



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

January 8, 2015

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

ATTN: Ms. Lori Beckwith
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 23, 33 and Section 401 Water Quality Certification** for the Proposed Dual Rest Area on I-77 at Mile Marker 58, Iredell County, Federal Aid Project No. IMS-77-(177)39; Division 13; TIP No. K-4908; \$570.00 debit WBS No. 39894.1.1.

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to construct a dual rest area on I-77 at mile marker 58 in Iredell County. The existing bridge will be utilized as an onsite detour during construction. The configuration of the new rest area will necessitate the extension of two culverts in the project footprint. There will be 214 lf of permanent impacts to surface waters consisting of 189 lf from culvert extensions and 25 lf from bank stabilization. There will be 0.02 acre of temporary impacts to surface waters resulting from dewatering.

Please see enclosed copies of the Pre-Construction Notification (PCN), EEP Acceptance Letter, Stormwater Management Plan, Permit Drawings, and Roadway Plansheets. A Programmatic Categorical Exclusion (PCE) was completed in October 2013 and distributed shortly thereafter. Additional copies are available upon request.

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

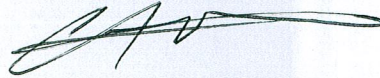
LOCATION:

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

This project calls for a letting date of April 21, 2015 and a review date of March 3, 2015; however, the let date may advance as additional funding becomes available.

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 Jeff Hemphill at (919) 707-6126.

Sincerely,



for

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

cc:
NCDOT Permit Application Standard Distribution List



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23,33 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 type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input checked="" 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 Dual Rest Area on I-77 at mile marker 58
2b. County:	Iredell
2c. Nearest municipality / town:	Statesville
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	K-4908

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) 707-6126
3g. Fax no.:	(919) 212-5785
3h. Email address:	jhemphill@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: 35.9029 Longitude: - 80.8561 (DD.DDDDDD) (-DD.DDDDDD)
1c. Property size:	27.4 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	South Yadkin River
2b. Water Quality Classification of nearest receiving water:	WS-V
2c. River basin:	Yadkin – Pee Dee
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 in the highway median.	
3b. List the total estimated acreage of all existing wetlands on the property: 0	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 3,223	
3d. Explain the purpose of the proposed project: To construct a new dual rest area on I-77 at mile marker 58.	
3e. Describe the overall project in detail, including the type of equipment to be used: The construction of the new dual rest area will necessitate the extension of two culverts in the project footprint. 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?	<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 checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Carolina EcoSystems, Inc.	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. This project area was verified on March 21, 2013 by Liz Hair of the Corps and Alan Johnson of NCDWR.	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
<input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Streams - tributaries <input type="checkbox"/> Buffers <input type="checkbox"/> Open Waters <input type="checkbox"/> Pond Construction						
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
Site 1 <input 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		
2g. Total wetland impacts						
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) (Perm/Temp)
Site 1 <input checked="" type="checkbox"/> P <input checked="" type="checkbox"/> T	Culvert Extension	UT to South Yadkin River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25	163/47
Site 2 <input checked="" type="checkbox"/> P <input checked="" type="checkbox"/> T	Culvert Extension	UT to South Yadkin River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	6	26/53
Site 3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	UT to South Yadkin River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	6	25/00
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						214 Perm/ 100 Temp
3i. Comments:						

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									
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):									
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. The whole dual rest area design was shifted to the south to avoid and minimize impacts to the streams in the project area.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Avoidance and minimization measures taken for this project include two HSB/Dry Detention Basins placed to intercept runoff from the southbound and northbound parking areas. These basins were upsized to provide both the required volume for an HSB and the water quality volume from a 1" storm, and are broken into their treatment components to be catalogued on the following sheets (HSB, Dry Detention Basin, and Forebay treatment volumes) despite all being part of the same respective basins. The drainage design also retains many of the vegetated swales and existing earthen ditches where possible. While culvert extensions are necessary, the shoulder fill slopes on the bordering acceleration lanes were reduced in an effort to minimize culvert lengths and disturbance of the natural creek bed. Plans are set to install a sizable cistern to capture rainwater from the roof for irrigation uses, and to also implement permeable pavers when designing the walkways if possible.		
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 checked="" 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 checked="" type="checkbox"/> Yes	
4b. Stream mitigation requested:	189 lf	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input checked="" 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. 0Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: 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 dual rest area, 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? <p>NCDOT personnel conducted in-season surveys for Dwarf-flowered Heartleaf in May 2012 and March 2014 in the project area with no specimens found – No Effect.</p> <p>A US Fish and Wildlife Service proposal for listing the Northern Long-eared Bat (<i>Myotis septentrionalis</i>) as an Endangered species was published in the Federal Register in October 2013. The listing will become effective on or before April, 2015. Furthermore, this species is included in USFWS's current list of protected species for Iredell County. NCDOT is working closely with the USFWS to understand how this proposed listing may impact NCDOT projects. NCDOT will continue to coordinate appropriately with USFWS to determine if this project will incur potential effects to the Northern long-eared bat, and how to address these potential effects, if necessary.</p>		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
Dr Richard W. Hancock, PE. Applicant/Agent's Printed Name	 Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	1-8-2015 Date



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Michael Ellison, Director
Ecosystem Enhancement Program

John E. Skvarla, III
Secretary

November 18, 2014

Mr. Richard W. Hancock, P.E.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Hancock:

Subject: EEP Mitigation Acceptance Letter:

K-4908, I-77 – New Rest Area Pair on New Location, Iredell 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 November 13, 2014, the impacts are located in CU 03040102 of the Yadkin River basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Yadkin 03040102 CP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	189.0	0	0	0	0	0	0

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

EEP commits to implementing sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies 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 919-707-8420.

Sincerely,

James B. Stanfill
EEP Asset Management Supervisor

cc: Mr. Steve Kichefski, USACE – Asheville Regulatory Field Office
Mr. Alan Johnson, Division of Water Resources, Wetlands/401 Unit
File: K-4908



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



(Version 2; Released April 2014)

WBS Element: 39894.1.1 TIP No.: K-4908 County(ies): Iredell Page 1 of 3

General Project Information

WBS Element:	39894.1.1	TIP Number:	K-4908	Project Type:	Rest Area	Date:	10/6/2014
NCDOT Contact:	Andy McDaniels		Contractor / Designer:		Ryan Mullins		
	Address:		Address:		Address:		
	NC Department of Transportation Hydraulics Unit 1590 Mail Service Center Raleigh, NC, 27699		NC Department of Transportation Hydraulics Unit 1590 Mail Service Center Raleigh, NC, 27699		NC Department of Transportation Hydraulics Unit 1590 Mail Service Center Raleigh, NC, 27699		
	Phone: (919)-707-6737		Phone: (919)-707-6740		Phone: (919)-707-6740		
Email: ahmcdaniel@ncdot.gov		Email: irmullins@ncdot.gov		Email: irmullins@ncdot.gov			
City/Town:	Statesville		County(ies):	Iredell			
River Basin(s):	Yadkin-Pee Dee		CAMA County?	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	1.9 miles	Surrounding Land Use:	Rural
Proposed Project		Existing Site	
Project Built-Up Area (ac.)	27.4 ac.		14.1 ac.
Typical Cross Section Description:			

Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 56,200	Year: 2040	Existing: 35,200	Year: 2015
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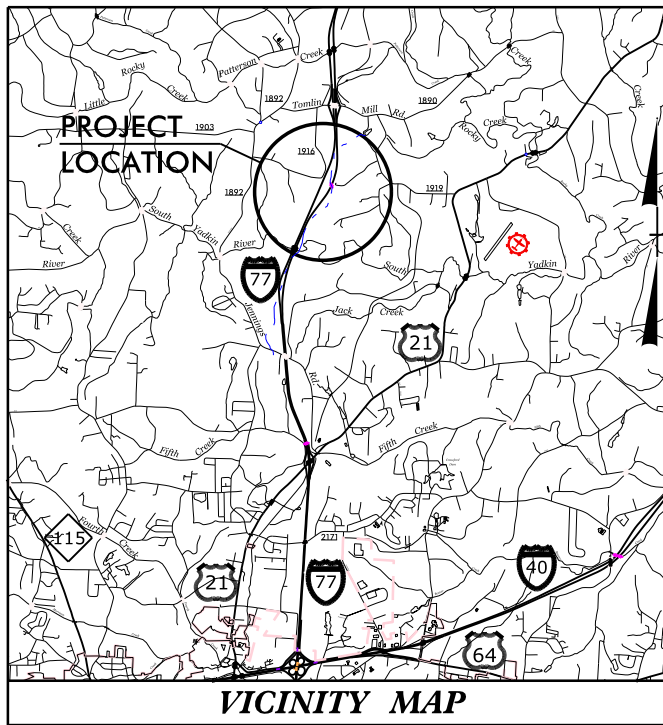
General Project Narrative:
 (Description of Minimization of Water Quality Impacts)

The principle pollution prevention measures taken for this project are the two HSB/Dry Detention Basins placed to intercept runoff from the southbound and northbound parking areas. These basins were upsized to provide both the required volume for an HSB and the water quality volume from a 1" storm, and are broken into their treatment components to be catalogued on the following sheets (HSB, Dry Detention Basin, and Forebay treatment volumes) despite all being part of the same respective basins. The drainage design also retains many of the vegetated swales and existing earthen ditches where possible. While culvert extensions are necessary, the shoulder fill slopes on the bordering acceleration lanes were reduced in an effort to minimize culvert lengths and disturbance of the natural creek bed. Plans are set to install a sizable cistern to capture rainwater from the roof for irrigation uses, and to also implement permeable pavers when designing the walkways if possible.

Waterbody Information

Surface Water Body (1):	South Yadkin River		NCDWR Stream Index No.:	12-108-(9.7)		
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply V (WS-V)			
Other Stream Classification:	Supplemental Classification:		None			
Impairments:	None					
Threatened/Endangered Species?	No	Comments: None of the federally protected species from Iredell County are present, or could be present within the project limits				
Buffer Rules in Effect	N/A					
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

See Sheet 1-A For Index of Sheets



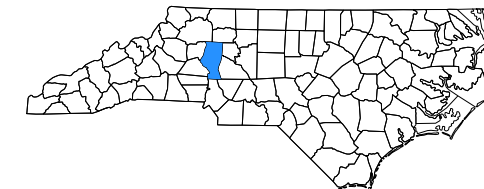
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

IREDELL COUNTY

LOCATION: I-77 REST AREA ON NEW LOCATION

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, TRAFFIC CONTROL,
SIGNING, LIGHTING, REST AREA AND FACILITIES**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-4908	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39894.1.1	IMS-77-1(177)39	PE	
39894.2.FS1	IMS-77-1(177)39	RW & UTIL	
39894.3.FS1	IMS-77-1(177)39	CONST.	

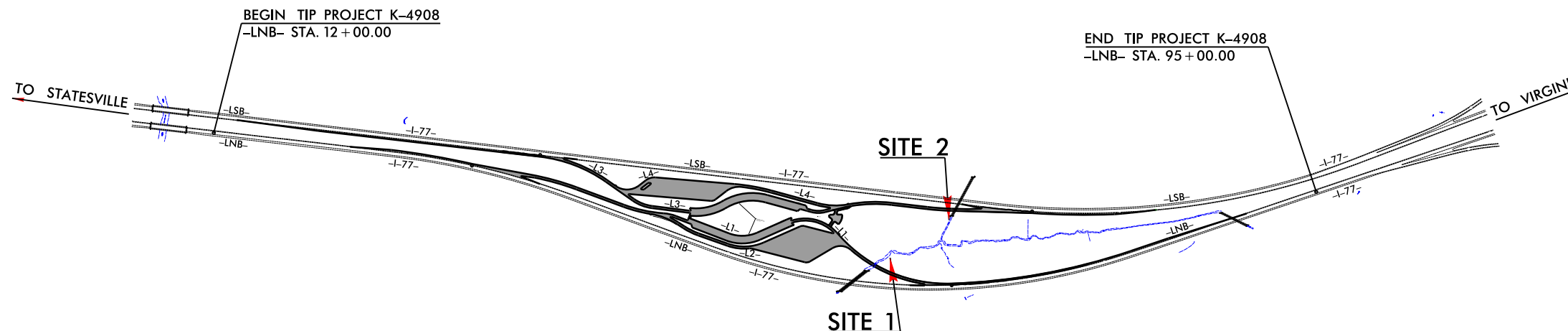


WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 9

TIP PROJECT: K-4908

CONTRACT: C203566



NAD 83/NSRS 2007

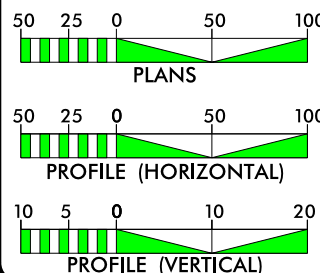
1/7/2015
jwoodard1
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*** NO RW OR PUE TO BE ACQUIRED**

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING IN THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2015 = 35,200
ADT 2040 = 56,200
K = 10 %
D = 60 %
T = 14 %
V = 70 MPH
FUNC CLASS =
INTERSTATE
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT K-4908 = 1.572 MILES
TOTAL LENGTH TIP PROJECT K-4908 = 1.572 MILES

(I-77 NORTHBOUND LANE USED FOR PROJECT LENGTH)

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
* DECEMBER 31, 2013

LETTING DATE:
APRIL 21, 2015

JASON MOORE, PE
PROJECT ENGINEER

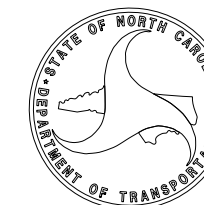
JEANIE TYSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

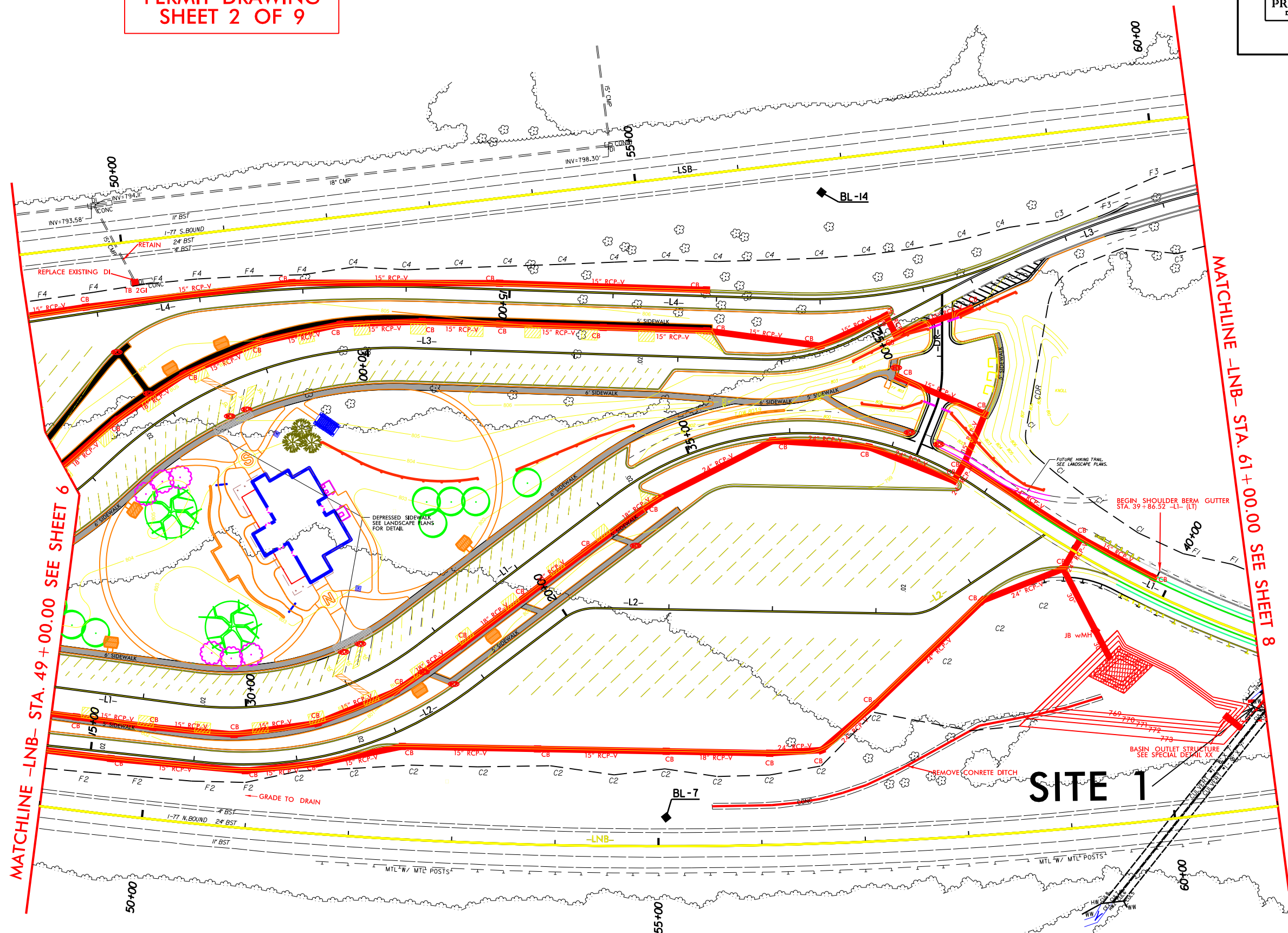
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\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

PROJECT REFERENCE NO. K-4908	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 2 OF 9



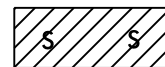
REVISIONS

MATCHLINE -LNB- STA. 49+00.00 SEE SHEET 6

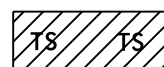
MATCHLINE -LNB- STA. 61+00.00 SEE SHEET 8

SITE 1

1/7/2015
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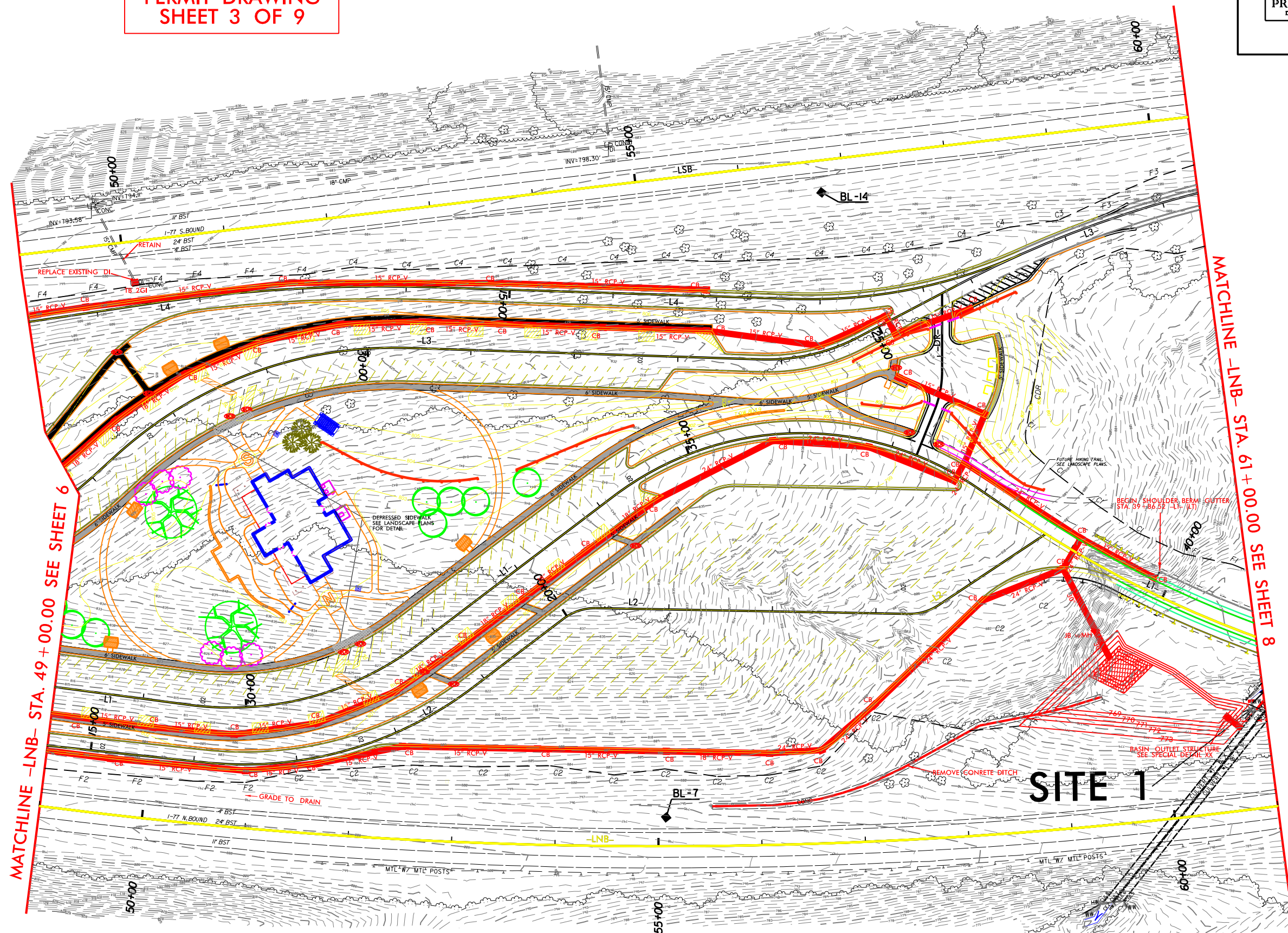
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. K-4908	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 3 OF 9



MATCHLINE -LNB- STA. 49+00.00 SEE SHEET 6

MATCHLINE -LNB- STA. 61+00.00 SEE SHEET 8

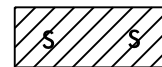
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REVISIONS

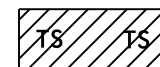
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jawoodard1

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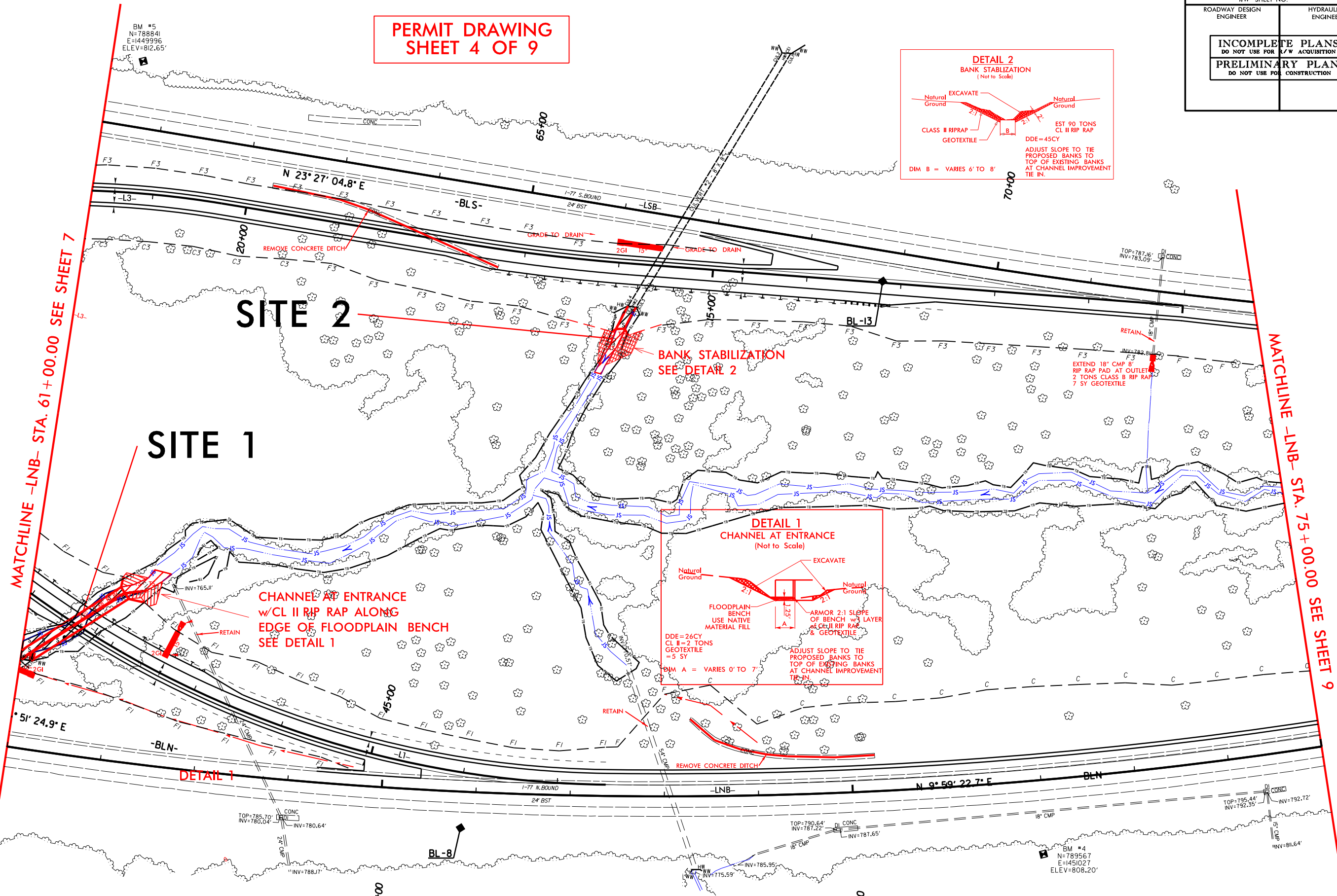
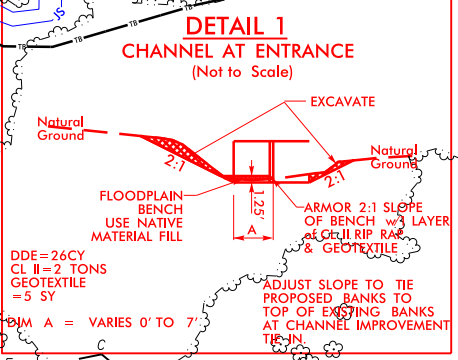
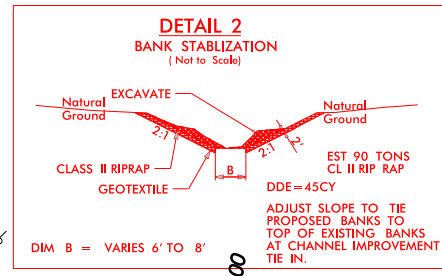
DENOTES IMPACTS IN
 SURFACE WATER



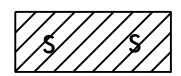
DENOTES TEMPORARY
 IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. K-4908	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

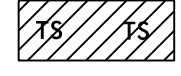
**PERMIT DRAWING
SHEET 4 OF 9**



1/7/2015
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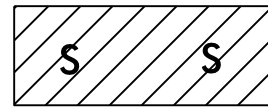
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS

8/17/99



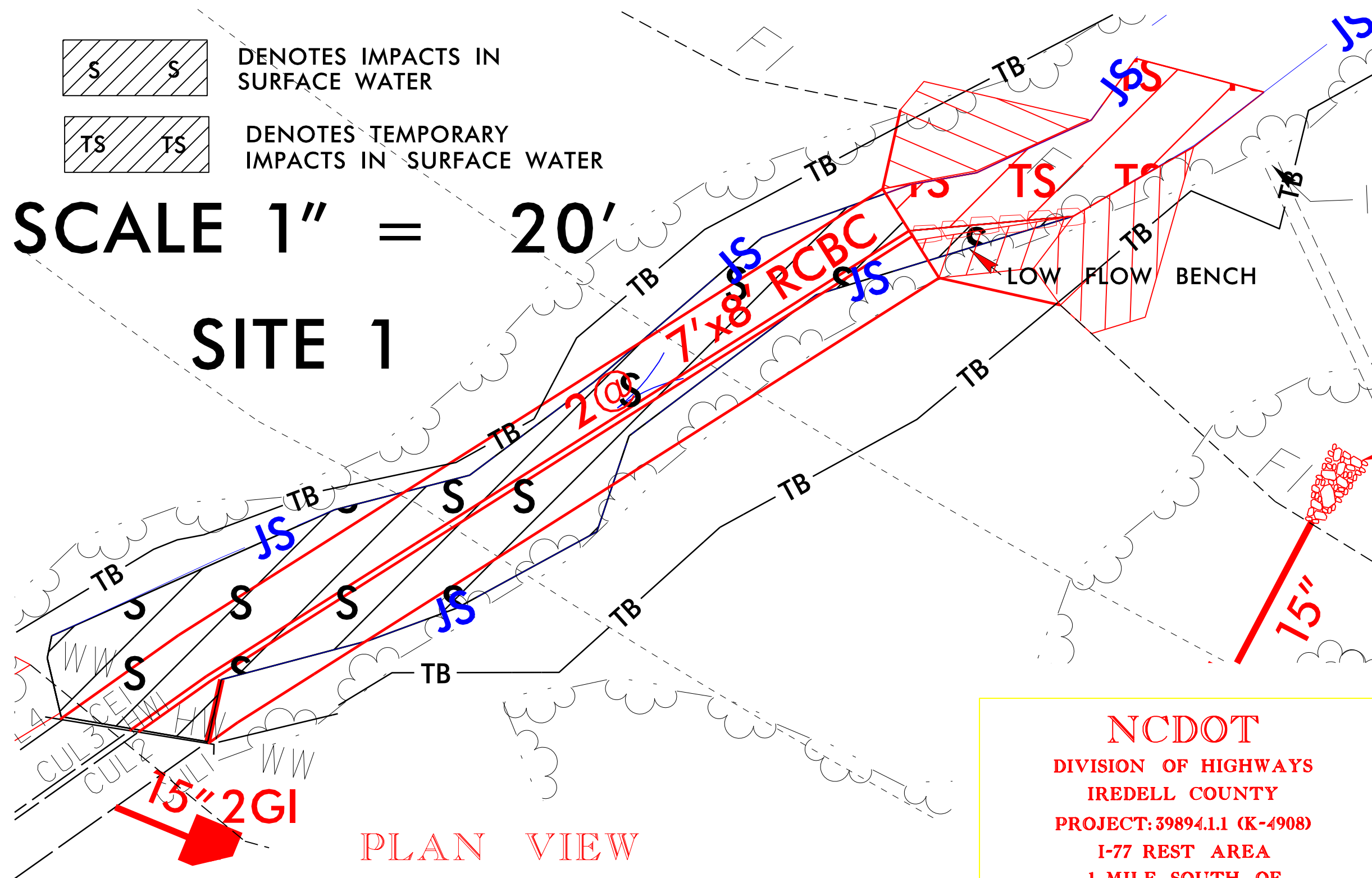
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

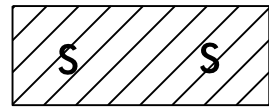
SCALE 1" = 20'

SITE 1



PLAN VIEW

NCDOT
DIVISION OF HIGHWAYS
IREDELL COUNTY
PROJECT: 39894.1.1 (K-4908)
I-77 REST AREA
1 MILE SOUTH OF
SR 1890 (TOMLIN MILL RD.)
INTERCHANGE
SHEET 6 OF 9

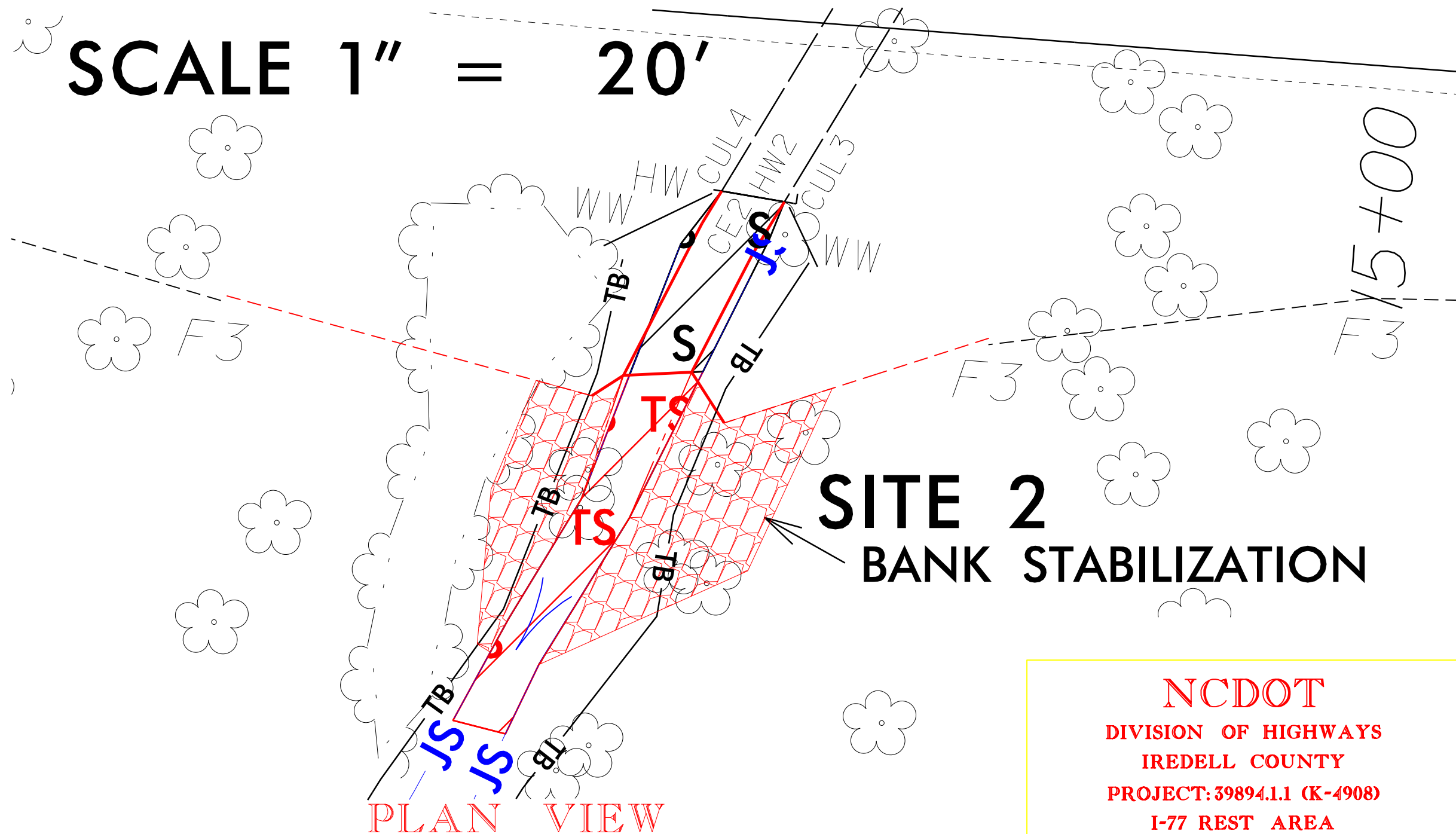


DENOTES IMPACTS IN SURFACE WATER



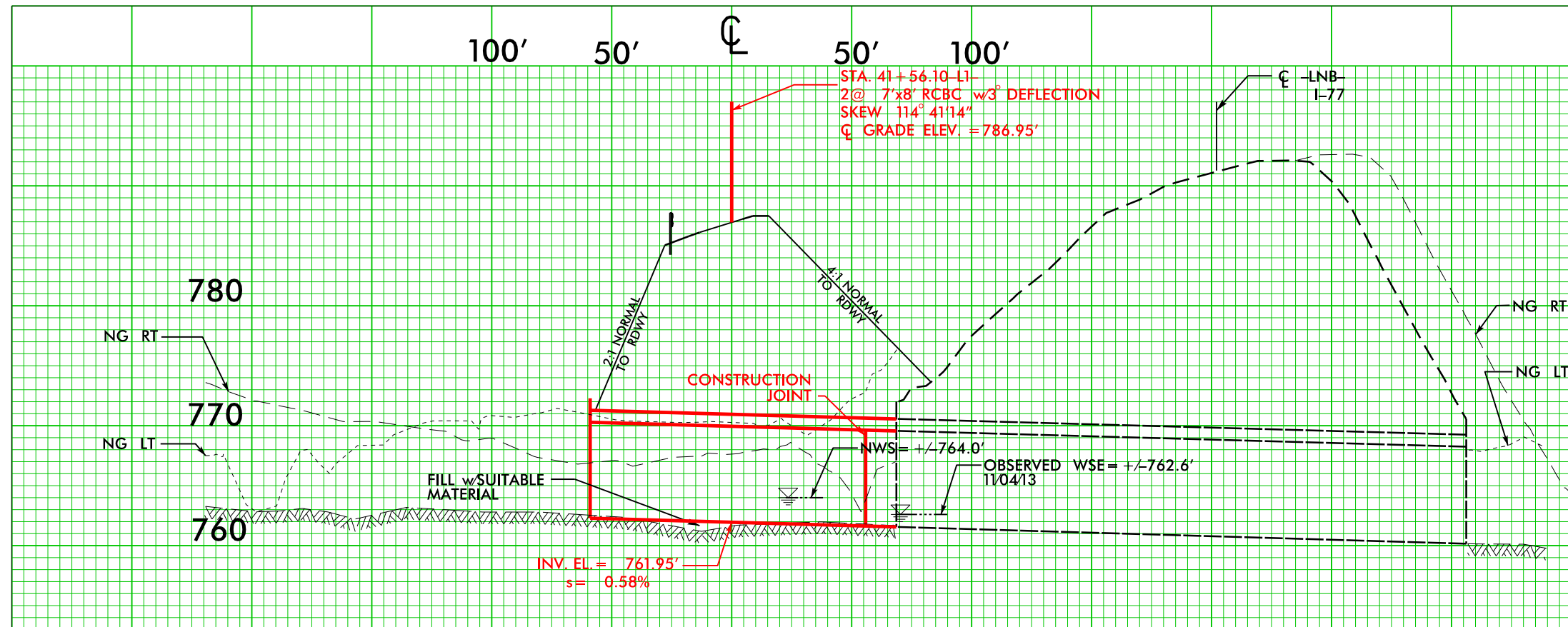
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SCALE 1" = 20'



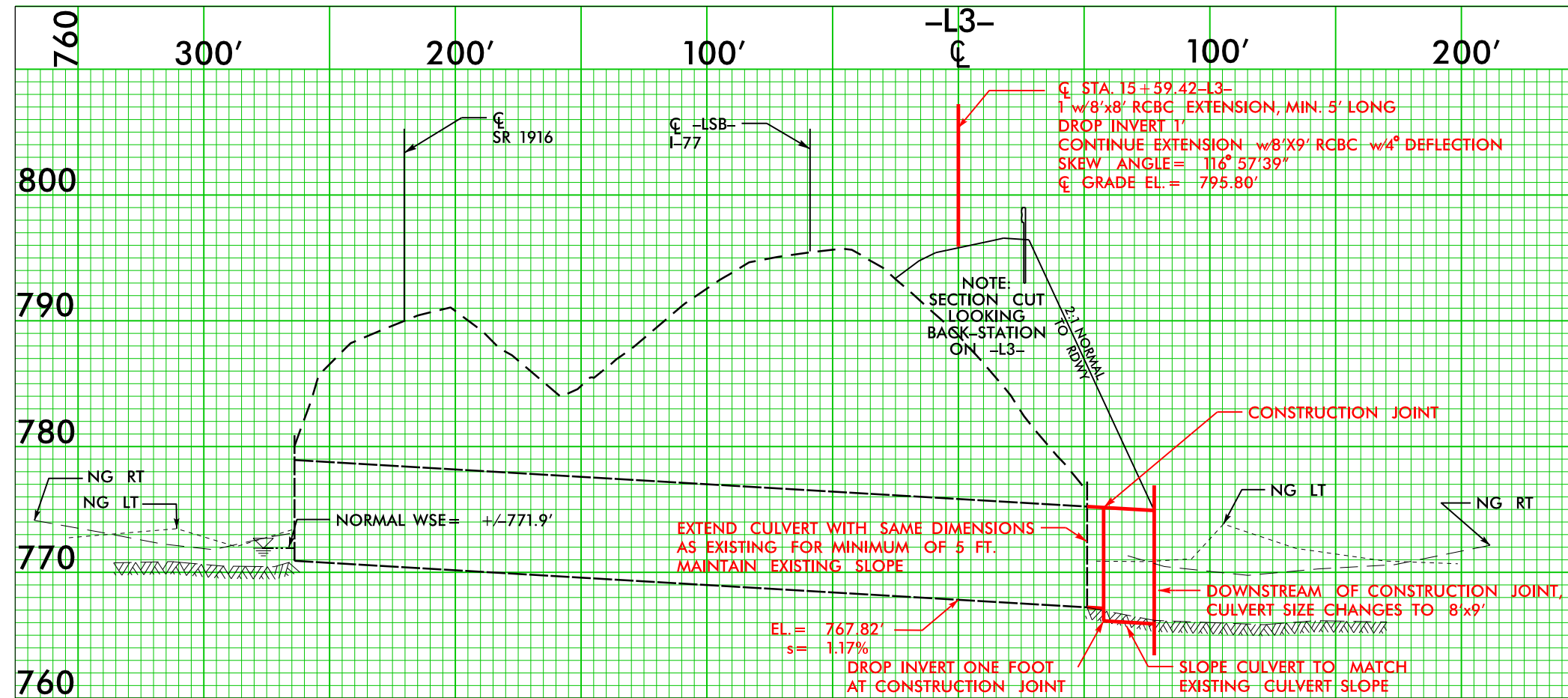
1/7/2015
 jawoodard1
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NCDOT
 DIVISION OF HIGHWAYS
 IREDELL COUNTY
 PROJECT: 39894.1.1 (K-4908)
 I-77 REST AREA
 1 MILE SOUTH OF
 SR 1890 (TOMLIN MILL RD.)
 INTERCHANGE
 SHEET 7 OF 9



L1 CULVERT PROFILE

NCDOT
 DIVISION OF HIGHWAYS
 IREDELL COUNTY
 PROJECT: 39894.1.1 (K-4908)
 I-77 REST AREA
 1 MILE SOUTH OF
 SR 1890 (TOMLIN MILL RD.)
 INTERCHANGE
 SHEET 8 OF 9



L3 CULVERT PROFILE

NCDOT
 DIVISION OF HIGHWAYS
 IREDELL COUNTY
 PROJECT: 39894.1.1 (K-4908)
 I-77 REST AREA
 1 MILE SOUTH OF
 SR 1890 (TOMLIN MILL RD.)
 INTERCHANGE
 SHEET 9 OF 9

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	60+95 to 62+16 -LNB- (Lt)	CULVERT						0.047	0.011	163	47	
2	66+10 to 66+29 -LSB- (Lt)	CULVERT						0.006	0.009	26	53	
2	66+10 to 66+29 -LSB- (Lt)	BANK STAB.								25		
TOTALS:								0.05	0.02	214.000	100.000	

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 IREDELL
 WBS -39894.1.1 (K-4908)

09/08/99

See Sheet 1-A For Index of Sheets

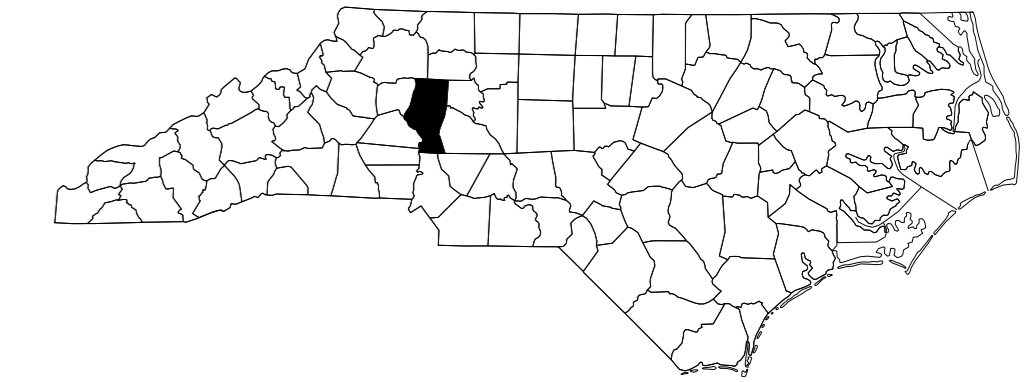
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

IREDELL COUNTY

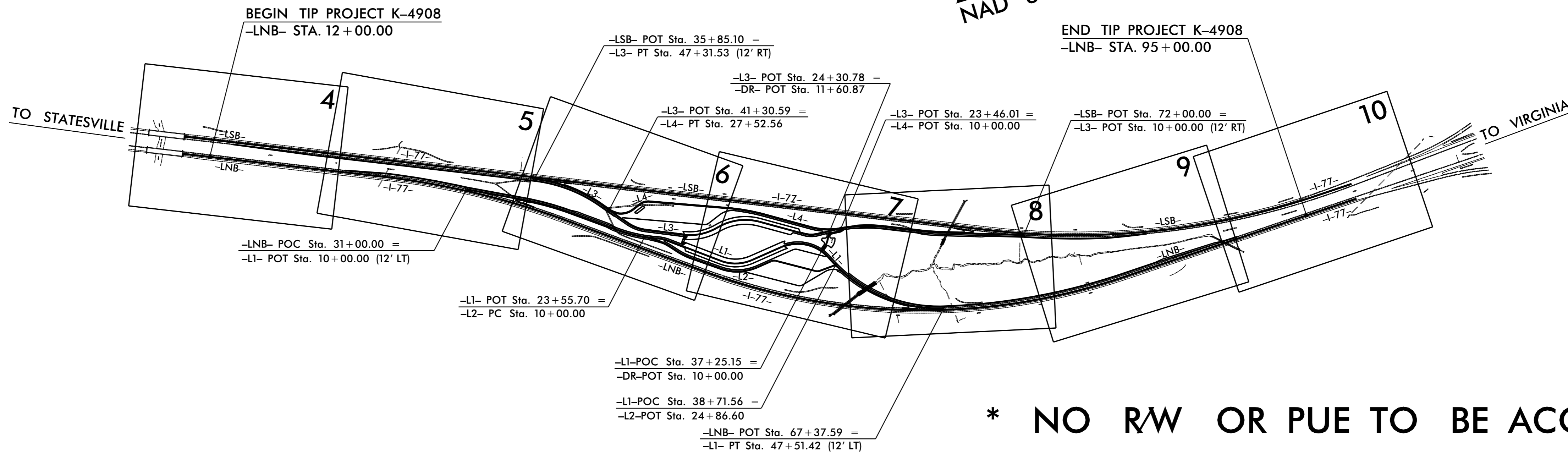
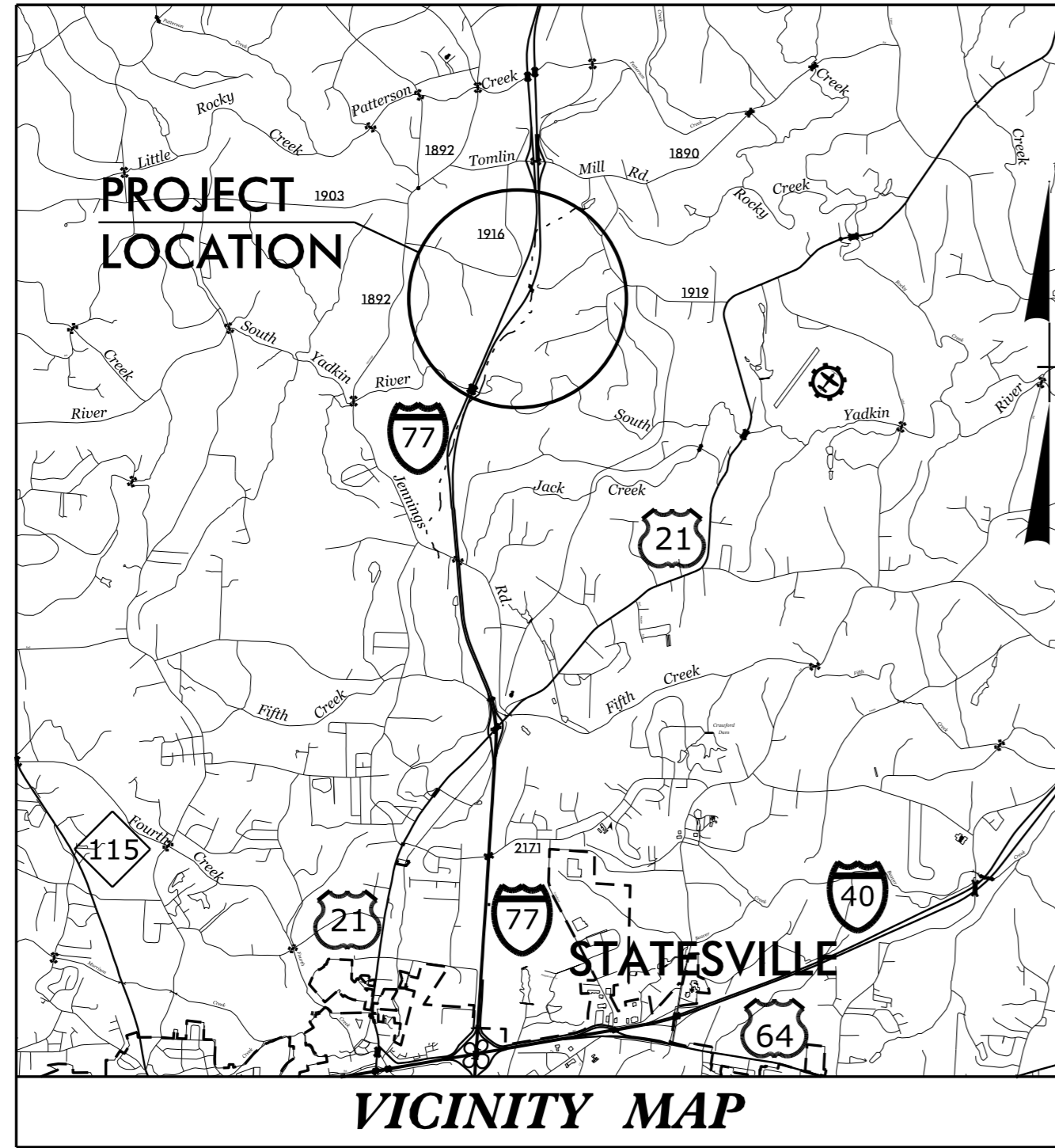
LOCATION: I-77 REST AREA ON NEW LOCATION

TYPE OF WORK: GRADING, DRAINAGE, PAVING, TRAFFIC CONTROL,
SIGNING, LIGHTING, REST AREA AND FACILITIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	K-4908	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39894.1.1	IMS-77-1(177)39	PE	
39894.2.FS1	IMS-77-1(177)39	RW & UTIL	
39894.3.FS1	IMS-77-1(177)39	CONST.	



TIP PROJECT: K-4908

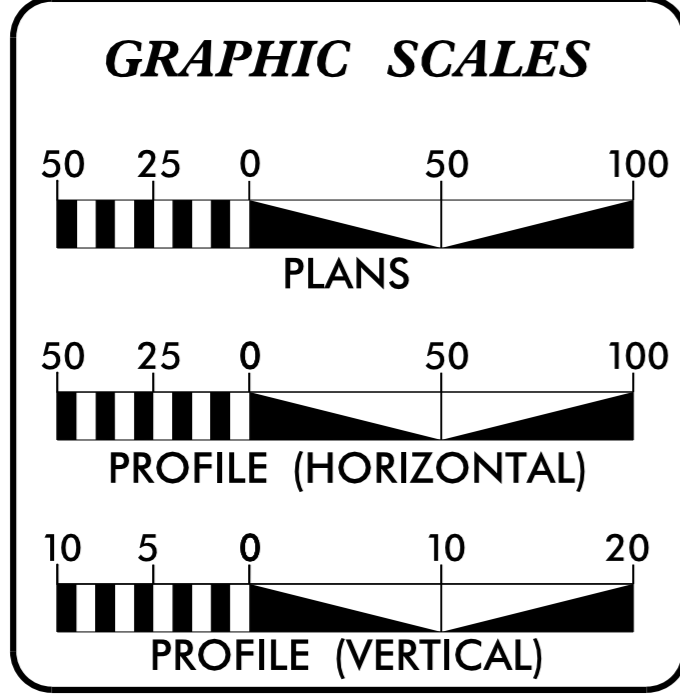


*** NO RW OR PUE TO BE ACQUIRED**

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THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING IN THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2015 =	35,200
ADT 2040 =	56,200
K =	10 %
D =	60 %
T =	14 %
V =	70 MPH
FUNC CLASS =	INTERSTATE
STATEWIDE TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT K-4908 =	1.572 MILES
TOTAL LENGTH TIP PROJECT K-4908 =	1.572 MILES

(I-77 NORTHBOUND LANE USED FOR PROJECT LENGTH)

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

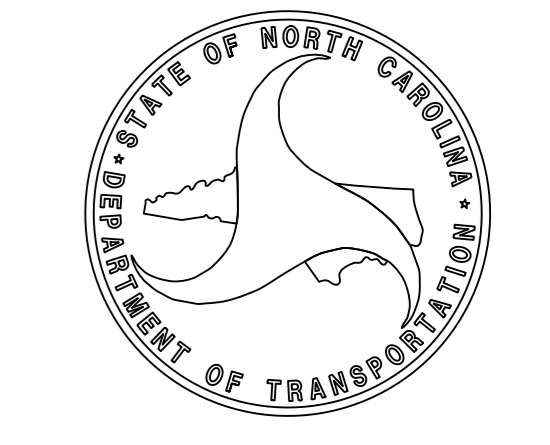
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: * DECEMBER 31, 2013	JASON MOORE, PE PROJECT ENGINEER
LETTING DATE: APRIL 21, 2015	JEANIE TYSON PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



10-JUN-2014 10:21 R:\Roadway\Proj\K4908_Rdy.-t.sh.dgn \$\$\$\$USERNAME\$\$\$

12/05/11

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	→
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- MLB
Proposed Wetland Boundary	----- MLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ? ☠ ?

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	----- RW
Proposed Right of Way Line with Iron Pin and Cap Marker	----- RW ▲
Proposed Right of Way Line with Concrete or Granite RW Marker	----- RW ●
Proposed Control of Access Line with Concrete CA Marker	----- CA
Existing Control of Access	----- CA
Proposed Control of Access	----- CA
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	----- ◆

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼ ☼ ☼ ☼
Vineyard	▭ Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	▭
Telephone Pedestal	▭
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	▭
Recorded U/G Telephone Cable	----- T
Designated U/G Telephone Cable (S.U.E.*)	----- T
Recorded U/G Telephone Conduit	----- TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC
Recorded U/G Fiber Optics Cable	----- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	----- T FO

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

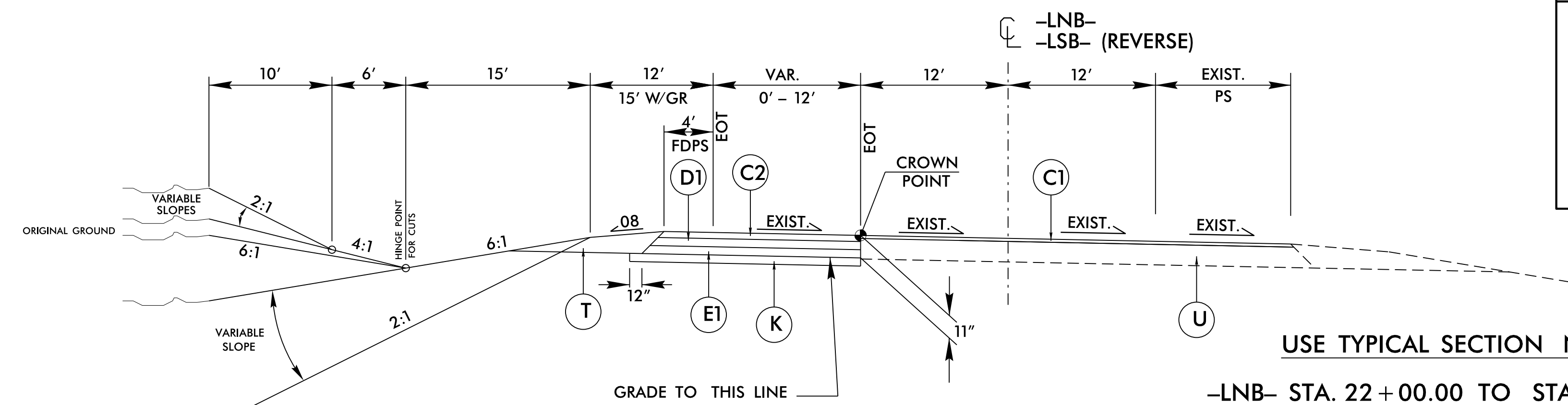
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

MISCELLANEOUS:

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

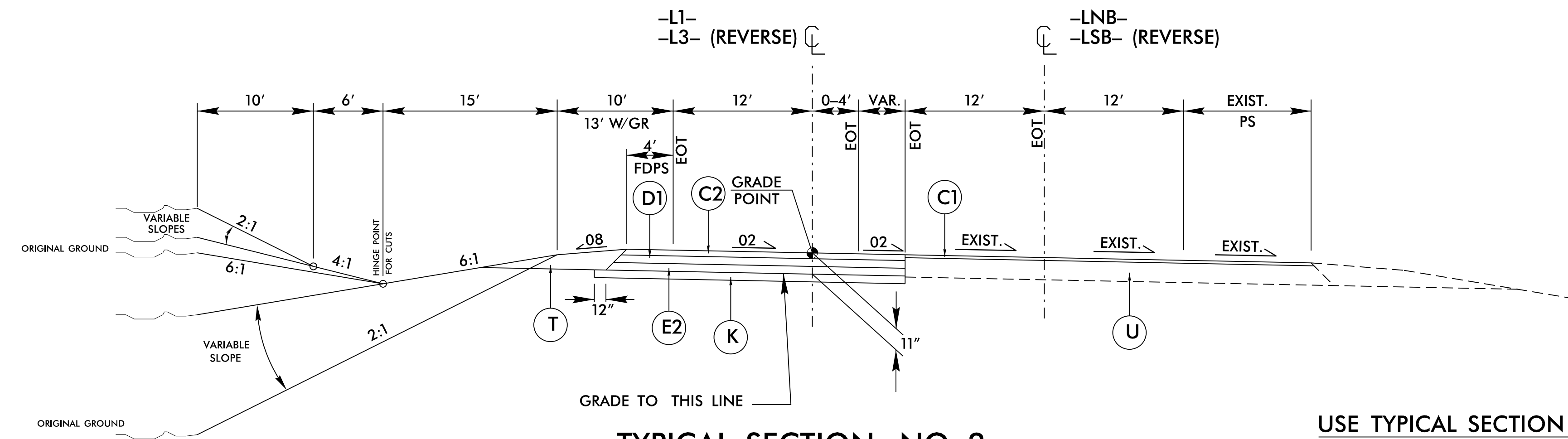
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
A	9" JOINTED CONCRETE WITH DOWELS.
C1	PROP. APPROX. 1½" ASPHALT CONCRETE BASE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. FOR -LNB- AND -LSB- OVERLAY.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE 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 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 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 5½" IN DEPTH.
K	BASE TO BE TREATED WITH LIME TO A DEPTH OF 8", AT A RATE OF 20 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER. OR BASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7", AT A RATE OF 55 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER.
N	GEOTEXTILE FOR PAVEMENT STABILIZATION.
R1	2'-6" CURB AND GUTTER.
R2	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

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



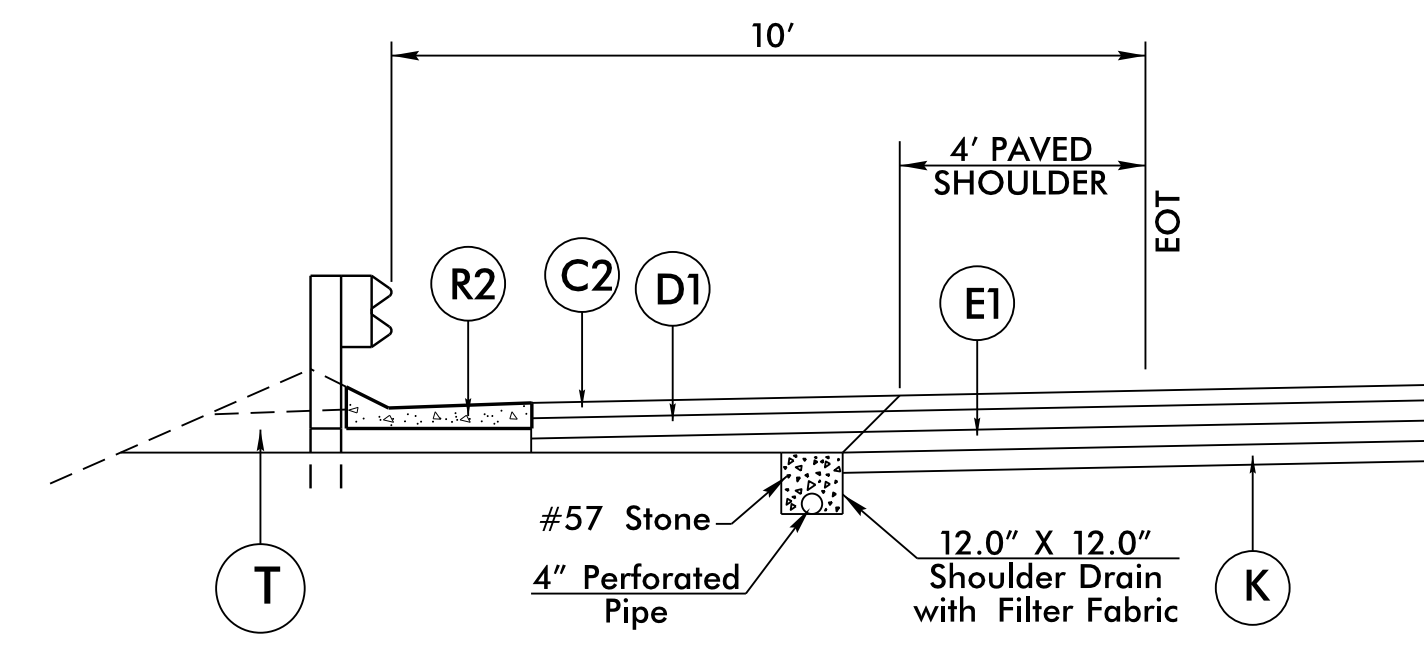
TYPICAL SECTION NO. 1
ACCELERATION AND DECELERATION LANES

USE TYPICAL SECTION NO. 1
 -LNB- STA. 22+00.00 TO STA. 31+00.00 (LT)
 -LNB- STA. 67+37.59 TO STA. 89+67.59 (LT)
 -LSB- STA. 13+55.10 TO STA. 35+85.10 (RT) REVERSE
 -LSB- STA. 72+00.00 TO STA. 81+00.00 (RT) REVERSE

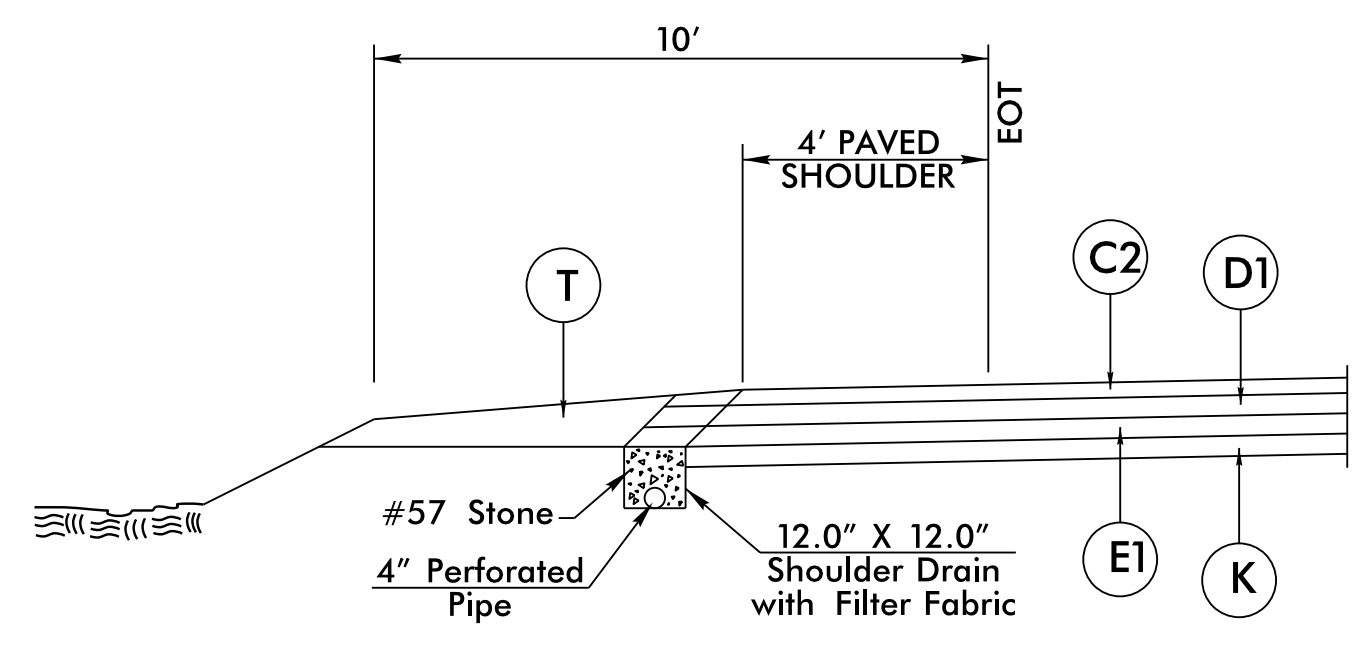


TYPICAL SECTION NO. 2

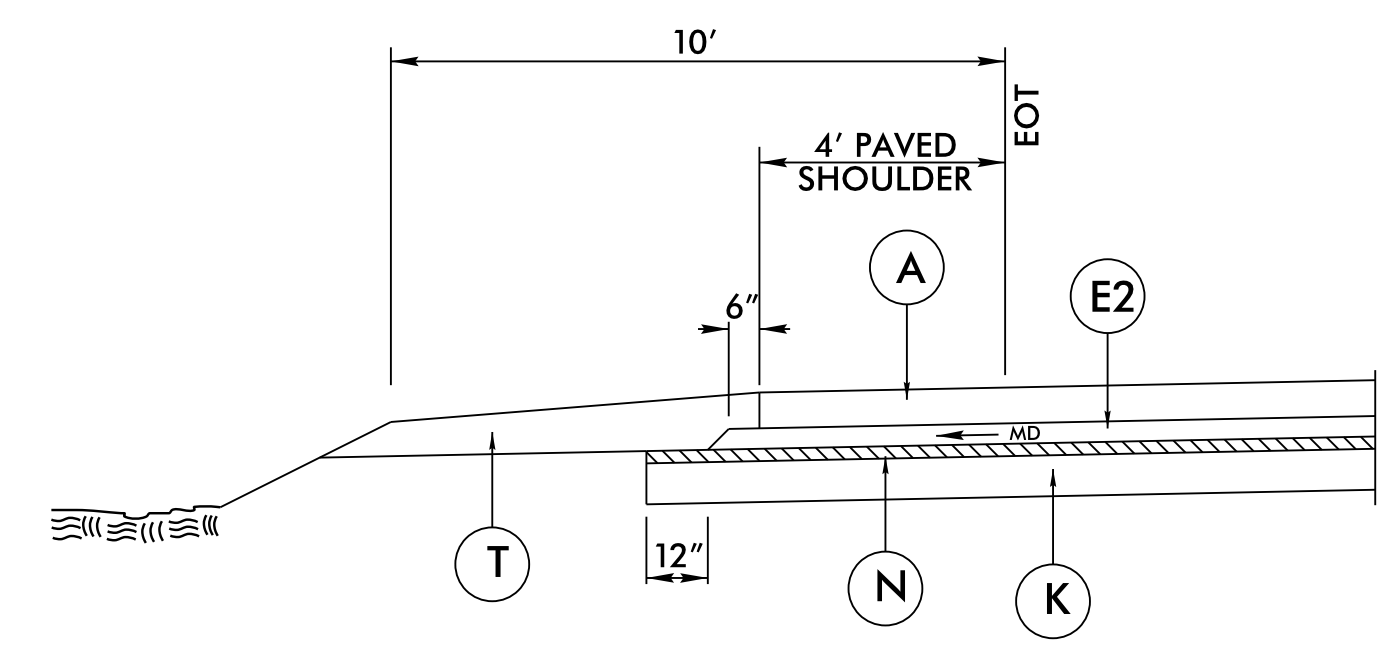
USE TYPICAL SECTION NO. 2
 -L1- STA. 10+00.00 TO STA. 14+30.20
 -L1- STA. 44+94.80 TO STA. 47+51.42
 -L3- STA. 10+00.00 TO STA. 14+38.81
 -L3- STA. 45+06.39 TO STA. 47+31.53



OUTSIDE SHOULDER DRAIN DETAIL



OUTSIDE SHOULDER DRAIN DETAIL



GEOTEXTILE FOR PAVEMENT STABILIZATION DETAIL

MD = MACHINE DIRECTION

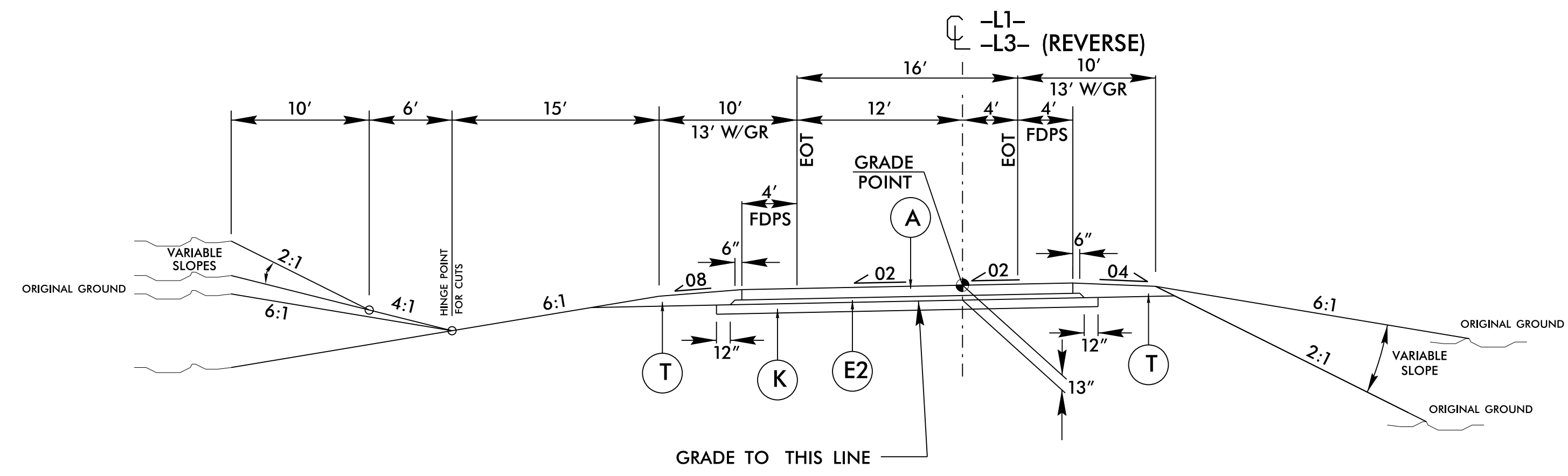
USE DETAIL

-L1- STA. 39+50.00 TO 43+50.00
 -L3- STA. 16+00.00 TO 18+50.00
 -L3- STA. 40+50.00 TO 42+50.00
 -L4- STA. 23+00.00 TO 27+52.00

REVISIONS

8/17/99

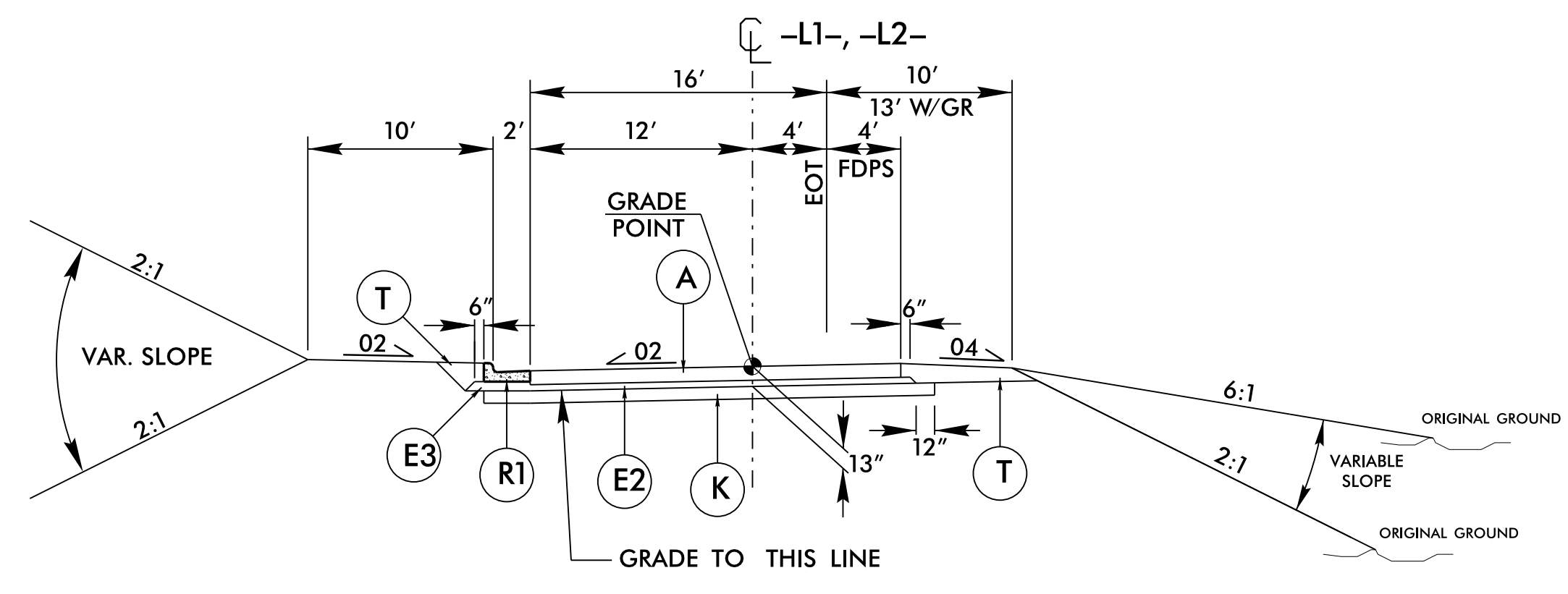
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TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
 -L1- STA. 14+30.20 TO STA. 21+40.00
 -L1- STA. 39+86.52 TO STA. 44+94.80
 -L3- STA. 14+38.81 TO STA. 22+64.00
 -L3- STA. 40+70.00 TO STA. 45+06.39

PAVEMENT SCHEDULE	
A	9" CONCRETE
E2	4" B25.0B
E3	VAR, B25.0B
K	STABILIZED SUB-GRADE
R1	2'-6" C & G
T	EARTH MATERIAL



TYPICAL SECTION NO. 4

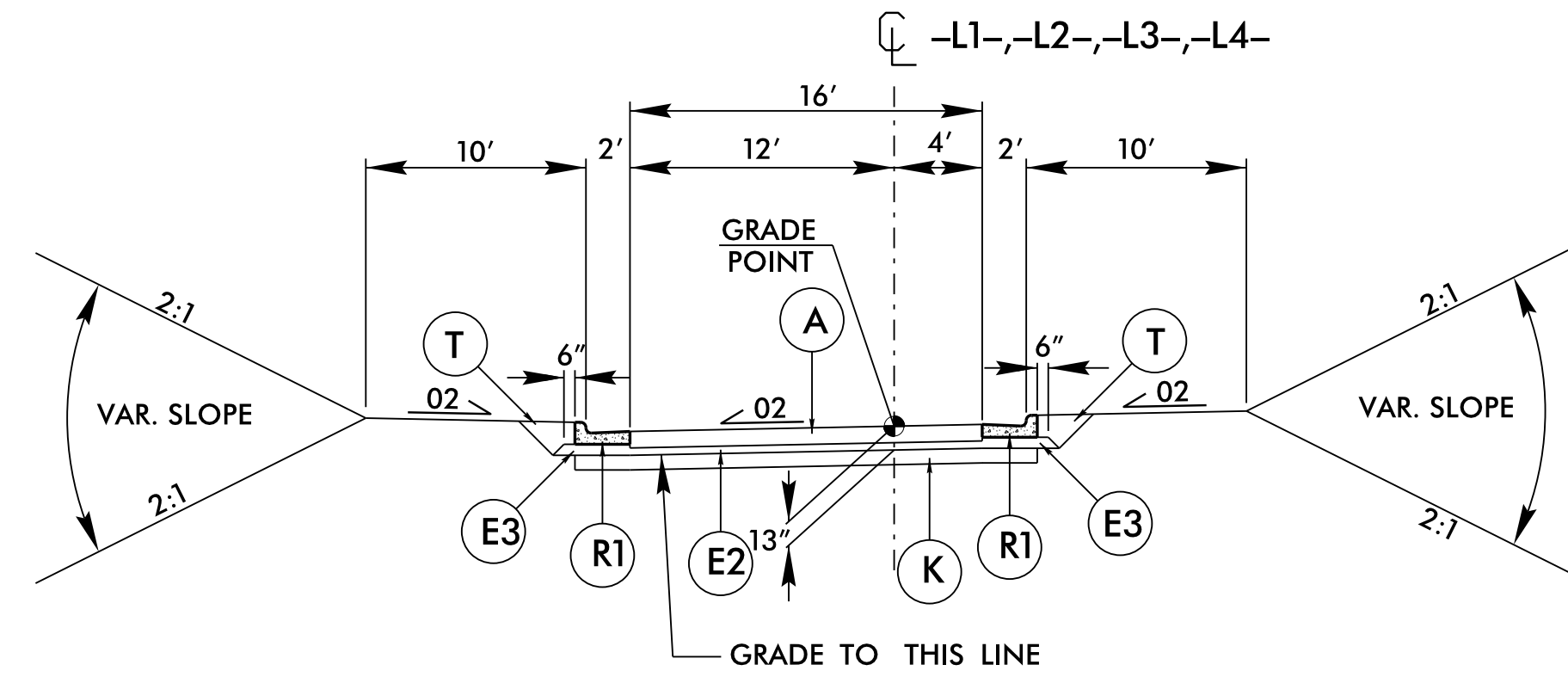
USE TYPICAL SECTION NO. 4
 -L1- STA. 21+40.00 TO STA. 23+55.70
 -L1- STA. 39+04.52 TO STA. 39+86.52 (REVERSE)
 -L2- STA. 10+00.00 TO STA. 11+20.00

REVISIONS

8/17/99

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PROJECT REFERENCE NO. K-4908	SHEET NO. 2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



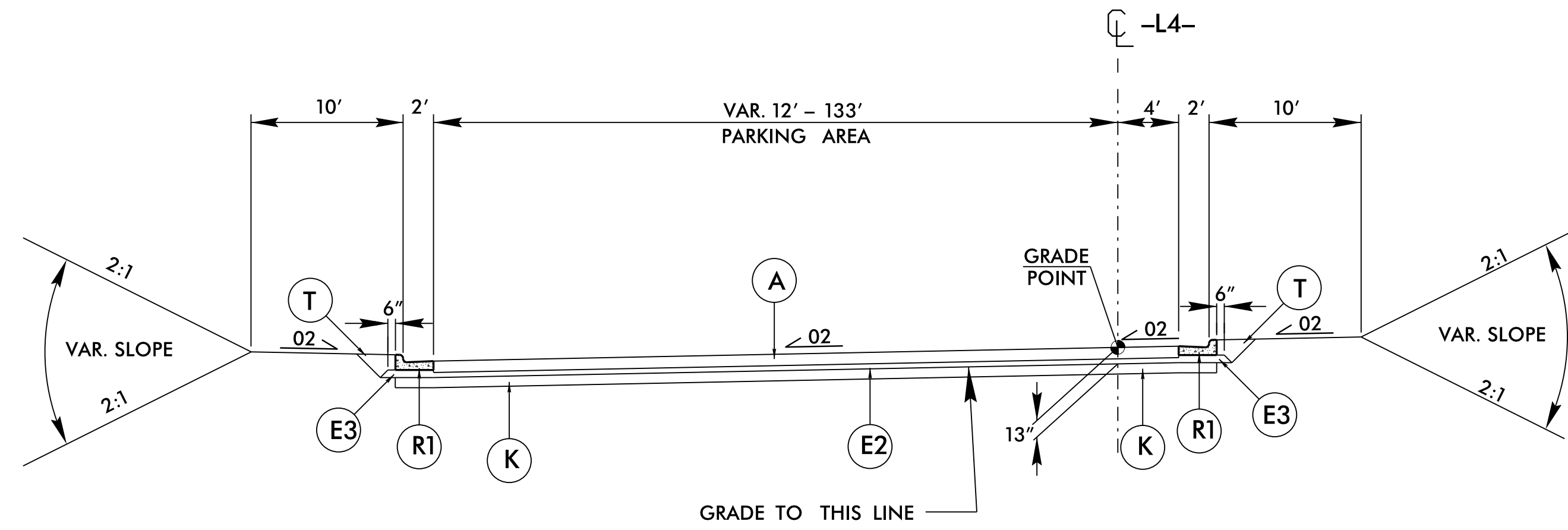
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

- L1- STA. 25+06.82 TO STA. 26+24.38
- L1- STA. 34+48.61 TO STA. 37+72.90
- L2- STA. 11+20.00 TO STA. 17+72.19
- L3- STA. 22+64.00 TO STA. 26+52.13
- L3- STA. 35+42.17 TO STA. 40+70.00
- L4- STA. 11+36.78 TO STA. 17+97.97

PAVEMENT SCHEDULE

A	9" CONCRETE
E2	4" B25.0B
E3	VAR, B25.0B
K	STABILIZED SUB-GRADE
R1	2'-6" C & G
T	EARTH MATERIAL



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

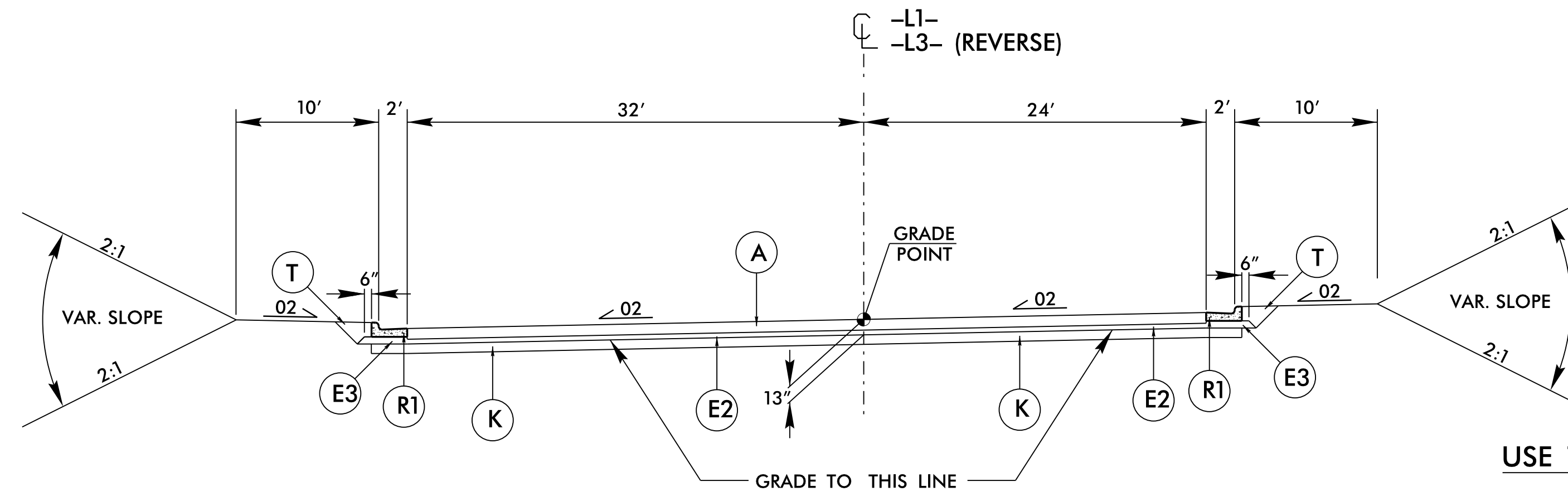
- L4- STA. 17+97.97 TO STA. 26+95.00 (SB TRUCK PARKING AREA)

REVISIONS

8/17/99

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PROJECT REFERENCE NO. K-4908	SHEET NO. 2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

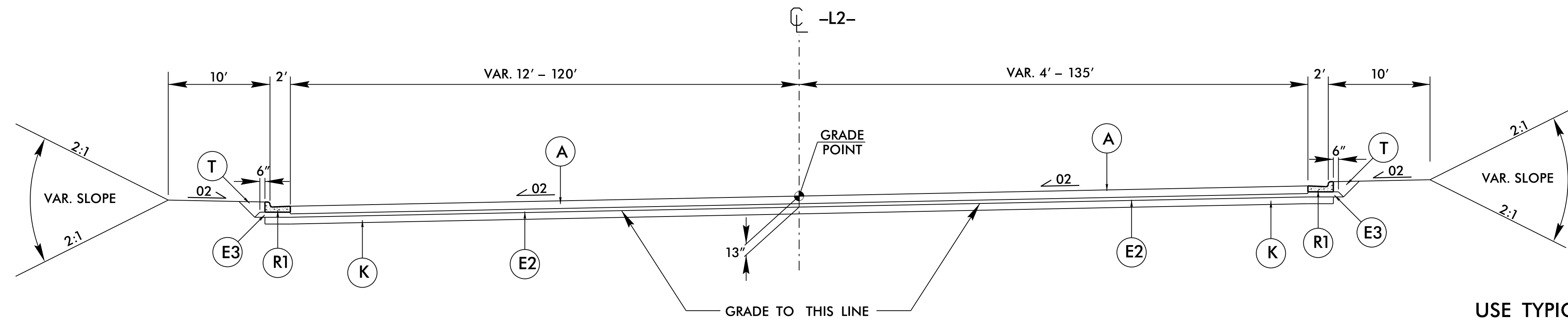


TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
 -L1- STA. 26+24.38 TO 34+48.61 (NB CAR PARKING AREA)
 -L3- STA. 26+52.13 TO 35+42.17 (SB CAR PARKING AREA)

PAVEMENT SCHEDULE

A	9" CONCRETE
E2	4" B25.0B
E3	VAR, B25.0B
K	STABILIZED SUB-GRADE
R1	2'-6" C & G
T	EARTH MATERIAL



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
 -L2- STA. 17+72.19 TO 24+85.00 (NB TRUCK PARKING AREA)

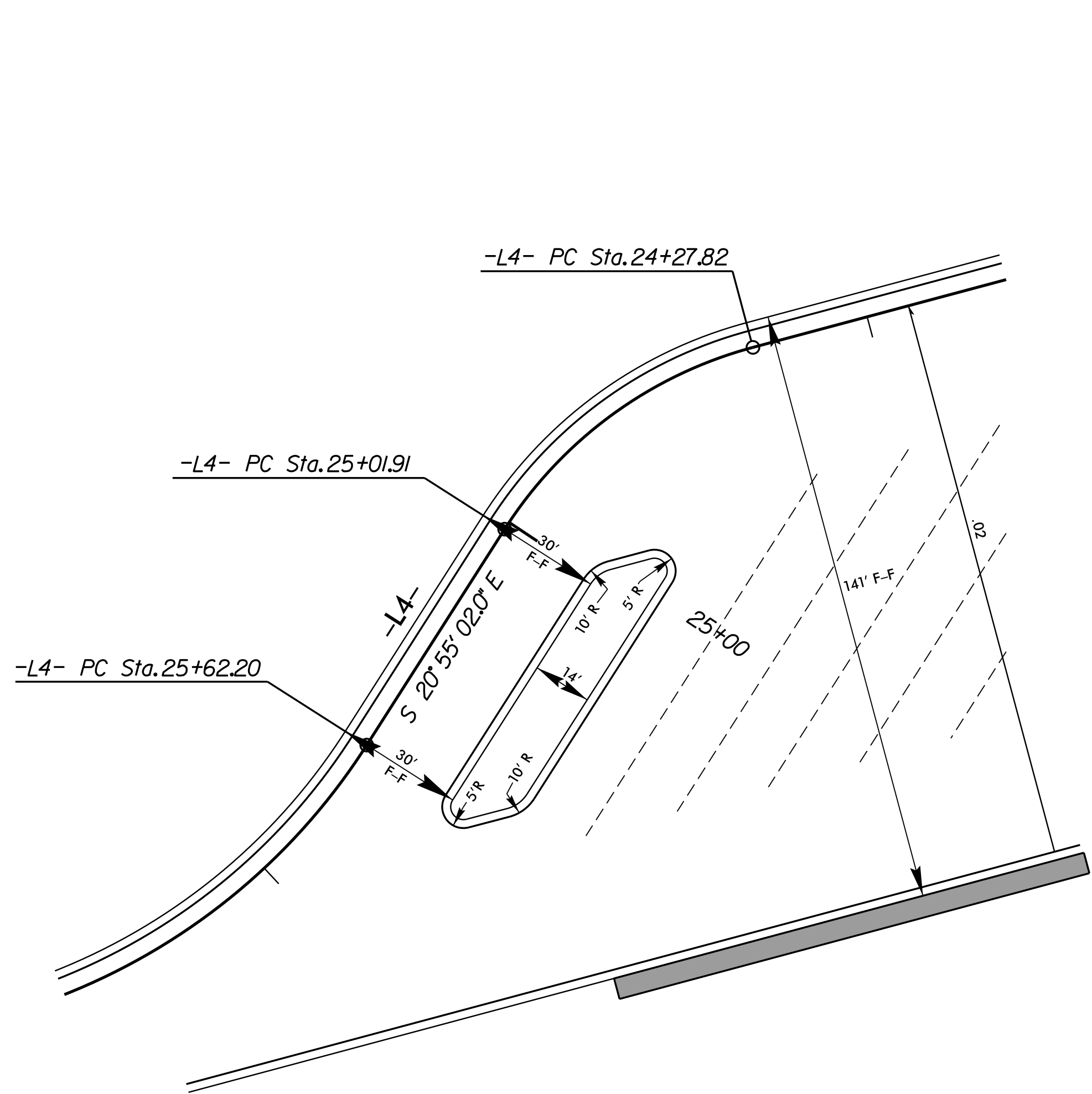
REVISIONS

8/17/99

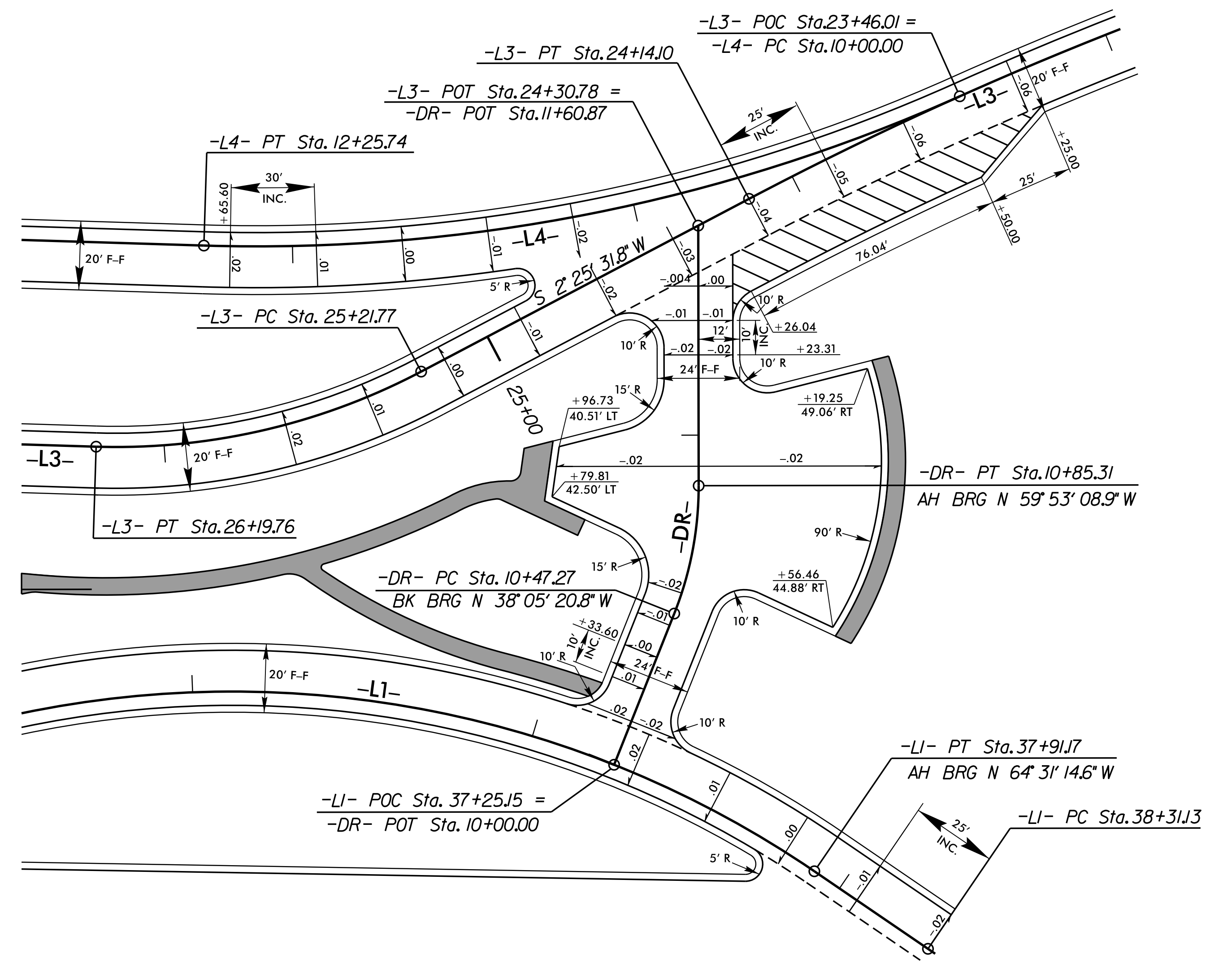
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PROJECT REFERENCE NO. K-4908	SHEET NO. 2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NOT TO SCALE



LAYOUT DETAIL FOR -L4- ISLAND



LAYOUT DETAIL FOR -DR-

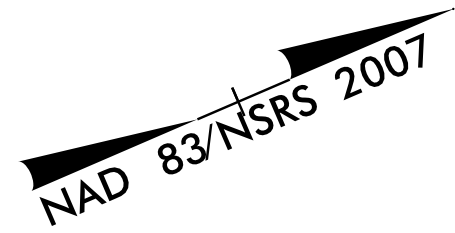
PROP CONC SIDEWALK

REVISIONS

8/17/99

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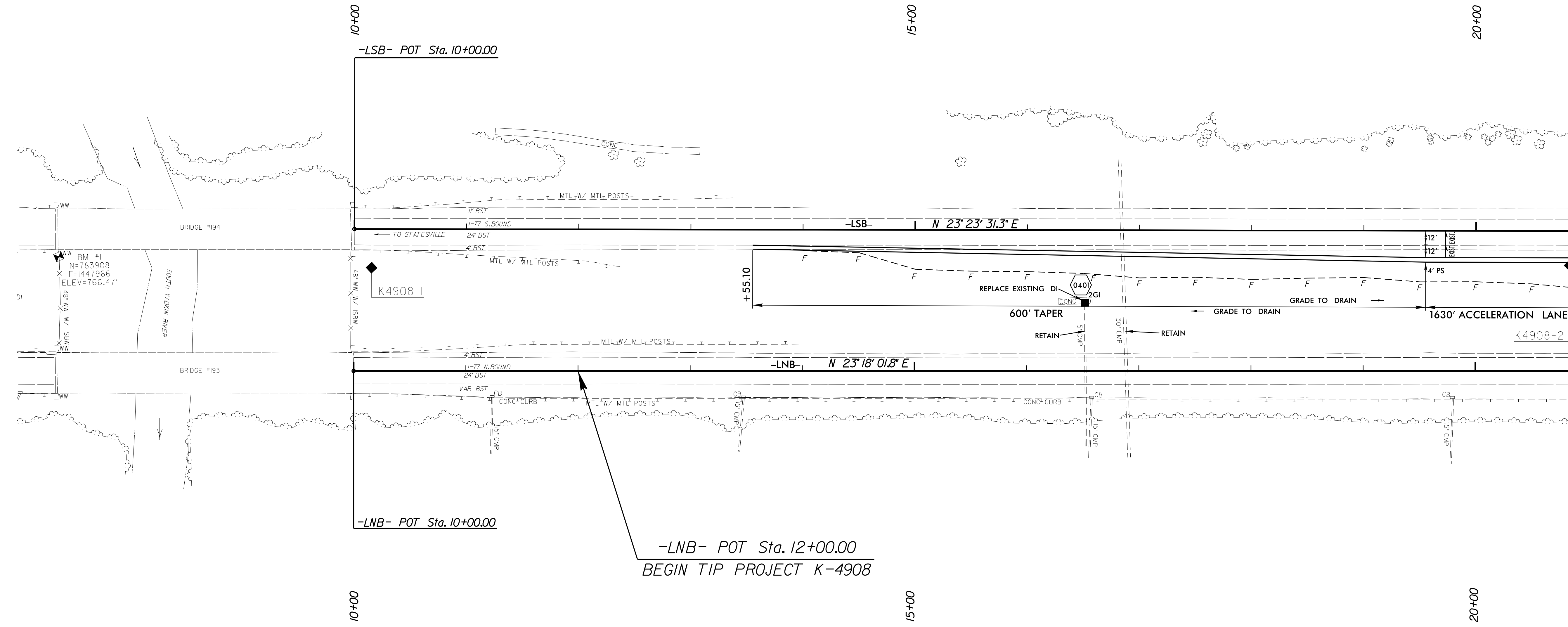
PROJECT REFERENCE NO.	SHEET NO.
K-4908	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS

8/17/99

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MATCHLINE -LNB- STA. 21+00.00 SEE SHEET 5

-LNB- POT Sta. 12+00.00
BEGIN TIP PROJECT K-4908

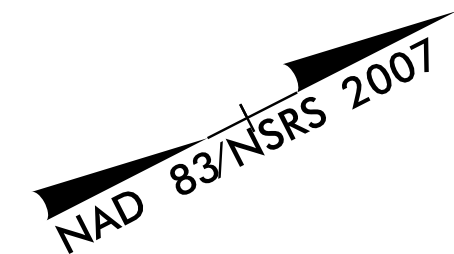
-LSB- POT Sta. 10+00.00

-LNB- POT Sta. 10+00.00

PROJECT REFERENCE NO.	SHEET NO.
K-4908	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

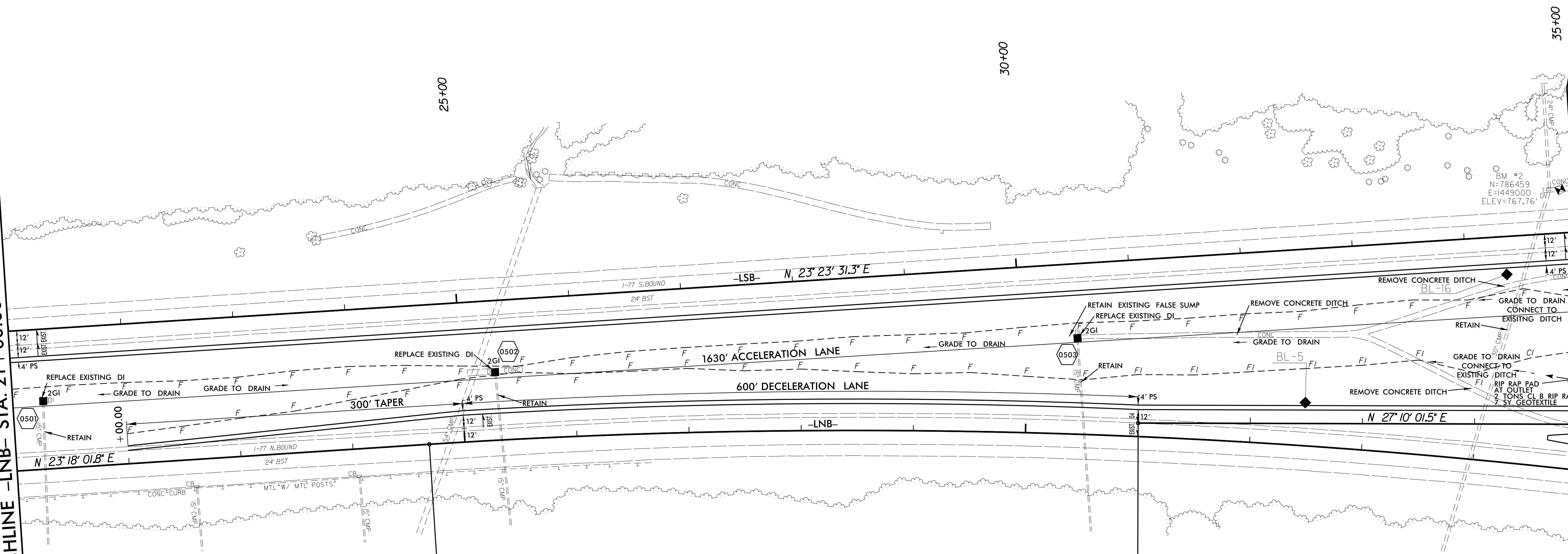
REVISIONS

8/17/99



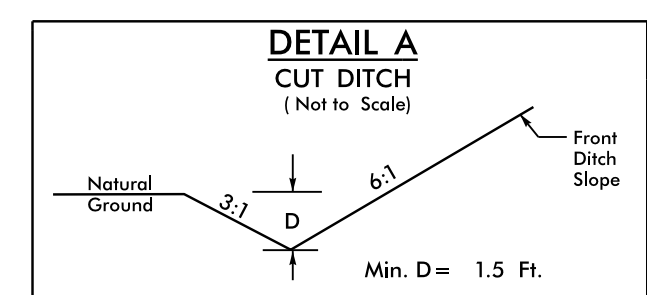
MATCHLINE -LNB- STA. 21+00.00 SEE SHEET 4

MATCHLINE -LNB- STA. 35+00.00 SEE SHEET 6



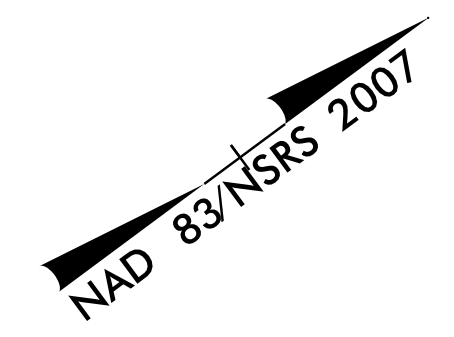
-LNB-
 PI Sta 31+73.33
 $\Delta = 13^\circ 41' 56.4\" (RT)$
 $D = 0^\circ 58' 33.9\"$
 $L = 1,403.47'$
 $T = 705.10'$
 $R = 5,870.00'$
 SE = EXISTING

-LNB- POC Sta. 31+00.00 =
 -LI- POT Sta. 10+00.00

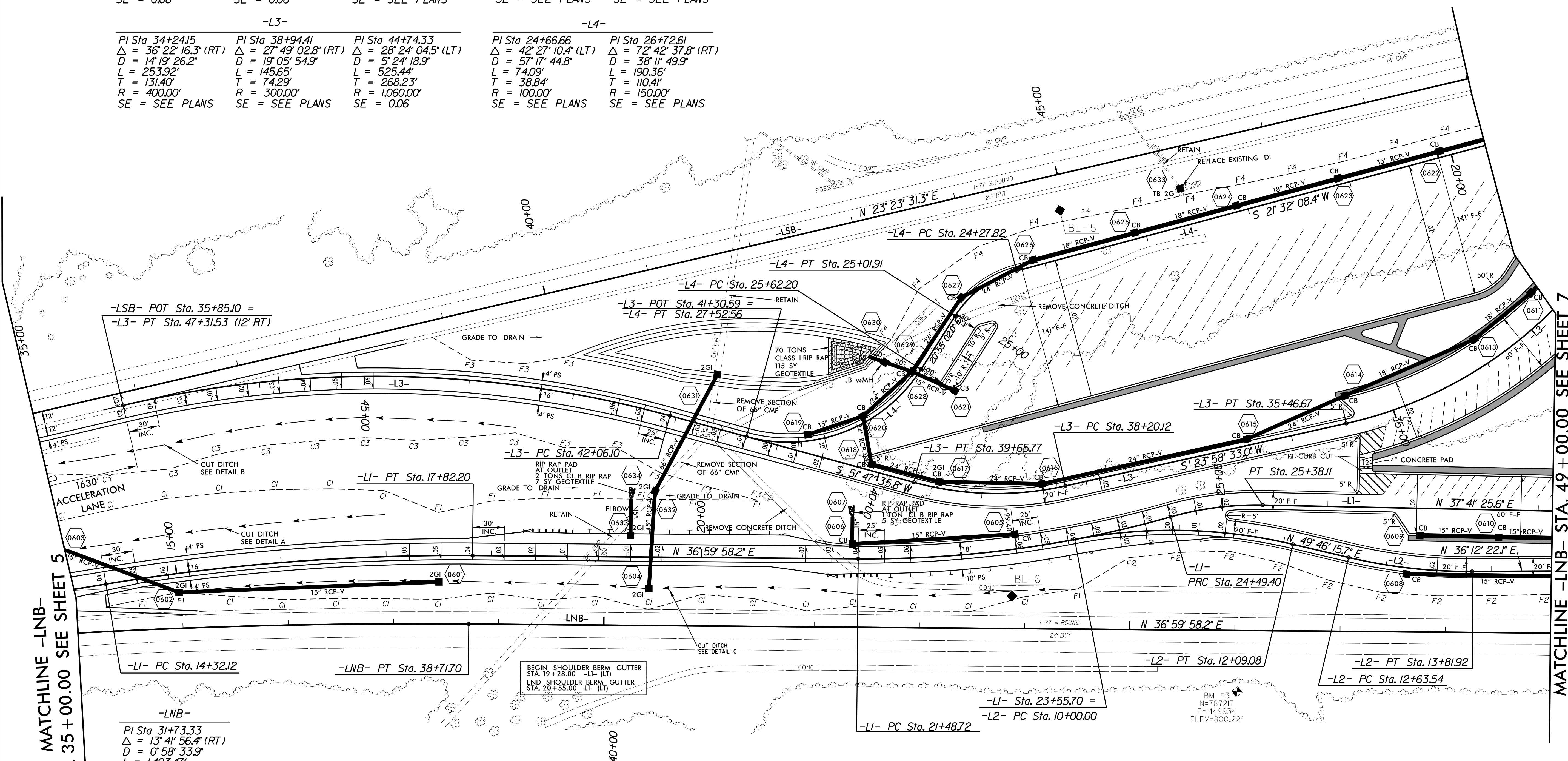


FROM -LI- STA. 13+50.00 LT TO -LI- STA. 17+00.00 LT

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-L1-			-L2-	
PI Sta 16+07.59 Δ = 9° 49' 56.7" (RT) D = 2' 48' 31.0" L = 350.08' T = 175.47' R = 2,040.00' SE = 0.06	PI Sta 23+00.08 Δ = 16° 15' 07.7" (LT) D = 5' 24' 18.9" L = 300.67' T = 151.35' R = 1,060.00' SE = 0.06	PI Sta 24+94.08 Δ = 16° 56' 35.0" (RT) D = 19' 05' 54.9" L = 88.71' T = 44.68' R = 300.00' SE = SEE PLANS	PI Sta 11+06.09 Δ = 23° 57' 32.7" (RT) D = 11' 27' 33.0" L = 209.08' T = 106.09' R = 500.00' SE = SEE PLANS	PI Sta 13+23.01 Δ = 13° 33' 53.5" (LT) D = 11' 27' 33.0" L = 118.38' T = 59.47' R = 500.00' SE = SEE PLANS
-L3-			-L4-	
PI Sta 34+24.15 Δ = 36° 22' 16.3" (RT) D = 14' 19' 26.2" L = 253.92' T = 131.40' R = 400.00' SE = SEE PLANS	PI Sta 38+94.41 Δ = 27° 49' 02.8" (RT) D = 19' 05' 54.9" L = 145.65' T = 74.29' R = 300.00' SE = SEE PLANS	PI Sta 44+74.33 Δ = 28° 24' 04.5" (LT) D = 5' 24' 18.9" L = 525.44' T = 268.23' R = 1,060.00' SE = 0.06	PI Sta 24+66.66 Δ = 42° 27' 10.4" (LT) D = 57' 17' 44.8" L = 74.09' T = 38.84' R = 100.00' SE = SEE PLANS	PI Sta 26+72.61 Δ = 72° 42' 37.8" (RT) D = 38' 11' 49.9" L = 190.36' T = 110.41' R = 150.00' SE = SEE PLANS

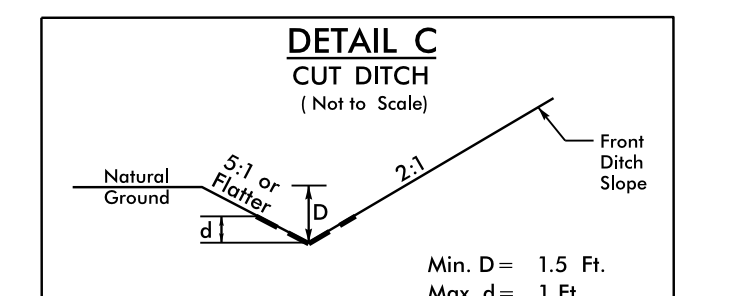
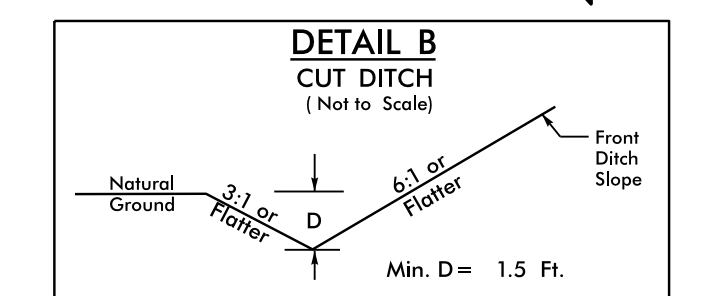
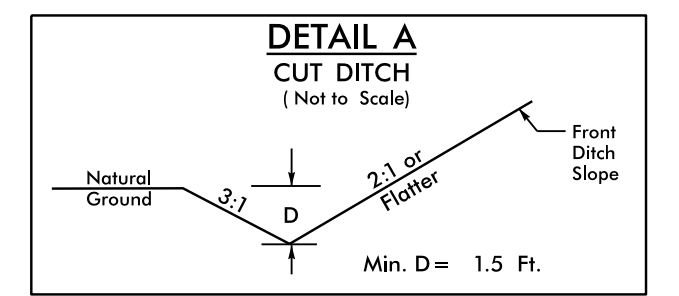


MATCHLINE -LNB- STA. 35 + 00.00 SEE SHEET 5

MATCHLINE -LNB- STA. 49 + 00.00 SEE SHEET 7

-LNB-

PI Sta 31+73.33 Δ = 13° 41' 56.4" (RT) D = 0' 58' 33.9" L = 1,403.47' T = 705.10' R = 5,870.00' SE = SEE PLANS
--



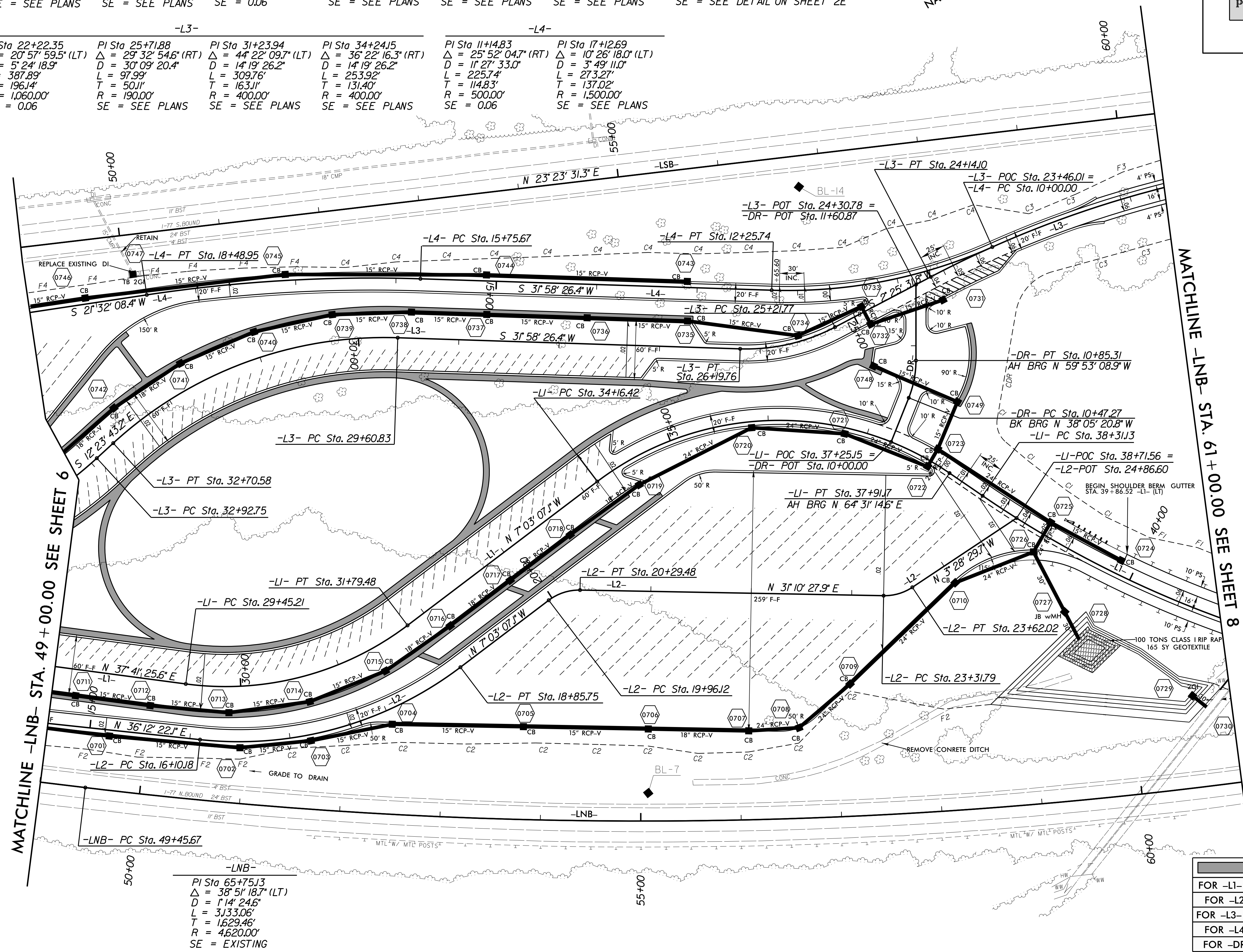
PROP CONC SIDEWALK
FOR -L1- PROFILE, SEE SHEET NO. 11
FOR -L2- PROFILE, SEE SHEET NO. 12
FOR -L3- PROFILE, SEE SHEET NO. 13
FOR -L4- PROFILE, SEE SHEET NO. 14

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PROJECT REFERENCE NO.	SHEET NO.
K-4908	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L1-			-L2-			-DR-		
PI Sta 30+68.69	PI Sta 30+68.69	PI Sta 36+32.67	PI Sta 17+54.91	PI Sta 20+13.44	PI Sta 23+47.38	PI Sta 10+66.53		
$\Delta = 44^\circ 44' 32.7" (LT)$	$\Delta = 44^\circ 44' 32.7" (LT)$	$\Delta = 71^\circ 34' 21.7" (RT)$	$\Delta = 43^\circ 15' 29.3" (LT)$	$\Delta = 38^\circ 13' 35.0" (RT)$	$\Delta = 34^\circ 38' 57.6" (LT)$	$\Delta = 21^\circ 47' 48.1" (LT)$		
$D = 19^\circ 05' 54.9"$	$D = 19^\circ 05' 54.9"$	$D = 19^\circ 05' 54.9"$	$D = 15^\circ 41' 50.9"$	$D = 114^\circ 35' 29.6"$	$D = 114^\circ 35' 29.6"$	$D = 57^\circ 17' 44.8"$		
$L = 234.27'$	$L = 234.27'$	$L = 374.75'$	$L = 275.57'$	$L = 33.36'$	$L = 30.24'$	$L = 38.04'$		
$T = 123.47'$	$T = 123.47'$	$T = 216.26'$	$T = 144.73'$	$T = 17.33'$	$T = 15.60'$	$T = 19.25'$		
$R = 300.00'$	$R = 300.00'$	$R = 300.00'$	$R = 365.00'$	$R = 50.00'$	$R = 50.00'$	$R = 100.00'$		
SE = SEE PLANS	SE = SEE PLANS	SE = 0.06	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = SEE DETAIL ON SHEET 2E		

-L3-			-L4-		
PI Sta 22+22.35	PI Sta 25+71.88	PI Sta 31+23.94	PI Sta 34+24.15	PI Sta 11+14.83	PI Sta 17+12.69
$\Delta = 20^\circ 57' 59.5" (LT)$	$\Delta = 29^\circ 32' 54.6" (RT)$	$\Delta = 44^\circ 22' 09.7" (LT)$	$\Delta = 36^\circ 22' 16.3" (RT)$	$\Delta = 25^\circ 52' 04.7" (RT)$	$\Delta = 10^\circ 26' 18.0" (LT)$
$D = 5^\circ 24' 18.9"$	$D = 30^\circ 09' 20.4"$	$D = 14^\circ 19' 26.2"$	$D = 14^\circ 19' 26.2"$	$D = 11^\circ 27' 33.0"$	$D = 3^\circ 49' 11.0"$
$L = 387.89'$	$L = 97.99'$	$L = 309.76'$	$L = 253.92'$	$L = 225.74'$	$L = 27.327'$
$T = 196.14'$	$T = 50.11'$	$T = 163.11'$	$T = 131.40'$	$T = 114.83'$	$T = 137.02'$
$R = 1,060.00'$	$R = 190.00'$	$R = 400.00'$	$R = 400.00'$	$R = 500.00'$	$R = 1,500.00'$
SE = 0.06	SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS	SE = 0.06	SE = SEE PLANS



	PROP CONC SIDEWALK
	FOR -L1- PROFILE, SEE SHEET NO. 11&12
	FOR -L2- PROFILE, SEE SHEET NO. 13
	FOR -L3- PROFILE, SEE SHEET NO. 14&15
	FOR -L4- PROFILE, SEE SHEET NO. 16
	FOR -DR- PROFILE, SEE SHEET NO. 17

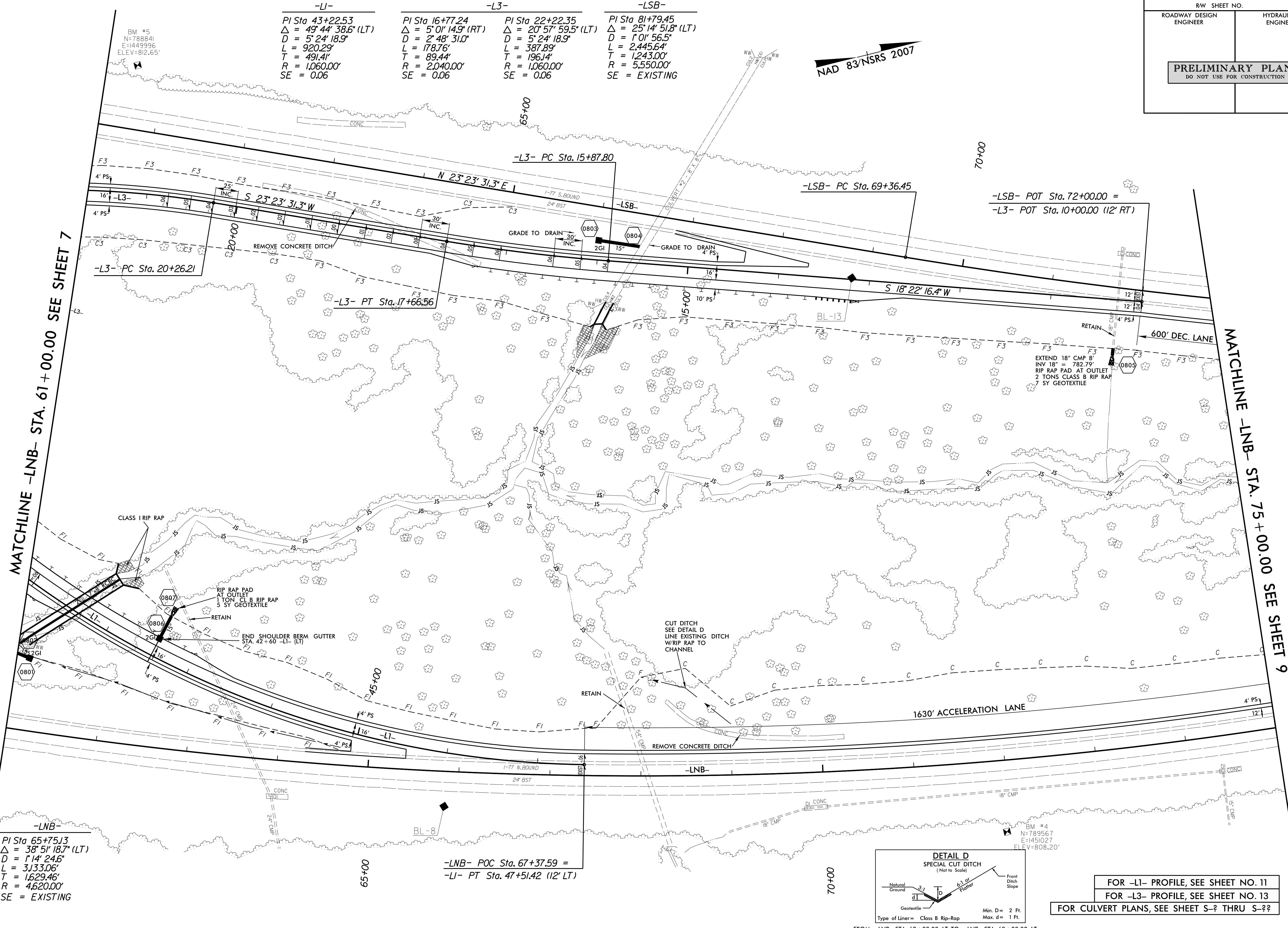
REVISIONS
 Design Revision : -L1- Horizontal Alignment adjusted at -L1- Sta 36+00. Added -DR- alignment and design. T.M.W. 3/31/14

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REVISIONS
 Design Revision : -LJ- Horizontal alignment adjusted at -L1- Sta 36+00. Added -DR- alignment and design. TMM 3/31/14

8/17/99

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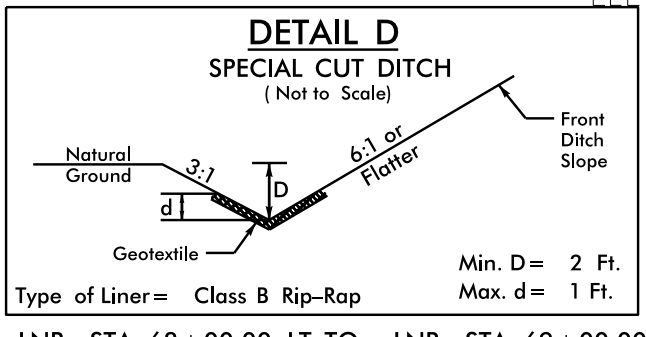


-L1-	-L3-	-LSB-
PI Sta 43+22.53	PI Sta 16+77.24	PI Sta 22+22.35
$\Delta = 49' 44" 38.6" (LT)$	$\Delta = 5' 01" 14.9" (RT)$	$\Delta = 20' 57" 59.5" (LT)$
$D = 5' 24" 18.9"$	$D = 2' 48" 31.0"$	$D = 5' 24" 18.9"$
$L = 920.29'$	$L = 178.76'$	$L = 387.89'$
$T = 491.41'$	$T = 89.44'$	$T = 196.14'$
$R = 1,060.00'$	$R = 2,040.00'$	$R = 1,060.00'$
$SE = 0.06$	$SE = 0.06$	$SE = 0.06$

-LNB-
 PI Sta 65+75.13
 $\Delta = 38' 51" 18.7" (LT)$
 $D = 1' 14" 24.6"$
 $L = 3,133.06'$
 $T = 1,629.46'$
 $R = 4,620.00'$
 $SE = EXISTING$

-LNB- POC Sta. 67+37.59 =
 -L1- PT Sta. 47+51.42 (12' LT)

BM #4
 N=789567
 E=1451027
 ELEV=808.20'



FOR -L1- PROFILE, SEE SHEET NO. 11
 FOR -L3- PROFILE, SEE SHEET NO. 13
 FOR CULVERT PLANS, SEE SHEET S-? THRU S-??

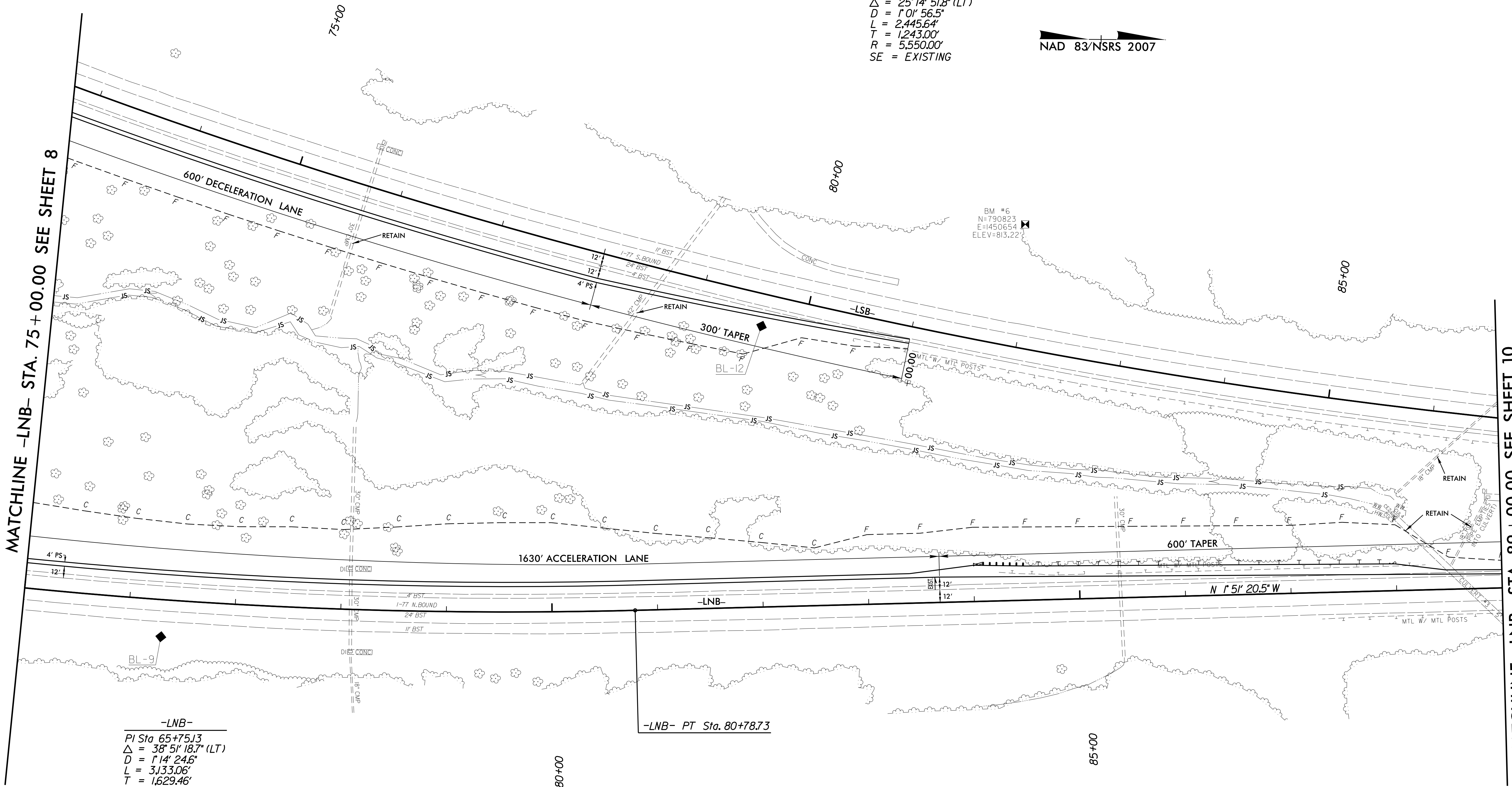
FROM -LNB- STA. 68+00.00 LT TO -LNB- STA. 69+00.00 LT

PROJECT REFERENCE NO.	SHEET NO.
K-4908	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-LSB-
 PI Sta 81+79.45
 $\Delta = 25' 14" 51.8" (LT)$
 $D = 1' 01" 56.5"$
 $L = 2,445.64'$
 $T = 1,243.00'$
 $R = 5,550.00'$
 SE = EXISTING

NAD 83/NSRS 2007

BM #6
 N=790823
 E=1450654
 ELEV=813.22'



-LNB-
 PI Sta 65+75.13
 $\Delta = 38' 51" 18.7" (LT)$
 $D = 1' 14" 24.6"$
 $L = 3,133.06'$
 $T = 1,629.46'$
 $R = 4,620.00'$
 SE = EXISTING

-LNB- PT Sta. 80+78.73

REVISIONS

8/17/99

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MATCHLINE -LNB- STA. 75 + 00.00 SEE SHEET 8

MATCHLINE -LNB- STA. 89 + 00.00 SEE SHEET 10

PROJECT REFERENCE NO.	SHEET NO.
K-4908	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/NSRS 2007

MATCHLINE -LNB- STA. 89+00.00 SEE SHEET 9

-LSB-
 PI Sta 81+79.45
 $\Delta = 25^{\circ} 14' 51.8" (LT)$
 $D = 1^{\circ} 01' 56.5"$
 $L = 2,445.64'$
 $T = 1,243.00'$
 $R = 5,550.00'$
 SE = EXISTING

-LSB- PT Sta. 93+82.09

-LSB- POT Sta. 96+50.07

-LSB- N 1' 51" 20.5" W

-LNB- N 1' 51" 20.5" W

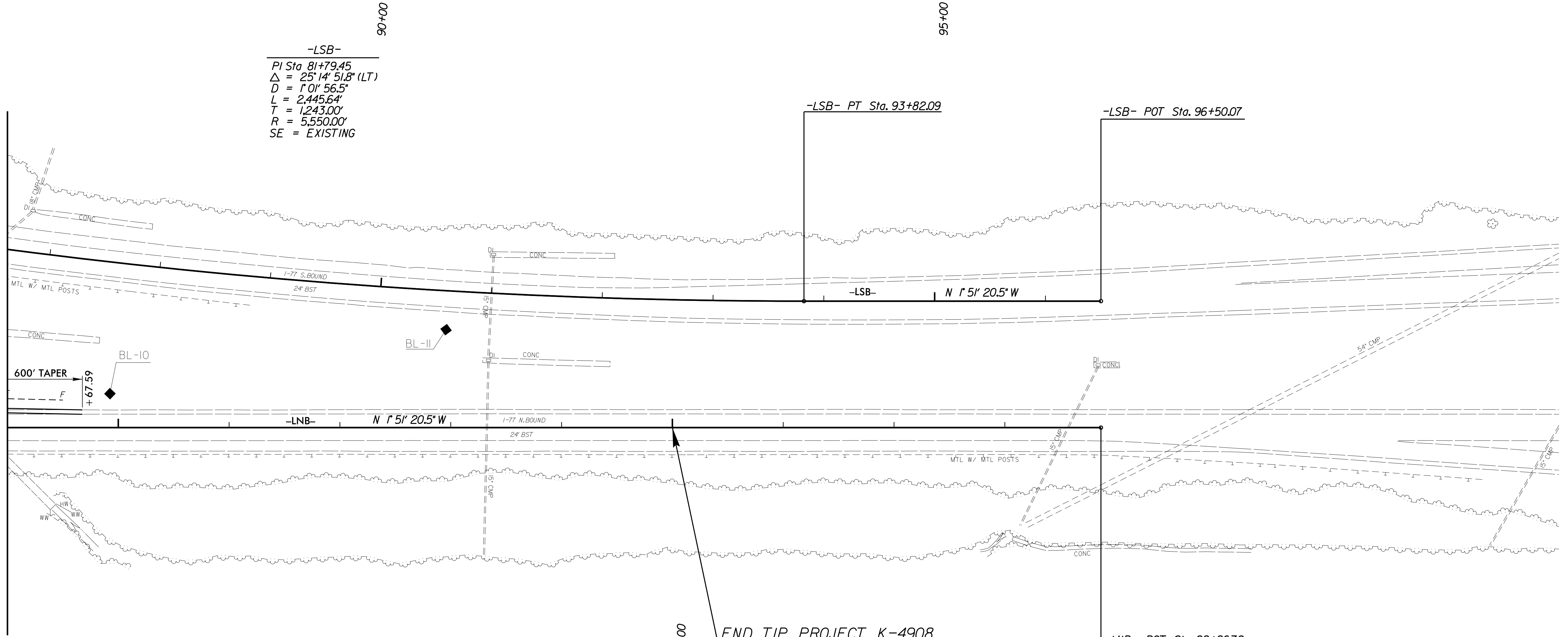
-LNB- POT Sta. 98+86.72

END TIP PROJECT K-4908
 -LNB- Sta. 95+00.00

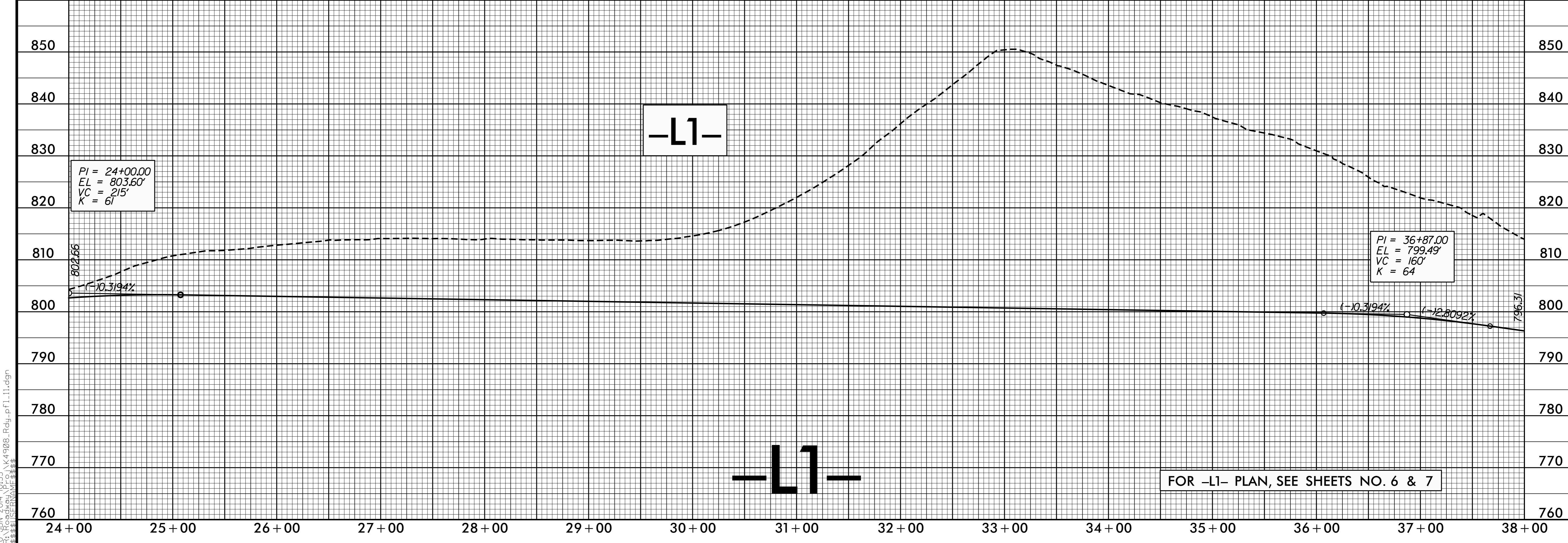
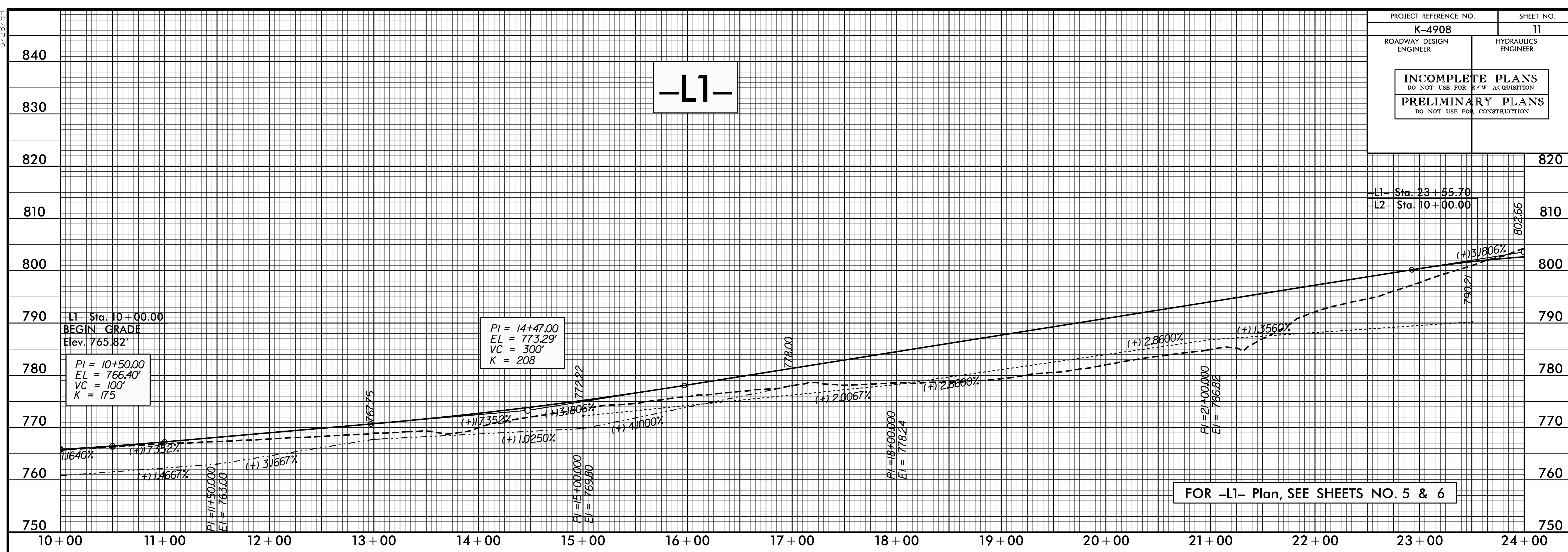
REVISIONS

8/17/99

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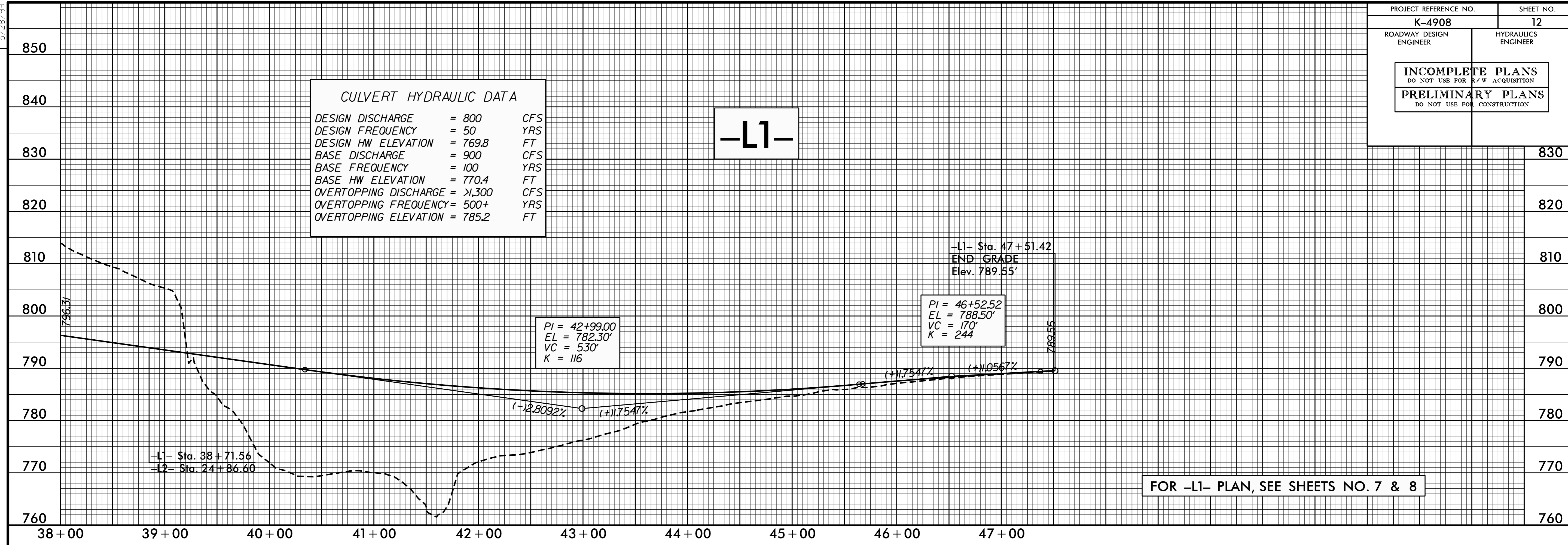
5/28/99



10 JUN 2014 10:33 AM K:\4908.Rdy_pfl1.dgn
 44830 TSPR\AVE 8.846

CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 800	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 769.8	FT
BASE DISCHARGE	= 900	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 770.4	FT
OVERTOPPING DISCHARGE	= >1,300	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 785.2	FT

-L1-



FOR -L1- PLAN, SEE SHEETS NO. 7 & 8

-L1-

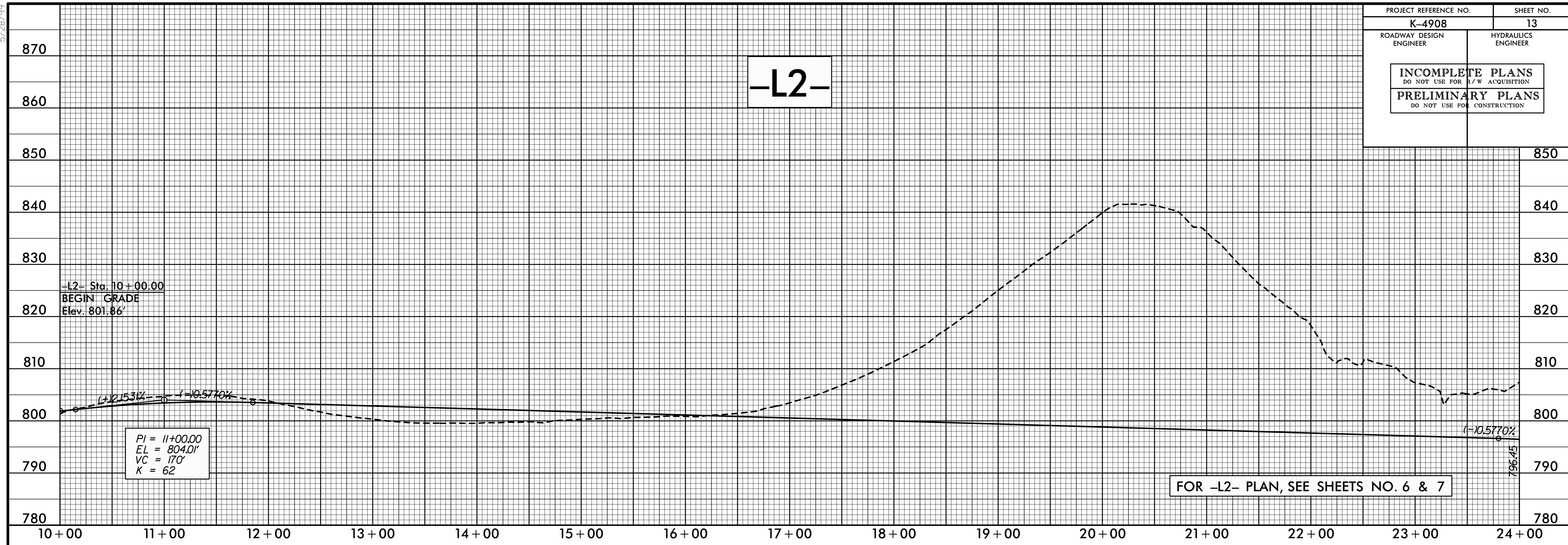
Design Revision : -L1- Profile adjusted due to -L1- horizontal alignment change. TMM 3/31/14

5/28/99

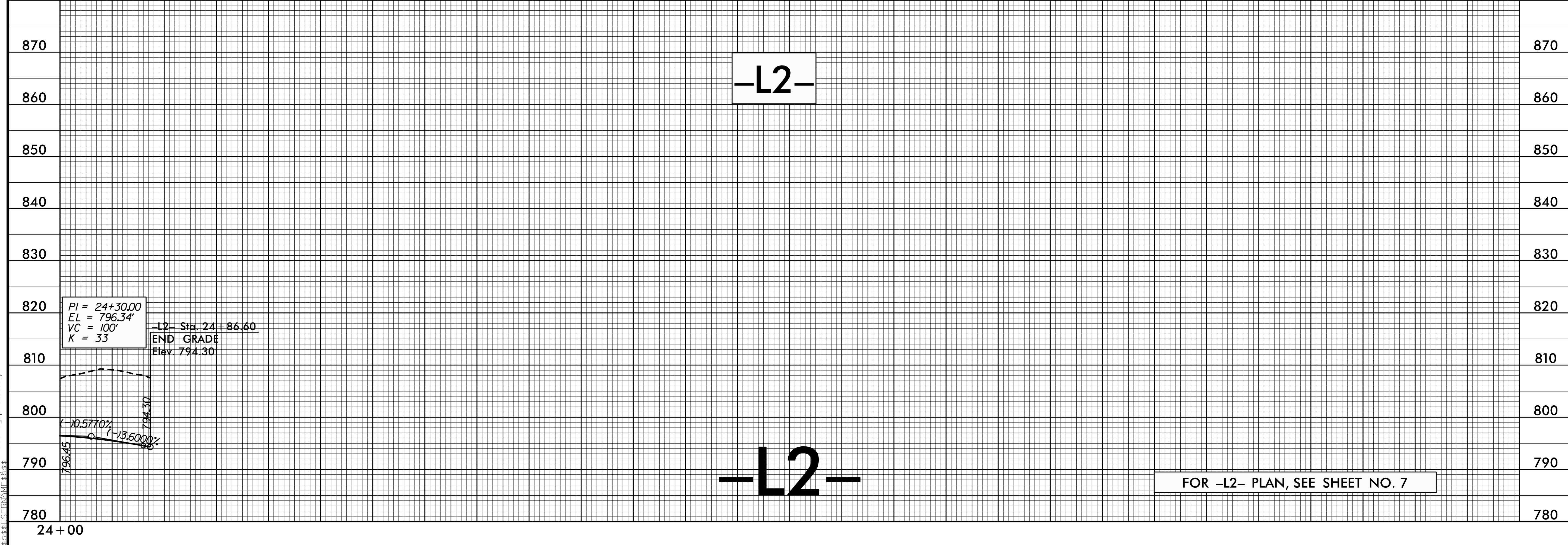
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PROJECT REFERENCE NO.	SHEET NO.
K-4908	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

5/28/99



10 JUN 2014 10:33 AM K4908.Rdy.pfl.13.dgn

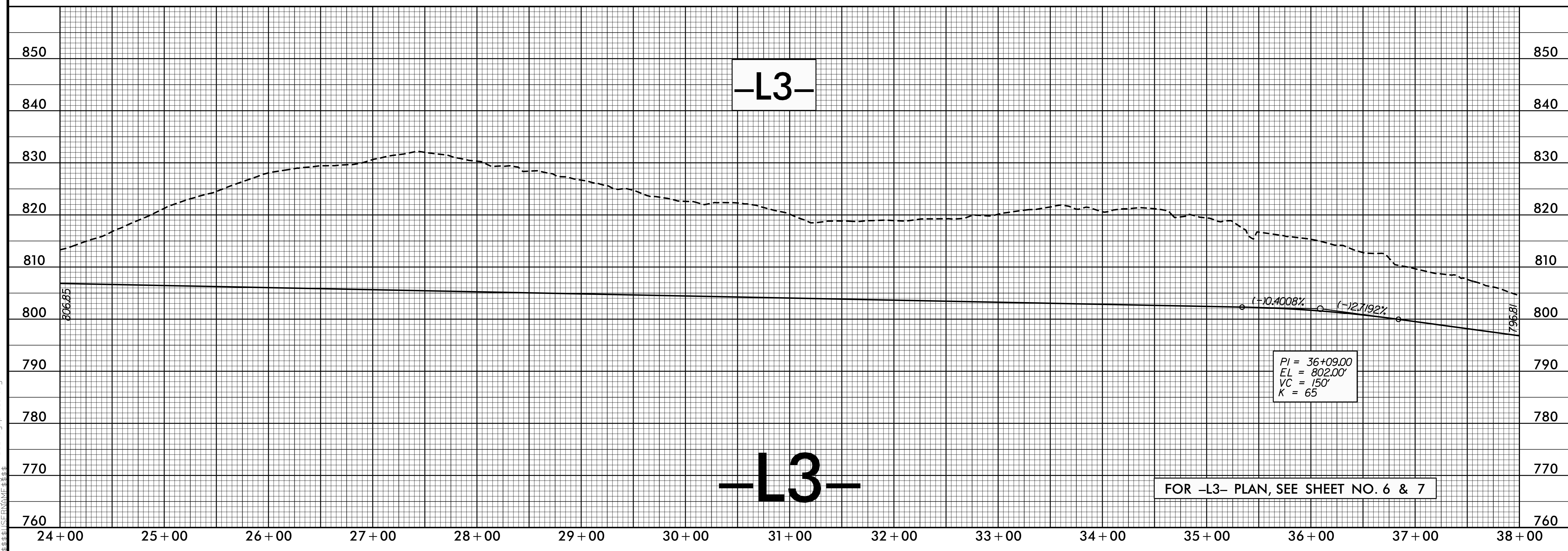
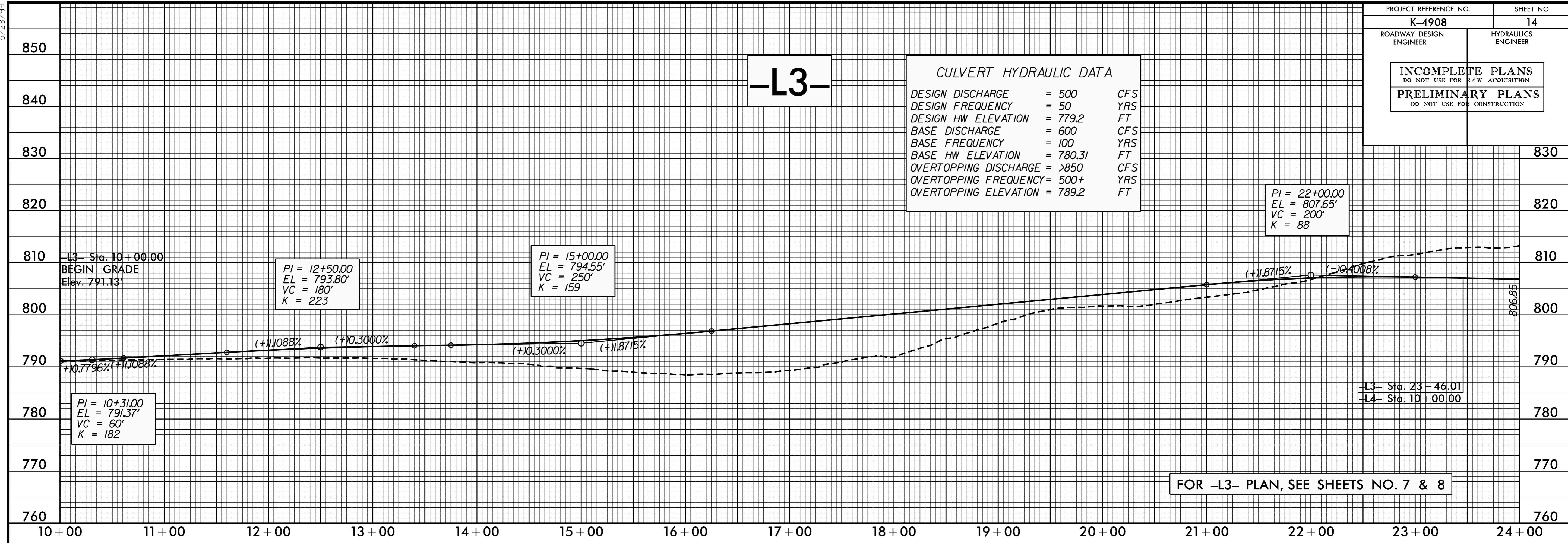


-L2-

-L2-

-L2-

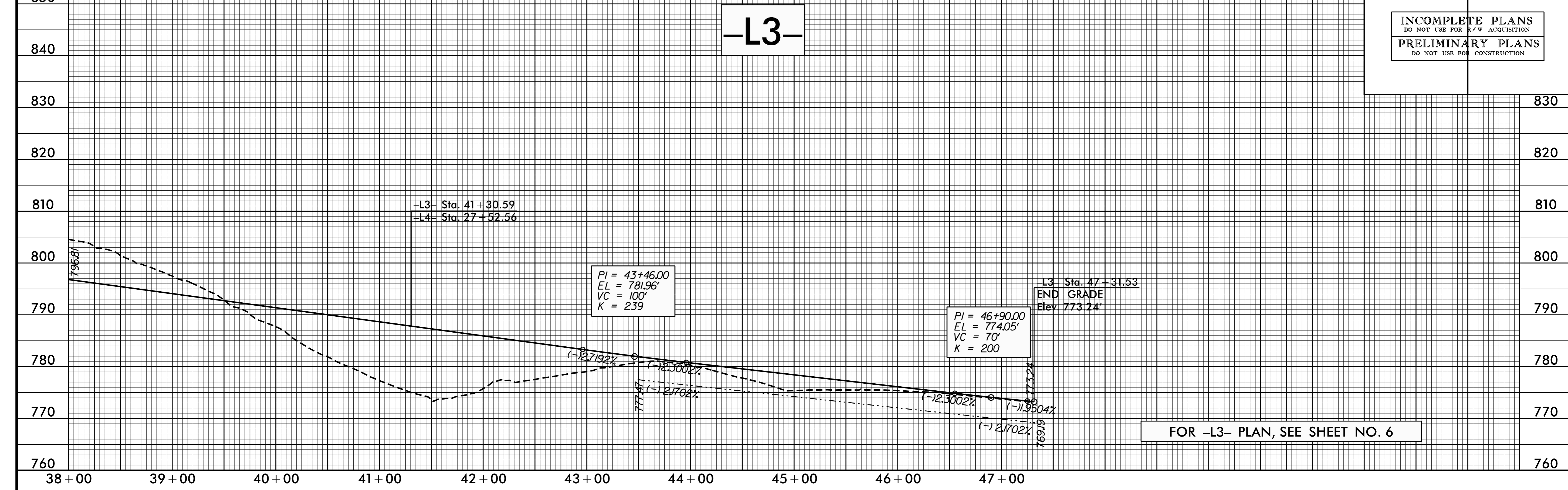
CULVERT HYDRAULIC DATA		
DESIGN DISCHARGE	= 500	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 779.2	FT
BASE DISCHARGE	= 600	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 780.31	FT
OVERTOPPING DISCHARGE	= >850	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 789.2	FT



5/28/99
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 4480 TSPR\WFE 8886

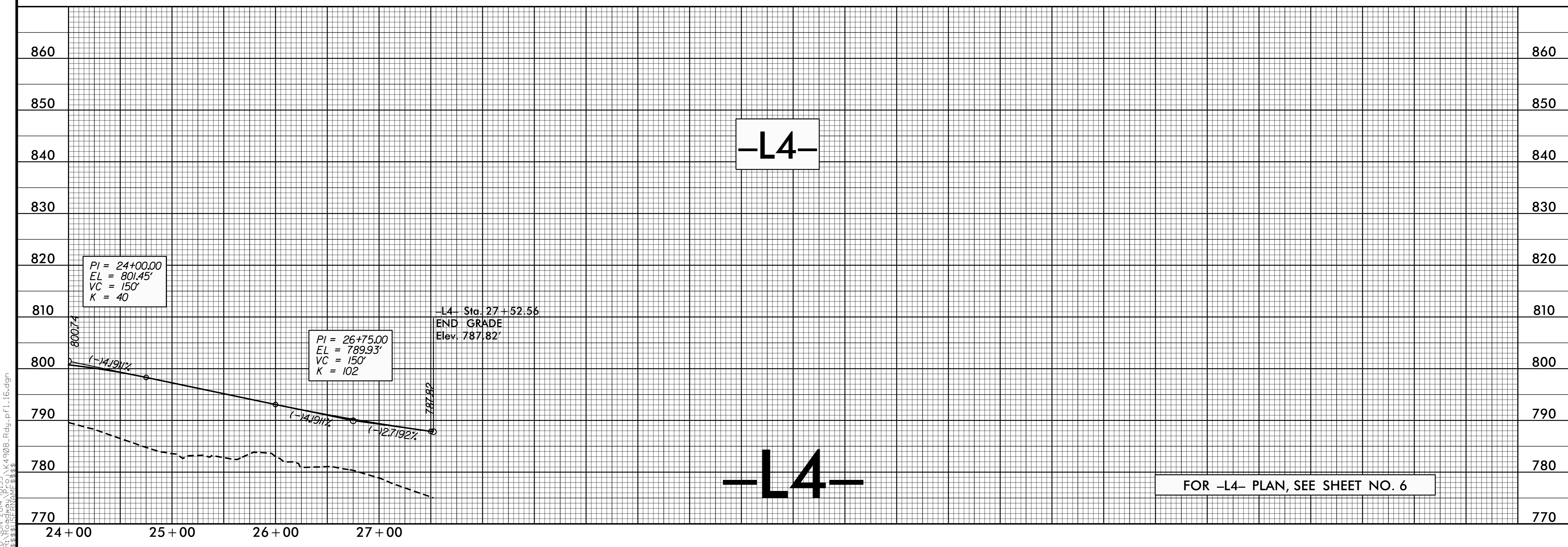
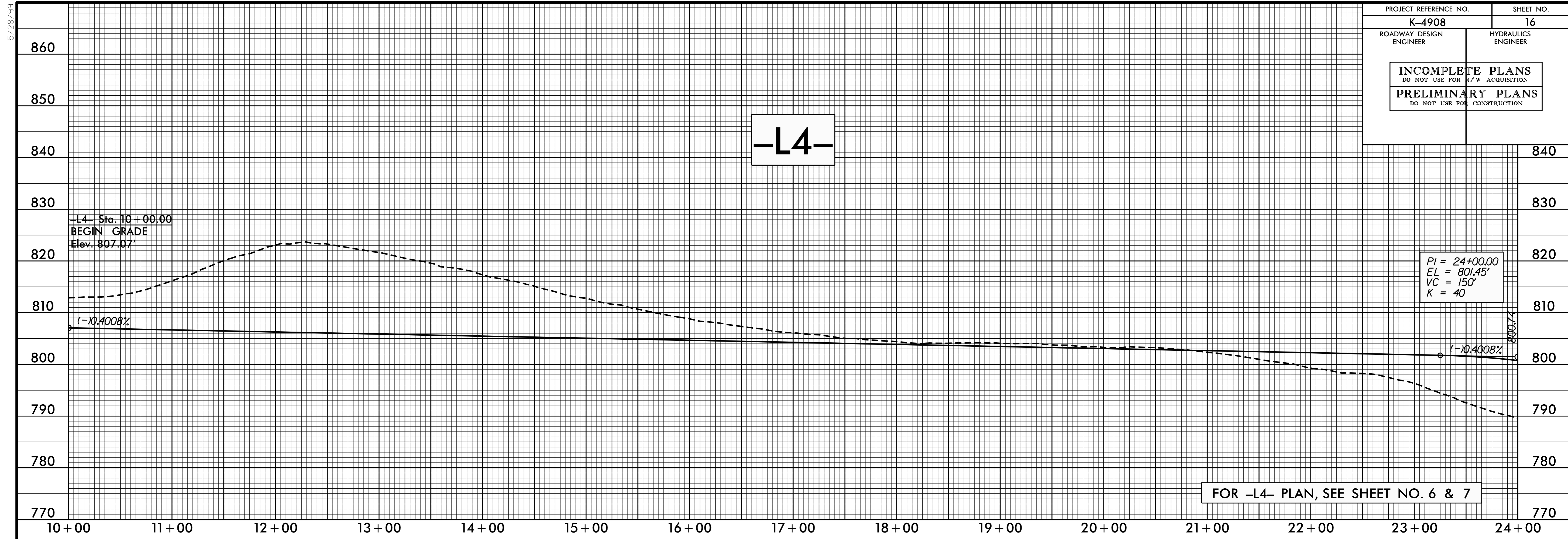
PROJECT REFERENCE NO.	SHEET NO.
K-4908	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR R/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	

5/28/99



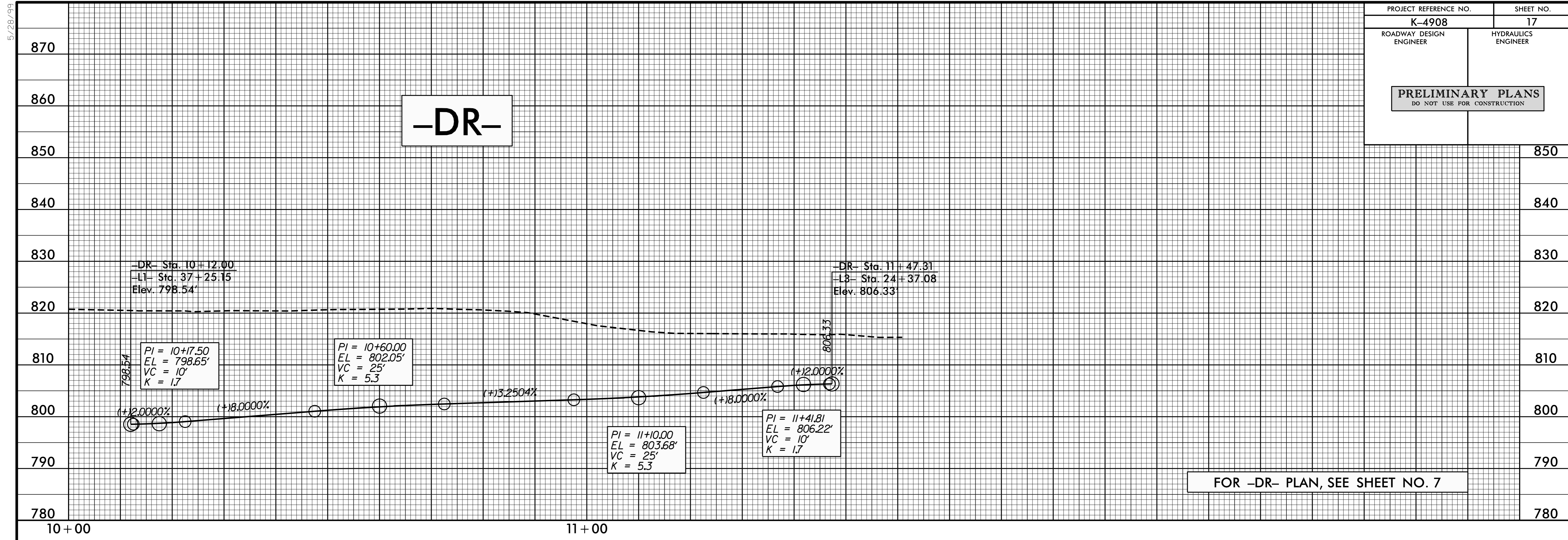
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-L3-



PROJECT REFERENCE NO.	SHEET NO.
K-4908	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

5/28/99



-DR-

-DR-

10 JUN 2014 10:33 AM K4908.Rdy_pfl.17.dgn