



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 5, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Loretta Beckwith
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 13, 23 & 33 and Section 401 Water Quality Certification** for the proposed construction of a new I-85 Northbound Weigh Station from SR 1302 (Crowders Mountain Rd) to SR 1307 (Edgewood Rd) in Gaston County, Federal Aid Project No. IMS-85-1(106)3; Division 12; TIP No. I-4928 \$570.00 debit WBS No. 41188.1.1

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes construction of a new Weigh Station as referenced above. There will be a total of 223 linear feet (lf) of permanent stream impacts; 180 lf to UTs to Abernathy Creek, and 43 lf to a UT to Crowders Creek. There will be a total of 0.02 acre (110 linear feet) of temporary impacts to streams on the project; 0.02 acre to UTs to Abernathy Creek and <0.01 acre to UT to Crowders Creek.

Please see enclosed copies of the Pre-Construction Notification (PCN), EEP acceptance letter, Stormwater Management Plan, permit drawings, and design plans. A Notification of Jurisdictional Determination was received from the USACE, dated June 26, 2012. A Categorical Exclusion (CE) was completed in June 2011 and distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of February 18, 2014 and a review date of December 31, 2013; however, the let date may advance as additional funding becomes available.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT,
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <http://connect.ncdot.gov/resources/Environmental>. If you have any questions or need additional information, please call Bill Barrett at (919) 707-6103.

Sincerely,



for Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

cc:
NCDOT Permit Application Standard Distribution List



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 13 23 33 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2. Project Information

2a. Name of project:	Construction of new Weigh Station on I-85 Northbound from SR 1302 (Crowders Mountain Rd) to SR 1307 (Edgewood Rd).
2b. County:	Gaston
2c. Nearest municipality / town:	Bessemer City
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	I-4928

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6103
3g. Fax no.:	(919) 212-5785
3h. Email address:	wabarrett@ncdot.gov

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

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.260491 (DD.DDDDDD) Longitude: - 81.281532 (-DD.DDDDDD)
1c. Property size:	14.00 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Abernathy Creek
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Catawba
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: undeveloped land abutting I-85 northbound.	
3b. List the total estimated acreage of all existing wetlands on the property: forested and herbaceous undeveloped land abutting I-85..	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 2,942	
3d. Explain the purpose of the proposed project: To create a new weigh station that will capture a larger percentage of truck traffic along I-85 northbound, as well as improve the serviceability of the weigh station for both drivers and workers.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves the construction of a new weigh station. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Brett Feulner	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. June 26, 2012 (Action I.D. 2010-0031)	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

- 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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
Site 6 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ	
2g. Total wetland impacts					X Permanent X 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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	30" RCP extension	UT to Abernathy Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	1	30
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	30" RCP extension	UT to Abernathy Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	1	27 (<0.01 ac.)
Site 1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	bank stabilization	UT to Abernathy Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	1	18
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	2@6'X9' RCBC	UT to Abernathy Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	12	92
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	2@6'X9' RCBC	UT to Abernathy Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	12	65 (0.02 ac.)
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	bank stabilization	UT to Abernathy Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	12	40
Site 3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	72" RCP extension	UT to Crowders Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	3	16
Site 3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	72" RCP extension	UT to Crowders Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	3	18 (<0.01 ac)
Site 3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Energy dissipator	UT to Crowders Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	3	27
3h. Total stream and tributary impacts						223 Perm 110 Temp (0.03 ac)
3i. Comments: Of the 223 LF of permanent stream impact, 58 LF (18 LF @ Site 1 and 40 LF @ Site 2) is from bank stabilization. The NCDOT does not propose mitigation for stream bank stabilization activities. Stabilizing the bank of a stream does not require fill in the stream bed and, therefore, under Section 404 of the Clean Water Act, does not constitute Loss of Waters of the U.S. and is not subject to compensatory mitigation. Furthermore, the proposed bank stabilization activities are necessary to prevent erosion and sedimentation, i.e. preventing bank destabilization, and minimizing impacts to the environment. Therefore, NCDOT has obtained mitigation for 165 LF of permanent stream impact (223 - 58 = 165)						
4. Open Water Impacts						
If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.						
4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)		
O1 <input type="checkbox"/> P <input type="checkbox"/> T						
O2 <input type="checkbox"/> P <input type="checkbox"/> T						
O3 <input type="checkbox"/> P <input type="checkbox"/> T						
O4 <input type="checkbox"/> P <input type="checkbox"/> T						
4f. Total open water impacts				X Permanent X Temporary		
4g. Comments:						

5. Pond or Lake Construction

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

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								
5g. Comments:								
5h. Is a dam high hazard permit required?		<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:						
5i. Expected pond surface area (acres):								
5j. Size of pond watershed (acres):								
5k. Method of construction:								

6. Buffer Impacts (for DWQ)

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

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

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. BMP measures used on this project to reduce storm water impacts include: - grassed shoulders and open ditches, - Hazardous Spill Basins (Station 28+00 Rt; Station 15+00 to 20+00 Lt; Station 13+00 to 17+00 Rt.; Station 29+00 to 32+00 Rt.; and Station 18+00 to 21+00 Lt.), and - Preformed Scour Holes (PSH) at Station 14+34 Lt. and Station 11+00 Lt.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Use of Best Management Practices (BMP) and measures used in the project are non-structural and are an attempt to reduce the stormwater impacts to the receiving stream due to erosion and runoff as well as attenuate and disperse stormwater before entering the receiving waters.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	165 linear feet	
4c. If using stream mitigation, stream temperature:	<input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation? Yes No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.

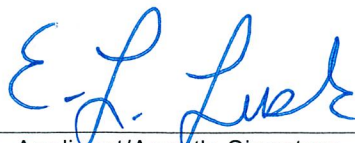
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

6h. Comments:

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

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

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NHP, USFWS, and NCDOT field surveys. There is habitat at the site for Schweinitz's sunflower. Surveys were last conducted on September 28, 2011, resulting in no occurrences of Schweinitz's sunflower. The Biological Conclusion is No Effect. Surveys will be conducted during the 2013 survey season.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	7.5.13 Date



June 11, 2013

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

I-4928, Construction of New Weigh Station on I-85 Northbound, Gaston County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on June 11, 2013, the impacts are located in CU 03050101 of the Catawba River basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Catawba 03050101 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	165.0	0	0	0	0	0

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

This impact and associated mitigation need were under projected by the NCDOT in the 2013 impact data. EEP will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of 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 919-707-8420.

Sincerely,

James B. Stanfill
 EEP Asset Management Supervisor

cc: Ms. Lori Beckwith, USACE – Asheville Regulatory Field Office
 Ms. Amy Chapman, Division of Water Quality, Wetlands/401 Unit
 File: I-4928

Restoring... Enhancing... Protecting Our State





North Carolina Department of Transportation
 Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR LINEAR ROADWAY PROJECTS



(Version 1.2; Released July 2012)

Project/TIP No.: I-4928 **County(ies):** Cleveland Gaston **Page** 1 **of** 4

General Project Information

Project No.:	I-4928	Project Type:	Roadway Widening	Date:	6/4/2013
NCDOT Contact:	Karen Gullede	Contractor / Designer:			
Address:		Address:			
Phone:	919-707-6723	Phone:			
Email:	khgullede@ncdot.gov	Email:			
City/Town:	Mt. Holly/Belmont	County(ies):	Cleveland Gaston		
River Basin(s):	Catawba	CAMA County?	No		
Primary Receiving Water:	Un-named Tributary to Abernathy Creek	NCDWQ Stream Index No.:	11-135-4b		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C			
	Supplemental:	None			
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	N/A				

Project Description

Project Length (lin. Miles or feet):	2.244 mi	Surrounding Land Use:	Farm land/residential
	Proposed Project		Existing Site
Project Built-Upon Area (ac.)	14.00 ac.		27.00 ac.
Typical Cross Section Description:			
Average Daily Traffic (veh/hr/day):	Design/Future:		Existing:

General Project Narrative:

ROADWAY DESCRIPTION (double click here to see full report)
 The project I-4928 consists of creating a new weigh station that will capture a larger percentage of truck traffic along I-85 northbound, as well as improve the serviceability of the weigh station for both drivers and workers. The total project length is 1.95 miles. The section of I-85 at the proposed weigh station site is a multilane divided facility with 12 foot paved shoulders and a concrete barrier median.

The weigh station site lies within a slight horizontal radius of curvature along I-85, which bends from left to right when heading in the northbound direction. There is also a slight vertical downgrade along the interstate in the northbound direction, beginning near the midpoint of the project study area.

Current ADT (2010) is 69,600 and predicted ADT (2035) is 98,500. Truck traffic percentage is very heavy in the area, consisting of 5% Duals and 18% TTST.

Jurisdictional Stream: Un-named Tributary to Abernathy Creek

ENVIRONMENTAL DESCRIPTION
 The surrounding community consists of mainly of farm land. The area is also mostly wooded with a few open areas, which consist of tall grass and weeds. There are minimal to no impacts to the surrounding residential communities from the proposed weigh station. The project is located within the Catawba River Basin. Un-named Tributary to Abernathy Creek is classified as Class C waters, and there are no ORW or HQW waters present.

BEST MANAGEMENT PRACTICES
 The primary goal of Best Management Practices (BMP's) is an effort to reduce sedimentation and erosion and to prevent degradation of the state's surface waters by the location, construction, and operation of the highway system. The BMP measures used on this project to reduce storm water impacts on this project include grassed shoulders and open ditches, Hazardous Spill Basins, and Preformed Scour Holes; there are no direct discharges to Un-named Tributary to Abernathy Creek or other Jurisdictional Streams – extensions of existing pipes/culverts only.

References

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 13

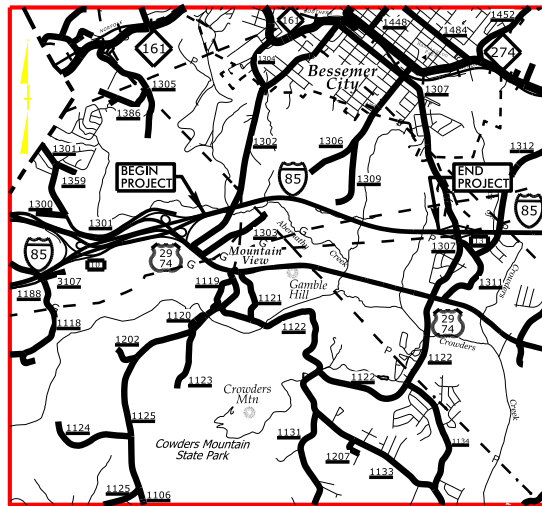
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4928	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41188.1.1	IMS-85-1(106)3	P.E.	
41188.2.1		RW	
41188.3.1		CONST.	

GASTON COUNTY

LOCATION: NEW I-85 NBL WEIGH STATION FROM SR 1302
(CROWDERS MOUNTAIN RD) TO SR 1307 (EDGEWOOD ROAD)

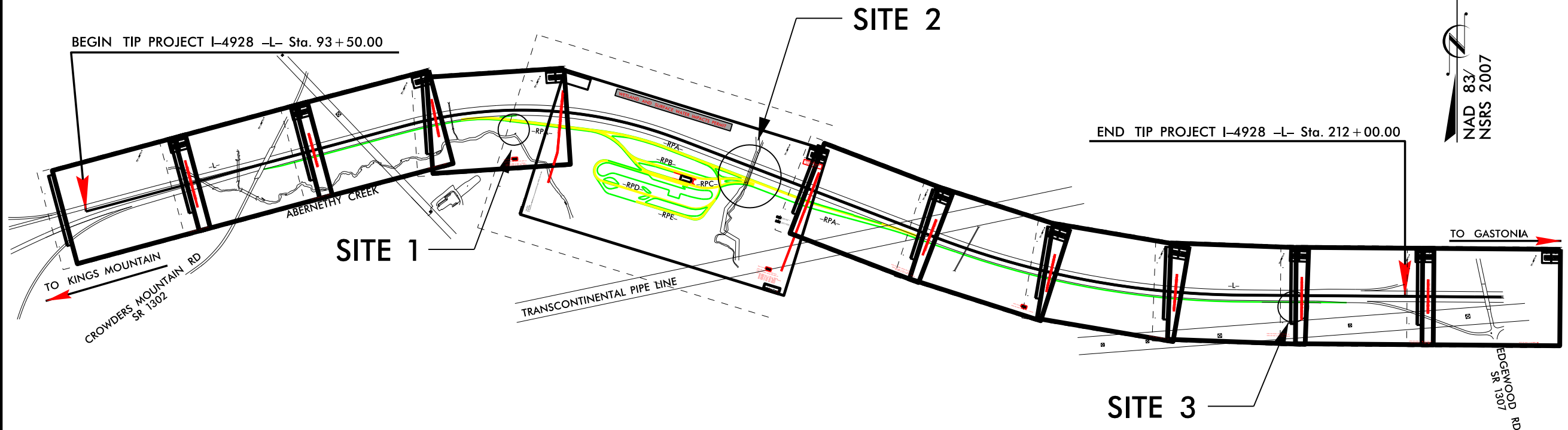
TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES,
WIDENING, PAVEMENT, SIGNING, WEIGH STATION BUILDINGS, STATIC SCALES,
COMMERCIAL VEHICLE INFORMATION SYSTEMS NETWORKS (CVISN)
WEIGH-IN-MOTION (WIM) SCALE SYSTEM, & LIGHTING

WETLAND AND SURFACE WATER IMPACTS PERMIT



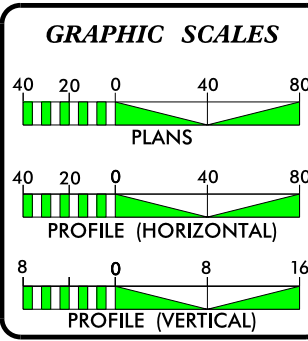
VICINITY MAP

TIP PROJECT: I-4928



NOTE:
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

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



DESIGN DATA

ADT 2014	=	74,224
ADT 2035	=	98,500
DHV	=	10 %
D	=	55 %
T	=	23 % *
V	=	70 MPH
* TTST	18 %	DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-4928	=	2.244 MILES
TOTAL LENGTH TIP PROJECT I-4928	=	2.244 MILES

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	September 20, 2012
LETTING DATE:	February 18, 2014
	Christopher K. Haire, PE PROJECT ENGINEER
	Mohammed E. Mahjoub, El 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.

CONTRACT:

SYSTEMS DESIGN SERVICES

C203357

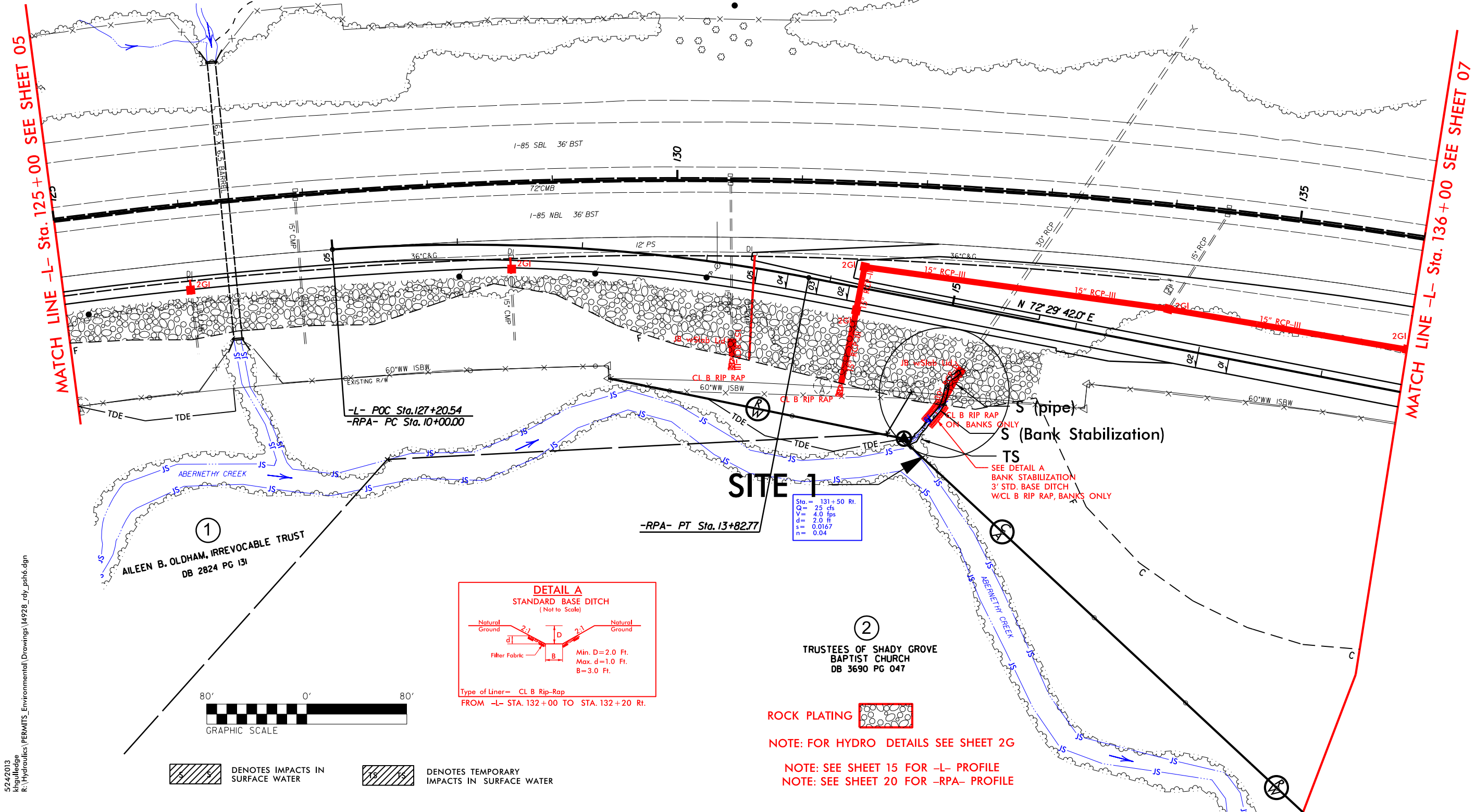
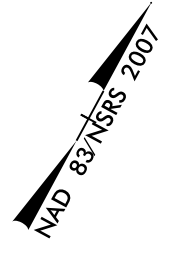
8/17/99

WETLAND AND SURFACE WATER IMPACTS PERMIT

PROJECT REFERENCE NO. I-4928	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING SHEET 2 OF 13

-L-			-RPA-		
PIs Sta 122+88.34	PI Sta 134+81.75	PIs Sta 146+15.85	PI Sta 11+92.50		
$\theta s = 1' 49' 48.6"$	$\Delta = 32' 20' 00.0" (RT)$	$\theta s = 1' 49' 48.6"$	$\Delta = 15' 07' 29.6" (RT)$		
LS = 245.00'	D = 1' 29' 38.5"	LS = 245.00'	D = 3' 57' 05.2"		
LT = 163.34'	L = 2,164.18'	LT = 163.34'	L = 382.77'		
ST = 81.67'	T = 1,111.75'	ST = 81.67'	T = 192.50'		
	R = 3,835.00'		R = 1,450.00'		
	SE = EXISTING		SE = SEE PLANS		

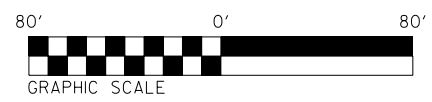
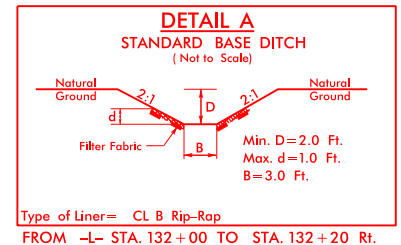


MATCH LINE -L- Sta. 125+00 SEE SHEET 05

MATCH LINE -L- Sta. 136+00 SEE SHEET 07

REVISIONS

5/24/2013
 khgulleage
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DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

Sta. = 131+50 Rt.
 Q = 25 cfs
 V = 4.0 fps
 d = 2.0 ft
 s = 0.0167
 n = 0.04

ROCK PLATING

NOTE: FOR HYDRO DETAILS SEE SHEET 2G

NOTE: SEE SHEET 15 FOR -L- PROFILE
 NOTE: SEE SHEET 20 FOR -RPA- PROFILE

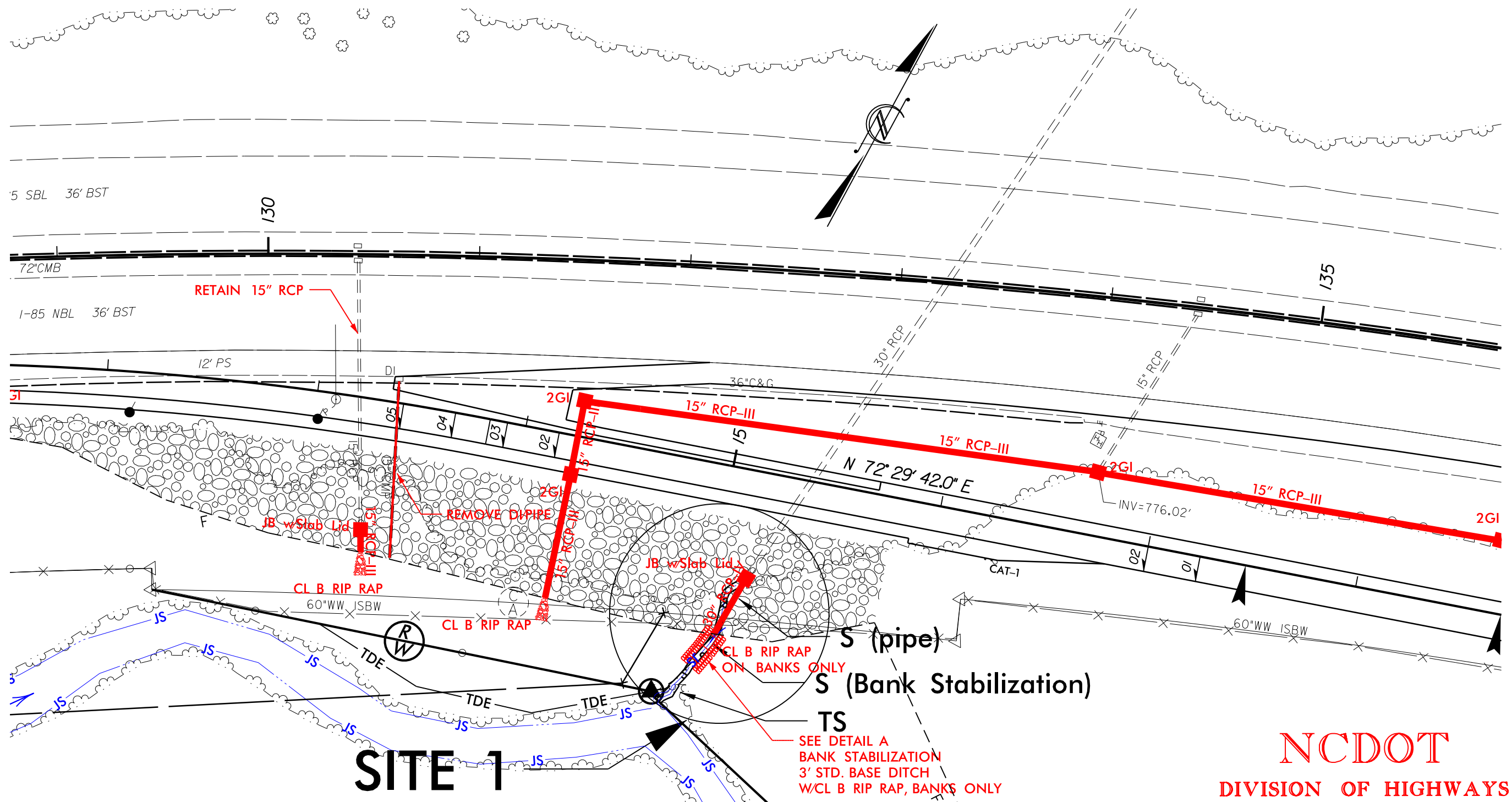
SITE 1

TRUSTEES OF SHADY GROVE BAPTIST CHURCH
 DB 3690 PG 047

1
 AILEEN B. OLDHAM, IRREVOCABLE TRUST
 DB 2824 PG 131

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 4 OF 13



SITE 1

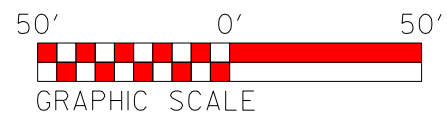
ENLARGEMENT SITE 1

STREAM/SURFACE WATER IMPACTS

NCDOT
DIVISION OF HIGHWAYS
CLEVELAND/GASTON COUNTY
WBS NO.: 41188.1.1 (I-4928)
GASTONIA - NEW I-85 NBL
WEIGH STATION FROM SR1302
(CROWDERS MTN RD) TO
SR 1307 (EDGEWOOD RD)

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

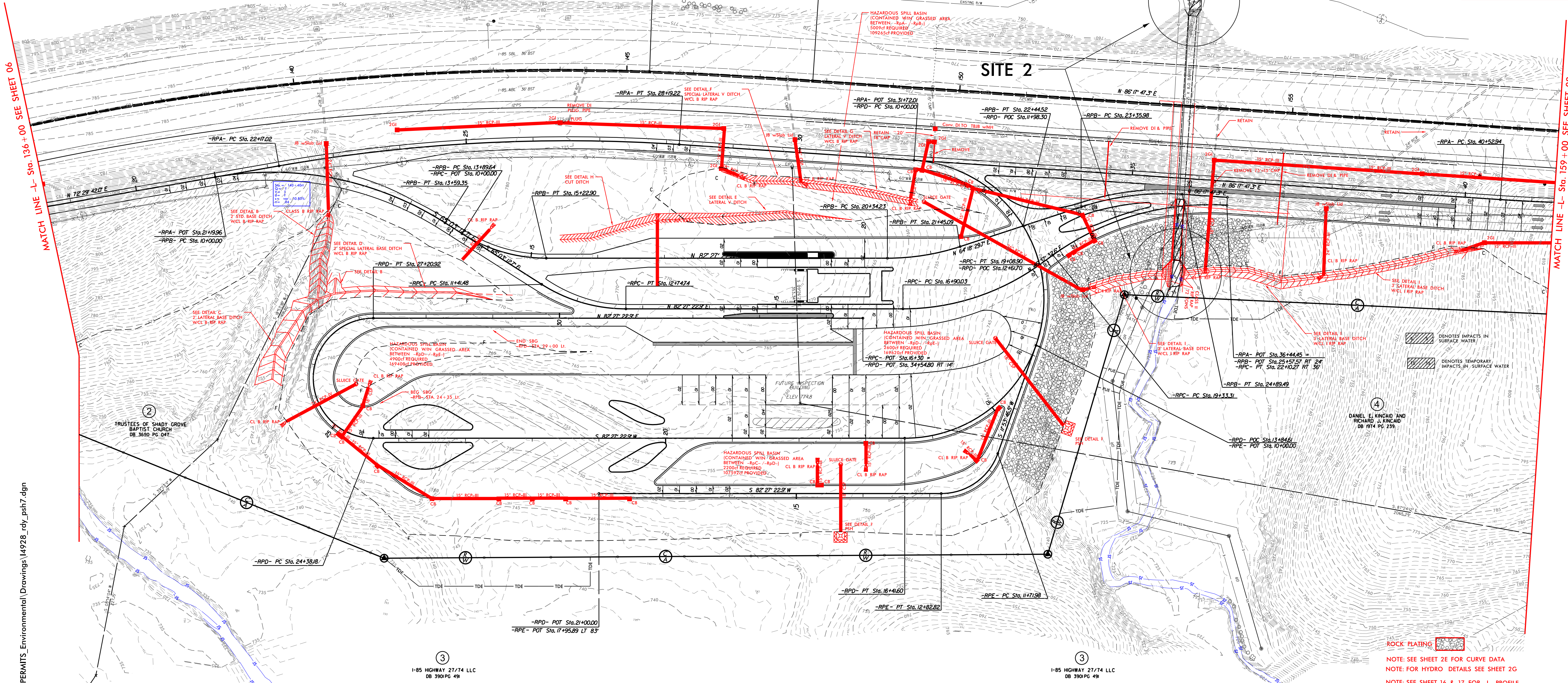
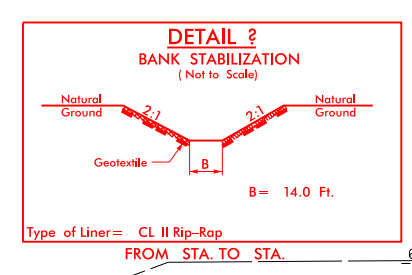


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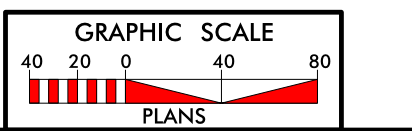
WETLAND AND SURFACE WATER IMPACTS PERMIT

PROJECT REFERENCE NO.	1-4928	SHEET NO.	7
RDW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR B.P. ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

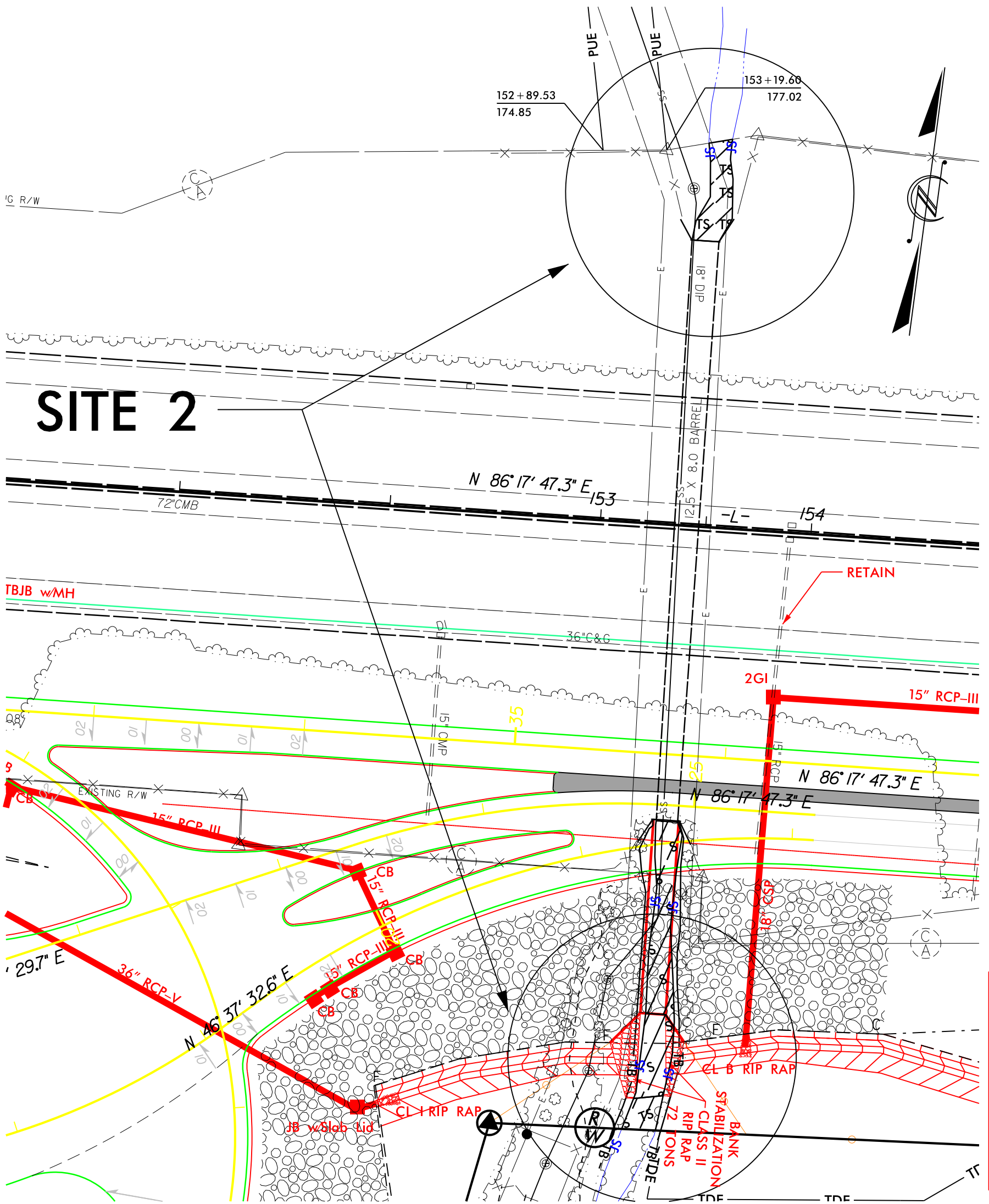
PERMIT DRAWING
SHEET 6 OF 13



ROCK PLATING
 NOTE: SEE SHEET 2E FOR CURVE DATA
 NOTE: FOR HYDRO DETAILS SEE SHEET 2G
 NOTE: SEE SHEET 16 & 17 FOR -L- PROFILE
 NOTE: SEE SHEET 20, 21, & 22 FOR -RPA- PROFILE
 NOTE: SEE SHEET 24 FOR -RBP- PROFILE
 NOTE: SEE SHEET 25 FOR -RPC- PROFILE
 NOTE: SEE SHEET 26 FOR -RPD- PROFILE
 NOTE: SEE SHEET 27 FOR -RPE- PROFILE



ENLARGEMENT SITE 2 STREAM/SURFACE WATER IMPACTS

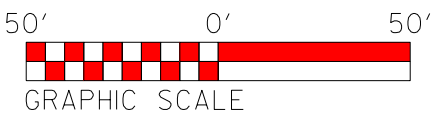


PERMIT DRAWING
 SHEET 7 OF 13

NCDOT
 DIVISION OF HIGHWAYS
 CLEVELAND/GASTON COUNTY
 WBS NO.: 41188.1.1 (I-4928)
 GASTONIA - NEW I-85 NBL
 WEIGH STATION FROM SR1302
 (CROWDERS MTN RD) TO
 SR1307 (EDGEWOOD RD)

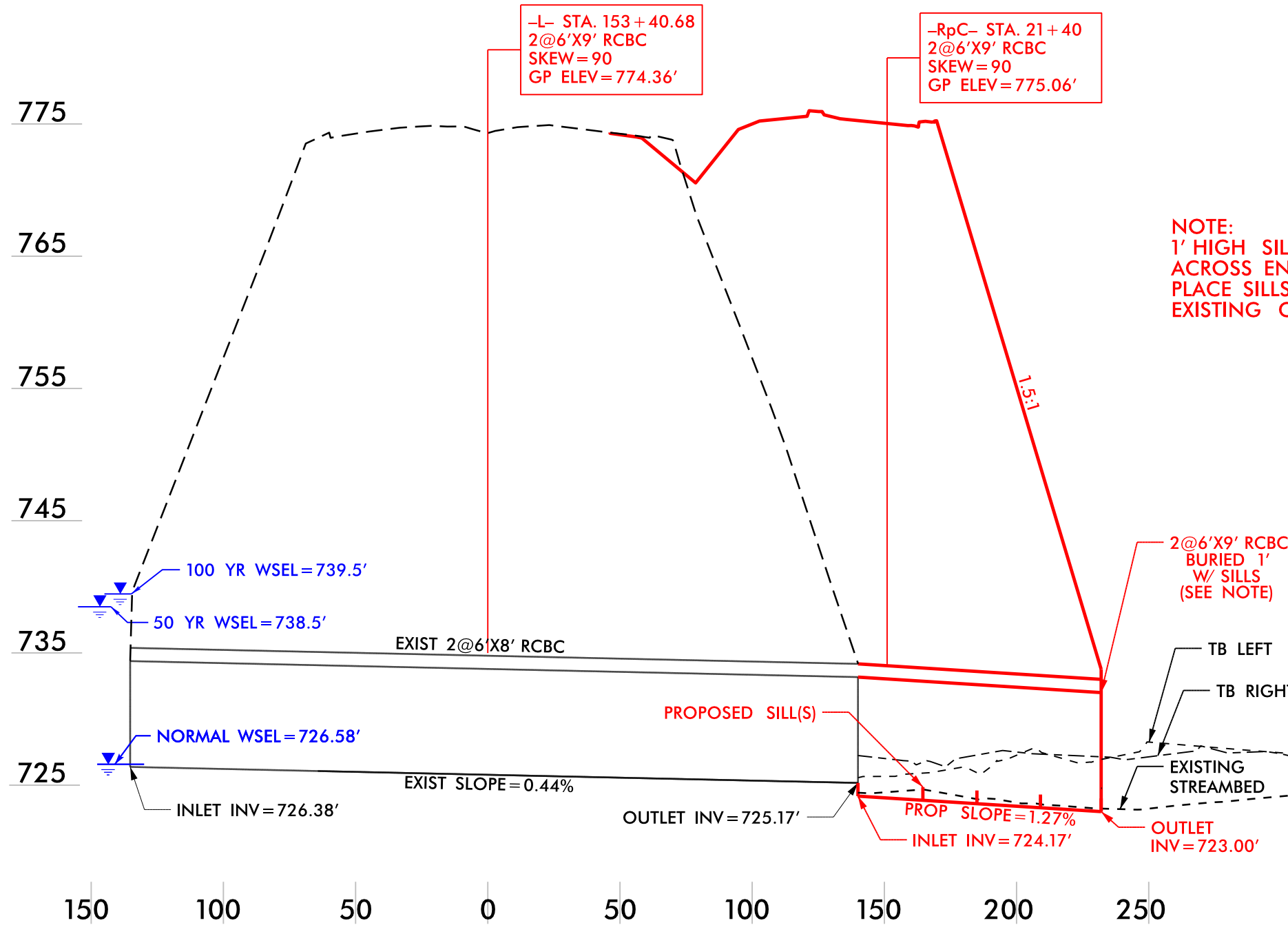

 DENOTES IMPACTS IN SURFACE WATER


 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 8 OF 13



NOTE:
1' HIGH SILLS TO BE USED IN NEW EXTENSION ONLY,
ACROSS ENTIRE WIDTH OF BOTH CULVERT BARRELS.
PLACE SILLS AT +25', +45', AND +70' FROM END OF
EXISTING CULVERT. NO SILL AT OUTLET.

SITE 2 - PROFILE VIEW

NCDOT
DIVISION OF HIGHWAYS
CLEVELAND/GASTON COUNTY
WBS NO.: 41188.1.1 (I-4928)

GASTONIA - NEW I-85 NBL
WEIGH STATION FROM SR1302
(CROWDERS MTN RD) TO
SR 1307 (EDGEWOOD RD)

5/24/2013
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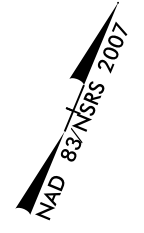
8/17/99

WETLAND AND SURFACE WATER IMPACTS PERMIT

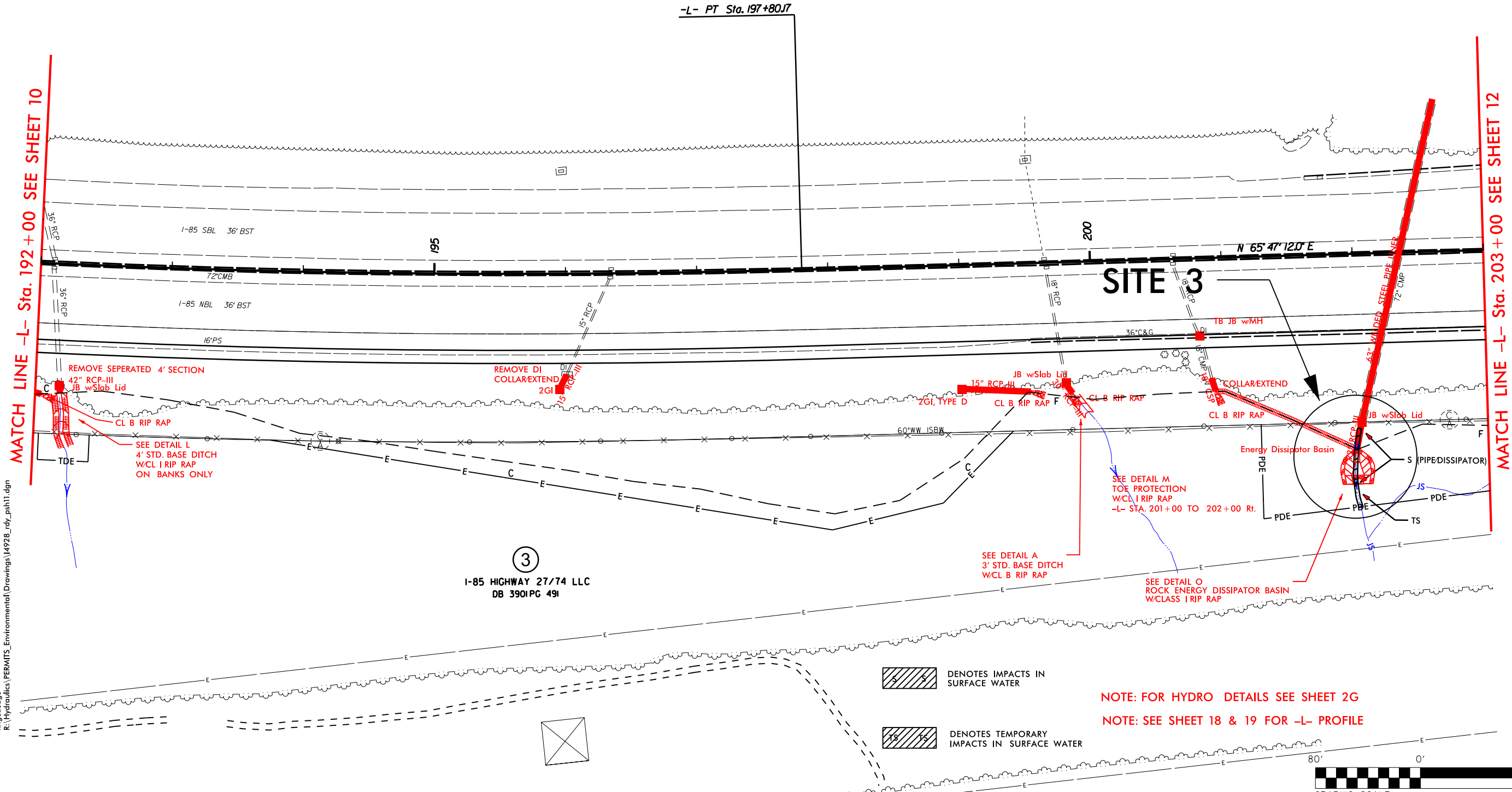
-L-
 PI Sta 184+26.48
 $\Delta = 20' 30" 35.3' (LT)$
 $D = 0' 44" 57.7'$
 $L = 2,736.99'$
 $T = 1,383.30'$
 $R = 7,646.00'$
 SE = EXISTING

PROJECT REFERENCE NO. I-4928	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING SHEET 9 OF 13



REVISIONS



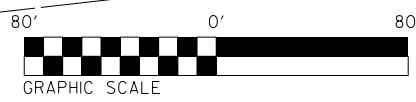
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③
 I-85 HIGHWAY 27/74 LLC
 DB 3901 PG 491

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE: FOR HYDRO DETAILS SEE SHEET 2G
 NOTE: SEE SHEET 18 & 19 FOR -L- PROFILE



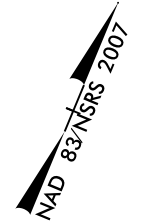
8/17/99

WETLAND AND SURFACE WATER IMPACTS PERMIT

-L-
 PI Sta 184+26.48
 $\Delta = 20' 30" 35.3' (LT)$
 $D = 0' 44" 57.7'$
 $L = 2736.99'$
 $T = 1383.30'$
 $R = 7646.00'$
 SE = EXISTING

PROJECT REFERENCE NO. I-4928	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

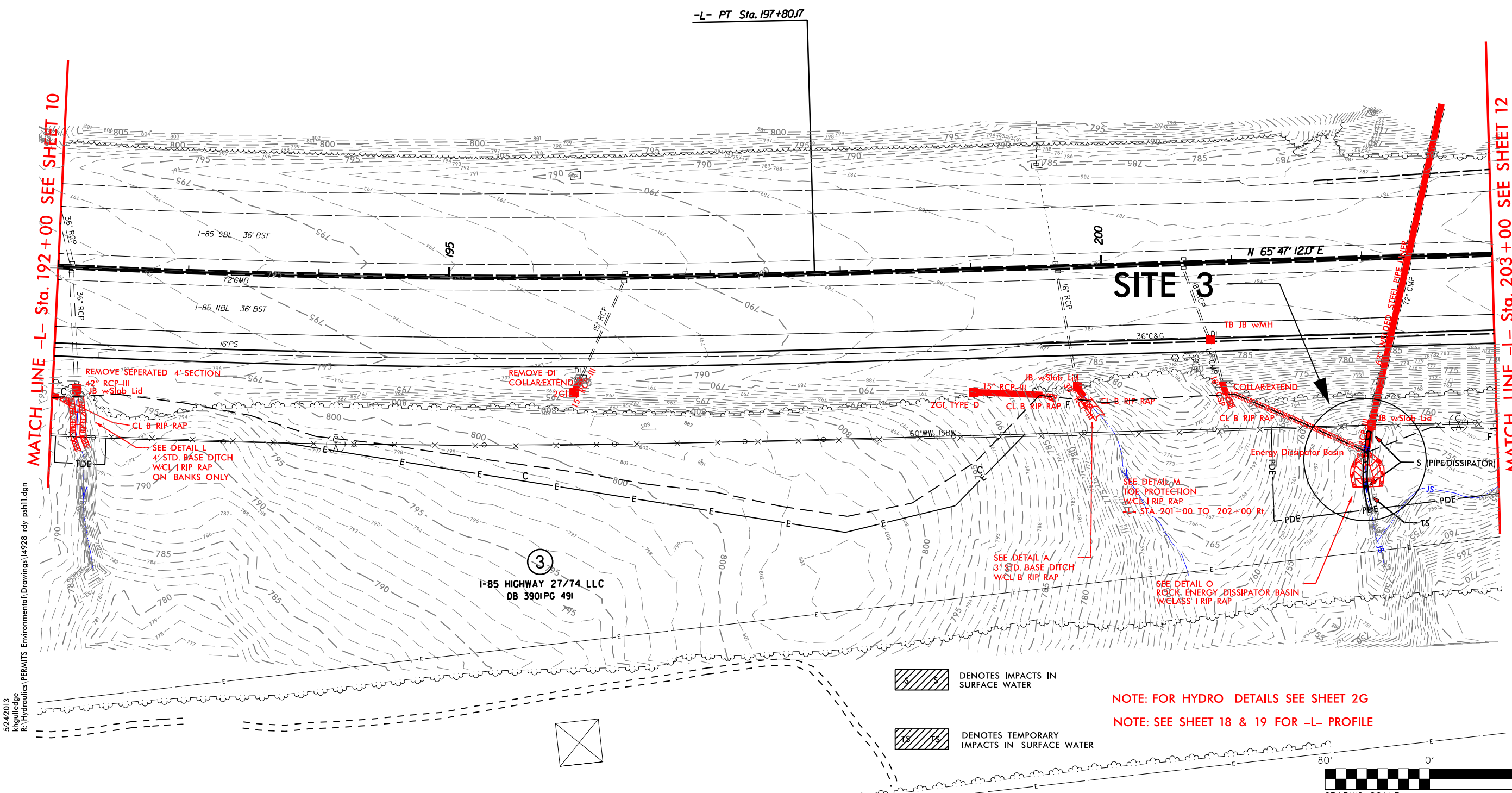
PERMIT DRAWING SHEET 10 OF 13



REVISIONS

MATCH LINE -L- Sta. 192+00 SEE SHEET 10

MATCH LINE -L- Sta. 203+00 SEE SHEET 12



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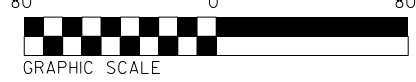
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 I-85 HIGHWAY 27/74 LLC
 DB 3901 PG 491

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

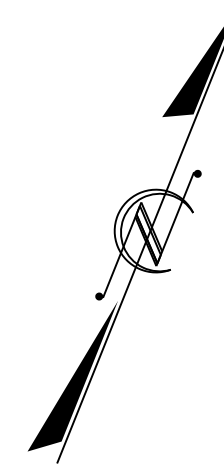
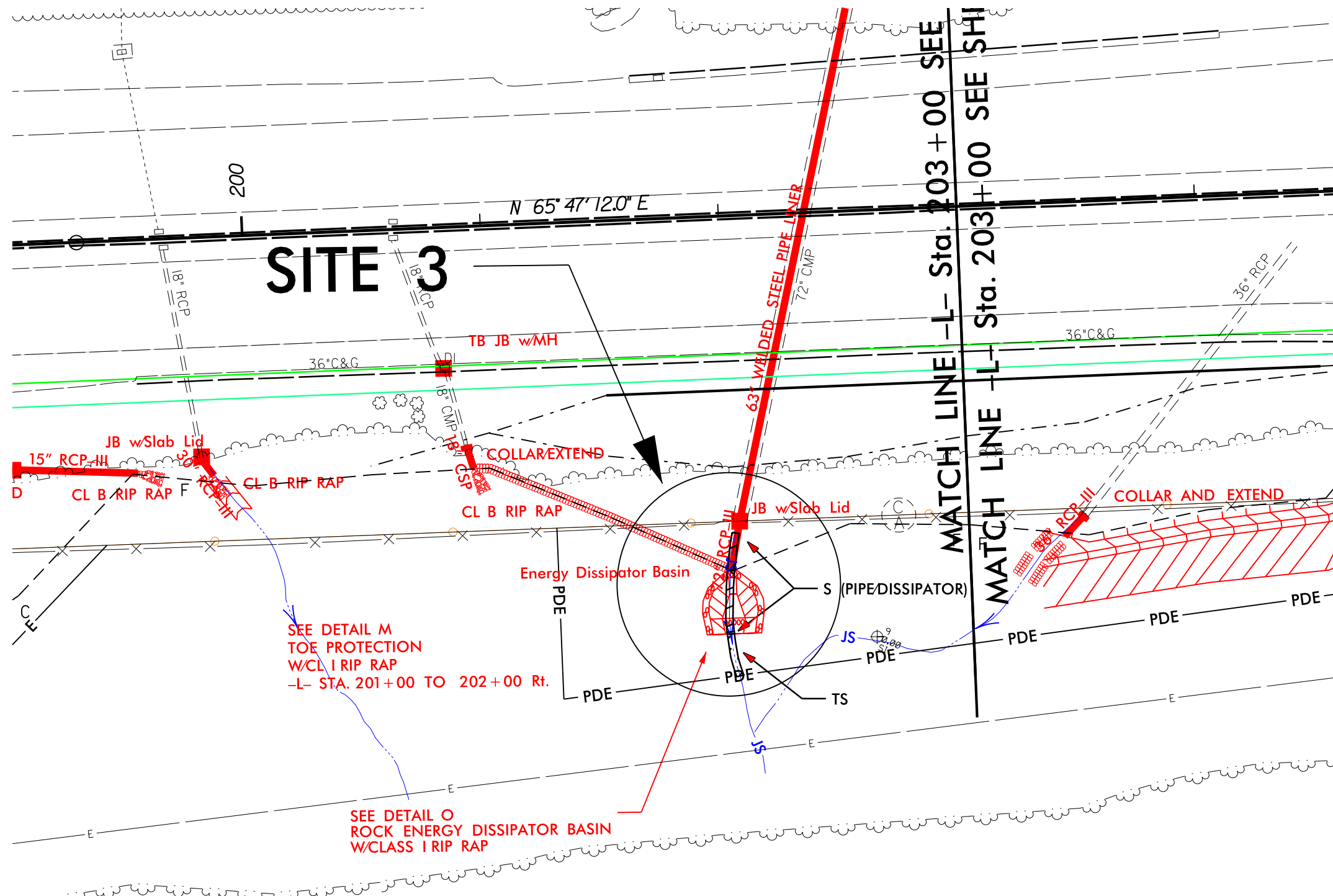
NOTE: FOR HYDRO DETAILS SEE SHEET 2G

NOTE: SEE SHEET 18 & 19 FOR -L- PROFILE



WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 11 OF 13



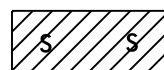
ENLARGEMENT - SITE 3 STREAM/SURFACE WATER IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 CLEVELAND/GASTON COUNTY
 WBS NO.: 41188.1.1 (I-4928)
 GASTONIA - NEW I-85 NBL
 WEIGH STATION FROM SR1302
 (CROWDERS MTN RD) TO
 SR1307 (EDGEWOOD RD)

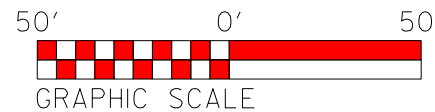
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khgulfledge
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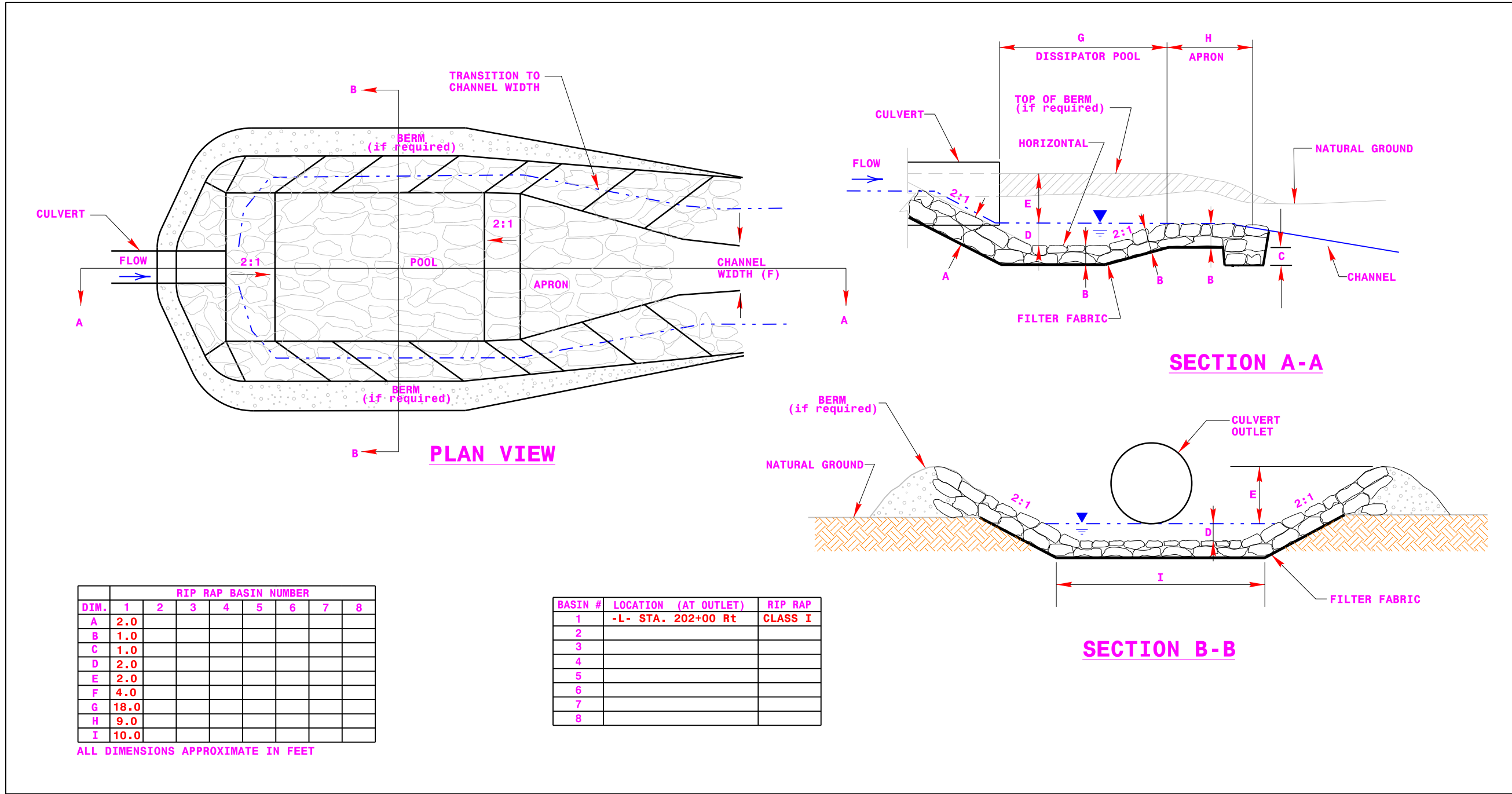
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



DENOTES IMPACTS IN
SURFACE WATER



WETLAND AND SURFACE WATER IMPACTS PERMIT



DIM.	1	2	3	4	5	6	7	8
A	2.0							
B	1.0							
C	1.0							
D	2.0							
E	2.0							
F	4.0							
G	18.0							
H	9.0							
I	10.0							

ALL DIMENSIONS APPROXIMATE IN FEET

BASIN #	LOCATION (AT OUTLET)	RIP RAP
1	-L- STA. 202+00 Rt	CLASS I
2		
3		
4		
5		
6		
7		
8		

DETAIL 0

ROCK ENERGY DISSIPATOR BASIN DETAIL

NOT TO SCALE

5/24/2013
 khgullede
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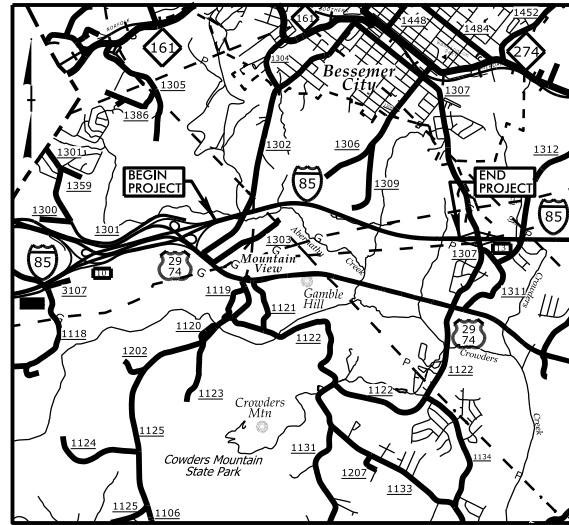
09/08/99

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4928	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41188.1.1	IMS-85-1(106)3	P.E.	
41188.2.1		RW	
41188.3.1		CONST.	

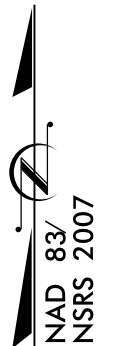
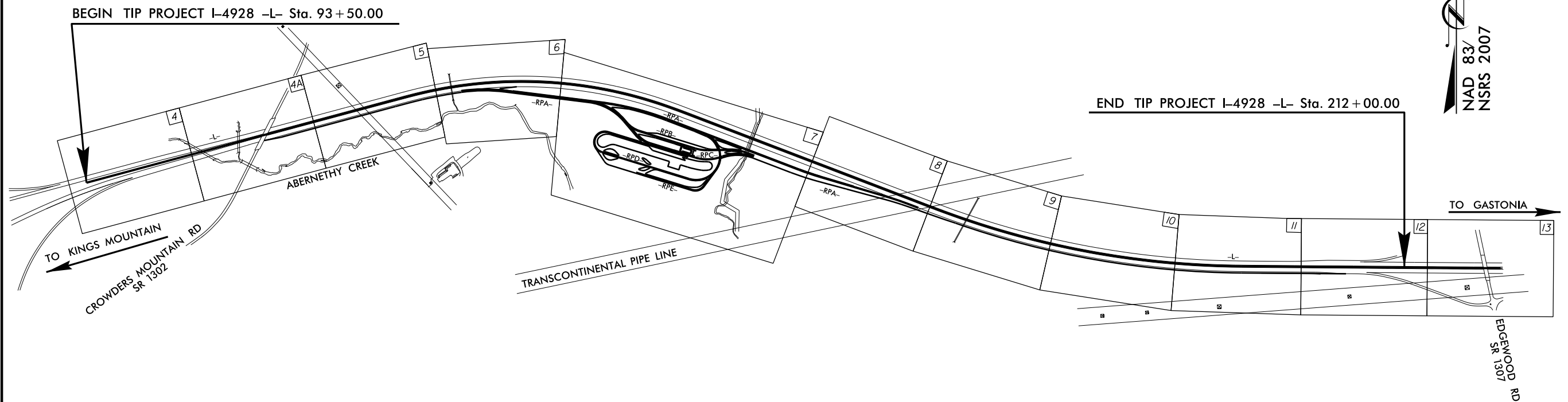


VICINITY MAP

LOCATION: NEW I-85 NBL WEIGH STATION FROM SR 1302 (CROWDERS MOUNTAIN RD) TO SR 1307 (EDGEWOOD ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, WIDENING, PAVEMENT, SIGNING, WEIGH STATION BUILDINGS, STATIC SCALES, COMMERCIAL VEHICLE INFORMATION SYSTEMS NETWORKS (CVISN) WEIGH-IN-MOTION (WIM) SCALE SYSTEM, & LIGHTING

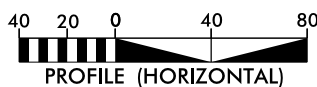
TIP PROJECT: I-4928



NOTE:
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 74,224
 ADT 2035 = 98,500
 DHV = 10 %
 D = 55 %
 T = 23 % *
 V = 70 MPH
 * TTST 18% DUAL 5 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-4928 = 2.244 MILES
 TOTAL LENGTH TIP PROJECT I-4928 = 2.244 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 September 20, 2012

LETTING DATE:
 February 18, 2014

Christopher K. Haire, PE
 PROJECT ENGINEER

Mohammed E. Mahjoub, EI
 PROJECT DESIGN ENGINEER

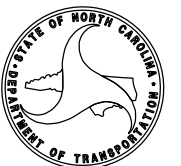
HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

C203357

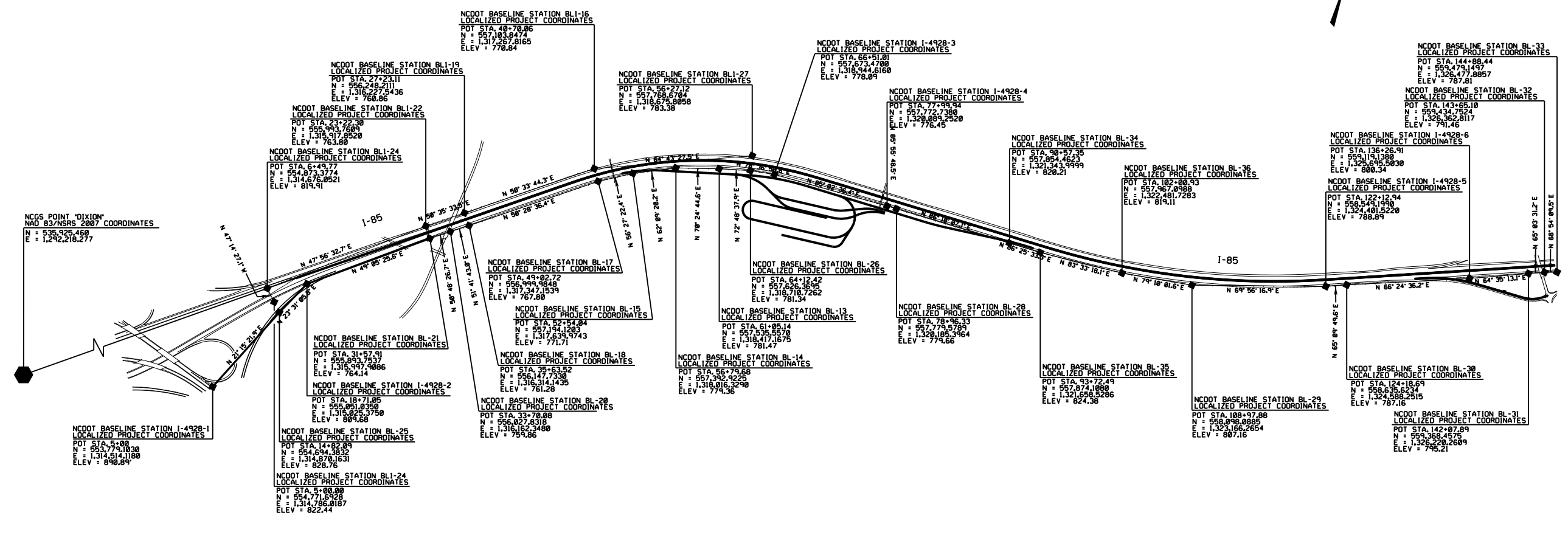
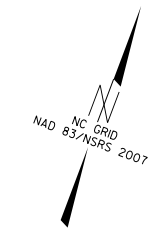
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 R:\Roadway\Proj\14928_rdy_tsh.dgn
 \$\$\$USERNAME\$\$\$

CONTRACT:

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SURVEY CONTROL SHEET I-4928

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCS FOR MONUMENT "DIXION" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 535925.460(E) EASTING: 129218.277(F) ELEVATION: 914.031(F) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998340 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "DIXION" TO "L" STATION 93+50.00 IS N 49°50'41.68" E 29.677.55 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88



POINT	DESC	NORTH	EAST	ELEVATION	-BL- STATION	-L- STATION	OFFSET
GPS1	14928-1	553,779.1030	1,314,514.1180	890.89	5+00.00	-	-
25	BL-25	554,694.3832	1,314,870.1631	828.76	14+82.09	-	-
GPS2	14928-2	555,051.0350	1,315,025.3750	809.68	18+71.05	93+93.06	99.64 RT
21	BL-21	555,893.7537	1,315,997.9086	764.14	31+57.91	107+23.23	61.74 RT
20	BL-20	556,027.8318	1,316,162.3480	759.86	33+70.08	117+74.31	61.40 RT
18	BL-18	556,147.7330	1,316,314.1435	761.28	35+63.52	111+31.74	68.31 RT
17	BL-17	556,999.9848	1,317,347.1539	767.80	49+02.72	124+69.60	65.28 RT
15	BL-15	557,194.1203	1,317,639.9743	771.71	52+54.04	128+27.85	65.92 RT
14	BL-14	557,392.9225	1,318,016.3290	779.36	56+79.68	132+60.26	65.23 RT
13	BL-13	557,535.5570	1,318,417.1675	781.47	61+05.14	136+95.52	77.67 RT
26	BL-26	557,626.3695	1,318,710.7262	781.34	64+12.42	140+06.24	69.75 RT
GPS3	14928-3	557,673.4700	1,318,944.6160	778.09	66+51.01	142+51.92	70.25 RT
GPS4	14928-4	557,772.7380	1,320,089.2520	776.45	77+99.94	154+09.27	66.51 RT
28	BL-28	557,779.5789	1,320,185.3964	779.66	78+96.33	155+06.69	65.88 RT
34	BL-34	557,854.4623	1,321,343.9999	820.21	90+57.35	166+68.14	65.99 RT
35	BL-35	557,874.1080	1,321,658.5286	824.38	93+72.49	169+83.42	66.70 RT
36	BL-36	557,967.0988	1,322,481.7283	819.11	102+00.93	178+08.91	65.46 RT
29	BL-29	558,098.0885	1,323,166.2654	807.16	108+97.88	185+01.24	79.80 RT
GPS5	14928-5	558,549.1990	1,324,401.5220	788.89	122+12.94	198+05.14	66.29 RT
30	BL-30	558,635.6234	1,324,588.2515	787.16	124+18.69	200+05.39	63.88 RT
GPS6	14928-6	559,119.1380	1,325,695.5030	800.34	136+26.91	212+15.07	77.03 RT
31	BL-31	559,368.4575	1,326,220.2609	795.21	142+07.89	217+93.82	64.88 RT
32	BL-32	559,434.7524	1,326,362.8117	791.46	143+65.10	219+51.48	62.87 RT
33	BL-33	559,479.1497	1,326,477.8857	787.81	144+88.44	-	-
24	BL-24	554,771.6928	1,314,786.0187	822.44	5+00.00	-	-
23	BL-23	554,873.3774	1,314,676.0521	819.91	6+49.77	-	-
22	BL-22	555,993.7609	1,315,917.8520	763.80	23+22.30	107+29.55	66.42 LT
19	BL-19	556,248.2111	1,316,227.5436	760.86	27+23.11	111+27.29	64.33 LT
16	BL-16	557,103.8474	1,317,267.8165	770.84	40+70.06	124+74.40	65.59 LT
27	BL-27	557,768.6704	1,318,675.8058	783.38	56+27.12	140+26.04	78.65 LT

NOTES

- THIS IS AN ENGLISH PROJECT
- ◆ INDICATES BASELINE CONTROL MONUMENTS USED OR SET FOR HORIZONTAL AND VERTICAL PROJECT CONTROL
- INDICATES GPS POINT USED FOR HORIZONTAL AND VERTICAL CONTROL

NOTE: DRAWING NOT TO SCALE

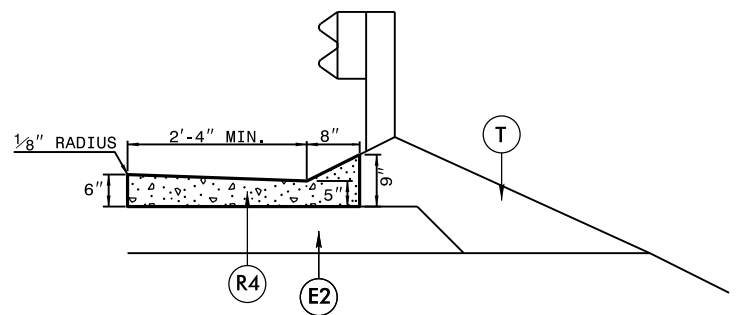
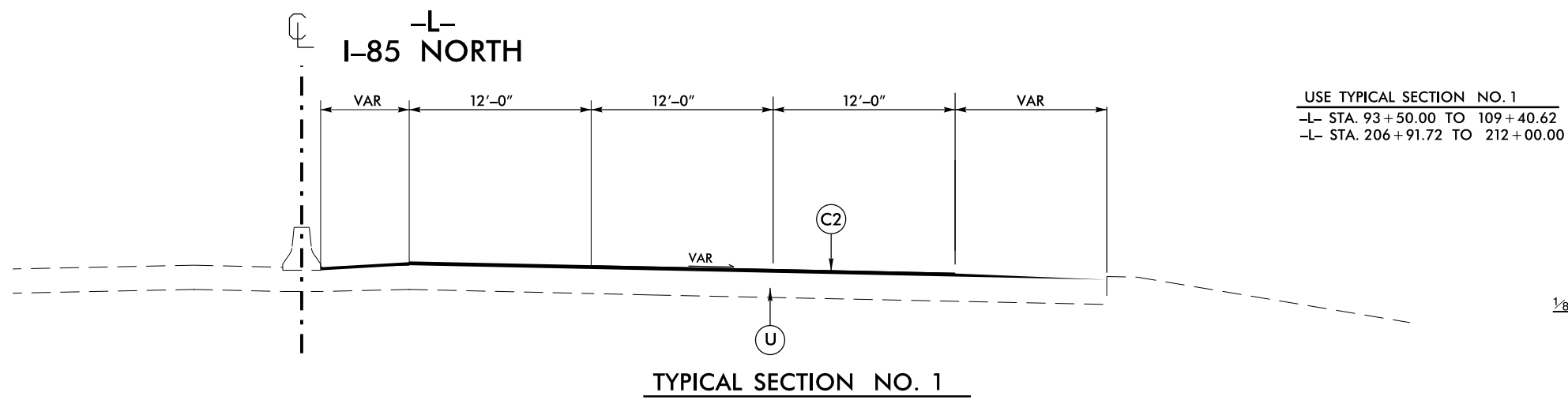
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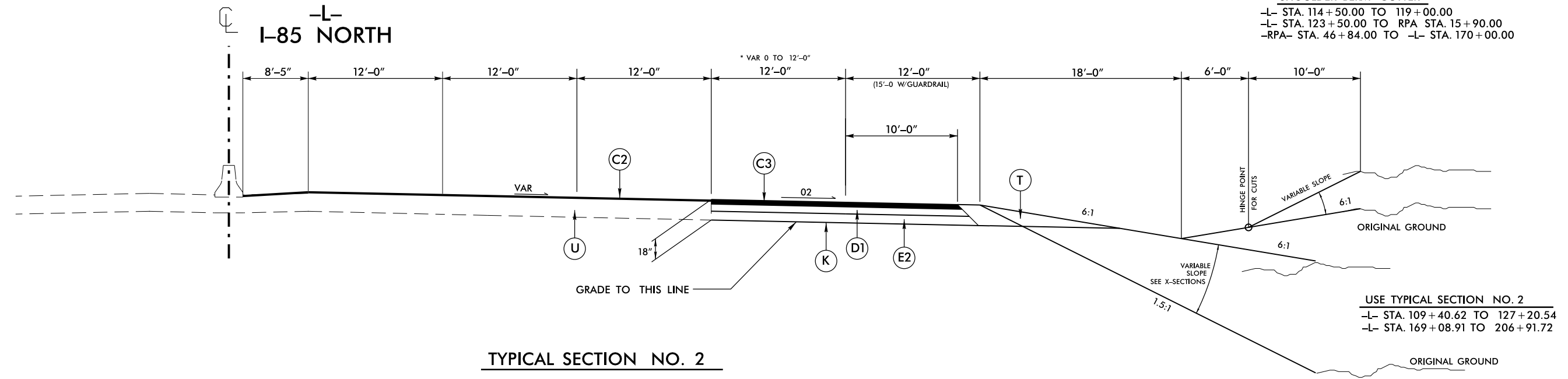
PROJECT REFERENCE NO. 1-4928	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE

A1	11.5" PORTLAND CEMENT CONCRETE PAVEMENT (WITH DOWELS).	E2	PROP. APPROX. 9" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R4	CONCRETE SHOULDER BERM GUTTER (See Detail)
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.	R5	4" CONCRETE ISLAND COVER.
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD.	K	STABILIZE SUBGRADE	S	4" CONCRETE SIDEWALK.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	2'-6" CONCRETE CURB AND GUTTER.	T	EARTH MATERIAL
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0D, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	R2	1'-6" CONCRETE CURB AND GUTTER.	U	EXISTING PAVEMENT
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	R3	9" x 18" CONCRETE CURB AND GUTTER.		

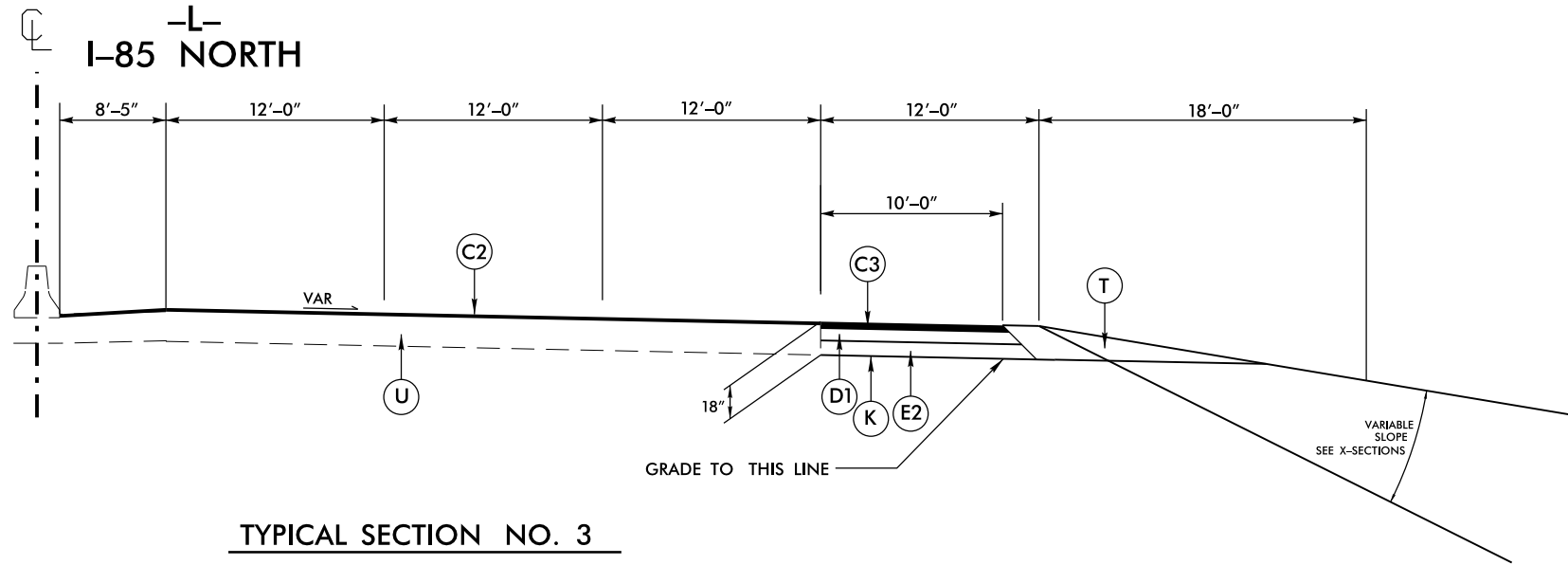


SHOULDER BERM GUTTER
-L- STA. 114+50.00 TO 119+00.00
-L- STA. 123+50.00 TO RPA STA. 15+90.00
-RPA- STA. 46+84.00 TO -L- STA. 170+00.00



TYPICAL SECTION NO. 2

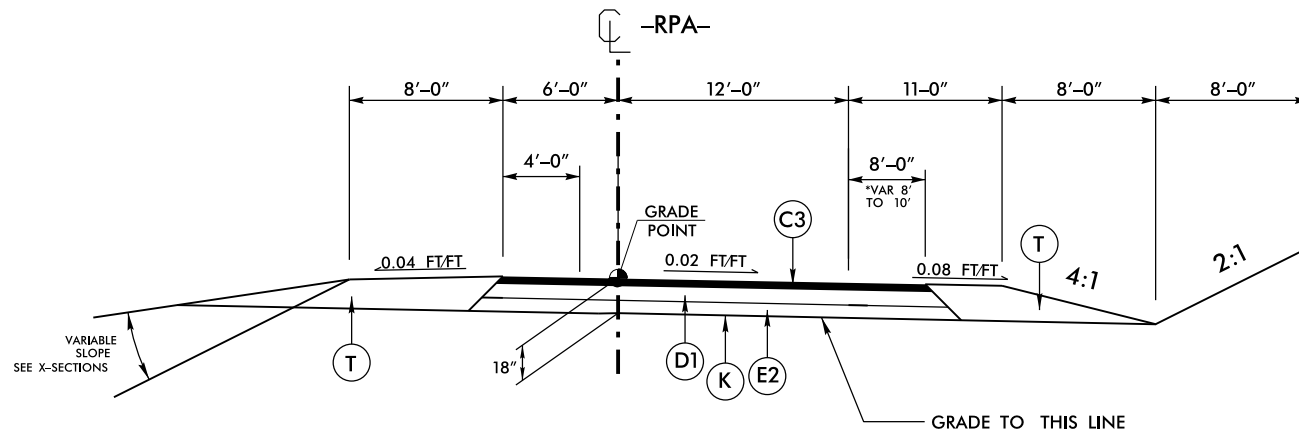
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TYPICAL SECTION NO. 3

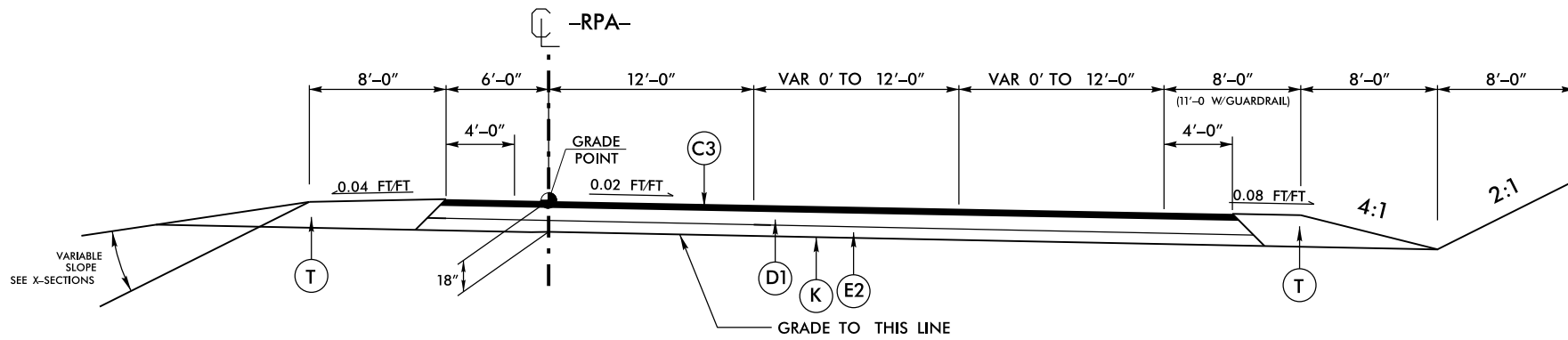
USE TYPICAL SECTION NO. 3
-L- STA. 127+20.54 TO 169+08.91

PAVEMENT SCHEDULE	
A1	11.5" PORTLAND CEMENT CONCRETE PAVEMENT (WITH DOWELS)
C1	PROP APPROX 1 1/4" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A
C2	PROP APPROX 1 1/2" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
C3	PROP APPROX 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
D1	PROP APPROX 3" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0D
E1	PROP APPROX 3" ASPHALT CONC. BASE COURSE, TYPE B25.0B
E2	PROP APPROX 9" ASPHALT CONC. BASE COURSE, TYPE B25.0C
E3	PROP VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B
K	STABILIZE SUBGRADE
R1	2'-6" CONC. CURB AND GUTTER
R2	1'-6" CONC. CURB AND GUTTER
R3	9"-18" CONC. CURB AND GUTTER
R4	CONCRETE SHOULDER BERM GUTTER (See Detail)
R5	4" CONC. ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT



TYPICAL SECTION NO. 4

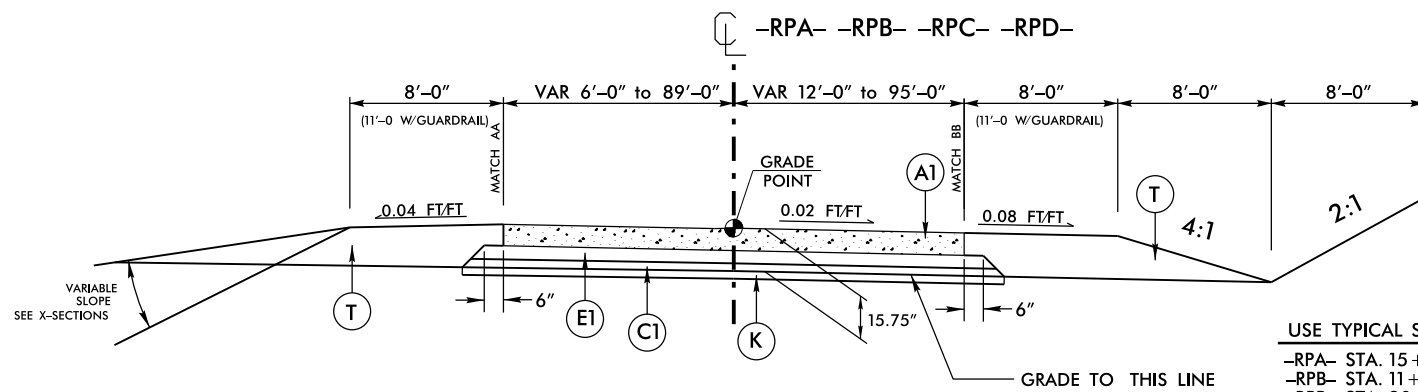
USE TYPICAL SECTION NO. 4
-RPA- STA. 10+00 TO 15+69.96



TYPICAL SECTION NO. 5

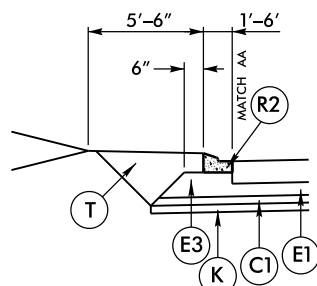
USE TYPICAL SECTION NO. 5
-RPA- STA. 44+22.25 TO 51+44.45

PAVEMENT SCHEDULE	
A1	11.5" PORTLAND CEMENT CONCRETE PAVEMENT (WITH DOWELS)
C1	PROP APPROX 1 1/4" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A
C2	PROP APPROX 1 1/2" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
C3	PROP APPROX 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
D1	PROP APPROX 3" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0D
E1	PROP APPROX 3" ASPHALT CONC. BASE COURSE, TYPE B25.0B
E2	PROP APPROX 9" ASPHALT CONC. BASE COURSE, TYPE B25.0C
E3	PROP VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B
K	STABILIZE SUBGRADE
R1	2'-6" CONC. CURB AND GUTTER
R2	1'-6" CONC. CURB AND GUTTER
R3	9"-18" CONC. CURB AND GUTTER
R4	CONCRETE SHOULDER BERM GUTTER (See Detail)
RS	4" CONC. ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT

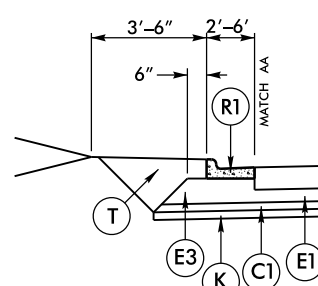


TYPICAL SECTION NO. 6

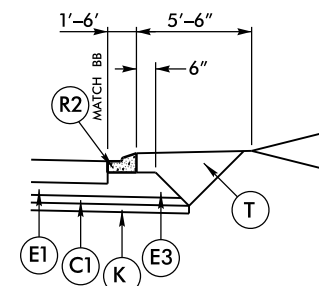
USE TYPICAL SECTION NO. 6
-RPA- STA. 15+69.96 TO 44+22.25
-RPB- STA. 11+32.66 TO 17+89.16
-RPB- STA. 20+41.81 TO 25+57.57
-RPC- STA. 10+92.57 TO 14+20.80
-RPC- STA. 16+75.78 TO 22+10.27
-RPD- STA. 10+86.06 TO 30+55.27



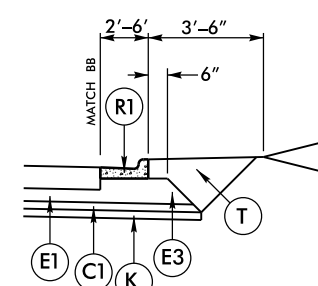
TYPICAL SECTION NO. 7
USE TYPICAL SECTION NO. 7
IN CONJUNCTION WITH TYPICAL SECTION 6
-RPD- STA 10+86.06 TO 11+92.11



TYPICAL SECTION NO. 8
USE TYPICAL SECTION NO. 8
IN CONJUNCTION WITH TYPICAL SECTION 6
-RPB- STA 22+71.36 TO 24+35.55
-RPD- STA 12+73.64 TO 30+21.65

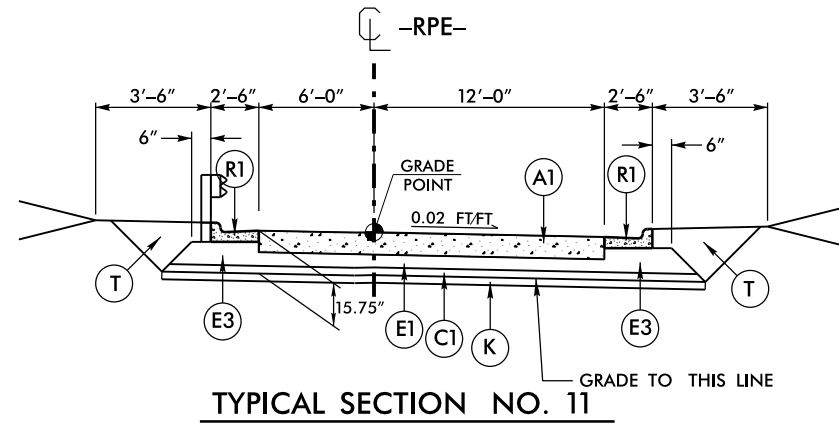


TYPICAL SECTION NO. 9
USE TYPICAL SECTION NO. 9
IN CONJUNCTION WITH TYPICAL SECTION 6
-RPA- STA 32+79.67 TO 35+19.95
-RPB- STA 22+93.87 TO 24+42.04



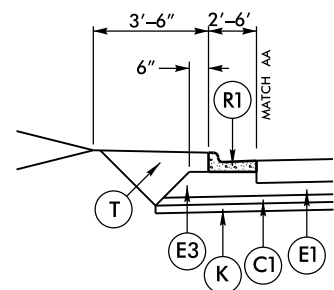
TYPICAL SECTION NO. 10
USE TYPICAL SECTION NO. 10
IN CONJUNCTION WITH TYPICAL SECTION 6
-RPA- STA 28+86.27 TO 31+72.01
-RPA- STA 36+44.45 TO 39+94.45
-RPC- STA 11+41.48 TO 12+00.65
-RPC- STA 19+22.19 TO 22+10.26
-RPD- STA 10+00.00 TO 11+85.68
-RPD- STA 21+13.85 TO 29+35.98

PROJECT REFERENCE NO. 1-4928	SHEET NO. 2-C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

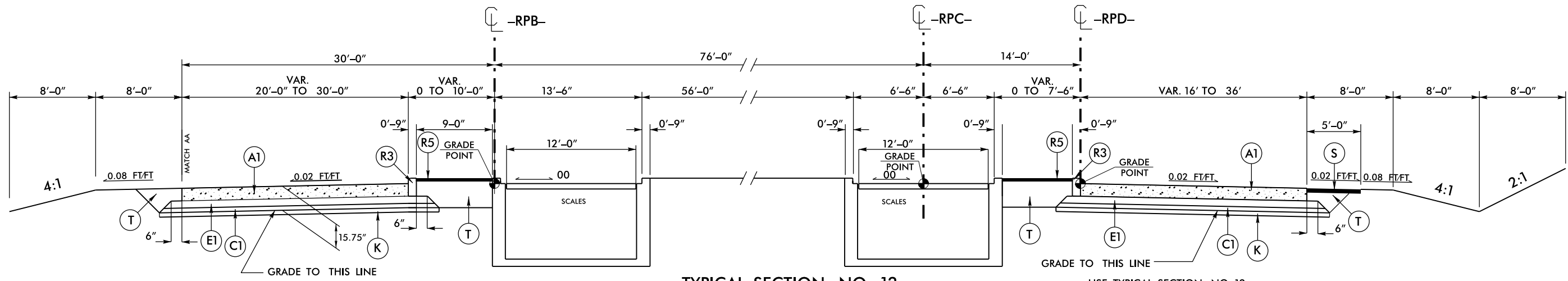


USE TYPICAL SECTION NO. 11
-RPE- STA. 11+02.36 TO 17+12.32

PAVEMENT SCHEDULE	
A1	11.5" PORTLAND CEMENT CONCRETE PAVEMENT (WITH DOWELS)
C1	PROP APPROX 1 1/4" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A
C2	PROP APPROX 1 1/2" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
C3	PROP APPROX 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5D
D1	PROP APPROX 3" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0D
E1	PROP APPROX 3" ASPHALT CONC. BASE COURSE, TYPE B25.0B
E2	PROP APPROX 9" ASPHALT CONC. BASE COURSE, TYPE B25.0C
E3	PROP VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B
K	STABILIZE SUBGRADE
R1	2'-6" CONC. CURB AND GUTTER
R2	1'-6" CONC. CURB AND GUTTER
R3	9"-18" CONC. CURB AND GUTTER
R4	CONCRETE SHOULDER BERM GUTTER (See Detail)
R5	4" CONC. ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT

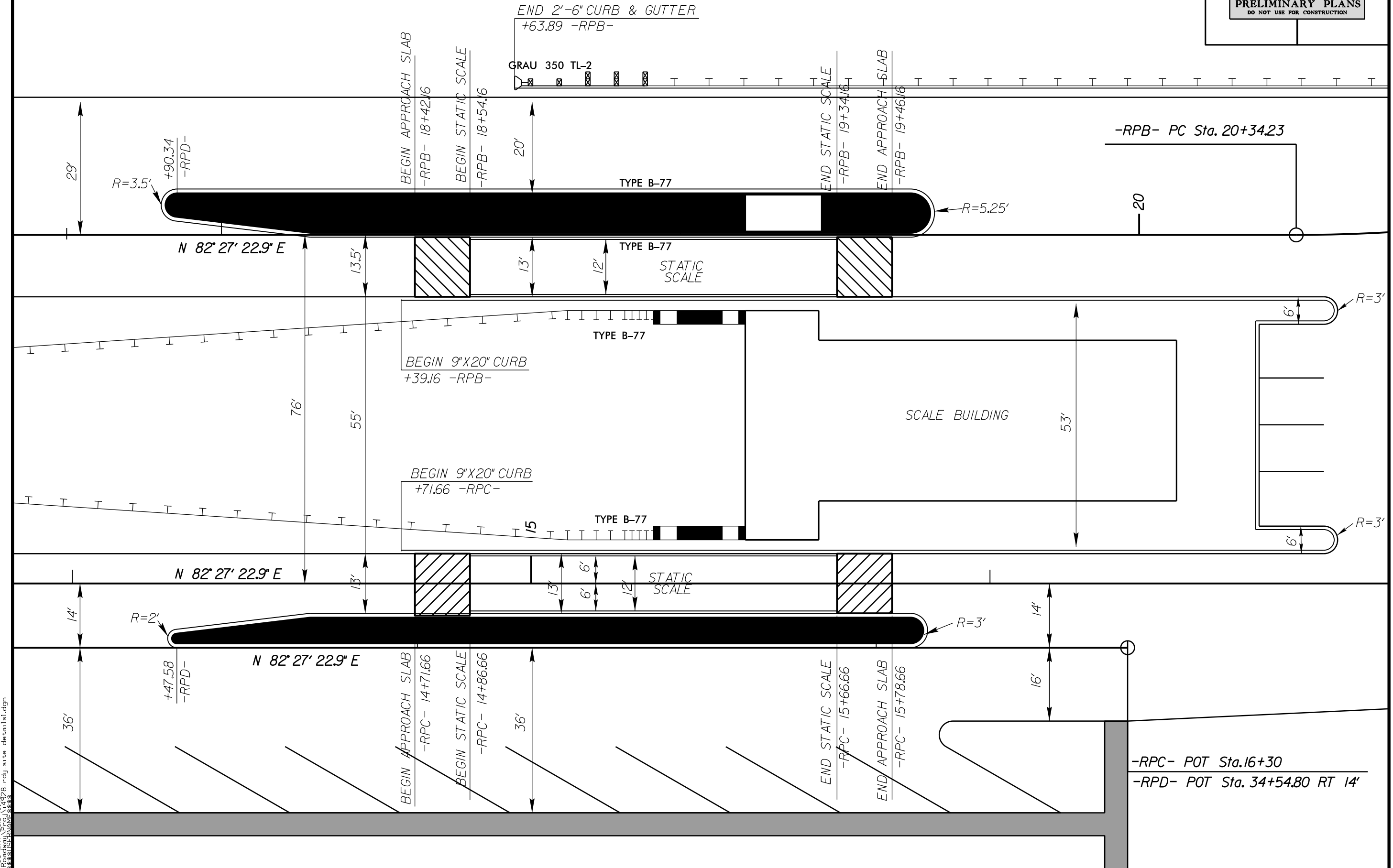


TYPICAL SECTION NO. 12A
USE TYPICAL SECTION NO. 12A
IN CONJUNCTION WITH TYPICAL SECTION 12
-RPB- STA 18+63.89 TO 22+71.36



TYPICAL SECTION NO. 12
USE TYPICAL SECTION NO. 12
-RPB- STA. 17+89.16 TO 20+41.81
-RPC- STA. 14+20.80 TO 16+75.78
-RPD- STA. 32+45.58 TO 34+10.45

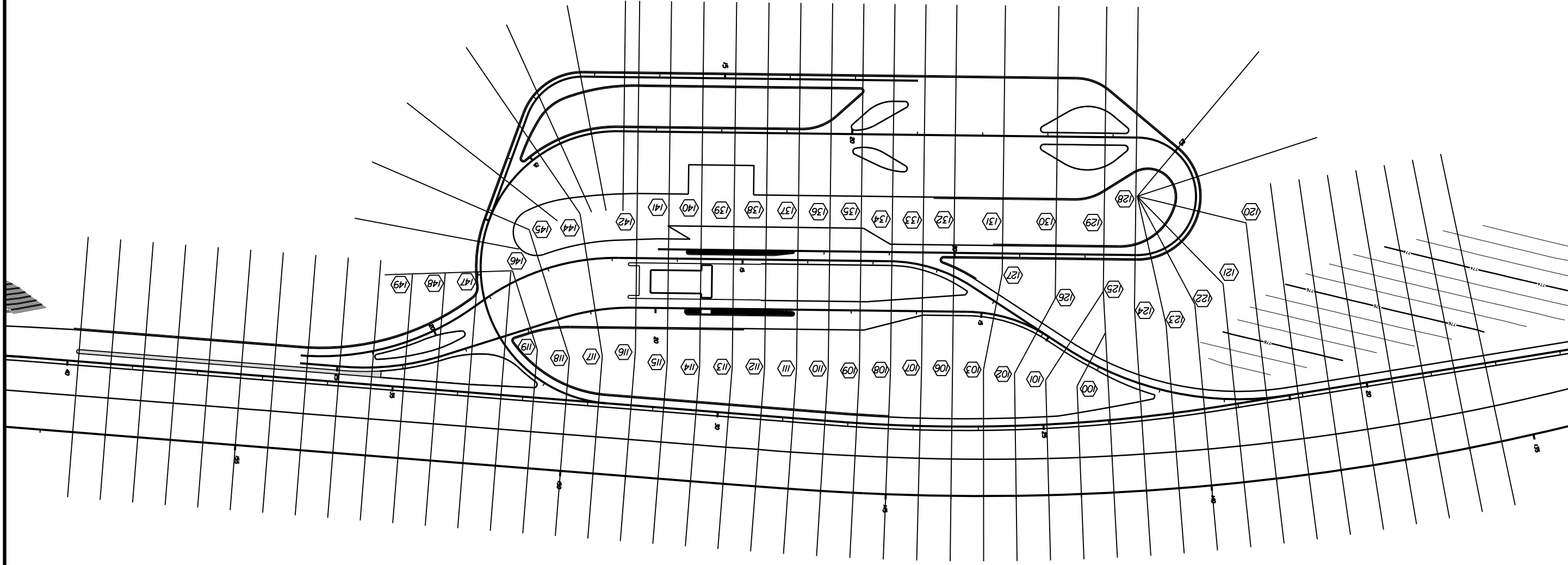
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$-RPC-$ POT Sta. 16+30
 $-RPD-$ POT Sta. 34+54.80 RT 14'

— SHEAR POINT DIAGRAM



NAD 83/NSRS 2007

PROJECT REFERENCE NO. 1-4928	
SHEET NO. 2-F	
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	

-L-

<i>PIs Sta 122+88.34</i> $\Theta s = 1^{\circ} 49' 48.6''$ $Ls = 245.00'$ $LT = 163.34'$ $ST = 81.67'$	<i>PI Sta 134+81.75</i> $\Delta = 32^{\circ} 20' 00.0'' (RT)$ $D = 1^{\circ} 29' 38.5''$ $L = 2,164.18'$ $T = 1,111.75'$ $R = 3,835.00'$ $SE = EXISTING$	<i>PIs Sta 146+15.85</i> $\Theta s = 1^{\circ} 49' 48.6''$ $Ls = 245.00'$ $LT = 163.34'$ $ST = 81.67'$
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-RPA-

<i>PI Sta 25+19.59</i> $\Delta = 13^{\circ} 48' 05.3'' (RT)$ $D = 2^{\circ} 17' 30.6''$ $L = 602.20'$ $T = 302.57'$ $R = 2,500.00'$ $SE = SEE PLANS$	<i>PI Sta 41+49.63</i> $\Delta = 4^{\circ} 25' 45.9'' (LT)$ $D = 2^{\circ} 17' 30.6''$ $L = 193.27'$ $T = 96.68'$ $R = 2,500.00'$ $SE = SEE PLANS$	<i>PI Sta 49+16.01</i> $\Delta = 2^{\circ} 59' 49.3'' (RT)$ $D = 1^{\circ} 54' 35.5''$ $L = 156.92'$ $T = 78.48'$ $R = 3,000.00'$ $SE = SEE PLANS$	<i>PIs Sta 50+44.46</i> $\Theta s = 1^{\circ} 25' 56.6''$ $Ls = 150.00'$ $LT = 100.00'$ $ST = 50.00'$
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-RPB-

<i>PI Sta 11+88.37</i> $\Delta = 42^{\circ} 27' 05.3'' (RT)$ $D = 1^{\circ} 48' 48.8''$ $L = 359.35'$ $T = 188.37'$ $R = 485.00'$ $SE = SEE PLANS$	<i>PI Sta 14+58.12</i> $\Delta = 32^{\circ} 29' 24.4'' (LT)$ $D = 24^{\circ} 22' 52.3''$ $L = 133.26'$ $T = 68.47'$ $R = 235.00'$ $SE = SEE PLANS$	<i>PI Sta 20+90.13</i> $\Delta = 18^{\circ} 08' 53.2'' (LT)$ $D = 16^{\circ} 22' 12.8''$ $L = 110.86'$ $T = 55.90'$ $R = 350.00'$ $SE = SEE PLANS$	<i>PI Sta 24+13.69</i> $\Delta = 2^{\circ} 59' 17.6'' (RT)$ $D = 14^{\circ} 19' 26.2''$ $L = 153.51'$ $T = 77.71'$ $R = 400.00'$ $SE = SEE PLANS$	<i>PI Sta 29+09.81</i> $\Delta = 4^{\circ} 28' 27.3'' (LT)$ $D = 2^{\circ} 16' 51.2''$ $L = 196.16'$ $T = 98.13'$ $R = 2,512.00'$ $SE = SEE PLANS$
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-RPC-

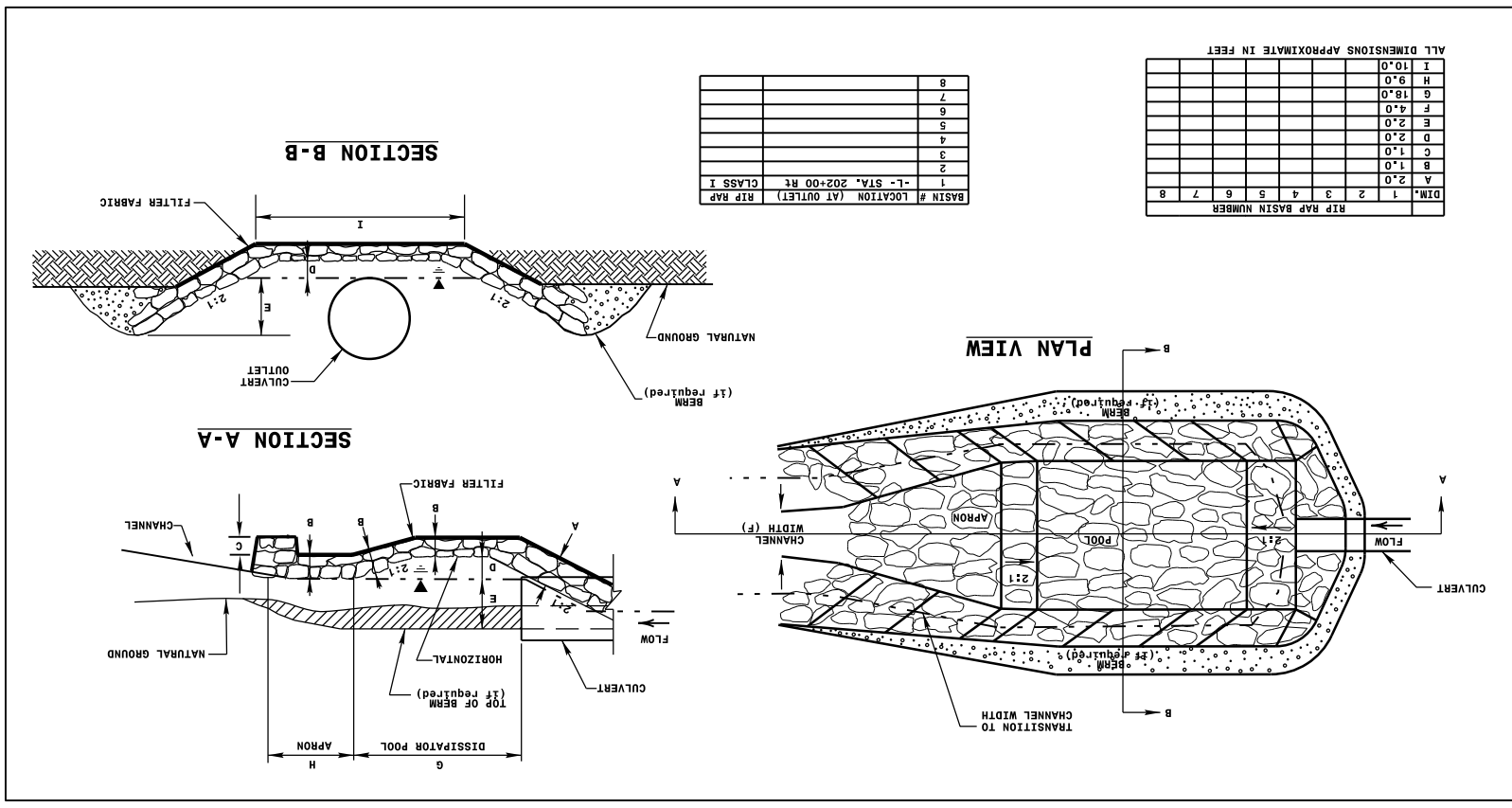
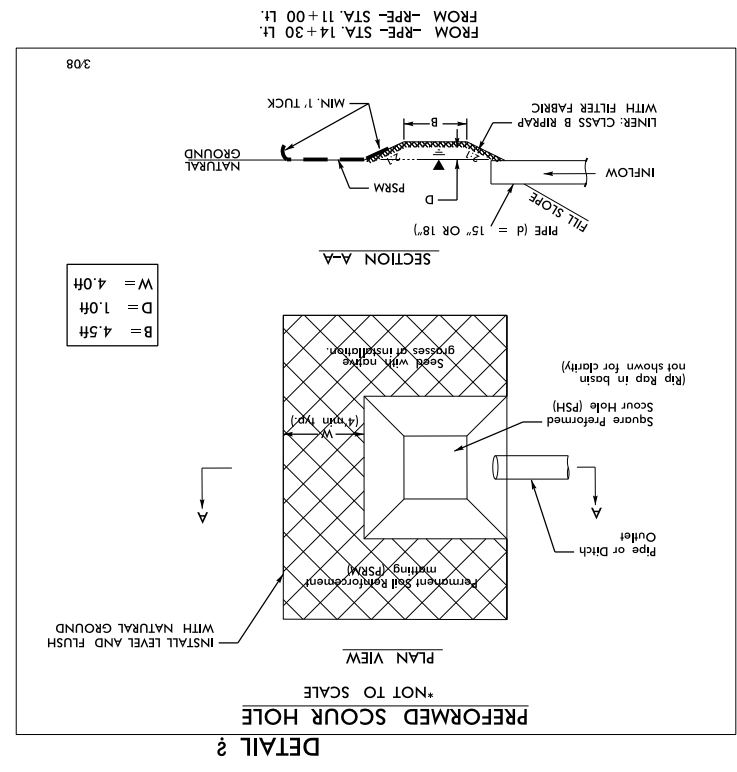
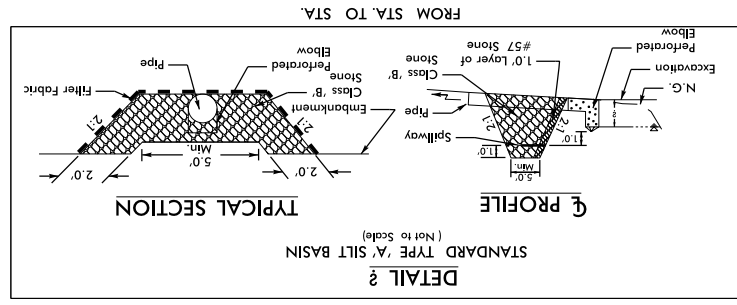
<i>PI Sta 12+09.95</i> $\Delta = 32^{\circ} 29' 24.4'' (LT)$ $D = 24^{\circ} 22' 52.3''$ $L = 133.26'$ $T = 68.47'$ $R = 235.00'$ $SE = SEE PLANS$	<i>PI Sta 18+03.18</i> $\Delta = 35^{\circ} 49' 50.3'' (LT)$ $D = 16^{\circ} 22' 12.8''$ $L = 218.88'$ $T = 113.15'$ $R = 350.00'$ $SE = SEE PLANS$	<i>PI Sta 20+77.60</i> $\Delta = 39^{\circ} 40' 14.7'' (RT)$ $D = 14^{\circ} 19' 26.2''$ $L = 276.95'$ $T = 144.29'$ $R = 400.00'$ $SE = SEE PLANS$
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-RPD-

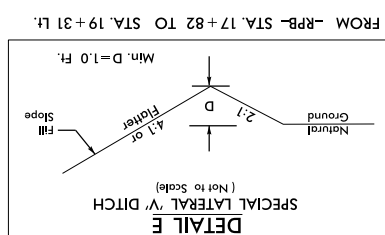
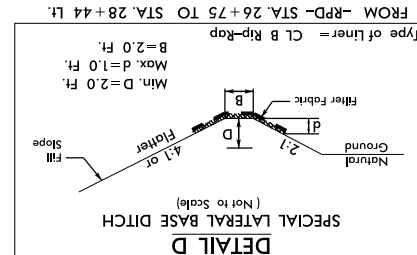
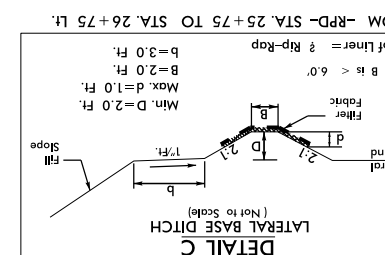
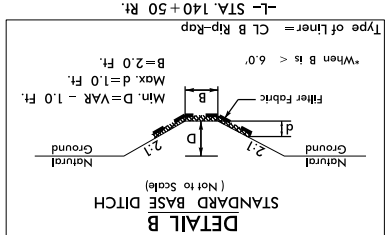
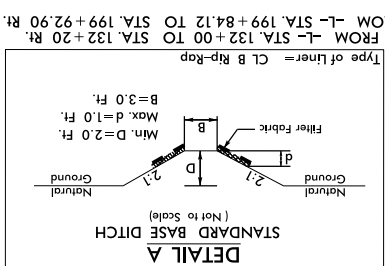
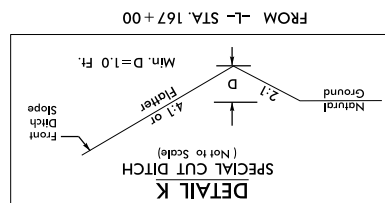
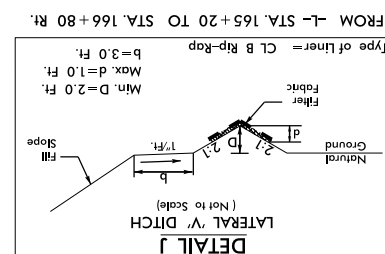
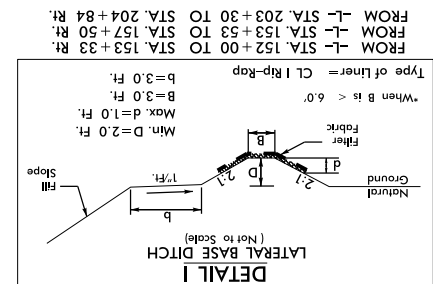
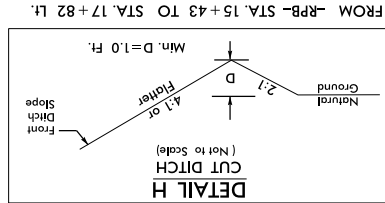
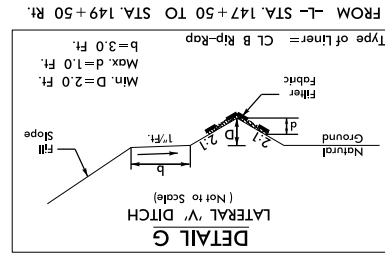
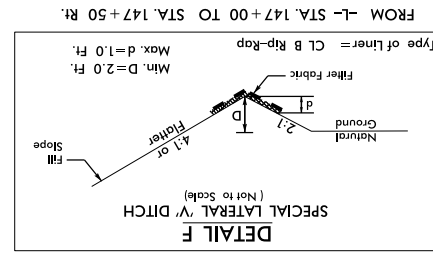
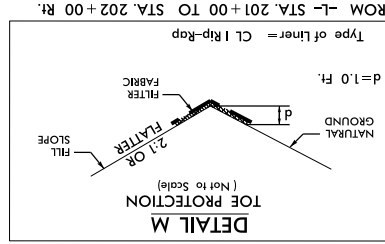
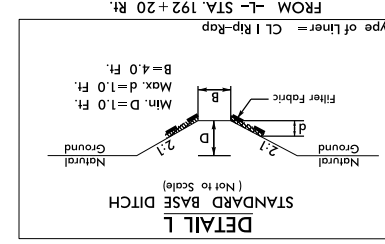
<i>PI Sta 72+24.75</i> $\Delta = 176^{\circ} 09' 35.6'' (RT)$ $D = 27^{\circ} 27' 23.5''$ $L = 641.60'$ $T = 6,224.75'$ $R = 208.68'$ $SE = SEE PLANS$	<i>PI Sta 24+38.18</i> $\Delta = 180^{\circ} 00' 00.0'' (RT)$ $D = 63^{\circ} 39' 43.1''$ $L = 282.74'$ $T = 928,191,623.85'$ $R = 90.00'$ $SE = SEE PLANS$
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-RPE-

<i>PI Sta 12+35.66</i> $\Delta = 70^{\circ} 33' 36.4'' (RT)$ $D = 63^{\circ} 39' 43.1''$ $L = 110.84'$ $T = 63.68'$ $R = 90.00'$ $SE = SEE PLANS$



DETAIL 0 ROCK ENERGY DISSIPATOR BASIN DETAIL NOT TO SCALE



PROJECT REFERENCE NO. 1-4928
 SHEET NO. 2-C
 RW SHEET NO.
 HYDRAULICS ENGINEER
 ROADWAY DESIGN ENGINEER
 DO NOT USE FOR CONSTRUCTION
 PRELIMINARY PLANS

8/17/99

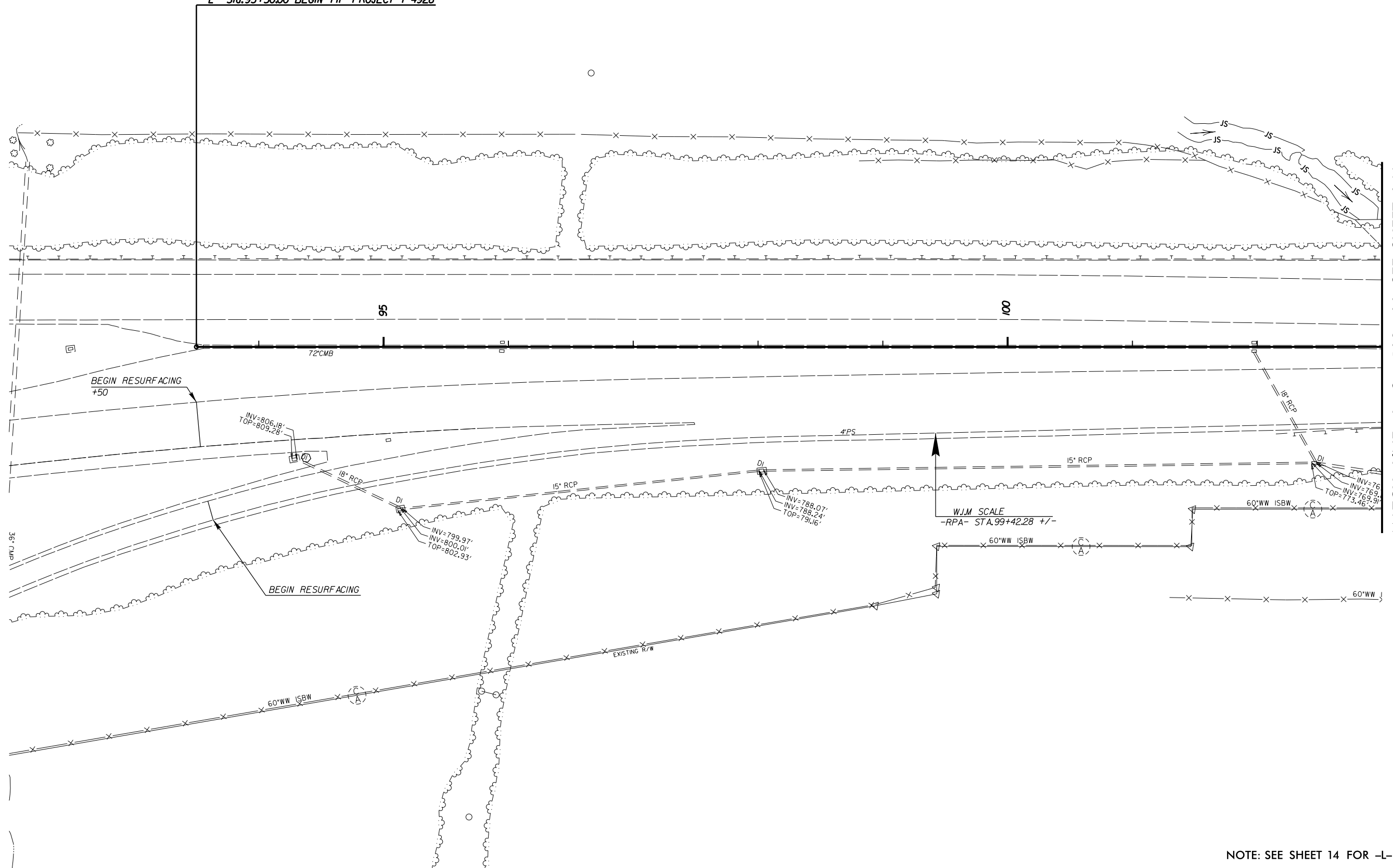
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\$\$\$\$\$USERS\BME\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
I-4928	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/NRS 2007

-L- Sta.93+50.00 BEGIN TIP PROJECT I-4928

REVISIONS



MATCH LINE -L- Sta. 103 + 00 SEE SHEET 04A

NOTE: SEE SHEET 14 FOR -L- PROFILE

8/17/99

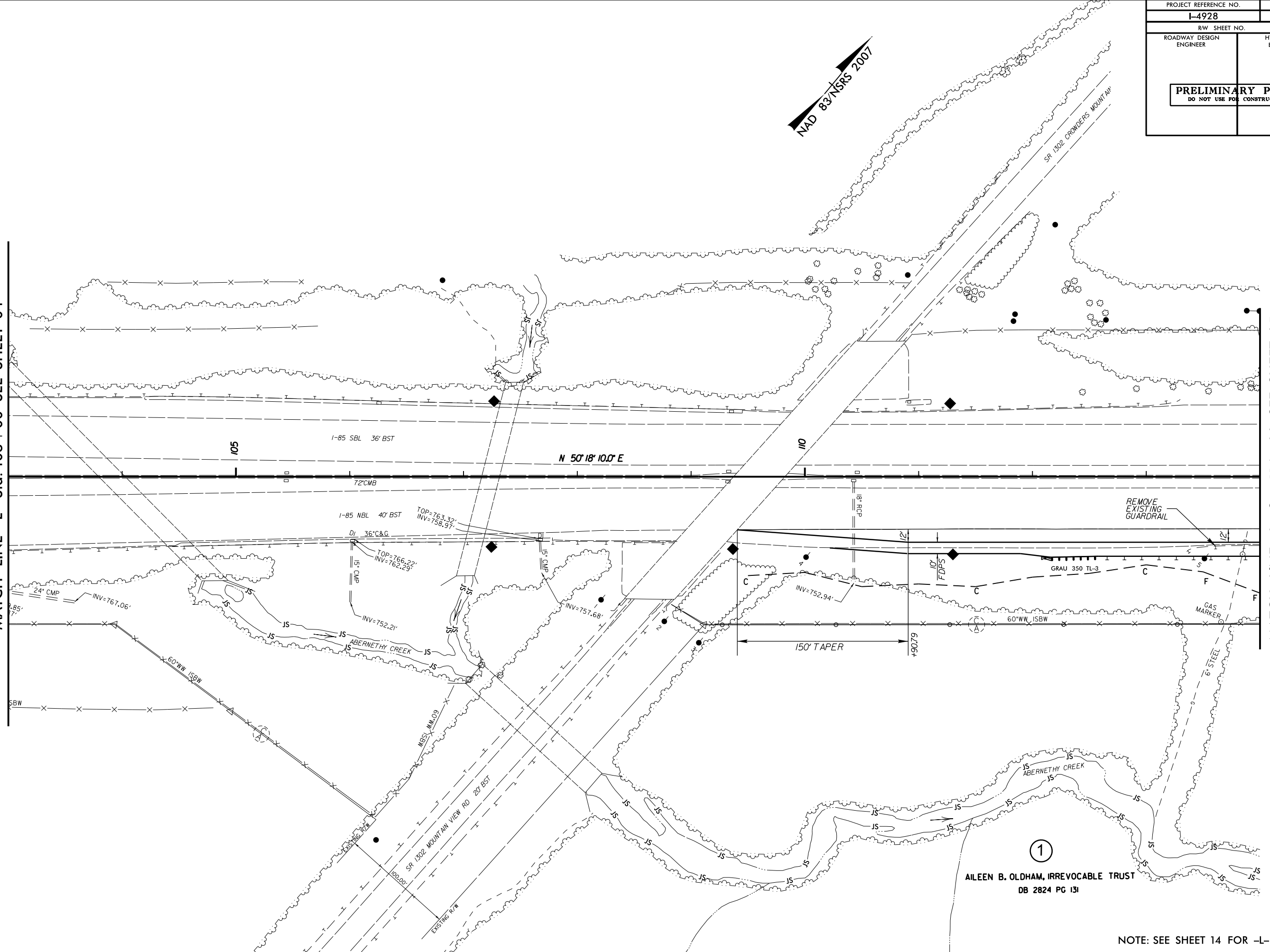
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\$\$\$\$\$USERS\BME\$\$\$\$\$

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-4928	4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE -L- Sta. 103+00 SEE SHEET 04

MATCH LINE -L- Sta. 114+00 SEE SHEET 05



1
 AILEEN B. OLDHAM, IRREVOCABLE TRUST
 DB 2824 PG 131

NOTE: SEE SHEET 14 FOR -L- PROFILE

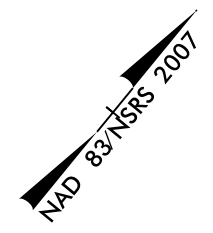
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PROJECT REFERENCE NO. I-4928	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

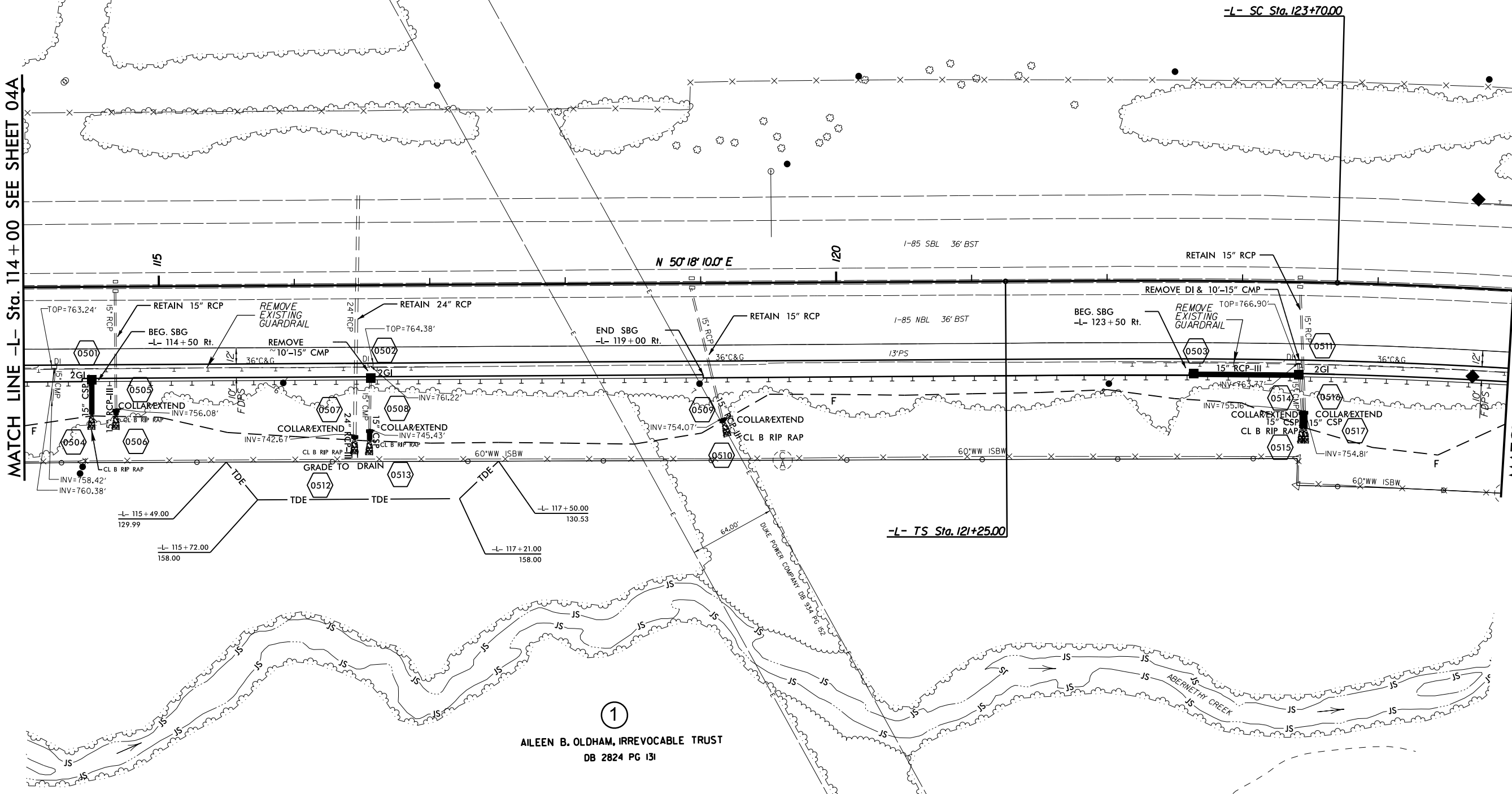
-L-

<i>PIs Sta 122+88.34</i>	<i>PI Sta 134+81.75</i>	<i>PIs Sta 146+15.85</i>
<i>θ s = 1° 49' 48.6"</i>	<i>Δ = 32° 20' 00.0" (RT)</i>	<i>θ s = 1° 49' 48.6"</i>
<i>Ls = 245.00'</i>	<i>D = 1° 29' 38.5"</i>	<i>Ls = 245.00'</i>
<i>LT = 163.34'</i>	<i>L = 2,164.18'</i>	<i>LT = 163.34'</i>
<i>ST = 81.67'</i>	<i>T = 1,111.75'</i>	<i>ST = 81.67'</i>
	<i>R = 3,835.00'</i>	
	<i>SE = EXISTING</i>	



MATCH LINE -L- Sta. 114+00 SEE SHEET 04A

MATCH LINE -L- Sta. 125+00 SEE SHEET 06



REVISIONS

1

AILEEN B. OLDHAM, IRREVOCABLE TRUST
DB 2824 PG 131

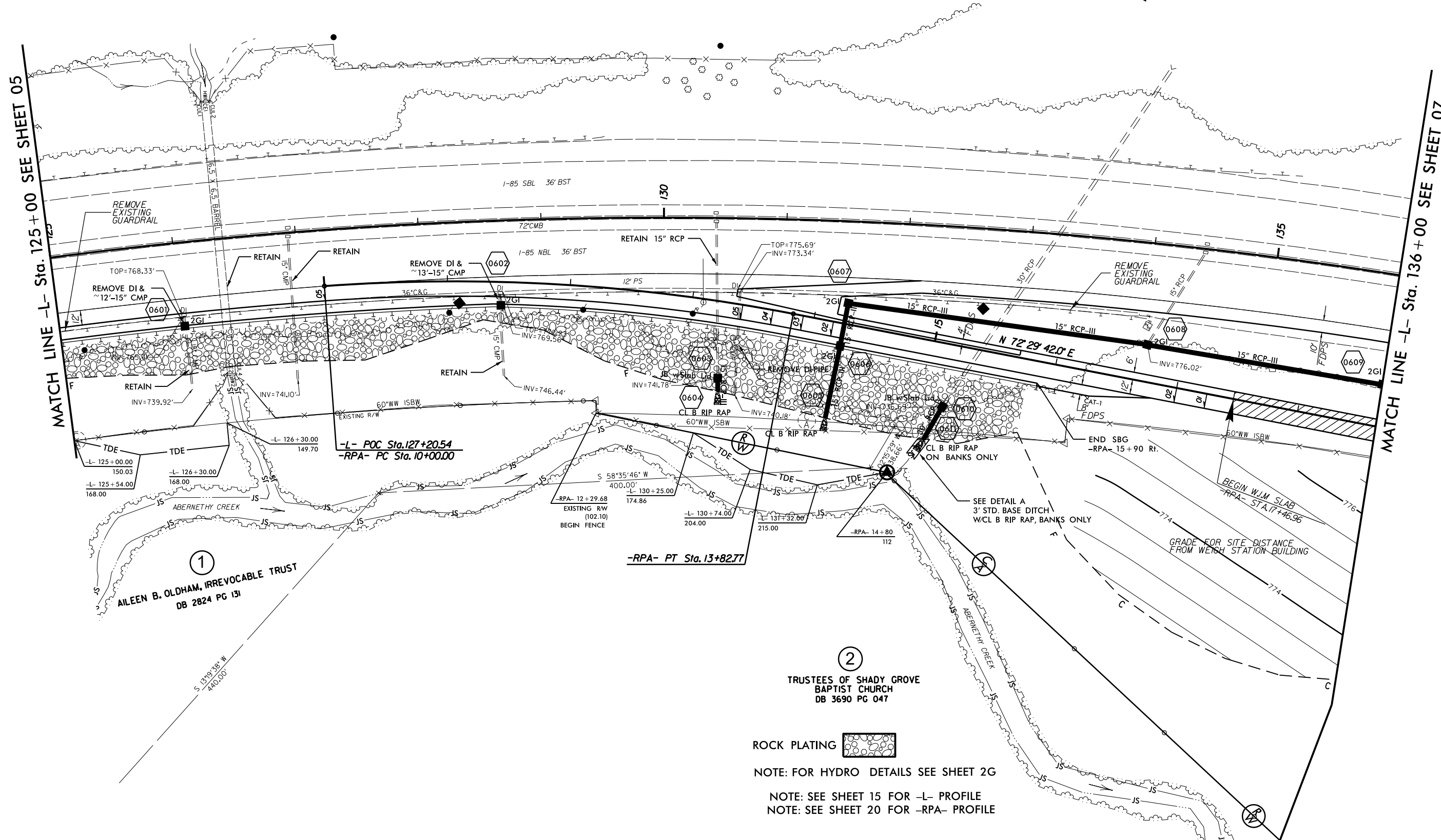
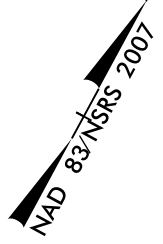
NOTE: SEE SHEET 15 FOR -L- PROFILE

8/17/99

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-L-			-RPA-		
PI Sta 122+88.34	PI Sta 134+81.75	PI Sta 146+15.85	PI Sta 11+92.50		
$\theta s = 1^{\circ} 49' 48.6''$	$\Delta = 32^{\circ} 20' 00.0''$ (RT)	$\theta s = 1^{\circ} 49' 48.6''$	$\Delta = 15^{\circ} 07' 29.6''$ (RT)		
LS = 245.00'	D = 129' 38.5'	LS = 245.00'	D = 3' 57' 05.2'		
LT = 163.34'	L = 2,164.18'	LT = 163.34'	L = 382.77'		
ST = 81.67'	T = 1,111.75'	ST = 81.67'	T = 192.50'		
	R = 3,835.00'		R = 1,450.00'		
	SE = EXISTING		SE = SEE PLANS		

PROJECT REFERENCE NO. I-4928	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS

MATCH LINE -L- Sta. 125+00 SEE SHEET 05

MATCH LINE -L- Sta. 136+00 SEE SHEET 07

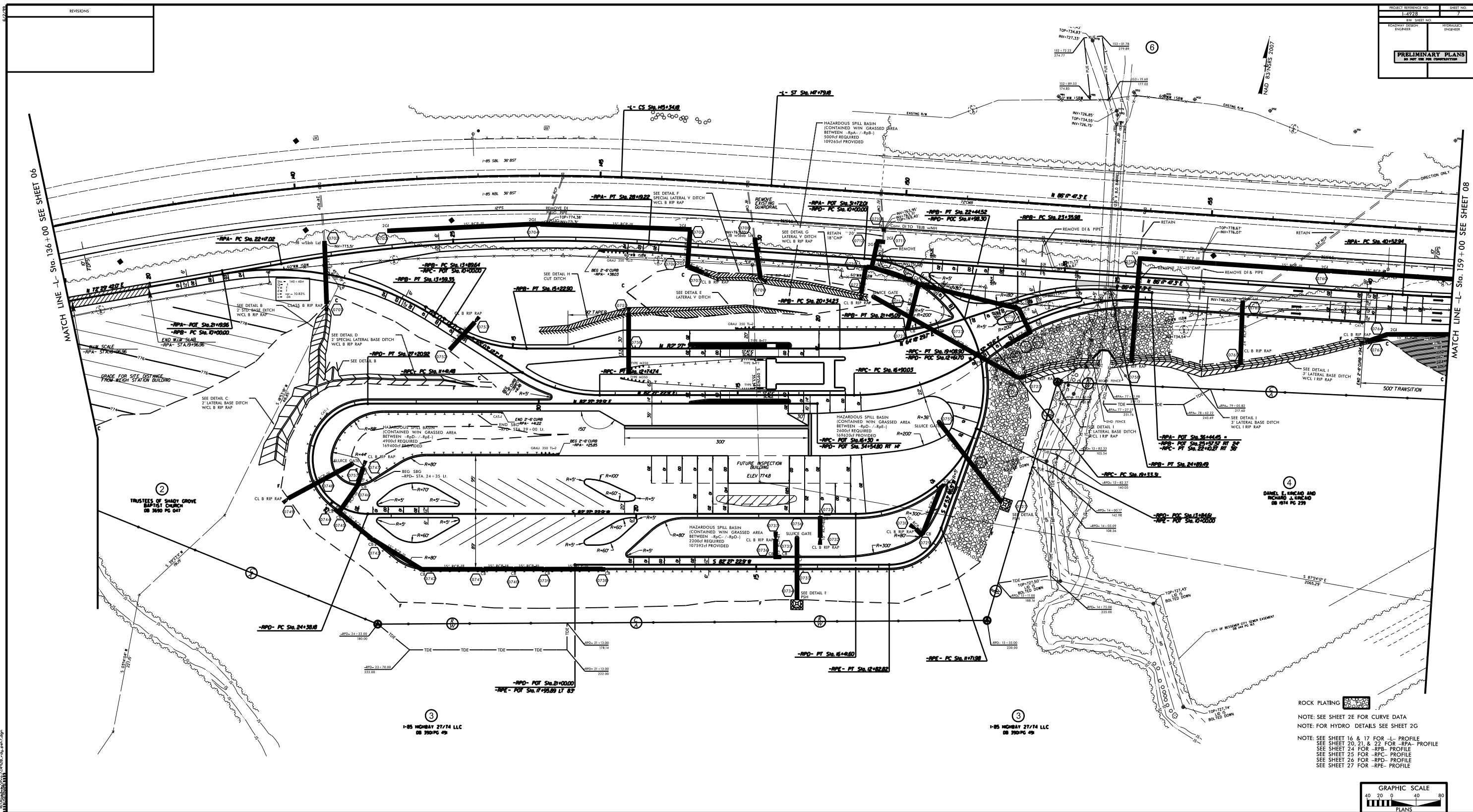
①
AILEEN B. OLDHAM, IRREVOCABLE TRUST
DB 2824 PG 131

②
TRUSTEES OF SHADY GROVE
BAPTIST CHURCH
DB 3690 PG 047

ROCK PLATING

NOTE: FOR HYDRO DETAILS SEE SHEET 2G

NOTE: SEE SHEET 15 FOR -L- PROFILE
NOTE: SEE SHEET 20 FOR -RPA- PROFILE



MATCH LINE - Sta. 136+00 SEE SHEET 06

MATCH LINE - Sta. 159+00 SEE SHEET 08

② TRUSTEES OF SHADY GROVE
LUTHERAN CHURCH
DB 3690 PG 047

④ DANIEL J. LINDA AND
RICHARD J. LINDA
DB 1074 PG 279

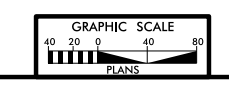
③ 1-85 HIGHWAY 27/74 LLC
DB 390 PG 49

③ 1-85 HIGHWAY 27/74 LLC
DB 390 PG 49

ROCK PLATING

NOTE: SEE SHEET 2E FOR CURVE DATA
NOTE: FOR HYDRO DETAILS SEE SHEET 2G

NOTE: SEE SHEET 16 & 17 FOR -L- PROFILE
SEE SHEET 20, 21 & 22 FOR -RPA- PROFILE
SEE SHEET 24 FOR -RPB- PROFILE
SEE SHEET 25 FOR -RPC- PROFILE
SEE SHEET 26 FOR -RPD- PROFILE
SEE SHEET 27 FOR -RPE- PROFILE



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8/17/99

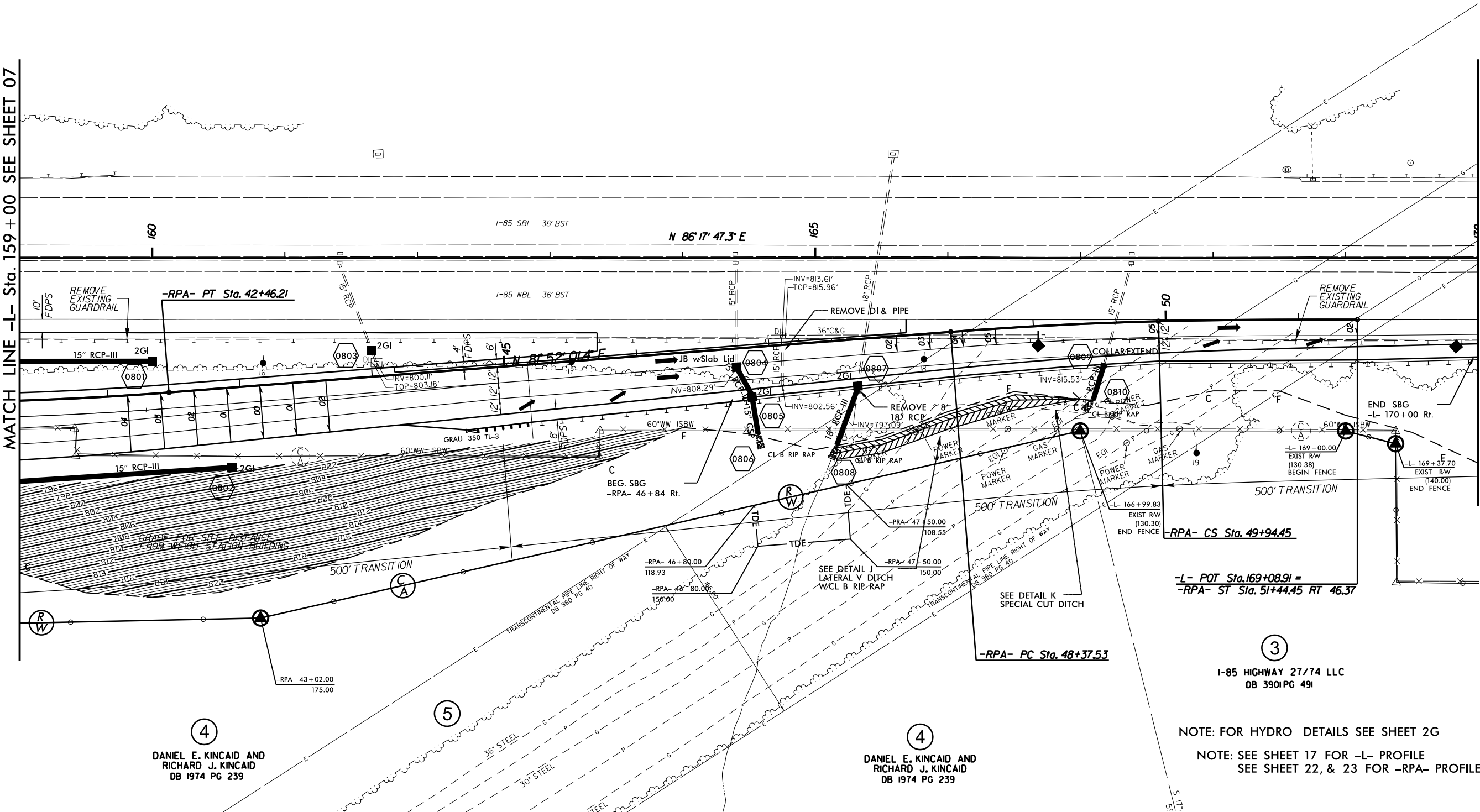
PROJECT REFERENCE NO.		SHEET NO.	
I-4928		8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

-RPA-		-L-	
PI Sta 49+16.01	PIs Sta 50+44.46	PI Sta 184+26.48	
$\Delta = 2^{\circ} 59' 49.3" (RT)$	$\theta_s = 1^{\circ} 25' 56.6"$	$\Delta = 20^{\circ} 30' 35.3" (LT)$	
$D = 1^{\circ} 54' 35.5"$	$L_s = 150.00'$	$D = 0^{\circ} 44' 57.7"$	
$L = 156.92'$	$LT = 100.00'$	$L = 2736.99'$	
$T = 78.48'$	$ST = 50.00'$	$T = 1383.30'$	
$R = 3,000.00'$		$R = 7,646.00'$	
$SE = SEE PLANS$		$SE = EXISTING$	

NAD 83 NRS 2007

MATCH LINE -L- Sta. 159+00 SEE SHEET 07

MATCH LINE -L- Sta. 170+00 EE SHEET 09



REVISIONS

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\$\$\$\$\$USERSHARE\$\$\$\$\$

4
DANIEL E. KINCAID AND
RICHARD J. KINCAID
DB 1974 PG 239

4
DANIEL E. KINCAID AND
RICHARD J. KINCAID
DB 1974 PG 239

-L- POT Sta. 169+08.91 =
-RPA- ST Sta. 51+44.45 RT 46.37

3
I-85 HIGHWAY 27/74 LLC
DB 3901 PG 491

NOTE: FOR HYDRO DETAILS SEE SHEET 2G
NOTE: SEE SHEET 17 FOR -L- PROFILE
SEE SHEET 22, & 23 FOR -RPA- PROFILE

8/17/99

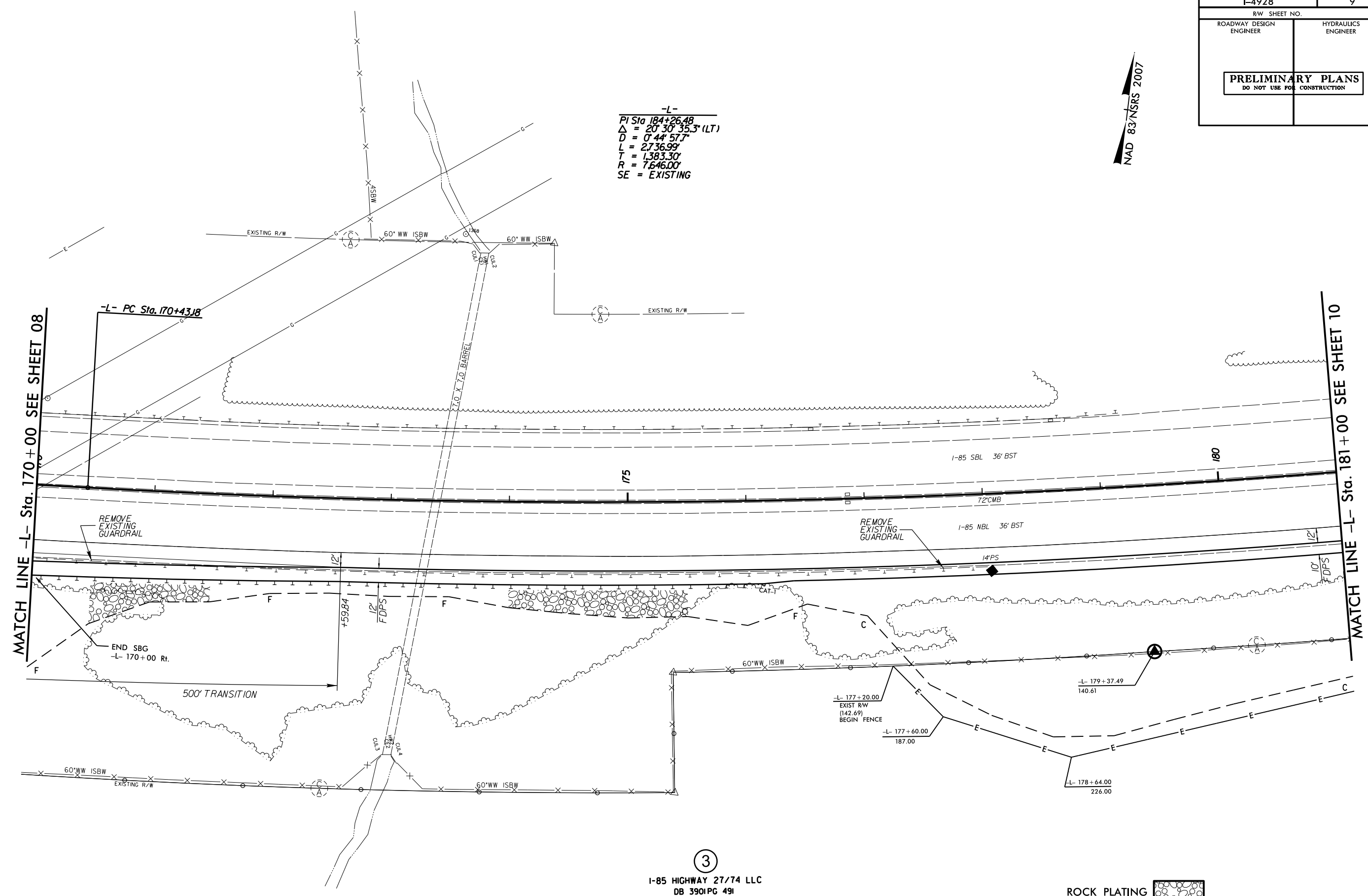
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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
I-4928	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/NRS 2007

-L-
 PI Sta 184+26.48
 $\Delta = 20^{\circ}30'35.3"$ (LT)
 $D = 0^{\circ}44'57.7"$
 $L = 2,736.99'$
 $T = 1,383.30'$
 $R = 7,646.00'$
 SE = EXISTING



3

I-85 HIGHWAY 27/74 LLC
DB 3901PG 491

ROCK PLATING

NOTE: SEE SHEET 17 & 18 FOR -L- PROFILE

8/17/99

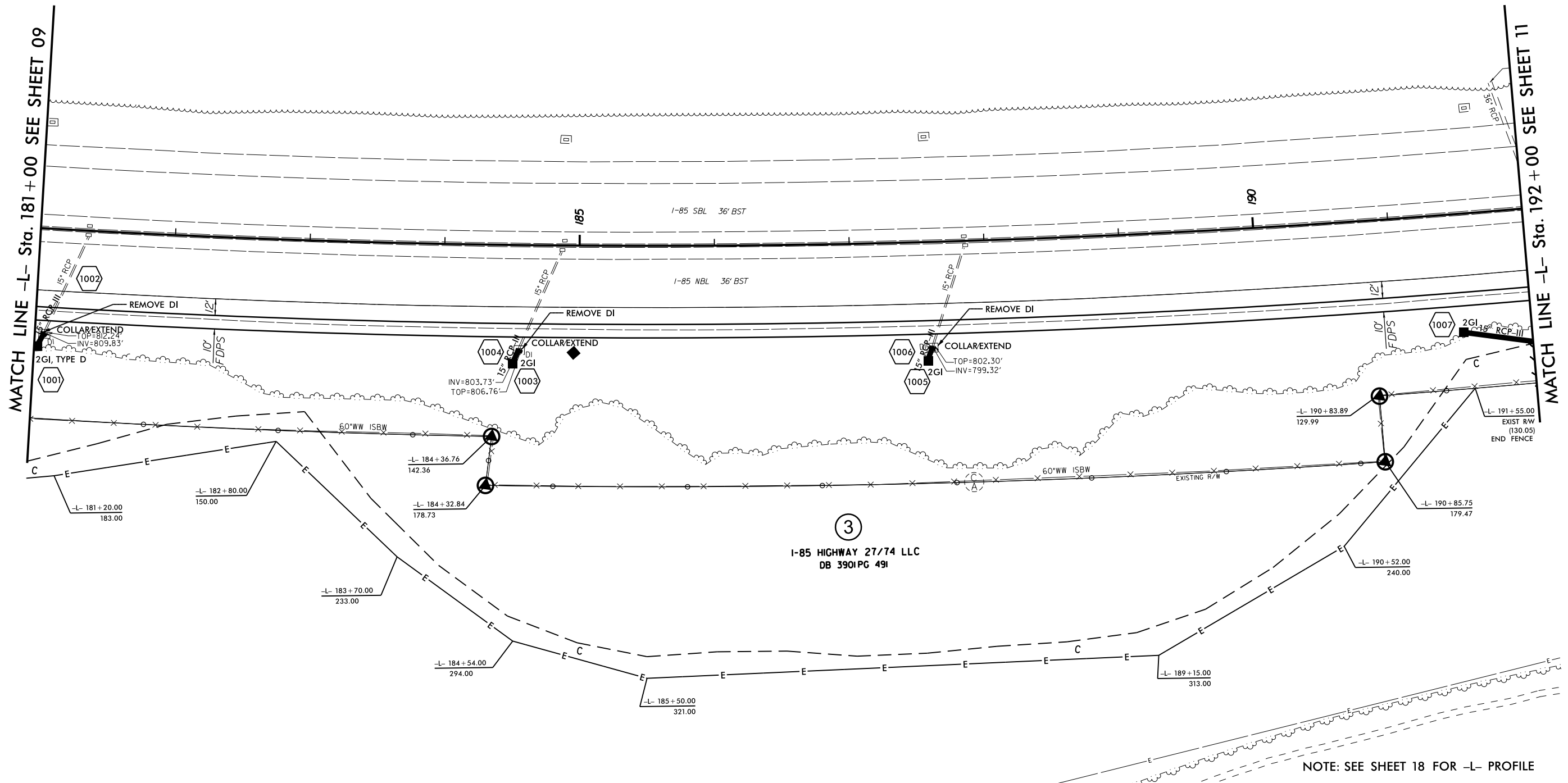
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REVISIONS

-L-
 PI Sta 184+26.48
 $\Delta = 20^{\circ} 30' 35.3" (LT)$
 $D = 0^{\circ} 44' 57.7"$
 $L = 2,736.99'$
 $T = 1,383.30'$
 $R = 7,646.00'$
 SE = EXISTING

NAD 83/NRS 2007

PROJECT REFERENCE NO.	SHEET NO.
I-4928	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



③
 I-85 HIGHWAY 27/74 LLC
 DB 3901PG 491

NOTE: SEE SHEET 18 FOR -L- PROFILE

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
I-4928		11	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

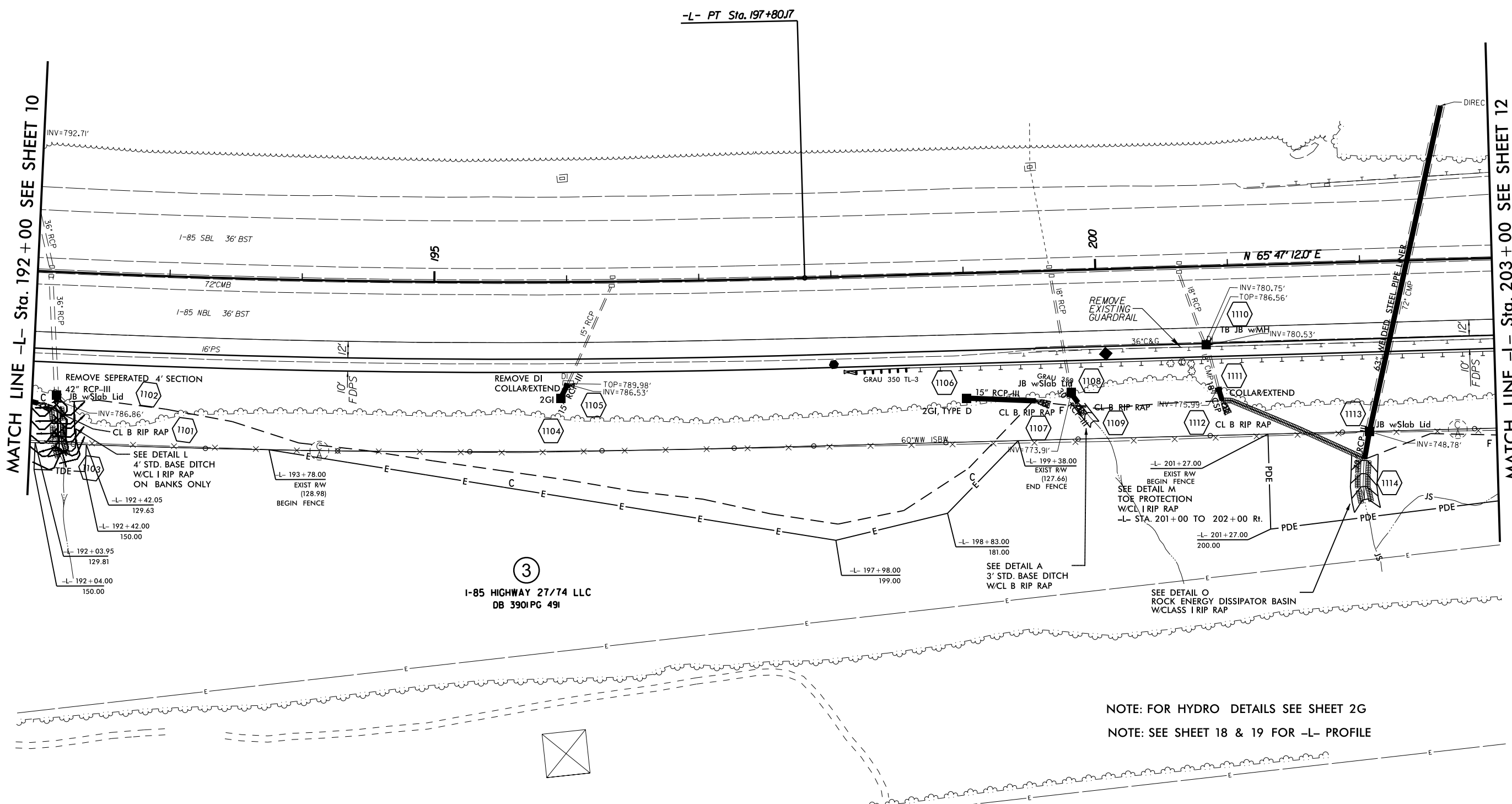
-L-
 PI Sta 184+26.48
 $\Delta = 20^{\circ} 30' 35.3" (LT)$
 $D = 0^{\circ} 44' 57.7"$
 $L = 2736.99'$
 $T = 1383.30'$
 $R = 7646.00'$
 SE = EXISTING

NAD 83 NSRS 2007

REVISIONS

MATCH LINE -L- Sta. 192+00 SEE SHEET 10

MATCH LINE -L- Sta. 203+00 SEE SHEET 12



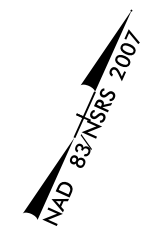
③
 I-85 HIGHWAY 27/74 LLC
 DB 3901PG 491

NOTE: FOR HYDRO DETAILS SEE SHEET 2G
 NOTE: SEE SHEET 18 & 19 FOR -L- PROFILE

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 \$\$\$\$ SUSTAINABLE \$\$\$

8/17/99

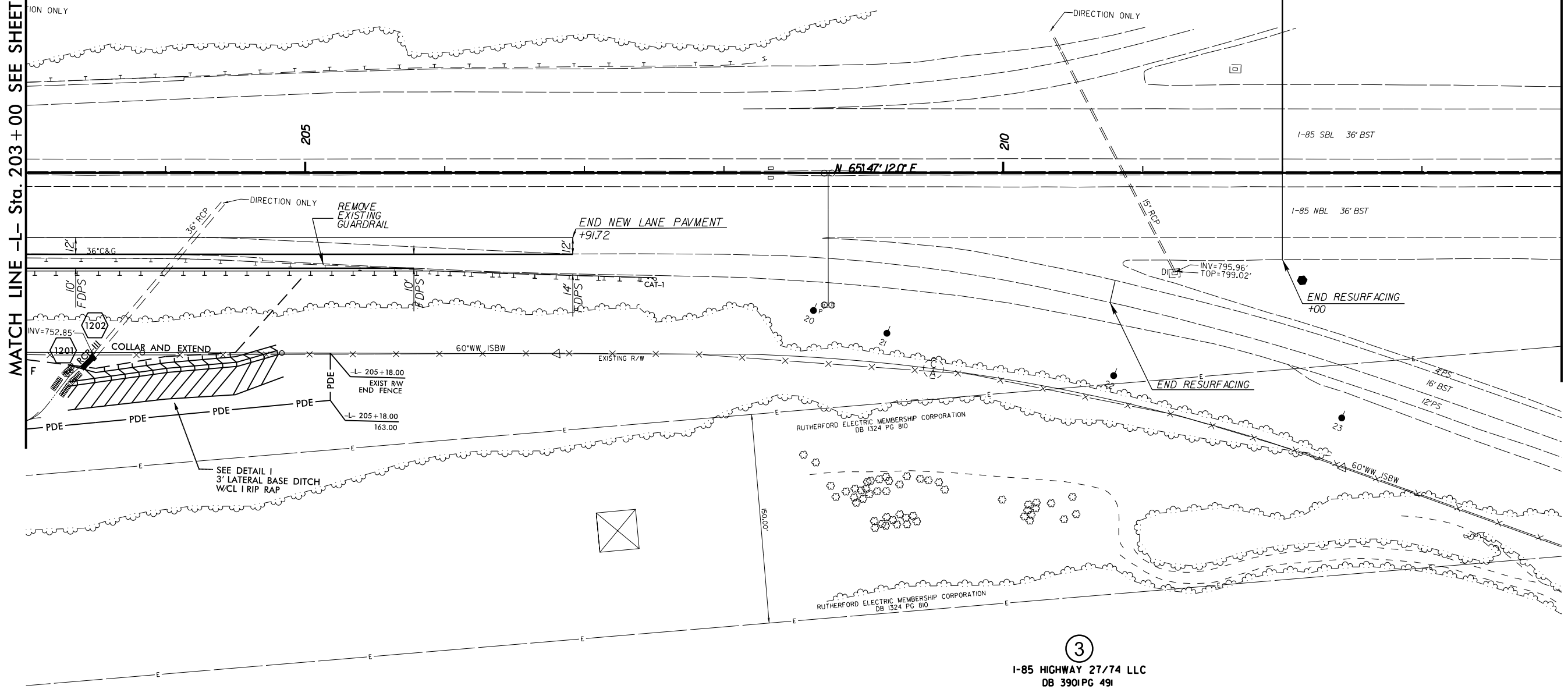
PROJECT REFERENCE NO.		SHEET NO.	
I-4928		12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



-L- Sta. 212+00.00 END TIP PROJECT I-4928

MATCH LINE -L- Sta. 203+00 SEE SHEET 11

MATCH LINE -L- Sta. 214+00 SEE SHEET 13



REVISIONS

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③
I-85 HIGHWAY 27/74 LLC
DB 3901 PG 491

NOTE: FOR HYDRO DETAILS SEE SHEET 2G
NOTE: SEE SHEET 19 FOR -L- PROFILE

8/17/99

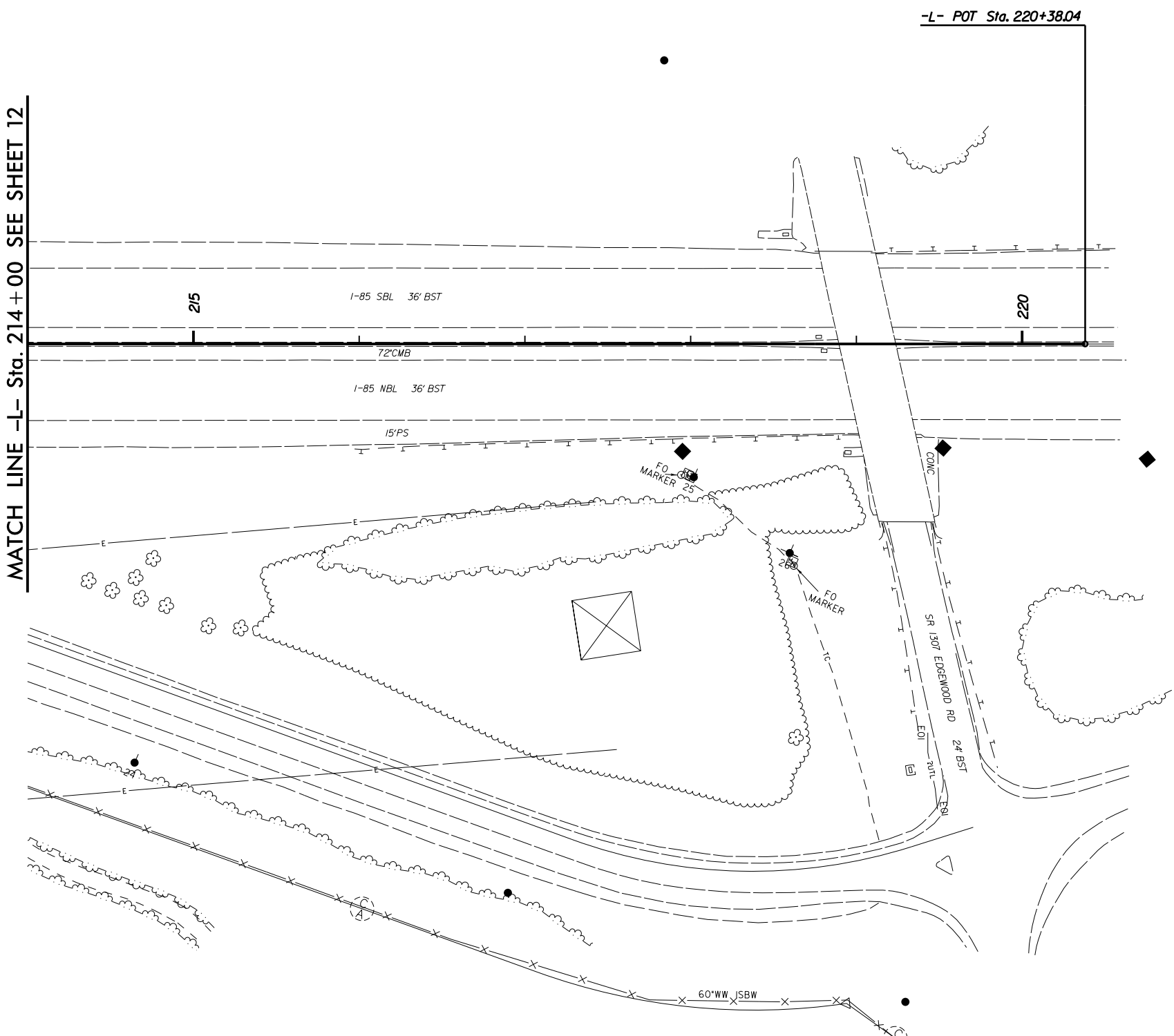
REVISIONS

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PROJECT REFERENCE NO. I-4928	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83 NRS 2007

MATCH LINE -L- Sta. 214+00 SEE SHEET 12



NOTE: SEE SHEET 19 FOR -L- PROFILE

5/28/99

820
810
800
790
780
770
760
750

94+00 95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00

800
790
780
770
760
750
740
730

103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

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PROJECT REFERENCE NO.	SHEET NO.
I-4928	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L-

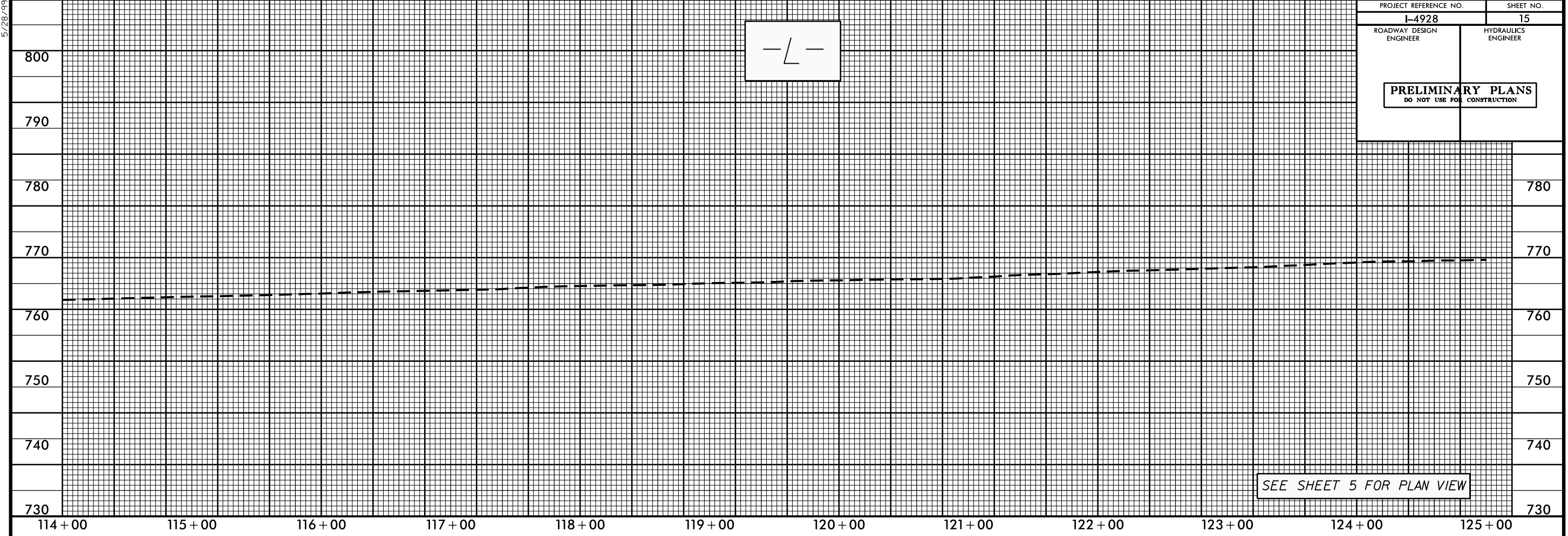
BEGIN RESURFACING
L STA 93+00.00

SEE SHEET 4 FOR PLAN VIEW

-L-

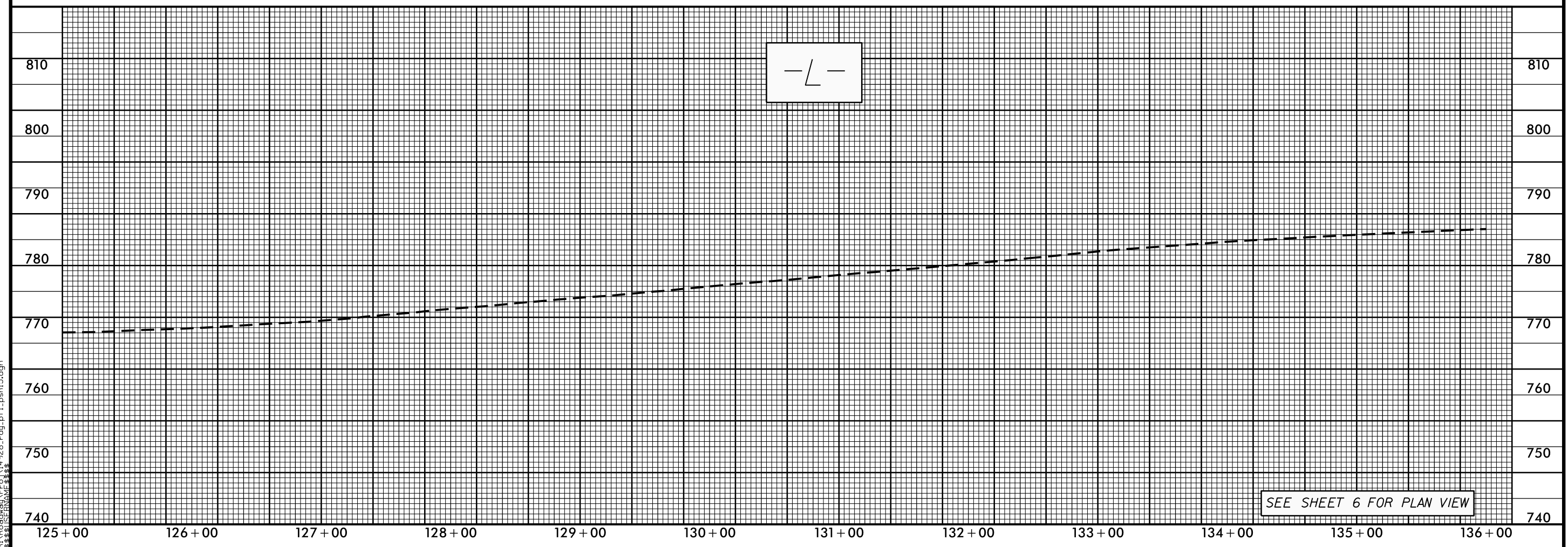
SEE SHEET 4A FOR PLAN VIEW

5/28/99



PROJECT REFERENCE NO.	SHEET NO.
I-4928	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SEE SHEET 5 FOR PLAN VIEW

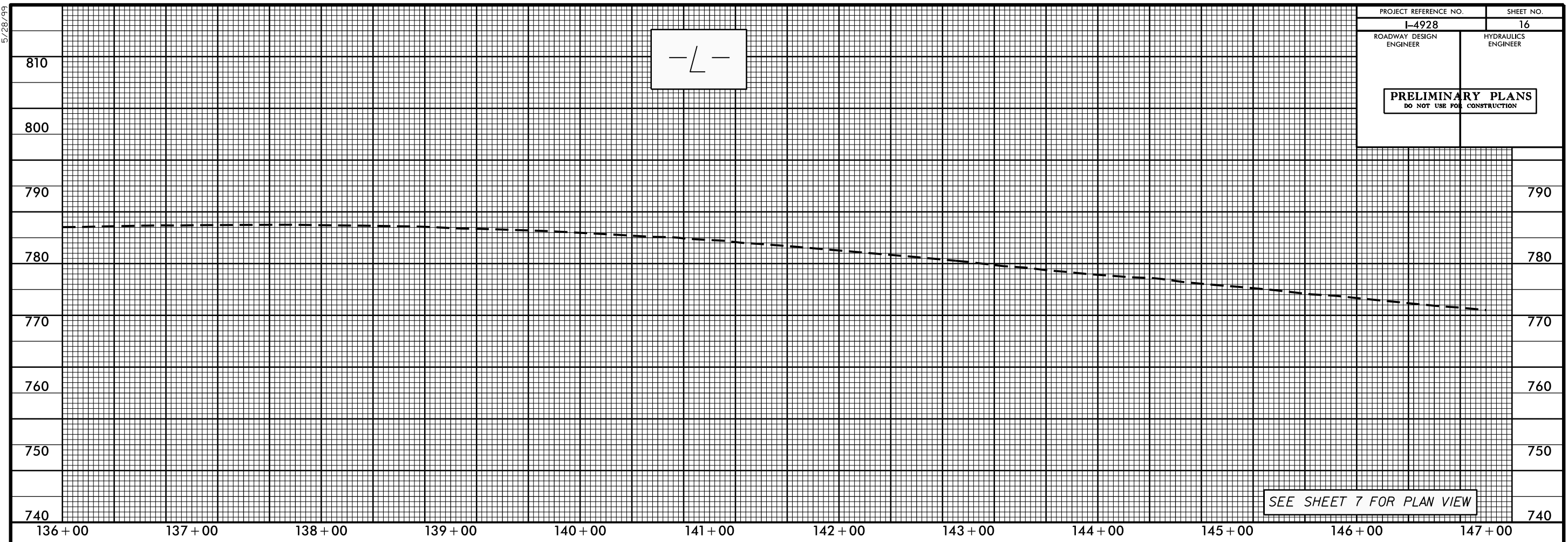


SEE SHEET 6 FOR PLAN VIEW

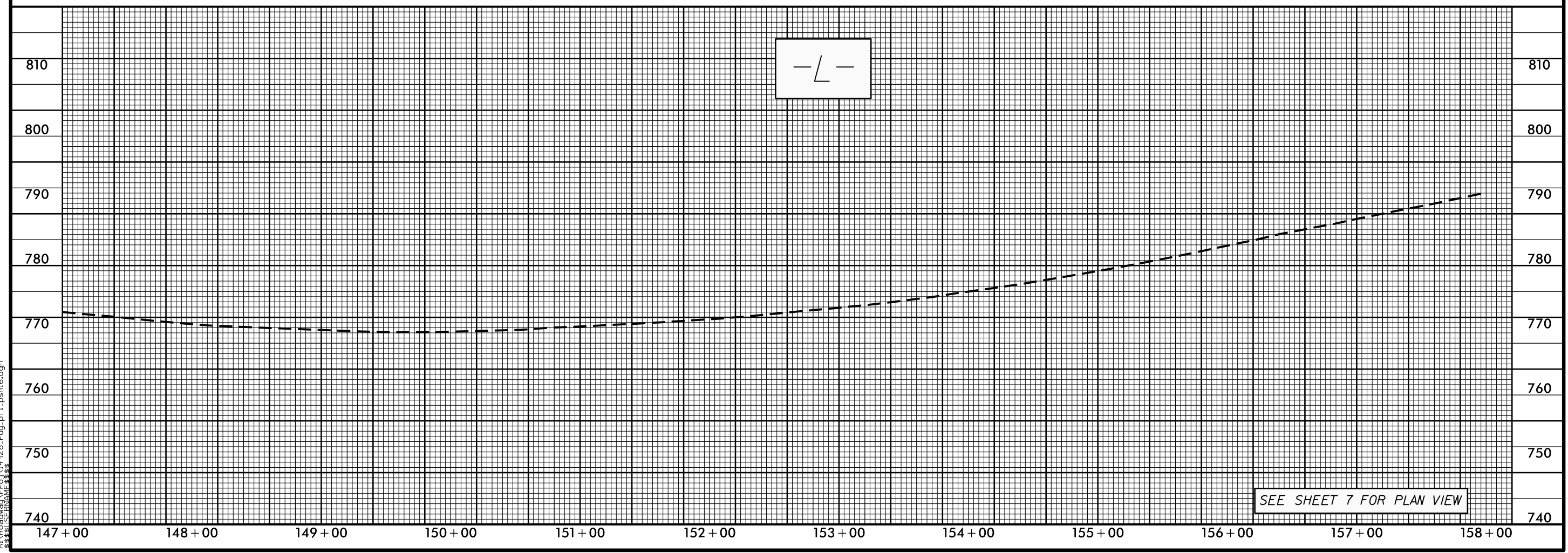
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\$\$\$\$\$USPENSMF\$\$\$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
I-4928	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 7 FOR PLAN VIEW

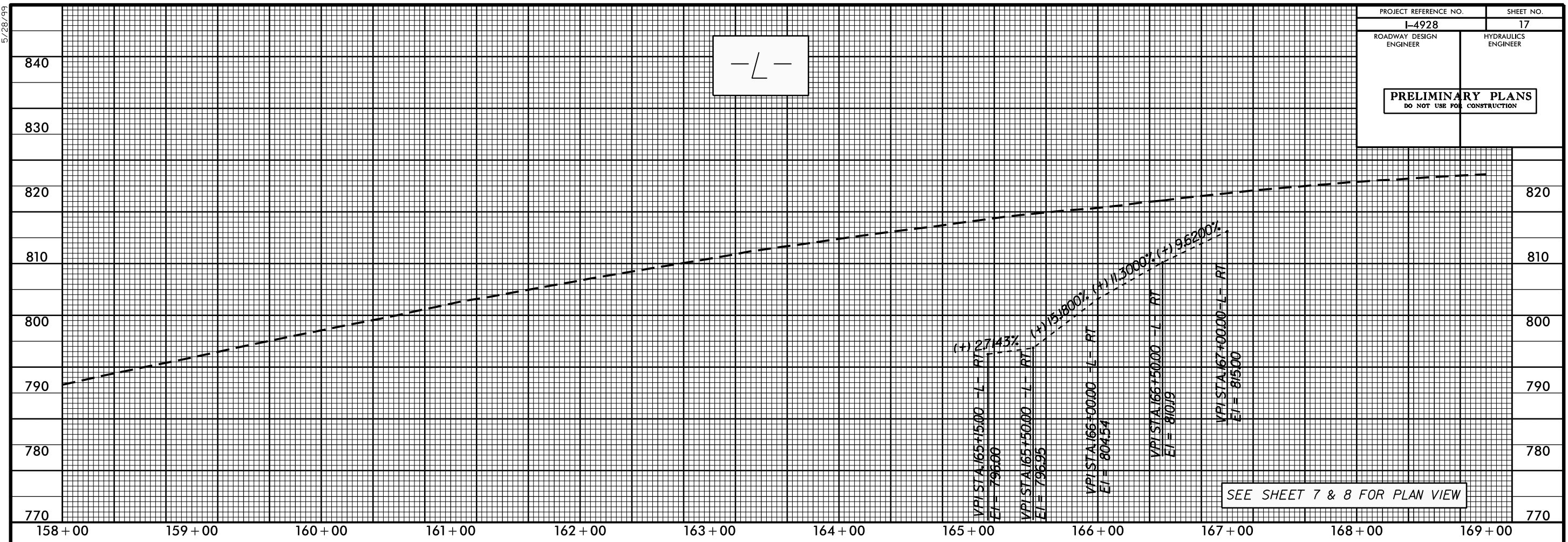


SEE SHEET 7 FOR PLAN VIEW

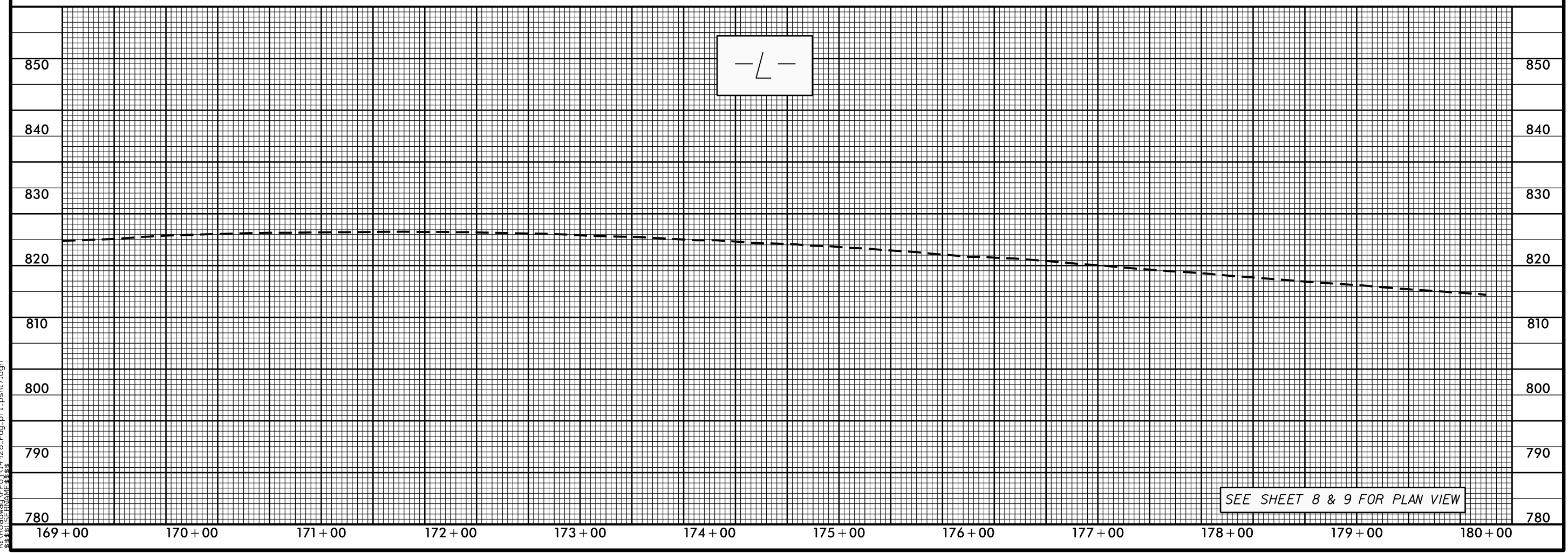
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
I-4928	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 7 & 8 FOR PLAN VIEW

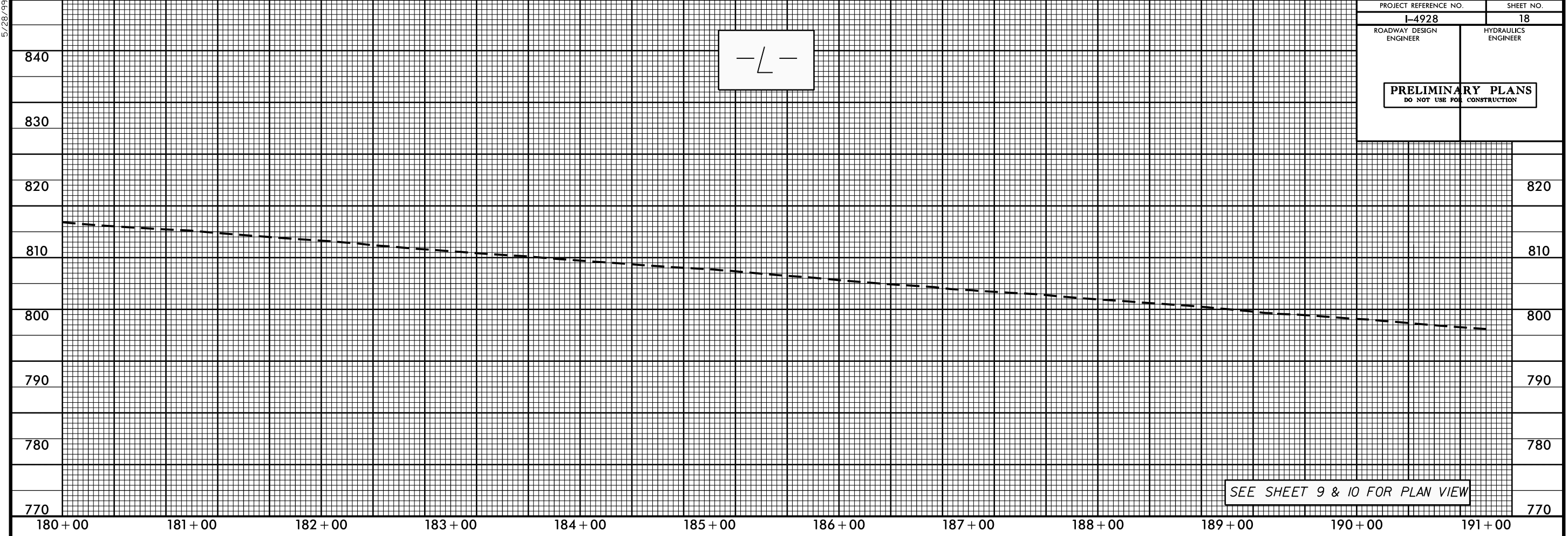


SEE SHEET 8 & 9 FOR PLAN VIEW

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\$\$\$\$\$USE PENSIVE\$\$\$\$\$

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PROJECT REFERENCE NO.	SHEET NO.
I-4928	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SEE SHEET 9 & 10 FOR PLAN VIEW



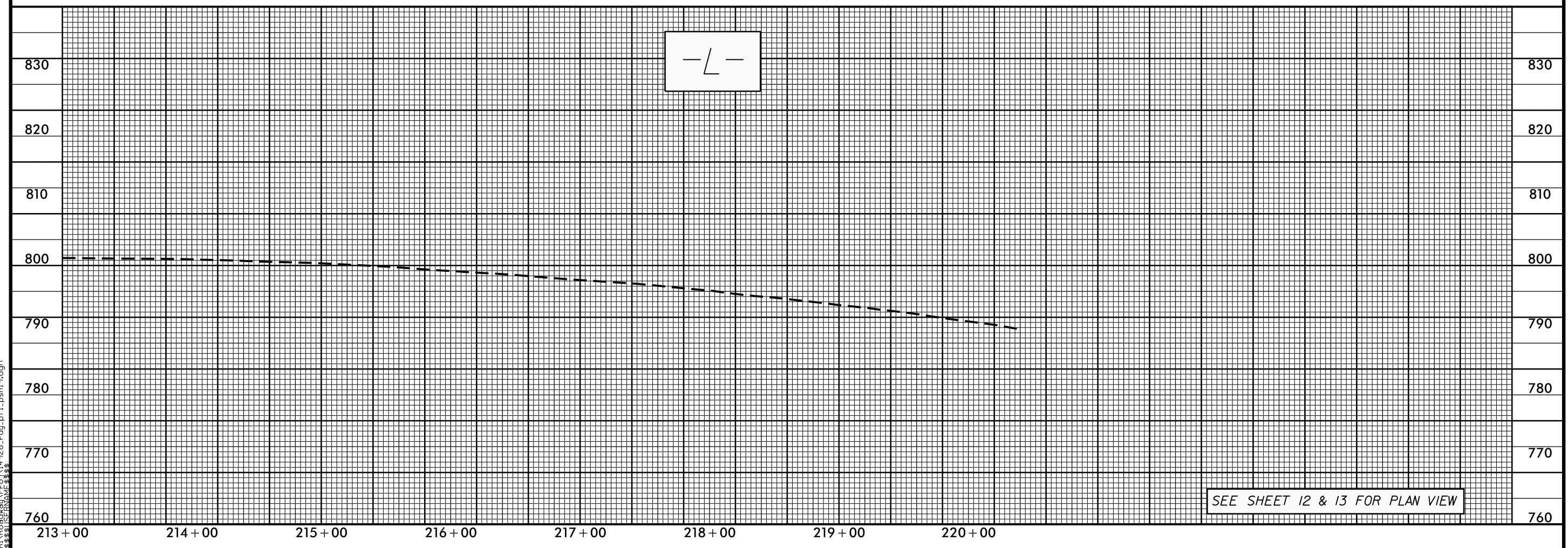
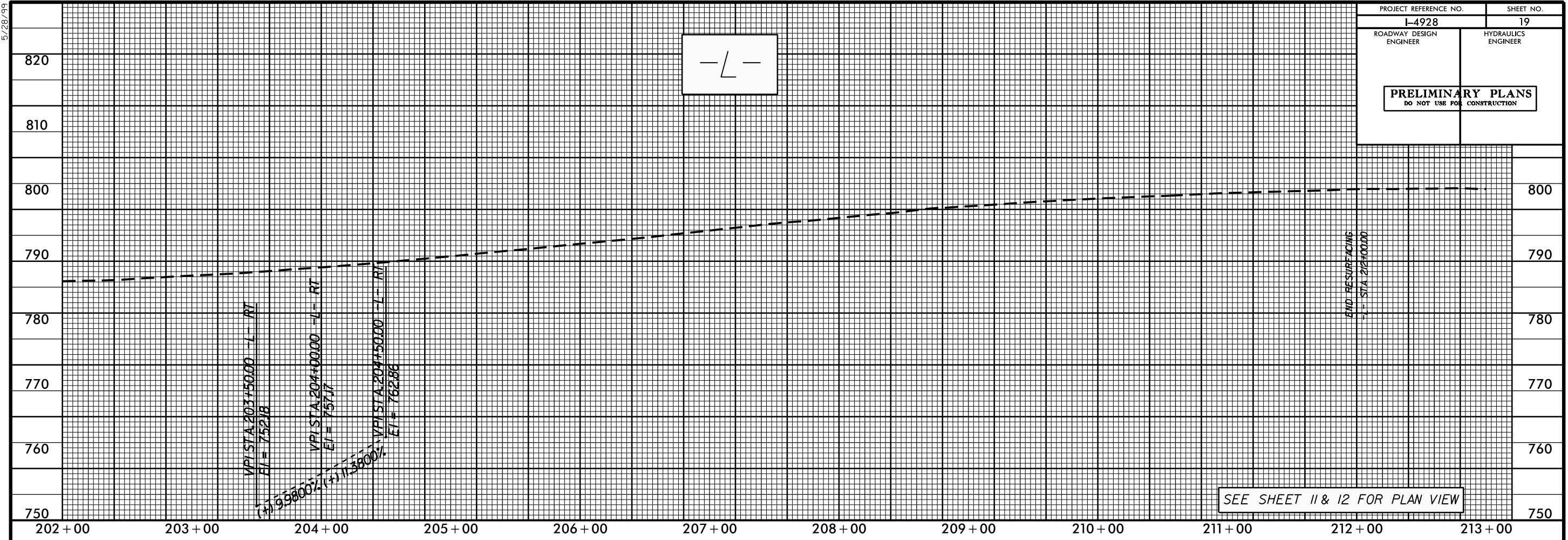
SEE SHEET 10 & 11 FOR PLAN VIEW

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5/28/99

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\$\$\$\$\$USE PENSIVE\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
I-4928	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

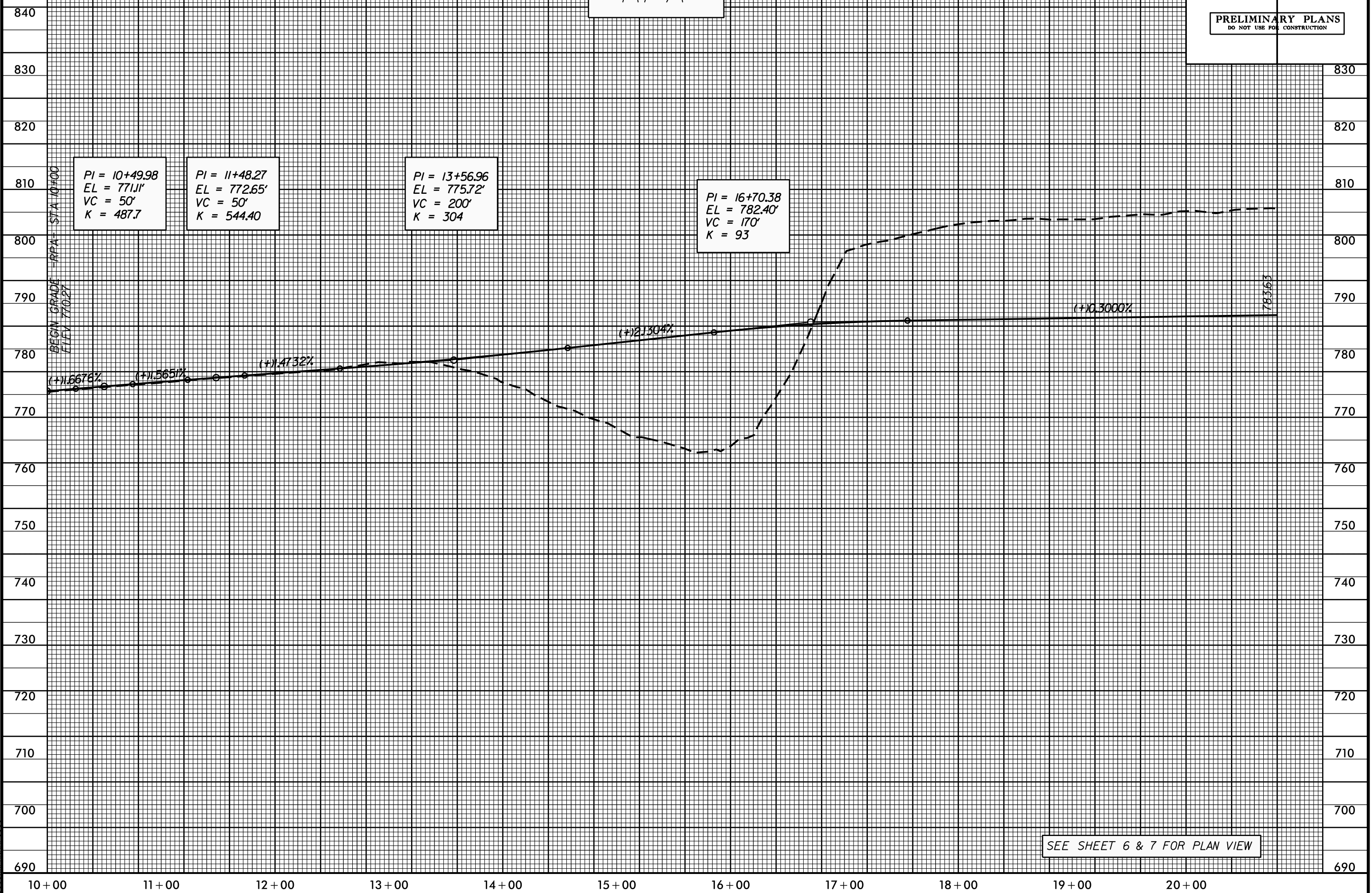


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PROJECT REFERENCE NO.	SHEET NO.
I-4928	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-RPA-



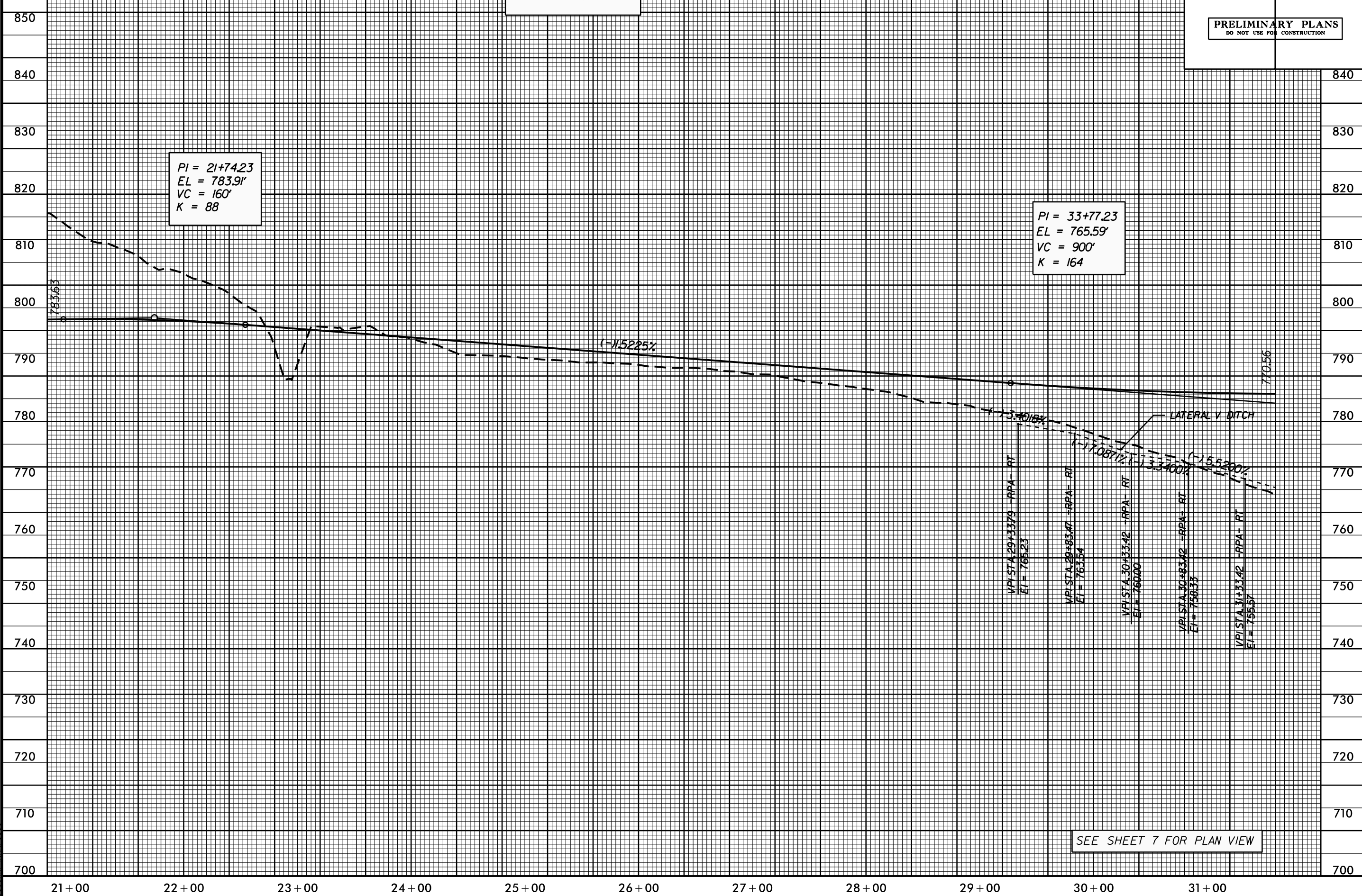
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-RPA-

PROJECT REFERENCE NO.	SHEET NO.
I-4928	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PI = 21+74.23
EL = 783.91'
VC = 160'
K = 88

PI = 33+77.23
EL = 765.59'
VC = 900'
K = 164



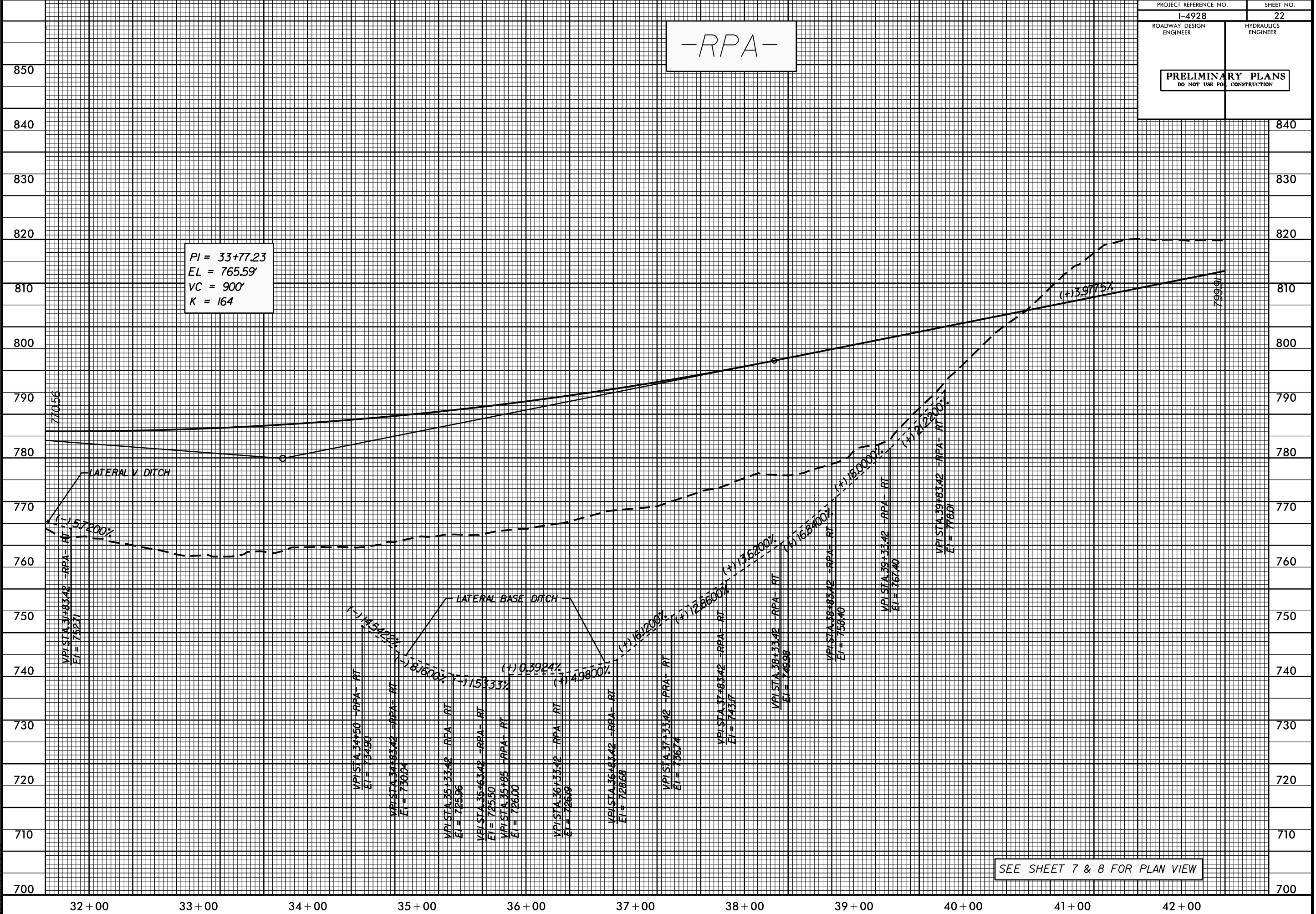
SEE SHEET 7 FOR PLAN VIEW

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PROJECT REFERENCE NO.	SHEET NO.
I-4928	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-RPA-

PI = 33+77.23
EL = 765.59'
VC = 900'
K = 164



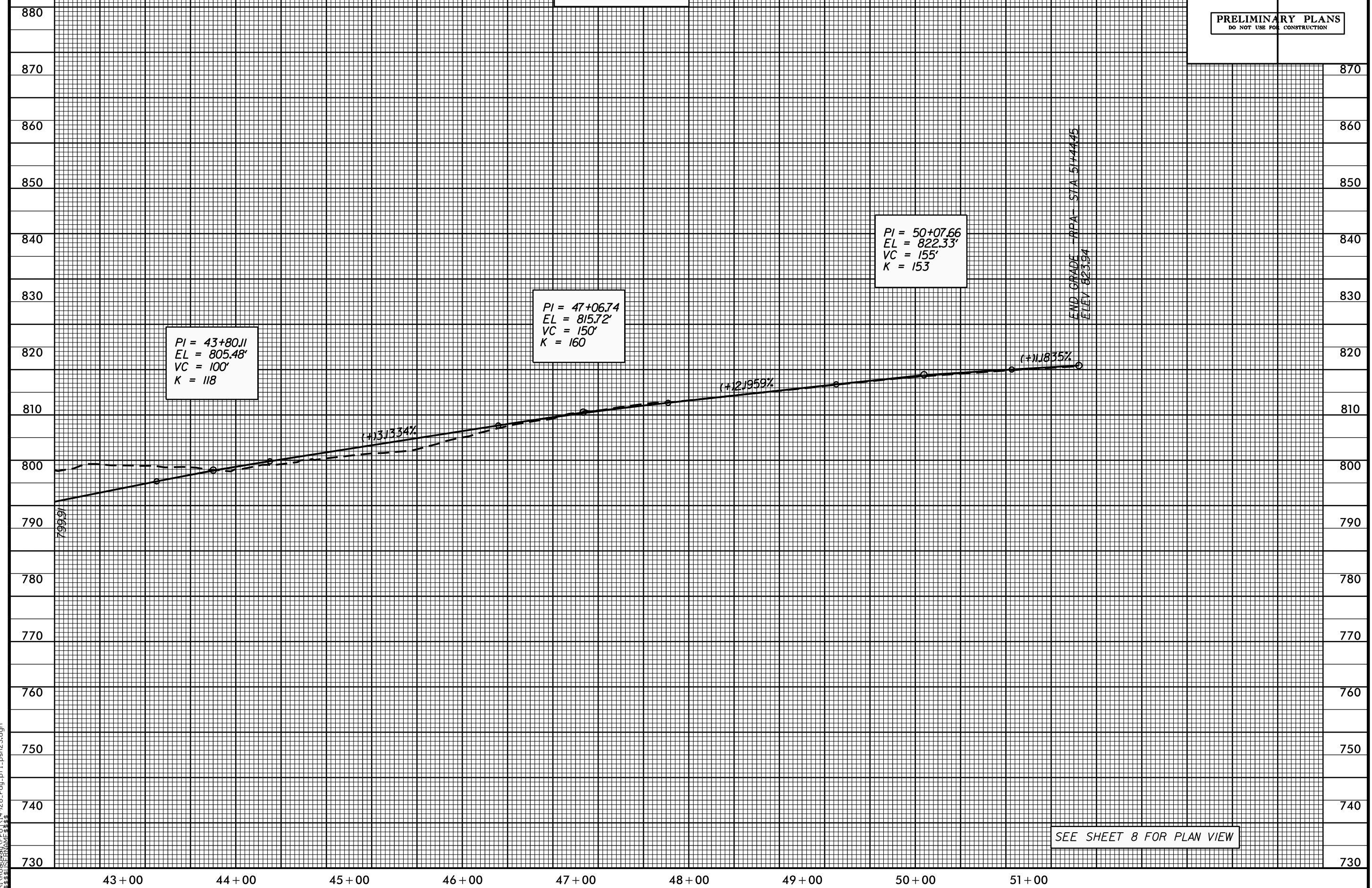
SEE SHEET 7 & 8 FOR PLAN VIEW

5/14/99

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-RPA-

PROJECT REFERENCE NO.	SHEET NO.
I-4928	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

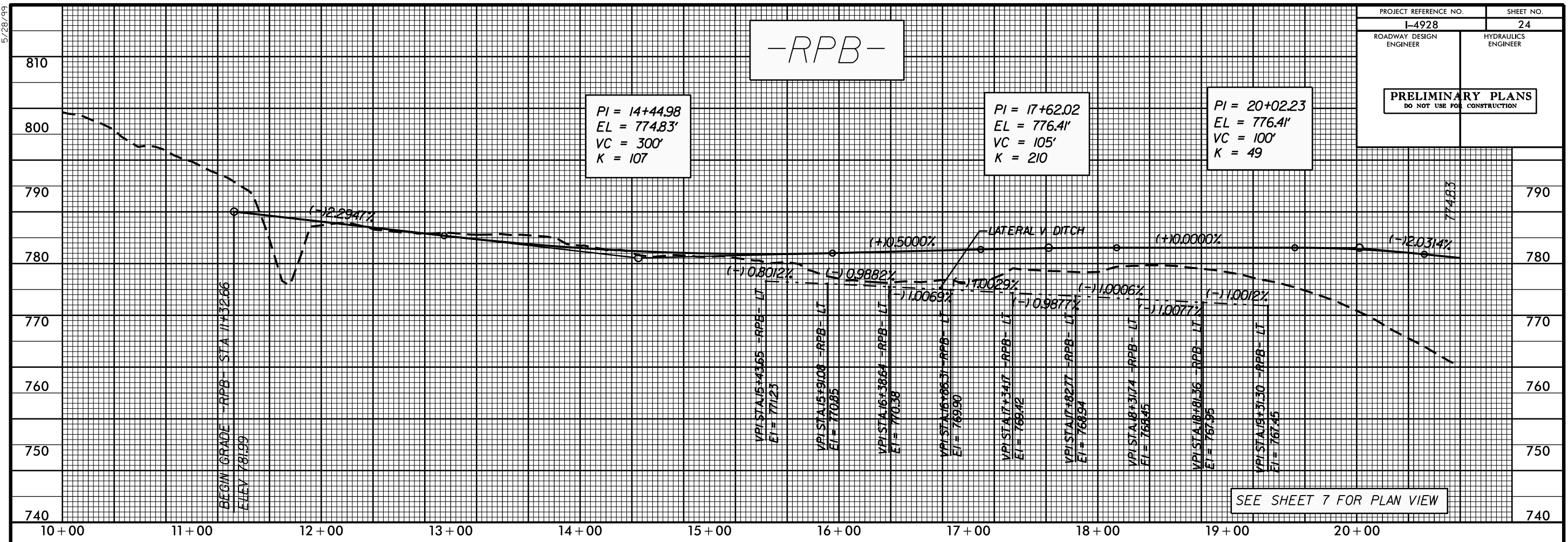


SEE SHEET 8 FOR PLAN VIEW

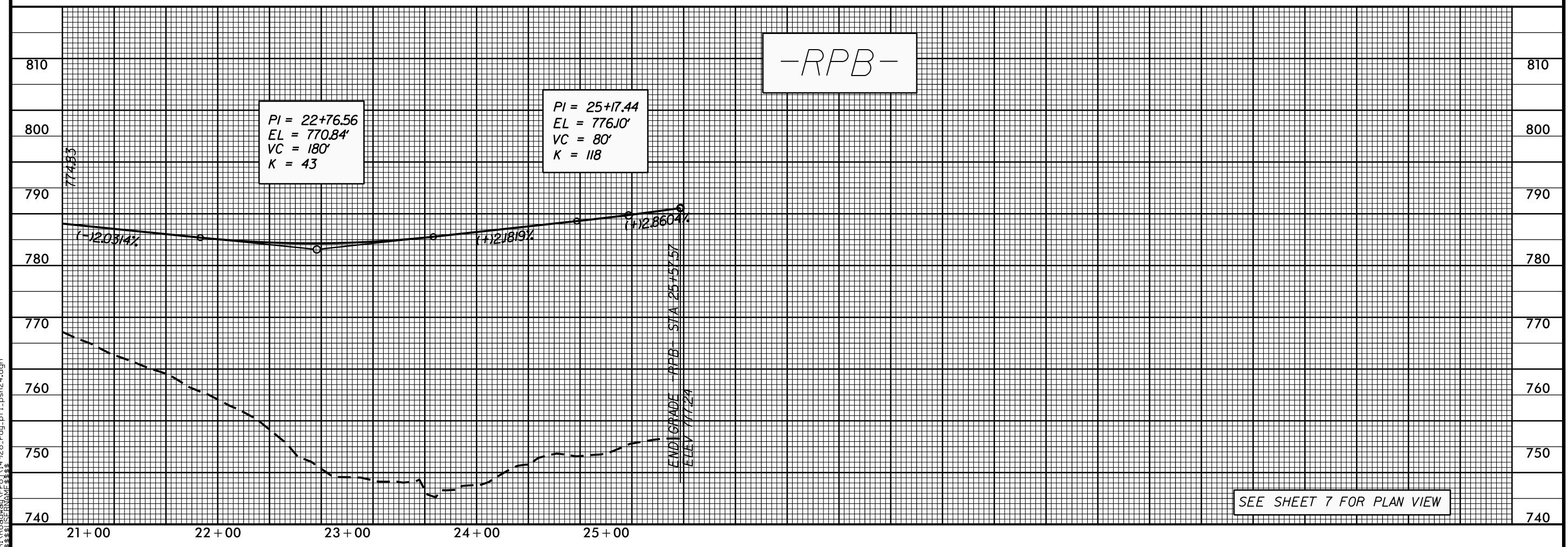
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PROJECT REFERENCE NO. I-4928	SHEET NO. 24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-RPB-



-RPB-



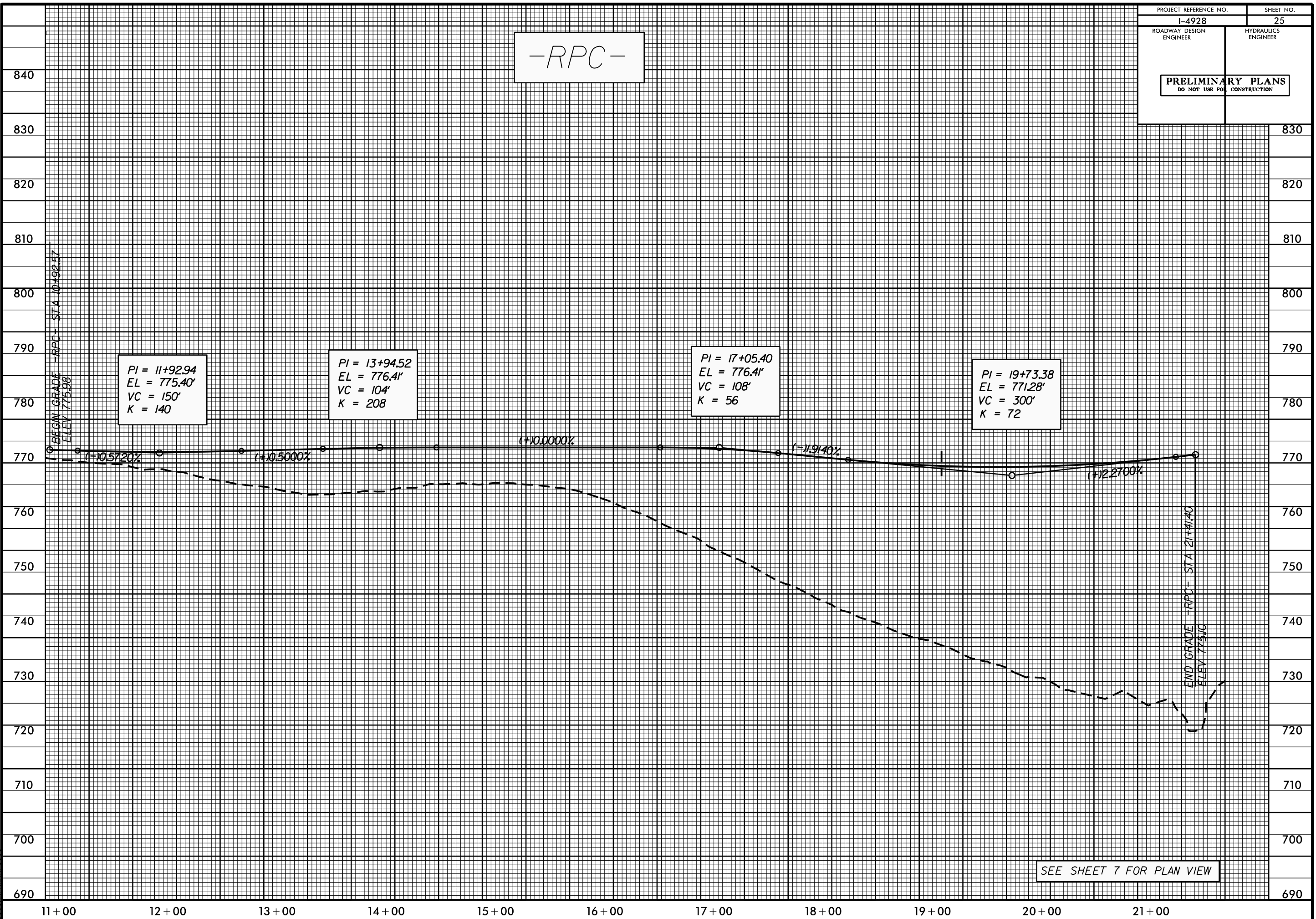
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5/14/99

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PROJECT REFERENCE NO. I-4928	SHEET NO. 25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-RPC-

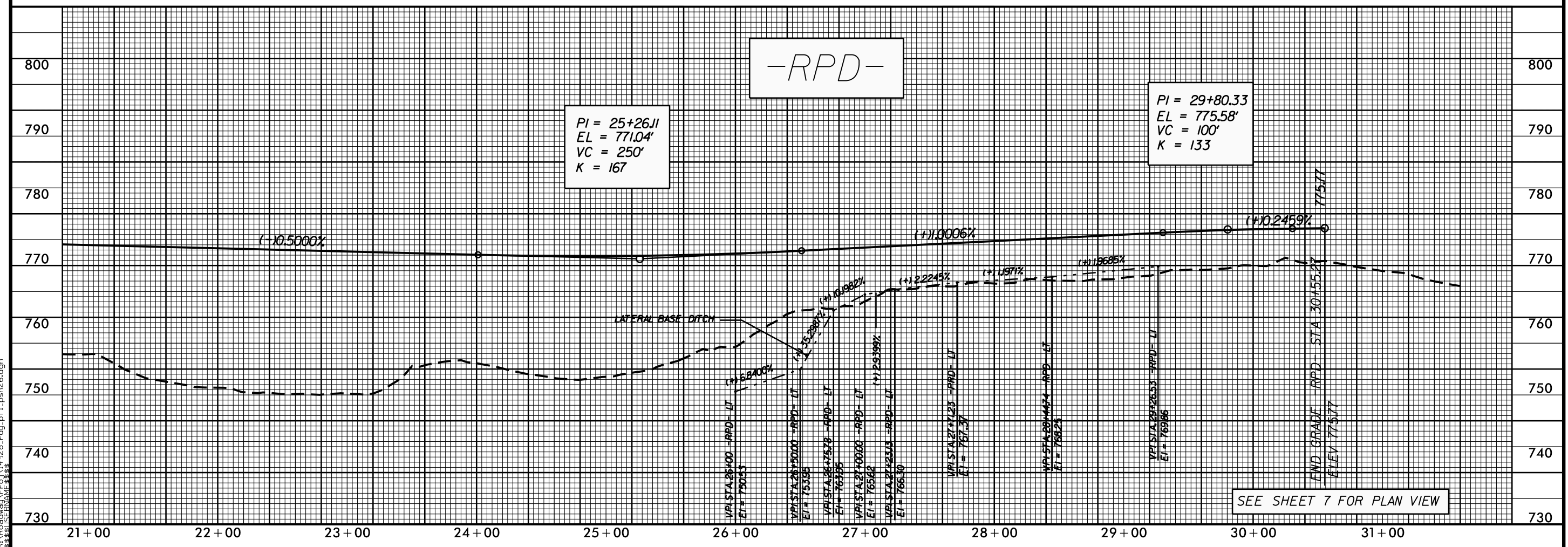
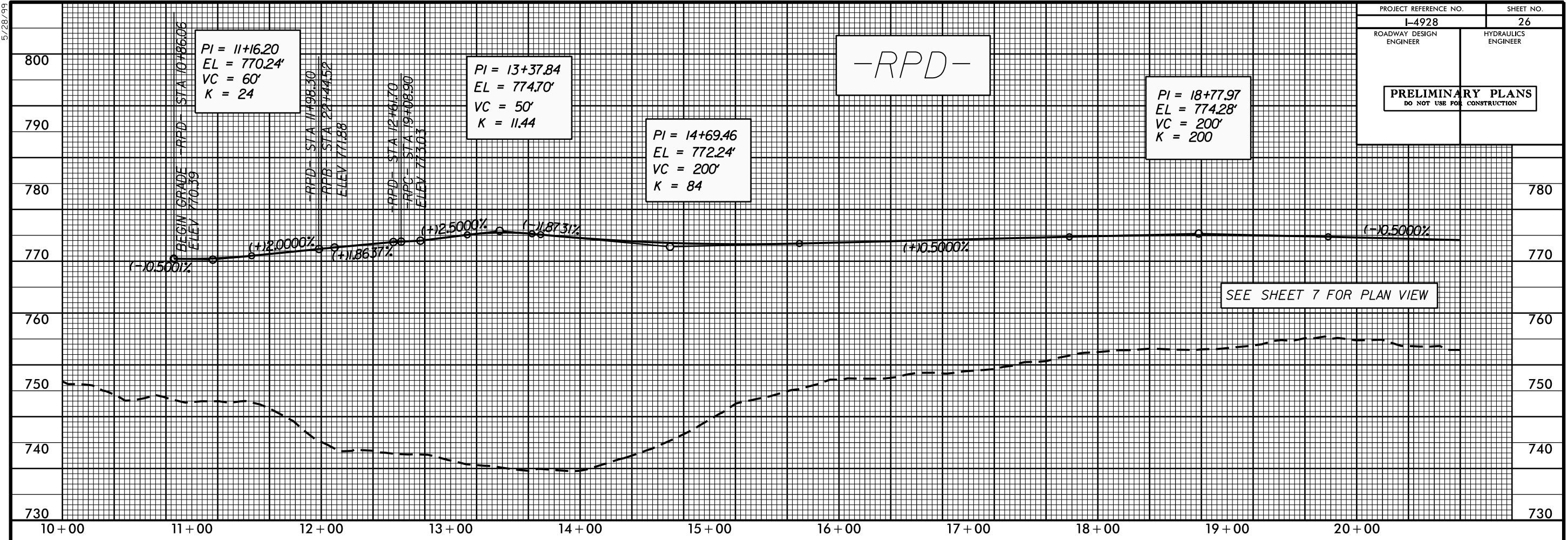


SEE SHEET 7 FOR PLAN VIEW

5/28/99

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PROJECT REFERENCE NO. I-4928	SHEET NO. 26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

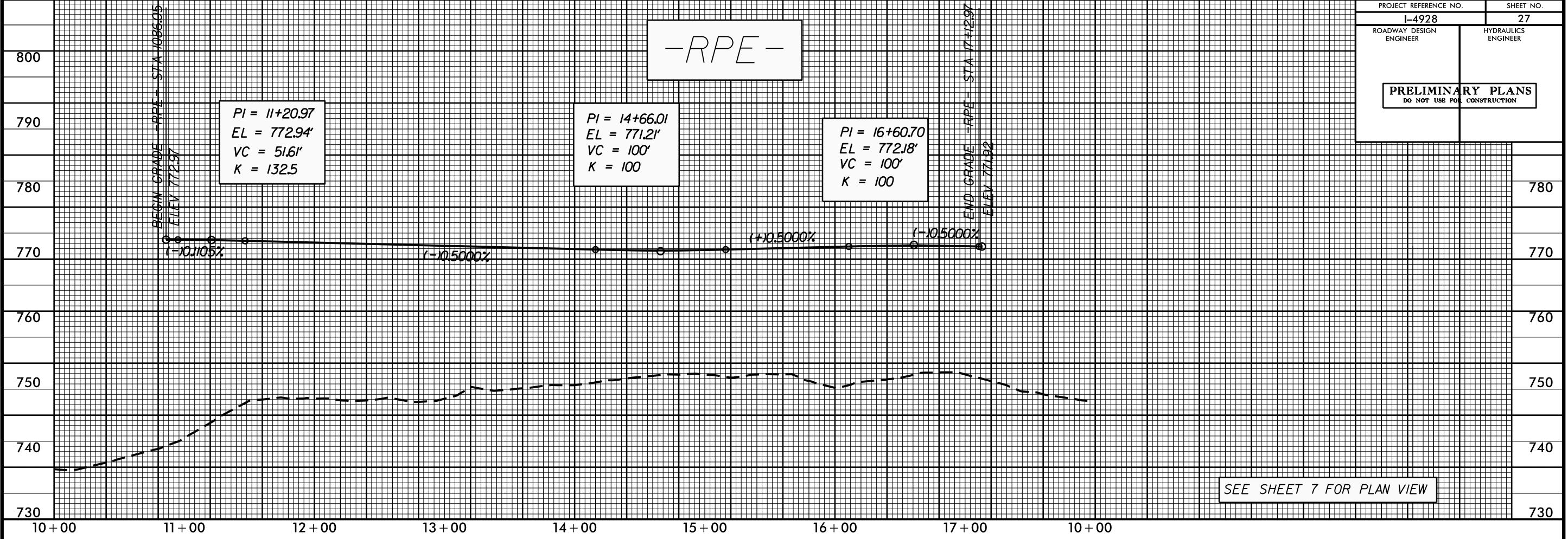


5/28/99

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\$\$\$\$\$USPENSM\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
I-4928	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-RPE-



SEE SHEET 7 FOR PLAN VIEW