STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

November 30, 2010

U. S. Army Corps of Engineers
3331 Heritage Trade Drive
Wake Forest, NC 27587

ATTN: Mr. Andy Williams
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14, Section 401 Water Quality Certification, and Randleman Watershed Buffer Authorization** for the proposed widening of West Market Street (SR 1008) from Bunker Hill Drive (SR 2007) to NC 68 in Guilford County, Federal Aid Project No. STP-1008(9); Division 7; TIP No. R-2611

Debit $570.00 from WBS Element 34482.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to widen 3.6 miles of West Market Street to a four-lane divided highway. There will be 209 linear feet of permanent surface water impacts and 46 linear feet of temporary surface water impacts. Within the Randleman watershed there will be 12,369 square feet of Zone 1 buffer impacts and 5,861 square feet of Zone 2 buffer impacts.

Please see enclosed copies of the Pre-Construction Notification (PCN), Ecosystem Enhancement Program (EEP) acceptance letter, stormwater management plan, permit drawings, and design plans for the above referenced project. The Environmental Assessment (EA) was completed June 2006 and the Finding of No Significant Impact (FONSI) was completed October 2007. The documents were distributed shortly thereafter. Additional copies are available upon request.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-431-2000
FAX: 919-431-2001

WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 Atlantic Ave.,
Suite 116
Raleigh, NC 27604

A copy of this permit application will be posted on the NCDOT Website at: http://www.ncdot.org/doh/preconstruct/pe/. If you have any questions or need additional information, please call James Pflaum at (919) 431-6527.

Sincerely,

E. L. Lusk

for Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

Cc:

Mr. Brian Wrenn, NCDWQ (5 Copies)

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Dewayne Sykes, P.E., Utilities
Mr. Mark Staley, Roadside Environmental
Mr. J. M. Mills, P.E., Division 7 Engineer
Mr. Jerry Parker, Division 7 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Gene Tarascio, P.E., PDEA
Mr. Scott McLendon, USACE, Wilmington
Mr. Gary Jordan, USFWS
Mr. Travis Wilson, NCWRC
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, NCDOT External Audit Branch

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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit ☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 14 or General Permit (GP) number:	
1c. Has the N WP 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:	West Market Street (SR 1008) from Bunker Hill Drive (SR 2007) to NC 68
2b. County:	Guilford
2c. Nearest municipality / town:	Greensboro
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	R-2611

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Part y (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) 431-6527
3g. Fax no.:	(919) 431-2002
3h. Email address:	jrpflaum@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: 36.103536 (DD.DDDDDD) Longitude: - 79.992779 (-DD.DDDDDD)
1c. Property size:	120 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	East Fork Deep River
2b. Water Quality Classification of nearest receiving water:	WS-IV
2c. River basin:	Cape Fear
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: Project has mixed use development including industrial warehouses and residential housing.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.09	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 2252	
3d. Explain the purpose of the proposed project: Increase traffic carrying capacity on West Market Street due to future commercial development.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves extending one culvert and widening West Market Street for 3.6 miles to a four-lane median divided curb and gutter facility from Bunker Hill Road to NC 68. 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: Site visit 5/8/2008 NCDOT, USACE, NCDWQ	☒ 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): NCDOT Environmental Specialists	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. As of July 19, 2010 USACE has received all necessary data in order to process a Final JD.	
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 (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 2 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	0 Permanent 0 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	Bank Stabilization Temp. Access	UT to Reedy Fork	☒ PER ☐ INT	☒ Corps ☐ DWQ	2 feet	15 Perm 16 Temp
Site 2 ☒ P ☒ T	Culvert Ext. Temp. Access	UT to East Fork of Deep	☒ PER ☐ INT	☒ Corps ☐ DWQ	4 feet	194 Perm 39 Temp
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	209 ft Perm 55 ft Temp

3i. Comments: Site 1 Impacts: 15 feet bank stabilization, 16 feet for temporary access Site 2 Impacts: 194 feet culvert extension, 39 feet temporary access

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				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
			4f. Total open water impacts	0 Permanent 0 Temporary

4g. Comments:

5. Pond or Lake Construction

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

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

5g. Comments:

5h. Is a dam high hazard permit required?	☐ 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	Road Crossing	UT to East Fork Deep River	☒ Yes ☐ No	11,953	5,621
B2 ☒ P ☐ T	Road Impacts Other Than Crossings of Streams	UT to East Fork Deep River	☒ Yes ☐ No	416	240
B3 ☐ P ☐ T			☐ Yes ☐ No		
			6h. **Total buffer impacts**	12,369	5,861

6i. Comments:

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. Specific design features to avoid and minimize impacts include grass swales, preformed scour holes, extending (not replacing) 6 x 8 foot double barrel culvert, and utilizing curb and gutter instead of wide paved shoulders. Impacts to perennial streams and wetlands located east of ramp B (plan sheet 20) were completely avoided via intersection realignment.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT will implement Best Management practices (BMP's) for Highway Construction and Design Standards for Sensitive Watersheds.		
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 mitigat ion 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:	(194 feet @ 2:1 mitigation ratio) = 388 linear feet	
4c. If using stream mitigation, stream temperature:	☒ warm ☐ cool ☐cold	
4d. Buffer mitigation requested (DWQ only):	** See section 6e	
4e. Riparian wetland mitigation requested:	0 acres	
4f. Non-riparian wetland mitigation requested:	0 acres	
4g. Coastal (tidal) wetland mitigation requested:	0 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	Road Crossing	12,369	3 (2 for Catawba)	37,107
Zone 2	Road Impacts Other Than Crossings of Streams	5,861	1.5	8,792
		6f. **Total buffer mitigation required:**		45,899

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).

Payment proposed through EEP.

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 no, explain why. Comments: see attached 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
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☒ Yes ☐ No
5b. Have all of the 401 Unit submittal requirements been met?	☒ Yes ☐ No

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 th e 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.

A qualitative Indirect and Cumulative Effects Report was completed by HNTB for this project in August, 2004. The project also lies within the same area studied in 2003 for potential indirect and cumulative effects associated with a proposed airport expansion, which the FEDEX company conducted through the Ecoscience corporation. This study was prepared as part of the 401 water quality permitting process in order to satisfy concerns related to possible indirect and cumulative effects associated with FEDEX's proposed operations at the airport.

As the proposed project, R-2611, will widen a 3.6 mile portion of an existing road to multilanes for improved traffic flow, with no new intersections, interchanges, nor offering new access to existing parcels of land along the project route, the indirect and cumulative effects associated with the project should be minimal. The addition of travel lanes to West Market Street will not initiate changes to the land use along the road, as those changes have already begun, with older residential areas and vacant land converting to commercial and light industrial activity as a result of the proximity to the airport. Whereas the land use along West Market Street at one time was primarily residential, the proximity to the airport has prompted the redevelopment of some parcels to commercial and light industrial activities such as shipping and distribution companies in order to take advantage of the cargo capacity of the airlines as well as associated airport business activities.

The addition of travel lanes to a portion of West Market Street will not likely spur travelers to abandon other routes. While West Market Street serves as a local route to and from the airport, it does not now, nor is it expected to serve as a regional route as there is no new access provided or new interchanges or intersections. The proposed lane additions will facilitate improved safety and ease congestion for local businesses and residents only and will not improve travel times sufficiently to make West Market Street a substantially more attractive regional route to west Greensboro.

The following regulatory programs are in effect for the project vicinity and have development ordinances limiting density, impervious surfaces, provide for stormwater runoff and require buffers on streams within the watershed.

- Randleman Rules – These rules apply to the Randleman basin, extending along the length of West Market Street and southwards towards Asheboro.
- WS-III NSW Cape Fear Reedy Fork (Covers area on north side of West Market St.)
- WS-IV Cape Fear West Fork Deep River (Partially covers area on south side of the road)
- WS-IV Cape Fear East Fork Deep River (High Point Lake) (South side of the road)
- Guilford County Land Development Ordinances (enacted September, 2009) and City of Greensboro Land Development Ordinance (enacted June, 2010).

The presence of these programs provide a "blanket" of regulations and ordinances which are specifically aimed at protecting water quality from non-point sources.

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? As of January 31, 2008 the USFWS lists one federally protected species in Guilford County, Small Whorled Pogonia. Surveys were conducted on June 3, 2008 for Small Whorled Pogonia, no specimens were observed. A review of the NCNHP records, updated November 4, 2010 indicated no known occurrences within 1.0 mile of the project area. The biological conclusion for small whorled pogonia is "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		

Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	E. L. Lusk Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	Dec 1, 2010 Date

Ecosystem Enhancement PROGRAM

November 8, 2010

Mr. Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-2611, SR 1008 (West Market Street) from SR 2007 (Bunker Hill Drive) at Colfax to NC 68 in Greensboro, Guilford County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the stream and buffer mitigation for the subject project. Based on the information supplied by you on November 2, 2010, the additional impacts are located in CU 03030003 of the Cape Fear River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Cape Fear 03030003 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1 (3:1)	Zone 2 (1.5:1)
Impacts (feet/acres)	0	0	194	0	0	0	12,369	5,861
Mitigation Units (Credits-up to 2:1)	0	0	388	0	0	0	37,107	8,792

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the additional buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds from MOA Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its additional riparian buffer mitigation responsibility for R-2611. Subsequently, EEP will conduct a review of current MOA mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from MOA Fund.

EEP commits to implementing sufficient compensatory stream mitigation credits to offset the impacts associated with this project in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program 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 EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

James B. Stanfill for

William D. Gilmore, P.E.
EEP Director

Cc: Mr. Andy Williams, USACE – Raleigh Regulatory Field Office
Mr. Brian Wrenn, NC Division of Water Quality
File: R-2611

STORMWATER MANAGEMENT PLAN

R-2611, State Project 34482.1.1 Date: 9/8/2010
Guilford County
Hydraulics Project Engineer: R.C. Henegar, PE

ROADWAY DESCRIPTION

This project proposes to widen SR 1008 (West Market St.) from west of SR 2007 (Bunker Hill Rd.) at Colfax to NC 68 in Greensboro. The total length of the project is 3.797 miles. The proposed widening will transform the existing two-lane facility to a four-lane divided curb and gutter section.

ENVIRONMENTAL DESCRIPTION

This project is located in the Cape Fear River Basin. There is one primary stream crossing on this project. Tributary to East Fork Deep River has a DWQ classification WS-IV (Highly Developed). The tributary to East Fork Deep River is not on the 303(d) list. No wetlands will be impacted by the proposed project.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The existing double-barrel, 6' x 8' reinforced concrete box culvert on the tributary to East Fork Deep River was found to be hydraulically adequate and in good condition, therefore it will be retained. The existing culvert will be extended on both the upstream and downstream ends to accommodate for the proposed widening. The extensions to the existing double-barrel culvert will maintain the normal stream flow and channel characteristics.

The following summarizes where the BMP's will be used on the project:

- Grass swale from 61+00 Rt. to 63+20 Rt. -L-.
- Preformed Scour Holes: 17+85 -L- (Rt.)
  45+33 -L- (Rt.)
  63+90 -L- (Rt.)
  189+75 -L- (Lt.)
  193+65 -L- (Rt.)
  203+60 -L- (Lt.)
- The roadway typical consists of fill slopes and ditches with side slopes of 3:1 or flatter.
- All offsite drainage from 185+00 -L- to 190+00 -L- Lt. is being discharged directly into the 6' x 8' RCBC, dissipating energy from the 18" pipe before it exits the culvert.

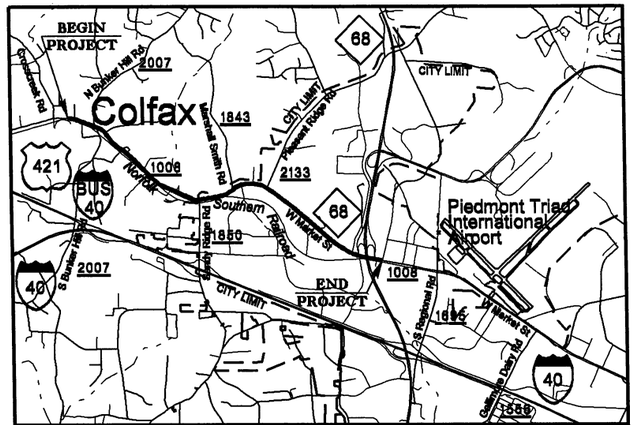
CULVERTS

Station 192+04 -L- (Tributary to East Fork Deep River) is an existing 2@ 6' x 8' reinforced concrete box culvert. The existing culvert will be retained and extended upstream and downstream to accommodate for widening.

09/08/99

TIP PROJECT: R-2611

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2611	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34482.1.1	STP-1008(9)	PE
34482.2.2	STPDA-1008(19)	R/W & UTIL

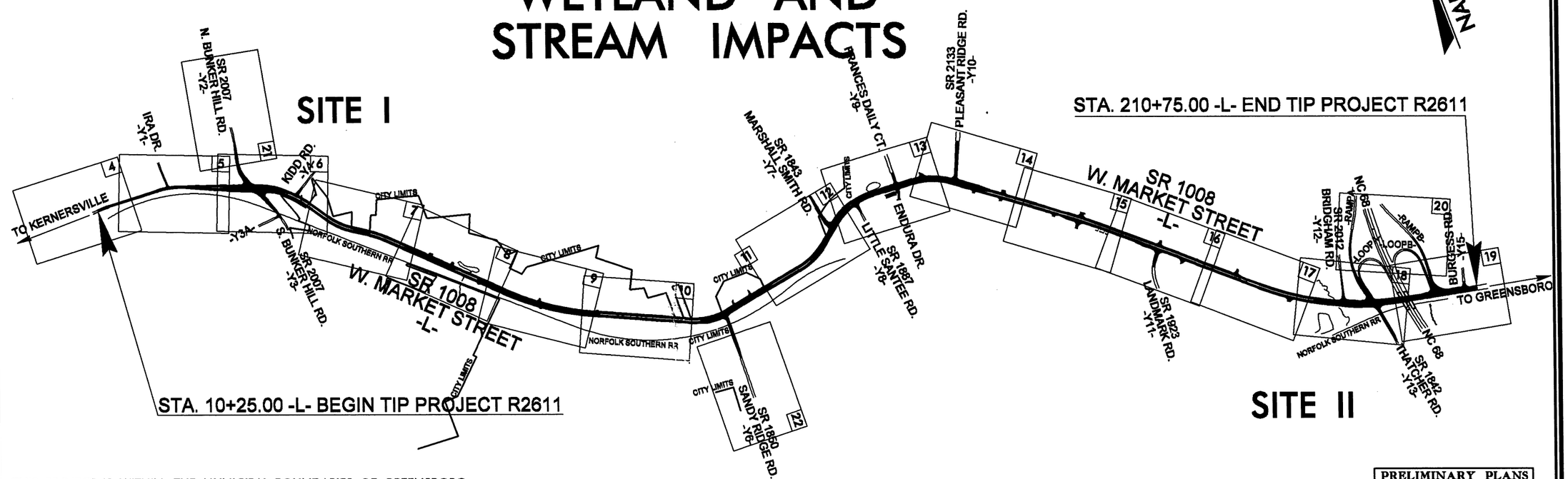
Permit Drawing
Sheet 1 of 11

LOCATION: SR 1008 (WEST MARKET STREET) FROM WEST OF SR 2007 (BUNKER HILL RD.) AT COLFAX TO NC 68 IN GREENBORO

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS, AND SIGNALS

NAD 83

WETLAND AND STREAM IMPACTS



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

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

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 2005 = 22200
ADT 2030 = 29500
DHV = 09 %
D = 55 %
T = 06 % *
V = 50 MPH

* TTST 2% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2611 = 3.797 MILES
TOTAL LENGTH TIP PROJECT R-2611 = 3.797 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2008

LETTING DATE:
AUGUST 16, 2011

G. E. BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: SR 1008 (WEST MARKET STREET) FROM WEST OF SR 2007 (BUNKER HILL RD.) AT COLFAX TO NC 68 IN GREENBORO

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS AND SIGNALS

TIP PROJECT: R-2611

CONTRACT

See Sheet 1-A for Index of Sheets

VICINITY MAP

BEGIN PROJECT

Colfax

Piedmont Triad International Airport

END PROJECT

WETLAND AND STREAM IMPACTS

SITE I

SITE II

STA. 10+25.00 -L- BEGIN TIP PROJECT R2611

STA. 210+15.00 -L- END TIP PROJECT R26

W. MARKET STREET

SR 1008

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

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2005 = 22200
ADT 2030 = 29500
DHV = 09 %
D = 55 %
T = 06 %
V = 50 MPH

* TTST 2% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2611 = 3.797 MILES
TOTAL LENGTH TIP PROJECT R-2611 = 3.797 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1590 Birch Ridge Dr., Raleigh, NC 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE
NOVEMBER 21, 2008

LETTING DATE
AUGUST 18, 2011

G. P. BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

SIGNATURE

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PRELIMINARY PLANS

STATE HIGHWAY DESIGN ENGINEER

8/17/99

REVISIONS

R/W Revisions: These revisions consist of changing property owners names for Parcels 27,28,and 34,Revising property lines for Parcels 15,and 33,combining Parcels 22,23,and 24 into Parcel 24,revised Prop.R/W and added TCE on Parcel 33.

PROJECT REFERENCE NO.	SHEET NO.
R-2611	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

FOR PROFILE OF LINE -L- SEE SHEETS 23 & 24
FOR PROFILE OF LINE [redacted]
FOR PROFILE OF LINE -Y4- SEE SHEET 32

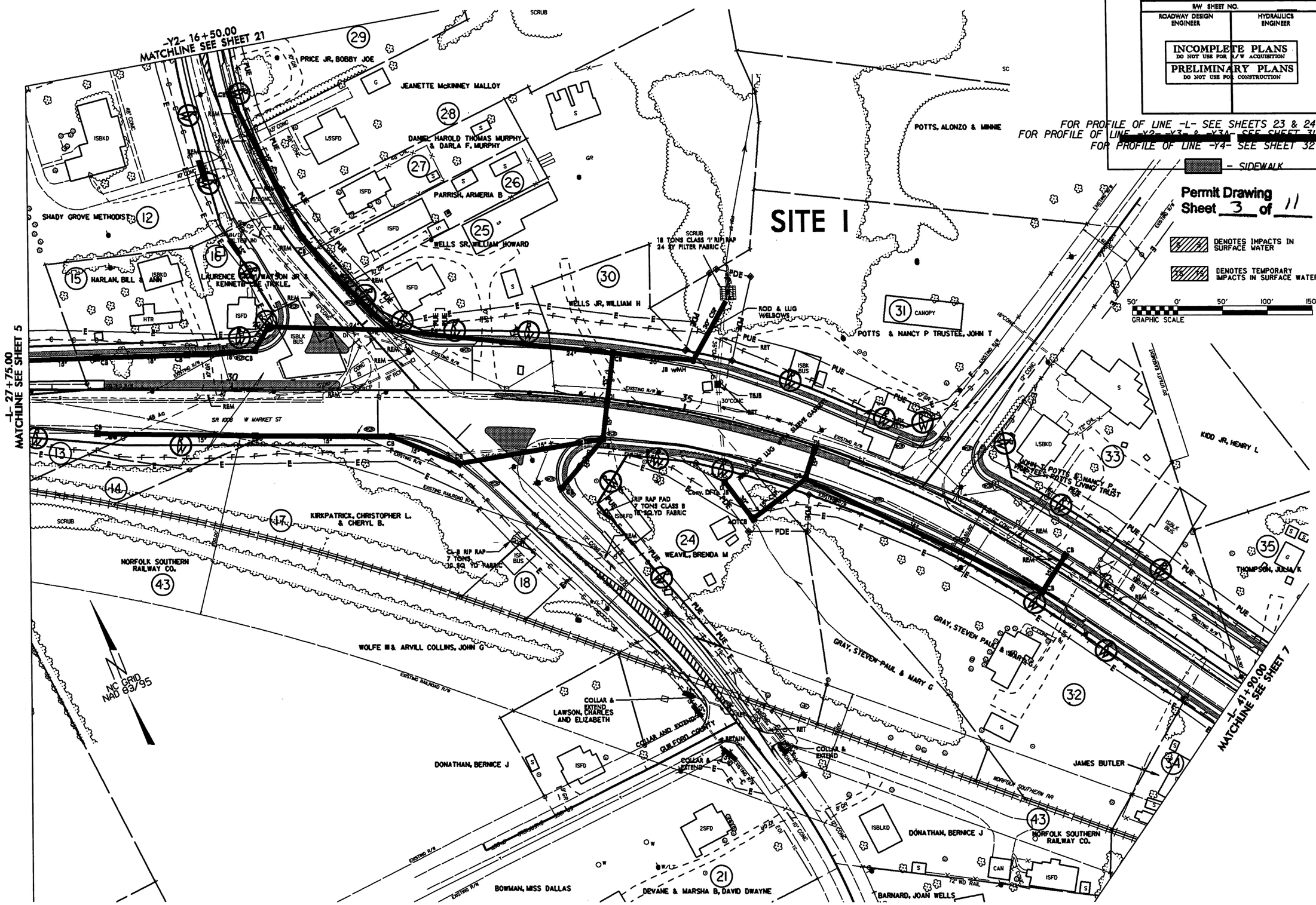
▨ - SIDEWALK

Permit Drawing
Sheet 3 of 11

SITE 1

▨ DENOTES IMPACTS IN SURFACE WATER

▨ DENOTES TEMPORARY IMPACTS IN SURFACE WATER



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

8/17/99

REVISIONS

R/W Revisions: These revisions consist of changing property owners names for Parcels 15, and 33, combining Parcels 22, 23, and 24 into Parcel 24, revised Prop. R/W and added TCE on Parcel 33.

PROJECT REFERENCE NO.	SHEET NO.
R-2611	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

FOR PROFILE OF LINE -L- SEE SHEETS 23 & 24
FOR PROFILE OF LINE -Y2-, -Y3-, & -Y3A- SEE SHEET 31
FOR PROFILE OF LINE -Y4- SEE SHEET 32

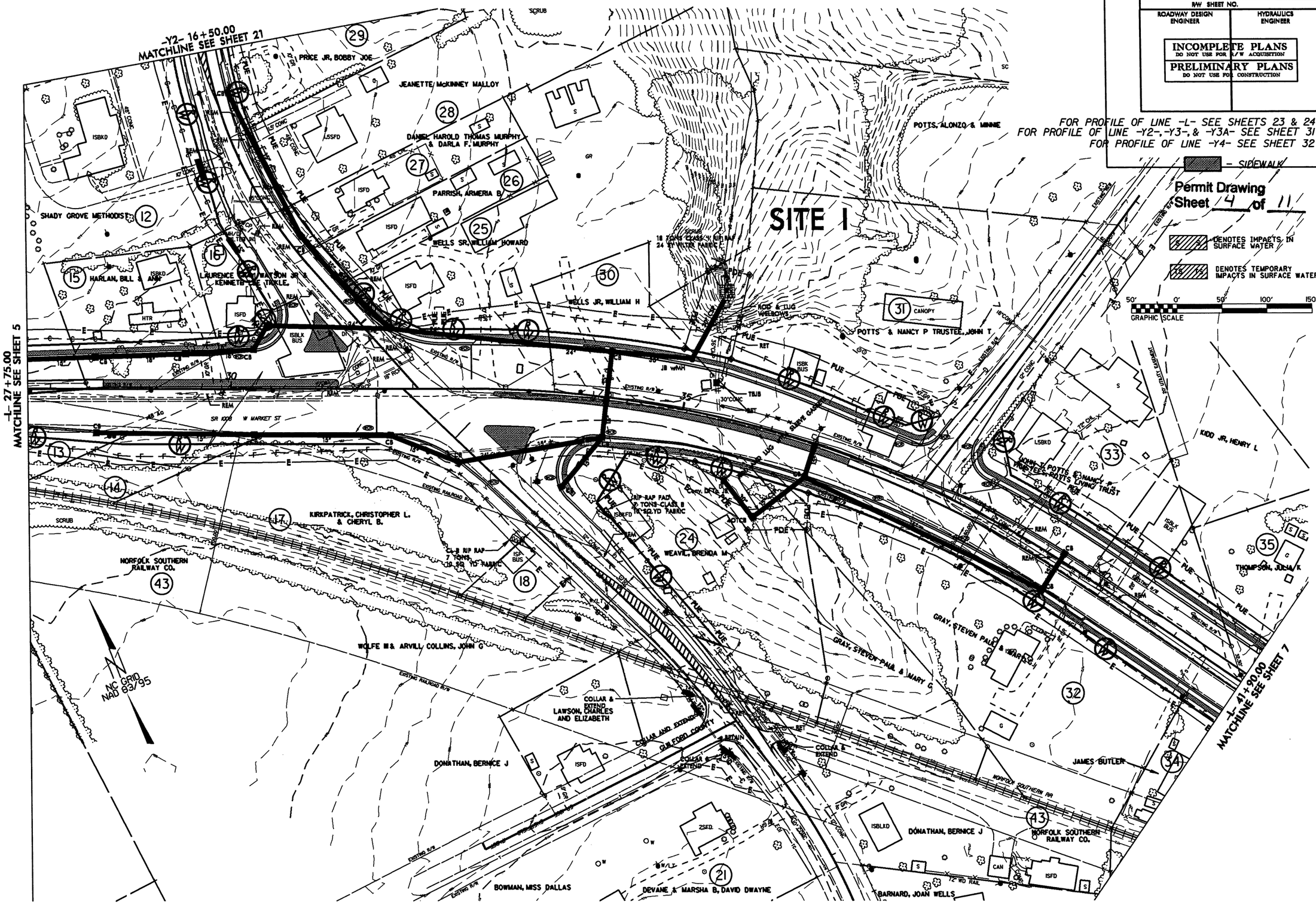
- SIDEWALK

Permit Drawing
Sheet 4 of 11

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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



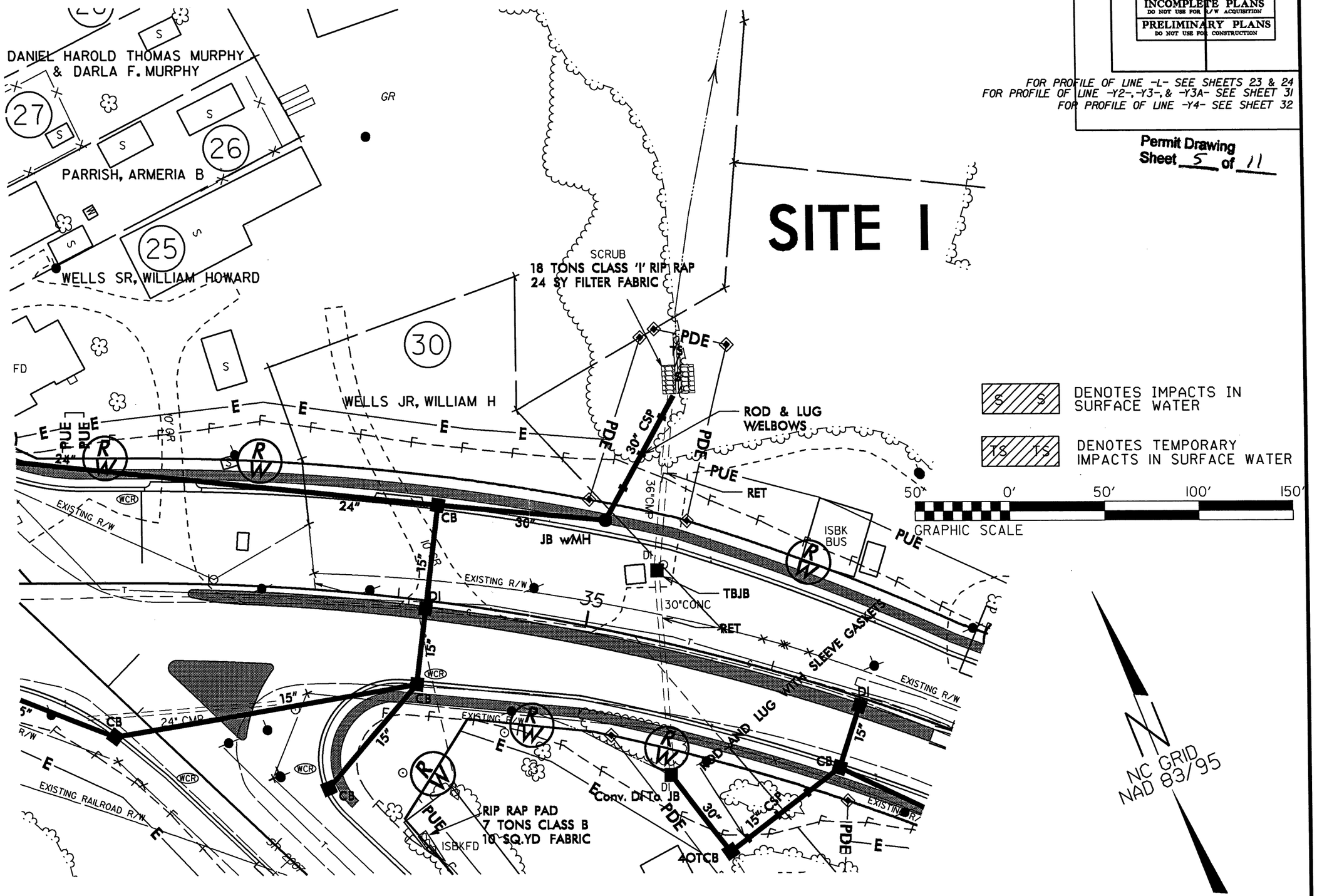
PROJECT REFERENCE NO.	SHEET NO.
R-2611	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEETS 23 & 24
FOR PROFILE OF LINE -Y2-, -Y3-, & -Y3A- SEE SHEET 31
FOR PROFILE OF LINE -Y4- SEE SHEET 32

Permit Drawing
Sheet 5 of 11



REVISIONS

R/W Revisions: These revisions consist of changing property owner's names for Parcels 27, 28, and 34, Revising property lines for Parcels 15, and 33, combining Parcels 22, 23, and 24 into Parcel 24, revised Prop. R/W and added TCE on Parcel 33.

8/17/99

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

PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
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

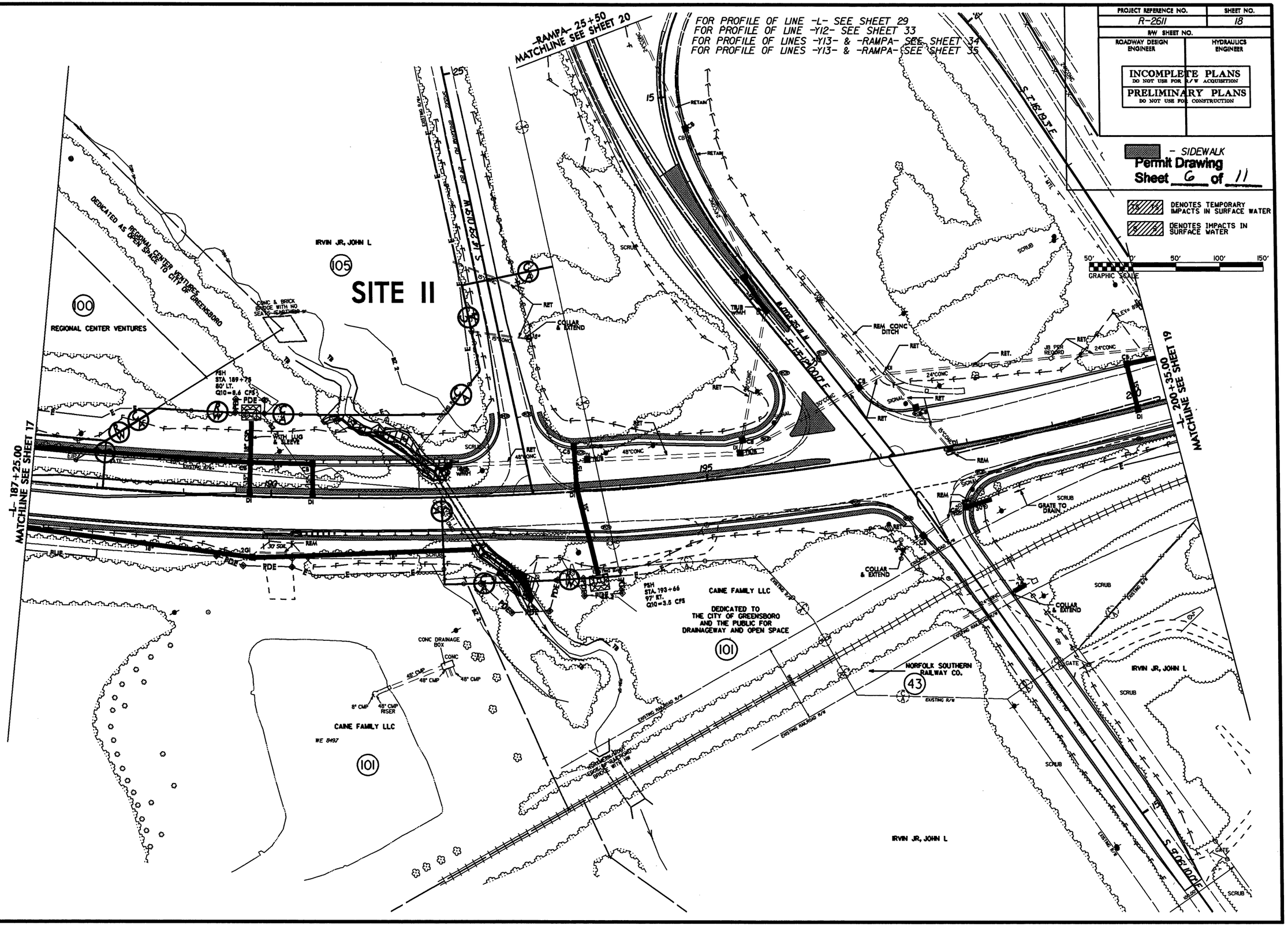
FOR PROFILE OF LINE -L- SEE SHEET 29
FOR PROFILE OF LINE -Y12- SEE SHEET 33
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 34
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 35

- SIDEWALK

Permit Drawing
Sheet 6 of 11

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



REVISIONS
R/W Revisions Combined Parcel 101 and 102 as Parcel 101. Added PUE to Parcel 101. wrb 4/7/10

8/17/99

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

PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
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

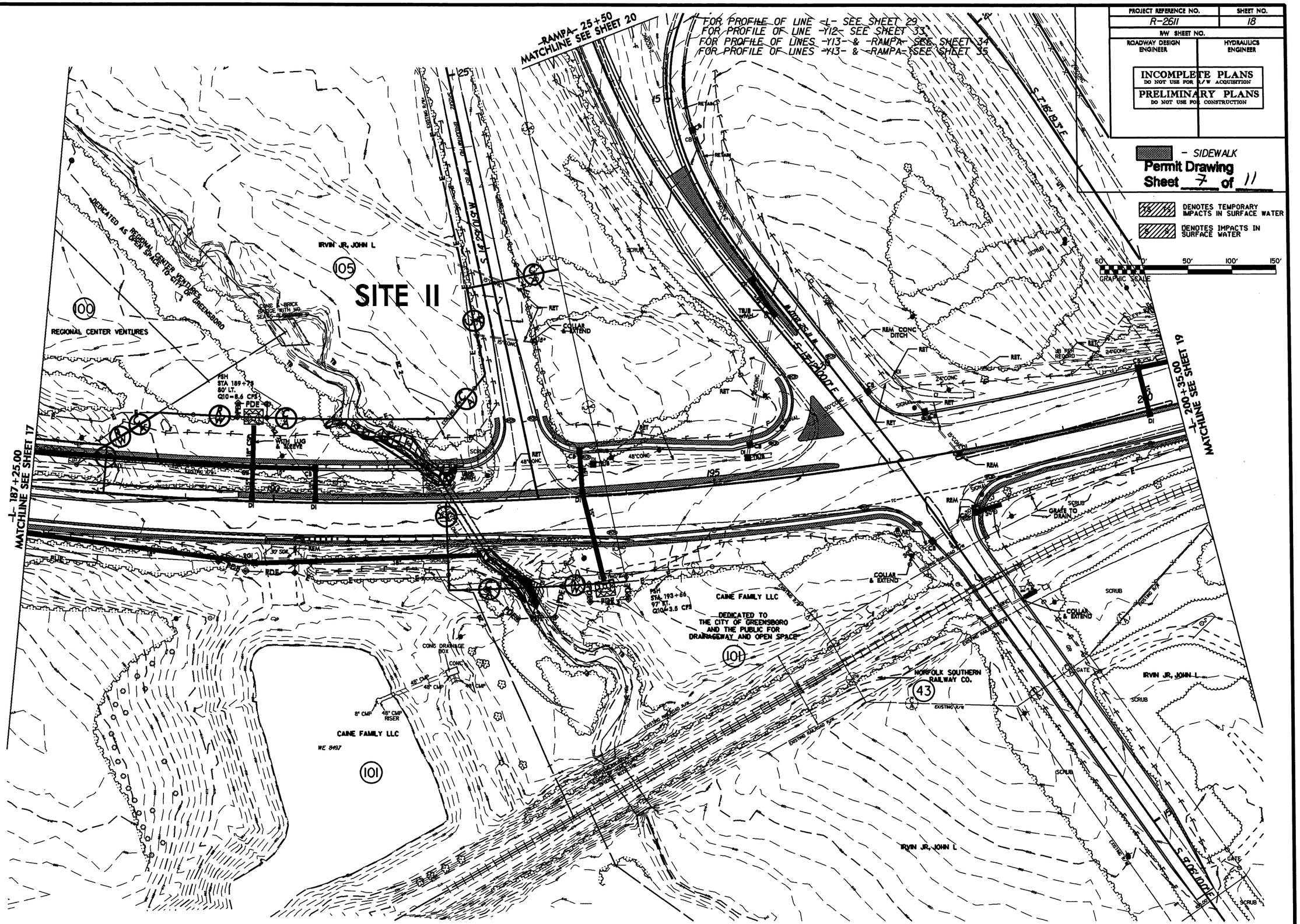
- SIDEWALK

Permit Drawing
Sheet 7 of 11

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

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



REVISIONS

R/W Revision:Combined Parcel 101 and 102 as Parcel 101. Added PUE to Parcel 101. wrb 4/7/10

8/17/99

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

PROJECT REFERENCE NO.	SHEET NO.
R-2611	18

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

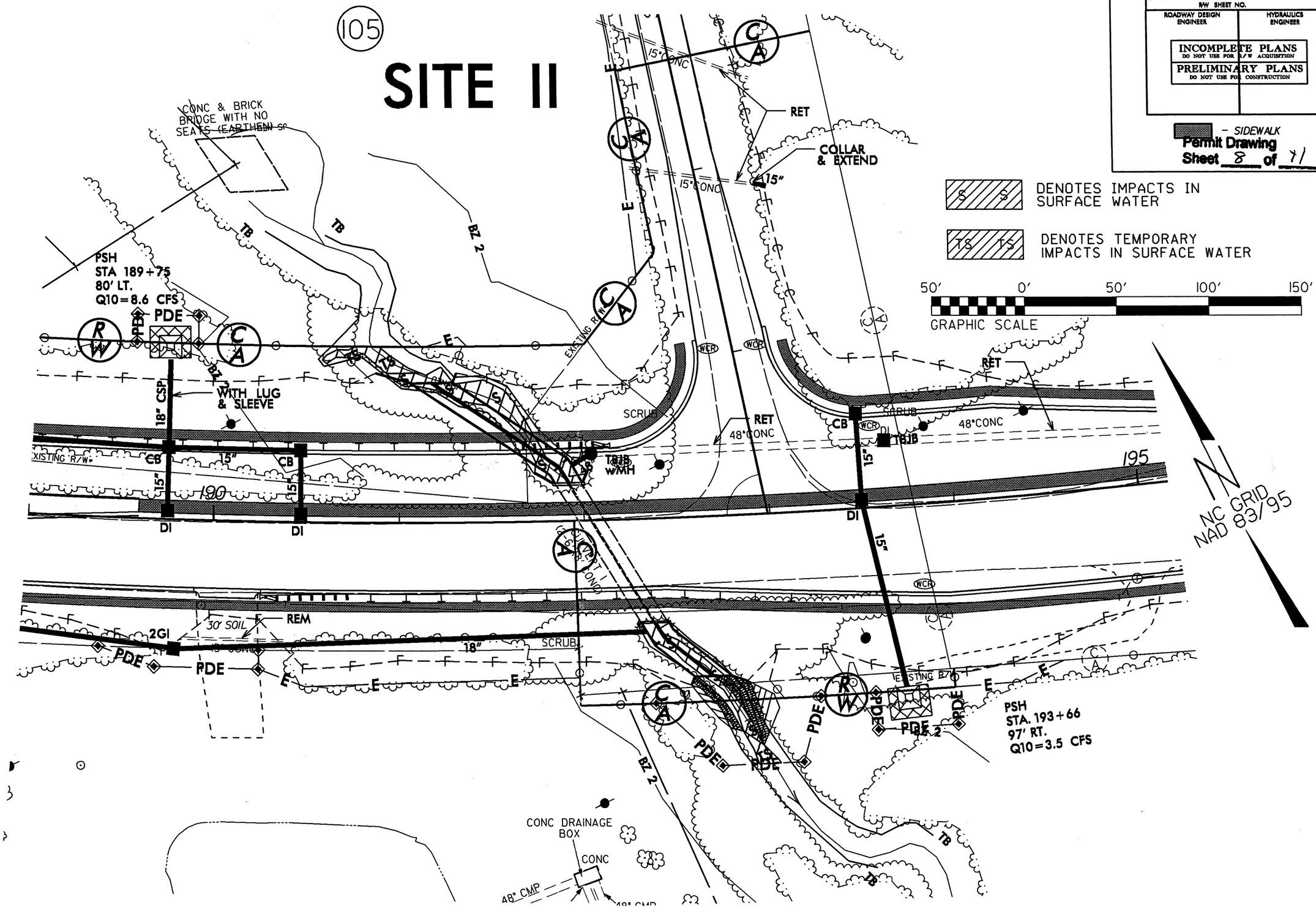
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

▨ - *SIDEWALK*

Permit Drawing
Sheet 8 of 71

SITE II



REVISIONS

R/W Revision:Combined Parcel 101 and 102 as Parcel 101.Added PUE to Parcel 101.wtb 4/7/10

8/17/99

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

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
31	JOHN T. & NANCY P POTTS, TRUSTEE	PO BOX 101 COLFAX, NC 27235
101	CAINE FAMILY LLC	121 LANDMARK DRIVE GREENSBORO, NC 27409
105	JOHN L. IRVIN, JR.	2102 W. MARKET ST. GREENSBORO, NC 27403
	NC DOT	

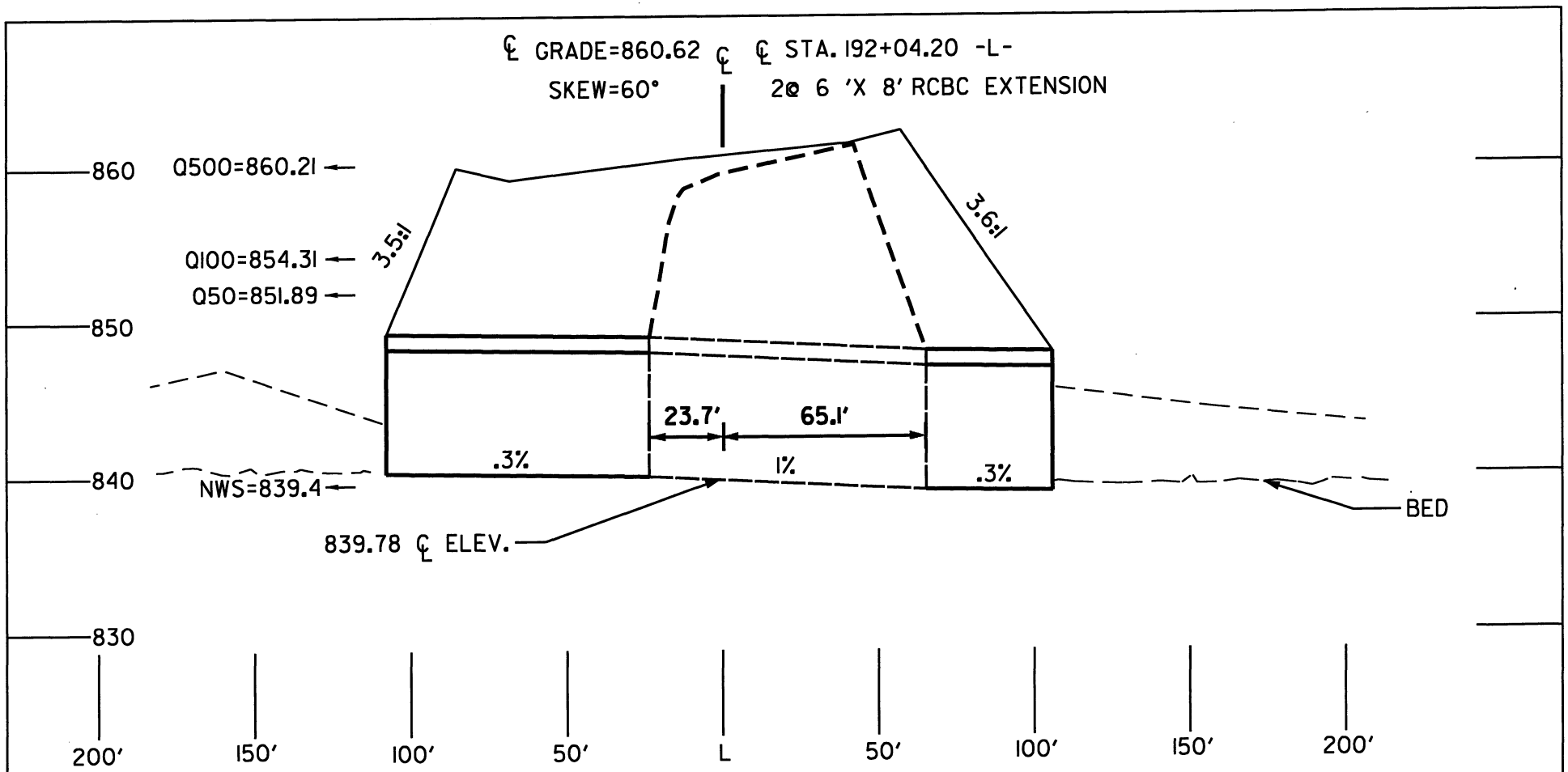
NCDOT

DIVISION OF HIGHWAYS

GUILFORD COUNTY

PROJECT: 34482.1.1 (R-2611)

SR 1008 FROM WEST OF SR 2007 AT COLFAX TO NC 68 IN GREENSBORO



PROFILE

SITE II

NCDOT

DIVISION OF HIGHWAYS
GUILFORD COUNTY
PROJECT: 34482.1.1 (R-2611)
SR 1008 FROM WEST OF SR 2007 AT COLFAX TO NC 68 IN GREENSBORO

SHEET 10 **OF** 11 **07/12/10**

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)
I	35+20 LT. -L-	30" CSP						<0.01	<0.01	0	16	
		Bank Stabilization								15		
II	190+60 LT. -L- TO	2 @ 6' X 8' RCBC						0.04	<0.01	194	39	
	192+95 RT. -L-											
TOTALS:								0.04	0.01	209	55	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GUILFORD COUNTY
WBS - 34482.1.1 (R-2611)

SHEET 11 of 11 ##########

ATN Revised 3/31/05

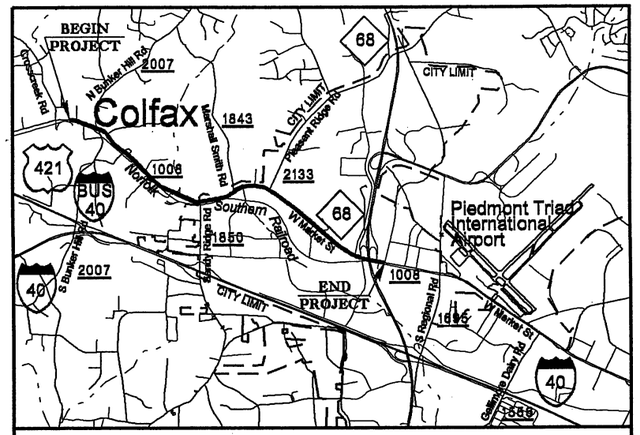
09/08/99

TIP PROJECT: R-2611

CONTRACT:

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

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: SR 1008 (WEST MARKET STREET) FROM WEST OF SR 2007 (BUNKER HILL RD.) AT COLFAX TO NC 68 IN GREENBORO

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS, AND SIGNALS

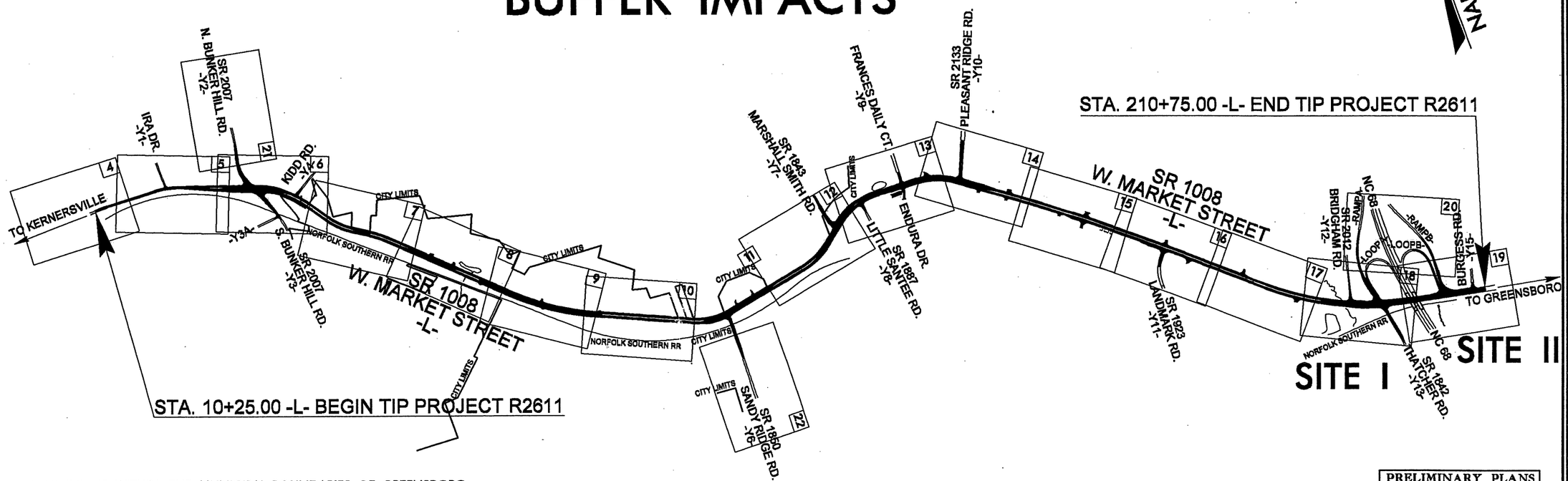
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2611	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34482.1.1	STP-1008(9)	PE
34482.2.2	STPDA-1008(19)	R/W & UTIL

Buffer Drawing
Sheet 1 of 9

NAD 83

BUFFER IMPACTS



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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 2005 = 22200
ADT 2030 = 29500
DHV = 09 %
D = 55 %
T = 06 % *
V = 50 MPH

* TTST 2% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2611 = 3.797 MILES
TOTAL LENGTH TIP PROJECT R-2611 = 3.797 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2008

LETTING DATE:
AUGUST 16, 2011

G. E. BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

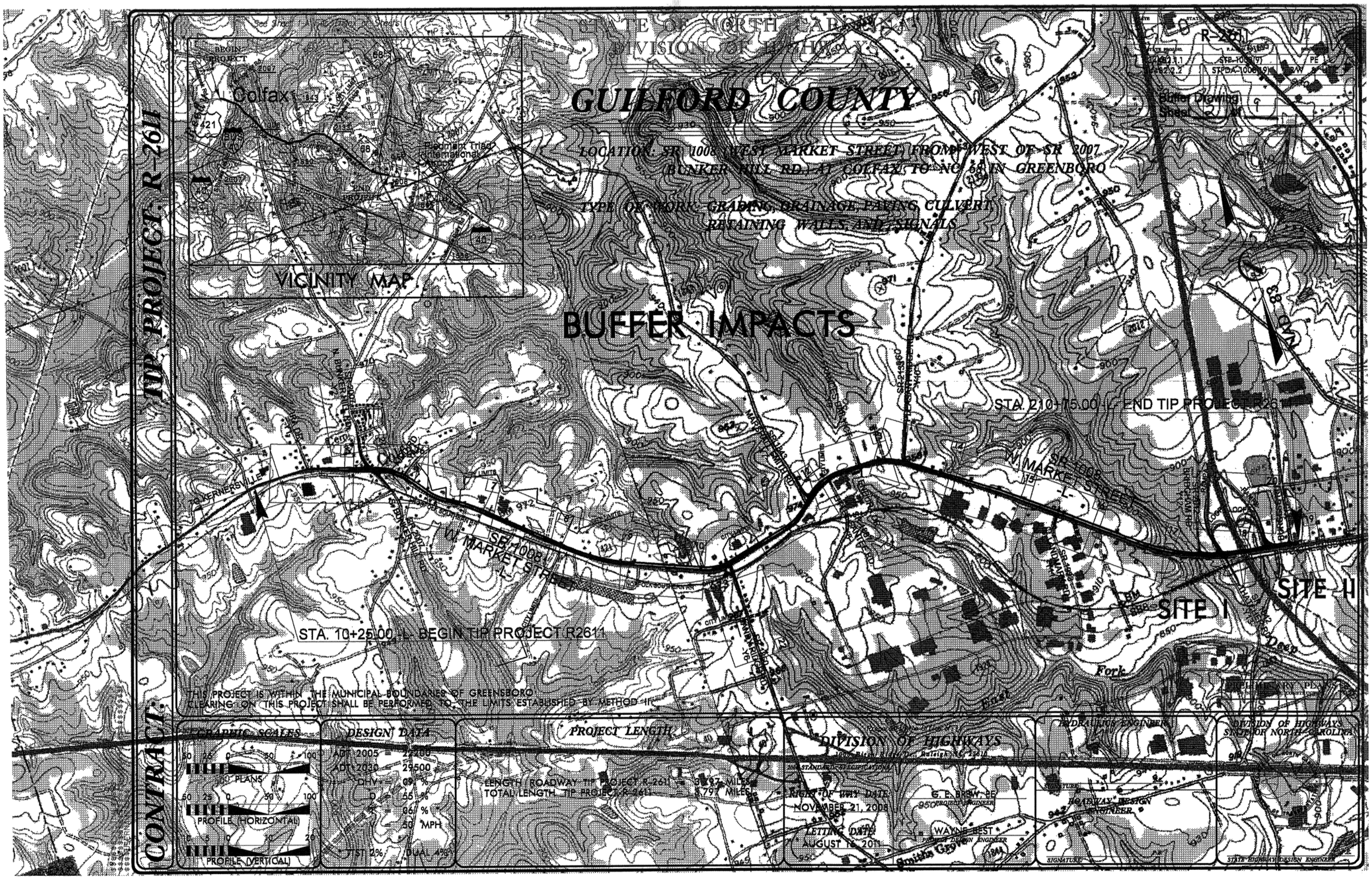
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
GUILFORD COUNTY
LOCATION: SR 1008 (WEST MARKET STREET) FROM WEST OF SR 2007 (BUNKER HILL RD.) AT COLFAX TO NC 68 IN GREENBORO
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS, AND SIGNALS
BUFFER IMPACTS
TIP PROJECT R-2611
CONTRACT
VICINITY MAP
Colfax
Piedmont Triad International Airport
STA. 210+15.00 -L- END TIP PROJECT R2611
STA. 10+25.00 -L- BEGIN TIP PROJECT R2611
W. MARKET STREET
SR 1008
SITE I
SITE II
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GREENSBORO
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
GRAPHIC SCALES
PLANS
PROFILE (HORIZONTAL)
PROFILE (VERTICAL)
DESIGN DATA
ADT 2005 = 22200
ADT 2030 = 29500
DHV = 09 %
D = 55 %
T = 06 % *
= 50 MPH
* TST 2% DUAL 4%
PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT R-2611 = 3.97 MILES
TOTAL LENGTH TIP PROJECT R-2611 = 3.797 MILES
DIVISION OF HIGHWAYS
2006 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE
NOVEMBER 21, 2008
LETTING DATE
AUGUST 18, 2011
G. E. BROW, PE
PROJECT ENGINEER
WAYNE BEST
PROJECT DESIGN ENGINEER
HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER
SIGNATURE
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
STATE HIGHWAY DESIGN ENGINEER
PRELIMINARY PLANS
Buffer Drawing
Sheet 2 of 9

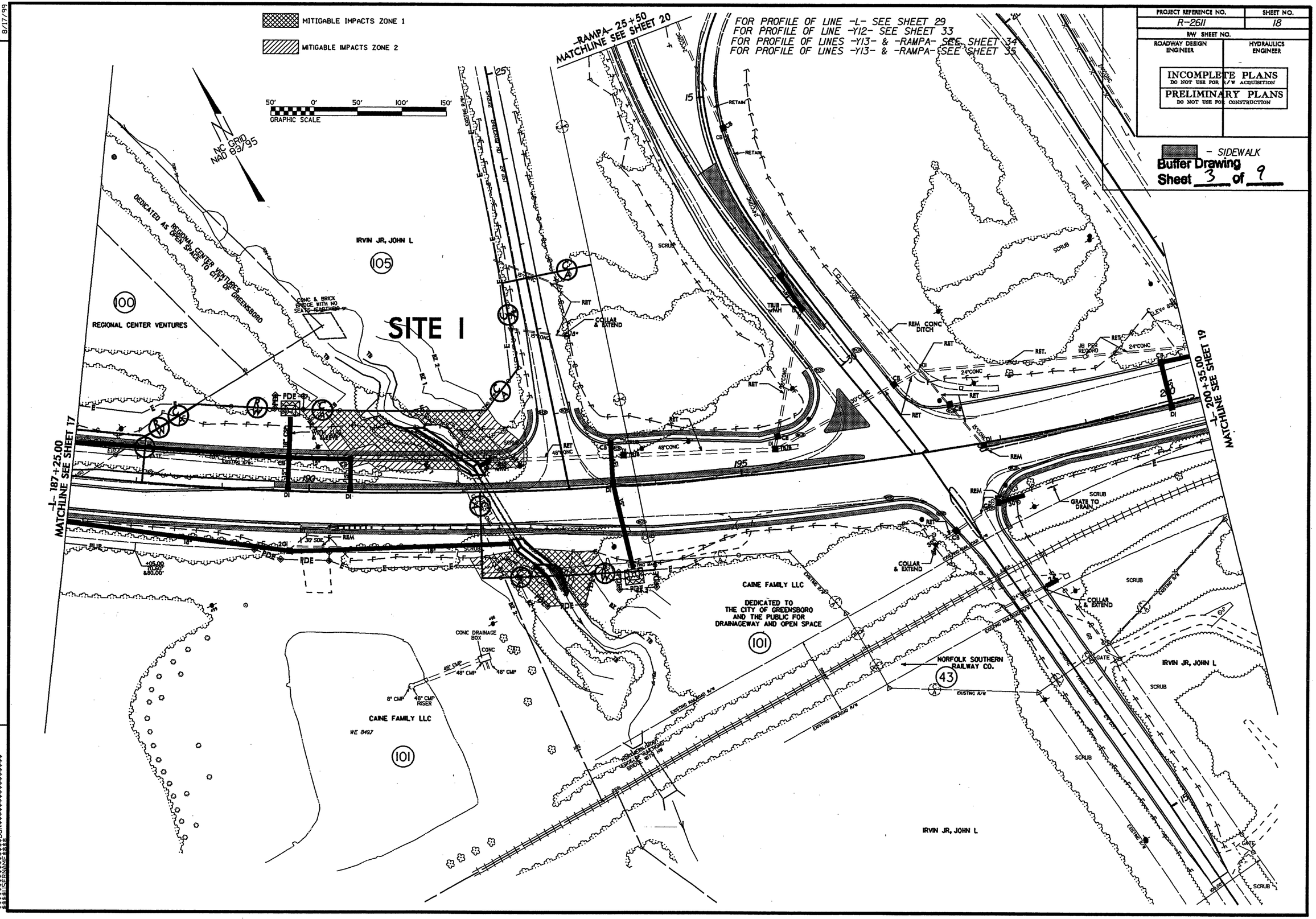
PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

- SIDEWALK

Buffer Drawing
Sheet 3 of 9



REVISIONS

R/W Revision: Combined Parcel 101 and 102 as Parcel 101. Added PUE to Parcel 101. wrb 4/7/10

8/17/99

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
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

- SIDEWALK

Buffer Drawing
Sheet 4 of 9

MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2

FOR PROFILE OF LINE -L- SEE SHEET 29
FOR PROFILE OF LINE -Y12- SEE SHEET 33
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 34
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 35

-RAMPA- 25+50
MATCHLINE SEE SHEET 20

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

NC GRID NAD 83/95

SITE 1

IRVIN JR, JOHN L
105

100
REGIONAL CENTER VENTURES

DEDICATED AS REGIONAL CENTER VENTURES OPEN SPACE TO CITY OF GREENSBORO

LONG BRICK BRIDGE WITH NO SEATS OR SIDEWALKS

SCRUB

RET

COLLAR & EXTEND

15" CONC

48" CONC

REM CONC DITCH

24" CONC

JB PER RECORD

GRATE TO DRAIN

REM

30" SOIL

FDE

DI

CB

RETAIN

195

CAINE FAMILY LLC

DEDICATED TO THE CITY OF GREENSBORO AND THE PUBLIC FOR DRAINAGEWAY AND OPEN SPACE

101

NORFOLK SOUTHERN RAILWAY CO.
43

EXISTING R/W

EXISTING RAILROAD R/W

CONC DRAINAGE BOX

48" CMP

8" CMP

48" CMP RISER

WE 8497

GATE

MATCHLINE SEE SHEET 17
187+25.00

200+35.00
MATCHLINE SEE SHEET 19

REVISIONS

R/W Revision-Combined Parcel 101 and 102 as Parcel 101. Added PUE to Parcel 101.wrb 4/7/10

8/17/99

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

PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
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

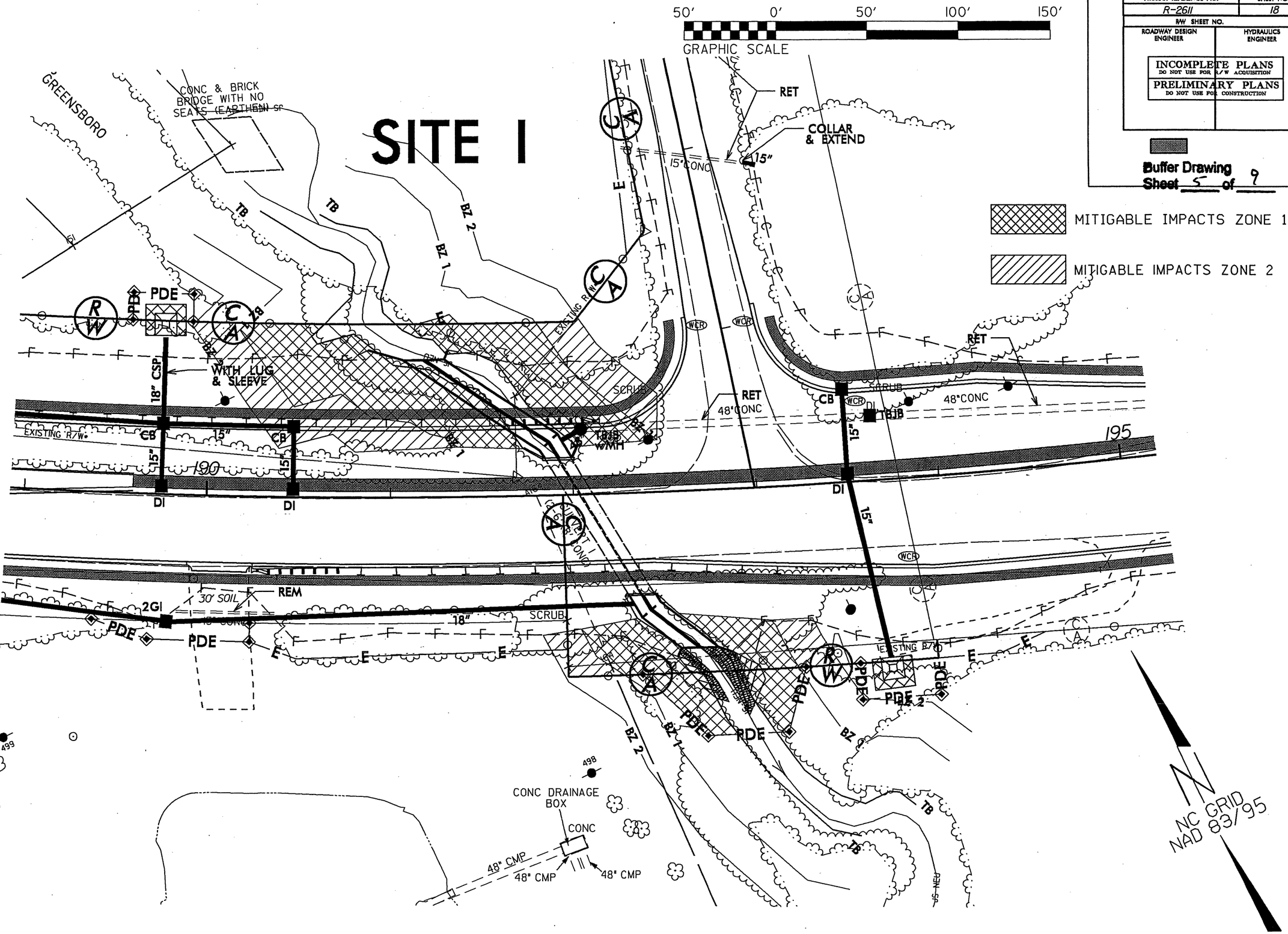
▨ Buffer Drawing
Sheet 5 of 9

8/17/99

REVISIONS

R/W Revision:Combined Parcel 101 and 102 as Parcel 101.Added PUE to Parcel 101.wfb 4/7/10

SITE I



▩	MITIGABLE IMPACTS ZONE 1
▨	MITIGABLE IMPACTS ZONE 2

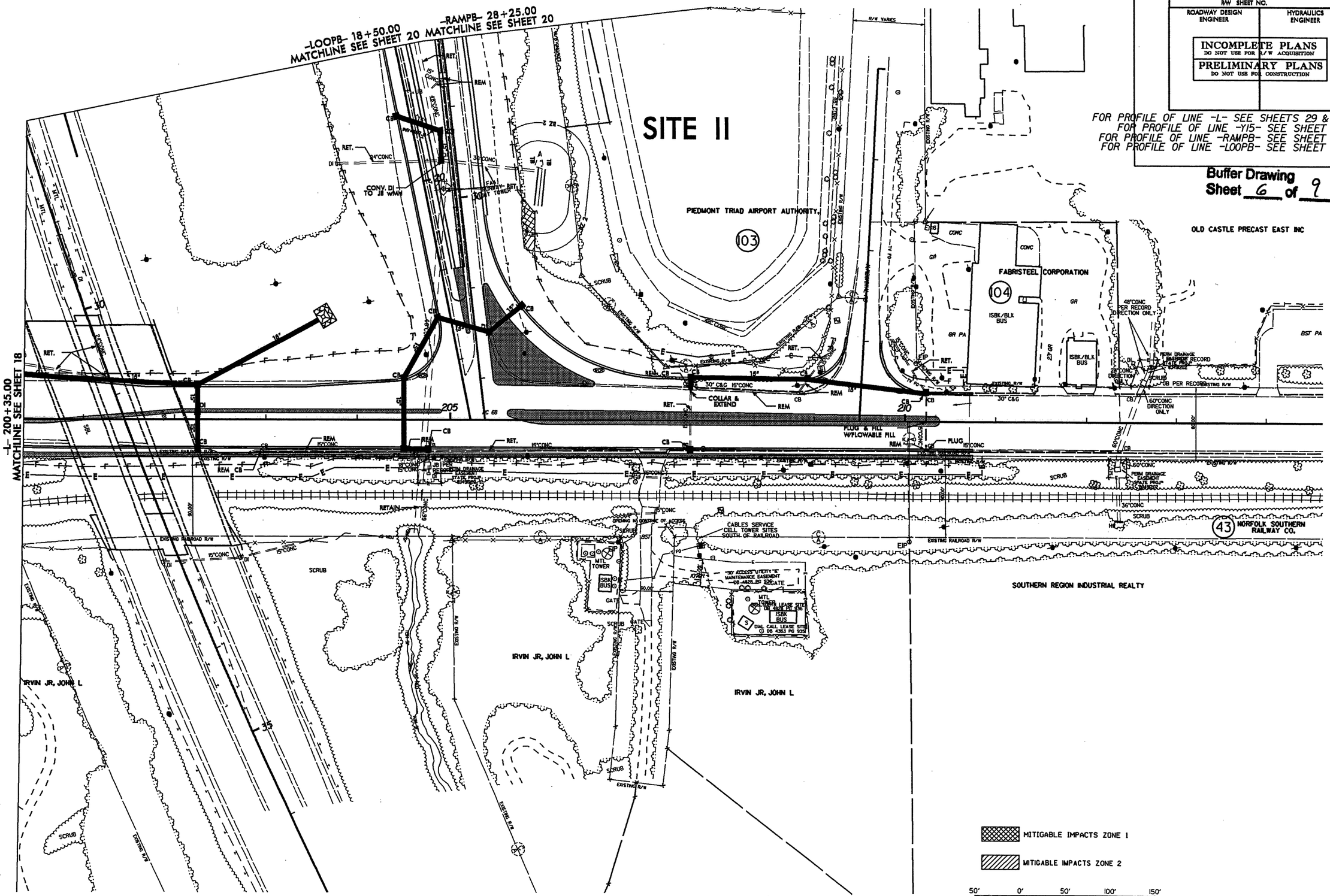
PROJECT REFERENCE NO.	SHEET NO.
R-2611	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEETS 29 & 30
FOR PROFILE OF LINE -Y15- SEE SHEET 34
FOR PROFILE OF LINE -RAMPB- SEE SHEET 35
FOR PROFILE OF LINE -LOOPB- SEE SHEET 36

Buffer Drawing
Sheet 6 of 9



REVISIONS

R/W Revision-Updated existing topographic data. wb 4/7/10

8/17/99

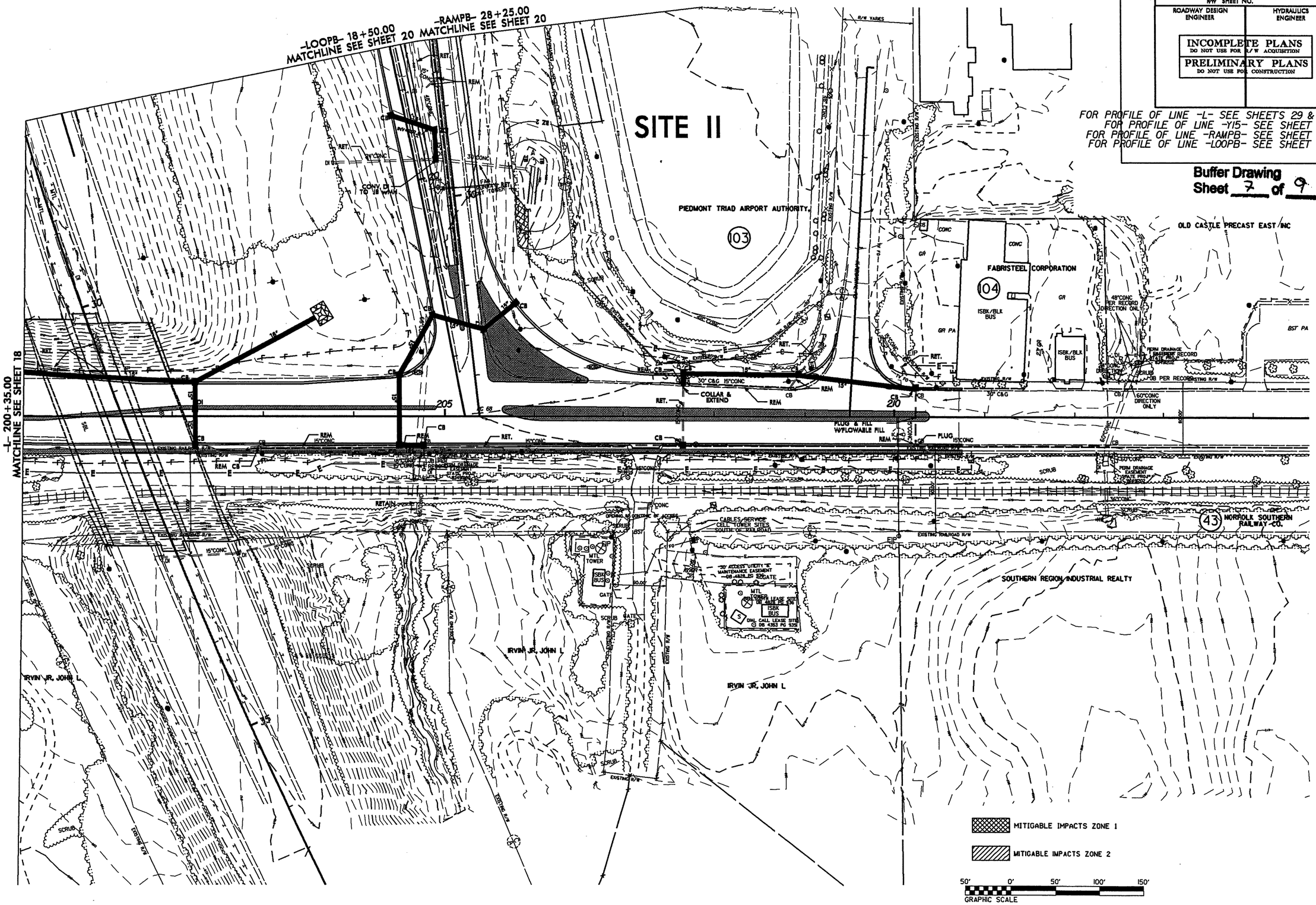
PROJECT REFERENCE NO.	SHEET NO.
R-2611	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEETS 29 & 30
FOR PROFILE OF LINE -Y15- SEE SHEET 34
FOR PROFILE OF LINE -RAMPB- SEE SHEET 35
FOR PROFILE OF LINE -LOOPB- SEE SHEET 36

Buffer Drawing
Sheet 7 of 9



REVISIONS

R/W Revision-Updated existing topographic data.wfb 4/7/10

8/17/99

8/17/99

REVISIONS

R/W Revision-Updated existing topographic data. wlb 4/7/10

PROJECT REFERENCE NO.	SHEET NO.
R-2611	19
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

FOR PROFILE OF LINE -L- SEE SHEETS 29 & 30
FOR PROFILE OF LINE -Y15- SEE SHEET 34
FOR PROFILE OF LINE -RAMPB- SEE SHEET 35
FOR PROFILE OF LINE -LOOPB- SEE SHEET 36

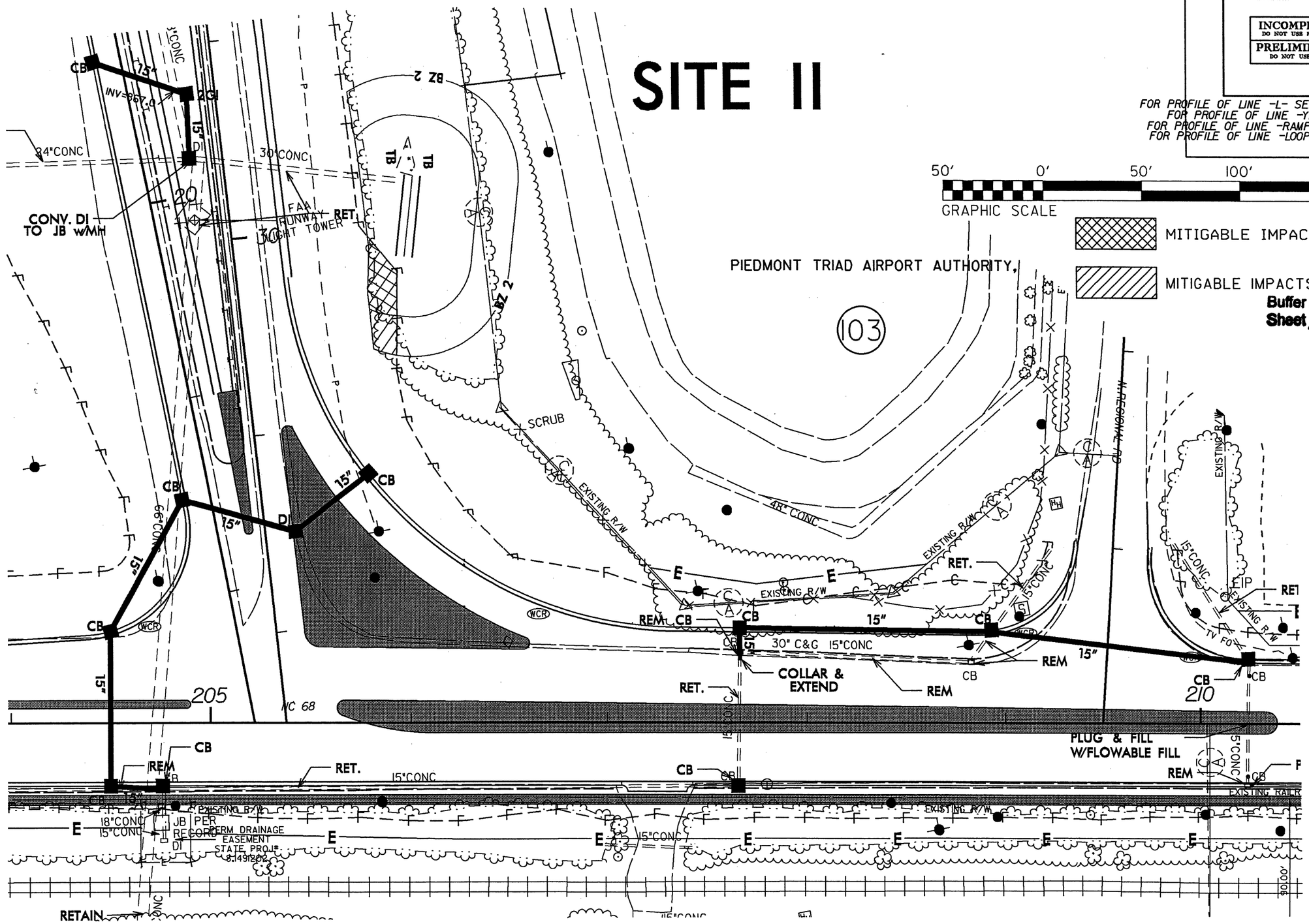
SITE II

50′ 0′ 50′ 100′ 150′
GRAPHIC SCALE

▦ MITIGABLE IMPACTS ZONE 1

▨ MITIGABLE IMPACTS ZONE 2

Buffer Drawing
Sheet 8 of 9



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

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)
I	2 @ 6' x 8' RCBC	189+90 LT. -L- TO	X						11953	5621	17574		
		193+50 RT. -L-											
II		30+05 LT. -RAMPB- TO			X				416	240	656		
		30+70 LT. -RAMPB-											
TOTAL:						0	0	0	12369	5861	18230		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

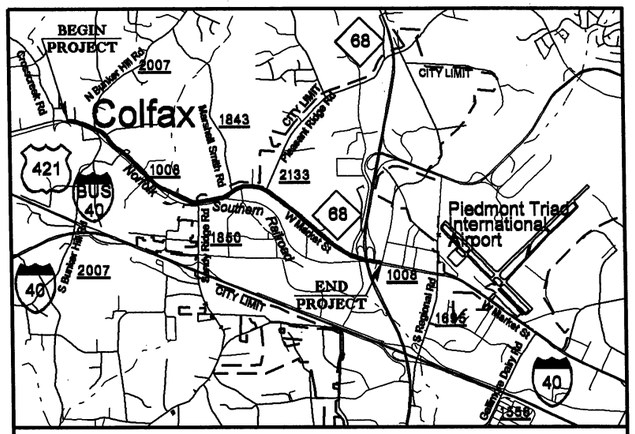
GUILFORD COUNTY
PROJECT: 34482.1.1. (R-2611)

7/7/2010
SHEET 9 OF 9

Rev. May 2006

09/08/99

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2611	1	

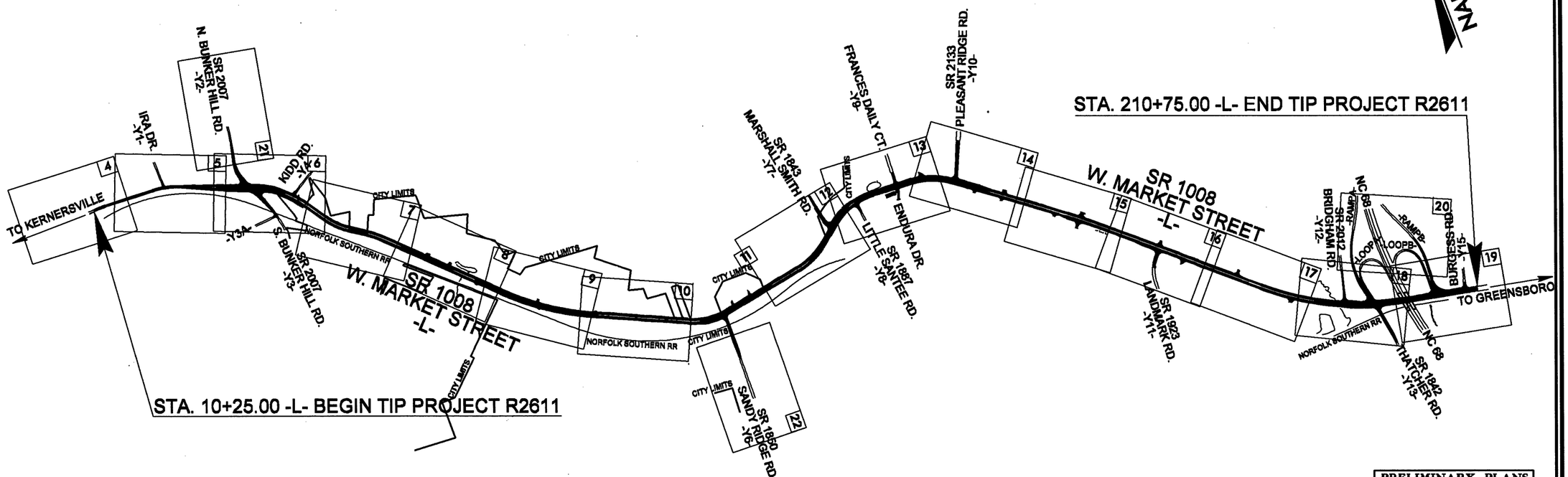
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34482.1.1	STP-1008(9)	PE
34482.2.2	STPDA-1008(19)	R/W & UTIL

LOCATION: SR 1008 (WEST MARKET STREET) FROM WEST OF SR 2007 (BUNKER HILL RD.) AT COLFAX TO NC 68 IN GREENBORO

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS, AND SIGNALS

NAD 83

STA. 210+75.00 -L- END TIP PROJECT R2611



STA. 10+25.00 -L- BEGIN TIP PROJECT R2611

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: R-2611

CONTRACT:

RECEIVED
OCT 21 2010
DIVISION OF HIGHWAYS
POST OFFICE OF NATURAL ENVIRONMENT

19-OCT-2010 13:37
r:\roadway\proj\r2611_rdy_tsh.dgn
$$$$USERNAME$$$$

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 2005 = 22200
ADT 2030 = 29500
DHV = 09 %
D = 55 %
T = 06 % *
V = 50 MPH

* TTST 2% DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2611 = 3.797 MILES
TOTAL LENGTH TIP PROJECT R-2611 = 3.797 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 21, 2008

LETTING DATE: AUGUST 16, 2011

G. E. BREW, PE
PROJECT ENGINEER

WAYNE BEST
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

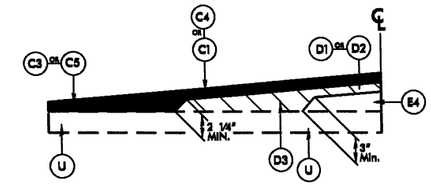
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PRELIMINARY PAVEMENT SCHEDULE

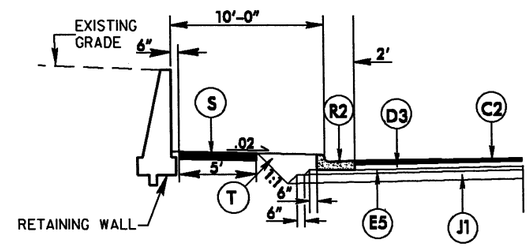
C1	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E6	PROP. APPROX. 7" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 166 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E7	PROP. APPROX. 7½" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 427.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	E8	PROP. APPROX. 8½" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 484.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	E9	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 5½" IN DEPTH.
D1	PROP. APPROX. 3½" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.	E10	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 5½" IN DEPTH.
D2	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	J1	PROP. APPROX. 8" AGGREGATE BASE COURSE.
D3	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
D4	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 4" IN DEPTH.	R1	1'-6" CONCRETE CURB AND GUTTER.
D5	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 4" IN DEPTH.	R2	2'-6" CONCRETE CURB AND GUTTER.
E1	PROP. APPROX. 4" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R3	2'-9" CONCRETE CURB AND GUTTER.
E2	PROP. APPROX. 5" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	R4	5" MONOLITHIC CONCRETE ISLAND (KEYED IN).
E3	PROP. APPROX. 5½" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	S	CONCRETE 4" SIDEWALK.
E4	PROP. APPROX. 7" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL.
E5	PROP. APPROX. 3" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
		W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE WEDGING DETAIL)

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

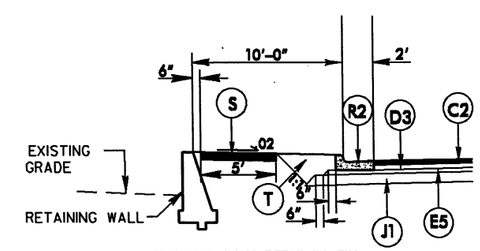


LINE	SURFACE C1	C3	C4	C5	INTERMEDIATE D1	D2	D3		BASE E1	E2	E3	E4

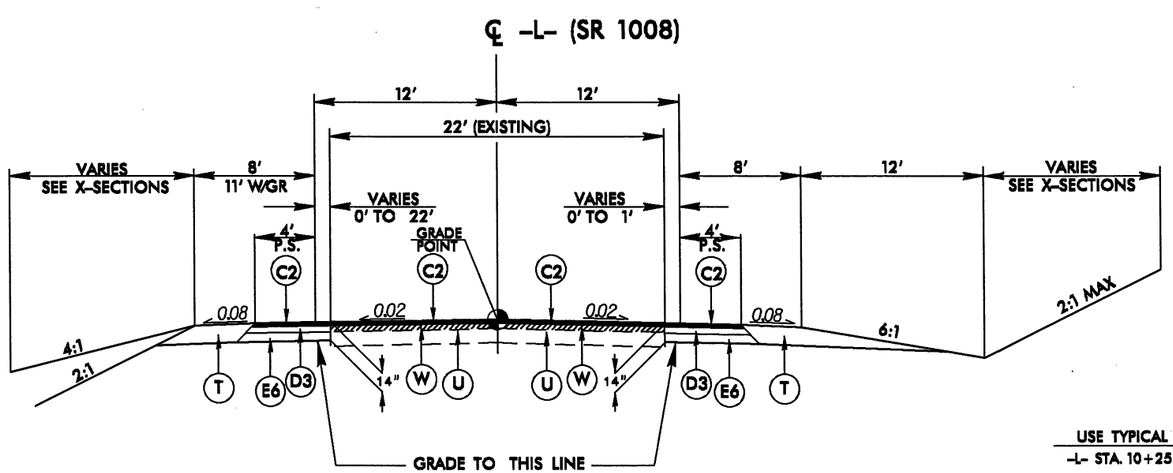
DETAIL SHOWING METHOD OF WEDGING



RETAINING WALL DETAIL IN CUT
(USE IN CONJUNCTION WITH TYPICAL NO. 3 & 6)
-L- STA. 180+00.00 TO 181+50.00 (LT.)

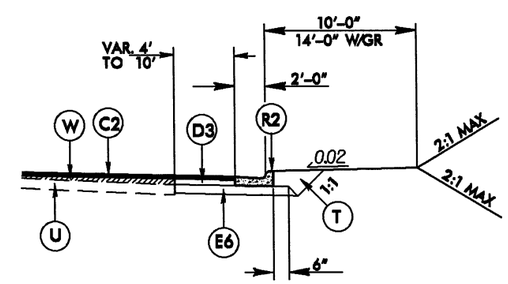


RETAINING WALL DETAIL IN FILL
(USE IN CONJUNCTION WITH TYPICAL NO. 8)
-L- STA. 143+33.33 TO 143+75 (LT.)



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 10+25.00 TO 20+44.70

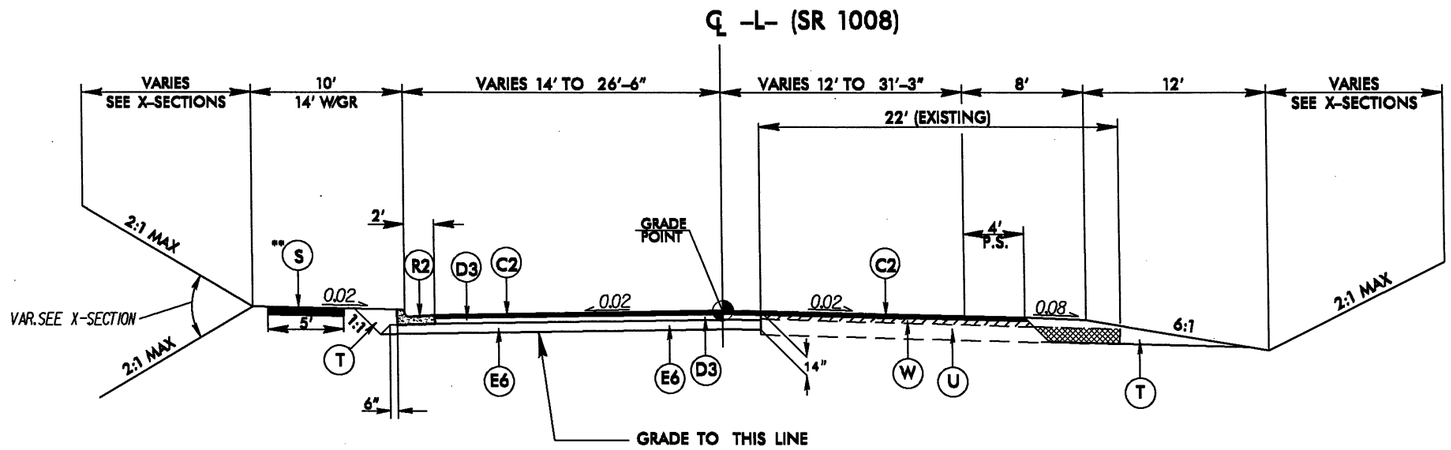


DETAIL 3
DETAIL SHOWING NARROW WIDENING TO EXISTING PAVEMENT
-Y3- STA. 12+15.79 TO 12+66.50 (LT.)
-Y6- STA. 10+92.50 TO 11+30+00
-Y13- STA. 11+30.14 TO 11+40.82

PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

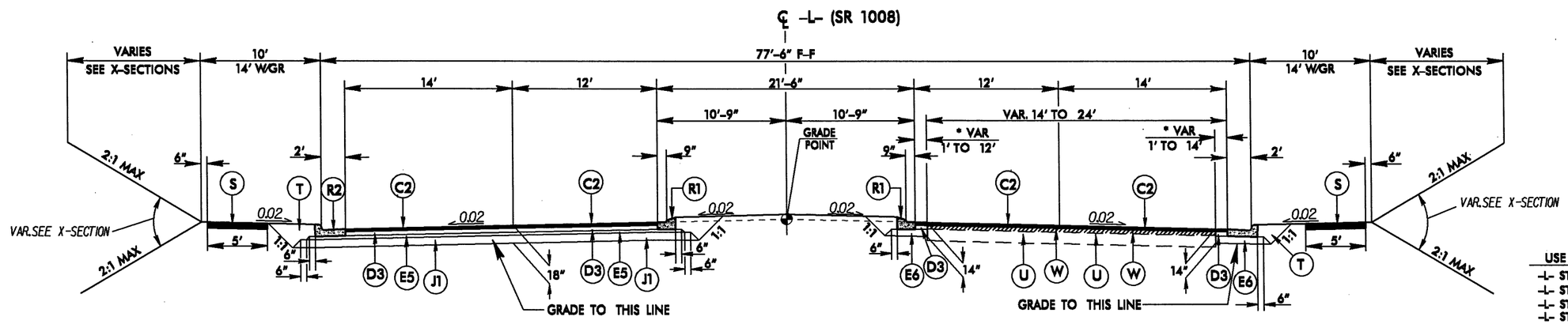
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 2

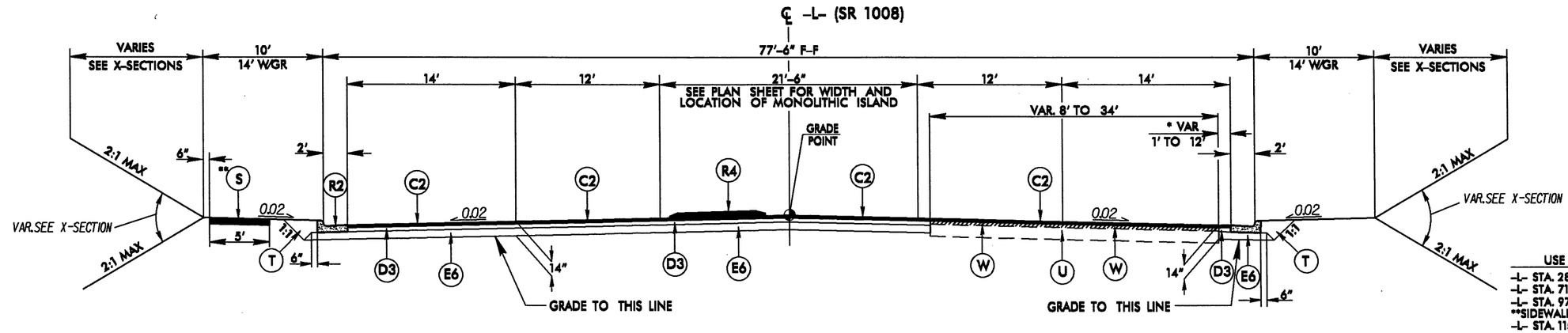
USE TYPICAL SECTION NO. 2
-L- STA. 20+44.70 TO 26+04.07
**SIDEWALK BEGINS -L- STA. 22+46.13 (LT.)



TYPICAL SECTION NO. 3

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 3
-L- STA. 26+04.07 TO 28+58.16
-L- STA. 40+79.08 TO 42+10.07
-L- STA. 47+58.20 TO 48+24.84
-L- STA. 82+40.69 TO 93+51.60
-L- STA. 106+15.88 TO 110+33.82
-L- STA. 142+93.45 TO 152+89.59
-L- STA. 157+80.58 TO 168+89.11
-L- STA. 171+16.06 TO 171+61.67
-L- STA. 173+63.37 TO 180+39.68



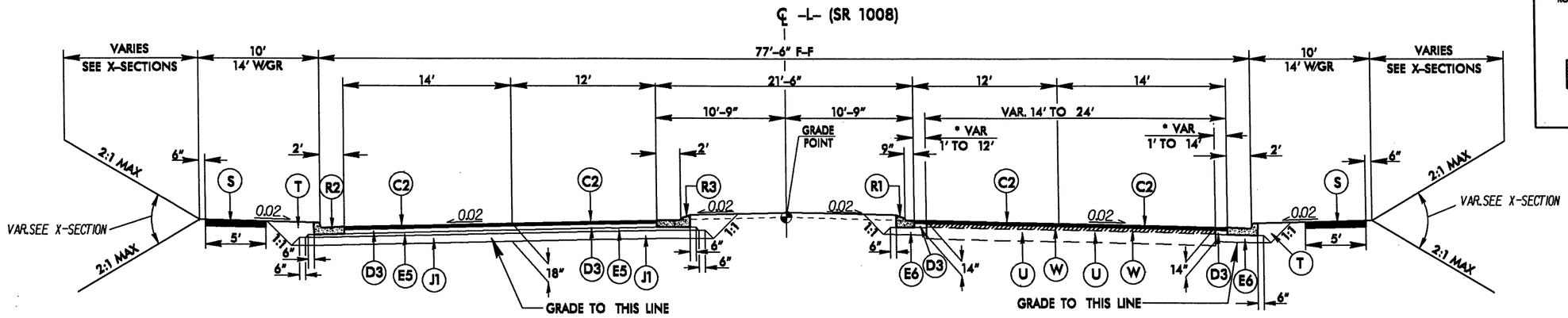
TYPICAL SECTION NO. 4

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 4
-L- STA. 28+58.16 TO 35+66.16
-L- STA. 71+30.00 TO 82+40.69
-L- STA. 97+00.00 TO 106+15.88
**SIDEWALK BEGINS -L- STA. 100+03.00 (RT.)
-L- STA. 115+30.41 TO 119+25.08
-L- STA. 123+30.31 TO 124+89.00
-L- STA. 189+59.55 TO 194+80.00

PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

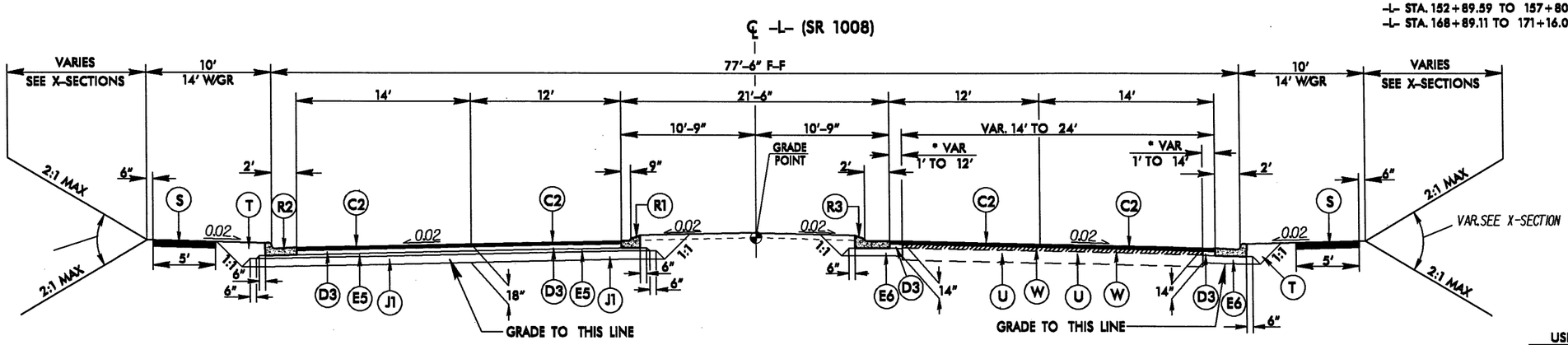
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 5

* SEE DETAIL 3 ON SHEET 2

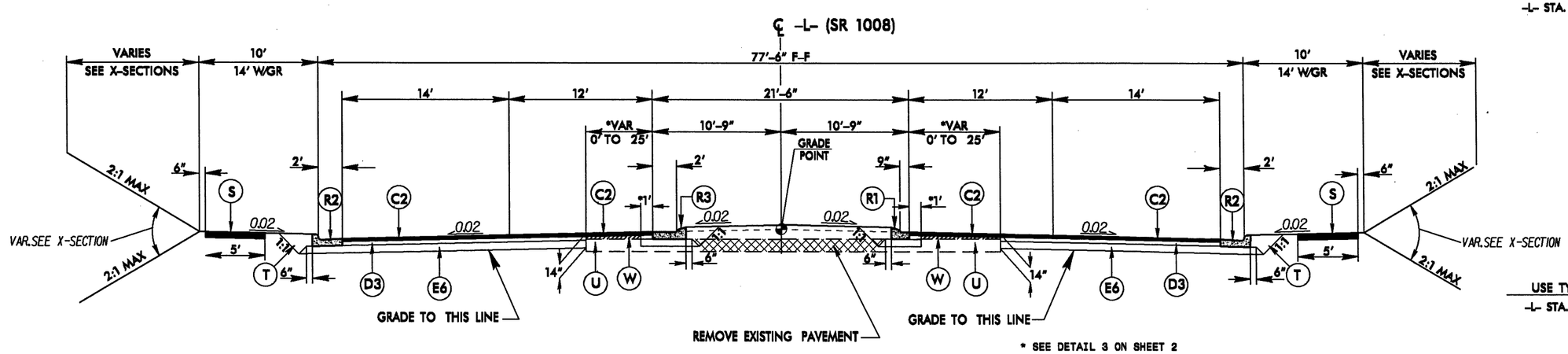
USE TYPICAL SECTION NO. 5
-L- STA. 35+66.16 TO 40+79.08
-L- STA. 48+24.84 TO 51+70.00
-L- STA. 119+25.08 TO 123+30.31
-L- STA. 152+89.59 TO 157+80.58
-L- STA. 168+89.11 TO 171+16.06



TYPICAL SECTION NO. 6

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 6
-L- STA. 42+10.07 TO 47+58.20
-L- STA. 93+51.60 TO 97+00.00
-L- STA. 110+33.82 TO 115+30.41
-L- STA. 171+61.67 TO 173+63.37
-L- STA. 180+39.68 TO 189+59.57



TYPICAL SECTION NO. 7

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 7
-L- STA. 51+70.00 TO 52+49.54

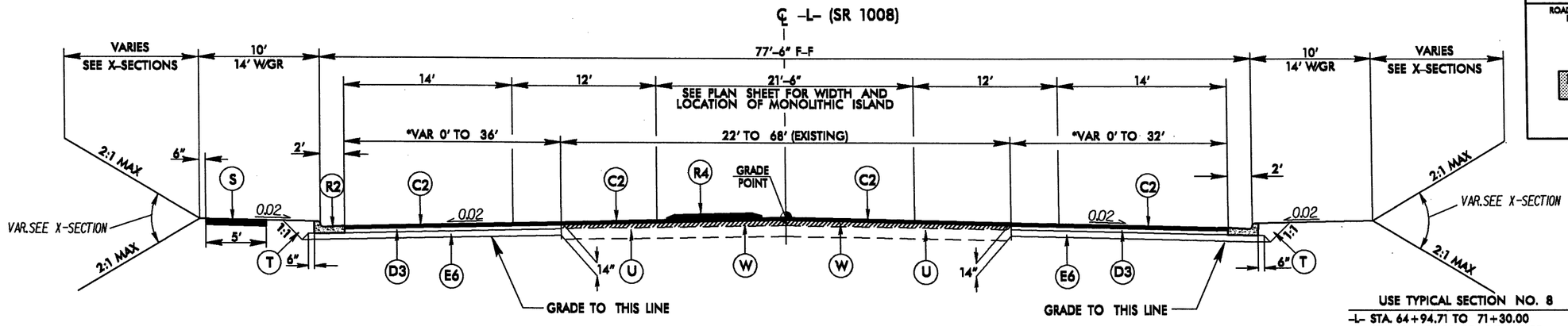
PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

6/2/99

19-OCT-2010 13:37
r:\roadway\proj\r2611_rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

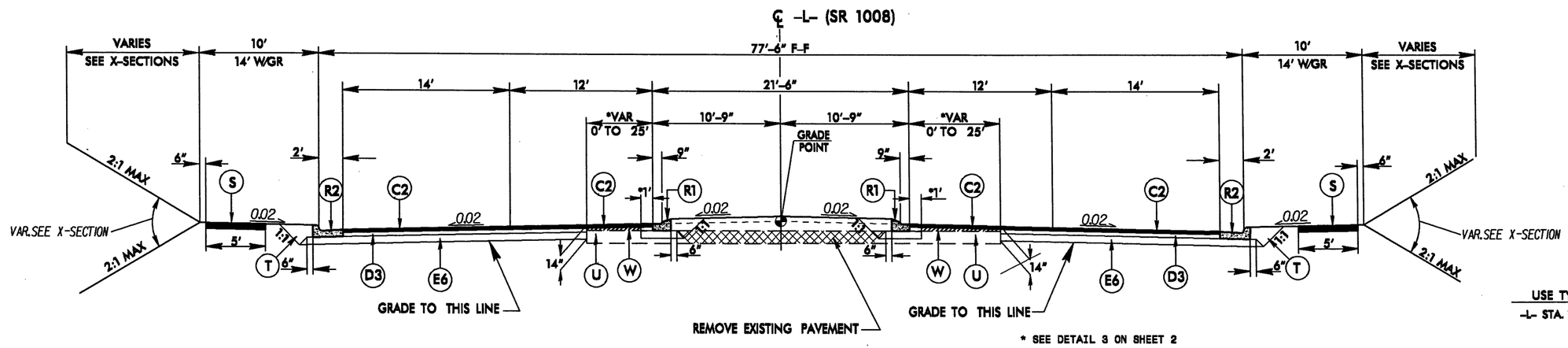


TYPICAL SECTION NO. 8

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 8

-L- STA. 64+94.71 TO 71+30.00
-L- STA. 124+89.00 TO 141+43.53
-L- STA. 194+80.00 TO 210+75.00
SIDEWALK ENDS -L- STA. 196+95.00 (RT.)
SIDEWALK ENDS -L- STA. 195+77.00 (LT.)

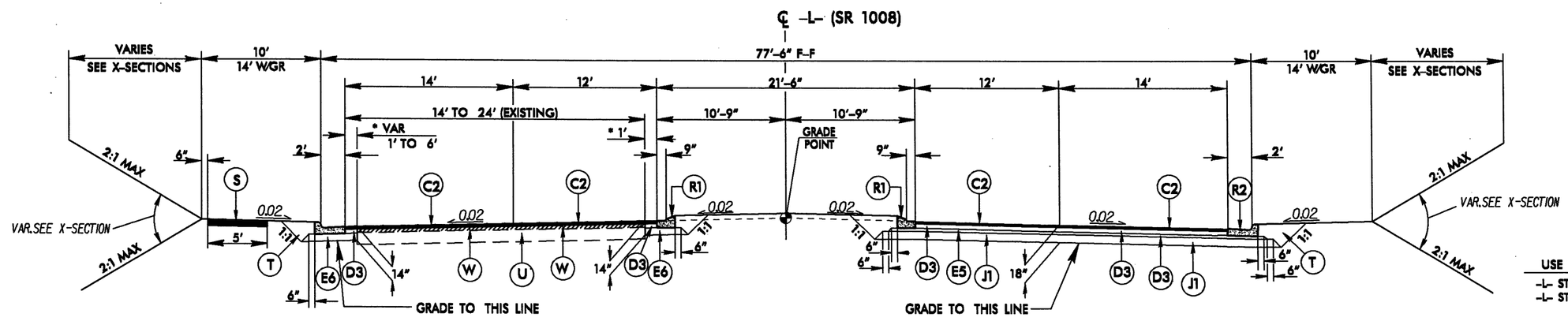


TYPICAL SECTION NO. 9

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 9

-L- STA. 141+43.53 TO 142+93.45



TYPICAL SECTION NO. 10

* SEE DETAIL 3 ON SHEET 2

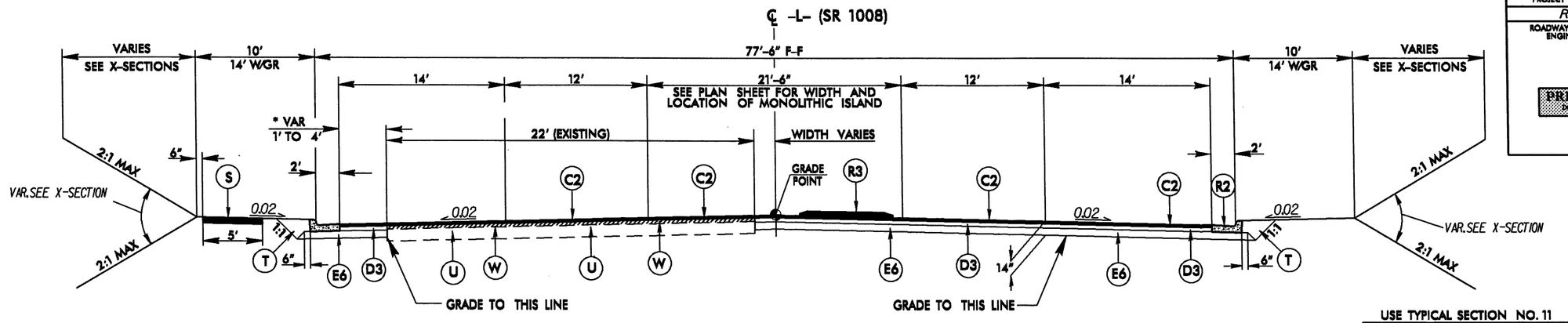
USE TYPICAL SECTION NO. 10

-L- STA. 52+49.54 TO 54+86.86
-L- STA. 61+05.54 TO 64+94.71

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

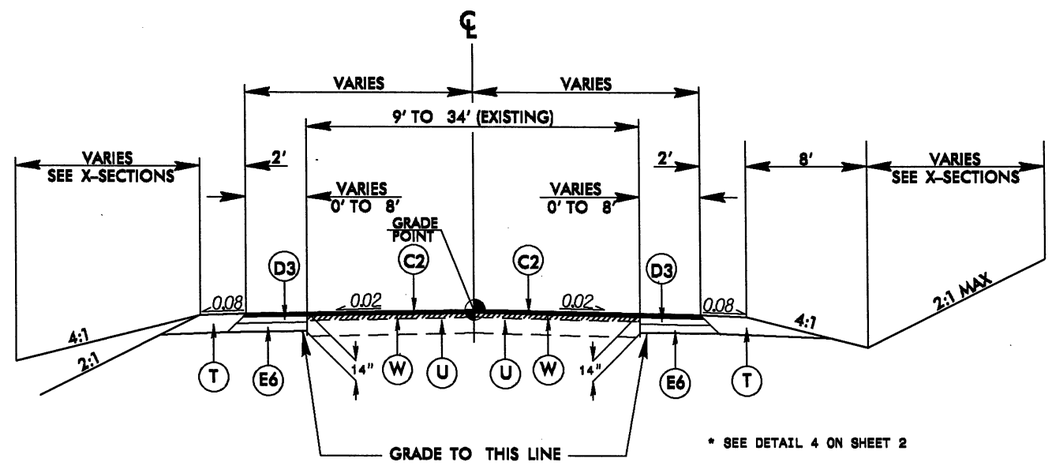
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 11

* SEE DETAIL 3 ON SHEET 2

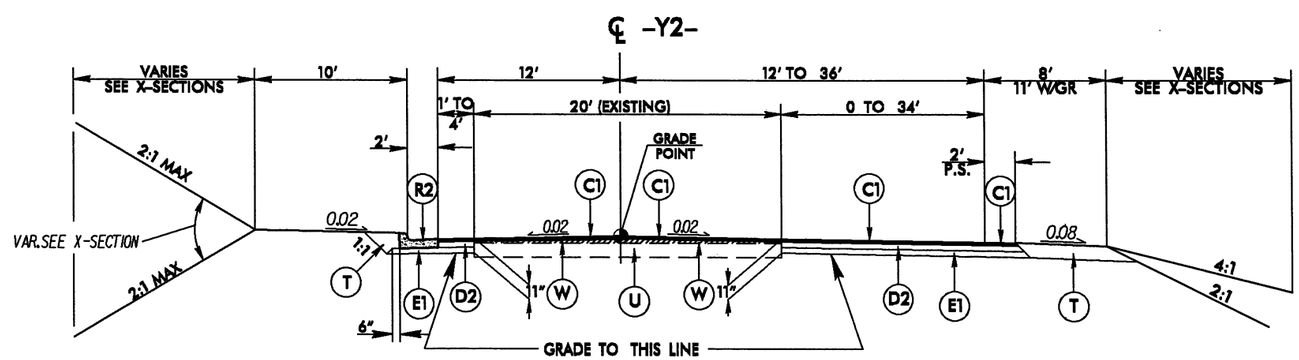
USE TYPICAL SECTION NO. 11
-L- STA. 54+86.86 TO 61+05.54



* SEE DETAIL 4 ON SHEET 2

TYPICAL SECTION NO. 12

USE TYPICAL SECTION NO. 12
-Y1- STA. 12+00.00 TO 12+64.85
-Y4- STA. 13+25.00 TO 14+16.21
-Y8- STA. 10+96.89 TO 11+75.00
-Y15- STA. 12+75.00 TO 12+97.79



* SEE DETAILS 3 & 4 ON SHEET 2

TYPICAL SECTION NO. 13

USE TYPICAL SECTION NO. 13
-Y2- STA.14+00.00 TO 19+21.19

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" NONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

6/2/99

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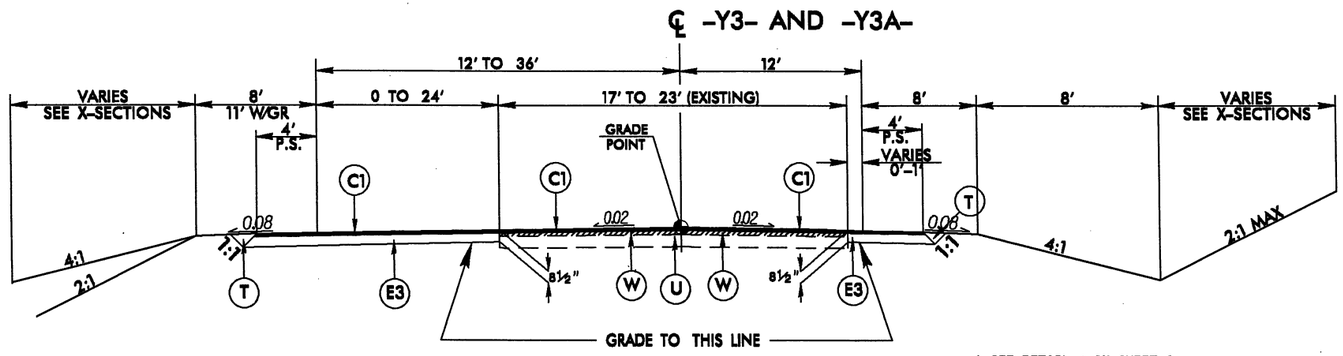
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-E
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

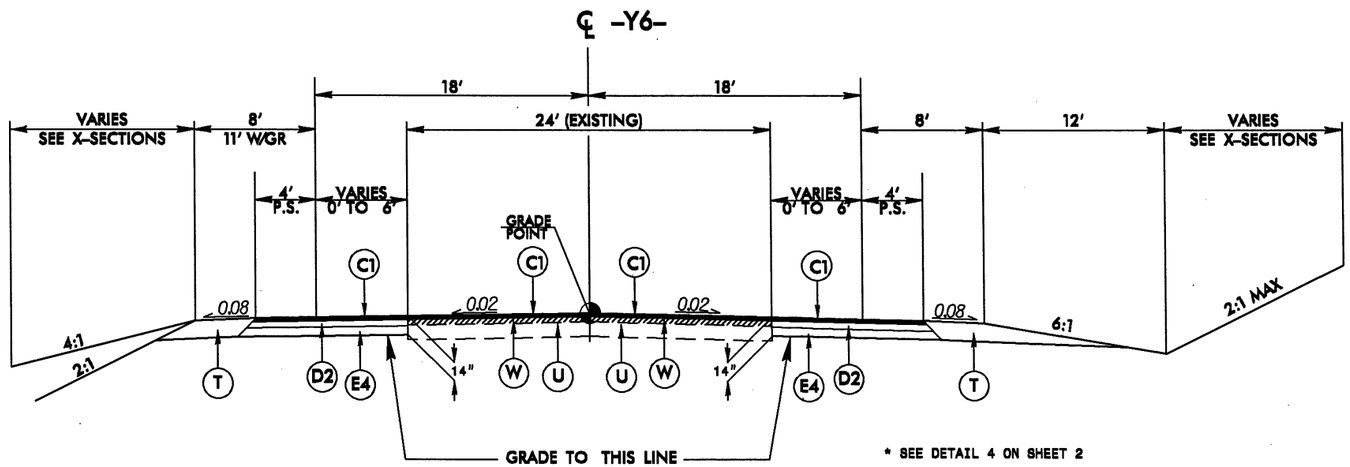
PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	6" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



* SEE DETAIL 4 ON SHEET 2

TYPICAL SECTION NO. 14

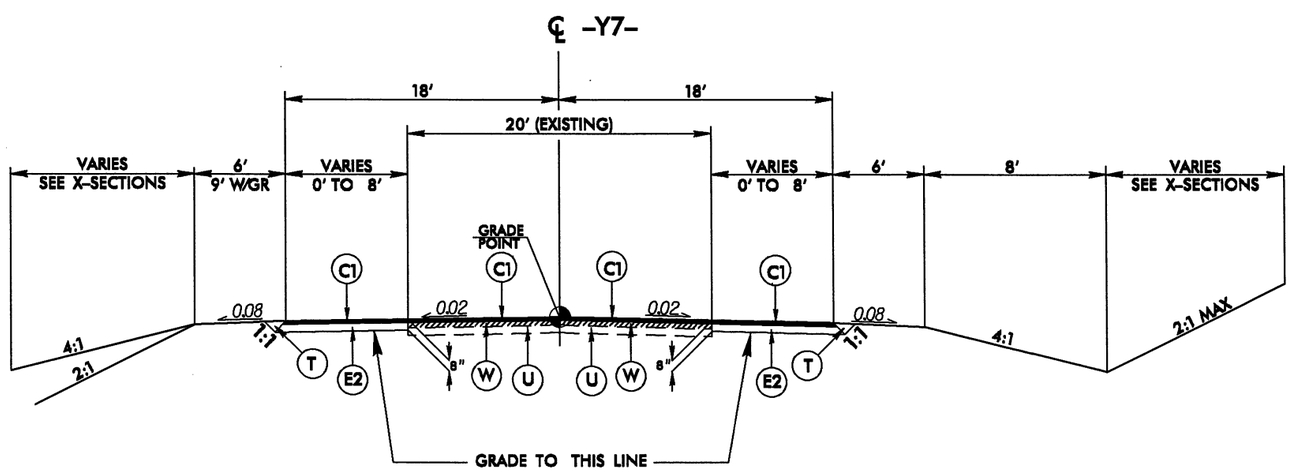
USE TYPICAL SECTION NO. 14
-Y3- 12+15.79 TO 15+75.00
-Y3A- STA. 12+50.00 TO 12+77.47



* SEE DETAIL 4 ON SHEET 2

TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15
-Y6- 10+92.50 TO 16+25.00



TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16
-Y7- 12+50.00 TO 14+95.57

6/2/99

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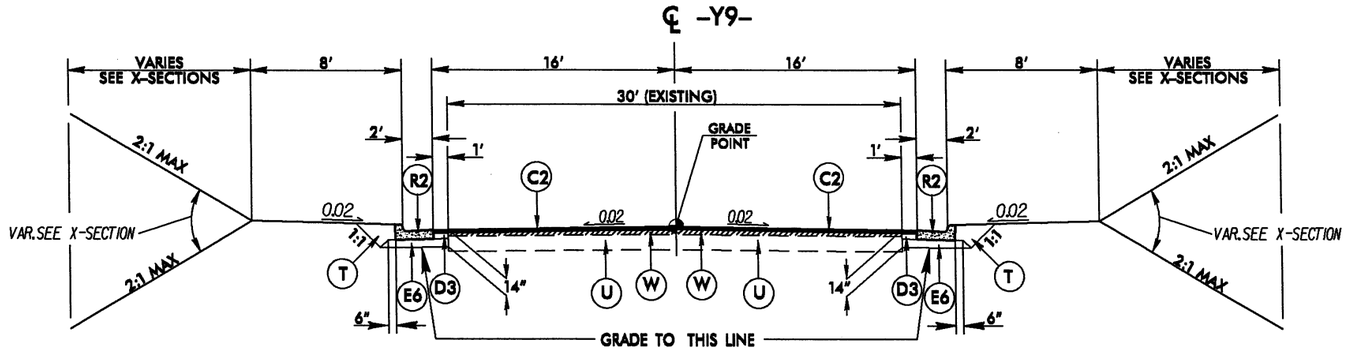
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-F
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

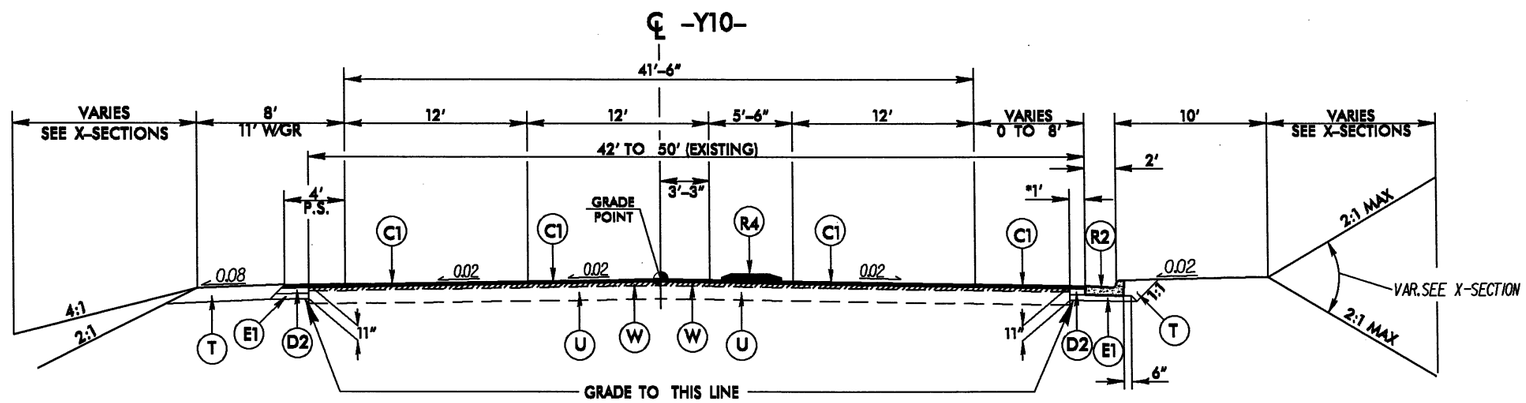
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	6" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 17

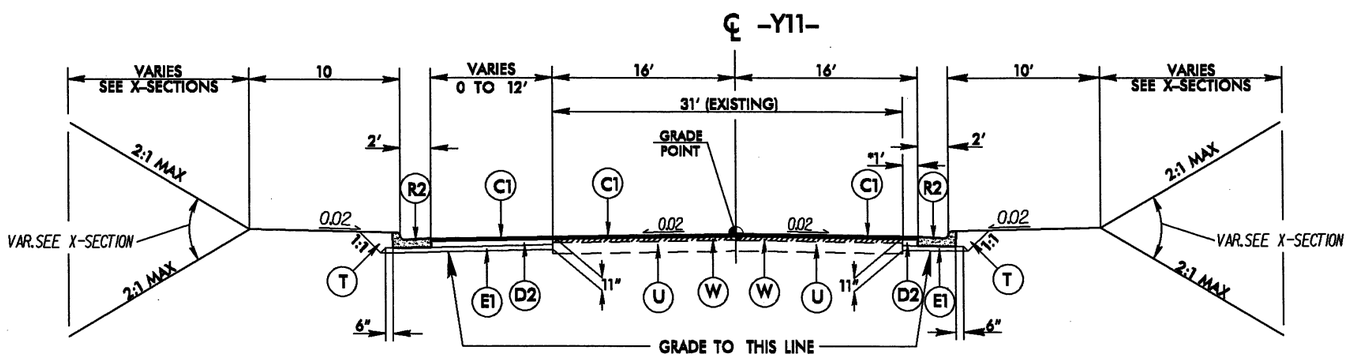
USE TYPICAL SECTION NO. 17
-Y9- 15+00.00 TO 16+15.72



TYPICAL SECTION NO. 18

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 18
-Y10- STA. 14+50.00 TO 19+04.13



TYPICAL SECTION NO. 19

* SEE DETAIL 3 ON SHEET 2

USE TYPICAL SECTION NO. 19
-Y11- STA. 10+84.17 TO 12+50.00

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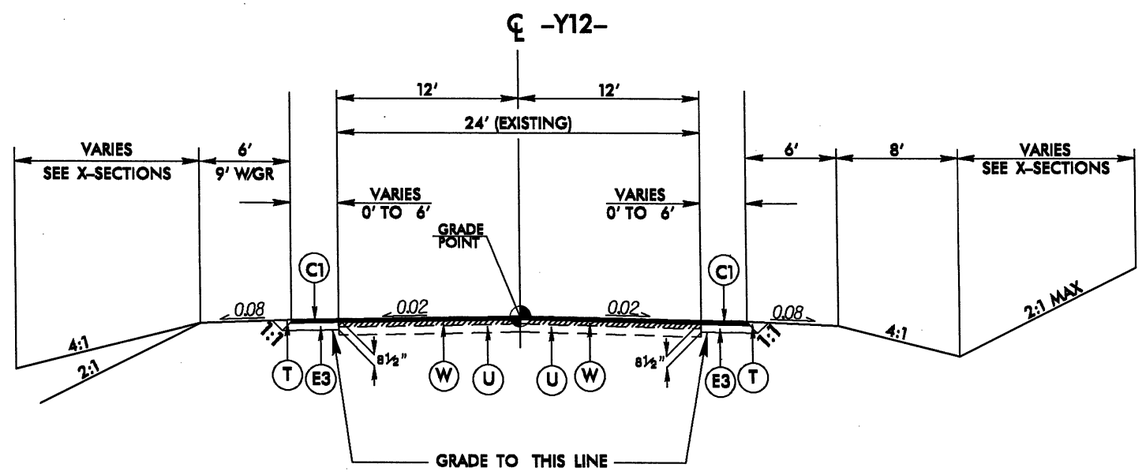
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-G
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

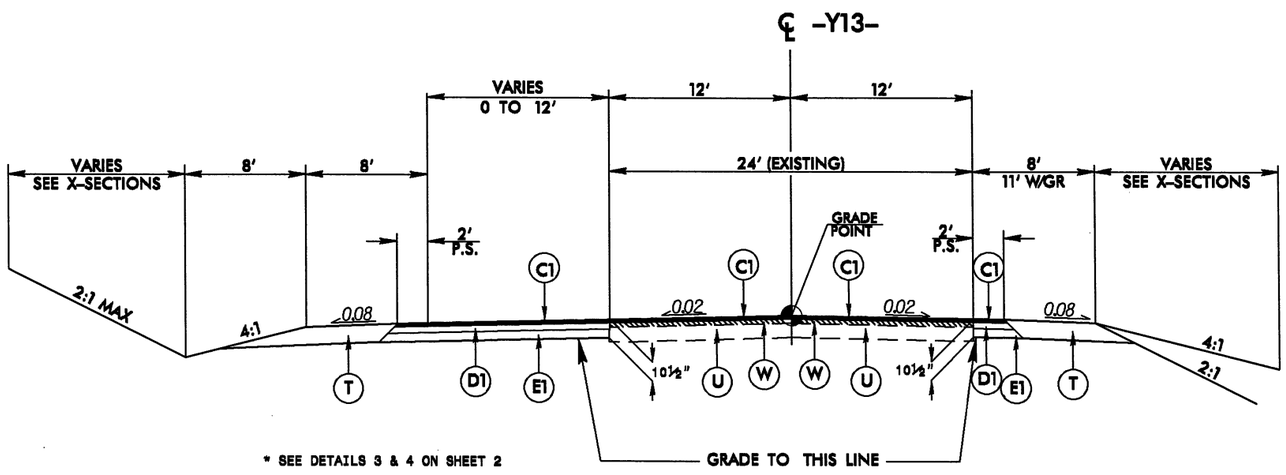
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 20

USE TYPICAL SECTION NO. 20

-Y12- STA. 25+25.00 TO 28+89.96



TYPICAL SECTION NO. 21

USE TYPICAL SECTION NO. 21

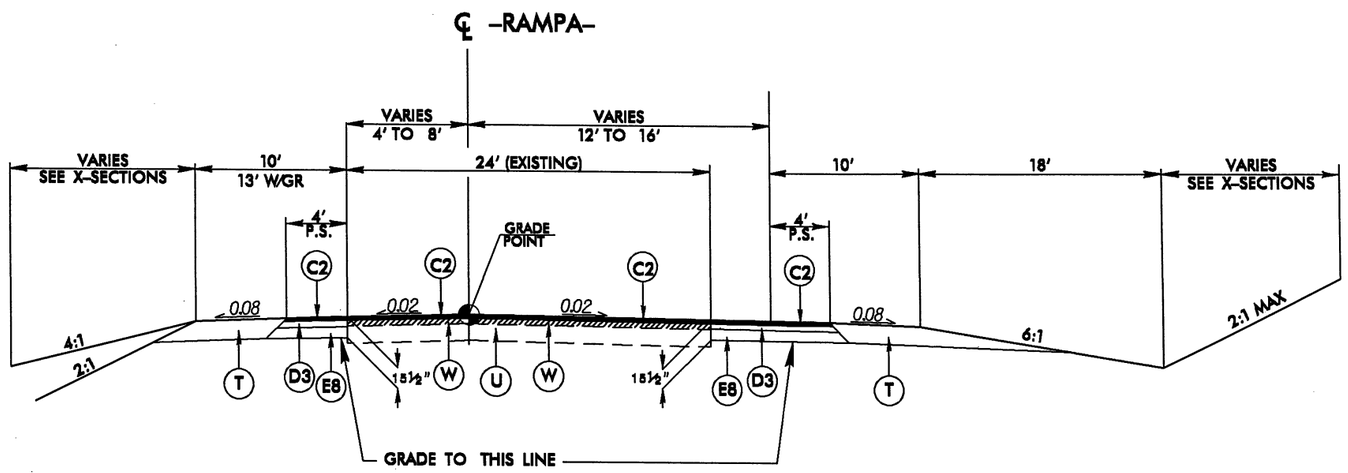
-Y13- STA. 11+30.00 TO 16+00.00

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-H
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

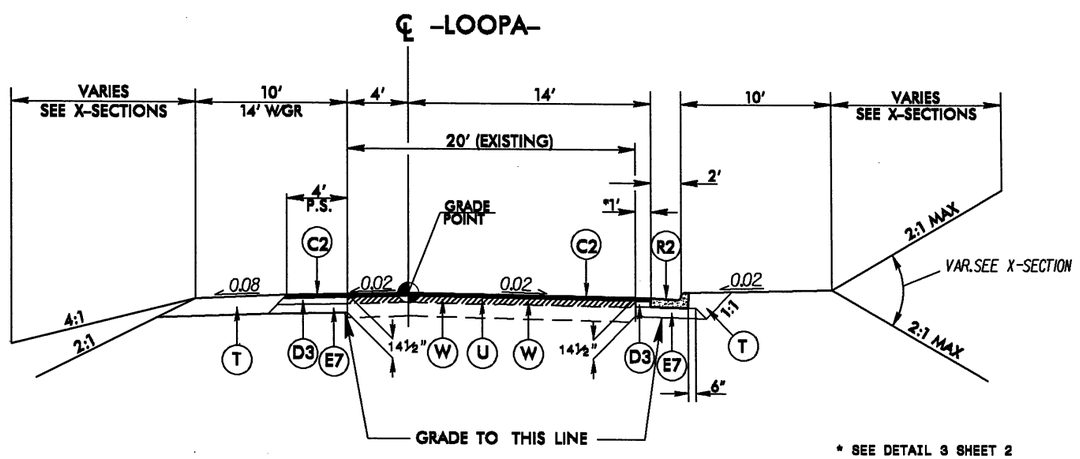
PRELIMINARY PLANS
NOT FOR CONSTRUCTION

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 22

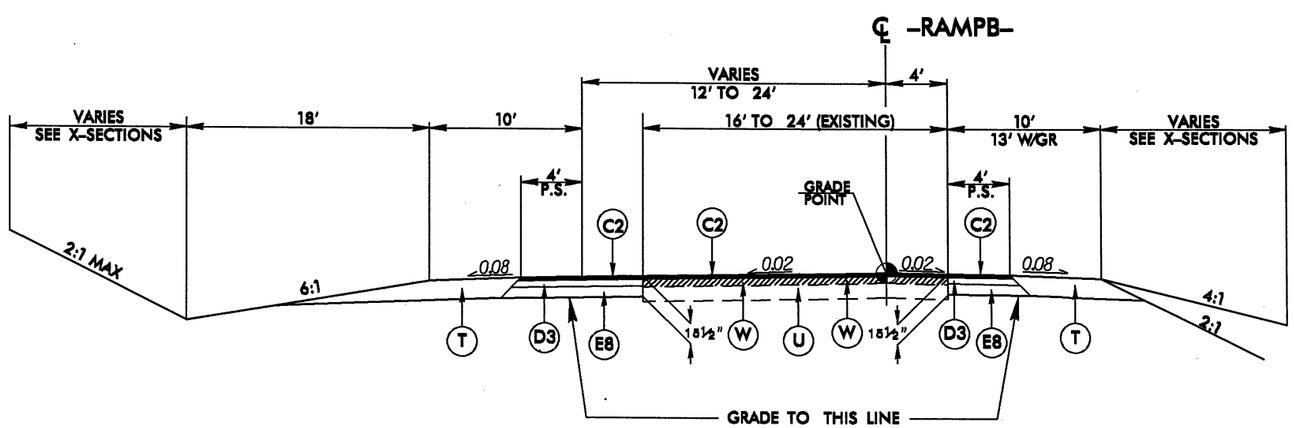
USE TYPICAL SECTION NO. 22
-RAMPA- STA. 20+50.00 TO 27+25.72



* SEE DETAIL 3 SHEET 2

TYPICAL SECTION NO. 23

USE TYPICAL SECTION NO. 23
-LOOPA- STA. 14+22.87 TO 15+50.00



TYPICAL SECTION NO. 24

USE TYPICAL SECTION NO. 24
-RAMPB- STA. 24+00.00 TO 30+76.13

6/2/9

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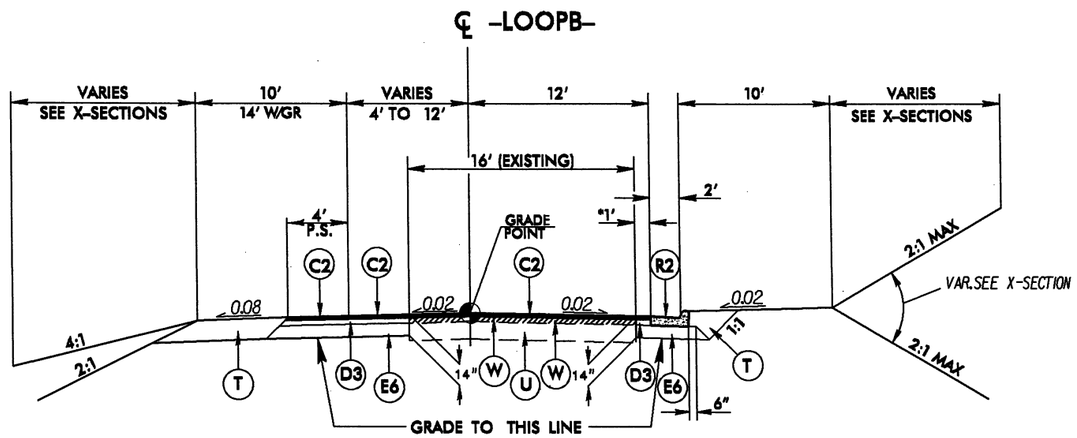
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

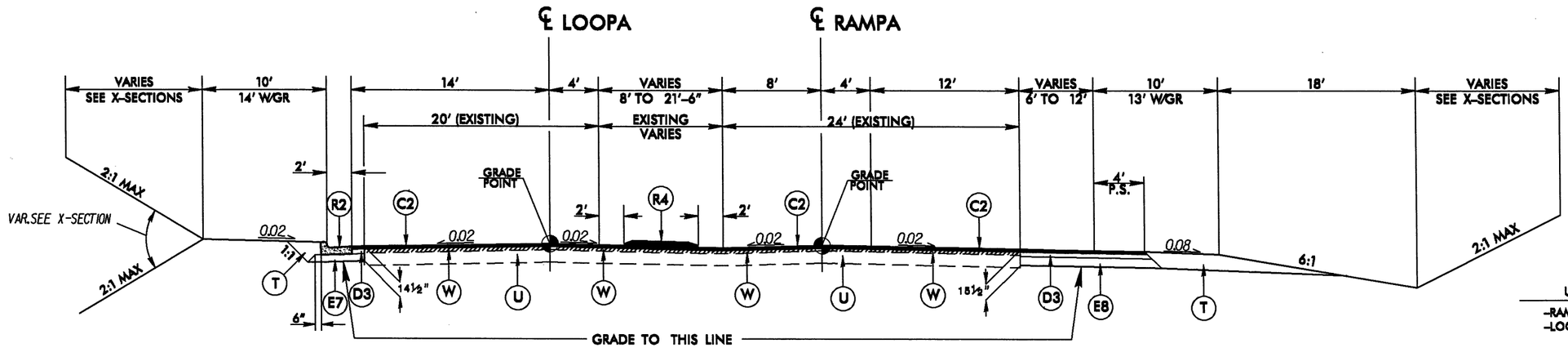
PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	6" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 25

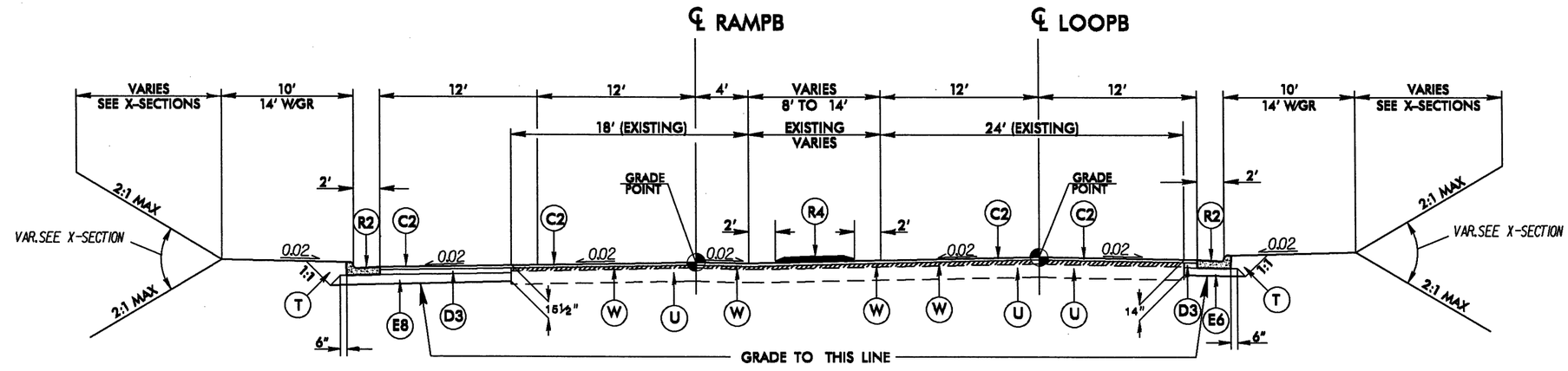
* SEE DETAIL 3 SHEET 2

USE TYPICAL SECTION NO. 25
-LOOPB- STA. 14+75.00 TO 21+00.61



TYPICAL SECTION NO. 26

USE TYPICAL SECTION NO. 26
-RAMPA- STA. 27+25.72 TO 29+77.86
-LOOPA- STA. 14+22.87 TO 11+73.72



TYPICAL SECTION NO. 27

USE TYPICAL SECTION NO. 27
-RAMPB- STA. 30+76.27 TO 31+50.34
-LOOPB- STA. 21+00.61 TO 21+74.69

6/2/9

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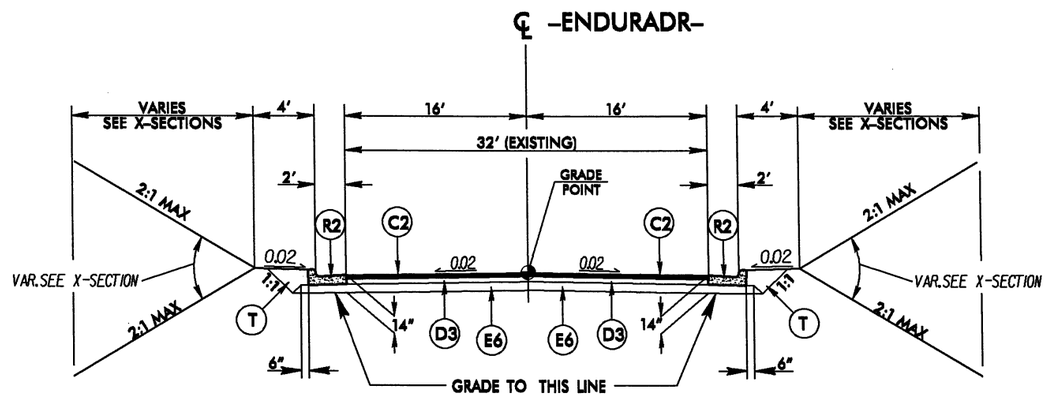
PROJECT REFERENCE NO.	SHEET NO.
R-2611	2-J
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

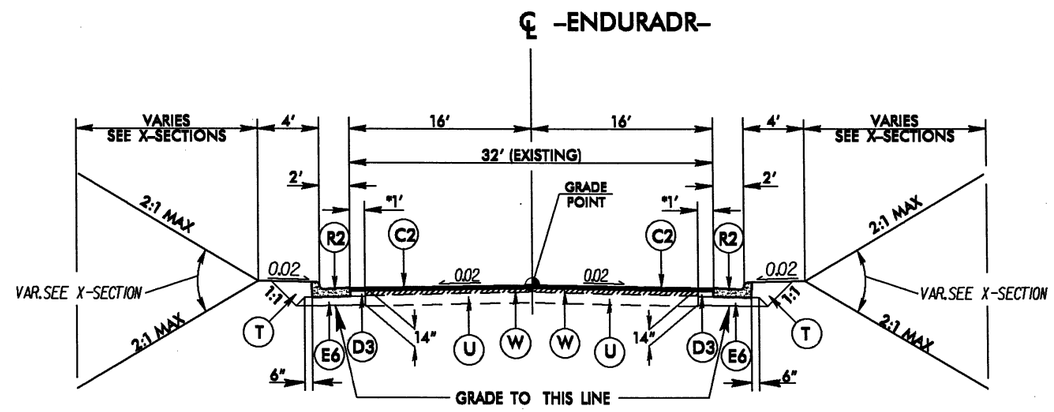
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE	
C1	3" S9.5B
C2	3" S9.5C
D1	3½" I19.0B
D2	4" I19.0B
D3	4" I19.0C
E1	4" B25.0B
E2	5" B25.0B
E3	5½" B25.0B
E4	7" B25.0B
E5	3" B25.0B
E6	7" B25.0C
E7	7½" B25.0C
E8	8½" B25.0C
J1	6" ABC
P	PRIME COAT
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	5" MONO. ISLAND
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 28

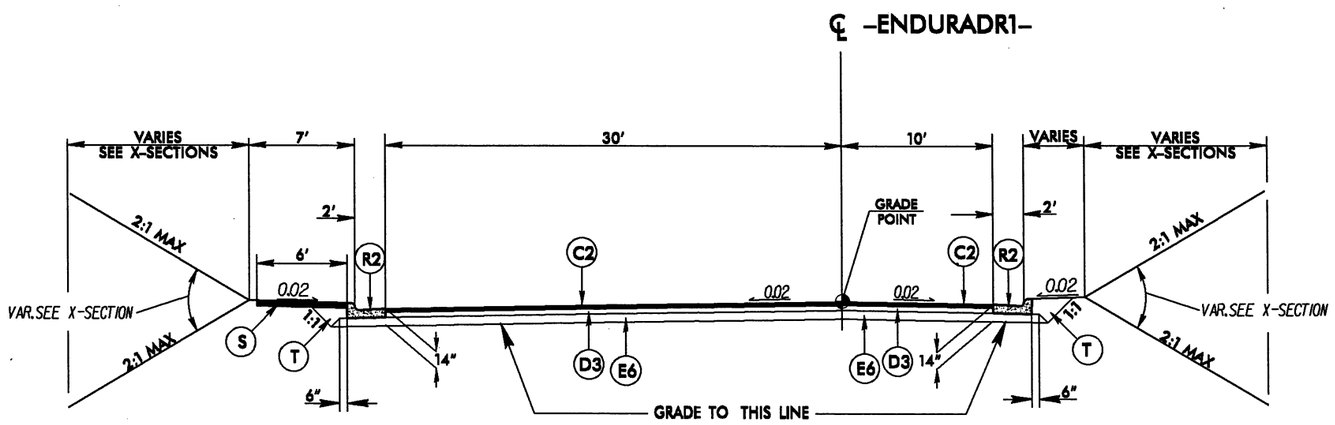
USE TYPICAL SECTION NO. 28
-ENDURADR- STA. 10+66.75 TO 11+10.00



* SEE DETAIL 3 SHEET 2

TYPICAL SECTION NO. 29

USE TYPICAL SECTION NO. 29
-ENDURADR- STA. 11+10.00 TO 11+40.00



TYPICAL SECTION NO. 30

USE TYPICAL SECTION NO. 30
-ENDURADR1- STA. 10+41.25 TO 10+85.00

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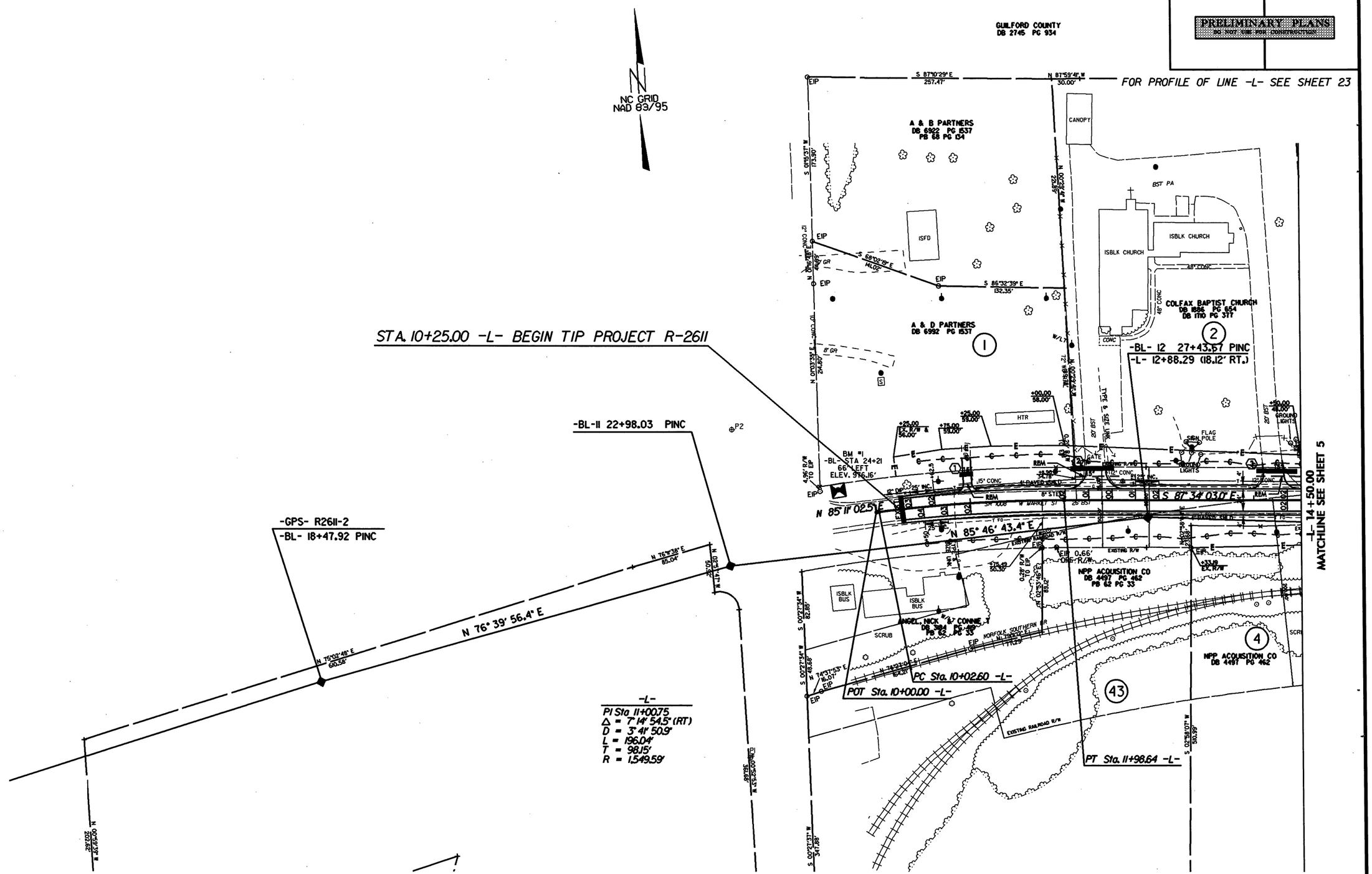
PROJECT REFERENCE NO.	SHEET NO.
R-2611	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS

8/17/99

REVISIONS

R/W Revision.Changed property owner's name for Parcel 1.wtb 4/7/10



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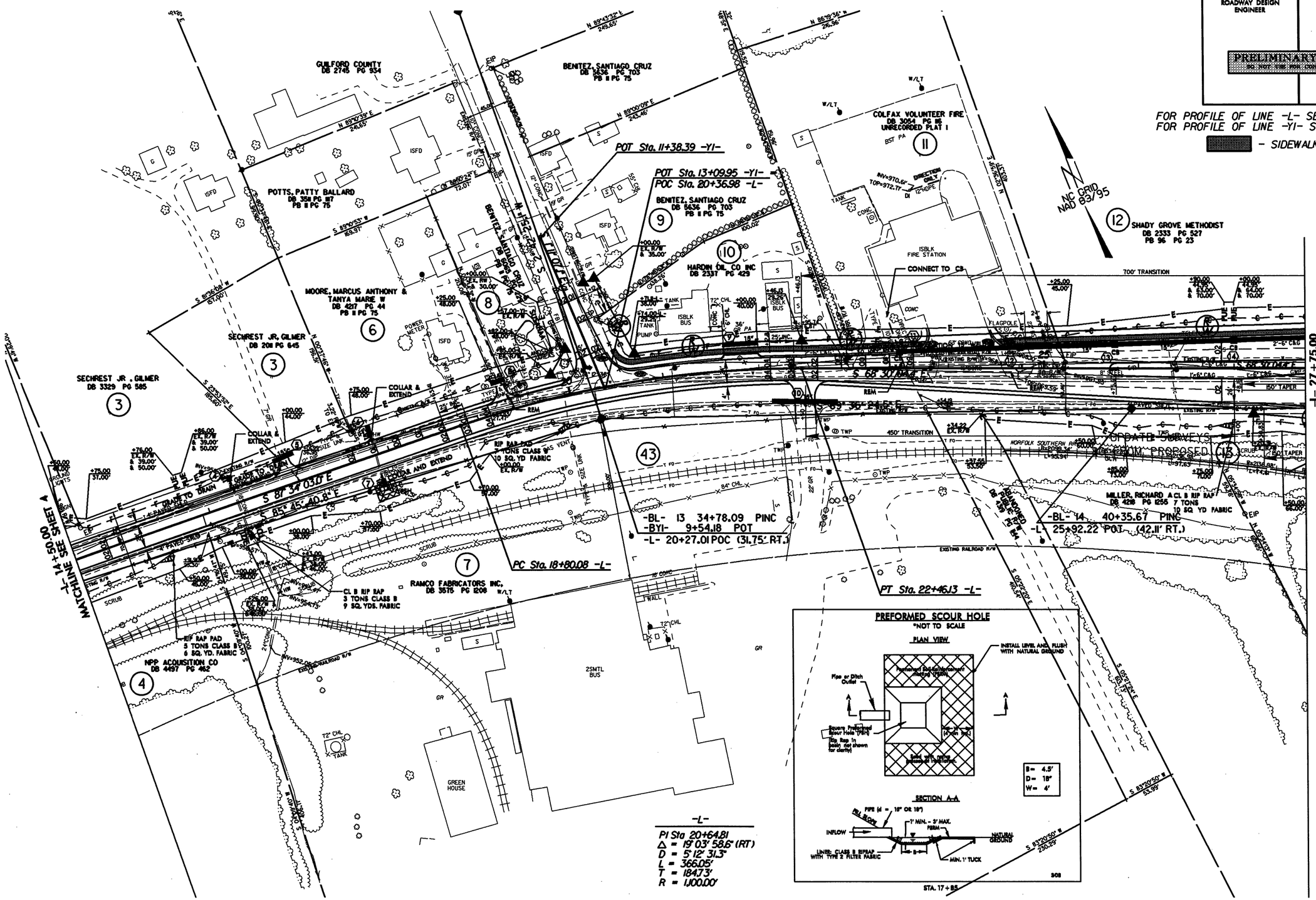
PROJECT REFERENCE NO.	SHEET NO.
R-2611	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 23
FOR PROFILE OF LINE -Y1- SEE SHEET 31
- SIDEWALK



REVISIONS	
R/W Revision Combined Parcel 3 and 5 as Parcel 5, Added PUE to Parcel 3 and 12. wtb 4/7/10	8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2611	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

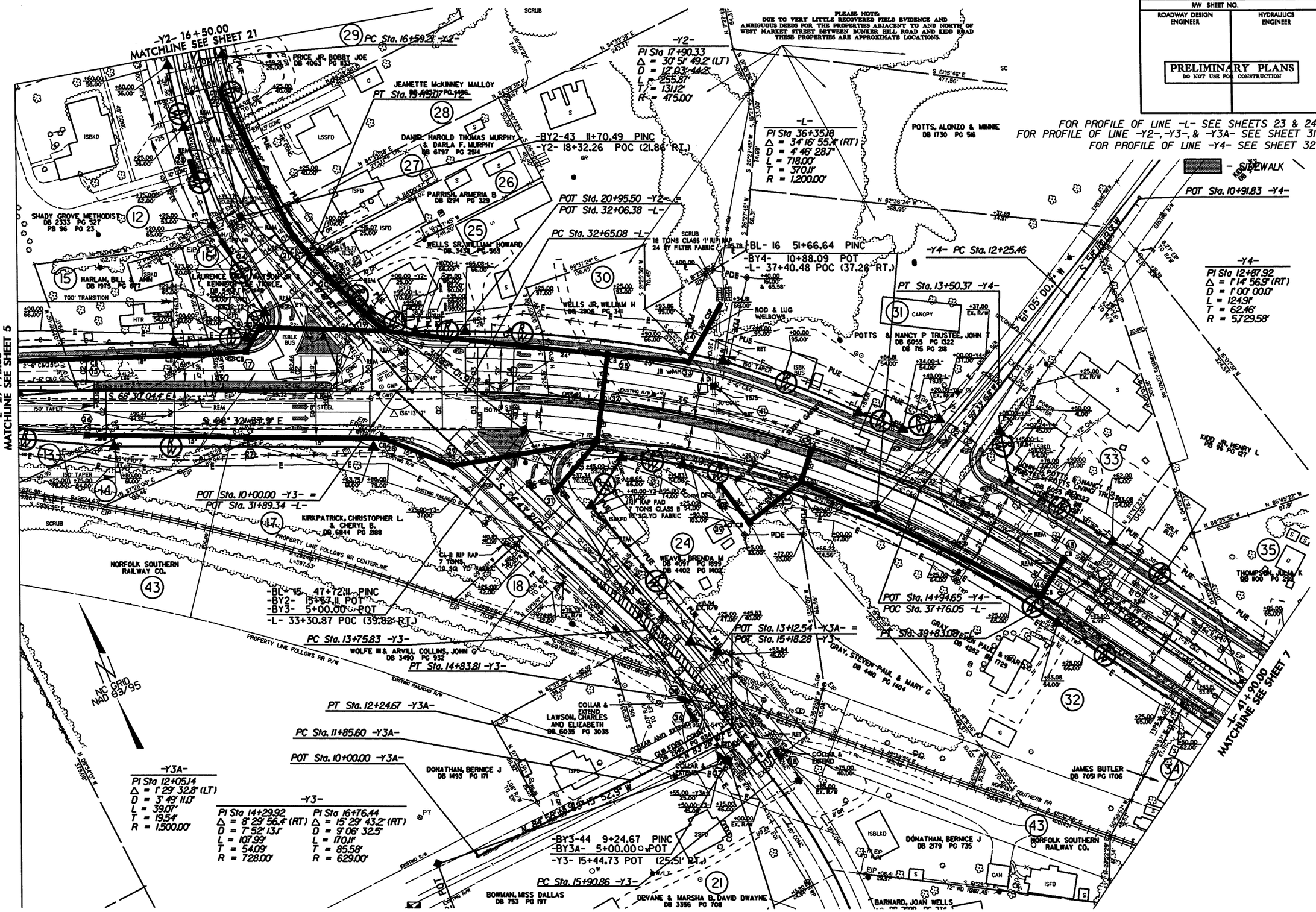
REVISIONS

R/W Revisions: This revision consists of eliminating Parcels 19, 20, and Owner Unknown No Deed and eliminate the TCE on these Parcels, changing property owner's name and TCE on Parcel 17, and adding Parcels 33A and 40A. 7/27/10

FOR PROFILE OF LINE -L- SEE SHEETS 23 & 24
FOR PROFILE OF LINE -Y2-, -Y3-, & -Y3A- SEE SHEET 31
FOR PROFILE OF LINE -Y4- SEE SHEET 32

▨ - SIDEWALK

PLEASE NOTE:
DUE TO VERY LITTLE RECOVERED FIELD EVIDENCE AND AMBIGUOUS DEEDS FOR THE PROPERTIES ADJACENT TO AND NORTH OF WEST MARKET STREET BETWEEN BUNKER HILL ROAD AND KIDD ROAD THESE PROPERTIES ARE APPROXIMATE LOCATIONS.



-Y2-
PI Sta 17+90.33
Δ = 30° 51' 49.2" (LT)
D = 12° 03' 44.2"
L = 255.87'
T = 131.12'
R = 475.00'

-L-
PI Sta 36+35.18
Δ = 34° 16' 55.4" (RT)
D = 4° 46' 28.7"
L = 718.00'
T = 370.11'
R = 1,200.00'

-Y4-
PI Sta 12+87.92
Δ = 1° 14' 56.9" (RT)
D = 1° 00' 00.0"
L = 124.91'
T = 62.46'
R = 5,729.58'

-Y3A-
PI Sta 12+05.14
Δ = 1° 29' 32.8" (LT)
D = 3° 49' 11.0"
L = 39.07'
T = 19.54'
R = 1,500.00'

-Y3-

PI Sta 14+29.92	PI Sta 16+76.44
Δ = 8° 29' 56.4" (RT)	Δ = 15° 29' 43.2" (RT)
D = 7° 52' 13.1"	D = 9° 06' 32.5"
L = 107.99'	L = 170.11'
T = 54.09'	T = 85.58'
R = 728.00'	R = 629.00'

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

PROJECT REFERENCE NO.	SHEET NO.
R-2611	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 24

- SIDEWALK

-L-
PI Sta 44+86.34
Δ = 21° 56' 26.7" (LT)
D = 6° 09' 39.0"
L = 356.13'
T = 180.27'
R = 930.00'

PI Sta 50+34.19
Δ = 10° 47' 32.7" (RT)
D = 4° 46' 28.7"
L = 226.04'
T = 113.35'
R = 1,200.00'

NC GRID NAD 83/95

-BL- 17 56+96.11 PINC
-L- 42+78.66 POT (40.03' RT.)

PC Sta. 43+06.07 -L-

PT Sta. 46+62.20 -L-

PC Sta. 49+20.84 -L-

PT Sta. 51+46.87 -L-

-BL- 18 63+94.37 PINC
-BY5- 5+00.00 POT
-L- 49+68.11 POC (54.71' LT.)

-BL- 19 68+19.86 PINC
-L- 53+96.59 POT (0.74' LT.)

-L- 41+90.00
MATCHLINE SEE SHEET 6

-L- 54+50.00
MATCHLINE SEE SHEET 8

PREFORMED SCOUR HOLE
*NOT TO SCALE

PLAN VIEW

INSTALL LEVEL AND FLUSH WITH NATURAL GROUND

Pipe or Ditch Outlet

Square Reinforced Concrete Apron Pad

Site Reg. in Ditch not shown for clarity

Reinforced Concrete Apron Pad

Ditch Reg. in Ditch not shown for clarity

B= 4.5'
D= 18"
W= 4'

SECTION A-A

PIPE 18" or 18"

7" MIN. - 9" MAX. FROM

INFLOW

NATURAL GROUND

INSTALL CLASS B RIPRAP WITH TYPE 5 FILTER FABRIC

MIN. 7' TUCK

BALL FIELD

FROM STA. 46+32

GUILFORD COUNTY BOARD OF EDUCATION
DB 4560 PG 443
PB 99 PG 75

2SBLK SCHOOL

CANOPY

PLAY GROUND

BACK FLOW PREVENTER HOT BOX

METER VAULT

TYPE & SIZE UNK.

15" CONC.

12" CONC.

6" PVC

8" WET DETENTION

OPEN END PIPE

GRADE TO DRAIN

36" INC.

NORFOLK SOUTHERN RAILWAY CO.

NORFOLK SOUTHERN RR

GRAY, ROSCOE WM & KIMBERLY A
DB 6151 PG 270

BLACKBURN, CARL WAYNE & BYNUM EARL
DB 3914 PG 1247
PB 90 PG 149

HEDGECOCK, STEVEN DALE & DEBORAH D
DB 3848 PG 847
UNRECORDED PLAT 6

CRUM, BRUCE DANIEL & LINDA SUE
DB 3919 PG 1394
PB 90 PG 149

BALL, HERMAN

ABERNATHY, JOHN MICHAEL & TERRY W
DB 3461 PG 1425

CREWS JR, HANCELL WILSON
DB 4044 PG 1039

NORFOLK SOUTHERN RAILWAY CO.
NO DEED

BUCHANAN, WILLIAM D & WIFE
DB 4815 PG 534
UNRECORDED PLAT 4

GRAY, ROSCOE WM & KIMBERLY A
DB 6151 PG 270
UNRECORDED PLAT 5

DILLON, FAYE M
DB 4698 PG 780

SEFRIED, HOWARD R
DB 3409 PG 556

JAMES BUTLER
DB 7051 PG 1706

HOWARD, JESSIE LEE
DB 3609 PG 1931

SPENCER, JAMES WARREN
DB 5616 PG 27

THOMPSON, JULIA K
DB 1100 PG 299

ATKINS, BRIAN K & NATALIE L
DB 4949 PG 164

KIDD JR, HENRY L
DB 3725 PG 1359

S 32° 48' 00.5" W

S 46°00'40" E
278.4'

EIP 0.57' OFF R/W

0.57'R/W TO EIP

TWP 4.48' PROP CORNER - EIP

0.20' EIP TO RR R/W

0.05' EIP TO RR R/W

0.35' EIP TO RR R/W

R/W Revision: Changed property owner's name for Parcel 34. Revised property lines for Parcel 41.wrb 4/7/10

REVISIONS

8/17/99

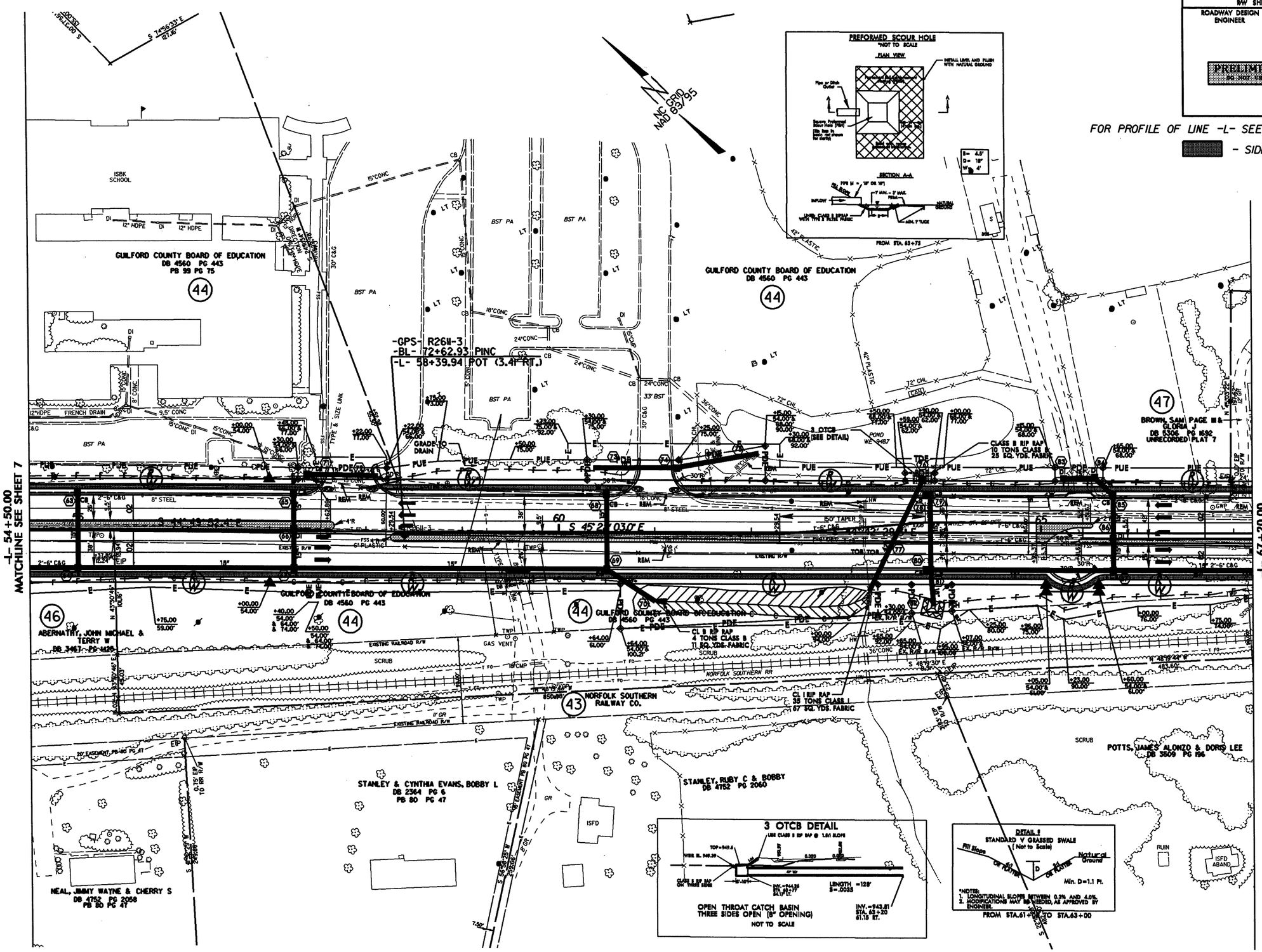
19-OCT-2010 13:37
R:\Roadway\Proj\r2611_rdy_psh7.dgn
$$$$MICHAELWF$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEETS 24 & 25

- SIDEWALK



REVISIONS

R/W Revision Added PUE to Parcel 44, wtb 4/7/10

8/17/99

19-OCT-2010 13:37
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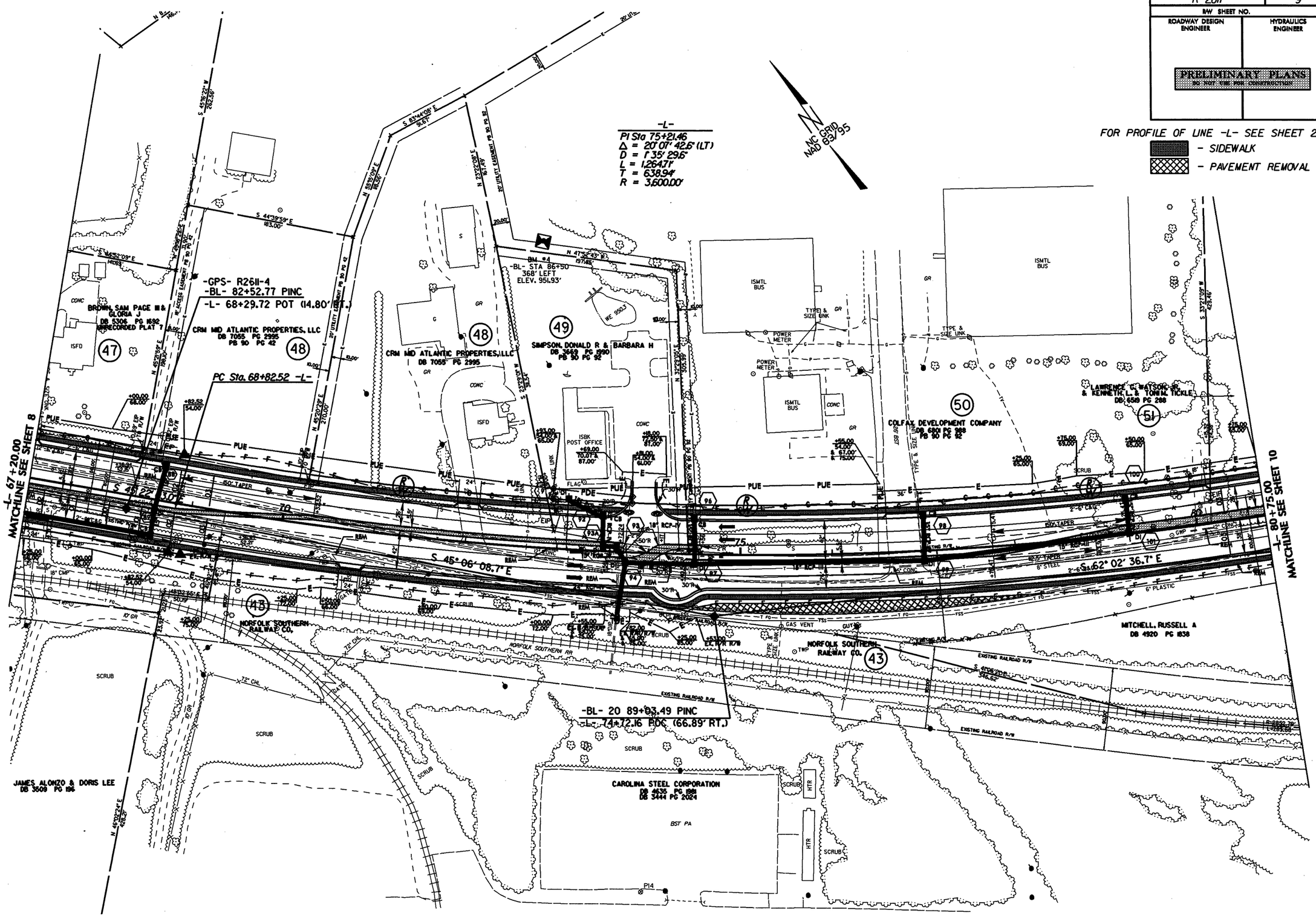
R:\STRUCTURE\MAPS\BRIDGE\

PROJECT REFERENCE NO.	SHEET NO.
R-2611	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 25

- SIDEWALK
- PAVEMENT REMOVAL



REVISIONS

R/W Revision: Changed property owner's names for Parcels 48, 50, and 51. Added PUE to Parcels 49 and 50 and revised TCE on Parcels 49 and 50. wrb 4/7/10

8/17/99

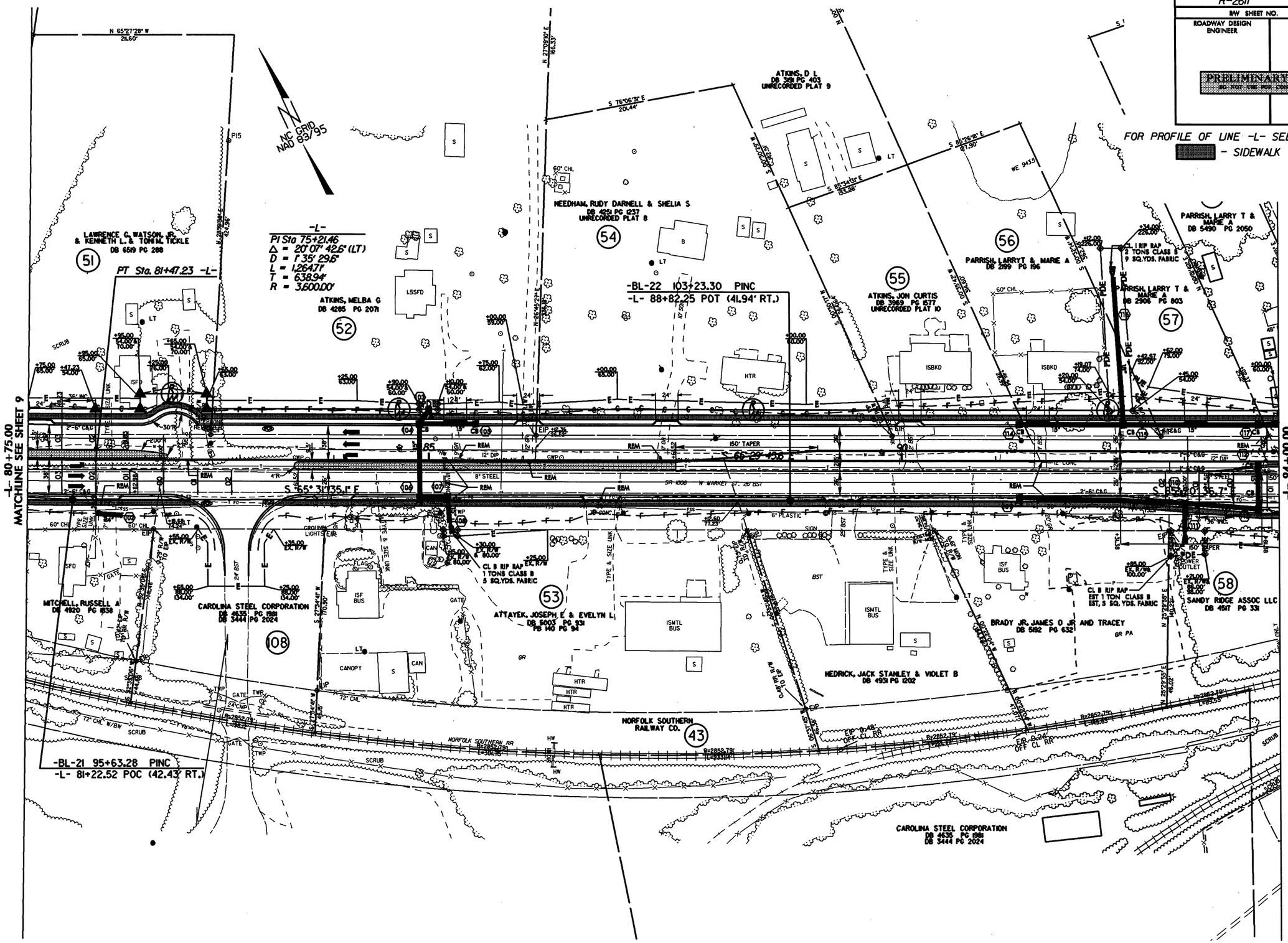
19-OCT-2010 13:37
R:\Roadway\Proj\r2611_rdy_psh9.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 25

- SIDEWALK



REVISIONS

R/W Revision This revision consists of adding TCE to Parcel 58. 7/27/10

8/17/99

19-OCT-2010 13:37
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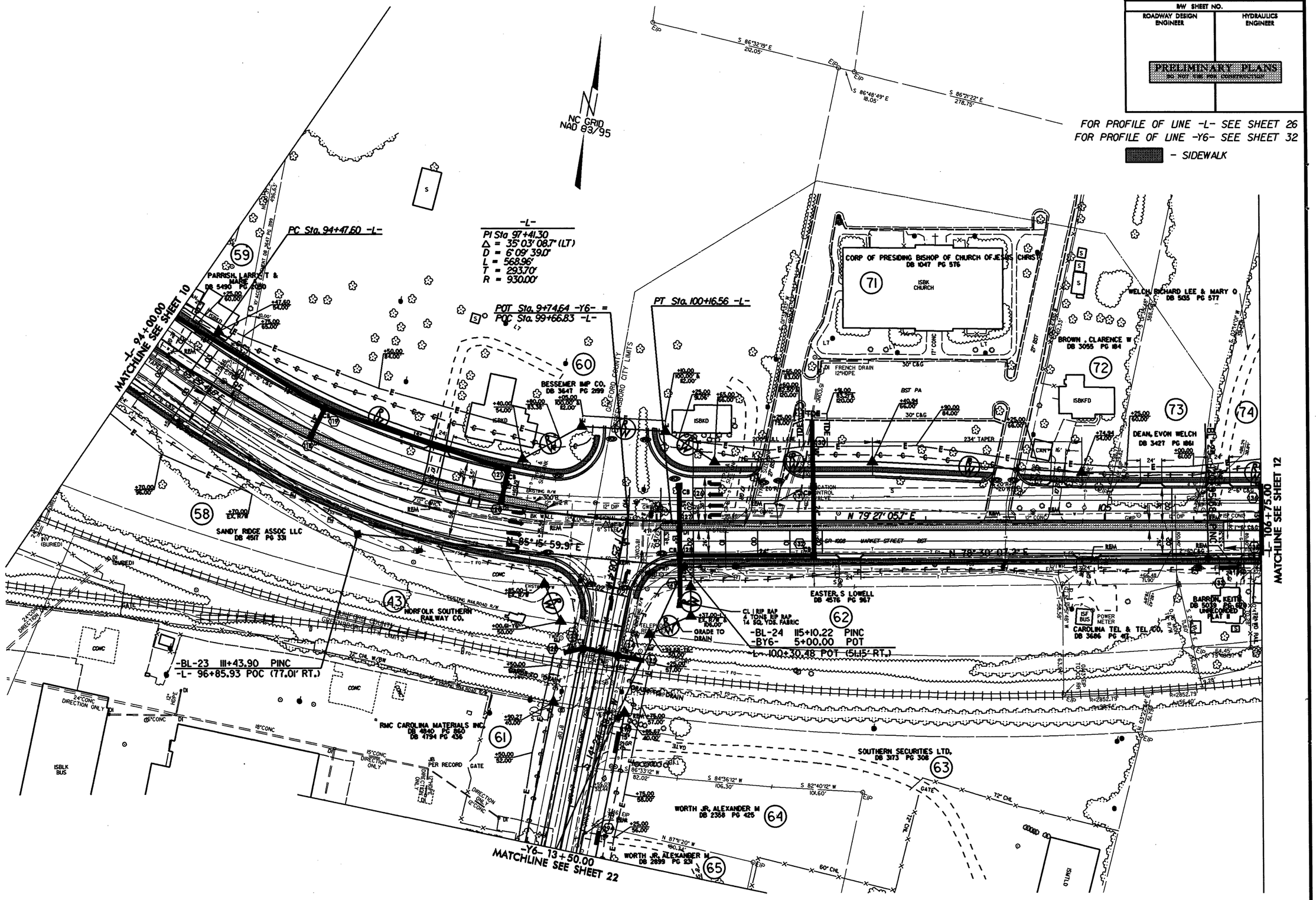
$$$$RICHARDMCPHERSON

PROJECT REFERENCE NO.	SHEET NO.
R-2611	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

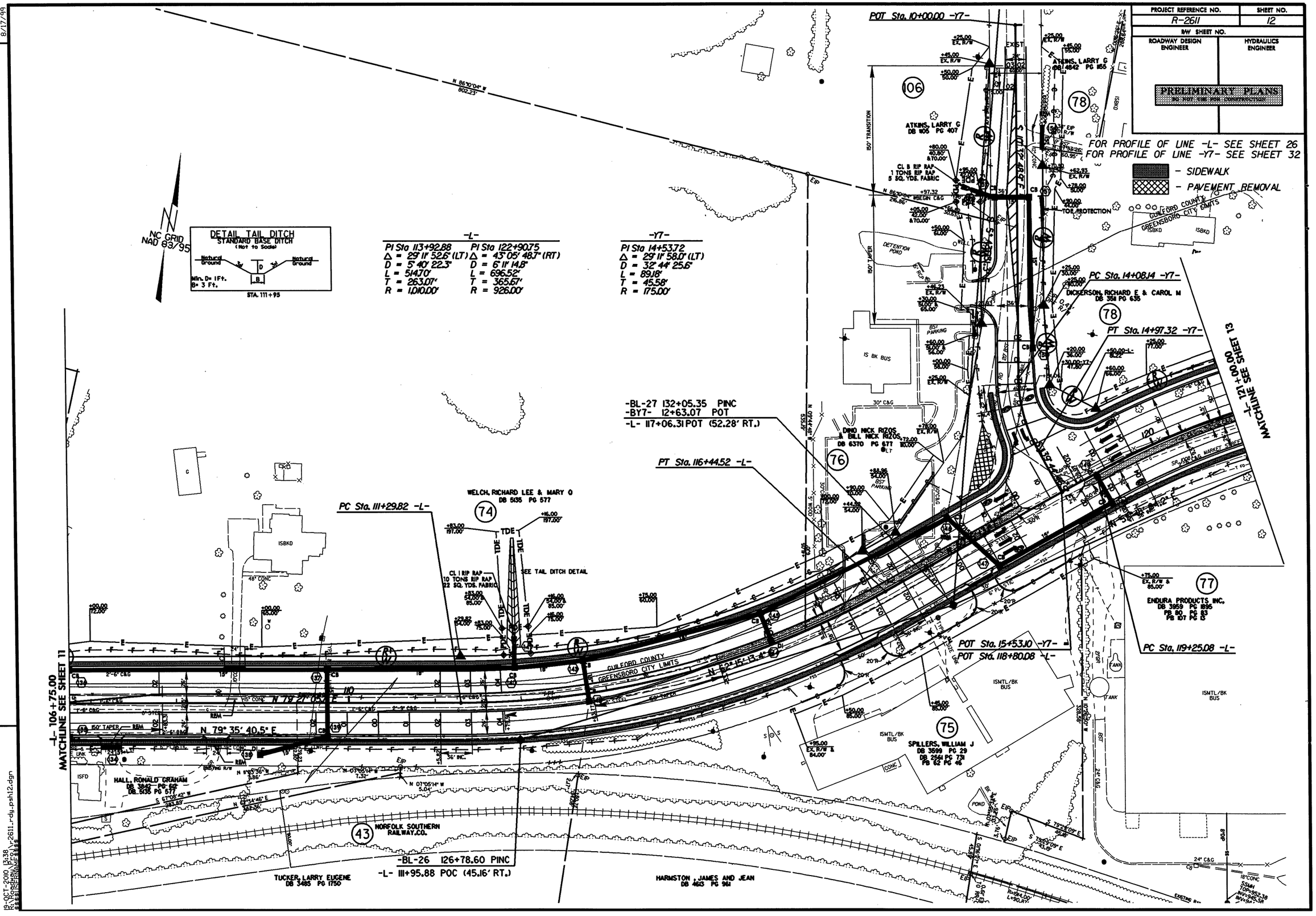
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION PURPOSES

FOR PROFILE OF LINE -L- SEE SHEET 26
FOR PROFILE OF LINE -Y6- SEE SHEET 32
- SIDEWALK



PROJECT REFERENCE NO.	SHEET NO.
R-2611	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

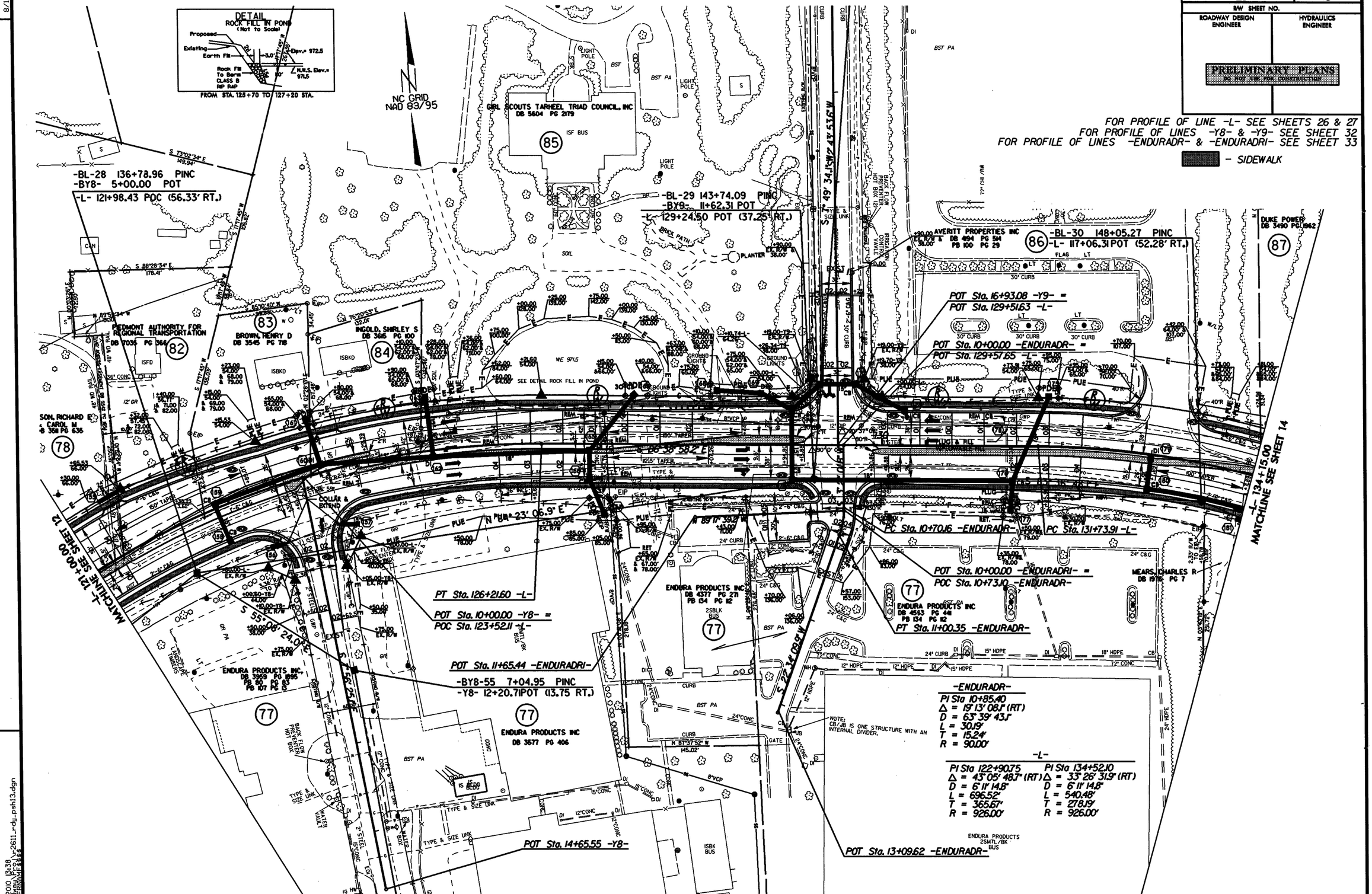
8/17/99 R/W Revisions: This revision consists of adjusting the TCE and ROW on Parcel 76. 7/27/10

13-OCT-2010 13:38
R:\Roadway\Proj\r2611_rdy_psh12.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION OR CONDEMNATION PURPOSES

FOR PROFILE OF LINE -L- SEE SHEETS 26 & 27
FOR PROFILE OF LINES -Y8- & -Y9- SEE SHEET 32
FOR PROFILE OF LINES -ENDURADR- & -ENDURADRI- SEE SHEET 33
- SIDEWALK



REVISIONS

8/17/99

R/W Revision.Revised TCE on Parcels 84,and 85.wrb 4/15/10

19-OCT-2010 13:38
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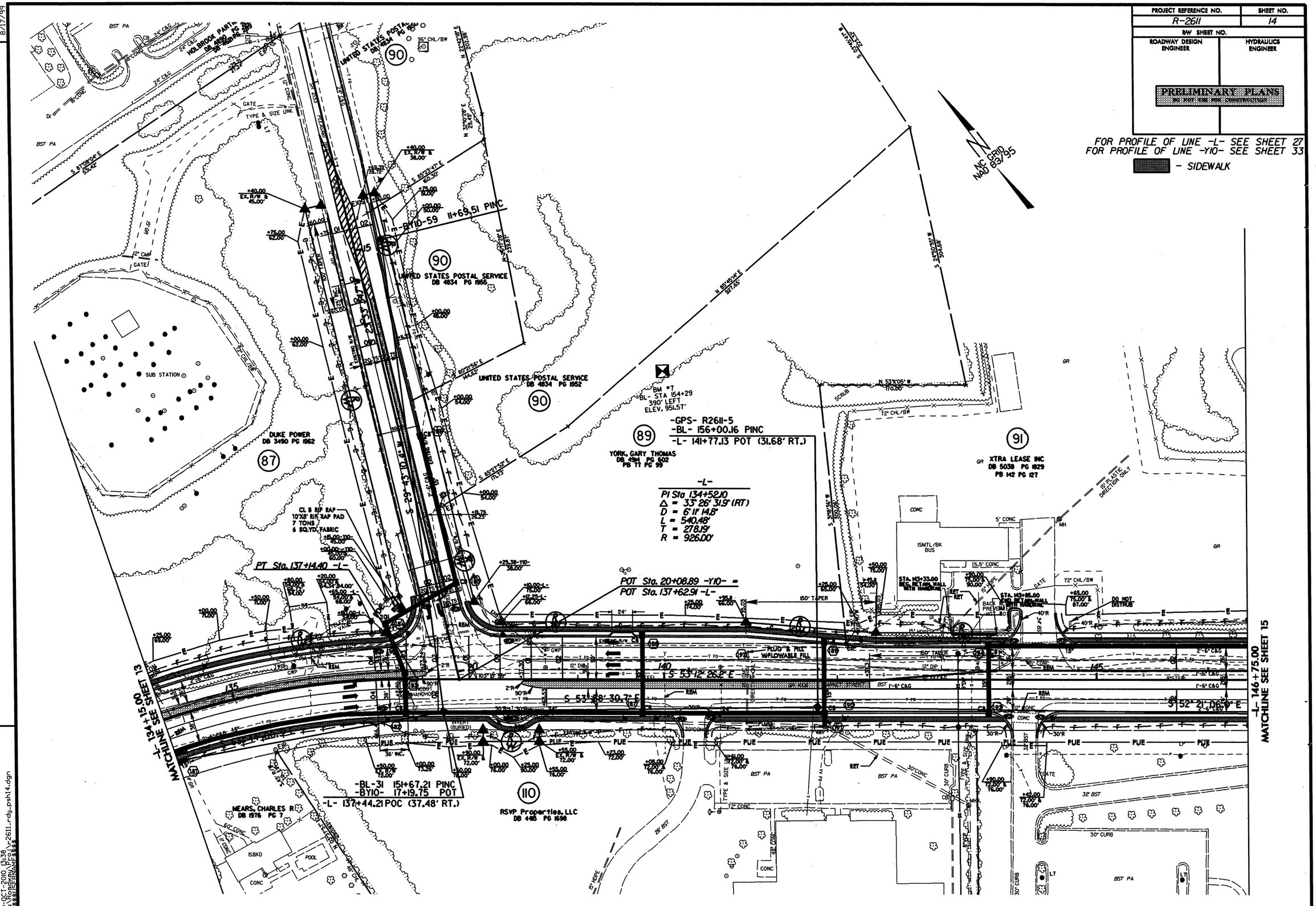
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 27
FOR PROFILE OF LINE -Y10- SEE SHEET 33
- SIDEWALK



REVISIONS
R/W Revision Added "Do Not Disturb" for sign on Parcel 91.wrb 4/7/10

8/17/99

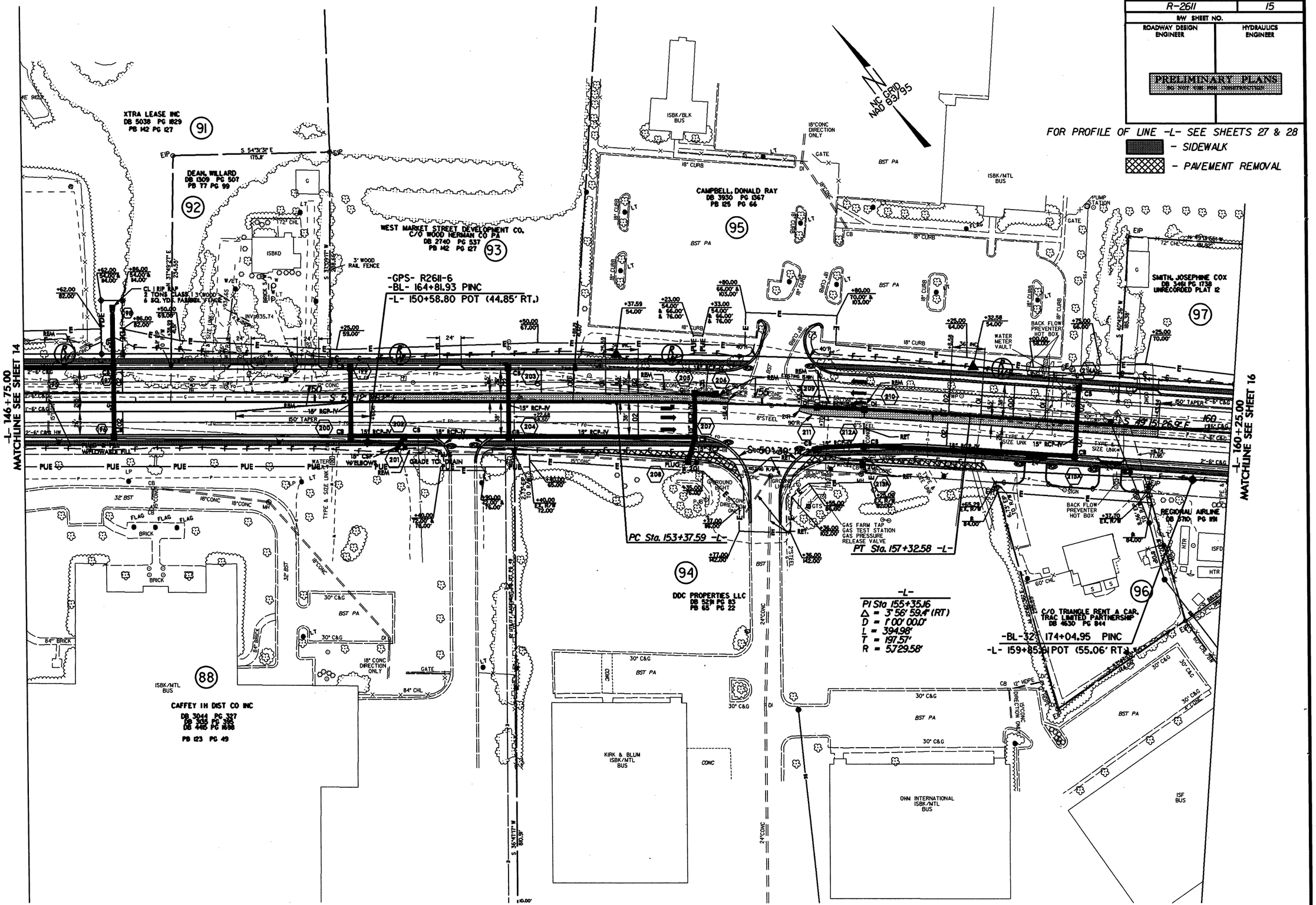
19-OCT-2010 13:38
R:\Roadway\Proj\r2611_rdy_psh14.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEETS 27 & 28

- SIDEWALK
- PAVEMENT REMOVAL



REVISIONS

R/W Revision: Added PUE to Parcel 95.wfb 4/7/10

8/17/99

19-OCT-2010 13:38
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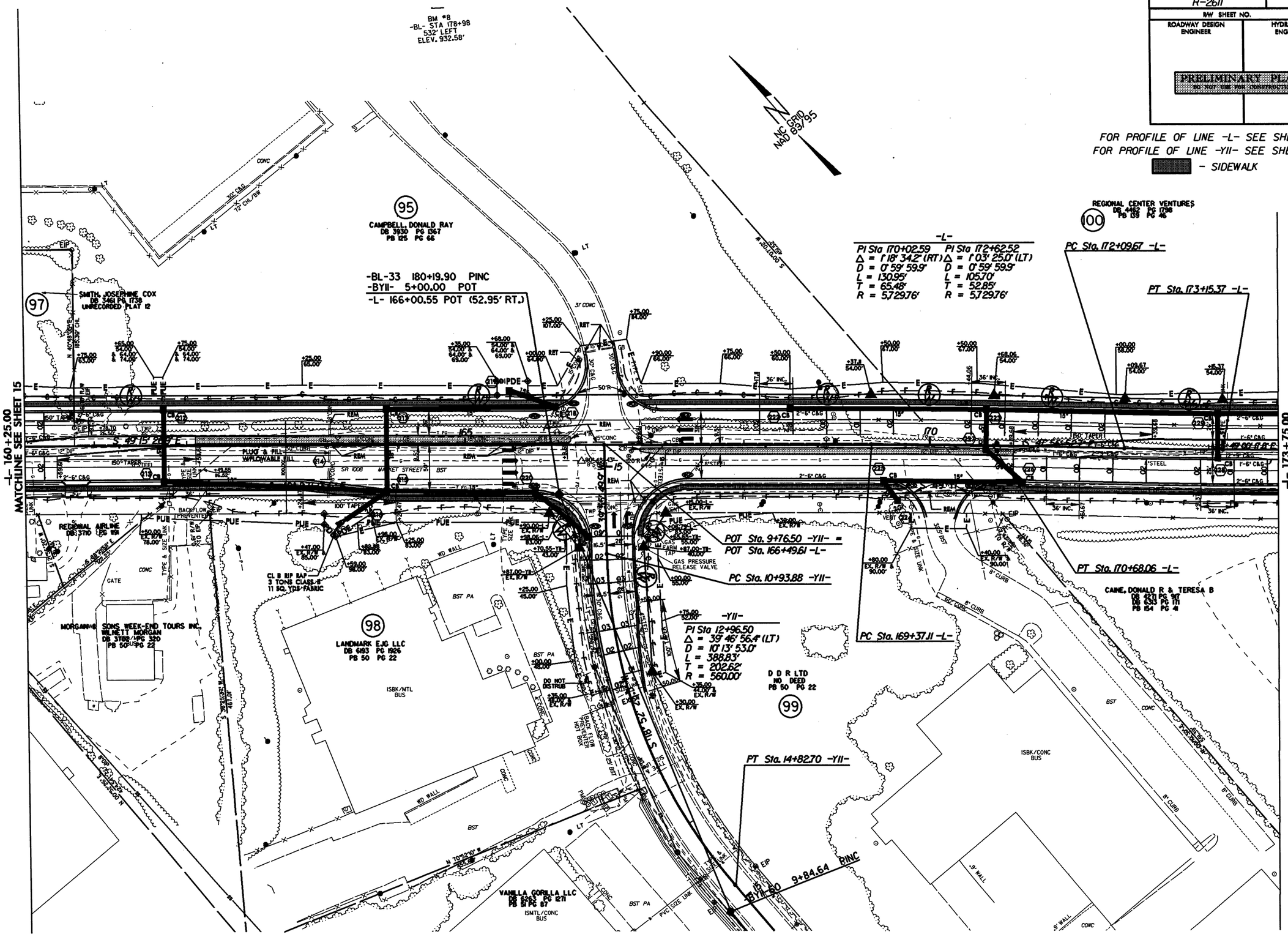
PROJECT REFERENCE NO.	SHEET NO.
R-2611	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -L- SEE SHEET 28
FOR PROFILE OF LINE -Y11- SEE SHEET 33
- SIDEWALK



REVISIONS
R/W Revision Added "Do Not Disturb" for for sign on Parcel 98. Added PUE on Parcel 95.wrb 4/7/10

8/17/99

9-OCT-2010 13:38
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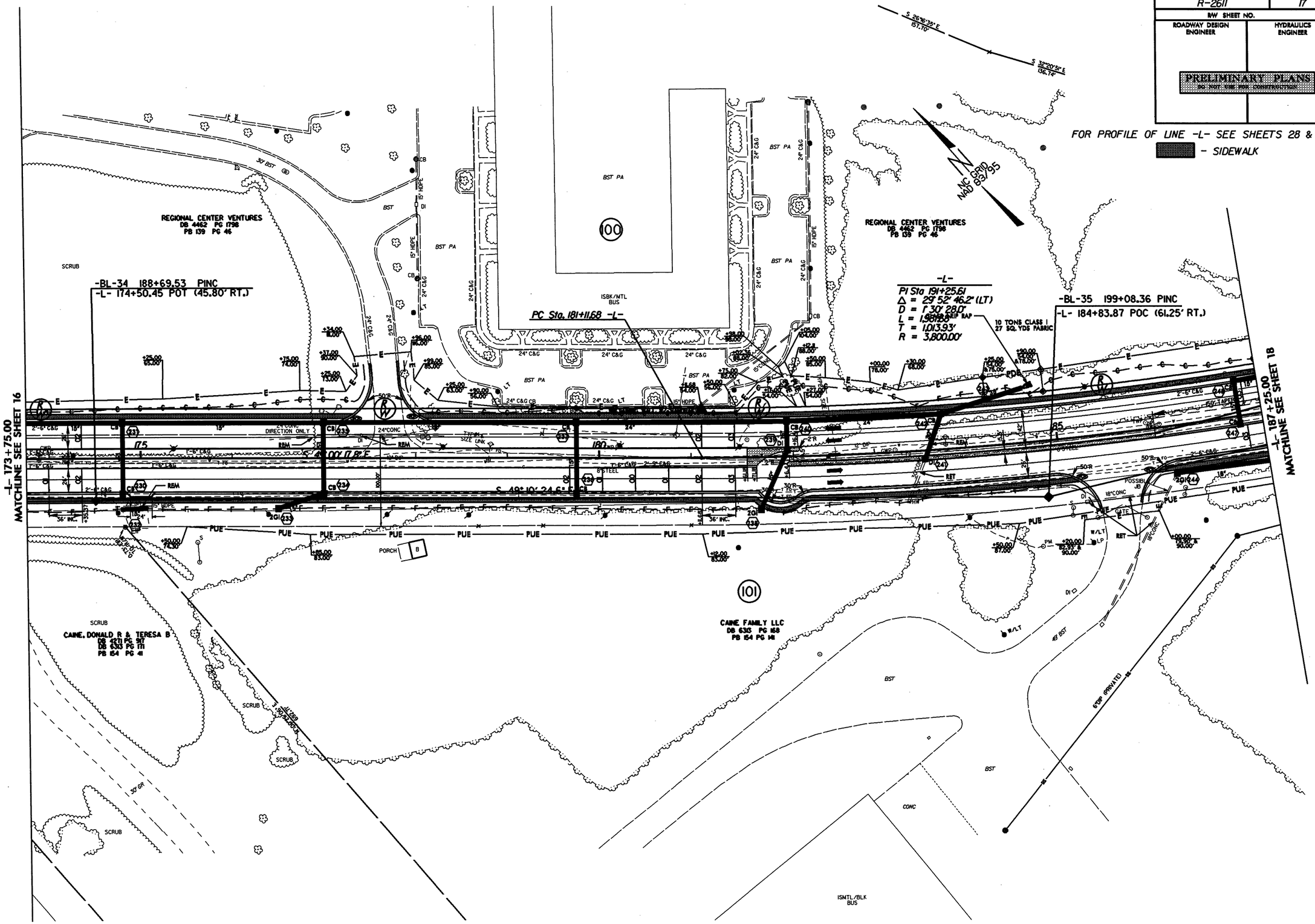
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION PURPOSES

FOR PROFILE OF LINE -L- SEE SHEETS 28 & 29

- SIDEWALK



R/W Revisions Added PUE to Parcel 101, revised PUE and added TCE on Parcel 100.wtb 4/7/10

REVISIONS

8/17/99

19-OCT-2010 13:38
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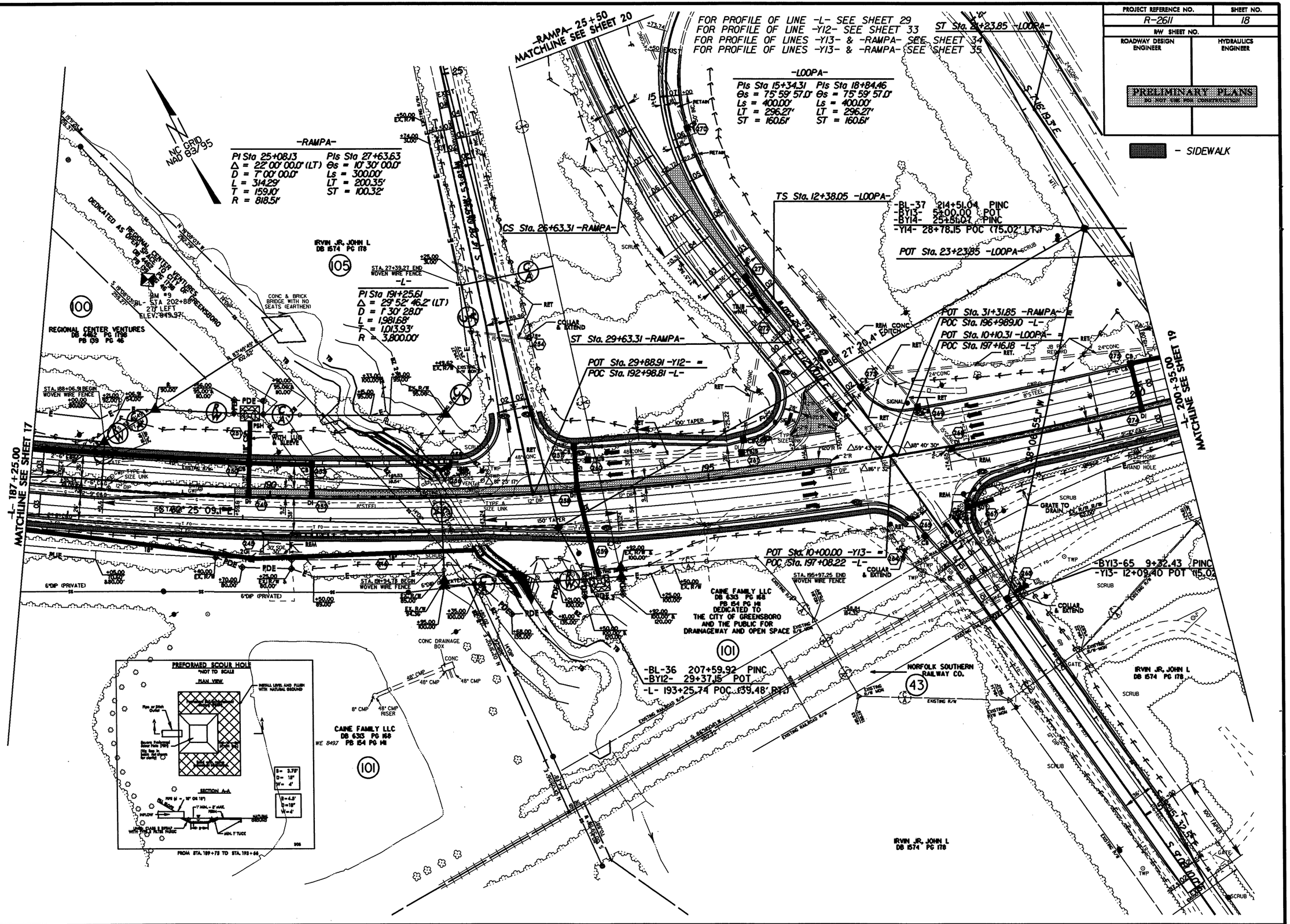
PROJECT REFERENCE NO.	SHEET NO.
R-2611	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

▨ - SIDEWALK

FOR PROFILE OF LINE -L- SEE SHEET 29
FOR PROFILE OF LINE -Y12- SEE SHEET 33
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 34
FOR PROFILE OF LINES -Y13- & -RAMPA- SEE SHEET 35



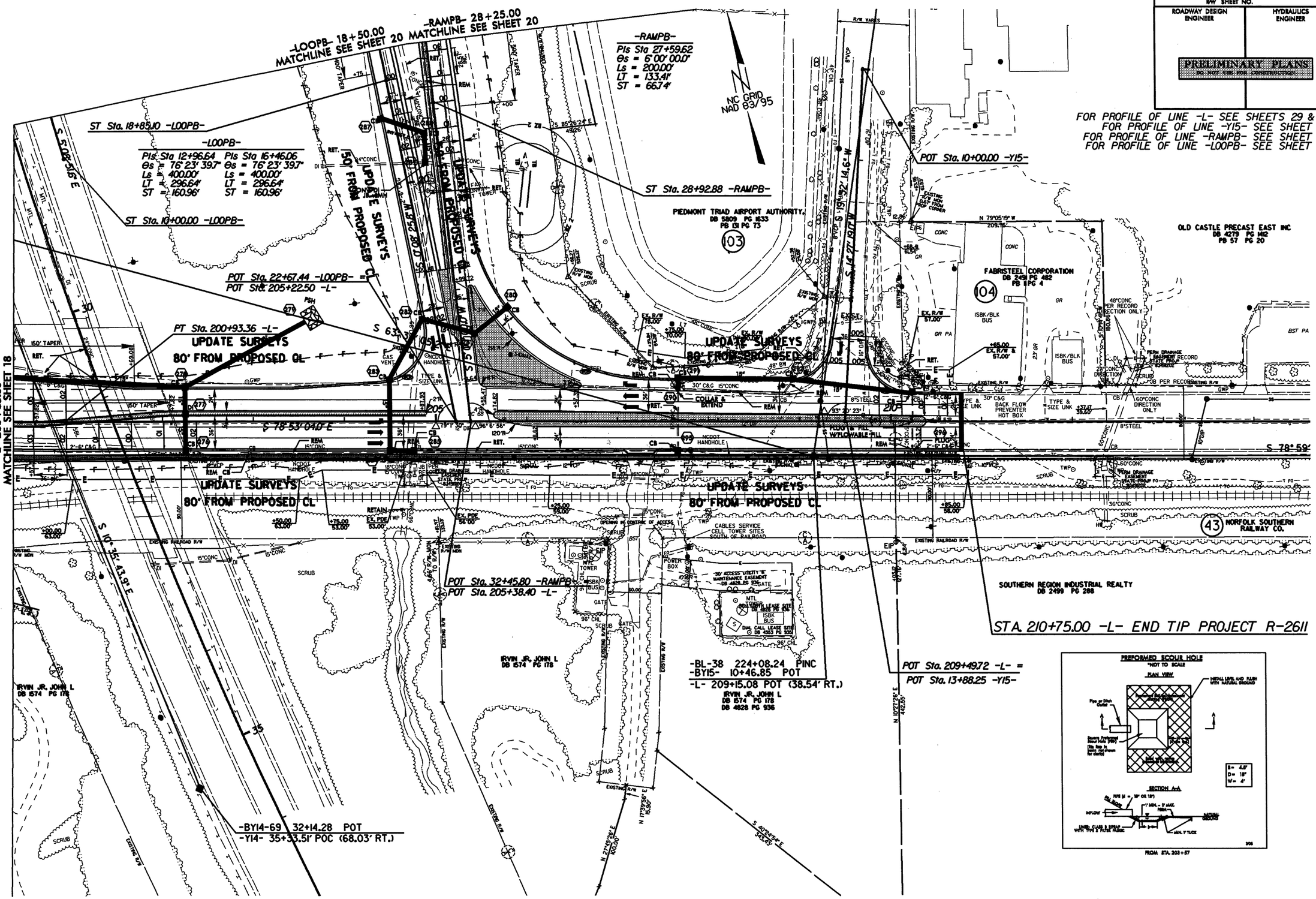
REVISIONS

R/W Revision:Combined Parcel 101 and 102 as Parcel 101. Added PUE to Parcel 101.wfb 4/7/10

PROJECT REFERENCE NO.	SHEET NO.
R-2611	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS

FOR PROFILE OF LINE -L- SEE SHEETS 29 & 30
FOR PROFILE OF LINE -Y15- SEE SHEET 34
FOR PROFILE OF LINE -RAMPB- SEE SHEET 35
FOR PROFILE OF LINE -LOOPB- SEE SHEET 36



REVISIONS

R/W Revision: Updated existing topographic data. wb 4/7/10

8/17/99

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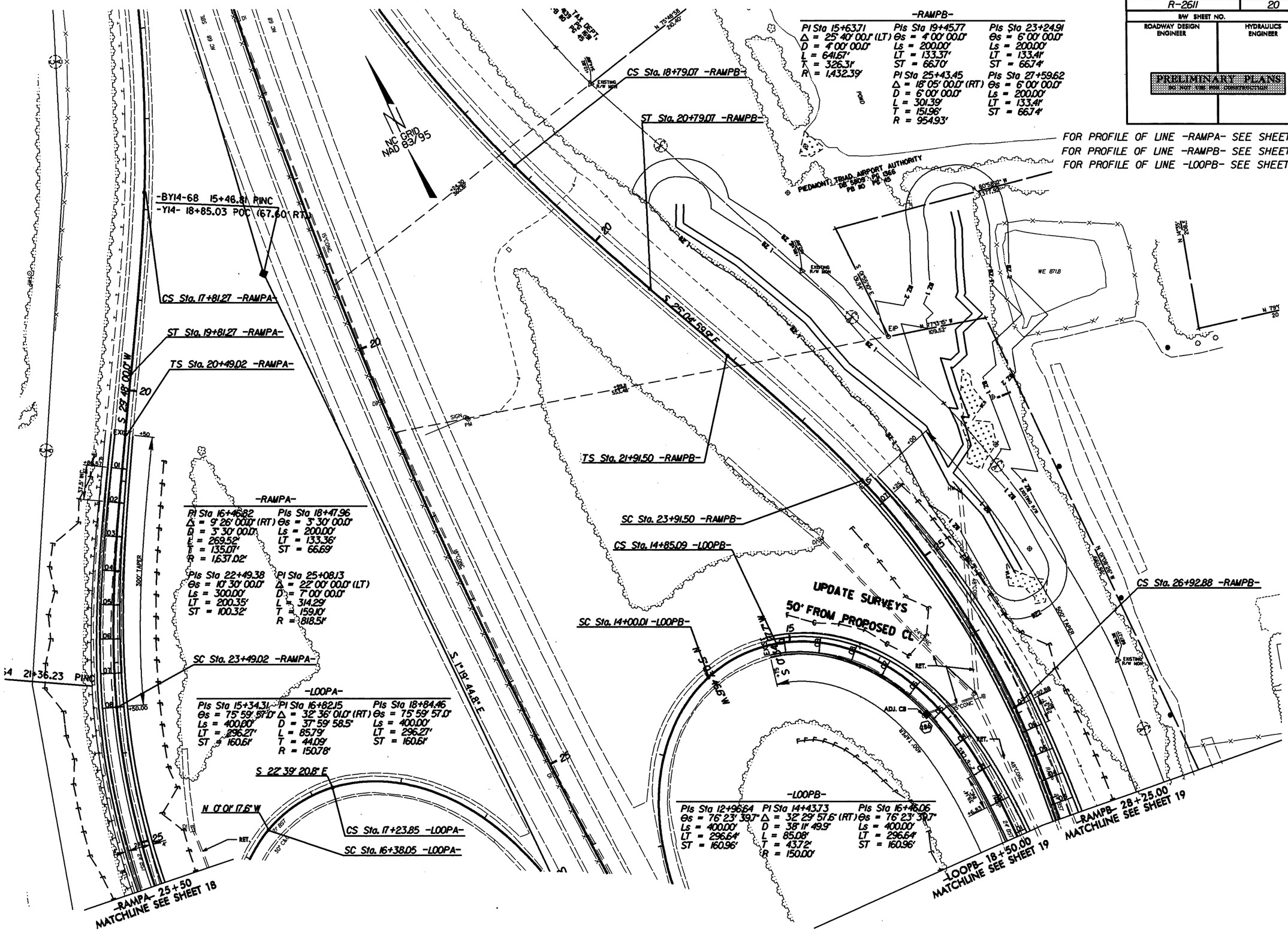
PROJECT REFERENCE NO.	SHEET NO.
R-2611	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

R/W Revision: Updated existing topographic data.wfb 4/7/10



FOR PROFILE OF LINE -RAMPA- SEE SHEET 34
FOR PROFILE OF LINE -RAMPB- SEE SHEET 35
FOR PROFILE OF LINE -LOOPB- SEE SHEET 36

19-OCT-2010 13:38
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PROJECT REFERENCE NO.	SHEET NO.
R-2611	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PROFILE OF LINE -Y2- SEE SHEET 31

REVISIONS

R/W Revision: Updated existing topographic data.wtb 4/7/10

8/17/99

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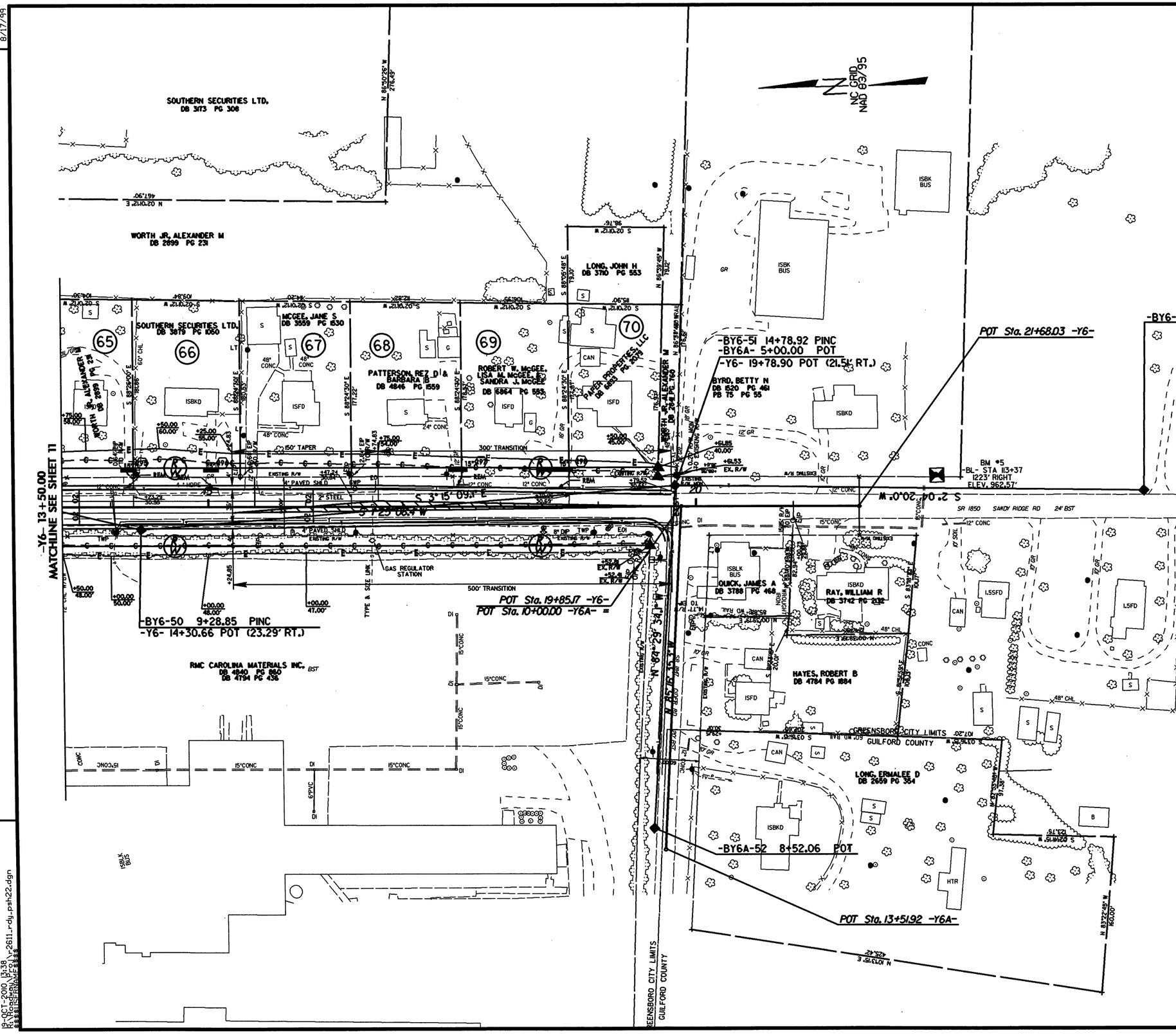
PROJECT REFERENCE NO.	SHEET NO.
R-2611	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

R/W Revision Removed Parcel 109 and revised prop. R/W to end at Parcel 70. wrb 4/7/10

8/17/99

13-OCT-2010 13:38
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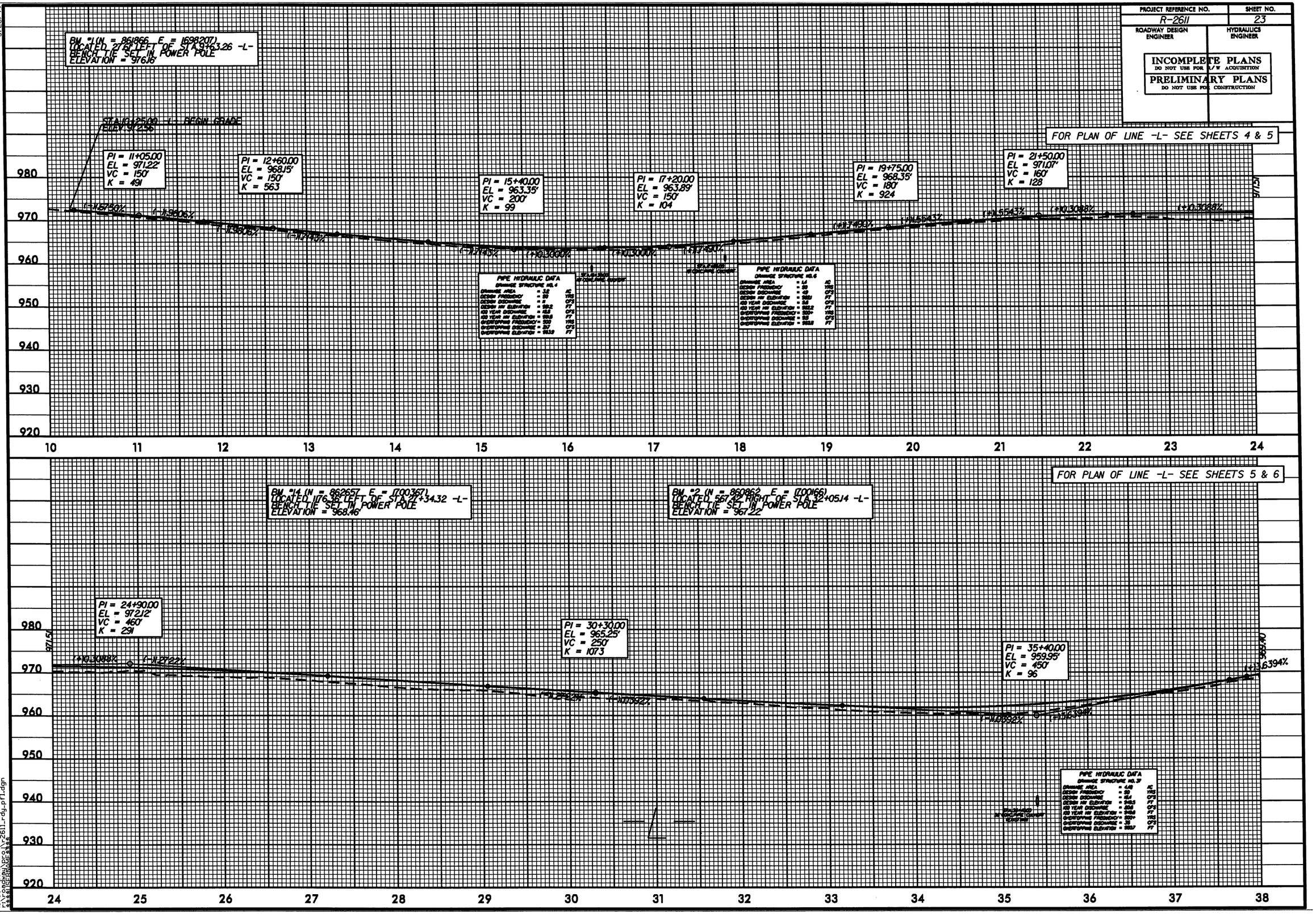
PROJECT REFERENCE NO.	SHEET NO.
R-2611	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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r2611_rdy_pfl.dgn

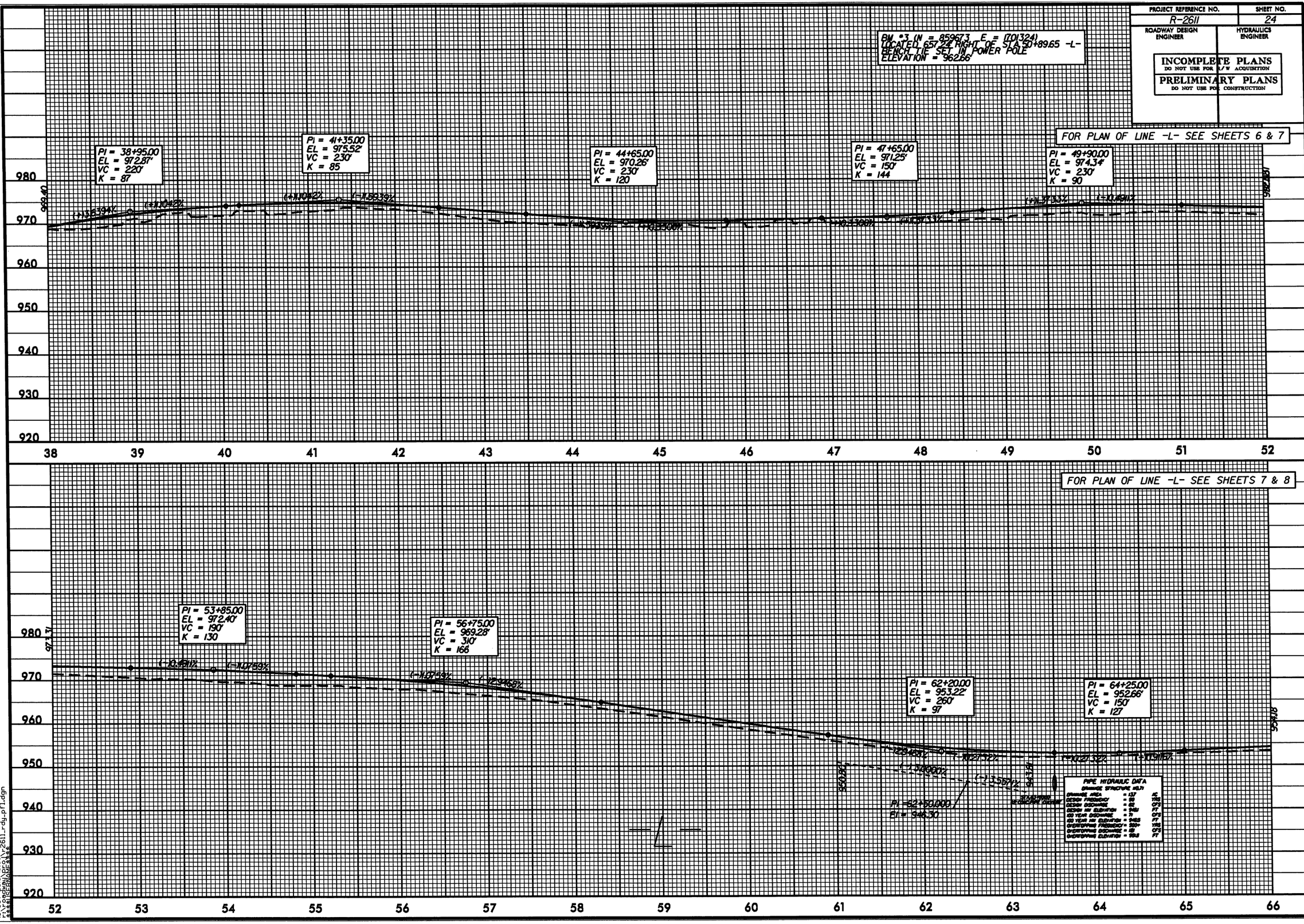
PROJECT REFERENCE NO.	SHEET NO.
R-2611	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM #3 (N = 859673 E = 701324)
LOCATED 657.24' RIGHT OF STA 50+89.65 -L-
BENCH TIE SET IN POWER POLE
ELEVATION = 962.66'

FOR PLAN OF LINE -L- SEE SHEETS 6 & 7



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE #57

DRAINAGE AREA	= 137	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 62	CFS
DESIGN HW ELEVATION	= 948.1	FT
100 YEAR DISCHARGE	= 71	CFS
100 YEAR HW ELEVATION	= 948.5	FT
OVERTOPPING FREQUENCY	= 150+	YRS
OVERTOPPING DISCHARGE	= 93	CFS
OVERTOPPING ELEVATION	= 949	FT

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rx_rdy_pf1_rdy_2611_rdy_pf1.dgn
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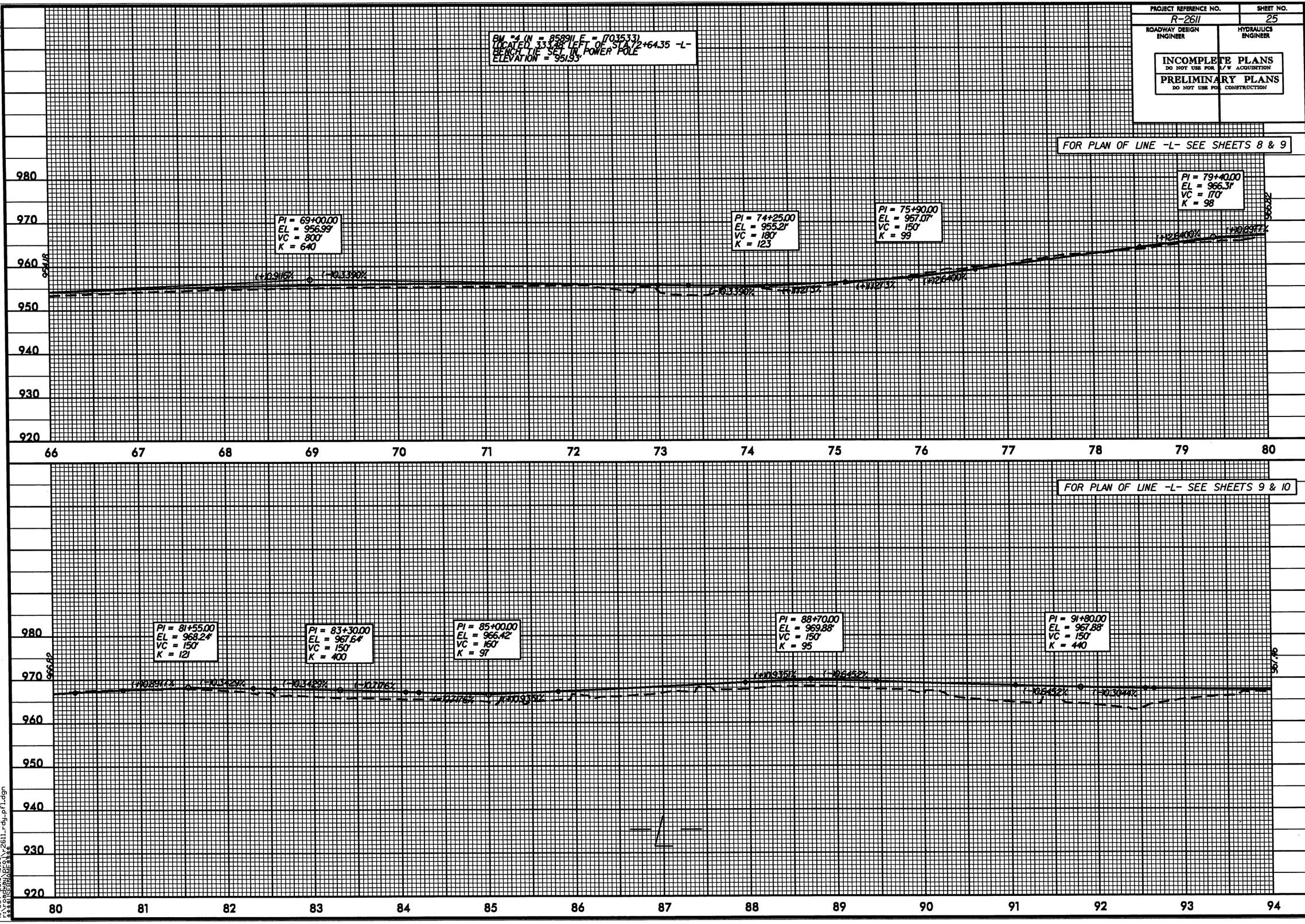
PROJECT REFERENCE NO.	SHEET NO.
R-2611	25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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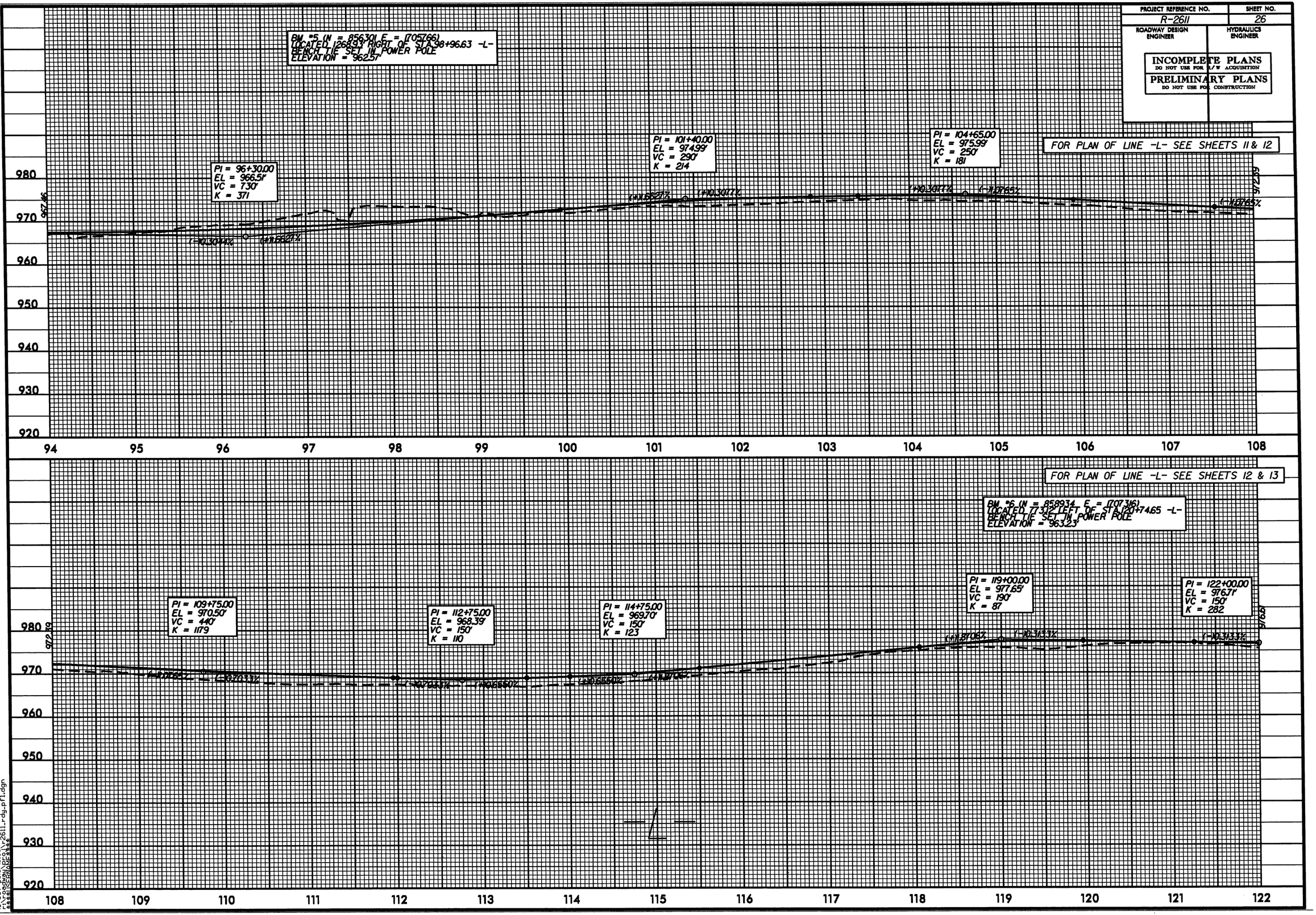
PROJECT REFERENCE NO.	SHEET NO.
R-2611	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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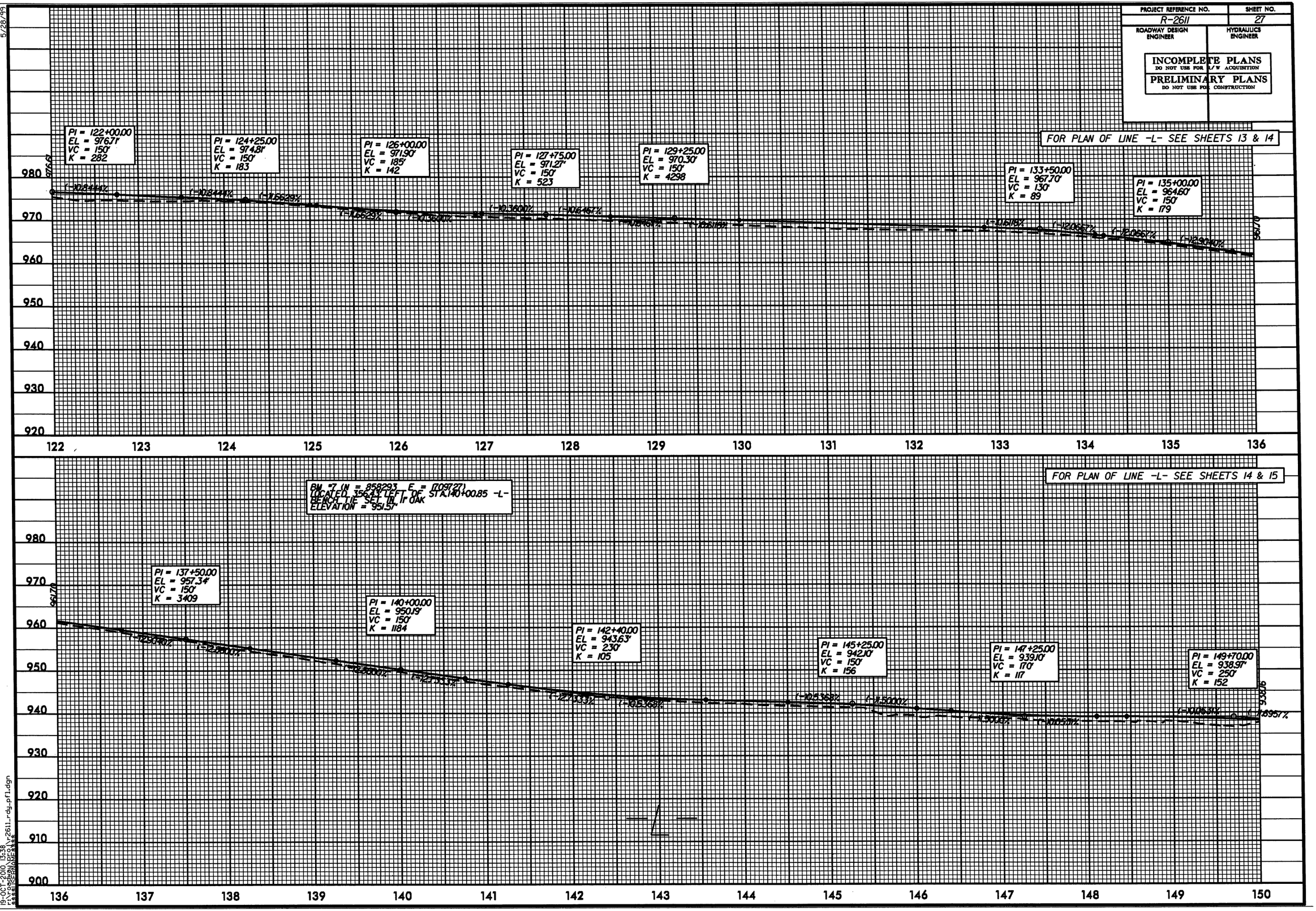
PROJECT REFERENCE NO.	SHEET NO.
R-2611	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PLAN OF LINE -L- SEE SHEETS 13 & 14



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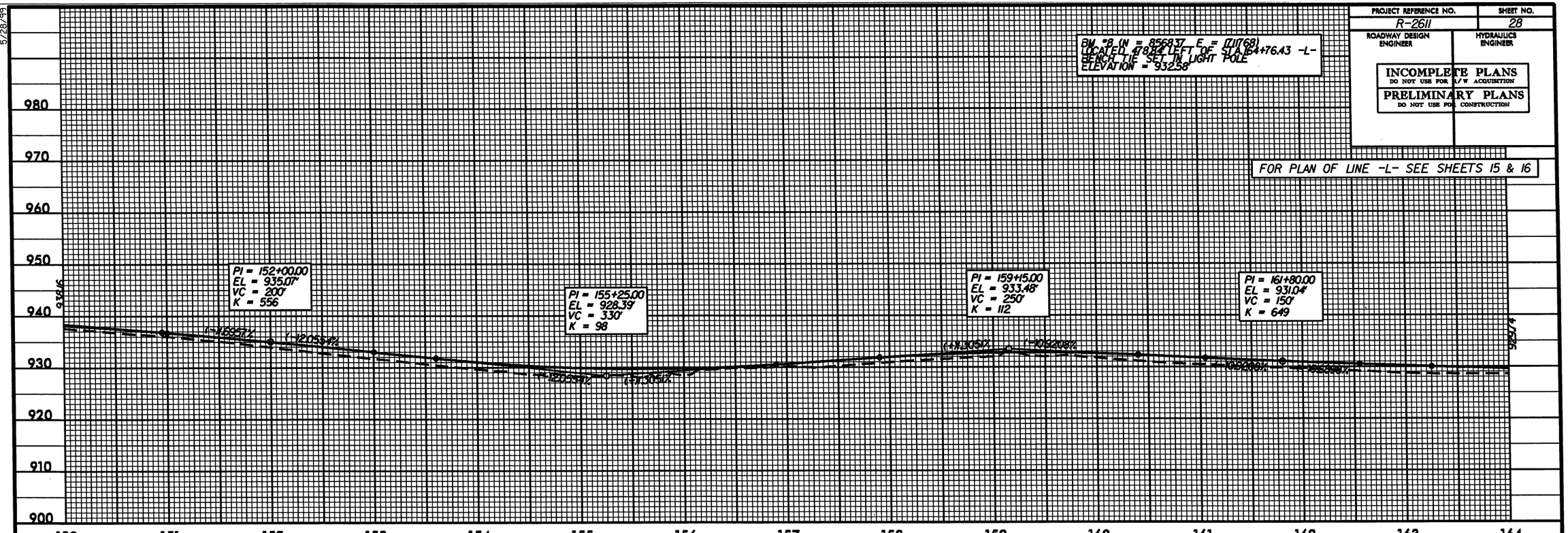
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BM #8 (N = 856837 E = 1211768)
LOCATED 478.44' LEFT OF STA 164+76.43 -L-
BENCH TIE SET IN LIGHT POLE
ELEVATION = 932.58'



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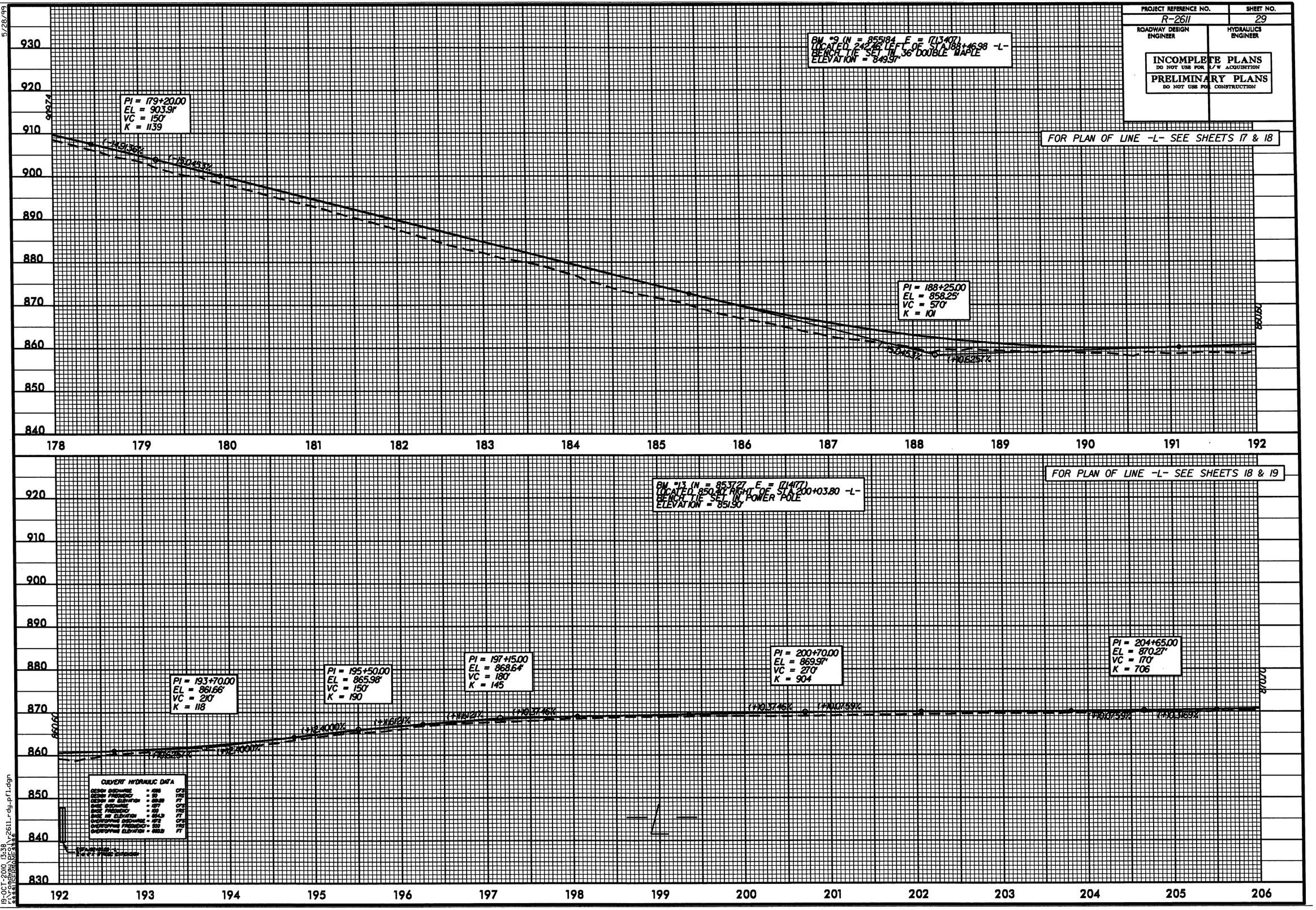
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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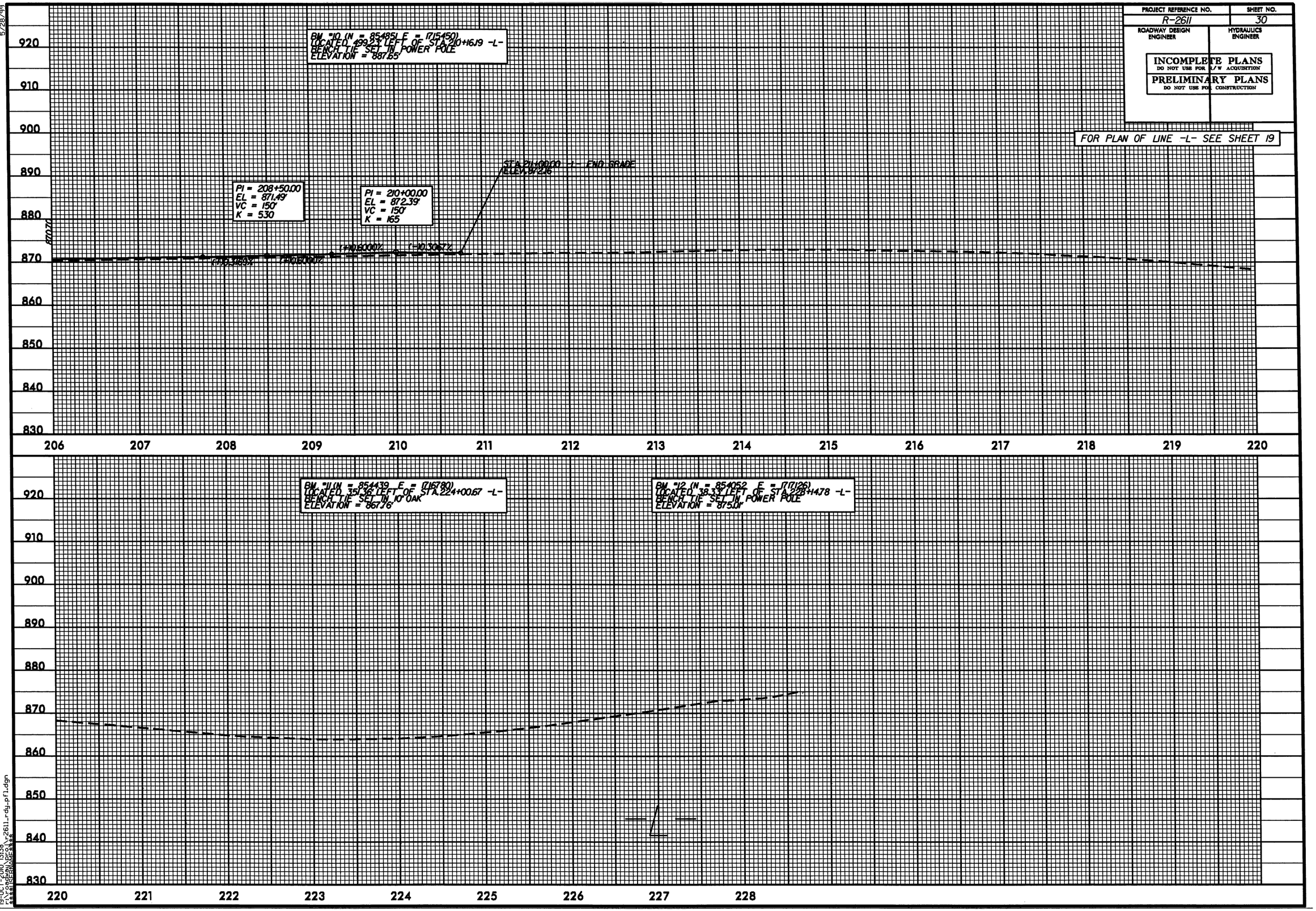
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR PLAN OF LINE -L- SEE SHEET 19



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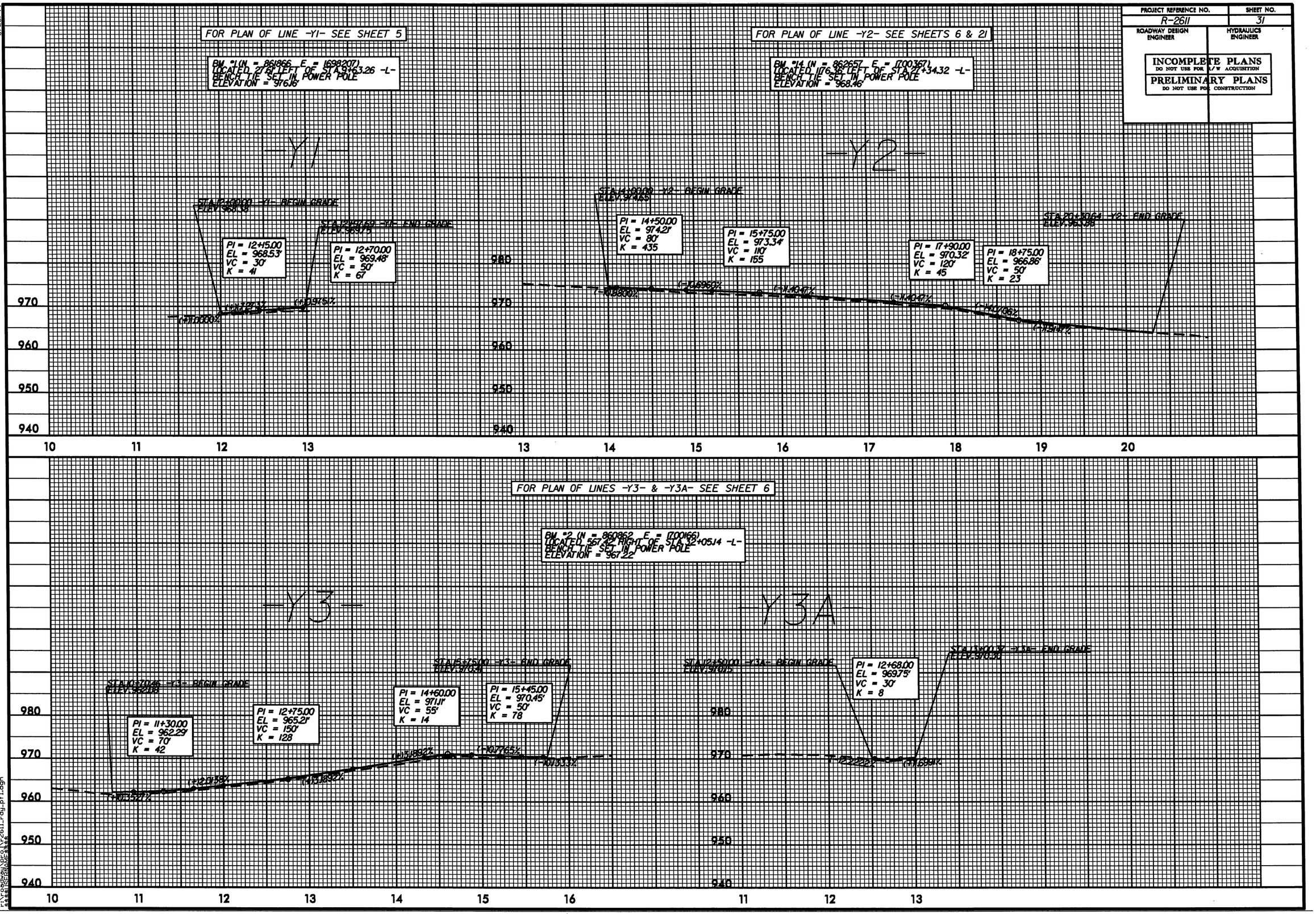
PROJECT REFERENCE NO.	SHEET NO.
R-2611	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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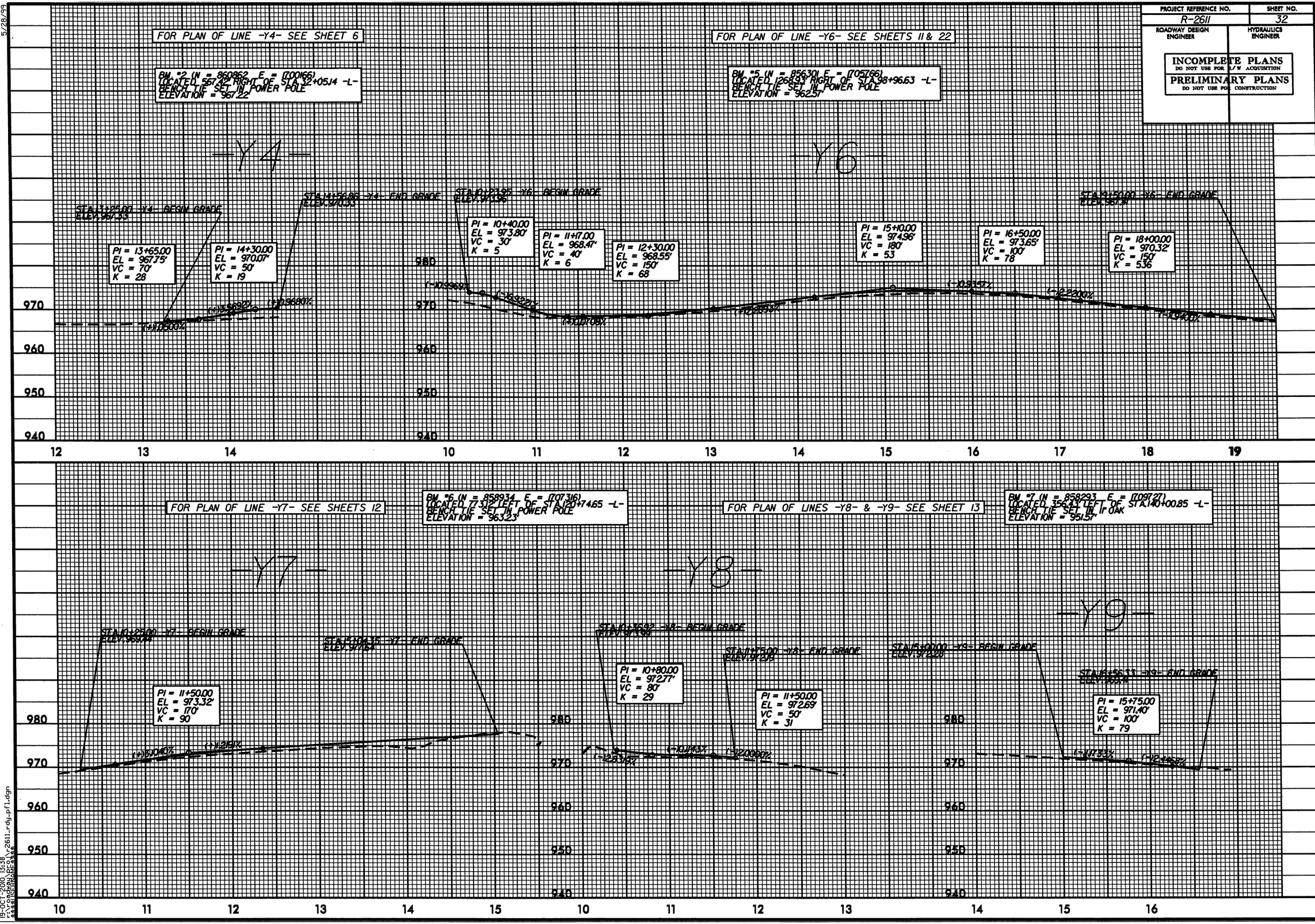
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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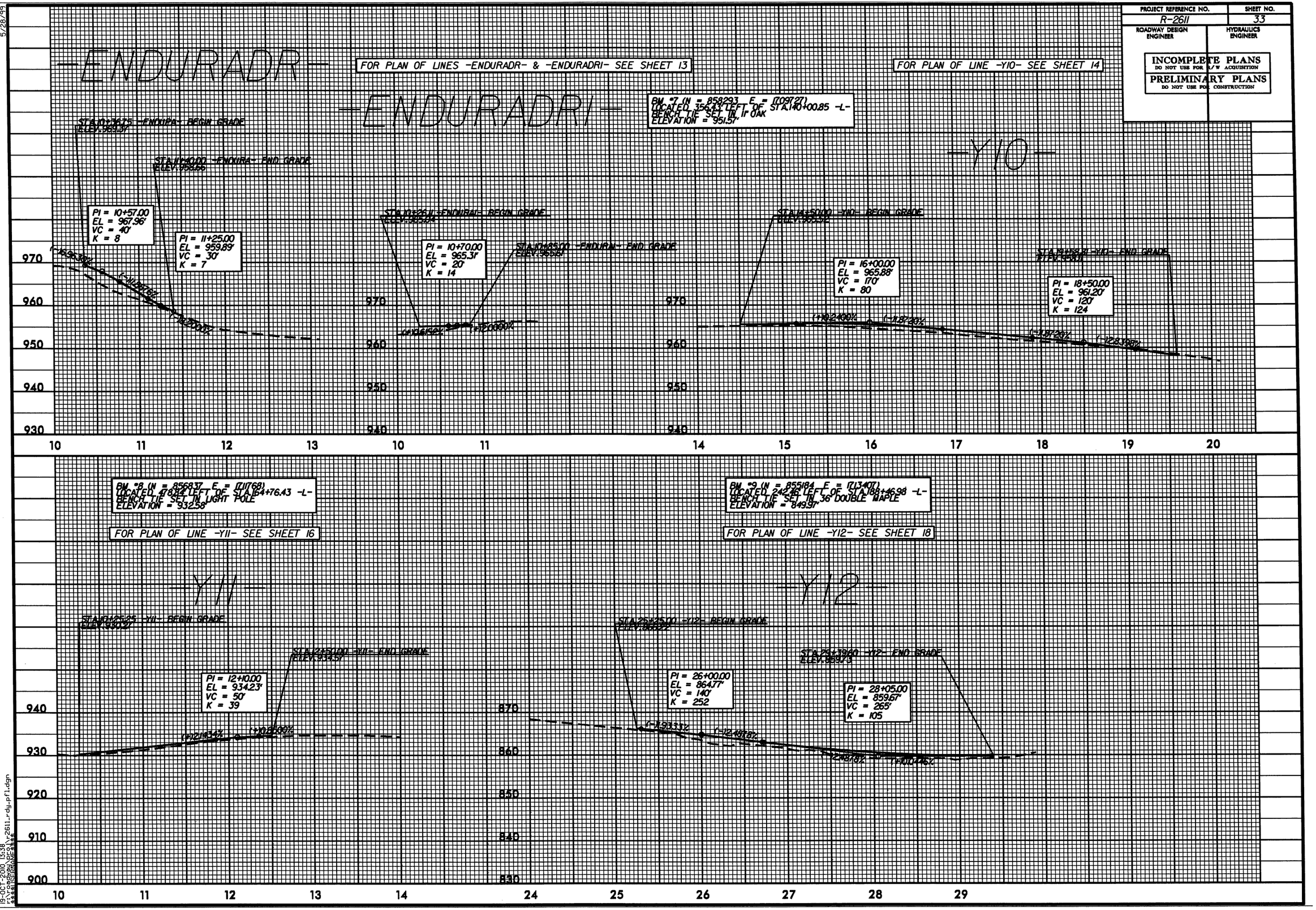
19-OCT-2010 13:38
r2611_rdy_pf1.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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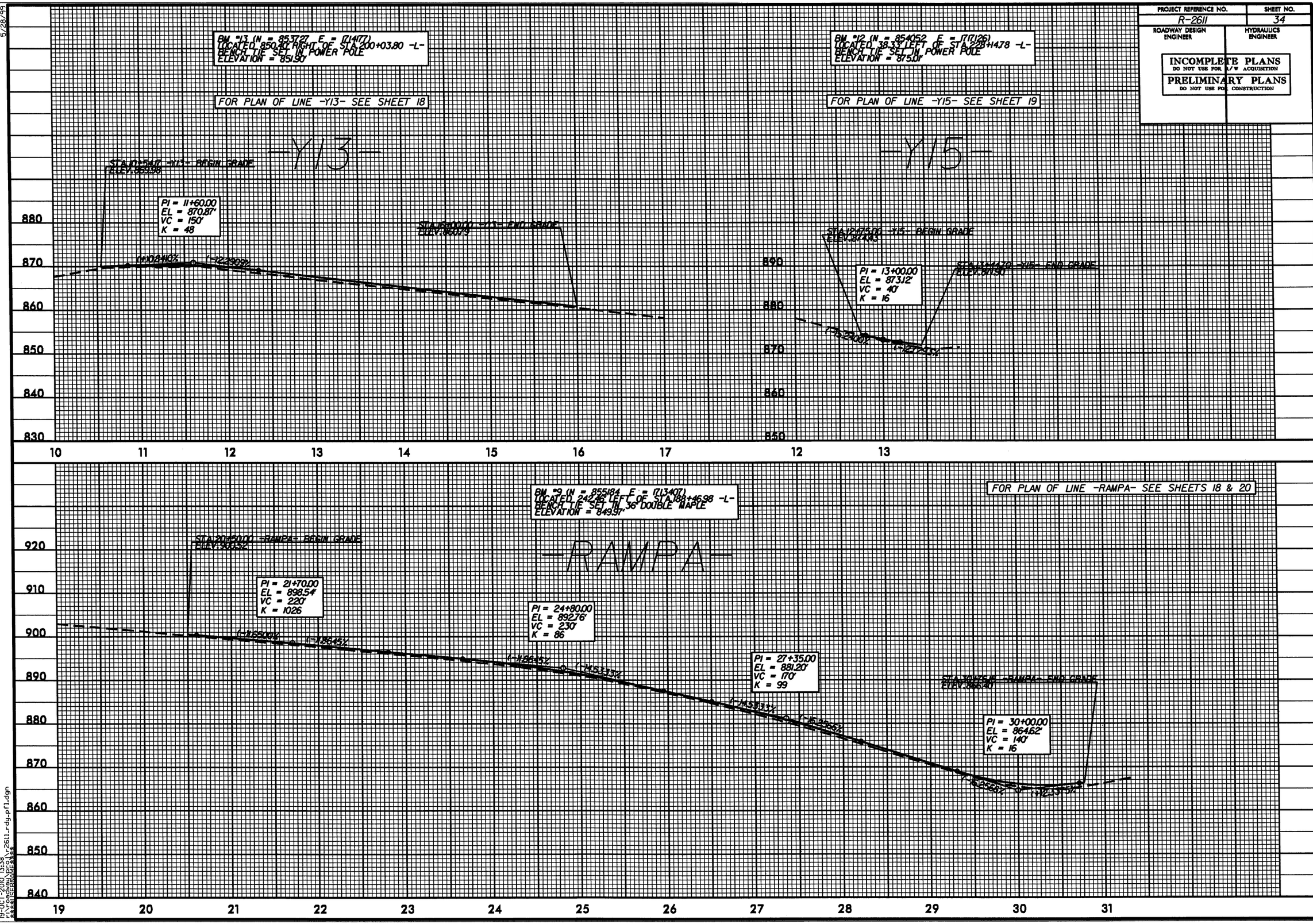
PROJECT REFERENCE NO.	SHEET NO.
R-2611	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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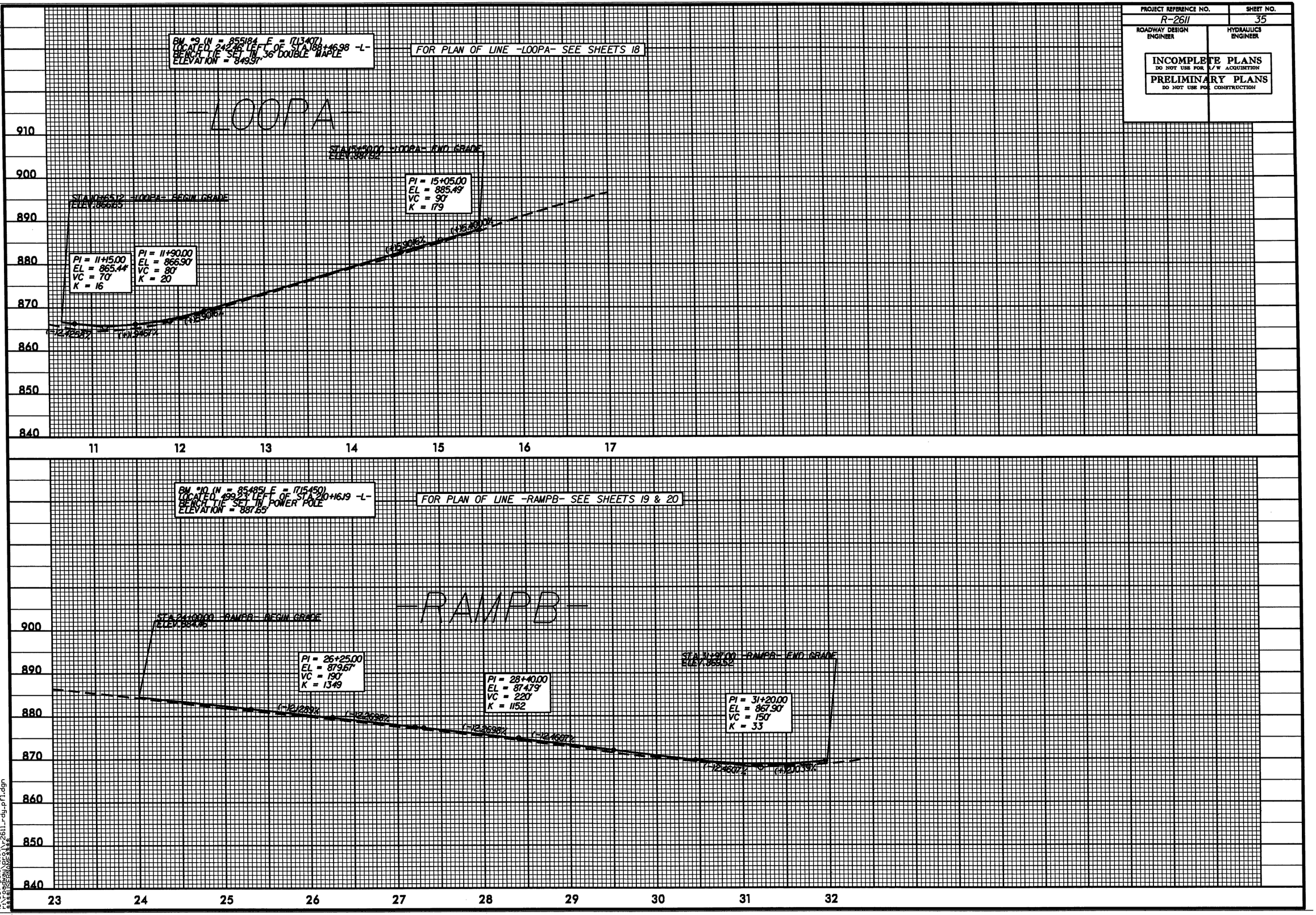
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



5/28/99

19-OCT-2000 13:38
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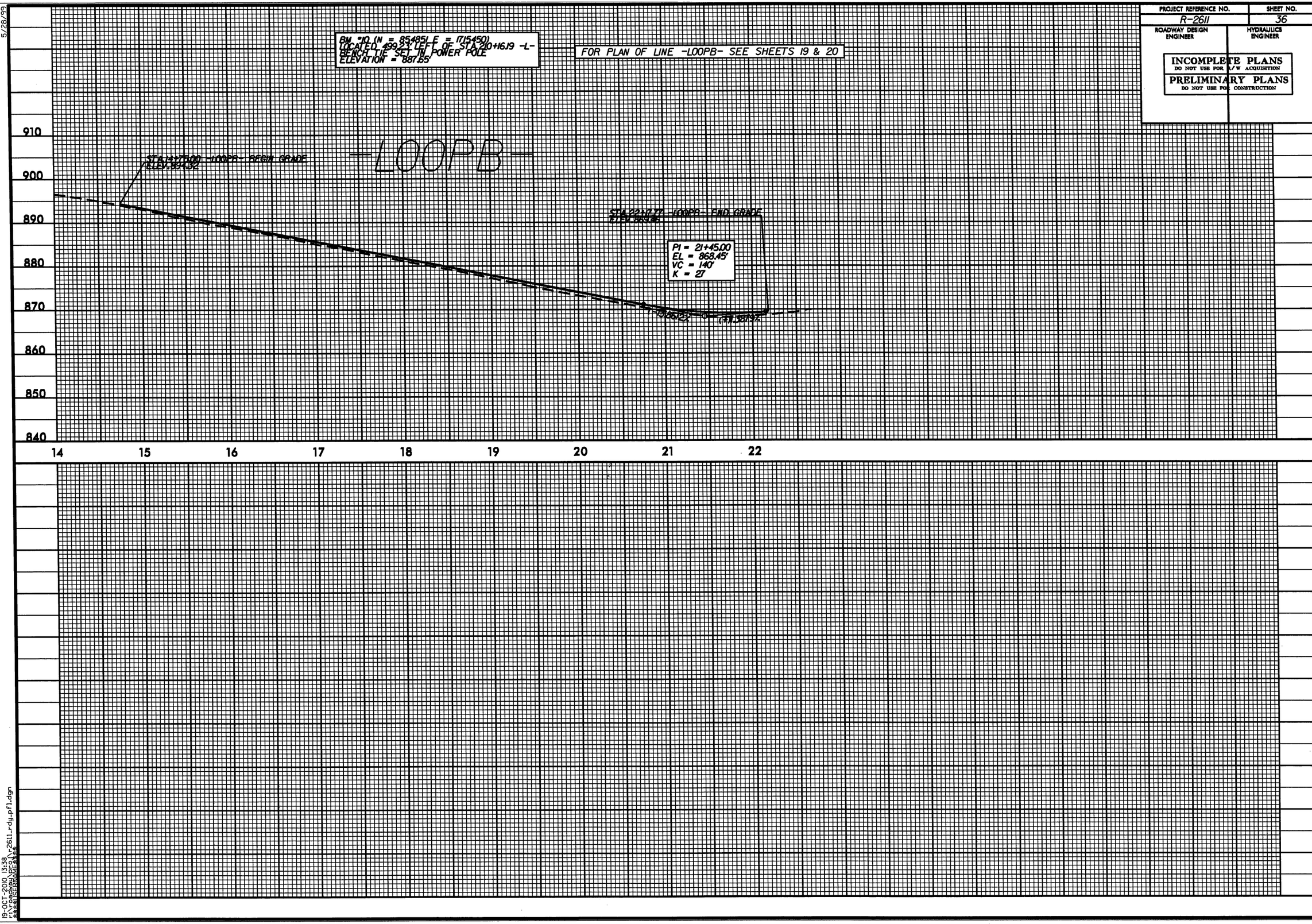
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2611	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



5/28/99

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