

## **LADA CONSISTENCY REVIEW**

Date: \_\_\_\_\_

PMU Engineer: \_\_\_\_\_

TIP No.: \_\_\_\_\_

PMU Team Lead: \_\_\_\_\_

Document Type: \_\_\_\_\_

Approval Date: \_\_\_\_\_

Add'l Document: \_\_\_\_\_

Approval Date: \_\_\_\_\_

<b><u>Items to verify</u></b>	<b><u>Proposed Plans (Roadway Design)</u></b>	<b><u>Document (PMU)</u></b>	<b><u>Match? Y/N</u></b>
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Functional Classification \_\_\_\_\_

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\_\_\_\_\_

Approach Lane Width \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Approach Shldr. Width \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Lane Width on Bridge \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Offset on Bridge \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Onsite/Offsite Detour \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Design Exception ? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Strategic Transp Corridor? (Y/N) \_\_\_\_\_

- \* 12' outside (4' inside) over -Y1- (Thunder Road)  
8' outside (4' inside) over -Y25REV- (Relocated Laurel Hill Road)
- \* \* Fig. 2-3, sht. 2 of 2 calls for 8' outside (4' inside) offsets on "new bridges".
- \* \* Table 2-4 calls for a 36' wide bridge, over -Y1- (Thunder Road & Stonecutter Creek), implying an 8' outside offset. The planning documents don't speak any further about the -L3- (US 221) bridge offsets.

**Table 1**  
**Detailed Study Alternatives Comparison**

	Alternatives			
	<b>3</b>	<b>4</b>	<b>6</b>	<b>US 74A</b>
<b>Residential Relocatees</b>	99	163	91	88
<b>Business Relocatees</b>	27	43	26	32
<b>Wetlands Affected (Ac.) (Delineated)</b>	0.8	0.6	1.3	0.7
<b>Stream Impacts (Ft.)</b>	12,063	8,734	13,113	9,200
<b>Dwarf-Flowered Heartleaf Impacts (Sq Ft.)</b>	371.5	172.3	371.5	371.5
<b>Impacted Noise Receptors</b>	9	0	0	2
<b>Length New Location (Miles)</b>	7.2	4.3	8.3	3.8
<b>Total Length (Miles)</b>	8.5	9.3	9.4	8.7
<b>Total Cost (Million)</b>	\$223.0	\$219.0	\$234.0	\$200.0

Impacts and costs based on field surveys and design at time of selection of the preferred alternative (February 2010). The design, impacts and costs of the selected alternative (Alternative 3) have been updated since that time and may differ from the information presented here.

### **3.0 SELECTED ALTERNATIVE**

Alternative 3, described in Appendix A and shown on Figure 2, is the recommended alternative for the proposed US 221 Rutherfordton Bypass.

Alternative 3 was selected for this project for the following reasons:

- Alternative 3 would affect fewer homes and businesses than Alternative 4.
- Alternative 3 would affect less wetlands and streams than Alternative 6.

Although Alternative 3 would affect more wetlands and streams and relocate more homes than Alternative US 74A, Alternative 3 has the following advantages over Alternative US 74A:

- Alternative 3 provides a higher level of service than Alternative US 74A (level of service B versus D).
- Alternative 3 potentially provides increased safety.

- Alternative 3 will provide a lower travel time for motorists using US 221 in the project area than any of the other alternatives.
- Alternative 3 has less potential for indirect and cumulative impacts than Alternative US 74A. No access will be provided along Alternative 3 between US 74 Business-US 221A and US 64, while one access per property will be provided in this area with Alternative US 74A.
- Alternative US 74A will relocate 30 percent (9 of 30) of the businesses within the Town of Ruth and may require the relocation of the largest employer in Ruth. Alternative 3 will only affect five businesses within Ruth.
- Most comments from citizens and local officials after the public hearing have been in favor of Alternative 3.

The NEPA/404 merger team concurred with the selection of Alternative 3 at a merger team meeting held on February 17, 2010. The selection of Alternative 3 for the proposed bypass was announced to area residents by a newsletter sent out in March 2010.

## 4.0 MEASURES TO MINIMIZE HARM

During development of Alternative 3, the following changes were made to the proposed design in order to minimize impacts to wetlands and streams:

- The design of the proposed interchange with existing US 221 south of Rutherfordton was changed from a diamond interchange to a half-cloverleaf interchange. No ramps are proposed in the northern quadrants of the interchange. This design change will reduce stream impacts by 375 feet.
- The bridge over SR 2201 (Thunder Road) was extended by approximately 500 feet to bridge Stonecutter Creek and an unnamed tributary to Stonecutter Creek (Stream 1E). This design change will reduce stream impacts by 1,111 feet and wetland impacts by 0.02 acre.
- 2:1 side slopes are proposed in jurisdictional areas and in areas containing the federally-protected dwarf-flowered heartleaf.
- The design of the ramp in the northeast quadrant of the proposed US 64 interchange was changed. The ramp will now more closely follow the alignment of the proposed loop. This change will reduce stream impacts at this location by approximately 243 feet. This change in the design was made prior to selection of Alternative 3.
- The alignment of the proposed connection between SR 1536 (Old US 221) and SR 1520 (Rock Road) has been changed to avoid Holland's Creek (2K) and an unnamed tributary (UT2K). This design change will reduce stream impacts by approximately 288 feet at this location.

The NEPA/404 merger team concurred on avoidance and minimization measures for the project at a meeting held on April 14, 2011.

**US 221**  
Proposed Rutherfordton Bypass  
From US 74 Bypass to SR 1366 (Roper Loop Road)  
Rutherford County  
State Project 8.1891001  
WBS Element 34400.1.2  
**TIP Project R-2233B**

**ADMINISTRATIVE ACTION**

N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**STATE RECORD OF DECISION**

In Compliance with the North Carolina Environmental Policy Act



OCTOBER 2013

Additional Information regarding this action may be obtained by contacting:

Richard W. Hancock, PE,  
Manager,  
Project Development and Environmental Analysis Unit  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548  
(919) 707-6000

## **PROJECT COMMITMENTS**

US 221

Proposed Rutherfordton Bypass

From US 74 Bypass to SR 1366 (Roper Loop Road)

Rutherford County

State Project 8.1891001

WBS Element 34400.1.1

**TIP Project R-2233B**

### **Project Development and Environmental Analysis Unit/Roadway Design Unit**

NCDOT will coordinate with local officials as the proposed project progresses regarding the status of local greenway plans and proposed walking trails.

### **Project Development and Environmental Analysis Unit-Natural Environment Section**

The project will be resurveyed for the federally-protected dwarf-flowered heartleaf prior to construction.

Dwarf-flowered heartleaf plants that will be impacted by the project will be transplanted to the Tate property conservation area.

### **Project Development and Environmental Analysis Unit-Historic Architecture Group**

Prior to the initiation of construction, NCDOT will record the existing condition of Ruth Elementary School in accordance with the Historic Structures and Landscape Recordation Plan. Copies of the documentation will be deposited in the files of the State Historic Preservation Office and the files of the Historic Architecture Group of NCDOT.

NCDOT will compile a historic context documenting the history of Consolidation-Era public schools within Rutherford, Polk and Cleveland counties. The context will compile documentary materials, bibliographical sources, National Register eligibility considerations and digital images. The final report will be in a digital format and will be provided on a CD-ROM to the State Historic Preservation Office. Another copy of the report will be deposited in the files of the Historic Architecture Group of NCDOT. The final digital product will be completed and distributed within three years of the execution of the Memorandum of Agreement regarding the project's adverse effects on Ruth School.

**Project Development and Environmental Analysis Unit-Historic Architecture Group/Rutherford County**

The Rutherford County Manager will establish a committee to oversee the development of an adaptive use plan for the campus and buildings of Ruth Elementary School within six months of the filing of the Memorandum of Agreement regarding the project's effects on Ruth School. Members of the committee shall include representatives from the State Historic Preservation Office and the Historic Architecture Group of NCDOT along with municipal staff and local citizens with a demonstrated interest in the school and its potential redevelopment.

NCDOT will provide funds not to exceed \$10,000 for use by the committee to accomplish the following tasks: identify and analyze the issues associated with reusing the structures and campus, develop alternatives for consideration and produce an adaptive reuse plan for the site. If the Rutherford County Manager chooses not to establish the committee, no funds will be available for this study.

**Project Development and Environmental Analysis Unit-Traffic Noise and Air Quality Group/Public Involvement and Community Studies Group/Roadway Design Unit**

For the proposed bypass, five noise barriers were determined to be feasible and reasonable. Property owners and residents of all the noise receptors that would benefit from construction of the five likely noise barriers will be sent ballots to allow them to vote on whether or not they want the noise barrier that would benefit their property or residence. Consideration of the noise barriers will continue unless a simple majority of the distributed points are returned indicating the balloted voters do not want the abatement measure.

**Roadway Design Unit**

2:1 side slopes will be used at all stream crossings, wetlands and at dwarf-flowered heartleaf sites along the project.

A portion of existing SR 1537 (Water Works Road) will be left in place to provide access to a Town of Rutherfordton lift station located northeast of the SR 1536 (Old US 221)/SR 1537 intersection.

Access will be provided to a Town of Rutherfordton lift station located in the southwest quadrant of the proposed US 74 Business-US 221 Alternate (Charlotte Road) interchange with the bypass.

ADA-compliant pedestrian crossings will be provided at the intersection of US 64 with US 74A (Railroad Avenue) and at the Overmountain Victory National Historic Trail crossing of the proposed SR 1520 (Rock Road) realignment.

A sidewalk will be constructed on the south side of US 64 from the intersection of US 64 with US 74A to the proposed driveway to Ruth and Trinity Schools, in order to accommodate the Overmountain Victory National Historic Trail.

NCDOT will provide access between the proposed sidewalk along US 64 and Southern Street via a pathway from the vicinity of the relocated driveway for Ruth and Trinity schools in order to accommodate pedestrians who wish to follow the historic route of the Overmountain Victory National Historic Trail. NCDOT will design this pathway for pedestrian use and construct it in a manner that is ADA compliant to the greatest extent possible.

NCDOT will continue to coordinate with the Overmountain Victory National Historic Trail and the SHPO regarding the trail by providing post-hydraulic design plans to the parties with a 30-day review and comment period.

### **Structure Design Unit**

A sidewalk and 42-inch hand rails will be provided on the south side of the proposed bridge carrying US 64 over the bypass, in order to accommodate the Overmountain Victory National Historic Trail.

### **Roadway Design Unit/Division Thirteen/Signing and Delineation Unit**

NCDOT will install signage provided by the Overmountain Victory National Historic Trail to mark and indicate the status of the pathway as an official portion of the trail. The number of signs and their location will be determined in consultation with the Trail and in accordance with NCDOT policy.

### **Roadway Design Unit/Structure Design Unit/Transportation Program Management Unit/Town of Rutherfordton**

The Town of Rutherfordton has requested decorative murals or etches be provided on some of the structures for the proposed bypass. The Town will provide NCDOT with the location of the suggested treatments and drawings or photographs depicting the etches or murals.

NCDOT will evaluate the practicality and cost of the etches or murals and provide the anticipated cost to the Town. If practical, these decorative treatments will be included in the project if the Town will agree in writing to fund the treatments prior to the final design field inspection for R-2233BA.

A municipal agreement will be prepared prior to project construction regarding the Town's funding the additional cost for the murals or etches on structures.

### **Roadway Design Unit/Roadside Environmental Unit/Division Thirteen/ Transportation Program Management Unit**

The Town of Rutherfordton has requested landscaping as a part of the proposed project. NCDOT will coordinate further with the Town regarding landscaping during the preparation of right of way and construction plans for the project.

A municipal agreement will be prepared prior to project construction regarding any maintenance responsibilities the Town may have for landscape plantings.

### **Roadway Design Unit/Transportation Program Management Unit/Town of Rutherfordton**

The Town of Rutherfordton has requested decorative traffic signal poles be provided at locations where traffic signals are proposed. NCDOT will coordinate with the Town during preparation of project plans regarding decorative options for signal poles and the locations where the Town would like decorative poles.

A municipal agreement will be prepared prior to project construction regarding the Town's funding the additional cost for decorative traffic signal poles.

### **Hydraulics Unit/Natural Environment Unit**

Prior to the Concurrence Point 4B NEPA/404 merger team meeting, the merger team will review Streams 2UT1C and 1N to determine if additional minimization is feasible.

### **Hydraulics Unit**

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) for approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR) for each new crossing of a FEMA regulated stream.

### **Division 13 Construction**

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

In the event unanticipated archaeological discoveries, such as unmarked cemeteries, are made during construction, the NCDOT Archaeology Group will be notified and consulted immediately for any necessary resolution or coordination with the State Historic Preservation Office, prior to any additional construction work in that area.

### **Location and Surveys Unit/Roadway Design Unit**

Unmarked graves are believed to be located behind the church building on the Mountain View Baptist Church property. The church is located on 2<sup>nd</sup> Street in Rutherfordton. Efforts will be made to locate these graves and avoid them if practicable during final surveys and design for the project.

### **Roadside Environmental Unit/Division 13 Construction**

NCDOT's native seed mix will be used throughout the project in riparian areas, where possible.

**US 221**  
Proposed Rutherfordton Bypass  
From US 74 Bypass to SR 1366 (Roper Loop Road)  
Rutherford County  
State Project 8.1891001  
WBS Element 34400.1.2  
**TIP Project R-2233B**

**ADMINISTRATIVE ACTION**

**STATE FINAL ENVIRONMENTAL IMPACT STATEMENT**

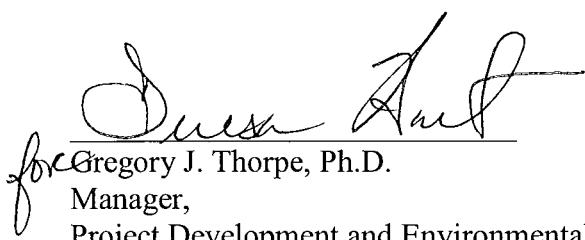
N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

In Compliance with the North Carolina Environmental Policy Act



**APPROVED:**

5/24/11  
Date

  
for  
Gregory J. Thorpe, Ph.D.  
Manager,

Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation

Additional Information regarding this action may be obtained by contacting:

Gregory J. Thorpe, Ph.D.,  
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**US 221**  
Proposed Rutherfordton Bypass  
From US 74 Bypass to SR 1366 (Roper Loop Road)  
Rutherford County  
State Project 8.1891001  
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**TIP Project R-2233B**

**STATE FINAL ENVIRONMENTAL IMPACT STATEMENT**



MAY 2011

Documentation Prepared by Project Development and Environmental Analysis Branch:

5/26/11  
Date

  
James A. McInnis, Jr., P.E.  
Project Engineer



carrying even moderate volumes of traffic. Studies have shown that rural highways with lane widths less than eleven feet wide tend to have higher accident rates than similar facilities with wider lanes. AASHTO guidelines also state that shoulder widths of six to eight feet are preferable. Table 1-2 below presents the existing typical sections along US 221 in the project area.

**Table 1-2  
US 221 Existing Typical Sections**

Section	Section Length	No. Lanes/Width	Shoulder Width
<b>US 74 to Rutherfordton City Limits</b>	3.4 mi.	2/10'	4' grassed
<b>City Limits to Lynch St.</b>	1.4 mi.	2/11'	4'-5' grassed
<b>Lynch St. to South of US 64</b>	1.3 mi.	2/11'-12'	Curb and Gutter
<b>South of US 64 to Rutherfordton City Limits</b>	0.3 mi.	2/12'	8'-12' grassed (2' paved)
<b>City Limits to SR 1529</b>	4.6 mi.	2/12'	12' gravel

The horizontal alignment of existing US 221 is good, and for the most part meets a 60 MPH design speed along sections of the roadway signed 55 MPH.

The vertical alignment of existing US 221 south of Rutherfordton does not meet a 60 MPH design speed. Many of the vertical curves along the roadway have a 40 or 45 MPH design speed. Several areas along US 221 have grades above six percent. These steep grades, however, are fairly short.

### **1.3.6 NC Strategic Highway Corridors/Intrastate System**

US 221 from the South Carolina State Line to Linville has been designated part of the North Carolina Intrastate System. The Intrastate System was established by the North Carolina General Assembly in 1989. The purpose of the Intrastate System is to provide high-speed, safe travel service throughout the State by connecting major population centers both inside and outside the State with four-lane highways. The System is designed to support statewide growth and development objectives and to connect to major highways of adjoining states. US 221 connects Rutherfordton with Spartanburg, South Carolina to the south and Marion to the north.

**US 221 in the project area is also designated a strategic highway corridor.** This section of US 221 is a part of Strategic Corridor 12, which extends from Spartanburg, South Carolina to Boone using US 221 and NC 105. The strategic highway corridor vision for US 221 in the project area is that US 221 be improved to a boulevard. A boulevard is a facility with at least four lanes and a median, which may have signalized intersections and either partial (one driveway per parcel) or limited (access only from side roads) control of access.

**US 221 is classified as a minor arterial south of Rutherfordton** and a major arterial north of Rutherfordton in the North Carolina Functional Classification System.

are indicative of congested conditions rather than motorist's unfamiliarity with the highway or prevailing conditions. Additional signs are unlikely to address this accident trend.

#### **2.2.1.2 Travel Demand Management (TDM)**

Travel Demand Management (TDM) strategies include staggered work hours, ridesharing and high occupancy vehicle (HOV) lanes.

Staggered work hours, flex-time or modified workweeks can be implemented by large employers along the corridor who experience congestion at the entrances to their businesses. Although the US 221 corridor does contain some large businesses, it is not expected that such adjustments to work schedules would significantly reduce peak hour traffic volumes within the study area.

Given the predominantly rural nature of the project area, public transportation or ridesharing are unlikely to result in substantial reductions in the amount of traffic along US 221 in the project area.

#### **2.2.1.3 Alternate Modes of Transportation**

Alternate modes of transportation would include bus or rail passenger service. No intercity bus service is provided to the Rutherfordton area, the nearest bus terminal is in Asheville.

There is no passenger rail service available in Rutherford County. The abandoned railroad that runs from Forest City to Rutherfordton has been put into a rail banking system and is currently used as a walking trail.

The Transit Administration of Rutherford County provides bus service between Forest City, Spindale and Rutherfordton. Given the predominantly rural nature of the project area, additional bus transit is unlikely to result in substantial reductions in the amount of traffic along US 221 in the project area.

### **2.2.2 Improve Existing US 221**

Widening existing US 221 and constructing a one-way pair within downtown Rutherfordton was investigated as an alternative. This alternative was eliminated because of the potential impacts to the historic district in Rutherfordton.

### **2.2.3 Preliminary Bypass Alternatives**

Constructing a US 221 bypass of Rutherfordton would meet the purpose and need of the proposed project. A bypass would reduce congestion, improve safety and improve travel time for traffic using the US 221 corridor in the vicinity of Rutherfordton.

Nine bypass alternatives were initially developed for the proposed project. Six of these alternatives were presented to the public at a **citizens informational workshop held**

on August 23, 2001. Of these, four alternatives were chosen for detailed study by the NEPA/404 merger team (see Section 2.3). Table 2-2 presents impacts of all of the preliminary bypass alternatives. The table includes estimates of impacts based on the total corridor area. Impact estimates were refined as studies progressed. The preliminary bypass alternatives are shown on Figure 2-1.

**Table 2-2**  
**Preliminary Alternatives Comparison**

	Improve Exist.	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	West Byp.	US 74A Byp
<b>Residential Relocatees</b>	108	85	171	151	162	134	149	115	90
<b>Business Relocatees</b>	49	11	31	23	20	19	21	11	23
<b>National Register Listed Properties</b>	1 district	1	1	1	1	1	1	None	None
<b>Wetlands Affected (ac.) (NWI)</b>	1.6	1.2	2.2	1.8	2.1	2.0	1.3	2.4	1.5
<b>Stream Impacts (ft.)</b>	2,733	14,270	12,148	5,794	5,906	10,497	13,113	12,692	3,834
<b>Length New Location (miles)</b>	0.2	9.0	9.5	9.1	9.0	9.3	8.6	9.6	3.3
<b>Total Length (miles)</b>	12.3	12.8	12.3	11.6	12.8	10.9	9.4	12.8	11.6

Note: Impacts listed were based on best available information at time, not actual field surveys. Shaded cells indicate alternatives which were dropped from consideration prior to detailed environmental surveys.

The preliminary bypass alternatives which were dropped from consideration are described below. Alternatives which were carried forward for detailed study are described in Section 2.3.1.

### Western Bypass Alternative

The Western Bypass Alternative would widen existing US 221 to four lanes with a median from US 74 Bypass to just south of SR 1191 (Mountain View Cemetery Road), then construct a bypass on new location around the western side of Rutherfordton, connecting with existing US 221 near SR 1355 (Mountain Creek Road) north of Rutherfordton. This alternative is approximately 13 miles long and was eliminated because it will not serve the towns of Spindale and Ruth as well as a bypass on the eastern side of Rutherfordton and it would divert the least amount of traffic from existing

**Table 2-3**  
**Detailed Study Alternatives Comparison**

	Alternatives			
	3	4	6	US 74A
<b>Residential Relocatees</b>	99	163	91	88
<b>Business Relocatees</b>	27	43	26	32
<b>Wetlands Affected (Ac.) (Delineated)</b>	0.8	0.6	1.3	0.7
<b>Stream Impacts (Ft.)</b>	12,063	8,734	13,113	9,200
<b>Dwarf-Flowered Heartleaf Impacts (Sq Ft.)</b>	371.5	172.3	371.5	371.5
<b>Impacted Noise Receptors</b>	9	0	0	2
<b>Length New Location (Miles)</b>	7.2	4.3	8.3	3.8
<b>Total Length (Miles)</b>	8.5	9.3	9.4	8.7
<b>Total Cost (Million)</b>	\$223.0	\$219.0	\$234.0	\$200.0

Impacts based on field surveys and design at time of selection of the preferred alternative (February 2010).

### 2.3.1 Description of Detailed Study Alternatives

#### 2.3.1.1 Alternative 3 (Selected)

Alternative 3 would involve widening a portion of existing US 221 and constructing a bypass on the east side of Rutherfordton. Existing US 221 would be widened to four lanes with a median from US 74 Bypass to south of SR 2194 (Poors Ford Road). From south of SR 2194 to existing US 221 north of Rutherfordton, a bypass on new location would be built around the east side of Rutherfordton. This new location roadway would cross SR 2201 (Thunder Road), US 74 Business/US 221 Alternate and US 64 before connecting back with existing US 221 at SR 1536 (Old US 221) north of Rutherfordton. US 221 would then be widened from SR 1536 (Old US 221) to SR 1366 (Roper Loop Road). The total length of Alternative 3 is 8.5 miles.

Alternative 3 was selected as the recommended alternative for the proposed bypass. The NEPA/404 merger team concurred with the selection of this alternative at a merger team meeting held on February 17, 2010. Section 2.4.1 discusses the selection of Alternative 3.

Alternative US 74A would cost less and affect less homes than any of the alternatives. This alternative would also have the second lowest stream and wetland impacts. However, Alternative US 74A would have a very detrimental effect on the Town of Ruth. Alternative US 74A would relocate 30 percent (9 of 30) of the businesses within the Town of Ruth and may require the relocation of the largest employer in Ruth. For these reasons, Alternative US 74A was not selected for the project (see Section 2.4.1).

### **2.3.2 Design Criteria for Detailed Study Alternatives**

#### **2.3.2.1 Design Speed**

A 70 MPH design speed is proposed for portions of the project on new location. A 60 MPH design speed is proposed for portions of the project which involve widening existing US 221. A 50 MPH design speed is proposed for portions of the US 74A Bypass Alternative along existing US 74A.

#### **2.3.2.2 Typical Sections**

Figure 2-3 shows the proposed typical sections for the bypass alternatives. The roadway typical section will be a four-lane roadway with a 46-foot median, with the exception of portions of the US 74A Alternative along existing US 74 Alternate. A 23-foot raised median and curb and gutter with a ten-foot berm is proposed for portions of the US 74A Alternative routed along existing US 74 Alternate. Twelve-foot lanes are proposed for all of the alternatives. Ten-foot grassed shoulders (four-foot paved) are proposed for portions of the project with a 46-foot median.

#### **2.3.2.3 Structures**

Table 2-4 below presents the proposed major hydraulic structures (72 inches or larger in diameter) for the detailed study alternatives. Figure 3-7 shows the location of these sites.

**Table 2-4**  
**Proposed Hydraulic Structures for Detailed Study Alternatives**

Site No.	Stream	Alternative	Proposed Structures
1	B	3, 4, 6, & US 74A	Retain and Extend Existing 2 @ 5'x 6' RCBC
2	1C	3, 6, and US 74A	New 1 @ 72" RCP
3	2B	3, 6, and US 74A	New 1 @ 6'x 6' RCBC
4	3-2C Cleghorn Creek	4	Spanning Structure
5	2C, 3-2C Stonecutter Creek (also crosses SR 2201)	3, 6, and US 74A	Dual Bridges, 36' wide and 927' long
6	2-F	4	Retain and Extend Existing 2 @ 6'x 8' RCBC
7	2-G Cleghorn Creek	4	New 2 @ 9'x 9' RCBC
8	1J	3, 6, and US 74A	New 1 @ 6'x 7' RCBC
9	2-G Cleghorn Creek	4	New 2 @ 9'x 9' RCBC
11	3X	6	New 1 @ 6'x 7' RCBC
12	3G Hollands Creek	6	New 2 @ 9'x 10' RCBC
13	2K	3 & US 74A	New 2 @ 8'x 8' RCBC
14	3F Hollands Creek	4	Retain and Extend Existing 2 @ 7'x 7' RCBC

#### 2.3.2.4 Proposed Right of Way and Access Control

A total right of way width of approximately 300 feet is proposed for new location portions of the proposed bypass. Right of way widths greater than 300 feet may be required in some areas with high fill slopes. Narrower right of way widths ranging from 115 feet to 250 feet are proposed for portions of the project which involve widening existing roads. Full control of access is proposed for new location portions of the project. Partial control of access (one access per parcel for properties with no other access) is proposed for portions of the project which involve widening existing roads.

made a part of the Town's master plan. Rutherfordton's Corridor Study recommended the US 74A Alternative (called Alternative 1 in the Town's study) for the proposed bypass. In 2009, the town council passed a resolution supporting Alternative 3 for the proposed bypass.

The Town of Spindale does not have a formal plan to date but there are several funded projects that involve paving walking trails, rebuilding sidewalks and landscaping that will enhance the surrounding communities.

### **3.2.2 Transportation Plans**

#### **3.2.2.1 Highway Plans**

The 1997 Rutherford County Urban Area Thoroughfare Plan was adopted by the Town of Rutherfordton and NCDOT on September 9, 1997 and November 7, 1997, respectively (see Figure 3-3).

The approved 2009-2015 North Carolina State Transportation Improvement Program (STIP) identifies the proposed project as TIP Project R-2233B. This project is one of three transportation improvement projects within the study area. TIP Project R-2233A involves widening existing US 221 from the South Carolina State Line to US 74 Bypass. TIP Project R-2597 involves widening US 221 north of SR 1366 (Roper Loop Road) in Rutherford County to SR 1153 in McDowell County.

#### **3.2.2.2 Transit Plans**

There are currently no approved transit plans for the project area.

#### **3.2.2.3 Bicycle/Pedestrian Plans**

There are currently no approved bicycle/pedestrian plans for the project area, but one of the goals of the Rutherford County Comprehensive Arts, Parks and Recreation Plan is to promote biking on nature trails and in municipalities through the use of bike lanes. Rutherfordton's master plan shows several potential walking trails in the vicinity of downtown, including one trail which would be utilized for the Overmountain Victory National Historic Trail (OMVNHT). The OVNHT follows the route of Revolutionary War soldiers through Virginia, Tennessee, North Carolina and South Carolina (see Section 3.4.3).

#### **4.2.2.1 Compatibility with Highway Plans**

The proposed project is compatible with the state and local transportation plans for the area. The project is included in the approved 2009-2015 North Carolina State Transportation Improvement Program (STIP) as Project Number R-2233B and was first included in the 1987-1995 STIP.

#### **4.2.2.2 Compatibility with Transit Plans**

No passenger rail service is available in Rutherford County; however freight rail service is available through CSX Transportation. Currently there are no transit plans in the project area.

#### **4.2.2.3 Compatibility with Bicycle/Pedestrian Plans**

As discussed in Section 3.2.2.3, no bicycle/pedestrian plans have been approved for the project area. Several possible walking trails were presented in Rutherfordton's Master Plan, however. NCDOT will coordinate further with local officials regarding implementation of these walking trails in order to insure the proposed bypass is compatible.

### **4.3 IMPACTS TO THE PHYSICAL ENVIRONMENT**

#### **4.3.1 Noise**

Traffic noise impacts are determined from the current procedures for the abatement of highway traffic noise and construction noise found in Title 23 CFR 772 and the NCDOT Traffic Noise Abatement Policy, which also includes provisions for traffic noise abatement measures. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. A copy of the unabridged version of the full traffic noise analysis technical report can be viewed at the NCDOT Century Center Complex, 1000 Birch Ridge Drive, Raleigh.

##### **4.3.1.1 Traffic Noise Impacts and Noise Contours**

The maximum number of receptors in each project alternative predicted to be impacted by future traffic noise is shown in Table 4-2 below. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels.

have no effect on any property eligible for or listed on the National Register of Historic Places.

In addition, borrow sources will not be allowed in any area under the jurisdiction of the US Army Corps of Engineers until the contractor has obtained a permit for the borrow source. Waste materials, as well, may not be placed in wetlands or streams unless a permit is obtained from the US Army Corps of Engineers.

#### **4.7.8 Traffic Maintenance & Detour Accessibility**

Maintenance of traffic and sequencing of construction will be planned and scheduled so as to minimize construction-related traffic delays. Traffic **will mostly be maintained on-site** during project construction. Lane closures may be required at times and temporary detours may be needed for existing roadways crossing the proposed bypass, but it is not expected that temporary detours would result in unacceptable delay or congestion along detour routes.

#### **4.7.9 Bridge Demolition**

No existing bridge structures will be removed with any of the alternatives for the proposed bypass. It is unlikely any materials from existing structures will be dropped into Waters of the United States during project construction.

### **4.8 IRRETRIEVABLE & IRREVERSIBLE COMMITMENT OF RESOURCES**

Construction of any of the detailed study alternatives would require certain irretrievable and irreversible commitments of natural resources, manpower, materials and fiscal resources. Lands within the proposed right of way will be converted from their present use to a transportation use. Use of the lands is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use.

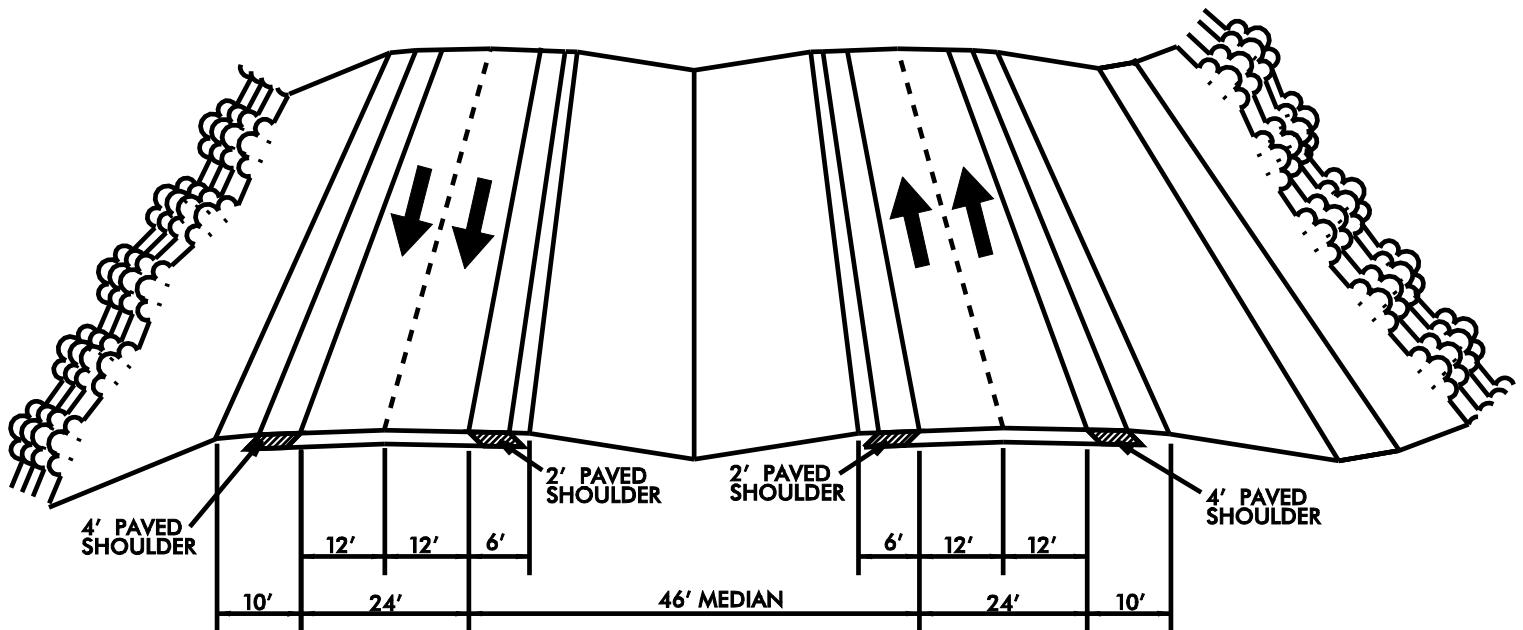
Considerable amounts of fuel, labor and highway construction materials such as concrete, aggregate and bituminous material will be expended to build the proposed project. Additionally, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of State funds that is not retrievable.

### **4.9 RELATIONSHIP BETWEEN LONG TERM & SHORT TERM USES/BENEFITS**

The most disruptive local short-term impacts associated with the proposed project will occur during land acquisition and project construction. Most short-term

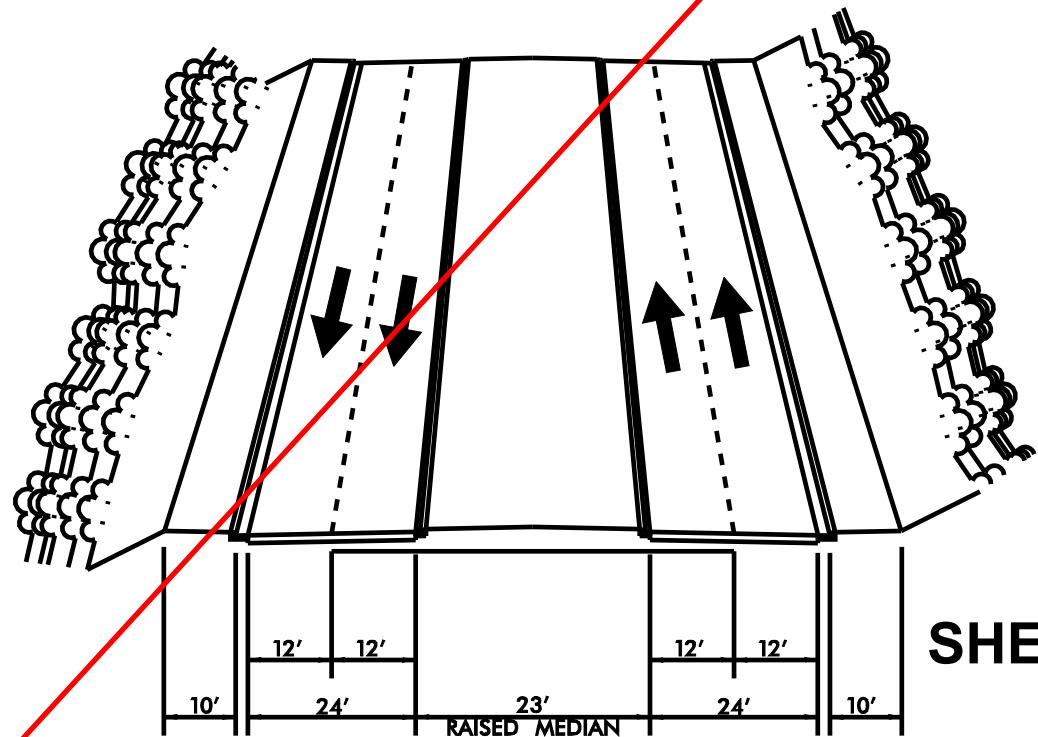
# TIP PROJECT R-2233B

## PROPOSED TYPICAL SECTION (ALTS. 3, 4, 6 AND NEW LOCATION PORTIONS OF ALT. US74A)



NOT TO SCALE

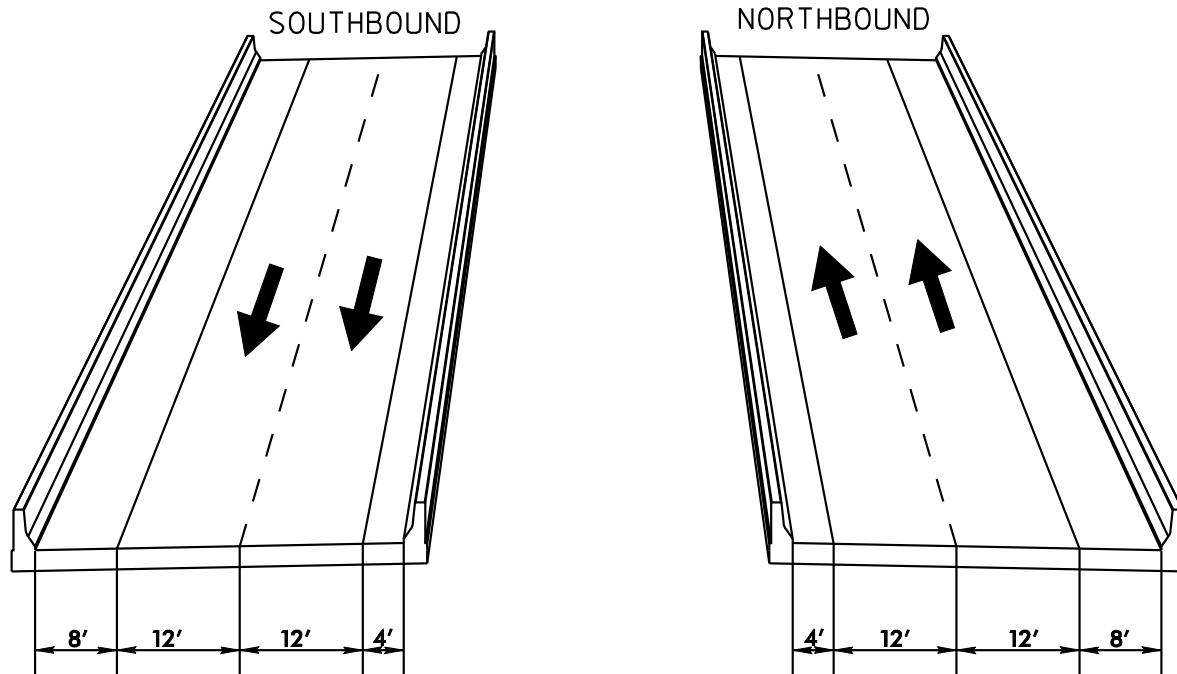
## PROPOSED TYPICAL SECTION (ALT. US74A ALONG RAILROAD AVE.)



SHEET 1 OF 2

**FIGURE 2-3**

**PROPOSED TYPICAL SECTION  
ON NEW BRIDGES**



**NOT TO SCALE**

**SHEET 2 OF 2**

**FIGURE 2-3**

## APPENDIX A

### COMMENTS AND COORDINATION

#### **A. Citizens Informational Workshop**

A citizens informational workshop was held on August 23, 2001 at the R-S Middle School in Rutherfordton to obtain comments and suggestions about the project from the public. Approximately 400 citizens attended this meeting. This meeting was advertised through local newspapers and flyers were sent to property owners and citizens in the project area.

No objections to the project were raised at the workshop. The majority of comments and questions related to the project alternatives and the effects of the project on individual properties.

Several people representing historic interest groups attended the workshop due to the proximity of the project alternatives to Gilbert Town (see Section 3.4.1). In comments at and following the workshop, they asked NCDOT avoid Gilbert Town.

#### **B. Public Hearing**

A corridor public hearing for this project was held on January 26, 2009 at the R-S High School in Rutherfordton. Approximately 271 citizens attended the hearing. The alternatives still under consideration for the project were presented to the public for their comments at the hearing. The hearing consisted of an informal “open house” followed by a formal hearing with a presentation. Sixteen people made comments during the formal portion of the hearing. Approximately 43 written comments were submitted either at the hearing or during the 15-day comment period following the hearing.

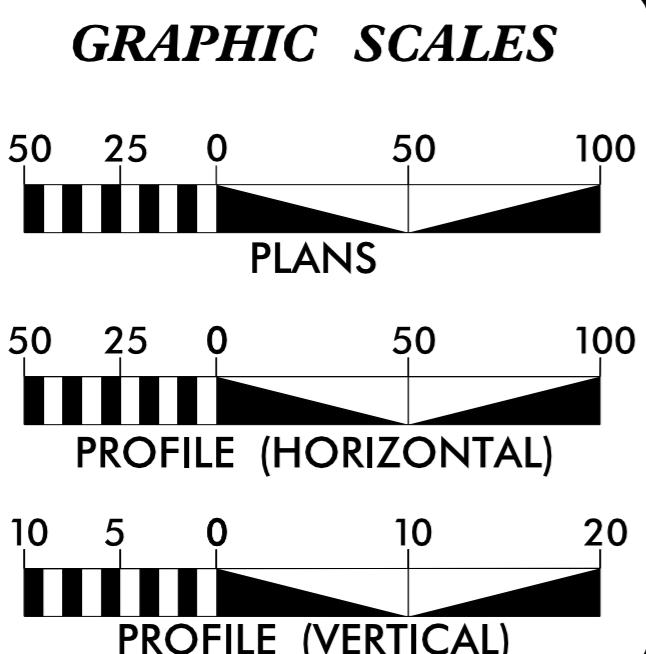
The majority of comments and questions heard at the hearing or submitted following the hearing related to the potential impact of the proposed bypass on individual properties. A number of people also stated they did not believe the project is needed. Several individuals commented on their preferred alternative. Among those stating a preference, Alternative US 74A was favored by the most (7), followed by Alternative 4 (4), Alternative 6 (3) and Alternative 3 (2). Some individuals also listed the alternative(s) they did not prefer. More people were against selecting Alternative 4 (7), followed by Alternative 6 (6). One person stated they opposed selecting Alternative US 74A and no one expressed opposition to Alternative 3.

The preliminary design for the recommended alternative for the project (Alternative 3) will be presented to the public at a second hearing following distribution of this document. Citizen comments will be taken into consideration as project design progresses.

# CONTRACT:

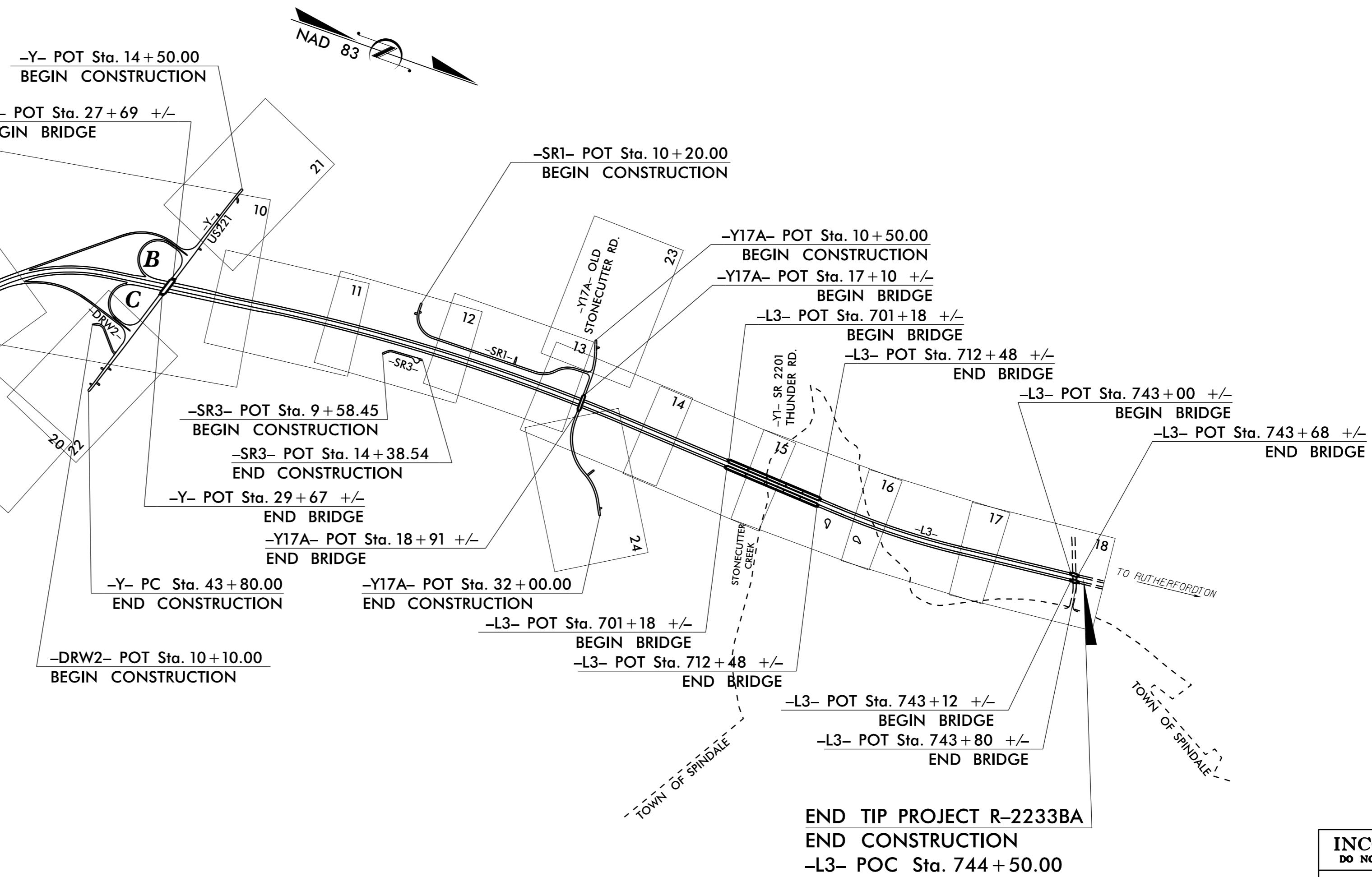
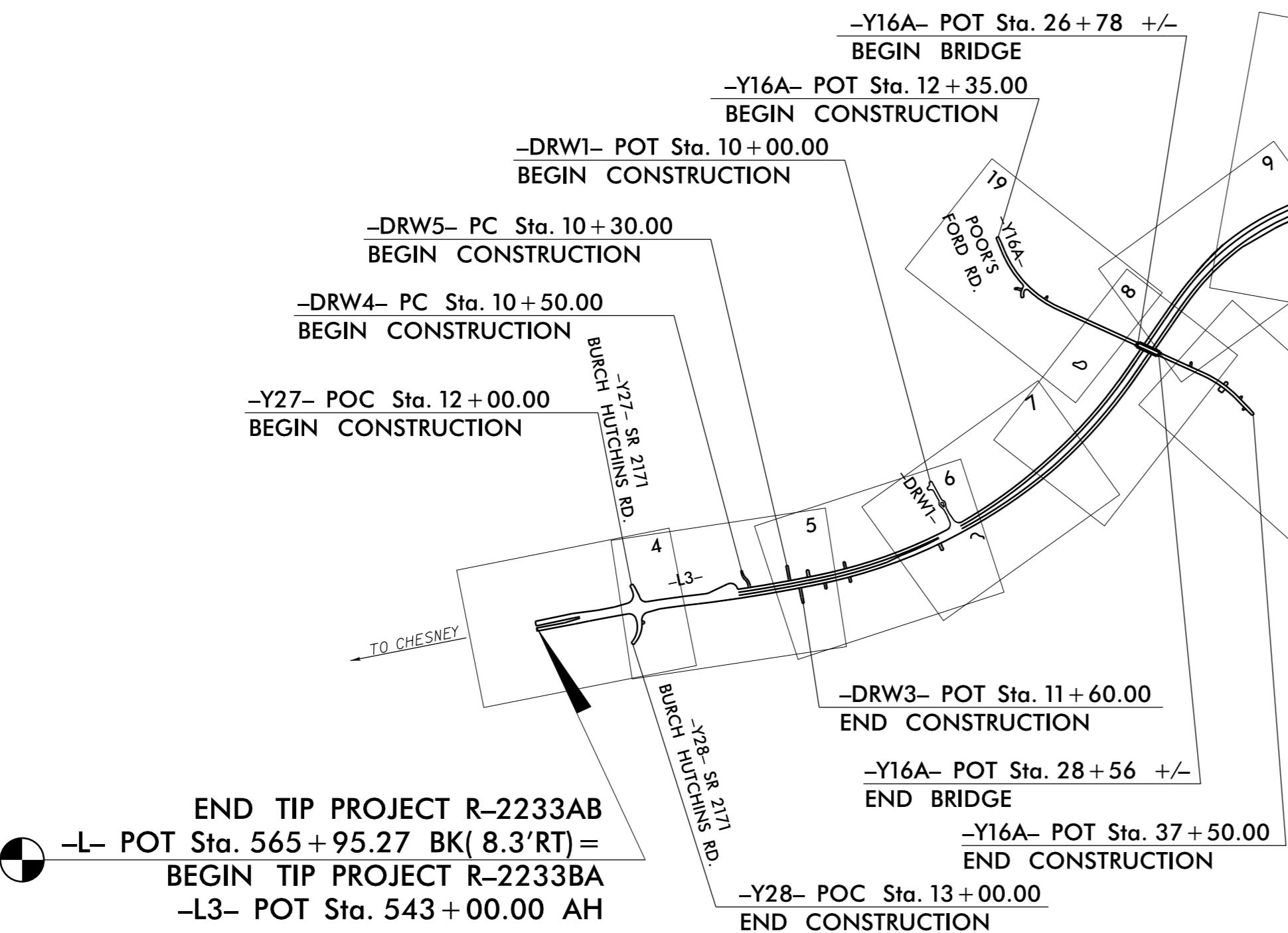
09/08/99

# TIP PROJECT: R-2233BA



DESIGN DATA	
ADT 2022 =	10400
ADT 2040 =	12900
K =	8 %
D =	55 %
T =	7 % *
V =	70 MPH
* TTST 2%	DUAL 5%
FUNC CLASS =	
ARTERIAL	
REGIONAL	
TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT R-2233BA =	3.589 MILES
LENGTH STRUCTURE TIP PROJECT R-2233BA =	0.227 MILES
TOTAL LENGTH TIP PROJECT R-2233BA =	3.816 MILES
STRUCTURE LENGTH BASED ON -L3- NB STATIONING.	



A PORTION OF THIS PROJECT IS CONTROLLED-ACCESS WITH ACCESS BEING LIMITED TO INTERCHANGES.

A PORTION OF THIS PROJECT IS PARTIAL CONTROLLED-ACCESS WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

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

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF SPINDALE.

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION  
  
**DOCUMENT NOT CONSIDERED FINAL**  
UNLESS ALL SIGNATURES COMPLETED

NCDOT CONTACT: NATHAN ADIMA, P.E.

## PLANS PREPARED FOR NCDOT BY:

**Dewberry**

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JUNE 19, 2020

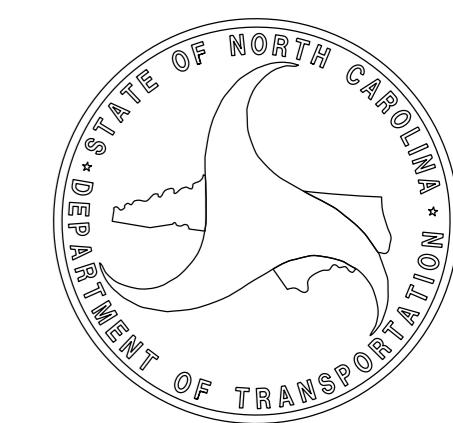
LETTING DATE:  
JUNE 20, 2023

## HYDRAULICS ENGINEER

P.E.  
SIGNATURE:

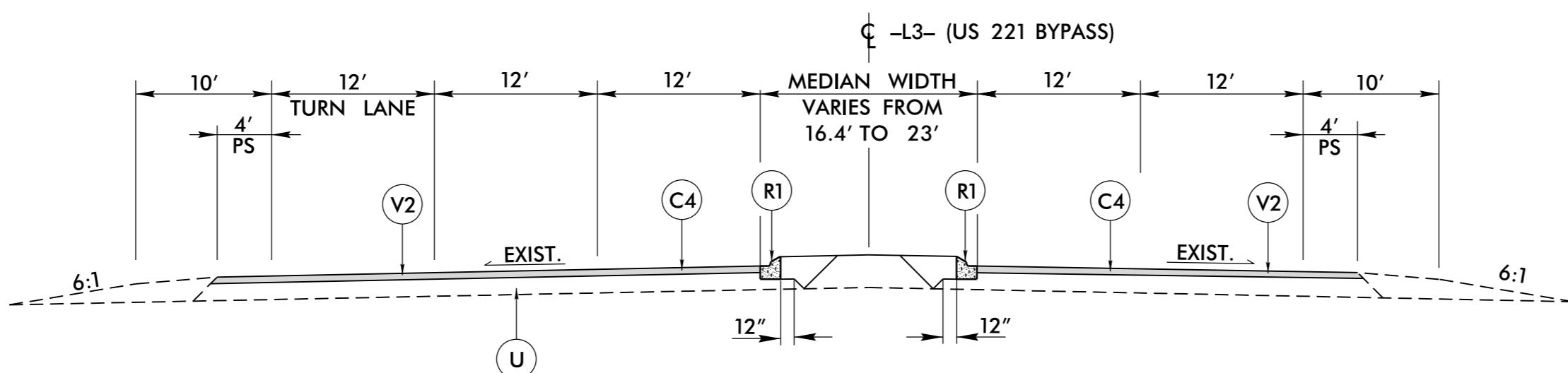
ROADWAY DESIGN  
ENGINEER

P.E.  
SIGNATURE:



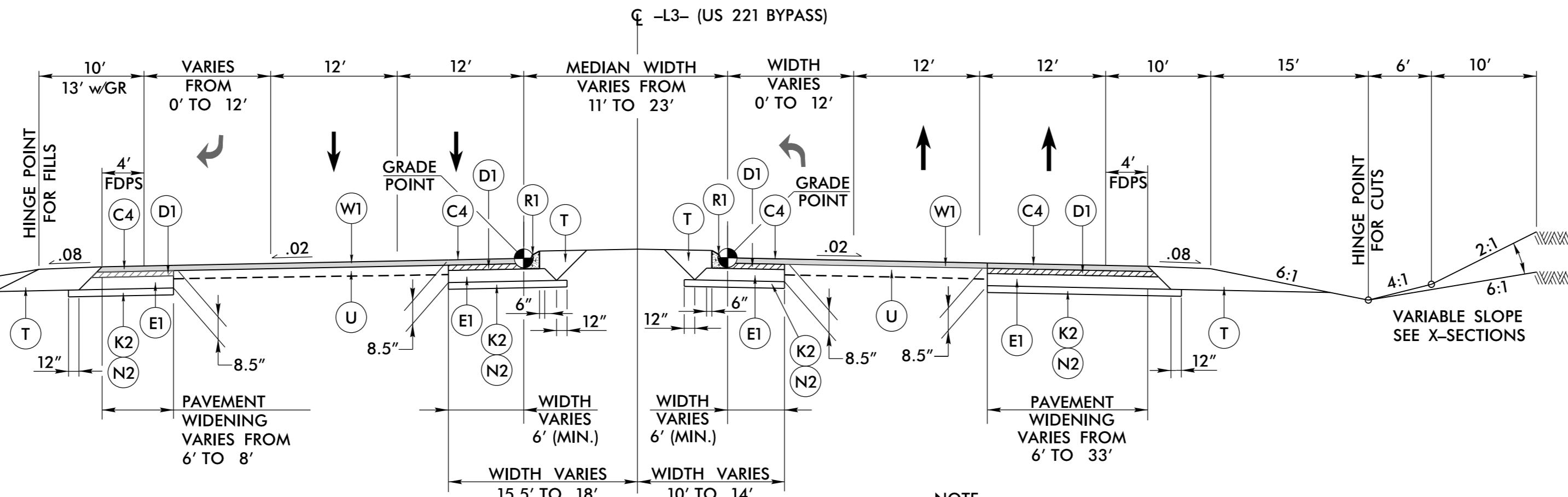
PROJECT REFERENCE NO. SHEET NO.  
R-2233BA 2A-1

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION	ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
A1	4" CONCRETE PAVEMENT	E2	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	R2	2'-6" CONCRETE CURB AND GUTTER		
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD.	E3	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YARD.	R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)		
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.	E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.	R4	8" x 12" CONCRETE CURB		
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD PER 1" IN DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.	J1	PROP. 6" AGGREGATE BASE COURSE	R5	SHOULDER BERM GUTTER (SBG)		
C4	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.	J2	PROP. 8" AGGREGATE BASE COURSE	T	EARTH		
C5	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YARD PER 1" IN DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	K1	PROP. 8" CHEMICAL STABILIZATION (SOIL-CEMENT BASE/LIME-TREATED SOIL). BASE TREATED WITH CEMENT AT A RATE OF 55 LBS. PER SQ. YARD OR SOIL TREATED WITH LIME AT A RATE OF 20 LBS. PER SQ. YARD.	U	EXISTING PAVEMENT		
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YARD.	K2	PROP. 8" CLASS IV SUBGRADE STABILIZATION	V1	1.5" PAVEMENT MILLING		
D2	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	N1	GEOTEXTILE FOR SOIL STABILIZATION	V2	3" PAVEMENT MILLING		
D3	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	N2	GEOTEXTILE FOR PAVEMENT STABILIZATION	W1	VARIABLE DEPTH ASPHALT (SEE WEDGING DETAILS ON THIS SHEET)		
E1	PROP. APPROX. 3.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YARD.	R1	1'-6" CONCRETE CURB AND GUTTER				



**TYPICAL SECTION NO. 1**

-L3- 543 + 00.00 TO -L3- 544 + 25.00  
MILL AND OVERLAY



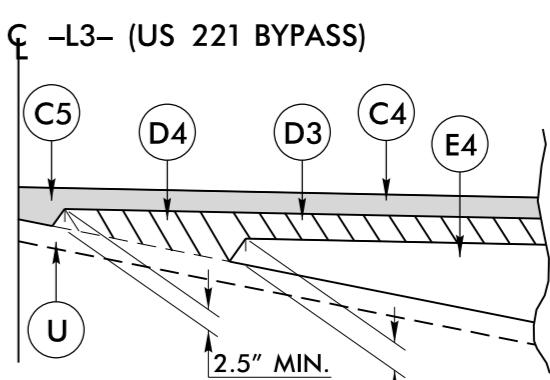
**TYPICAL SECTION NO. 2**

**SOUTHBOUND LANES**

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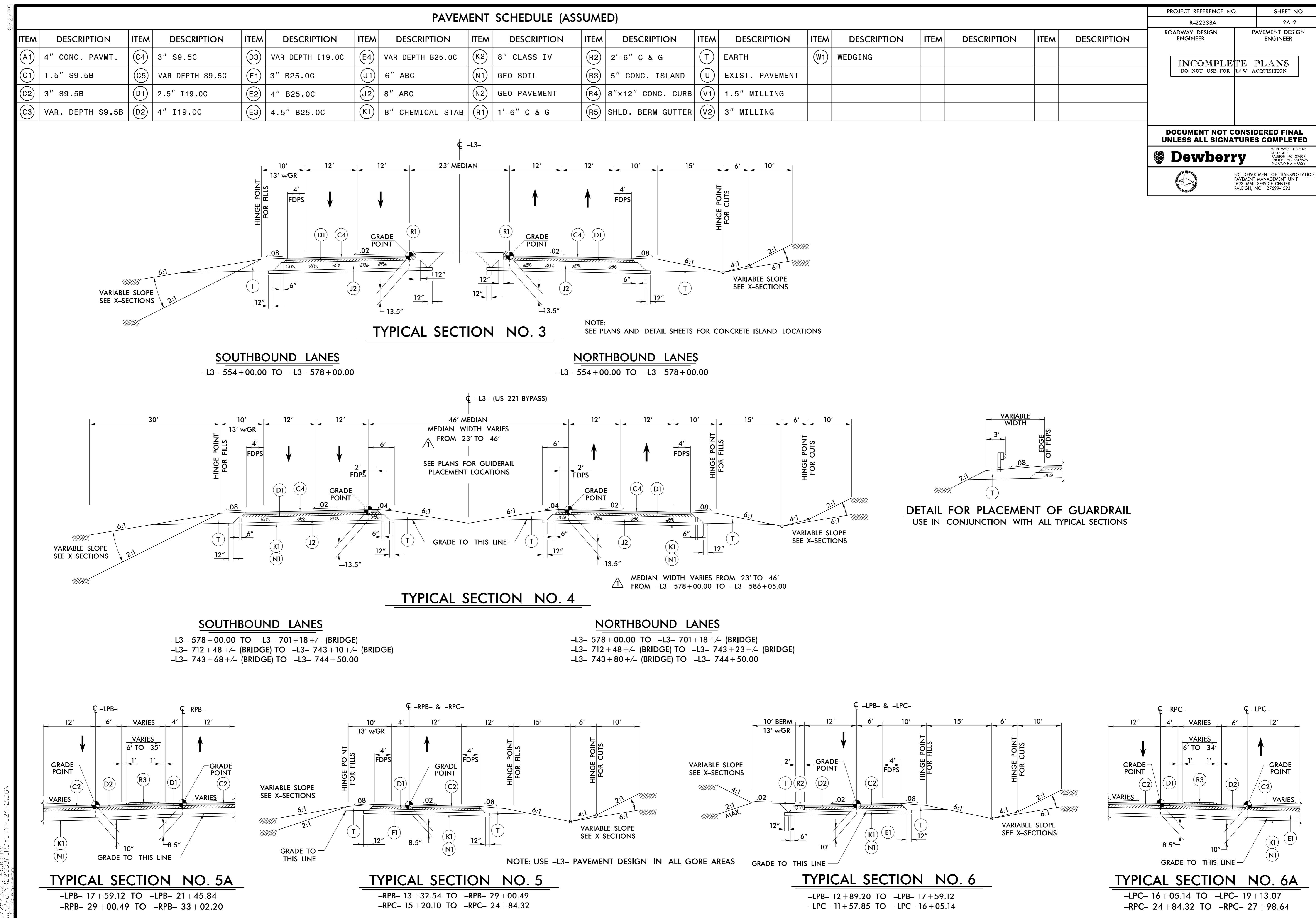
**NORTHBOUND LANES**

-L3- 544 + 25.00 TO -L3- 554 + 00.00

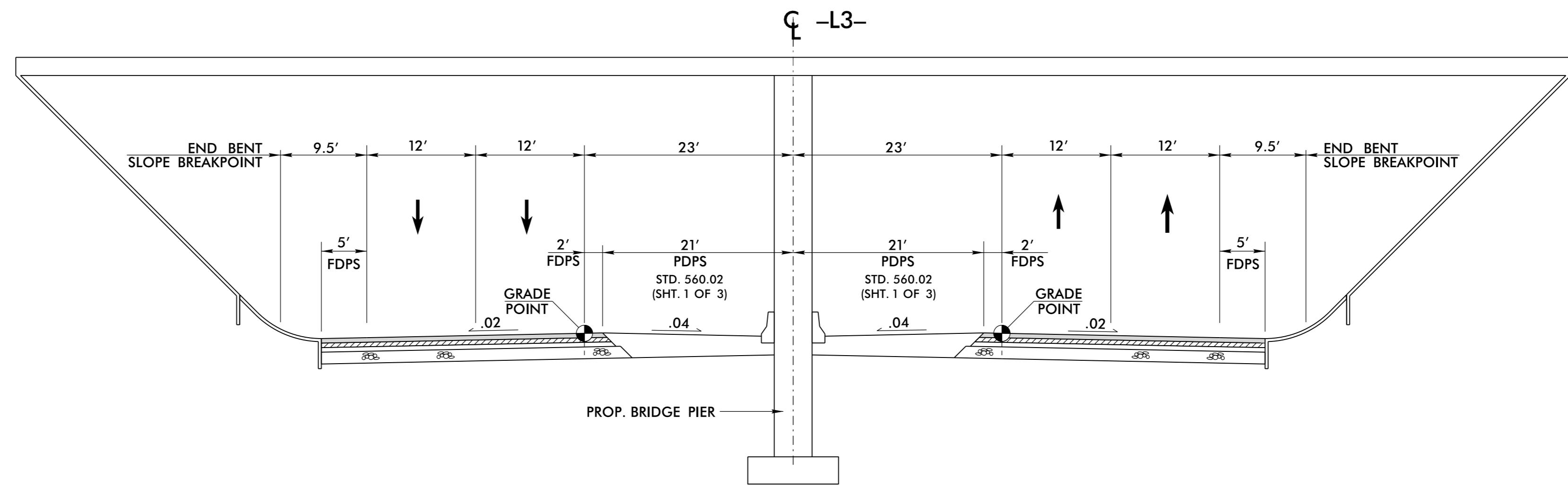
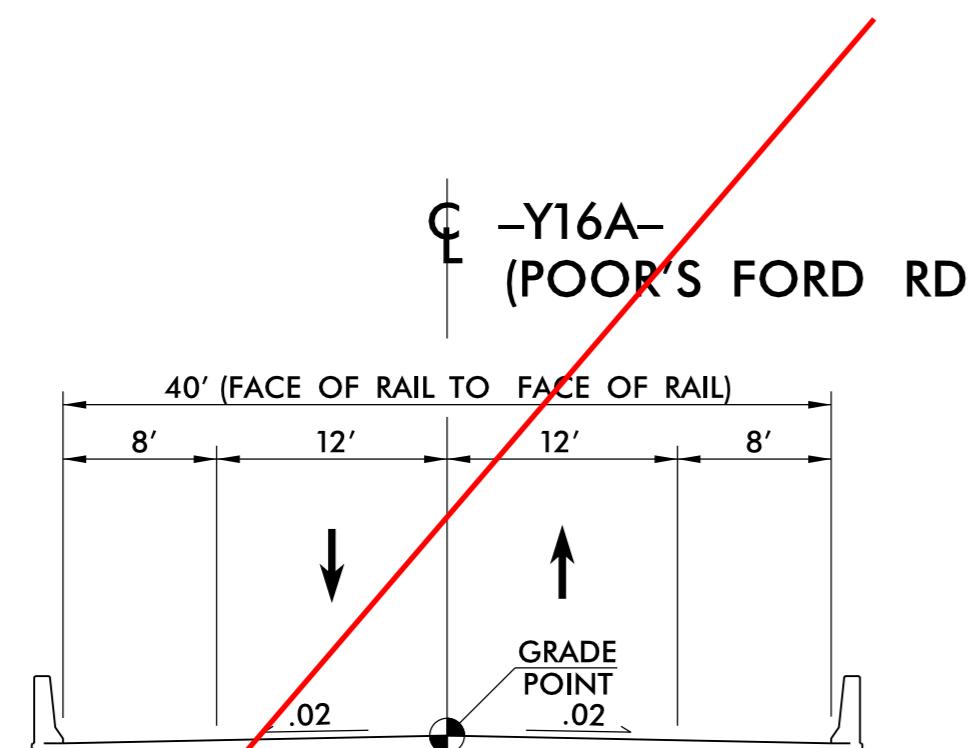


**WEDGING DETAIL - W1**  
USE IN CONJUNCTION WITH TS No. 2

NOTE:  
SEE PLANS AND DETAIL SHEETS FOR CONCRETE ISLAND LOCATIONS

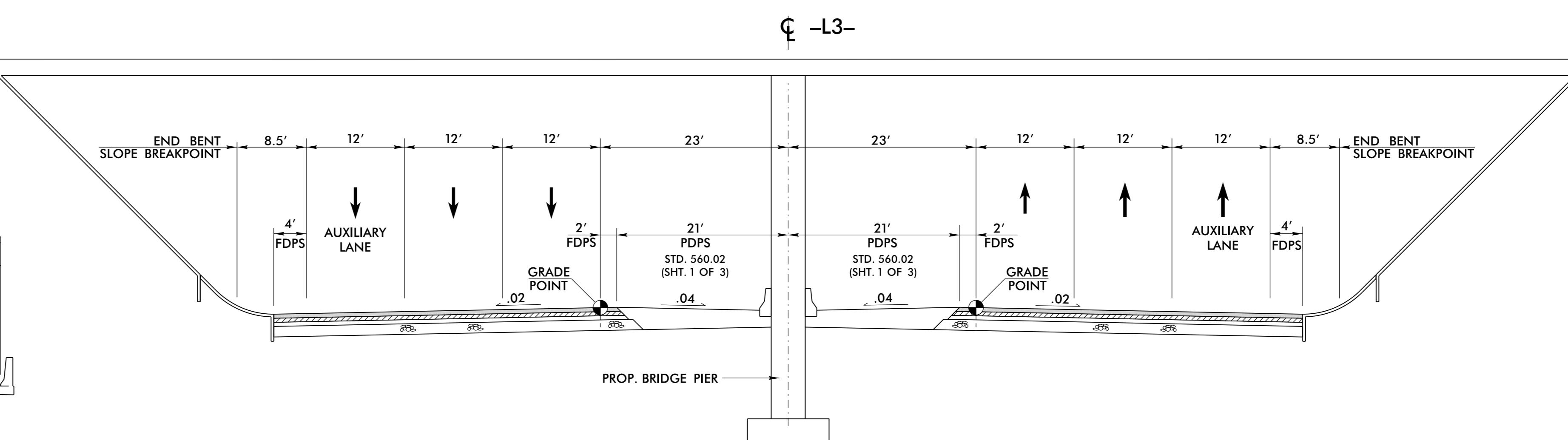
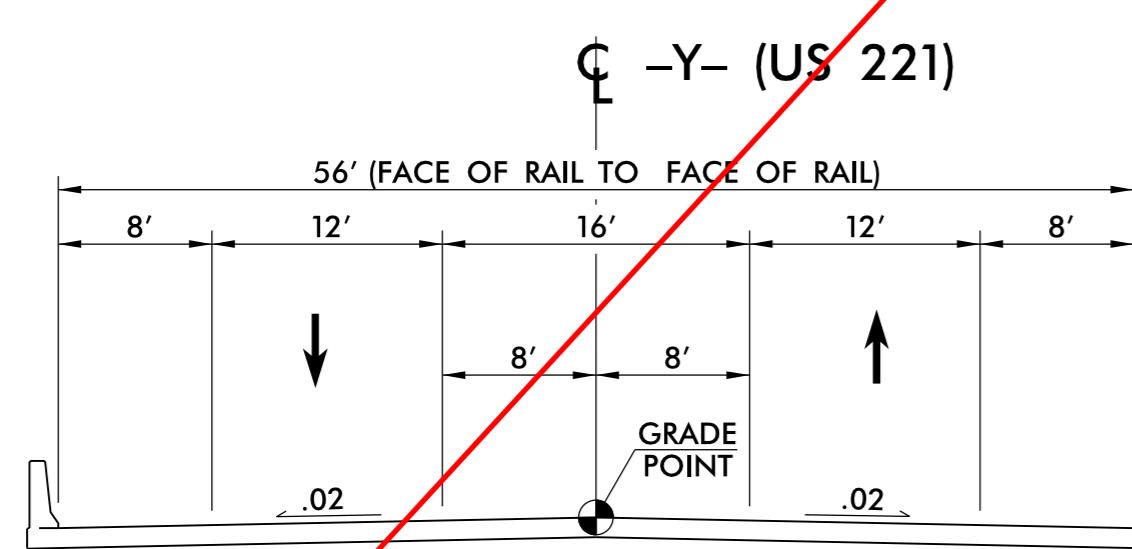


PROJECT REFERENCE NO.		SHEET NO.
R-2233BA		2A-5
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	Dewberry	2610 WYCLIFF ROAD SUITE 410 RALEIGH, NC 27607 PHONE: 919.839.9539 NC COA No. F-3029
NC DEPARTMENT OF TRANSPORTATION PAVEMENT MANAGEMENT UNIT 1201 LEARNER DRIVE RALEIGH, NC 27699-1592		



## BRIDGE SITE #1

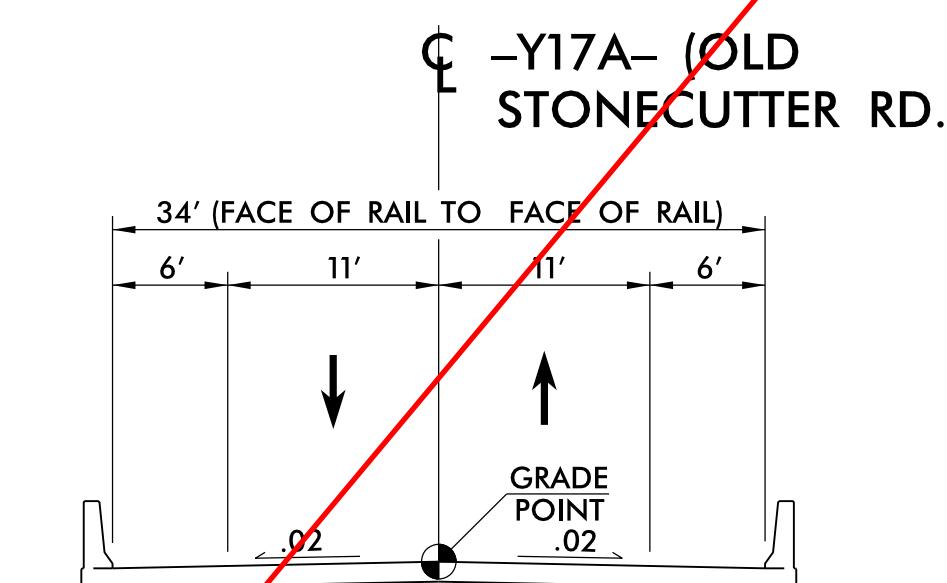
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OVER -L3- STA. 597 + 89.15



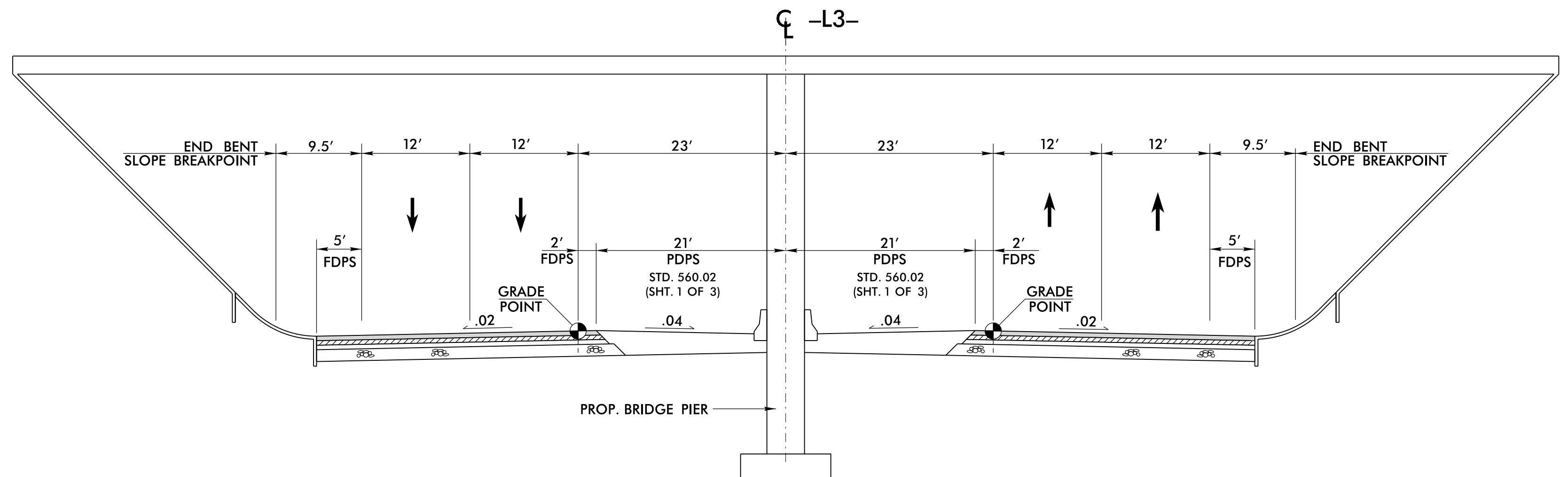
## BRIDGE SITE #2

BRIDGE AT -Y- STA. 28 + 68.37  
OVER -L3- STA. 633 + 19.68

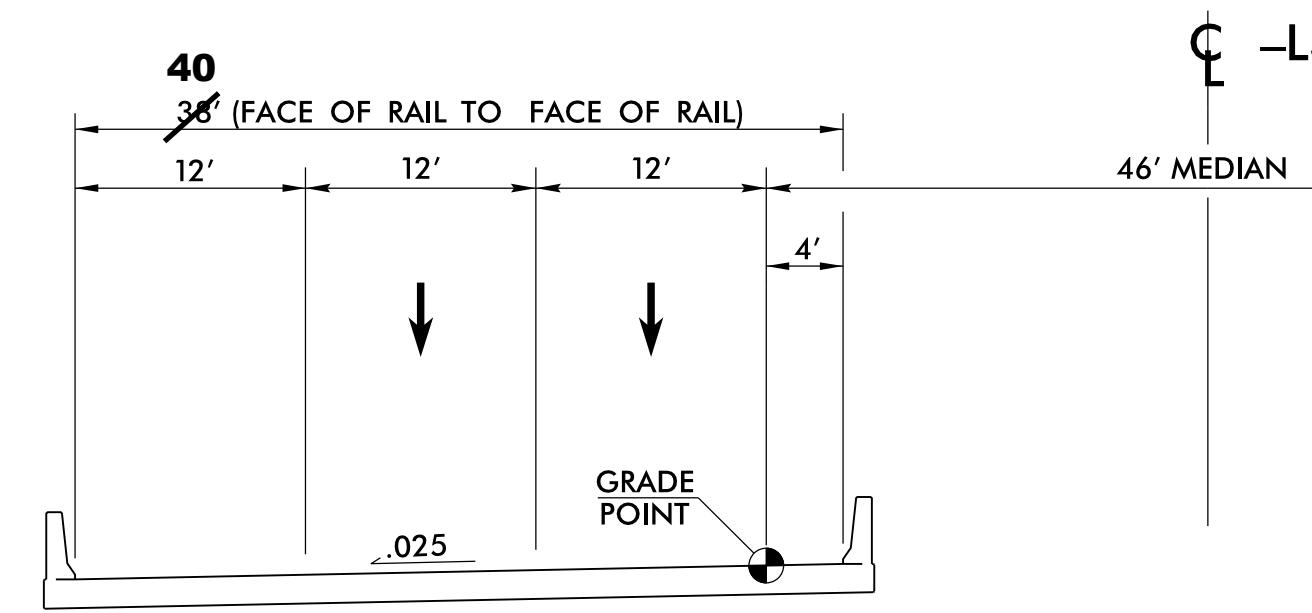
PROJECT REFERENCE NO.		SHEET NO.
R-2233BA	2A-6	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		
<b>Dewberry</b>		
NC DEPARTMENT OF TRANSPORTATION PAVEMENT MANAGEMENT UNIT 1532 HILL SERVICE DRIVE RALEIGH, NC 27699-1593		



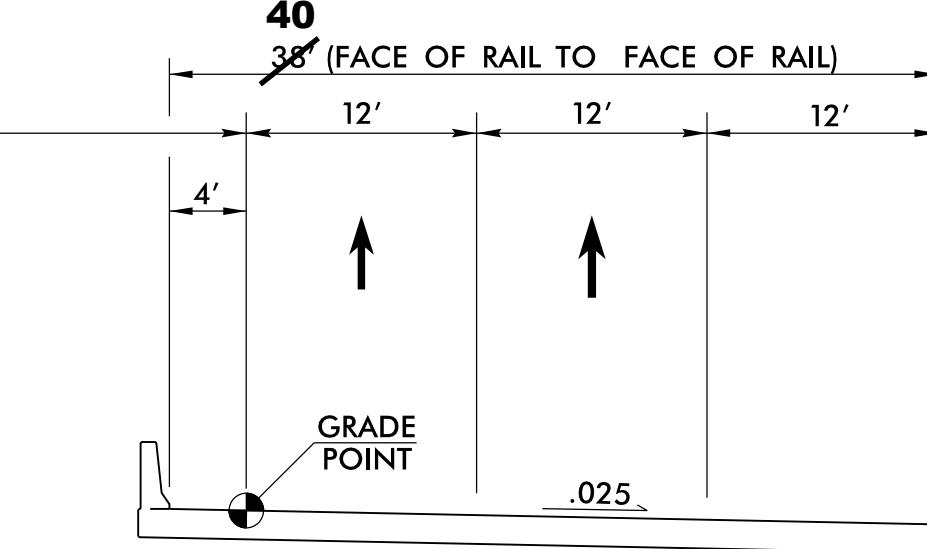
STRUCTURE TYPICAL SECTION



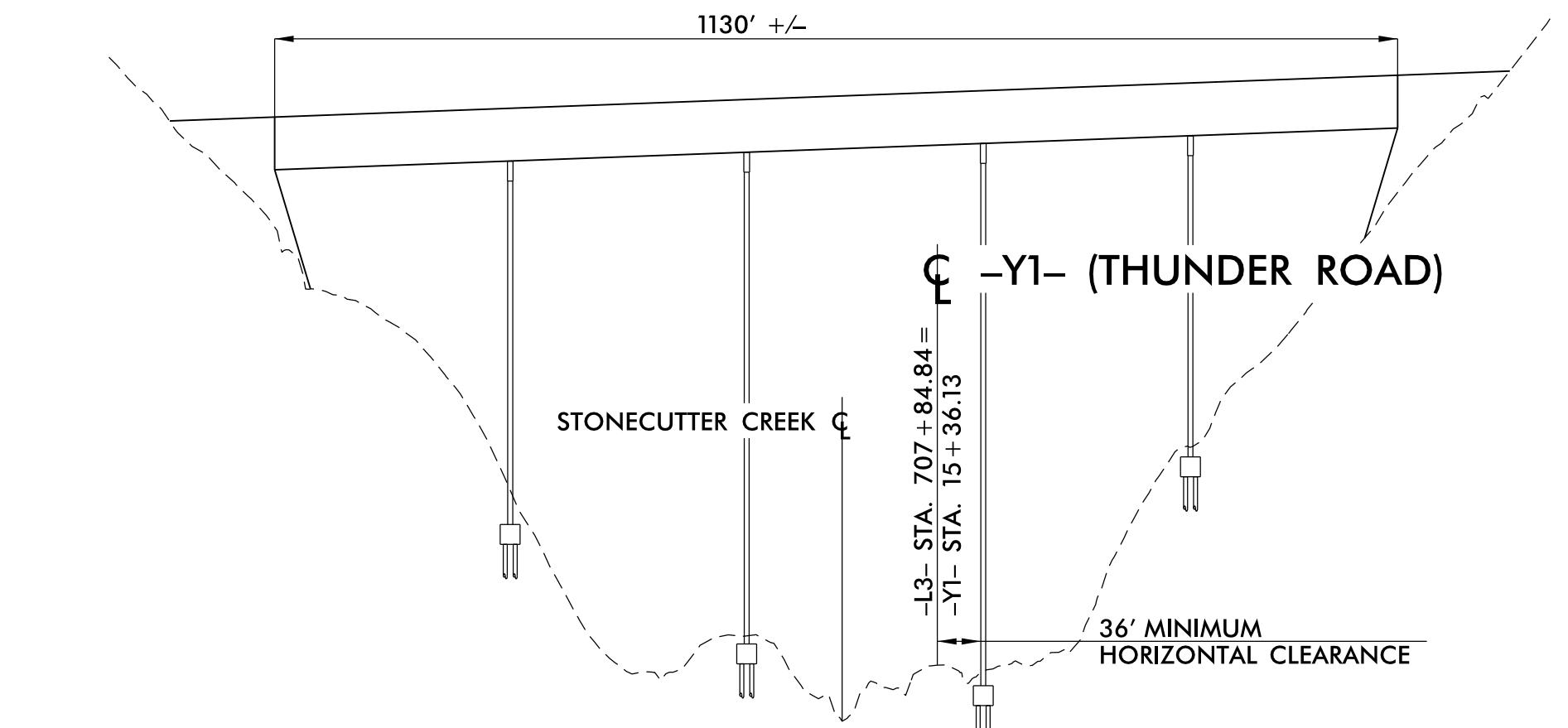
TYPICAL SECTION UNDER STRUCTURE

**BRIDGE SITE #3**BRIDGE AT -Y17A- STA. 18 + 02.55  
OVER -L3- STA. 682 + 86.65

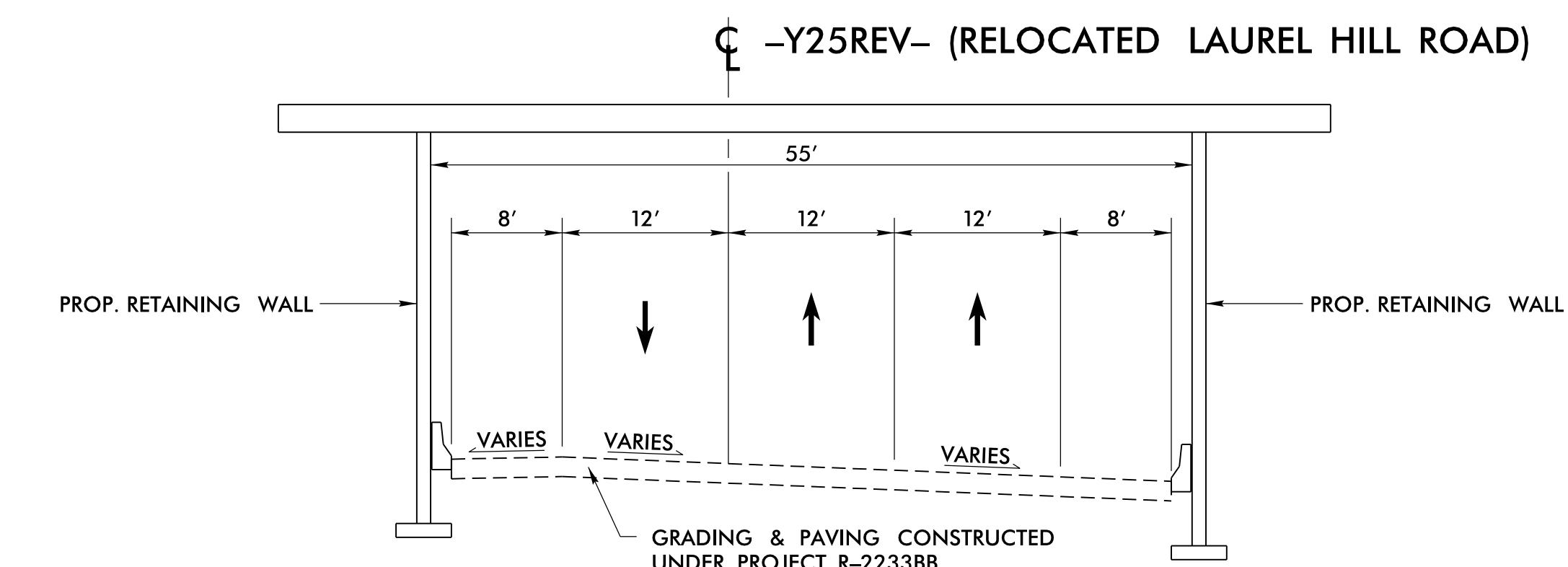
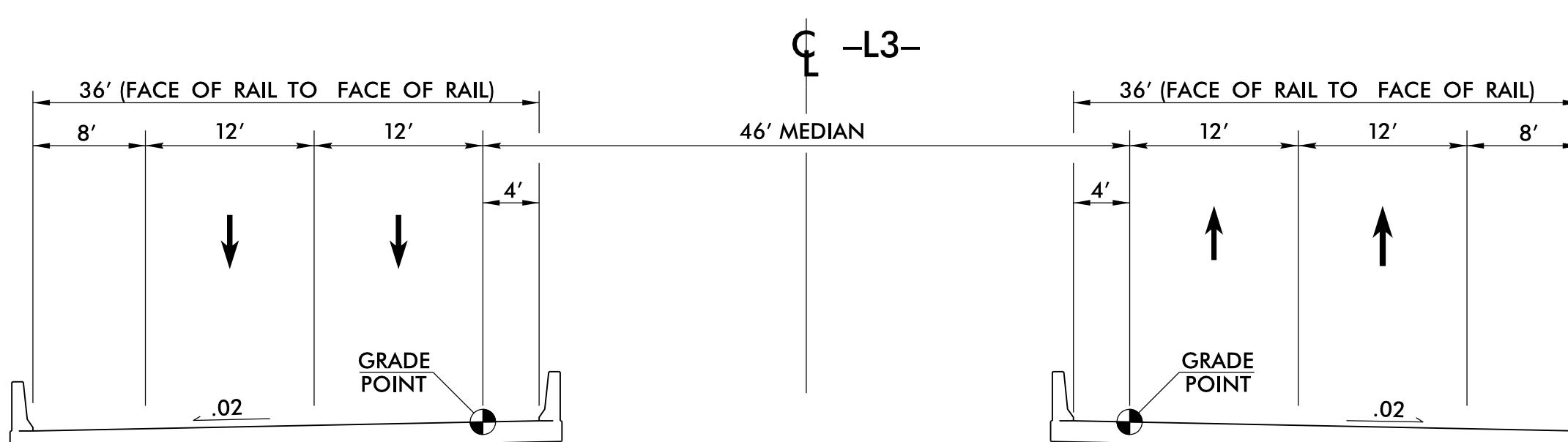
STRUCTURE TYPICAL SECTION

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OVER -Y1- STA. 15 + 36.13

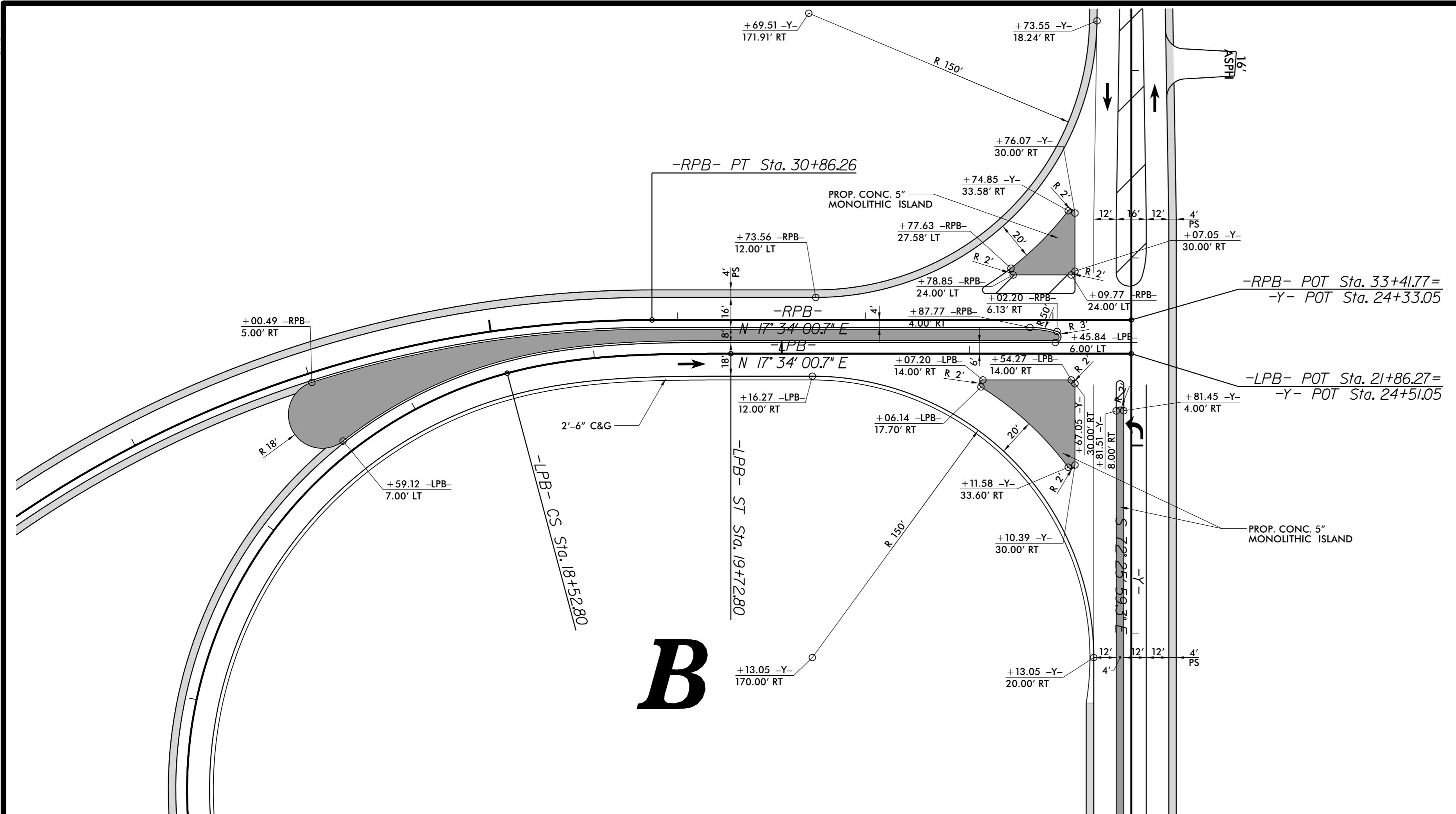
STRUCTURE TYPICAL SECTION

**BRIDGE SITE #5**BRIDGE AT -L3- STA. 743 + 46.25  
OVER -Y25REV- STA. 29 + 53.10

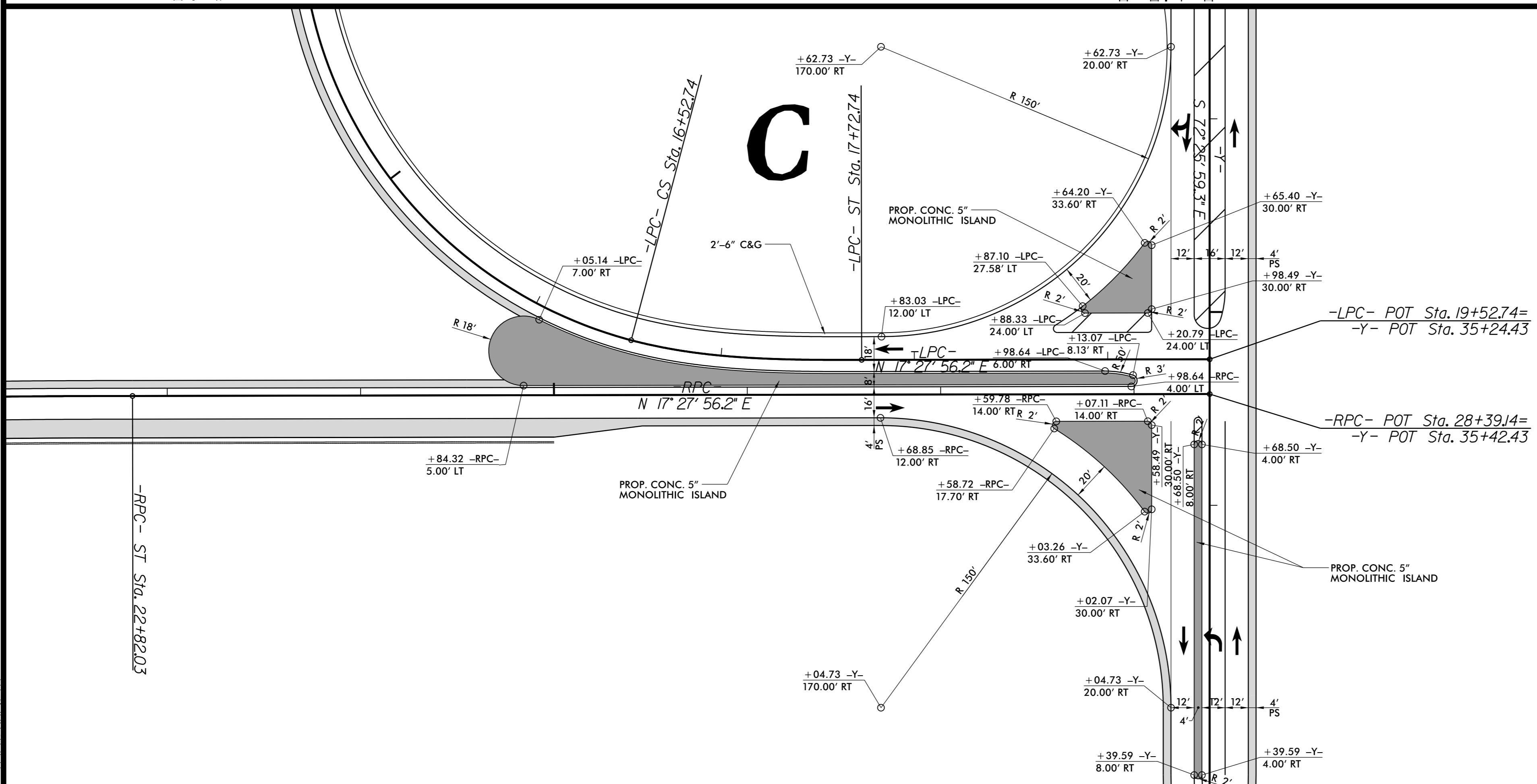
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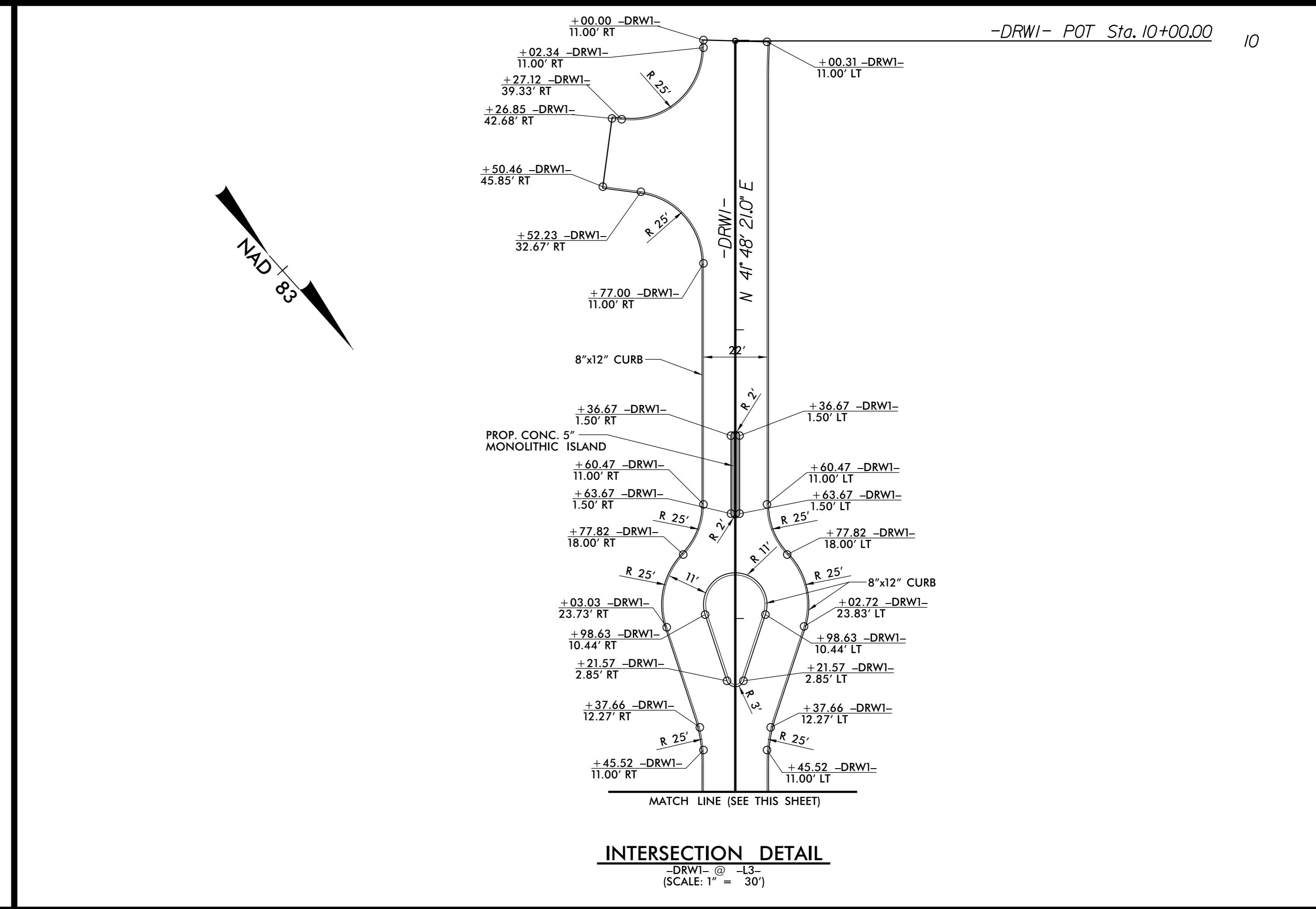
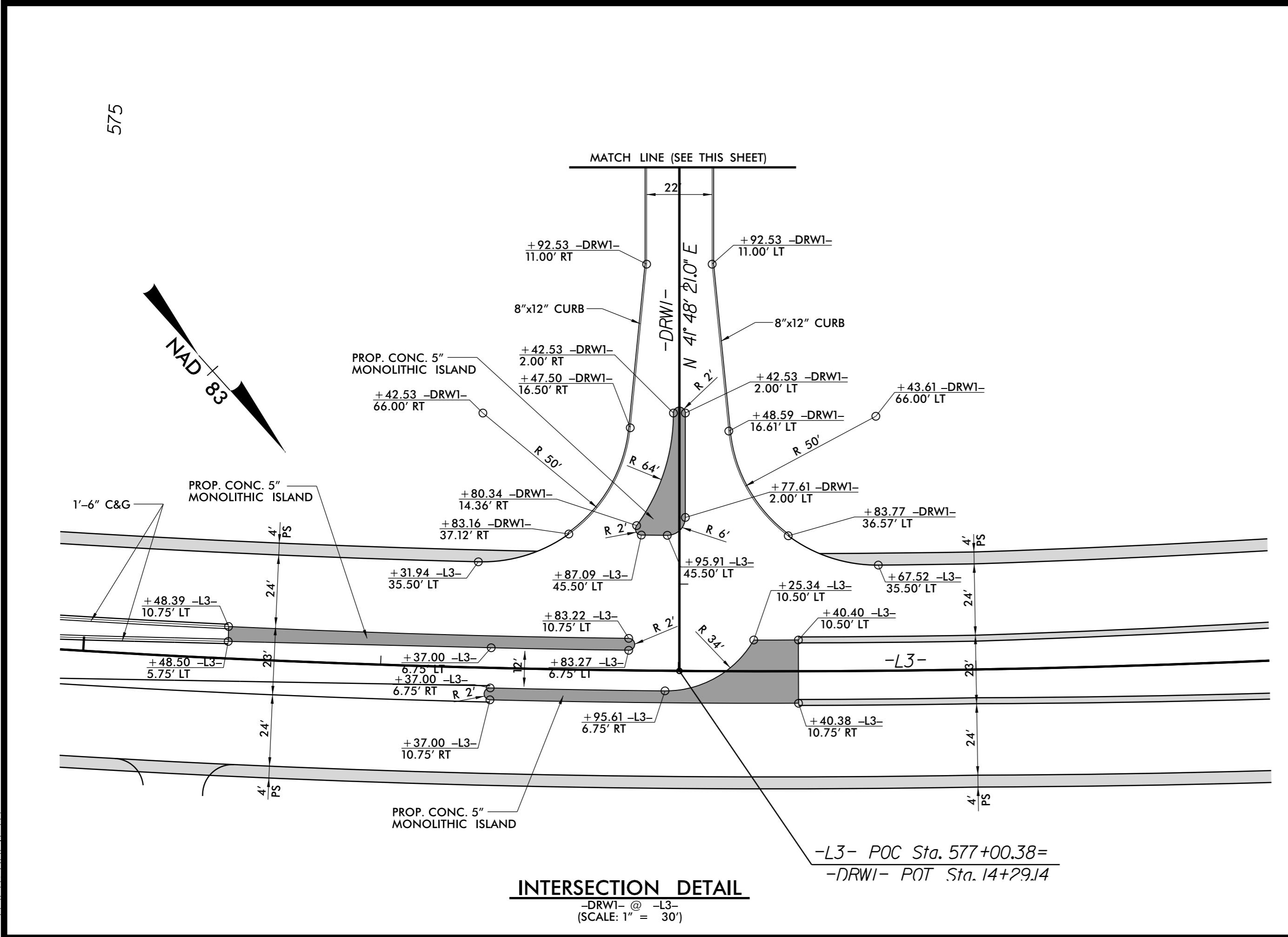
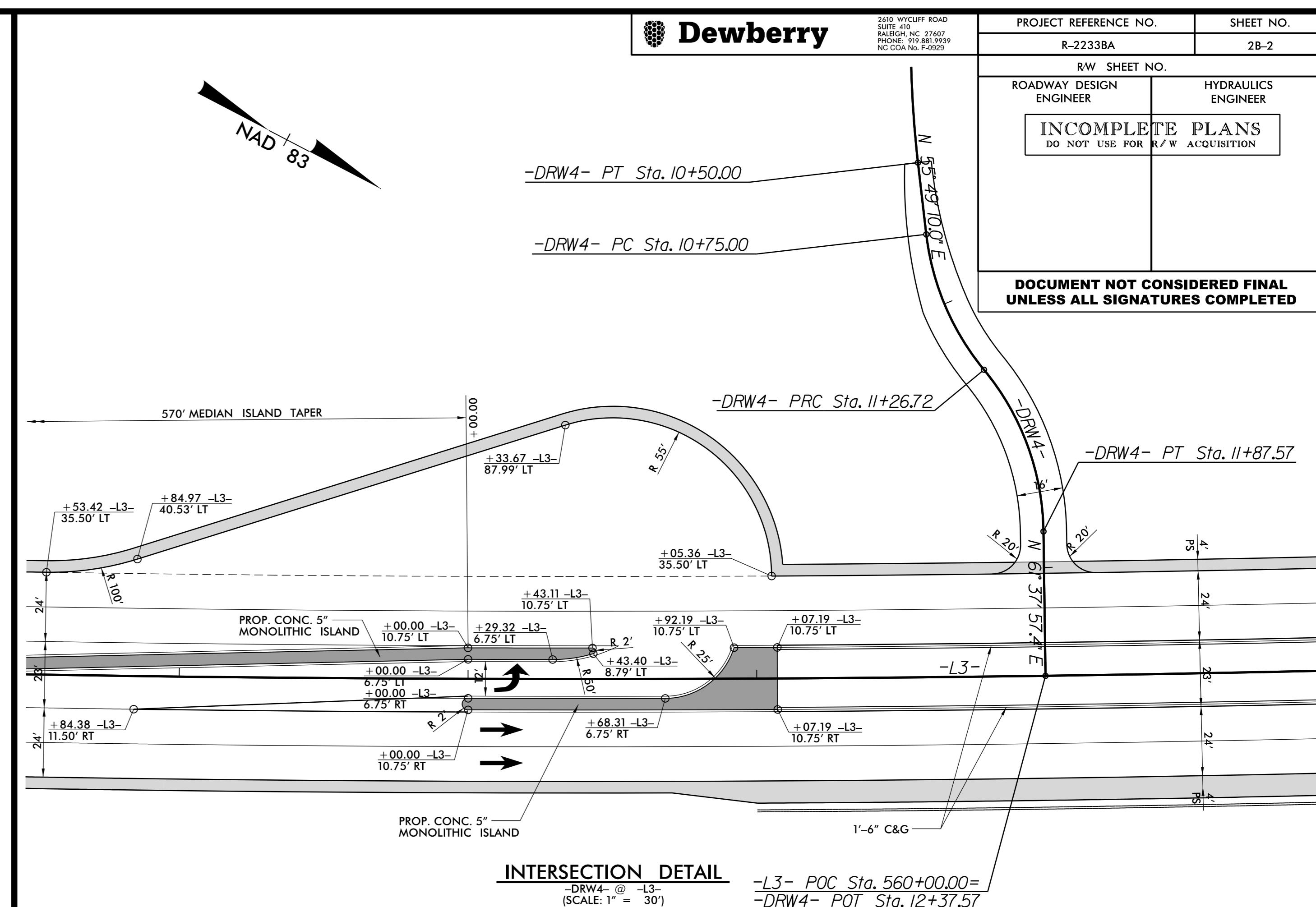
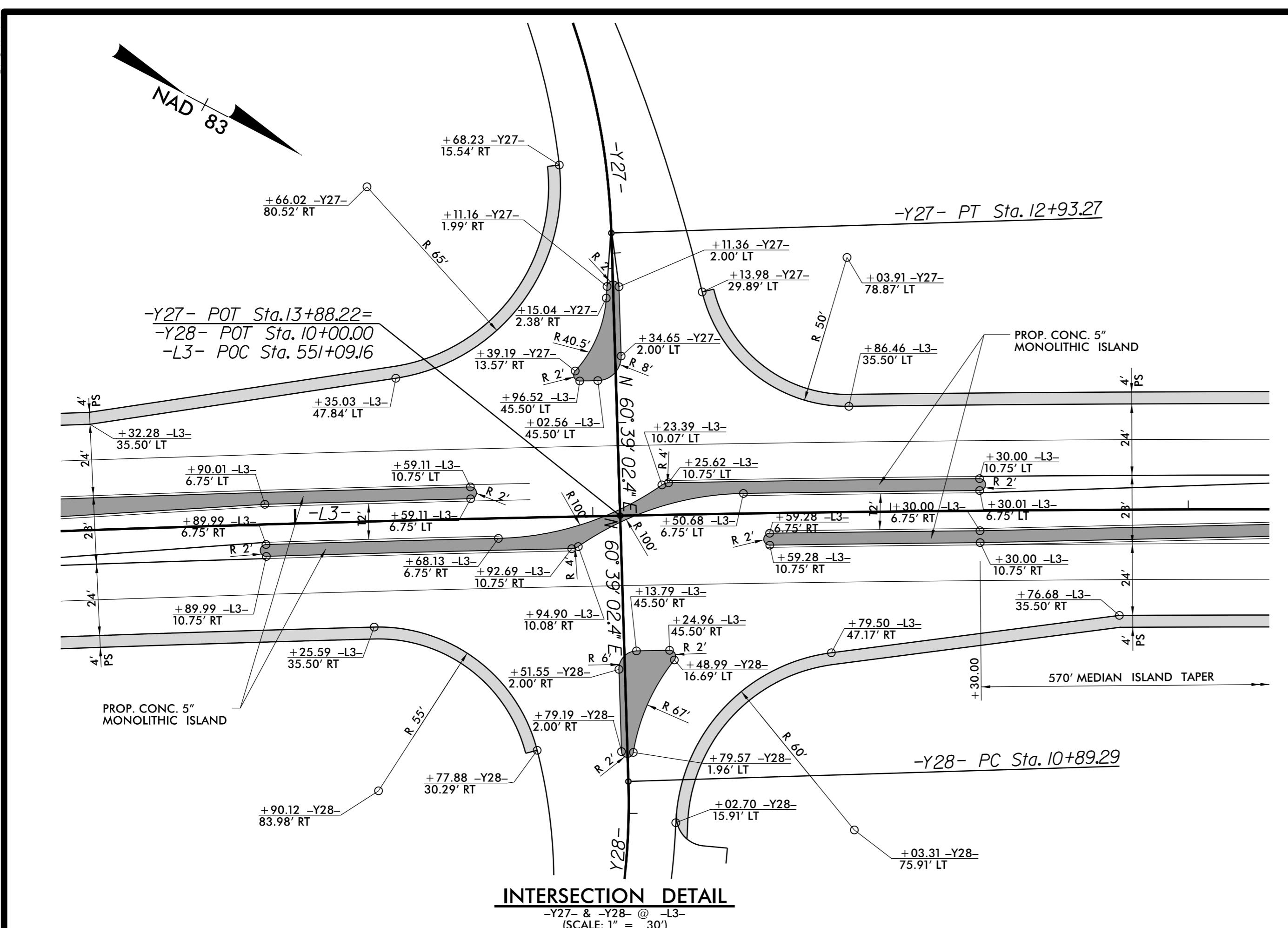
TYPICAL SECTION UNDER STRUCTURE



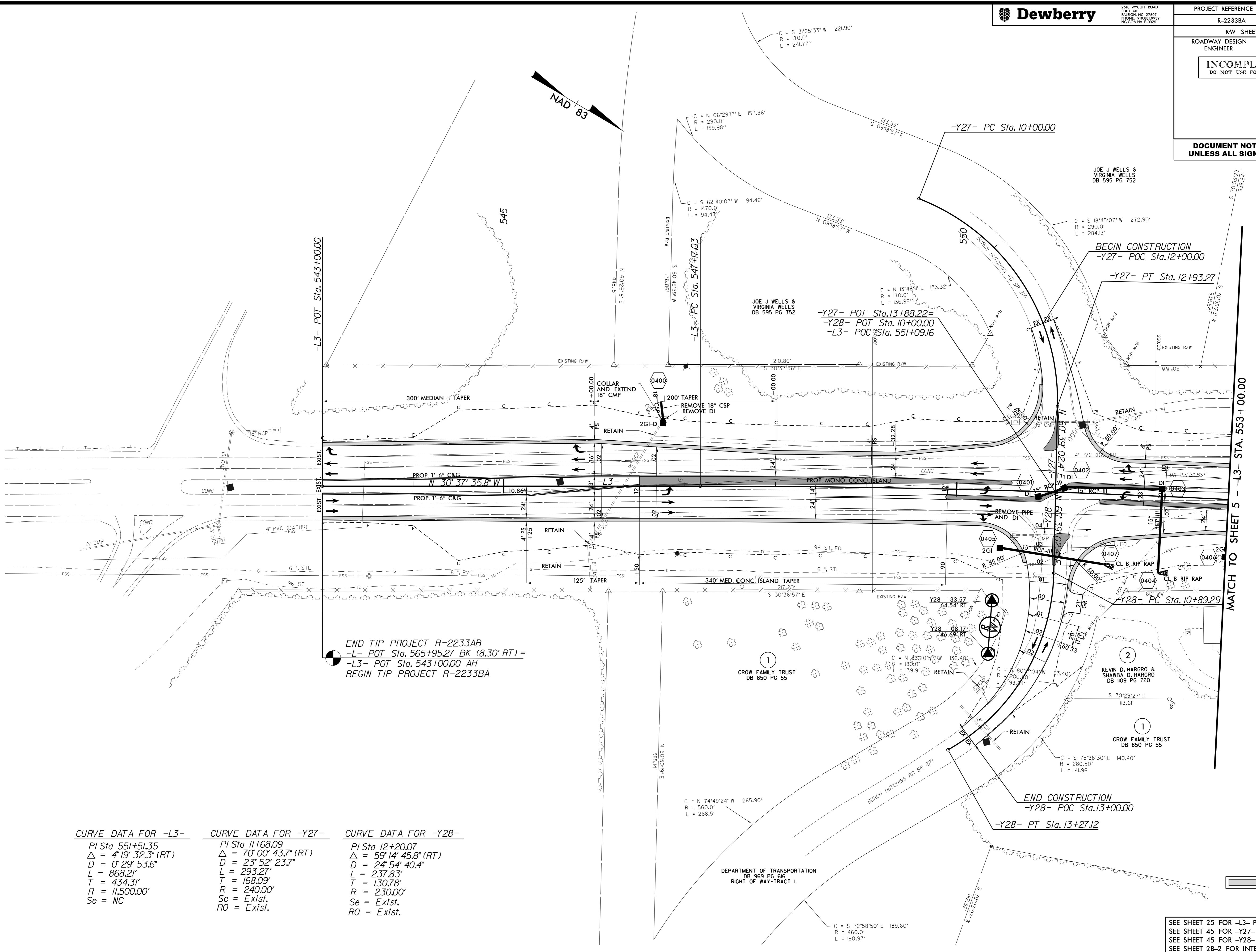
INTERSECTION DETAIL



## INTERSECTION DETAIL



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



CURVE DATA FOR -L3-

PI Sta 551+51.35  
△ = 4° 19' 32.3" (RT)  
D = 0° 29' 53.6"  
L = 868.21'  
T = 434.31'  
R = 11,500.00'  
Se = NC

CURVE DATA FOR -Y27

---

PI Sta 11+68.09  
△ = 70° 00' 43.7" (RT)  
D = 23° 52' 23.7"  
L = 293.27'  
T = 168.09'  
R = 240.00'  
Se = Exist.  
RO = Exist.

CURVE DATA FOR -Y28

PI Sta 12+20.07  
△ = 59° 14' 45.8" (RT)  
D = 24° 54' 40.4"  
L = 237.83'  
T = 130.78'  
R = 230.00'  
Se = Exist.  
RO = Exist.

SEE SHEET 25 FOR -L3- PROFILE  
SEE SHEET 45 FOR -Y27- PROFILE  
SEE SHEET 45 FOR -Y28- PROFILE  
SEE SHEET 2B-2 FOR INTERSECTION DETAIL

5/14/99

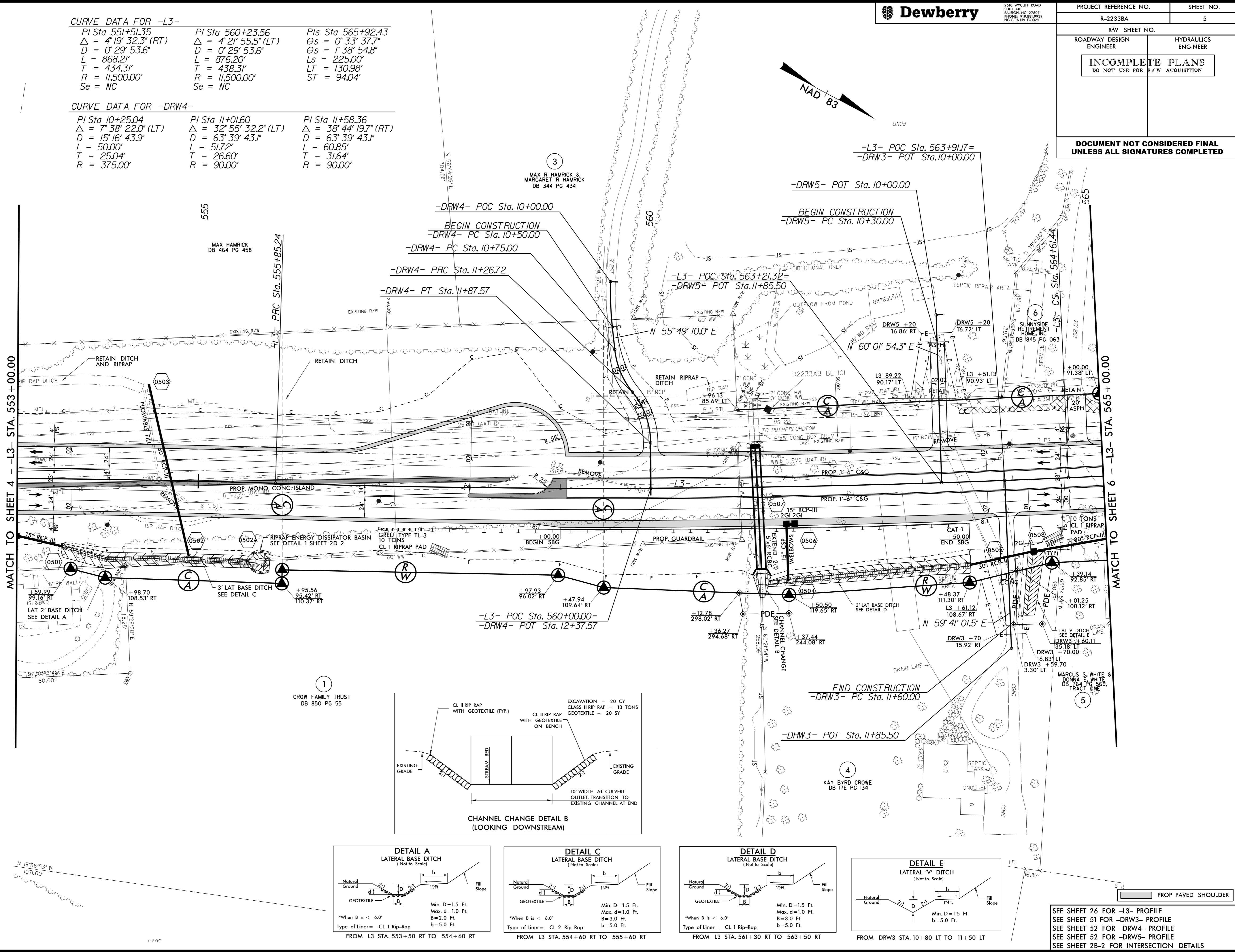
CURVE DATA FOR -L3

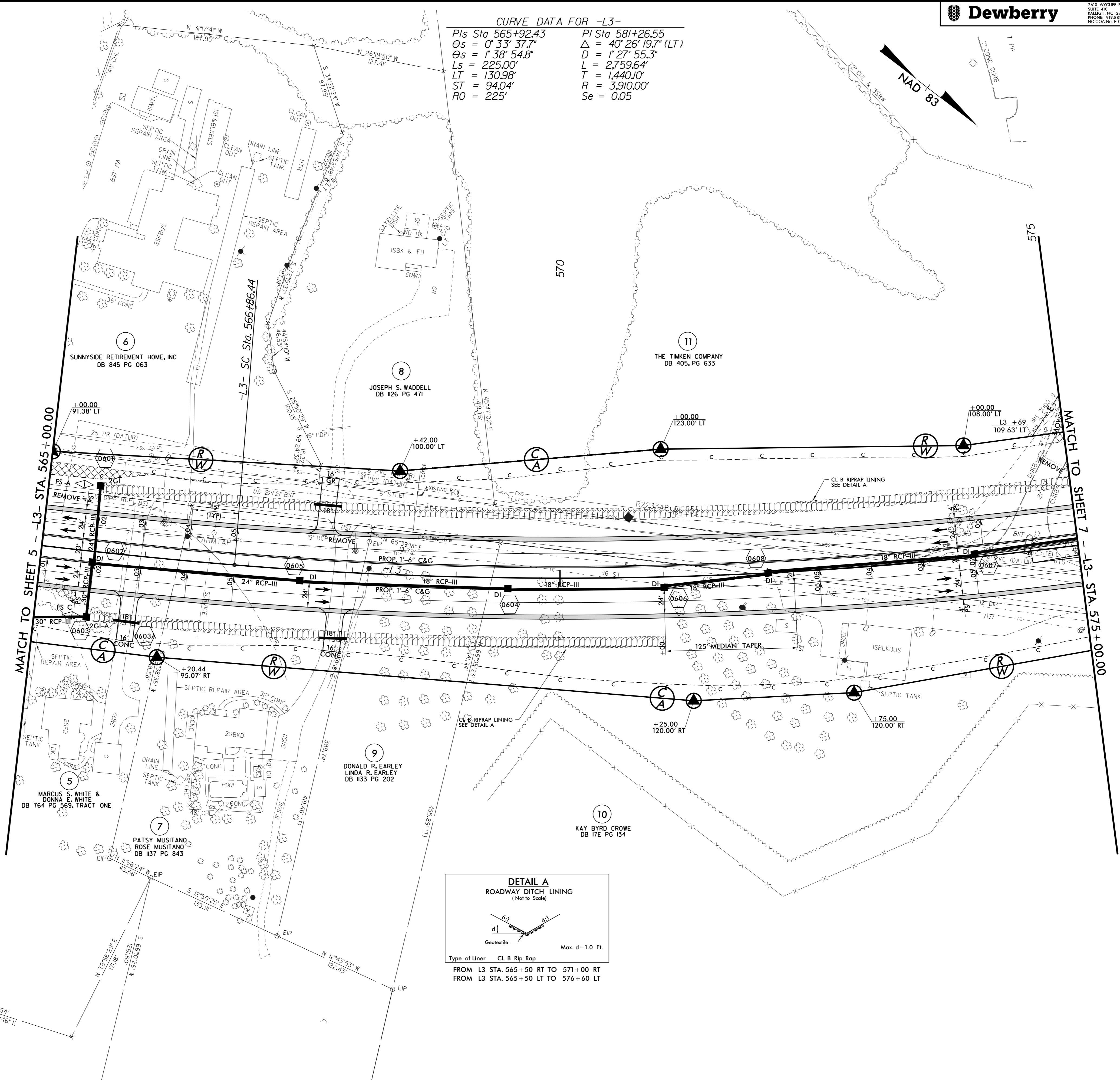
<i>PI Sta</i> 551+51.35	<i>PI Sta</i> 560+23.56	<i>PIs Sta</i> 565+92.4
$\Delta = 4^\circ 19' 32.3''$ (RT)	$\Delta = 4^\circ 21' 55.5''$ (LT)	$\Theta s = 0^\circ 33' 37.7''$
$D = 0^\circ 29' 53.6''$	$D = 0^\circ 29' 53.6''$	$\Theta s = 1^\circ 38' 54.8''$
$L = 868.21'$	$L = 876.20'$	$Ls = 225.00'$
$T = 434.31'$	$T = 438.31'$	$LT = 130.98'$
$R = 11,500.00'$	$R = 11,500.00'$	$ST = 94.04'$
<i>Se</i> = NC	<i>Se</i> = NC	

*CURVE DATA FOR -D*

<i>PI Sta I</i> 10+25.04	<i>PI Sta II</i> +01.60	<i>PI Sta II</i> +58.36
$\Delta = 7^{\circ} 38' 22.0''$ (LT)	$\Delta = 32^{\circ} 55' 32.2''$ (LT)	$\Delta = 38^{\circ} 44' 19.7''$ (R)
$D = 15^{\circ} 16' 43.9''$	$D = 63^{\circ} 39' 43.1''$	$D = 63^{\circ} 39' 43.1''$
$L = 50.00'$	$L = 51.72'$	$L = 60.85'$
$T = 25.04'$	$T = 26.60'$	$T = 31.64'$
$R = 375.00'$	$R = 90.00'$	$R = 90.00'$

MATCH TO SHEET 4 - -L3- STA. 553 + 00.00





**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**PROP PAVED SHOULDER**

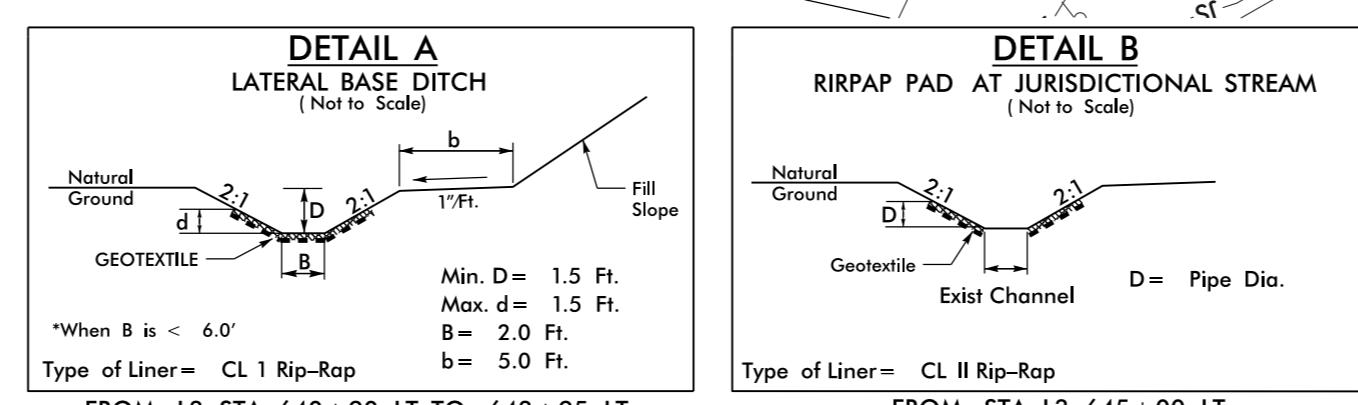






CURVE DATA FOR -L3-

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D = 0° 14' 56.8"  
L = 4,326.77'  
T = 2,169.79'  
R = 23,000.00'  
Se = NC



FROM L3 STA. 640+90 LT TO 643+95 LT

FROM STA. L3 645 +00 LT  
FROM STA. L3 648 +00 LT

N 02°09'10" E

For more information about the study, please contact Dr. Michael J. Hwang at (310) 794-3000 or email at [mhwang@ucla.edu](mailto:mhwang@ucla.edu).

**MENT NOT CONSIDERED FINAL  
S ALL SIGNATURES COMPLETED**

**MATCH TO SHEET 10 - L3 - STA. 641+50.00**

**MATCH TO SHEET 12 - L3 - STA. 654+50.00**

**TOE PROTECTION SEE DETAIL C**

**TOE PROTECTION SEE DETAIL D**

**TOE PROTECTION SEE DETAIL E**

**TOE PROTECTION SEE DETAIL F**

**DETAIL C TOE PROTECTION (Not to Scale)**

**DETAIL D TOE PROTECTION (Not to Scale)**

**DETAIL E SPECIAL CUT DITCH (Not to Scale)**

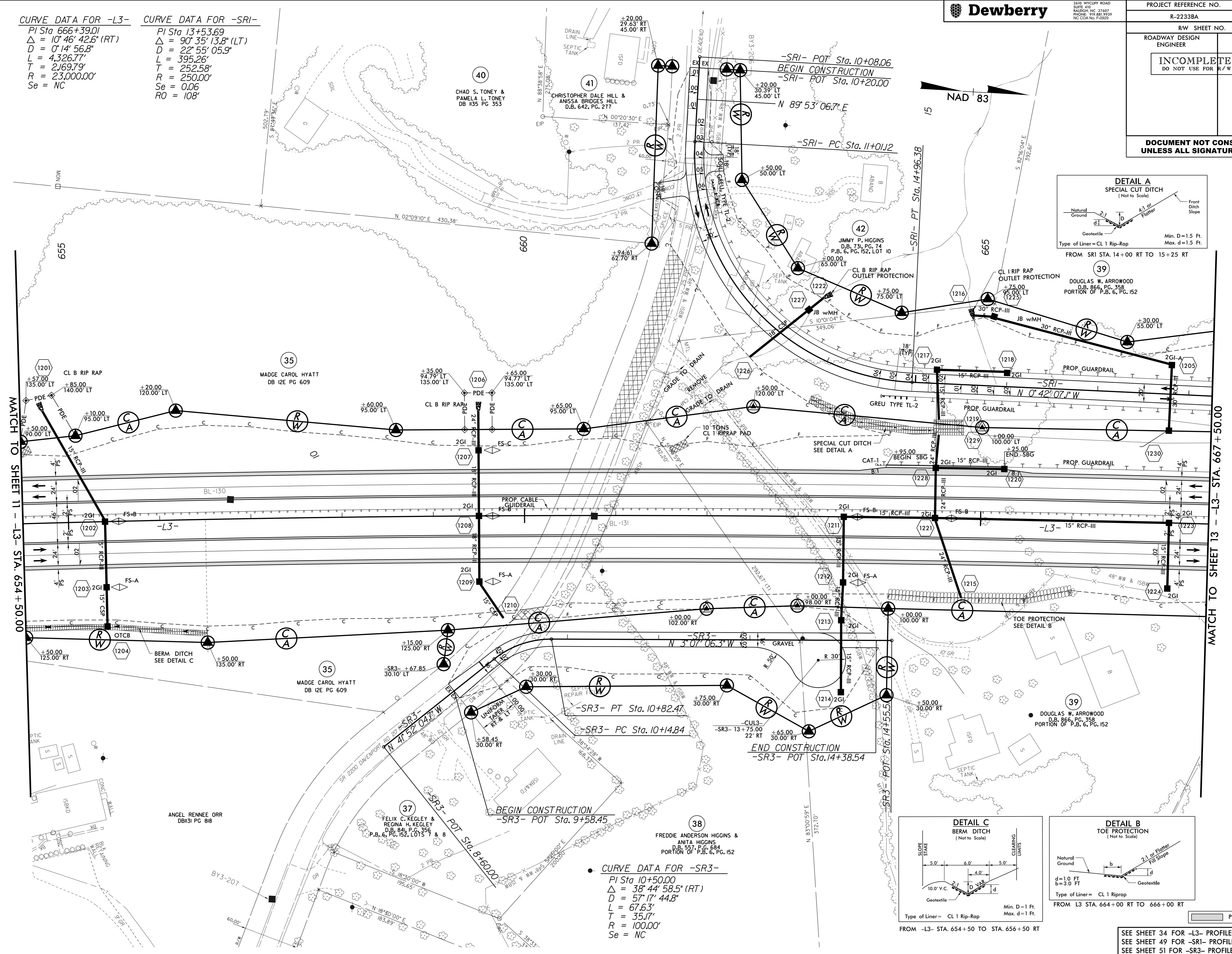
**DETAIL F BERM DITCH (Not to Scale)**

**35 MADGE CAROL HYATT DB I2E PG 609**

**36 PHILLIP J. CULBRETH & GAIL L. CULBRETH DB 505, PG. 621**

**SEE SHEET 33 FOR -L3- PROFILE**

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**





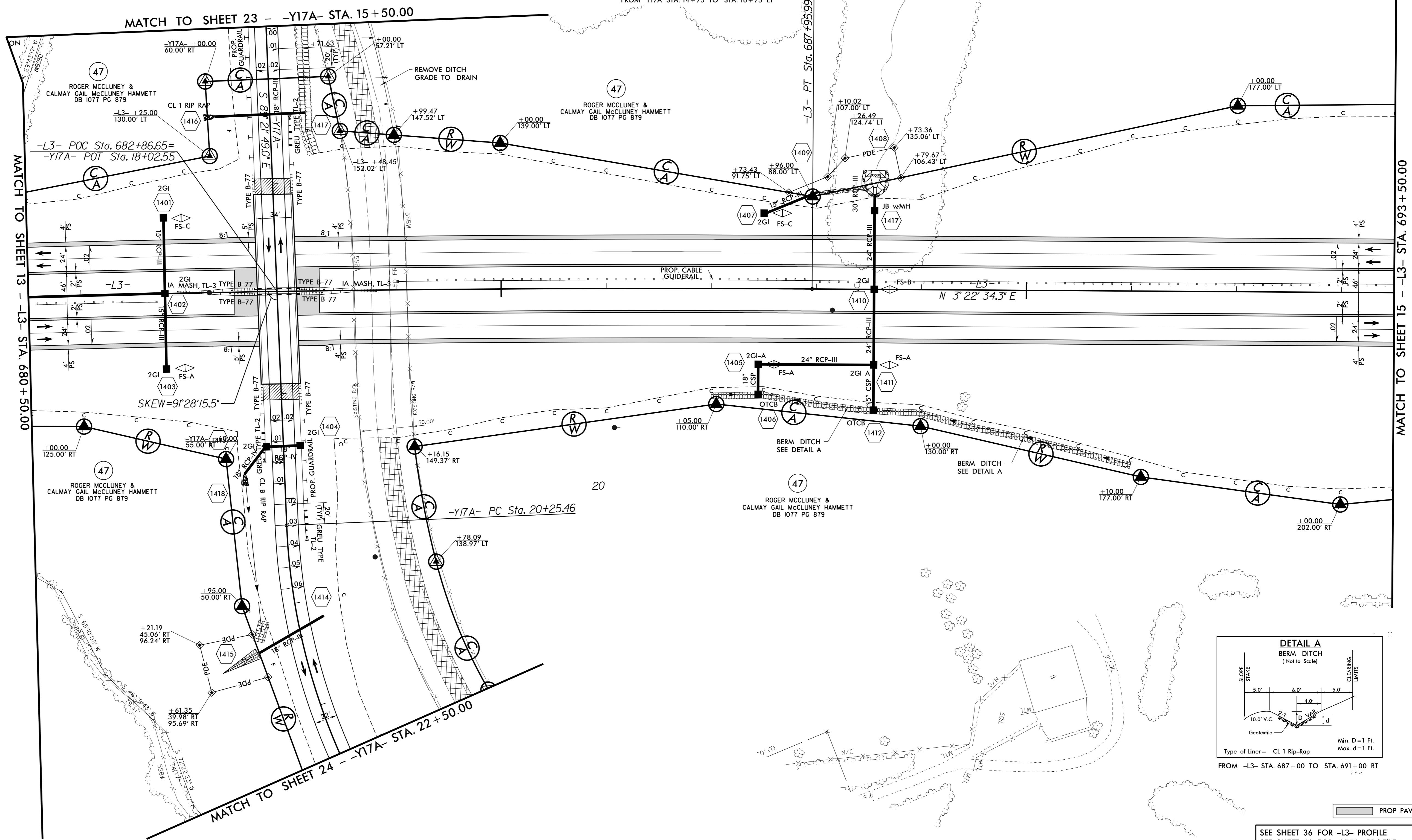
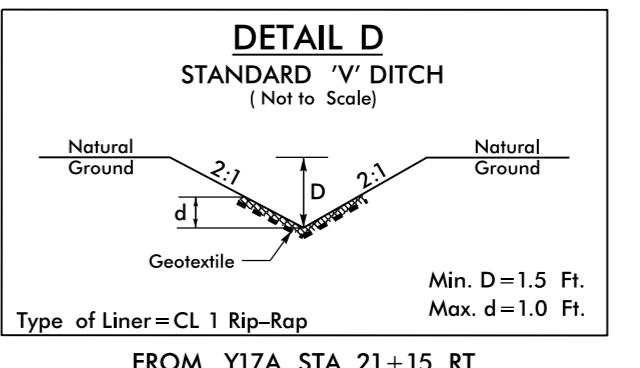
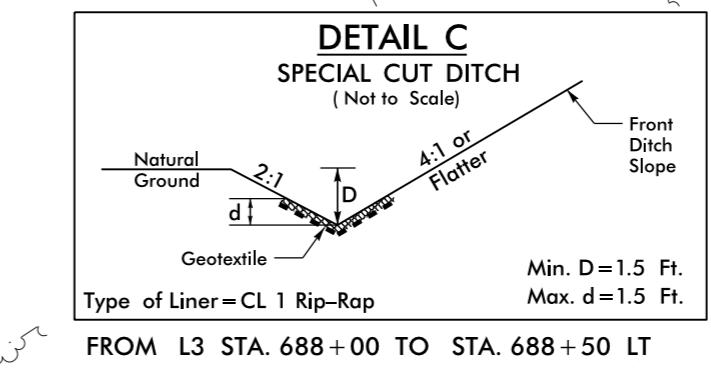
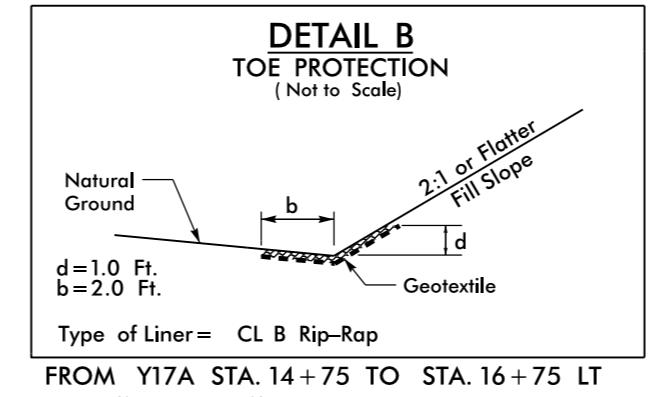
## CURVE DATA FOR -Y17A-

PI Sta. 23+85.97  
 $\Delta = 62^{\circ} 00' 00.0''$  (LT)  
 $D = 9^{\circ} 32' 57.5''$   
 $L = 649.26'$   
 $T = 360.52'$   
 $R = 600.00'$   
 $Se = 0.06$   
 $Ro = 120'$

## CURVE DATA FOR -L3-

PI Sta. 666+39.01  
 $\Delta = 10^{\circ} 46' 42.6''$  (RT)  
 $D = 0^{\circ} 14' 56.8''$   
 $L = 4,326.77'$   
 $T = 2,169.79'$   
 $R = 23,000.00'$   
 $Se = NC$

NAD 83



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

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DOCUMENT NOT CONSIDERED  
UNLESS ALL SIGNATURES CONCERNED

47

ROGER MCCLUNEY &  
CALMAY GAIL MCCLUNEY HAMMETT  
DB 1077 PG 879

47

ROGER MCCLUNEY &  
CALMAY GAIL MCCLUNEY HAMMETT  
DB 1077 PG 879

STEVEN HOWARD ROSS &  
ALLISON B. ROSS  
DB 982, PG 698

PROP PAVED

SEE SHEET 37 FOR -L3- PROFILE

MATCH TO SHEET 16 - L3 - STA. 706 + 50.00

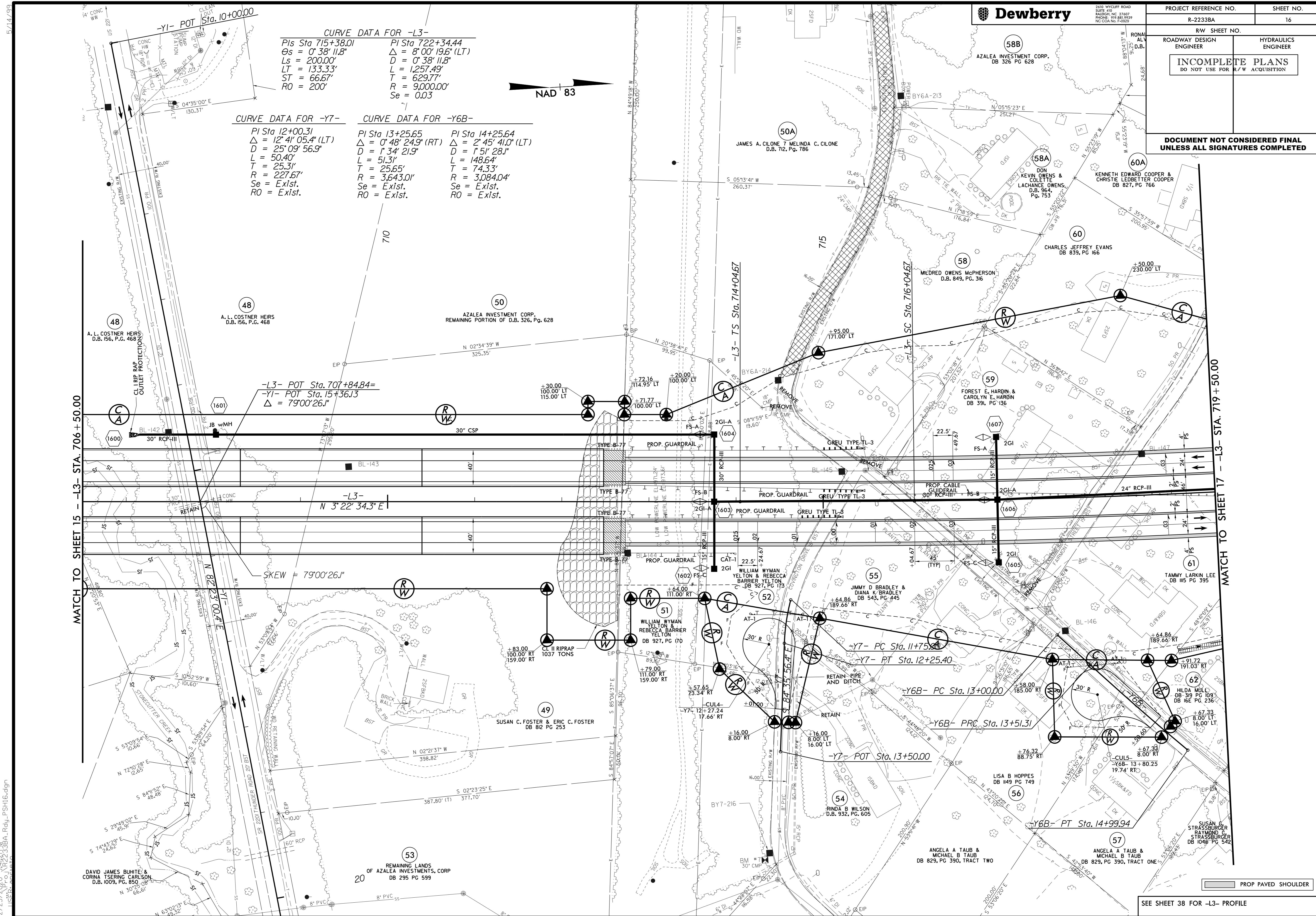
MATCH TO SHEET 14 - L3 - STA. 693 + 50.00

695

700

705

SEE SHEET 37 FOR -L3- PROFILE



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

