

08/08/09

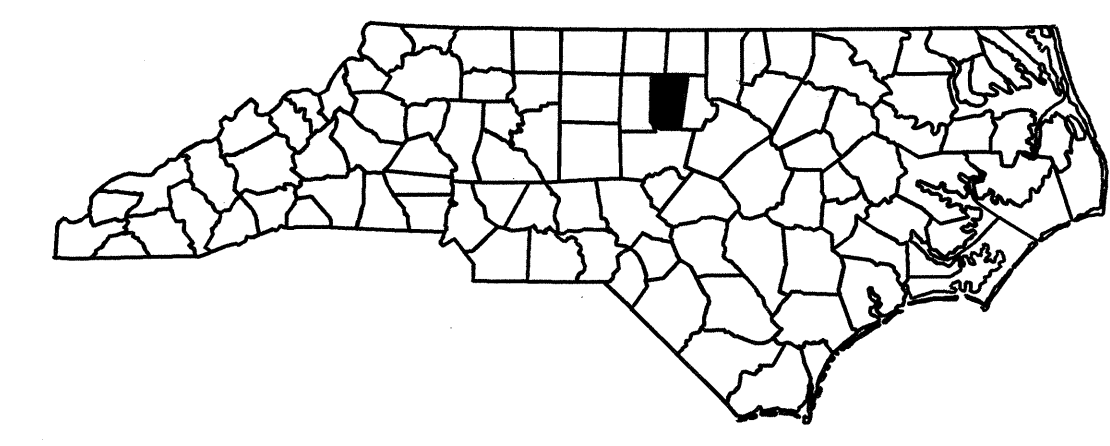
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Data

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

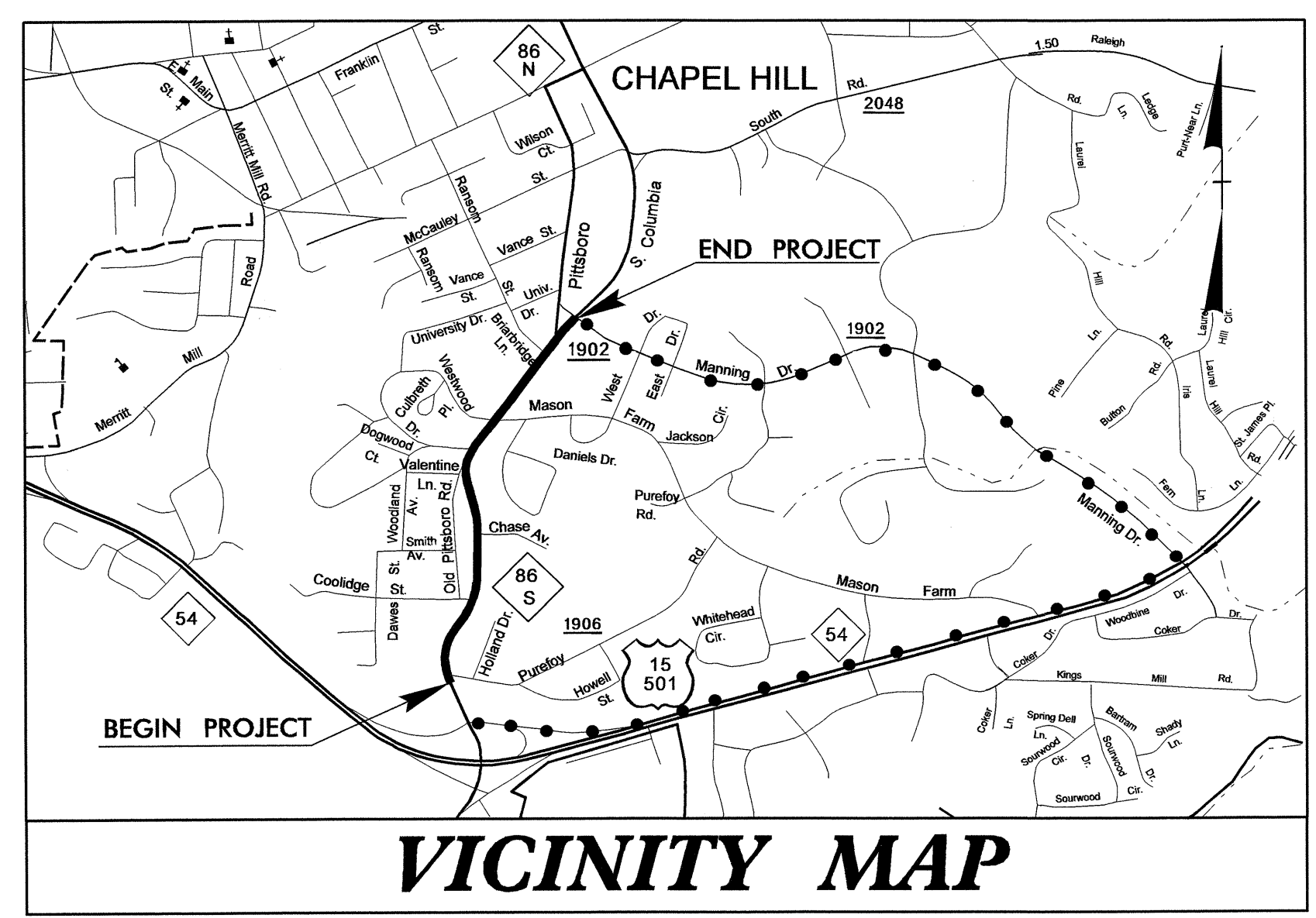
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-0624	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34762.1.1	STP-86(2)	PE	
34762.2.2	STP-0086(2)	RW & UTIL	
34762.3.4	STP-0086(5)	CONST	

ORANGE COUNTY

**LOCATION: NC 86 (SOUTH COLUMBIA STREET) FROM
SR 1906 (PUREFOY ROAD) TO SR 1902 (MANNING
DRIVE) IN CHAPEL HILL**
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING,
AND SIGNALS**

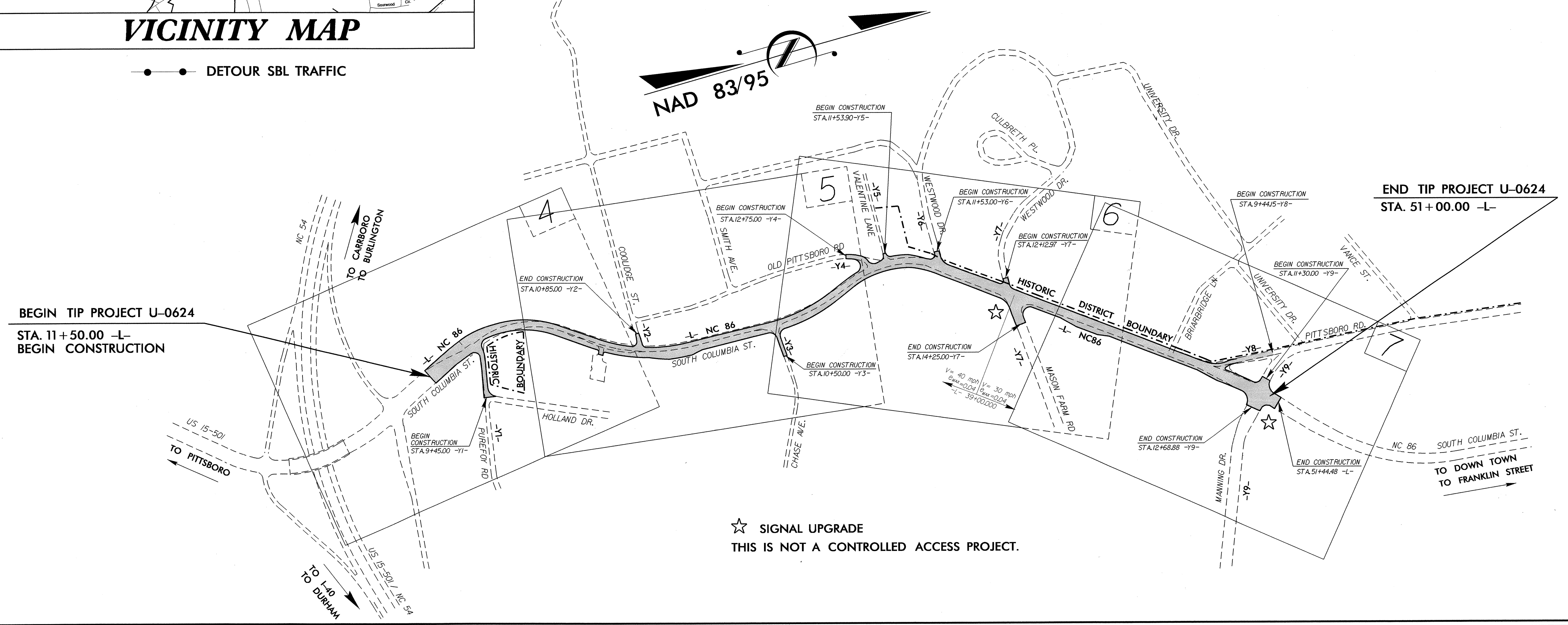


TIP PROJECT: U-0624



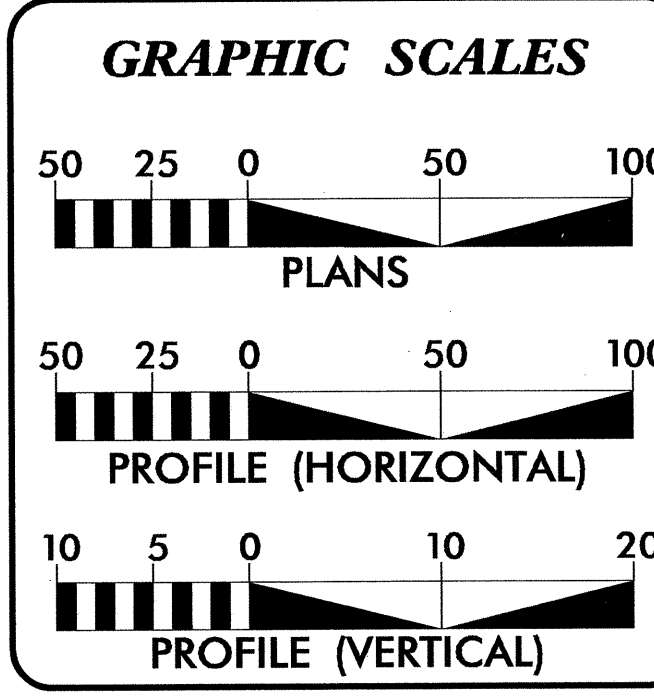
VICINITY MAP

● — ● DETOUR SBL TRAFFIC



☆ SIGNAL UPGRADE
THIS IS NOT A CONTROLLED ACCESS PROJECT.

CONTRACT: C203175



DESIGN DATA

ADT 2009 =	21,100
ADT 2030 =	31,000
DHV =	10 %
D =	75 %
T =	5 % *
V =	40 /30 MPH
* TTST =	1% DUAL = 4%
FUNC CLASS =	URBAN COLL.

REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-0624 =	0.748 MI
TOTAL LENGTH TIP PROJECT U-0624 =	0.748 MI

Prepared In the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 20, 2007	JASON MOORE, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 16, 2012	KEVIN E. MOORE, PE PROJECT DESIGN ENGINEER

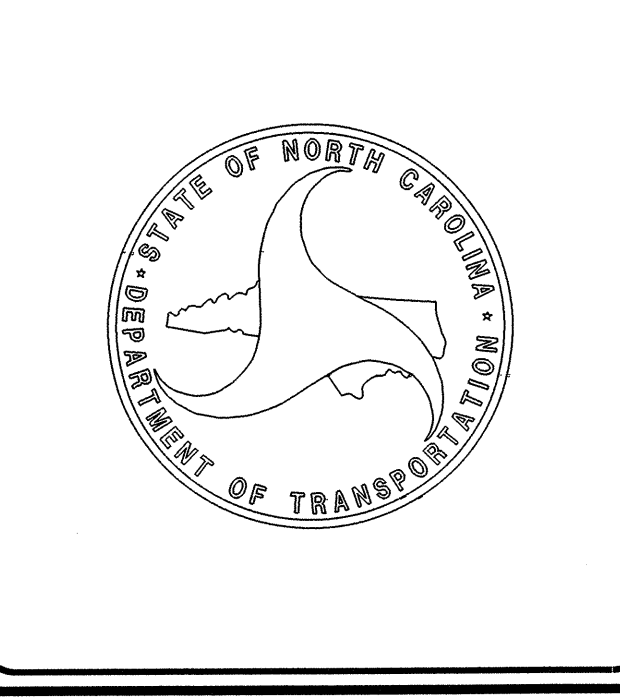
HYDRAULICS ENGINEER

[Signature]
SIGNATURE:

ROADWAY DESIGN ENGINEER

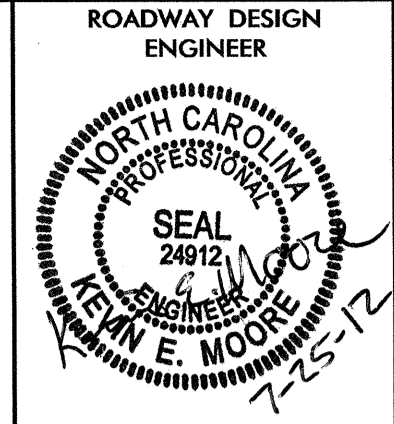
[Signature]
SIGNATURE:

Professional Engineer Seals for Jason Moore and Kevin E. Moore.



18-JUL-2012 16:10
R:\Roadway\Proj\U-0624_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2 & 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B THRU 2-F	DETAILS OF INTERSECTIONS
2-G	DRAINAGE DETAILS D AND F
2-H	DETAIL OF SPECIAL CURB RAMPS
2-I	DETAIL OF CROSSWALK THRU MONOLITHIC ISLAND
3	SUMMARY OF QUANTITIES
3-A THRU 3-D	SUMMARY OF DRAINAGE QUANTITIES
3-E	EARTHWORK SUMMARY, SUMMARY OF ASPHALT MILLING, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3-F	PARCEL INDEX SHEET
4 THRU 7	PLAN SHEET
8 THRU 11	PROFILE SHEET
TMP-1 THRU TMP-19	TRAFFIC MANAGEMENT PLANS
SD-1	SPECIAL SIGN DESIGN PLANS
PM-1 THRU PM-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-8	SIGNING PLANS
SIG-1 THRU SIG-25	SIGNAL PLANS
UC-1	UTILITIES TITLE SHEET
UC-2	UTILITIES SYMBOLOLOGY
UC-3	UTILITIES NOTES
UC-3A THRU UC-3C	UTILITIES DETAIL
UC-4 THRU UC-7	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-5	UTILITIES BY OTHERS PLANS
X-1 THRU X-37	CROSS-SECTIONS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:
ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS AND SHALL BE INSTALLED AT CROSSWALKS SHOWN IN THE PAVEMENT MARKING PLANS AND AT TEE INTERSECTIONS AS SHOWN ON DETAIL SHEET 2-H. THE CONSTRUCTION OF ALL CURB RAMPS SHALL BE IN ACCORDANCE WITH STD. 848.05 AND 848.06.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.05	Method of Obtaining Superelevation - Divided Highways
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
852.01	Concrete Islands
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

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	(123)
Existing Fence Line	---x---x---x---
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	❓ ❓

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	+
Building	□
School	□
Church	+
Dam	□

HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	□
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	→
Disappearing Stream	→
Spring	○
Wetland	↓
Proposed Lateral, Tail, Head Ditch	→
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 Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	---E---
Proposed Temporary Construction Easement	---E---
Proposed Temporary Drainage Easement	---TDE---
Proposed Permanent Drainage Easement	---PDE---
Proposed Permanent Drainage / Utility Easement	---DUE---
Proposed Permanent Utility Easement	---PUE---
Proposed Temporary Utility Easement	---TUE---
Proposed Aerial Utility Easement	---AUE---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	---C---
Proposed Slope Stakes Fill	---F---
Proposed Curb Ramp	○
Curb Cut Future 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	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□
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.*)	-----

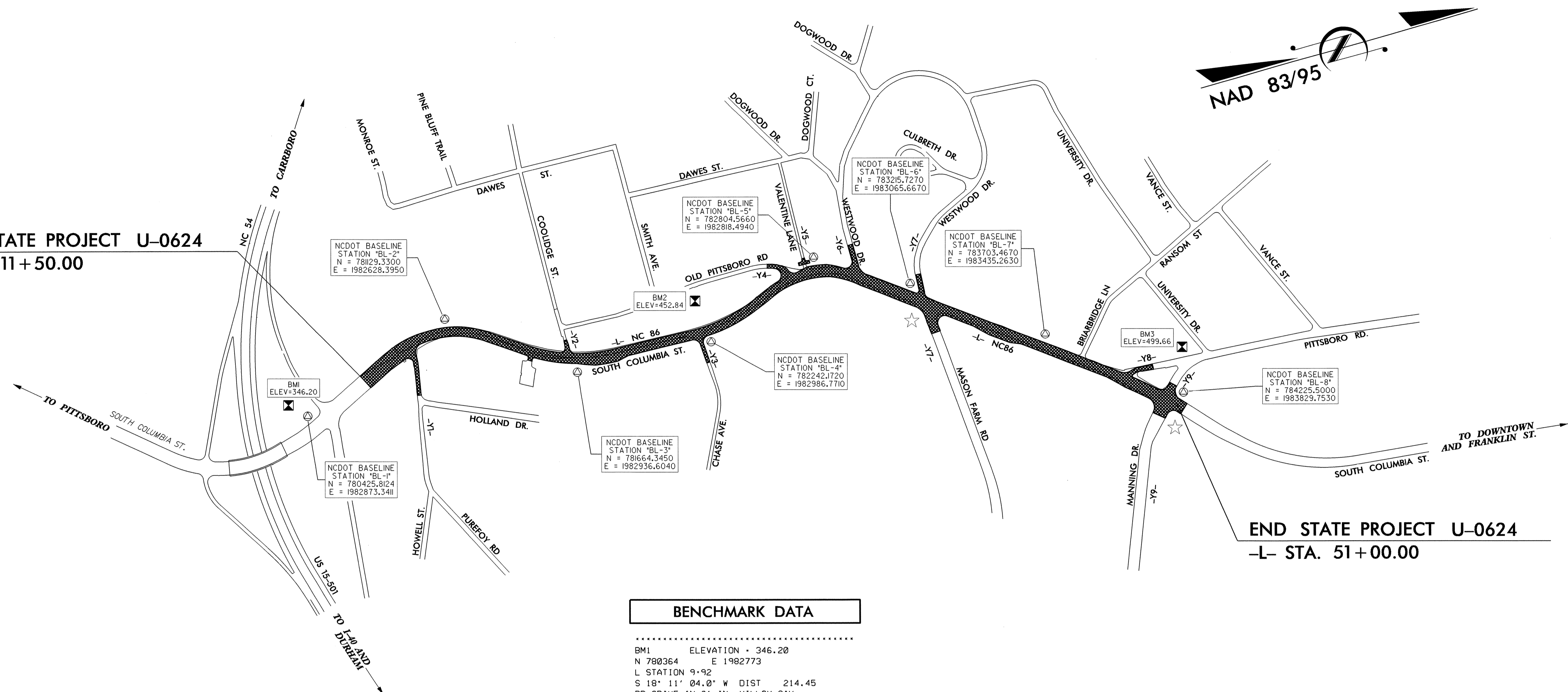
MISCELLANEOUS:

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	AATUR
End of Information	E.O.I.

U-0624 SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-0624	1-C
Location and Surveys	

BEGIN STATE PROJECT U-0624
-L- STA. 11+50.00



END STATE PROJECT U-0624
-L- STA. 51+00.00

BENCHMARK DATA

```

.....
BM1 ELEVATION = 346.20
N 780364 E 1982773
L STATION 9+92
S 18° 11' 04.0" W DIST 214.45
RR SPIKE IN 21 IN. WILLOW OAK
.....
BM2 ELEVATION = 452.84
N 782240 E 1982830
L STATION 27+85 144 LEFT
RR SPIKE IN 24 IN. WILLOW OAK
.....
BM3 ELEVATION = 499.66
N 784308 E 1983668
L STATION 50+35 223 LEFT
RR SPIKE IN 30 IN. RED OAK
.....
    
```

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE NAD 83/95 STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-3"
 WITH STATE PLANE GRID COORDINATES OF
 NORTHING: 781664.345(ft) EASTING: 1982936.603(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99992132
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-3" TO L- STATION 11+50.00 IS
 S 9° 52' 32.7" W, 968.83'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NGVD 88

BASELINE DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		780425.8124	1982873.3411	349.22		OUTSIDE PROJECT LIMITS
2	BL-2		781129.3300	1982628.3950	379.48	15+89.40	28.44 LT
3	BL-3		781664.3450	1982936.6040	409.17	22+02.37	2.36 RT
4	BL-4		782242.1720	1982986.7710	435.25	27+81.72	13.26 RT
5	BL-5		782804.5660	1982819.4940	464.34	33+57.97	37.40 LT
6	BL-6		783215.7270	1983065.6670	487.52	38+26.11	28.06 LT
7	BL-7		783703.4670	1983435.2630	514.82	44+38.06	26.70 LT
8	BL-8		784225.5000	1983829.7530	497.19	50+86.47	49.58 LT

NOTES

- 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/U0624.L.S.CONTROL_070110.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/u0624.l.s.control_070110.txt)

 THE FILES TO BE FOUND ARE AS FOLLOWS:
 U0624.L.S.CONTROL_070110.TXT

 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM FROM EXISTING NCGS MONUMENTATION.

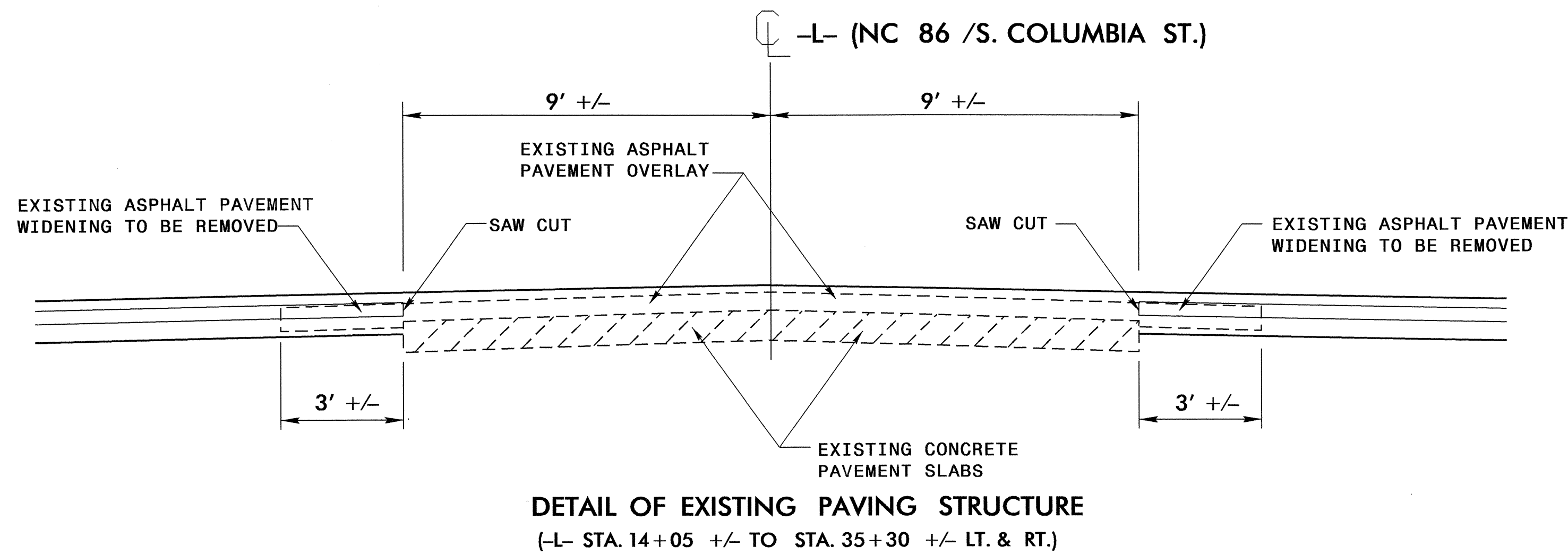
NOTE: DRAWING NOT TO SCALE

6/12/09

PAVEMENT SCHEDULE

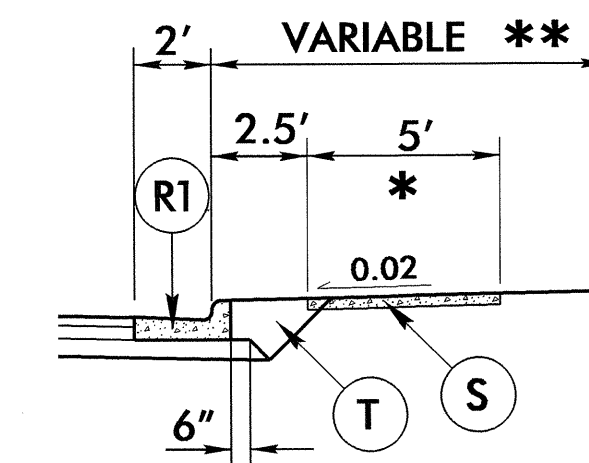
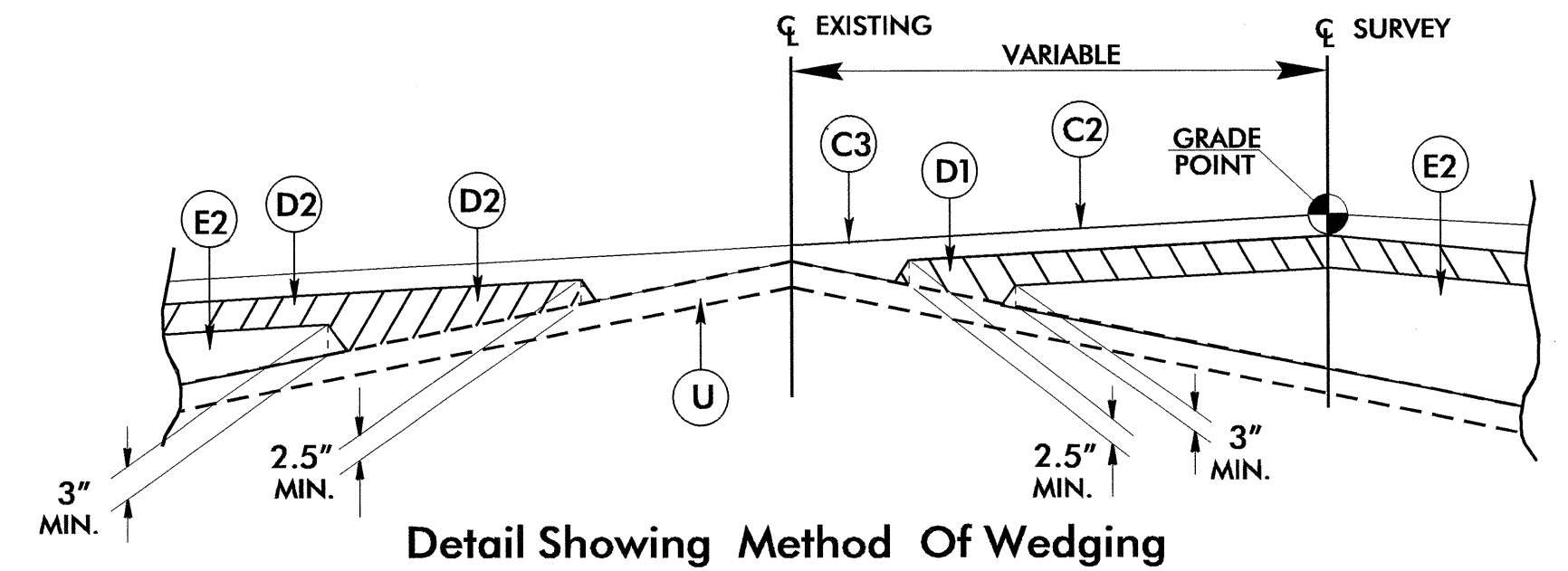
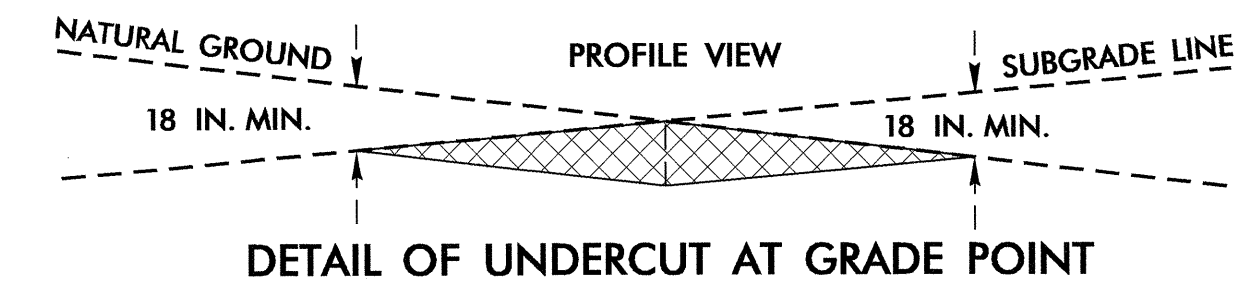
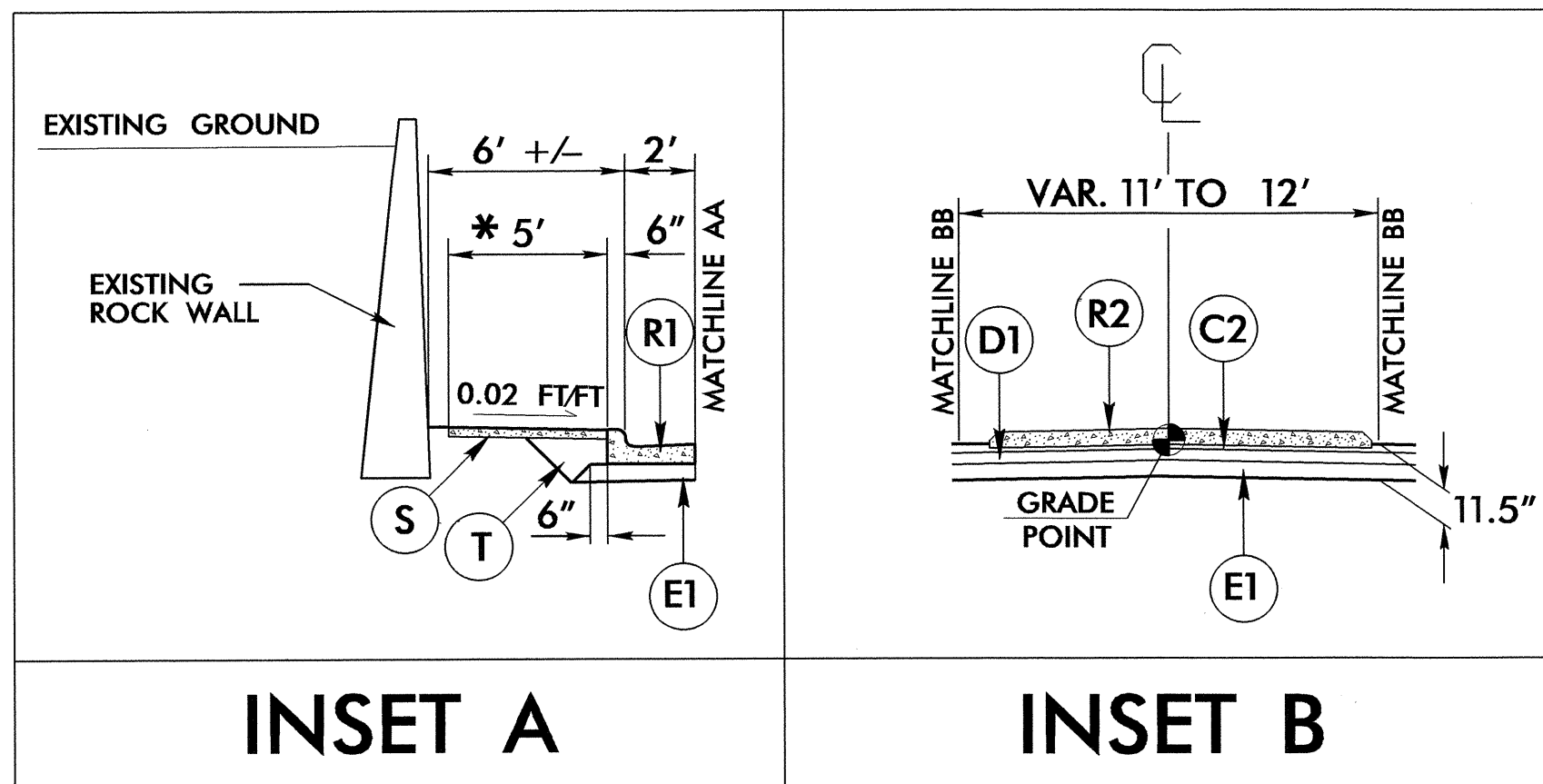
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R1	2' - 6" CONCRETE CURB AND GUTTER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R2	5" MONOLITHIC CONCRETE ISLAND
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.50" IN DEPTH.	S	4" CONCRETE / BRICK SIDEWALK
D1	PROP. APROX. 4" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
D2	PROP. VAR. 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.	U	EXISTING ASPHALT PAVEMENT AND EXISTING ASPHALT PAVEMENT OVER CONCRETE PAVEMENT
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	V	MILLING BITUMINOUS PAVEMENT. VAR. DEPTH 0 - 2.50"
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.	W	SEE WEDGING DETAIL

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



USE INSET A FOR -L- STA. 17+81.12 TO 18+44.58
 18+77.76 TO 21+22.26
 23+69.62 TO 25+00.56
 25+06.59 TO 25+74.15
 26+89.67 TO 27+51.43
 35+38.64 TO 38+06.01
 38+41.28 TO 42+14.11
 42+59.69 TO 46+11.56

USE INSET B FOR -L- STA. 13+25.64 TO 13+81.83



TYPICAL SECTION NO. 1A

USE TYPICAL SECTION NO. 1

USE TS NO. 1A IN CONJUNCTION WITH TS NO. 1
 -L- STA. 22+00.00 TO STA. 49+00.00 RT.

USE TYPICAL SECTION NO. 1

-L- STA. 12+50.00 TO STA. 50+00.00

NOTE: REMOVE AND RESET BRICK FOR SIDEWALK

-L- STA. 39+64.45 TO 50+25.47 RT.

-L- STA. 48+75.33 TO 50+26.97 LT.

NOTE: USE DITCH DETAIL B IN CONJUNCTION WITH TS NO. 1 -L- STA. 29+00 TO 29+50 LT.

** NOTE: 14' BERM WIDTH

-L- STA. 22+00.00 TO 27+38.00 RT.

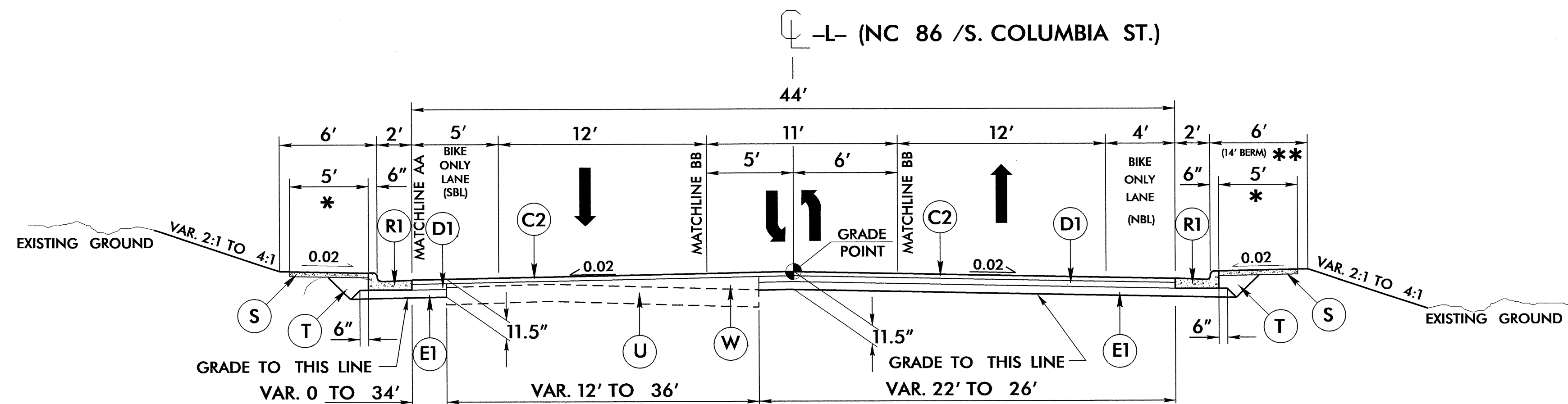
-L- STA. 27+78.00 TO 30+50.00 RT.

NOTE: 8' BERM WIDTH

-L- STA. 30+50.00 TO 43+00.00 RT.

NOTE: TIE BERM INTO EXISTING SLOPE

-L- STA. 43+00.00 TO 49+00.00 RT.



TYPICAL SECTION NO. 1

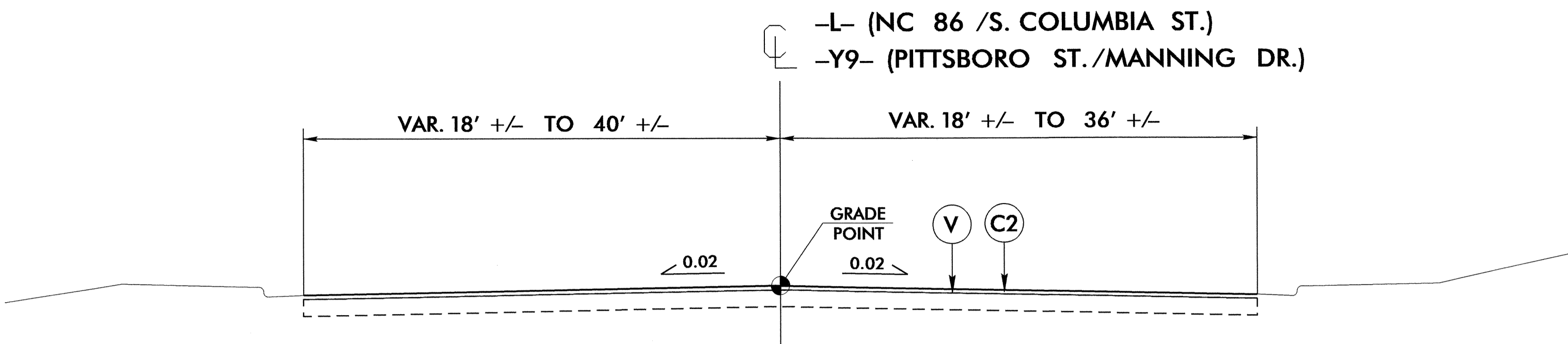
* SEE PLAN SHEETS FOR SIDEWALK LOCATION & TYPE

PROJECT REFERENCE NO. U-0624	SHEET NO. 2
ROADWAY DESIGN ENGINEER VIN E. MOORE	PAVEMENT DESIGN ENGINEER MARK S. MORRISON
SEAL 24912 7-30-12	SEAL 22896 7-30-12

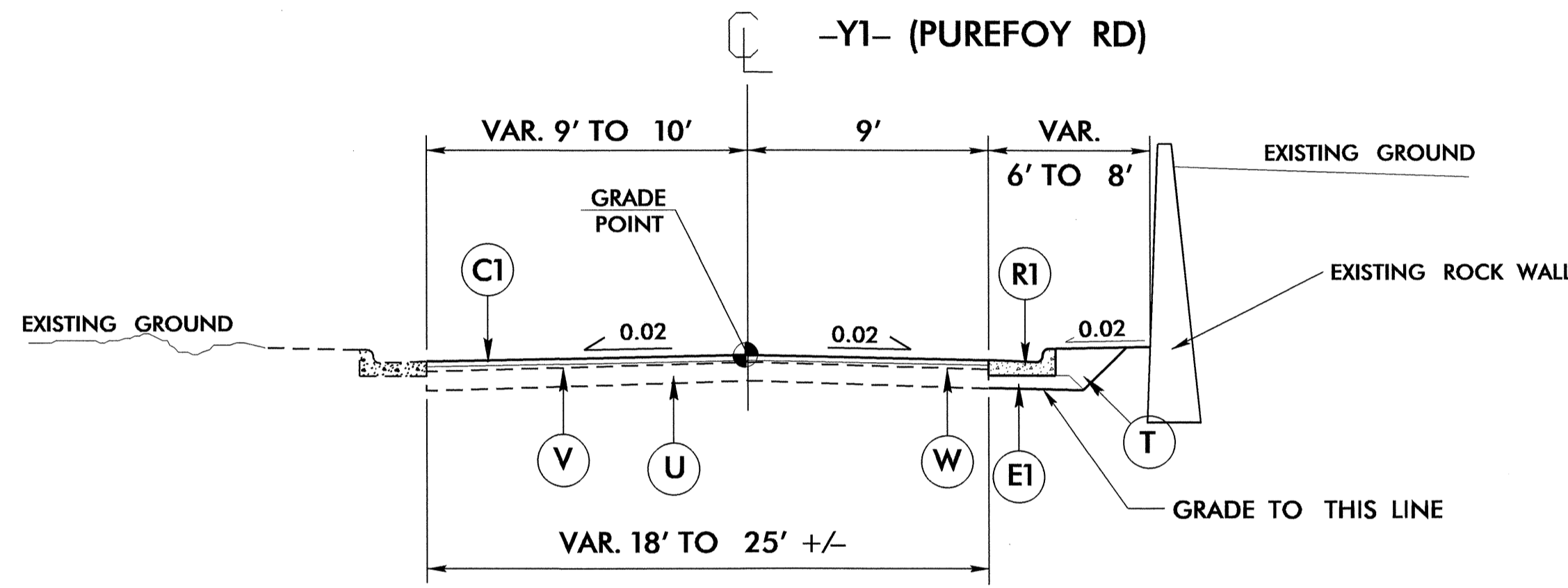
30-JUL-2012 11:35 \\0624_rdy_tjup.dgn

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER K. MOORE 8-26-11	PAVEMENT DESIGN ENGINEER CLAY S. MORRISON 8/24/11
PAVEMENT SCHEDULE	
C1	1.5" S9.5B,
C2	3" S9.5B
C3	VAR. S9.5B,
D1	4" I19.0B
D2	VAR. I19.0B
E1	4.5" B25.0B,
E2	VAR B25.0B,
R1	2' - 6" CONC. C&G
R2	5" MONO. CONC. ISLAND
S	4" CONC./BRICK SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	VAR. MILLING
W	WEDGING

USE TYPICAL SECTION NO. 2
 -L- STA. 11+50.00 TO STA. 12+50.00
 -L- STA. 50+00.00 TO STA. 51+44.48
 -Y9- STA. 11+30.00 TO 11+68.60
 -Y9- STA. 12+24.62 TO 12+68.88

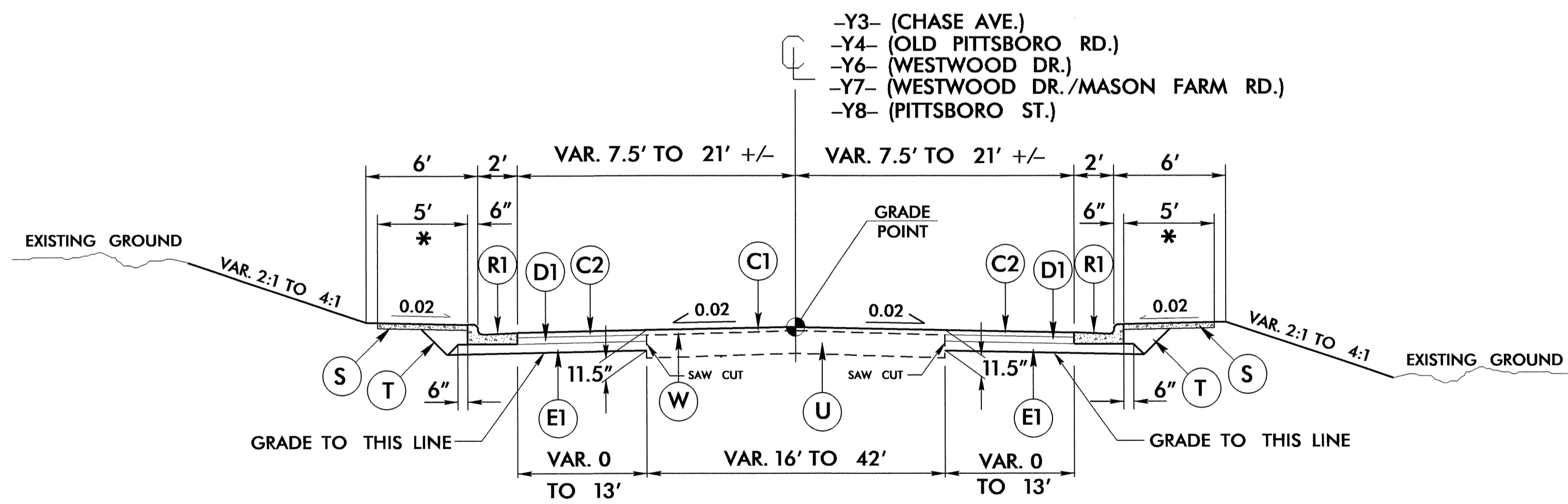


TYPICAL SECTION NO. 2



TYPICAL SECTION NO. 3

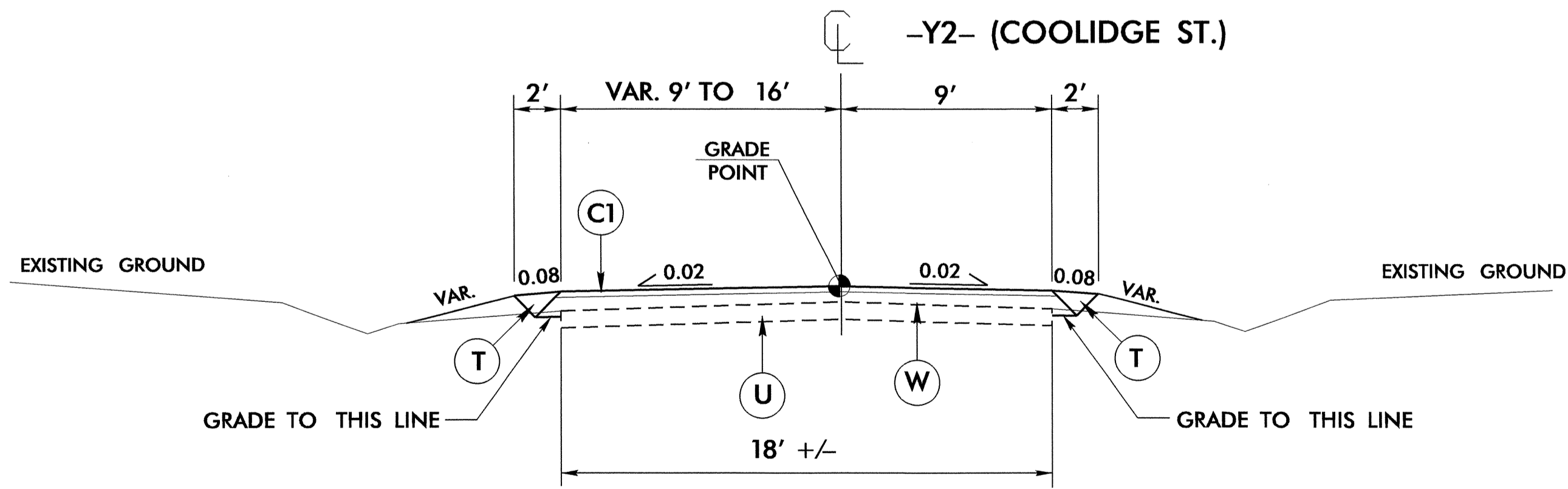
USE TYPICAL SECTION NO. 3
 -Y1- STA. 9+45.00 TO STA. 11+82.00
 NOTE: TRANSITION FROM EXPRESSWAY GUTTER TO 2' 6" C&G -Y1- STA. 9+61.25. SEE STD. 846.01
 -Y8- STA. 9+44.15 TO STA. 11+00.00 (RIGHT SIDE)
 NOTE: WITH 5' SIDEWALK AT BACK OF CURB



TYPICAL SECTION NO. 5

* SEE PLAN SHEETS FOR SIDEWALK LOCATION & TYPE

USE TYPICAL SECTION NO. 5
 -Y3- STA. 10+50.00 TO STA. 11+65.11
 -Y4- STA. 12+75.00 TO STA. 13+84.18
 -Y6- STA. 10+53.00 TO STA. 11+94.36
 -Y7- STA. 12+12.97 TO STA. 12+52.46
 -Y7- STA. 13+08.87 TO STA. 14+25.00
 -Y8- STA. 11+00.00 TO STA. 11+82.08

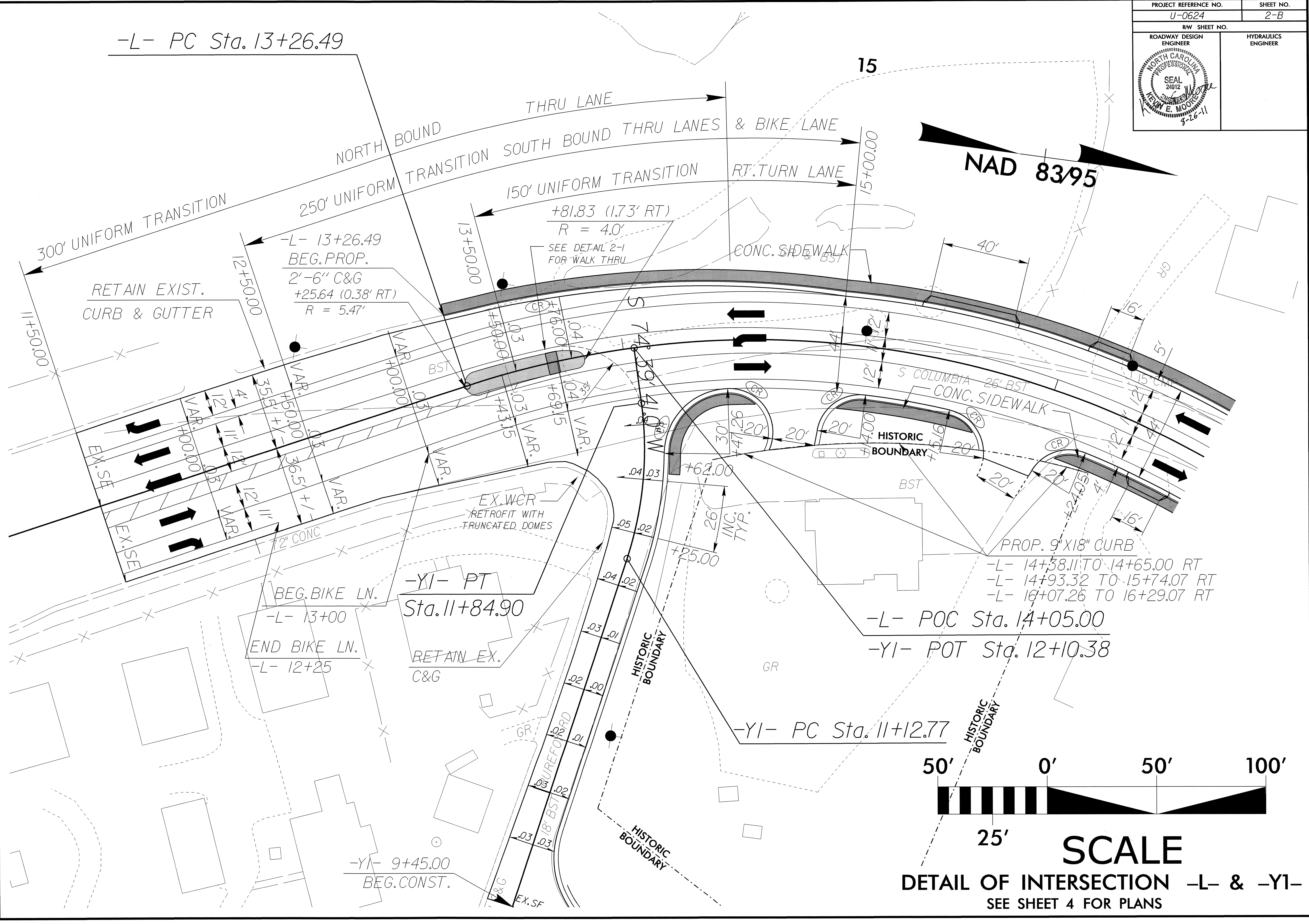


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
 -Y2- STA. 10+23.12 TO STA. 10+85.00

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/09
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 14:58:11 PM 8/26/11



-L- PC Sta. 13+26.49

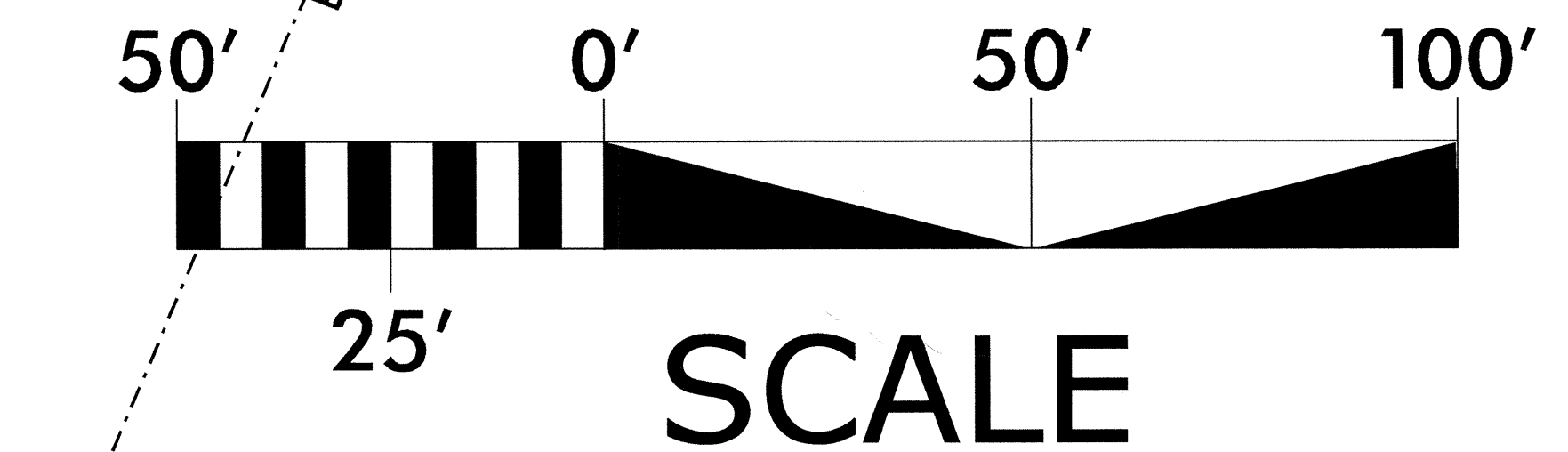
NAD 83/95

-YI- PT
Sta. 11+84.90


-L- POC Sta. 14+05.00

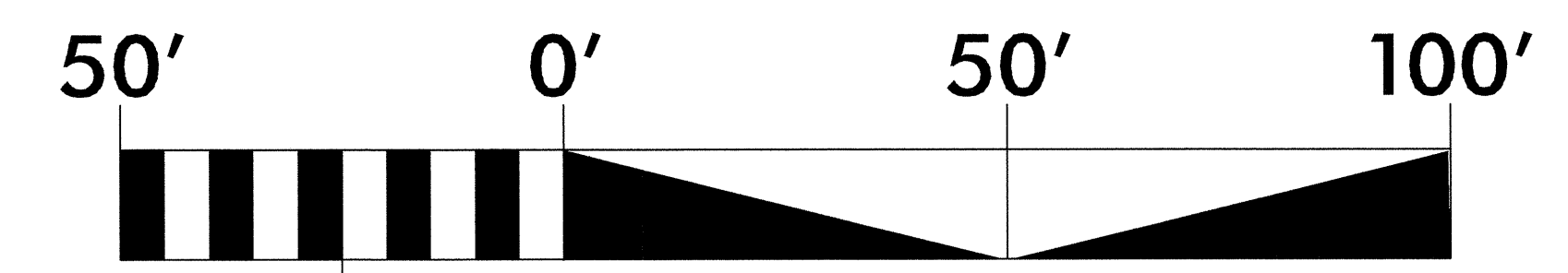
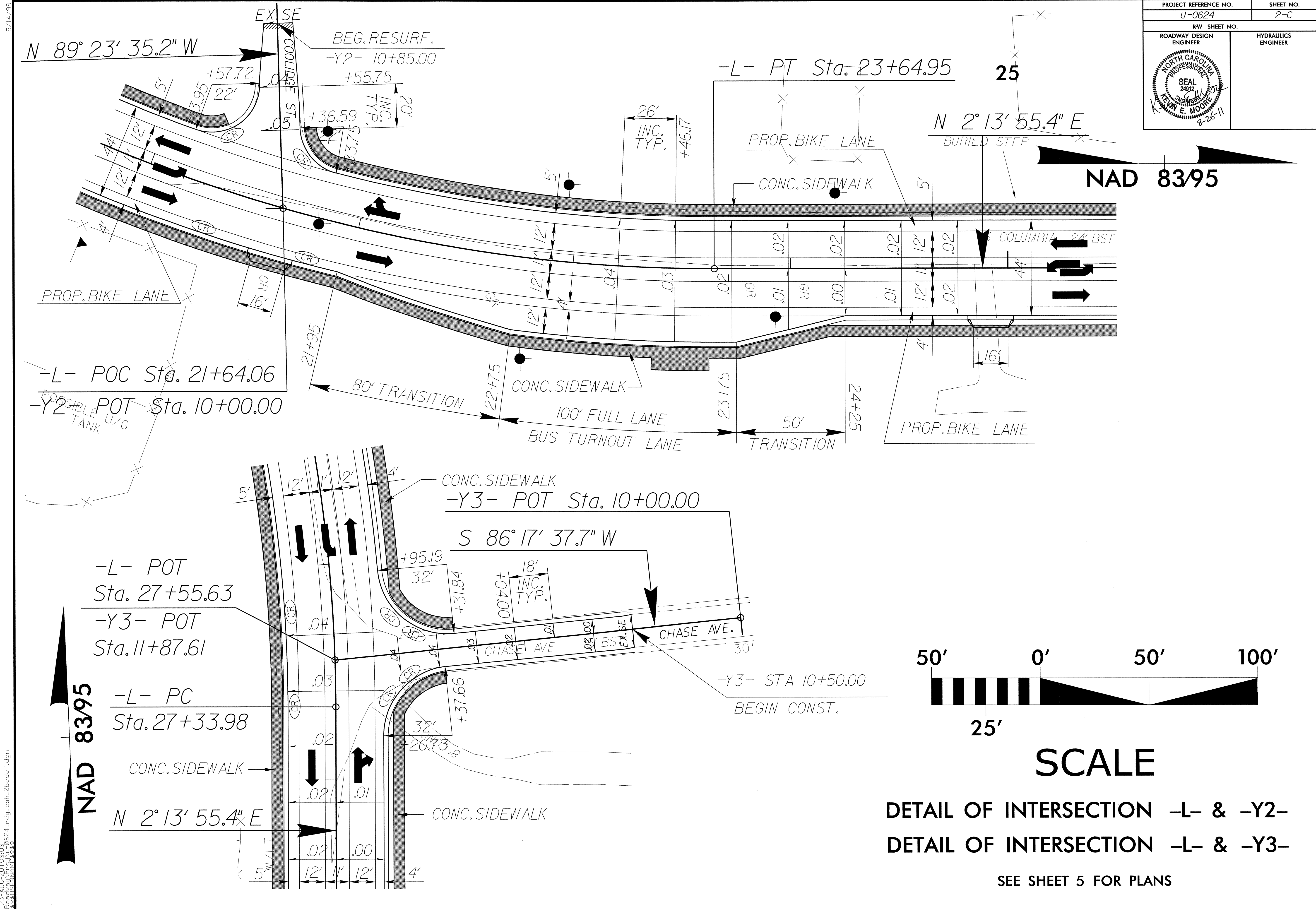
-YI- POT Sta. 12+10.38

-YI- PC Sta. 11+12.77



DETAIL OF INTERSECTION -L- & -YI-
SEE SHEET 4 FOR PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-0624	2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	




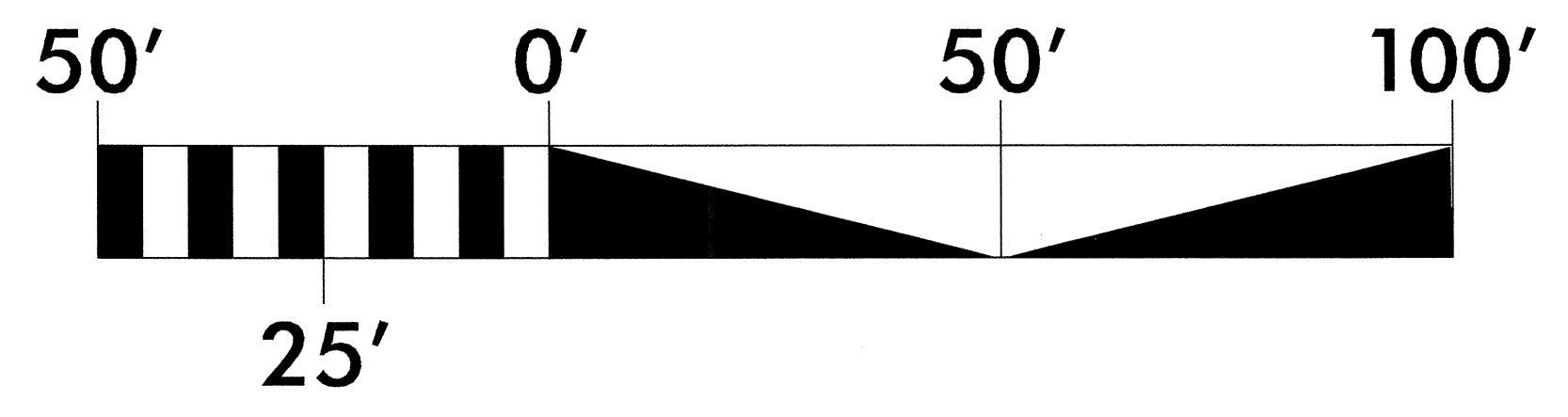
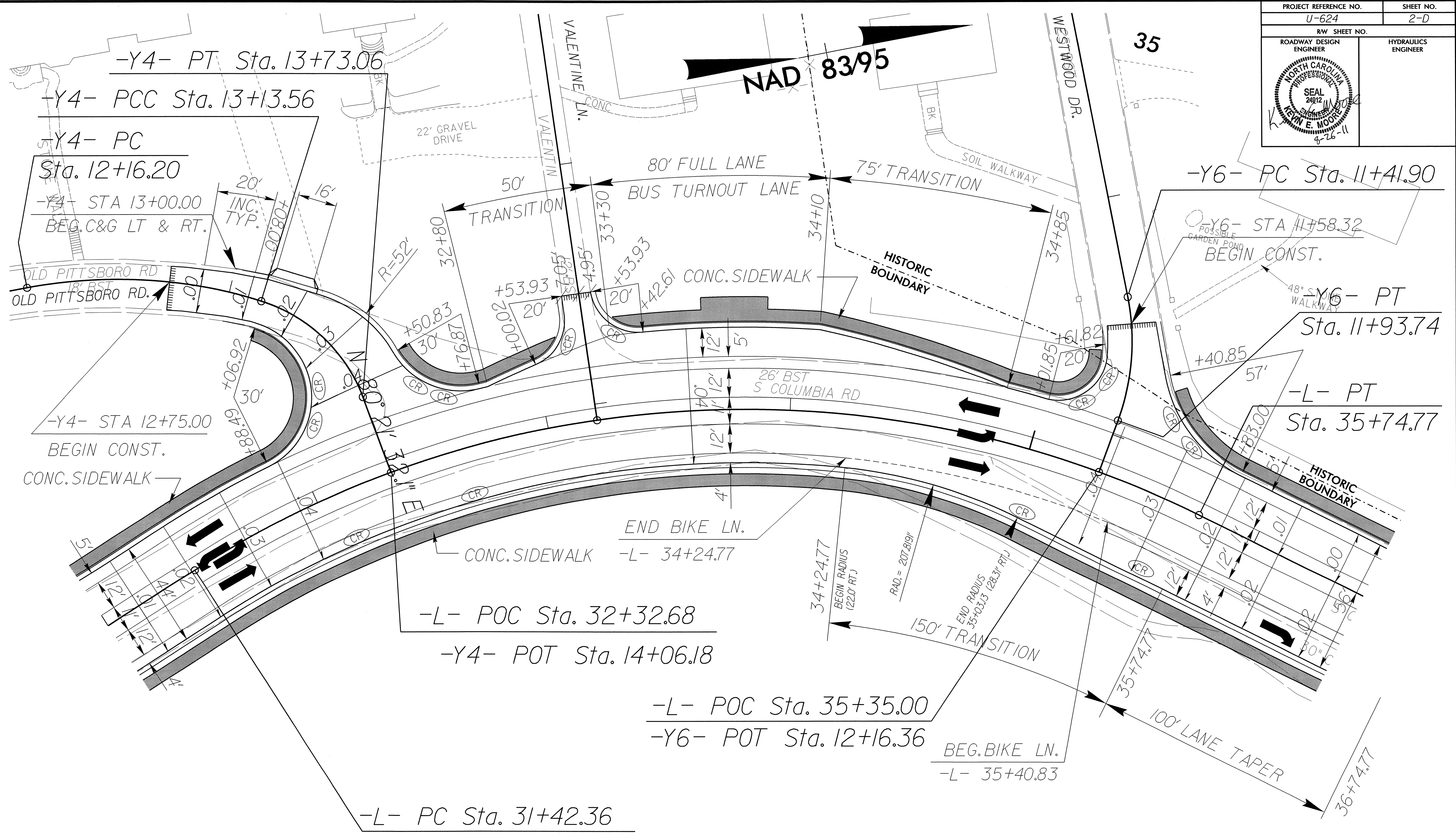
SCALE

DETAIL OF INTERSECTION -L- & -Y2-
 DETAIL OF INTERSECTION -L- & -Y3-

SEE SHEET 5 FOR PLANS

5/14/99

PROJECT REFERENCE NO. U-624	SHEET NO. 2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	




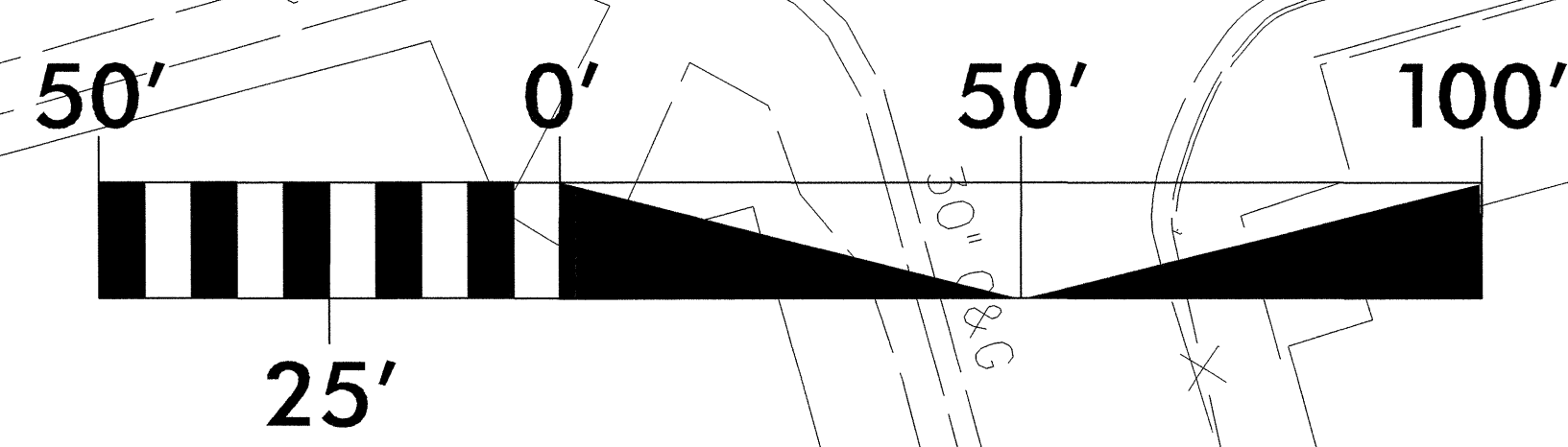
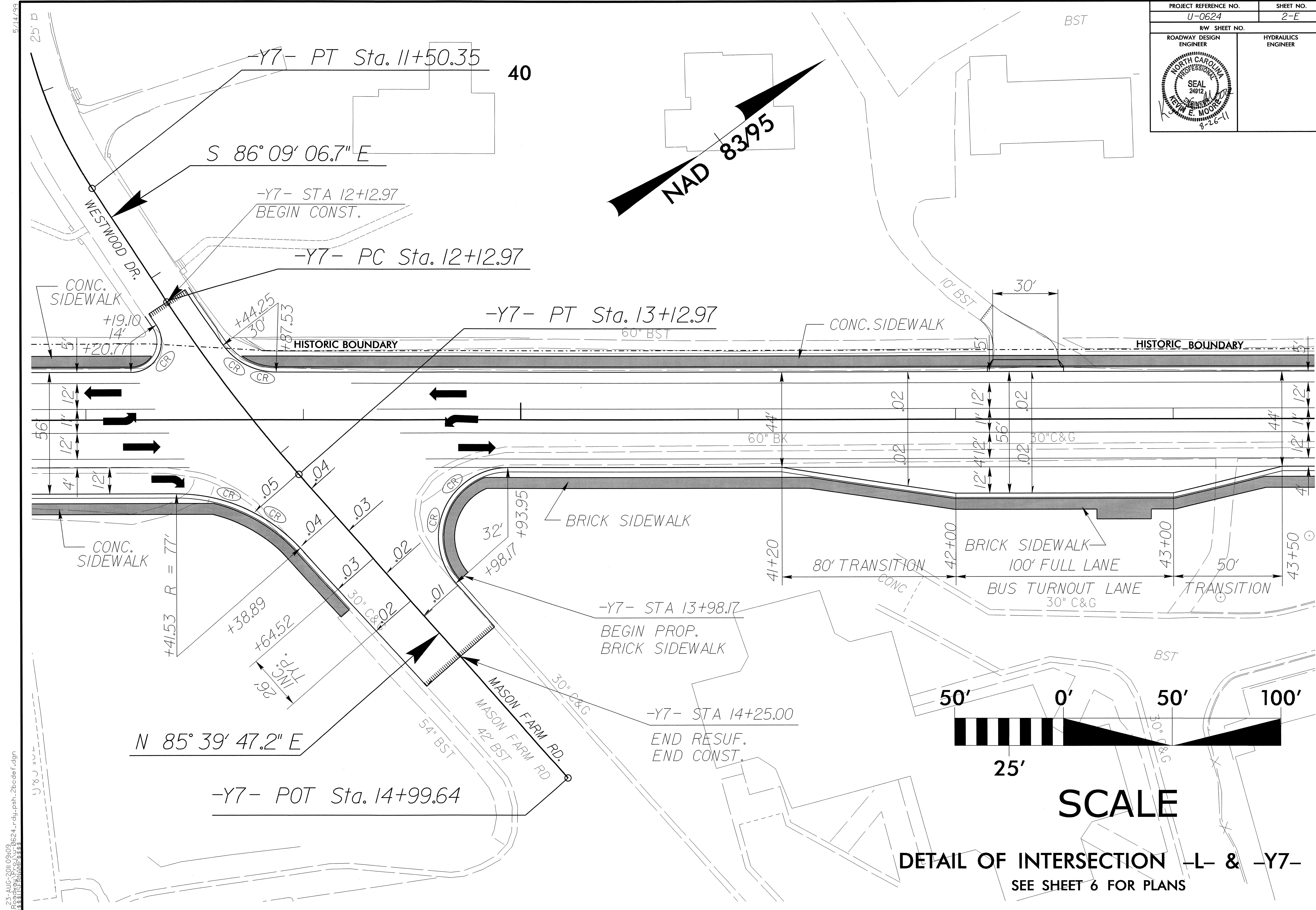
SCALE

DETAIL OF INTERSECTION -L- & -Y4-
 DETAIL OF INTERSECTION -L- & -Y5-
 DETAIL OF INTERSECTION -L- & -Y6-

SEE SHEET 6 FOR PLANS

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PROJECT REFERENCE NO. U-0624	SHEET NO. 2-E
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
	

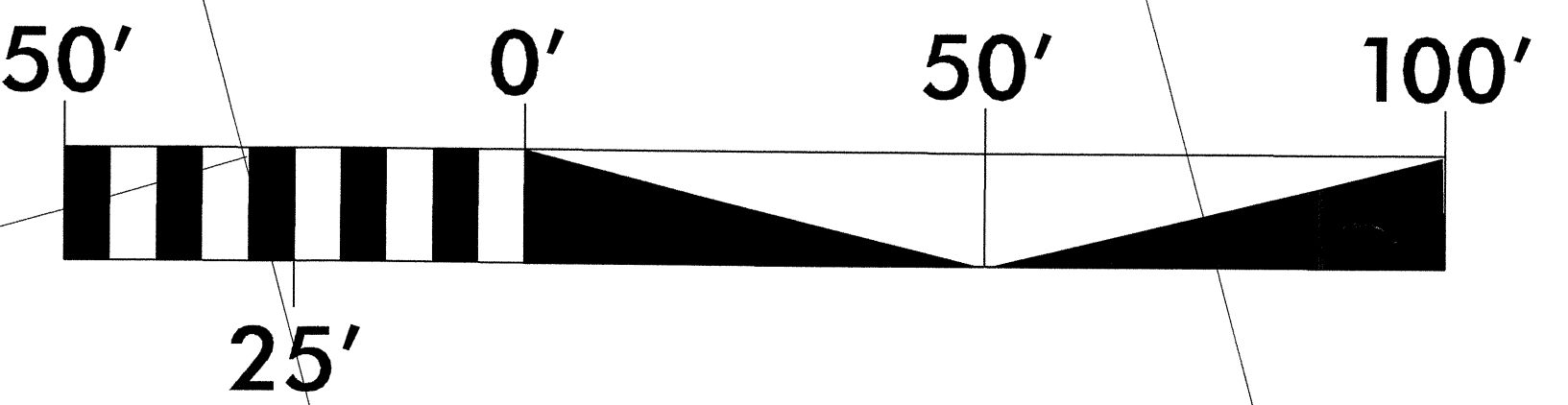
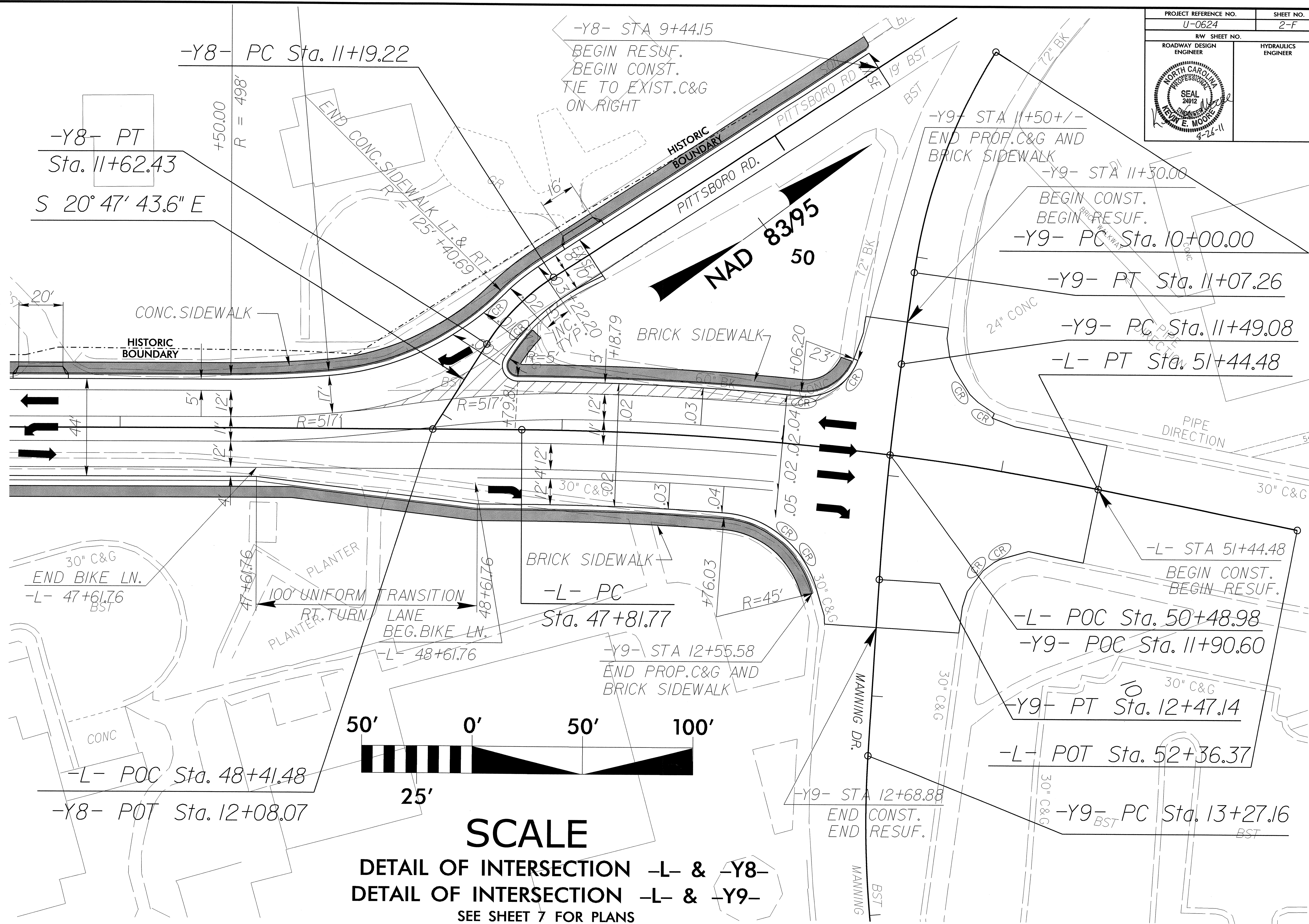


SCALE
DETAIL OF INTERSECTION -L- & -Y7-
 SEE SHEET 6 FOR PLANS

5/14/09
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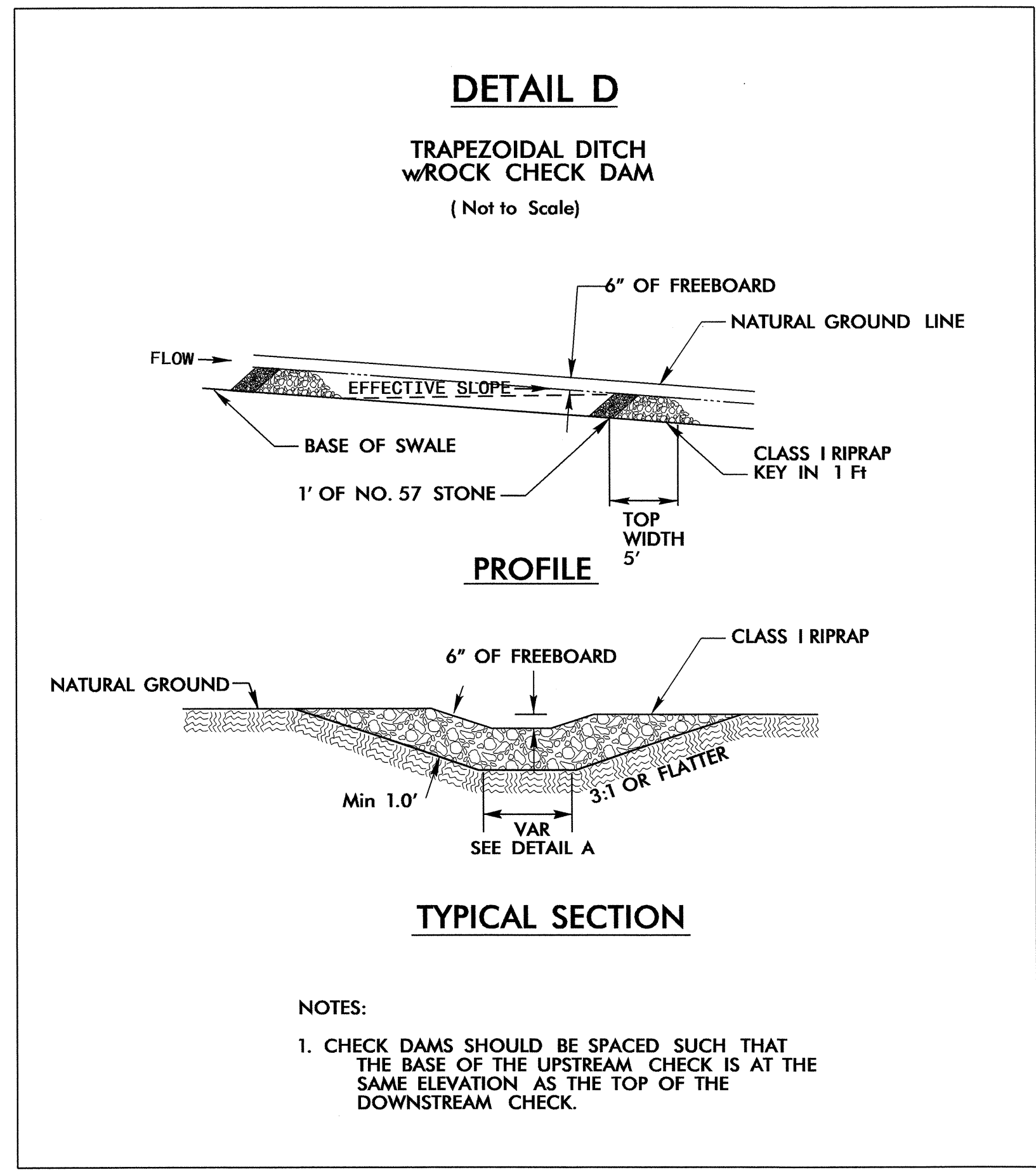
5/14/99

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



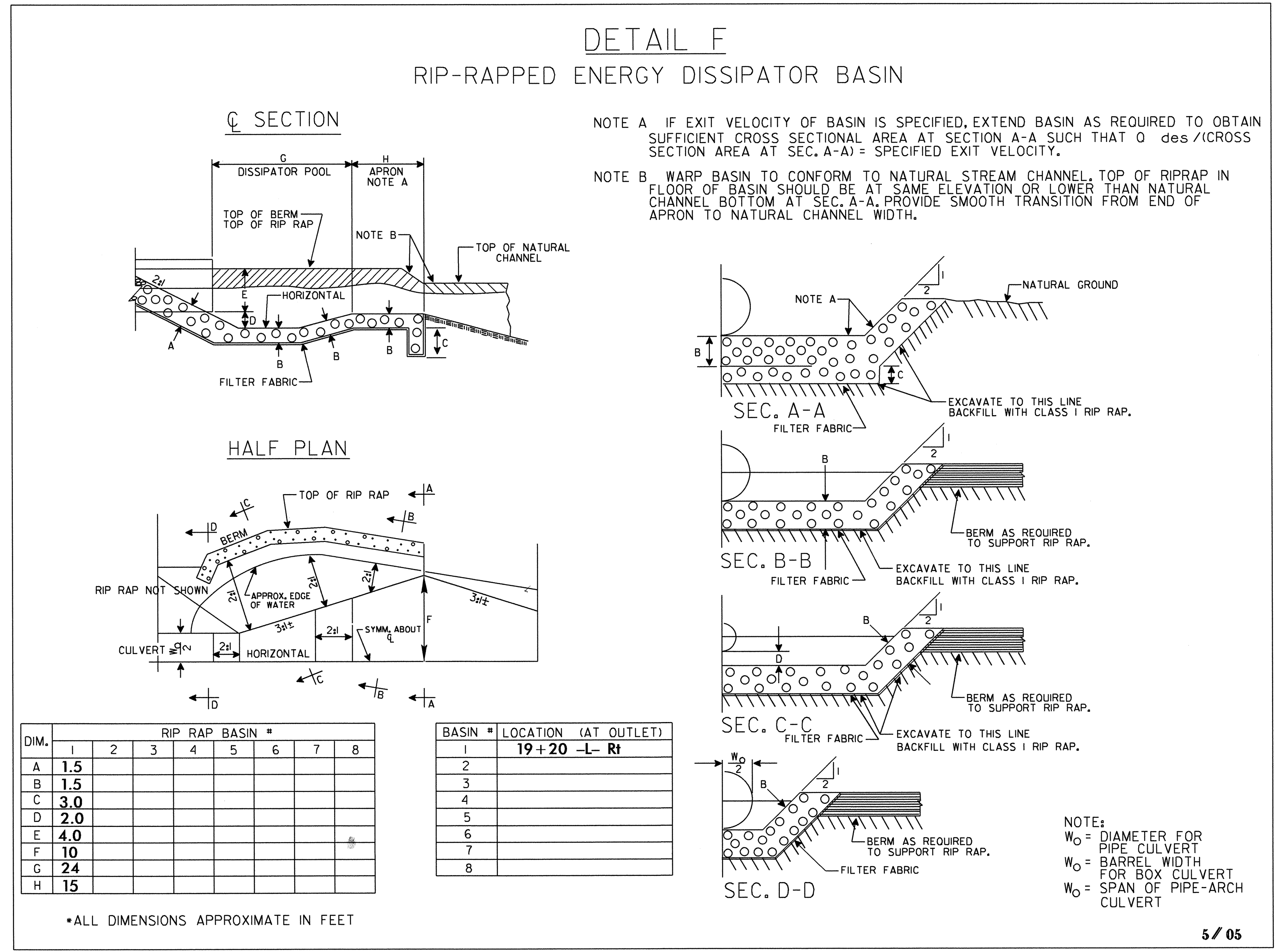
SCALE
 DETAIL OF INTERSECTION -L- & -Y8-
 DETAIL OF INTERSECTION -L- & -Y9-
 SEE SHEET 7 FOR PLANS

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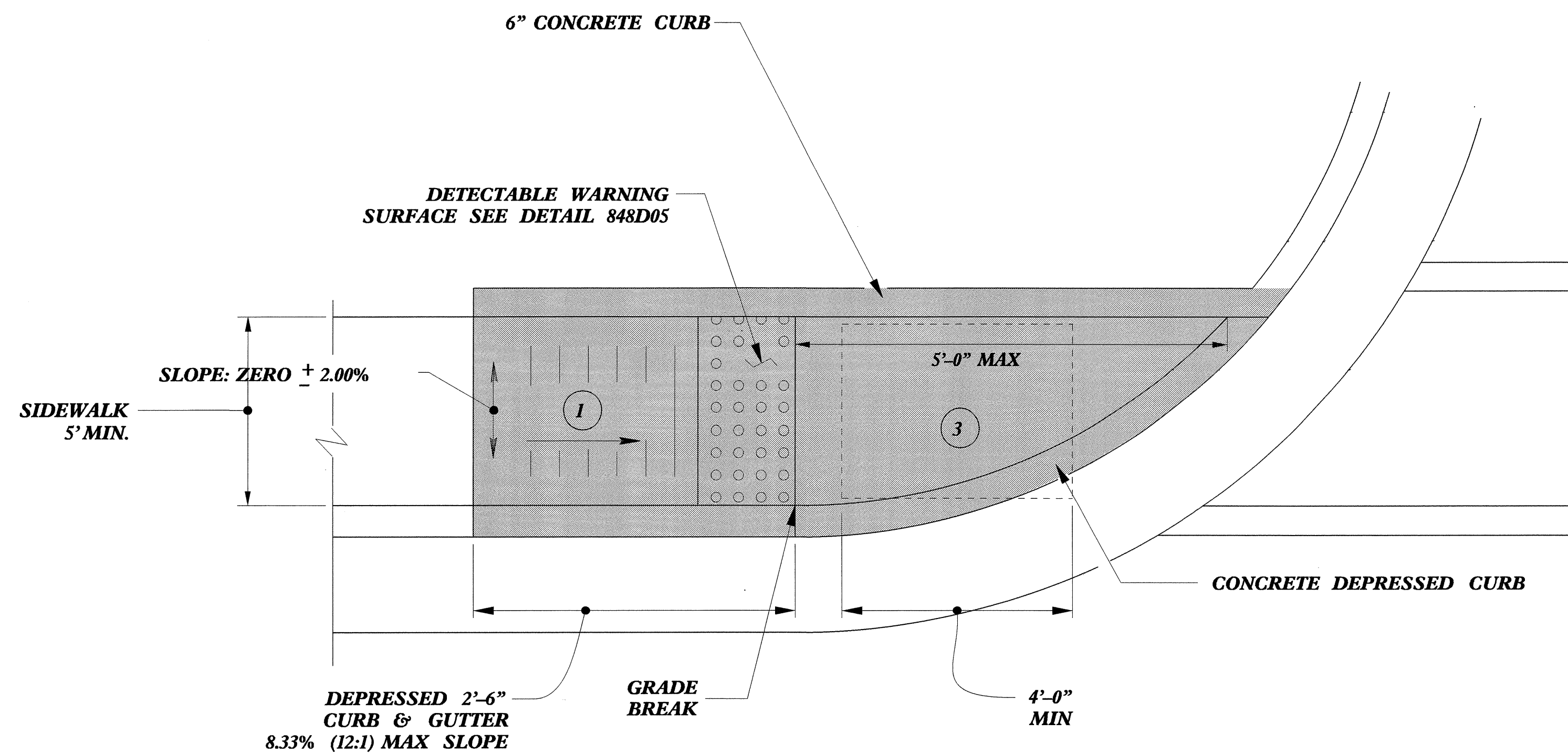


FROM STA. 28+05 TO STA. 30+50 -L- Rt

Estimated Quantities per Check Dam:
 Cl. I Rip Rap = 25 Tons
 57 Stone = 5 Tons

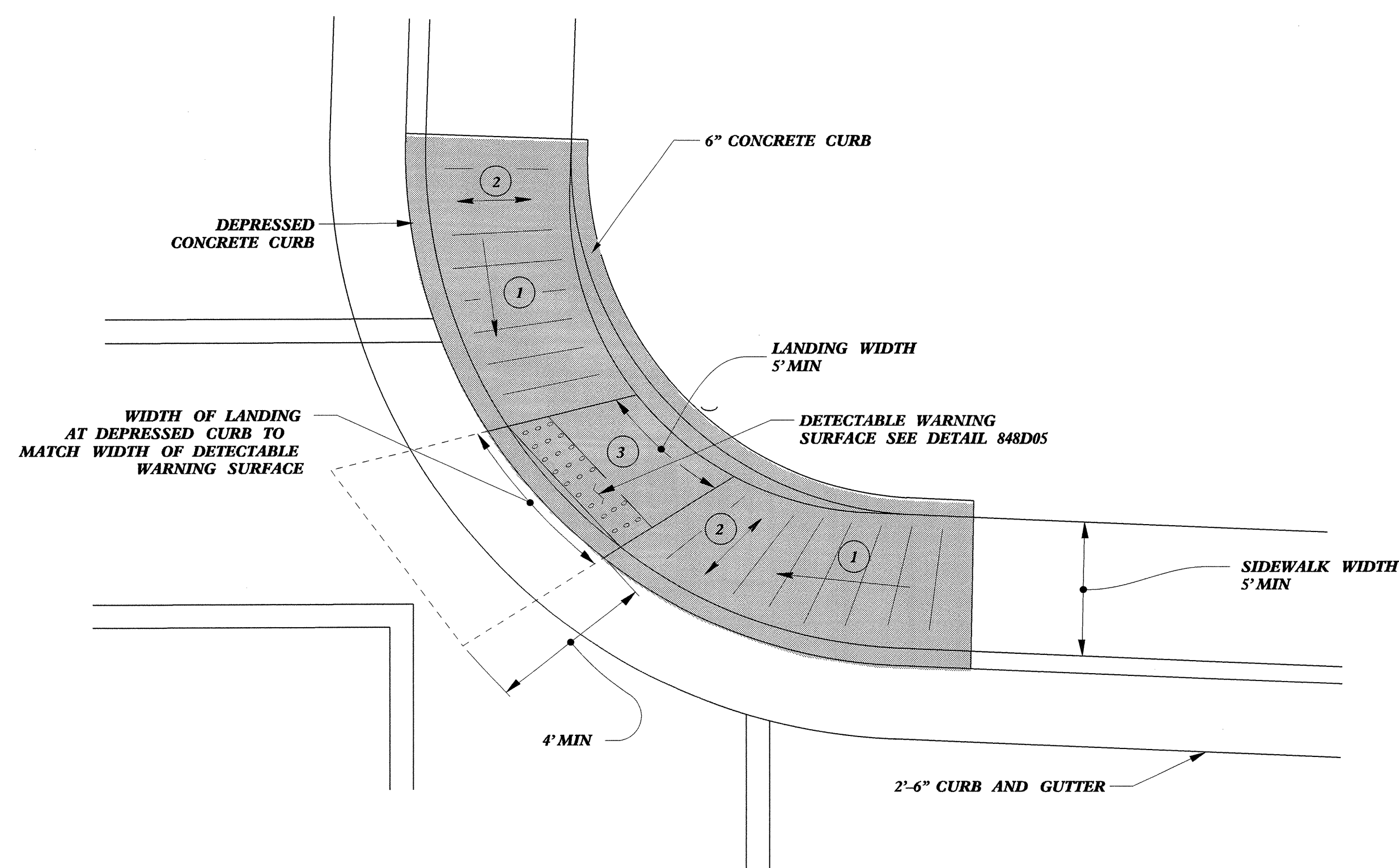


Estimated Quantities:
 175 cu yds excavation
 110 Tons of Cl. I Rip Rap
 150 sq yds Filter Fabric



TYPE I

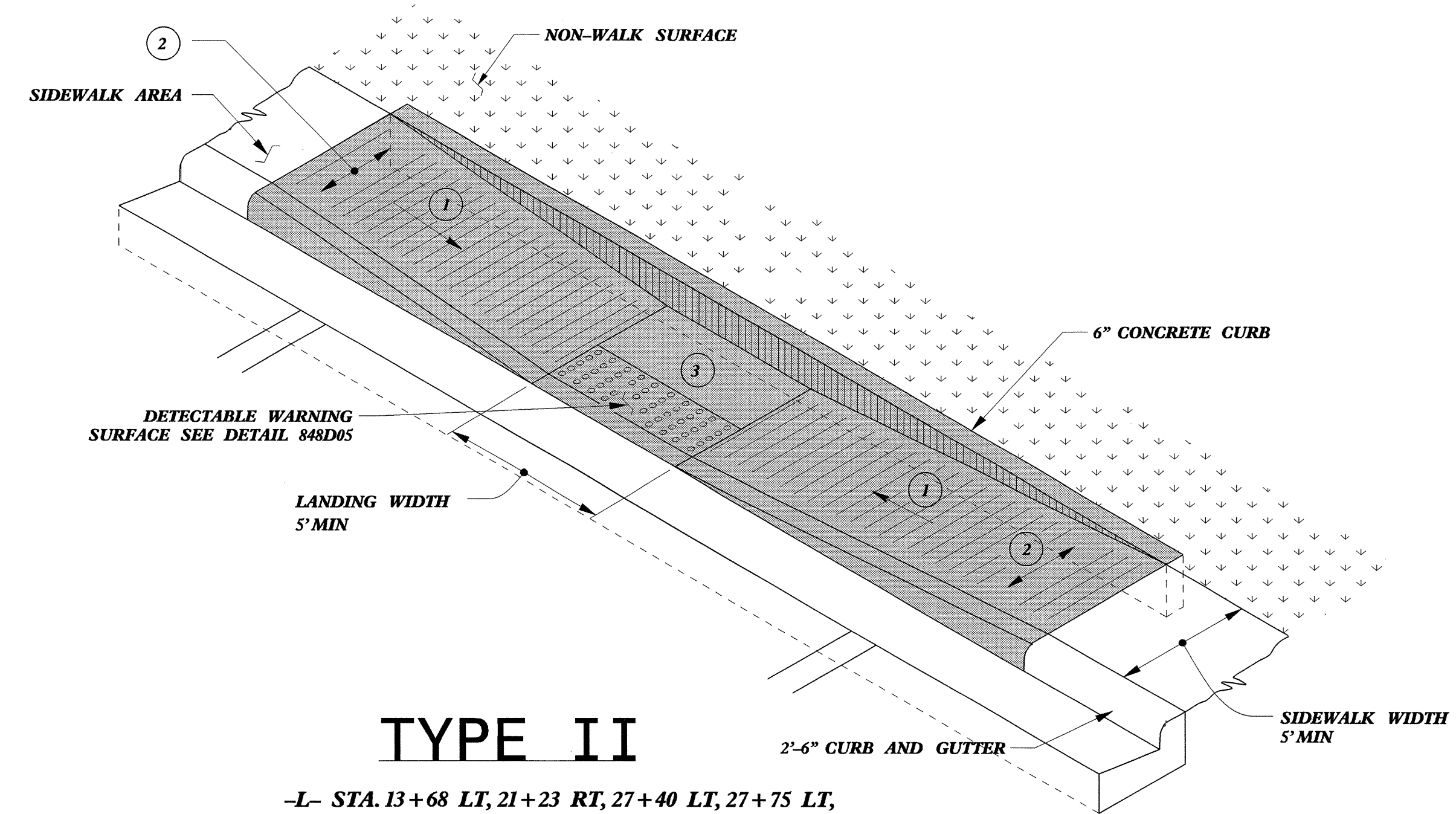
-L- STA. 14+57 RT, 15+04 RT, 15+64 RT, 16+16 RT,
19+74 RT, 20+04 RT, 21+23 LT, 21+76 LT,
33+04 LT, 33+36 LT, 38+26 LT, 38+78 LT



TYPE III

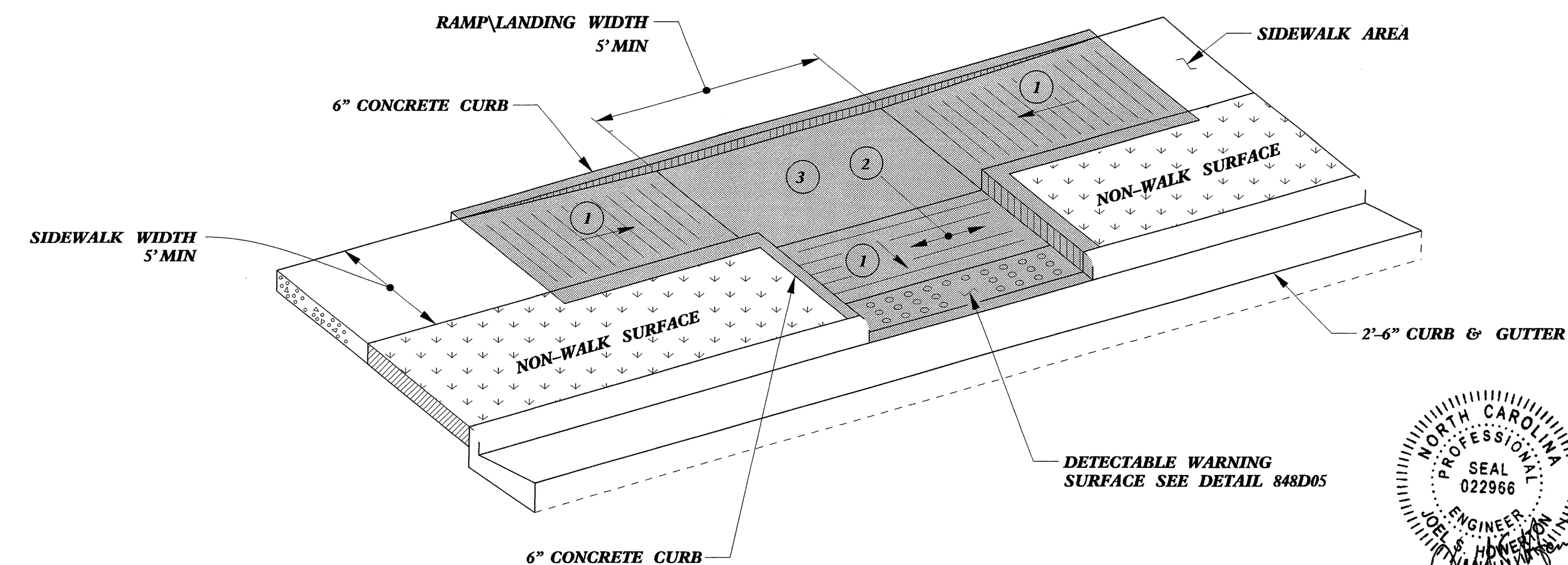
-L- STA. 14+16 RT, 27+40 RT, 27+75 RT, 32+06 LT,
32+57 LT, 35+13 LT, 35+57 LT, 50+17 LT,
50+05 RT, 50+89 LT, 51+03 RT

PAY LIMITS FOR CURB RAMP



TYPE II

-L- STA. 13+68 LT, 21+23 RT, 27+40 LT, 27+75 LT,
31+80 LT, 38+98 LT,
-Y8- STA. 11+47 RT



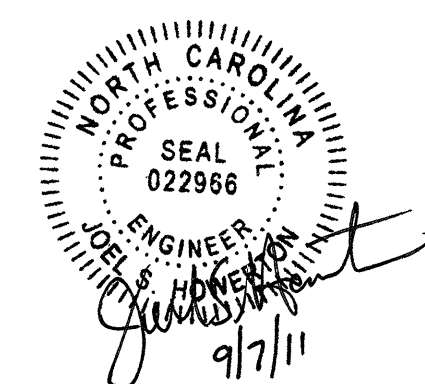
TYPE IV

-L- STA. 31+80 RT, 32+57 RT, 35+06 RT, 35+51 RT

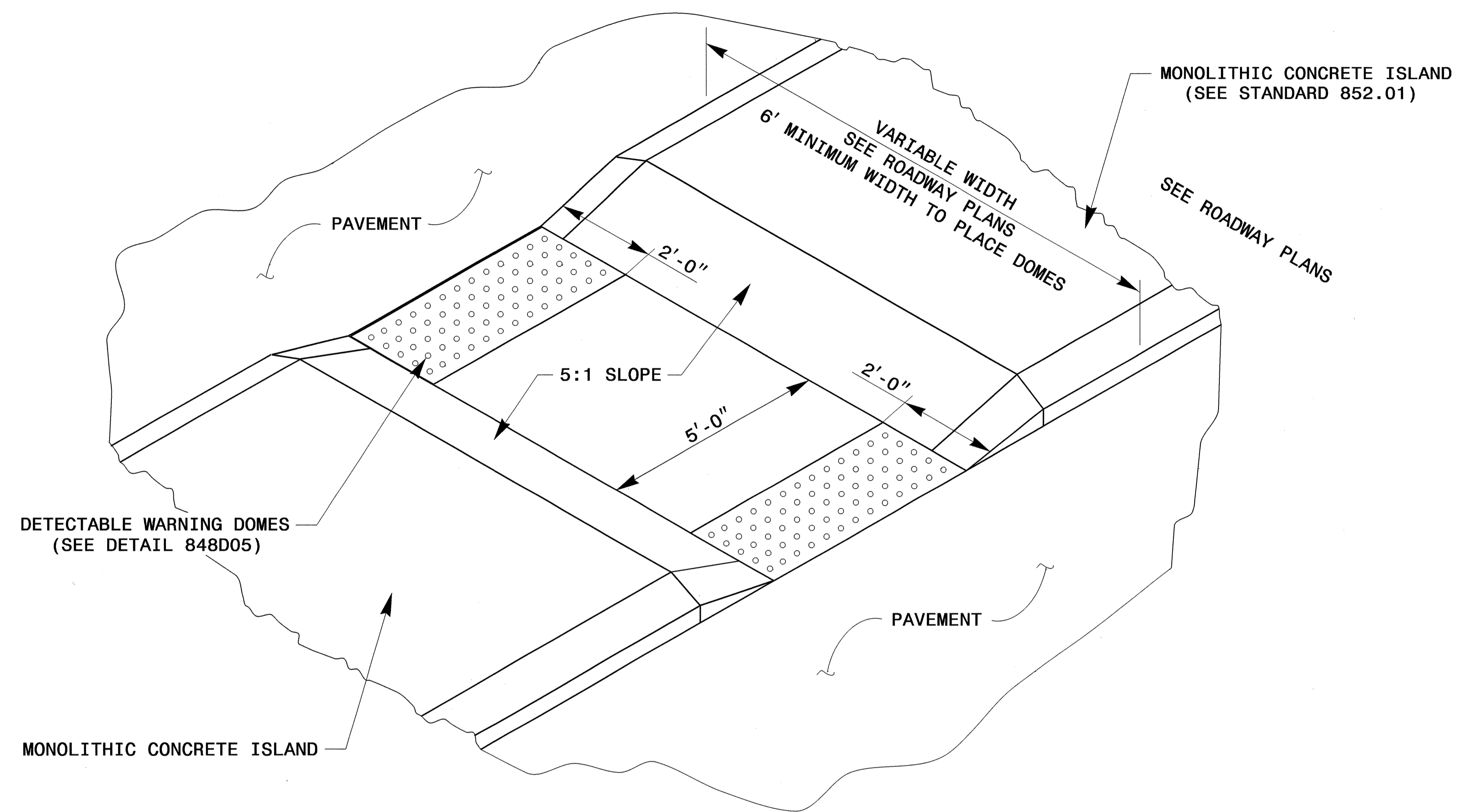
- USE AT STATIONS INDICATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- RAMP WIDTHS AND LENGTHS MAY BE ADJUSTED UPWARD AS DIRECTED BY THE ENGINEER

- 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.

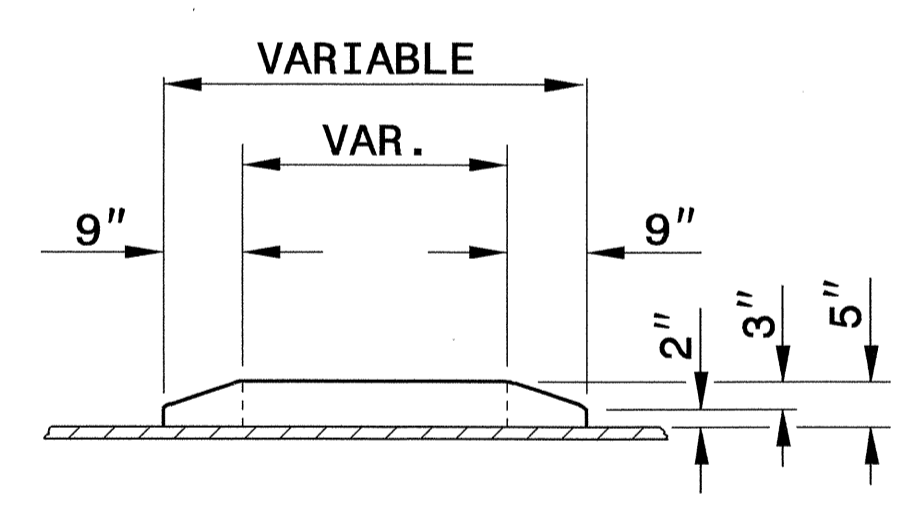


CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
SPECIAL CURB RAMPS	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY: <i>[Signature]</i>	DATE: 9/7/11
CHECKED BY: <i>[Signature]</i>	DATE: 9/7/11
FILE SPEC: s:\sds\2012CurbRamp\CurbRampDetails.dgn	



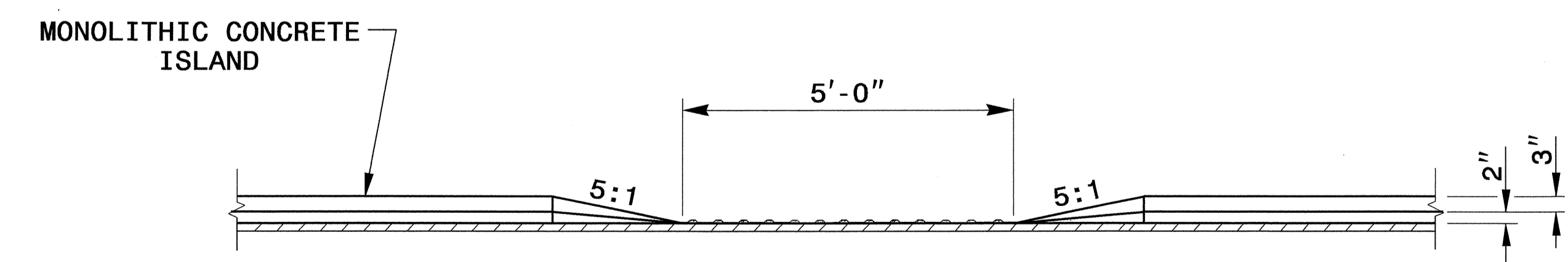
GENERAL NOTES:

REFER TO DETAIL 848D05 AND THE SPECIAL PROVISION "DETECTABLE WARNINGS FOR PROPOSED CURB RAMPS". TRUNCATED DOMES WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO THE MONOLITHIC ISLANDS.



**MONOLITHIC CONCRETE ISLAND
REFER TO STD.852.01**

ISOMETRIC VIEW



ELEVATION



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
CROSSWALK THRU MONOLITHIC ISLAND	
ORIGINAL BY:	DATE: 2-5-02
MODIFIED BY:	DATE: 9/15/11
CHECKED BY:	DATE:
FILE SPEC.:	6/details/stand/island_eng.dgn

I5-SEP-2011 12:22
 S:\CONTRACTS\Special Details\Howerton\Curb Ramps\Curb Ramp Thru Island.dgn
 USERNAME

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203175**

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	350	CY	UNDERCUT EXCAVATION
013400000-E	240	1,720	CY	DRAINAGE DITCH EXCAVATION
019500000-E	265	250	CY	SELECT GRANULAR MATERIAL
019600000-E	270	450	SY	GEOTEXTILE FOR SOIL STABILIZATION
023400000-E	SP	100	CY	GENERIC GRADING ITEM EXCAVATION AND STOCKPILING CONTAMINATED SOIL
031800000-E	300	740	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	1,680	SY	FOUNDATION CONDITIONING GEOTEXTILE
036600000-E	310	76	LF	15" RC PIPE CULVERTS, CLASS III
038400000-E	310	36	LF	30" RC PIPE CULVERTS, CLASS III
039600000-E	310	172	LF	42" RC PIPE CULVERTS, CLASS III
044820000-E	310	1,932	LF	15" RC PIPE CULVERTS, CLASS IV
044830000-E	310	358	LF	18" RC PIPE CULVERTS, CLASS IV
044840000-E	310	1,420	LF	24" RC PIPE CULVERTS, CLASS IV
044850000-E	310	556	LF	30" RC PIPE CULVERTS, CLASS IV
058200000-E	310	16	LF	15" CS PIPE CULVERTS, 0.064" THICK
059400000-E	310	52	LF	24" CS PIPE CULVERTS, 0.064" THICK
060000000-E	310	332	LF	30" CS PIPE CULVERTS, 0.079" THICK
063600000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (15", 0.064")
063600000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (24", 0.064")

ItemNumber	Sec #	Quantity	Unit	Description
357500000-E	SP	2,000	LF	GENERIC FENCING ITEM TEMPORARY 72" CHAIN LINK FENCE
362800000-E	876	360	TON	RIP RAP, CLASS I
364900000-E	876	20	TON	RIP RAP, CLASS B
365600000-E	876	3,230	SY	GEOTEXTILE FOR DRAINAGE
407200000-E	903	890	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	1	EA	SIGN ERECTION, TYPE D
410200000-N	904	44	EA	SIGN ERECTION, TYPE E
410800000-N	904	5	EA	SIGN ERECTION, TYPE F
415500000-N	907	61	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	675	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	890	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	61	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
441500000-N	1115	2	EA	FLASHING ARROW BOARD
442000000-N	1120	4	EA	PORTABLE CHANGEABLE MESSAGE SIGN
443000000-N	1130	58	EA	DRUMS
444500000-E	1145	356	LF	BARRICADES (TYPE III)
445500000-N	1150	660	DAY	FLAGGER
448000000-N	1165	2	EA	TMA
450700000-E	1170	2,211	LF	WATER FILLED BARRIER
450800000-E	1170	3,887	LF	RESET WATER FILLED BARRIER
451600000-N	1180	270	EA	SKINNY DRUM
468500000-E	1205	7,380	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	11,560	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
469500000-E	1205	500	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
471000000-E	1205	2,180	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)

Summary of Quantities - U-0624

ItemNumber	Sec #	Quantity	Unit	Description
063600000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (30", 0.079")
097310000-E	330	40	LF	*** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (42", 0.625", B)
097330000-E	330	40	LF	*** WELDED STEEL PIPE, ***** THICK, GRADE B NOT IN SOIL (42", 0.625", B)
098600000-E	SP	32	LF	GENERIC PIPE ITEM TEMPORARY 12" PLASTIC CORRUGATED PIPE
099500000-E	340	920.4	LF	PIPE REMOVAL
107700000-E	SP	40	TON	#57 STONE
109950000-E	505	2,000	CY	SHALLOW UNDERCUT
109970000-E	505	4,000	TON	CLASS IV SUBGRADE STABILIZATION
111000000-E	510	500	TON	STABILIZER AGGREGATE
122000000-E	545	1,500	TON	INCIDENTAL STONE BASE
129700000-E	607	880	SY	MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2")
130800000-E	607	4,210	SY	MILLING ASPHALT PAVEMENT, **** TO ***** (0" TO 3")
133000000-E	607	280	SY	INCIDENTAL MILLING
148900000-E	610	4,210	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	4,100	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
151900000-E	610	3,120	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	640	TON	ASPHALT BINDER FOR PLANT MIX
169300000-E	654	405	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
202200000-E	815	224	CY	SUBDRAIN EXCAVATION
203300000-E	815	168	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	1,000	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	2	EA	SUBDRAIN PIPE OUTLET

ItemNumber	Sec #	Quantity	Unit	Description
472100000-E	1205	33	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)
472500000-E	1205	142	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
481000000-E	1205	63,200	LF	PAINT PAVEMENT MARKING LINES (4")
482000000-E	1205	1,430	LF	PAINT PAVEMENT MARKING LINES (8")
483500000-E	1205	2,650	LF	PAINT PAVEMENT MARKING LINES (24")
484000000-N	1205	57	EA	PAINT PAVEMENT MARKING CHARACTER
484500000-N	1205	201	EA	PAINT PAVEMENT MARKING SYMBOL
485000000-E	1205	10,900	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
486000000-E	1205	100	LF	REMOVAL OF PAVEMENT MARKING LINES (8")
487000000-E	1205	70	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
487500000-N	1205	25	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
525500000-N	1413	Lump Sum		PORTABLE LIGHTING
532520000-E	1510	93	LF	2" WATER LINE
532580000-E	1510	859	LF	8" WATER LINE
532620000-E	1510	3,969	LF	12" WATER LINE
554600000-E	1515	12	EA	8" VALVE
555800000-E	1515	24	EA	12" VALVE
564800000-N	1515	33	EA	RELOCATE WATER METER
564900000-N	1515	2	EA	RECONNECT WATER METER
567200000-N	1515	6	EA	RELOCATE FIRE HYDRANT
576800000-N	1520	5	EA	SANITARY SEWER CLEAN-OUT
580100000-E	1530	3,063	LF	ABANDON 8" UTILITY PIPE
580400000-E	1530	1,580	LF	ABANDON 12" UTILITY PIPE
587150000-E	1550	100	LF	TRENCHLESS INSTALLATION OF 8" IN SOIL

ItemNumber	Sec #	Quantity	Unit	Description
207700000-E	815	12	LF	6" OUTLET PIPE
220900000-E	838	4.5	CY	ENDWALLS
225300000-E	840	1.009	CY	PIPE COLLARS
226400000-E	840	0.882	CY	PIPE PLUGS
227500000-E	SP	40.3	CY	FLOWABLE FILL
228600000-N	840	76	EA	MASONRY DRAINAGE STRUCTURES
230800000-E	840	31.6	LF	MASONRY DRAINAGE STRUCTURES
236400000-N	840	15	EA	FRAME WITH TWO GRATES, STD 840.16
236600000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
237400000-N	840	2	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
237400000-N	840	26	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
237400000-N	840	23	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
239600000-N	840	7	EA	FRAME WITH COVER, STD 840.54
253500000-E	846	120	LF	***X*** CONCRETE CURB (9" X 18")
254900000-E	846	7,830	LF	2'-6" CONCRETE CURB & GUTTER
257700000-E	846	30	LF	CONCRETE EXPRESSWAY GUTTER
259100000-E	848	3,410	SY	4" CONCRETE SIDEWALK
260000000-N	SP	1	EA	RETROFIT EXISTING CURB RAMP
260500000-N	848	38	EA	CONCRETE CURB RAMP
261200000-E	848	180	SY	6" CONCRETE DRIVEWAY
265500000-E	852	70	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
273800000-E	SP	720	SY	GENERIC PAVING ITEM REMOVE AND RESET BRICK SIDEWALK
283000000-N	858	10	EA	ADJUSTMENT OF MANHOLES

ItemNumber	Sec #	Quantity	Unit	Description
587151000-E	1550	100	LF	TRENCHLESS INSTALLATION OF 8" NOT IN SOIL
587170000-E	1550	47	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL
587171000-E	1550	47	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL
600000000-E	1605	6,730	LF	TEMPORARY SILT FENCE
600600000-E	1610	1,320	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	280	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	820	TON	SEDIMENT CONTROL STONE
601500000-E	1615	10	ACR	TEMPORARY MULCHING
601800000-E	1620	300	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	2.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	100	LF	SAFETY FENCE
603000000-E	1630	1,360	CY	SILT EXCAVATION
603600000-E	1631	10,000	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	25	SY	COIR FIBER MAT
603800000-E	SP	3,225	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	3,275	LF	1/4" HARDWARE CLOTH
607103000-E	1640	250	LF	COIR FIBER BAFFLE
607105000-E	SP	1	EA	*** SKIMMER (2")
608400000-E	1660	6	ACR	SEEDING & MULCHING
608700000-E	1660	4.5	ACR	MOWING
609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	225	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	6.25	TON	FERTILIZER TOPDRESSING
611450000-N	1667	25	MHR	SPECIALIZED HAND MOWING

Summary of Quantities - U-0624

ItemNumber	Sec #	Quantity	Unit	Description
6117000000-N	SP	75	EA	RESPONSE FOR EROSION CONTROL
7000000000-E	1705	8	EA	PEDESTRIAN SIGNAL HEAD (**, ** SECTION) (16", 1 SECTION W/ COUNTDOWN)
7060000000-E	1705	3,500	LF	SIGNAL CABLE
7120000000-E	1705	11	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7132000000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
7144000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7229000000-N	SP	16	EA	APS DETECTOR STATION
7230000000-N	SP	2	EA	CENTRAL CONTROL UNIT APS DETECTOR STATION
7252000000-E	1710	250	LF	MESSENGER CABLE (1/4")
7264000000-E	1710	420	LF	MESSENGER CABLE (3/8")
7300000000-E	1715	430	LF	UNPAVED TRENCHING (***** (1, 2"))
7300100000-E	1715	430	LF	UNPAVED TRENCHING FOR TEMPORARY LEAD-IN
7324000000-N	1716	8	EA	JUNCTION BOX (STANDARD SIZE)
7360000000-N	1720	4	EA	WOOD POLE
7372000000-N	1721	9	EA	GUY ASSEMBLY
7396000000-E	1722	3	EA	1/2" RISER WITH WEATHERHEAD
7408000000-E	1722	1	EA	1" RISER WITH WEATHERHEAD
7420000000-E	1722	8	EA	2" RISER WITH WEATHERHEAD
7432000000-E	1722	1	EA	2" RISER WITH HEAT SHRINK TUBING
7444000000-E	1725	3,870	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	6,260	LF	LEAD-IN CABLE (***** (14-2))
7552000000-N	1731	1	EA	INTERCONNECT CENTER
7575180000-N	1735	2	EA	CABLE TRANSFER
7636000000-N	1745	3	EA	SIGN FOR SIGNALS
7642100000-N	1743	16	EA	TYPE I POST WITH FOUNDATION

ItemNumber	Sec #	Quantity	Unit	Description
7768000000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)
7780000000-N	1751	7	EA	DETECTOR CARD (TYPE 2070L)
***** BEGIN SCHEDULE AA ***** ***** (2 ALTERNATES) *****				
0241000000-E AA1	SP	6,000	SY	GENERIC GRADING ITEM GEOGRID
0241000000-E AA1	SP	6,000	SY	GENERIC GRADING ITEM NONWOVEN SEPARATION GEOTEXTILE
*** OR ***				
0241000000-E AA2	SP	6,000	SY	GENERIC GRADING ITEM HIGH STRENGTH GEOTEXTILE
***** END SCHEDULE AA *****				

COMPUTED BY: HLE DATE: 8/23/2011
 CHECKED BY: KEM DATE: 8/3/2012

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF MILLING EXISTING ASPHALT PAVEMENT

LINE	STATION	STATION	LOC LT/RT/CL	DEPTH INCIDENTAL SY	DEPTH 1.5" SY	VAR. DEPTH 0" TO 3" SY
-L-	11+50.00	14+00.00	CL			955.0
-Y-	9+45.69	11+70.67	CL		543.7	
-L-	18+80.00	19+55.00	RT			50.8
-L-	20+75.00	21+55.00	RT			23.7
-Y2-	10+75.00	10+85.00	CL	15.7		
-L-	25+95.00	27+75.00	RT			56.6
-Y3-	10+50.00	10+65.00	LC	24.9		
-L-	30+95.00	31+55.00	LC			83.8
-Y4-	12+75.00	13+00.00	CL	50.1		
-L-	33+00.00	34+50.00	RT			70.1
-Y6-	11+53.00	11+90.00	CL			95.4
-L-	35+80.00	37+54.73	RT			107.5
-Y7-	12+97.97	12+40.00				50.7
-Y7-	13+46.64	14+25.00	CL	171.3		
-L-	41+90.00	42+10.00	RT	4.1		
-L-	42+75.00	45+75.00	RT			322.0
-L-	47+45.00	51+44.48	LC			2390.2
-Y8-	9+44.15	11+10.00	LC		326.8	
-Y8-	11+50.00	11+70.57	CL	8.6		
			TOTAL:	274.7	870.5	4205.8
			SAY:	280.0	880.0	4210.0

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL & BREAK-UP

LINE	Station	Station	LOC LT/RT/CL	ASPHALT REMOVAL SY	CONCRETE REMOVAL SY
-L-	14+05.00	21+38.74	LT	240.6	
-L-	14+14.75	14+63.98	LT/RT		104.2
-L-	14+63.98	15+45.89	RT		88.8
-L-	17+75.00	29+55.00	LT		1162.6
-Y2-	10+22.21	10+57.61	LT/RT	11.7	
-L-	21+69.99	32+23.72	LT	348.6	
-Y4-	13+00.00	13+93.50	LT/RT	378.6	
-Y5-	11+53.96	11+90.75	LT/RT	86.8	
-L-	33+51.38	35+16.62	LT	57.7	
-Y6-	11+68.13	11+98.73	LT	13.5	
-L-	35+83.00	38+34.10	LT	71.9	
-Y7-	12+36.50	12+70.22	LT	9.3	
-L-	38+87.53	48+14.82	LT	219.3	
-Y8-	11+19.56	12+03.65	RT	57.1	
-Y8-	11+19.22	11+69.10	LT	83.4	
-L-	14+05.00	27+47.55	RT	446.8	
-L-	27+61.37	35+30.00	RT	259.3	
			TOTAL:	2284.5	1355.6
			SAY	2290.0	1360.0

SUMMARY OF EARTHWORK (IN CUBIC YARDS)

LINE	Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L - LT	12+00.00	38+50.00	852	476	0	376
-L - RT	12+00.00	38+50.00	1640	10733	9093	0
-Y1-	9+50.00	12+00.00	28	29	1	0
-Y2-	10+00.00	11+00.00	6	18	12	0
-Y3-	10+25.00	11+75.00	6	822	816	0
-Y4-	12+75.00	14+00.00	268	10	0	258
-Y6-	10+75.00	11+94.00	13	2	0	11
-L- RT	19+45.00		0	294	294	0
SUBTOTALS: NO 1			2813	12384	10216	645
-L - LT	38+50.00	50+50.00	238	78	0	160
-L - RT	38+50.00	50+50.00	515	337	0	178
-Y7-	11+50.00	12+50.00	8	0	0	8
-Y7-	13+25.00	14+25.00	24	6	0	18
-Y8-	9+50.00	12+00.00	69	17	0	52
SUBTOTALS: NO 2			854	438	0	416
PROJECT SUBTOTALS:			3667	12822	10216	1061
LOSS DUE TO CLEAR. GRUB.			-200		200	
WASTE IN LIEU OF BORROW					-1061	-1061
PROJECT TOTALS:			3467	12822	9355	0
REPLACE TOP SOIL BORROW PITS					449	
GRAND TOTALS:			3467		9804	
SAY:			3500		9900	

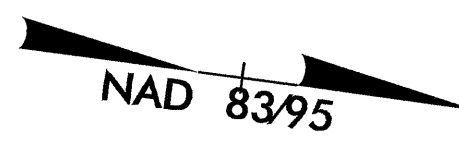
PAVEMENT STRUCTURE VOLUME = N/A CUBIC YARDS
 DRAINAGE DITCH EXCAVATION = 1720 CUBIC YARDS
 UNDERCUT EXCAVATION = 350 CUBIC YARDS
 SHALLOW UNDERCUT EXCAVATION = 2000 CUBIC YARDS
 CL. IV SUBGRADE STABILIZATION = 4000 TONS
 (BACKFILL MATERIAL TO REPLACE SHALLOW UNDERCUT EXCAVATION)
 SELECT GRANULAR MATERIAL = 250 CUBIC YARDS

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.

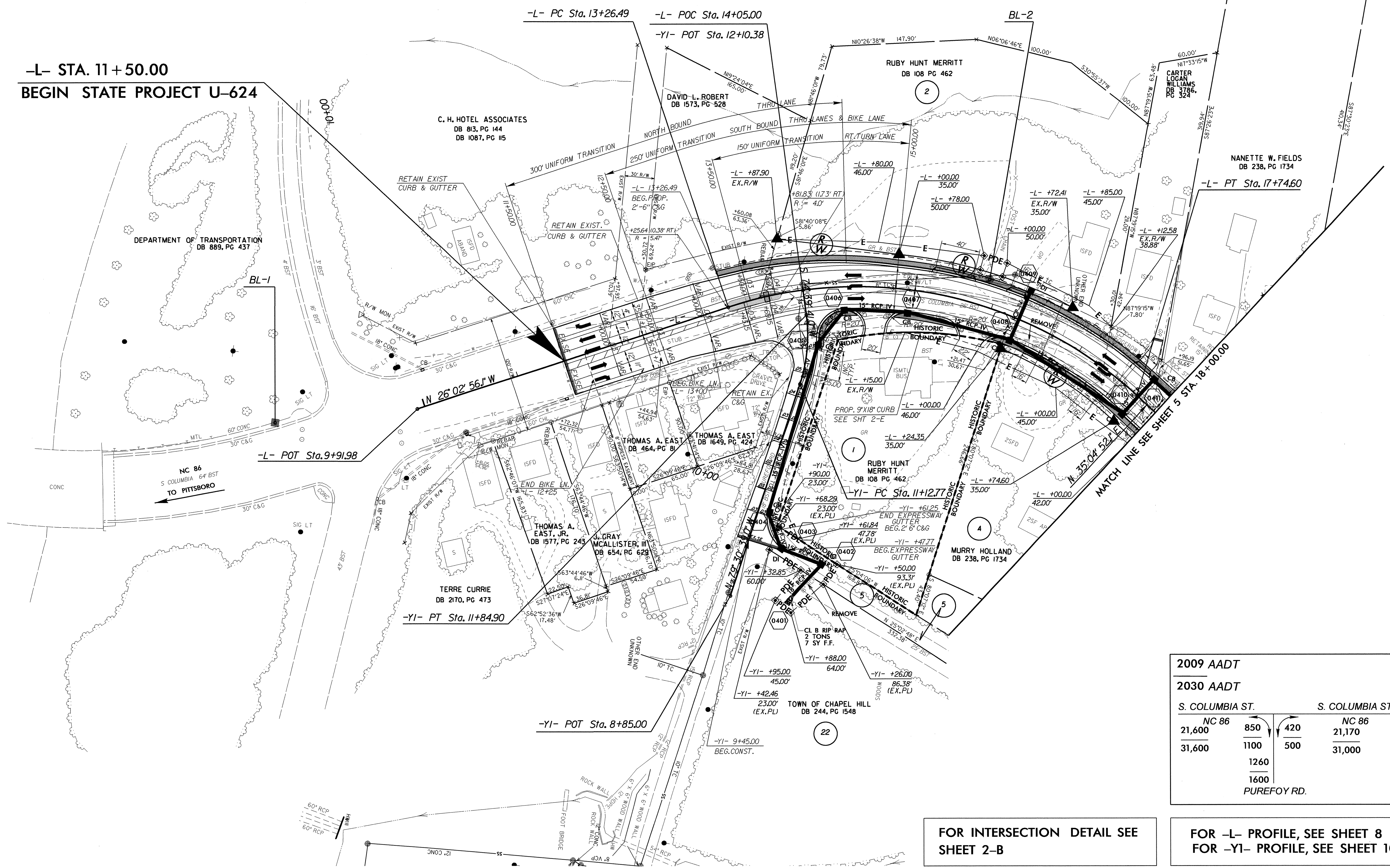
NOTE: APPROXIMATE QUANTITIES ONLY. UNCLADSSIFIED EXCAVATION, BORROW EXCAVATION, SHOULDER, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING"

RD238346

-L-	-YI-
PI Sta 15+74.53	PI Sta 11+49.46
$\Delta = 61^{\circ} 07' 48.2''$ (RT)	$\Delta = 25^{\circ} 49' 40.0''$ (LT)
D = 13' 38' 30.7"	D = 35' 48' 35.5"
L = 448.11'	L = 72.12'
T = 248.04'	T = 36.69'
R = 420.00'	R = 160.00'
SE = .04	SE = N/A
V = 35 mph	V = 30 mph



-L- STA. 11+50.00
BEGIN STATE PROJECT U-624



REVISIONS

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2009 AADT			
2030 AADT			
S. COLUMBIA ST.		S. COLUMBIA ST.	
NC 86	850	420	NC 86
21,600	1100	500	21,170
31,600	1260	1600	31,000
PUREFOY RD.			

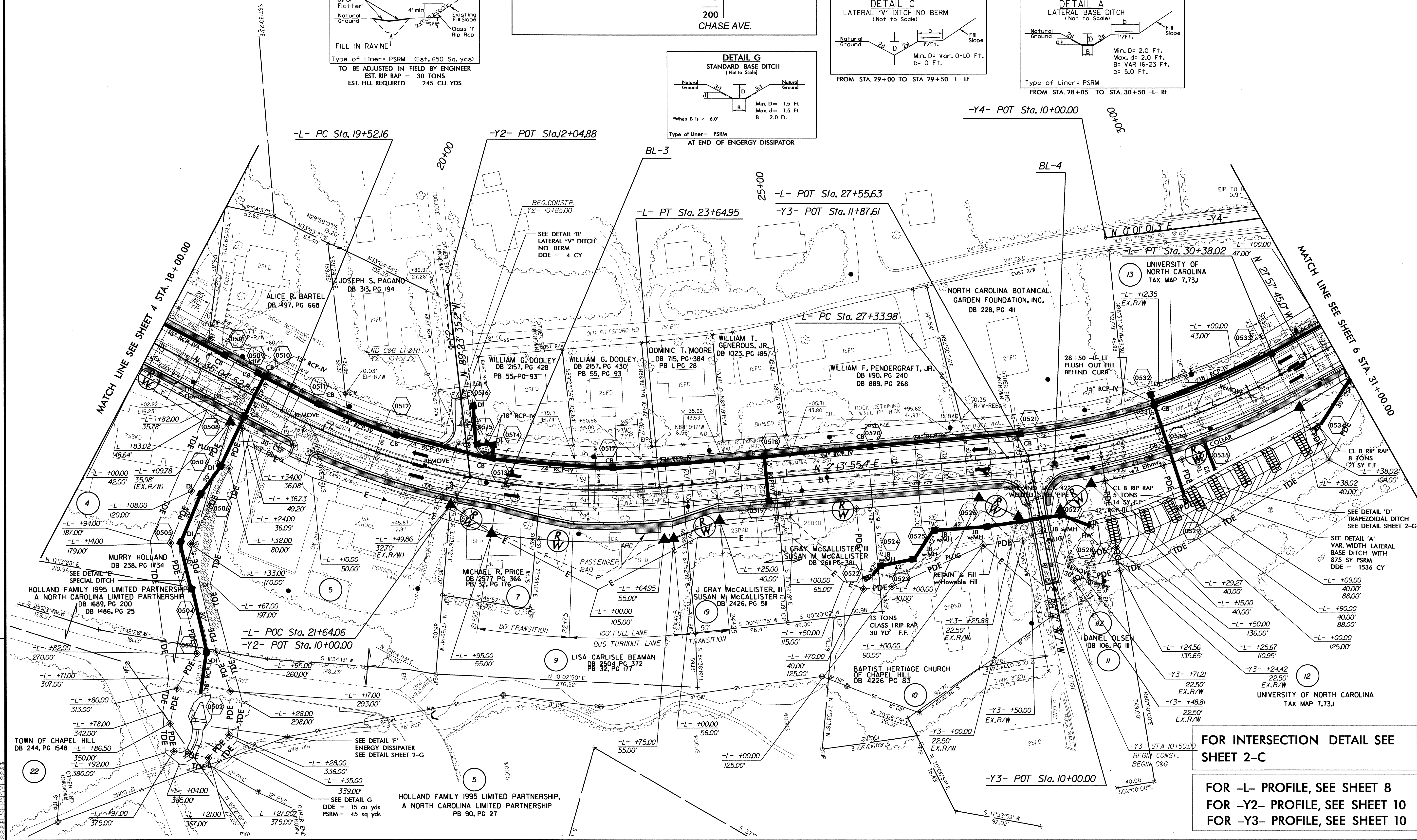
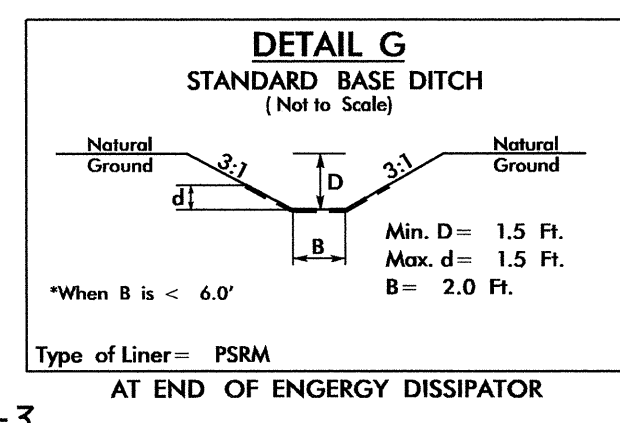
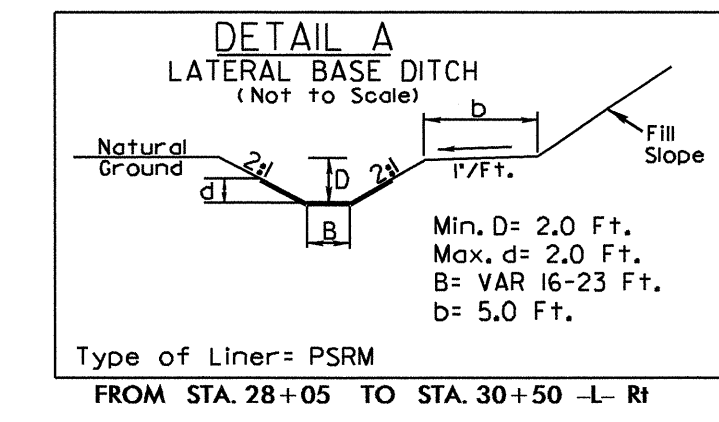
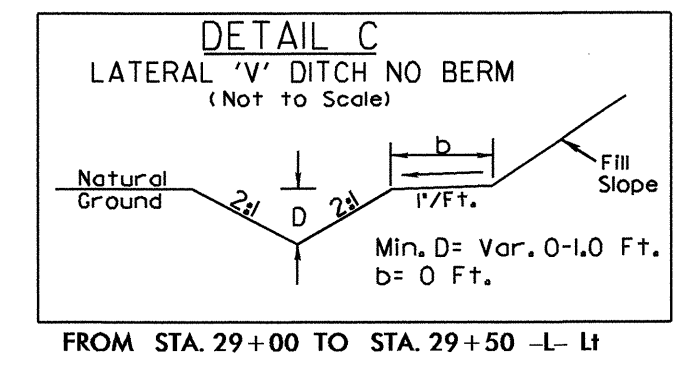
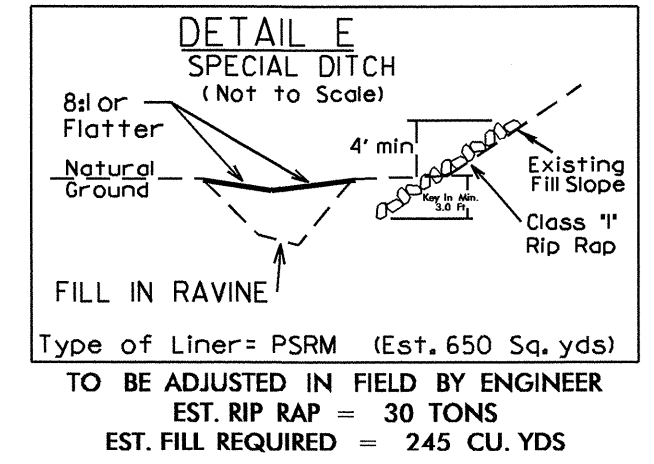
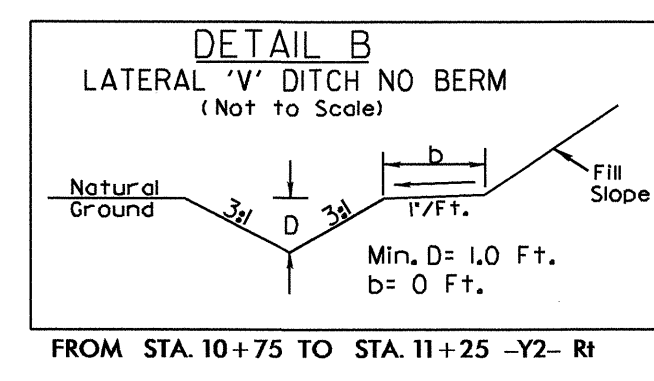
FOR INTERSECTION DETAIL SEE SHEET 2-B

FOR -L- PROFILE, SEE SHEET 8
FOR -YI- PROFILE, SEE SHEET 10

NAD 83/95

2009 AADT	COOLIDGE ST.	220
2030 AADT		300
	S. COLUMBIA ST.	200
		100
		100
		20,900
		31,000

-L-	-L-
PI Sta 21+64.40	PI Sta 28+88.30
$\Delta = 32' 50'' 56.8'' (LT)$	$\Delta = 24' 11'' 40.4'' (LT)$
$D = 7' 57'' 27.9''$	$D = 7' 57'' 27.9''$
$L = 412.79'$	$L = 304.04'$
$T = 212.24'$	$T = 154.32'$
$R = 720.00'$	$R = 720.00'$
$SE = .04$	$SE = .04$
$V = 40 \text{ mph}$	$V = 40 \text{ mph}$



REVISIONS

FOR INTERSECTION DETAIL SEE SHEET 2-C
 FOR -L- PROFILE, SEE SHEET 8
 FOR -Y2- PROFILE, SEE SHEET 10
 FOR -Y3- PROFILE, SEE SHEET 10

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-L-	-Y4-	-Y4-	-Y6-
PI Sta 33+79.93 Δ = 58° 59' 19.8" (RT) D = 13' 38' 30.7" L = 432.41' T = 237.57' R = 420.00' SE = .04 V = 35 mph	PI Sta 12+65.86 Δ = 27° 53' 25.2" (RT) D = 28' 38' 52.4" L = 97.36' T = 49.66' R = 200.00' SE = N/A V = 20 mph	PI Sta 13+45.58 Δ = 52° 27' 05.5" (RT) D = 88' 08' 50.5" L = 59.50' T = 32.02' R = 65.00' SE = N/A V = 15 mph	PI Sta 11+68.48 Δ = 31° 15' 43.7" (RT) D = 60' 18' 40.8" L = 51.83' T = 26.58' R = 95.00' SE = N/A V = 15 mph

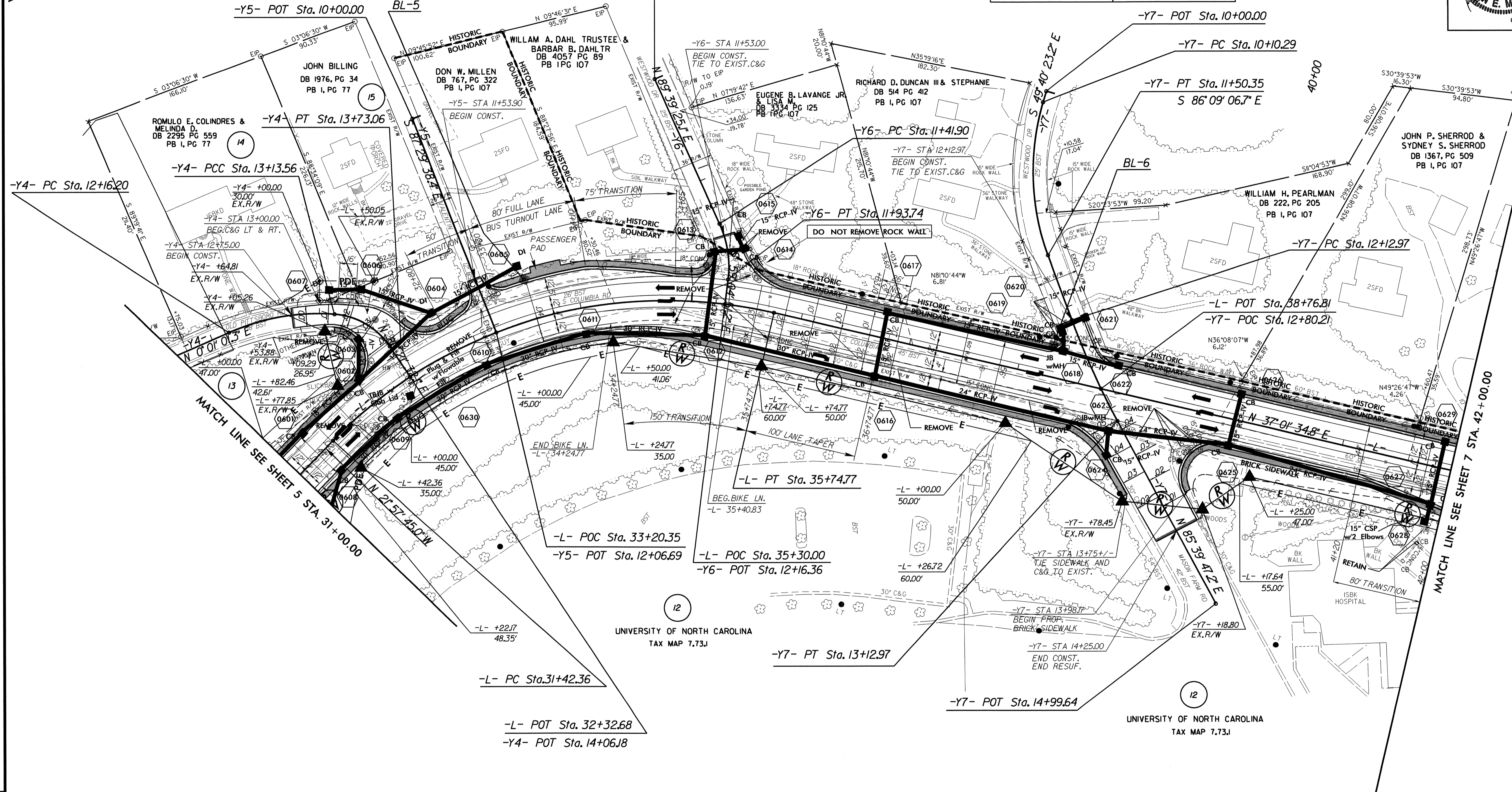
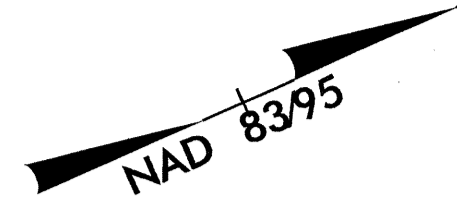
-Y7-	-Y7-
PI Sta 10+82.78 Δ = 36° 28' 43.4" (LT) D = 26' 02' 36.7" L = 140.07' T = 72.50' R = 220.00' SE = N/A V = 40 mph	PI Sta 12+63.05 Δ = 8° 11' 06.4" (LT) D = 8' 11' 06.4" L = 100.00' T = 50.08' R = 700.00' SE = N/A V = 40 mph

PROJECT REFERENCE NO. U-0624 SHEET NO. 6

R/W SHEET NO.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL
24912
TERRY E. MOORE
9-7-11

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL
19721
WILLIAM H. PEARLMAN
9-1-11



	2009 AADT	OLD PITTSBORO RD.	VALENTINE LN.	WESTWOOD DR.	WESTWOOD DR.			
	620		-100	620	420			
	700		100	700	500			
	220	400	-100	-100	400	220	100	100
S. COLUMBIA ST.	300	400	NA	NA	400	300	100	100
NC 86	20,980		21,090	21,090	22,200	6530	3270	17,650
	30,900		31,000	31,000	30,900	9300	4700	26,300
						10,020		
						14,300		
						MASON FARM RD.		

FOR INTERSECTION DETAIL SEE SHEETS 2-D AND 2-E

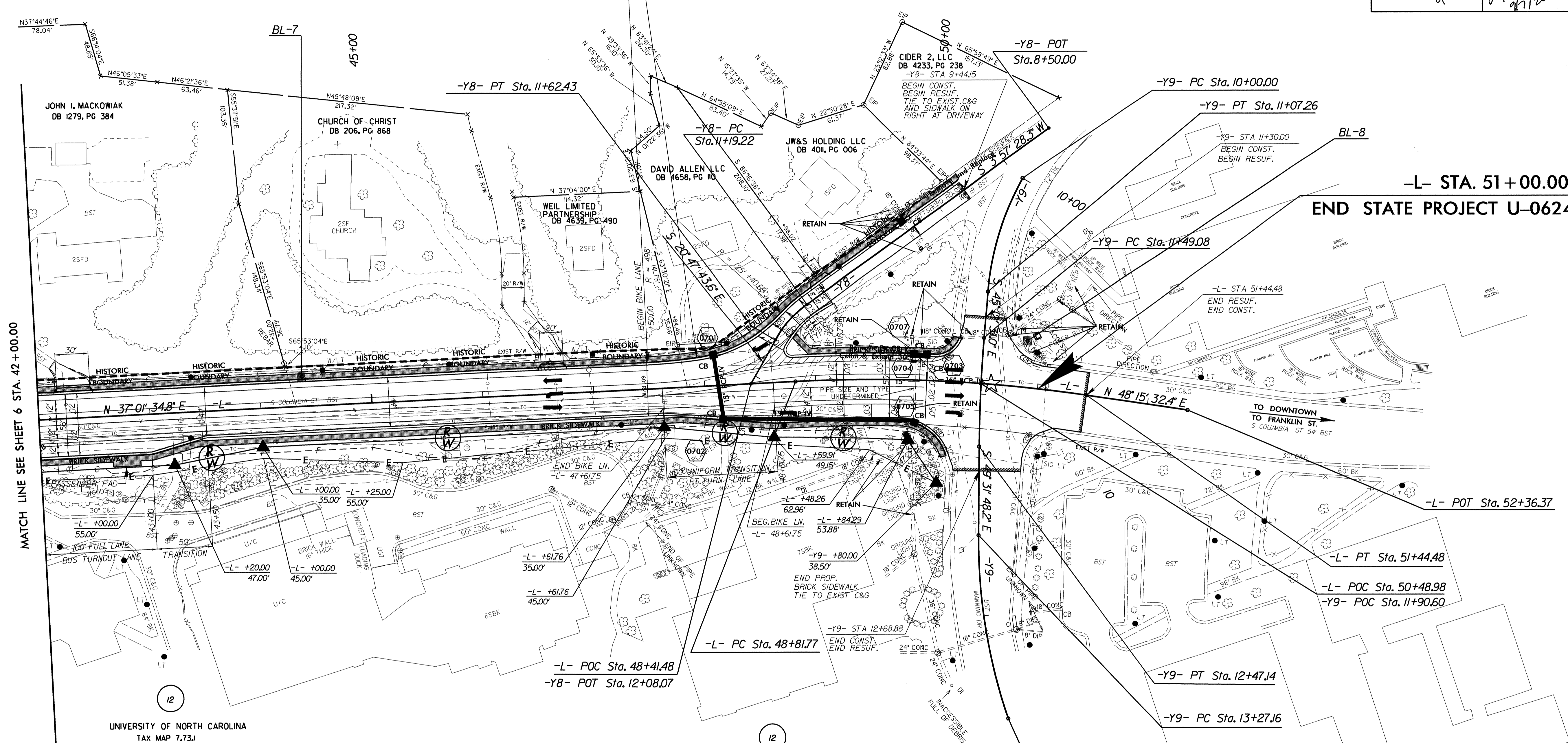
☆ SIGNAL UPGRADE

FOR -L- PROFILE, SEE SHEET 8
FOR -Y4- PROFILE, SEE SHEET 10
FOR -Y5- PROFILE, SEE SHEET 10
FOR -Y6- PROFILE, SEE SHEET 10
FOR -Y7- PROFILE, SEE SHEET 11

REVISIONS

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-L-	-Y8-	-Y9-	-Y9-	-Y9-
PI Sta 50+13.55 Δ = 11' 13" 57.6" (RT) D = 4' 16" 32.9" L = 262.70' T = 131.77' R = 1,340.00' SE = NC V = 40 mph		PI Sta 10+54.47 Δ = 24' 34" 59.6" (LT) D = 22' 55" 05.9" L = 107.26' T = 54.47' R = 250.00' SE = N/A V = 40 mph	PI Sta 11+98.13 Δ = 4' 19" 17.2" (LT) D = 4' 24" 26.5" L = 98.05' T = 49.05' R = 1,300.00'	PI Sta 14+12.21 Δ = 19' 18" 21.8" (LT) D = 11' 27" 33.0" L = 168.48' T = 85.04' R = 500.00'



MATCH LINE SEE SHEET 6 STA. 42 + 00.00

-L- STA. 51 + 00.00
END STATE PROJECT U-0624

2009 AADT	7,290	14,880
2030 AADT	8,800	19,500
	7,590	10,700
7,290	6,030	1,560
8,800	8,800	1,900
	22,600	14,120
17,650	4,350	6,540
26,300	6,200	9,400
	16,920	24,400
		MANNING DR.

★ SIGNAL UPGRADE
FOR INTERSECTION DETAIL SEE SHEET 2-F

FOR -L- PROFILE, SEE SHEET 8
FOR -Y8- PROFILE, SEE SHEET 11
FOR -Y9- PROFILE, SEE SHEET 11

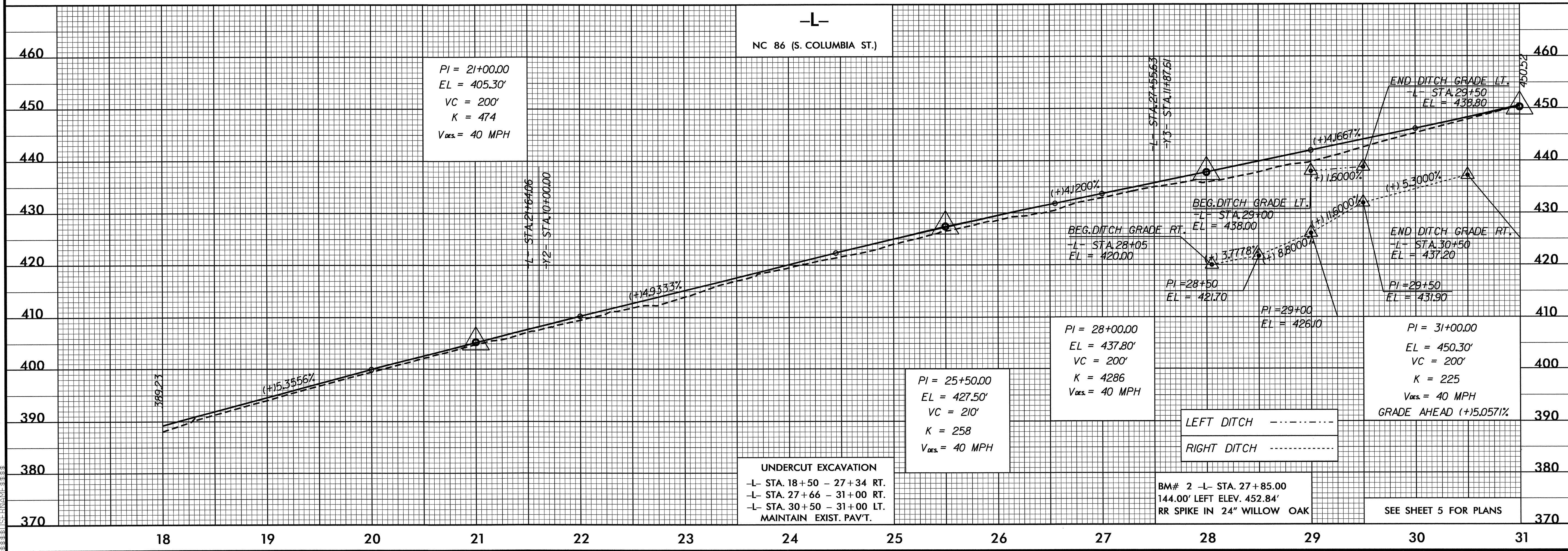
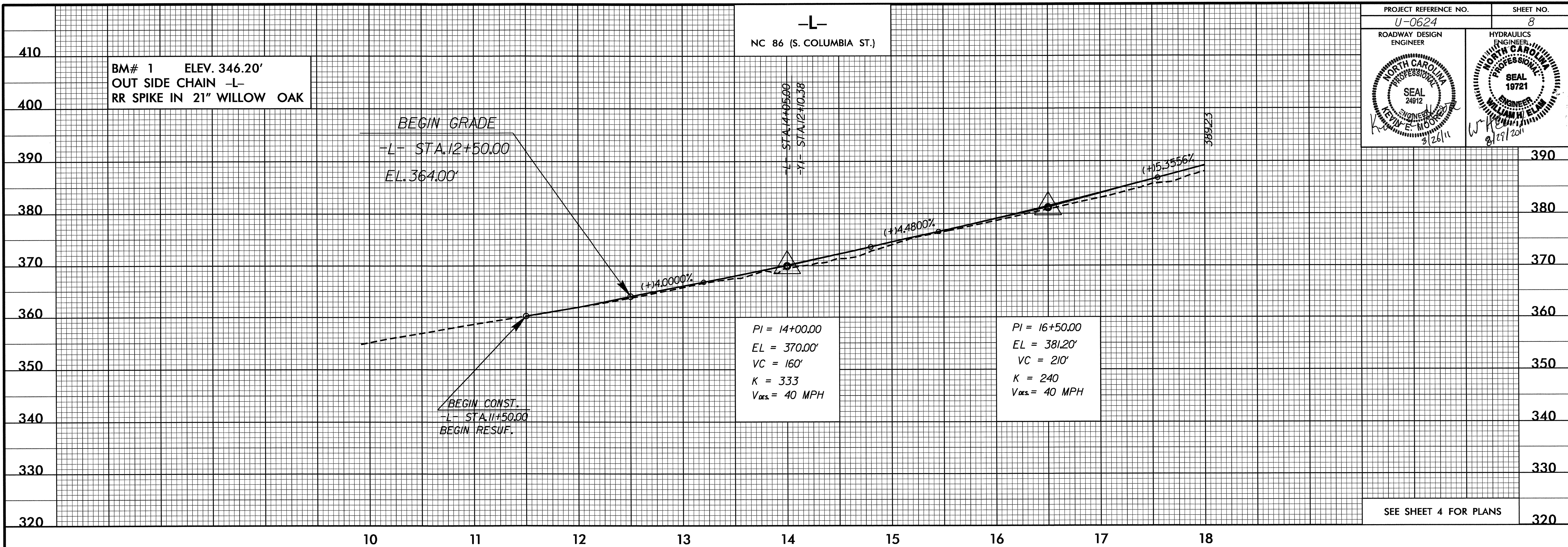
REVISIONS

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5/28/99

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PROJECT REFERENCE NO. U-0624	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

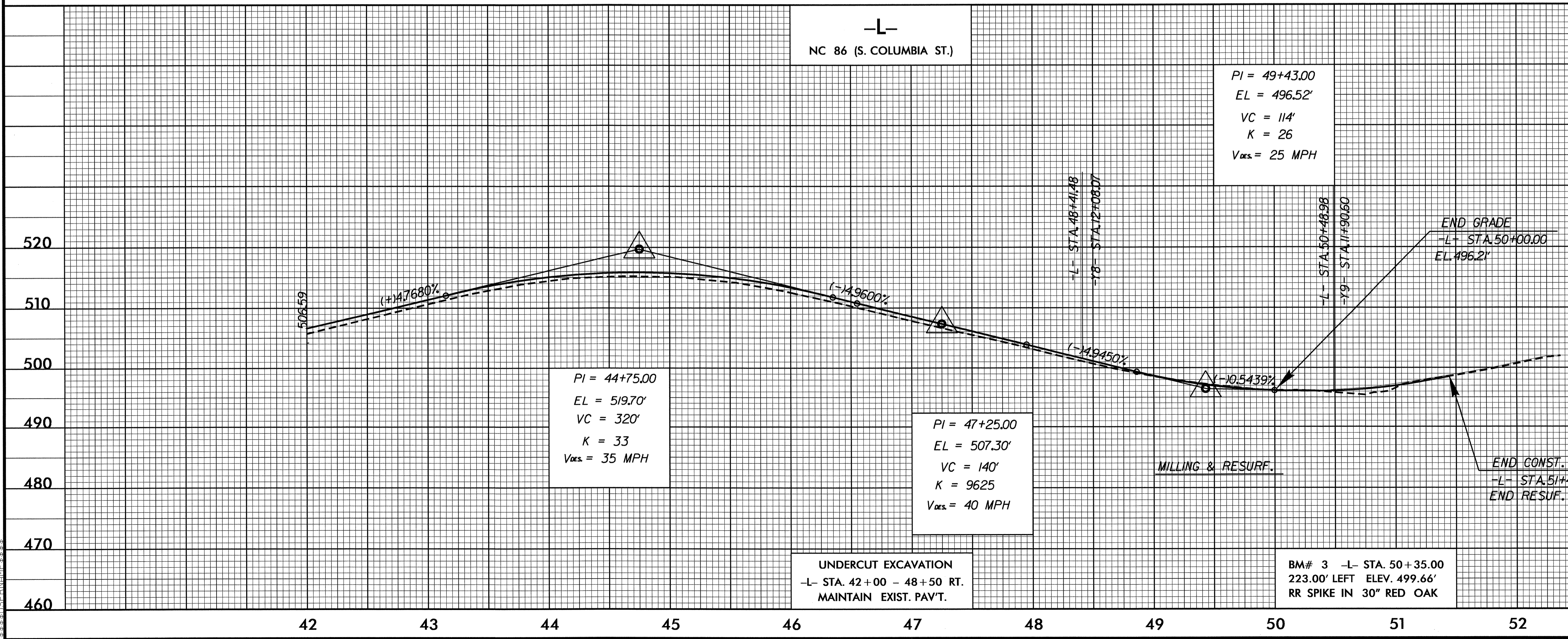
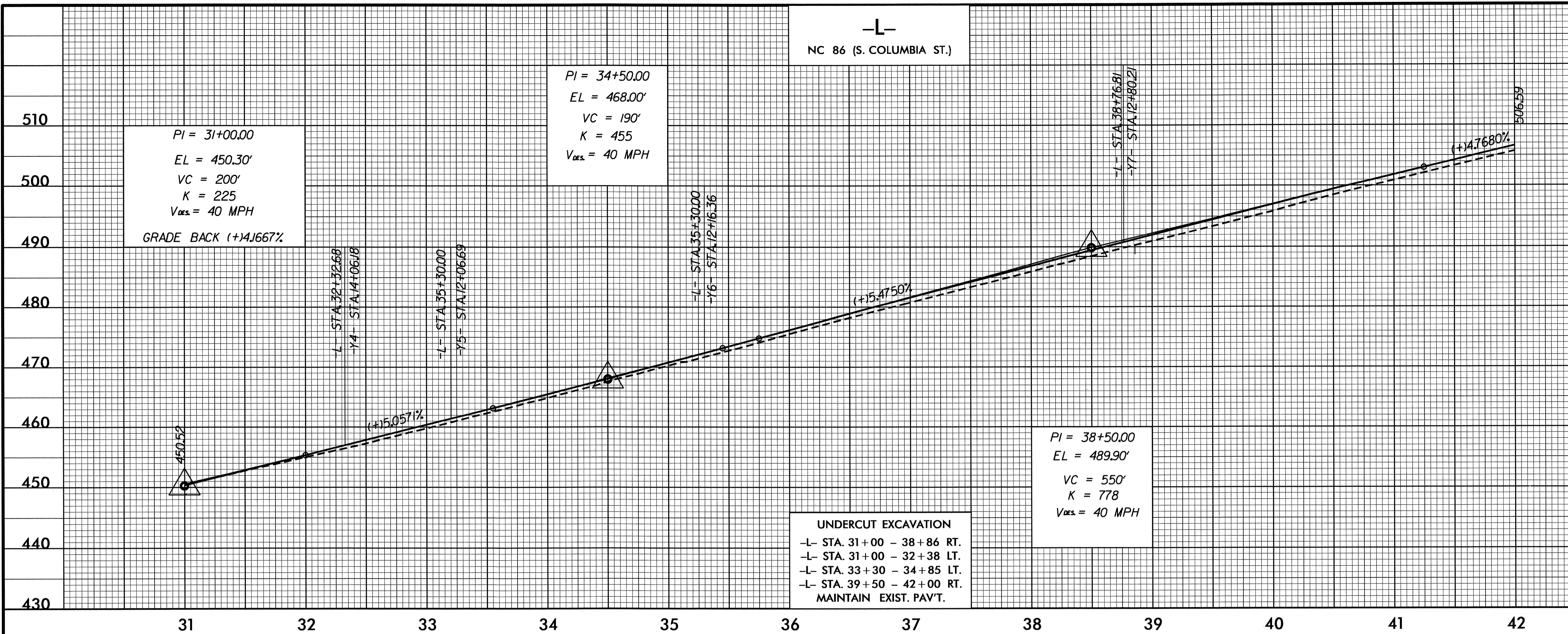
SEE SHEET 4 FOR PLANS

SEE SHEET 5 FOR PLANS

5/28/99

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PROJECT REFERENCE NO. U-0624	SHEET NO. 9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

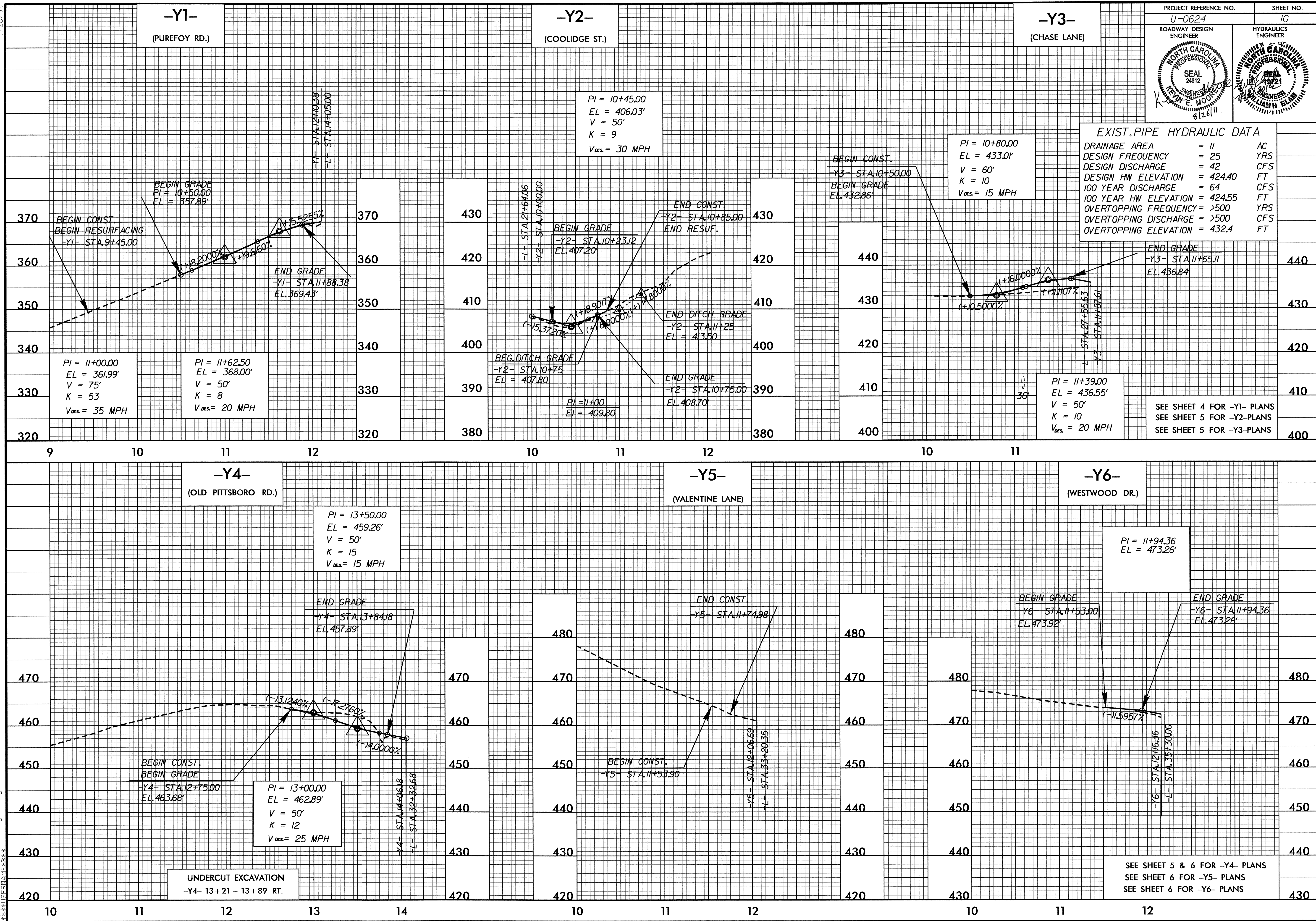


SEE SHEET 6 FOR PLANS

SEE SHEET 7 FOR PLANS

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PROJECT REFERENCE NO. U-0624	SHEET NO. 10
ROADWAY DESIGN ENGINEER K. J. MOORE SEAL 24912 8/26/11	HYDRAULICS ENGINEER WILLIAM H. ELAM SEAL 49721 8/26/11

EXIST. PIPE HYDRAULIC DATA	
DRAINAGE AREA	= 11 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 42 CFS
DESIGN HW ELEVATION	= 424.40 FT
100 YEAR DISCHARGE	= 64 CFS
100 YEAR HW ELEVATION	= 424.55 FT
OVERTOPPING FREQUENCY	= >500 YRS
OVERTOPPING DISCHARGE	= >500 CFS
OVERTOPPING ELEVATION	= 432.4 FT

SEE SHEET 4 FOR -Y1- PLANS
SEE SHEET 5 FOR -Y2- PLANS
SEE SHEET 5 FOR -Y3- PLANS

PI = 11+94.36
EL = 473.26'

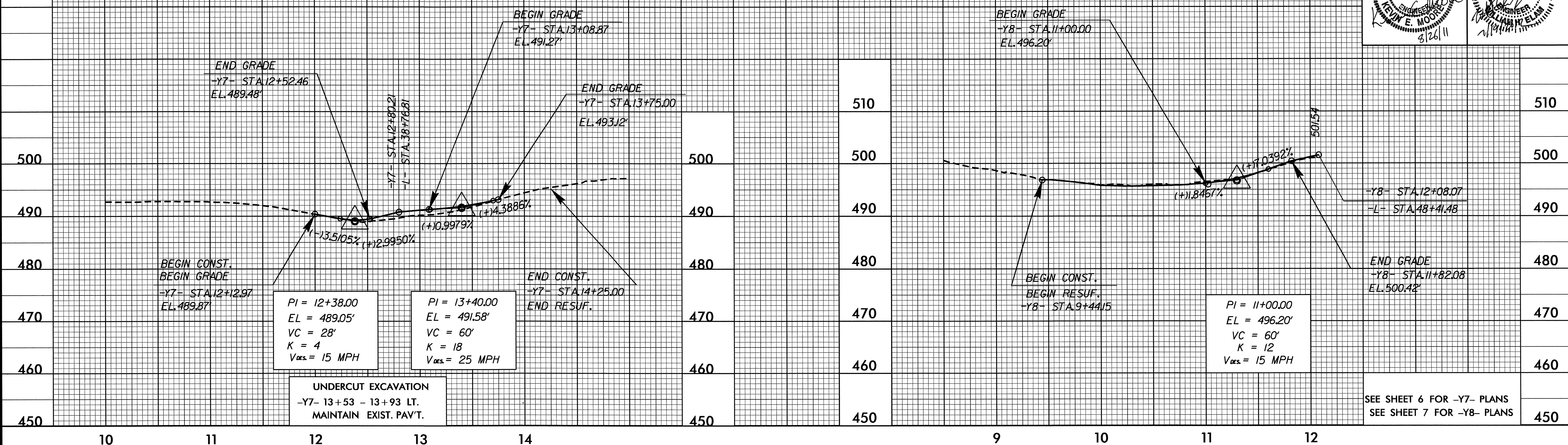
SEE SHEET 5 & 6 FOR -Y4- PLANS
SEE SHEET 6 FOR -Y5- PLANS
SEE SHEET 6 FOR -Y6- PLANS

5/28/99

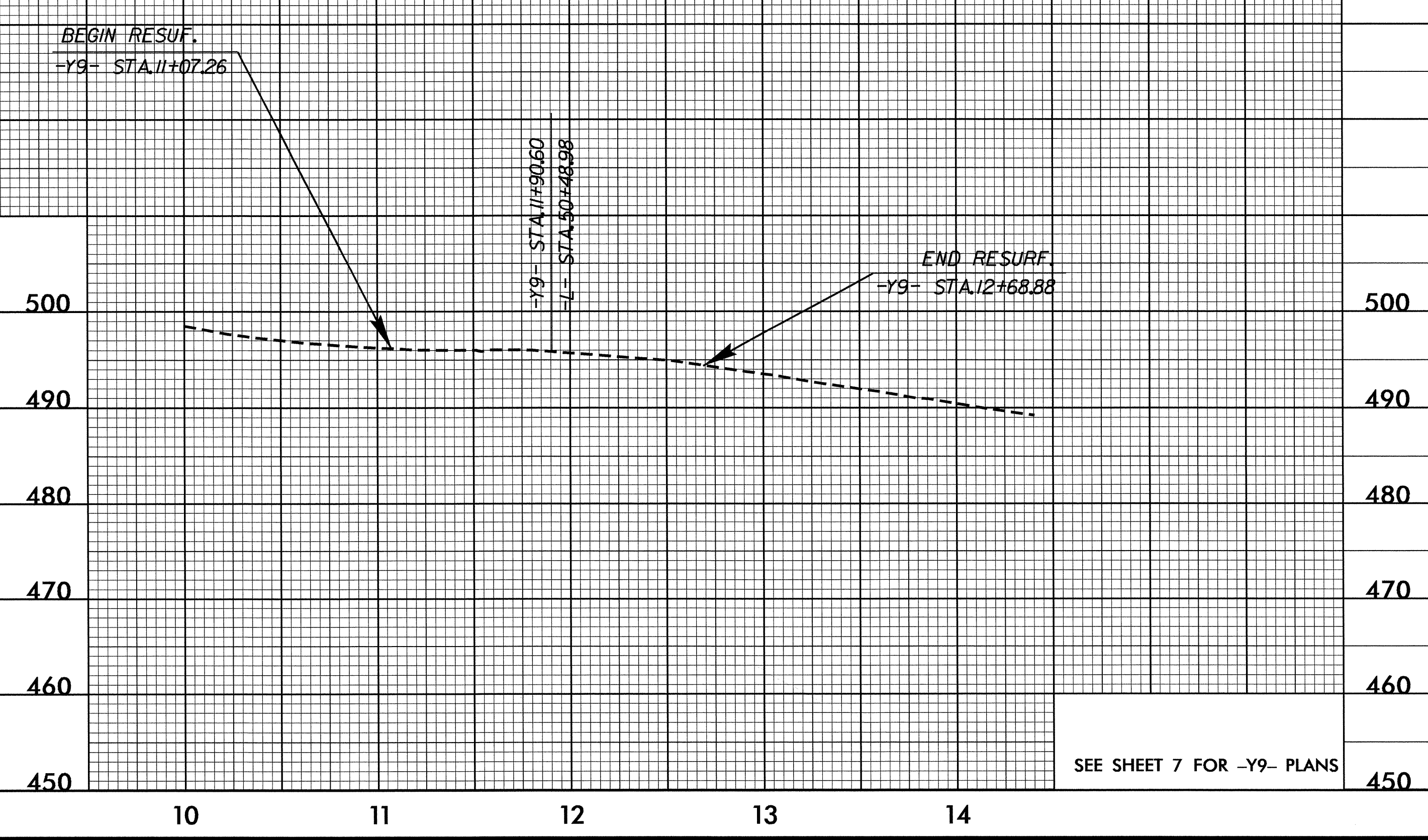
-Y7-
(WESTWOOD DR.)/
(MASON FARM RD.)

-Y8-
(PITTSBORO RD.)

PROJECT REFERENCE NO. U-0624	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-Y9-
(MANNING DR.)



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