737 PG 740 NO CLAIM

RUTH MOBELY DB 1757 PG 557 NO CLAIM

JOSEPH E. CAMPBELL JR. DB 1795 PG 829 NO CLAIM

MICHAEL L. BELLE DB 2161 PG 710 NO CLAIM

WILLIE J. THORNE DB 2466 PG 314 NO CLAIM

5699 CENTRAL AVENUE, LLC DB 2197 PG 565

WJP REALTY DB 1285 PG 866 NO CLAIM

MICHAEL D. GREENE DB 2219 PG 833

RIM PROPERTY MANAGEMENT LLC DB 2187 PG 998

PREMIER PROPERTY LLC DB 1517 PG 1000

FM TARRYTOWN SD TARRYTOWN LLC DB 1675 PG 713 PB 33 PG 295

SAMS REALESTATE BUSINESS TR DB 2205 PG 127 PB 33 PG 295

-YIRPB- POT Sta. 10+00.00
-L- POT Sta.40+09.33

END NOISE WALL -NW2REV- Sta. 17+65.00 = -L- Sta.38+45.70 63.00'-LT

-YIRPB- ST Sta. 13+98.11

-YIRPB- CS Sta. 12+38.11

-YIRPB- PC Sta. 10+09.77

-YIRPD- POT Sta. 10+00.00
-L- POT Sta.46+42.54

-YIRPD- PC Sta. 10+05.10

-YIRPA- POT Sta. 17+46.30
-Y1- POT Sta.13+97.51

-YIRPA- ST Sta. 15+51.59

-YIRPA- CS Sta. 14+11.59

-YIRPA- FS Sta. 10+00.00
-L- POT Sta.50+86.92 (51.0' LT.)

-YIRPA- SC Sta. 11+40.00

-YIRPD- POT Sta. 17+81.62
-Y1- POT Sta.23+59.59

END CONSTRUCTION
-Y1- POT Sta.24+04.00

-Y1- PT Sta. 22+32.59

-YIRPD- PT Sta. 16+91.41

-YIRPD- CS Sta. 12+77.89

-YILPC- PT Sta. 15+34.11

-Y1- POC Sta. 21+18.00 (39.0' RT.)

-Y1- PC Sta. 19+70.09

-L- POT Sta.43+04.76
-Y1- POT Sta.18+22.61

-YILPC- TS Sta. 10+00.00
-L- POT Sta.40+61.87 (51.0' RT.)

-YILPC- SC Sta. 11+50.00

-YILPC- PCC Sta. 12+39.72

-YILPC- PCC Sta. 14+07.34

-YIRPD- ST Sta. 14+31.89

-YIRPD- POT Sta. 17+81.62
-Y1- POT Sta.23+59.59

-YIRPB-

PI Sta 11+29.25	PIs Sta 12+91.77
Δ = 41° 39' 53.4" (RT)	Θs = 14° 35' 51.5"
D = 18° 14' 49.4"	Ls = 160.00'
L = 228.34'	LT = 107.03'
T = 119.48'	ST = 53.67'
R = 314.00'	
SUPER = 0.08	

-YIRPA-

PIs Sta 10+93.42	PI Sta 12+79.00	PIs Sta 14+58.34
Θs = 7° 44' 33.6"	Δ = 30° 02' 27.5" (RT)	Θs = 7° 44' 33.6"
Ls = 140.00'	D = 11° 03' 39.5"	Ls = 140.00'
LT = 93.42'	L = 271.59'	LT = 93.42'
ST = 46.75'	T = 139.00'	ST = 46.75'
	R = 518.00'	
	SUPER = 0.07	

FOR INTERSECTION DETAILS, SEE SHT. 2B-1

DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS FOR -YILPC-

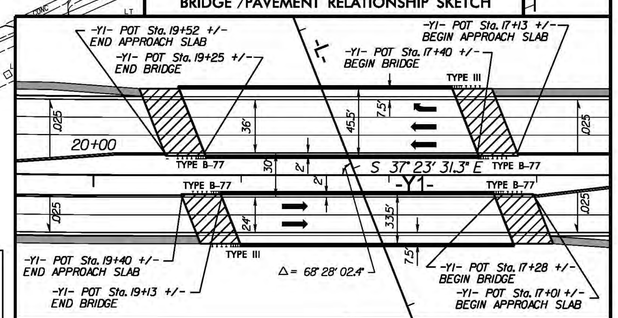
FOR STRUCTURE SEE SHEETS S-1 THROUGH S-?

TRAFFIC DIAGRAM

	-Y1-	-L-
ADT 2016 / ADT 2036	22,100 / 27,000	
US 301 BYPASS -L-	7,700 / 9,400	8,200 / 9,900
	25,600 / 31,300	28,900 / 35,200
	2,900 / 3,600	5,700 / 6,900
US 64 BUS.	14,900 / 18,200	

FOR -L- PROFILE SEE SHT.14
FOR -Y1- & -YIRPA- PROFILE SEE SHT.21
FOR -YIRPB-, -YILPC-, & -YIRPD- PROFILE SEE SHT.22
SEE SHT.2D-1 FOR DITCH DETAILS

BRIDGE /PAVEMENT RELATIONSHIP SKETCH



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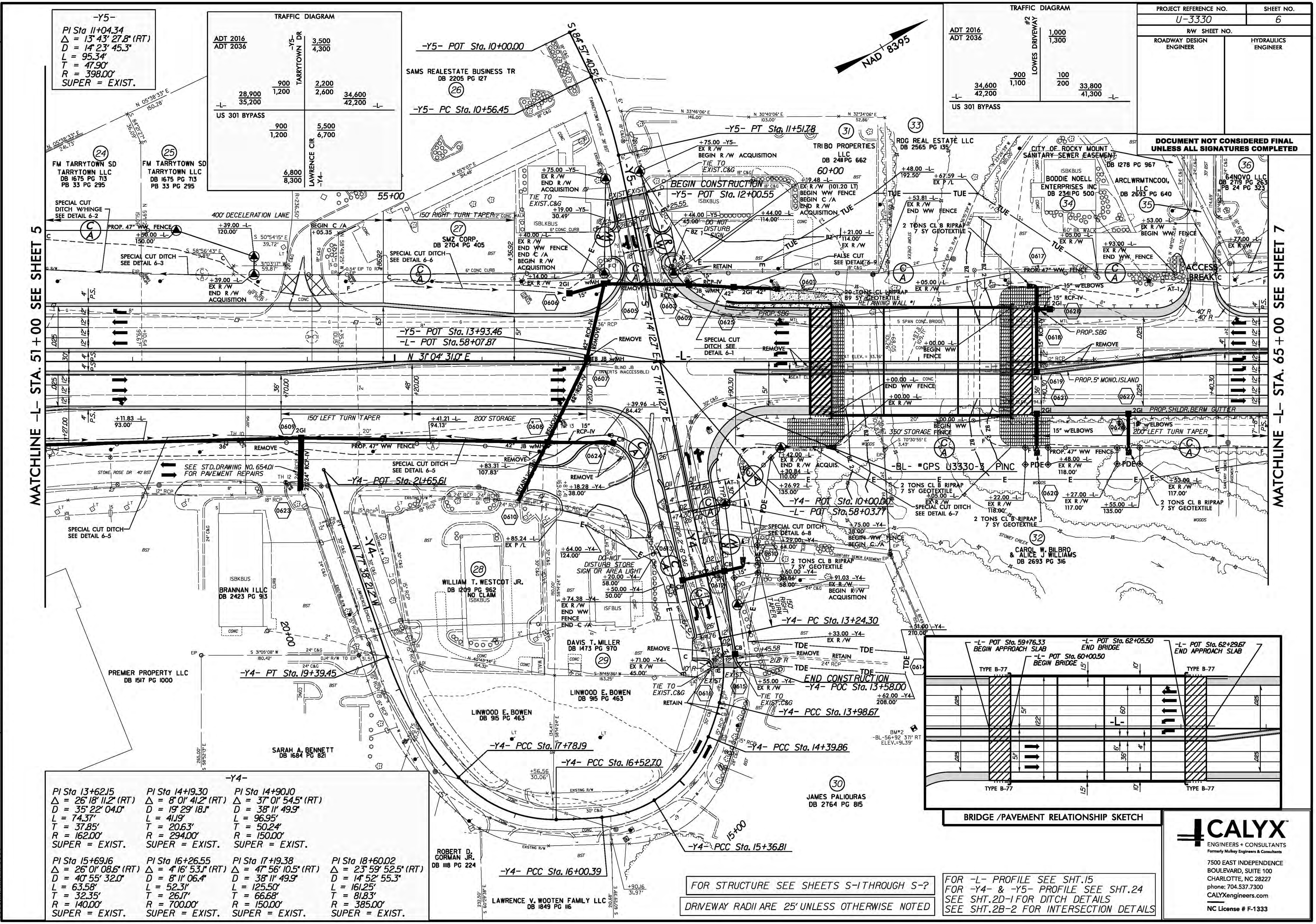
PROJECT REFERENCE NO.	SHEET NO.
U-3330	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y5-

PI Sta 11+04.34
Δ = 13° 43' 27.8" (RT)
D = 14° 23' 45.3"
L = 95.34'
T = 47.90'
R = 398.00'
SUPER = EXIST.

TRAFFIC DIAGRAM

ADT 2016	
ADT 2036	
-Y5- TARRYTOWN DR	3,500 / 4,300
-L- US 301 BYPASS (west)	28,900 / 35,200
	900 / 1,200
	2,200 / 2,600
-L- (east)	34,600 / 42,200
	900 / 1,200
LAWRENCE CIR -Y4-	5,500 / 6,700
	6,800 / 8,300

TRAFFIC DIAGRAM

ADT 2016	
ADT 2036	
LOWES DRIVEWAY #2	1,000 / 1,300
-L- US 301 BYPASS (west)	34,600 / 42,200
	900 / 1,100
	100 / 200
-L- (east)	33,800 / 41,300

BRIDGE / PAVEMENT RELATIONSHIP SKETCH

-L- POT Sta. 59+76.33 BEGIN APPROACH SLAB
-L- POT Sta. 60+00.50 BEGIN BRIDGE
-L- POT Sta. 62+05.50 END BRIDGE
-L- POT Sta. 62+29.67 END APPROACH SLAB
TYPE B-77

-Y4-

PI Sta 13+62.15	PI Sta 14+19.30	PI Sta 14+90.10	
Δ = 26° 18' 11.2" (RT)	Δ = 8° 01' 41.2" (RT)	Δ = 37° 01' 54.5" (RT)	
D = 35° 22' 04.0"	D = 19° 29' 18.1"	D = 38° 11' 49.9"	
L = 74.37'	L = 41.19'	L = 96.95'	
T = 37.85'	T = 20.63'	T = 50.24'	
R = 162.00'	R = 294.00'	R = 150.00'	
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	
PI Sta 15+69.16	PI Sta 16+26.55	PI Sta 17+19.38	PI Sta 18+60.02
Δ = 26° 01' 08.6" (RT)	Δ = 4° 16' 53.1" (RT)	Δ = 47° 56' 10.5" (RT)	Δ = 23° 59' 52.5" (RT)
D = 40° 55' 32.0"	D = 8° 11' 06.4"	D = 38° 11' 49.9"	D = 14° 52' 55.3"
L = 63.58'	L = 52.31'	L = 125.50'	L = 161.25'
T = 32.35'	T = 26.17'	T = 66.68'	T = 81.83'
R = 140.00'	R = 700.00'	R = 150.00'	R = 385.00'
SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.	SUPER = EXIST.

FOR STRUCTURE SEE SHEETS S-1 THROUGH S-?

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 15
FOR -Y4- & -Y5- PROFILE SEE SHT. 24
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-2 FOR INTERSECTION DETAILS

REVISIONS

4/29/2015 : REVISED NAME AND DEED REFERENCES FOR PARCELS 30, 32, 33, 35, & 36; REVISED DEED REFERENCE FOR PARCELS 25 & 27; REVISED PROPERTY LINES AND EXISTING C/A FOR PARCELS 24 - 26; PARCEL 28 - REMOVED THE TEMPORARY CONSTRUCTION EASEMENT THEREBY ELIMINATED CLAIM. - SD
11/10/2015 : ADDED A STATION LABEL FOR PROPOSED CONTROL OF ACCESS LIMIT ON PARCEL 26; ADDED "DO NOT DISTURB SIGN OR AREA LIGHT" NOTE ON PARCEL 29; REVISED PROPOSED RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN" ON PARCEL 31. - SD
8/26/2016 : REVISED TCE FROM -L- STA. 59+26.92 TO STA. 65+00.00 RT. ON PARCEL 32. - PJS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

8/17/99

REVISIONS

4/29/2015 : REVISED NAME AND DEED REFERENCE FOR PARCELS 32, 35 & 36 - SD
11/02/2015 : ADDED AN ACCESS POINT FROM -LC- STA. 67+08.00 TO STA. 68.00 TO STA. 67+68.00 RT. ON PARCEL 32; ADDED A STATION LABEL FOR PROPOSED C/A LIMIT ON PARCELS 32 AND 37; UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCELS 32, 37 AND 38. - SD
8/26/2016 : REVISED TCE FROM -L- STA. 65+00.00 TO STA. 65+27.00 RT. ON PARCEL 32. - PJS

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

LOWES DRIVEWAY #1: 7,800 / 9,500

-L- US 301 BYPASS: 33,800 / 41,300 — 4,200 / 5,200 — 3,500 / 4,300 — 33,100 / 40,300 -L-

-L-

Pls Sta 77+22.10
Θs = 1° 07' 29.7"
Ls = 150.00'
LT = 100.00'
ST = 50.00'

PI Sta 87+38.46
Δ = 28° 23' 35.4" (RT)
D = 1° 29' 59.6"
L = 1,893.02'
T = 966.37'
R = 3,820.00'
SUPER = 0.03
RO = 150.00'

Pls Sta 97+15.11
Θs = 1° 07' 29.7"
Ls = 150.00'
LT = 100.00'
ST = 50.00'

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

-Y2- US 64: 39,100 / 47,700

-L- US 301 BYPASS: 33,100 / 40,300 — 5,200 / 6,300 — 8,200 / 9,900 — 38,600 / 47,100 -L-

-Y2- US 64: 36,100 / 44,200

3,900 / 4,800 — 6,400 / 7,900

NAD 83/95

ARCLWRMTNCOOI, LLC
DB 2693 PG 640

ARCLWRMTNCOOI, LLC
DB 2693 PG 640

64NOVO LLC
DB 2719 PG 263
PB 24 PG 325
(36) ISBKBUS

ARCLWRMTNCOOI, LLC
DB 2693
PG 640
(35)

NATIONAL PROPERTIES CORP.
DB 1801 PG 675
(37) ISFBUS

CANOPY

ISFB

TRUSTEE OF HERMAN INSTRIN
DB 2422 PG 138
(38)

CAROL W. BILBRO
& ALICE J. WILLIAMS
DB 2693 PG 246
(32)

CP&L EASEMENT
DB 1091 PG 409

CP&L EASEMENT
DB 1091 PG 409

MATCHLINE -L- STA. 65+00 SEE SHEET 6

MATCHLINE -L- STA. 79+00 SEE SHEET 8

-BL- #GPS U3330-4 PINC

-BL- #103 PINC

-Y2RPB- POT Sta. 10+00.00

-L- POC Sta. 78+07.84
-Y2- POC Sta. 19+97.88

BEGIN CONSTRUCTION
-Y2RPB- POT Sta. 11+43.77
-L- TS Sta. 76+22.09

-Y2RPB- POT Sta. 12+60.61
-L- POT Sta. 73+82.54

-Y2RPC- POT Sta. 12+99.54
-L- POT Sta. 73+80.27

-L- SC Sta. 77+72.09

-Y2RPC- PT Sta. 11+14.52

BEGIN CONSTRUCTION
-Y2RPC- POC Sta. 10+70.00

-Y2RPC- PC Sta. 10+00.14

-Y2RPC- POT Sta. 10+00.00

-Y2RPC-
PI Sta 10+57.38
Δ = 5° 54' 14.6" (RT)
D = 5° 09' 42.4"
L = 114.38'
T = 57.24'
R = 1,110.00'
SUPER = EXIST.

-Y2-
PI Sta 20+46.86
Δ = 9° 50' 42.2" (LT)
D = 1° 00' 00.0"
L = 984.51'
T = 493.47'
R = 5,729.58'

TRANSITION MEDIAN FROM 30' TO 33'
-L- STA. 73+90.00 TO STA. 74+65.00

FOR -L- PROFILE SEE SHT. 16
FOR -Y2RPB- & -Y2RPC- PROFILE SEE SHT. 23
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-2 FOR INTERSECTION DETAILS

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y2RPA-

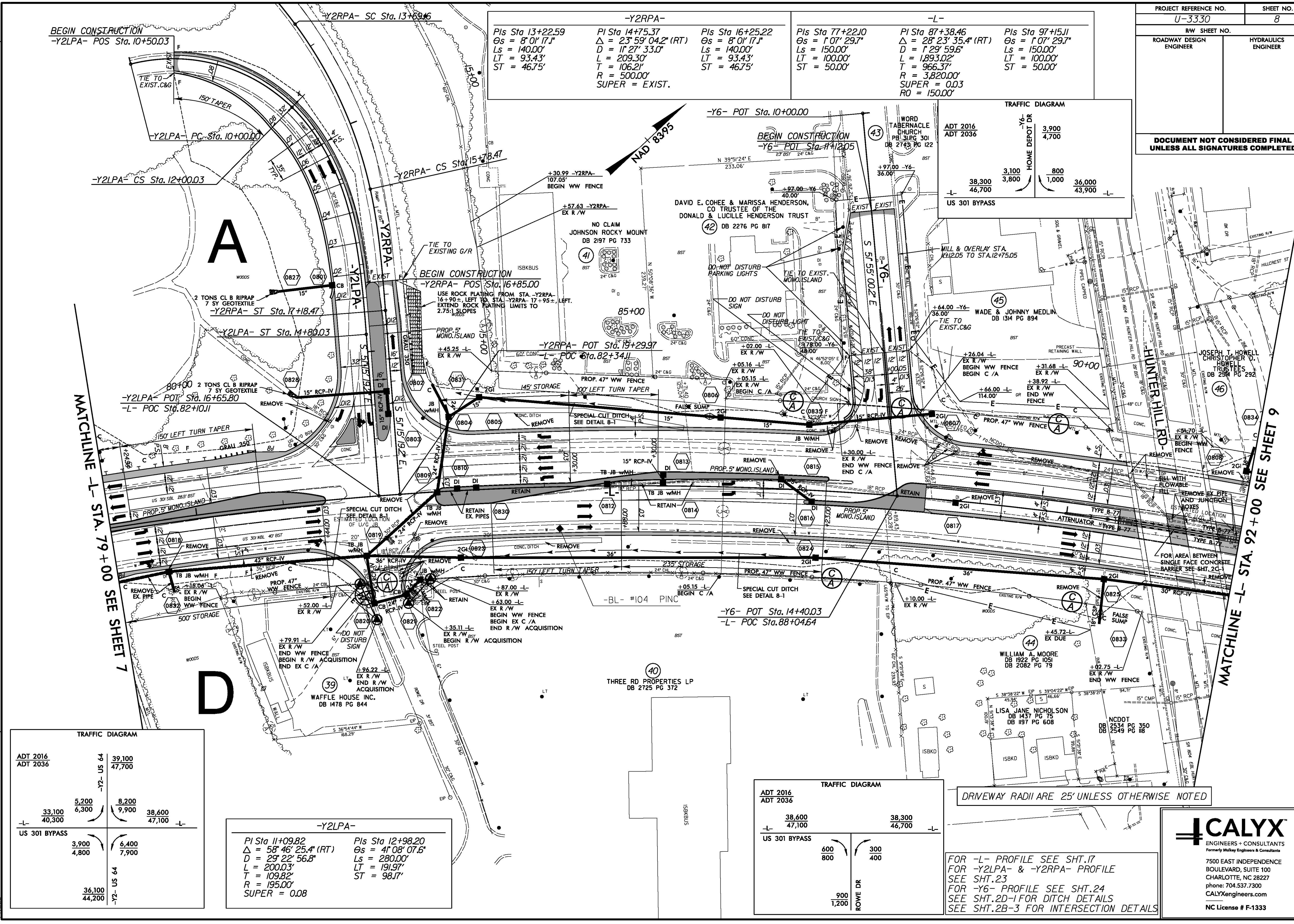
PIs Sta 13+22.59	PI Sta 14+75.37	PIs Sta 16+25.22
Θs = 8° 01' 17.1"	Δ = 23° 59' 04.2" (RT)	Θs = 8° 01' 17.1"
Ls = 140.00'	D = 11° 27' 33.0"	Ls = 140.00'
LT = 93.43'	L = 209.30'	LT = 93.43'
ST = 46.75'	T = 106.21'	ST = 46.75'
	R = 500.00'	
	SUPER = EXIST.	

-L-

PIs Sta 77+22.10	PI Sta 87+38.46	PIs Sta 97+15.11
Θs = 1° 07' 29.7"	Δ = 28° 23' 35.4" (RT)	Θs = 1° 07' 29.7"
Ls = 150.00'	D = 1° 29' 59.6"	Ls = 150.00'
LT = 100.00'	L = 1,893.02'	LT = 100.00'
ST = 50.00'	T = 966.37'	ST = 50.00'
	R = 3,820.00'	
	SUPER = 0.03	
	RO = 150.00'	

-Y2LPA-

PI Sta 11+09.82	PIs Sta 12+98.20
Δ = 58° 46' 25.4" (RT)	Θs = 41° 08' 07.6"
D = 29° 22' 56.8"	Ls = 280.00'
L = 200.03'	LT = 191.97'
T = 109.82'	ST = 98.17'
R = 195.00'	
SUPER = 0.08	



TRAFFIC DIAGRAM (HOME DEPOT DR / US 301 BYPASS)

ADT 2016 / ADT 2036

Movement	ADT 2016	ADT 2036
-Y6- HOME DEPOT DR	3,900	4,700
Left	3,100	3,800
Right	800	1,000
-L- US 301 BYPASS (west)	38,300	46,700
-L- (east)	36,000	43,900

TRAFFIC DIAGRAM (US 64 / US 301 BYPASS)

ADT 2016 / ADT 2036

Movement	ADT 2016	ADT 2036
-Y2- US 64 (north)	39,100	47,700
	5,200	6,300
	8,200	9,900
-L- US 301 BYPASS (west)	33,100	40,300
-L- (east)	38,600	47,100
	3,900	4,800
	6,400	7,900
-Y2- US 64 (south)	36,100	44,200

TRAFFIC DIAGRAM (ROWE DR / US 301 BYPASS)

ADT 2016 / ADT 2036

Movement	ADT 2016	ADT 2036
-L- US 301 BYPASS (west)	38,600	47,100
-L- (east)	38,300	46,700
	600	800
	300	400
ROWE DR	900	1,200

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.17
FOR -Y2LPA- & -Y2RPA- PROFILE SEE SHT.23
FOR -Y6- PROFILE SEE SHT.24
SEE SHT.2D-1 FOR DITCH DETAILS
SEE SHT.2B-3 FOR INTERSECTION DETAILS

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REVISIONS

03/2/2015 – Parcels 42, 43; Added Property Owner Name and Deed Book Reference to Parcel No. 43. Extended Property Line for Parcels 42 and 43.
11/10/2015 : UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY ON PARCELS 39 THROUGH 42; REVISED PROPOSED RIGHT OF WAY AND ADDED "DO NOT DISTURB SIGN" ON PARCEL 39; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 40; ADDED A STATION LABEL FOR PROPOSED C/A LIMIT ON PARCELS 40 AND 42; ADDED "NO CLAIM" NOTE ON PARCEL 41; ADDED "DO NOT DISTURB PARKING LIGHTS" NOTE ON PARCEL 42; UPDATED PROPERTY OWNER NAME ON PARCEL 45. – SD

8/17/99

8/18/2016
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PROJECT REFERENCE NO.	SHEET NO.
U-3330	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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8/17/99

REVISIONS

1/10/2015 : ADDED "DO NOT DISTURB SIGNS" NOTE ON PARCEL 47 AND 49; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCELS 48 THROUGH 50, 53, 54 AND 58;
ADDED "DO NOT DISTURB" NOTE ON PARCEL 53; ADDED PROPERTY OWNER NAME ON PARCEL 56; - SD
12/4/2015 : ADDED "DO NOT DISTURB SIGN" NOTE ON PARCELS 55 AND 57. - PJS

-L-

PIs Sta 77+22.10	PI Sta 87+38.46	PIs Sta 97+15.11
Θs = 1° 07' 29.7"	Δ = 28° 23' 35.4" (RT)	Θs = 1° 07' 29.7"
Ls = 150.00'	D = 1° 29' 59.6"	Ls = 150.00'
LT = 100.00'	L = 1,893.02'	LT = 100.00'
ST = 50.00'	T = 966.37'	ST = 50.00'
	R = 3,820.00'	
	SUPER = 0.03	
	RO = 150.00'	

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036	-Y7B- SUTTER CREEK RD	10,800 / 13,100	
36,000 / 43,900 -L-	7,300 / 9,000	2,200 / 2,600	30,500 / 37,200 -L-
US 301 BYPASS	1,100 / 1,300	700 / 900	
	3,000 / 3,700	SUTTER CREEK RD -Y7A-	

NAD 83/95

MATCHLINE -L- STA. 92+00 SEE SHEET 8

MATCHLINE -L- STA. 106+00 SEE SHEET 10

(48) NASH THREE, LLC DB 2740 PG 81

(46) JOSEPH T. HOWELL, CHRISTOPHER D. HOWELL TRUSTEES DB 2514 PG 292

(50) THREE RD PROPERTIES, LP DB 2736 PG 737

(52) NINE HUNDRED FORTY FOUR WESLEYAN LLC DB 2343 PG 203

STORE MASTER FUNDING II LLC DB 2635 PG 366

(53) OBS INVESTMENTS, LLC DB 2253 PG 501

(57) K M ROCKY MOUNT LLC DB 2633 PG 344

(58) ARPC RL PORTFOLIO V, LLC DB 2740 PG 628

(47) HERNDON HOLDING, INC DB 2640 PG 1

(49) SANDY FLATS, LLC DB 2713 PG 829

(51) JACQUELINE D. MURRAY DB 1747 PG 495

(54) REALTY VANC, LLC DB 2554 PG 472

(55) ROCKY MOUNT M, LLC DB 2145 PG 951

(56) DAILEY T. ROCKY MOUNT, LLC, ETAL DB 2267 PG 543

-BL- # 105 PINC

-BL- #106 PINC

-L- ST Sta. 98+15.11

-L- CS Sta. 96+65.11

-Y7B- POT Sta. 10+80.00

-Y7B- POT Sta. 10+68.04

-L- POT Sta. 13+50.00

-L- POT Sta. 104+43.19

-Y7A- POT Sta. 10+80.00

-L- POT Sta. 104+25.01

-Y7A- POT Sta. 13+00.00

BEGIN CONSTRUCTION -Y7B- POT Sta. 10+68.04

END CONSTRUCTION -Y7A- POT Sta. 11+70.00

SPECIAL CUT DITCH SEE DETAIL 4-2

SPECIAL CUT DITCH SEE DETAIL 9-1

EXPRESSWAY GUTTER STA. 92+40 TO 94+10

150' LEFT TURN TAPER

200' STORAGE

150' STORAGE

ACCESS BREAK

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT. 17 & 18
FOR -Y7A- & -Y7B- PROFILE SEE SHT. 24
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-4 FOR INTERSECTION DETAILS

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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8/17/99

REVISIONS

11/02/2015 : UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 58; ADDED "DO NOT DISTURB AREA LIGHT" ON PARCEL 62; REVISED PDE ON PARCELS 64, 67 AND 68; REVISED TCE ON PARCEL 67; CHANGED PDE TO TCE AND ADDED "DO NOT DISTURB SIGN" NOTE ON PARCEL 69; UPDATED EXISTING RIGHT OF WAY TO INCLUDE CA SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCEL 70. - SD

TRAFFIC DIAGRAM

ADT 2016 / ADT 2036

-Y8- RING RD

30,500 / 37,200	3,800 / 4,600
5,400 / 6,600	500 / 700
25,400 / 31,000	2,600 / 3,200
800 / 1,000	4,400 / 5,400

-L- US 301 BYPASS

-Y9- INDEPENDENCE DR

NAD 83-95

-Y8- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y8- POT Sta. 12+71.57

-L- STA. 106+00 SEE SHEET 9

-L- STA. 119+00 SEE SHEET 11

MATCHLINE -L- STA. 106+00 SEE SHEET 9

MATCHLINE -L- STA. 119+00 SEE SHEET 11

-Y9-
PI Sta 12+93.66
Δ = 17° 43' 17.2" (LT)
D = 9° 18' 59.0"
L = 190.22'
T = 95.87'
R = 615.00'
SUPER = EXIST.

FOR CULVERT SEE SHEETS C-1 THROUGH C-?

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.18 & 19
FOR -Y8- & -Y9- PROFILE SEE SHT.25
SEE SHT. 2D-1 FOR DITCH DETAILS
SEE SHT. 2B-4 FOR INTERSECTION DETAILS

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PROJECT REFERENCE NO.	SHEET NO.
U-3330	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-Y3RPB-

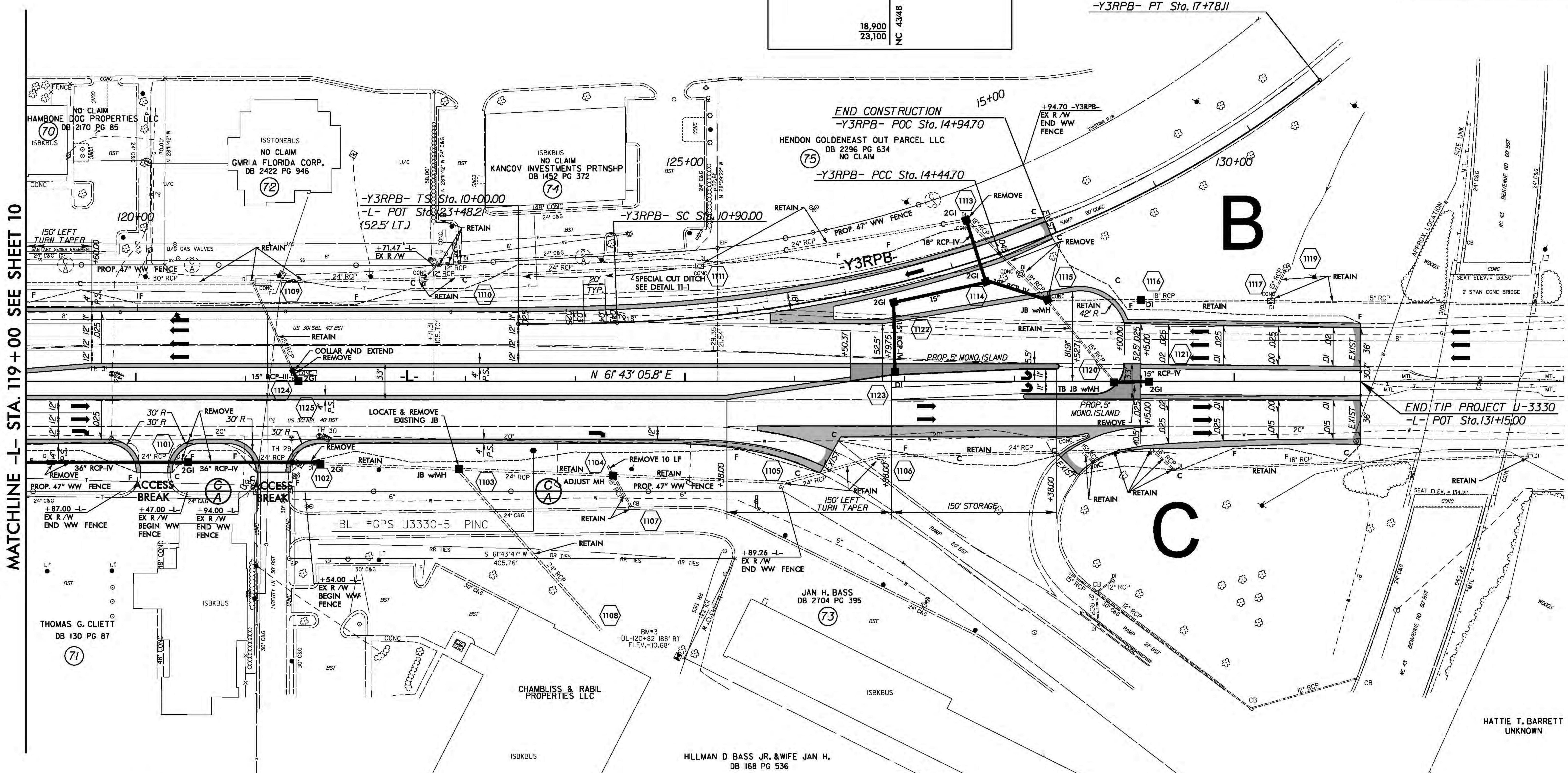
PIs Sta 10+60.00	PI Sta 12+68.57	PI Sta 16+13.10
Θs = 2° 04' 45.4"	Δ = 16° 23' 21.1" (LT)	Δ = 19° 53' 57.1" (LT)
Ls = 90.00'	D = 4° 37' 14.3"	D = 5° 58' 05.9"
LT = 60.00'	L = 354.70'	L = 333.41'
ST = 30.00'	T = 178.57'	T = 168.40'
	R = 1,240.00'	R = 960.00'
	SUPER = 0.045	

TRAFFIC DIAGRAM

ADT 2016
ADT 2036

-L- US 301 BYPASS: 25,200 / 30,800 ; 24,100 / 29,300
NC 43/48: 22,800 / 27,800 ; 18,900 / 23,100
Turns: 3,300 / 4,100 ; 1,800 / 2,100 ; 400 / 500 ; 700 / 900

NAD 83/95



TRAFFIC DIAGRAM

ADT 2016
ADT 2036

-L- US 301 BYPASS: 25,400 / 31,000 ; 25,200 / 30,800
LIBERTY LN: 400 / 600
Turns: 300 / 400 ; 100 / 200

DRIVEWAY RADII ARE 25' UNLESS OTHERWISE NOTED

FOR -L- PROFILE SEE SHT.19 & 20
FOR -Y3RPB- PROFILE SEE SHT.23
SEE SHT.2D-1 FOR DITCH DETAILS

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REVISIONS
11/02015 : UPDATED EXISTING RIGHT OF WAY TO INCLUDE C/A SYMBOLOGY AND ADDED "NO CLAIM" NOTE ON PARCELS 70, 72, 74 AND 75. - SD

8/17/99

8/18/2016
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PROJECT REFERENCE NO.	SHEET NO.
U-3330	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

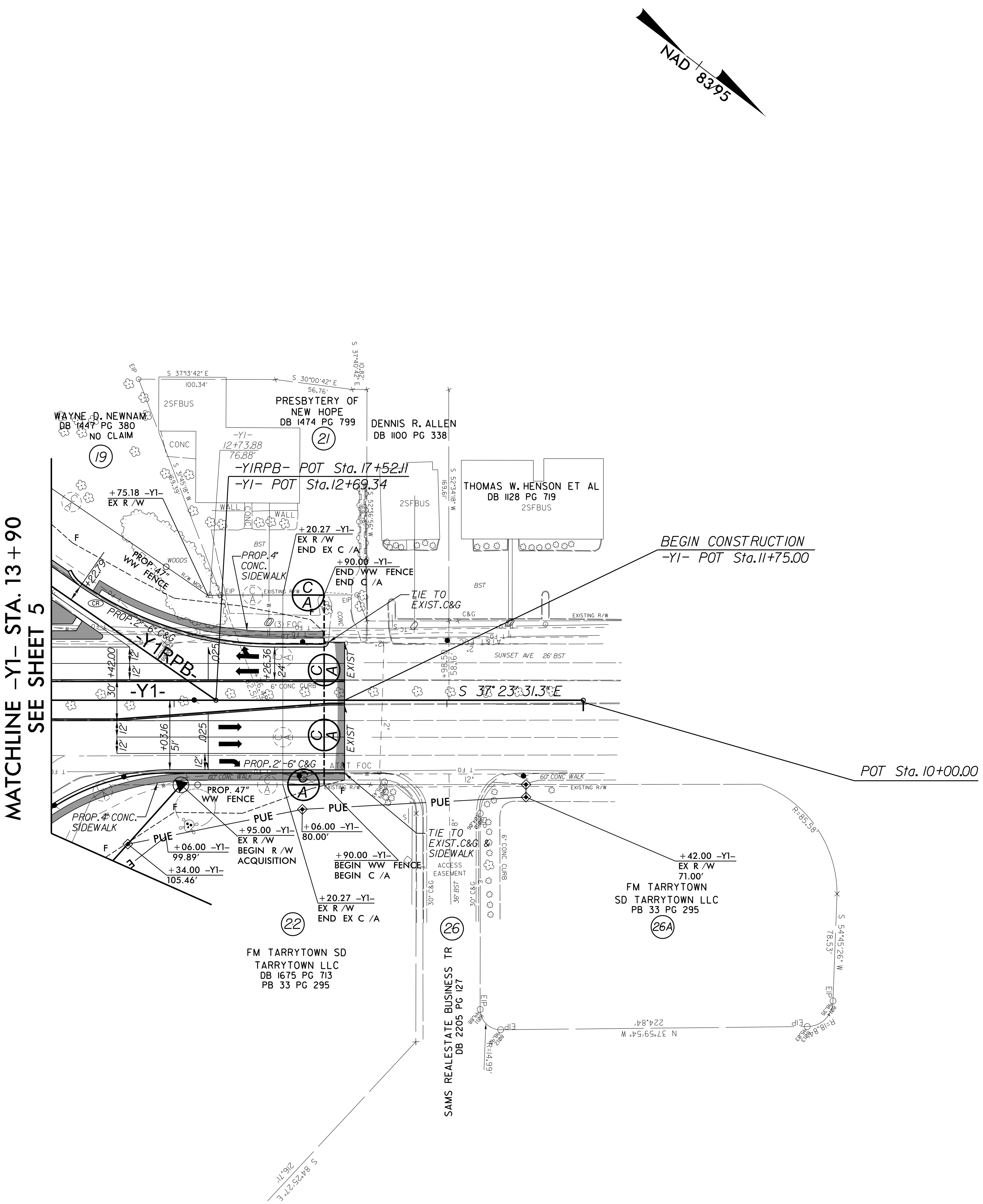
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

4/29/2015 : REVISED PROPERTY LINES AND EXISTING C /A FOR PARCELS 19, 21, & 22; ELIMINATED CLAIM FOR PARCEL 19 DUE TO EXISTING C /A; ADDED PARCELS 26 AND 26A WITH PROPERTY OWNER NAME AND DEED REFERENCES; REVISED NAME AND DEED REFERENCES FOR PARCELS 21 & 22 - SD

11/10/2015 : REVISED CA LIMITS FROM -Y1- STA. 12+20.27 TO STA. 11+90.00 ON PARCELS 21 AND 22; UPDATED PROPERTY OWNER NAME ON PARCEL 26A - SD

8/17/99



FOR -Y1- PROFILE SEE SHT.21
FOR -YIRPB- PROFILE SEE SHT.22
SEE SHT.2D-1 FOR DITCH DETAILS

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