



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 27, 2014

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. Eric Alsmeyer
NCDOT Division 5 Project Coordinator

Subject: **Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for widening of NC55 from NC 147 to US 70 Business/ NC 98 (Holloway Street), Durham County, North Carolina, Federal Aid Project No. STP-55(20), TIP No. U-3308.

Debit \$240.00 from WBS Element No. 34915.1.1

Please find enclosed the Pre-Construction Notification (PCN) form, Preliminary Jurisdictional Determination (JD), stormwater management plan, permit drawings, and roadway design plans for the above referenced project. A Finding of No Significant Impact (FONSI) was completed for this project on June 20, 2007.

The proposed let date for the project is April 21, 2015 with a review date of March 3, 2013. However, the let date may advance as additional funds become available.

A copy of this permit application and its distribution list will be posted on the NCDOT website at <https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx> under *Quick Links > Permit Applications*. A copy of the FONSI is also available at the above website address under *Quick Links > Environmental Documents*. Thank you for your time and assistance with this project. Please contact Deanna Riffey at either driffey@ncdot.gov or (919) 707-6151 if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Hancock", written over a horizontal line.

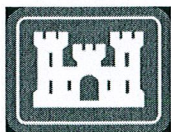
for Richard W. Hancock, P.E. Manager
Project Development and Environmental Analysis Unit

Cc: NCDOT Permit Application Standard Distribution List

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

PHYSICAL ADDRESS:
Century Center - Building B
1020 Birch Ridge Dr
Raleigh, NC 27610-4328



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 14 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No
1d. Type(s) of approval sought from the DWQ (check all that apply): ☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit ☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	☐ Yes	☒ No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☐ Yes	☒ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☐ Yes	☒ No

2. Project Information

2a. Name of project:	Widening of NC 55 from NC 147 to US 70 Business/ NC 98
2b. County:	Durham
2c. Nearest municipality / town:	Durham
2d. Subdivision name:	not applicable
2e. NCDOT only, T.I.P. or state project no:	U-3308

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	not applicable
3c. Responsible Party (for LLC if applicable):	not applicable
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6151
3g. Fax no.:	(919) 212-5785
3h. Email address:	driffey@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ 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: 35.9831 (DD.DDDDDD) Longitude: - 78.4760 (-DD.DDDDDD)
1c. Property size:	acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	UT Ellerbe Creek
2b. Water Quality Classification of nearest receiving water:	WSV; NSW
2c. River basin:	Neuse
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: Land use within the vicinity is predominately residential but includes some areas of general commercial use.	
3b. List the total estimated acreage of all existing wetlands on the property: 0 acres	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 143 linear feet	
3d. Explain the purpose of the proposed project: To reduce congestion and improve safety along NC 55 between NC 147 and US 70 Business/ NC 98.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves widening existing NC 55 to a mostly four-lane median divided facility with curb and gutter and sidewalks along the entire length of the project. The proposed project is approximately 1 mile long. 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: SAW-2012-00649	☒ Yes ☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary ☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Deanna Riffey	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. April 3, 2013	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes ☒ No ☐ Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	☐ Yes ☒ No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
☐ Wetlands		☒ Streams - tributaries		☐ Buffers		
☐ Open Waters		☐ Pond Construction				
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction	2f. Area of impact (acres)	
Site 1 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 5 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ DWQ		
Site 6 ☐ P ☐ T		Choose One	☐ Yes ☐ No	☐ Corps ☐ 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 intermitte nt (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☐ P ☐ T	Fill	UT Ellerbe	☐ PER ☒ INT	☒ Corps ☐ DWQ	7	17
Site 1 ☐ P ☐ T	Bank Stabilization	UT Ellerbe	☐ PER ☒ INT	☒ Corps ☐ DWQ	7	20
Site 2 ☐ P ☐ T	Fill	UT Goose Creek	☒ PER ☐ INT	☒ Corps ☐ DWQ	26	10
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
3h. Total stream and tributary impacts						37 ft Perm 10 ft Temp

3i. Comments: UT Ellerbe deemed intermittent per USACE with little/no aquatic function during April 2012 site visit and no mitigation is required.

4. Open Water Impacts

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

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
O4 ☐ P ☐ T				
4f. Total open water impacts				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	Flo ode d	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			☒ Neuse ☐ Catawba			☐ Tar-Pamlico ☐ Randleman	☐ Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)		
B1 ☐ P ☐ T			☐ Yes ☐ No				
B2 ☐ P ☐ T			☐ Yes ☐ No				
B3 ☐ P ☐ T			☐ Yes ☐ No				
6h. Total buffer impacts							
6i. Comments: Buffer impacts for this project are less than 40 linear feet for the road crossings and are exempt.							

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 project involves widening an existing road in an urban area. Other than no build the minimal effects to the two tributaries on this project are unavoidable.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Construction and Maintenance Activities and Best Management Practices for the Protection of Surface Waters will be employed. Due to the project being in a buffer basin, Design Standards in Sensitive Watersheds will also be employed.		
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State		
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?	☐ Yes ☒ No If no, explain:	
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☐ Corps	
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☐ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	☐ Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

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

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

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

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	☐ Yes	☒ No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	☒ Yes	☐ No
5c. If yes, indicate the USFWS Field Office you have contacted.	☒ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NC Natural Heritage Program data, UWFWS website, NCDOT field surveys.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	☒ Yes	☐ No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
 Richard W. Hancock, P.E. Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	6-27-14 Date

U-3308

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2012-00649

County: Durham U.S.G.S. Quad: NC-SOUTHWEST DURHAM

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Applicant: North Carolina Dept. of Transportation

Gregory Thorpe, Ph.D.

Address: PDEA, Natural Environment Unit

1598 Mail Service Center

Raleigh, NC, 27699-1598

Telephone: 919.707.6151 (Deanna Riffey)



Project description:

Nearest Town Durham Nearest Waterway UT Ellerbe Creek River Basin Neuse

USGS HUC 03020201 Coordinates Latitude: 35.991452 Longitude: -78.886256

Location description: Study area for NC 55 (N. Alston Avenue) widening, between NC 147 and US 70B/NC 98, in Durham, NC.

Indicate Which of the Following Apply:

A. Preliminary Determination

- ☒ Based on preliminary information, there may be waters of the U.S. on the above described project area. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

B. Approved Determination

- ☐ There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are waters of the U.S. including wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.
- ☐ The waters of the U.S. including wetlands on your project area have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.
- ☐ The waters of the U.S. including wetlands have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- ☐ There are no waters of the U.S., to include wetlands, present on the above described project area which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Eric Alsmeier at 919-554-4884 x23 /Eric.C.Alsmeier@usace.army.mil.

C. Basis For Determination: The impact area contains a stream channel of an unnamed tributary of Ellerbe Creek,, with indicators of ordinary high water marks. The study area contained no wetlands. Ellerbe Creek is a tributary of Falls Lake, a Traditional Navigable Water.

D. Remarks: This JD was confirmed by desktop evaluation on 4/1/2013. The drawing on the attached figure, "U-3308, Widening of NC 55 between NC 147 and US 70 Bus/NC 98, Durham County", submitted by e-mail on 4/23/2012, generally depicts the jurisdictional waters of the US within the subject study area.

E. Attention USDA Program Participants

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

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

Corps Regulatory Official: _____



Digitally signed by ALSMEYER.ERIC.C.1087624486
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=ALSMEYER.ERIC.C.1087624486
Date: 2013.04.01 08:42:54 -04'00'

Date: 4/3/2013

Expiration Date: 4/3/2018

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the attached customer Satisfaction Survey or visit <http://per2.nwp.usace.army.mil/survey.html> to complete the survey online.

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: **North Carolina Department of
Transportation**

File Number: **SAW-2012-00649**

Date: **4/3/2013**

Attached is:

See Section below

☐ INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
☐ PROFFERED PERMIT (Standard Permit or Letter of permission)	B
☐ PERMIT DENIAL	C
☐ APPROVED JURISDICTIONAL DETERMINATION	D
☒ PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

**District Engineer, Wilmington Regulatory Division,
Attn: Eric Alsmeyer
US Army Corps of Engineers, Wilmington District
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587**

If you only have questions regarding the appeal process you may also contact:

Mr. Jason Steele, Administrative Appeal Review Officer
CESAD-PDO
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

For appeals on Initial Proffered Permits send this form to:

**District Engineer, Wilmington Regulatory Division, Attn: Eric Alsmeyer, 69 Darlington Avenue, Wilmington,
North Carolina 28403**

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Deanna Riffey, NCDOT, 1598 Mail Service Center, Raleigh, NC 27699-1598

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESAW-RG-R Wilmington, NCDOT/U-3308/NC55 Wid/ DN5, SAW-2012-00649

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
TIP: U-3308 Description: Widening of NC 55 between NC 147 and US 70
Bus/NC 98, Durham County, NC

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: NC County/parish/borough: Durham City: Durham

Center coordinates of site (lat/long in degree decimal format):

Lat. 35.991452° N, Long. -78.886256° W

Universal Transverse Mercator:

Name of nearest waterbody: UT to Ellerbe Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 50 (total) linear feet: 6-8 width (ft) and/or acres.

Cowardin Class: Riverine

Stream Flow: Perennial

Wetlands: — acres.

Cowardin Class: —

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: 4/1/2013

☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply

- checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☒ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☐ U.S. Geological Survey Hydrologic Atlas:

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000; ~~China Grove & Rockwell~~ Southwest Durham.

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey.

☒ National wetlands inventory map(s). Cite name: *GIS*

☐ State/Local wetland inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): Rowan 05 & 03, 2010.

or ☐ Other (Name & Date):

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Eric Alb 4/1/2013
Signature and date of
Regulatory Project Manager
(REQUIRED)

Deanna Ruff 4/23/12
Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)



*NC 55
Alston Ave*

U-3308
Widening of NC 55 between
NC 147 and US 70 Bus/NC 98
Durham County





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



(Version 1.2; Released September 2011)

Project/TIP No.: 34915.1.1 (U-3308)

County(ies): Durham

Page 1 of 1

General Project Information

Project No.:	34915.1.1 (U-3308)	Project Type:	Roadway Widening	Date:	4/25/2014
NCDOT Contact:	Galen Cail, PE	Contractor / Designer:	Bill Elam, PE		
Address:	Hydraulics Unit	Address:	Hydraulics Unit		
	1590 Mail Service Center		1590 Mail Service Center		
	Raleigh, NC 27699		Raleigh, NC 27699		
Phone:	919-707-6709	Phone:	919-707-6717		
Email:	gcail@ncdot.gov	Email:	belam@ncdot.gov		
City/Town:	Durham	County(ies):	Durham		
River Basin(s):	Neuse	CAMA County?	No		
Primary Receiving Water:	Goose Creek	NCDWQ Stream Index No.:	27-5-1		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Water Supply IV (WS-IV)			
	Supplemental:	Nutrient Sensitive Waters (NSW)			
Other Stream Classification:					
303(d) Impairments:	None				
Buffer Rules in Effect	Neuse				

Project Description

Project Length (lin. Miles or feet):	0.962 miles	Surrounding Land Use:	Urban: business and residential
	Proposed Project		Existing Site
Project Built-Up Area (ac.)	16.2 acres	ac.	13.1 acres
Typical Cross Section Description:	5 lane curb and gutter with bike lanes and sidewalk. Width will vary from 66' to 77'.		3 lane curb and gutter with sidewalk. Width will vary from 36' to 53'.
Average Daily Traffic (veh/hr/day):	Design/Future:	28400	Existing:

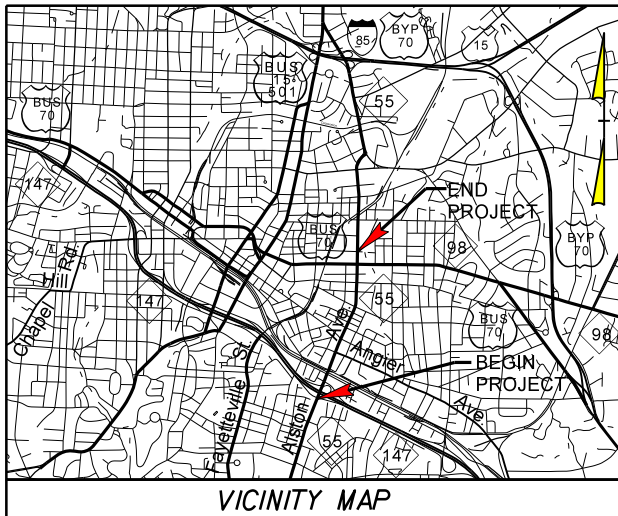
General Project Narrative: This project involves widening Alston Avenue (NC 55) from a 3 lane curb and gutter section to a 5 lane curb and gutter section. The project is highly urbanized with existing outfalls being maintained.

References

TIP PROJECT: U-3308

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For CONVENTIONAL SYMBOLS



BEGIN TIP PROJECT U-3308
-LALT- Sta. 13+50.00

BEGIN CONSTRUCTION
-LALT- STA. 12+00.00

NC 147
(I.L. "Buck" Dean Freeway)

THIS PROJECT IS WITHIN THE CITY LIMITS OF DURHAM.

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DURHAM COUNTY

LOCATION: NC 55 (ALSTON AVE.) FROM NC 147 (I.L. "BUCK" DEAN
FREEWAY) TO NORTH OF US 70 BUSNC 98 (HOLLOWAY ST.)

TYPE OF WORK: Grading, Drainage, Curb & Gutter, Paving, Sidewalks, Retaining
Walls, Structures, Railroad Track Work and Signals

END TIP PROJECT U-3308

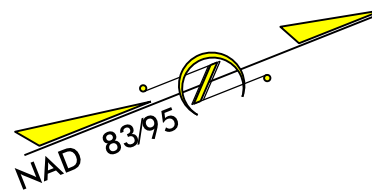
-LALT- Sta. 66+10.00

END CONSTRUCTION
-LALT- STA. 67+60.00

WETLAND AND SURFACE WATER IMPACTS PERMIT

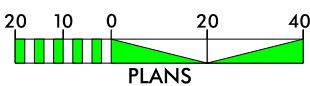
SITE 1

SITE 2

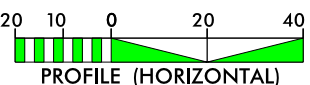


PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

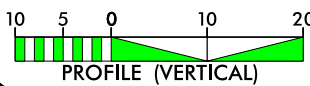
GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2014 = 21100 VPD
ADT 2035 = 28400 VPD
DHV = 9 %
D = 55 %
T = 7 % *
V = 35 MPH
* TTST 1% DUAL 6%
Minor Arterial
Regional Tier

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3308 = 0.962 mi
LENGTH STRUCTURE TIP PROJECT U-3308 = 0.034 mi
TOTAL LENGTH TIP PROJECT U-3308 = 0.996 mi

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 30, 2013

LETTING DATE:
APRIL 21, 2015

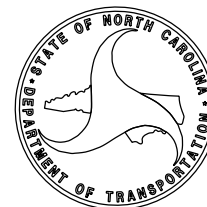
JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN C. LANSFORD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____
P.E.



RW Revision 3/31/14 JCL
Changed Property Owner Names and Deed
Information on Parcels 58 & 58A

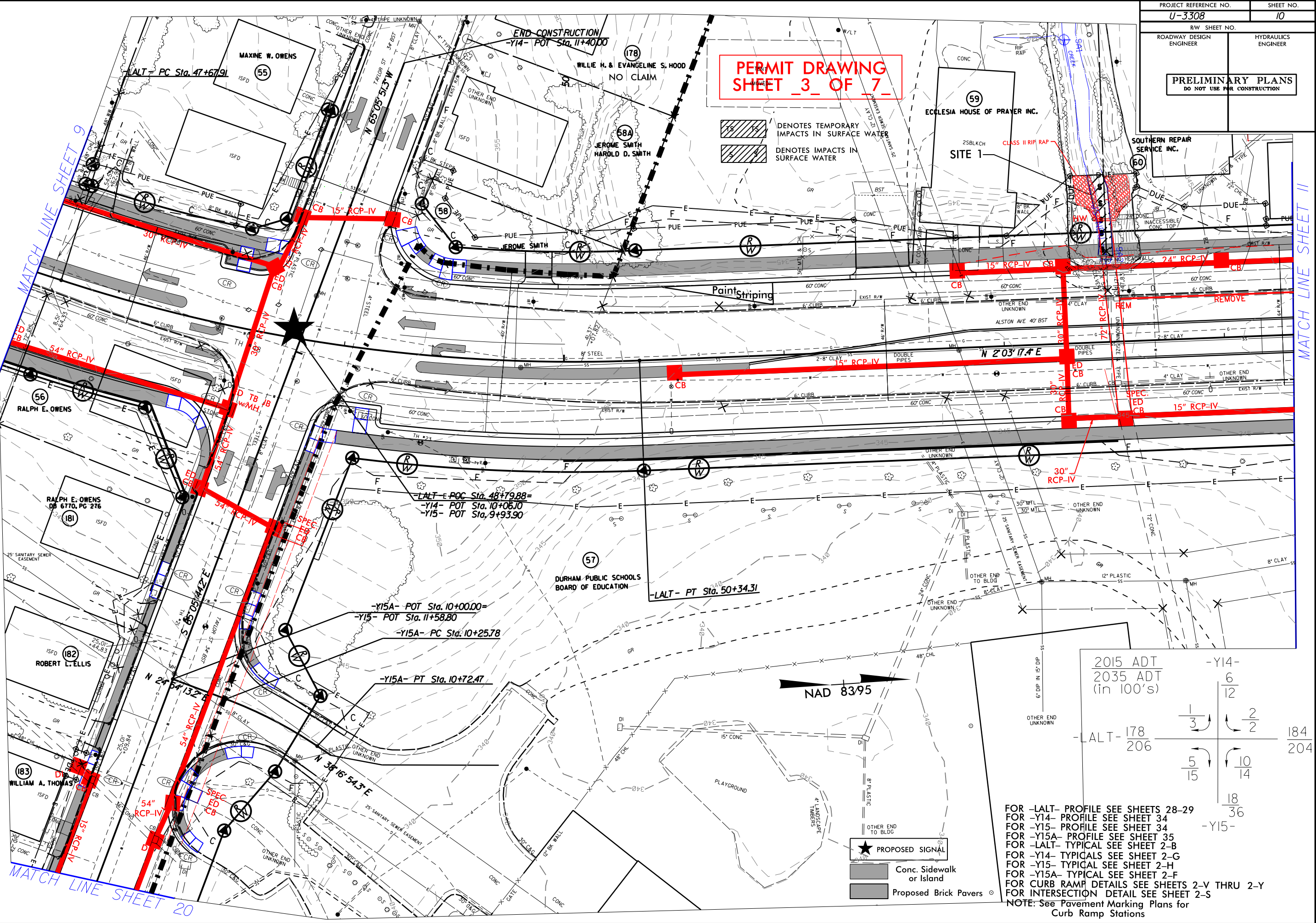
PROJECT REFERENCE NO.	SHEET NO.
U-3308	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 3 OF 7

15 15 DENOTES TEMPORARY
IMPACTS IN SURFACE WATER
5 5 DENOTES IMPACTS IN
SURFACE WATER

SOUTHERN REPAIR
SERVICE INC.

59
ECCLESIA HOUSE OF PRAYER INC.
SITE 1



2015 ADT	-Y14-
2035 ADT	6
(in 100's)	12
	1/3
	2/2
	184
	204
	5/15
	10/14
	18
	36
	-Y15-

FOR -LALT- PROFILE SEE SHEETS 28-29
FOR -Y14- PROFILE SEE SHEET 34
FOR -Y15- PROFILE SEE SHEET 34
FOR -Y15A- PROFILE SEE SHEET 35
FOR -LALT- TYPICAL SEE SHEET 2-B
FOR -Y14- TYPICALS SEE SHEET 2-G
FOR -Y15- TYPICAL SEE SHEET 2-H
FOR -Y15A- TYPICAL SEE SHEET 2-F
FOR CURB RAMP DETAILS SEE SHEETS 2-V THRU 2-Y
FOR INTERSECTION DETAIL SEE SHEET 2-S
NOTE: See Pavement Marking Plans for
Curb Ramp Stations

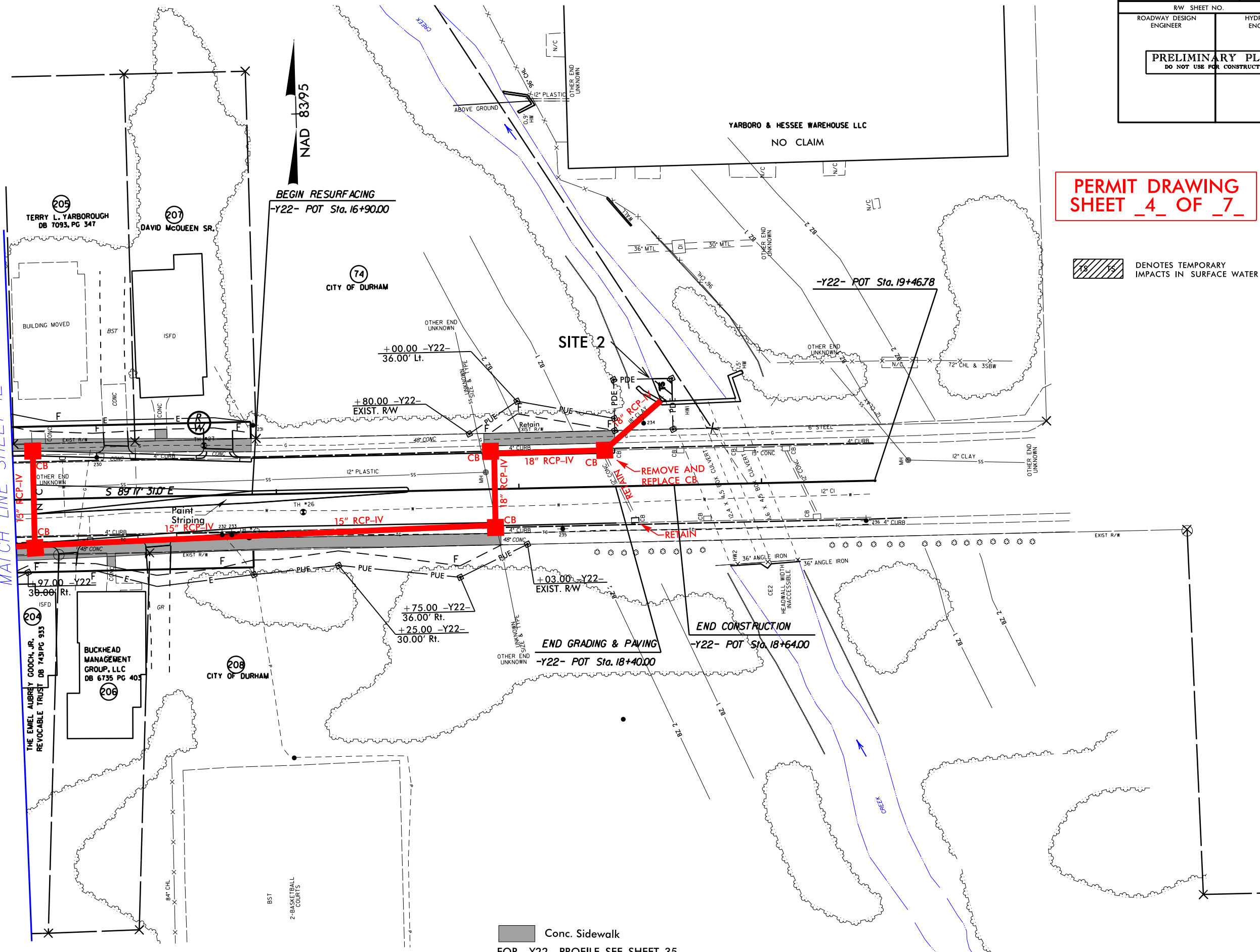
★ PROPOSED SIGNAL
Conc. Sidewalk
or Island
Proposed Brick Pavers

PROJECT REFERENCE NO.	SHEET NO.
U-3308	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 4 OF 7

19 15
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

MATCH LINE SHEET 12



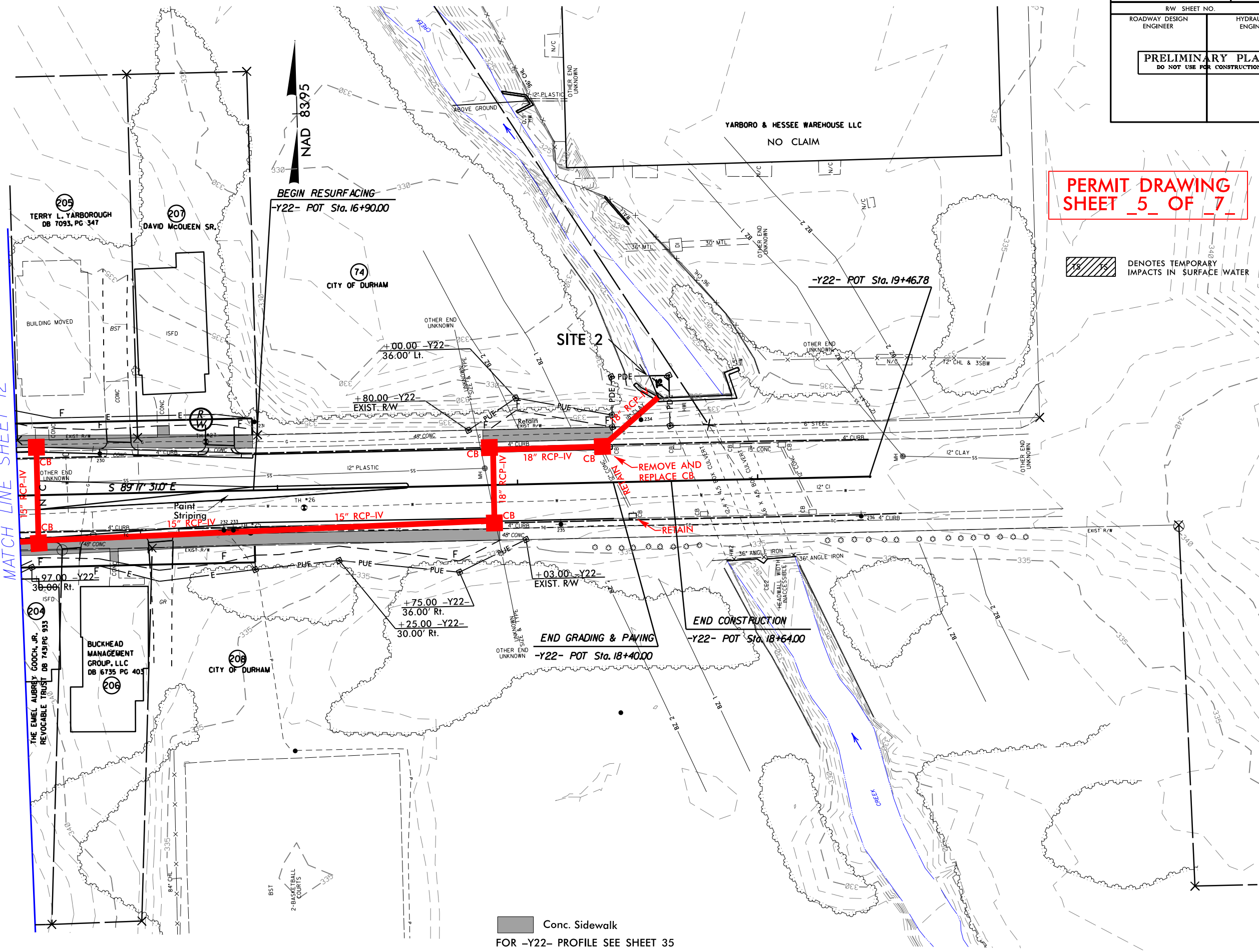
Conc. Sidewalk
FOR -Y22- PROFILE SEE SHEET 35
FOR -Y22- TYPICALS SEE SHEETS 2-I & 2-J

PROJECT REFERENCE NO.	SHEET NO.
U-3308	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 5 OF 7

19' 15" DENOTES TEMPORARY IMPACTS IN SURFACE WATER

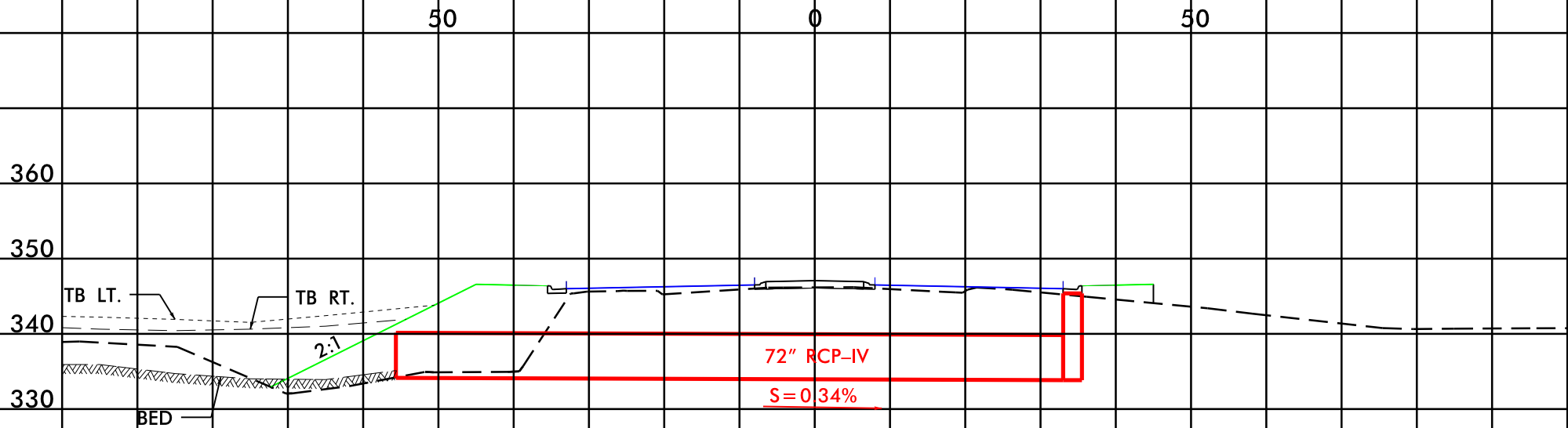
MATCH LINE SHEET 12



Conc. Sidewalk
FOR -Y22- PROFILE SEE SHEET 35
FOR -Y22- TYPICALS SEE SHEETS 2-I & 2-J

PROJECT REFERENCE NO.		SHEET NO.	
U3308			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

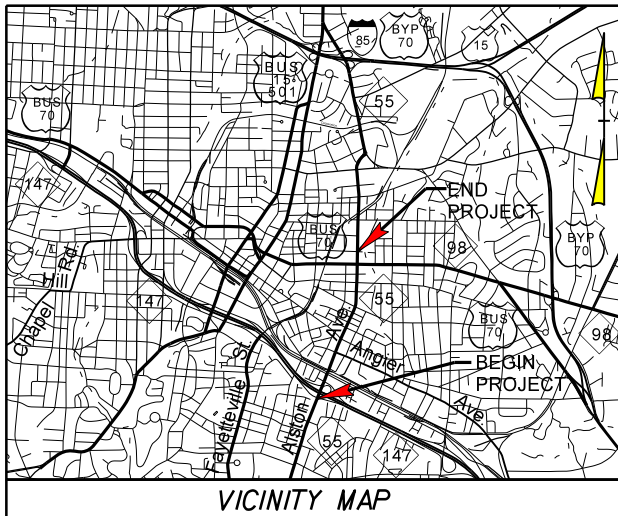
PERMIT DRAWING
SHEET _6_ OF _7_



TIP PROJECT: U-3308

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For CONVENTIONAL SYMBOLS



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DURHAM COUNTY

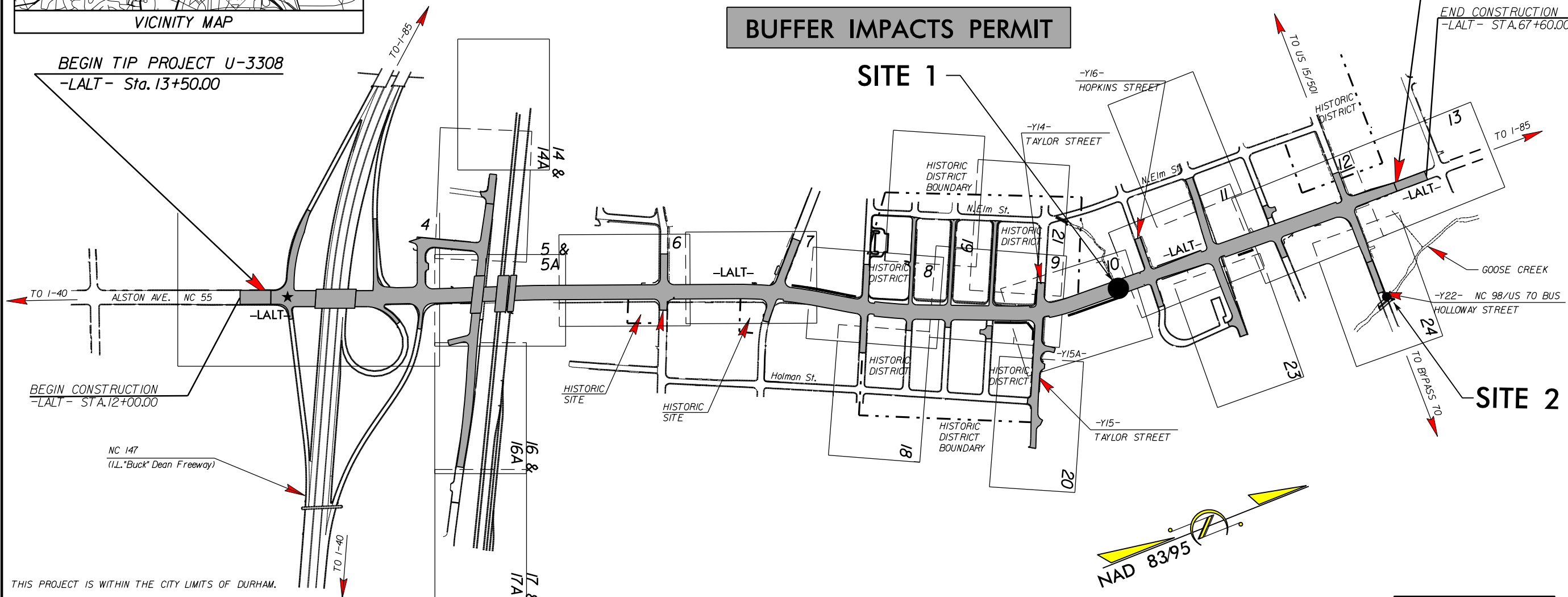
LOCATION: NC 55 (ALSTON AVE.) FROM NC 147 (I.L. "BUCK" DEAN
FREEWAY) TO NORTH OF US 70 BUSNC 98 (HOLLOWAY ST.)

TYPE OF WORK: Grading, Drainage, Curb & Gutter, Paving, Sidewalks, Retaining
Walls, Structures, Railroad Track Work and Signals

BUFFER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3308	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34915.1.1	STP-0055(20)	PE	
34915.2.1	STP-0055(20)	R/W	
34915.2.U1	STP-0055(20)	UTILITIES	

BUFFER DRAWING
SHEET 1 OF 4

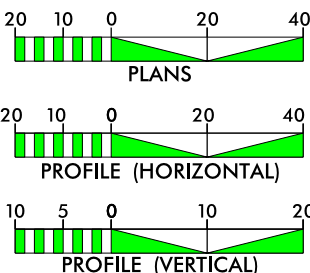


THIS PROJECT IS WITHIN THE CITY LIMITS OF DURHAM.

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 21100 VPD
ADT 2035 = 28400 VPD
DHV = 9 %
D = 55 %
T = 7 % *
V = 35 MPH
* TTST 1% DUAL 6%
Minor Arterial
Regional Tier

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3308 = 0.962 mi
LENGTH STRUCTURE TIP PROJECT U-3308 = 0.034 mi
TOTAL LENGTH TIP PROJECT U-3308 = 0.996 mi

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 30, 2013

LETTING DATE:
APRIL 21, 2015

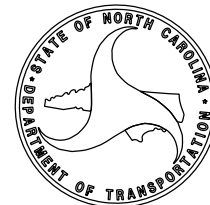
JAMES A. SPEER, PE
PROJECT ENGINEER

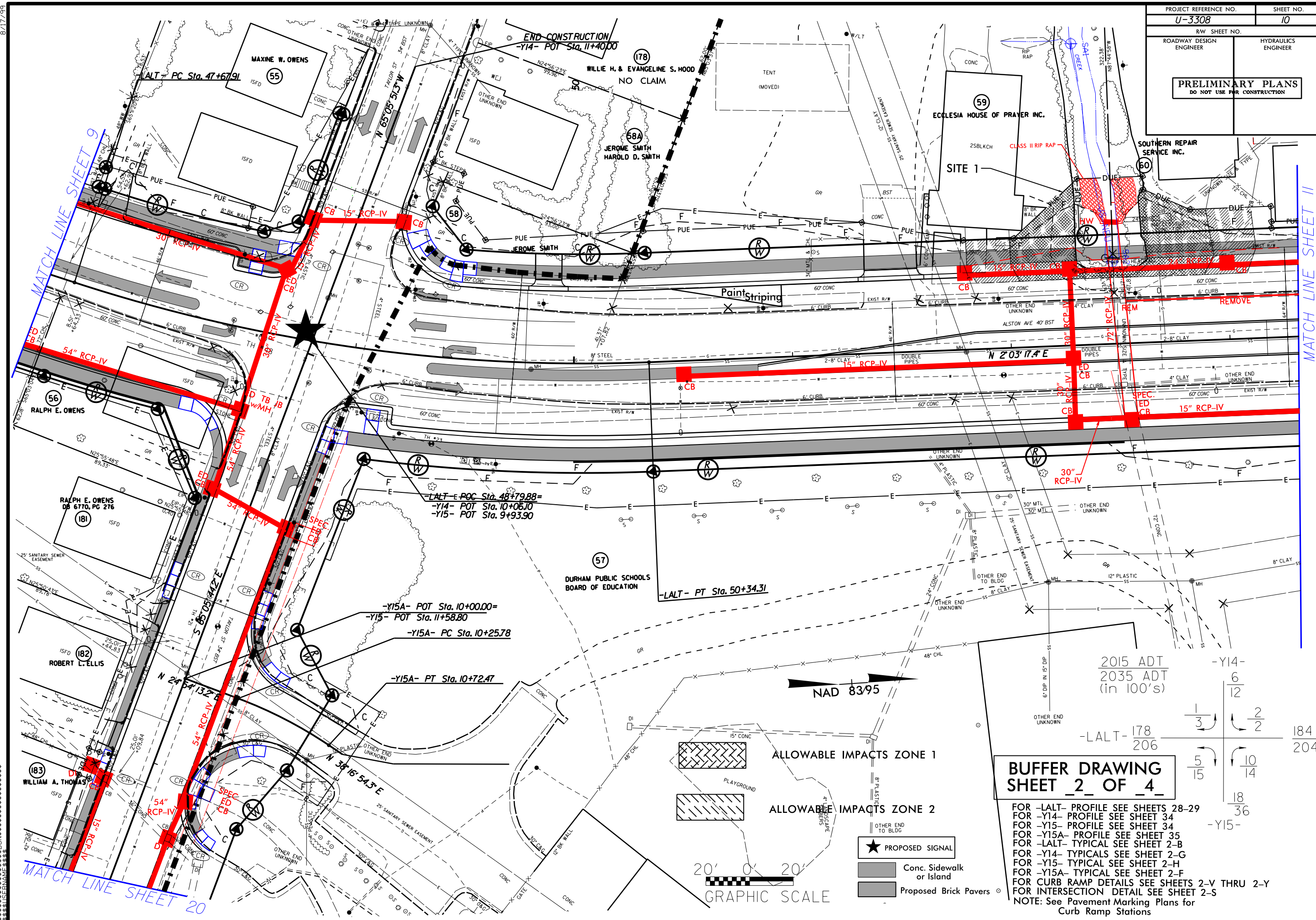
JOHN C. LANSFORD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____
P.E.

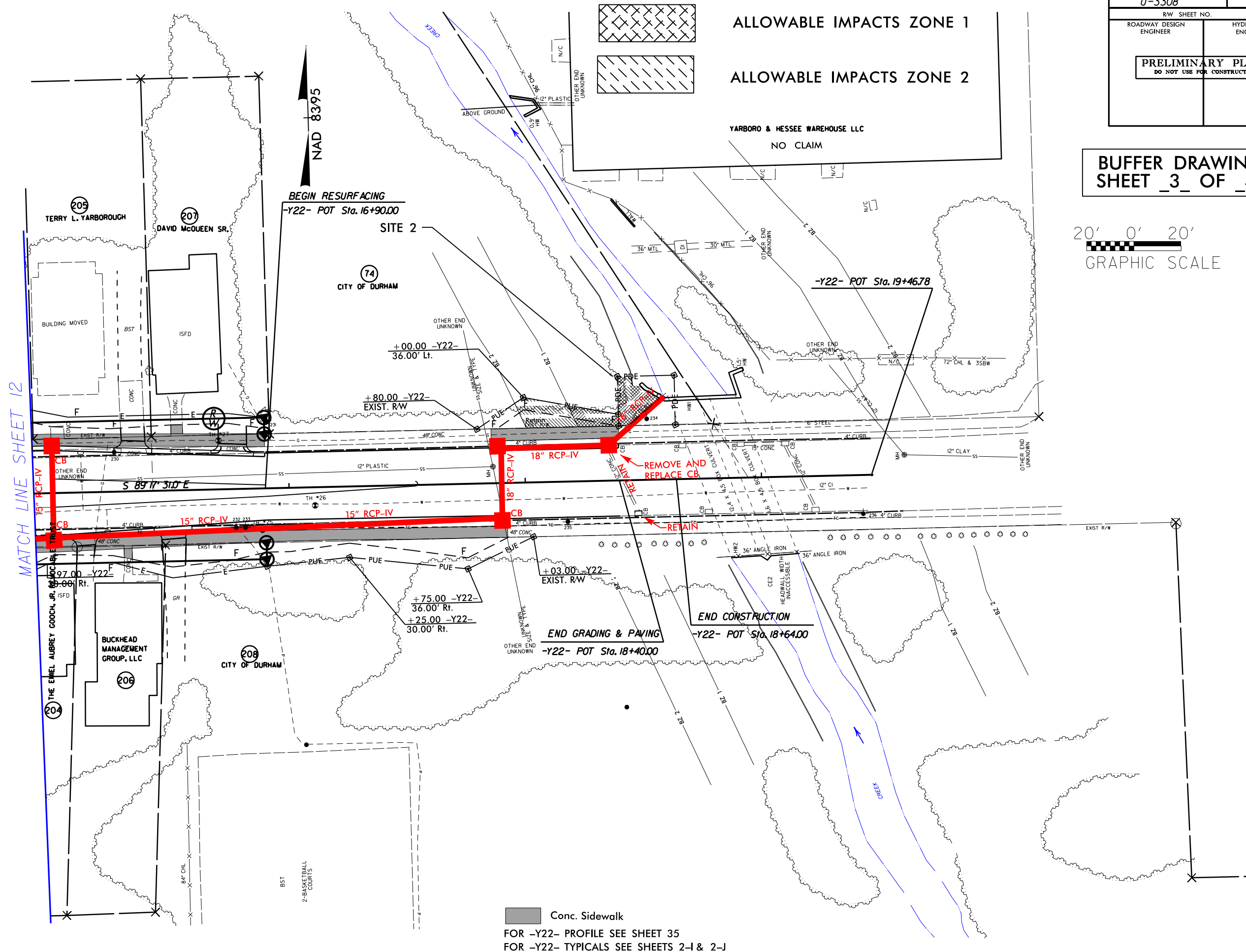
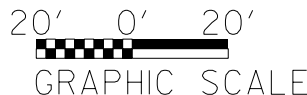




RW Revision 3/31/14 JCL
Changed Property Owner Names and Deed
Information on Parcel 58 & 58A

**BUFFER DRAWING
SHEET 2 OF 4**

FOR -LALT- PROFILE SEE SHEETS 28-29
FOR -Y14- PROFILE SEE SHEET 34
FOR -Y15- PROFILE SEE SHEET 34
FOR -Y15A- PROFILE SEE SHEET 35
FOR -LALT- TYPICAL SEE SHEET 2-B
FOR -Y14- TYPICALS SEE SHEET 2-G
FOR -Y15- TYPICAL SEE SHEET 2-H
FOR -Y15A- TYPICAL SEE SHEET 2-F
FOR CURB RAMP DETAILS SEE SHEETS 2-V THRU 2-Y
○ FOR INTERSECTION DETAIL SEE SHEET 2-S
NOTE: See Pavement Marking Plans for
Curb Ramp Stations



BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	72" RCP	52+46 -LALT- Lt	X			2065.5	986.9	3052.4					
2		18+60 -Y22- Lt	X			350.1	243.0	593.1					
TOTAL:						2415.6	1229.9	3645.5					

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

DURHAM COUNTY
PROJECT: 34915.1.1 (U-3308)

6/9/2014
SHEET 4 OF 4

CONTRACT:

DURHAM COUNTY

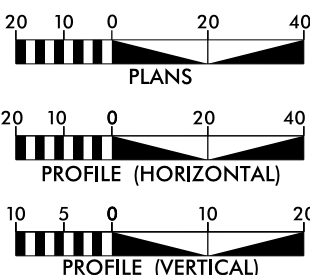
TYPE OF WORK: Grading, Drainage, Curb & Gutter, Paving, Sidewalks, Retaining Walls, Structures, Railroad Track Work and Signals

-LALT- Sta. 66+10.00

END CONSTRUCTION
-ALT- STA. 67+60.00



GRAPHIC SCALES



ADT 2014 = 21100 VPD
ADT 2035 = 28400 VPD
DHV = 9 %
D = 55 %
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LENGTH ROADWAY TIP PROJECT U-3308 = 0.962 mi
LENGTH STRUCTURE TIP PROJECT U-3308 = 0.034 mi
TOTAL LENGTH TIP PROJECT U-3308 = 0.996 mi

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 30, 2013

LETTING DATE:
APRIL 21, 2015

JAMES A. SPEER, PE
PROJECT ENGINEER

JOHN C. LANSFORD, PE
PROJECT DESIGN ENGINEER

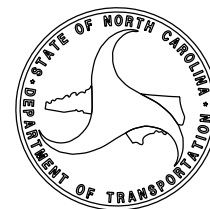
HYDRAULICS ENGINEER

P.E.

SIGNATURE: _____

**ROADWAY DESIGN
ENGINEER**

SIGNATURE: _____ *P.E.*



31-MAR-2014 13:59
R:\Roadway\Proj\3308_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$

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	
Property Corner	
Property Monument	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
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	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	

HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

Proposed Permanent Easement with Iron Pin and Cap Marker	
Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
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	

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

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

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Booth	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
Recorded U/G Telephone Cable	
Designated U/G Telephone Cable (S.U.E.*)	
Recorded U/G Telephone Conduit	
Designated U/G Telephone Conduit (S.U.E.*)	
Recorded U/G Fiber Optics Cable	
Designated U/G Fiber Optics Cable (S.U.E.*)	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
Recorded U/G Water Line	
Designated U/G Water Line (S.U.E.*)	
Above Ground Water Line	

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

6/2/99
31-MAR-2014 13:59
R:\Roadway\Projects\U3308-1s-1d-070627.dgn
\$\$\$\$\$STRAND\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
U-3308	1 D
Location and Surveys	

SURVEY CONTROL SHEET U-3308

GPS Calibration Report
Project : 34915.1.1 TIP Number: U3308

User name A.P. Spielvogel Date & Time 10:54:50 AM 6/20/05
Coordinate System US State Plane 1983(lat ground) Zone North Carolina 3200
Horizontal Datum NAD 1983 (Conus)
Vertical Datum Geoid Model Geoid99 NC Sub Grid

Coordinate Units US Survey Feet
Distance Units US Survey Feet
Height Units US Survey Feet

LOCAL SITE INFORMATION
Localized around U3308-1
Latitude 35°58'52.77432"N
Longitude 78°53'19.19111"W
Site Scale Factor 1.000057303
Height ?

The North Carolina Department of Transportation uses a Localized Coordinate System which is very similar to North Carolina Zone 3200 from which it is derived. Please take care in utilizing these coordinates to eliminate confusion of the two systems. This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center 806047.0164SFT
Easting coordinate of rotation center 2028149.2155SFT
Rotation about the center point 0700'00"
Translation north 0.3463SFT
Translation east -0.2689SFT
Scale factor 1.00005747

Vertical Adjustment Parameters

Northing coordinate of origin point 840519.8109SFT
Easting coordinate of origin point 1975512.3961SFT
Vertical separation at origin -0.1436SFT
Slope north 0.629PPM
Slope east 0.302PPM

Geoid Model Definition

Geoid03 (CONUS) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary	Maximum Error	Root Mean Square Error	Point
Horizontal	0.010sft	0.002	TURNKEY_WGS84
Vertical	0.070sft	0.011	TURNKEY_WGS84
Three-dimensional	0.079sft	0.011	TURNKEY_WGS84

Point NEALS_ WGS84
Latitude 36°03'33.70562"N
Longitude 79°04'58.20354"W
Height 516.9051sft

Northing 840519.8109sft
Easting 1975512.3961
Elevation 617.0749sft
Horz error 0.008sft
Vert error 0.017sft
3D error 0.019sft

Point NEALS_Local
Northing 840519.8117
Easting 1975512.4040sft
Elevation 617.0919sft
Utilized Horz and Vert
Quality Survey quality

Point EARL SMITH_ WGS84
Latitude 35°44'57.32992"N
Longitude 78°51'09.25788"W
Height 382.9815sft

Northing 727654.554sft
Easting 2043745.3942sft
Elevation 488.3649sft
Horz error 0.007sft
Vert error 0.004sft
3D error 0.008sft

Point EARL SMITH_Local
Northing 727654.5486sft
Easting 2043745.3974sft
Elevation 488.3684sft
Utilized Horz and Vert
Quality Survey quality

Point TURNKEY_ WGS84
Latitude 35°59'14.51009"N
Longitude 78°50'47.43883"W
Height 267.6865sft

Northing 814333.7648
Easting 2045409.8586sft
Elevation 371.0434sft
Horz error 0.010sft
Vert error 0.078sft
3D error 0.079sft

Point TURNKEY_Local
Northing 814333.7683sft
Easting 2045409.8495sft
Elevation 371.1213sft
Utilized Horz and Vert
Quality Survey quality

Point U3308-1_ WGS84
Latitude 35°58'52.77432"N
Longitude 78°53'19.19115"W
Height 283.7035sft

Northing 812119.1554sft
Easting 2032940.7021sft
Elevation 386.5564sft
Horz error 0.004sft
Vert error 0.015sft
3D error 0.016sft

Point U3308-1_Local
Northing 812119.1566sft
Easting 2032940.6979sft
Elevation 386.5412sft
Utilized Horz and Vert
Quality Survey quality

Point U3308-2_ WGS84
Latitude 35°58'57.96845"N
Longitude 78°53'31.18917"W
Height 293.4541sft

Northing 812643.9091sft
Easting 2031954.0107sft
Elevation 396.2549sft
Horz error 0.003sft
Vert error 0.019sft
3D error 0.019sft

Point U3308-2_Local
Northing 812643.3091sft
Easting 2031954.0135sft
Elevation 396.2361sft
Utilized Horz and Vert
Quality Survey quality

Point U3308-3_ WGS84
Latitude 35°59'42.51098"N
Longitude 78°53'09.71889"W
Height 231.9418sft

Northing 817149.5425sft
Easting 2033713.4559sft
Elevation 334.7078sft
Horz error 0.002sft
Vert error 0.033sft
3D error 0.033sft

Point u3308-3_Local
Northing 817149.5402sft
Easting 2033713.4555sft
Elevation 334.6745sft
Utilized Horz and Vert
Quality Survey quality

Point U3308-4_ WGS84
Latitude 35°59'49.99641"N
Longitude 78°53'09.05905"W
Height 246.3414sft

Northing 817906.5538sft
Easting 2033766.8087sft
Elevation 349.0921sft
Horz error 0.003sft
Vert error 0.031sft
3D error 0.031sft

Point U3308-4_Local
Northing 817906.5564sft
Easting 2033766.8084sft
Elevation 349.0610sft
Utilized Horz and Vert
Quality Survey quality

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U3308-1"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
NORTHING: 812119.1565(±) EASTING: 2032940.6980(±)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99994270

THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM

"U3308-1" TO -LALT- 13+50.00 STATION IS
N 84° 58' 17.0" W 634.7202(±)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
U3308_LS_GPSCALIB_050829.HTML
U3308_LS_WGS84_050829.TXT
U3308_LS_LOCAL_050829.TXT
U3308_LS_CONTROL_050829.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

NOTE: DRAWING NOT TO SCALE

CONTROL DATA:

BL	POINT	DESC.	NORTH	EAST	ELEVATION	LALT STATION	OFFSET
100	BL-100		811382.3270	2032035.7910	390.03	OUTSIDE PROJECT LIMITS	
101	BL-101		811853.9600	2032217.8670	388.48	OUTSIDE PROJECT LIMITS	
102	BL-102		812083.5940	2032388.7900	397.07	OUTSIDE PROJECT LIMITS	
103	BL-103		812297.1280	2032399.1270	407.94	14+97.19	39.12 RT
104	BL-104	POINT NOT SET	812375.6081	2032430.5233	UNKNOWN	15+81.71	39.31 RT
105	BL-105		812555.7530	2032502.5910	408.84	17+75.65	39.78 RT
106	BL-106		812838.3410	2032617.8490	401.55	20+79.07	48.09 RT
107	BL-107	POINT NOT SET	813035.6549	2032683.6804	UNKNOWN	22+87.30	44.17 RT
108	BL-108		813182.7770	2032786.3470	397.84	23+58.13	42.84 RT
109	BL-109		813306.5760	2032795.8480	396.71	25+81.36	57.45 RT
110	BL-110		813504.7440	2032868.4300	395.14	27+92.78	53.11 RT
111	BL-111 PK		813862.6950	2033004.7730	388.63	31+75.80	49.96 RT
112	BL-112 PK		814014.3640	2033073.6490	377.33	33+42.13	58.97 RT
113	BL-113		814326.4050	2033192.1510	373.69	36+80.86	46.01 RT
114	BL-114		814704.8910	2033364.2030	368.35	40+97.26	1.20 LT
115	BL-115		814891.0430	2033457.9560	352.92	43+05.85	0.14 LT
116	BL-116		815049.2290	2033531.5390	350.72	44+80.14	7.26 RT
117	BL-117		815187.8620	2033593.5770	349.35	46+31.96	11.78 RT
118	BL-118		815445.2000	2033695.4640	353.80	49+05.67	20.85 RT
119	BL-119 PK		815922.8060	2033730.8230	349.16	53+81.31	27.75 RT
120	BL-120		816300.0760	2033748.3780	357.23	57+58.47	31.77 RT
121	BL-121 PK		816581.2290	2033749.8890	353.94	60+39.96	22.39 RT
122	BL-122 PK		816948.9180	2033759.9420	337.36	64+07.54	21.29 RT
123	BL-123 PK		817357.1680	2033770.1280	335.55	68+15.31	27.52 RT
4	U3308-4		817906.5540	2033766.8070	349.06	OUTSIDE PROJECT LIMITS	
124	BY-124		811504.8860	2031826.1370	392.56	OUTSIDE PROJECT LIMITS	
A100	BL-100		811382.3270	2032035.7910	390.03	OUTSIDE PROJECT LIMITS	
123	BY-123 PK		811326.9960	2032230.6220	387.58	OUTSIDE PROJECT LIMITS	
124	BY1-124 PK		812236.1100	2031922.6790	364.66	OUTSIDE PROJECT LIMITS	
A102	BL-102		812083.5940	2032388.7900	397.07	OUTSIDE PROJECT LIMITS	
125	BY2-125		812762.7220	2031807.4390	399.01	17+11.36	682.69 LT
126	BY2-126		812556.5390	2032095.7500	393.63	16+26.22	338.62 LT
127	BY2-127		812415.9160	2032348.7370	390.84	15+88.97	51.58 LT
A180	POINT NOT SET		812375.6081	2032430.5233	0.00	15+81.71	39.31 RT
128	BY2-128		812300.4060	2032582.9490	388.86	15+68.19	208.70 RT
129	BY2-129		812083.1460	2033025.2810	385.45	15+29.57	700.03 RT
130	BY3-130 PK		812923.5880	2032327.8310	407.40	9+96.11	14.25 LT
A105	BL-105		812838.3410	2032617.8490	401.55	OUTSIDE PROJECT LIMITS	
131	BY3-131		812923.5880	2032421.2800	407.12	10+13.87	4.81 LT
132	BY5-132		813167.7890	2032421.2800	415.56	12+73.95	31.79 LT
133	BY5-133 PK		813035.6549	2032683.6804	UNKNOWN	17+58.72	7.01 RT
134	BY5-134 PK		812838.3410	2032603.9400	388.45	18+80.25	1.18 RT
135	BY5-135 PK		812511.3100	2033642.2980	399.47	21+17.46	1123.55 RT
136	BY8-136		812316.8750	2033270.2000	407.63	18+29.65	841.68 RT
137	BY8-137 PK		812266.2120	2033380.4430	405.00	18+22.99	962.78 RT
A136	BY9-136 PK		812201.9490	2033582.7260	403.92	18+09.20	1100.04 RT
138	BY9-138 PK		812201.9490	2033582.7260	403.92	18+09.20	1100.04 RT
139	BY9-139 PK		812201.9490	2033582.7260	403.92	18+09.20	1100.04 RT
140	BY10-140 PK		813718.7890	2032534.6660	395.19	28+70.73	335.61 LT
141	BY10-141		813993.6210	2032676.2110	388.65	OUTSIDE PROJECT LIMITS	
142	BY11-142 PK		813726.9280	2033322.7380	416.86	OUTSIDE PROJECT LIMITS	
143	BY12-143		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
144	BY12-144 PK		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
145	BY12-145		814213.8840	2033325.3120	380.77	OUTSIDE PROJECT LIMITS	
146	BY12-146 PK		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
147	BY12-147		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
148	BY12-148		814213.8840	2033325.3120	380.77	OUTSIDE PROJECT LIMITS	
149	BY12-149		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
150	BY12-150		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
151	BY12-151		814213.8840	2033325.3120	380.77	OUTSIDE PROJECT LIMITS	
152	BY12-152		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
153	BY12-153		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
154	BY12-154		814213.8840	2033325.3120	380.77	OUTSIDE PROJECT LIMITS	
155	BY12-155		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
156	BY12-156		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
157	BY12-157		814213.8840	2033325.3120	380.77	OUTSIDE PROJECT LIMITS	
158	BY12-158		814552.9810	2032934.1860	382.26	12+85.62	19.31 RT
159	BY12-159		814326.4050	2033192.1510	373.69	OUTSIDE PROJECT LIMITS	
160	BY20-160		816578.9330	2033620.3810	359.95	10+46.35	15.33 LT
A119	BL-119		816581.2290	2033749.8890	353.94	OUTSIDE PROJECT LIMITS	
161	BY20-161		816580.1730	2033841.0890	345.42	OUTSIDE PROJECT LIMITS	
162	BY22-162		816939.4680	2033383.9520	343.47	10+59.24	17.36 LT
A120	BL-120		816948.9180	2033759.9420	337.36	14+35.09	31.46 LT
163	BY22-163		816894.7290	2034231.2750	336.39	19+07.05	16.90 RT
164	BY23-164 PK		817362.1810	2033335.8380	360.33	68+20.59	486.77 LT
A121	BL-121		817357.1680	2033770.1280	335.55	68+15.31	27.52 RT
166	BY24-166		813247.4830	2032452.3090	413.22	18+76.01	18.90 RT
167	BY24-167		813154.4340	2032636.5170	411.96	20+82.38	17.01 RT
A106	BL-106		813182.7770	2032786.3470	397.84	21+58.13	30.85 RT
168	BY24-168		813095.1200	2032749.1920	412.23	22+09.71	17.99 RT
169	BY24-169		812929.7100	2033062.6810	412.48	25+64.15	21.05 RT
170	BY24-170		812733.3950	2033447.6290	405.47	29+96.26	18.77 RT

SURVEY CONTROL SHEET U-3308

BY13	POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
146	BY13-146 PK		814893.4330	2032943.5140	377.56	OUTSIDE PROJECT LIMITS	
A112	BL-112		814704.8910	2033364.2030	368.35	OUTSIDE PROJECT LIMITS	
147	BY13-147 PK		814593.0690	2033595.2730	370.71	OUTSIDE PROJECT LIMITS	
148	BY14-148 PK		815023.4320	2033136.3600	373.95	OUTSIDE PROJECT LIMITS	
A113	BL-113		814891.0430	2033457.9560	352.92	OUTSIDE PROJECT LIMITS	
149	BY14-149 PK		814794.5320	2033647.7170	363.68	OUTSIDE PROJECT LIMITS	
150	BY15-150 PK		815126.7330	2033352.0100	365.38	OUTSIDE PROJECT LIMITS	
A114	BL-114		815049.2290	2033531.5390	350.72	OUTSIDE PROJECT LIMITS	
151	BY15-151 PK		814978.3900	2033669.6010	353.90	OUTSIDE PROJECT LIMITS	
152	BY16-152		815287.6820	2033397.2820	364.99	OUTSIDE PROJECT LIMITS	
A115	BL-115		815187.8620	2033593.5770	349.35	OUTSIDE PROJECT LIMITS	
153	BY16-153 PK		815122.7170	2033756.3840	345.88	OUTSIDE PROJECT LIMITS	
154	BY17-154		815493.9420	2033467.9960	350.77	OUTSIDE PROJECT LIMITS	
A116	BL-116		815445.2000	2033695.4640	353.80	OUTSIDE PROJECT LIMITS	
155	BY17-155		815259.4070	2034069.9140	341.92	OUTSIDE PROJECT LIMITS	
156	BY18-156		815946.4610	2033475.9130	356.85	OUTSIDE PROJECT LIMITS	
A117	BL-117		815922.8060	2033730.8230	349.16	OUTSIDE PROJECT LIMITS	
157	BY18-157		815920.8440	2034043.2220	339.78	OUTSIDE PROJECT LIMITS	
158	BY19-158 PK		816268.2350	2033354.0250	370.41	OUTSIDE PROJECT LIMITS	
A118	BL-118		816300.0780	2033748.3780	357.23	OUTSIDE PROJECT LIMITS	
159	BY19-159		816277.1310	2034079.0340	345.95	OUTSIDE PROJECT LIMITS	

BY20	POINT	DESC.	NORTH	EAST	ELEVATION	Y20 STATION	OFFSET
160	BY20-160		816578.9330	2033620.3810	359.95	10+46.35	15.33 LT
A119	BL-119		816581.2290	2033749.8890	353.94	OUTSIDE PROJECT LIMITS	
161	BY20-161		816580.1730	2033841.0890	345.42	OUTSIDE PROJECT LIMITS	
162	BY22-162		816939.4680	2033383.9520	343.47	10+59.24	17.36 LT
A120	BL-120		816948.9180	2033759.9420	337.36	14+35.09	31.46 LT
163	BY22-163		816894.7290	2034231.2750	336.39	19+07.05	16.90 RT
164	BY23-164 PK		817362.1810	2033335.8380	360.33	68+20.59	486.77 LT
A121	BL-121		817357.1680	2033770.1280	335.55	68+15.31	27.52 RT
166	BY24-166		813247.4830	2032452.3090	413.22	18+76.01	18.90 RT
167	BY24-167		813154.4340	2032636.5170	411.96	20+82.38	17.01 RT
A106	BL-106		813182.7770	2032786.3470	397.84	21+58.13	30.85 RT
168	BY24-168		813095.1200	2032749.1920	412.23	22+09.71	17.99 RT
169	BY24-169		812929.7100	2033062.6810	412.48	25+64.15	21.05 RT
170	BY24-170		812733.3950	2033447.6290	405.47	29+96.26	18.77 RT

ELEVATION = 390.24
N 811527 E 2031971
LALT STATION 13+58.00
S 27°32'15.6" W 730.75'
R/R SPIKE IN ASPHALT

ELEVATION = 408.92
N 812346 E 2032417
LALT STATION 15+48.92 37.66 RIGHT
CUT SQUARE ON SE BENT

ELEVATION = 414.78
N 813231 E 2032457
Y STATION 14+56.75 57.15' LEFT
R/R SPIKE SET IN 15' PIN OAK

ELEVATION = 384.59
N 814163 E 2033350
Y5 STATION 12+83.43 17.94' RIGHT
R/R SPIKE SET IN 42' PIN OAK

ELEVATION = 341.46
N 815930 E 2033884
Y17 STATION 11+56.50
S 43°40'47.02" E DIST 28.88'
CUT SQUARE IN CONCRETE

ELEVATION = 335.58
N 816881 E 2034114
Y22 STATION 17+00.06 31.72' RIGHT
R/R SPIKE SET IN 44' PIN OAK

ELEVATION = 349.66
N 817347 E 2033589
LALT STATION 68+04.89 153.81' LEFT
R/R SPIKE SET IN 48' PIN OAK

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U3308-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 812119.1565(±) EASTING: 2032940.6980(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994270 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3308-1" TO -LALT- 13+50.00 STATION IS N 84° 58' 17.0" W 634.7202(±) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

- THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO THE HARN (HIGH ACCURACY REFERENCE NETWORK) NAD 83/95 ADJUSTMENT. THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.
 - THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTP://WWW.DOHS.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/) THE FILES TO BE FOUND ARE AS FOLLOWS:
U3308_LS_GPSCALIB_050829.HTML
U3308_LS_WGS84_050829.TXT
U3308_LS_LOCAL_050829.TXT
U3308_LS_CONTROL.TXT
- THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

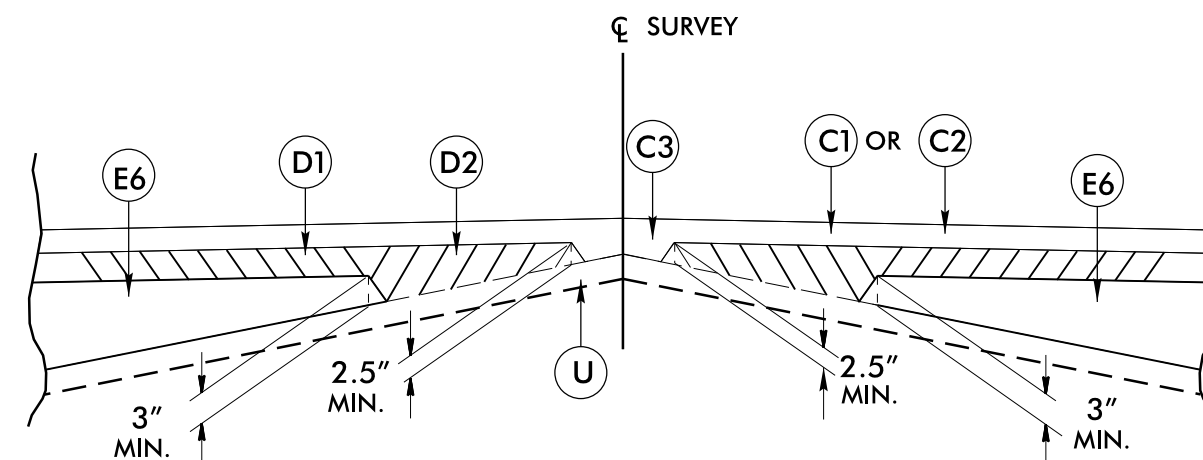
PROJECT REFERENCE NO.	SHEET NO.
<i>U-3308</i>	<i>2</i>
RW. SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

(C1)	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
(C3)	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE 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 I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
(D2)	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH
(E1)	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 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. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
(E4)	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
(E5)	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
(E6)	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" IN DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH
(J1)	8" AGGREGATE BASE COURSE

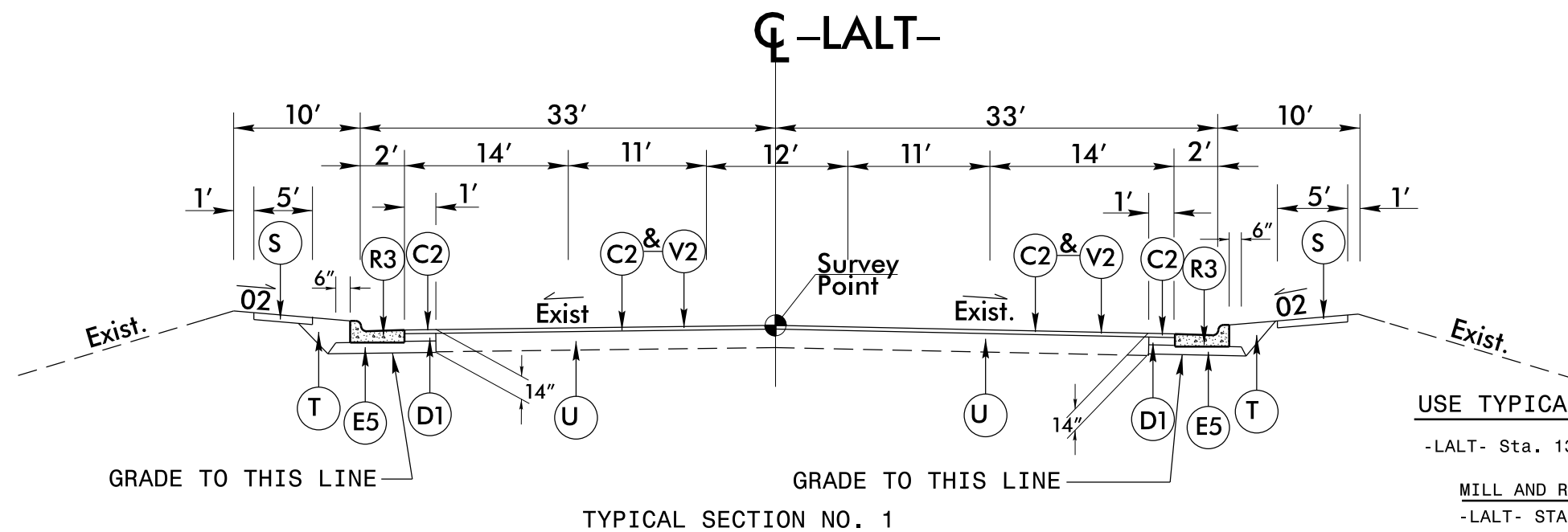
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROPOSED 1'6" CONCRETE CURB AND GUTTER
(R2)	EXISTING 2'6" CONCRETE CURB AND GUTTER
(R3)	PROPOSED 2'6" CONCRETE CURB AND GUTTER
(R4)	PROPOSED CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	MILLING EXISTING ASPHALT PAVEMENT, 1.5" DEPTH
(V2)	MILLING EXISTING ASPHALT PAVEMENT, 3" DEPTH
(V3)	MILLING EXISTING ASPHALT PAVEMENT, VARIABLE DEPTH 0" - 1.5"
(W)	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



Detail Showing Method of Wedging



USE TYPICAL SECTION NO. 1

-LALT- Sta. 13+50.00 TO 14+00.00

MILL AND RESURFACE EXIST. -LALT- w/ (C2) & (V2):

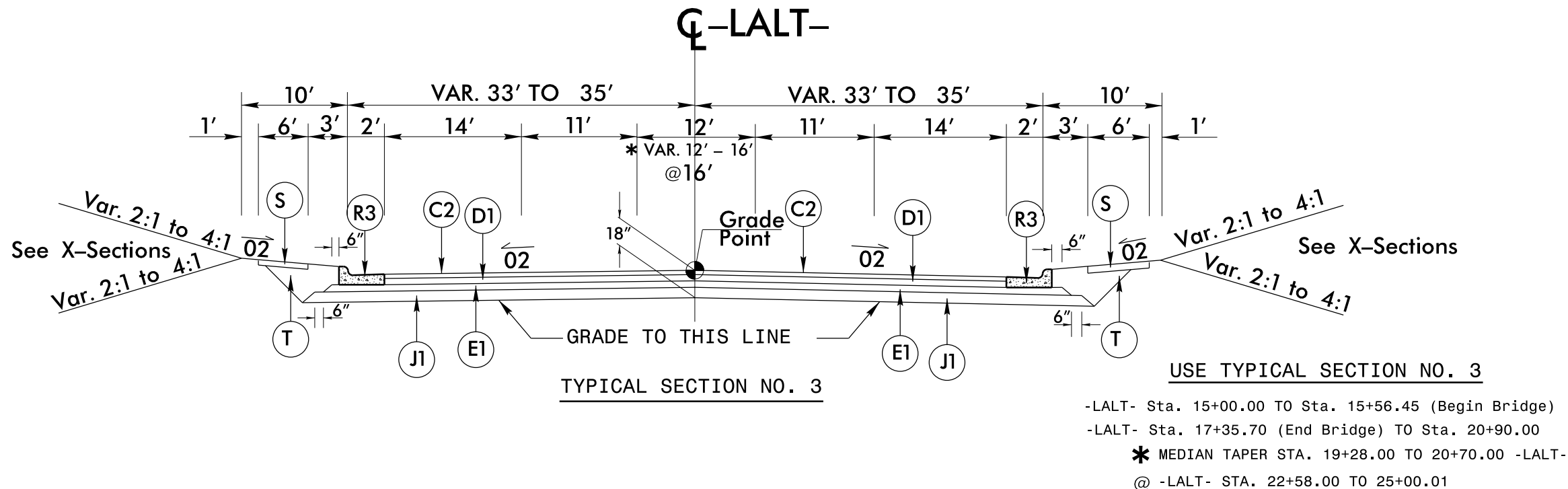
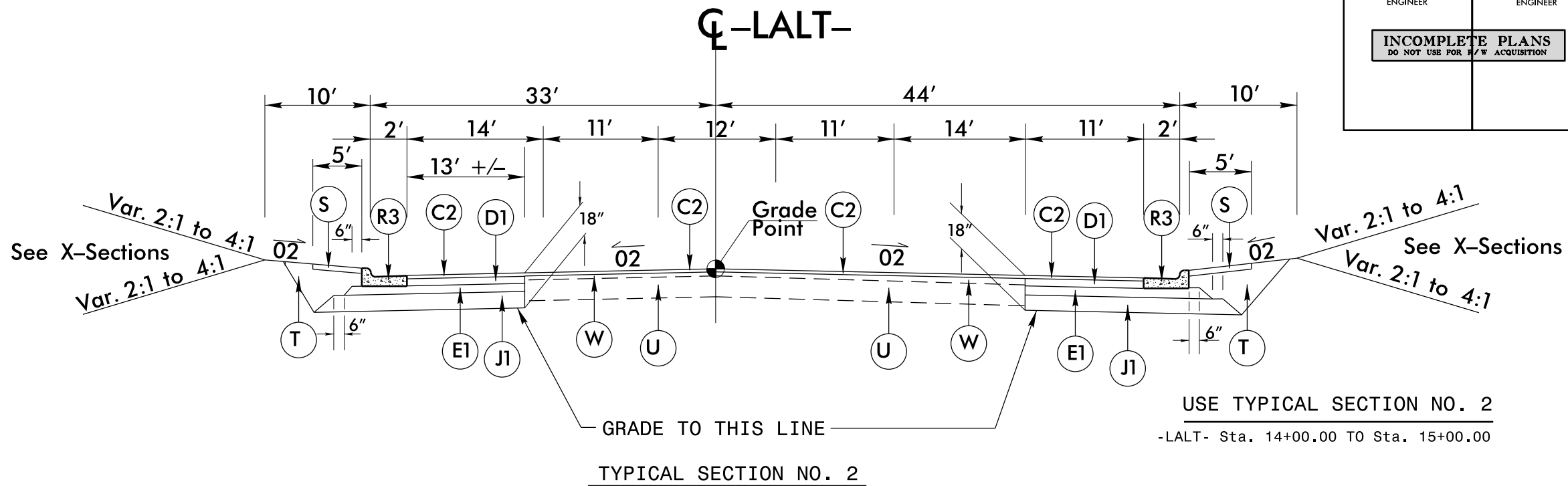
-LALT- STA. 12+00.00 TO 13+50.00

-LALT- STA. 66+10.00 TO 67+60.00

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

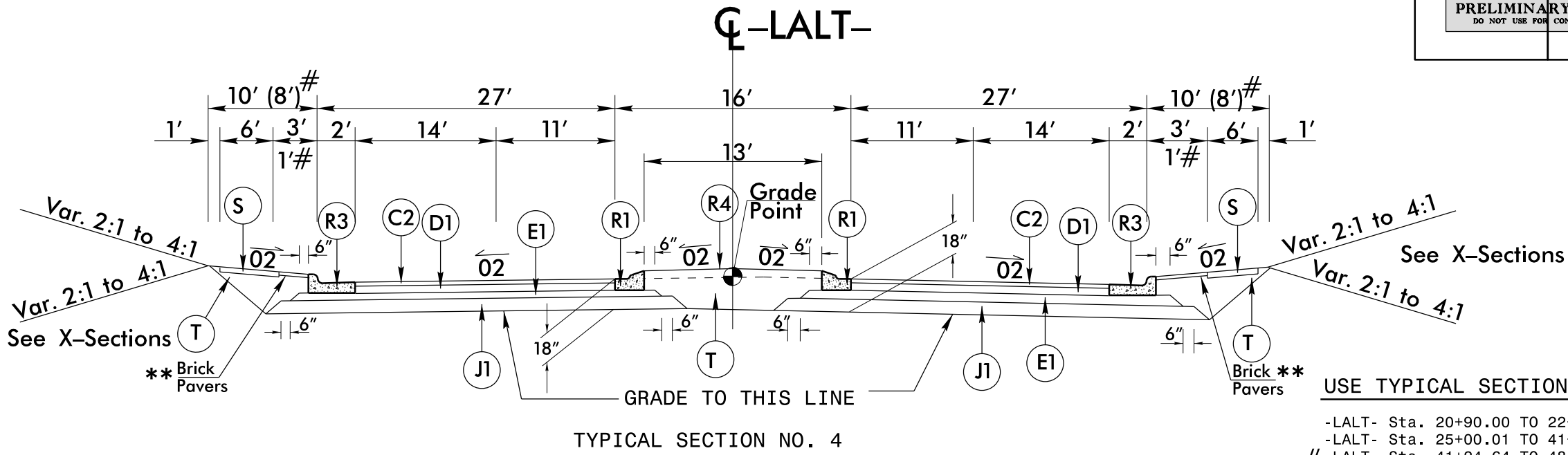
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

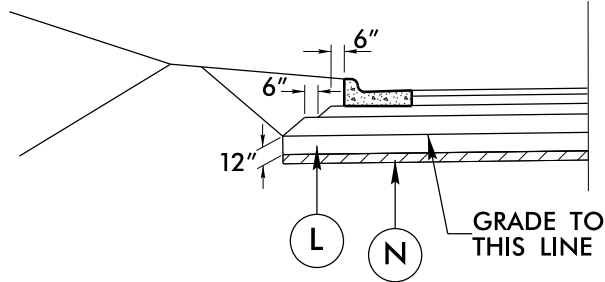
C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VARIABLE DEPTH S9.5B
D1	4" TYPE I19.0B
D2	VARIABLE DEPTH TYPE I19.0B
E1	3" TYPE B25.0B
E2	4" TYPE B25.0B
E3	5" TYPE B25.0B
E4	5.5" TYPE B25.0B
E5	7" TYPE B25.0B
E6	VAR. DEPTH TYPE B25.0B
J1	8" AGGREGATE BASE COURSE
L	CLASS IV SUBGRADE STABILIZATION
N	GEOTEXTILE FOR SOIL STABILIZATION
R1	PROP. 1'6" CONC. CURB AND GUTTER
R2	EXIST. 2'6" CONC. CURB AND GUTTER
R3	PROP. 2'6" CONC. CURB AND GUTTER
R4	PROP. CONCRETE ISLAND
S	PROPOSED CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	PROP. 1.5" ASPHALT MILLING
V2	PROP. 3" ASPHALT MILLING
V3	PROP. ASPHALT MILLING VARIABLE
W	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

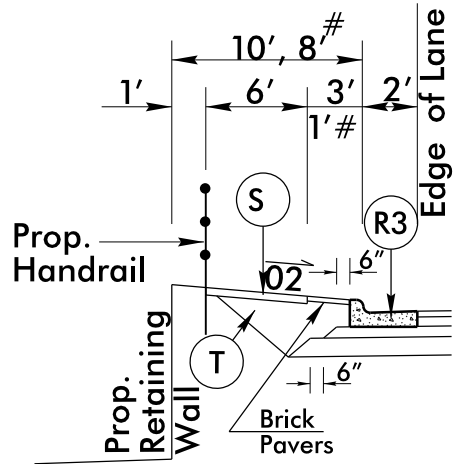


- LALT- Sta. 20+90.00 TO 22+58.00
- LALT- Sta. 25+00.01 TO 41+24.64
- #-LALT- Sta. 41+24.64 TO 48+36.77 Lt
- #-LALT- Sta. 41+24.64 TO 46+73.00 Rt
- LALT- Sta. 48+36.77 TO 64+35.00 Lt
- LALT- Sta. 46+73.00 TO 64+35.00 Rt

**NOTE: BEGIN BRICK PAVERS NORTH OF THE -LALT- (ALSTON AVE) AND -Y4-/-Y5- (MAIN ST) INTERSECTION. END BRICK PAVERS SOUTH OF THE -LALT- (ALSTON AVE) AND -Y14-/-Y15- (TAYLOR ST).

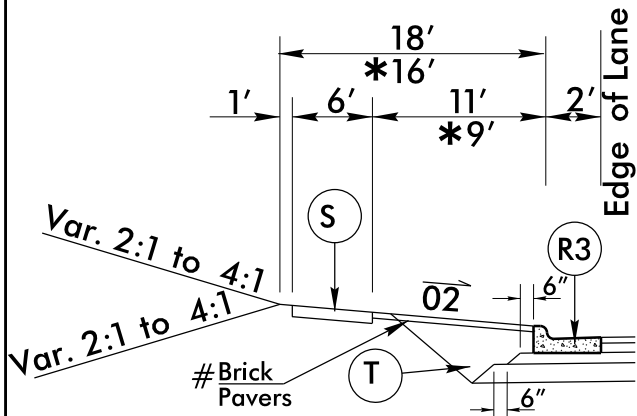


Use With Typical Section # 4
Sta. 36+40.00 to 38+15.00 -LALT-



Use With Typical Section # 4

- #Sta. 37+32.00 to 40+30.00 Lt. -LALT-
- #Sta. 46+73.00 to 48+71.00 Rt. -LALT-
- Sta. 50+00.00 to 52+50.00 Rt. -LALT-
- Sta. 58+25.00 to 59+00.00 Rt. -LALT-



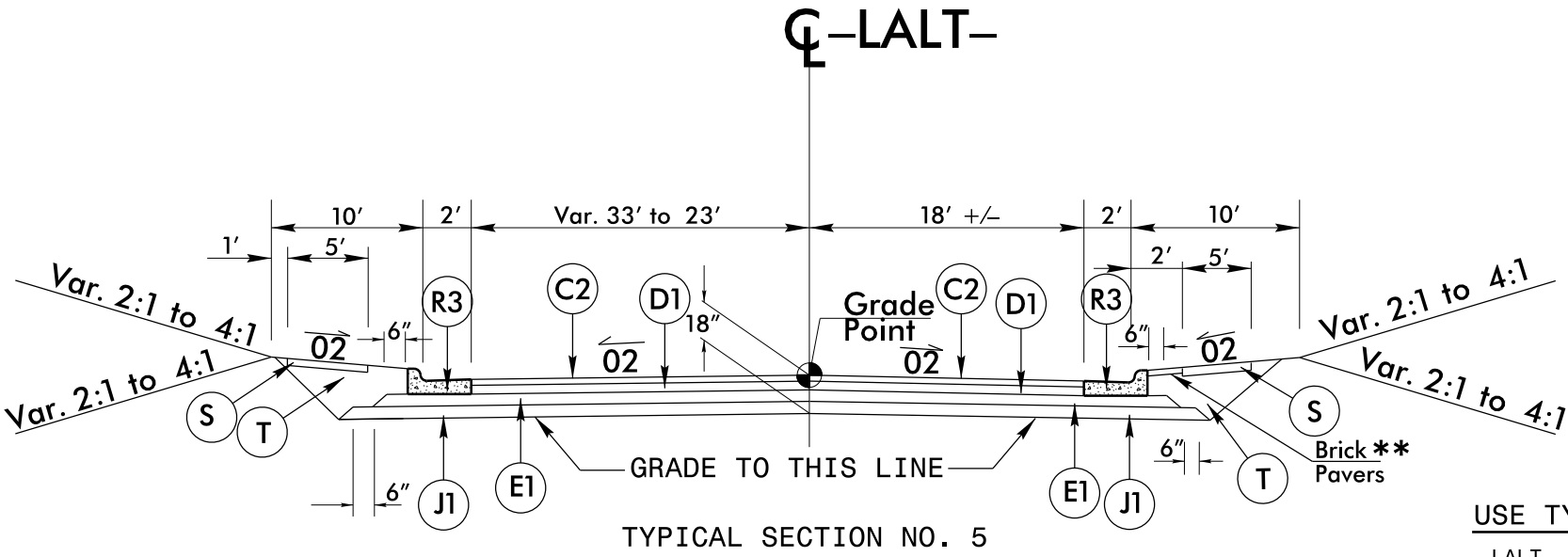
Use With Typical Section # 4

- Sta. 31+82.98 to 31+98.22 Rt. -LALT-
- #Sta. 36+84.27 to 37+02.08 Rt. -LALT-
- #Sta. 41+03.96 to 41+19.84 Lt. -LALT-
- #Sta. 41+10.30 to 41+24.64 Rt. -LALT-
- #Sta. 48+36.77 to 48+53.77 Lt. -LALT-
- Sta. 49+03.52 to 49+19.96 Rt. -LALT-
- Sta. 53+73.72 to 53+93.72 Lt. -LALT-
- Sta. 53+74.33 to 53+94.15 Rt. -LALT-
- Sta. 56+72.59 to 56+87.72 Lt. -LALT-
- Sta. 57+51.51 to 57+64.43 Rt. -LALT-
- Sta. 63+30.32 to 63+45.23 Lt. -LALT-

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VARIABLE DEPTH S9.5B
D1	4" TYPE I19.0B
D2	VARIABLE DEPTH TYPE I19.0B
E1	3" TYPE B25.0B
E2	4" TYPE B25.0B
E3	5" TYPE B25.0B
E4	5.5" TYPE B25.0B
E5	7" TYPE B25.0B
E6	VAR. DEPTH TYPE B25.0B
J1	8" AGGREGATE BASE COURSE
L	CLASS IV SUBGRADE STABILIZATION
N	GEOTEXTILE FOR SOIL STABILIZATION
R1	PROP. 1'6" CONC. CURB AND GUTTER
R2	EXIST. 2'6" CONC. CURB AND GUTTER
R3	PROP. 2'6" CONC. CURB AND GUTTER
R4	PROP. CONCRETE ISLAND
S	PROPOSED CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	PROP. 1.5" ASPHALT MILLING
V2	PROP. 3" ASPHALT MILLING
V3	PROP. ASPHALT MILLING VARIABLE
W	ASPHALT WEDGING (SEE DETAIL)

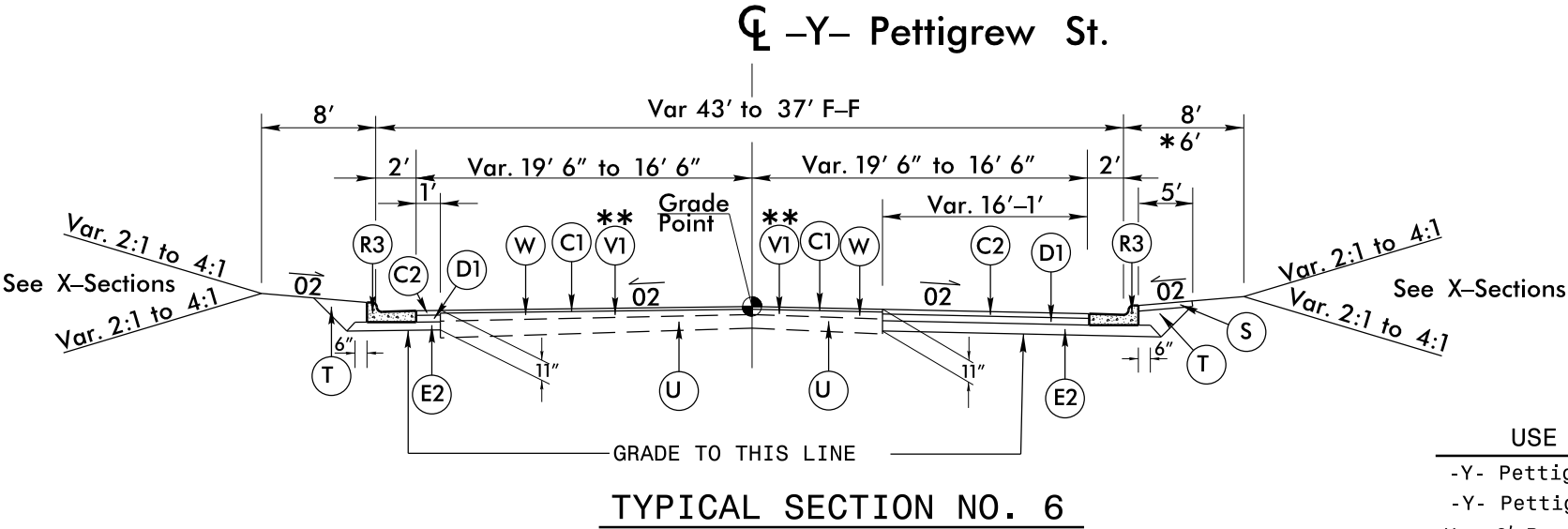
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE TYPICAL SECTION NO. 5

-LALT- Sta. 64+35.00 TO 66+10.00

**NOTE: BEGIN BRICK PAVERS NORTH OF THE -LALT- (ALSTON AVE) AND -Y22- (HOLLOWAY ST) INTERSECTION. END BRICK PAVERS -LALT- 66+10.00 (END OF PROJECT).



USE TYPICAL SECTION NO. 6

-Y- Pettigrew St. Sta. 12+00.00 to 15+00.00

-Y- Pettigrew St. Sta. 20+50.00 to 24+50.00

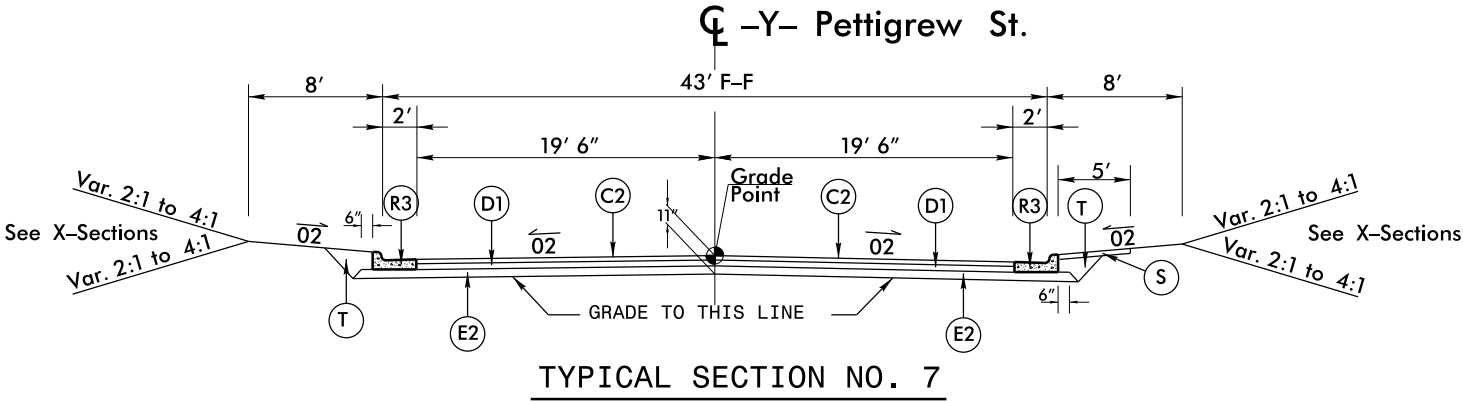
* Use 6' Berm Rt. Sta. 21+25.00 to 22+75.00

**NOTE: TRANSITION BETWEEN EXISTING PAVEMENT AND TYP. SECTION NO. 6 USING (V1) AND (C1) AT
-Y- STA. 11+50 TO STA 12+00
-Y- STA. 24+50 TO STA. 25+00

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VARIABLE DEPTH S9.5B
D1	4" TYPE I19.0B
D2	VARIABLE DEPTH TYPE I19.0B
E1	3" TYPE B25.0B
E2	4" TYPE B25.0B
E3	5" TYPE B25.0B
E4	5.5" TYPE B25.0B
E5	7" TYPE B25.0B
E6	VAR. DEPTH TYPE B25.0B
J1	8" AGGREGATE BASE COURSE
L	CLASS IV SUBGRADE STABILIZATION
N	GEOTEXTILE FOR SOIL STABILIZATION
R1	PROP. 1'6" CONC. CURB AND GUTTER
R2	EXIST. 2'6" CONC. CURB AND GUTTER
R3	PROP. 2'6" CONC. CURB AND GUTTER
R4	PROP. CONCRETE ISLAND
S	PROPOSED CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	PROP. 1.5" ASPHALT MILLING
V2	PROP. 3" ASPHALT MILLING
V3	PROP. ASPHALT MILLING VARIABLE
W	ASPHALT WEDGING (SEE DETAIL)

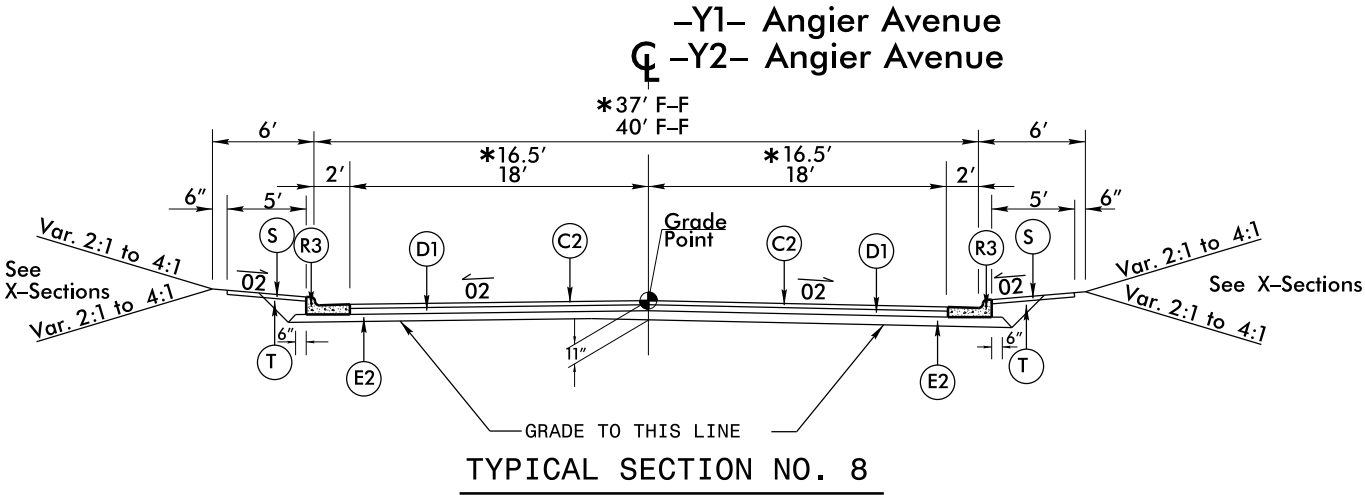
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE TYPICAL SECTION NO. 7

-Y- Pettigrew St. Sta. 15+00.00 to Sta. 16+27.05(Begin Bridge)

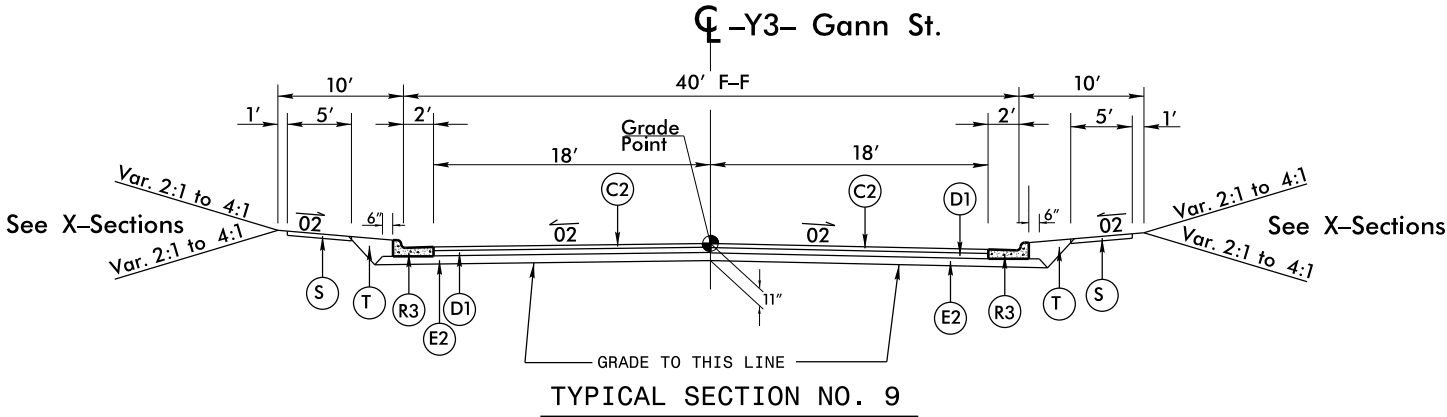
-Y- Pettigrew St. Sta. 17+84.55(End Bridge) to Sta. 20+50.00



USE TYPICAL SECTION NO. 8

*-Y1- Angier Avenue Sta. 11+00.00 to 12+10.32

-Y2- Angier Avenue Sta. 10+76.99 to 11+00.00

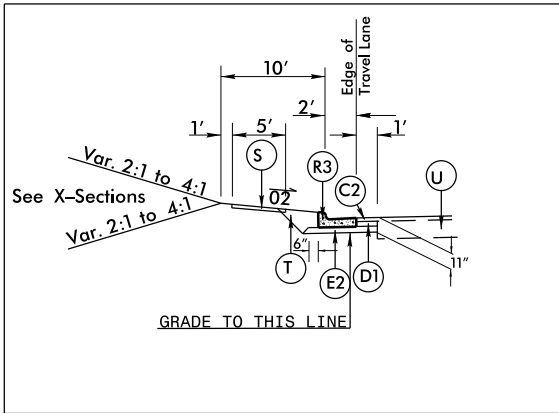


USE TYPICAL SECTION NO. 9

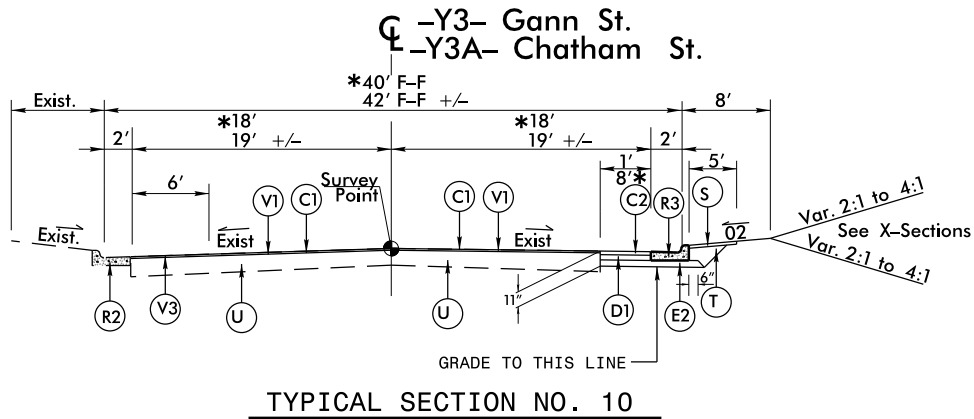
-Y3- Gann St. Sta. 10+65.00 to 11+79.87

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



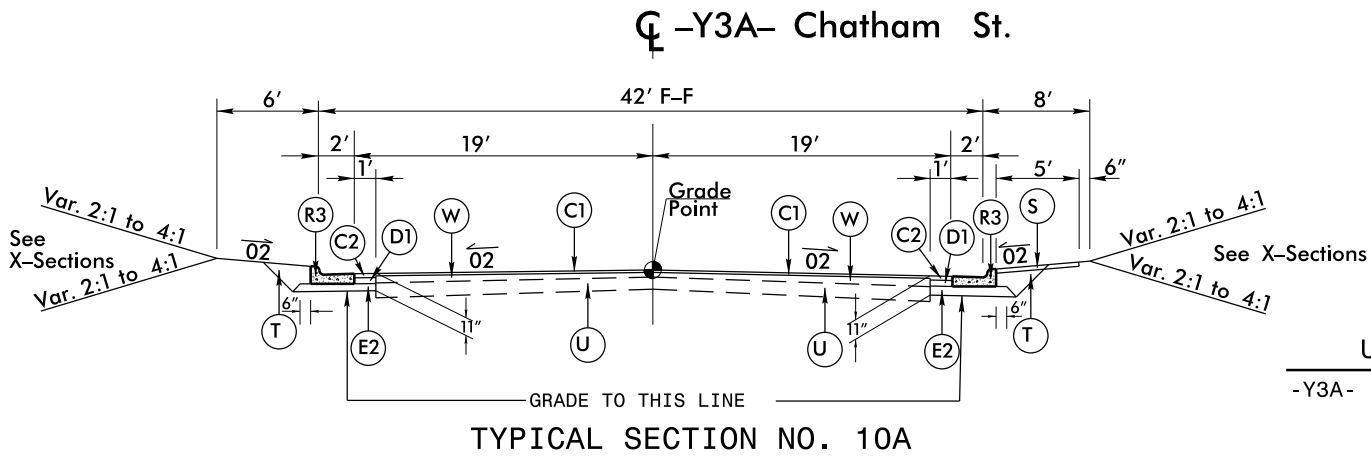
Use in Conjunction With -Y3- Resurfacing Sta. 9+99.63 to 10+65.00 Rt



USE TYPICAL SECTION NO. 10

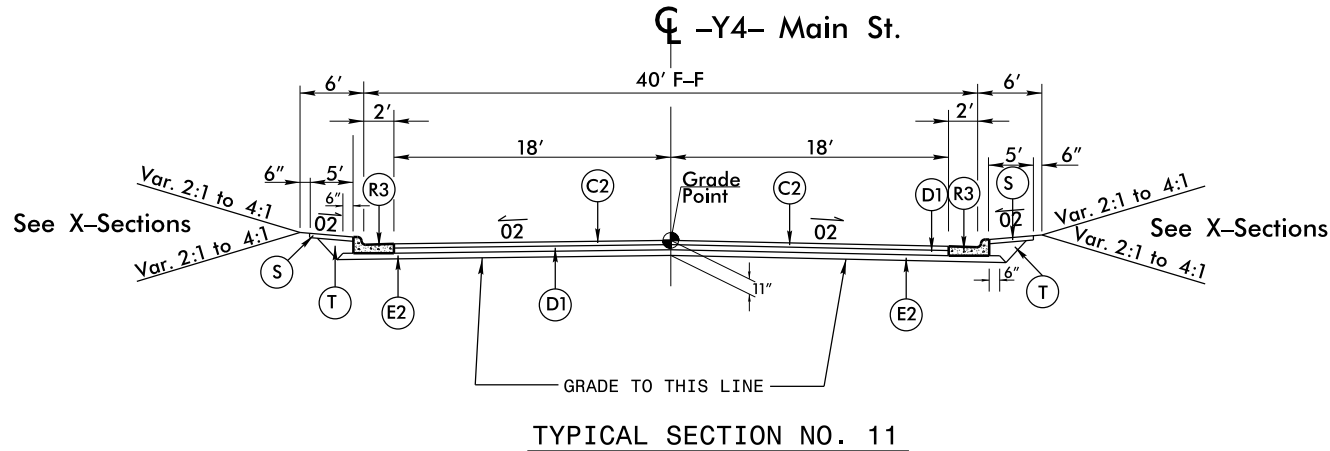
* -Y3- Gann St. Sta. 9+99.63 to 10+65.00 (see insert)
-Y3A- Chatham St. Sta. 10+00.00 to 11+50.00

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT



USE TYPICAL SECTION NO. 10A

-Y3A- Chatham St. Sta. 11+50.00 to 12+31.63



USE TYPICAL SECTION NO. 11

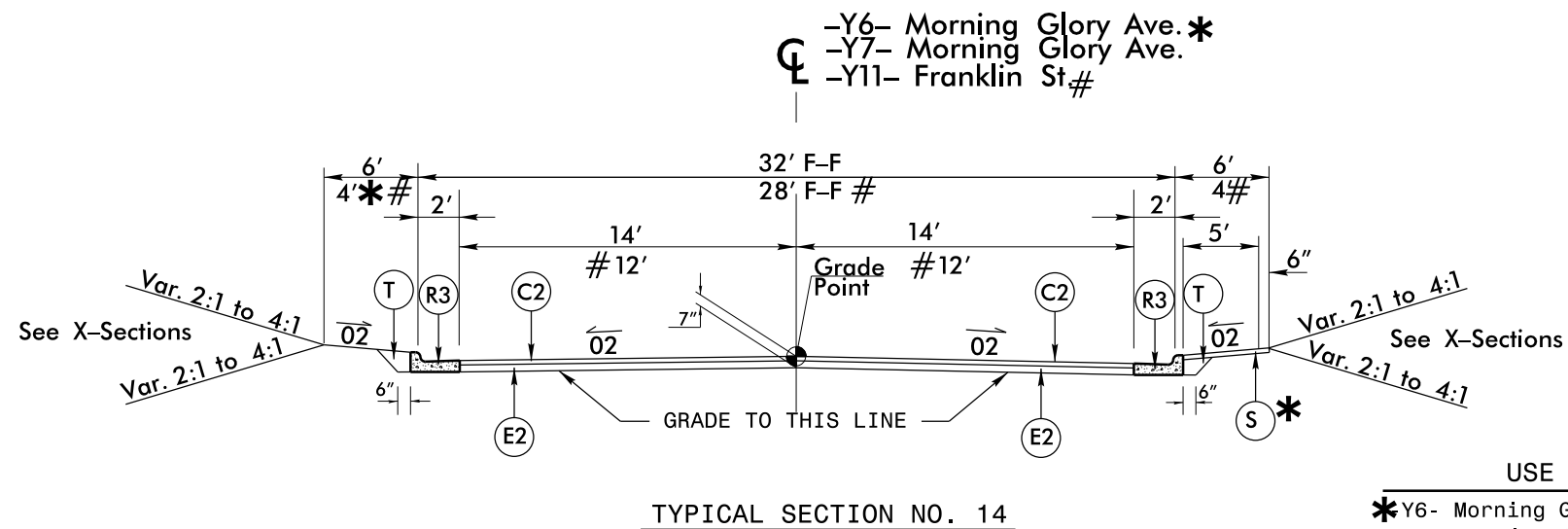
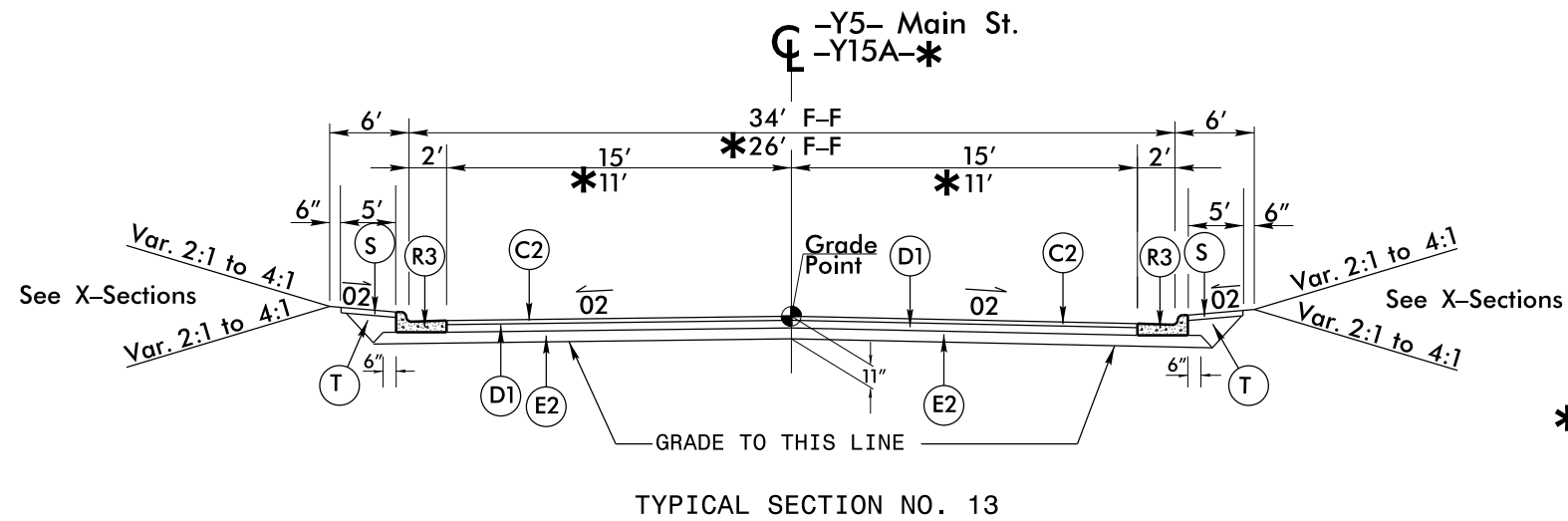
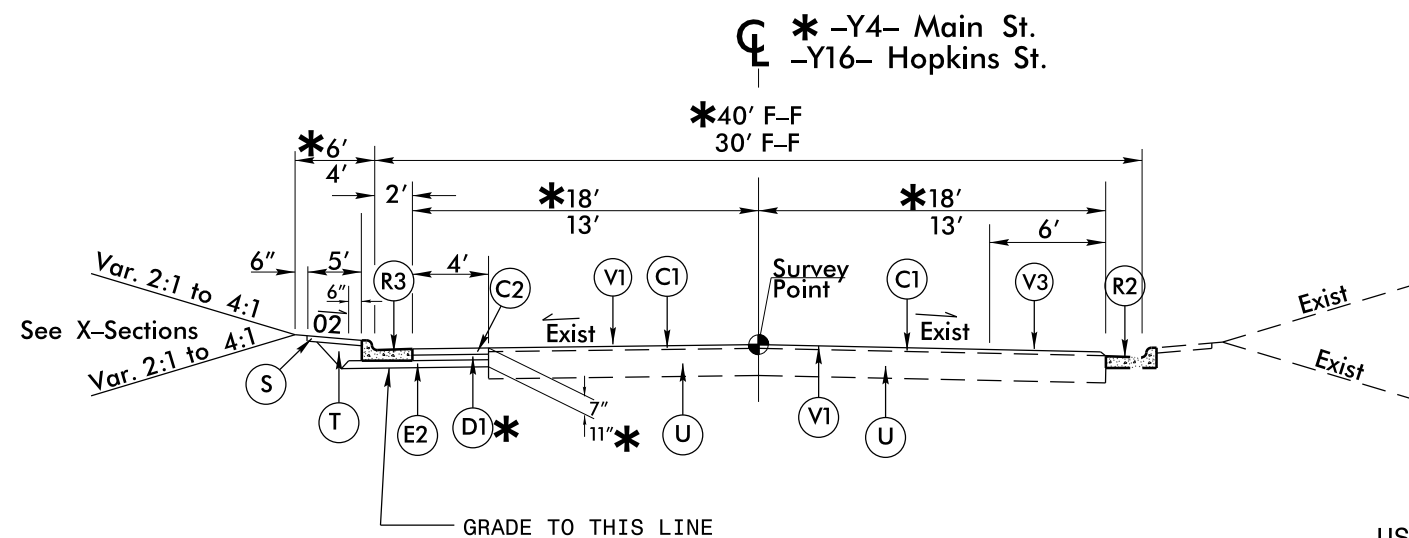
-Y4- Main St. Sta. 10+60.49 to 11+00.00

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

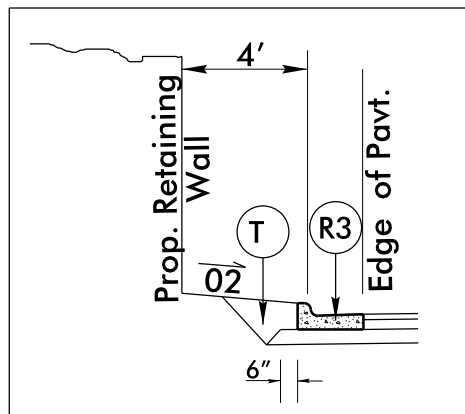
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-G
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

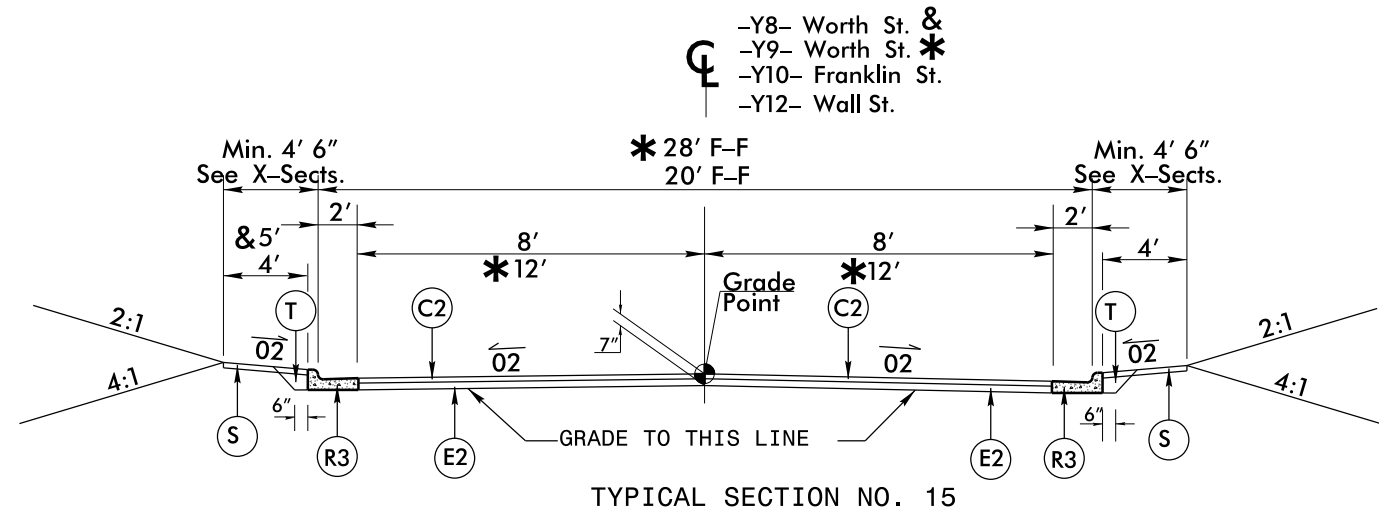
(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE WITH TYPICAL SECTION NO. 17

-Y14- Taylor St. Sta. 10+50.00 to 11+08.00 Lt.



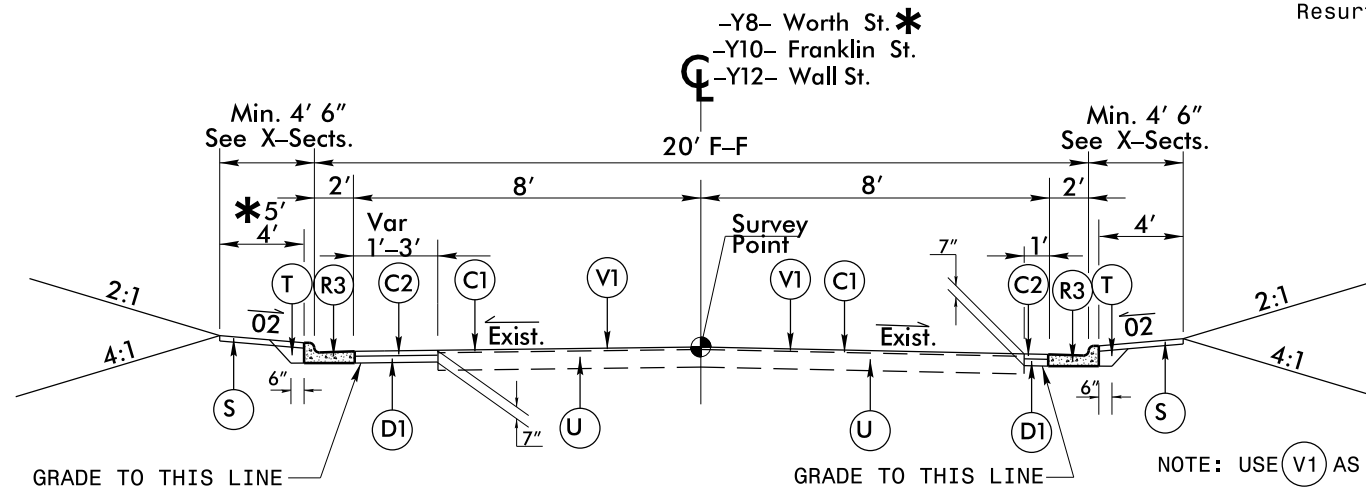
TYPICAL SECTION NO. 15

USE TYPICAL SECTION NO. 15

& -Y8- Worth St. Sta. 10+14.08 to 12+55.00
* -Y9- Worth St. Sta. 10+92.59 to 11+25.00
-Y10- Franklin St. Sta. 10+29.46 to 10+90.00
-Y12- Wall St. Sta. 10+51.06 to 10+80.00

NO PROPOSED SIDEWALK ON -Y9-

Resurface -Y9- from Sta. 11+25 to 11+35 with (C1)

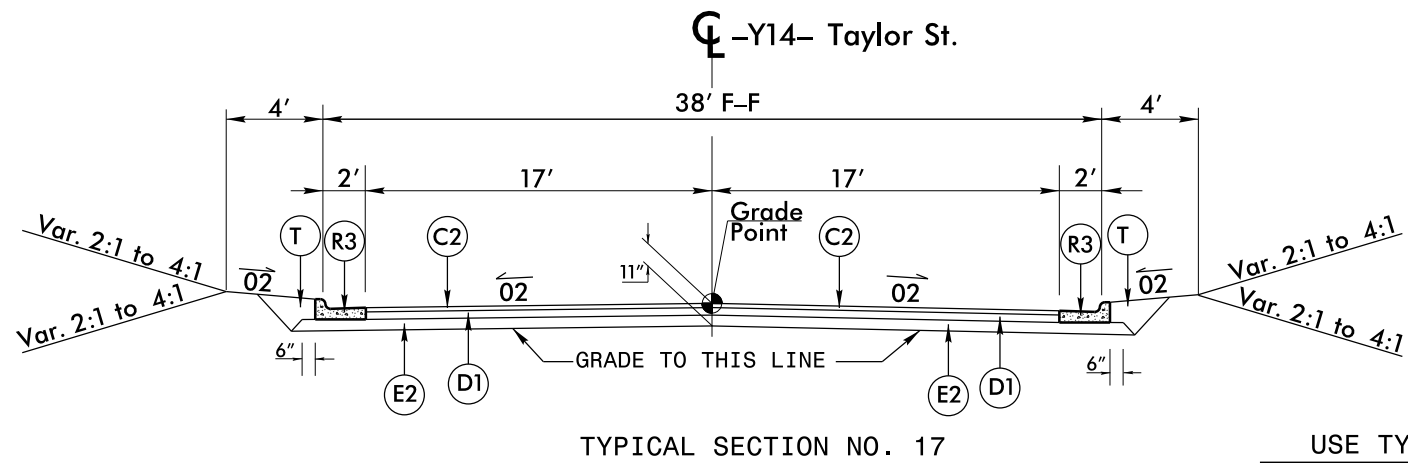


TYPICAL SECTION NO. 16

USE TYPICAL SECTION NO. 16

* -Y8- Worth St. Sta. 12+55.00 to 13+89.00
-Y10- Franklin St. Sta. 10+90.00 to 14+05.00
-Y12- Wall St. Sta. 10+80.00 to 14+20.00

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT



TYPICAL SECTION NO. 17

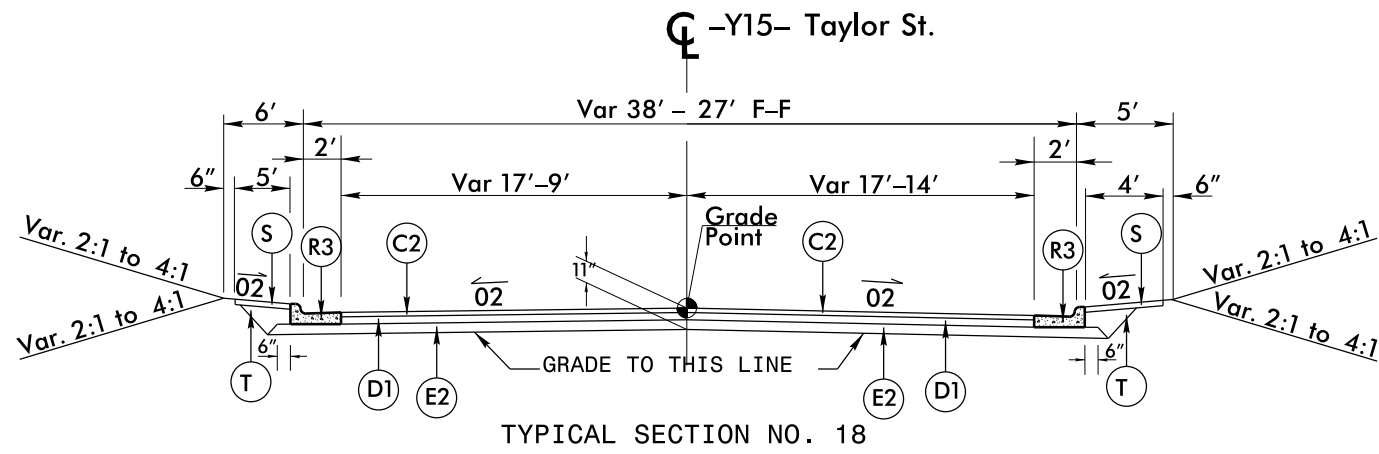
USE TYPICAL SECTION NO. 17

-Y14- Taylor St. Sta. 10+82.21 to 11+40.00

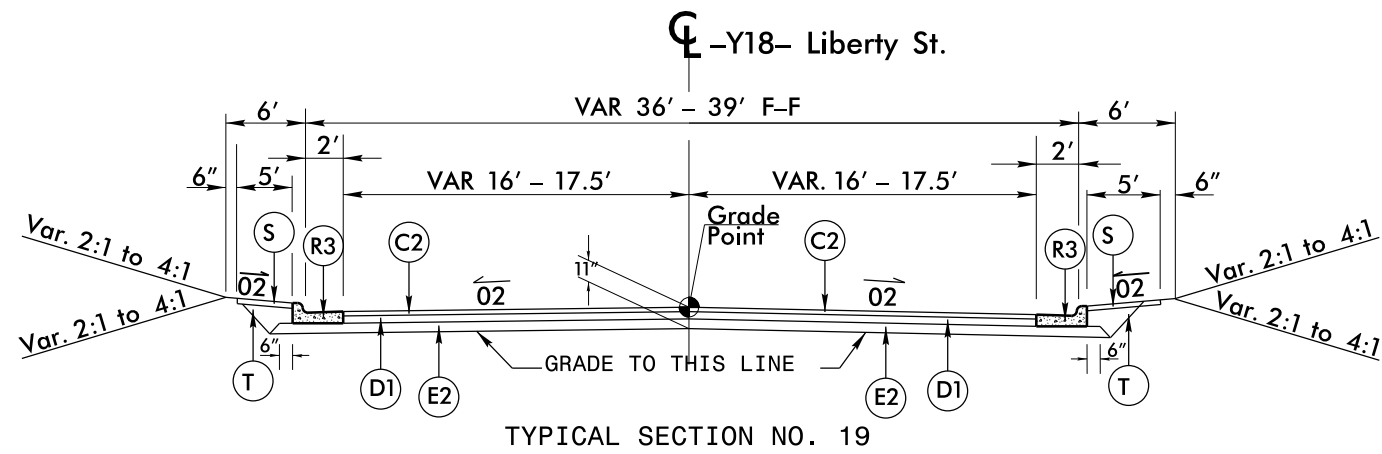
PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

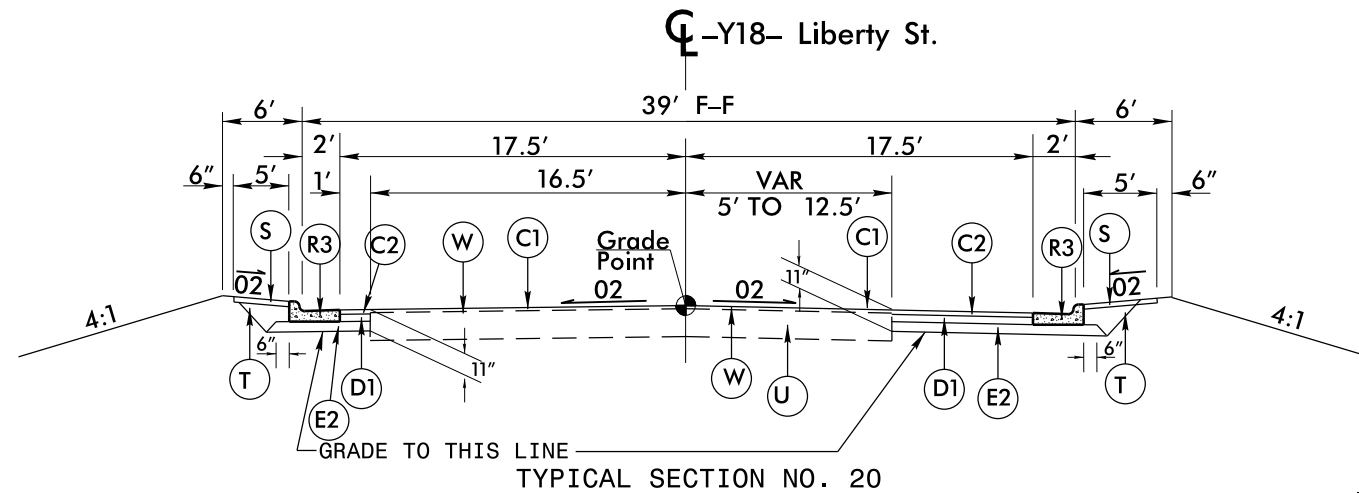
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



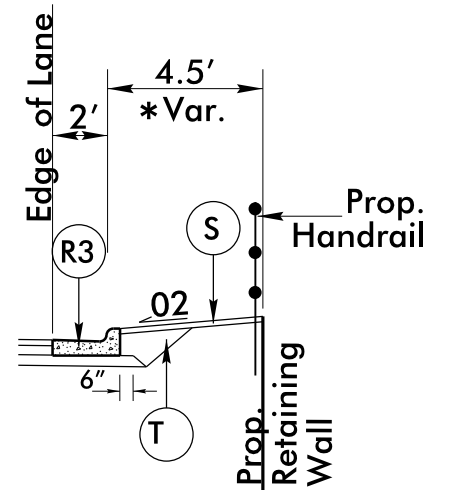
USE TYPICAL SECTION NO. 18
-Y15- Taylor St. Sta. 10+65.03 to 16+20.00



USE TYPICAL SECTION NO. 19
-Y18- Liberty St. Sta. 10+20.00 to 13+22.97
-Y18- Liberty St. Sta. 14+45.35 to 15+15.00



USE TYPICAL SECTION NO. 20
-Y18- Liberty St. Sta. 15+15.00 to 16+30.00
TRANSITION TO TYPICAL NO. 21:
-Y18- Liberty St. Sta. 16+30.00 to 17+05.00

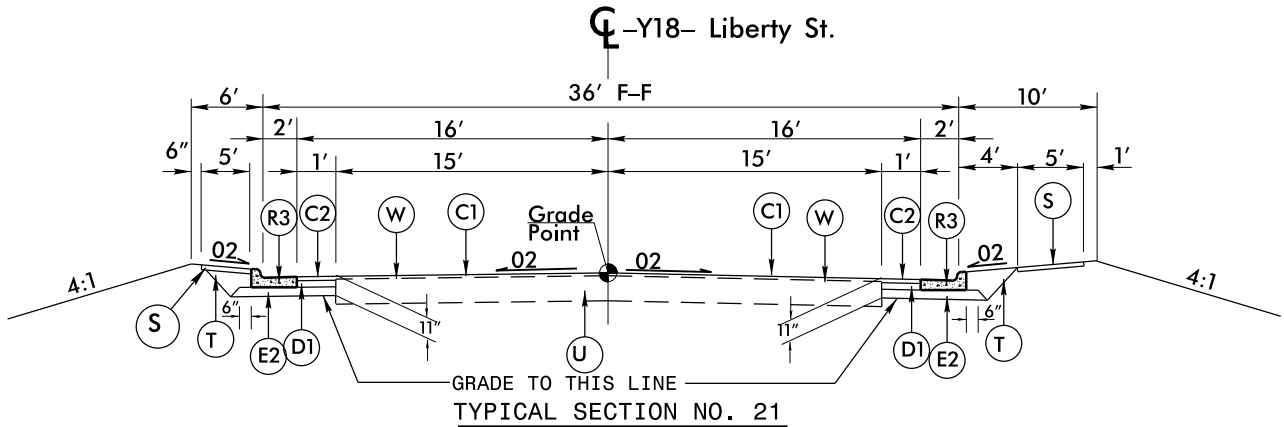


Use With Typical Section # 18
*Sta. 48+71.00 Rt. -LALT-
to Sta. 10+79.00 -Y15-
Sta. 10+79.00 to 11+25.00 Rt. -Y15-

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

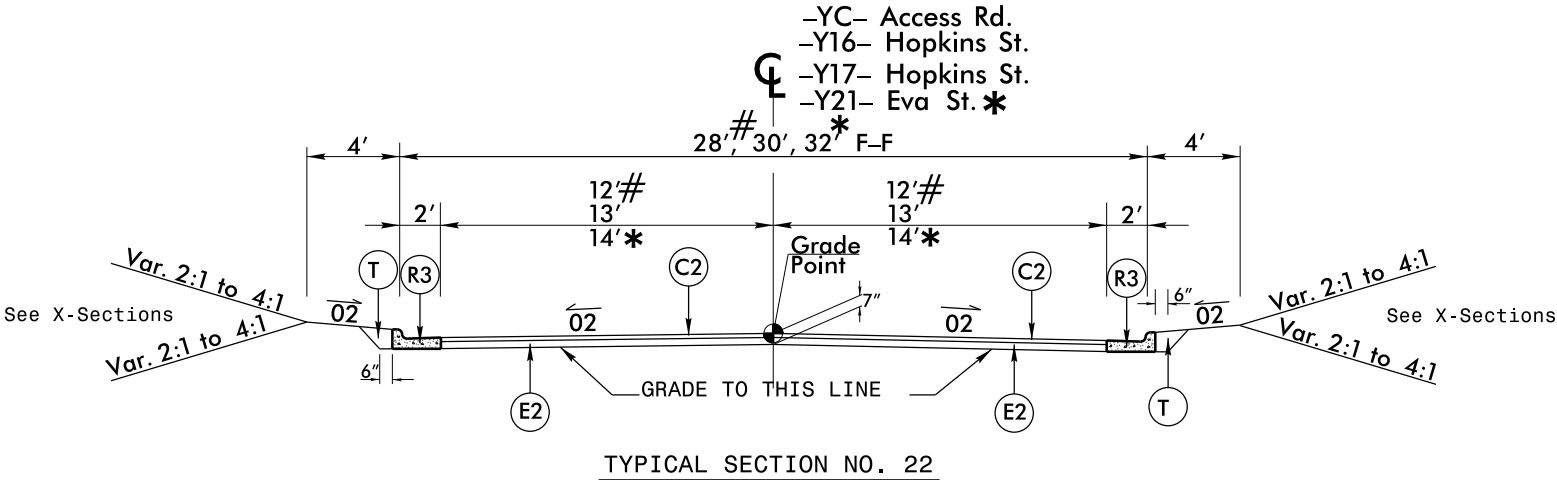
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE TYPICAL SECTION NO. 21

-Y18- Liberty St. Sta. 17+05.00 to 17+83.00

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT



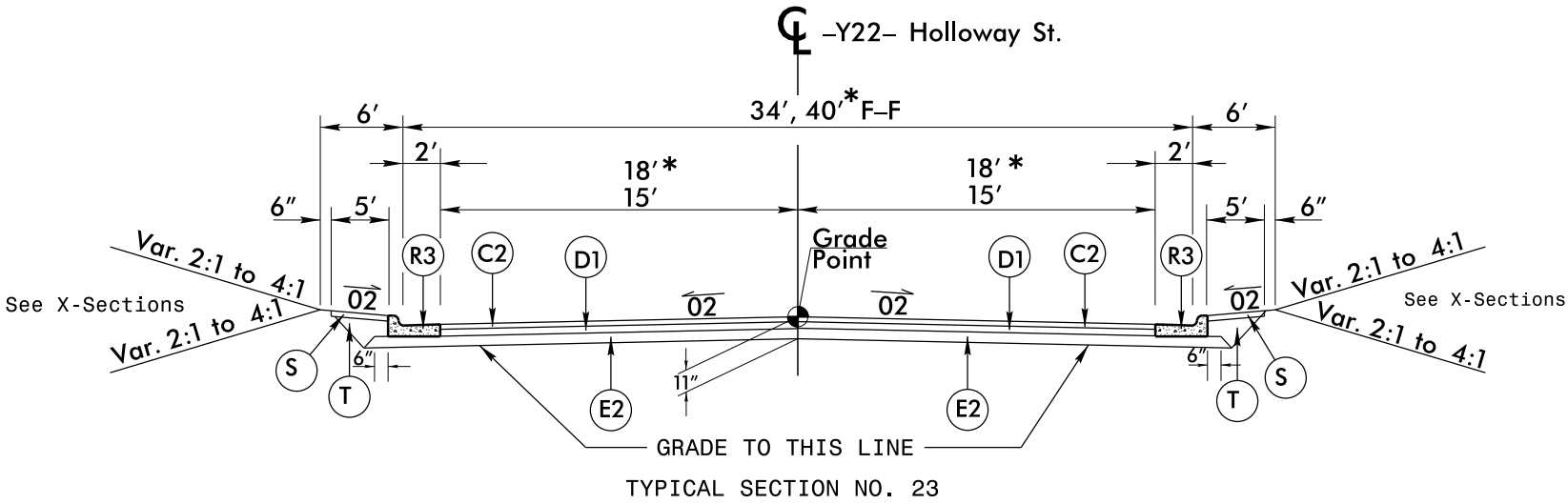
USE TYPICAL SECTION NO. 22

-Y16- Hopkins St. Sta. 10+51.06 to 11+40.00

-Y17- Hopkins St. Sta. 10+45.70 to 11+45.00

* -Y21- Eva St. Sta. 10+54.93 to 11+25.00

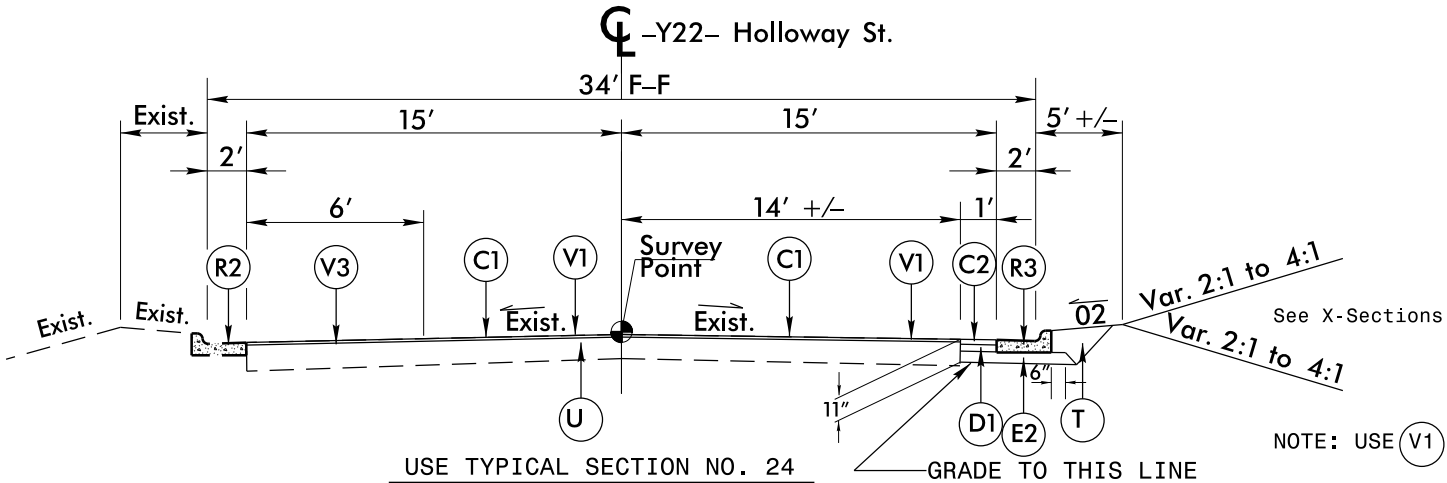
-YC- Access Rd. Sta. 10+00.00 to 10+66.37



USE TYPICAL SECTION NO. 23

-Y22- Holloway St. Sta. 13+00.00 to 13+50.36

* -Y22- Holloway St. Sta. 15+10.34 to 16+00.00



USE TYPICAL SECTION NO. 24

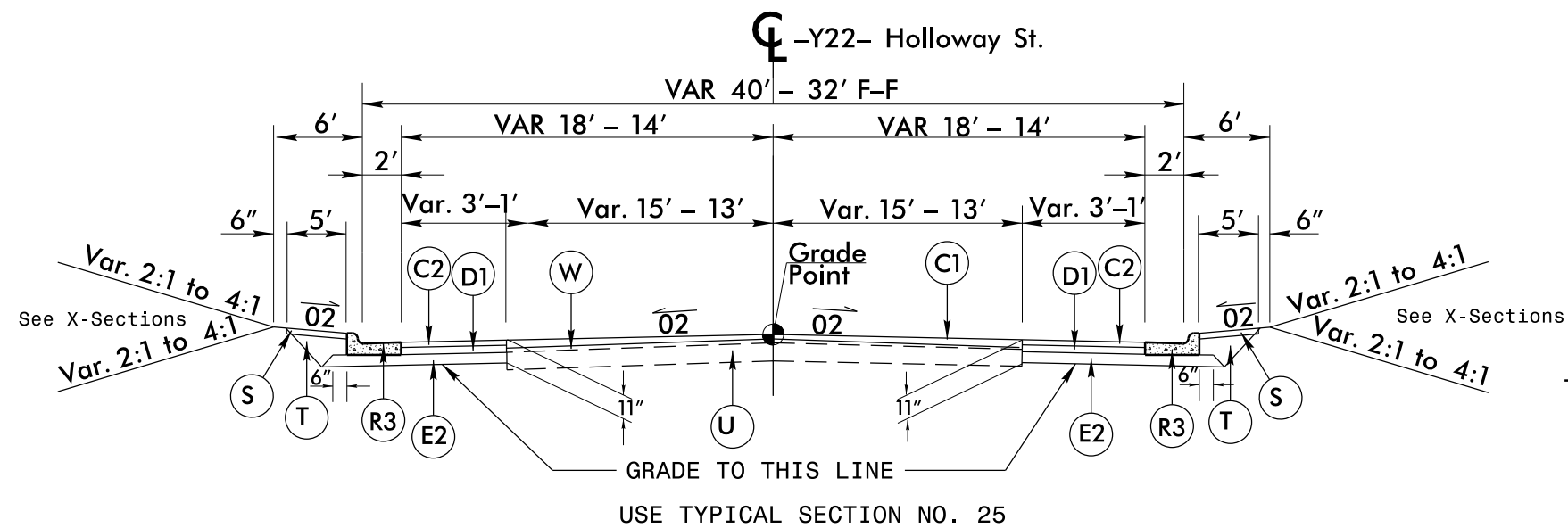
-Y22- Holloway St. Sta. 12+76.50 to 13+00.00

Resurface with (C1) from 12+55.00 to 12+76.50

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT

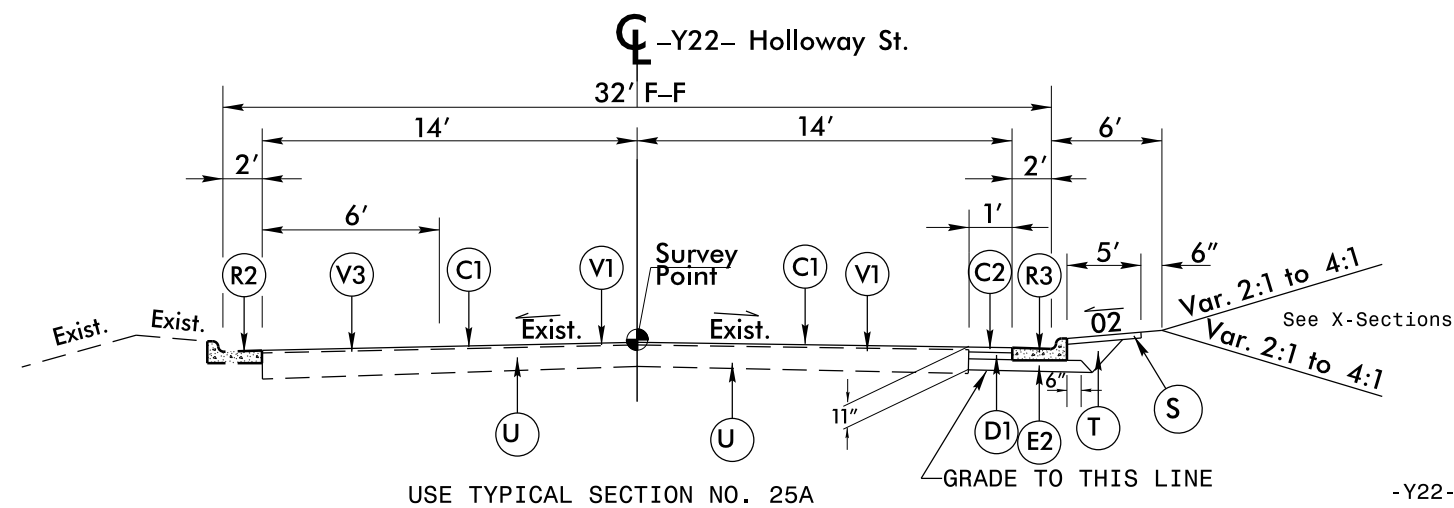
(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE TYPICAL SECTION NO. 25

-Y22- Holloway St. Sta. 16+00.00 to 16+90.00

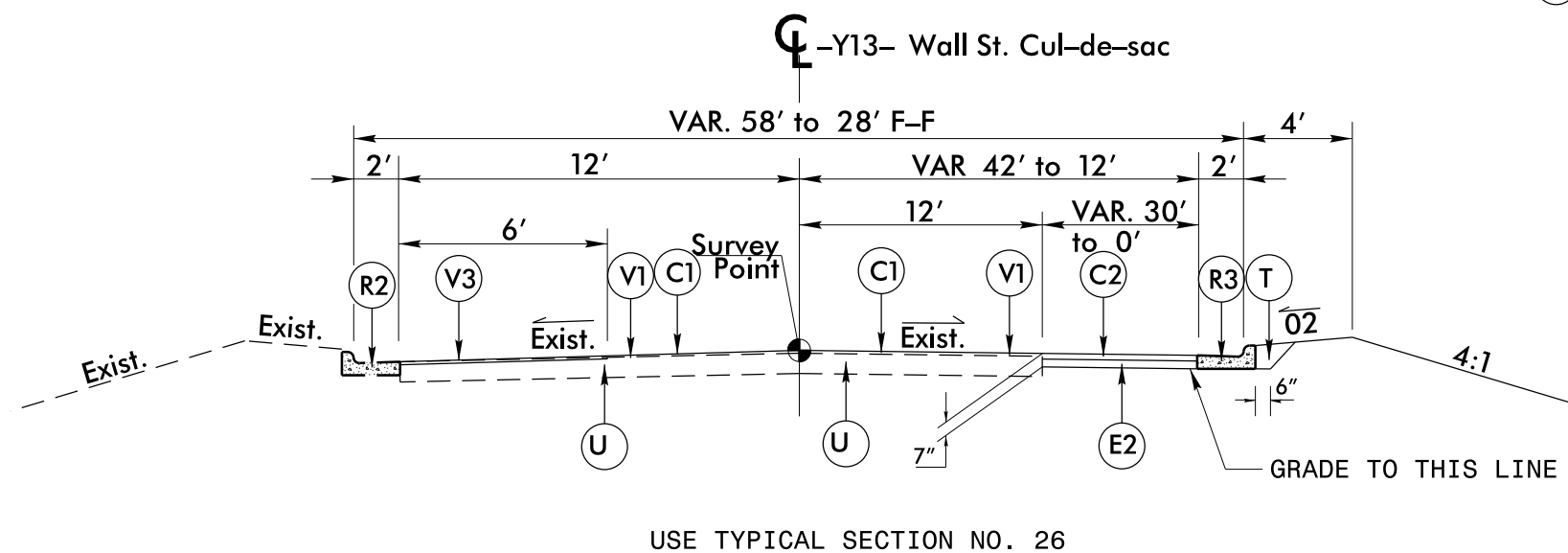


USE TYPICAL SECTION NO. 25A

-Y22- Holloway St. Sta. 16+90.00 to 17+90.00 Rt.

-Y22- Holloway St. Sta. 17+90.00 to 18+40.00 Lt. (Opposite Hand)

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT



USE TYPICAL SECTION NO. 26

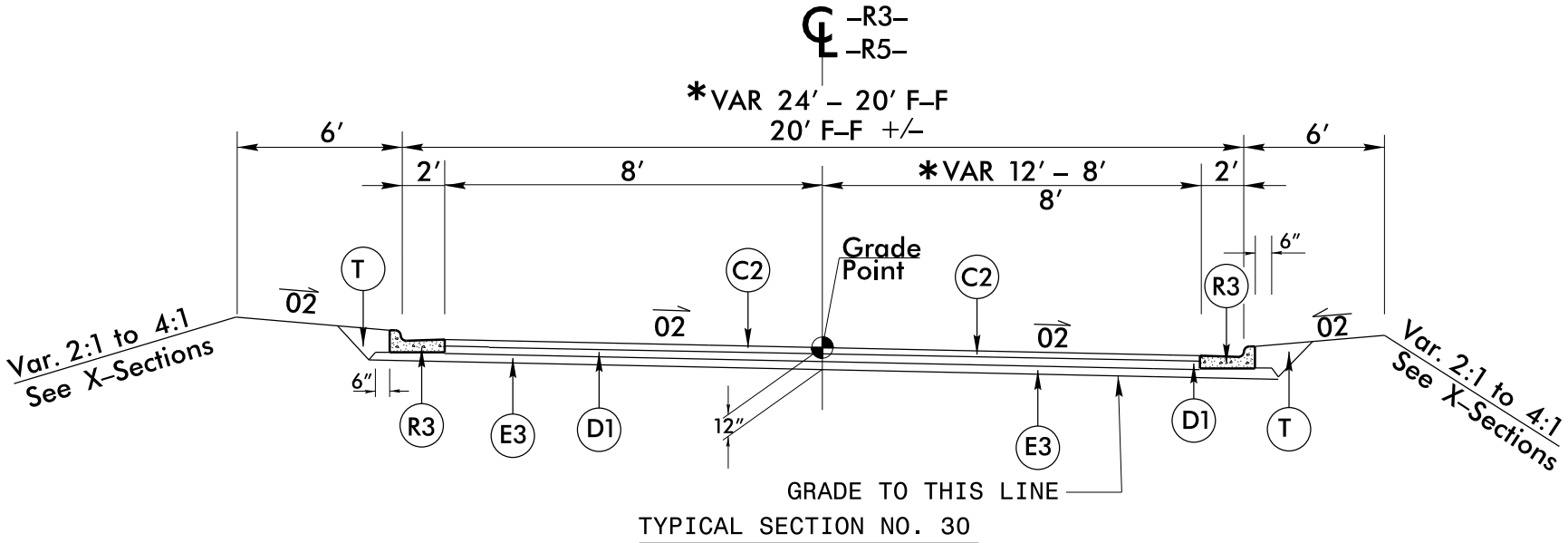
-Y13- Wall St. Cul-de-sac Sta. 10+60.00 to 11+22.00

NOTE: USE (V1) AS DIRECTED BY ENGINEER TO TIE TO EXIST. PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

C1	1.5" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VARIABLE DEPTH S9.5B
D1	4" TYPE I19.0B
D2	VARIABLE DEPTH TYPE I19.0B
E1	3" TYPE B25.0B
E2	4" TYPE B25.0B
E3	5" TYPE B25.0B
E4	5.5" TYPE B25.0B
E5	7" TYPE B25.0B
E6	VAR. DEPTH TYPE B25.0B
J1	8" AGGREGATE BASE COURSE
L	CLASS IV SUBGRADE STABILIZATION
N	GEOTEXTILE FOR SOIL STABILIZATION
R1	PROP. 1'6" CONC. CURB AND GUTTER
R2	EXIST. 2'6" CONC. CURB AND GUTTER
R3	PROP. 2'6" CONC. CURB AND GUTTER
R4	PROP. CONCRETE ISLAND
S	PROPOSED CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	PROP. 1.5" ASPHALT MILLING
V2	PROP. 3" ASPHALT MILLING
V3	PROP. ASPHALT MILLING VARIABLE
W	ASPHALT WEDGING (SEE DETAIL)

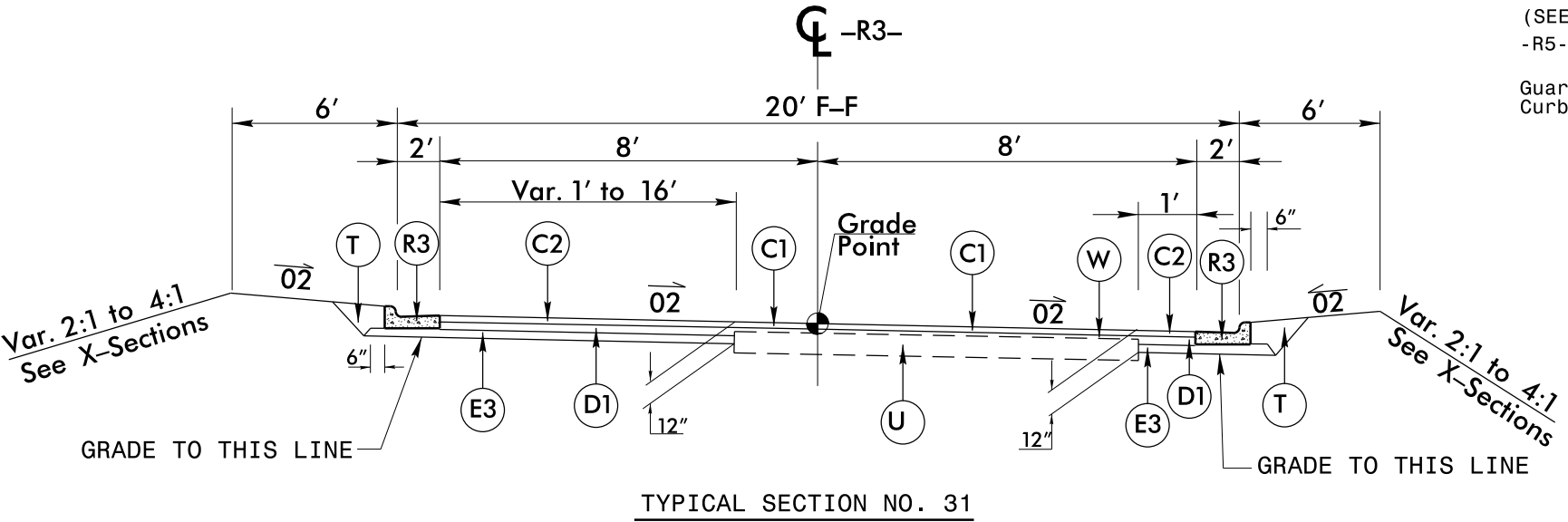
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



USE TYPICAL SECTION NO. 30

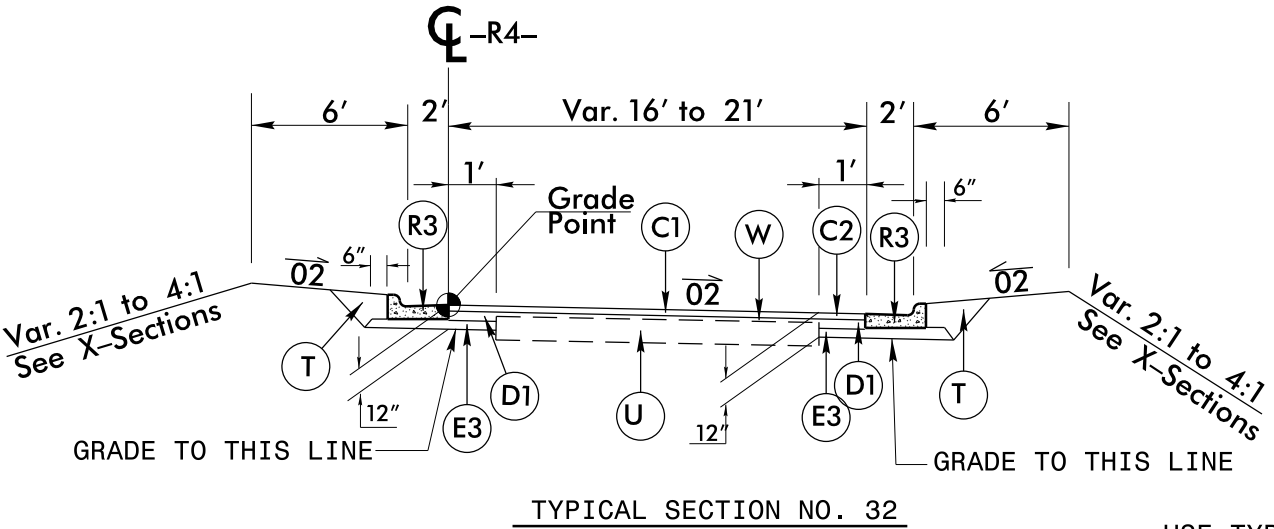
*-R3- Sta. 10+85.34 to 11+50.00
(SEE PLANS FOR TAPER)
-R5- Sta. 10+91.69 to 11+50.00

Guardrail Placed @ Face of
Curb and Gutter Along -R3- Lt. & Rt.



USE TYPICAL SECTION NO. 31

-R3- Sta. 11+50.00 to 13+60.00

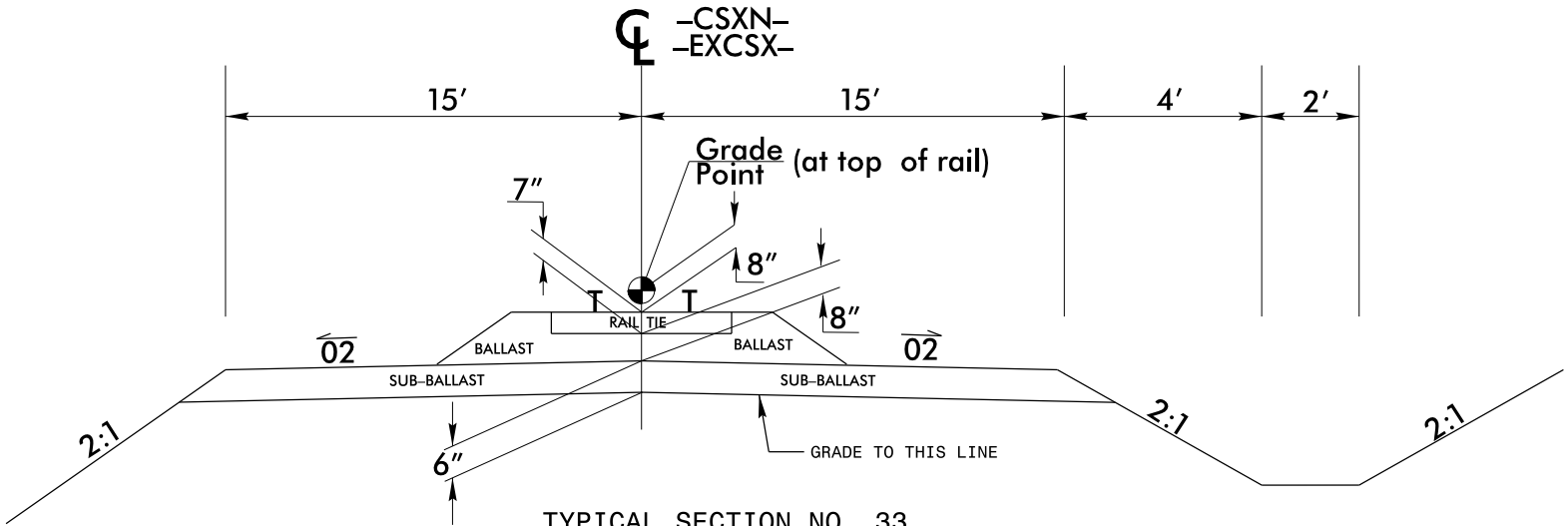


USE TYPICAL SECTION NO. 32

-R4- Sta. 11+38.00 to 12+30.00

(C1)	1.5" TYPE S9.5B
(C2)	3" TYPE S9.5B
(C3)	VARIABLE DEPTH S9.5B
(D1)	4" TYPE I19.0B
(D2)	VARIABLE DEPTH TYPE I19.0B
(E1)	3" TYPE B25.0B
(E2)	4" TYPE B25.0B
(E3)	5" TYPE B25.0B
(E4)	5.5" TYPE B25.0B
(E5)	7" TYPE B25.0B
(E6)	VAR. DEPTH TYPE B25.0B
(J1)	8" AGGREGATE BASE COURSE
(L)	CLASS IV SUBGRADE STABILIZATION
(N)	GEOTEXTILE FOR SOIL STABILIZATION
(R1)	PROP. 1'6" CONC. CURB AND GUTTER
(R2)	EXIST. 2'6" CONC. CURB AND GUTTER
(R3)	PROP. 2'6" CONC. CURB AND GUTTER
(R4)	PROP. CONCRETE ISLAND
(S)	PROPOSED CONCRETE SIDEWALK
(T)	EARTH MATERIAL
(U)	EXISTING PAVEMENT
(V1)	PROP. 1.5" ASPHALT MILLING
(V2)	PROP. 3" ASPHALT MILLING
(V3)	PROP. ASPHALT MILLING VARIABLE
(W)	ASPHALT WEDGING (SEE DETAIL)

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.

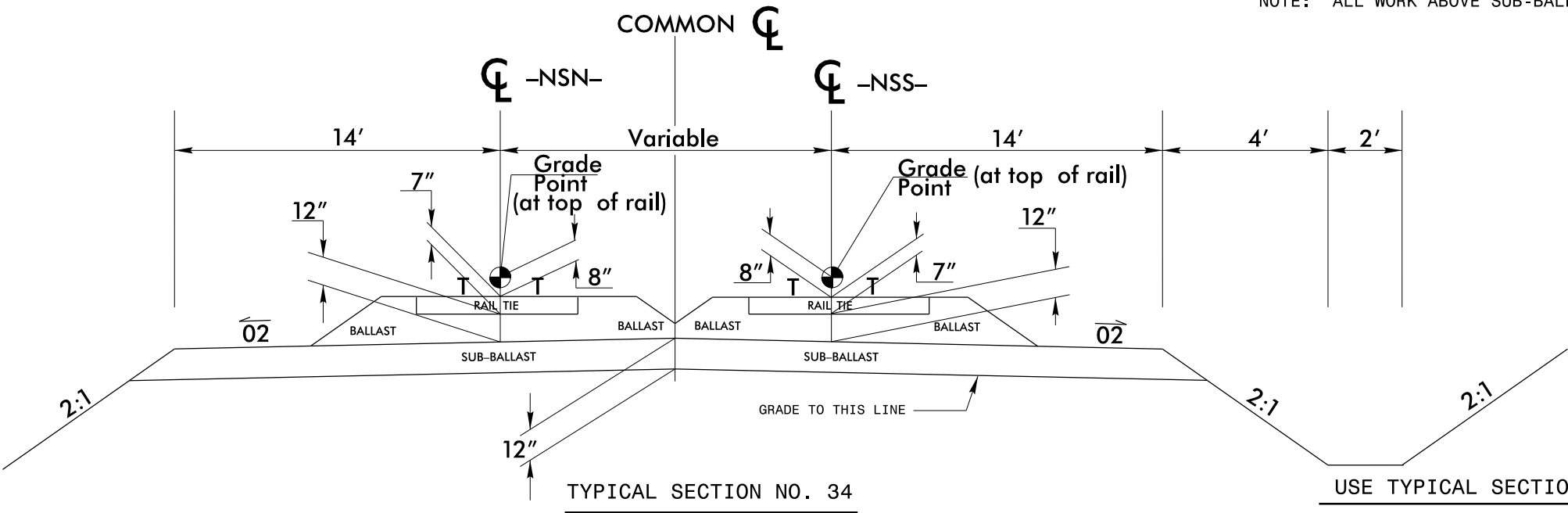


TYPICAL SECTION NO. 33

USE TYPICAL SECTION NO. 33

-CSXN- Sta. 13+00.00 to BRIDGE
-CSXN- Sta. BRIDGE to 24+00.00
-EXCSX- Sta. 10+00.00 to 12+52.28

NOTE: ALL WORK ABOVE SUB-BALLAST TO BE PLACED BY OTHERS.

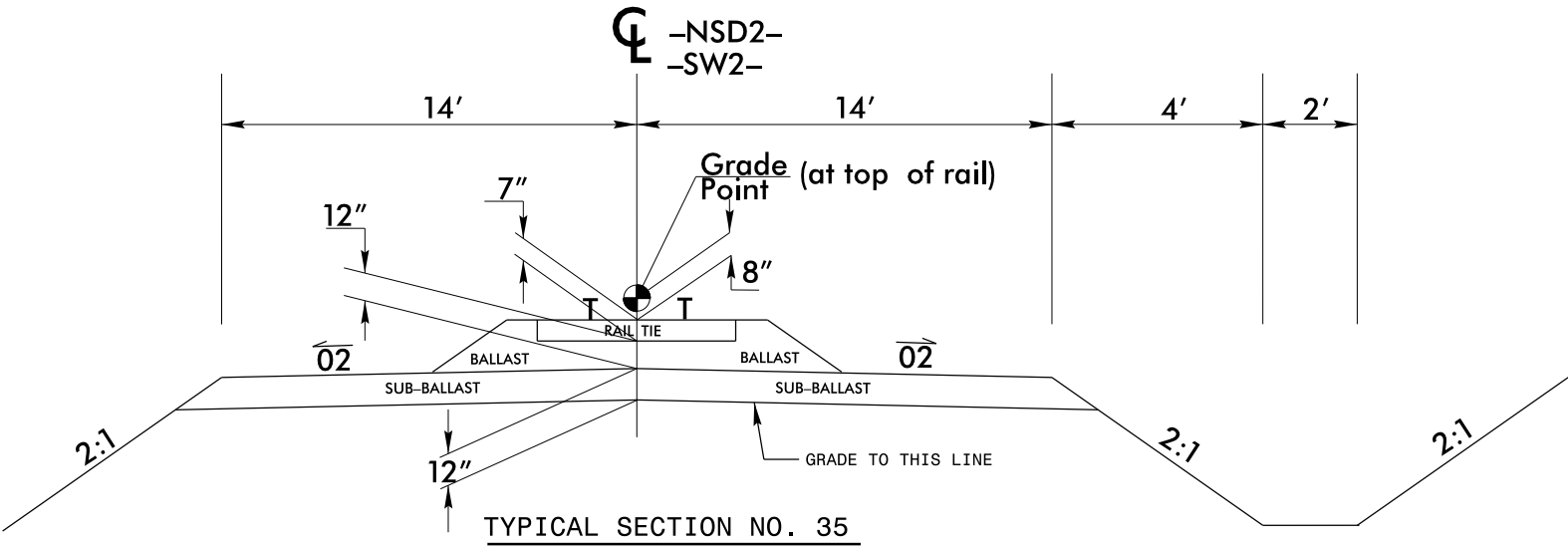


TYPICAL SECTION NO. 34

USE TYPICAL SECTION NO. 34

-NSN- Sta. 12+00.00 to BRIDGE
-NSN- Sta. BRIDGE to 30+40.00
-NSS- Sta. 11+90.00 to BRIDGE
-NSS- Sta. BRIDGE to 30+40.00

NOTE: ALL WORK ABOVE SUB-BALLAST TO BE PLACED BY OTHERS.



TYPICAL SECTION NO. 35

USE TYPICAL SECTION NO. 35

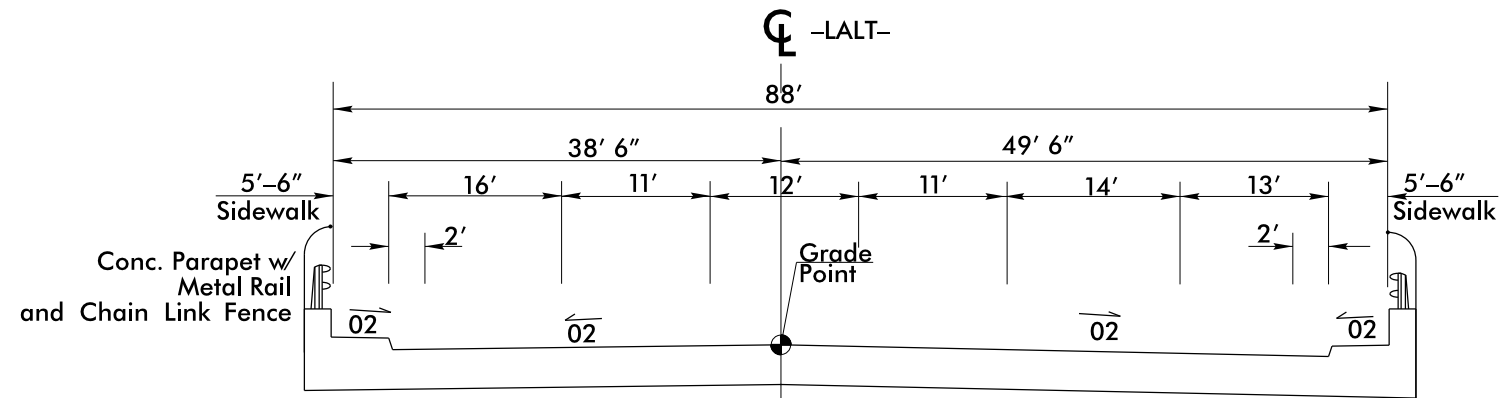
-NSD2- Sta. 10+00.00 to BEGIN BRIDGE
-NSD2- Sta. END BRIDGE to 28+41.37
-SW2- Sta. 10+00.00 to 14+33.78

NOTE: ALL WORK ABOVE SUB-BALLAST TO BE PLACED BY OTHERS.

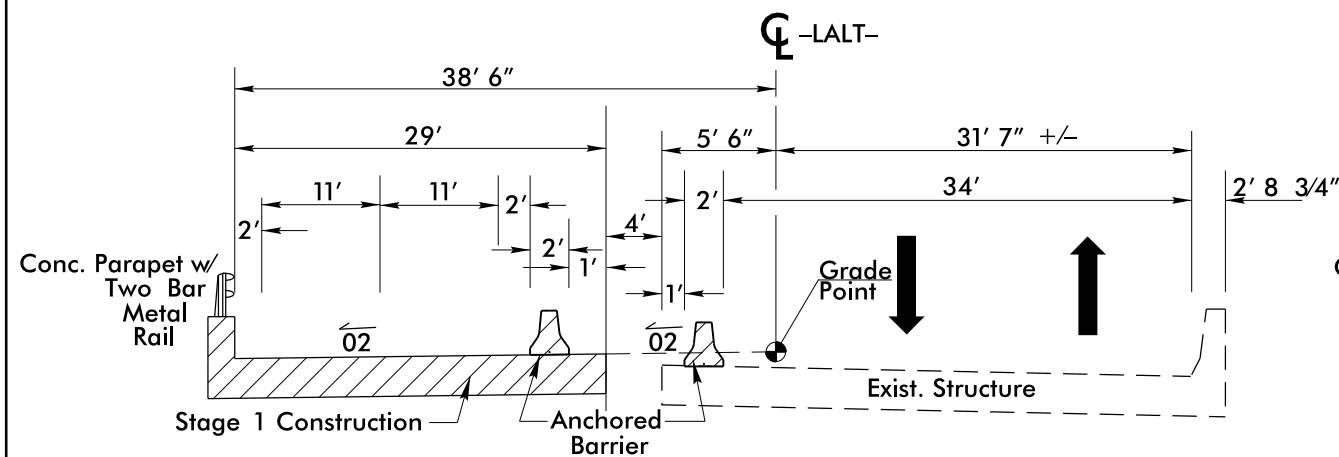
PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-M
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-0
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

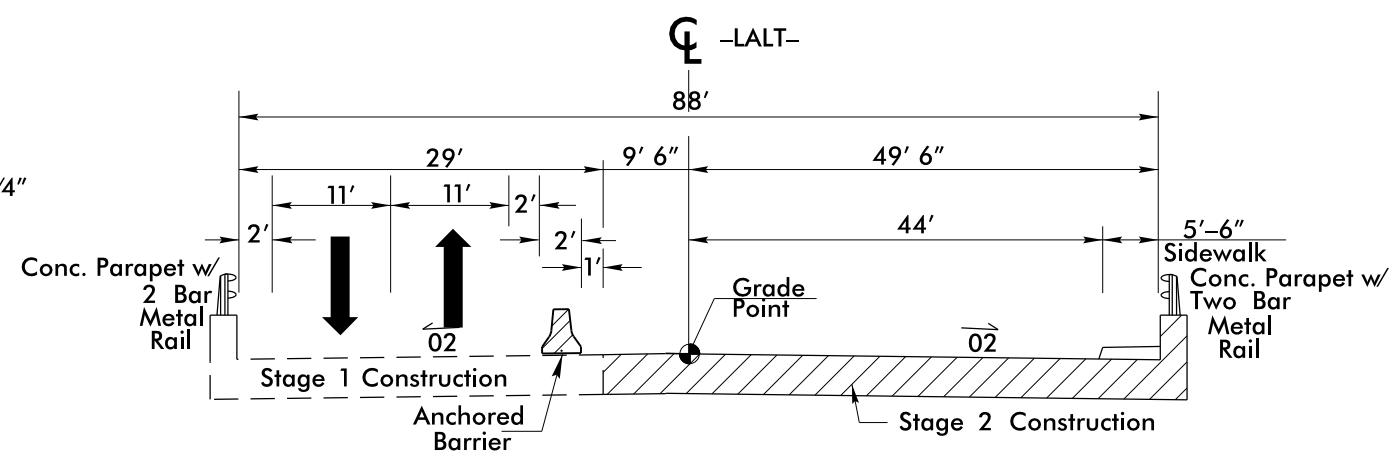
Design Data -LALT-
 2014 ADT 21,100 vpd
 2035 ADT 28,400 vpd
 D = 55%
 DHV = 9%
 TTST = 1%
 DUAL = 6%
 V = 35 MPH
 FUNC. CLASS. ARTERIAL



TYPICAL OF STRUCTURE ON -LALT- NC 55 OVER -YA- NC 147

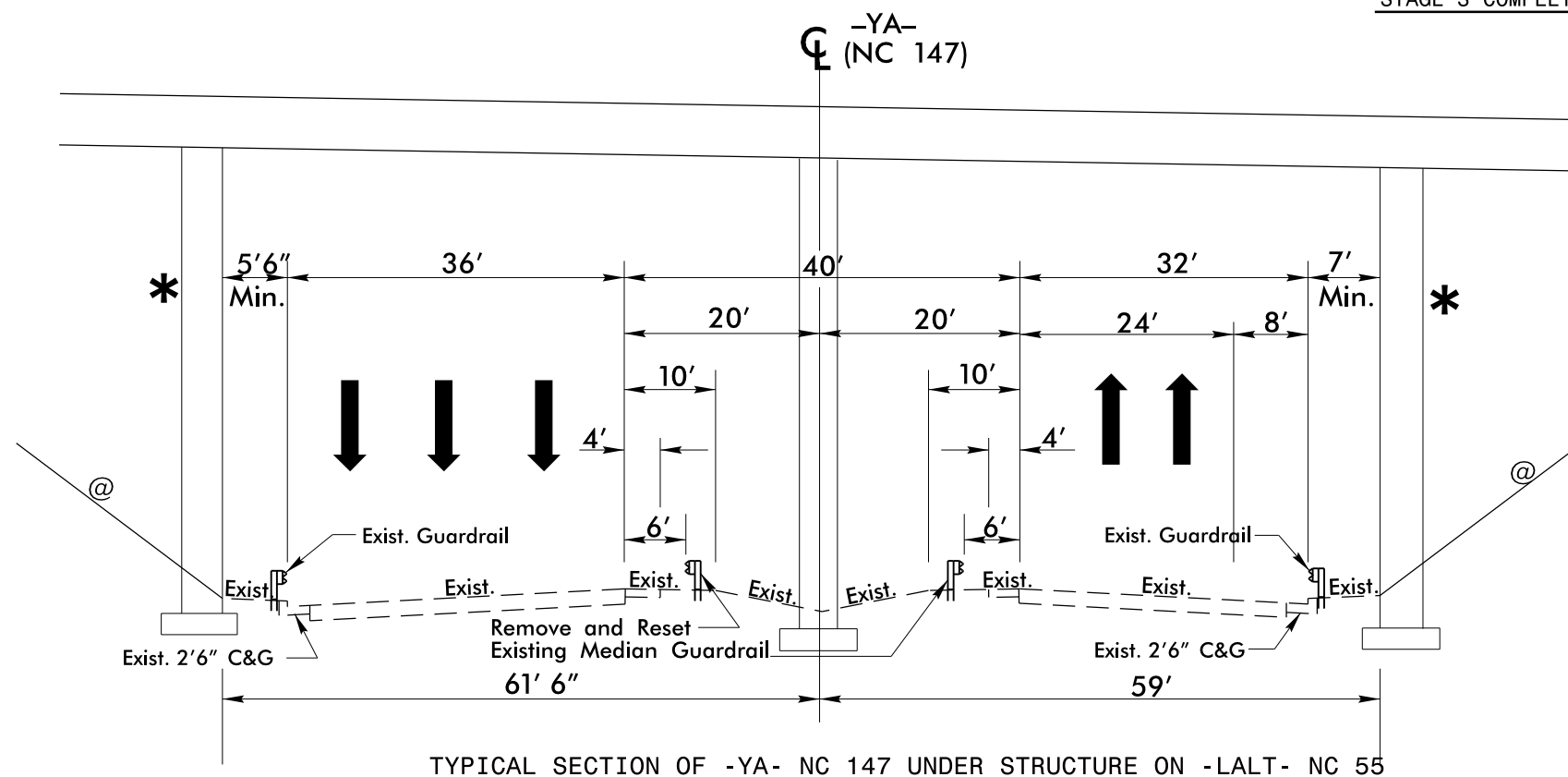


STAGE 1 CONSTRUCTION OF NC 55 STRUCTURE



STAGE 2 CONSTRUCTION OF NC 55 STRUCTURE

STAGE 3 COMPLETE SIDEWALK ON EAST SIDE OF NC 55 STRUCTURE



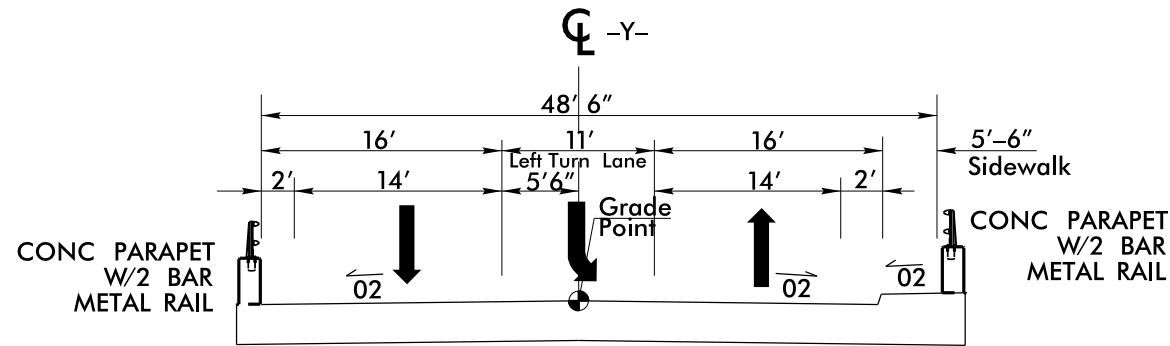
TYPICAL SECTION OF -YA- NC 147 UNDER STRUCTURE ON -LALT- NC 55

* NEED FOR COLUMN TO BE DETERMINED BY STRUCTURE DESIGN

@ SLOPES DETERMINED BY GEOTECHNICAL ENGINEERING UNIT

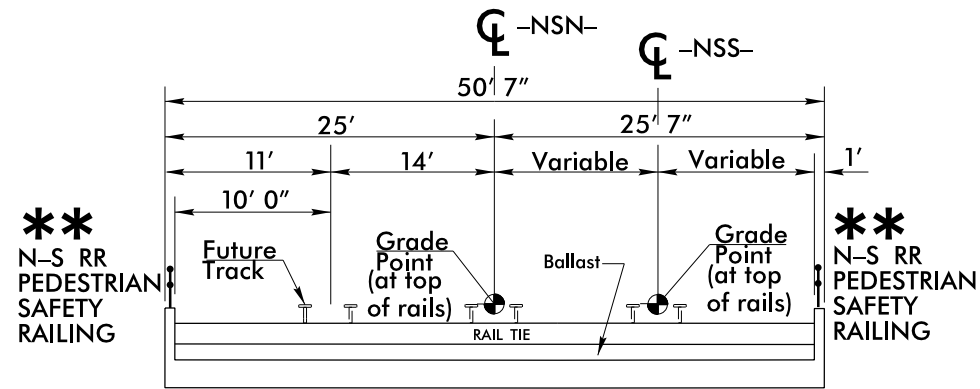
MINIMUM CLEARANCE 16'-6"

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-P
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



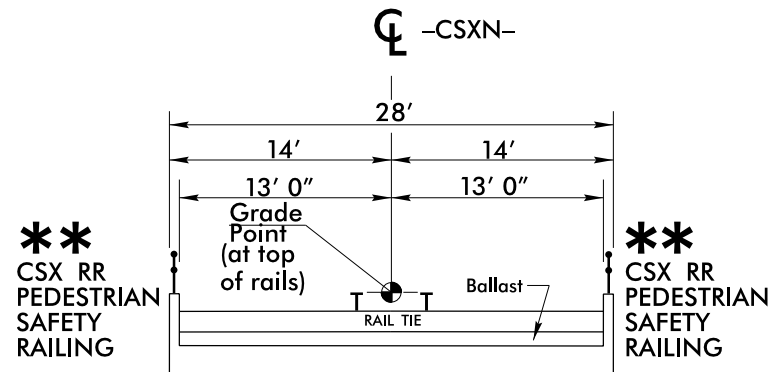
TYPICAL OF STRUCTURE ON -Y- (PETTIGREW ST.) OVER -LALT- (NC 55)

Design Data -Y-
 2015 ADT 6045 vpd
 2035 ADT 7200 vpd
 D = 55%
 DHV = 10%
 TTST = 1%
 DUAL = 4%
 V = 40 MPH
 FUNC. CLASS. LOCAL



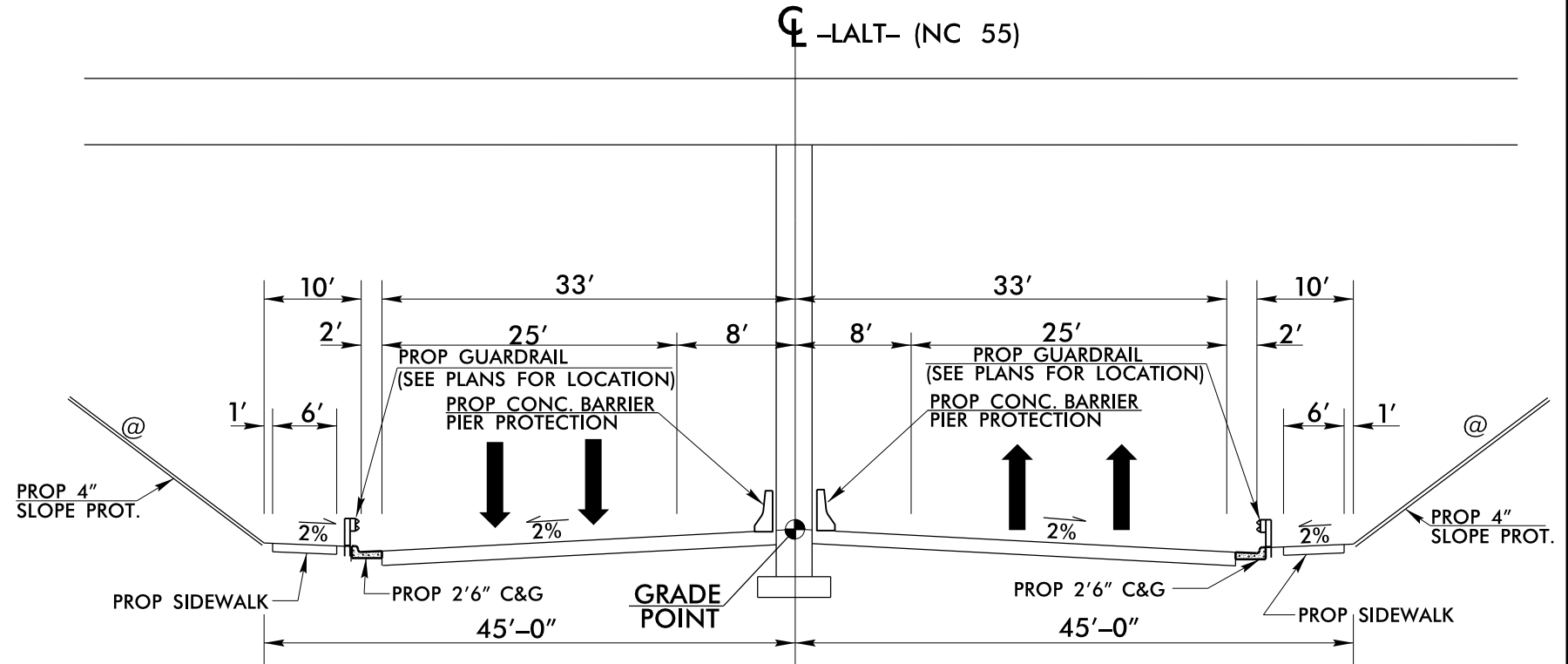
TYPICAL OF NORFOLK SOUTHERN RAILROAD STRUCTURE OVER -LALT- (NC 55)

BRIDGE WILL COMPLY WITH CURRENT NS STRUCTURE POLICIES.



TYPICAL OF CSX RAILROAD STRUCTURE OVER -LALT- (NC 55)

BRIDGE WILL COMPLY WITH CURRENT CSX STRUCTURE POLICIES.



TYPICAL SECTION OF -LALT- (NC 55) UNDER STRUCTURES ON -Y- (PETTIGREW ST.) & RAILROADS

@ SLOPES DETERMINED BY GEOTECHNICAL ENGINEERING UNIT

MINIMUM VERTICAL CLEARANCE 15'-6" - SEE STRUC. PLANS FOR LOCATION

** STRUCTURE DESIGN TO COORDINATE WITH RAILROAD COMPANIES FOR TYPE OF PEDESTRIAN SAFETY RAILING

5/14/98

DETAIL OF -LALT- AND -R3-/R4- INTERSECTION & -LALT- AND -Y3-/R5- INTERSECTION

See Sheets 2-V Thru 2-Y for Curb Ramp Details
See Plan Sheet 4

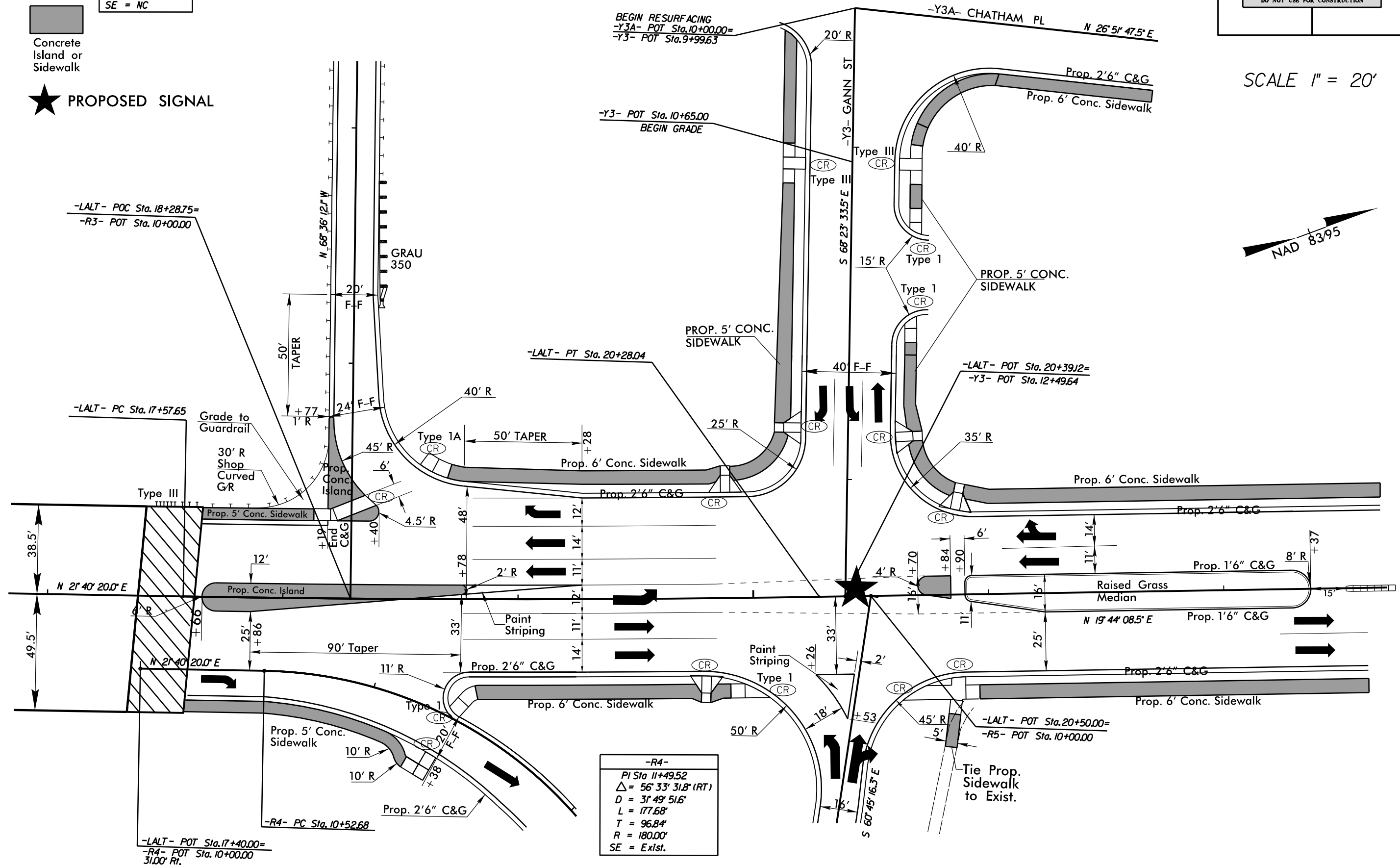
PROJECT REFERENCE NO.	SHEET NO.
U-3308	2-Q
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



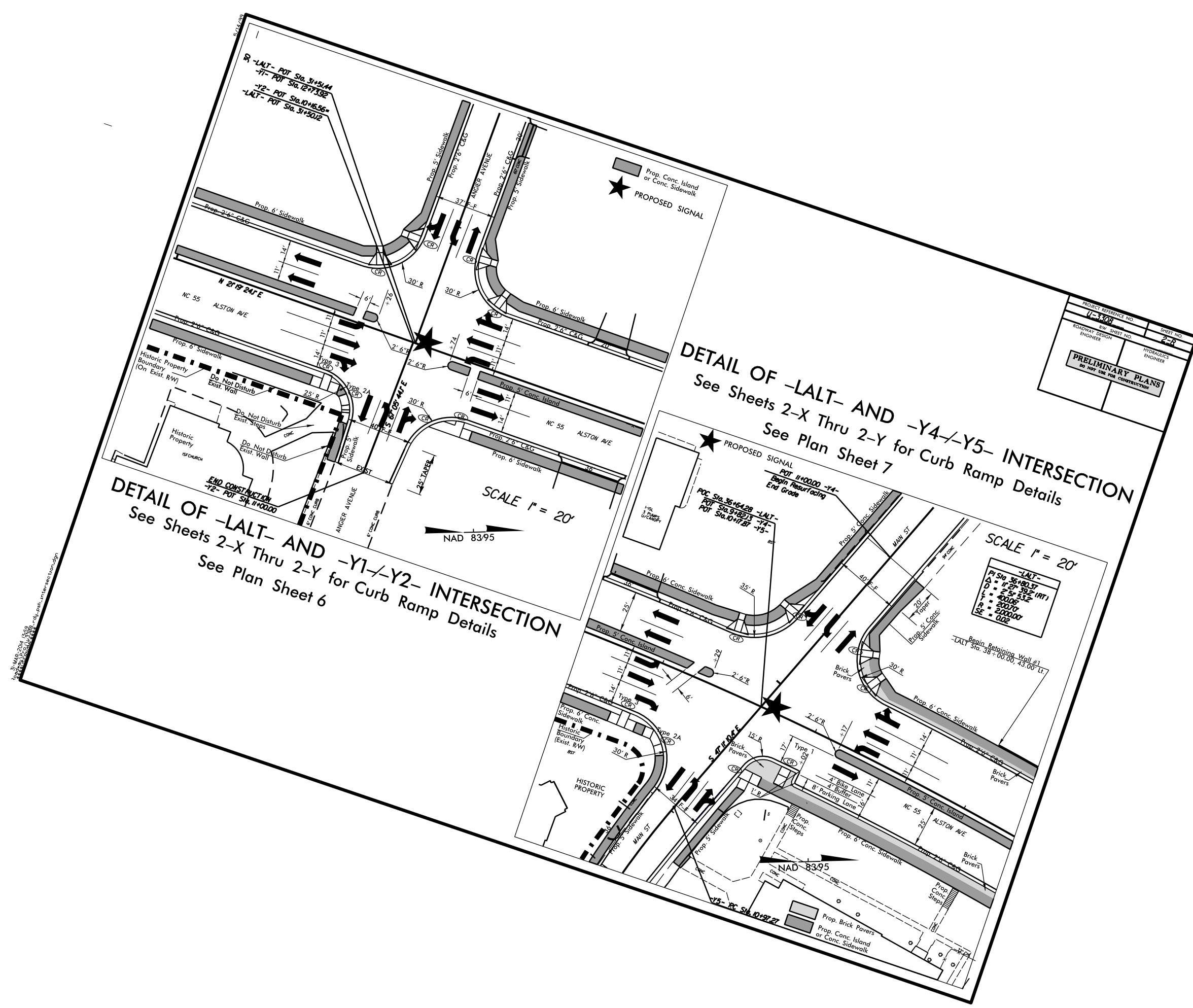
PROPOSED SIGNAL

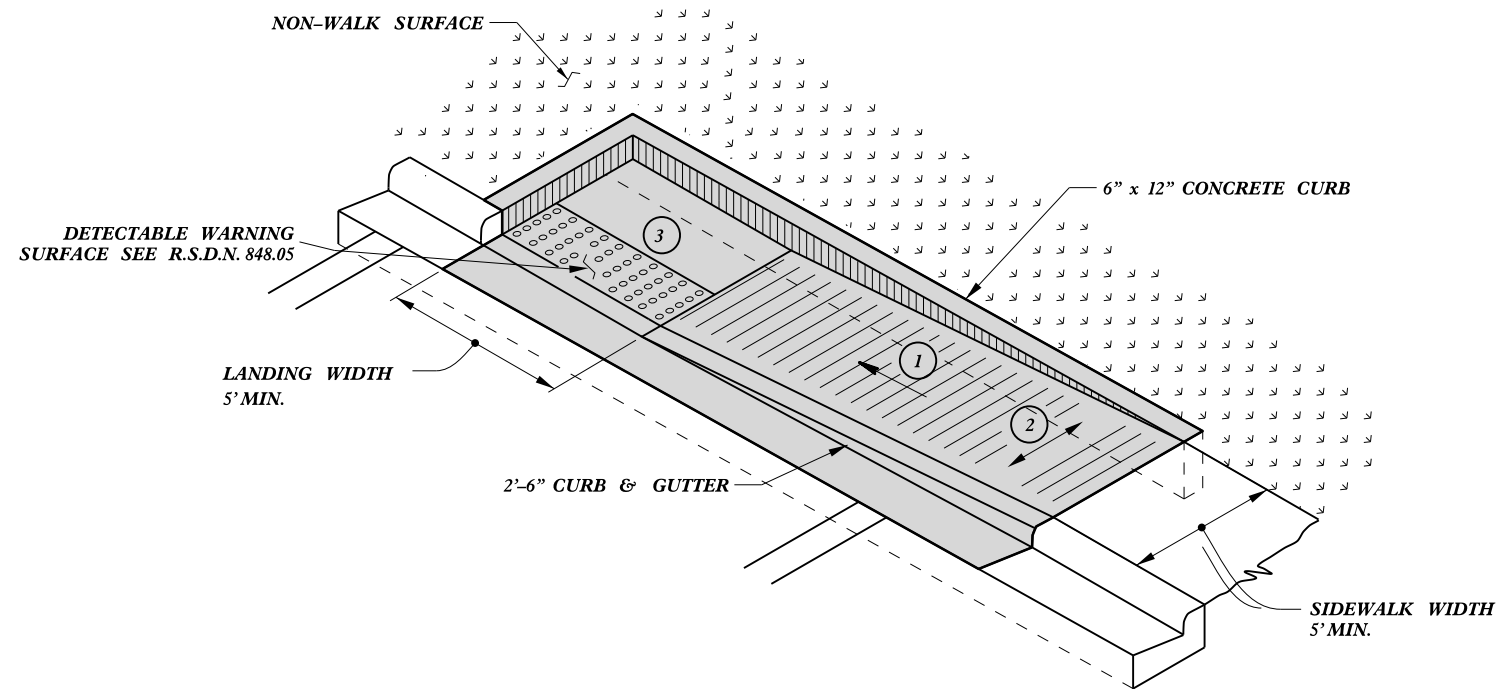
-LALT-
PI Sta 18+92.86
 $\Delta = 1' 56' 11.5''$ (LT)
 $D = 0' 42' 58.3''$
 $L = 270.39'$
 $T = 135.2'$
 $R = 8,000.00'$
SE = NC

SCALE 1" = 20'



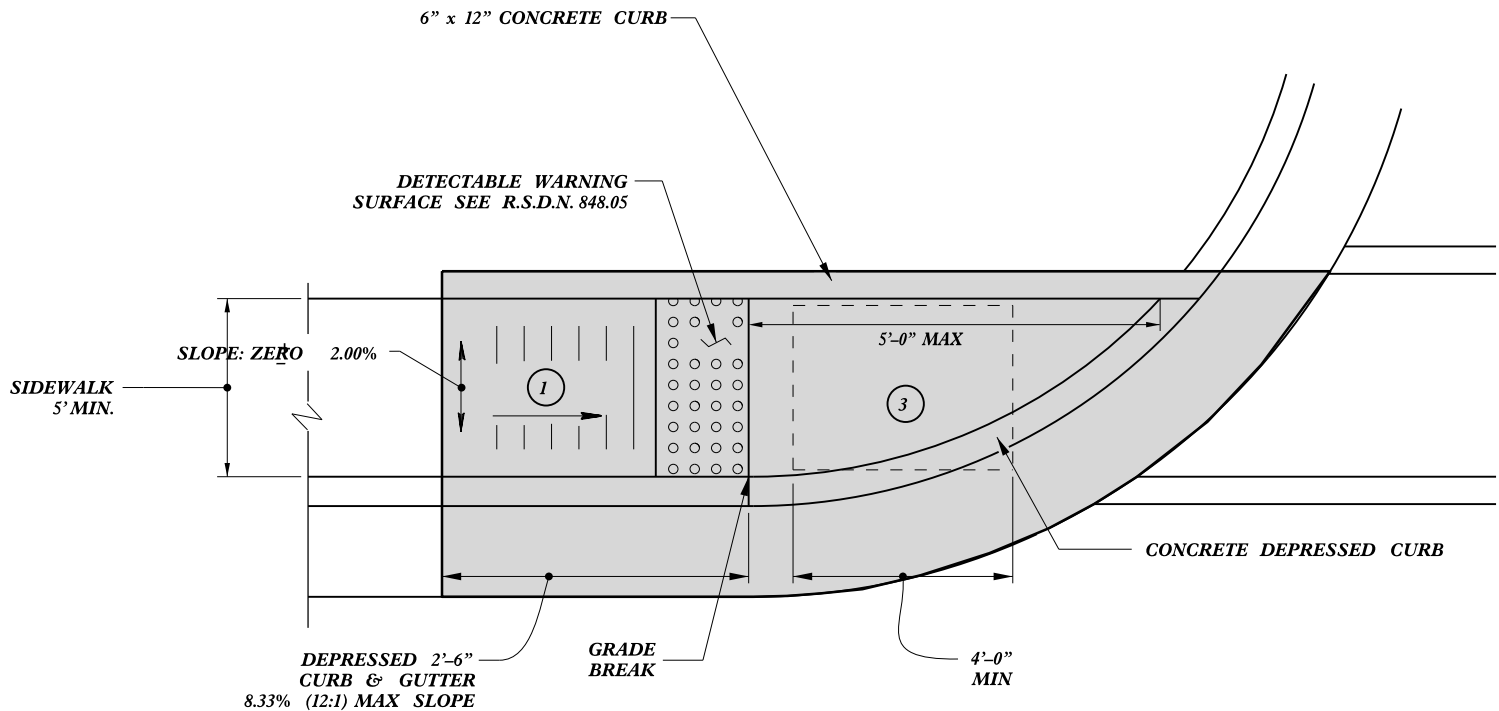
-R4-
PI Sta 11+49.52
 $\Delta = 56' 33' 31.8''$ (RT)
 $D = 3' 49' 51.6''$
 $L = 177.68'$
 $T = 96.84'$
 $R = 180.00'$
SE = Exst.





PAY LIMITS FOR 1 CURB RAMP

TYPE 1A

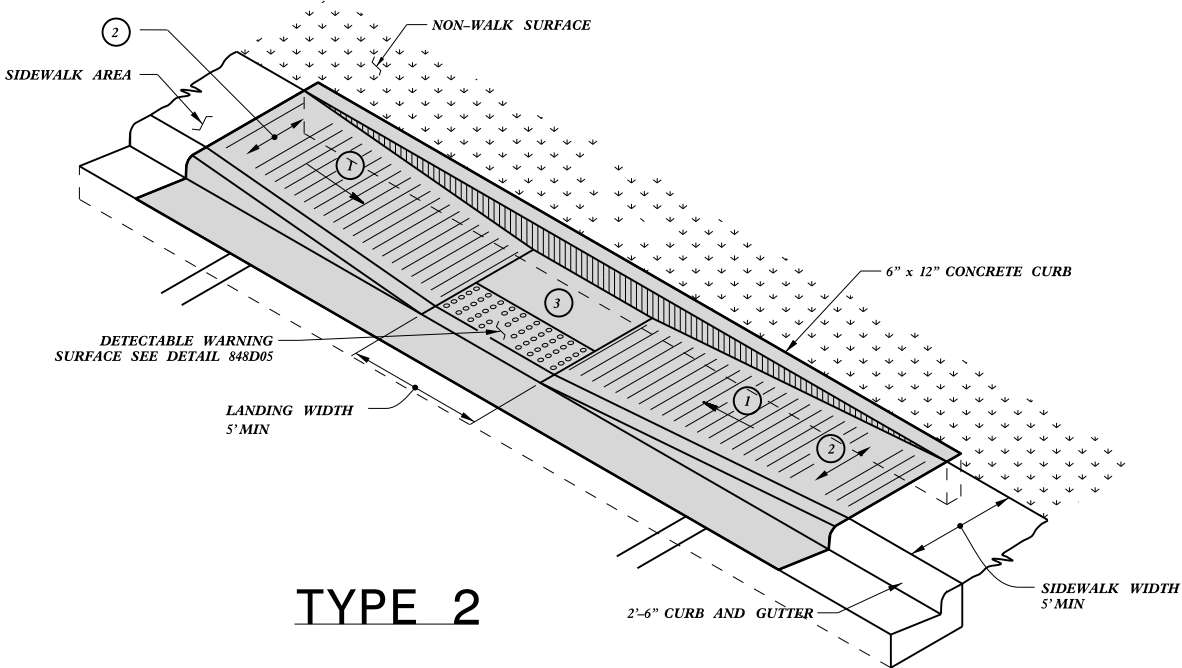


TYPE 1

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn	

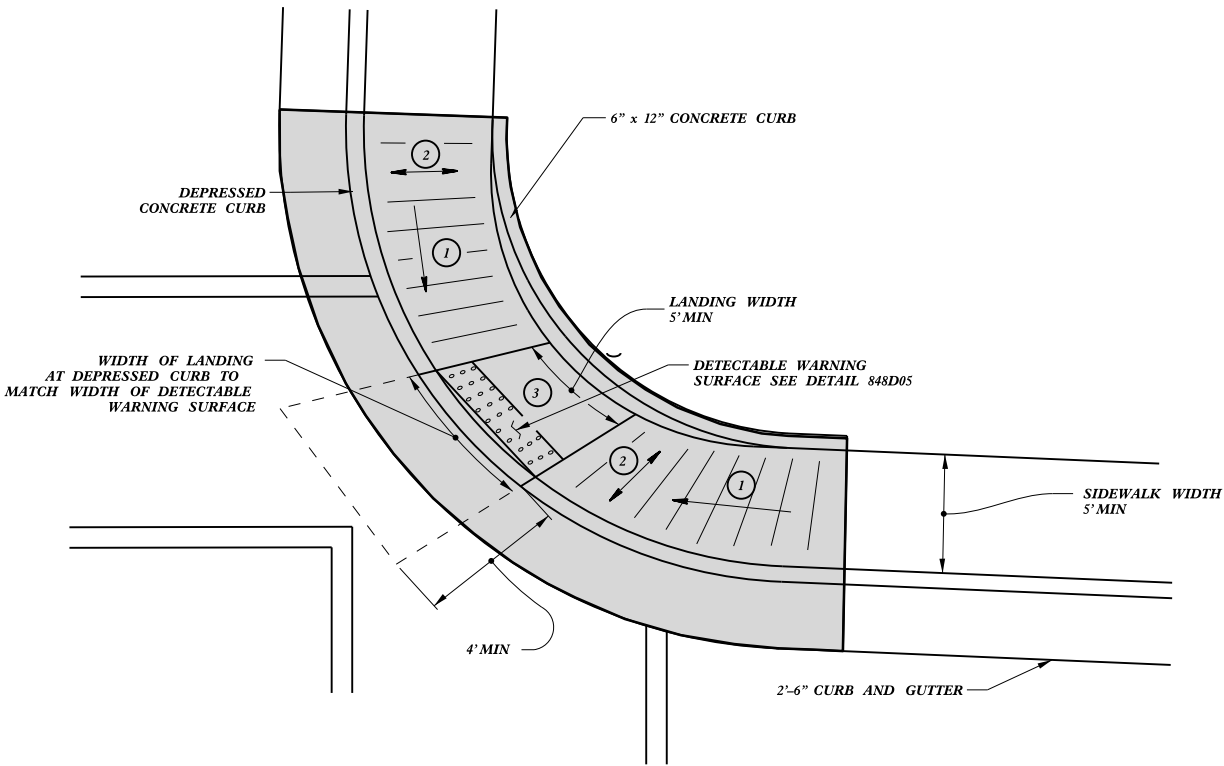


TYPE 2

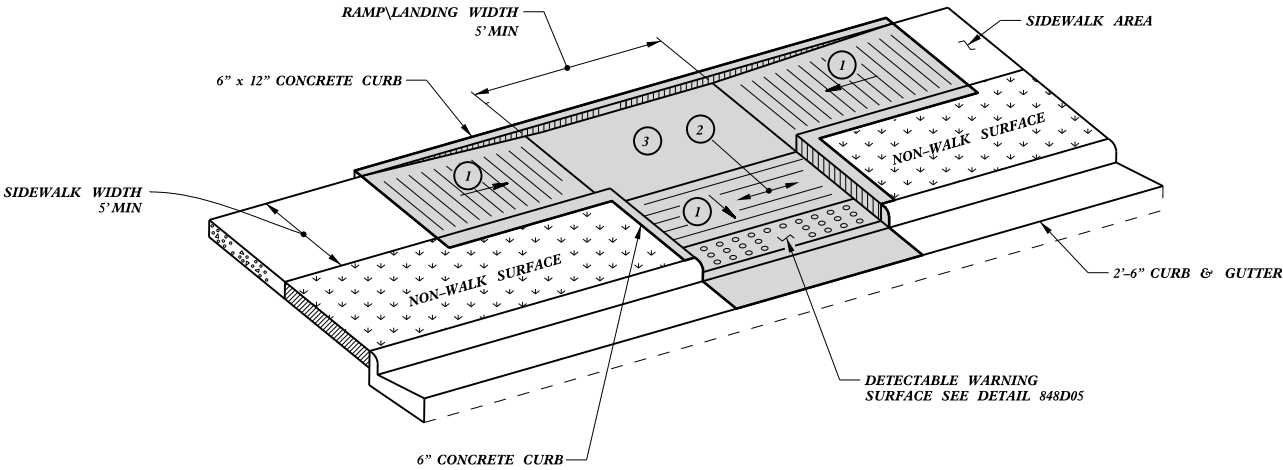


PAY LIMITS FOR 1 CURB RAMP

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



TYPE 2A



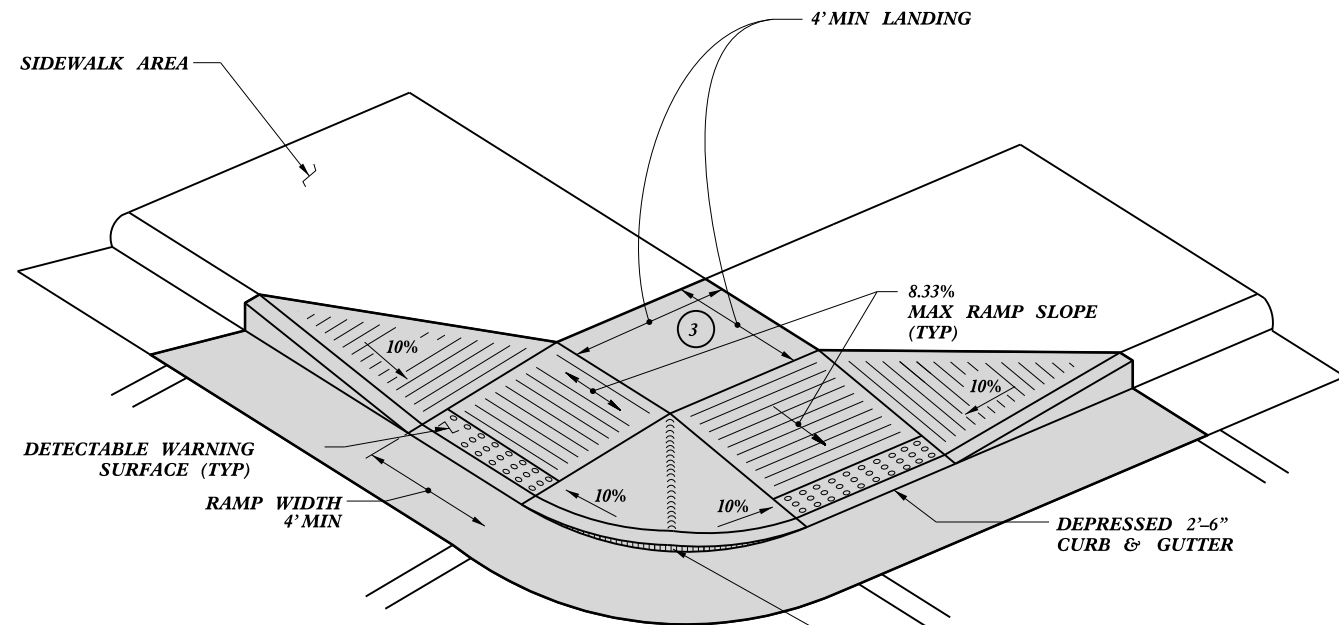
TYPE 3

CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

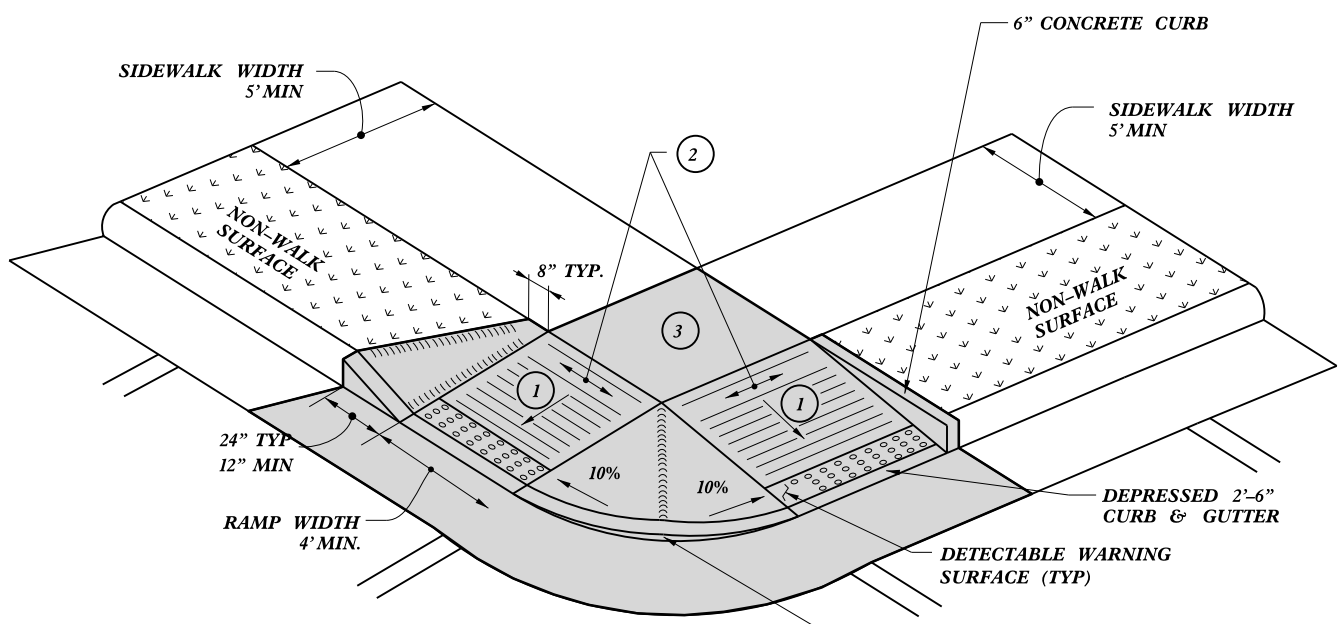
CURB RAMPS
Parallel Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

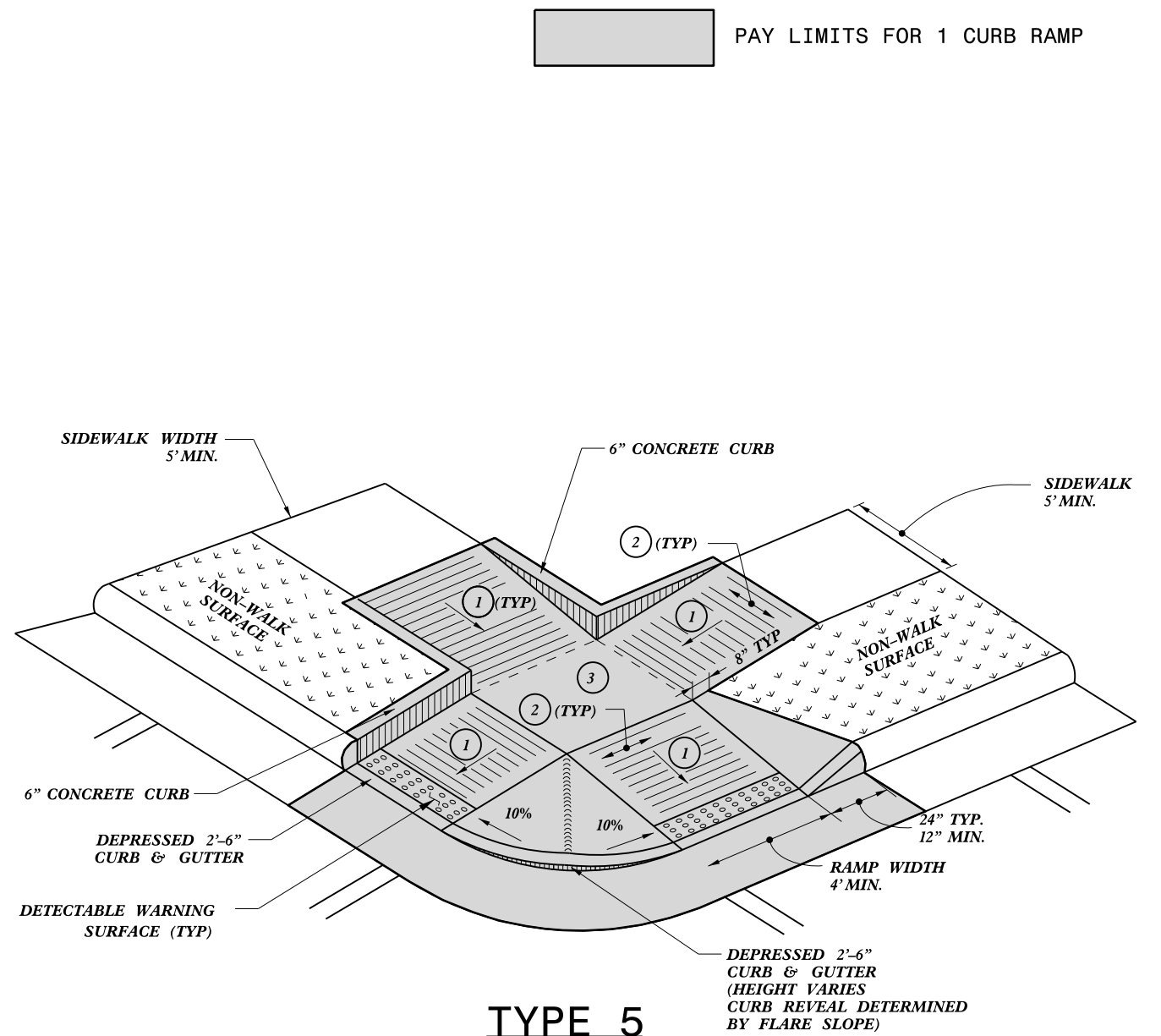
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



TYPE 4



TYPE 4A



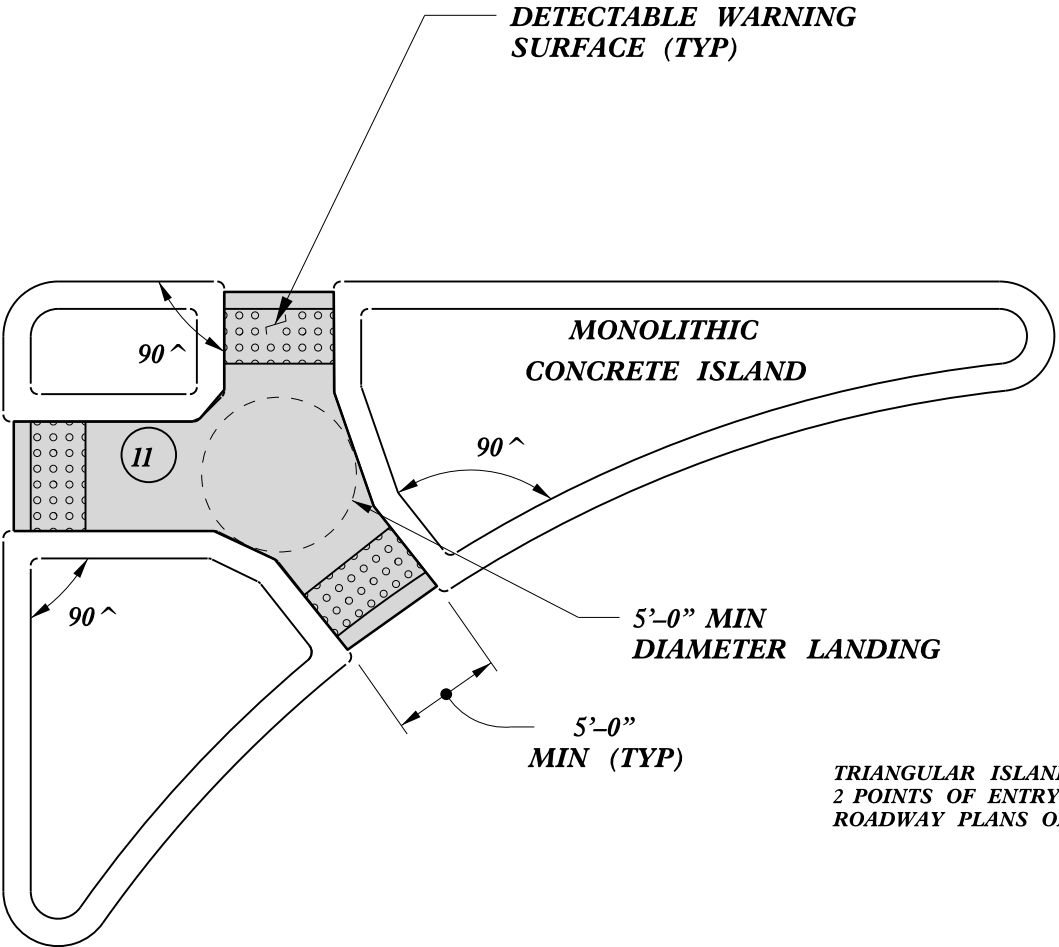
TYPE 5

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

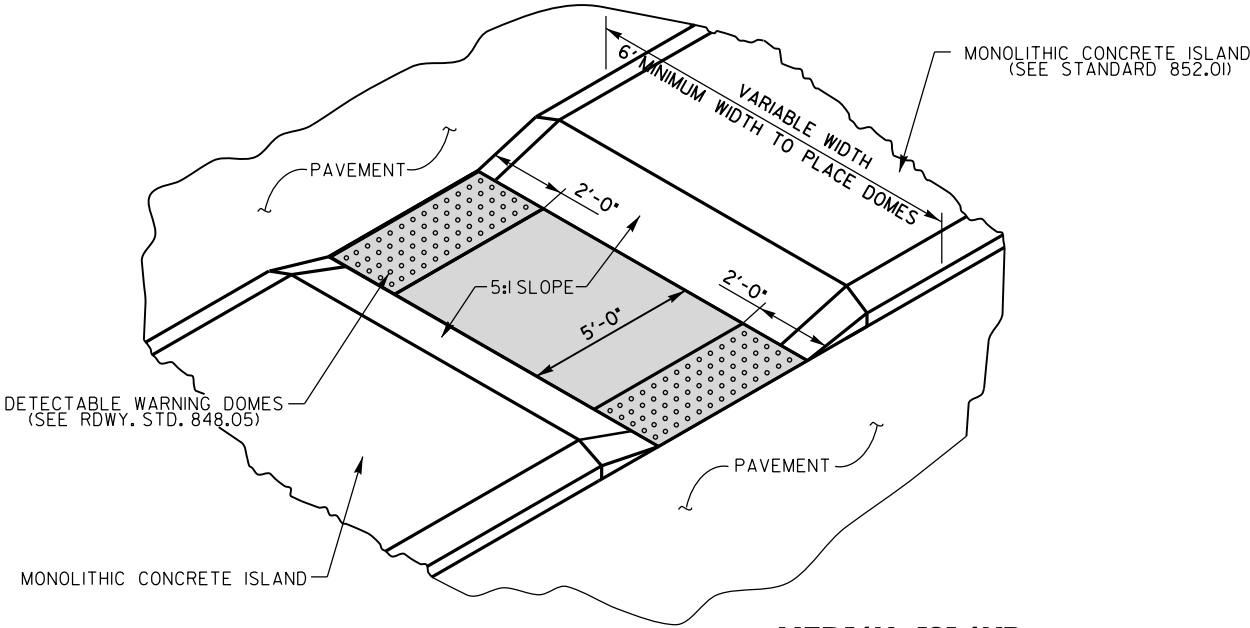
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Shared Landing	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

 PAY LIMITS FOR 1 CURB RAMP

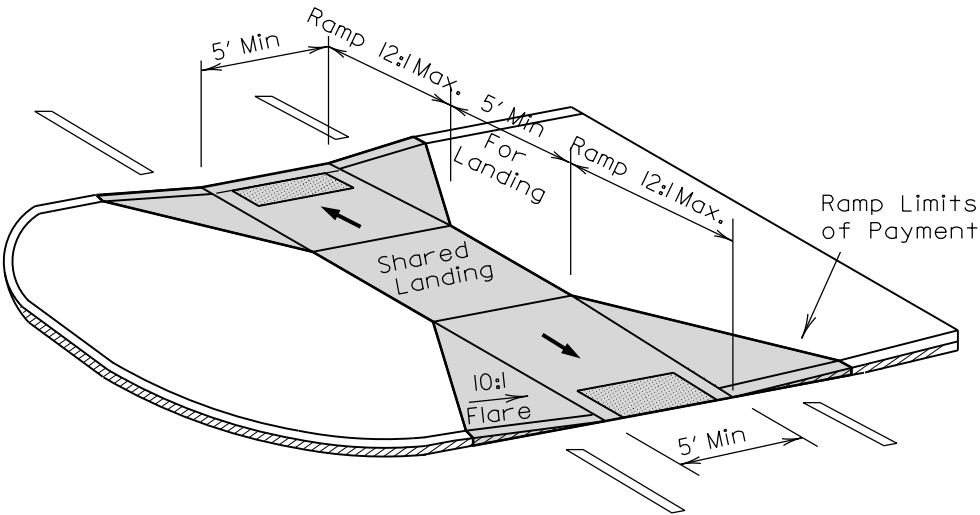


TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

**TRIANGULAR ISLAND
WITH CUT THROUGH**



**MEDIAN ISLAND
WITH CUT THROUGH**



**MEDIAN ISLAND
CURB RAMPS**

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CURB RAMPS	
Median or Turn Lane Islands	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

5/28/99

PRELIMINARY EARTHWORK SUMMARY
IN CUBIC YARDS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + 20%	BORROW	WASTE
SUMMARY #1					
Sta. 13 + 50.00 to 15 + 56.45 (Bridge) –LALT–	150		1068	918	
Sta. 11 + 00.00 to 14 + 55.67 –R1–	126		1087	961	
Sta. 10 + 67.37 to 11 + 00.00 –R2–	7		4		3
SUBTOTAL	283		2,159	1,878	3
SUMMARY #2					
17 + 35.70 (Bridge) to 47 + 25.00 –LALT–	34,164		4,747		29,417
Sta. 10 + 50.00 to 13 + 60.00 –R3–	74		988	914	
Sta. 11 + 38.00 to 12 + 30.00 –R4–	13		34	21	
Sta. 9 + 99.63 to 12 + 00.00 –Y3–	246		172		74
Sta. 10 + 00.00 to 12 + 50.00 –Y3A–	38		175	137	
Sta. 11 + 50.00 to 16 + 27.05 (Bridge) –Y–	152		463	311	
Sta. 17 + 84.55 (Bridge) to 25 + 00.00 –Y–	320		4,546	4,226	
Sta. 10 + 00.00 to 10 + 85.00 –YC–	42		186	144	
Sta. 10 + 50.00 to 11 + 50.00 –R5–	107		0		107
Sta. 11 + 90.00 to 20 + 36.26 (Bridge) –NSS_NSN–	5,384		0		5,384
Sta. 22 + 03.26 (Bridge) to 30 + 40.00 –NSS_NSN–	4,537		280		4,257
Sta. 10 + 00.00 to 18 + 41.98 (Bridge) –NSD2–	1,233		125		1,108
Sta. 20 + 09.02 (Bridge) to 28 + 41.37 –NSD2–	218		352	134	
Sta. 11 + 00.00 to 12 + 10.32 –Y1–	43		14		29
Sta. 10 + 59.19 to 11 + 00.00 –Y2–	11		6		5
Sta. 10 + 37.22 to 12 + 45.00 –Y4–	89		40		49
Sta. 10 + 68.71 to 11 + 55.00 –Y5–	310		1		309
Sta. 10 + 00.00 to 11 + 54.24 –Y6–	285		4		281
Sta. 11 + 00.00 to 12 + 50.00 –Y7–	309		1		308
Sta. 10 + 10.68 to 13 + 89.00 –Y8–	259		28		231
Sta. 10 + 91.63 to 11 + 35.00 –Y9–	31		1		30
Sta. 10 + 29.46 to 14 + 00.00 –Y10–	75		48		27
Sta. 10 + 73.89 to 10 + 90.00 –Y11–	5		1		4
Sta. 10 + 38.78 to 14 + 20.00 –Y12–	58		55		3
Sta. 10 + 62.24 to 11 + 22.00 –Y13–	157		0		157
SUBTOTAL	48,160		12,265	5,886	41,781

CONTINGENCY UNDERCUT = 1,950 CY
SHALLOW UNDERCUT = 1,450 CY
GEOTEXTILE FOR SOIL STABILIZATION = 5,100 SY
SELECT GRANULAR MATERIAL = 750 CY
CLASS IV SUBGRADE STABILIZATION = 2,800 TONS

[illegible]

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: "Quantities are approximate only. The Resident Engineer will re-cross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid."

6/16/2013

COMPUTED BY: JCL	DATE: June 13, 2012
CHECKED BY: AEV	DATE: March 1, 2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-3308	3-B

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	WARRANT POINT			"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS												IMPACT ATTENUATOR TYPE 350							REMARKS		
				STRAIGHT	SHOP CURVED	DOUBLE FACED			APPROACH END	TRAILING END	APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE 350	TYPE III	CAT-I	AT-I									PERMITTED							
																											NO.						G	NG
-R1-	11+00.00	14+31.25	Rt	331.25'					2'								1															Tie to Existing Guardrail		
-LALT-	14+70.65	15+51.90	Rt	81.25'			15+51.90		7.5'		50'		1'		1	1																		
-LALT-	17+41.44	13+60.00 -R3-	Lt	337.5'	50'		17+41.44	13+60.00 -R3-	7.5'							1	1	1																
-R3-	11+60.00	13+60.00	Rt	200'			12+50.00	13+60.00	2'						1		1																	
-LALT-	21+67.50	24+73.75	Rt	306.25'			22+68.67	24+61.82	2'		50'		1'		1		1																	
-LALT-	23+51.25	26+95.00	Lt	343.75'			24+70.71	22+78.39	2'		50'		1'		1		1																	
-LALT-	22+52.00		CL																					1		X								
-LALT-	24+87.00		CL																					1		X								
-Y-	15+28.48	16+15.98	Lt	87.5'				16+15.98	2'		50'		1'		1	1																		
-Y3A--Y-	12+22.90 -Y3A-	16+23.10	Rt	81.25'	50'		16+23.10		7.5'							1		1																
-Y-	17+95.01	10+81.50 -YC-	Rt	93.75'	20'			17+95.01	7.5'							1		1																
-Y-	17+87.90	19+62.90	Lt	175'			17+87.90		2'		50'		1'		1	1																		
		SUBTOTAL		2037.5	120'										6	6	5	2							2									
DEDUCTION FOR ANCHORS																																		
6 - TYPE 350 @ 50' EACH				-300'																														
6 - TYPE III @ 18.75' EACH				-112.5'																														
5 - CAT-1 @ 6.25' EACH				-31.25'																														
2 - AT-1 @ 6.25' EACH				-12.50'																														
		TOTAL		1593.75'	107.5'										6	6	5	2							2									
		SAY		1600'	115'																													
				ADDITIONAL GUARDRAIL POSTS - 10 EACH																														
EXISTING GUARDRAIL REMOVAL																																		
SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH (LF)																														
-R1-	11+00.00	14+65.00	Rt	365'																														
-LALT-	14+50.00	15+49.00	Rt	110'																														
-LALT-	17+42.00	18+56.00	Lt	138'																														
-R3-	13+28.00	19+99.00 -LALT-	Lt	392'																														
		TOTAL		1005'																														
		SAY		1020'																														
												</																						

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

STATION - STATION	LOCATION	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-LALT- 13+50 TO 15+00	Lt	72			
-LALT- 15+00 TO 66+10	CL	24,826			
-R3- 13+32 TO 13+60	Lt			2	
-R3- 10+38 TO 13+60	Rt			395	
-R1- 11+00 TO 14+20	Rt			74	
-R4- 11+22 TO 11+91	Lt			8	
-R4- 12+04 TO 12+30	Lt			2	
-R4- 11+19 TO 12+30	Rt			20	
-R5- 11+11 TO 11+50	CL			68	
-LALT- 13+50 TO 15+00	Rt	98			
-Y3- 10+65 TO 12+08	CL	476			
-Y3A- 10+28 TO 12+79	Rt	124			
-Y- 12+00 TO 15+00	RtLt	162			
-Y- 15+00 TO 16+72	CL	704			
-Y- 18+21 TO 20+50	CL	982			
-Y- 20+50 TO 24+50	CL	235			
-Y1- 11+00 TO 12+74	CL	269			
-Y2- 10+79 TO 11+00	RtLt	14			
-Y4- 10+15 TO 12+45	CL	431			
-Y5- 10+90 TO 11+55	CL	212			
-Y6- 10+20 TO 11+55	CL	357			
-Y7- 10+55 TO 12+50	CL	607			
-Y8- 10+34 TO 13+89	CL	490			
-Y9- 10+51 TO 11+25	CL	196			
-Y10- 10+45 TO 14+05	CL	490			
-Y11- 10+33 TO 10+90	CL	158			
-Y12- 10+56 TO 14+20	CL	336			
-Y14- 10+62 TO 11+40	CL	291			
-Y15- 10+06 TO 16+05	CL	2,136			
-Y15A- 10+17 TO 10+80	CL	199			
-Y16- 10+94 TO 11+85	CL	264			
-Y17- 10+94 TO 11+45	CL	287			
-Y18- 10+20 TO 13+30	CL	1,265			
-Y18- 14+44 TO 15+15	CL	256			
-Y18- 15+15 TO 17+83	RtLt	139			
-Y21- 10+53 TO 11+25	CL	226			
-Y22- 13+00 TO 13+25	CL	178			
-Y22- 15+30 TO 16+00	CL	552			
-YC- 10+00 TO 10+85	CL	263			
TOTAL		37,296		569	
SAY		37,350		575	

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
	CONTINGENCY			UD	1,000
				TOTAL LF	1,000

*UD = UNDERDRAIN
*BD = BLIND DRAIN
*SD = SUBSURFACE DRAIN

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PARCEL INDEX SHEET

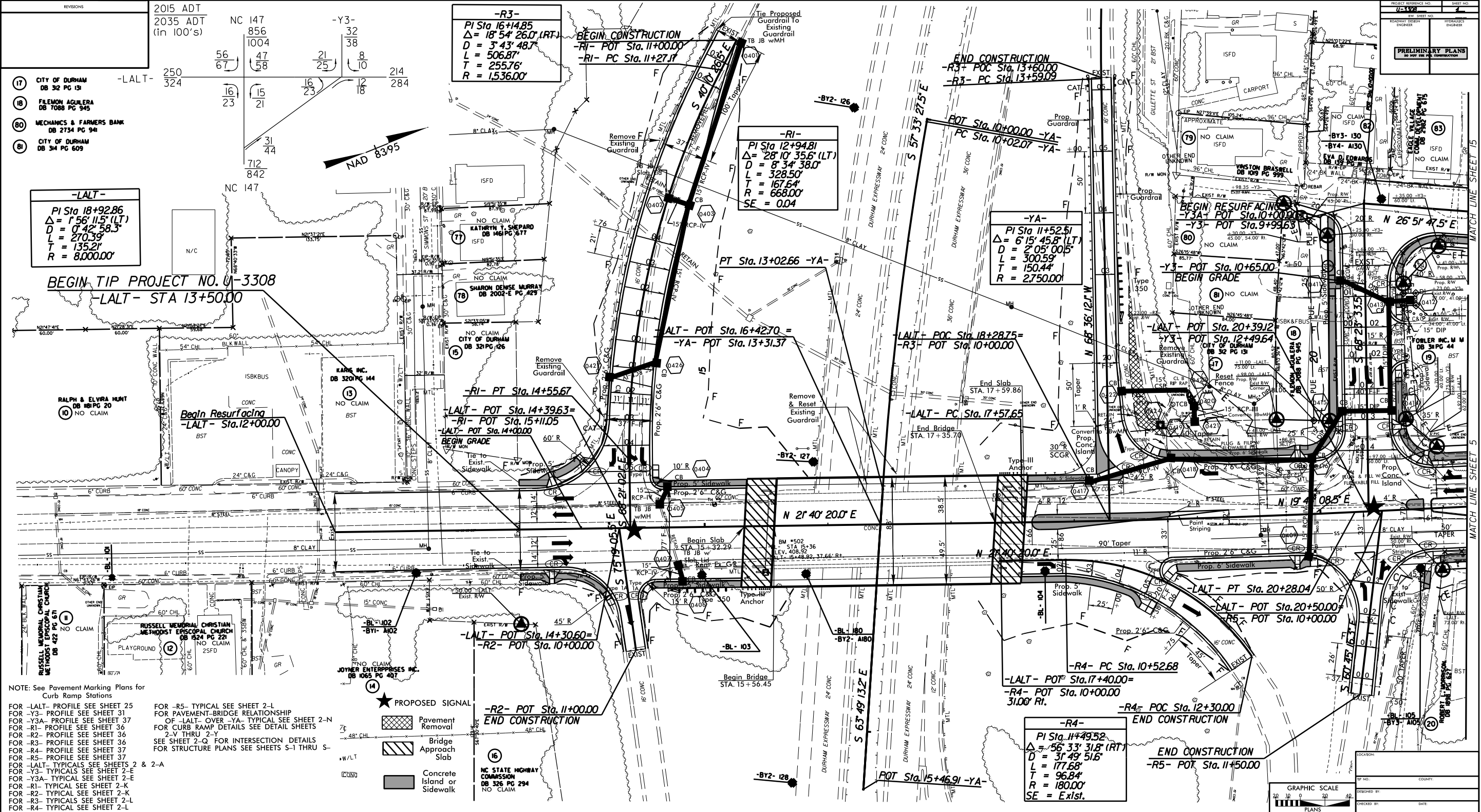
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
10	4	RALPH & ELVIRA HUNT (NO CLAIM)
11	4	RUSSELL MEMORIAL CHRISTIAN METHODIST EPISCOPAL (NO CLAIM)
12	4	RUSSELL MEMORIAL CHRISTIAN METHODIST EPISCOPAL (NO CLAIM)
13	4	KARIS INC (NO CLAIM)
14	4	JOYNER ENTERPRISES, INC. (NO CLAIM)
15	4	CITY OF DURHAM (NO CLAIM)
16	4	NC STATE HIGHWAY COMMISSION (NO CLAIM)
17	4	CITY OF DURHAM (NO CLAIM)
18	4	MI INVESTMENTS CORP.
19	4, 5, 5A, 15, & 15A	FOWLER INC. M M
20	4, 5, 5A, 16, & 16A	ROBERT L. MORRISON
21	5, 5A, & 6	SOUTHERN REPAIR SERVICE, INC.
22	5 & 5A	ANTOINE & VICTORIA HOWELL
23	5 & 5A	LENORA HILLIARD
24	5, 5A, & 6	LOVETT SQUARE LIMITED PARTNERSHIP
25	6	JOSE & NORA SANDOVAL (NO CLAIM)
26	6	MAXINE W. OWENS
27	6	TRUSTEES OF ASBURY TEMPLE UNITED METHODIST CHURCH
28	6	ASBURY TEMPLE UNITED METHODIST CHURCH
29	6 & 7	RESCUE MISSION MINISTRIES INC
30	6 & 7	CITY OF DURHAM
31	7	FRANK C. FELDER & JOHN C. BLACKWOOD
32	7	CLAYBORNE L. EVANS (NO CLAIM)
33	7	CINDY T. BOCK
34	7	MARY E. PARKER (NO CLAIM)
35	7	FRANK C. FELDER
36	7	CLAYBORNE L. EVANS (NO CLAIM)
37	7	KOOLWATER LLC
38	7	DILIP I. GANDHI
39	7, 8 & 18	RESCUE MISSION MINISTRIES INC
40	7 & 8	KHAWAJA LLC
43	8	KHALID SALEH
45	8	VINSTON BRASWELL
46	8 & 9	RESCUE MISSION MINISTRIES, INC.
47	8 & 9	JOHNNIE L. & ETHEL CRAWFORD
49	9	MARIE H. JOHNSON
50	9	CHARLES R. WELLONS ESTATE
51	9	RESCUE MISSION MINISTRIES INC.
52	9	THOMAS H. FOWLER

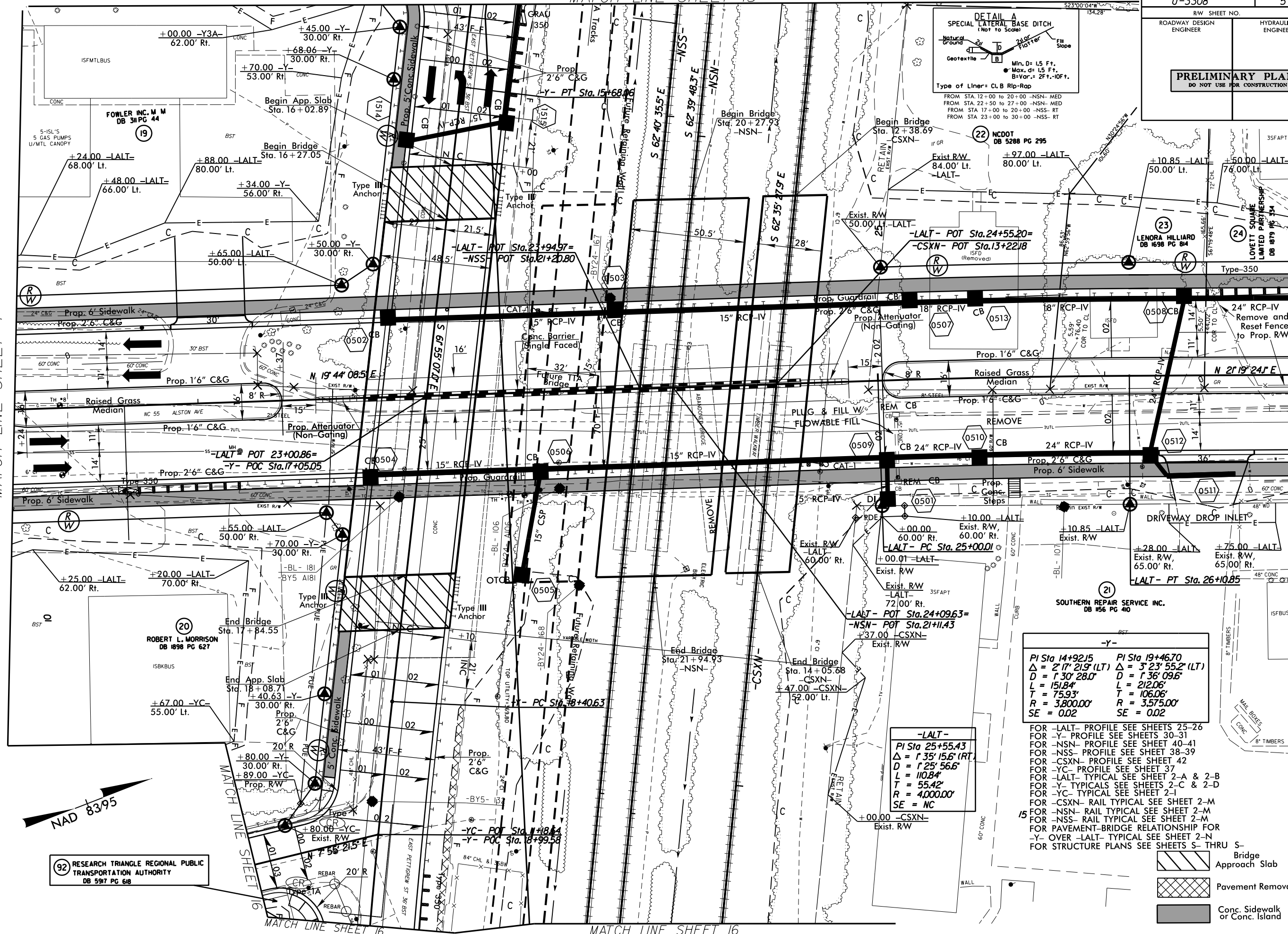
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
53	9	FRANCES DOBROVODSKY
54	9	GUY E. HURLEY
55	10	MAXINE W. OWENS
56	10	RALPH E. OWENS
57	10, 11, 20, & 23	DURHAM PUBLIC SCHOOL BOARD OF EDUCATION
58	10	JEROME SMITH & HAROLD D. SMITH
59	10	ECCLESIA HOUSE OF PRAYER INC.
60	10 & 11	SOUTHERN REPAIR SERVICE INC.
61	11	M.M. FOWLER INC.
62	11	ECCLESIA COMMUNITY DEVELOPMENT
63	11	LEO'S SEAFOOD OF DURHAM L.D.R. INC.
64	11	EARL PICKETT ENTERPRISES INC.
65	11, 12, & 23	THE SALVATION ARMY
66	11 & 12	CAROLYN A. BROWNING
67	12	HENRY M. & GLENN CHERRY
68	12	SAMI & SENGDEUANE HANNA
69	12	EARL M. & DELORES EVANS
70	12	CHARLES R. WELLONS ESTATE
71	12 & 13	ADAMS INVESTMENT CO. INC.
72	12 & 13	ERWIN DISTRIBUTING CORP INC.
73	13	YARBORO & HESSEE WEARHOUSE LLC
74	13 & 24	CITY OF DURHAM
77	4	KATHRYN Y SHEPARD (NO CLAIM)
78	4	SHARON DENISE MURRAY (NO CLAIM)
79	4	VINSTON BRASWELL (NO CLAIM)
80	4	MECHANICS & FARMERS BANK (NO CLAIM)
81	4	CITY OF DURHAM (NO CLAIM)
82	4	EVA D. EDWARDS (NO CLAIM)
83	4, 15, & 15A	EAGLE VILLAGE COMM. DEVELOPMENT (NO CLAIM)
84	15 & 15A	FRED & MANIJEH BORHANIAN
85	14 & 14A	JOHN AVERY BOYS & GIRLS CLUB (NO CLAIM)
86	14 & 14A	GWENDOLYN LOUDERMILK (NO CLAIM)
87	14 & 14A	HASKELL PROPERTIES INC (NO CLAIM)
88	14 & 14A	DUANE WILLIAMS & WIFE JACQUELINE WILLIAMS (NO CLAIM)
89	14 & 14A	MERCY RUGUARU (NO CLAIM)
90	14, 14A, 15, & 15A	RONALD E. & LILLIAS COLEMAN (NO CLAIM)
91	15 & 15A	MARY H. COOKE
92	5, 5A, 16, & 16A	SOUTHERN LEASING INC.
93	16, 16A, 17, & 17A	CITY OF DURHAM
94	17 & 17A	SOUTHERN REPAIR SERVICE INC. (NO CLAIM)
95, 96, & 97	17 & 17A	SOUTHERN REPAIR SERVICE INC. (NO CLAIM)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
110	6 & 7	WILLIAM R. WATSON
111	6 & 7	LENA & HAYWOOD G. ALSTON
112	6 & 7	TONIA P. ROGERS
114	7 & 8	EVANGELISTIC PRAYER BAND., INC. (NO CLAIM)
118	7	HARVEY L. & PEGGY M. MAYNARD
121	8 & 19	TCB-DIVI MORNING GLORY LLC
124	8 & 18	RESCUE MISSION MINISTRIES, INC.
125	18	VINSTON BRASWELL
126	18	RESCUE MISSION MINISTRIES INC. (NO CLAIM)
127	18	KAREN A. JONES & PETER H. EDWARDS (NO CLAIM)
129	19	ALBERTA COLEMAN
130	19	BRITTANY R PEAKS
131	8	RESCUE MISSION MINISTRIES, INC.
132	8 & 19	VANESSA E. BELL
134	8	OTHA J. & ALICE K. WILLIAMS
135	8 & 18	RESCUE MISSION MINISTRIES, INC. (NO CLAIM)
136	8 & 18	RESCUE MISSION MINISTRIES, INC. (NO CLAIM)
137, 138, & 139	18	RESCUE MISSION MINISTRIES INC. (NO CLAIM)
140	18	DURHAM RESCUE MISSION (NO CLAIM)
141	18	RESCUE MISSION MINISTRIES INC.
142	19	MARSHA Y. HENDRIX
143	19	BRENTLEY ALLEN COBB
144	19	GRACIELA SEILA
145	19	ANTHONY R. BAILEY
146	9 & 19	WILLIAM R WATSON JR
147	9	HARVEY L. & BEVERLY B. CRAIG
148	9	CEMCO INVESTMENT
149	8 & 9	GRADY T. & JOSEPHINE VEASEY
150	8	RESCUE MISSION MINISTRIES INC. (NO CLAIM)
158	21	MELISSA NORTON
159	21	PAUL J. EVANS
160	21	RESCUE MISSION MINISTRIES INC
161	21	RESCUE MISSION MINISTRIES INC
162	9 & 21	RESCUE MISSION MINISTRIES INC
163	9 & 21	JOHN K MCVICKER
164	9	BILLY W. FOWLER SR.
165	9	RESCUE MISSION MINISTRIES INC
166	9	FRANCES BOLICK
175	21	TOUSSAINT & SHERRI AVENT (NO CLAIM)

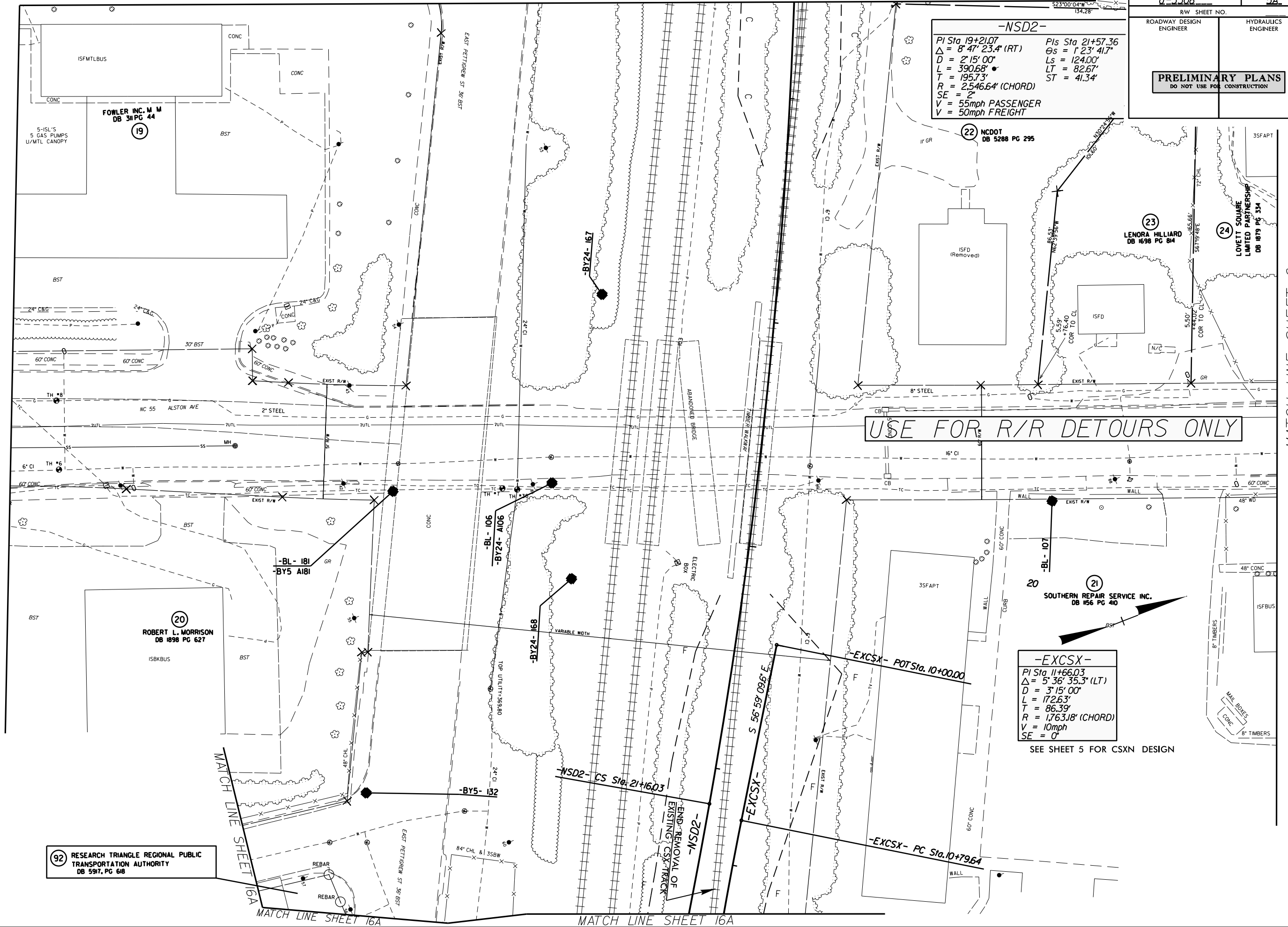
PARCEL No.	SHEET No.	PROPERTY OWNER NAME
176	21	TOUSSAINT & SHERRI AVENT (NO CLAIM)
177	21	LOUIS V. NIEMEYER (NO CLAIM)
178	10	WILLIE H. & EVANGELINE S. HOOD (NO CLAIM)
181	10	CATHERINE C. SUITT
182	10	ROBERT L. ELLIS
183	10	WILLIAM A. THOMAS
184	20	THOMAS A. DORSEY
185	20	RICHARD L. SOLES & ROBERT T. & LINDA JOBE
186	20	TCB-DVI HOLMAN HOMES LLC (NO CLAIM)
187	11 & 22	SOUTHERN PINE PROPERTY
188	11	DOCK TERRELL
189	11	JEAN C. TRAWICK
190	11 & 12	CAROLYN A. BROWNING (NO CLAIM)
191	12	JEANETTE TUCKER
192	11 & 22	CREEDMORE HOLDING COMPANY LLC
200	12	JIMMIE L. & GERALDINE K. YOUNG (NO CLAIM)
202	12	DAVID MCQUEEN SR.
203	12 & 13	DAVID MCQUEEN SR.
204	12 & 24	ESTOY R. GOOCH ESTATE
205	24	THELMA C. TATE HEIRS
206	24	CARL A. ROGERS
207	24	DAVID MCQUEEN SR.
208	23 & 24	CITY OF DURHAM
210	24	YARBORO & HESSEE WAREHOUSE LLC (NO CLAIM)
211	22	PATRICIA ANN REAMS
212	22	CHURCH OF THE APOSTOLIC REVIVAL

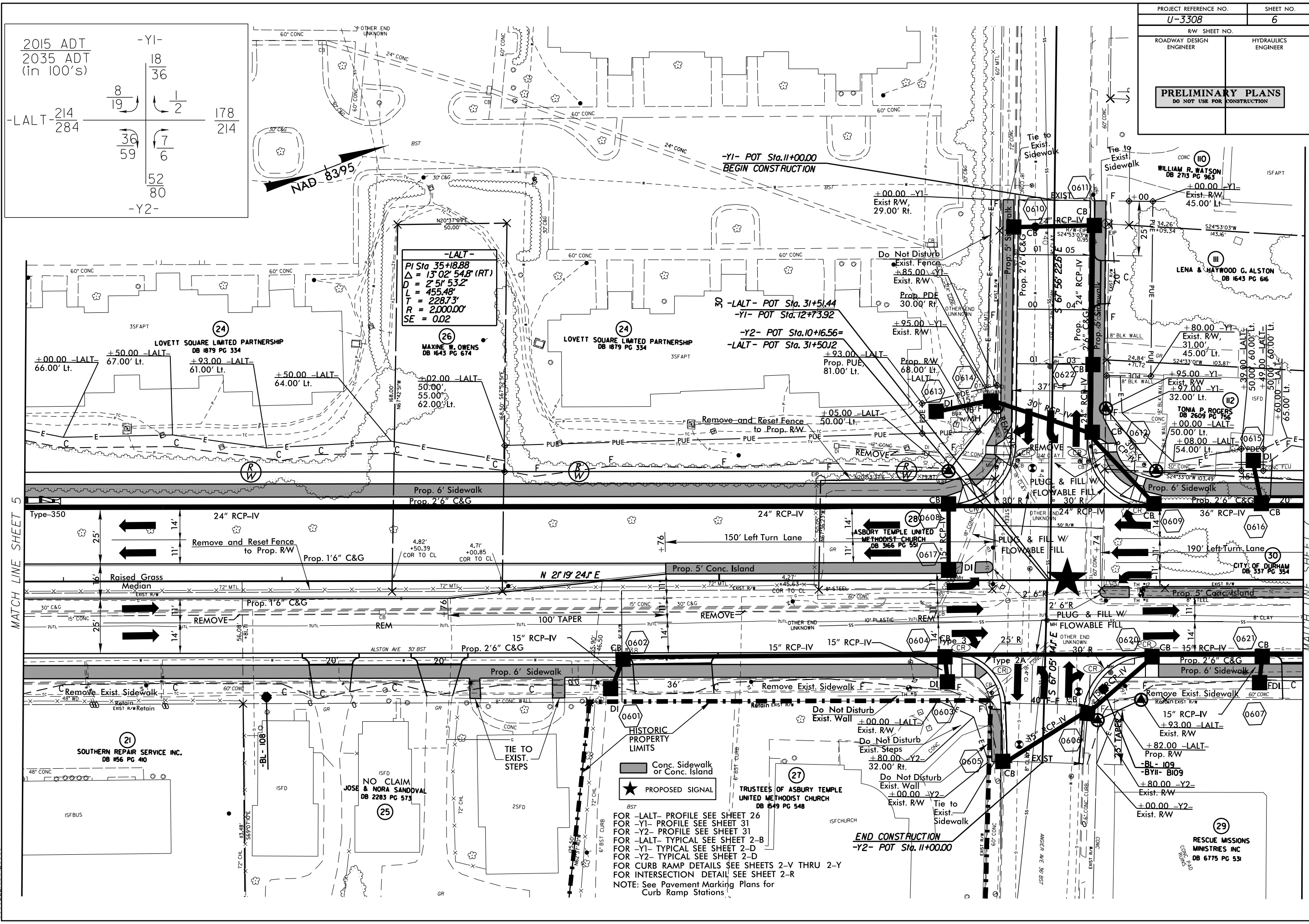


31-MAR-2014 14:00
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8/17/99

MATCH LINE SHEET 6





R/W REVISION 331/14 JCL
CHANGED PROPERTY OWNER NAME & DEED INFORMATION ON PARCEL 21

8/17/99
31-MAR-2014 14:00
R:\Roadway\Projects\U3308-rdy-ps06.dgn
\$\$\$\$\$ USERNAME\$\$\$\$\$

RW Revision 12/09/13 JCL

31-MAR-2014 14:00
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\$\$\$\$\$USERNAME\$\$\$\$\$

2015 ADT
2035 ADT
(in 100's)

Diagram illustrating a 2D coordinate system with axes labeled $-L\ ALT-$ and $-Y4-$ / $-Y5-$. The grid contains several fractions and arrows indicating a flow or relationship:

- Top-left: $\frac{2015\ ADT}{2035\ ADT}$ (in 100's)
- Top-right: $\frac{54}{96}$
- Middle-left: $\frac{15}{32}$
- Middle-right: $\frac{18}{29}$
- Bottom-left: $\frac{8}{9}$
- Bottom-right: $\frac{5}{4}$
- Bottom-right (further down): $\frac{34}{48}$
- Far right: $\frac{178}{206}$

Arrows indicate a clockwise flow or relationship between the fractions, starting from the top-left and moving towards the center, then down the right side, and up the left side.

FOR -LALT- TYPICALS SEE SHEET 2-B
FOR -Y4- TYPICAL SEE SHEET 2-E & 2-F
FOR -Y5- TYPICAL SEE SHEET 2-E
FOR -LIT- PROFILE SEE SHEETS 26-27
FOR -Y4- PROFILE SEE SHEET 32
FOR -Y5- PROFILE SEE SHEET 32
FOR CURB RAMP DETAILS SEE SHEETS
2-Y THRU 2-Y
FOR INTERSECTION DETAILS SEE SHEET 2
NOTE: See Pavement Marking Plans for
Curb Ramp Stations

-LALT-	
PI Sta	36+80.37
Δ	= 11° 27' 39.2" (RT)
D	= 2° 51' 53.2"
L	= 400.06'
T	= 200.70'
R	= 2,000.00'
SE	= 0.02

-Y5-
PI Sta 11+73.67
$\Delta = 17^\circ 22' 24.63"$ (LT)
$D = 11^\circ 22' 33.0"$
$L = 151.61'$
$T = 76.39'$
$R = 500.00'$
SE = SEE PLANS

 Conc. Sidewalk
or Island
 PROPOSED SIGNAL
 Proposed Brick Pavers

POT 12+45.00 -Y4-
End Construction
+45.00 -Y4-
Exist. RW,
30.00' Lt.

PROJECT REFERENCE NO.	SHEET NO.
<i>U-3308</i>	<i>7</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

CONC GR
114 NO CLAIM
EVANGELISTIC PRAYER BAND, INC.
DB 2313 PG 770

40
KHAWAJA LLC
DB 2630 PG 454

DUPLICATE

MATCH LINE SHEET 8

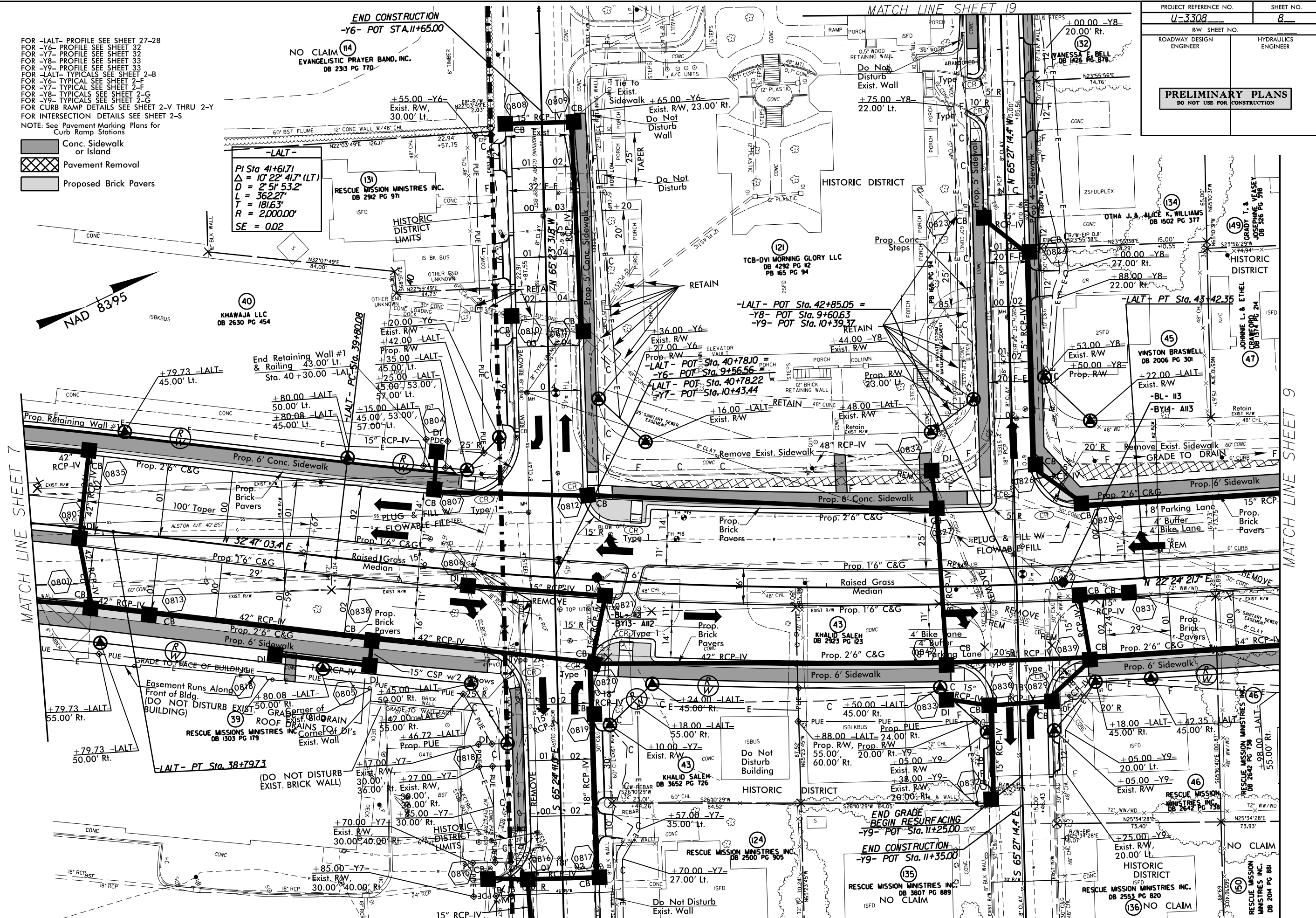
R/W Revision 3/31/14 JCL
Added Prop. 12' Driveway on Parcel 46 Off of Worth St.

8/17/99

FOR -LALT- PROFILE SEE SHEET 27-28
FOR -Y6- PROFILE SEE SHEET 32
FOR -Y7- PROFILE SEE SHEET 32
FOR -Y8- PROFILE SEE SHEET 33
FOR -Y9- PROFILE SEE SHEET 33
FOR -LALT- TYPICALS SEE SHEET 2-B
FOR -Y6- TYPICALS SEE SHEET 2-F
FOR -Y7- TYPICALS SEE SHEET 2-F
FOR -Y8- TYPICALS SEE SHEET 2-G
FOR -Y9- TYPICALS SEE SHEET 2-G
FOR CURB RAMP DETAILS SEE SHEET 2-V THRU 2-Y
FOR INTERSECTION DETAILS SEE SHEET 2-S
NOTE: See Pavement Marking Plans for
Curb Ramp Stations

Conc. Sidewalk
or Island
Pavement Removal
Proposed Brick Pavers

-LALT-
PI Sta 41+61.71
 $\Delta = 10' 22' 41.7" (LT)$
 $D = 2' 51' 53.2"$
 $L = 362.27'$
 $T = 181.63'$
 $R = 2,000.00'$
 $SE = 0.02$



MATCH LINE SHEET 18

31-MAR-2014 14:00
R:\Roadway\Projects\3308.rd\ps08.dgn
\$\$\$\$\$ USERNAME: \$\$\$\$

R/W Revision 3/31/14 JCL
Added Proposed 12' Driveway to Parcel 46 Off of Franklin St.
Changed Deed Book Description for Parcel 53

8/17/99

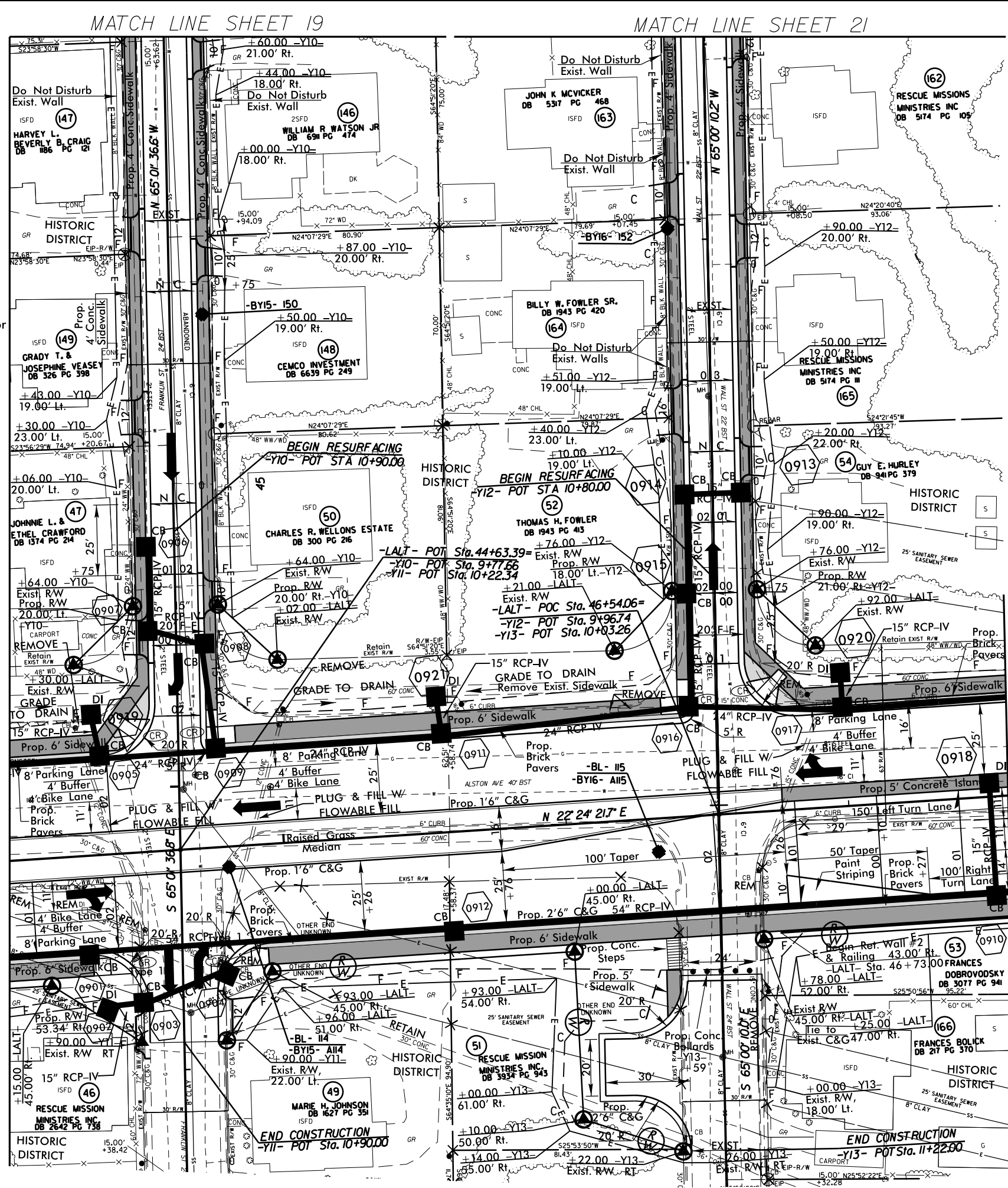
31-MAR-2014 14:00
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\$\$\$\$\$USERNAME\$\$\$\$\$

FOR -LALT- PROFILE SEE SHEET 28
FOR -Y10- PROFILE SEE SHEET 33
FOR -Y11- PROFILE SEE SHEET 33
FOR -Y12- PROFILE SEE SHEET 34
FOR -Y13- PROFILE SEE SHEET 34
FOR -LALT- TYPICAL SEE SHEET 2-B
FOR -Y10- TYPICALS SEE SHEET 2-G
FOR -Y11- TYPICAL SEE SHEET 2-F
FOR -Y12- TYPICALS SEE SHEET 2-G
FOR -Y13- TYPICAL SEE SHEET 2-J
FOR CURB RAMP DETAILS
SEE SHEETS 2-V THRU 2-Y

NOTE: See Pavement Marking Plans for
Curb Ramp Stations

- Conc. Sidewalk
or Island
- Pavement Removal
- Proposed Brick Pavers

MATCH LINE SHEET 8



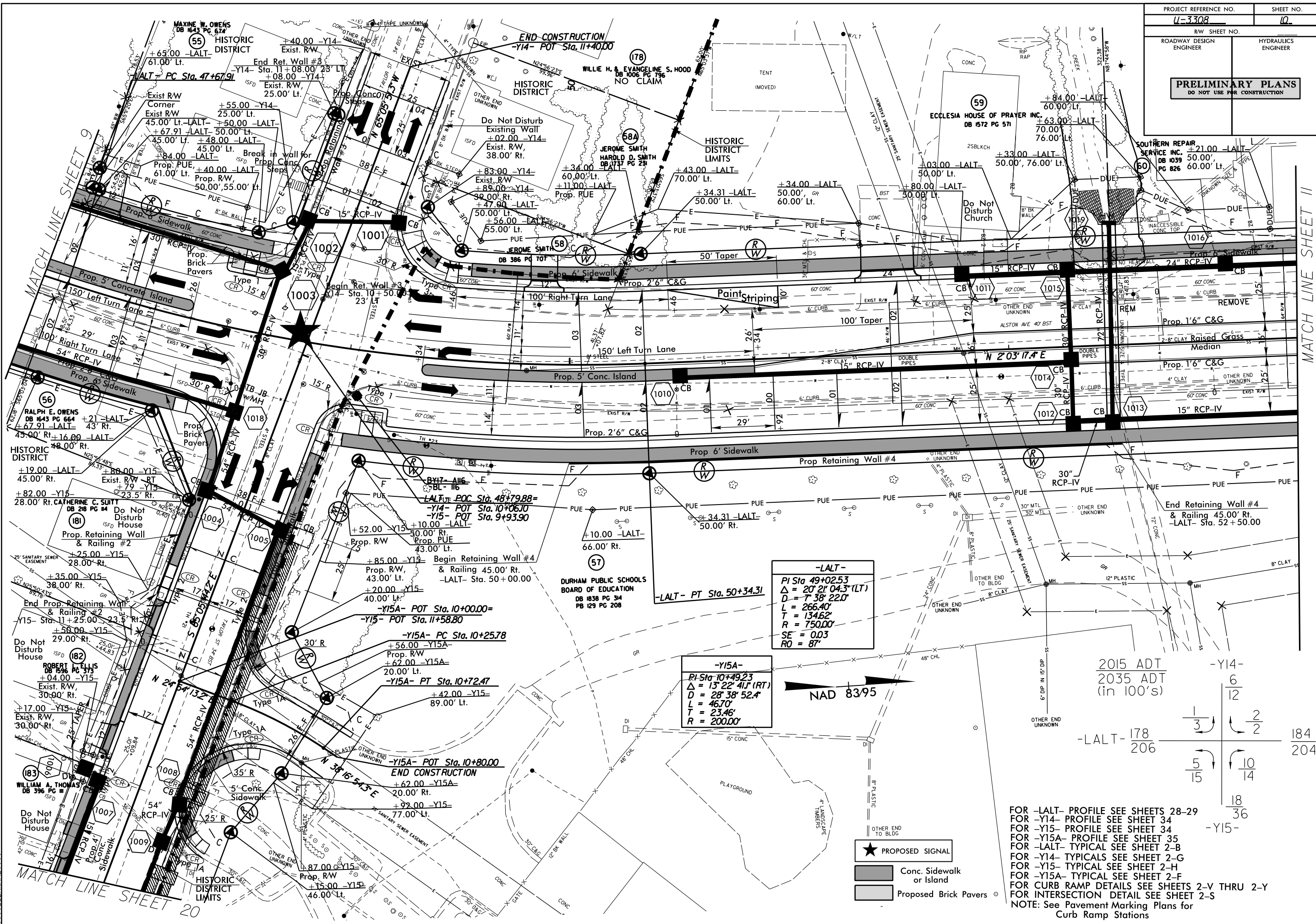
MATCH LINE SHEET 10

PROJECT REFERENCE NO.	SHEET NO.
U-3308	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

8/17/99

RW Revision 331/14 JCL
Changed Property Owner Names and Deed
Information on Parcel 58 & 58A

31-MAR-2014 14:00
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\$\$\$\$\$USERNAME\$\$\$\$\$



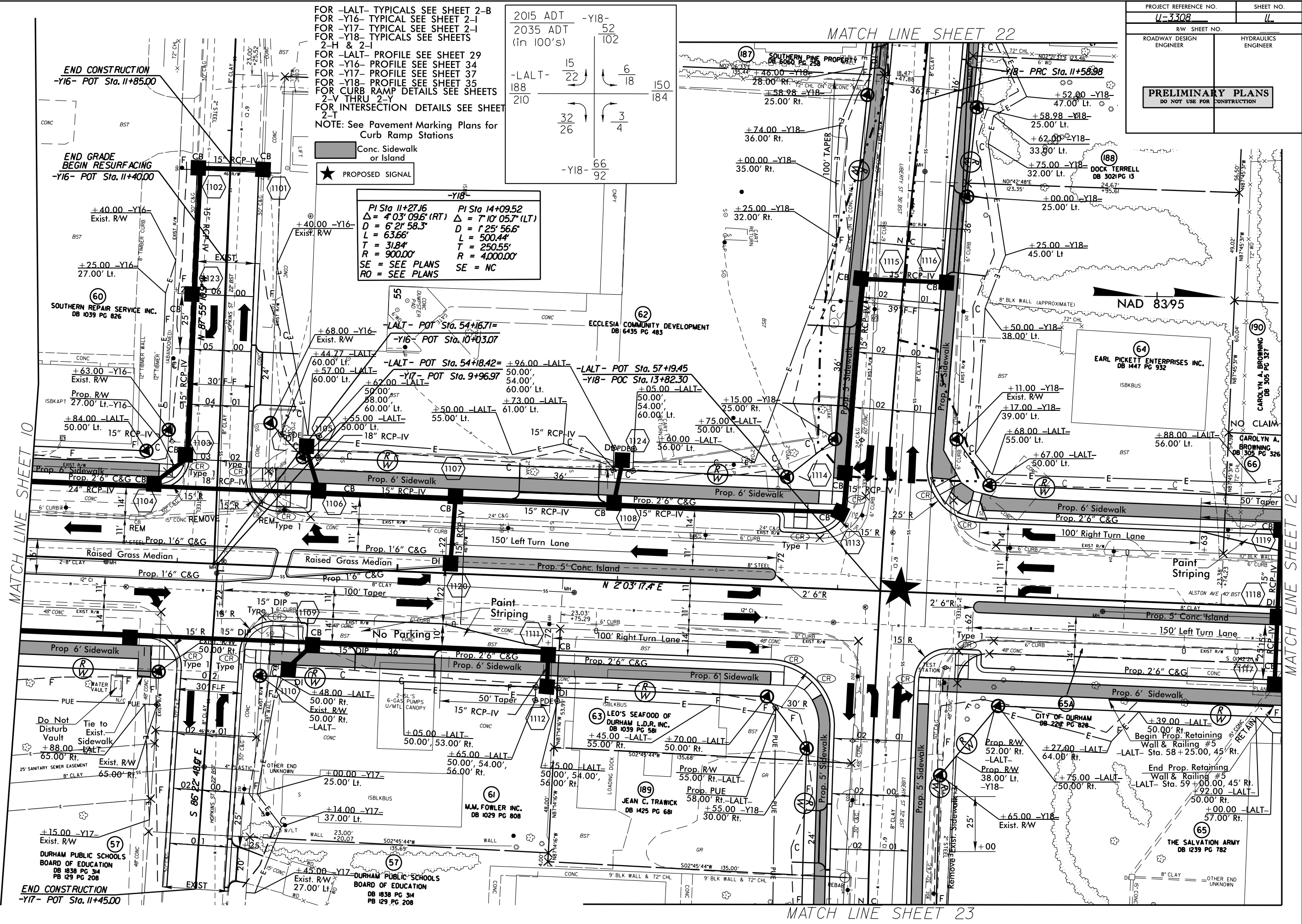
-LALT-
PI Sta 49+02.53
 $\Delta = 20' 21' 04.3''$ (LT)
 $D = 7' 38' 22.0''$
 $L = 266.40'$
 $T = 134.62'$
 $R = 750.00'$
 $SE = 0.03$
 $RO = 87'$

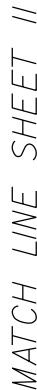
-Y15A-
PI Sta 10+49.23
 $\Delta = 13' 22' 41.7''$ (RT)
 $D = 28' 38' 52.4''$
 $L = 46.70'$
 $T = 23.46'$
 $R = 200.00'$

2015 ADT	-Y14-	
2035 ADT	6	
(in 100's)	12	
	1/3	2/2
	5/15	10/14
	18/36	
	-Y15-	
	184	204

FOR -LALT- PROFILE SEE SHEETS 28-29
FOR -Y14- PROFILE SEE SHEET 34
FOR -Y15- PROFILE SEE SHEET 34
FOR -Y15A- PROFILE SEE SHEET 35
FOR -LALT- TYPICAL SEE SHEET 2-B
FOR -Y14- TYPICALS SEE SHEET 2-G
FOR -Y15- TYPICAL SEE SHEET 2-H
FOR -Y15A- TYPICAL SEE SHEET 2-F
FOR CURB RAMP DETAILS SEE SHEETS 2-V THRU 2-Y
NOTE: See Pavement Marking Plans for
Curb Ramp Stations

★ PROPOSED SIGNAL
Conc. Sidewalk or Island
Proposed Brick Pavers



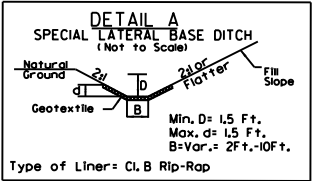


MATCH LINE SHEET 13

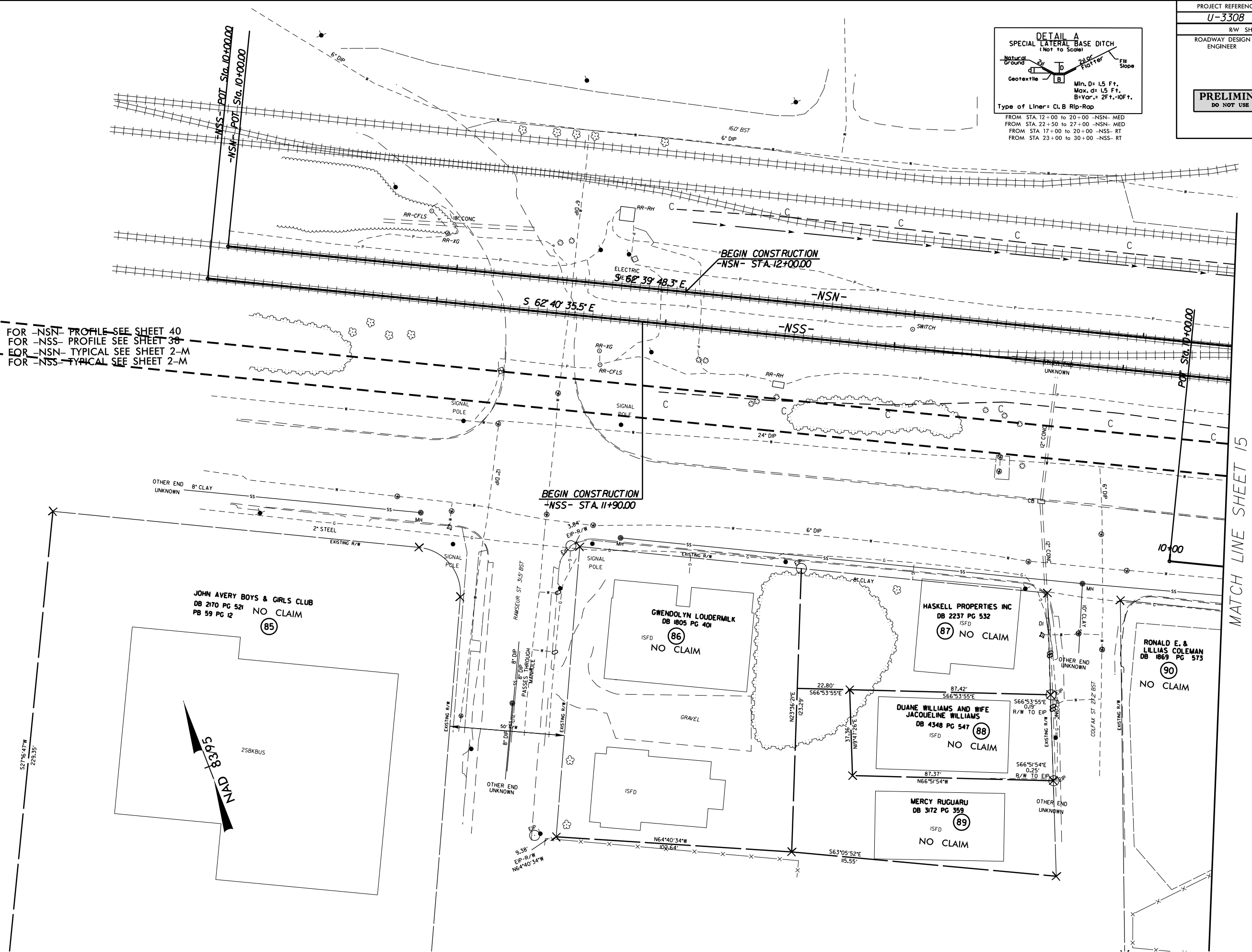
8/17/99



PROJECT REFERENCE NO.	SHEET NO.
U-3308	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



FOR -NSN- PROFILE SEE SHEET 40
FOR -NSS- PROFILE SEE SHEET 38
FOR -NSN- TYPICAL SEE SHEET 2-M
FOR -NSS- TYPICAL SEE SHEET 2-M



PROJECT REFERENCE NO.	SHEET NO.
U-3308	14A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-NSD2-
PIs Sta 10+82.67 PI Sta 11+90.69
 $\Delta = 1' 23' 41.7''$ $\Delta = 3' 00' 00.0''$ (LT)
Ls = 124.00' D = 2' 15' 00"
LT = 82.67' L = 133.34'
ST = 41.34' T = 66.69'
R = 2,546.64' (CHORD)
SE = 2'
V = 55 PASSENGER
V = 50 FREIGHT

FOR -NSD2- PROFILE SEE SHEET 43
FOR -SW2- PROFILE SEE SHEET 45
FOR -NSD2- TYPICAL SEE SHEET 2-M
FOR -SW2- TYPICAL SEE SHEET 2-M

USE FOR R/R DETOURS ONLY

-SW2-
PI Sta 10+56.36
 $\Delta = 3' 00' 00.0''$ (LT)
D = 2' 59' 58.8"
L = 112.69'
T = 56.36'
R = 1,910.08' (CHORD)
SE = 0'
V = 10mph

JOHN AVERY BOYS & GIRLS CLUB
DB 2170 PG 521
PB 59 PG 12
NO CLAIM

85

GWENDOLYN LOUDERMILK
DB 1805 PG 401
ISFD
NO CLAIM

RONALD E. & LILLIAS COLEMAN
DB 1869 PG 573
NO CLAIM

90

HASKELL PROPERTIES INC
DB 2237 PG 532
ISFD
NO CLAIM

87

DUANE WILLIAMS AND WIFE
JACQUELINE WILLIAMS
DB 4348 PG 547
ISFD
NO CLAIM

88

MERCY RUGUARU
DB 3172 PG 359
ISFD
NO CLAIM

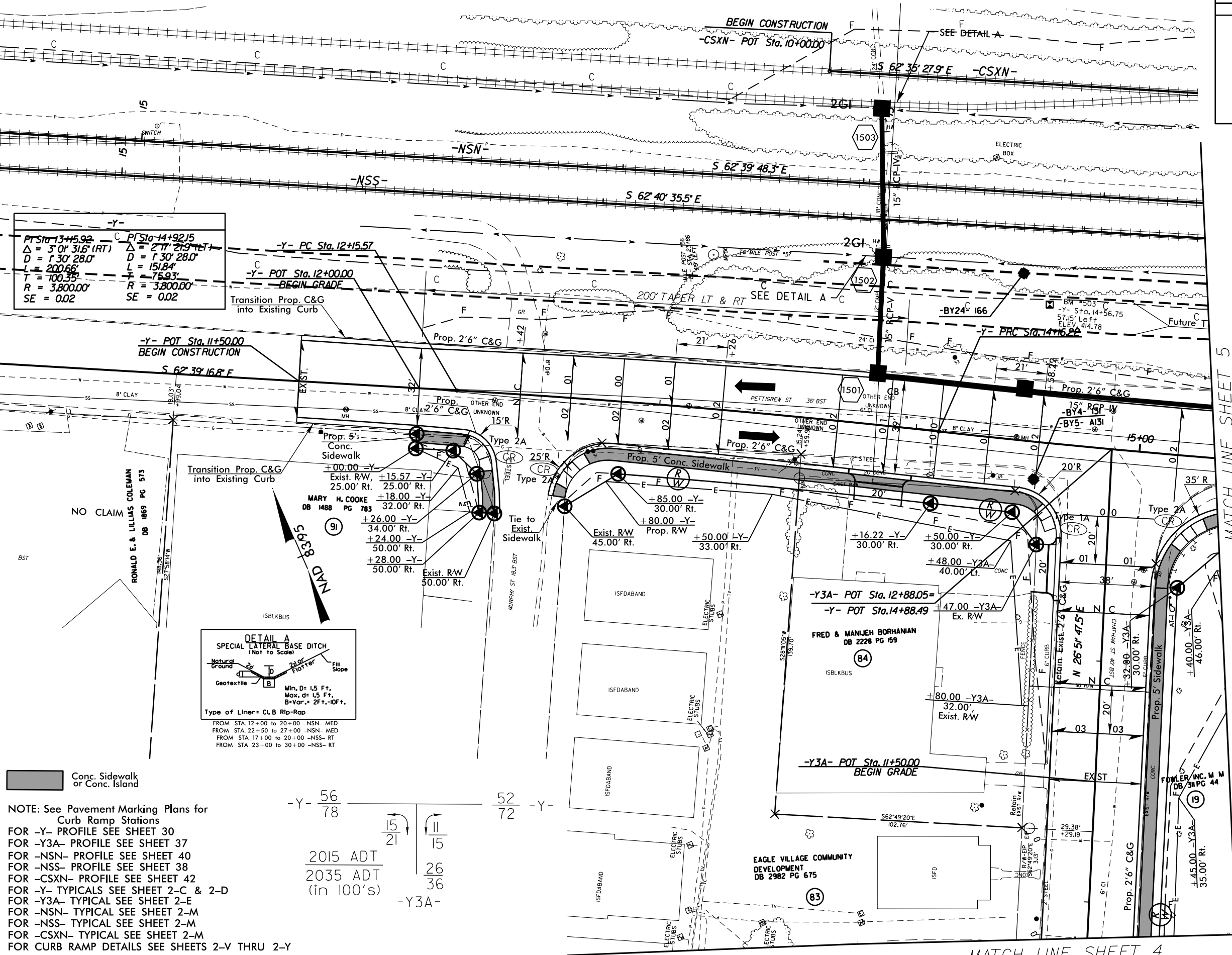
89

RW Revision 12/09/13 JCL
Changed Property Owner Name and Deed
Information for Parcel 84
Added Contaminated Soil Symbol on
Parcel 19

8/17/99

31-MAR-2014 14:01
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\$\$\$\$\$USERNAME\$\$\$\$\$

MATCH LINE SHEET 14

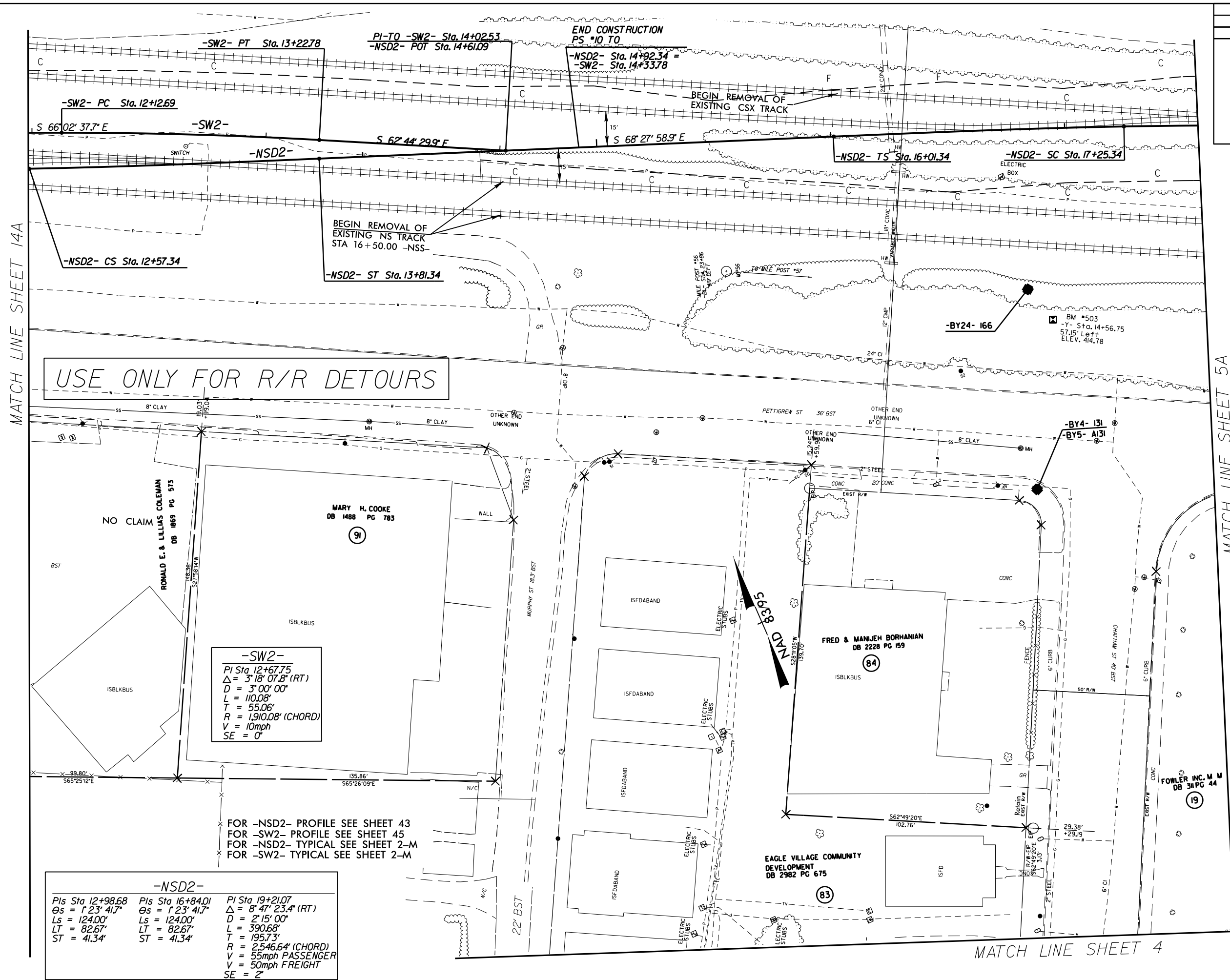


NOTE: See Pavement Marking Plans for
Curb Ramp Stations
FOR -Y- PROFILE SEE SHEET 30
FOR -Y3A- PROFILE SEE SHEET 37
FOR -NSN- PROFILE SEE SHEET 40
FOR -NSS- PROFILE SEE SHEET 38
FOR -CSXN- PROFILE SEE SHEET 42
FOR -Y- TYPICALS SEE SHEET 2-C & 2-D
FOR -Y3A- TYPICAL SEE SHEET 2-E
FOR -NSN- TYPICAL SEE SHEET 2-M
FOR -NSS- TYPICAL SEE SHEET 2-M
FOR -CSXN- TYPICAL SEE SHEET 2-M
FOR CURB RAMP DETAILS SEE SHEETS 2-V THRU 2-Y

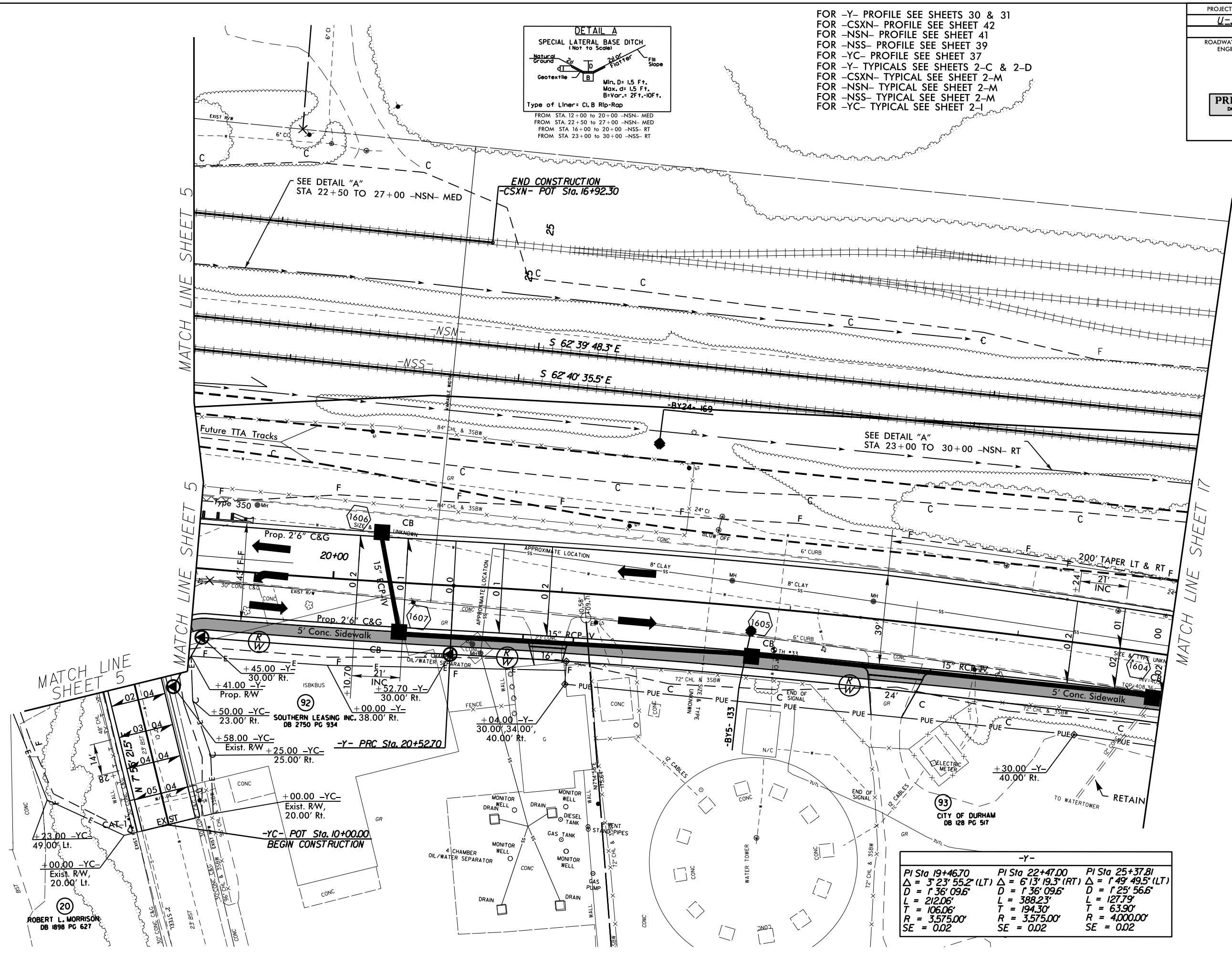
-Y- 56/78 52/72 -Y-
15/21 11/15
2015 ADT 26/36
2035 ADT (in 100's) -Y3A-

PROJECT REFERENCE NO.	SHEET NO.
U-3308	15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

MATCH LINE SHEET 4



PROJECT REFERENCE NO.	SHEET NO.
<u>U-3308</u>	<u>16</u>
RW SHEET NO. _____	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



USE ONLY FOR R/R DETOURS

-EXCSX-

Pl Sta 11+66.03
 $\Delta = 5^{\circ} 36' 35.3''$ (LT)
 $D = 3^{\circ} 15' 00''$
 $L = 172.63'$
 $T = 86.39'$
 $R = 1,763.18'$ (CHORD)
 $V = 10\text{mph}$
 $SF = 0'$

-NSD2-

$PIs Sta\ 21+57.36$
 $\theta_s = 123^{\circ} 41.7''$
 $L_s = 124.00'$
 $LT = 82.67'$
 $ST = 41.34'$

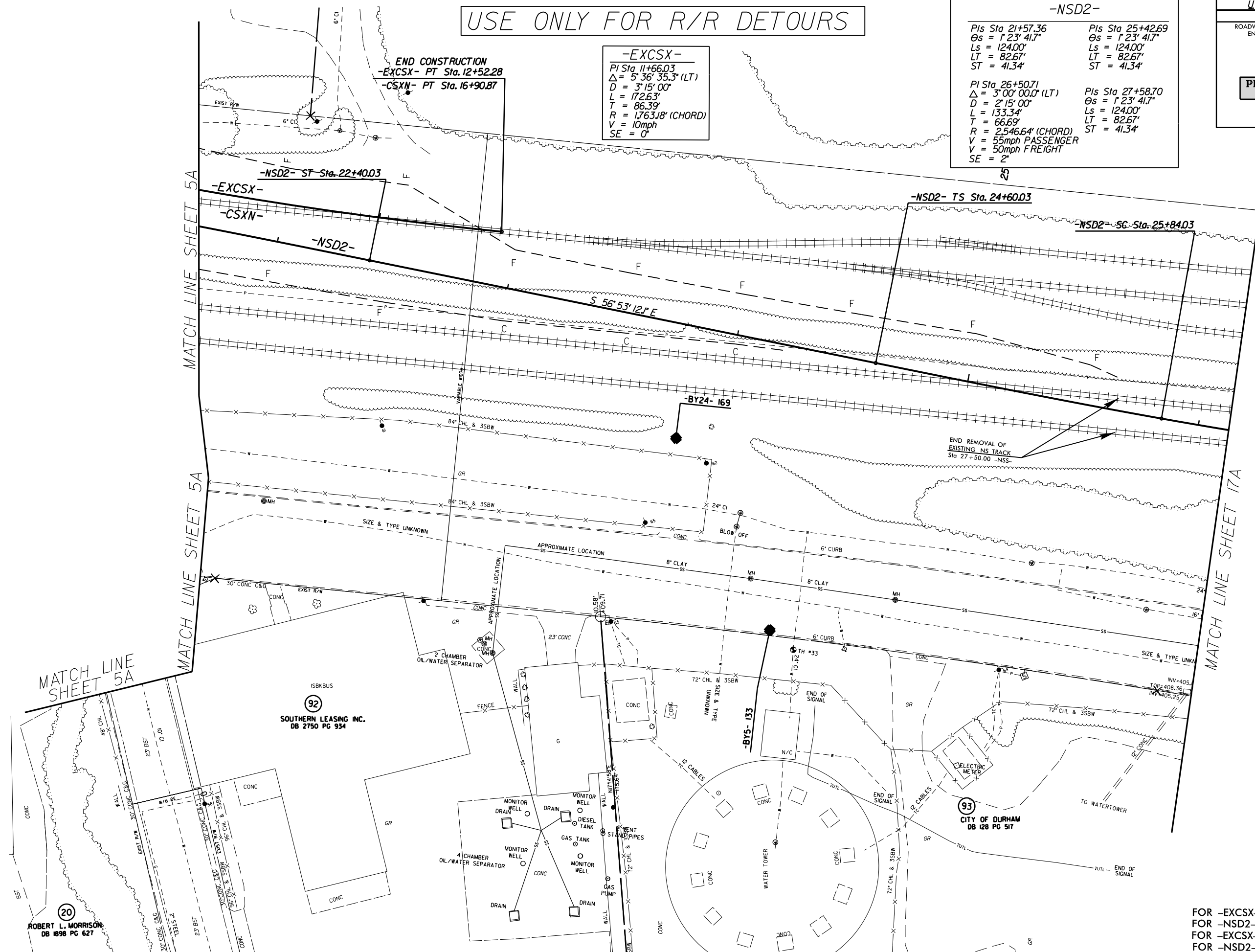
Pls Sta 25+42.69
 $\theta_s = 1^{\circ} 23' 41.7''$
 Ls = 124.00'
 LT = 82.67'
 ST = 41.34'

PI Sta. 26+50.71
 $\Delta = 3^{\circ}00'00.0"$ (LT)
 $D = 2^{\circ}15'00"$
 $L = 133.34'$
 $T = 66.69'$
 $R = 2,546.64'$ (CHORD)
 $V = 55\text{mph}$ PASSENGER
 $V = 50\text{mph}$ FREIGHT
 $SE = 2'$

Pls Sta 27+58.70
 $\theta_s = 1^\circ 23' 41.7''$
 $L_s = 124.00'$
 $LT = 82.67'$
 $ST = 41.34'$

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

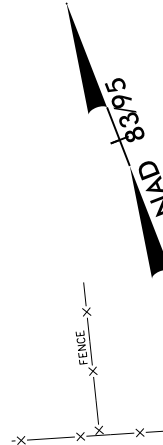
DO NOT USE FOR CONSTRUCTION



FOR -EXCSX- TYPICAL SEE SHEET 2-N
FOR -NSD2- TYPICAL SEE SHEET 2-N
FOR -EXCSX- PROFILE SEE SHEET 45
FOR -NSD2- PROFILE SEE SHEET 44

FOR -NSS- PROFILE SEE SHEET 39
FOR -NSN- PROFILE SEE SHEET 41
FOR -Y- PROFILE SEE SHEET 31
FOR -NSS- TYPICAL SEE SHEET 2-M
FOR -NSN- TYPICAL SEE SHEET 2-M
FOR -Y- TYPICAL SEE SHEETS 2-C & 2-D

PROJECT REFERENCE NO. <u>U-3308</u>		SHEET NO. <u>17</u>	
RW SHEET NO. _____			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



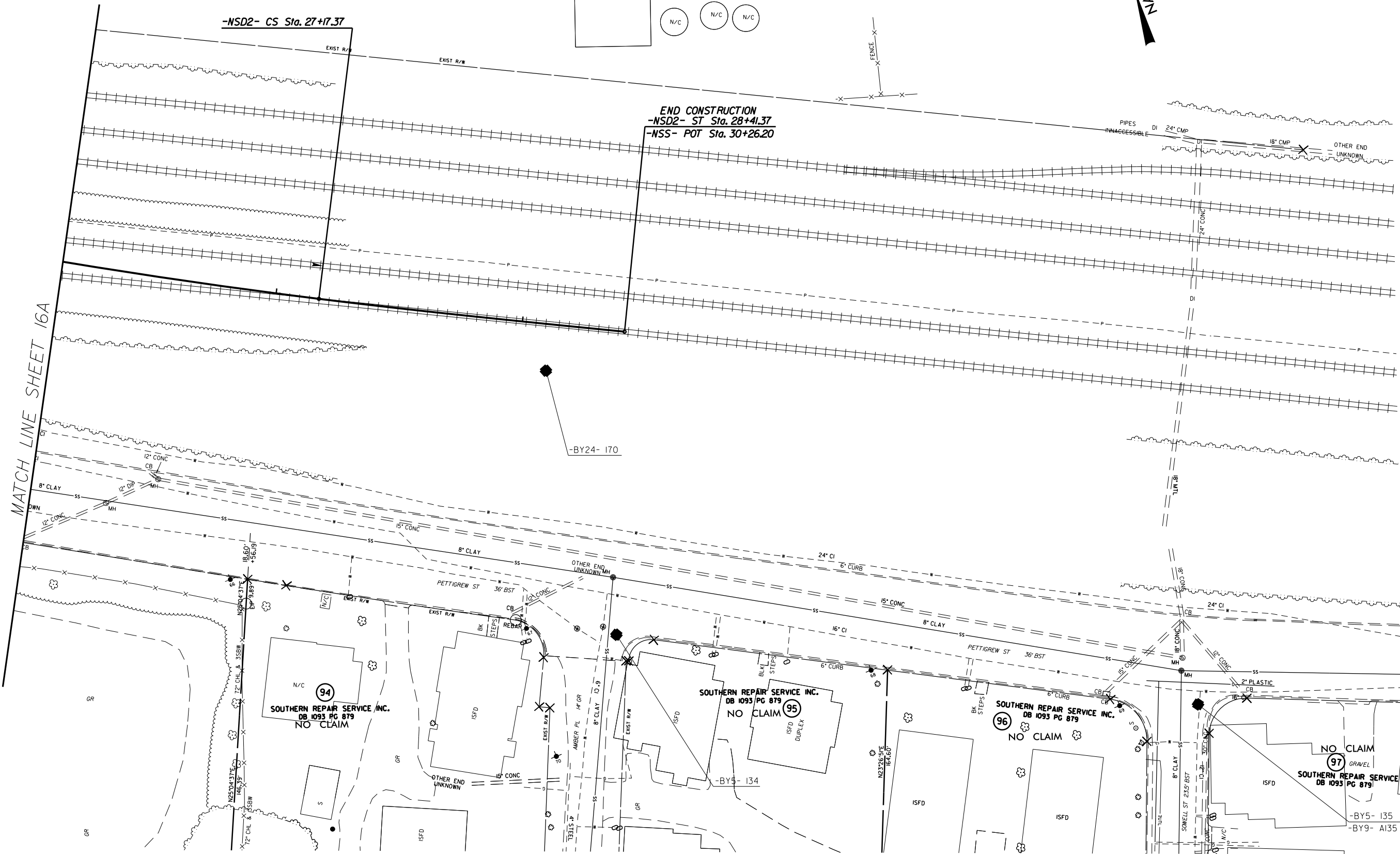
USE ONLY FOR R/R DETOUR

FOR -NSD2- PROFILE SEE SHEET 44
FOR -NSD2- TYPICAL SEE SHEET 2-M

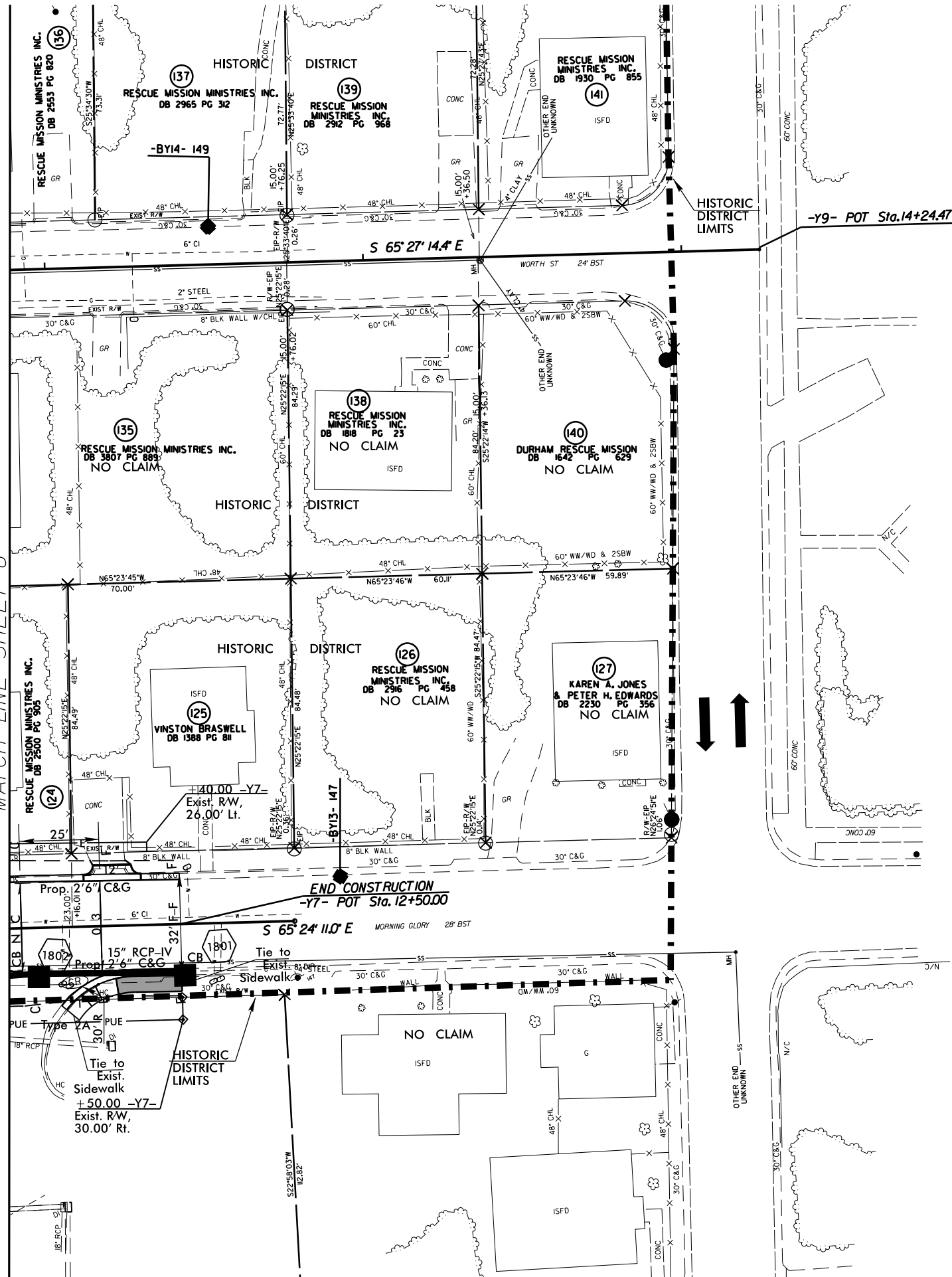
PROJECT REFERENCE NO.	SHEET NO.
U-3308	17A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-NSD2-
Pls Sta 27+58.70
Gs = 1' 23' 41.7"
Ls = 124.00'
LT = 82.67'
ST = 41.34'

MATCH LINE SHEET 16A

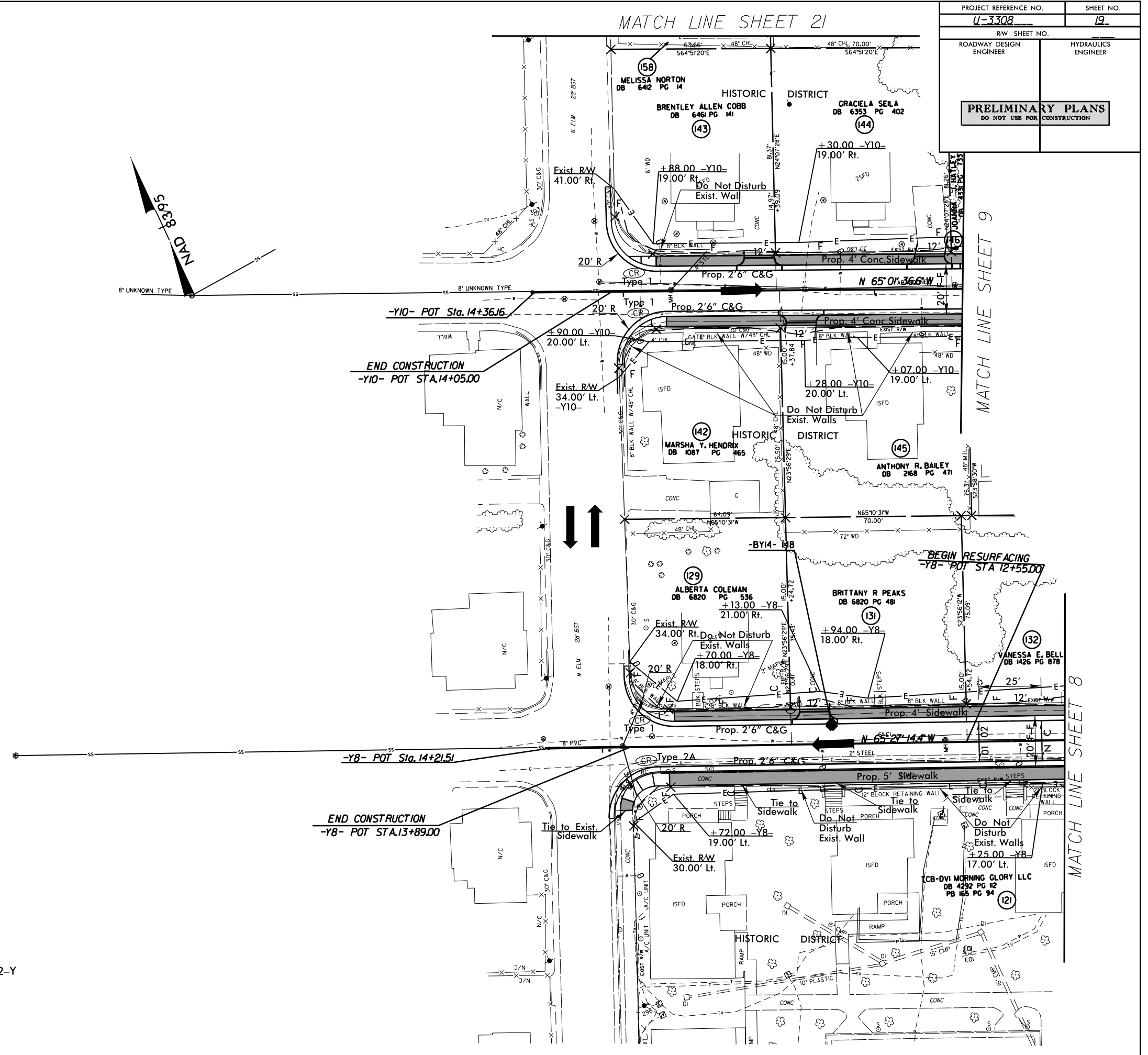


MATCH LINE SHEET 8



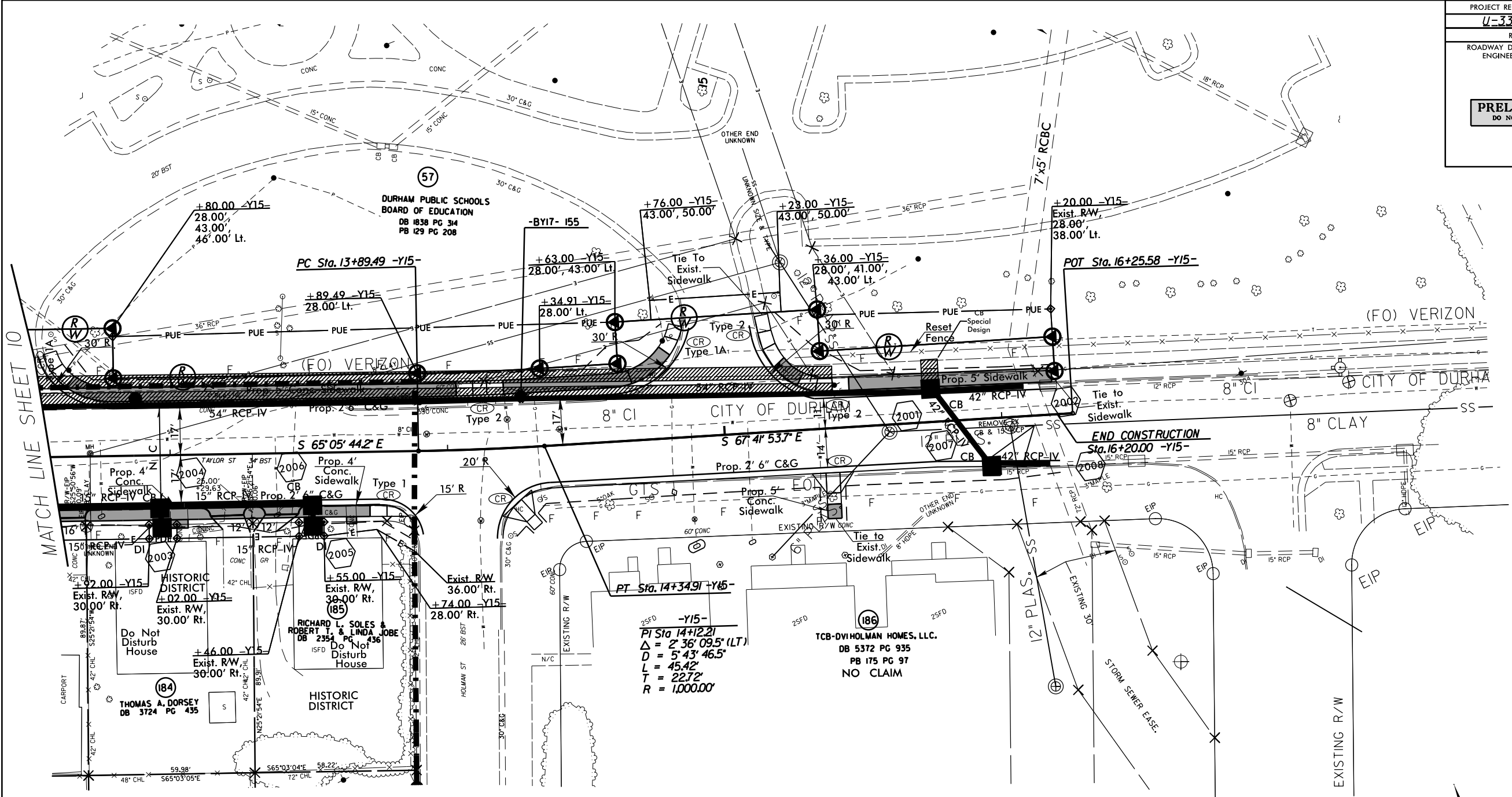
PROJECT REFERENCE NO.	SHEET NO.
U-3308	18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Conc. Sidewalk or Island
FOR -Y7- TYPICAL SEE SHEET 2-F
FOR -Y7- PROFILE SEE SHEET 32



8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3308	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Conc. Sidewalk
or Island

FOR -Y15- PROFILE SEE SHEET 34

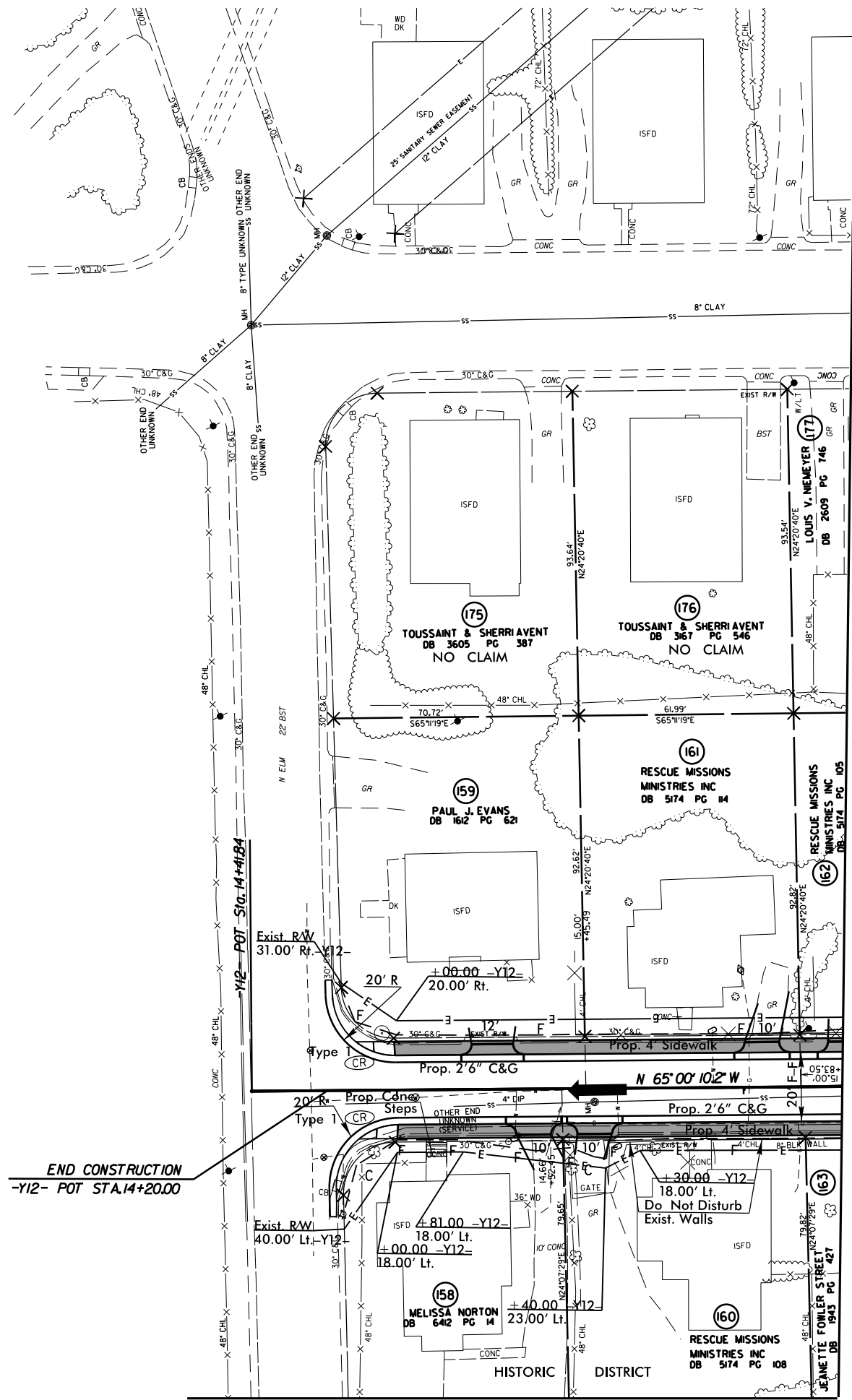
FOR -Y15- TYPICALS SEE SHEET 2-G

FOR CURB RAMP DETAILS SEE SHEET 2-V THRU 2-Y

NOTE: See Pavement Marking Plans for
Curb Ramp Stations

R/W Revision 12/09/13 JCL
Changed Property Owner Name and Deed Information on Parcel 185

31-MAR-2014 14:01
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\$\$\$\$\$ USERNAME \$\$\$



MATCH LINE SHEET 9

MATCH LINE SHEET 19

END CONSTRUCTION
-Y12- POT STA.14+20.00

Conc. Sidewalk
or Island

FOR -Y12- PROFILE SEE SHEET 34

FOR -Y12- TYPICAL SEE SHEET 2-G

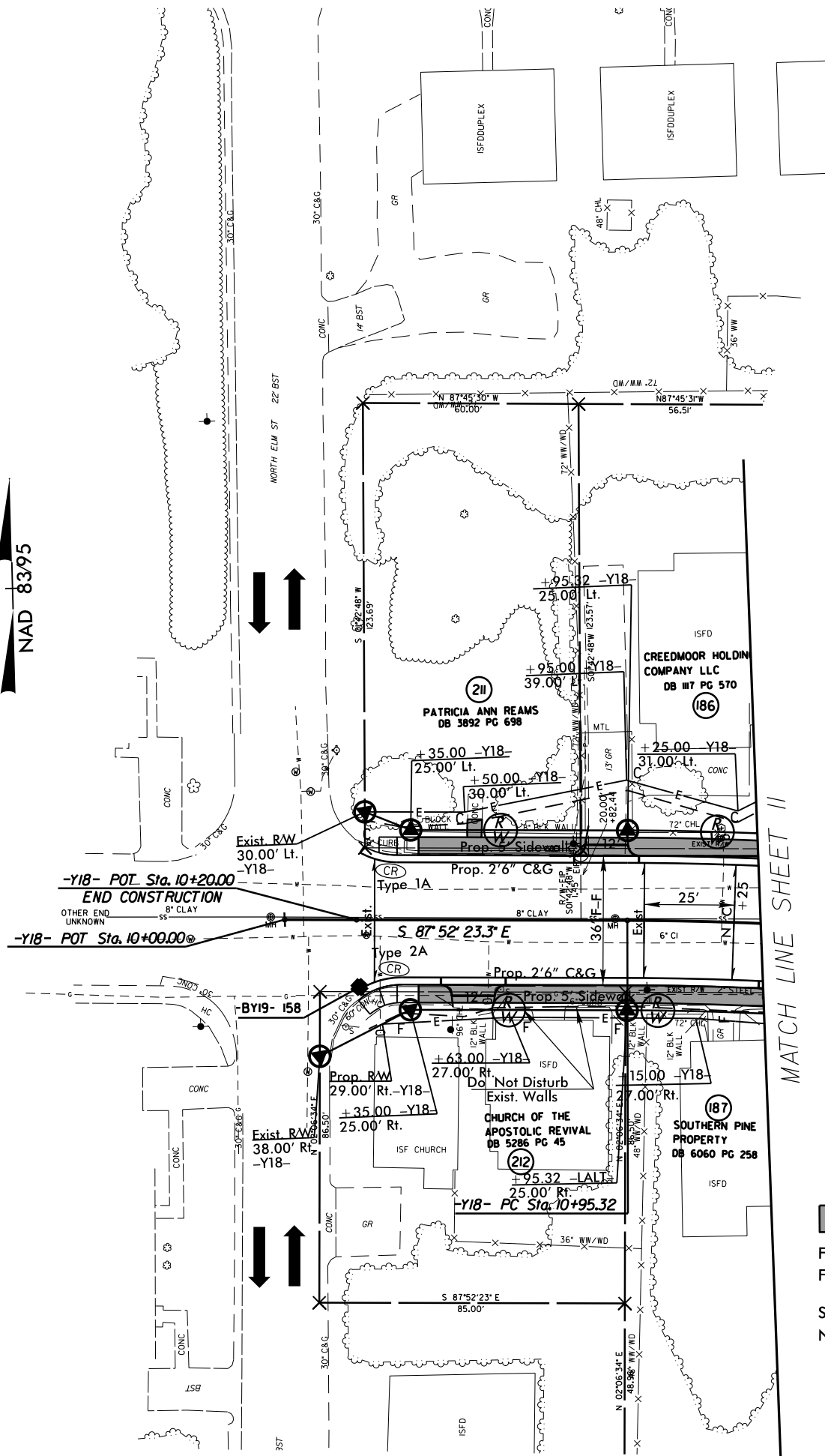
FOR CURB RAMP DETAILS SEE SHEET 2-V THRU 2-Y

NOTE: See Pavement Marking Plans for
Curb Ramp Stations

PROJECT REFERENCE NO.	SHEET NO.
U-3308	21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-Y18-
PI Sta 11+27.16
 $\Delta = 4^{\circ}03'09.6" (RT)$
 $D = 6^{\circ}21'58.3"$
 $L = 63.66'$
 $T = 31.84'$
 $R = 900.00'$
SE = SEE PLANS
RO = SEE PLANS

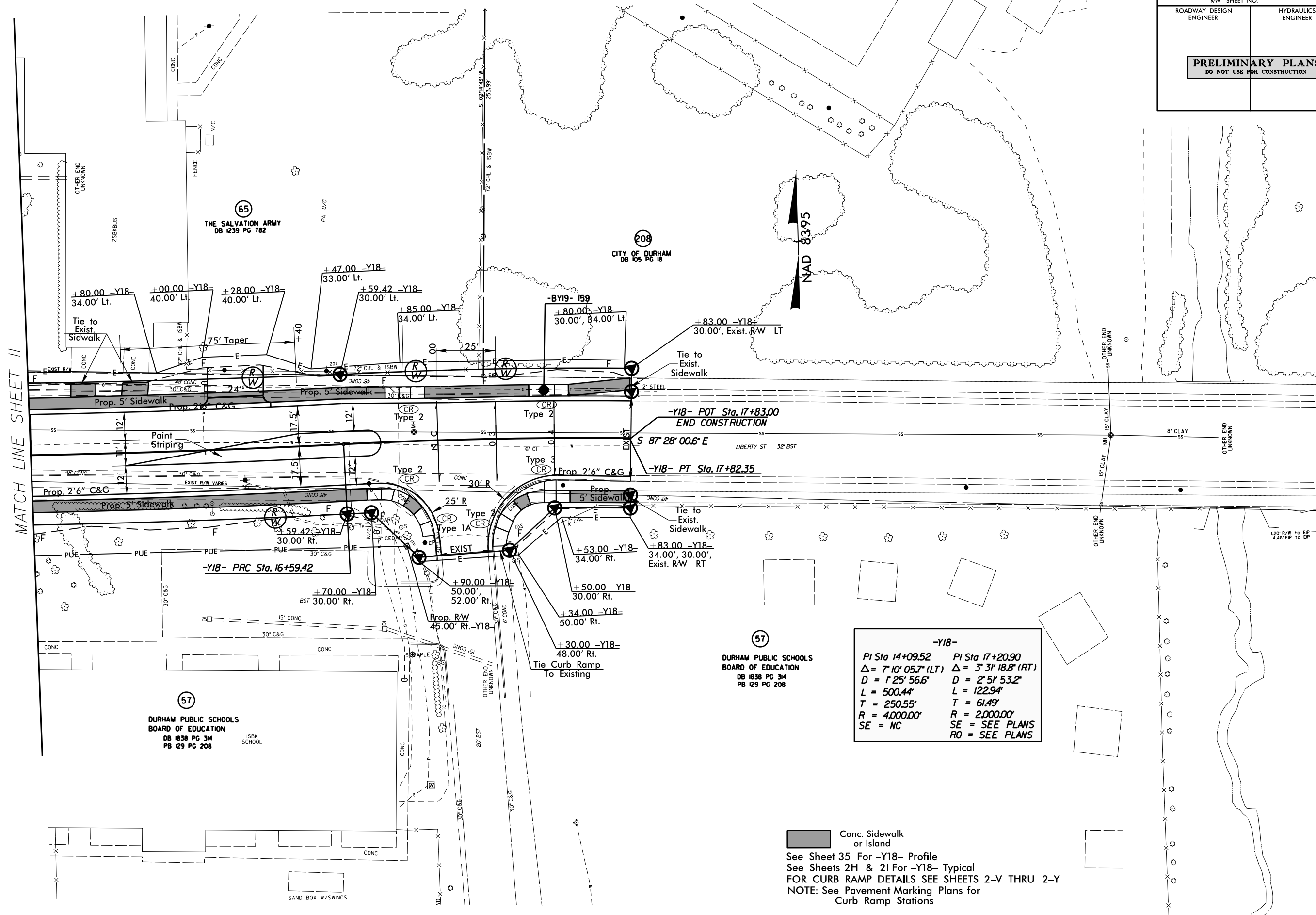
NAD 83/95



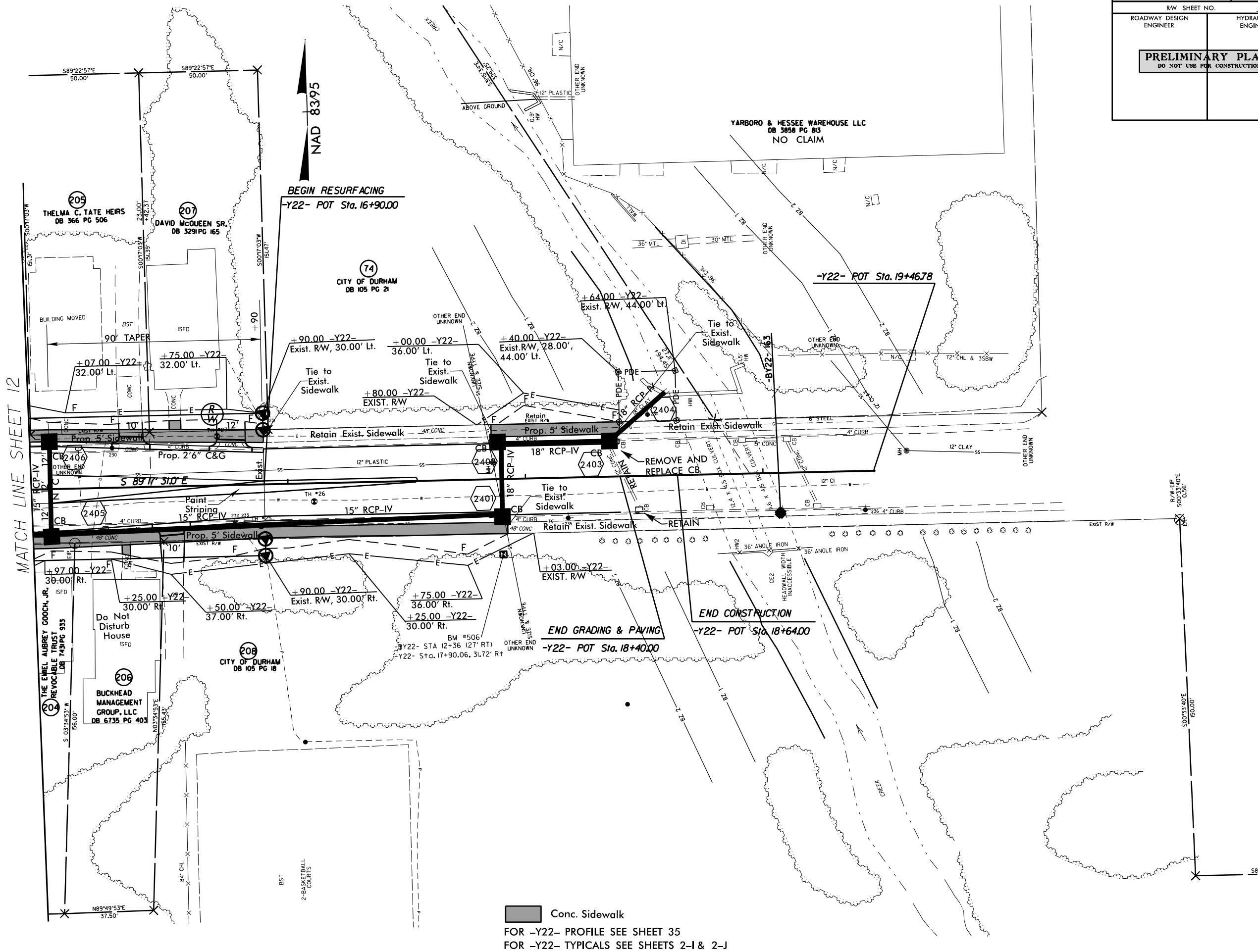
Conc. Sidewalk
or Island

FOR -Y18- PROFILE SEE SHEET 35
FOR -Y18- TYPICALS SEE SHEET 2-H
FOR CURB RAMP DETAILS
SEE SHEETS 2-V THRU 2-Y
NOTE: See Pavement Marking Plans for
Curb Ramp Stations

PROJECT REFERENCE NO.	SHEET NO.
U-3308	22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

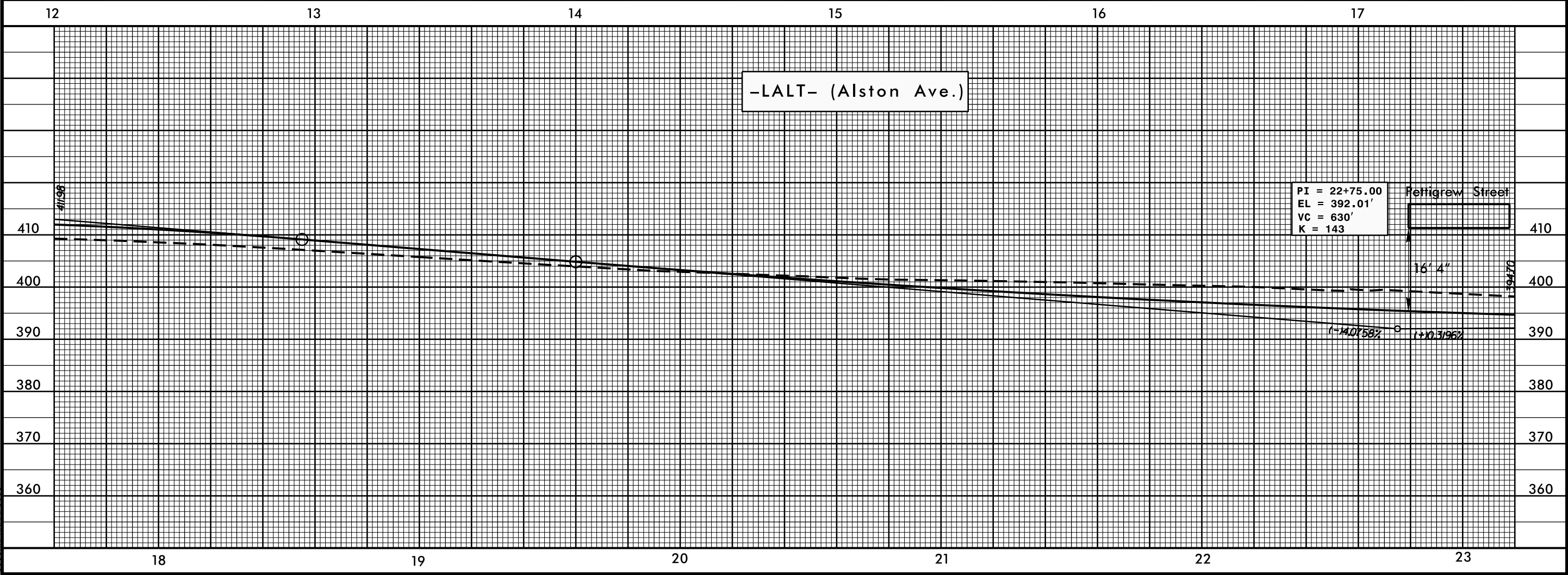
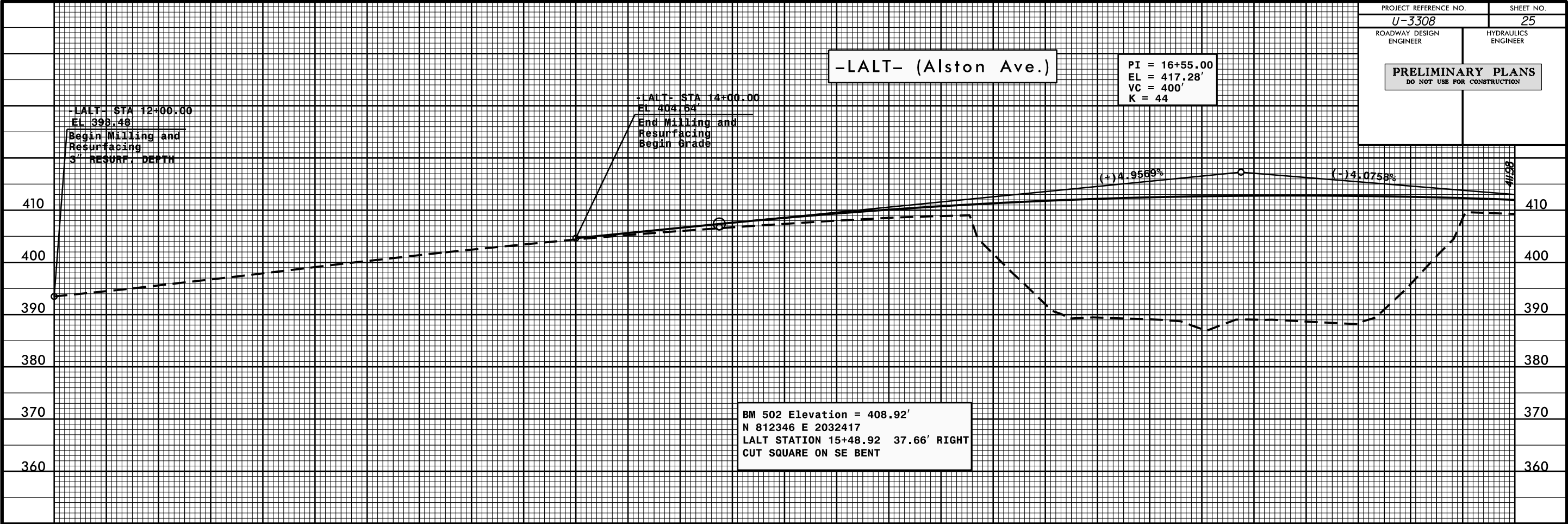


PROJECT REFERENCE NO.	SHEET NO.
<u>U-3308</u>	<u>24</u>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



5/28/99

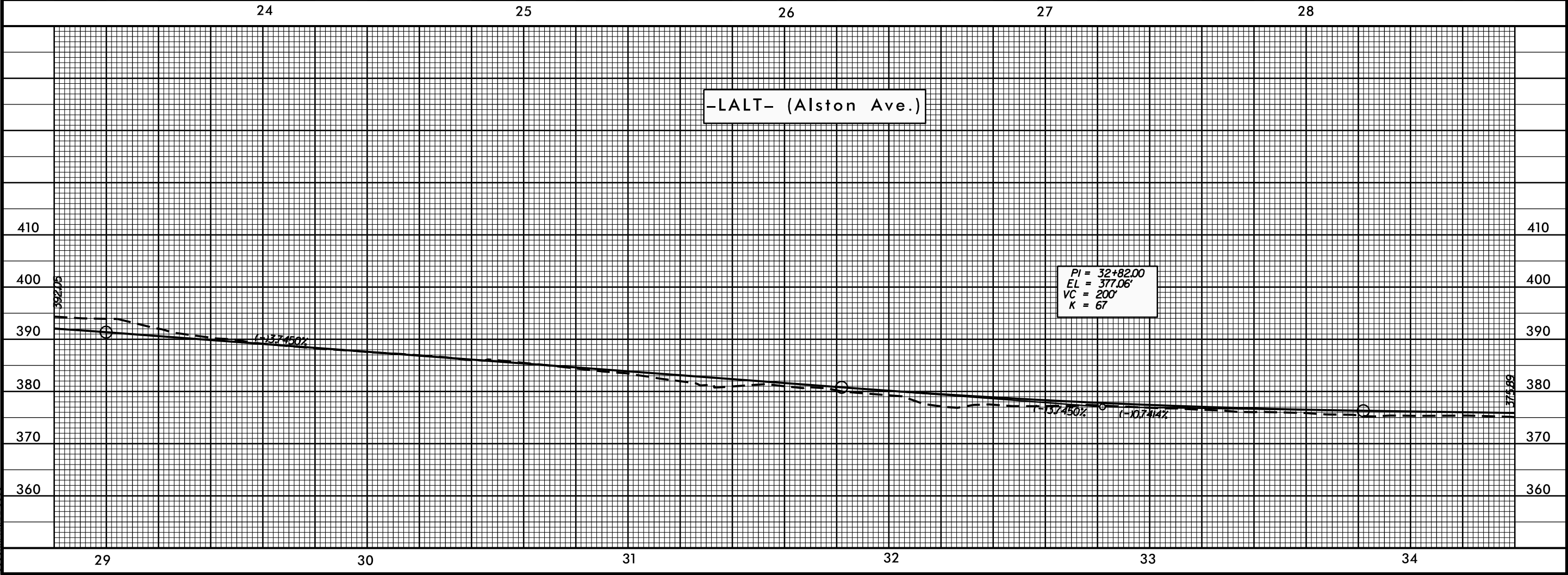
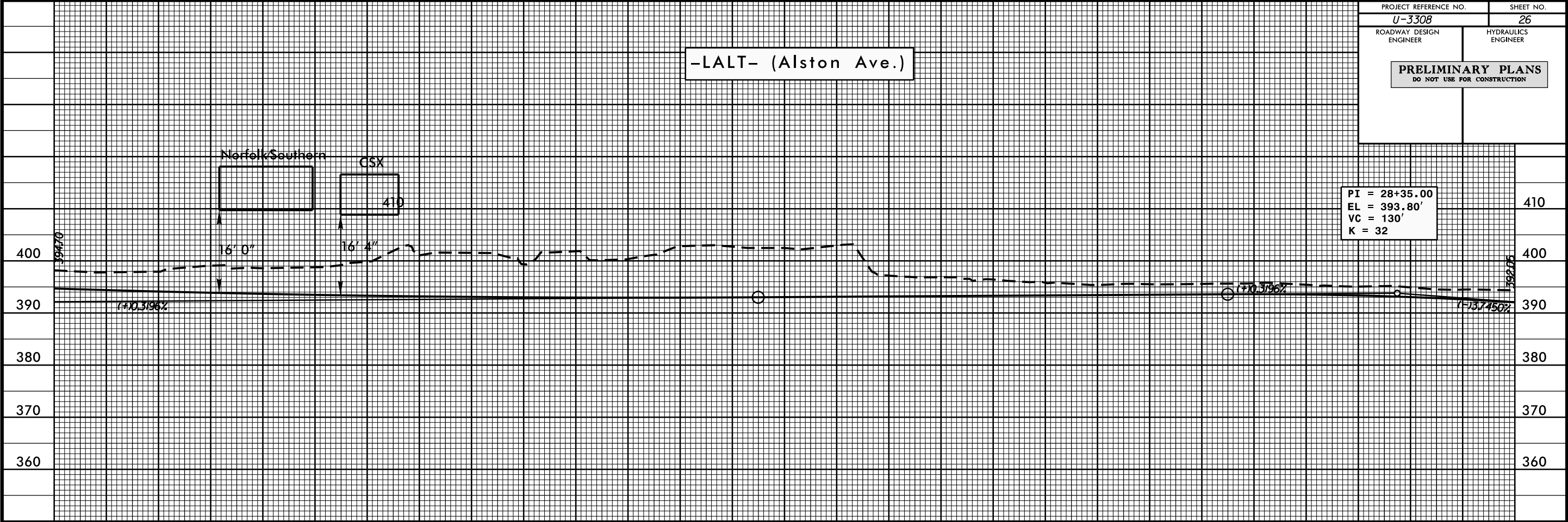
PROJECT REFERENCE NO. U-3308		SHEET NO. 25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



31-MAR-2014 14:01
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SSS:STRAME\$

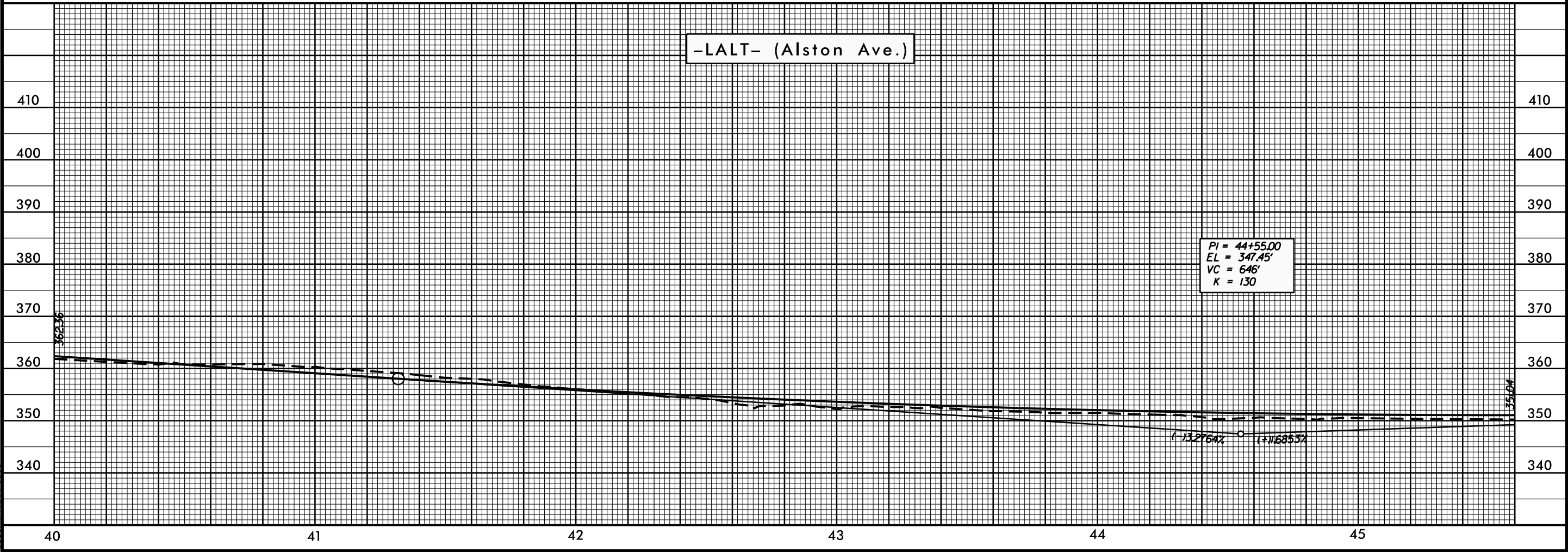
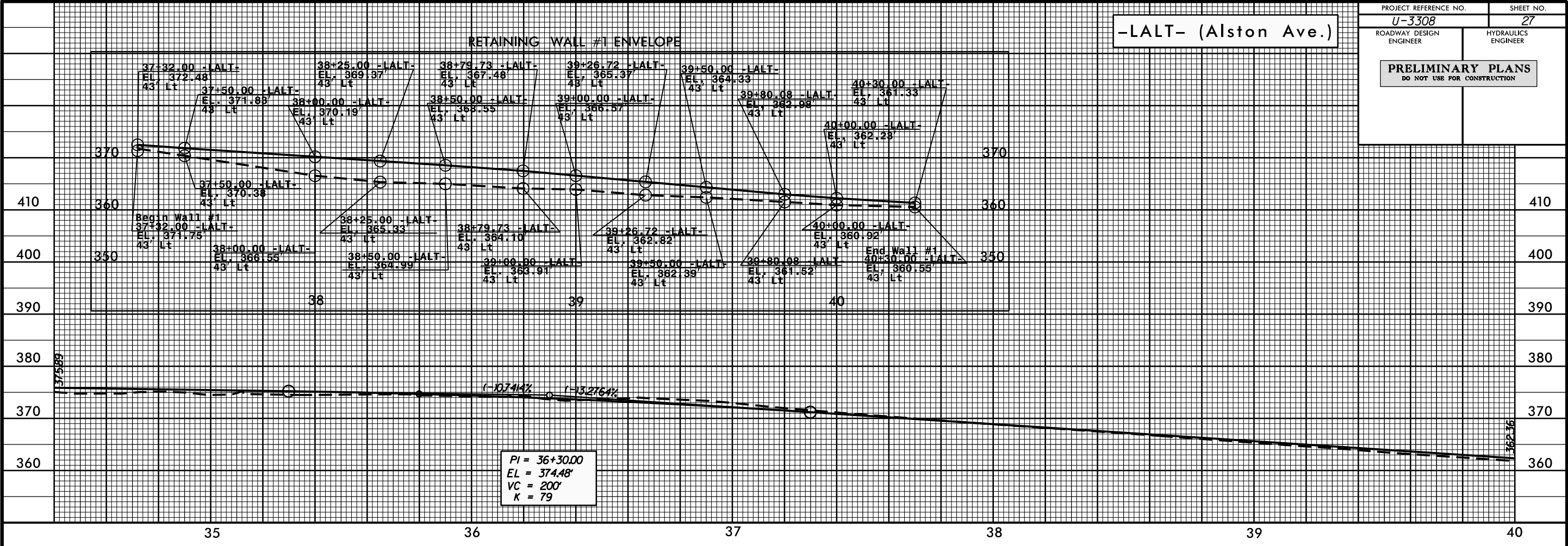
5/28/99

PROJECT REFERENCE NO. U-3308		SHEET NO. 26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



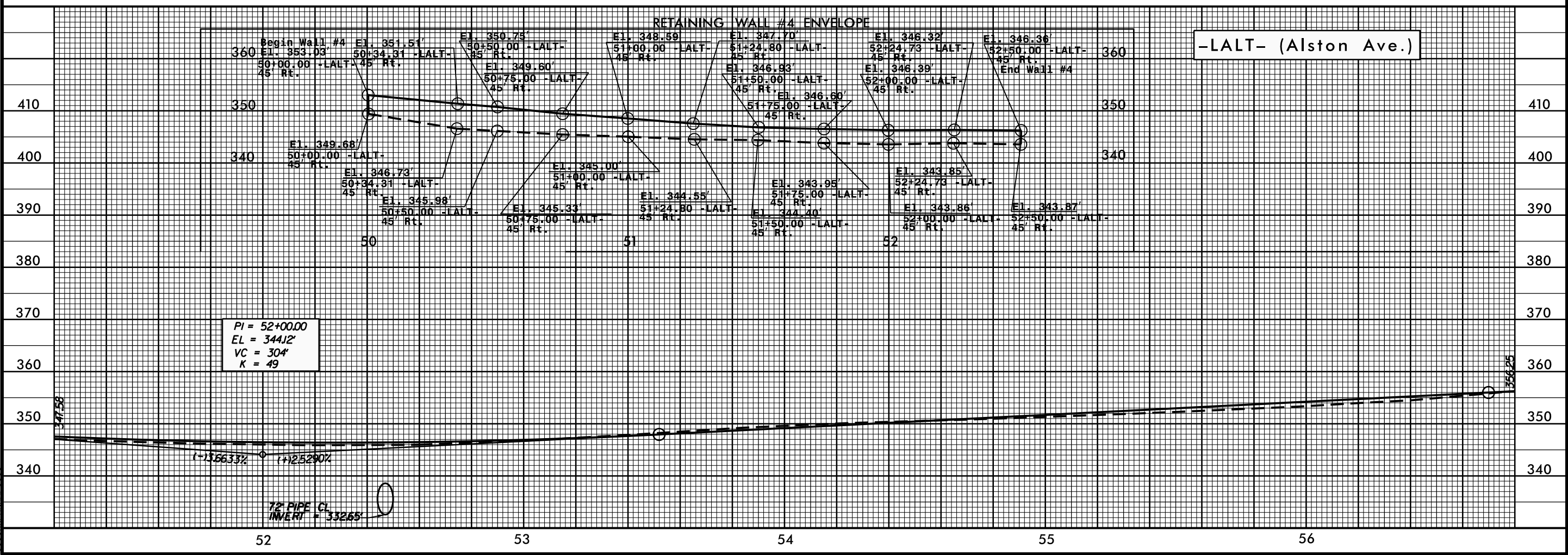
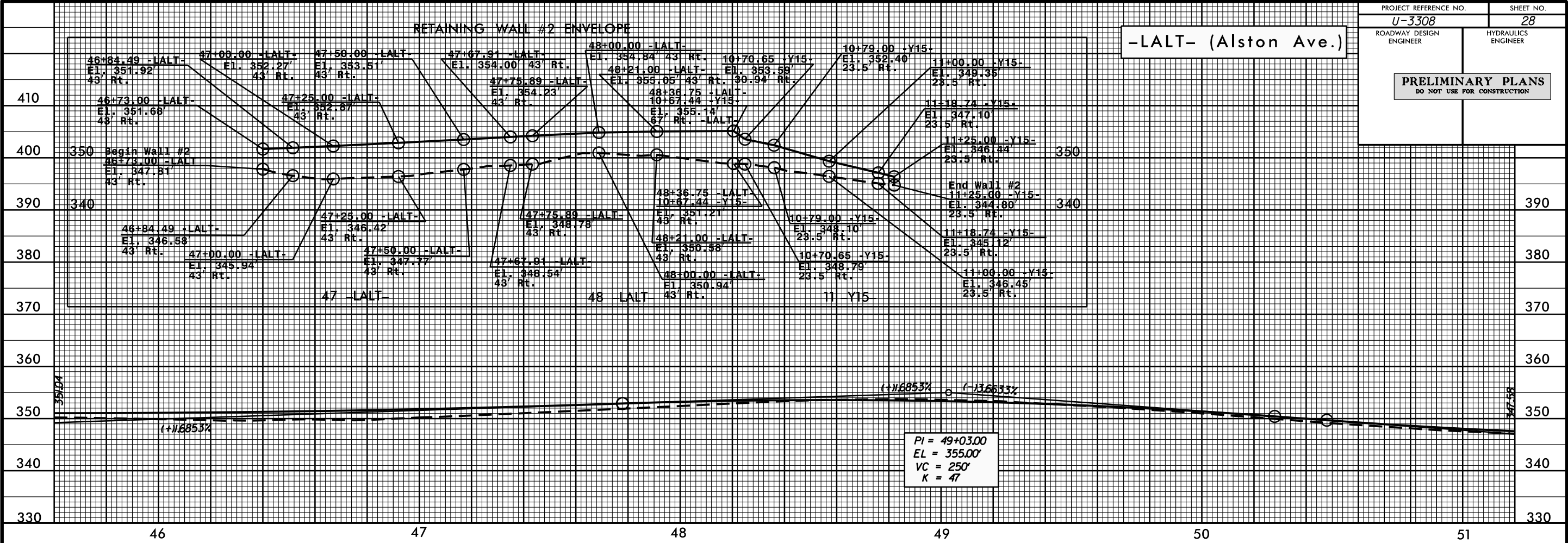
5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		27	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



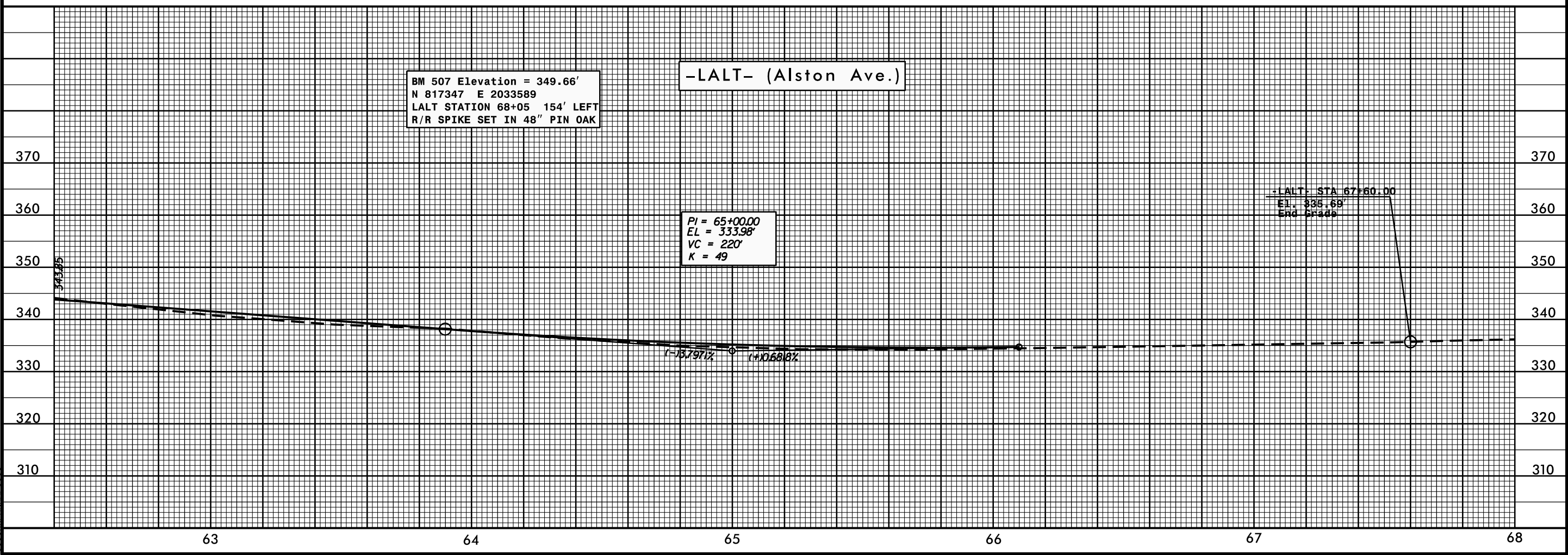
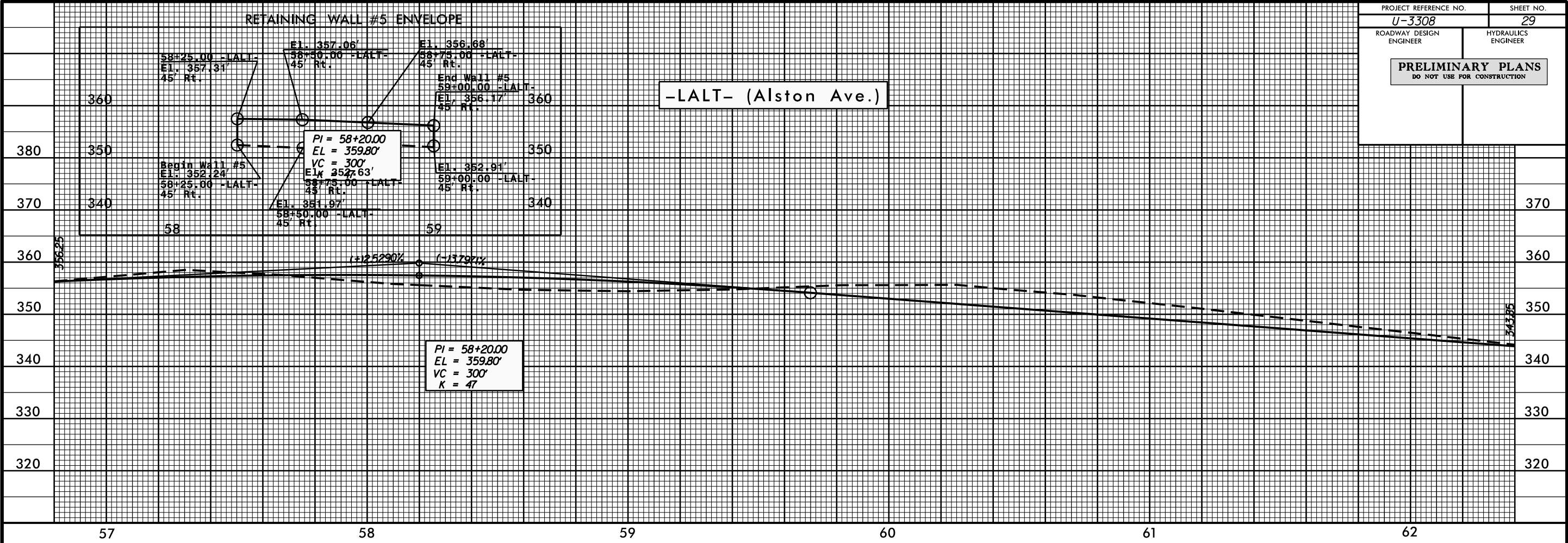
31-MAR-2014 14:01
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SSS\SRNAME\$

5/28/99



5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		29	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



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\$\$\$\$\$
\$\$\$\$\$

5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		30	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

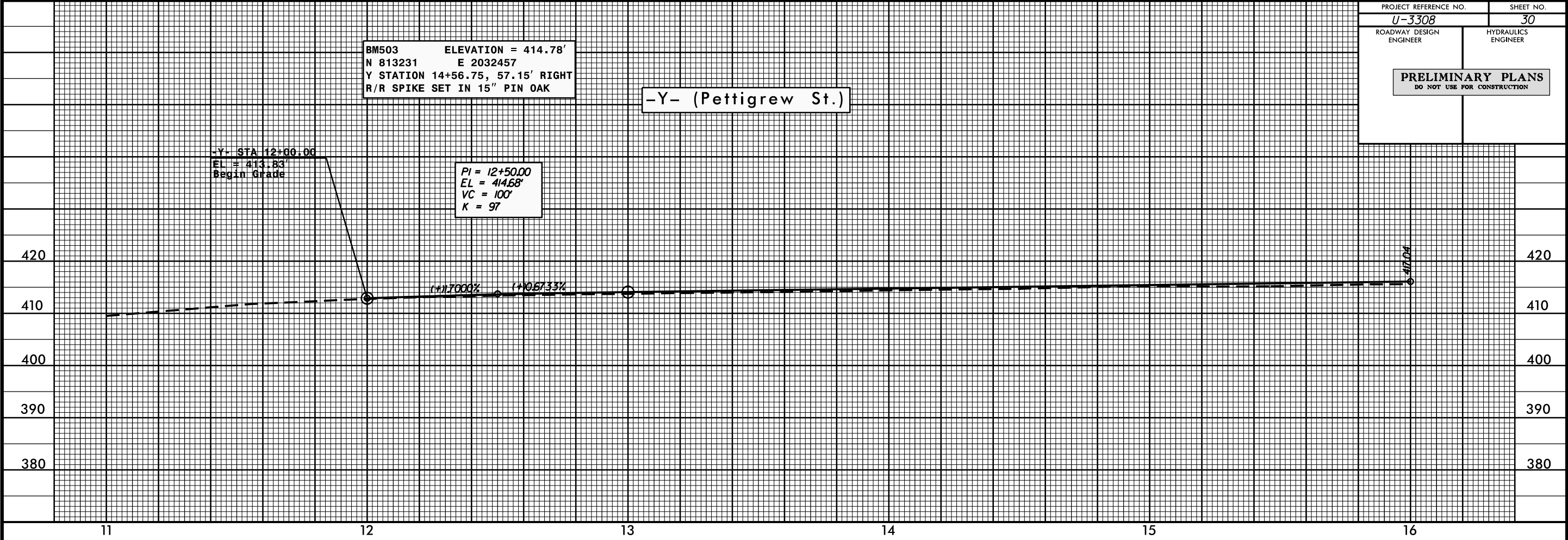
BM503 ELEVATION = 414.78'
N 813231 E 2032457
Y STATION 14+56.75, 57.15' RIGHT
R/R SPIKE SET IN 15" PIN OAK

-Y- (Pettigrew St.)

-Y- STA 12+00.00
EL = 411.83'
Begin Grade

PI = 12+50.00
EL = 414.68'
VC = 100'
K = 97

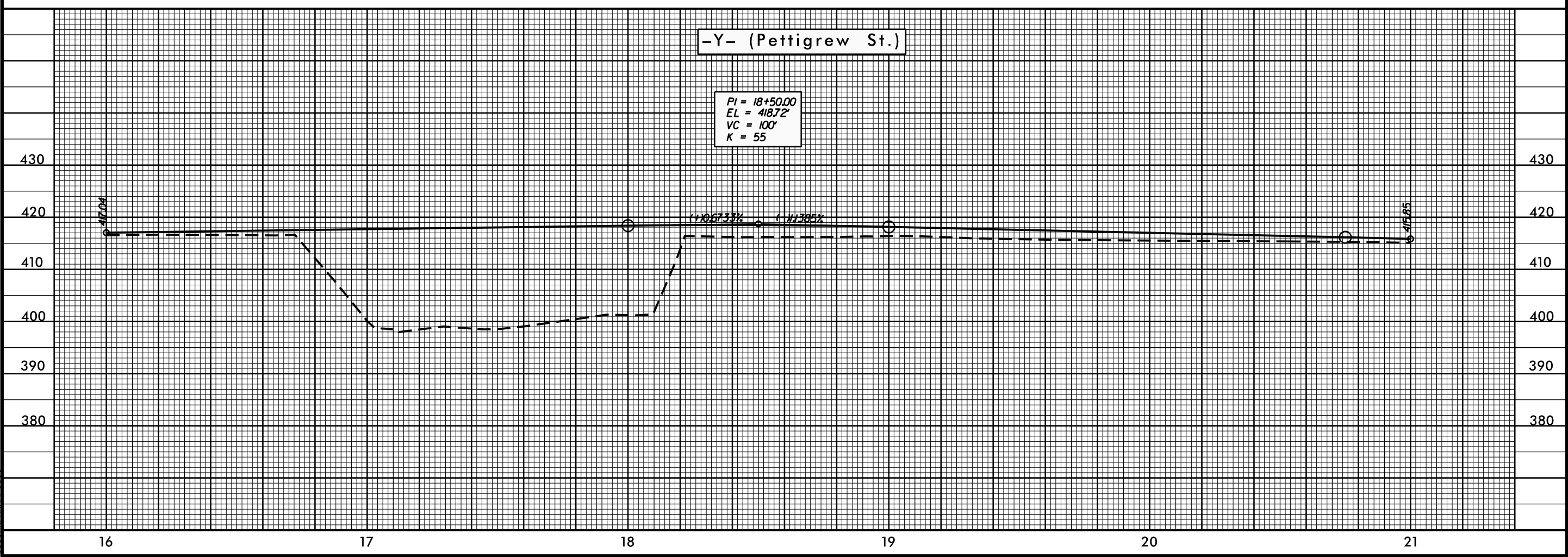
(+1) 7.000% (+1) 0.6733%



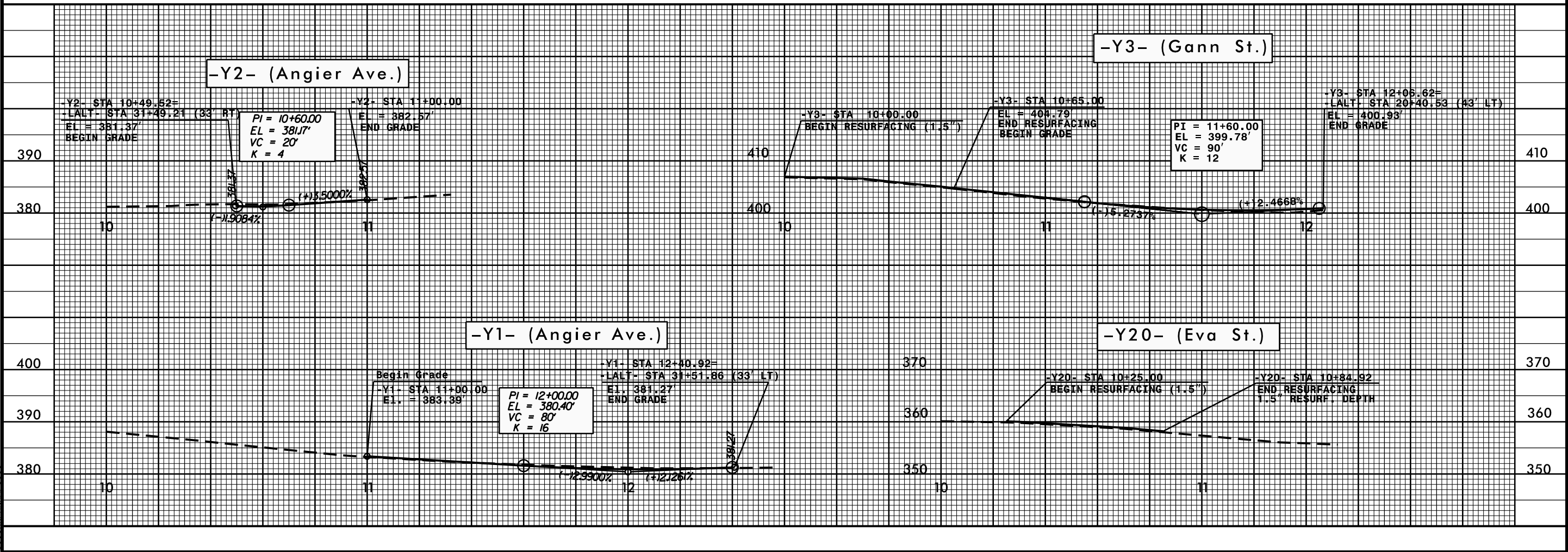
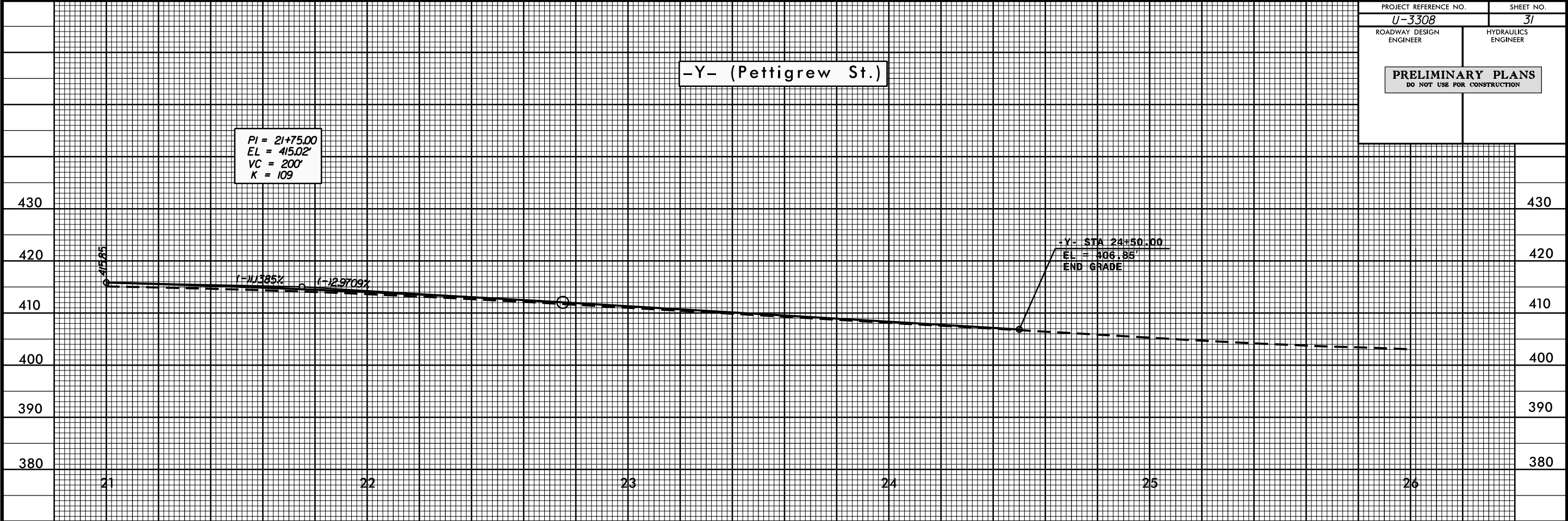
-Y- (Pettigrew St.)

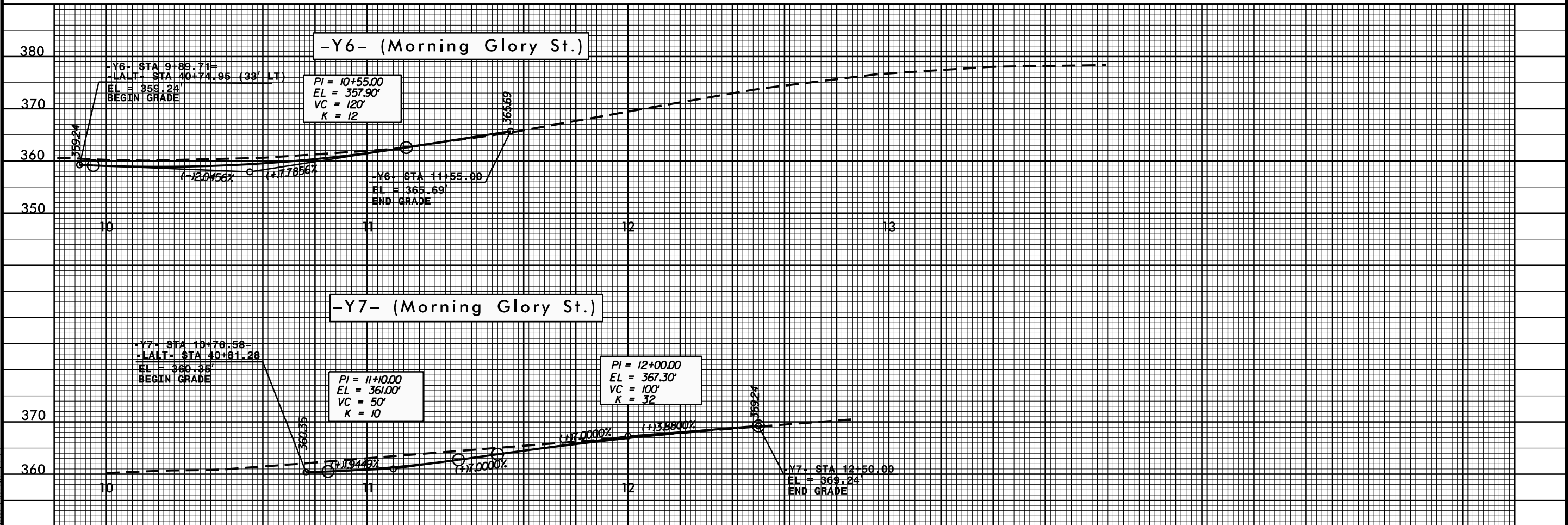
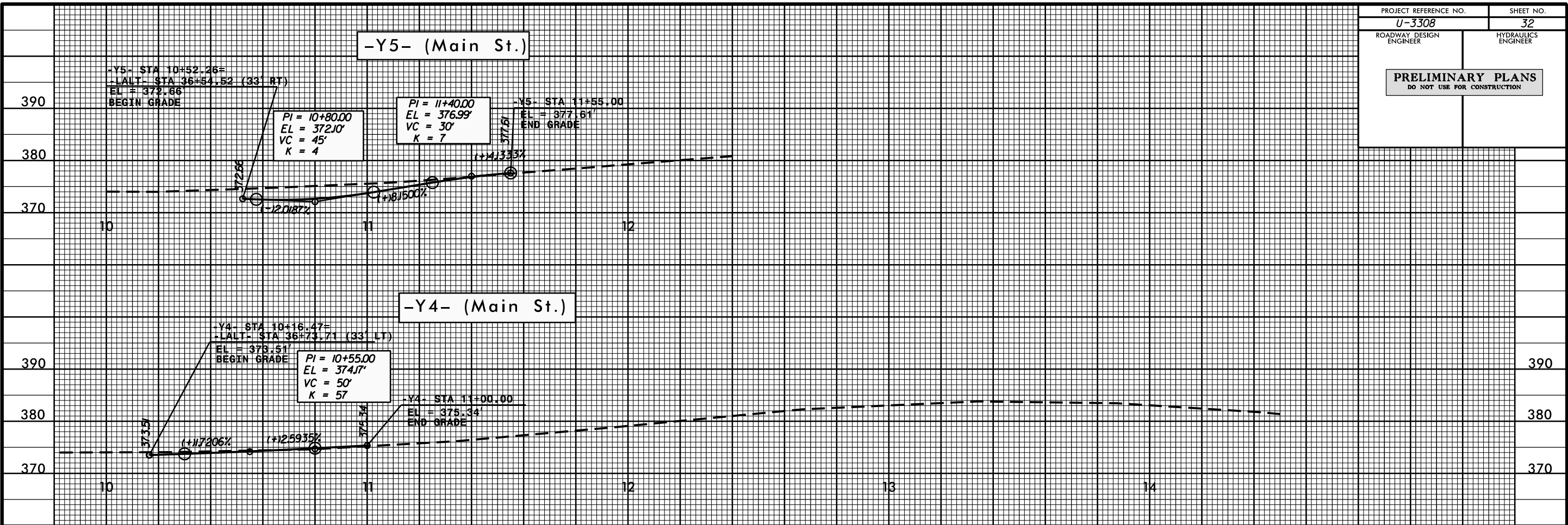
PI = 18+50.00
EL = 418.72'
VC = 100'
K = 55

(+1) 0.6733% (+1) 1.385%

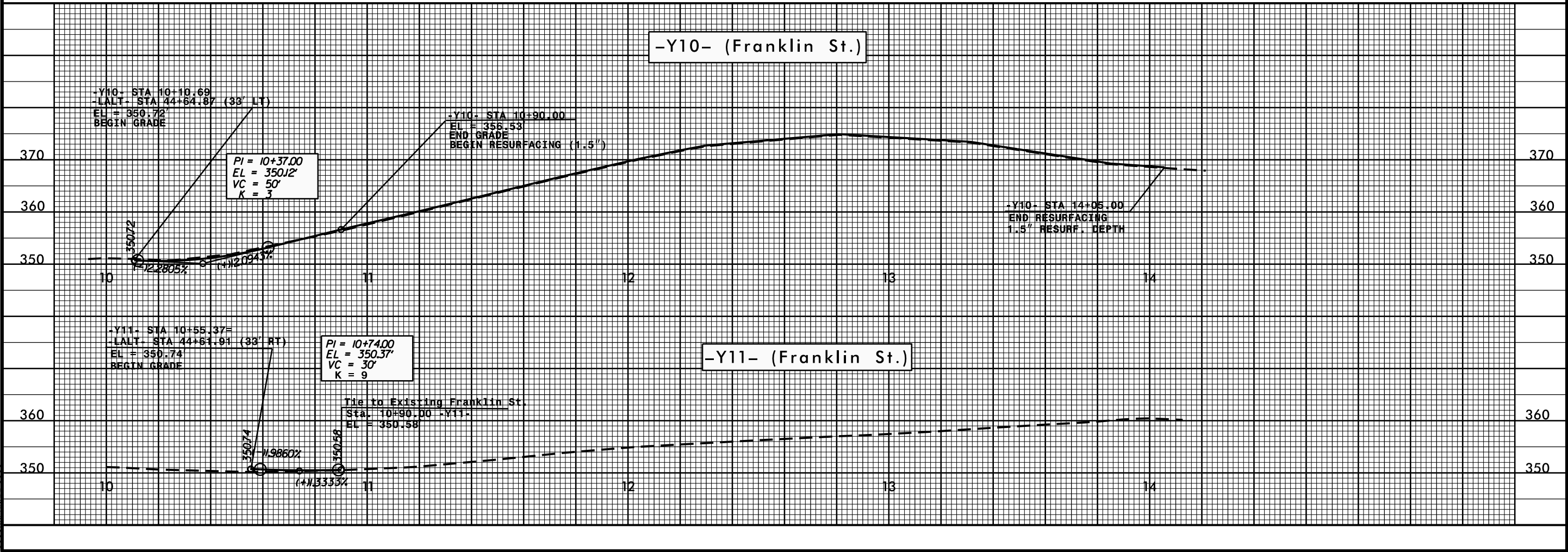
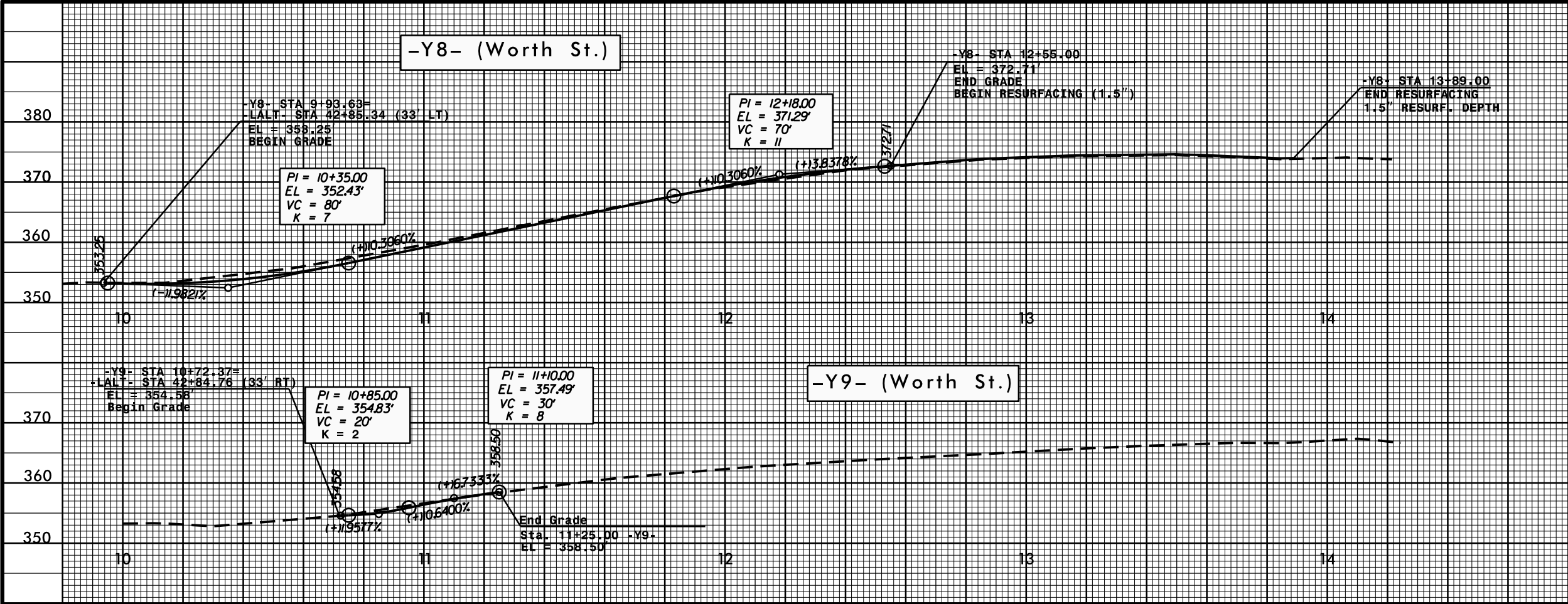


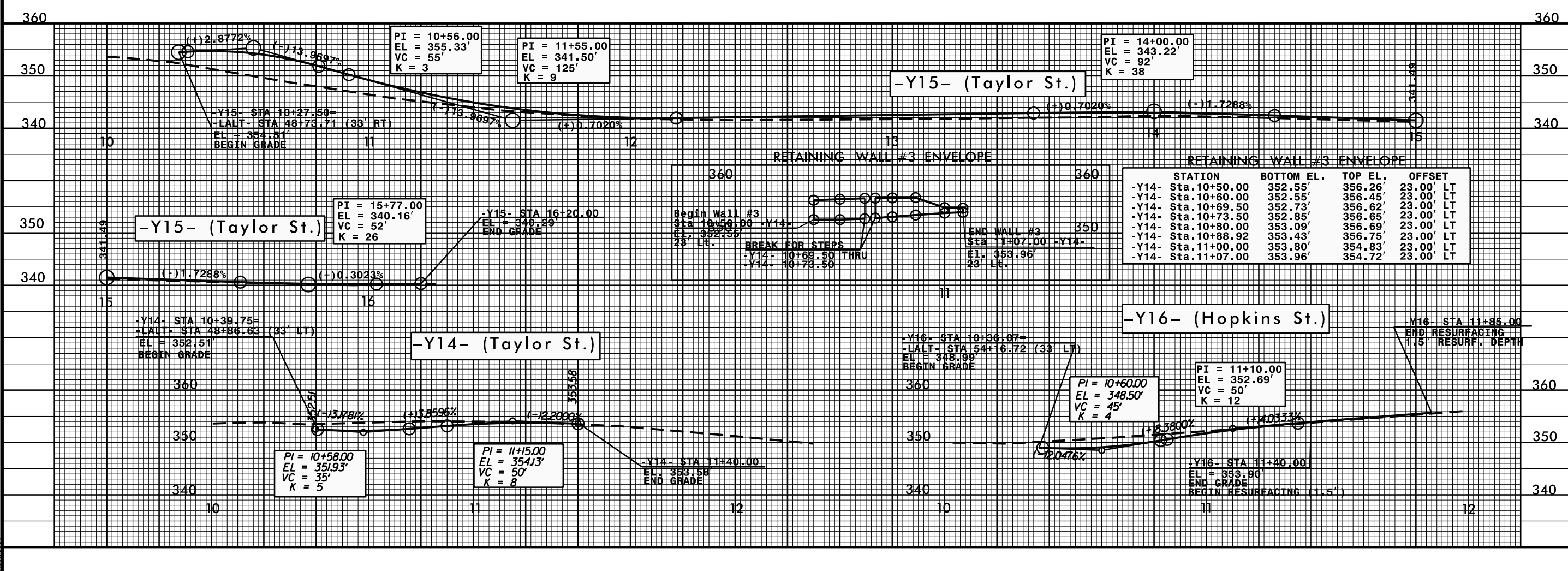
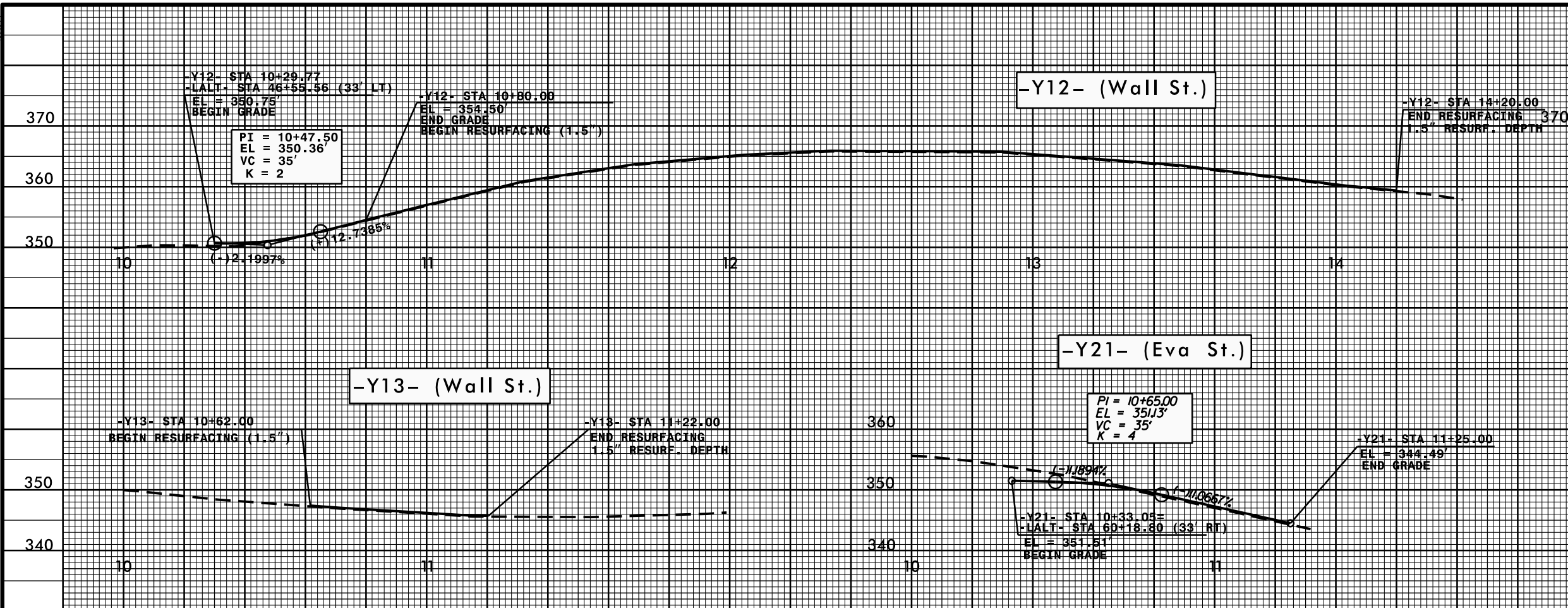
5/28/99

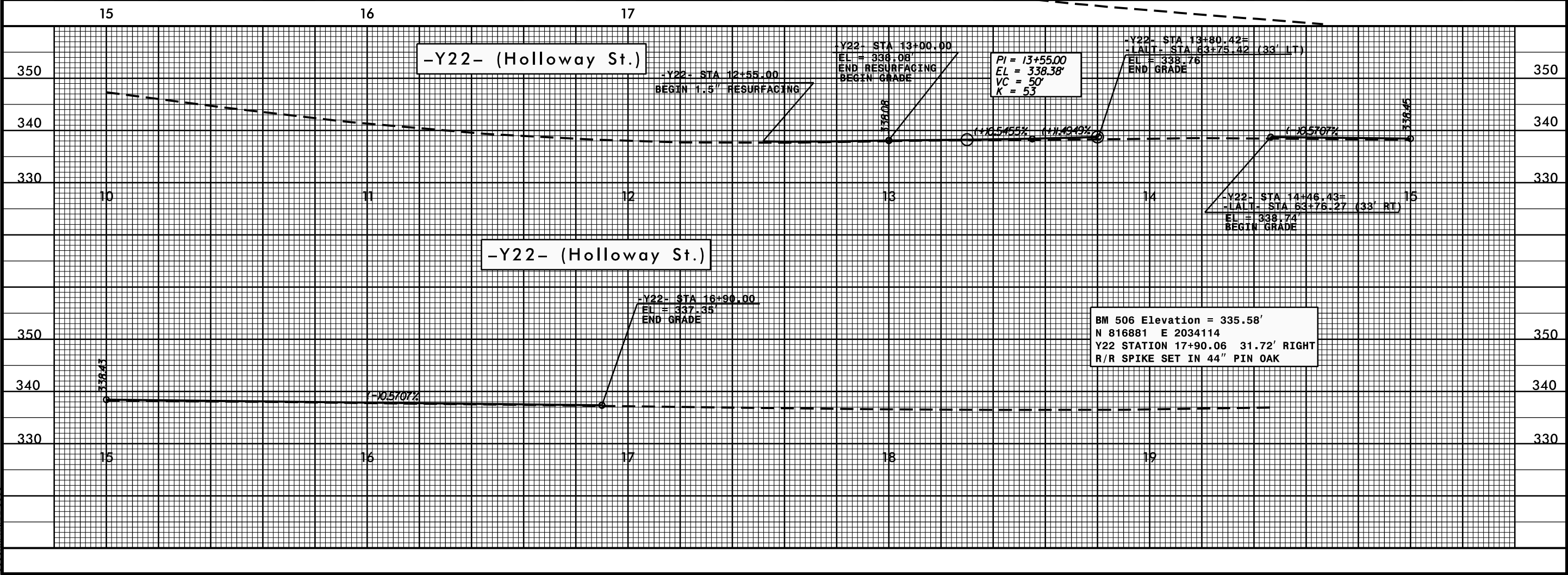
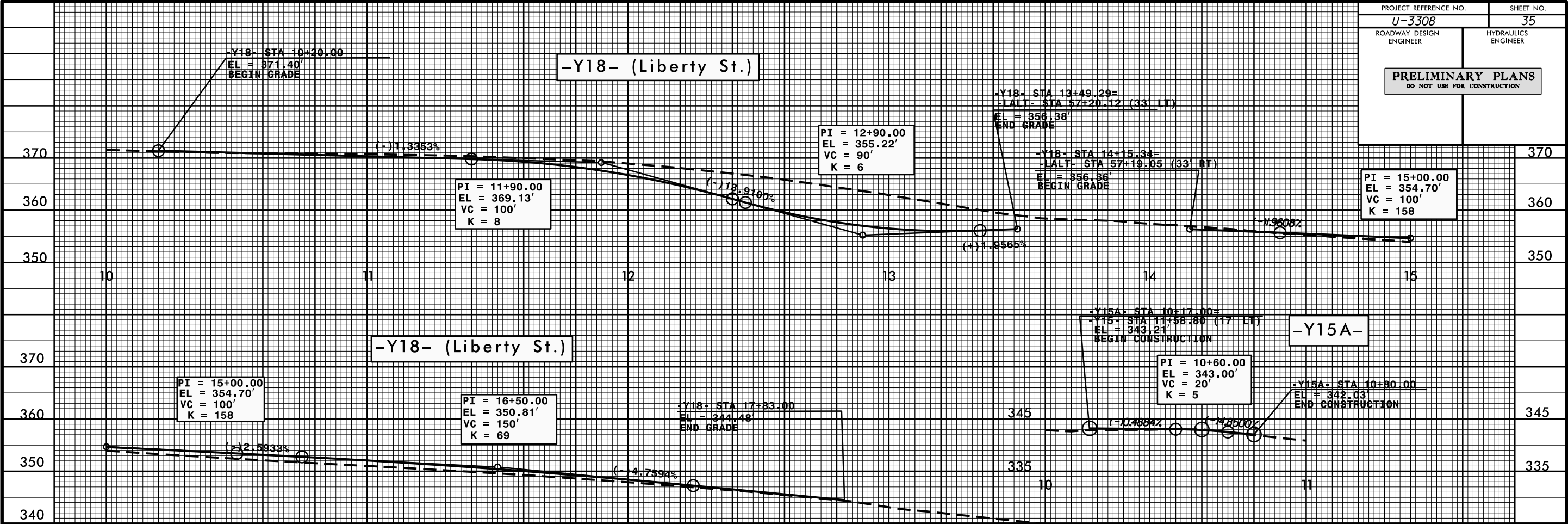




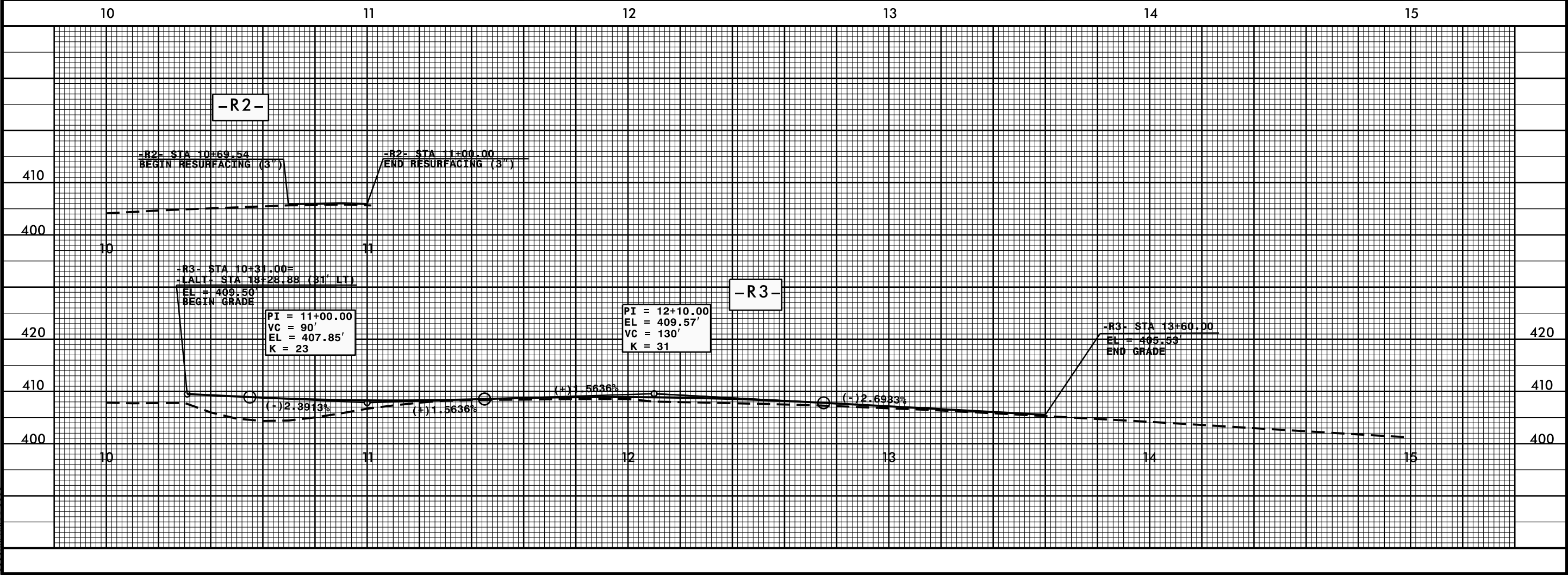
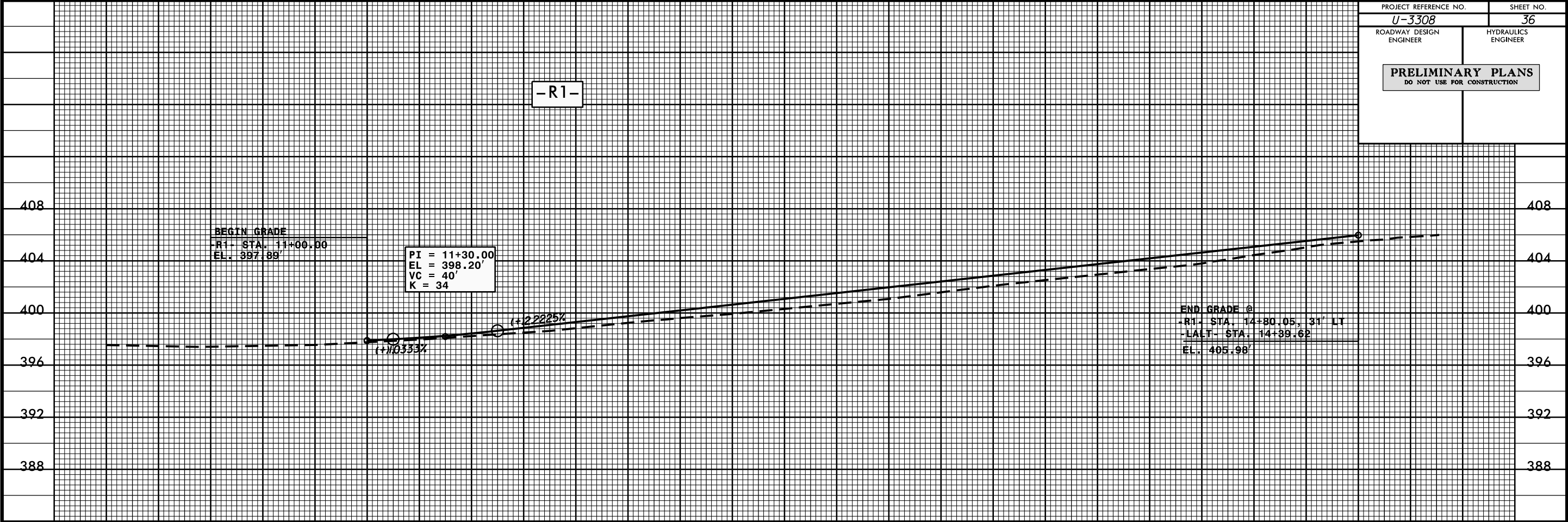
5/28/99



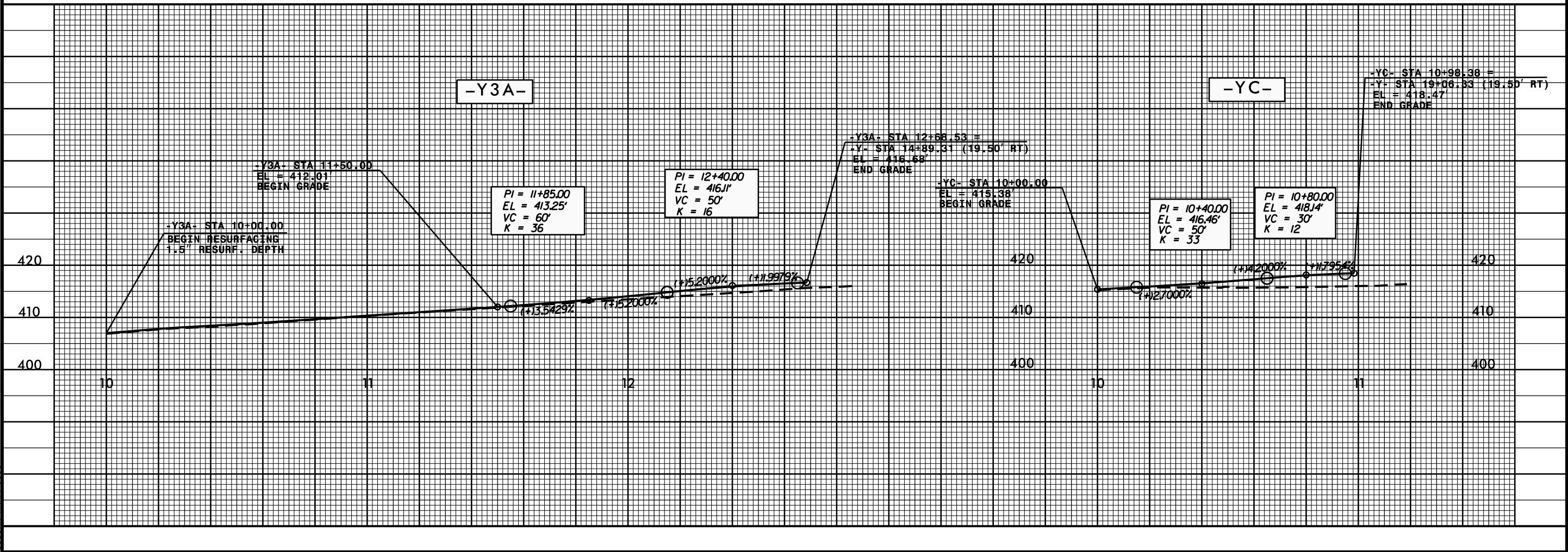
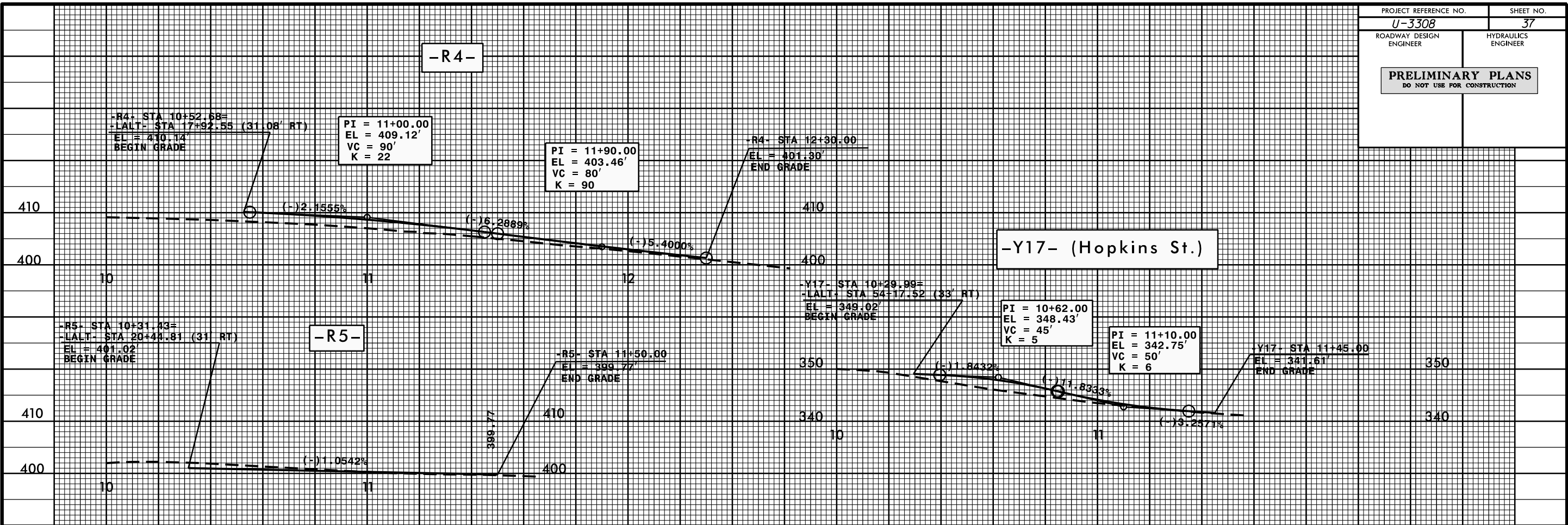




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5/28/99



5/28/99

PROJECT REFERENCE NO. U-3308		SHEET NO. 38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

-NSS- (NORFOLK SOUTHERN, SOUTH TRACK)

-NSS- STA 11+90.00
EL = 412.52
BEGIN GRADE

(+) 0.6593%

420

420

410

410

400

400

10

11

12

13

14

15

-NSS- (NORFOLK SOUTHERN, SOUTH TRACK)

Begin Rt Ditch Grade
Sta. 16+00.00 -NSS-
EL. 410.19

Sta. 17+00.00 -NSS-
EL. 411.12 RIGHT

Sta. 18+00.00 -NSS-
EL. 410.78 RIGHT

End Rt Ditch Grade
Sta. 20+00.00 -NSS-
EL. 411.69

(+) 0.6593%

(+) 0.3300%

(-) 0.3400%

(+) 0.4550%

420

420

410

410

400

400

15

16

17

18

19

20

DITCH LEGEND

LEFT DITCH - - - -

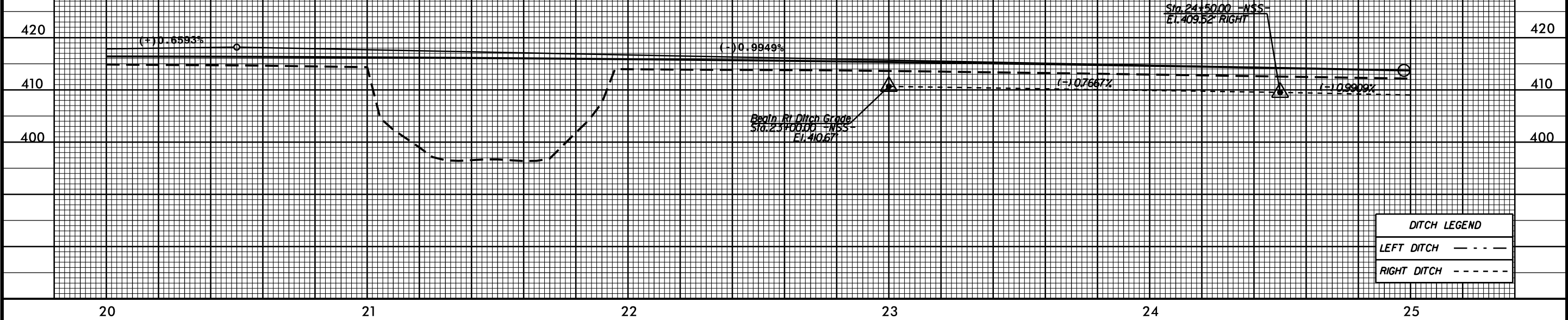
RIGHT DITCH - - - - -

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PROJECT REFERENCE NO.		SHEET NO.	
U-3308		39	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

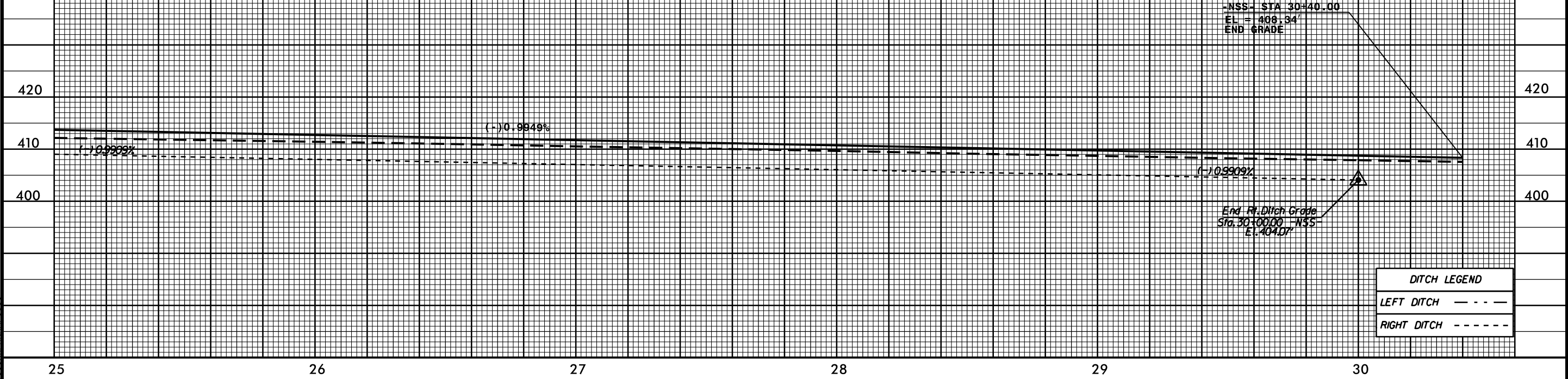
-NSS- (NORFOLK SOUTHERN, SOUTH TRACK)

PI = 20+50.00
EL = 418.19'
VC = 895'
R = .185



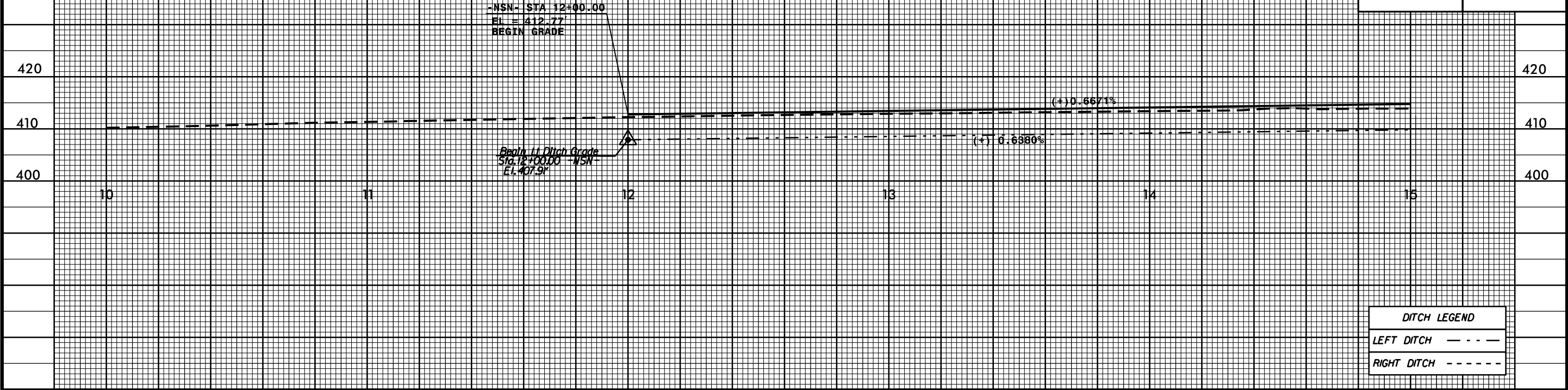
-NSS- (NORFOLK SOUTHERN, SOUTH TRACK)

-NSS- STA 30+40.00
EL = 408.34'
END GRADE

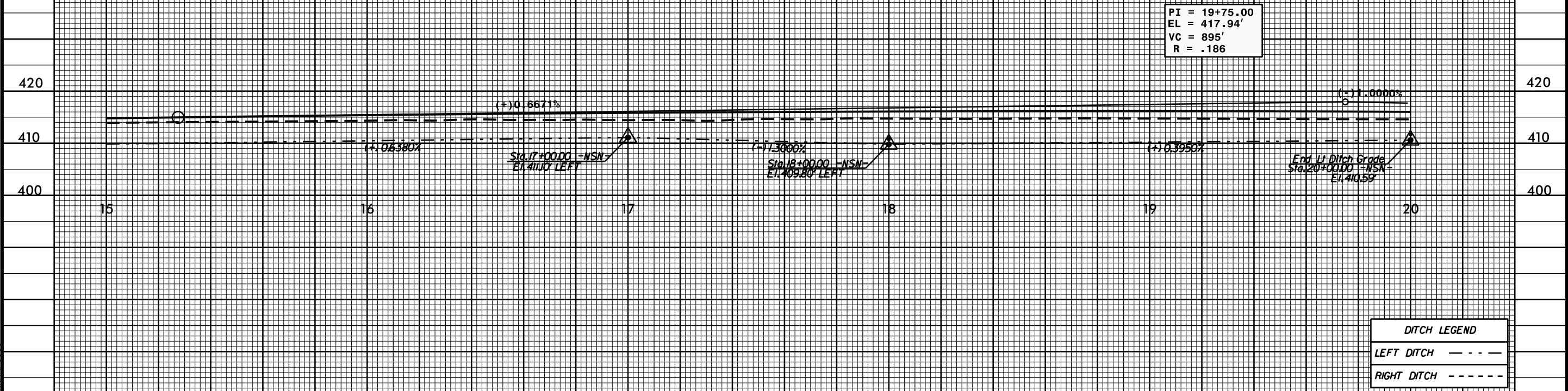


PROJECT REFERENCE NO. U-3308		SHEET NO. 40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

-NSN- (NORFOLK SOUTHERN, NORTH TRACK)



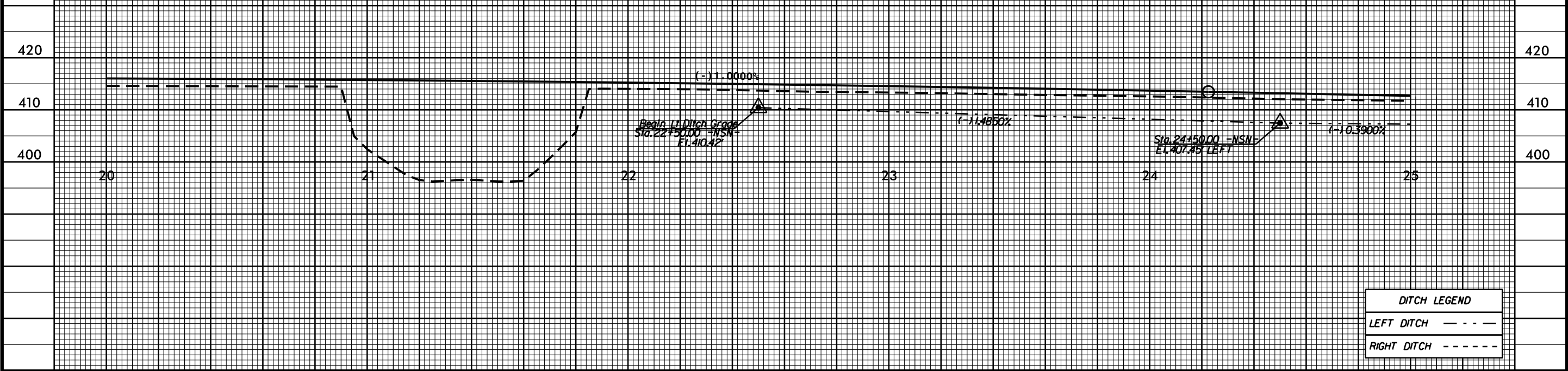
-NSN- (NORFOLK SOUTHERN, NORTH TRACK)



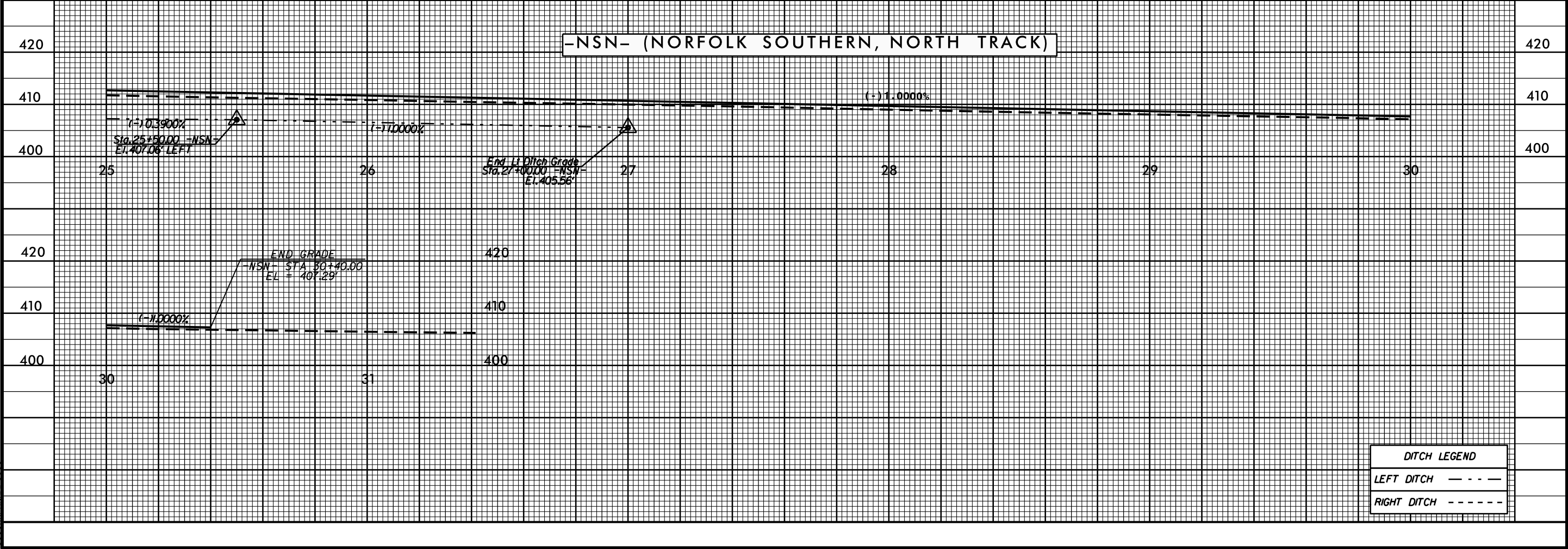
5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		41	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

-NSN- (NORFOLK SOUTHERN, NORTH TRACK)

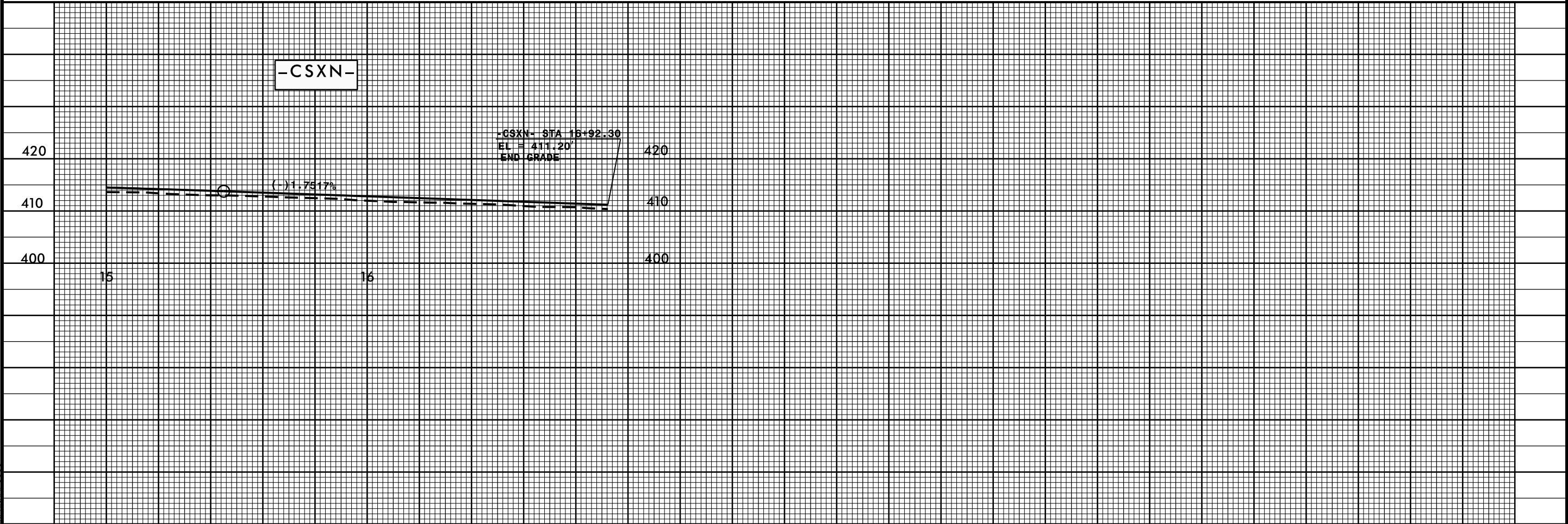
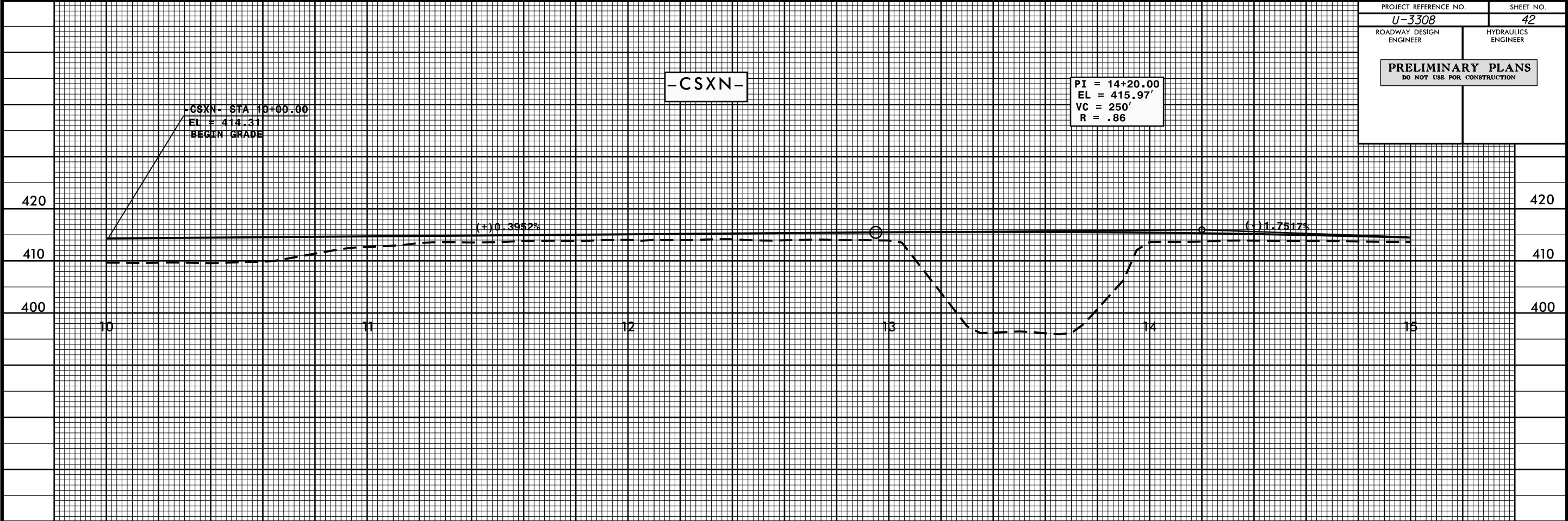


-NSN- (NORFOLK SOUTHERN, NORTH TRACK)



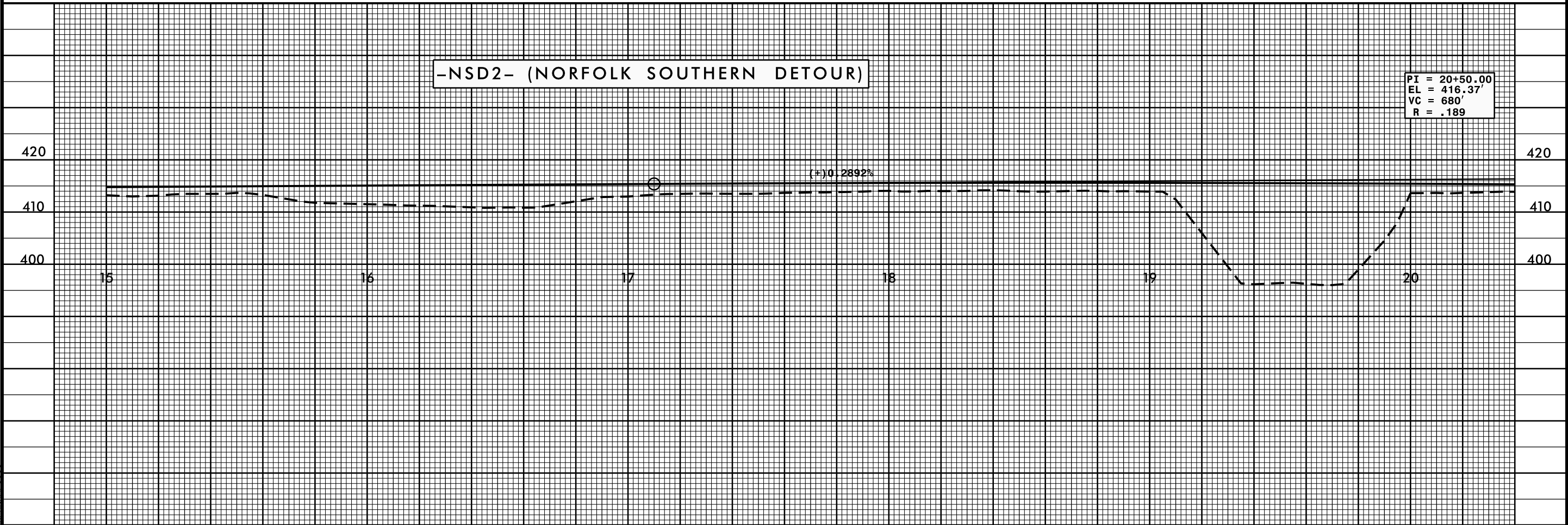
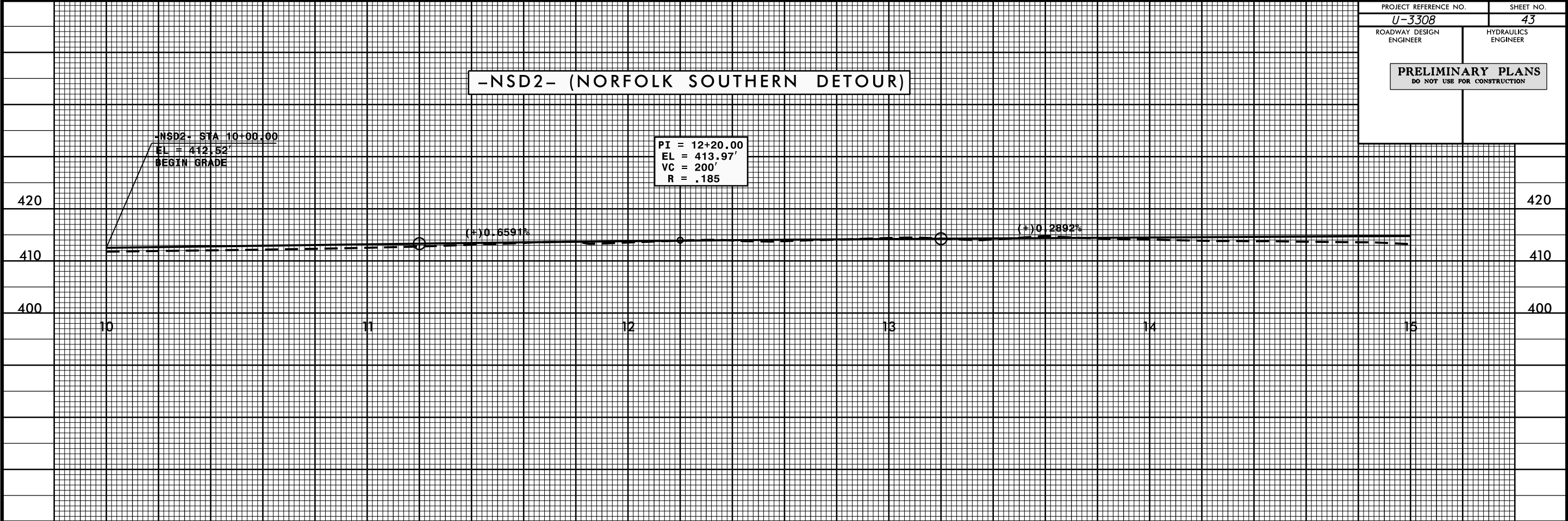
5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		42	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
U-3308		43	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



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-NSD2- (NORFOLK SOUTHERN DETOUR)

PI = 20+50.00
EL = 416.37'
VC = 680'
R = .189

420

410

400

21

22

23

24

25

420

410

400

PROJECT REFERENCE NO. <i>U-3308</i>		SHEET NO. <i>44</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

-NSD2- (NORFOLK SOUTHERN DETOUR)

NSD2 STA 28+41.37
EL = 408.46'
END GRADE

420

410

400

25

26

27

28

420

410

400

5/28/99

