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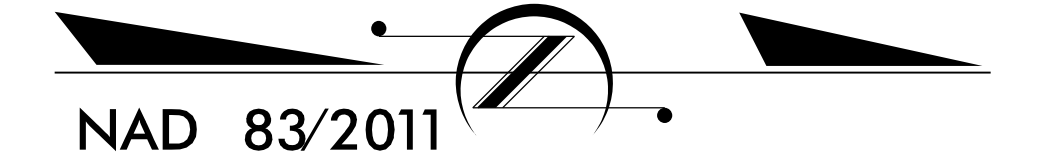
09/28/2019

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS **NASH COUNTY**

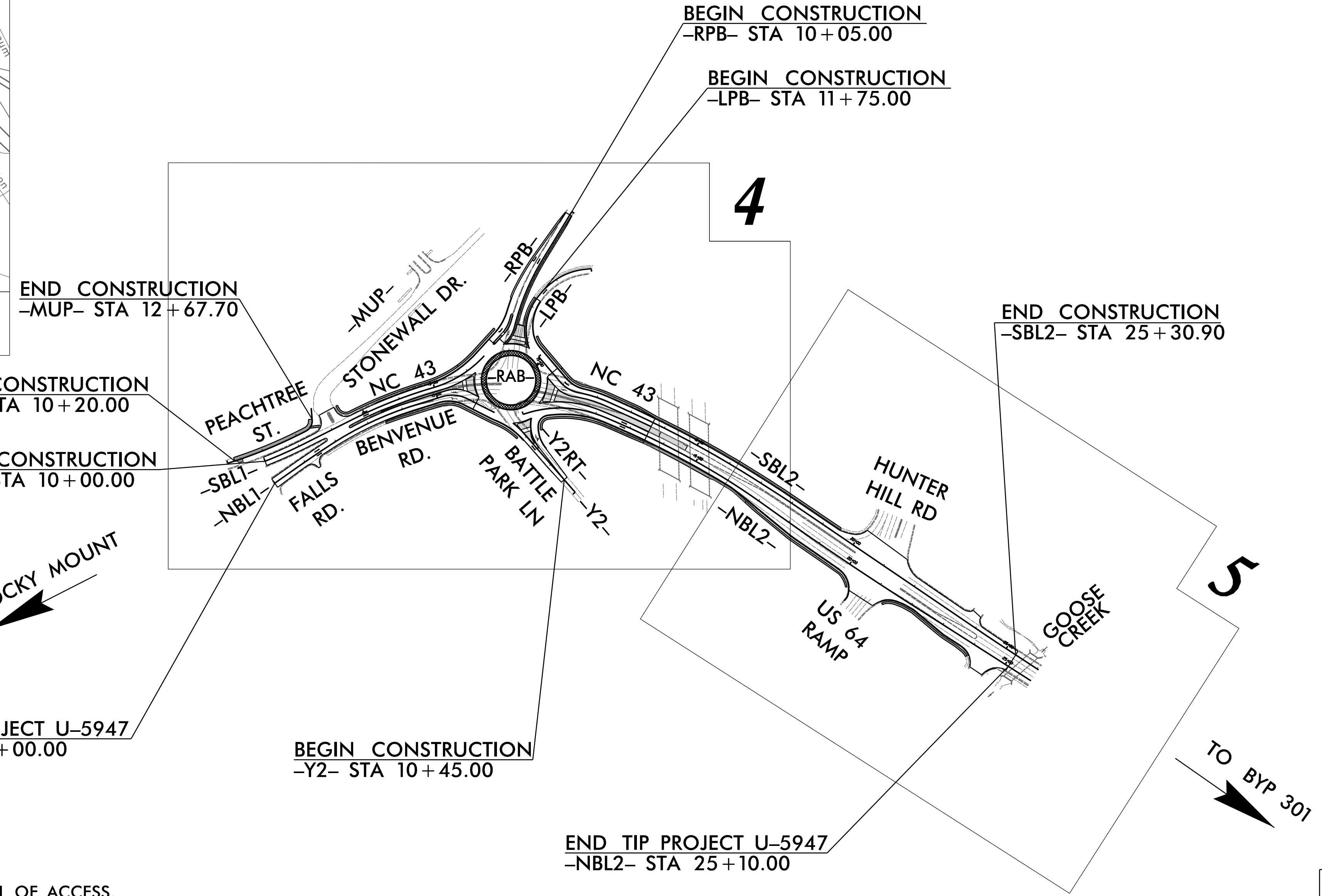
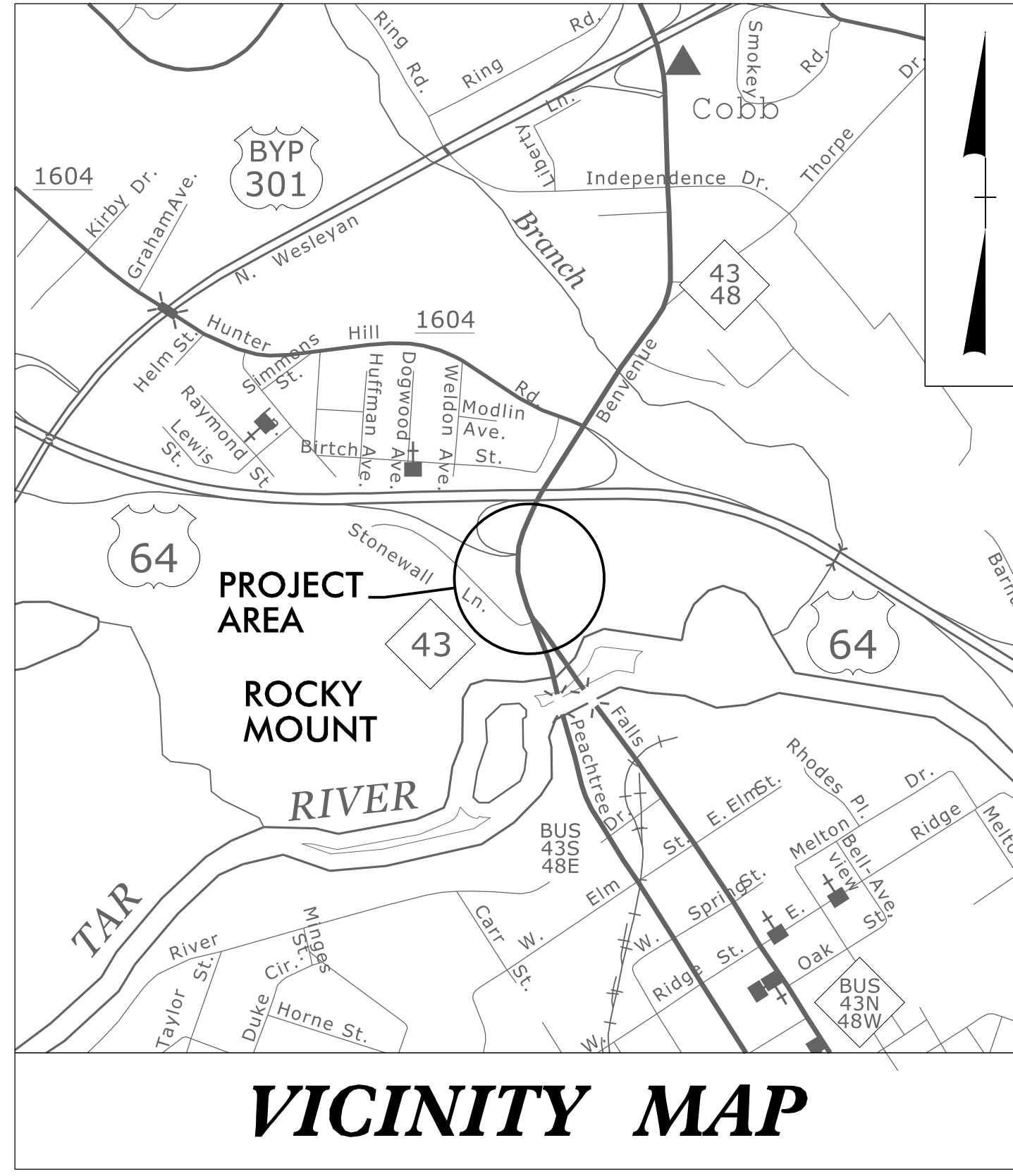
LOCATION: INTERCHANGE OF US 64 BYPASS & NC 43 (BENVENUE ROAD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5947	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46884.1.1	-	P.E.	
46884.2.1	-	ROW & UTIL	
46884.3.1	-	CONSTRUCTION	



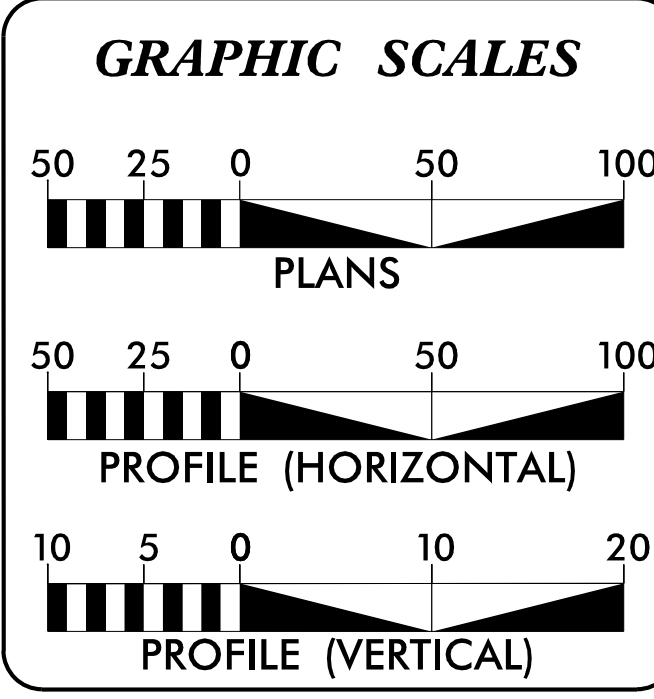
TIP PROJECT: U-5947

CONTRACT: DD00379



PORTIONS OF THIS PROJECT HAVE PARTIAL AND/OR FULL CONTROL OF ACCESS.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2022 =	17500
ADT 2040 =	19000
K =	9 %
D =	55 %
T =	3 % *
V =	50 MPH
* TTST =	1% DUAL 2%
FUNC CLASS =	MINOR ARTERIAL
REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5947	= 0.488 MILES
TOTAL LENGTH TIP PROJECT U-5947	= 0.488 MILES
PROJECT LENGTH DETERMINED BY	-NBL1-, -NBL2-, AND -RAB-
RUSSELL BROADWELL, PE	NCDOT CONTACT, DIVISION 4

Prepared in the Office of:

320 Executive Ct.
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitde.com

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 3, 2021
LETTING DATE: APRIL 26, 2022

BRANDON W. JOHNSON, PE
PROJECT ENGINEER

FAITH E. JAHNKE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

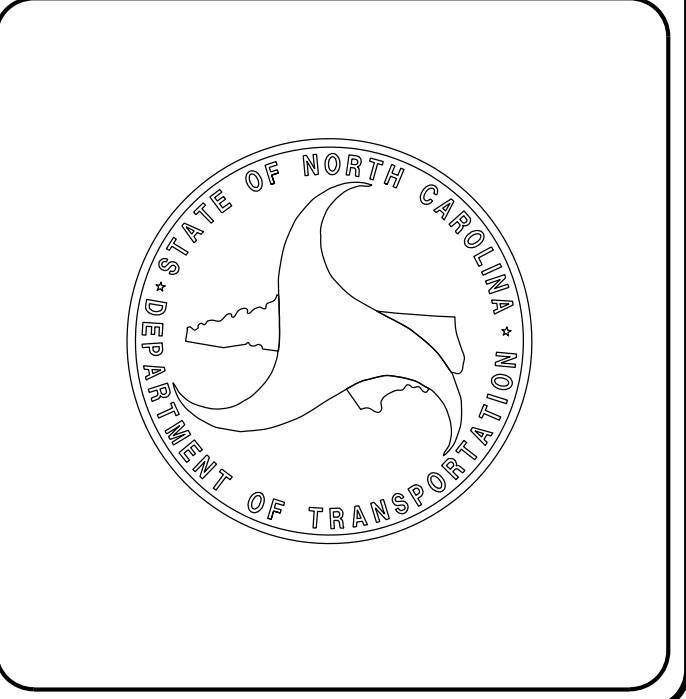
3/9/2022

DocuSigned by:
Jason M. Patkoski
SEAL 046226
JASON M. PATKOSKI
P.E.

ROADWAY DESIGN ENGINEER

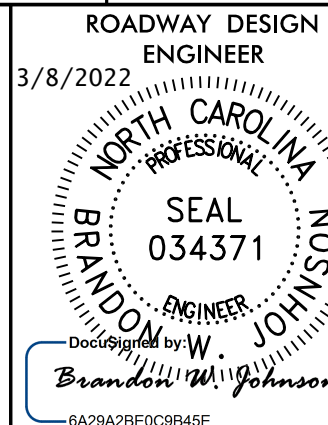
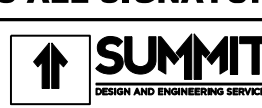
3/8/2022

DocuSigned by:
Brandon W. Johnson
SEAL 034371
BRANDON W. JOHNSON
P.E.



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8/17/99

PROJECT REFERENCE NO. <i>U-5947</i>	SHEET NO. <i>1A</i>
ROADWAY DESIGN ENGINEER 3/8/2022  SEAL 034371 BRANDON W. JOHNSON ENGINEER Delegation by W. Johnson 6A29A2B5C9C845E	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	 NC FIRM LICENSE No. P-0339 420 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

	INDEX OF SHEETS		EFF. 01-16-2018 REV.
		2018 ROADWAY ENGLISH STANDARD DRAWINGS	
SHEET NUMBER	SHEET	The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:	
1	TITLE SHEET		
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS		
1B	CONVENTIONAL SYMBOLS		
2A-1 THRU 2A-4	PAVEMENT SCHEDULE AND TYPICAL SECTIONS		
2B-1 THRU 2B-2	ROADWAY DETAILS		
2D-1	DRAINAGE DETAILS		
3B-1	ROADWAY SUMMARIES		
3D-1 THRU 3D-3	DRAINAGE SUMMARIES		
3G-1	GEOTECH SUMMARIES		
4 THRU 8	PLAN AND PROFILE SHEET		
RW2C-1 THRU RW2C-3	SURVEY CONTROL SHEETS		
TMP-1 THRU TMP-10	TRAFFIC MANAGEMENT PLANS		
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS		
EC-1 THRU EC-7	EROSION CONTROL PLANS		
SIGN-1 THRU SIGN-5A	SIGNING PLANS		
UD-1 THRU UD-4	UTILITIES BY OTHERS PLANS		
X-1A THRU X-1	CROSS-SECTION SUMMARY SHEET		
X-1 THRU X-30	CROSS-SECTIONS		

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
225.05	Method of Obtaining Super-elevation - 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 Super-elevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.16	Drop Inlet Frame and Grates - for Use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.24	Frames and Narrow Slot Sag Grates
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
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
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
850.01	Concrete Paved Ditches
852.01	Concrete Islands
852.02	Concrete Mountable Median - for Use with Rigid or Flexible Pavement
852.06	Method for Placement of Drop Inlets in Concrete Islands
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:

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 III.

SUPERELEVATION:
 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.05 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. 560.02

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.

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

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

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spencer.mccrill

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○
Computed Property Corner	×
Existing Concrete Monument (ECM)	□
Parcel/Sequence Number	(123)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	WLB
Proposed Wetland Boundary	WLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Existing Historic Property Boundary	HPB
Known Contamination Area: Soil	⊗-s-⊗
Potential Contamination Area: Soil	⊗-s-⊗
Known Contamination Area: Water	⊗-w-⊗
Potential Contamination Area: Water	⊗-w-⊗
Contaminated Site: Known or Potential	⊗

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	WLB
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	-----
Primary Horiz and Vert Control Point	-----
Secondary Horiz and Vert Control Point	-----
Vertical Benchmark	△
Existing Right of Way Monument	▲
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	▲
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◇
Existing C/A Monument	▲
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	▲
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Existing Control of Access Line	-----
Proposed Control of Access Line	-----
Proposed ROW and CA Line	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage/Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
VEGETATION:	
Single Tree	○
Single Shrub	○
Hedge	-----

Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A, B, C or D (Accuracy)

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	●
U/G Power Line Test Hole (SUE - LOS A)*	-----
U/G Power Line (SUE - LOS B)*	-----
U/G Power Line (SUE - LOS C)*	-----
U/G Power Line (SUE - LOS D)*	-----
TELEPHONE:	
Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	-----
U/G Telephone Test Hole (SUE - LOS A)*	-----
U/G Telephone Cable (SUE - LOS B)*	-----
U/G Telephone Cable (SUE - LOS C)*	-----
U/G Telephone Cable (SUE - LOS D)*	-----
U/G Telephone Conduit (SUE - LOS B)*	-----
U/G Telephone Conduit (SUE - LOS C)*	-----
U/G Telephone Conduit (SUE - LOS D)*	-----
U/G Fiber Optics Cable (SUE - LOS B)*	-----
U/G Fiber Optics Cable (SUE - LOS C)*	-----
U/G Fiber Optics Cable (SUE - LOS D)*	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line Test Hole (SUE - LOS A)*	-----
U/G Water Line (SUE - LOS B)*	-----
U/G Water Line (SUE - LOS C)*	-----
U/G Water Line (SUE - LOS D)*	-----
Above Ground Water Line	A/G Water
TV:	
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Test Hole (SUE - LOS A)*	-----
U/G TV Cable (SUE - LOS B)*	-----
U/G TV Cable (SUE - LOS C)*	-----
U/G TV Cable (SUE - LOS D)*	-----
U/G Fiber Optic Cable (SUE - LOS B)*	-----
U/G Fiber Optic Cable (SUE - LOS C)*	-----
U/G Fiber Optic Cable (SUE - LOS D)*	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line Test Hole (SUE - LOS A)*	-----
U/G Gas Line (SUE - LOS B)*	-----
U/G Gas Line (SUE - LOS C)*	-----
U/G Gas Line (SUE - LOS D)*	-----
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
SS Force Main Line Test Hole (SUE - LOS A)*	-----
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/2022

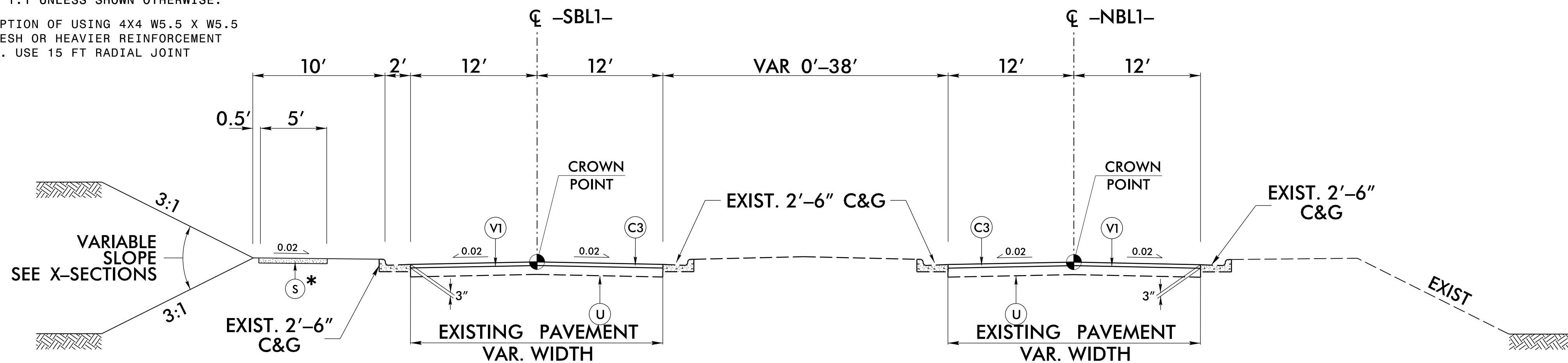
PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

A1	12" PORTLAND CEMENT CONCRETE PAVMENT, JOINTED WITH WELDED WIRE MESH.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	5" MONOLITHIC CONCRETE ISLAND, KEYED-IN
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.	S	4" CONCRETE SIDEWALK.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J1	PROP. 8" AGGREGATE BASE COURSE.	T	EARTH MATERIAL
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.	U	EXISTING PAVEMENT
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R1	1'-6" CONCRETE CURB AND GUTTER.	V1	3" MILLING.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R2	2'-6" CONCRETE CURB AND GUTTER.	W	WEDGING
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R3	2'-6" CONCRETE SPILL CURB AND GUTTER		

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

NOTE: THE CONTRACTOR HAS THE OPTION OF USING 4X4 W5.5 X W5.5 OR 6X6 W8.5XW8.5 WELDED WIRE MESH OR HEAVIER REINFORCEMENT FOR PROPOSED CONCRETE PAVEMENT. USE 15 FT RADIAL JOINT SPACING FOR THE TRUCK APRON.

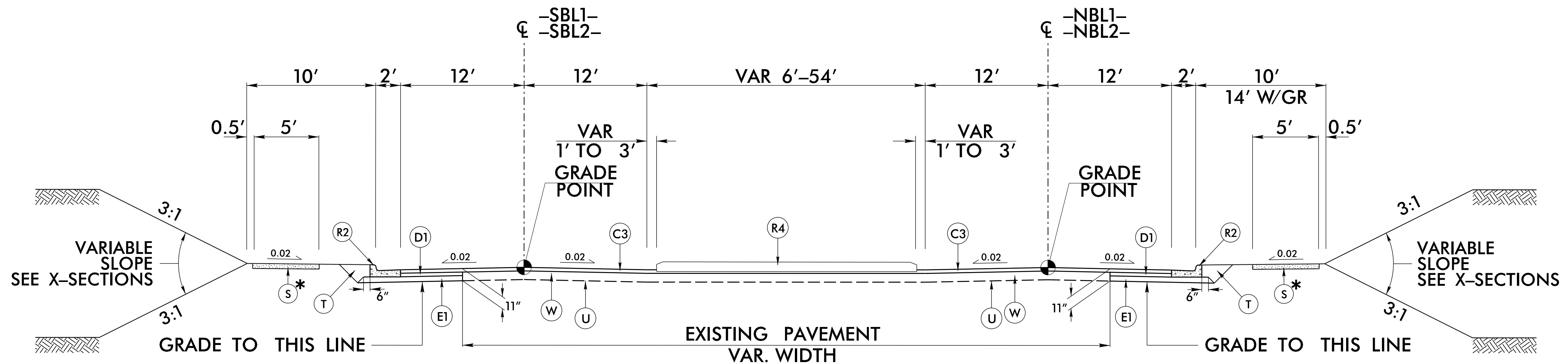


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-NBL1- STA 10+00.00 TO STA 13+45.00
-SBL1- STA 10+00.00 TO STA 13+35.00

* SEE PLAN SHEET FOR SIDEWALK LOCATION



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-NBL1- STA 13+45.00 TO STA 16+09.25
-SBL1- STA 13+35.00 TO STA 16+15.61

-NBL2- STA 10+46.84 TO STA 13+50.00
-SBL2- STA 10+56.60 TO STA 13+66.00

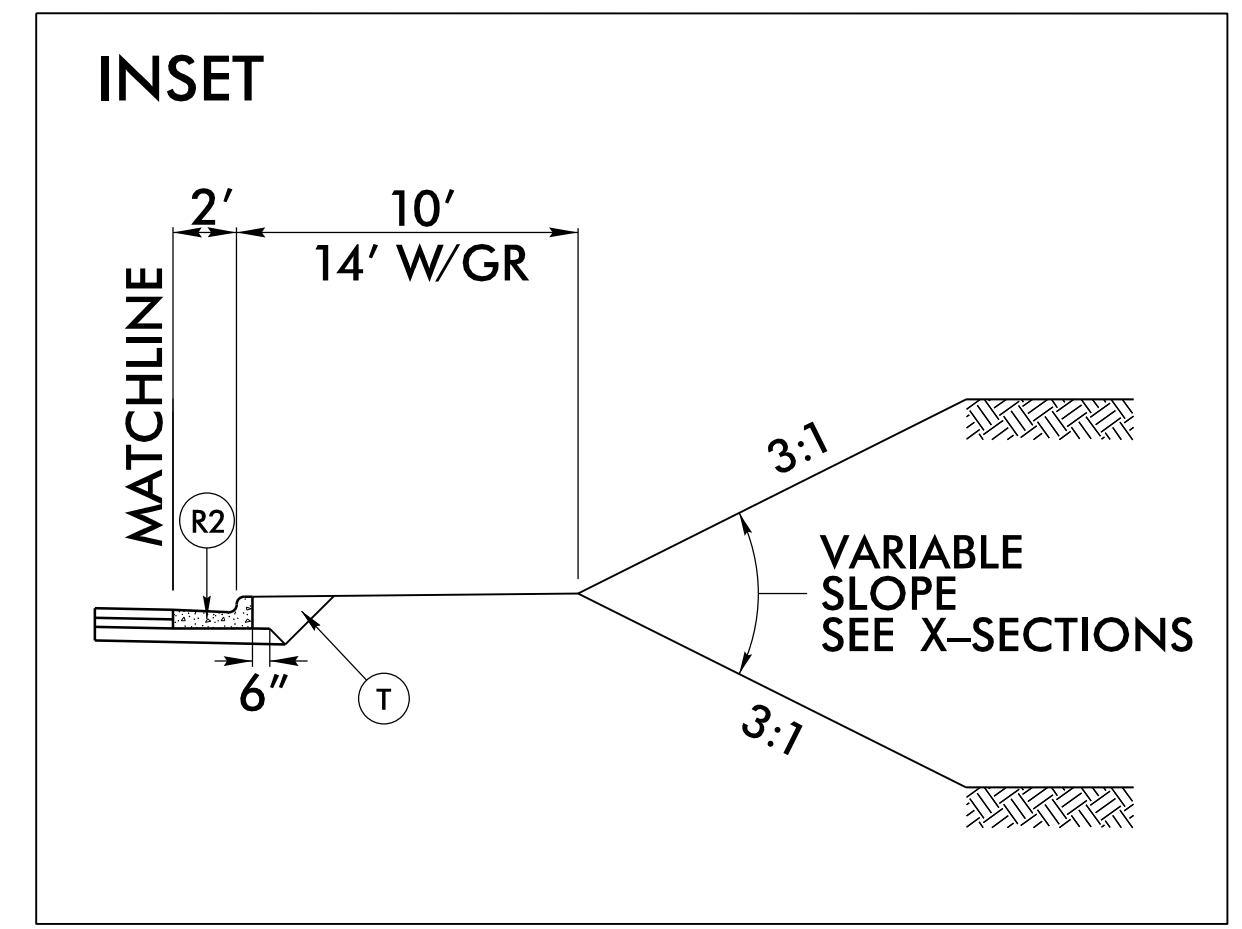
* SEE PLAN SHEET FOR SIDEWALK LOCATION

PROJECT REFERENCE NO. U-5947	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 3/8/2022 BRANDON W. JOHNSON SEAL 034371	PAVEMENT DESIGN ENGINEER 3/10/2022 ANDREW V. WARR SEAL 044590
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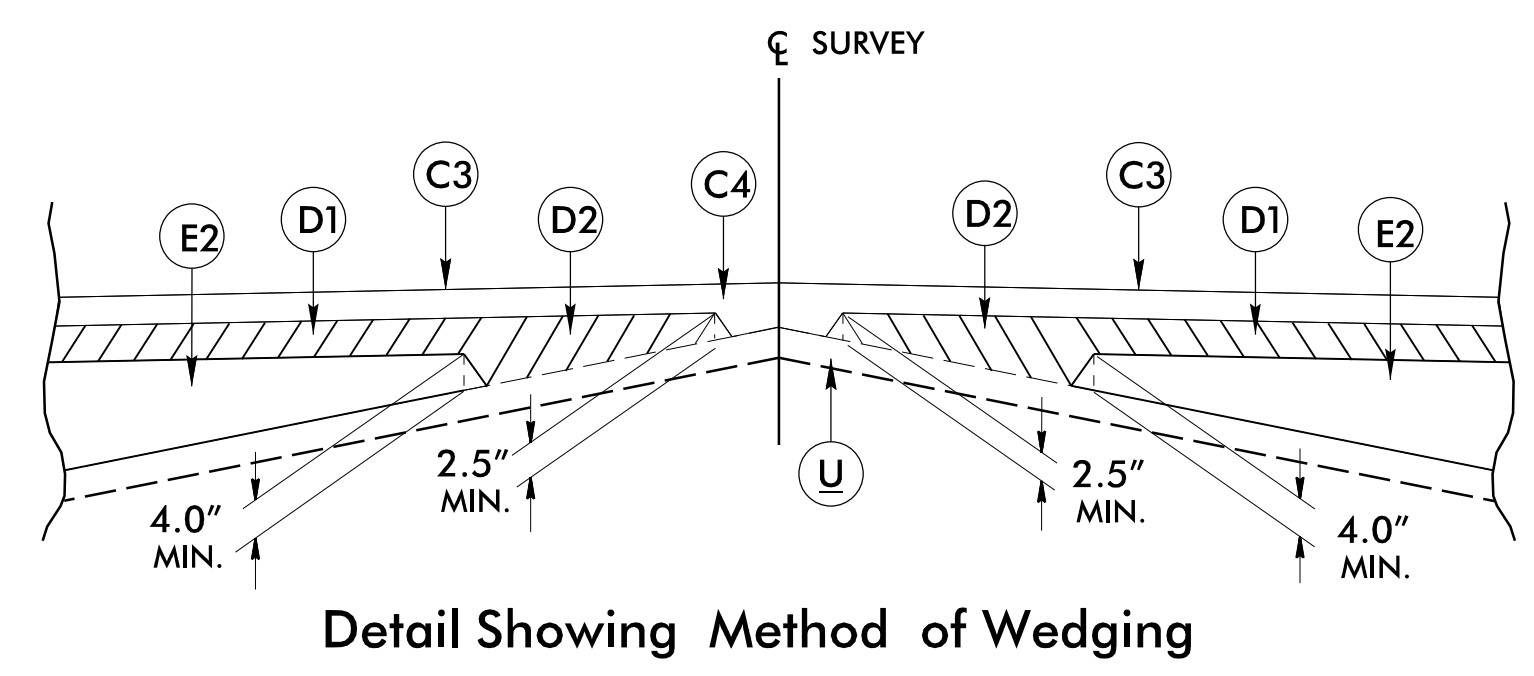
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DESIGN FOR PAVEMENT
SPACENUMBER: 111

6/2/2022

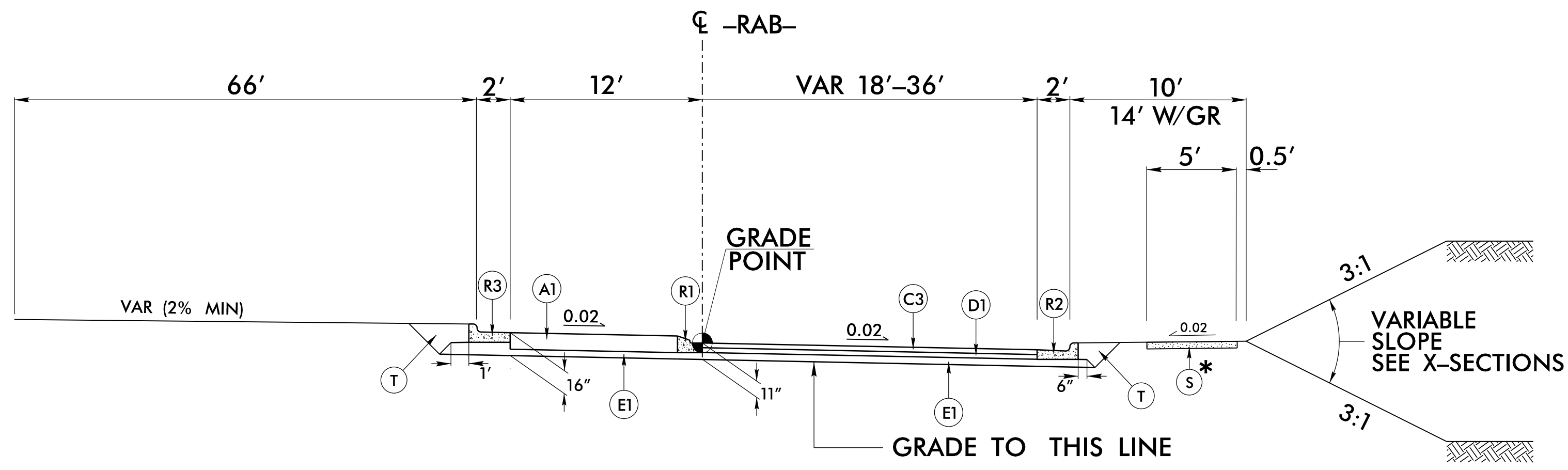
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
A1	12" PCCP
C1	2" S9.5B
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5C
D1	4" I19.5C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'x6" CURB
R2	2'x6" CURB
R3	2'x6" SPILL CURB
R4	5" MCI
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	3" MILLING
W	WEDGING



USE INSET WITH TYPICAL SECTION NO. 4
-RPB- STA 12+78.17 TO STA 13+40.00

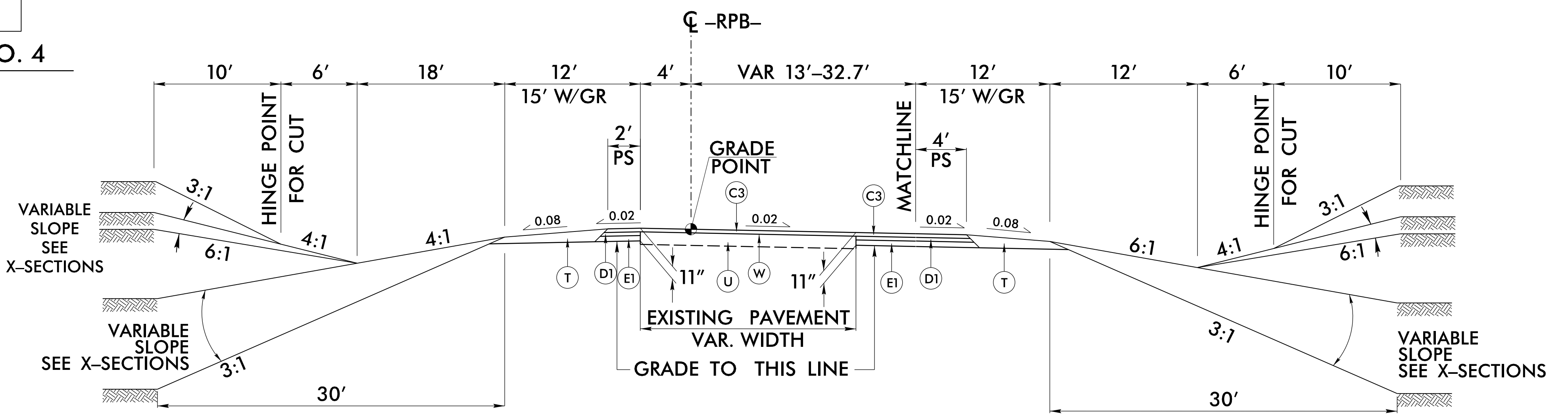


Detail Showing Method of Wedging



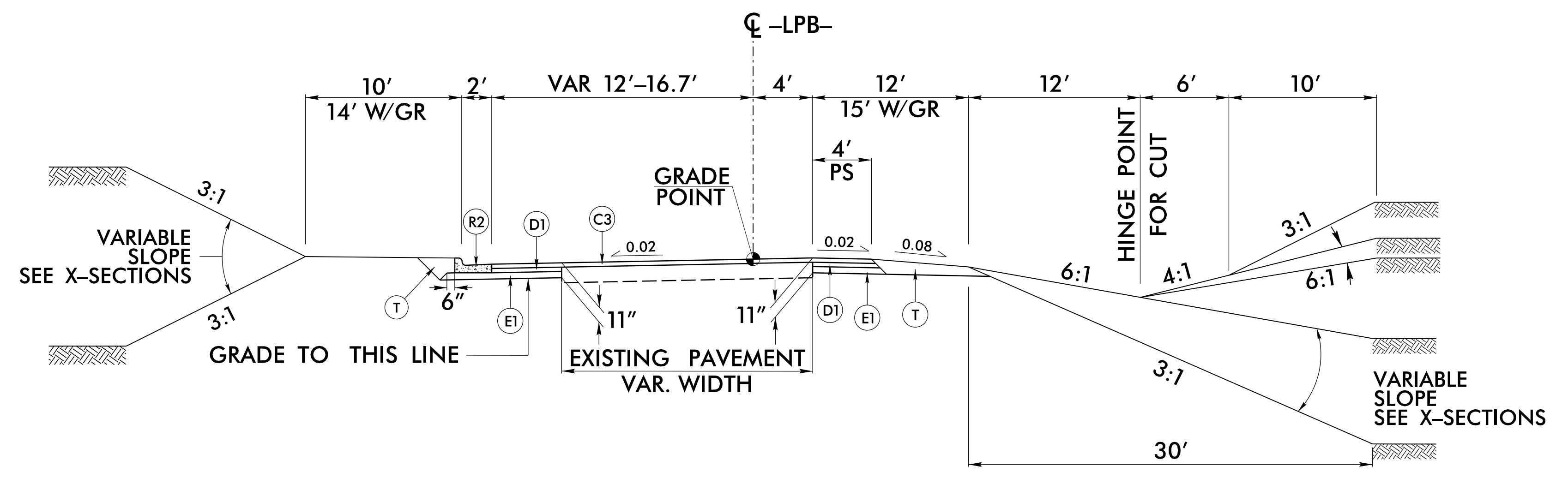
TYPICAL SECTION NO. 3
(ROUNDBOUT)

USE TYPICAL SECTION NO. 3
-RAB- STA 10+00.00 TO STA 15+02.65
* SEE PLAN SHEET FOR SIDEWALK LOCATIONS



TYPICAL SECTION NO. 4
(RAMP)

USE TYPICAL SECTION NO. 4
-RPB- STA 10+10.00 TO STA 13+40.00



TYPICAL SECTION NO. 5
(LOOP)

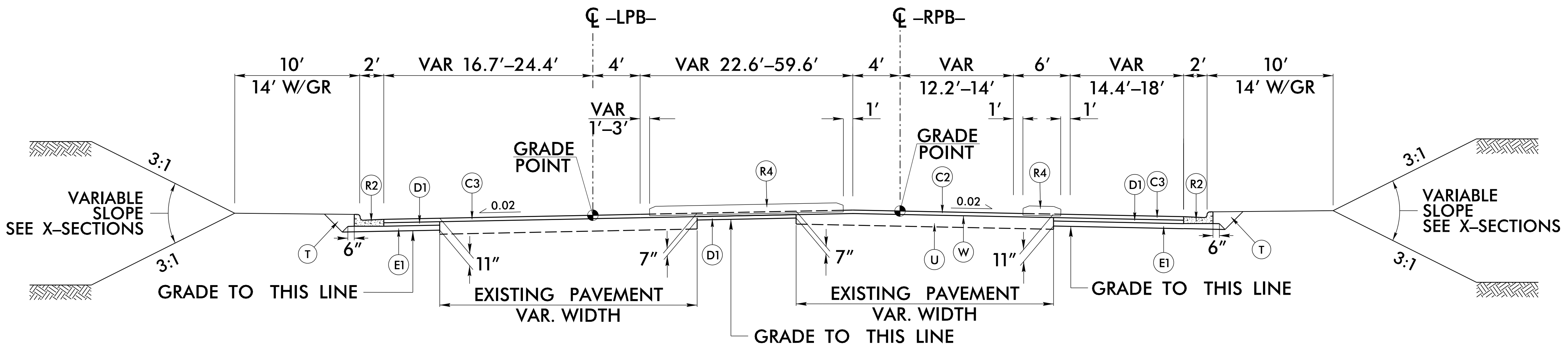
USE TYPICAL SECTION NO. 5
-LPB- STA 11+75 TO STA 12+54.54

PROJECT REFERENCE NO. U-5947	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER 3/8/2022 BRANDON W. JOHNSON SEAL 034371 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER 3/10/2022 ANDREW D. WARR SEAL 044590 NORTH CAROLINA PROFESSIONAL ENGINEER
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DESIGN FOR DESIGN
SPENCER.MITCHELL

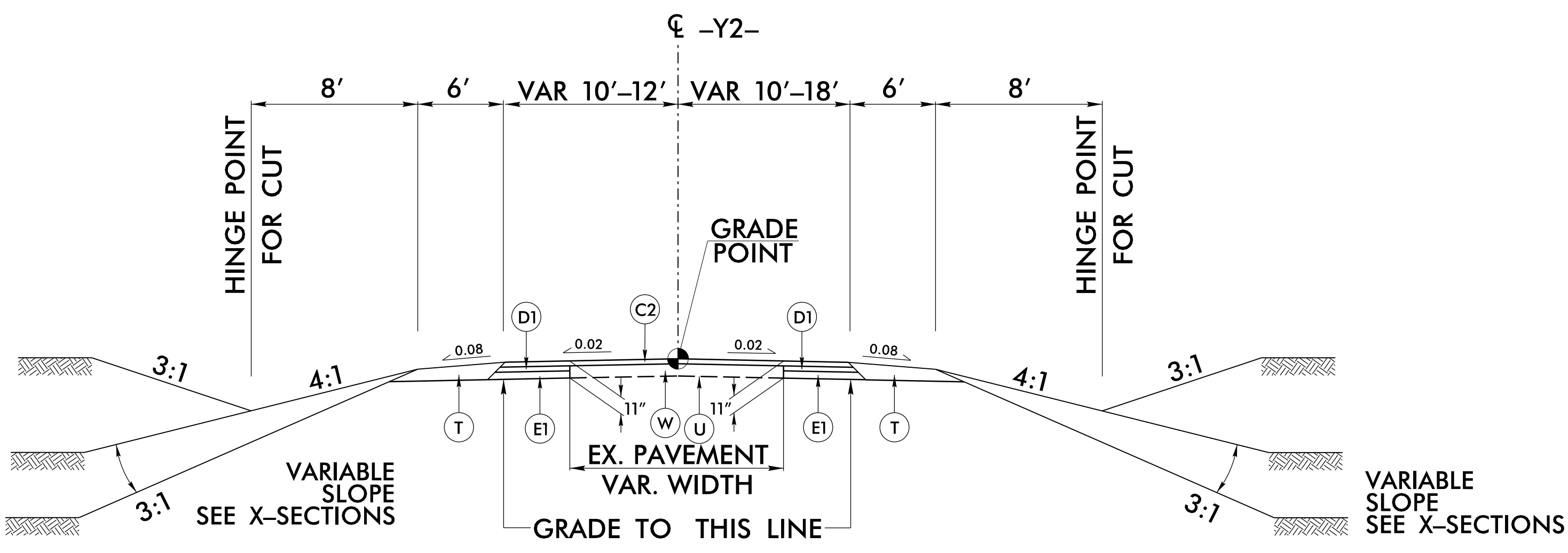
6/2/2022

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
A1	12" PCCP
C1	2" S9.5B
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5C
D1	4" I19.5C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'x6" CURB
R2	2'x6" CURB
R3	2'x6" SPILL CURB
R4	5" MCI
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	3" MILLING
W	WEDGING



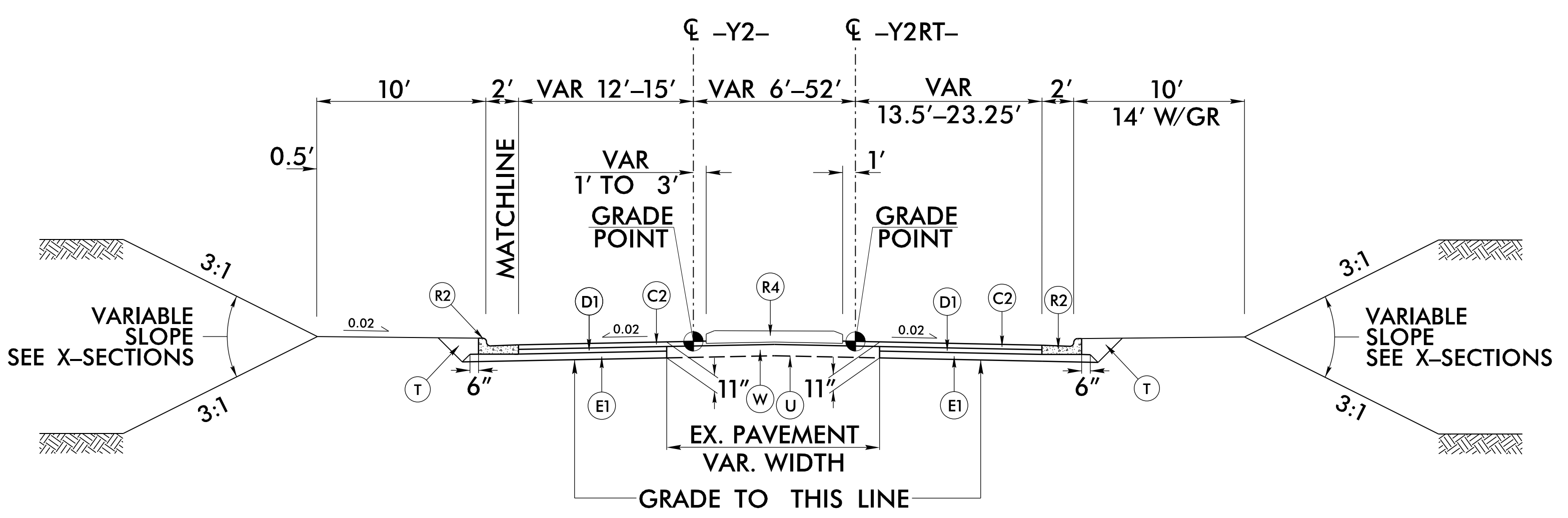
TYPICAL SECTION NO. 6
(RAMP & LOOP)

USE TYPICAL SECTION NO. 6
-RPB- STA 13+40.00 TO STA 14+02.07
-LPB- STA 12+54.54 TO STA 13+13.52



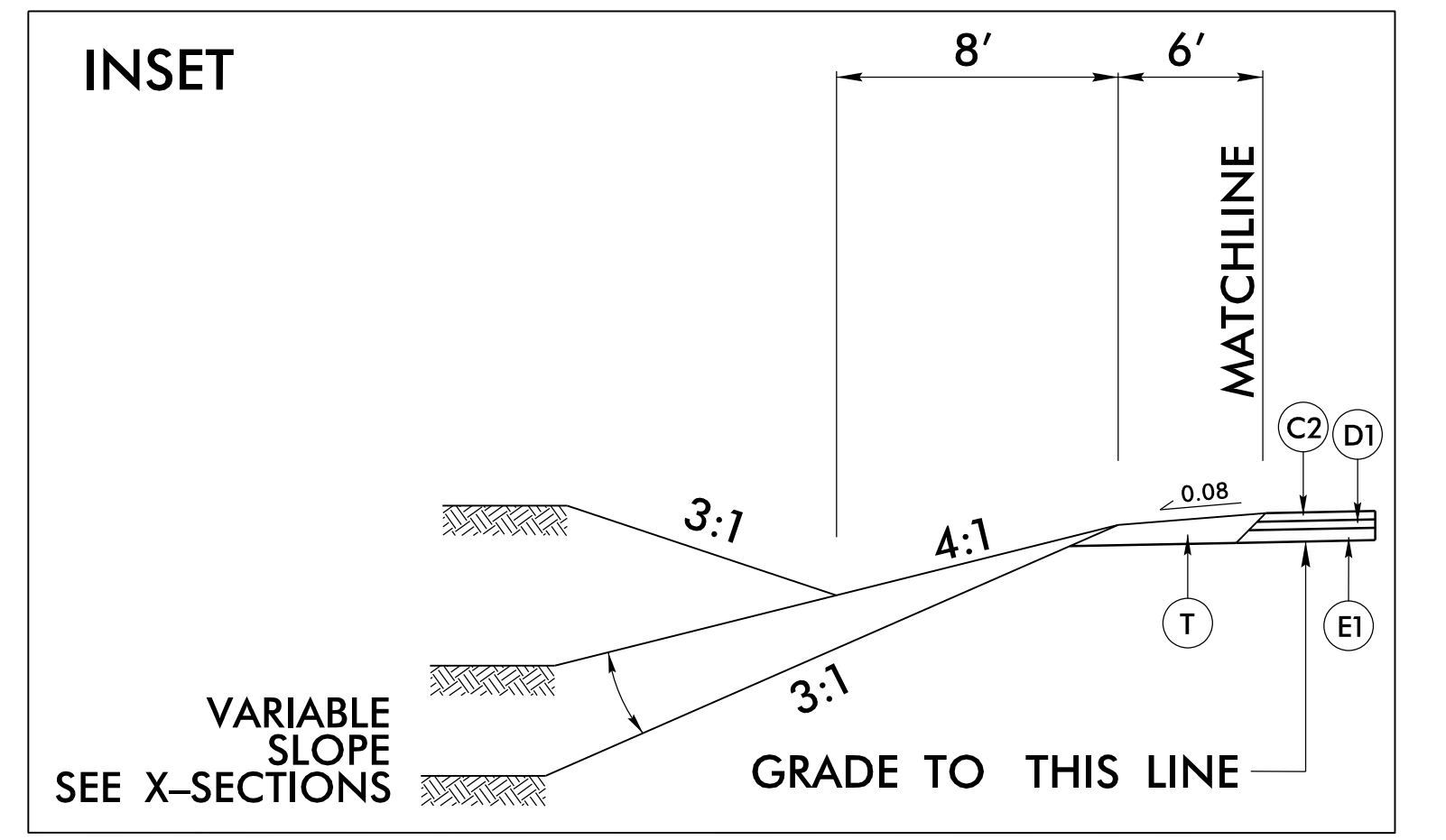
TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
-Y2- STA 10+45.00 TO STA 11+56.20



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-Y2- STA 11+56.20 TO STA 12+51.65
-Y2RT- STA 10+00.00 TO STA 10+84.79



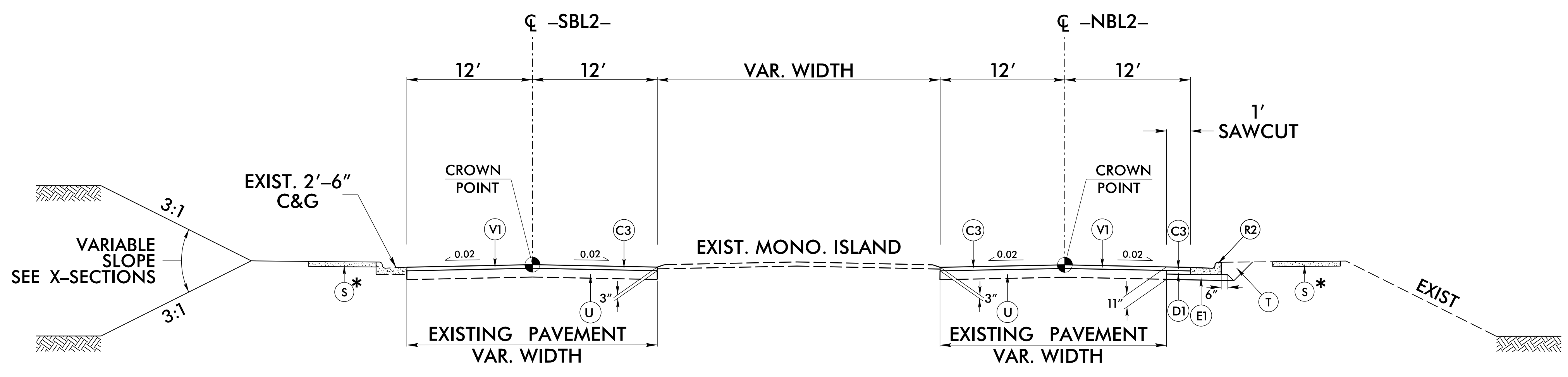
USE INSET WITH TYPICAL SECTION NO. 8
-Y2- STA 11+56.20 TO STA 11+96.61

PROJECT REFERENCE NO. U-5947	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER 3/8/2022 NORTH CAROLINA PROFESSIONAL SEAL 034371 BRANDON W. JOHNSON	PAVEMENT DESIGN ENGINEER 3/10/2022 NORTH CAROLINA PROFESSIONAL SEAL 044590 ANDREW D. WARR
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES	NC FIRM LICENSE No P-0339 420 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

01-MAR-2022 15:33
DESIGN FOR MILLING
spencer.miller

6/2/2022

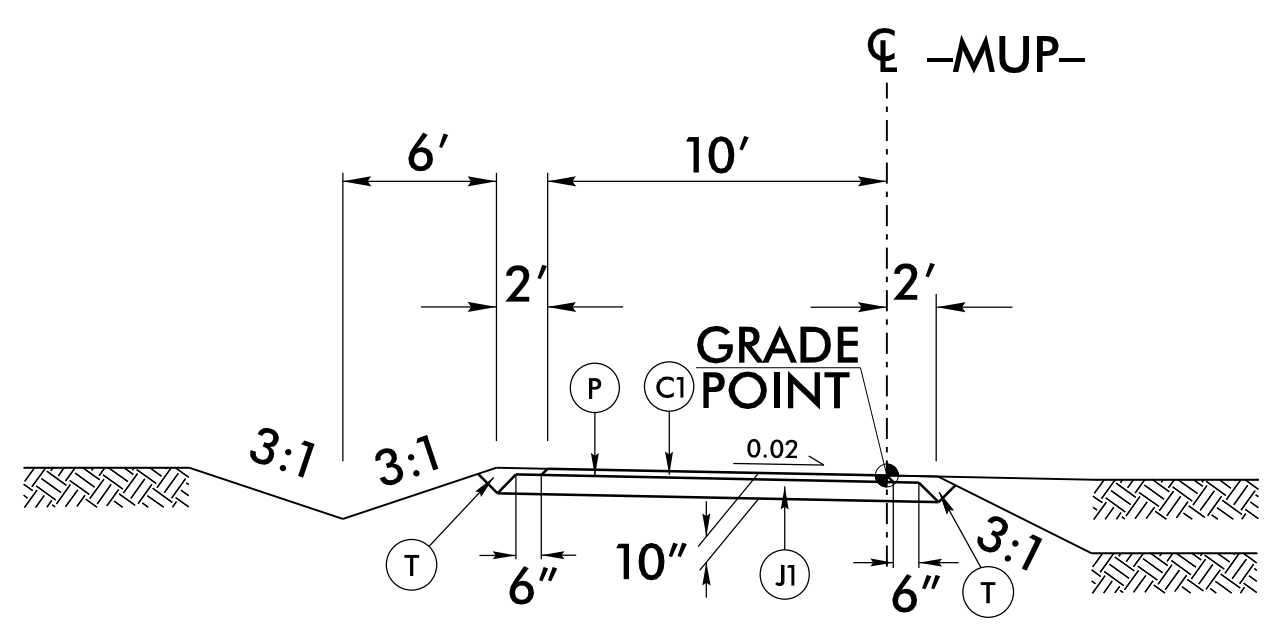
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
A1	12" PCCP
C1	2" S9.5B
C2	3" S9.5B
C3	3" S9.5C
C4	VAR. S9.5C
D1	4" I19.5C
D2	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
J1	8" ABC
P	PRIME COAT
R1	1'x6" CURB
R2	2'x6" CURB
R3	2'x6" SPILL CURB
R4	5" MCI
S	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST PAVEMENT
V1	3" MILLING
W	WEDGING



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9

-NBL2- STA 13+50.00 TO STA 25+10.00
 -SBL2- STA 13+66.00 TO STA 25+31.03
 * SEE PLAN SHEET FOR SIDEWALK LOCATION



**TYPICAL SECTION NO. 10
(MULTI-USE-PATH)**

USE TYPICAL SECTION NO. 10

-MUP- STA 10+22.22 TO 12+67.70

PROJECT REFERENCE NO. U-5947	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER 3/8/2022 BRANDON W. JOHNSON SEAL 034371 NORTH CAROLINA PROFESSIONAL ENGINEER	PAVEMENT DESIGN ENGINEER 3/10/2022 ANDREW D. WARR SEAL 044590 NORTH CAROLINA PROFESSIONAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES	NC FIRM LICENSE No P-0339 420 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

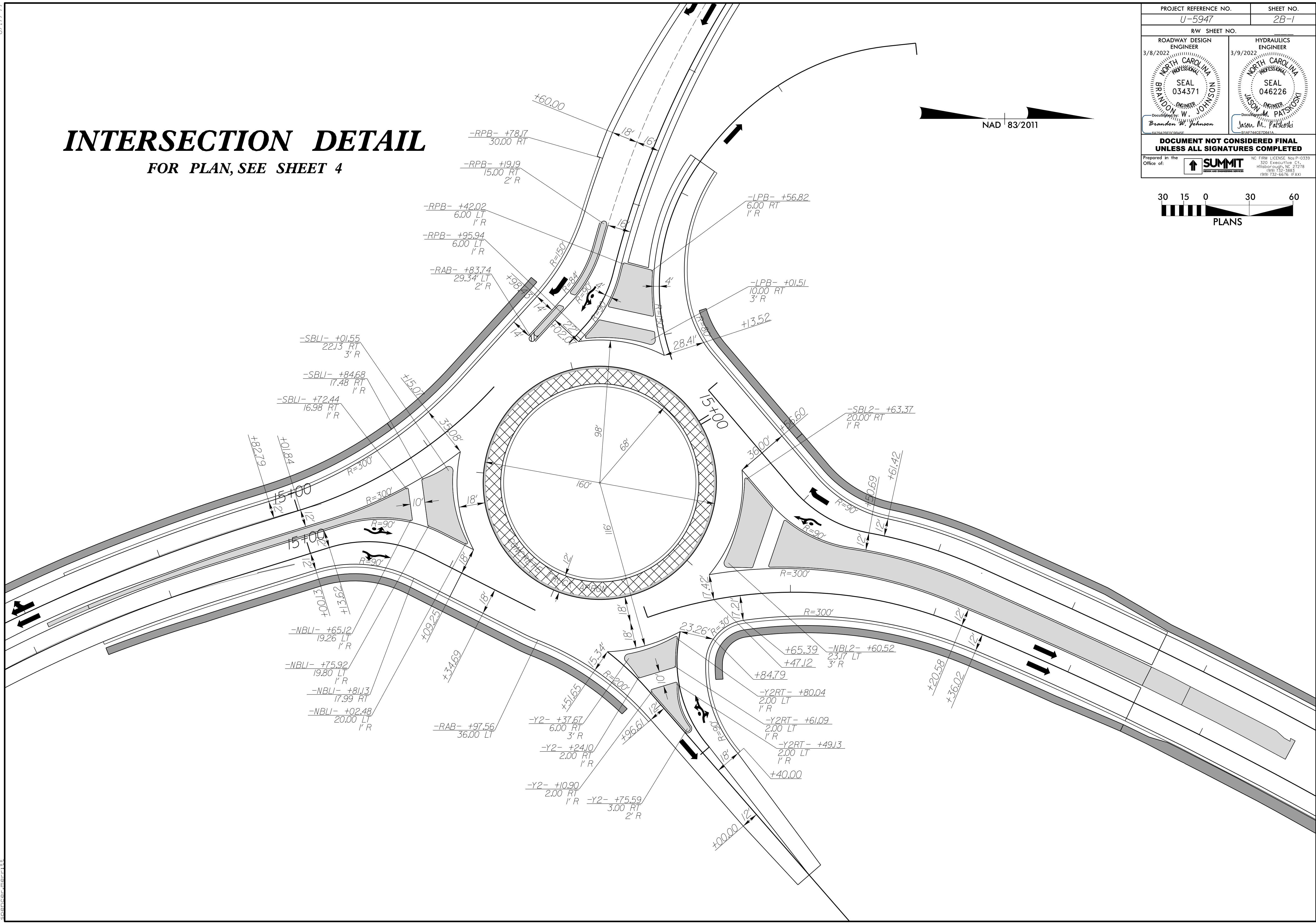
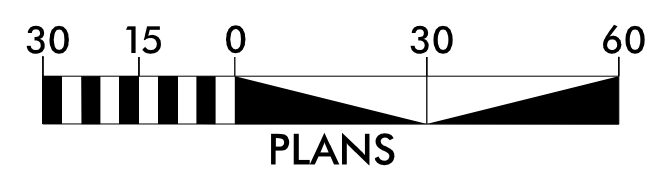
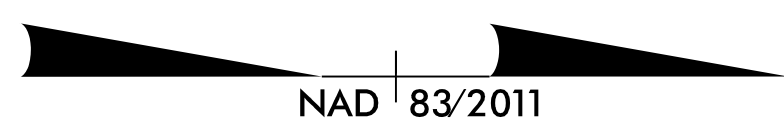
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 spencer.miller

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INTERSECTION DETAIL

FOR PLAN, SEE SHEET 4

PROJECT REFERENCE NO. U-5947		SHEET NO. 2B-1	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 3/8/2022		HYDRAULICS ENGINEER 3/9/2022	
Documented by: Brandon W. Johnson		Documented by: Jason M. Patyski	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			
Prepared in the Office of:			
		<small>NC FIRM LICENSE No: P-0339 300 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)</small>	



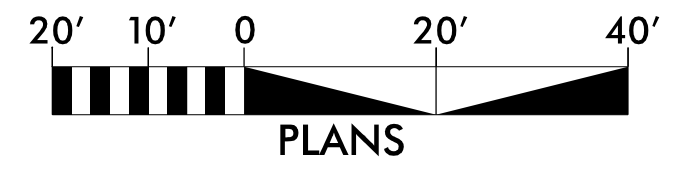
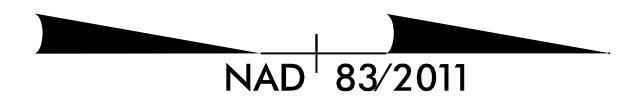
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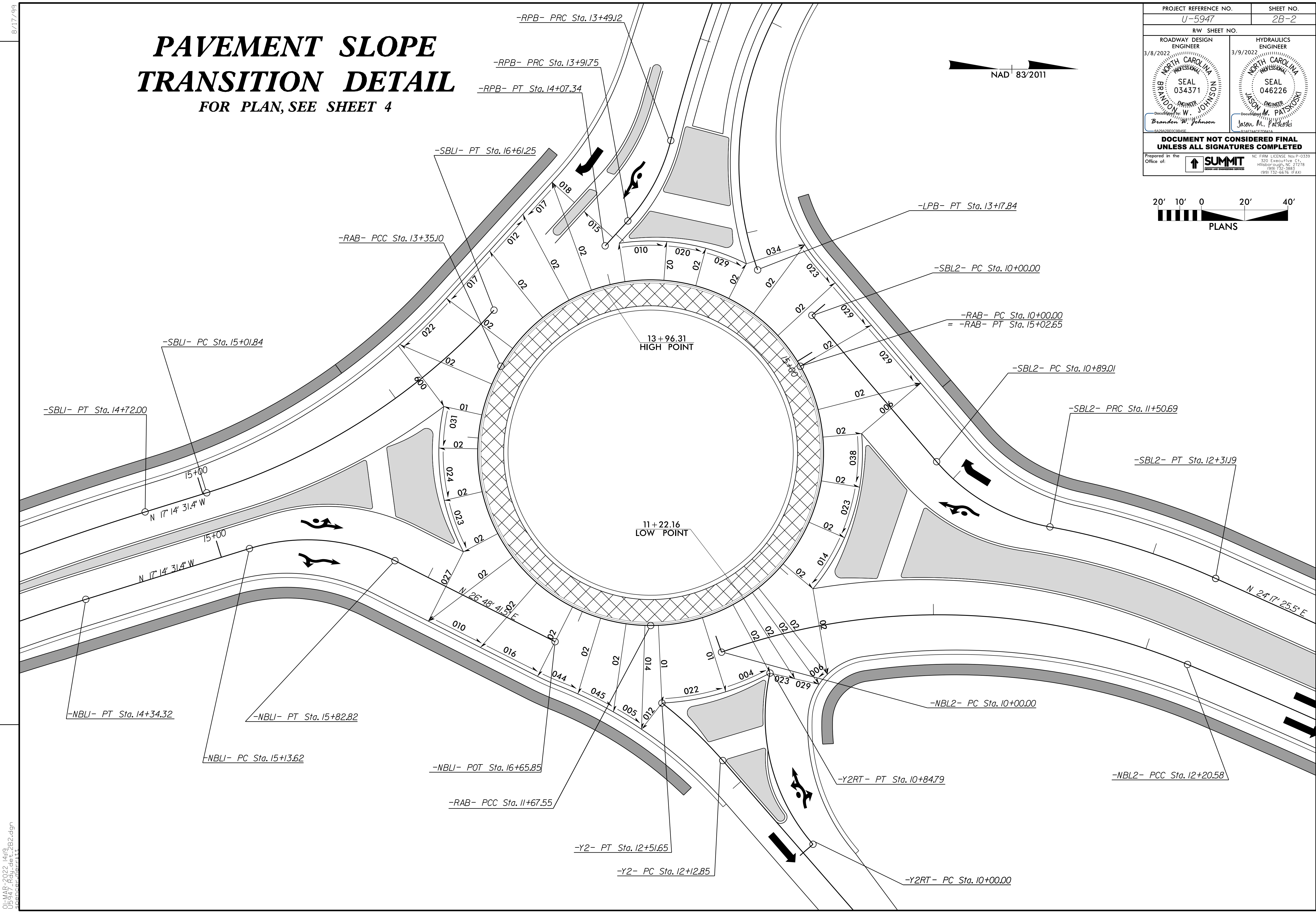
PAVEMENT SLOPE TRANSITION DETAIL

FOR PLAN, SEE SHEET 4

PROJECT REFERENCE NO. U-5947	SHEET NO. 2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/8/2022 NORTH CAROLINA PROFESSIONAL SEAL 034371 Brandon W. Johnson	HYDRAULICS ENGINEER 3/9/2022 NORTH CAROLINA PROFESSIONAL SEAL 046226 Jason M. Patyski
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	NC FIRM LICENSE No: P-0339 300 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)



REVISIONS

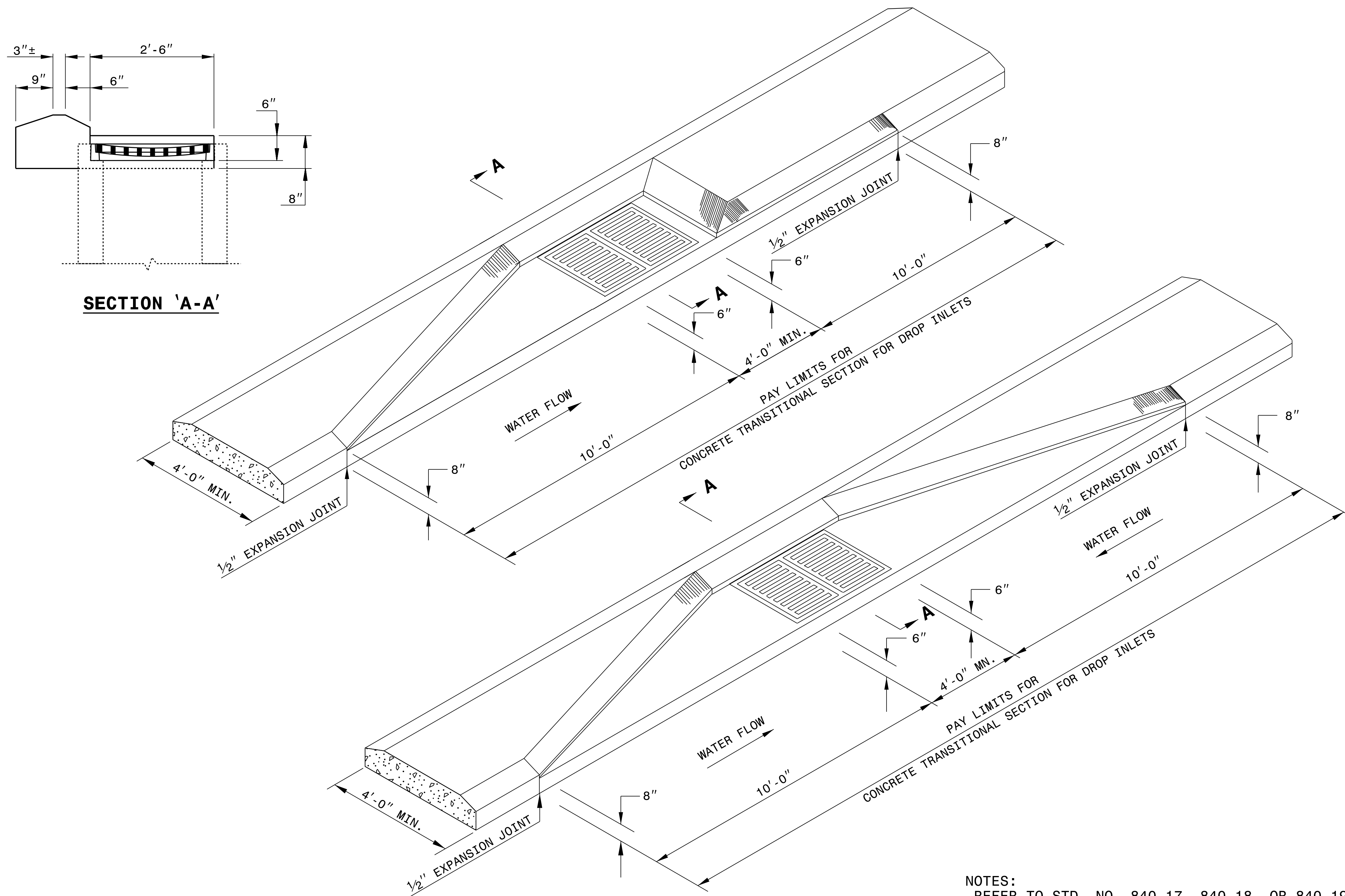


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STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06



NOTES:
-REFER TO STD. NO. 840.17, 840.18, OR 840.19 FOR DRAINAGE STRUCTURE.
-REFER TO STD. NO. 840.20 OR 840.29 FOR GRATE AND FRAME.

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**METHOD FOR PLACEMENT OF
DROP INLETS IN CONCRETE ISLANDS**

SHEET 1 OF 1
852D06

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3/9/2022

 Documented by
Ron Davenport
 FB18038447442
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**


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

SEE TITLE PLATE

ORIGINAL BY: KKEMPF DATE: 8/2/10
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: KKEMPF\ENGLISH\852D0601.DGN

5/28/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. U-5947	SHEET NO. 3B-1
<small>Prepared in the Office of:</small>  <small>NC FIRM LICENSE No: P-0339 504 Meadowside Drive Hillsborough, NC 27578 (919) 732-3883 • (919) 732-6616 (FAX)</small>	

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

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	EMBT + 25%	BORROW	WASTE
-NBL1- STA. 12 + 50.00 TO 16 + 09.25	615	189	51	477
-NBL2- STA. 10 + 47.12 TO 13 + 50.00	881	161		720
-MUP- STA. 10 + 20.00 TO 17 + 63.38	8	210	202	
-RAB- STA. 10 + 00.00 TO 15 + 02.65	1,712	4,864	3,727	575
SUB TOTAL	3,216	5,424	3,980	1,772
-RPB- STA. 10 + 10.00 TO 14 + 02.07	2,587	886		1,701
SUB TOTAL	2,587	886		1,701
-Y2- STA. 10 + 45.00 TO 12 + 51.65	744	170		574
SUB TOTAL	744	170		574
PROJECT SUBTOTALS	6,547	6,480	3,980	4,047
LOSS DUE TO CLEARING AND GRUBBING	-1,500		1,500	
MATERIAL FOR SHOULDER CONSTRUCTION		125	125	
EARTH WASTE IN LIEU OF BORROW			-2,047	-2,047
PROJECT TOTAL	5,047	6,605	3,558	2,000
5% TO REPLACE TOP SOIL			178	
GRAND TOTALS	5,047		3,736	
SAY	5,050		3,740	

DDE = 60 CY
 ESTIMATED UNDERCUT = 450 CY
 ESTIMATED 350 CY AND ADDITIONAL 400 CY AS CONTINGENCY OF SHALLOW UNDERCUT PER GEOTECH RECOMMENDATIONS (750 CY)
 CLASS IV SUBGRADE STABILIZATION TO REPLACE SHALLOW UNDERCUT (PER GEOTECH RECOMMENATION) = 1,475 TON
 ESTIMATED 2,000 CY OF UNCLASSIFIED EXCAVATION PER GEOTECH RECOMMENDATION ACCEPTABLE BUT NOT TO BE USED IN THE TOP 3 FT OF EMBANKMENT OR BACKFILL.

SUMMARY OF ASPHALT PAVEMENT REMOVAL

LOCATION	AREA (SQFT)	AREA (SQYD)
-SBL1- STA. 12 + 98 TO 13 + 53	7.37	0.82
-SBL1- STA. 13 + 89 TO 15 + 02	71.42	7.94
-NBL1- STA. 13 + 96 TO 15 + 48	363.04	40.34
-SBL2- STA. 10 + 96 TO 13 + 38	1265.26	140.58
-RPB- STA. 13 + 18 TO 13 + 40	46.18	5.13
-LPB- STA. 12 + 15 TO 12 + 55	74.17	8.24
-RAB- STA. 10 + 00 TO 15 + 03	13739.26	1526.58
TOTAL	24782.53	1,729.63
SAY		1,730

CHAIN LINK FENCE SUMMARY

STATION TO STATION	LOCATION	LENGTH	LINE POSTS	TERMINAL POSTS
-Y2- 9 + 57.76 TO 12 + 51.65	LT	142	13	3
TOTAL		142	13	3

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COMPUTED BY: HY DATE: 12/07/2021
CHECKED BY: JMP DATE: 1/28/2022

PROJECT NO. U-5947 SHEET NO. 3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns for Line & Station, Offset, Structure Number, Invert Elevation, Minimum Required Slope, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Quantities for Drainage Structures, Frame, Grates, and Hood, Concrete Transitional Section, and Remarks. Includes a SHEET TOTALS row at the bottom.

ABBREVIATIONS table listing codes like C.A.A., C.B., C.S., D.I., G.D.I., H.D.P.E., J.B., M.H., N.S., P.V.C., R.C., T.B.D.I., T.B.J.B., W.S. and their corresponding descriptions.

COMPUTED BY: B. SMITH, PG DATE: 1/30/22
 CHECKED BY: D. DEWEY, PE DATE: 1/30/22

(12-17-19)

PROJECT NO.
U-5947

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				UD	200
				TOTAL LF:	200

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

**SUMMARY OF GEOTEXTILE
 FOR PAVEMENT STABILIZATION**

LINE	Station	Station	Geotextile for Pavement Stabilization SY	Class IV Subgrade Stabilization TONS
CONTINGENCY				
			TOTAL SY/TONS:	0 0*

*Total tons of "Class IV Subgrade Stabilization" is only the estimated quantity for pavement stabilization and may only represent a portion of the subgrade stabilization quantity shown in the Item Sheets of the Proposal.

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
VARIES	N/A	N/A	ASU(1)	12	350	675	1050		
CONTINGENCY			ASU(1)	12	400	800	1200		
					TOTAL CY/TONS/SY:	750	1475**	2250**	0 0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
 *AST = Aggregate Stabilization
 **Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
							TOTAL SY:	0

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

SUMMARY OF REINFORCED SOIL SLOPES AND SLOPE EROSION CONTROL

LINE	Beginning Slope/RSS (H:V)	Approx. Station	Ending Slope/RSS (H:V)	Approx. Station	Location LT/RT	Reinforced Soil Slope (RSS) SY	Geocells SY	Coir Fiber Mat SY	Matting for Erosion Control SY
						TOTAL SY:	0	0	0* 0**

*Total square yards of "Coir Fiber Mat" is only the estimated quantity for slopes steeper than 2:1 (H:V) and may only represent a portion of the coir fiber mat quantity shown in the Item Sheets of the Proposal.
 **Total square yards of "Matting for Erosion Control" is only the estimated quantity for RSS and may only represent a portion of the matting quantity shown in the Item Sheets of the Proposal.

SUMMARY OF PRE-SPLITTING OF ROCK

LINE	Beginning Rock Cut Slope (H:V)	Approx. Station	Ending Rock Cut Slope (H:V)	Approx. Station	Location LT/RT	Pre-splitting of Rock SY	
						TOTAL SY:	0

SUMMARY OF HORIZONTAL DRAINS

LINE	Approximate Station	Location LT/RT	Elevation Above or Below Grade (+/-) FT	Inclination Angle DEGREES	PVC Pipe Schedule 40/80 or NO PIPE	Horizontal Drain FT	Horizontal Drain W/O Pipe FT
CONTINGENCY							
						TOTAL FT:	0 0

SUMMARY OF SETTLEMENT GAUGES

Gauge No.	LINE and Station	Offset	
		Distance FT	Direction LT/RT
TOTAL GAUGES (EACH):			

**SUMMARY OF SURCHARGES
 AND SURCHARGE WAITING PERIODS**

LINE	Station	Station	Surcharge Height FT	MONTHS

**SUMMARY OF EMBANKMENT
 WAITING PERIODS**

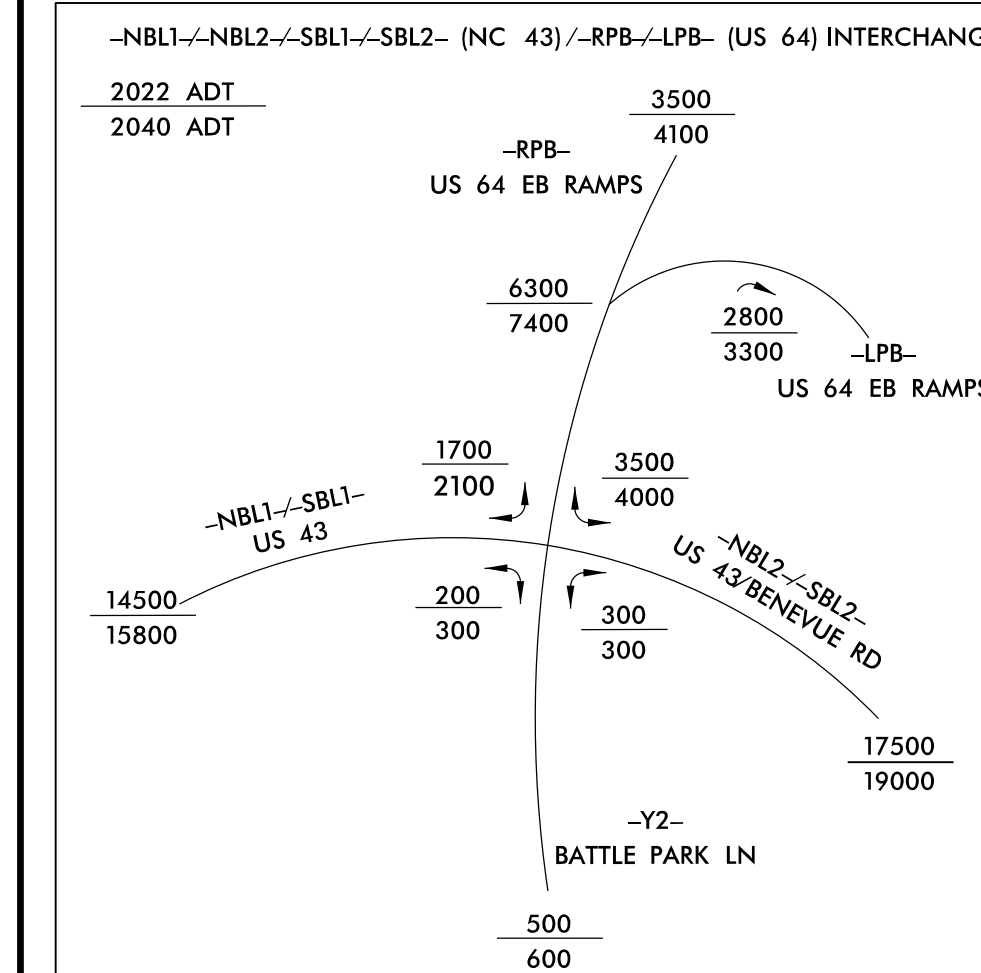
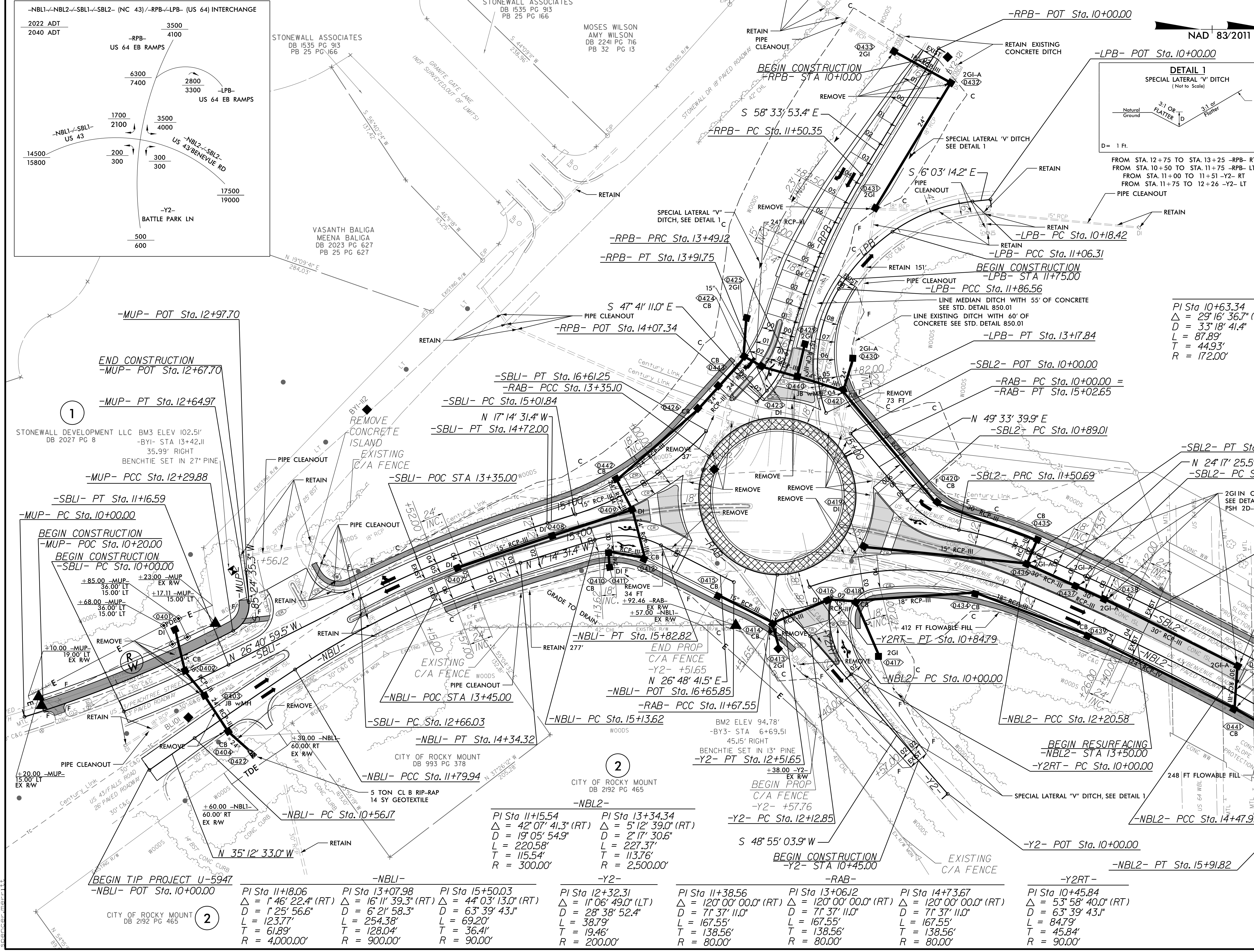
LINE	Station	Station	MONTHS

SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS

8.17.2019
30-11-2022 10:30 AM
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spencer@stc.com

-MUP-		-SBL1-		-SBL2-	
PI Sta 11+15.26	PI Sta 12+49.75	PI Sta 10+58.33	PI Sta 13+69.25	PI Sta 15+83.47	PI Sta 11+21.12
$\Delta = 10' 21' 32.0'' (LT)$	$\Delta = 67' 00' 53.1'' (LT)$	$\Delta = 5' 08' 18.3'' (LT)$	$\Delta = 9' 26' 28.1'' (RT)$	$\Delta = 30' 26' 39.6'' (LT)$	$\Delta = 39' 16' 03.5'' (LT)$
D = 4' 30' 22.2"	D = 190' 59' 09.4"	D = 4' 24' 26.5"	D = 4' 35' 01.2"	D = 19' 05' 54.9"	D = 63' 39' 43.1"
L = 229.88'	L = 35.09'	L = 116.59'	L = 205.97'	L = 159.41'	L = 61.68'
T = 115.26'	T = 19.86'	T = 58.33'	T = 103.22'	T = 81.63'	T = 32.11'
R = 1,271.50'	R = 30.00'	R = 1,300.00'	R = 1,250.00'	R = 300.00'	R = 90.00'



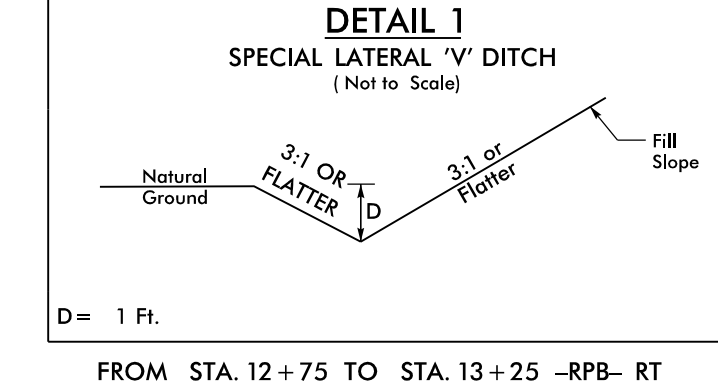
-MUP-		-SBL1-		-SBL2-	
PI Sta 12+97.70	PI Sta 11+6.97	PI Sta 11+16.59	PI Sta 10+00.00	PI Sta 10+20.00	PI Sta 10+00.00
$\Delta = 17' 31' 14.6'' (LT)$	$\Delta = 17' 31' 14.6'' (LT)$	$\Delta = 22' 59' 25.5'' (LT)$	$\Delta = 17' 31' 14.6'' (LT)$	$\Delta = 17' 31' 14.6'' (LT)$	$\Delta = 29' 16' 36.7'' (LT)$
D = 33' 18' 41.4"	D = 28' 38' 52.4"	D = 87.89'	D = 33' 18' 41.4"	D = 33' 18' 41.4"	D = 33' 18' 41.4"
L = 87.89'	L = 40.67'	L = 87.89'	L = 87.89'	L = 87.89'	L = 87.89'
T = 44.93'	T = 21.76'	T = 44.93'	T = 44.93'	T = 44.93'	T = 44.93'
R = 172.00'	R = 86.00'	R = 172.00'	R = 172.00'	R = 172.00'	R = 172.00'

PROJECT REFERENCE NO. U-5947
RW SHEET NO. 4

ROADWAY DESIGN ENGINEER
3/8/2022
NORTH CAROLINA PROFESSIONAL SEAL
034371
Brandon W. Johnson

HYDRAULICS ENGINEER
3/9/2022
NORTH CAROLINA PROFESSIONAL SEAL
046226
Jason M. Patyski

STONEWALL ASSOCIATES
DB 1535 PG 913
PB 25 PG 166

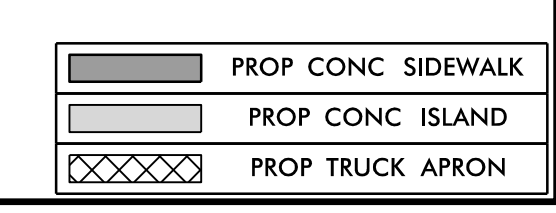


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FOR INTERSECTION DETAIL, SEE SHEET 2B-1
FOR PAVEMENT SLOPE TRANSITION DETAIL, SEE SHEET 2B-2
FOR -NBL1-, -NBL2-, -SBL1- & -SBL2- PROFILE, SEE SHEET 6
FOR -RAB-, -LPB- & -RPB- PROFILE, SEE SHEET 7
FOR -Y2-, -Y2RT- & -MUP- PROFILE, SEE SHEET 8

-LPB-		-RPB-	
PI Sta 10+63.34	PI Sta 12+57.01	PI Sta 12+50.52	PI Sta 13+70.88
$\Delta = 29' 16' 36.7'' (LT)$	$\Delta = 5' 31' 11.5'' (LT)$	$\Delta = 17' 31' 14.6'' (LT)$	$\Delta = 28' 23' 57.0'' (RT)$
D = 33' 18' 41.4"	D = 39' 14' 37.3"	D = 66' 37' 22.8"	D = 66' 37' 22.8"
L = 87.89'	L = 131.28'	L = 198.77'	L = 426.33'
T = 44.93'	T = 70.45'	T = 100.16'	T = 21.76'
R = 172.00'	R = 146.00'	R = 650.00'	R = 86.00'

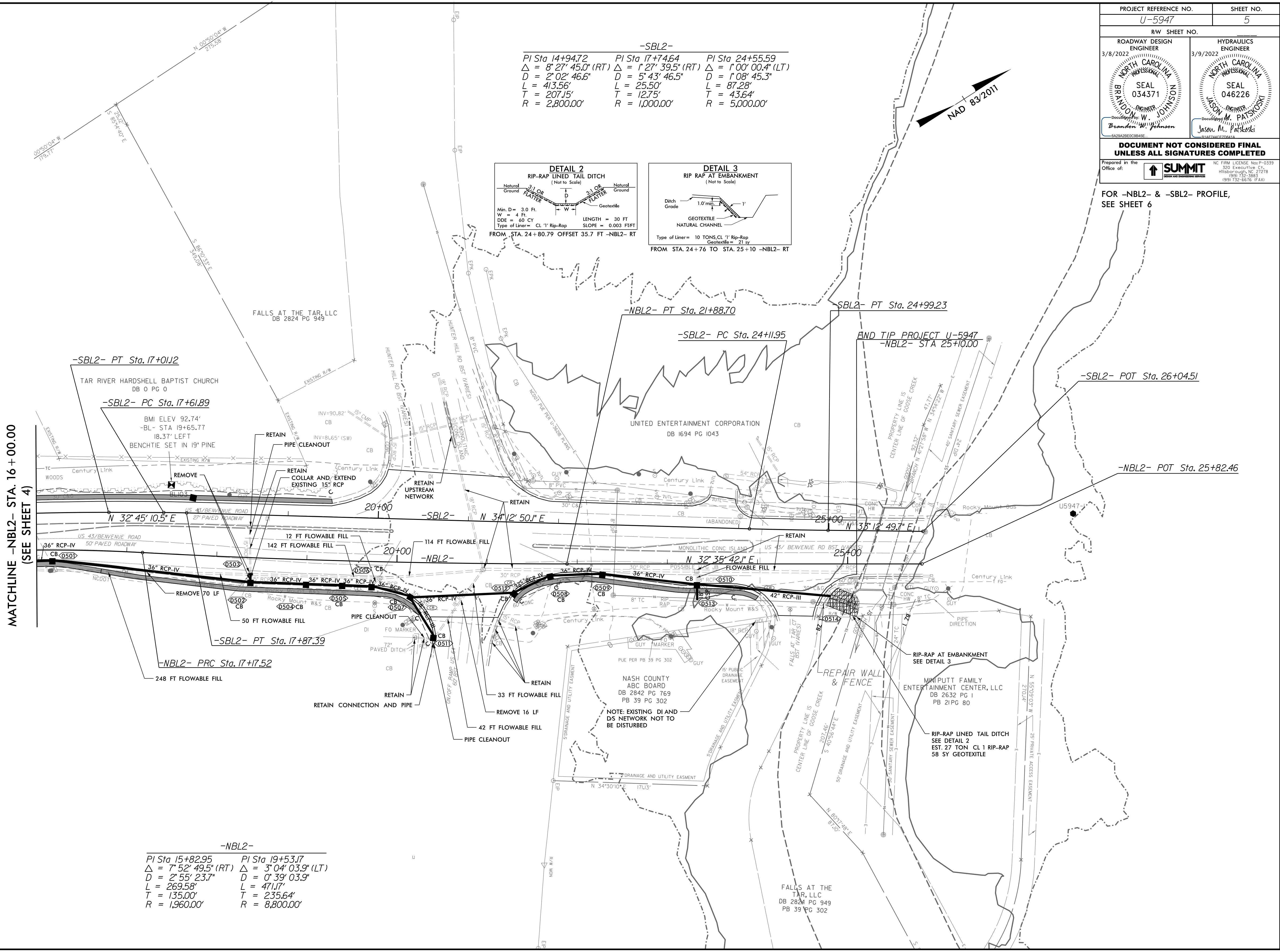
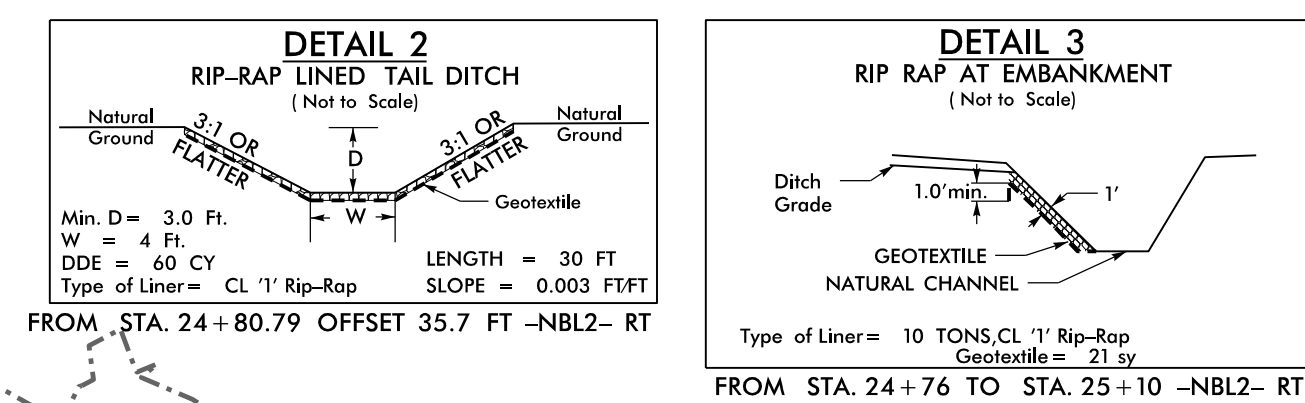
-MUP-		-SBL1-		-SBL2-		-RAB-		-Y2-		-Y2RT-	
PI Sta 11+18.06	PI Sta 13+07.98	PI Sta 15+50.03	PI Sta 12+32.31	PI Sta 11+38.56	PI Sta 13+06.12	PI Sta 14+73.67	PI Sta 10+45.84	PI Sta 11+18.06	PI Sta 13+07.98	PI Sta 15+50.03	PI Sta 12+32.31
$\Delta = 1' 46' 22.4'' (RT)$	$\Delta = 16' 11' 39.3'' (RT)$	$\Delta = 44' 03' 13.0'' (RT)$	$\Delta = 11' 06' 49.0'' (LT)$	$\Delta = 120' 00' 00.0'' (RT)$	$\Delta = 120' 00' 00.0'' (RT)$	$\Delta = 120' 00' 00.0'' (RT)$	$\Delta = 53' 58' 40.0'' (RT)$	$\Delta = 1' 46' 22.4'' (RT)$	$\Delta = 16' 11' 39.3'' (RT)$	$\Delta = 44' 03' 13.0'' (RT)$	$\Delta = 11' 06' 49.0'' (LT)$
D = 1' 25' 56.6"	D = 6' 21' 58.3"	D = 63' 39' 43.1"	D = 28' 38' 52.4"	D = 71' 37' 11.0"	D = 71' 37' 11.0"	D = 71' 37' 11.0"	D = 63' 39' 43.1"	D = 1' 25' 56.6"	D = 6' 21' 58.3"	D = 63' 39' 43.1"	D = 28' 38' 52.4"
L = 123.77'	L = 254.38'	L = 69.20'	L = 38.79'	L = 167.55'	L = 167.55'	L = 167.55'	L = 84.79'	L = 123.77'	L = 254.38'	L = 69.20'	L = 38.79'
T = 61.89'	T = 128.04'	T = 36.41'	T = 19.46'	T = 138.56'	T = 138.56'	T = 138.56'	T = 45.84'	T = 61.89'	T = 128.04'	T = 36.41'	T = 19.46'
R = 4,000.00'	R = 900.00'	R = 90.00'	R = 200.00'	R = 80.00'	R = 80.00'	R = 80.00'	R = 90.00'	R = 4,000.00'	R = 900.00'	R = 90.00'	R = 200.00'



PROJECT REFERENCE NO. U-5947	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/8/2022	HYDRAULICS ENGINEER 3/9/2022
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office at: 	NC FROM LICENSE No: P-0359 300 Executive Ct. Hillsborough, NC 27278 (919) 332-3883 (919) 732-6676 (FAX)

-SBL2-

PI Sta 14+94.72 Δ = 8° 27' 45.0" (RT) D = 2° 02' 46.6" L = 413.56' T = 207.15' R = 2,800.00'	PI Sta 17+74.64 Δ = 1° 27' 39.5" (RT) D = 5° 43' 46.5" L = 25.50' T = 12.75' R = 1,000.00'	PI Sta 24+55.59 Δ = 1° 00' 00.4" (LT) D = 1° 08' 45.3" L = 87.28' T = 43.64' R = 5,000.00'
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MATCHLINE -NBL2- STA. 16 + 00.00
(SEE SHEET 4)

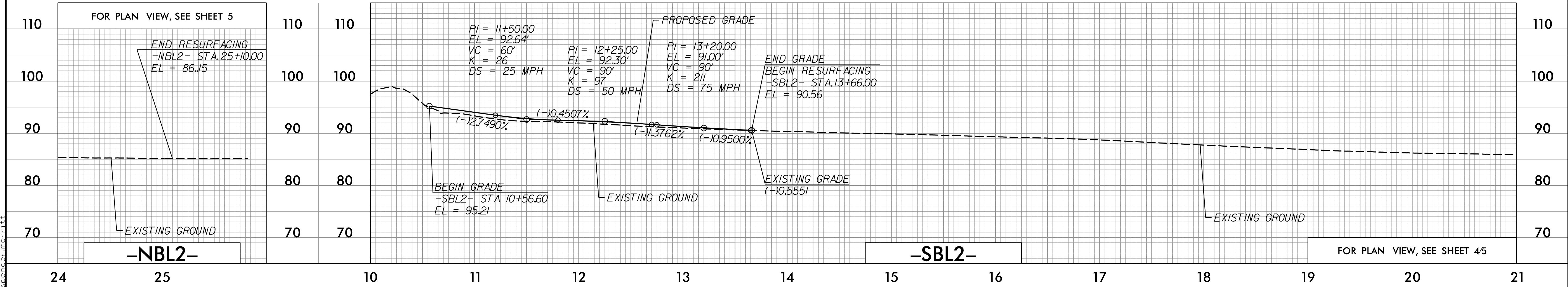
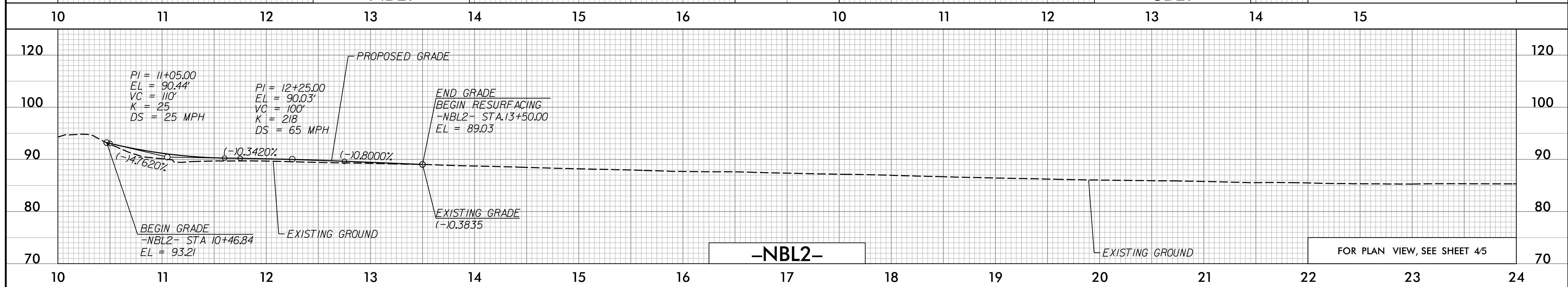
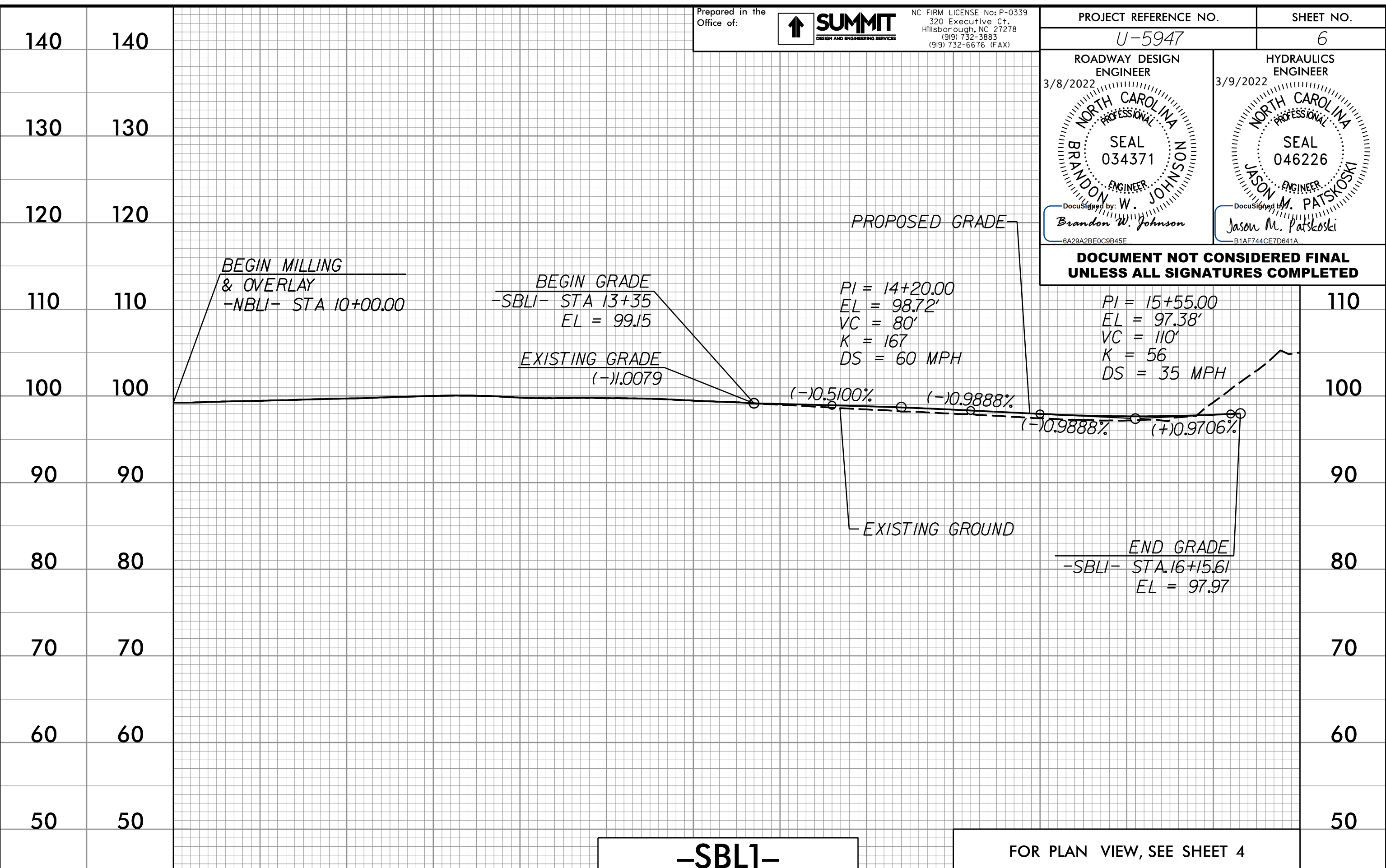
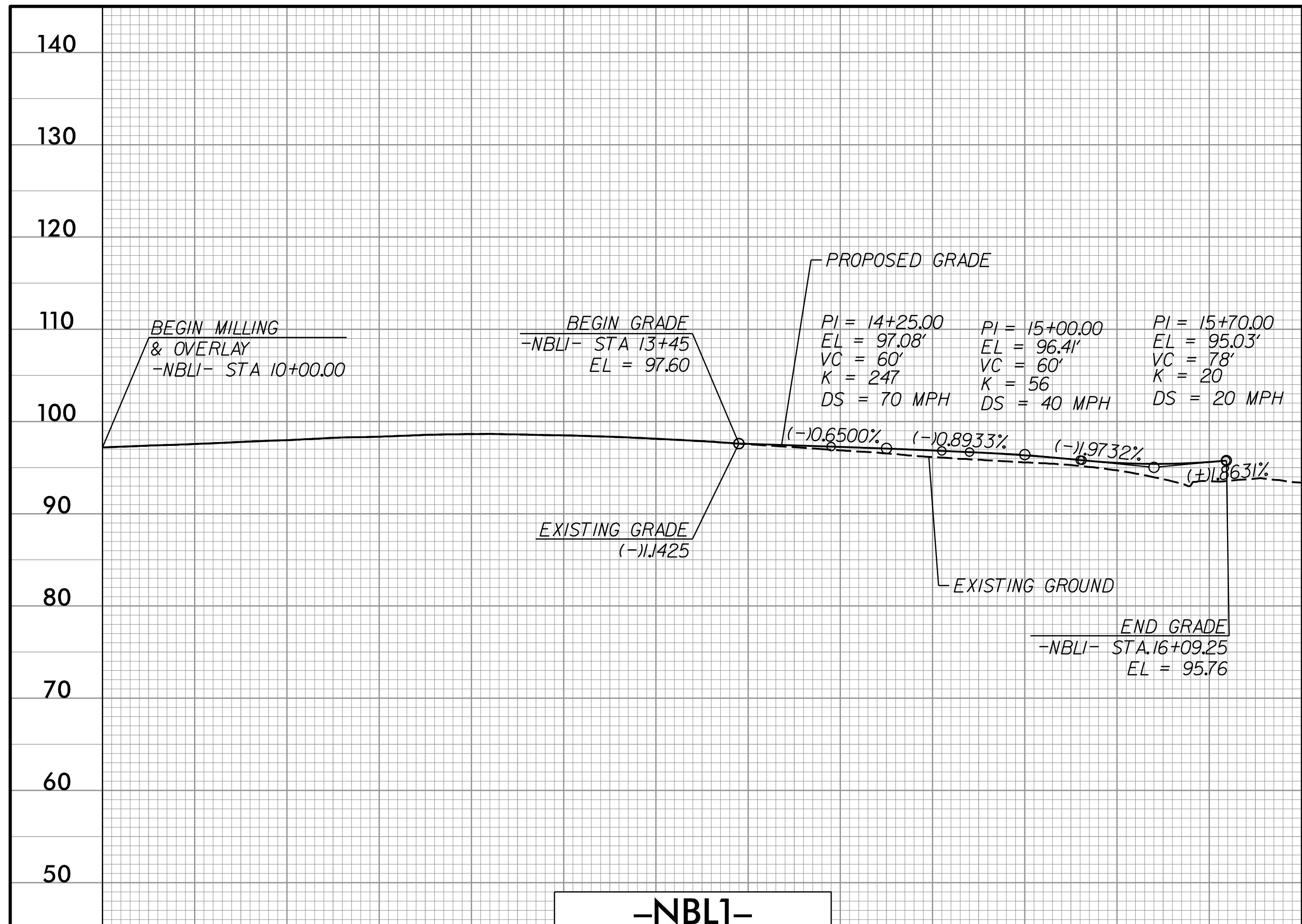
FOR -NBL2- & -SBL2- PROFILE,
SEE SHEET 6

-NBL2-

PI Sta 15+82.95 Δ = 7° 52' 49.5" (RT) D = 2° 55' 23.7" L = 269.58' T = 135.00' R = 1,960.00'	PI Sta 19+53.17 Δ = 3° 04' 03.9" (LT) D = 0° 39' 03.9" L = 471.17' T = 235.64' R = 8,800.00'
---	---

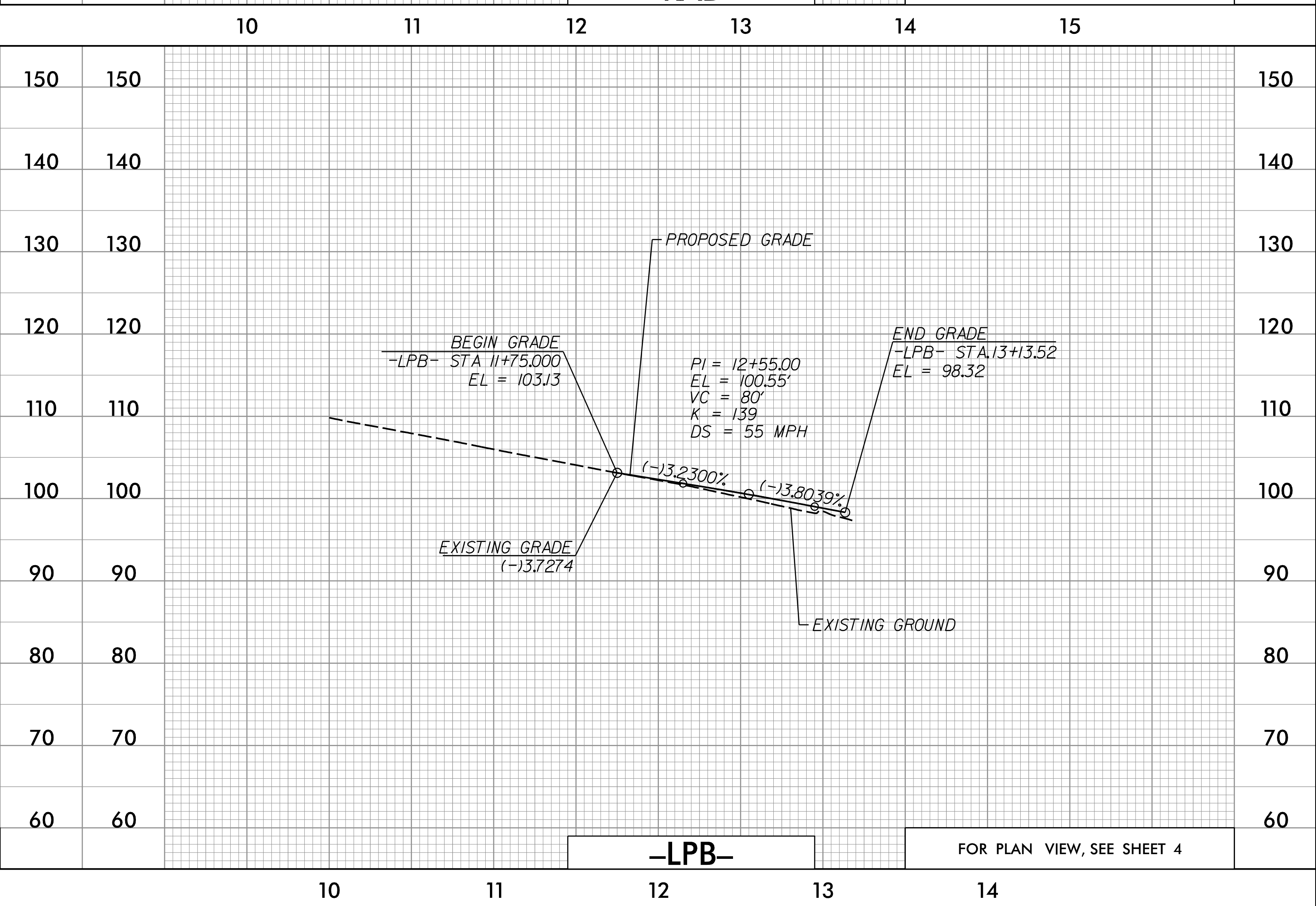
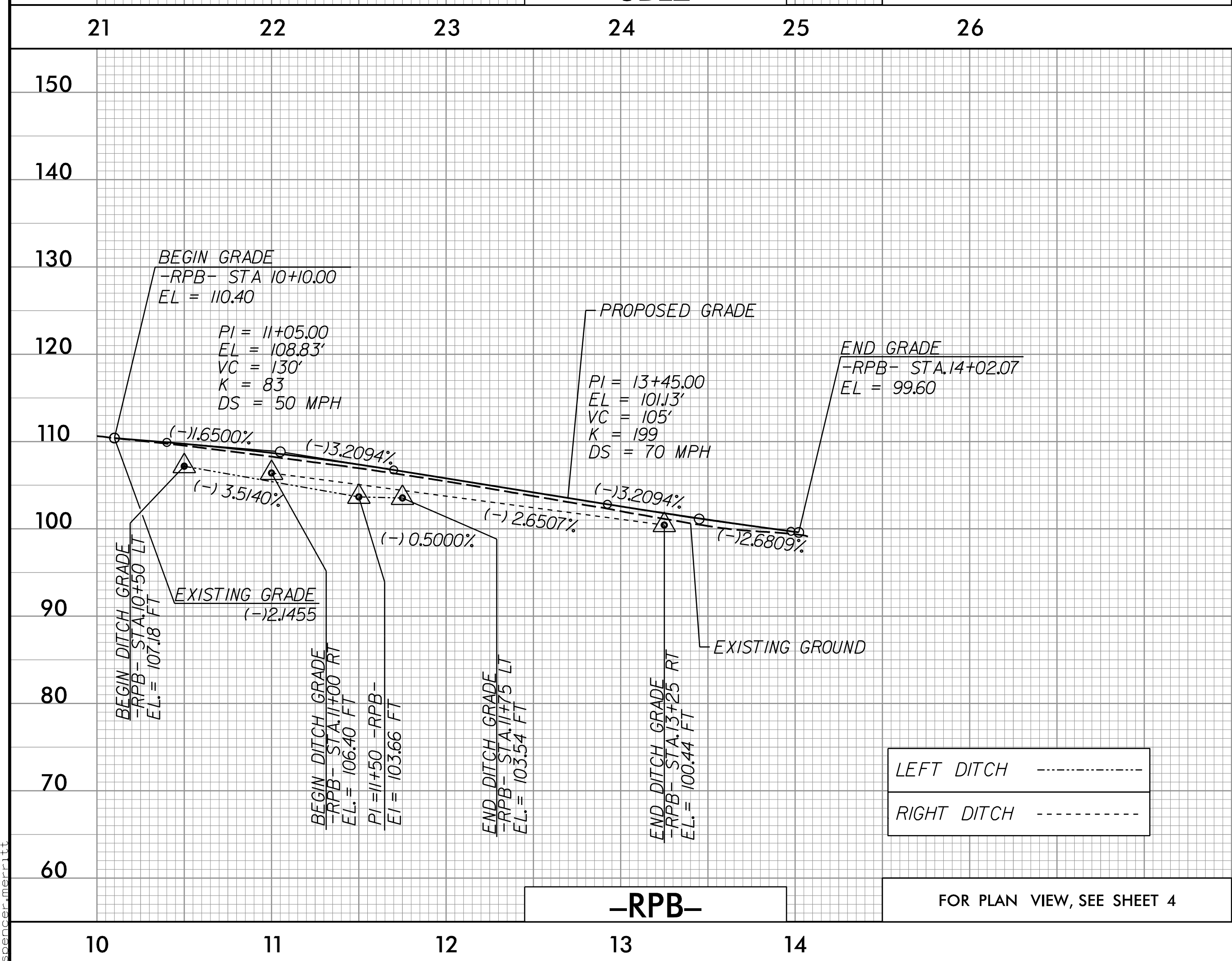
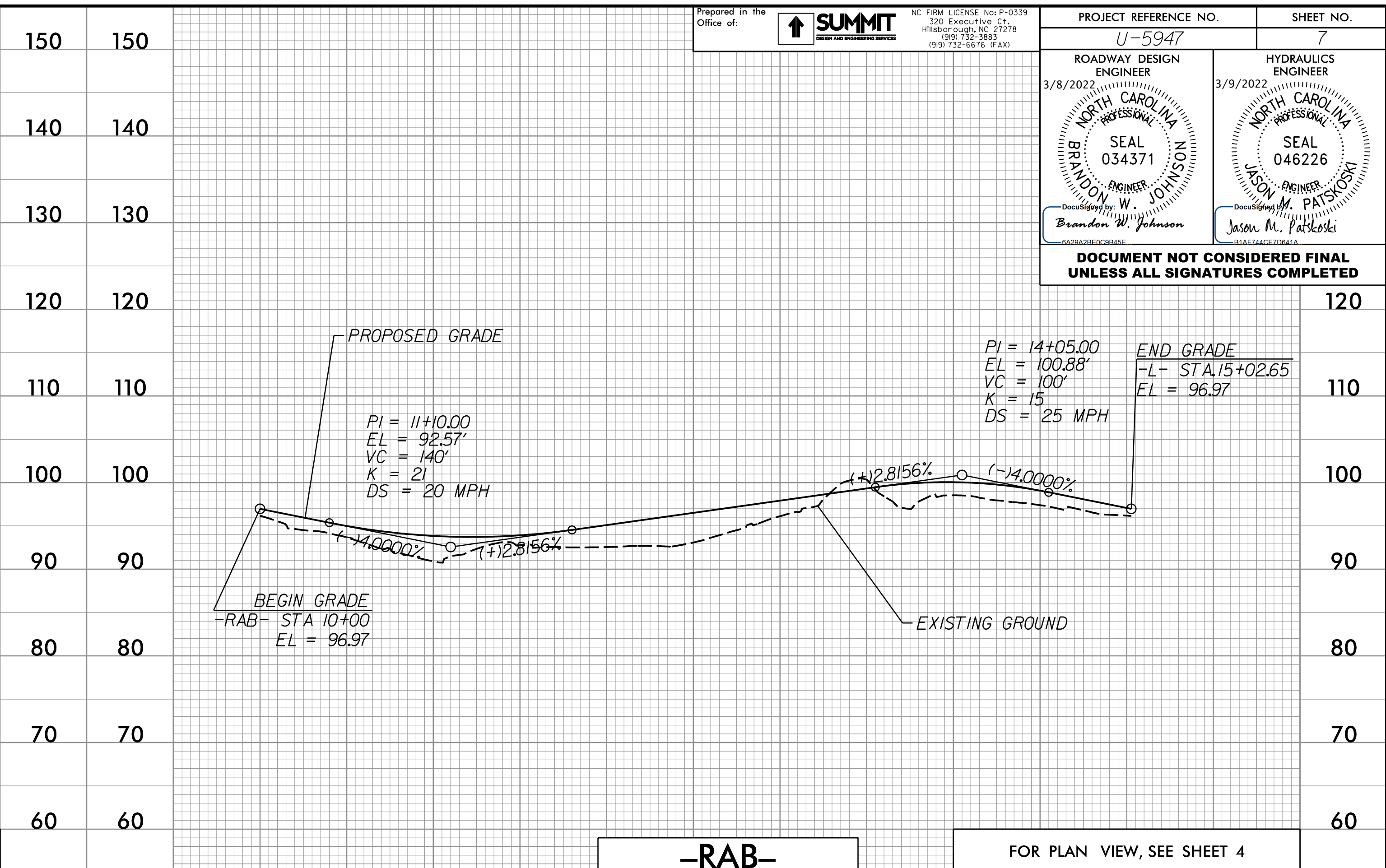
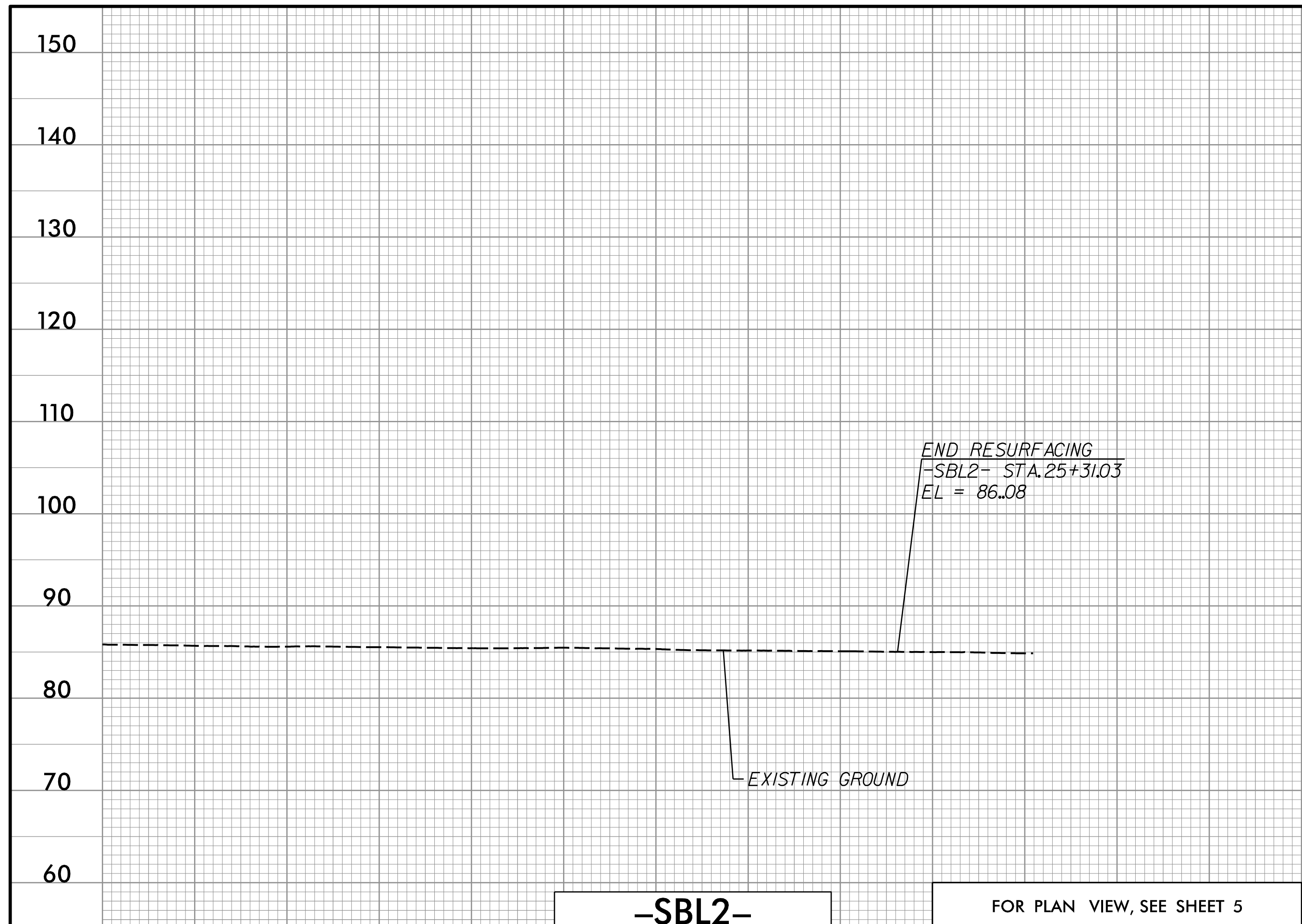
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PROJECT REFERENCE NO. U-5947		SHEET NO. 6
ROADWAY DESIGN ENGINEER 3/8/2022 NORTH CAROLINA PROFESSIONAL SEAL 034371 BRANDON W. JOHNSON	HYDRAULICS ENGINEER 3/9/2022 NORTH CAROLINA PROFESSIONAL SEAL 046226 JASON M. PATSKOSKI	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



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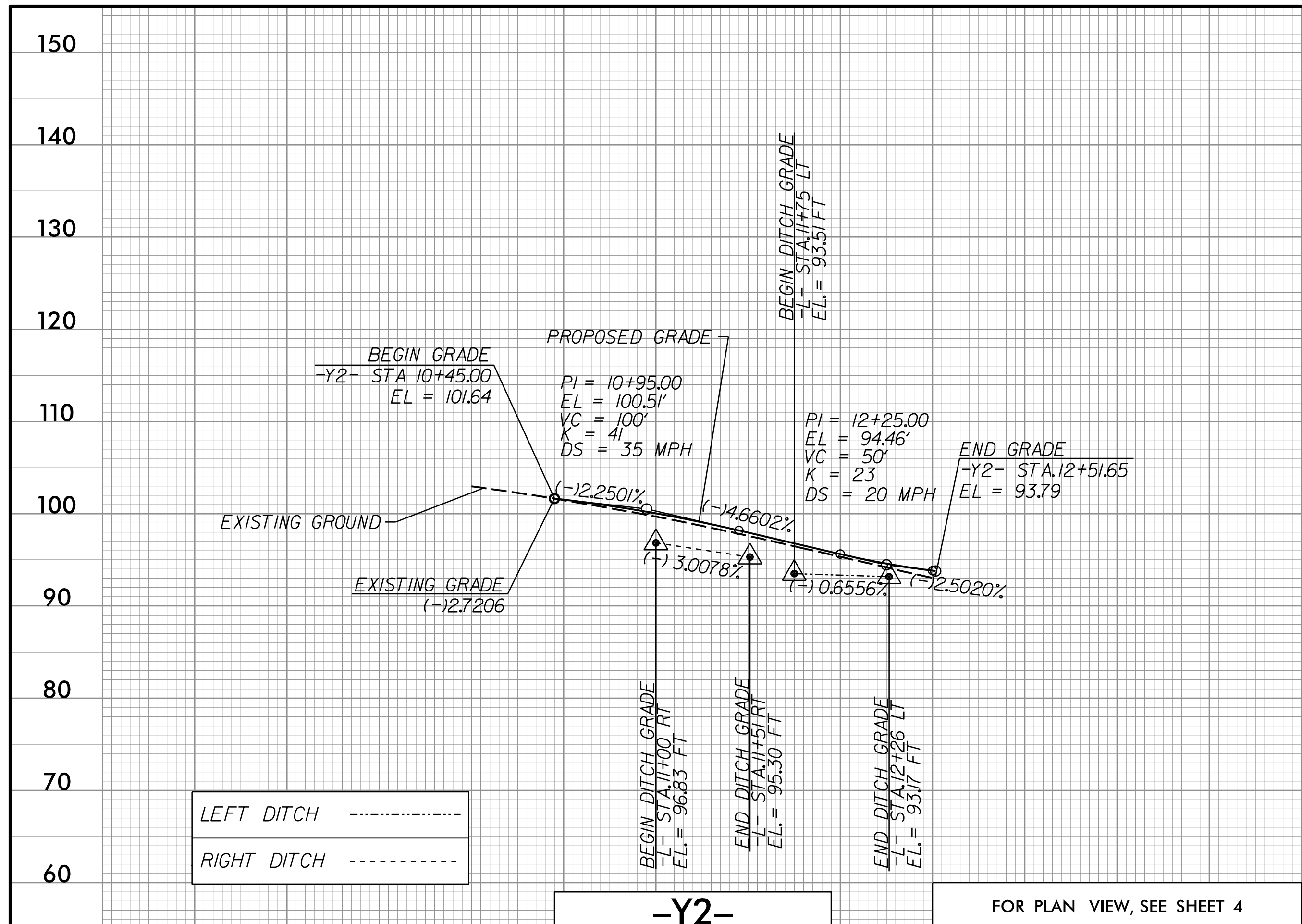
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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LEFT DITCH	-----
RIGHT DITCH	-----

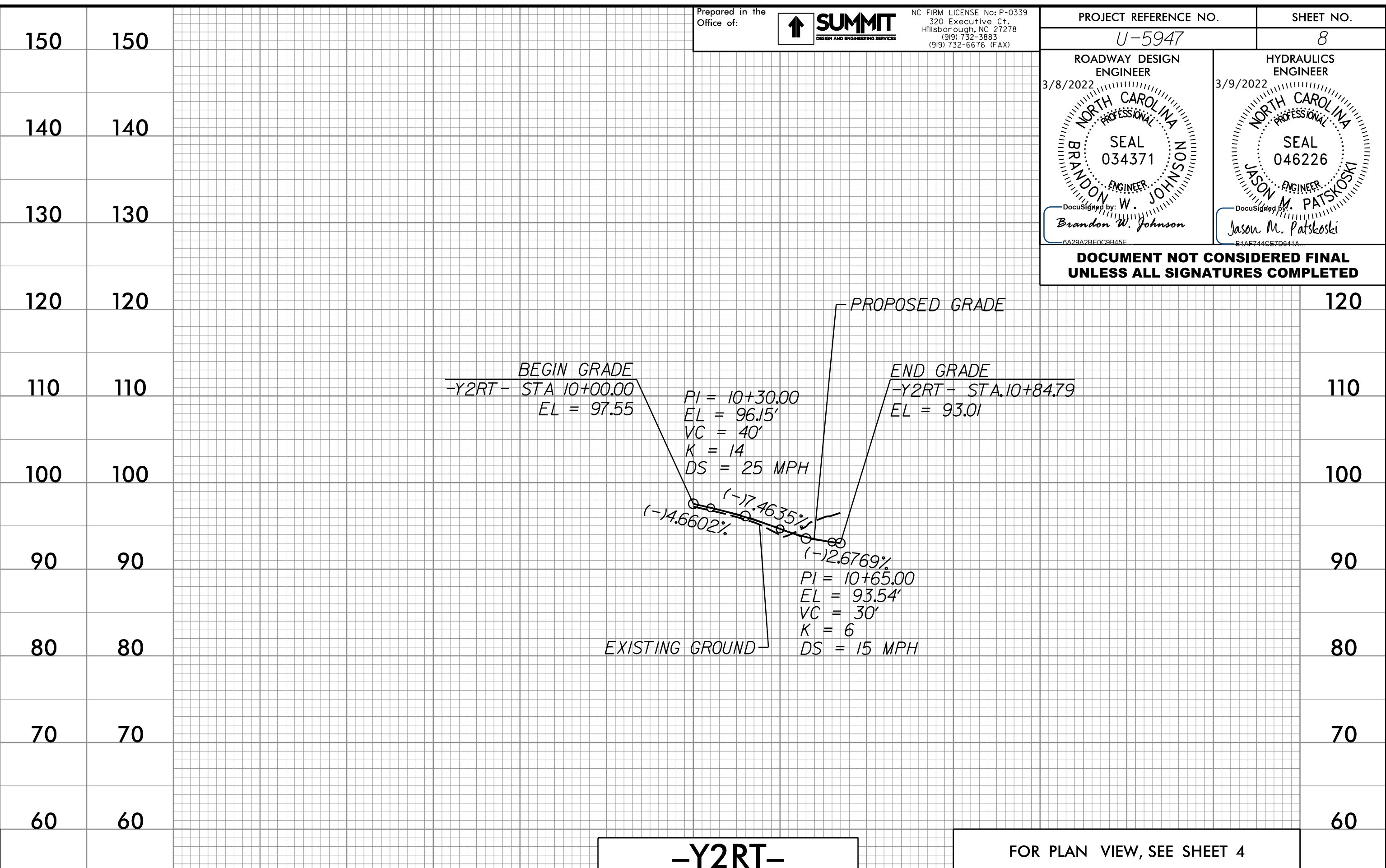
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ROADWAY DESIGN ENGINEER 3/8/2022 BRANDON W. JOHNSON SEAL 034371 ENGINEER		HYDRAULICS ENGINEER 3/9/2022 JASON M. PATSKOSKI SEAL 046226 ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



LEFT DITCH -----
RIGHT DITCH -----

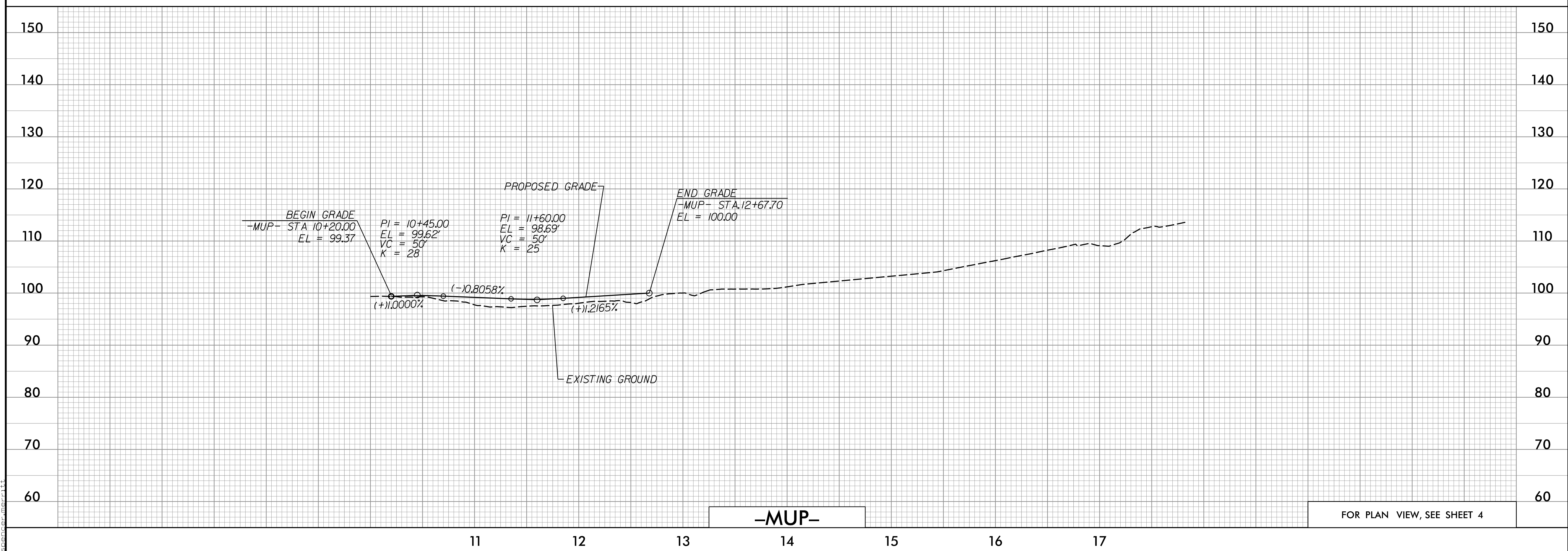
-Y2-

FOR PLAN VIEW, SEE SHEET 4



-Y2RT-

FOR PLAN VIEW, SEE SHEET 4



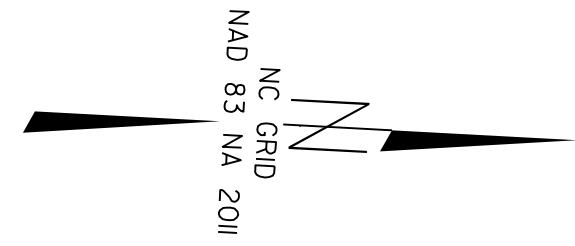
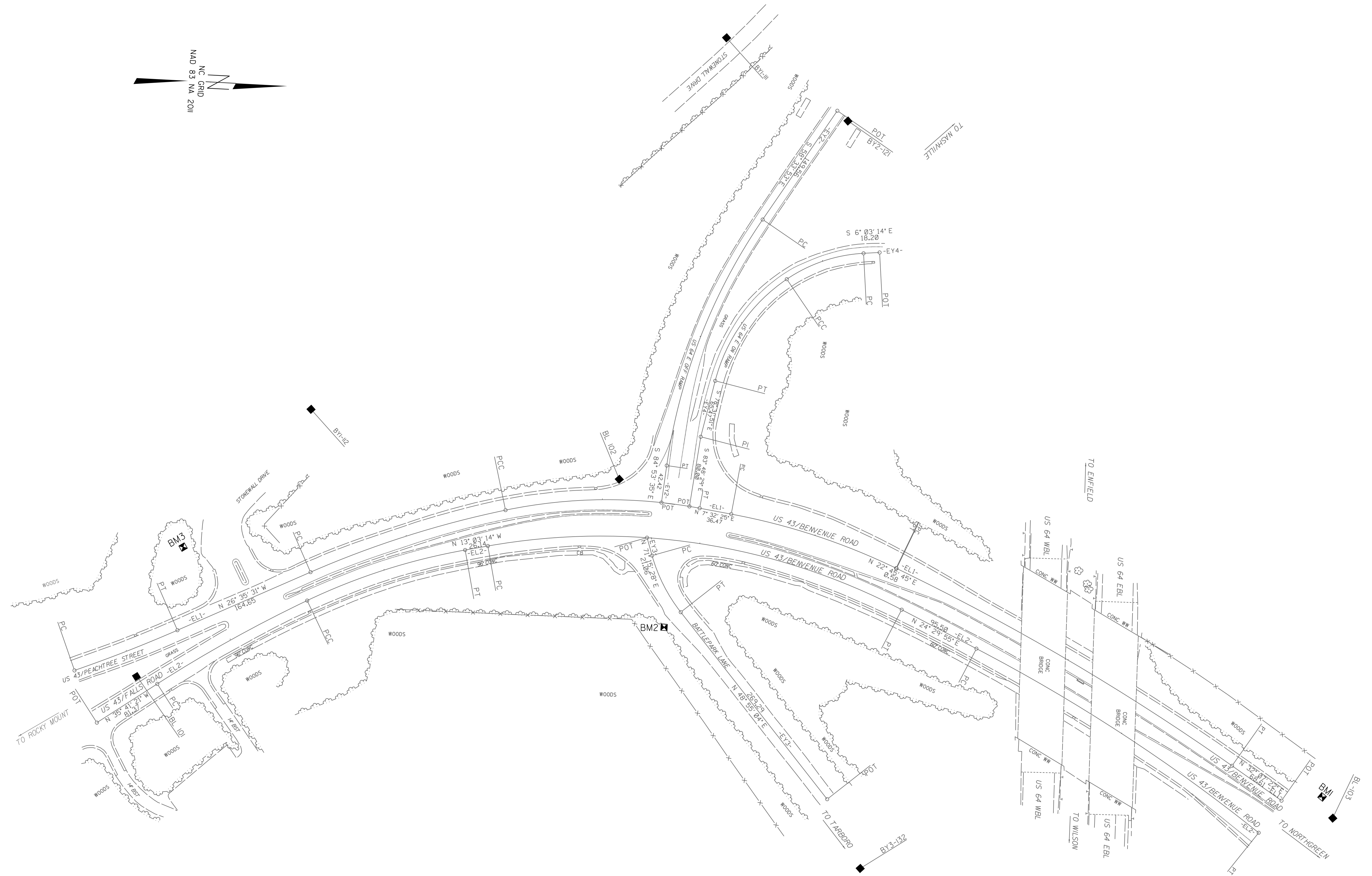
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FOR PLAN VIEW, SEE SHEET 4

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SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
BL101		BL-101	806999.0435	2353564.9308	98.10
BL102		BL-102	807533.8958	2353312.5955	97.01
BL103		BL-103	808361.3140	2353655.2861	88.42
1		U5947-1	809174.3470	2354195.8970	86.21

BY1	POINT	DESC.	NORTH	EAST	ELEVATION
BY1111		BY1-111	807628.9310	2352806.2863	123.33
BY1112		BY1-112	807180.7517	2353251.8797	104.92
A101		BL-101	806999.0435	2353564.9308	98.10

BY2	POINT	DESC.	NORTH	EAST	ELEVATION
BY2121		BY2-121	807771.3731	2352893.2533	109.94
A102		BL-102	807533.8958	2353312.5955	97.01

BY3	POINT	DESC.	NORTH	EAST	ELEVATION
C102		BL-102	807533.8958	2353312.5955	97.01
BY3131		BY3-131	807830.0574	2353738.7999	104.34

 BM1 ELEVATION = 92.74
 N 808349 E 2353630
 BL STATION 19+66.00 18 LEFT
 BENCHTIE SET IN 19" PINE

 BM2 ELEVATION = 94.78
 N 807594 E 2353478
 BY3 STATION 6+70.00 45 RIGHT
 BENCHTIE SET IN 13" PINE

 BM3 ELEVATION = 102.51
 N 807044 E 2353416
 BY1 STATION 13+42.00 36 RIGHT
 BENCHTIE SET IN 27" PINE

REVISIONS

6/2/99

15-558-2022-022.dgn
 15-558-2022-022.dgn
 15-558-2022-022.dgn

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
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SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL1		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	806928.596	2353561.729								
LINE				S 22°10'19.8" E	0.00					
PC	806928.595	2353561.729								
CURVE				N 24°22'55.4" W	125.33	04°25'11.1"(LT)	03°31'32.0"	125.36	62.71	1625.16
PT	807042.749	2353509.990								
LINE				N 26°35'30.9" W	164.65					
PC	807189.978	2353436.289								
CURVE				N 20°40'19.9" W	231.99	11°50'22.2"(RT)	05°05'40.1"	232.40	116.61	1124.67
PCC	807407.027	2353354.393								
CURVE				N 03°36'22.0" W	220.07	22°17'33.5"(RT)	10°03'57.0"	221.47	112.15	569.21
PT	807626.665	2353340.551								
LINE				N 07°32'24.8" E	36.47					
PC	807662.819	2353345.337								
CURVE				N 15°09'05.1" E	196.71	15°13'20.6"(RT)	07°42'57.0"	197.29	99.23	742.57
PT	807852.689	2353396.751								
LINE				N 22°45'45.4" E	0.58					
PC	807853.229	2353396.977								
CURVE				N 27°26'33.9" E	441.31	09°21'37.0"(RT)	02°07'07.2"	441.80	221.39	2704.34
PT	808244.879	2353600.360								
LINE				N 32°07'22.4" E	68.61					
POT	808302.988	2353636.844								

EL2		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	806957.056	2353619.483								
LINE				N 35°41'21.1" W	81.37					
PC	807023.142	2353572.014								
CURVE				N 32°06'09.6" W	194.43	07°10'23.1"(RT)	03°41'12.7"	194.56	97.41	1554.05
PT	807187.844	2353468.686								
LINE				N 28°30'58.1" W	0.00					
PC	807187.844	2353468.686								
CURVE				N 20°47'06.2" W	188.06	15°27'43.6"(RT)	08°11'48.4"	188.64	94.89	699.00
PT	807363.669	2353401.949								
LINE				N 13°03'14.4" W	26.14					
PC	807389.129	2353396.046								
CURVE				N 05°43'20.2" E	474.78	37°33'09.2"(RT)	07°46'07.3"	483.38	250.73	737.52
PT	807861.541	2353443.384								
LINE				N 24°29'54.8" E	95.50					
PC	807948.441	2353482.984								
CURVE				N 30°05'22.8" E	382.08	11°10'56.0"(RT)	02°55'19.3"	382.69	191.95	1960.82
PT	807948.441	2353482.984								

EY2		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	807758.741	2352882.293								
LINE				S 58°33'53.4" E	149.56					
PC	807680.739	2353009.904								
CURVE				S 71°43'44.1" E	299.42	26°19'41.4"(LT)	08°42'56.8"	302.08	153.75	657.38
PT	807586.866	2353294.233								
LINE				S 84°53'34.8" E	42.42					
POT	807583.090	2353336.481								

EY3		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	807568.871	2353377.104								
LINE				N 71°15'27.8" E	21.06					
PC	807575.637	2353397.044								
CURVE				N 60°05'15.8" E	71.99	22°20'23.9"(LT)	30°50'16.3"	72.44	36.69	185.80
PT	807611.534	2353459.441								
LINE				N 48°55'03.9" E	269.29					
POT	807788.494	2353662.420								

EY4		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	807815.076	2353040.202								
LINE				S 06°03'14.2" E	18.20					
PC	807796.975	2353042.121								
CURVE				S 21°39'09.3" E	91.87	31°11'50.4"(LT)	33°32'27.1"	93.01	47.69	170.82
PCC	807711.590	2353076.019								
CURVE				S 57°53'27.8" E	140.98	41°16'46.7"(LT)	28°39'07.8"	144.07	75.32	199.97
PT	807636.657	2353195.431								
LINE				S 78°31'51.2" E	65.47					
POT	807623.638	2353259.594								
LINE				S 83°48'29.1" E	80.00					
POT	807615.009	2353339.131								

NOTES:

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6/2/99

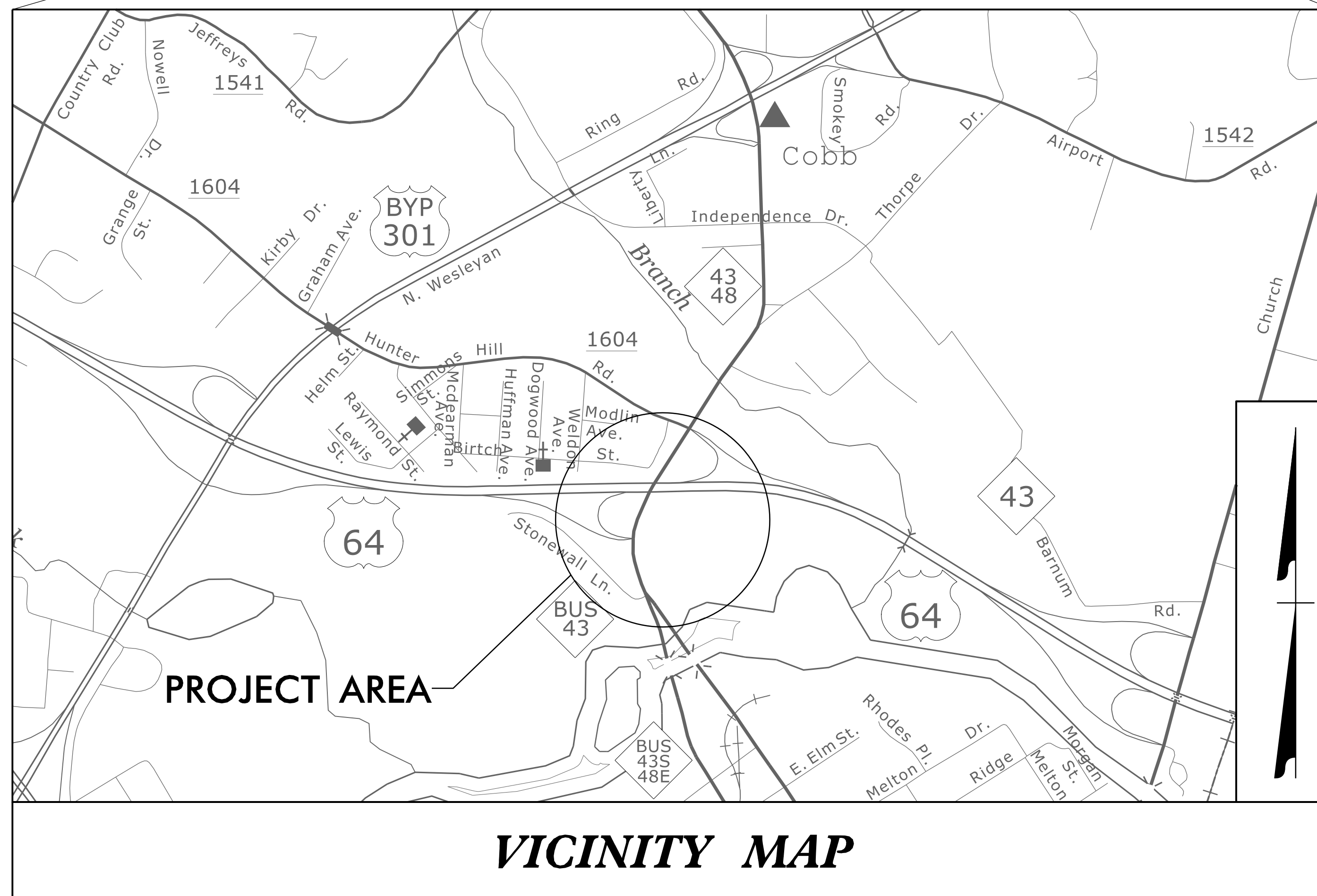
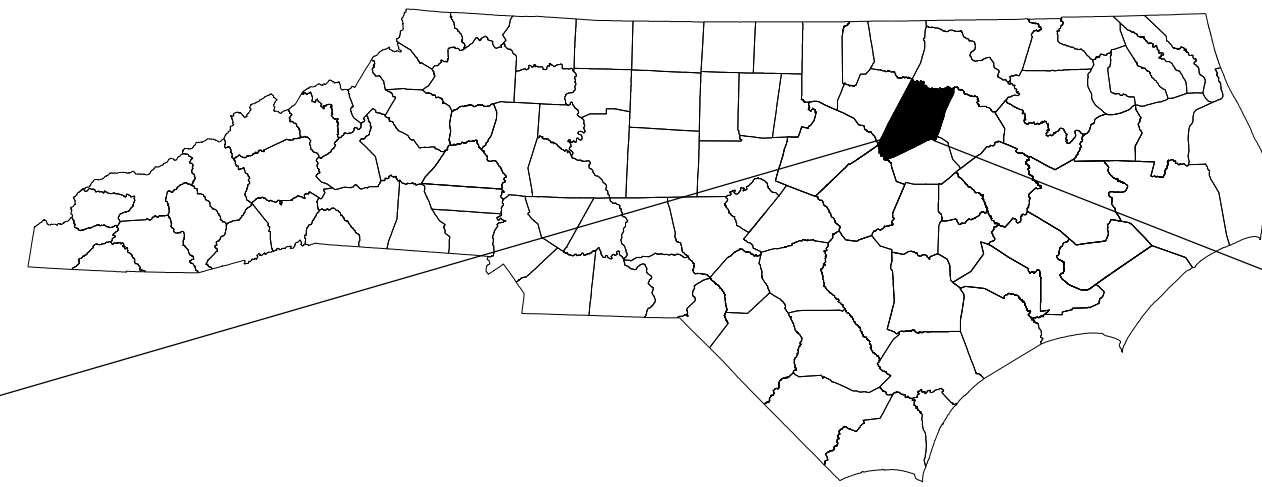
REVISIONS

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faub,alike

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

NASH COUNTY



VICINITY MAP

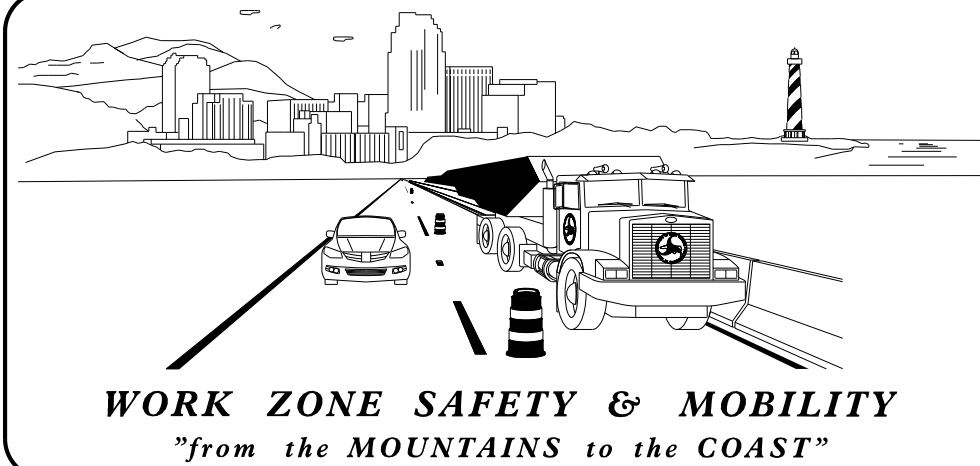
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL AND LOCAL NOTES)
TMP-2A	SPECIAL SIGN DESIGNS
TMP-2B	US 64 RAMP OFFSITE DETOURS
TMP-2C	DETOUR DETAILS
TMP-2D	DETOUR SIGNS
TMP-2E	PEDESTRIAN MANAGEMENT PLAN-1
TMP-2F	PEDESTRIAN MANAGEMENT PLAN-2
TMP-3	PHASING
TMP-4 THRU 6	TEMPORARY TRAFFIC CONTROL PHASE I DETAILS
TMP-7 THRU 8	TEMPORARY TRAFFIC CONTROL PHASE II DETAILS
TMP-9	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL
TMP-10	TEMPORARY TRAFFIC CONTROL PHASE IV DETAIL

SHEET NO.
TMP-1

U-5947

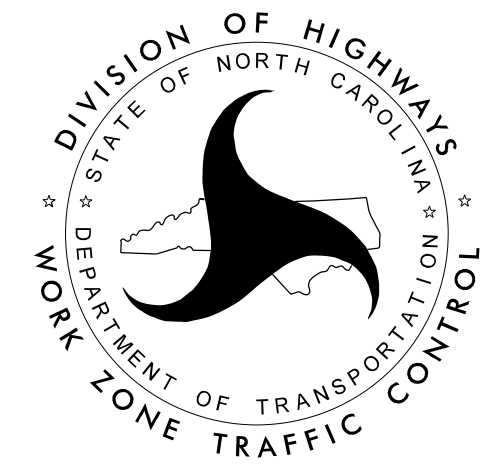
TIP PROJECT:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PLANS PREPARED BY:
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PROJECT ENGINEER
SPENCER W. MERRITT, P.E.
PROJECT DESIGNER

NCDOT CONTACT:
RUSSELL E. BROADWELL, P.E.
DIVISION 4 PROJECT ENGINEER
COREY D. MCLAMB, PE
DIVISION CONTRUCTION ENGINEER



Prepared in the Office of:
SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
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(919) 732-6676 (FAX)

APPROVED: *Brandon W. Johnson*
DATE: 3/10/2022
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
BRANDON W. JOHNSON
SEAL 034371

10-MAR-2022 18:45
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josh.fernigan

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1205.15	PAVEMENT MARKINGS - SUPERSTREETS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)



SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
PAINT (4")	
P1	WHITE EDGELINE
P2	WHITE SOLID LANE LINE
P3	10 FT WHITE SKIP
P4	3 FT - 9 FT/SP WHITE MINI SKIP
P5	2 FT - 6 FT/SP WHITE MINI SKIP
P10	YELLOW EDGELINE
P13	YELLOW DOUBLE CENTER LINE
PAINT (8")	
P40	WHITE GORELINE
P45	3 FT - 3 FT/SP WHITE MINI SKIP
P46	WHITE CROSSWALK LINE
PAINT (24", 90 MIL)	
P61	WHITE STOPBAR
P62	WHITE CROSSWALK LINE
PAINT- PAVEMENT MARKING SYMBOLS	
P70	LEFT ARROW
P71	RIGHT ARROW
P72	STRAIGHT ARROW
P73	COMBO. LEFT/STRAIGHT ARROW
P100	ALPHANUMERIC CHARACTER
P103	24" YIELD LINE TRIANGLE
P111	FISH-HOOK LEFT/STRAIGHT ARROW
P112	FISH-HOOK RIGHT/STRAIGHT ARROW

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: DATE: 3/10/2022	SEAL 		ROADWAY STANDARD DRAWINGS & LEGEND
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

GENERAL NOTES / LOCAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-1B

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS - REQUIRES INTERMEDIATE CONTRACT TIME PROJECT SPECIAL PROVISIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 64 RAMP /LOOP & BATTLEPARK LN	MONDAY THRU FRIDAY 6:00 AM TO 7:00 PM

B) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 43 (BENVENUE RD)	MONDAY THRU FRIDAY 6:00AM TO 9:00 AM AND 4:00 PM TO 7:00 PM

C) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	
NC 43 (BENVENUE RD) / US 64 RAMP AND LOOP/ BATTLEPARK LN	

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31st TO 7:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 AM THURSDAY AND 7:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY TO 7:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 AM FRIDAY AND 7:00 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 AM TUESDAY TO 7:00 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES ON TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 250 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

O) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

P) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

Q) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	TEMPORARY RAISED

R) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

U) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION.

PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

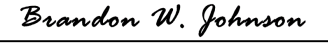
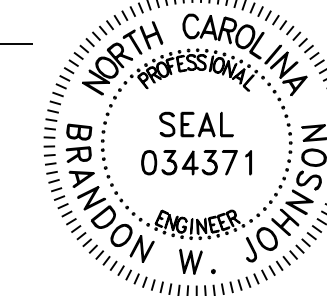

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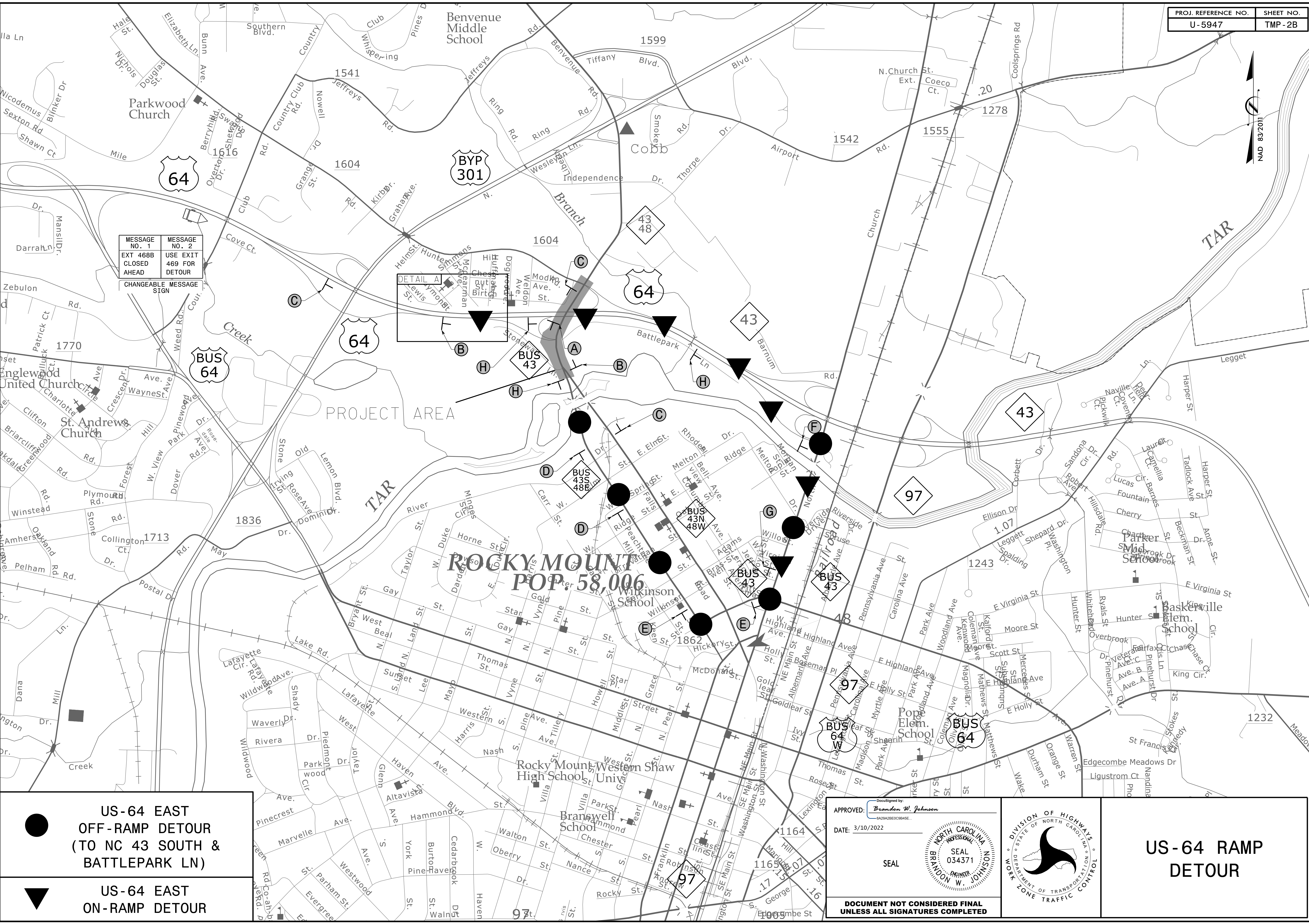
W) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER. LAW ENFORCEMENT SHALL BE USED FOR ANY SIGNAL WORK.

X) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

Y) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

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Josh.Jernigan

APPROVED:  DATE: 3/10/2022 SEAL			<h2 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h2>
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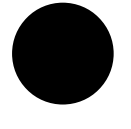



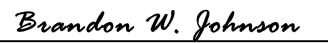
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CHANGEABLE MESSAGE SIGN

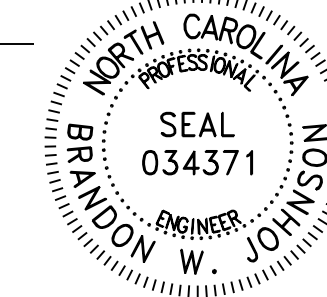
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	US-64 EAST OFF-RAMP DETOUR (TO NC 43 SOUTH & BATTLEPARK LN)
	US-64 EAST ON-RAMP DETOUR

APPROVED:  Brandon W. Johnson
DATE: 3/10/2022

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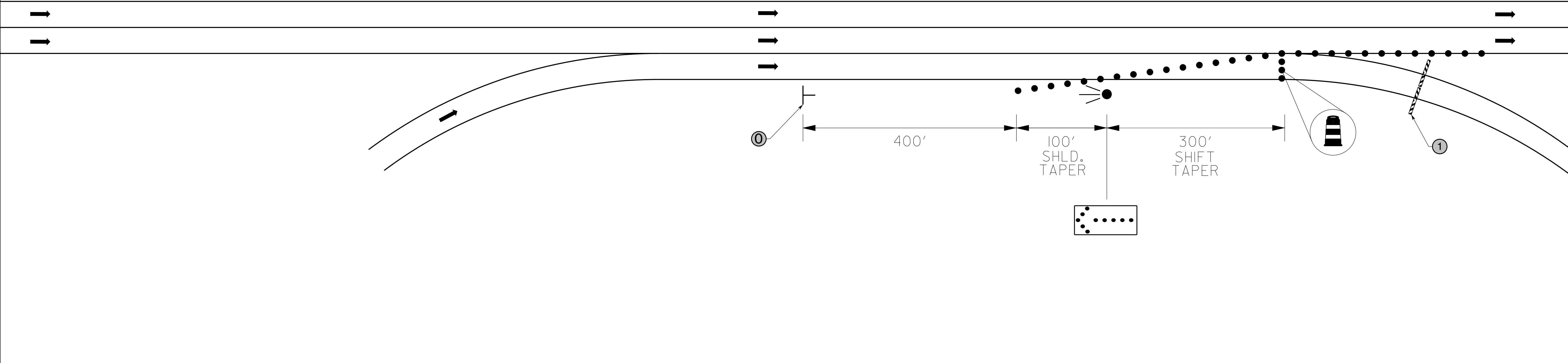


**US-64 RAMP
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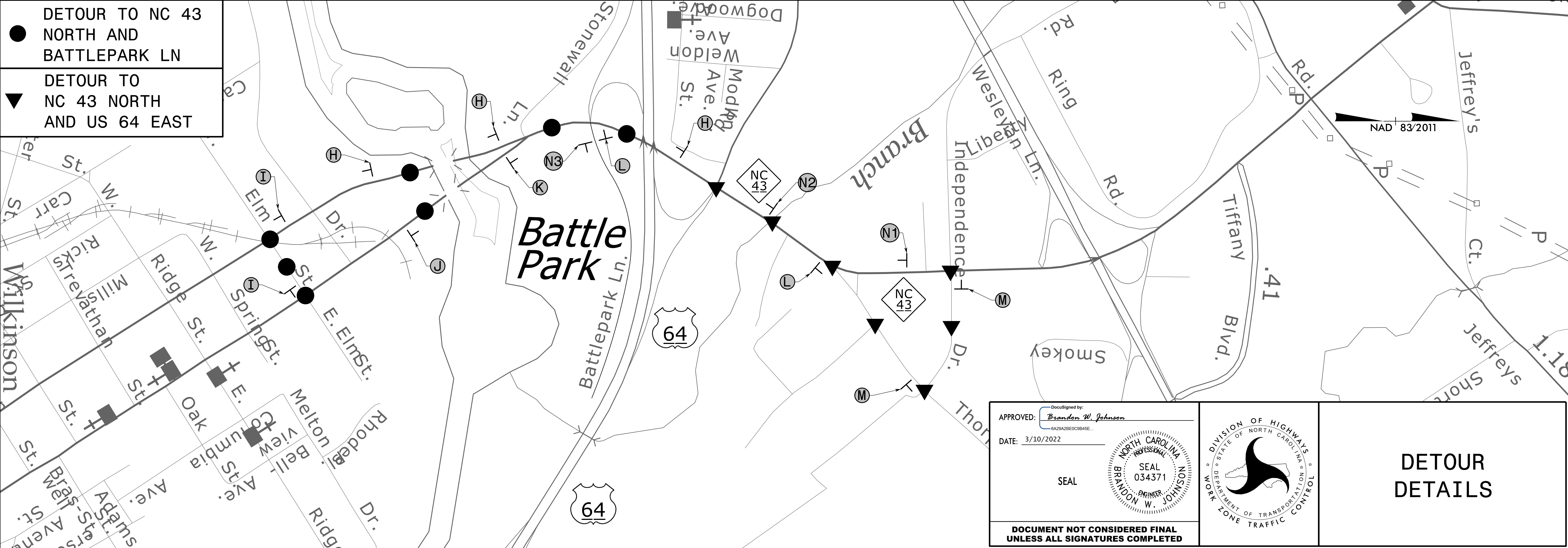
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josh.fernigan

DETAIL A

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U-5947	TMP-2C



- DETOUR TO NC 43 NORTH AND BATTLEPARK LN
- ▼ DETOUR TO NC 43 NORTH AND US 64 EAST



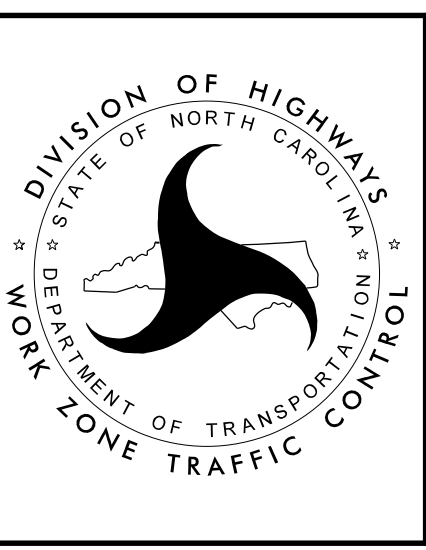
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APPROVED: *Brandon W. Johnson*
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DATE: 3/10/2022

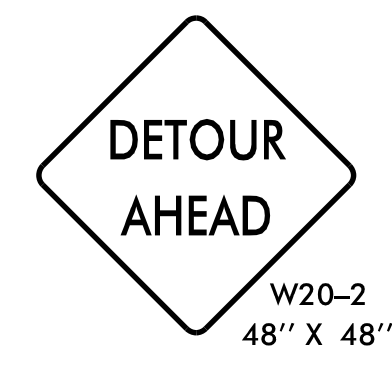
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 PROFESSIONAL ENGINEER
 BRANDON W. JOHNSON
 034371

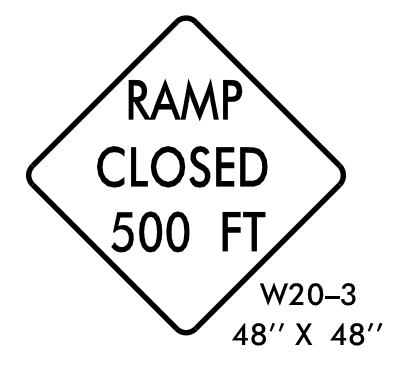


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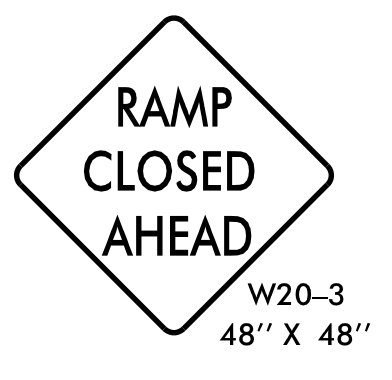
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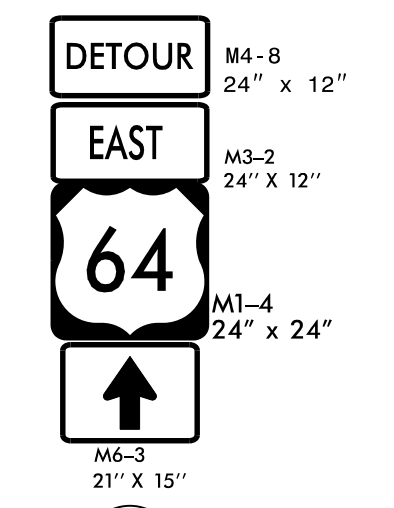
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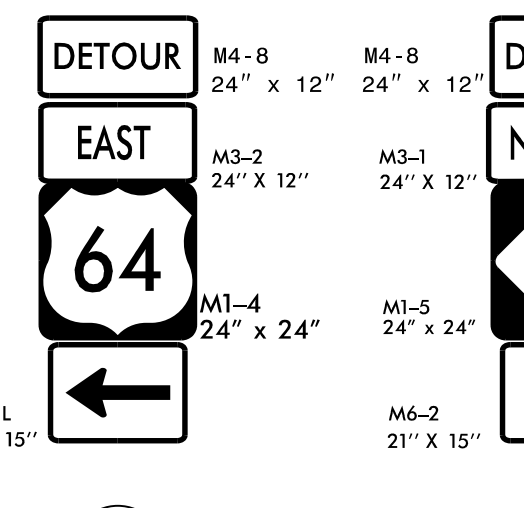
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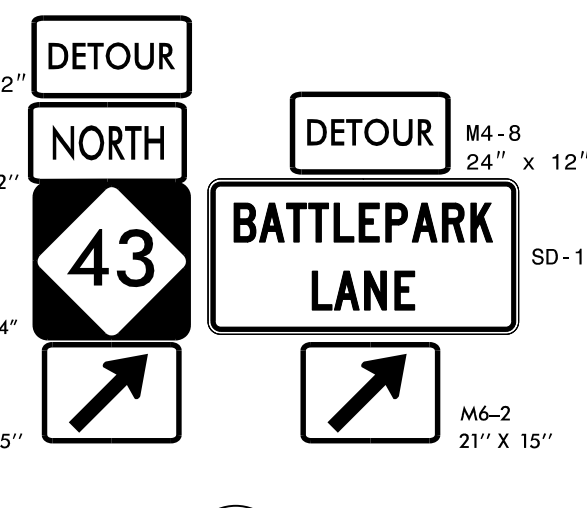
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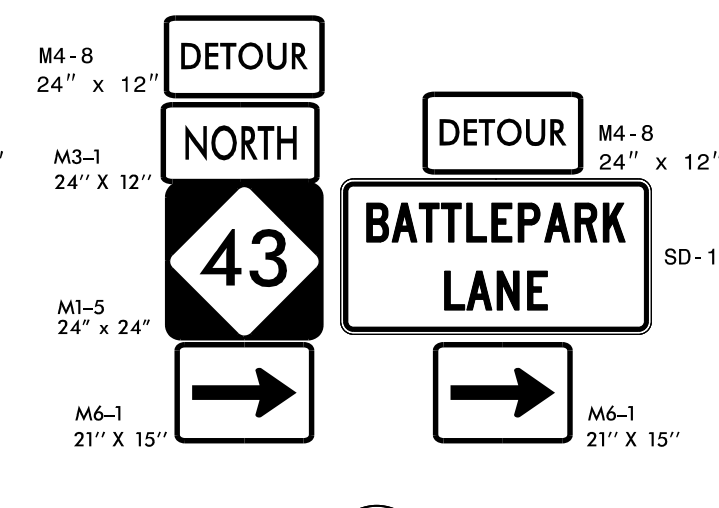
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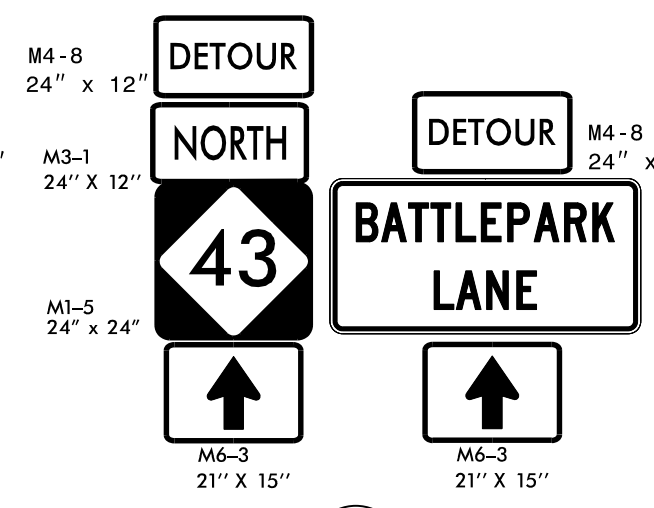
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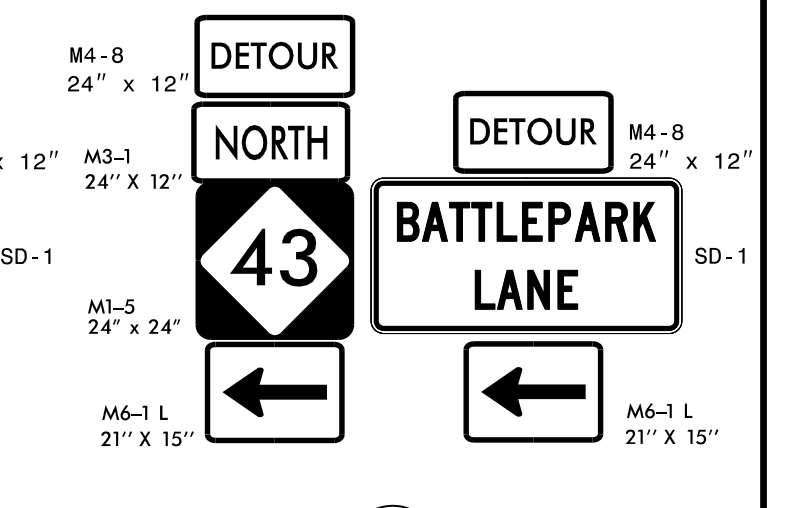
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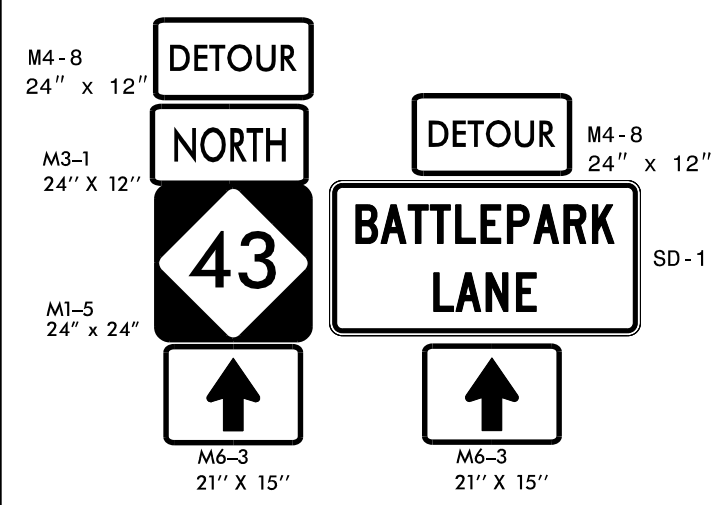
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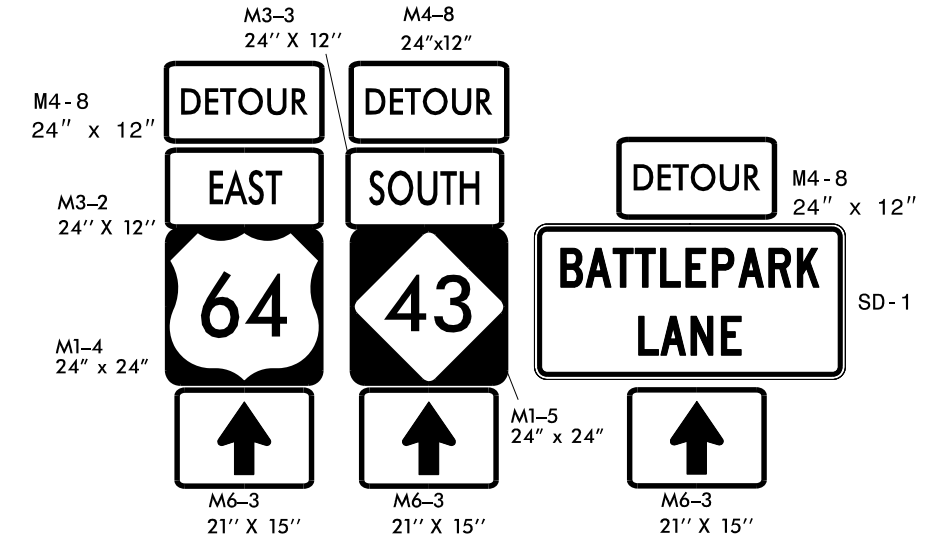
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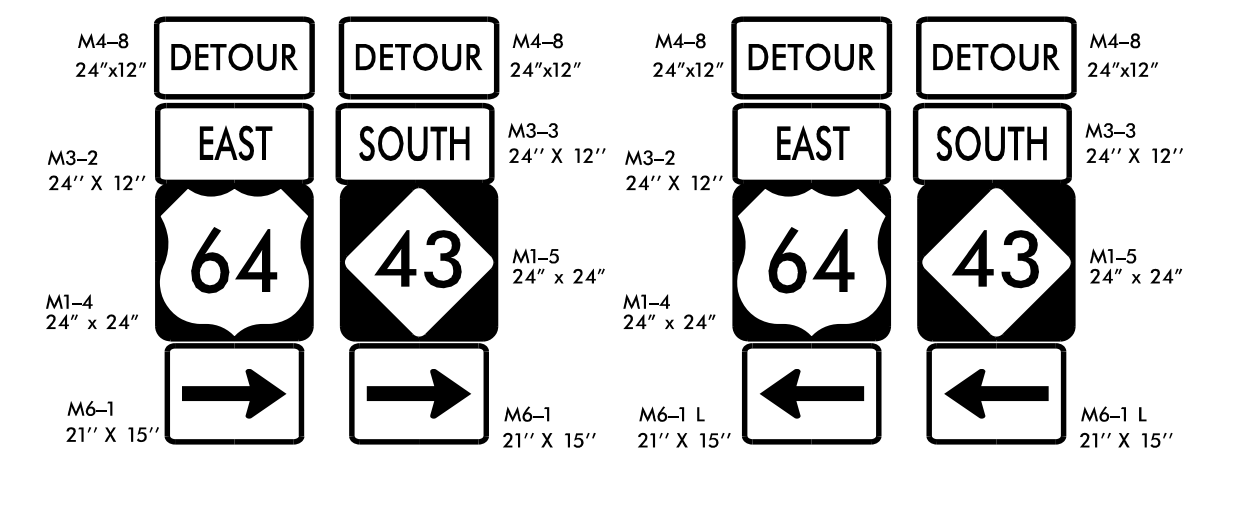
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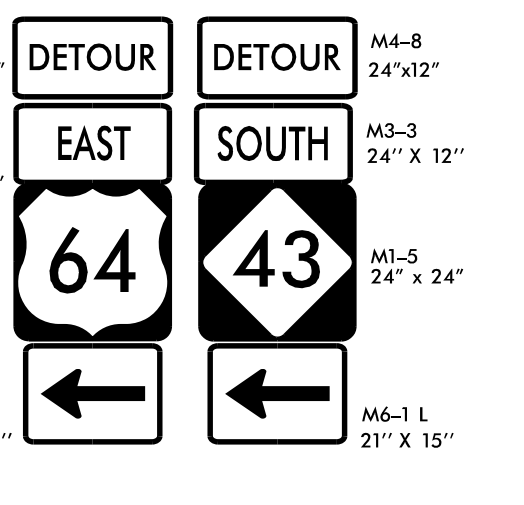
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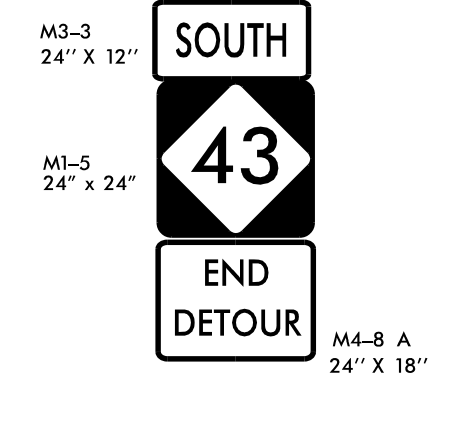
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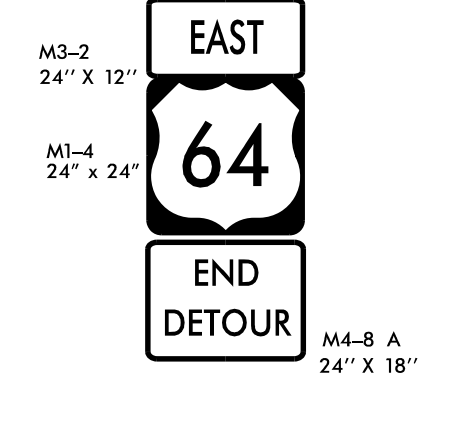
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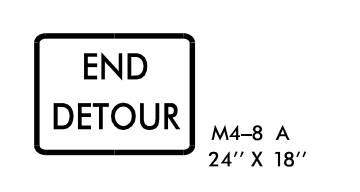
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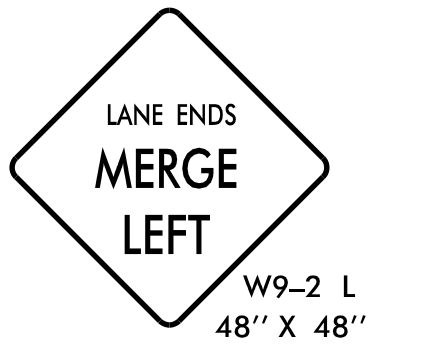
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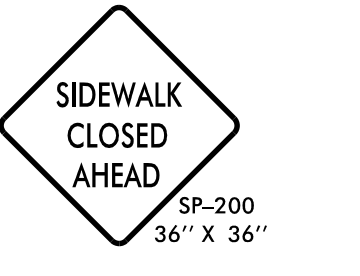
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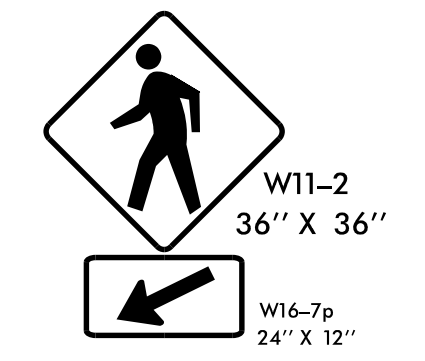
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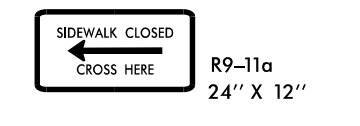
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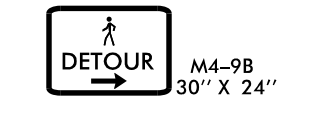
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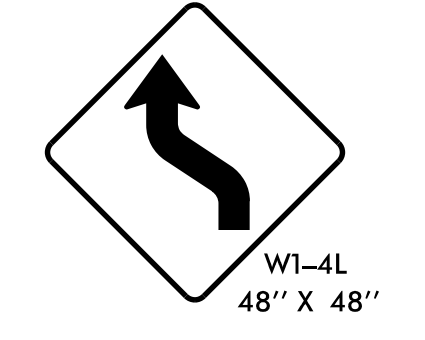
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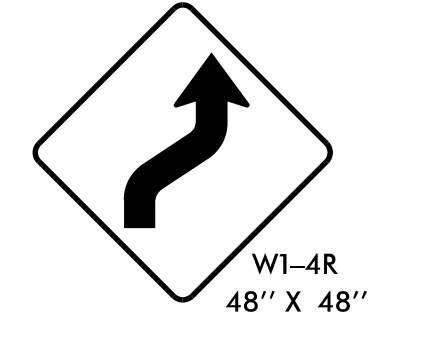
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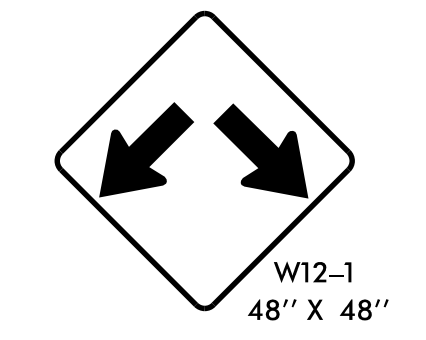
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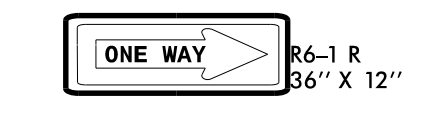
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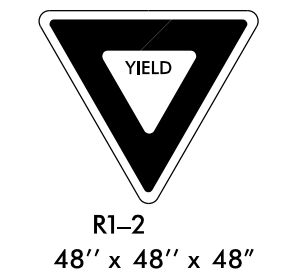
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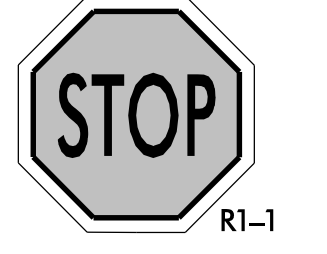
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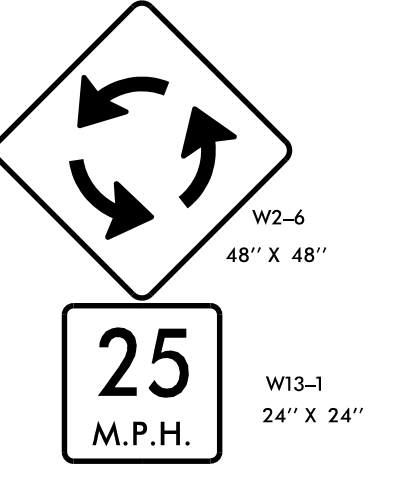
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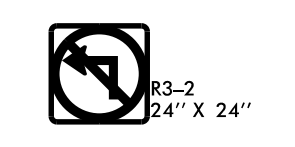
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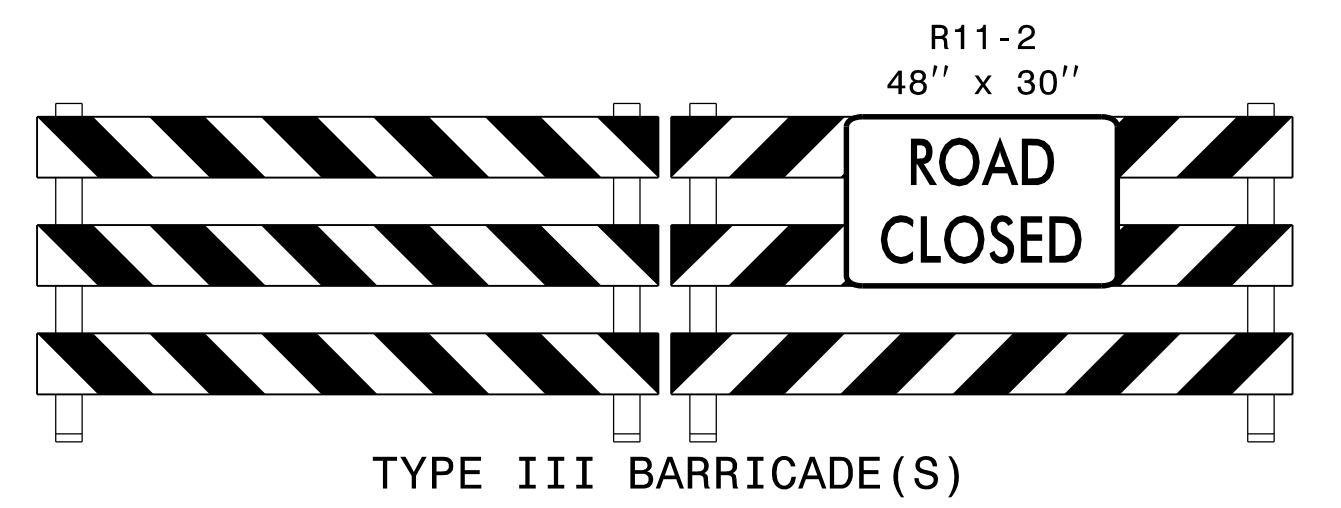
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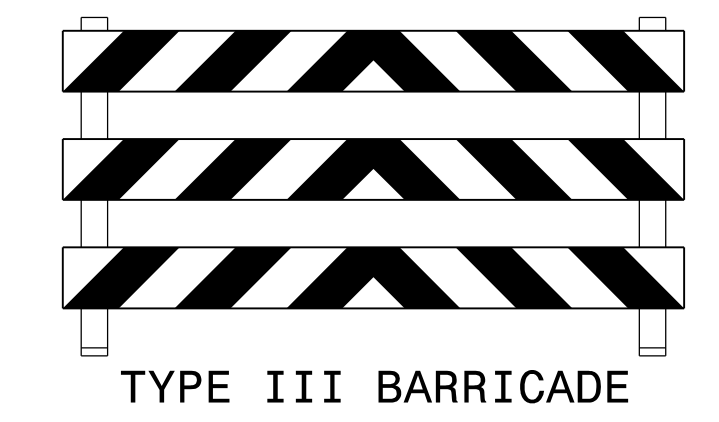
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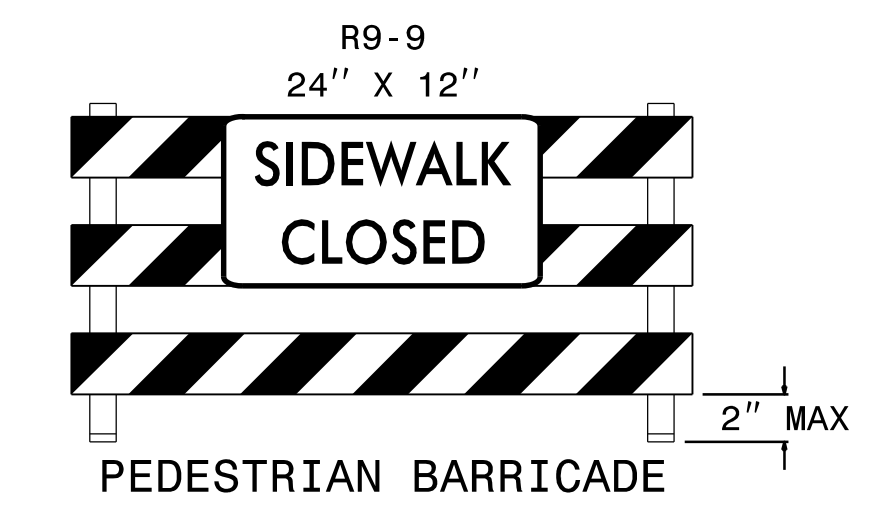
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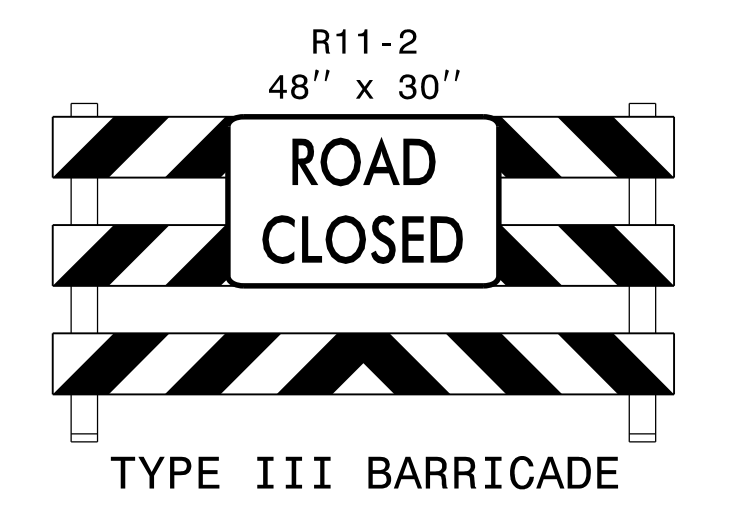
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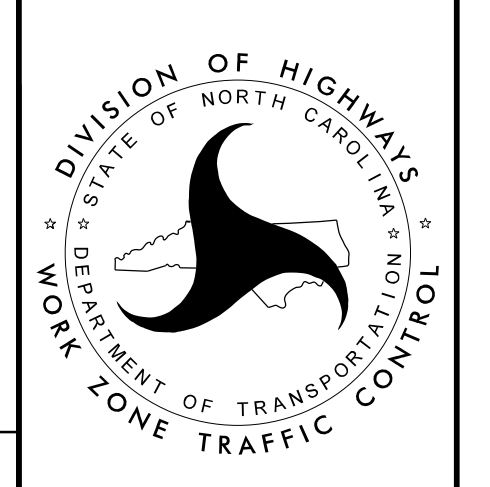
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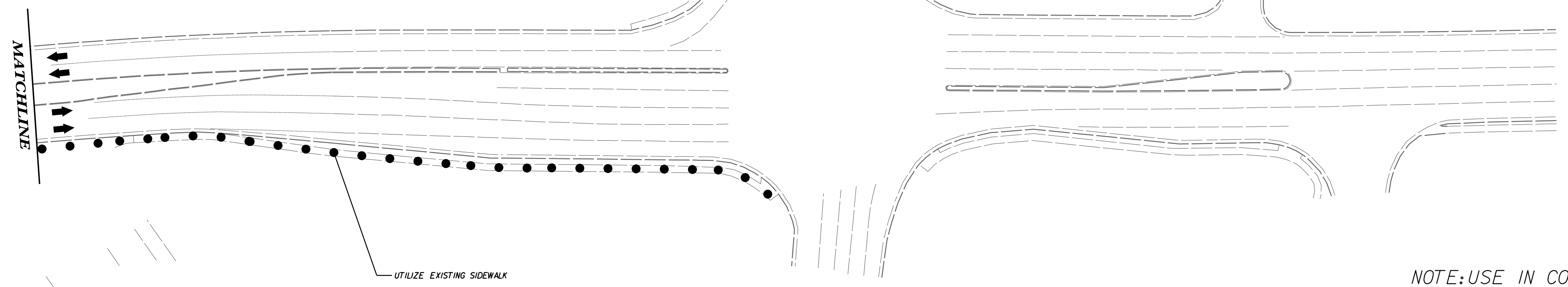
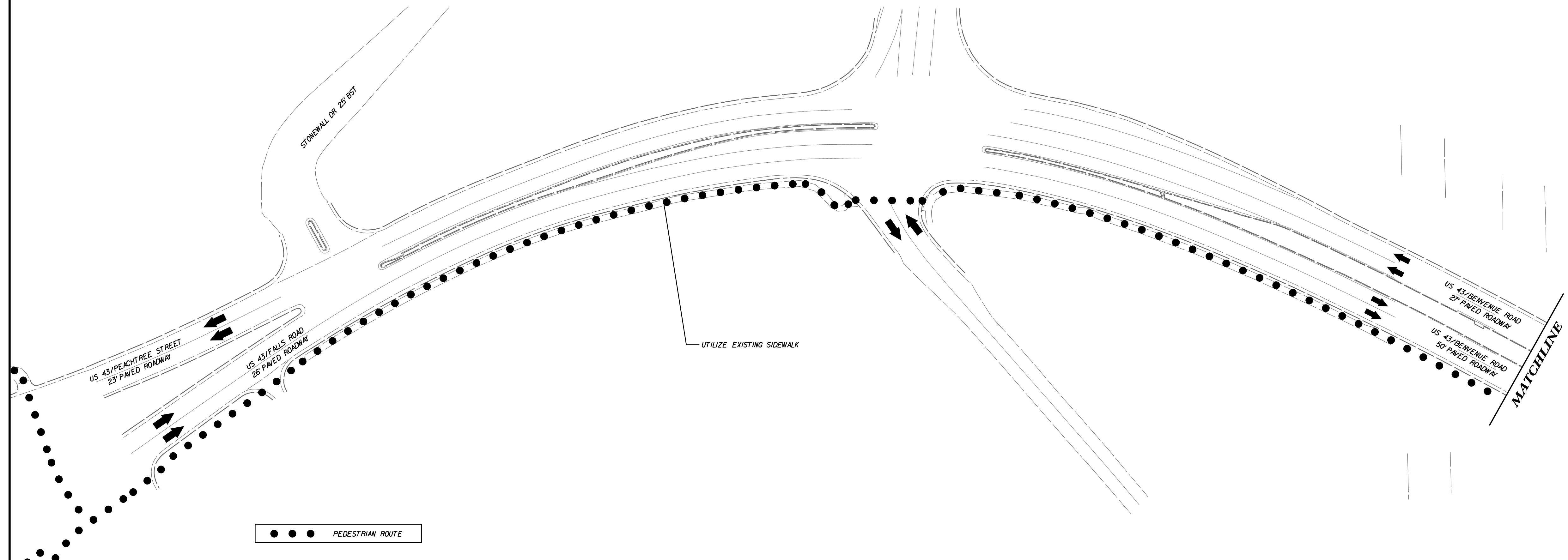
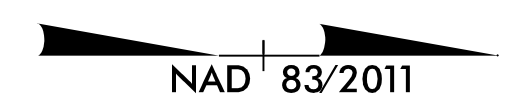
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DETOUR SIGNS

PEDESTRIAN MANAGEMENT PLAN

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U-5947	TMP-2E



NOTE: USE IN CONJUNCTION WITH TRANSPORTATION MANAGEMENT PLAN PHASE I THRU PHASE II

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 Josh.Ternigan

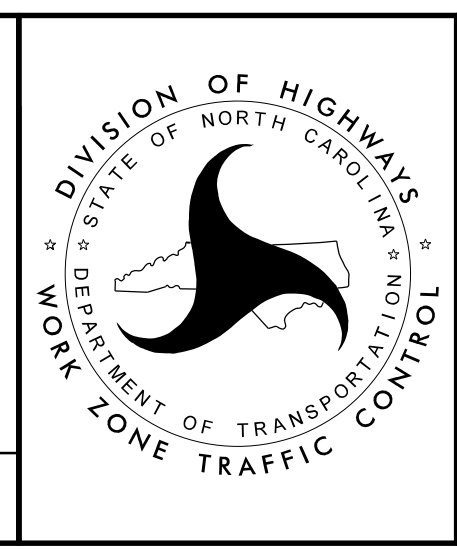
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DATE: 3/10/2022

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 PROFESSIONAL ENGINEER
 BRANDON W. JOHNSON
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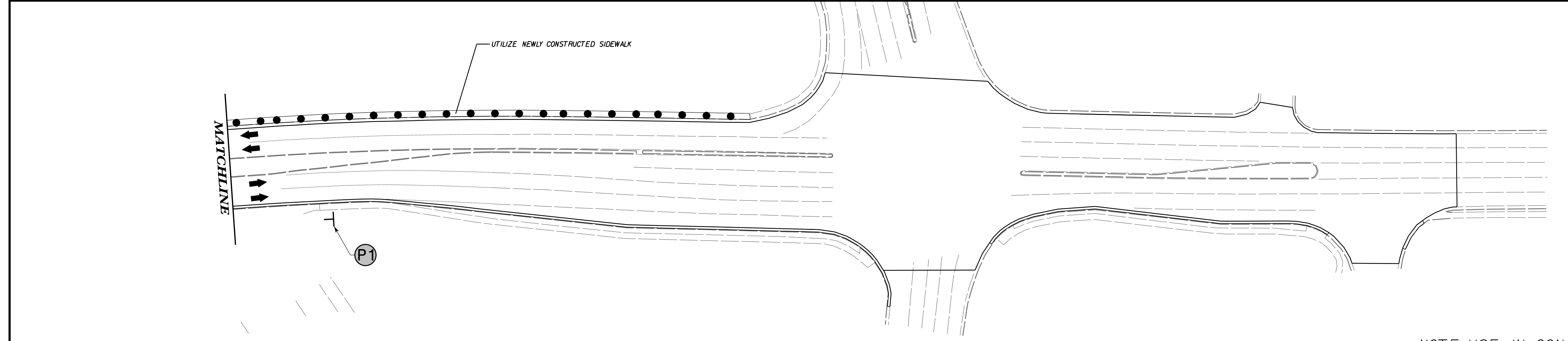
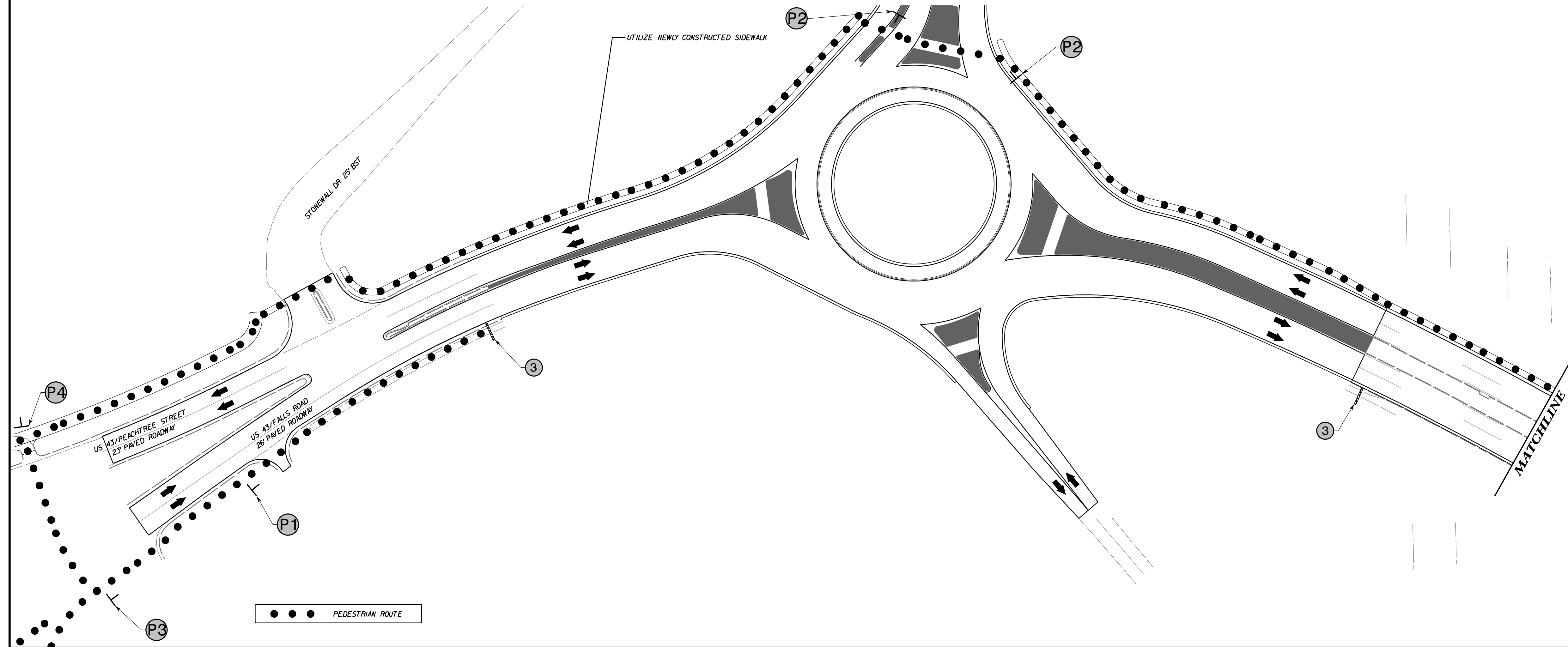
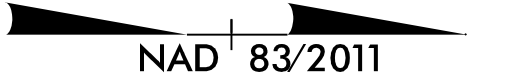
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PEDESTRIAN MANAGEMENT (PHASE I)

PEDESTRIAN MANAGEMENT PLAN

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U-5947	TMP-2F



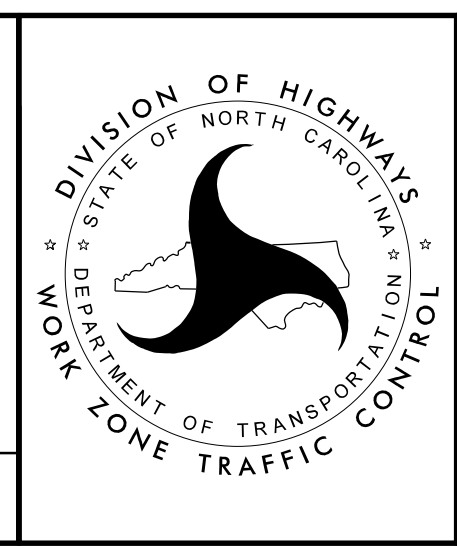
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PEDESTRIAN
MANAGEMENT
(PHASE II)

MANAGEMENT STRATEGIES

THE FOLLOWING BELOW ARE LISTED WORK ZONE STRATEGIES RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

- RECOMMENDED STRATEGIES:
- LANE CLOSURES OR SHIFTS
 - FLAGGING SERVICES
 - WEEKEND WORK
 - NIGHT WORK
 - PEDESTRIAN DETOURS AND ACOMMODATIONS
 - OFF-SITE DETOURS

PHASING

NOTES (APPLIES TO ALL PHASES)

REPLACE MARKINGS AND RETURN TO CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN PHASING OR DIRECTED BY ENGINEER.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, TEMPORARY MEDIAN, AND OUTSIDE DITCHES.

PAVE PROPOSED CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL DIRECTED TO INSTALL FINAL LAYER IN PHASING.

PHASE I

STEP 1: PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL INSTALL ADVANCE WARNING SIGNS AS SHOWN IN THE ROADWAY STANDARD DRAWINGS (RSD) 1101.01 (SHEETS 2 AND 3 OF 3) ALONG NC 43, US 64 EAST RAMP AND LOOP (-RPB- AND -LPB-) AND BATTLEPARK LN (-Y2-). INSTALL ALL PEDESTRIAN DETOUR SIGNING AS SEEN ON TMP-2E.

NOTE: STEPS 2A AND 2B OF PHASE I CAN OCCUR SIMULTANEOUSLY AND IN ANY ORDER

STEP 2A: INSTALL TEMPORARY LANE CLOSURES USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED. CONSTRUCT PROPOSED MULTI-USE PATH, SIDEWALK, DRAINAGE SYSTEM FROM STRUCTURE 0401 TO 0422, AND ALL RELATED PAVING, CURB & GUTTER, AND GRADING FROM -MUP- STA. 10+20+/- TO -SBL1- STA. 13+32+/- AS SHOWN ON SHEET TMP-4. REFER TO PEDESTRIAN MANAGEMENT PLAN-1 ON TMP-2E TO FOR PEDESTRIAN DETOUR.

STEP 2B: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT PROPOSED SIDEWALK AND ALL RELATED PAVING, CURB & GUTTER, AND GRADING ALONG SOUTHBOUND NC 43 (BENVENUE RD) FROM -SBL2- STA. 13+76+/- TO EXISTING SIDEWALK TIE-IN AT HUNTER HILL RD AS SHOWN ON SHEETS TMP-4 AND TMP-5. FOR PEDESTRIAN DETOUR, REFER TO PEDESTRIAN MANAGEMENT PLAN-1 ON TMP-2E.

STEP 3: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, CONSTRUCT PROPOSED SIDEWALK, DRAINAGE SYSTEM AND RELATED PAVING, CURB & GUTTER AND GRADING FROM -NBL2- STA. 25+10+/- TO -NBL2- STA. 13+50+/- AS SHOWN ON SHEETS TMP-4 AND TMP-5. TO ENSURE POSITIVE DRAINAGE AND PROPER CONNECTION TO THE EXISTING SYSTEM, CONSTRUCT PROPOSED DRAINAGE SYSTEM FROM STRUCTURE 0514 TO -NBL2- STA. 13+50+/- . USE PEDESTRIAN MANAGEMENT PLAN-1 ON TMP-2E WITH PROPOSED PICKUP AND DROP OFF LOCATIONS NOTED IN SHEETS TMP-4 AND TMP-5.

STEP 4: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, INSTALL TRAFFIC DEVICES AND SHIFT TRAFFIC INTO NEW PATTERN AS SHOWN ON TMP-6. REMOVE EXISTING MEDIAN AND INSTALL PROPOSED DRAINAGE SYSTEM UP TO EXISTING GRADE AND PREPARE/PROTECT DRAINAGE TO TEMPORARILY BEAR TRAFFIC. ROAD PLATES, TEMPORARY PAVEMENT, AGGREGATE BASE COURSE (ABC) MAY BE REQUIRED TO SAFELY CONSTRUCT THE TEMPORARY LANES AND SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

PHASE II :

STEP 1: INSTALL DETOUR SIGNS AS SHOWN ON SHEET TMP-2C.

STEP 2: USING THE OFFSITE DETOUR, REFER TO SHEET TMP-7 FOR TRAFFIC PATTERN AND PROPOSED WORK. USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, INSTALL TRAFFIC TEMPORARY PAVEMENT MARKINGS, SIGNS AND DEVICES AND SHIFT TRAFFIC INTO NEW PATTERN SHOWN ON SHEET TMP-7. CONSTRUCT PROPOSED SIDEWALK, DRAINAGE SYSTEM AND RELATED PAVING, CURB & GUTTER AND GRADING ALONG NC 43 (BENVENUE RD) AND US 64 EAST RAMP AND LOOP FROM -SBL2- 13+76+/- IN SOUTHBOUND DIRECTION TO -SLB1- STA. 13+32+/- . DRAINAGE PIPE CROSSING US 64 EAST RAMP AND LOOP SHALL BE COMPLETED USING NIGHT WORK. PEDESTRIAN TRAFFIC WILL FOLLOW TRAFFIC PATTERN ON SHOWN ON SHEET TMP-2E.

INTERMEDIATE CONTRACT TIME SPECIAL PROVISIONS

COMPLETE THE REQUIREMENTS OF PHASE II-STEP 3 IN A CONTINUOUS OPERATION IN 14 (FOURTEEN) CONSECUTIVE DAYS

STEP 3: INSTALL DETOUR SIGNS AS SEEN ON TMP-2B AND DETAIL-A IN TMP-2C. CLOSE THE US 64 EAST RAMP AND LOOP IN A CONTINUOUS CLOSURE TO COMPLETE PROPOSED PAVING, WEDGING, CURB & GUTTER AND GRADING SHOWN ON SHEET TMP-8.

STEP 4: REMOVE DETOUR SIGNING INSTALLED ON SHEET TMP-2B, DETAIL-A ON SHEET TMP-2C AND SHEET TMP-2E .

PHASE III :

STEP 1: INSTALL AND COVER DETOUR SIGNS FOR PEDESTRIAN DETOUR SIGNING AS SHOWN ON TMP-2F.

STEP 2: REFER TO SHEET TMP-9 FOR TRAFFIC PATTERN AND PROPOSED WORK. USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, INSTALL TEMPORARY PAVEMENT MARKINGS, SIGNS AND DEVICES AND SHIFT TRAFFIC INTO NEW PATTERN SHOWN ON SHEET TMP-9. CONSTRUCT PAVEMENT, CURB & GUTTER, SIDEWALK, DRAINAGE AND GRADING. DRAIANGE SYSTEM SHALL BE INSTALLED FROM -NBL2- 13+50+/- TO -NBL1- STA. 13+45+/-.

INTERMEDIATE CONTRACT TIME SPECIAL PROVISIONS

STEP 3: FOR WORK THAT IS UNABLE TO BE COMPLETED THROUGH LANE CLOSURES IN PHASE III- STEP 2, CLOSE BATTLEPARK LANE TO PERFORM NIGHT WORK BETWEEN THE HOURS OF 9:00 PM FRIDAY TO 5:00 AM MONDAY.

STEP 4: REMOVE DETOUR SIGNING INSTALLED ON TMP-2C.

STEP 5: USING RSD 1101.02 (SHEET 1 OF 14) AND FLAGGERS AS NEEDED, CONSTRUCT REMAINING PAVEMENT ALONG BATTLEPARK LN.

PHASE IV :

STEP 1: USING RSD 1101.02 (SHEET 3 OF 14) AS NEEDED, INSTALL TEMPORARY PAVEMENT MARKINGS, SIGNS AND DEVICES AND SHIFT TRAFFIC INTO NEW PATTERN SHOWN ON SHEET TMP-10. CONSTRUCT REMAINING PAVING, CURB & GUTTER, AND CONCRETE MEDIAN AND ISLAND WORK.

STEP 2: INSTALL TEMPORARY PAVEMENT MARKINGS AND ROUNDABOUT INTERSECTION SIGNING PER THE FINAL PAVEMENT MARKING PLANS AND SIGNING PLANS.

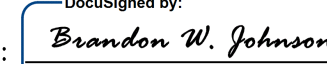
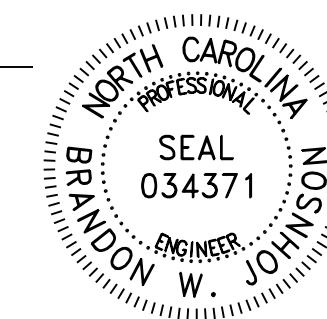

STEP 3: OPEN ROUNDABOUT INTERSECTION TO TRAFFIC

PHASE V :

STEP 1: USING RSD 1101.02 AS NEEDED FOR TEMPORARY LANE CLOSURES AND FLAGGING OPERATIONS, THE CONTRACTOR SHALL PERFORM MILLING AS SHOWIN IN THE ROADWAY PLANS, PLACE THE FINAL LAYER OF ASPHALT AND FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN IN THE PAVEMENT MARKING PLANS.

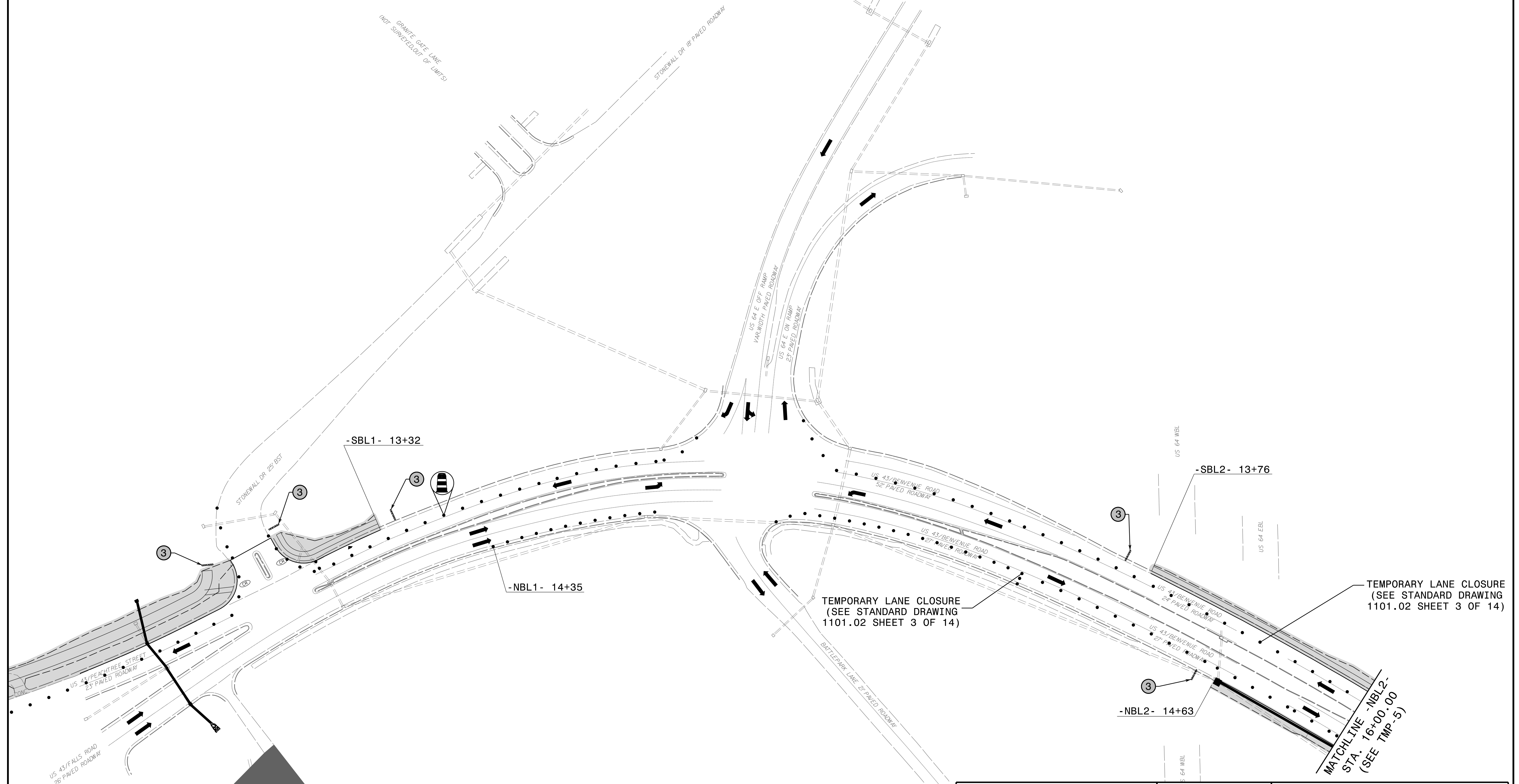
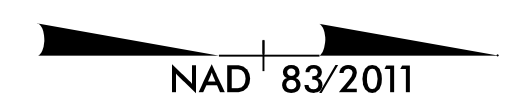
STEP 2: REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL LANES TO TRAFFIC.

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Josh.Fernigan

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PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-4

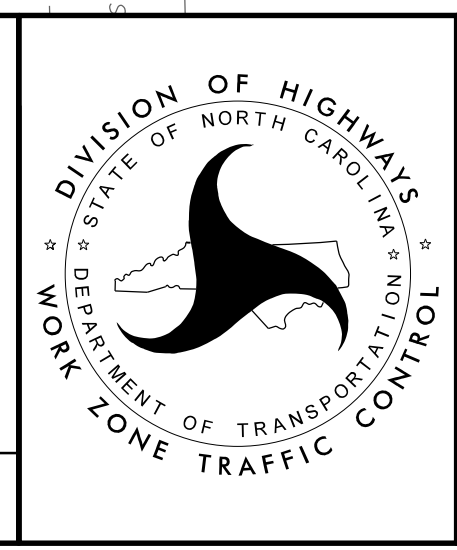
EXISTING DRAINAGE	
PROPOSED DRAINAGE TO BE INSTALLED	
PROPOSED DRAINAGE PREVIOUSLY INSTALLED	



NOTE: USE PEDESTRIAN MANAGEMENT PHASE I WITH THIS DETAIL.



APPROVED:
 DATE: 3/10/2022
 SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 034371
 BRANDON W. JOHNSON

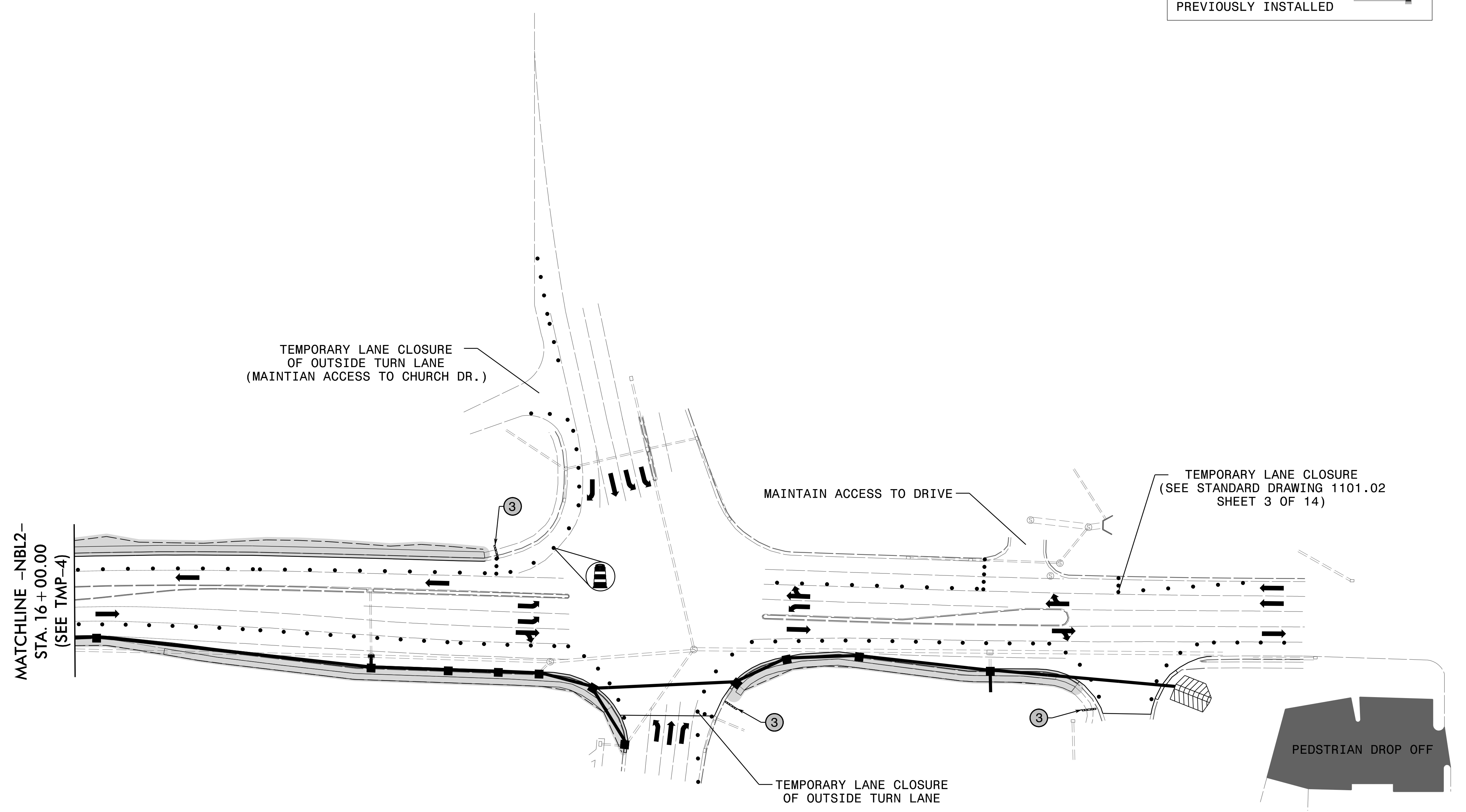
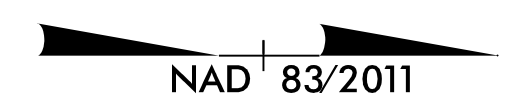


TRAFFIC MANAGEMENT PHASE I
DETAIL SHEET
1 OF 3

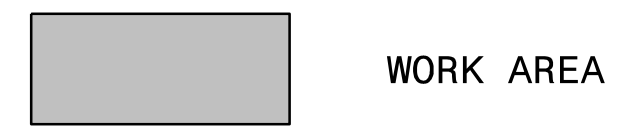
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 josh.fernigan

PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-5

EXISTING DRAINAGE	
PROPOSED DRAINAGE TO BE INSTALLED	
PROPOSED DRAINAGE PREVIOUSLY INSTALLED	



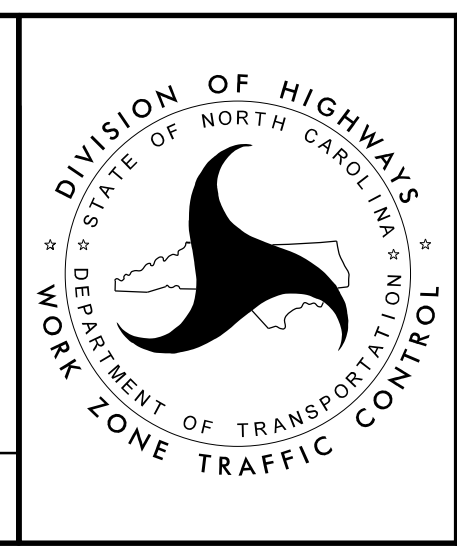
NOTE: USE PEDESTRIAN MANAGEMENT PHASE I WITH THIS DETAIL.



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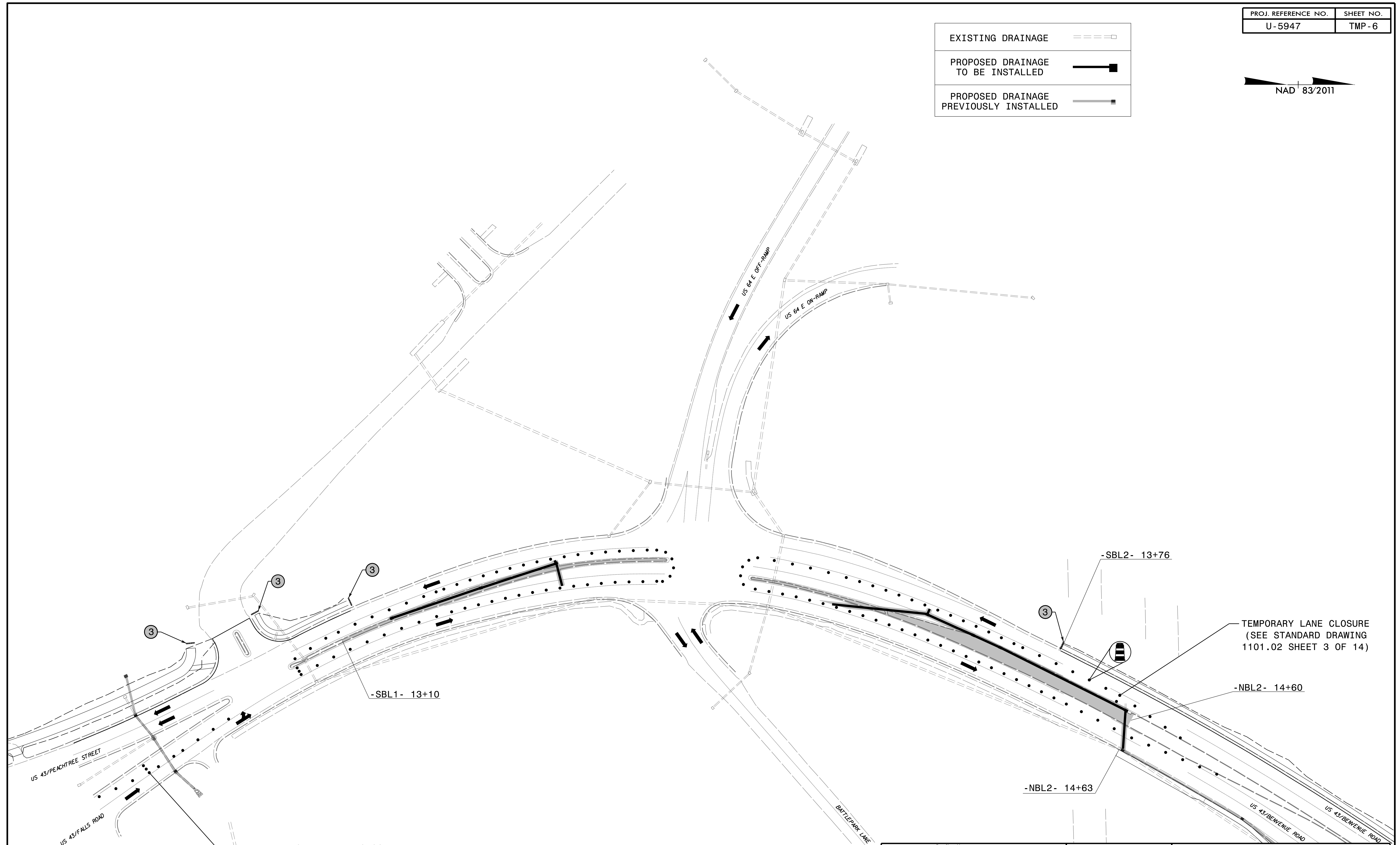
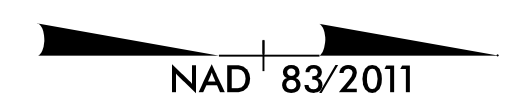
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TRAFFIC MANAGEMENT PHASE I DETAIL SHEET 2 OF 3

PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-6

EXISTING DRAINAGE	
PROPOSED DRAINAGE TO BE INSTALLED	
PROPOSED DRAINAGE PREVIOUSLY INSTALLED	



TEMPORARY LANE CLOSURE
(SEE STANDARD DRAWING 1101.02
SHEET 3 OF 14)

NOTE: USE PEDESTRIAN MANAGEMENT
PHASE I WITH THIS DETAIL.

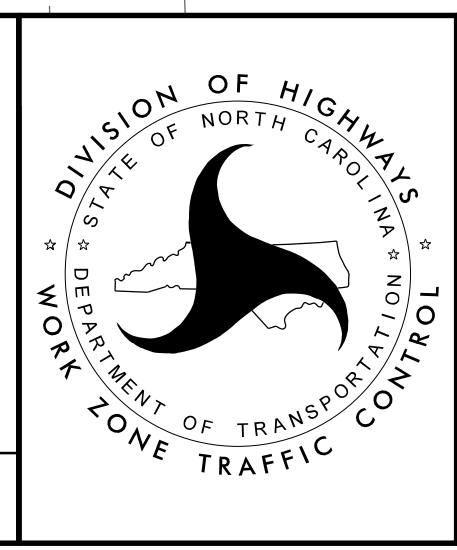
WORK AREA

APPROVED: *Brandon W. Johnson*
DATE: 3/10/2022

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SEAL
034371
ENGINEER
BRANDON W. JOHNSON

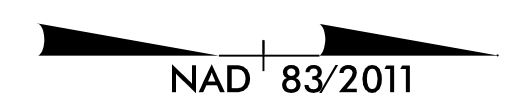
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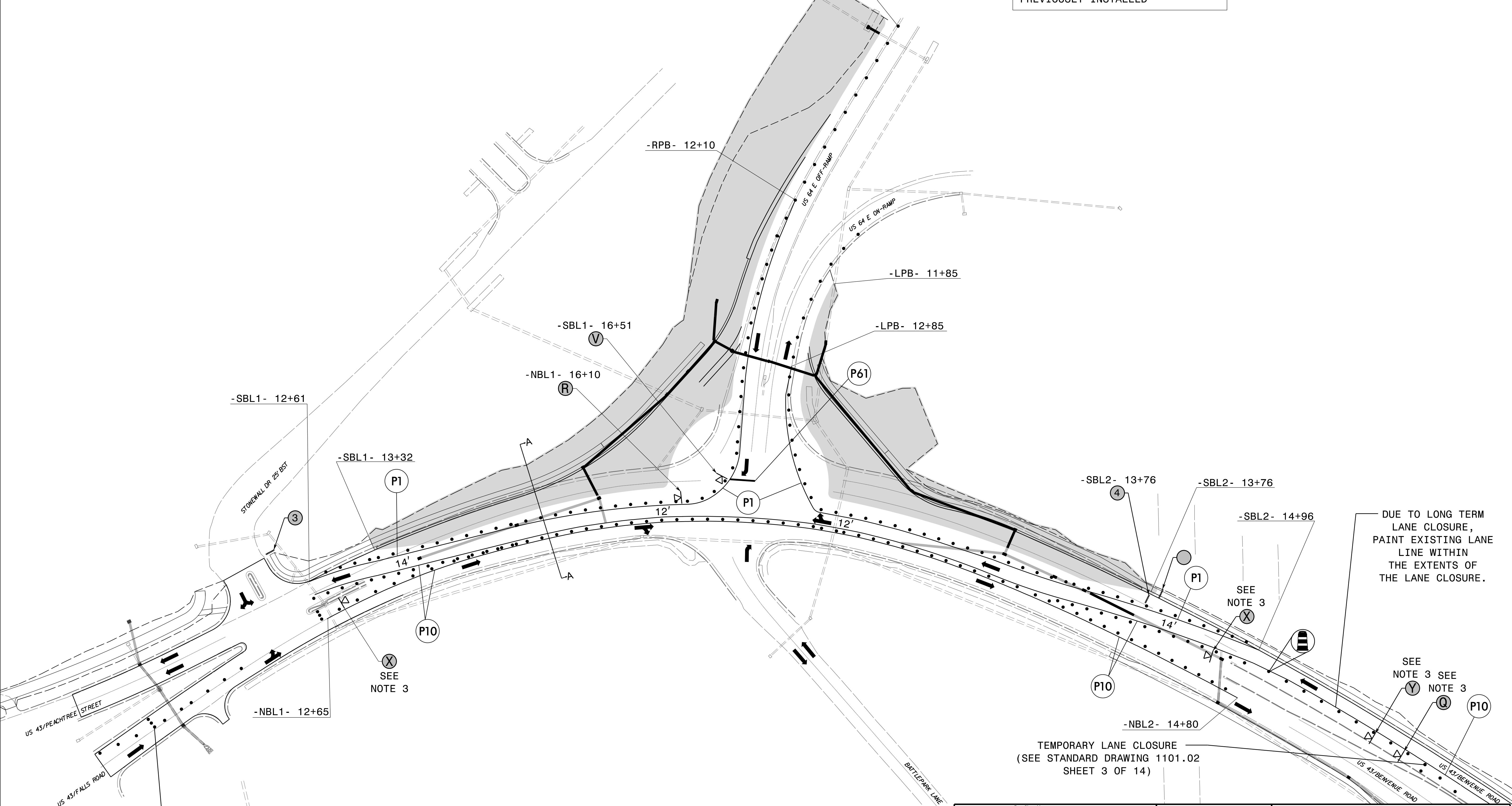
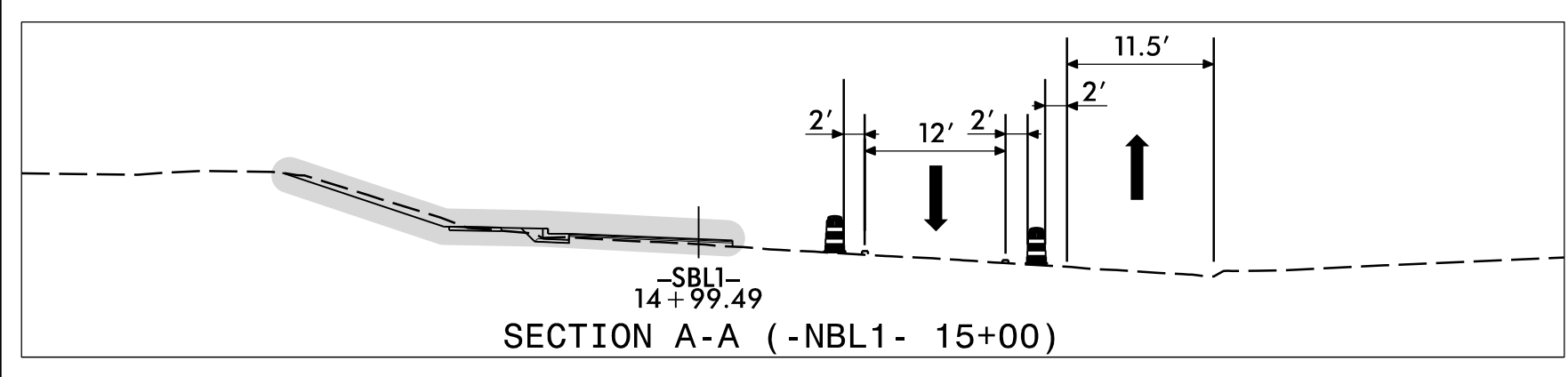
**TRAFFIC
MANAGEMENT
PHASE I
DETAIL SHEET
3 OF 3**

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PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-7



EXISTING DRAINAGE	
PROPOSED DRAINAGE TO BE INSTALLED	
PROPOSED DRAINAGE PREVIOUSLY INSTALLED	



NOTE 1: USE PEDESTRIAN MANAGEMENT PHASE I WITH THIS DETAIL.
 NOTE 2: USE BATTLEPARK LANE AND US-64 RAMPS DETOUR WITH THIS DETAIL.
 NOTE 3: REFER TO STANDARD DRAWING 1101.11 (SHEET 4 OF 4) FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE.



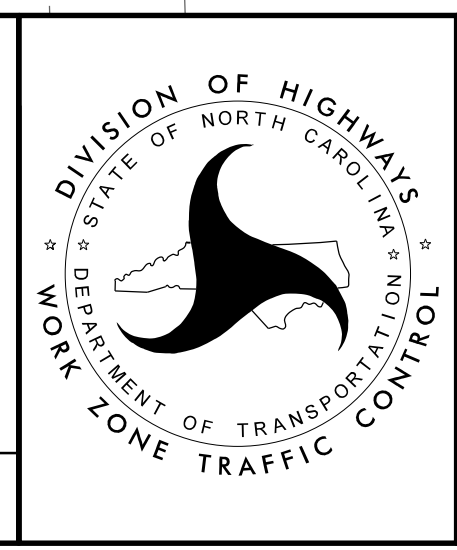
TEMPORARY LANE CLOSURE
 (SEE STANDARD DRAWING 1101.02 SHEET 3 OF 14)

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APPROVED: *Brandon W. Johnson*
 DATE: 3/10/2022

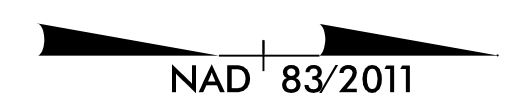
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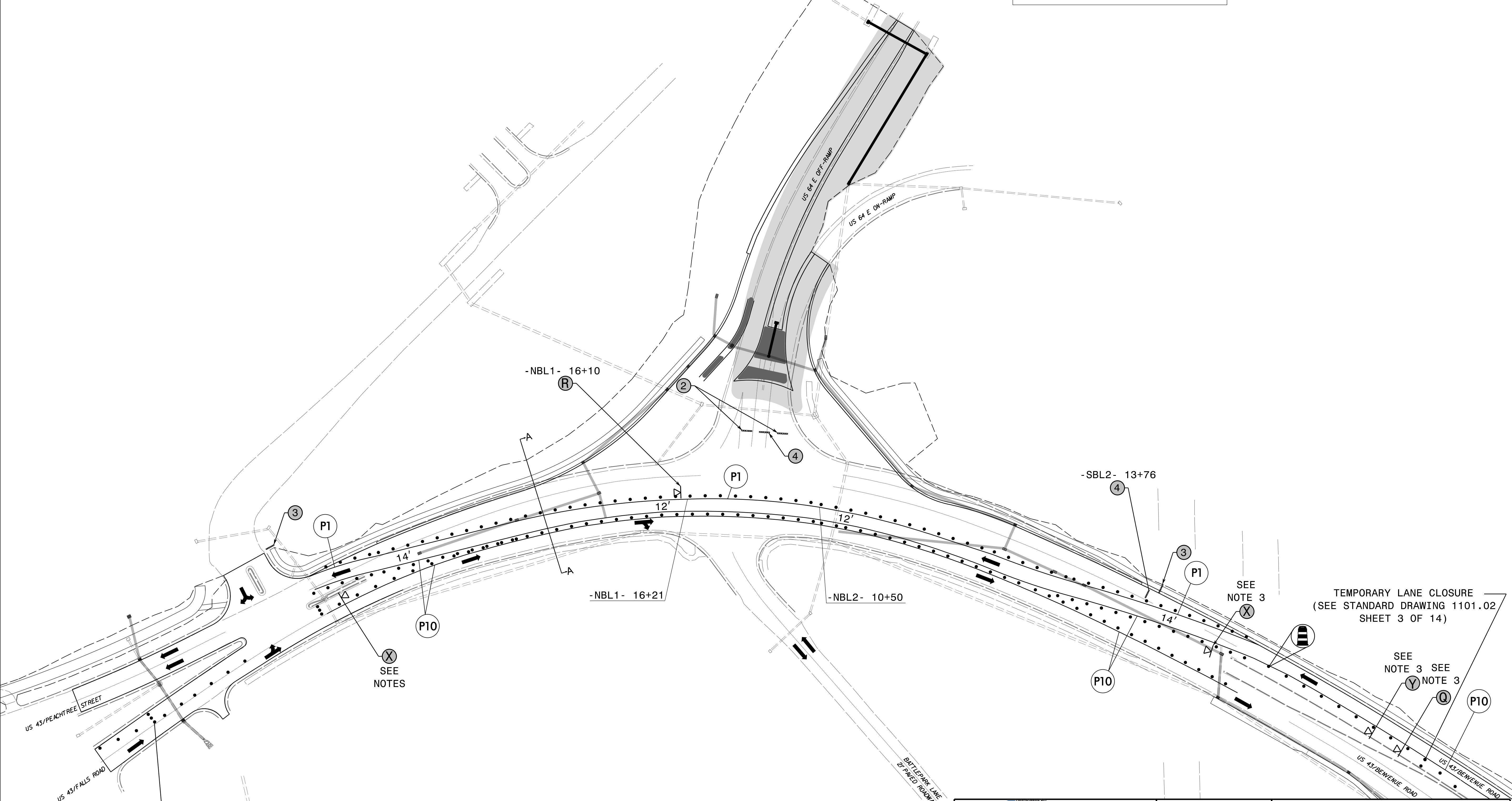
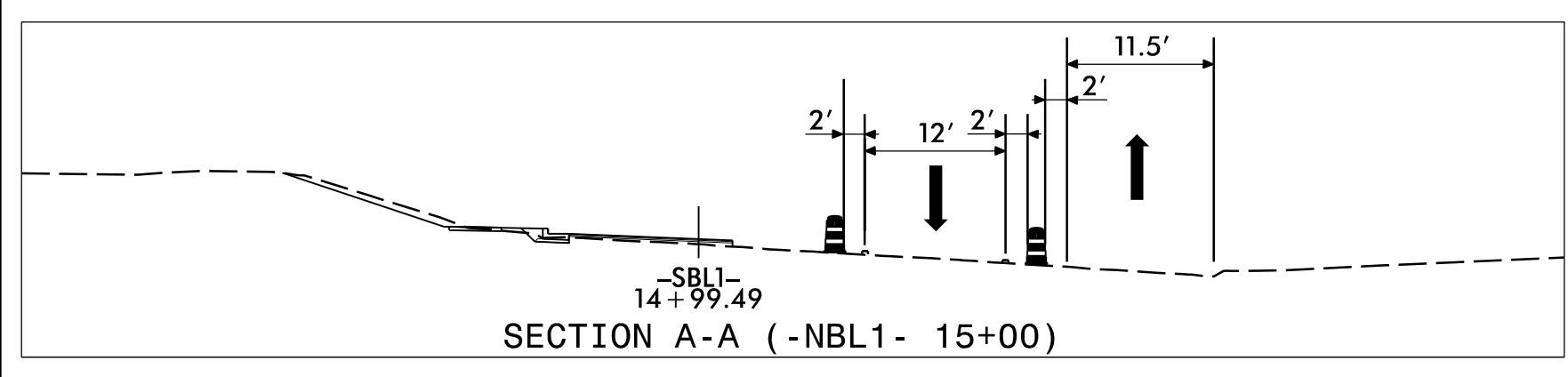


TRAFFIC MANAGEMENT
 PHASE II
 DETAIL SHEET
 1 OF 2

PROJ. REFERENCE NO.	SHEET NO.
U-5947	TMP-8



EXISTING DRAINAGE	
PROPOSED DRAINAGE TO BE INSTALLED	
PROPOSED DRAINAGE PREVIOUSLY INSTALLED	



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TEMPORARY LANE CLOSURE
(SEE STANDARD DRAWING 1101.02
SHEET 3 OF 14)

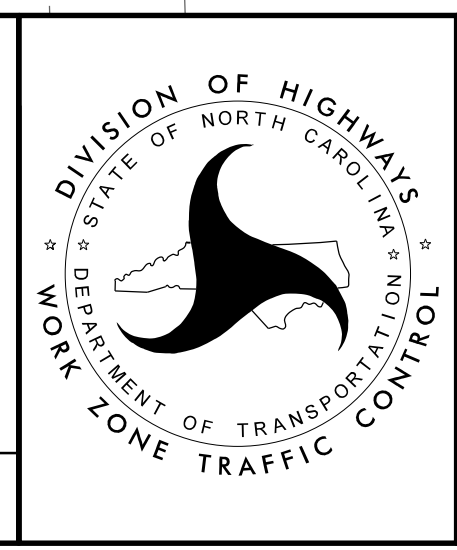
NOTE 1: USE PEDESTRIAN MANAGEMENT PHASE I WITH THIS DETAIL.
 NOTE 2: USE BATTLEPARK LANE AND US-64 RAMPS DETOUR WITH THIS DETAIL.
 NOTE 3: REFER TO STANDARD DRAWING 1101.11 (SHEET 4 OF 4) FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE.

WORK AREA

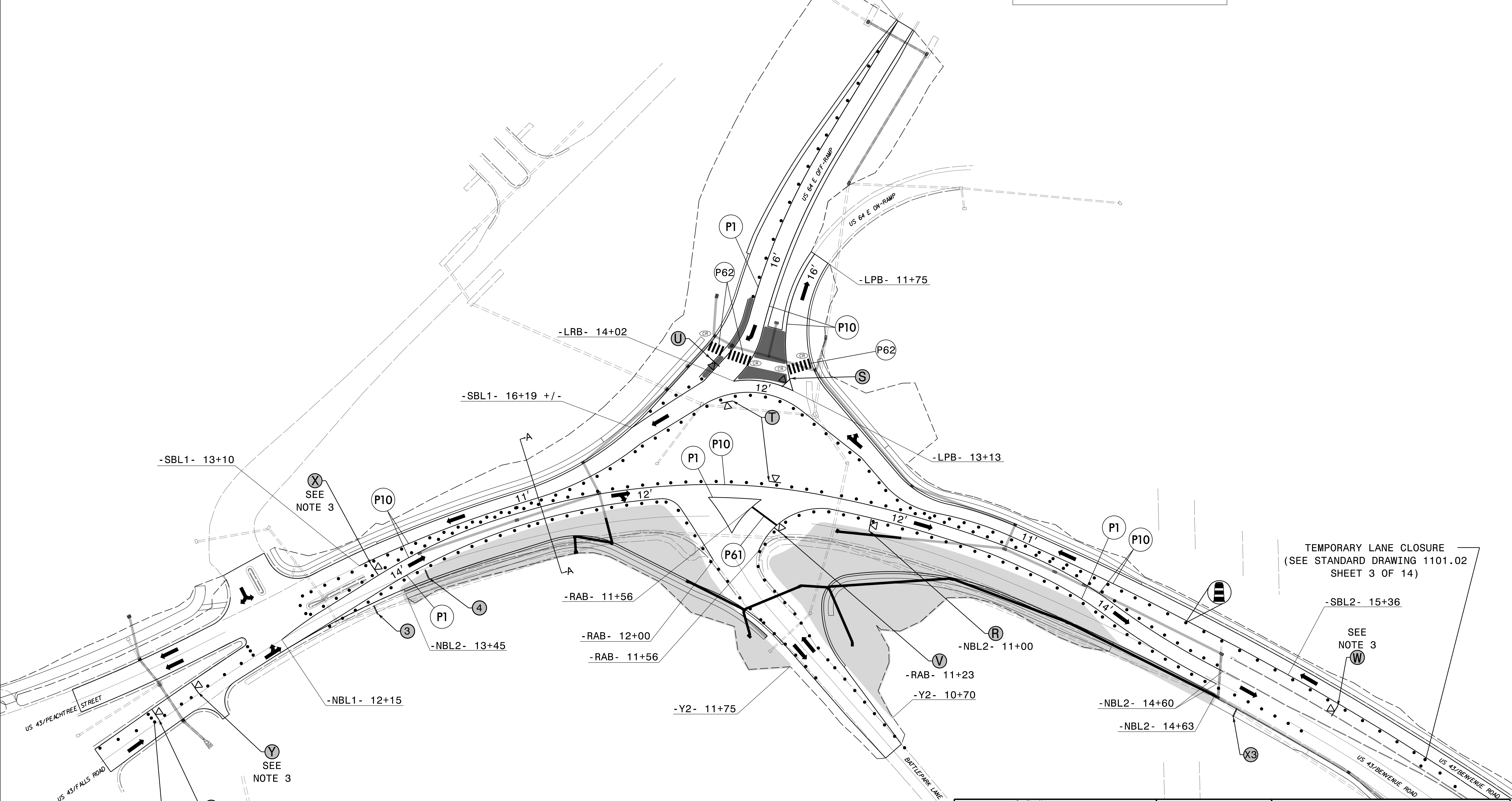
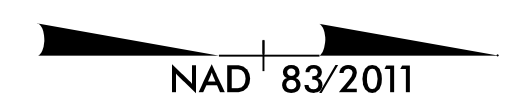
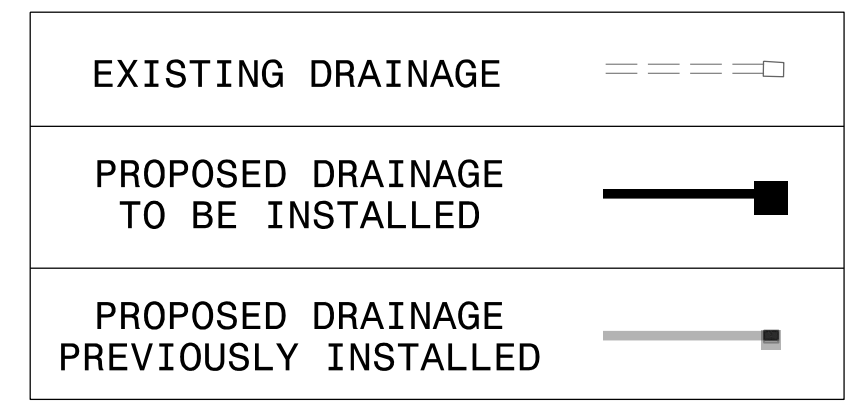
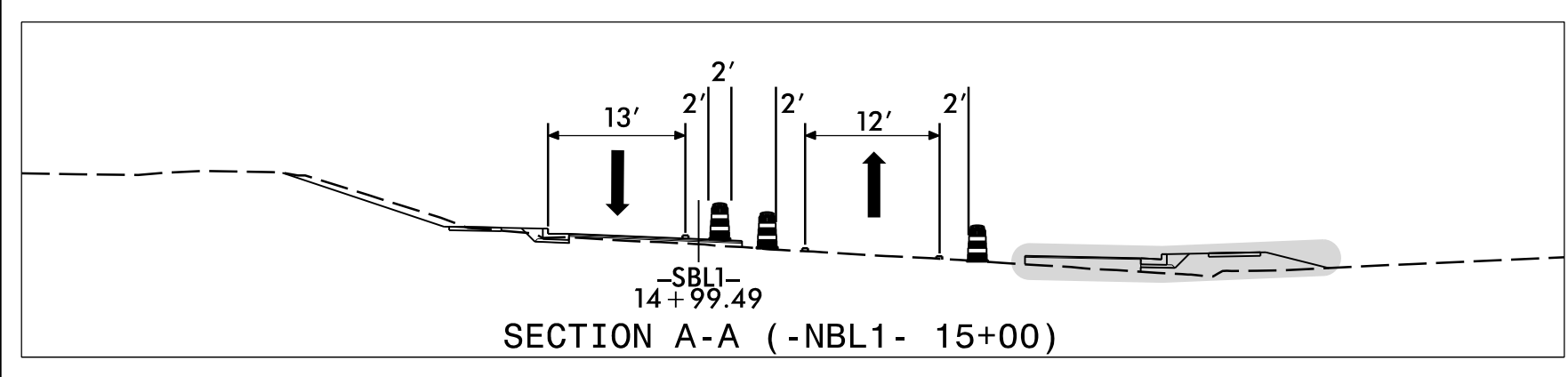
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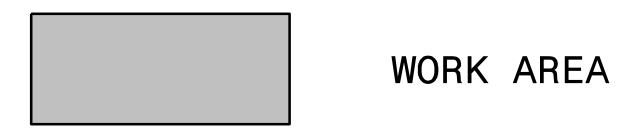
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**TRAFFIC
 MANAGEMENT
 PHASE II
 DETAIL SHEET
 2 OF 2**



NOTE 1: USE PEDESTRIAN MANAGEMENT PHASE II WITH THIS DETAIL.
 NOTE 2: USE BATTLEPARK LANE AND US-64 RAMPS DETOUR WITH THIS DETAIL.
 NOTE 3: REFER TO STANDARD DRAWING 1101.11 (SHEET 4 OF 4) FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE.

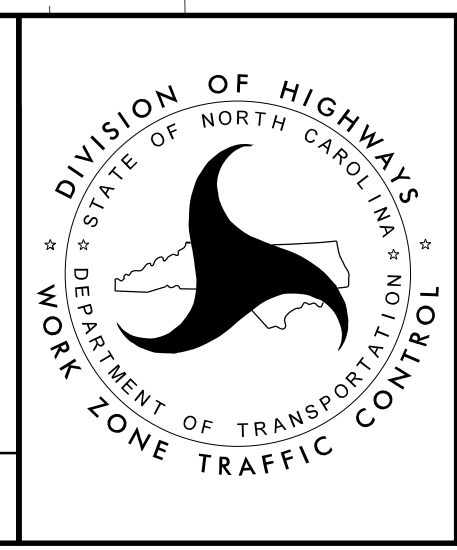


TEMPORARY LANE CLOSURE
 (SEE STANDARD DRAWING 1101.02 SHEET 3 OF 14)

APPROVED: *Brandon W. Johnson*
 DATE: 3/10/2022

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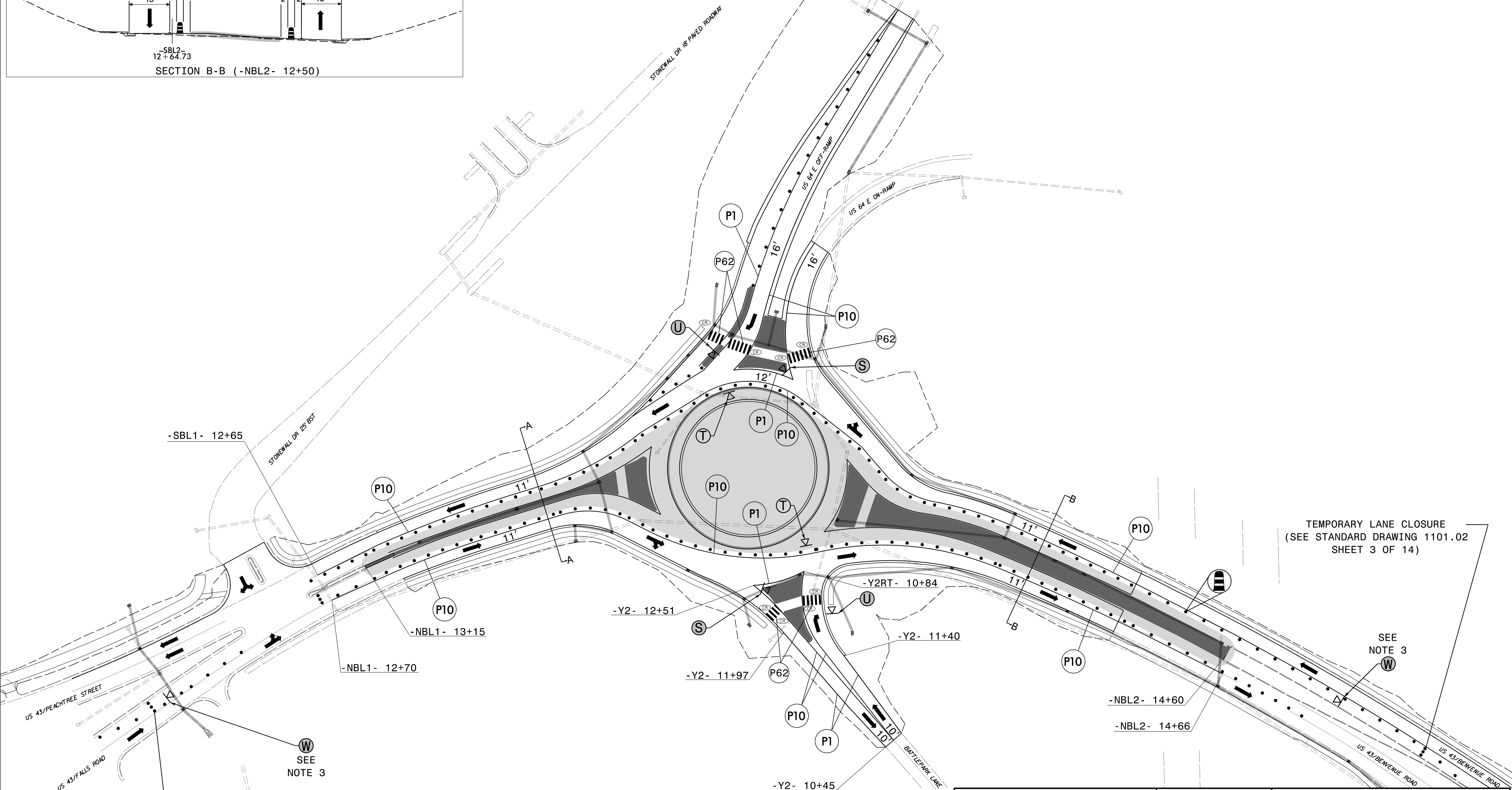
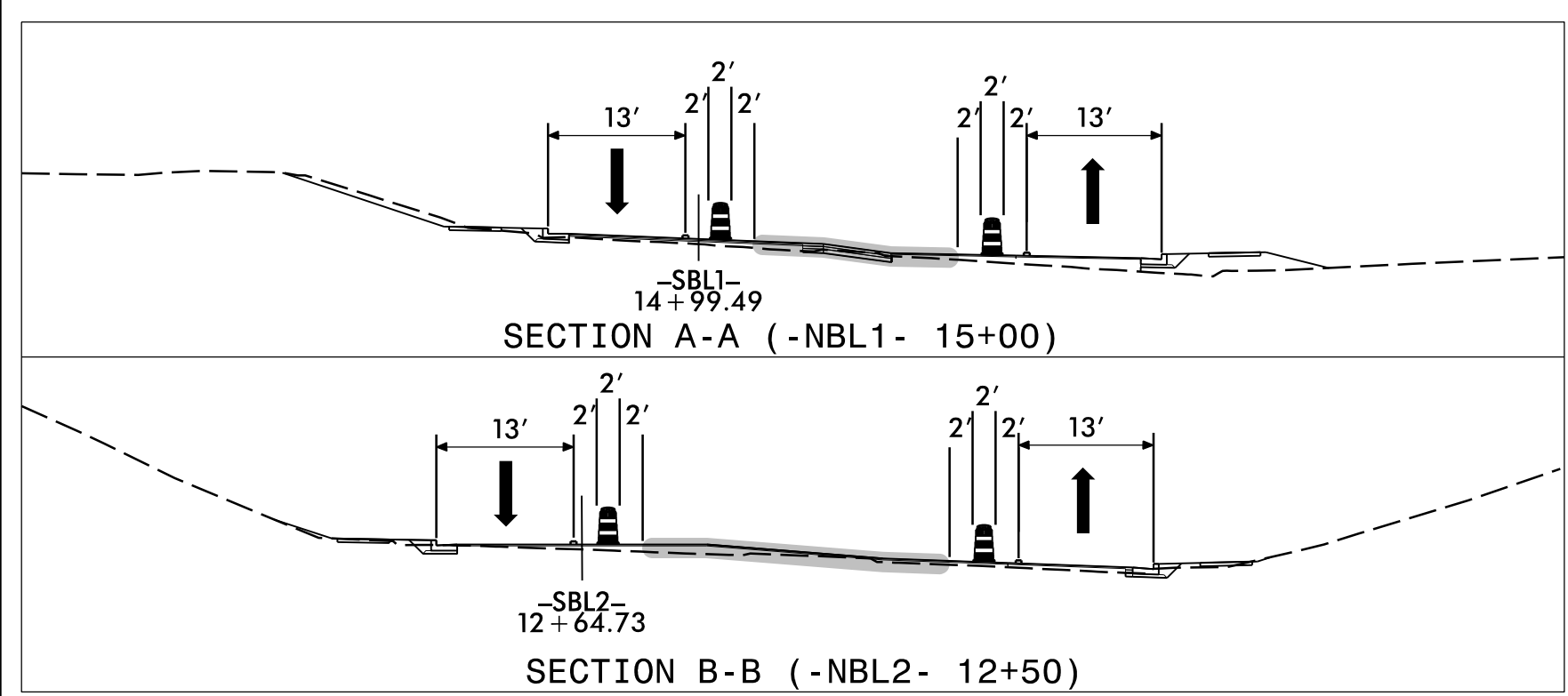
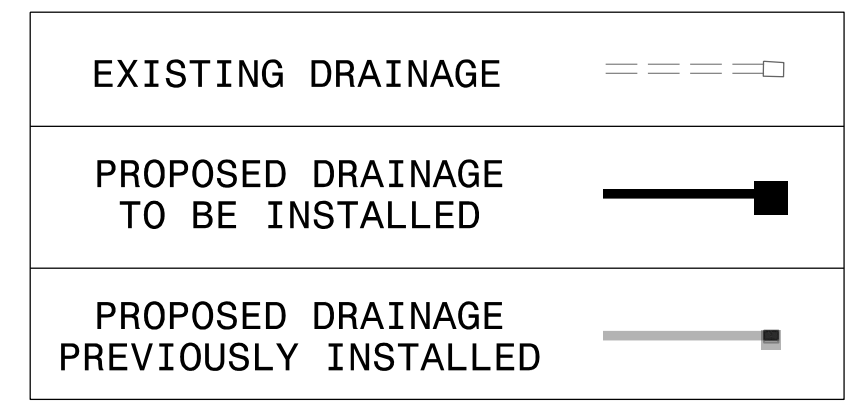
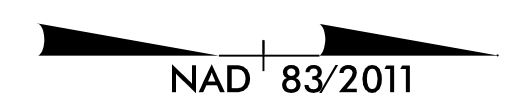
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DIVISION OF HIGHWAYS
 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

TRAFFIC MANAGEMENT PHASE III

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 josh.fernigan



TEMPORARY LANE CLOSURE
(SEE STANDARD DRAWING 1101.02
SHEET 3 OF 14)

SEE NOTE 3

TEMPORARY LANE CLOSURE
(SEE STANDARD DRAWING 1101.02
SHEET 3 OF 14)

NOTE 1: USE PEDESTRIAN MANAGEMENT PHASE II WITH THIS DETAIL.
NOTE 2: USE BATTLEPARK LANE AND US-64 RAMPS DETOUR WITH THIS DETAIL.
NOTE 3: REFER TO STANDARD DRAWING 1101.11 (SHEET 4 OF 4) FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE.



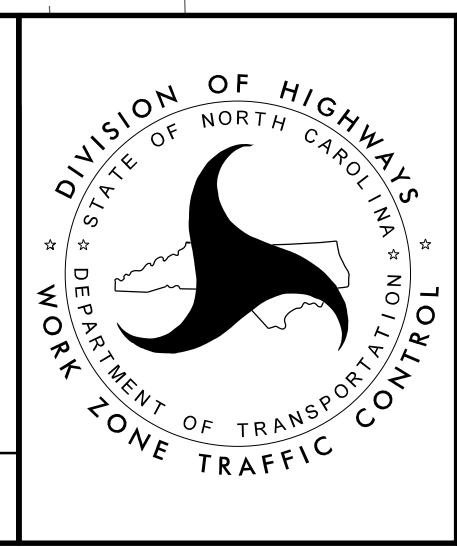
APPROVED: *Brandon W. Johnson*
DATE: 3/10/2022

SEAL

SEAL 034371

BRANDON W. JOHNSON
ENGINEER

DOCUMENT NOT CONSIDERED FINAL
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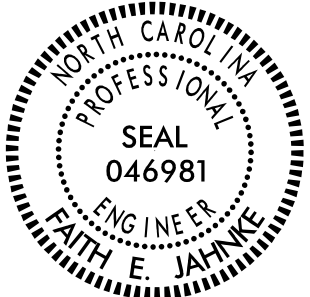
TRAFFIC MANAGEMENT PHASE IV

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josh.fernigan

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: INTERCHANGE OF US 64 BYPASS & NC 43 (BENVENUE ROAD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING.

TIP NO. U-5947	SHEET NO. PMP-1
APPROVED:  DATE: 3/10/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PROJECT: U-5947

CONTRACT: DD00379

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 43 (BENVENUE RD)	THERMO	NONE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

**STATE PROJECT U-5947
PAVEMENT MARKING SCHEDULE**

SYMBOL	DESCRIPTION	QUANTITY
THERMO (4", 90 MIL)		
T1	WHITE EDGELINE	275 LF
T2	WHITE SOLID LANE LINE	1,335 LF
T3	10 FT WHITE SKIP	755 LF
T4	3 FT - 9 FT/SP WHITE MINI SKIP	265 LF
T5	2 FT - 6 FT/SP WHITE MINI SKIP	170 LF
T10	YELLOW EDGELINE	5,070 LF
T13	YELLOW DOUBLE CENTER LINE	590 LF
THERMO (8", 90 MIL)		
T40	WHITE GORELINE	340 LF
T44	3 FT - 9 FT/SP WHITE MINI SKIP	110 LF
T45	3 FT - 3 FT/SP WHITE MINI SKIP	145 LF
T46	WHITE CROSSWALK LINE	120 LF
THERMO (24", 90 MIL)		
T61	WHITE STOPBAR	260 LF
T62	WHITE CROSSWALK LINE	580 LF
THERMO - PAVEMENT MARKING SYMBOLS		
T70	LEFT ARROW	8 EA
T71	RIGHT ARROW	12 EA
T72	STRAIGHT ARROW	9 EA
T73	COMBO. LEFT/STRAIGHT ARROW	4 EA
T100	ALPHANUMERIC CHARACTER	8 EA
T103	24" YIELD LINE TRIANGLE	44 EA
T111	FISH-HOOK LEFT/STRAIGHT ARROW	5 EA
T112	FISH-HOOK RIGHT/STRAIGHT ARROW	2 EA

**STATE PROJECT U-5947
PAVEMENT MARKING SCHEDULE**

SYMBOL	DESCRIPTION
THERMO (4", 90 MIL)	
T1	WHITE EDGELINE
T2	WHITE SOLID LANE LINE
T3	10 FT WHITE SKIP
T4	3 FT - 9 FT/SP WHITE MINI SKIP
T5	2 FT - 6 FT/SP WHITE MINI SKIP
T10	YELLOW EDGELINE
T13	YELLOW DOUBLE CENTER LINE
THERMO (8", 90 MIL)	
T40	WHITE GORELINE
T45	3 FT - 3 FT/SP WHITE MINI SKIP
T46	WHITE CROSSWALK LINE
THERMO (24", 90 MIL)	
T61	WHITE STOPBAR
T62	WHITE CROSSWALK LINE
THERMO - PAVEMENT MARKING SYMBOLS (90 MIL)	
T70	LEFT ARROW
T71	RIGHT ARROW
T72	STRAIGHT ARROW
T73	COMBO. LEFT/STRAIGHT ARROW
T100	ALPHANUMERIC CHARACTER
T103	24" YIELD LINE TRIANGLE
T111	FISH-HOOK LEFT/STRAIGHT ARROW
T112	FISH-HOOK RIGHT/STRAIGHT ARROW

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALK
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

INDEX

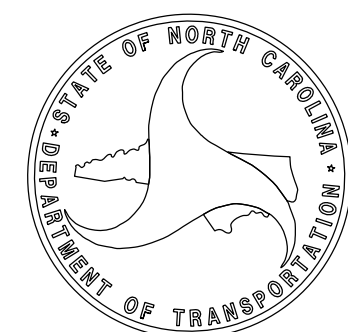
- PMP-1 PAVEMENT MARKING PLAN TITLE, SCHEDULE, AND QUANTITIES
- PMP-2-3 PAVEMENT MARKING DETAIL SHEETS

Prepared in the Office of:

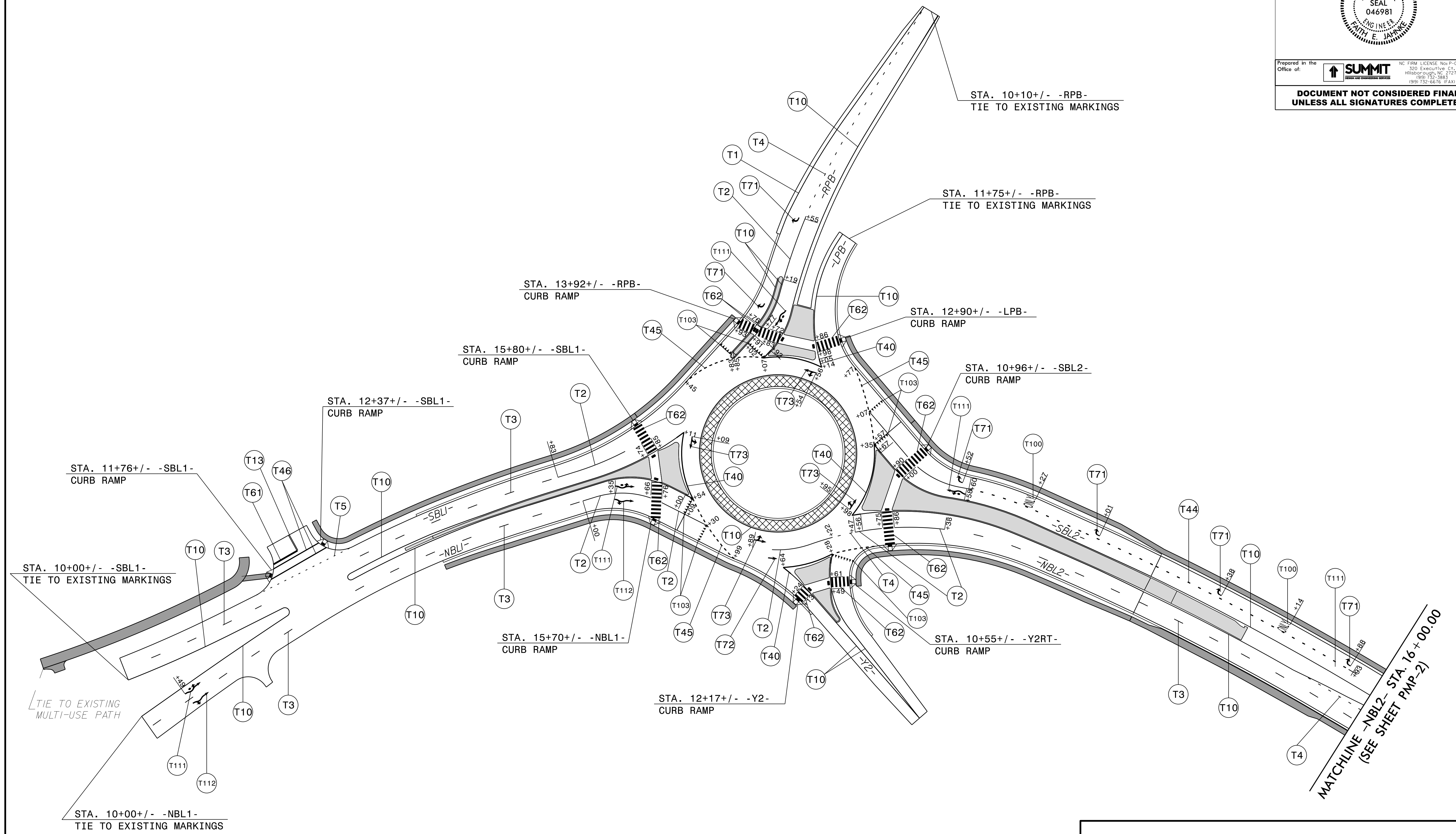


NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

BRANDON W. JOHNSON, PE PROJECT ENGINEER
FAITH E. JAHNKE, PE PROJECT DESIGNER





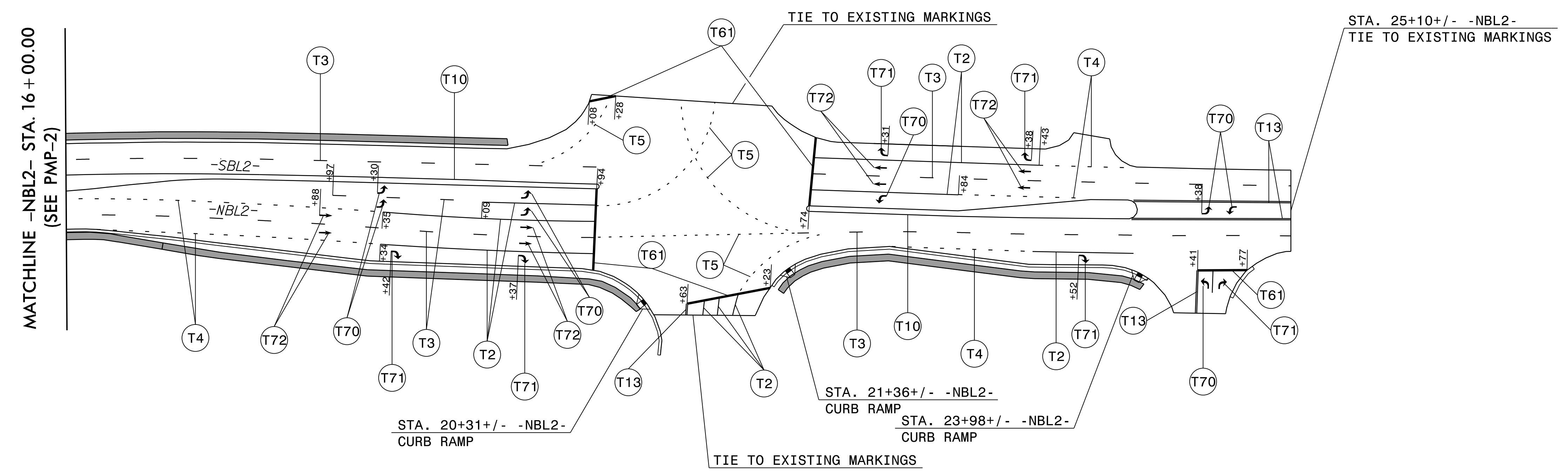
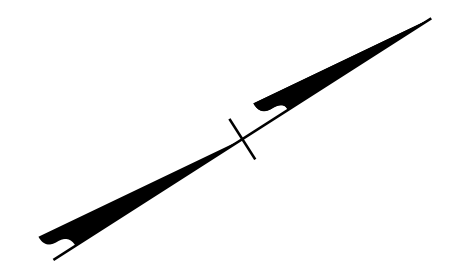
TIP NO. U-5947	SHEET NO. PMP-2
APPROVED: <i>Faith Jahnske</i> DATE: 3/10/2022	
SEAL	
Prepared in the Office of: SUMMIT <small>NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-1883 (919) 732-6616 (FAX)</small>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PAVEMENT MARKING DETAIL

10-MAR-2022 08:57
 U-5947-202 PMP-2.dgn
 Faith Jahnske

TIP NO. U-5947	SHEET NO. PMP-3
APPROVED: <i>Faith Jahnske</i> <small>8002888734466</small>	
DATE: 3/10/2022	
SEAL	
	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



10-MAR-2022 08:53
 U-5947-02 PMP-3.dgn
 Faith Jahnske

PAVEMENT MARKING DETAIL

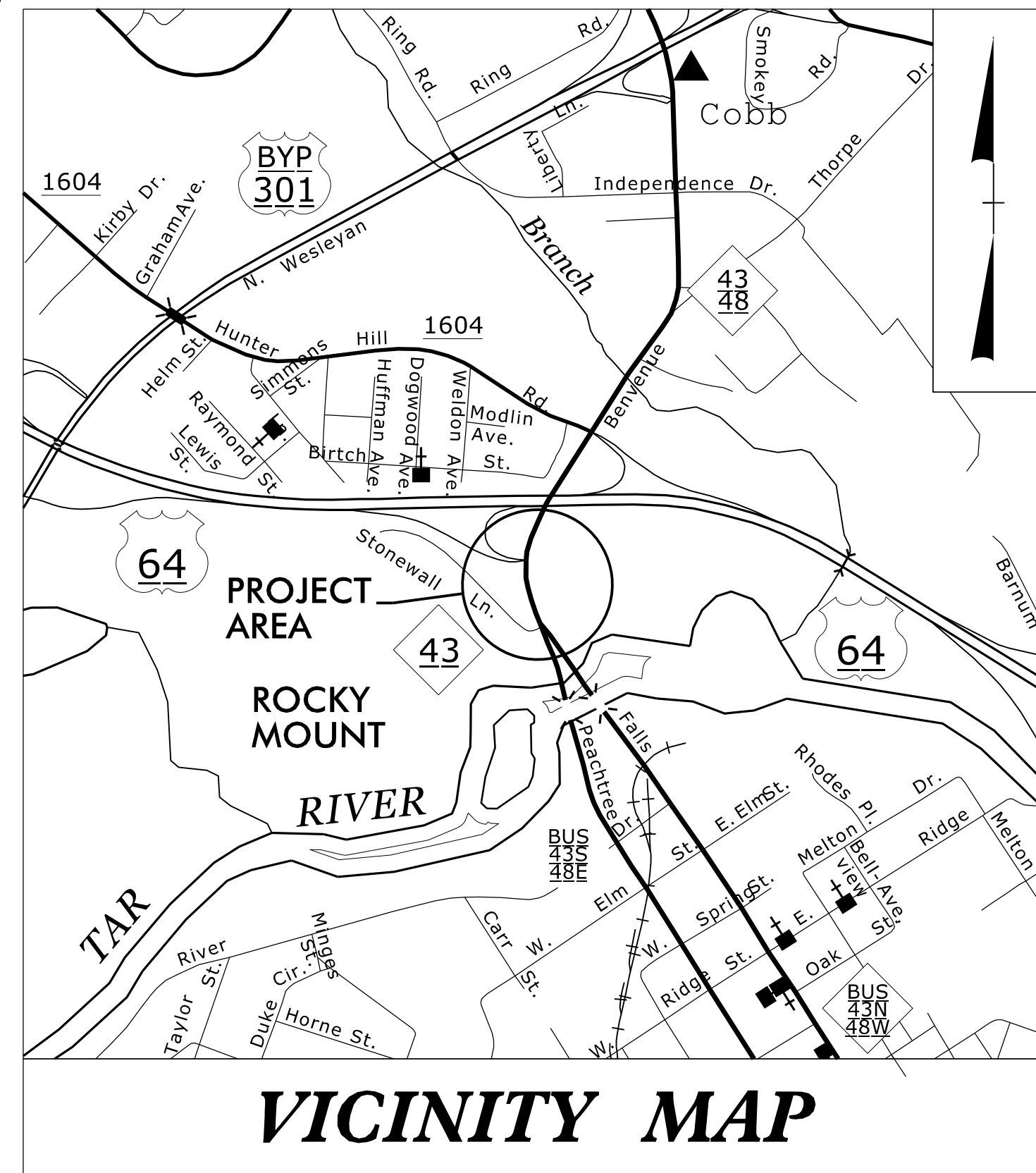
TIP PROJECT: U-5947

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

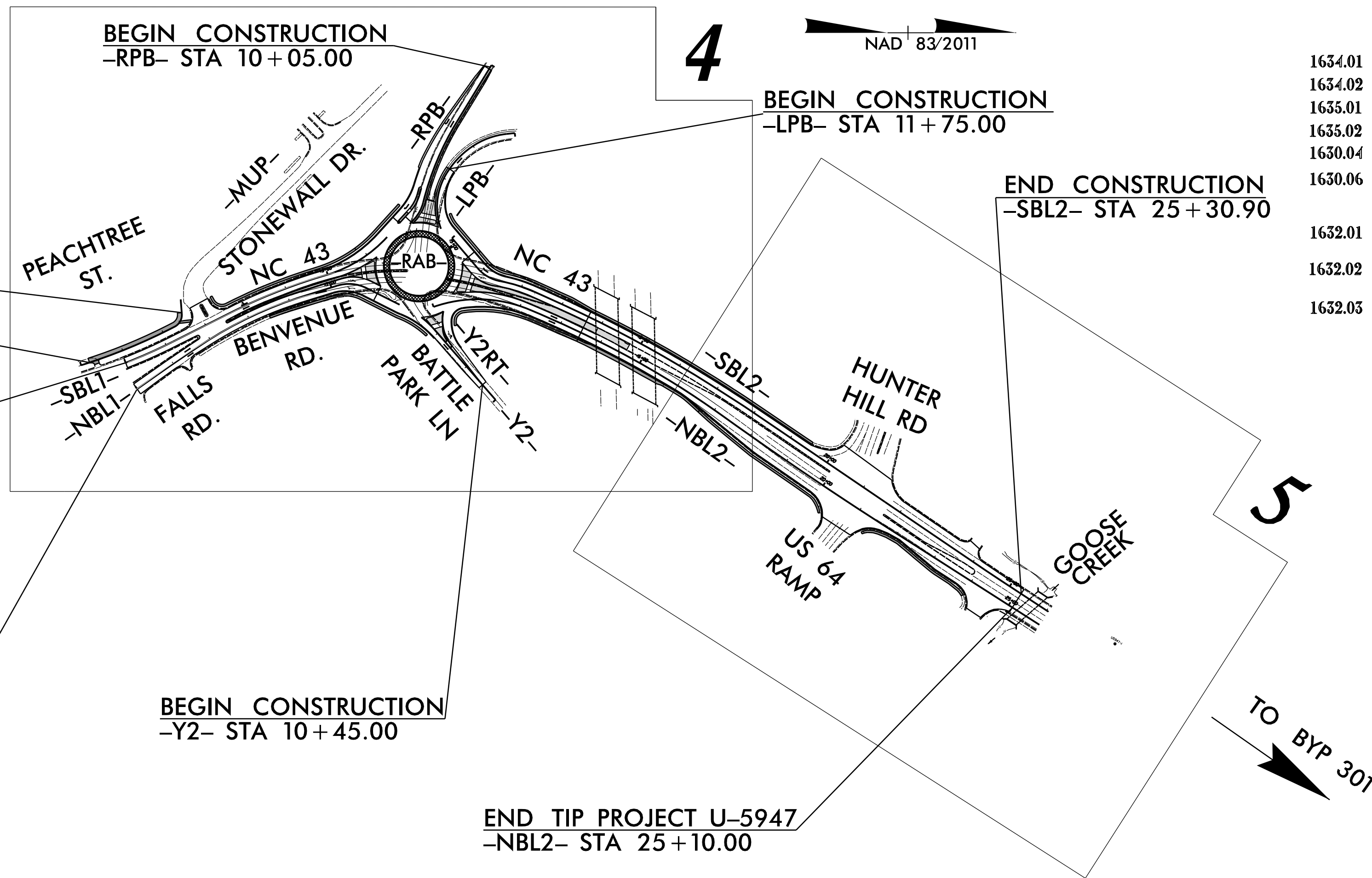
NASH COUNTY

LOCATION: INTERCHANGE OF US 64 BYPASS & NC 43 (BENVENUE ROAD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



END CONSTRUCTION
-MUP- STA 12+67.70
BEGIN CONSTRUCTION
-MUP- STA 10+20.00
BEGIN CONSTRUCTION
-SBL1- STA 10+00.00

TO ROCKY MOUNT



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5947	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49760.1.1	1970002	PE	
49760.2.1	1970002	ROW	
49760.2.2	1970002	UTILITY	
49760.3.1	1970002	CONST	

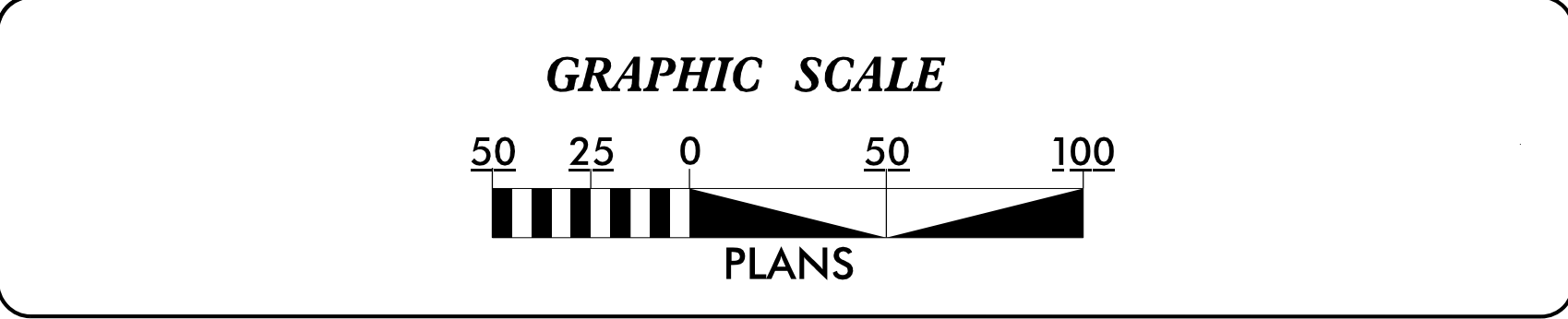
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	---X---
1622.01	Temporary Berms and Slope Drains	---S---
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	---R---
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	---R-P---
1633.02	Temporary Rock Silt Check Type-B	---R-B---
	Wattle / Coir Fiber Wattle	---W---
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	---W-P---
1634.01	Temporary Rock Sediment Dam Type-A	---RSDA---
1634.02	Temporary Rock Sediment Dam Type-B	---RSDAB---
1635.01	Rock Pipe Inlet Sediment Trap Type-A	---RPIST-A---
1635.02	Rock Pipe Inlet Sediment Trap Type-B	---RPIST-B---
1630.04	Stilling Basin	---SB---
1630.06	Special Stilling Basin	---SSB---
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	---SBAS---
	Tiered Skimmer Basin	---TSB---
	Infiltration Basin	---IB---

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

SUMMIT
DESIGN AND ENGINEERING SERVICES
FIRM NO. P-0339

Prepared in the Office of:
320 Executive Ct.
Hillsborough, NC 27278-8551
Voice: (919)732-3883
Fax: (919)732-6776
www.summitde.net

Designed by:
HE YANG **4408**
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Silt Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

04-MAR-2022_09:00 EC-1.txd

PROJECT REFERENCE NO. U-5947	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

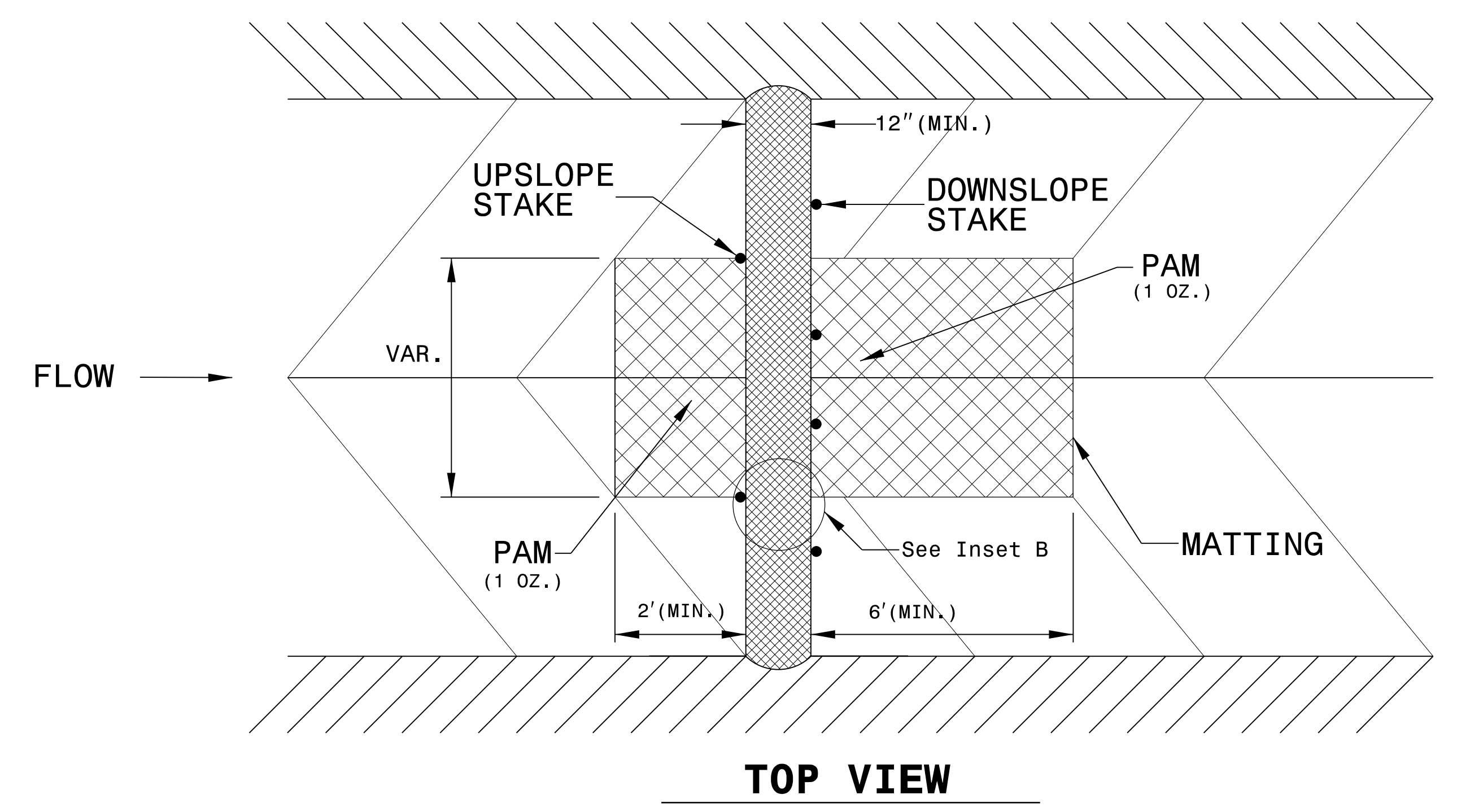
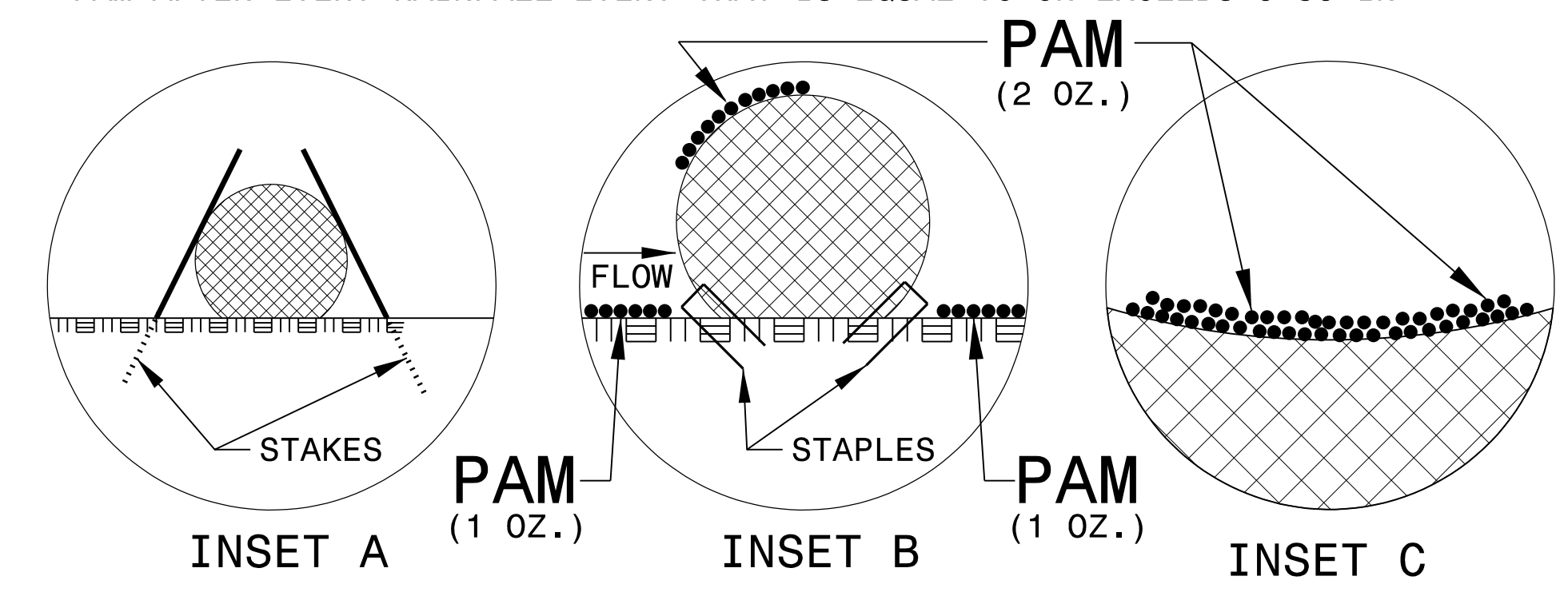
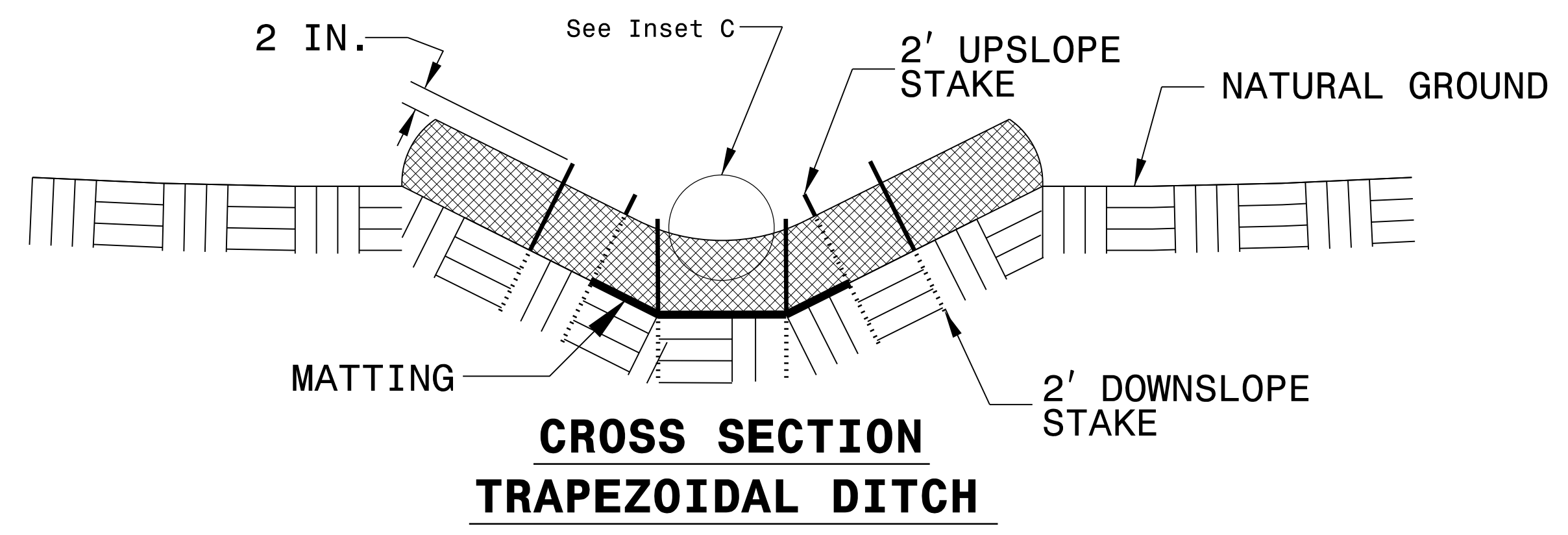
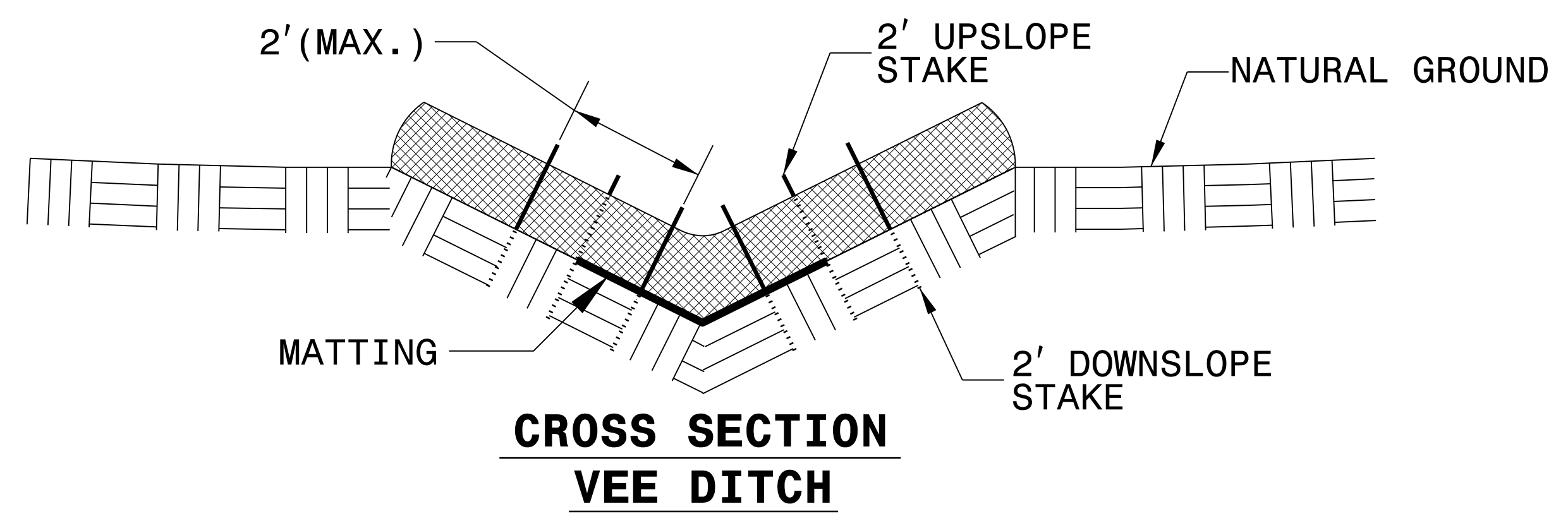
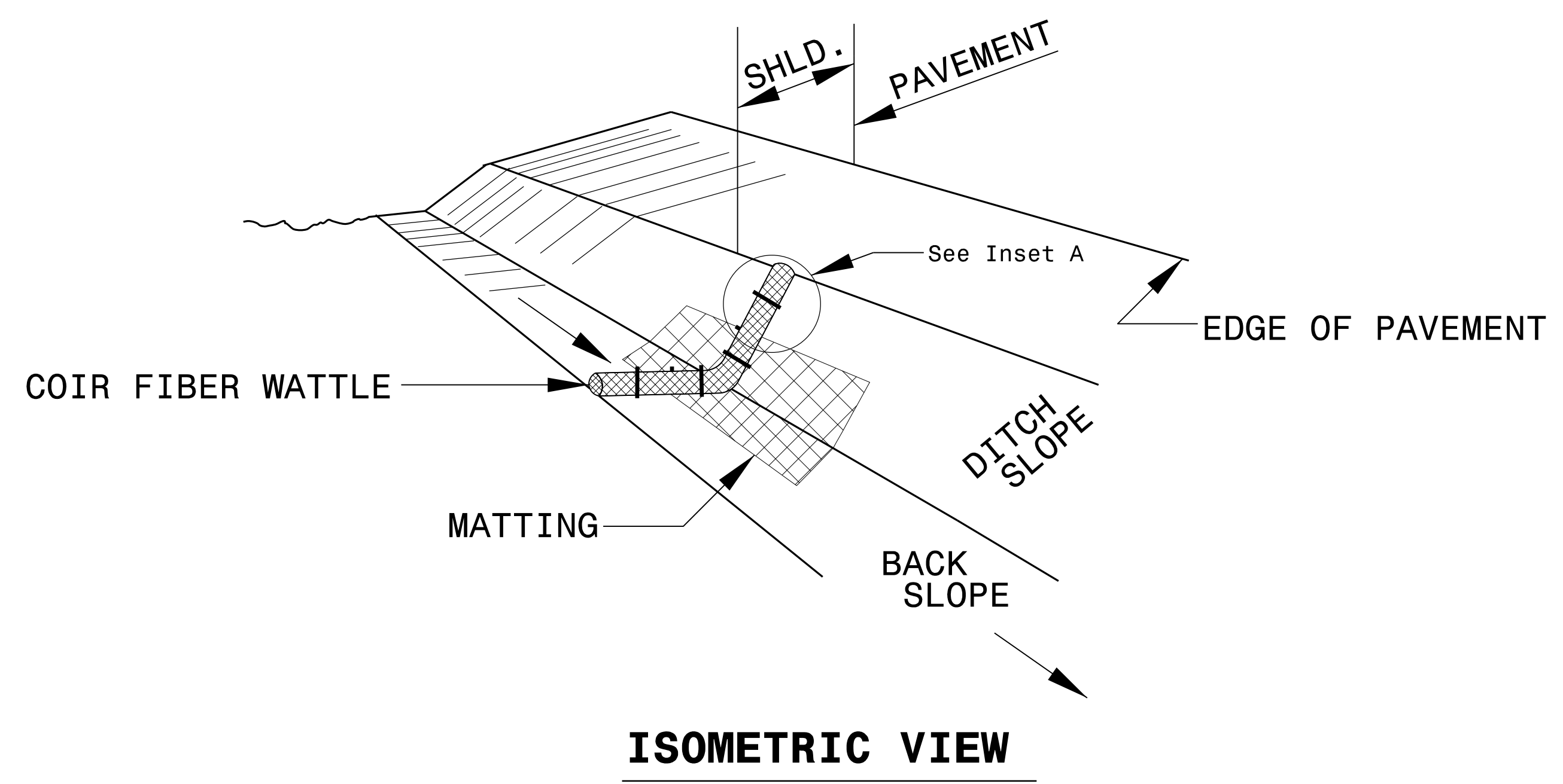
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

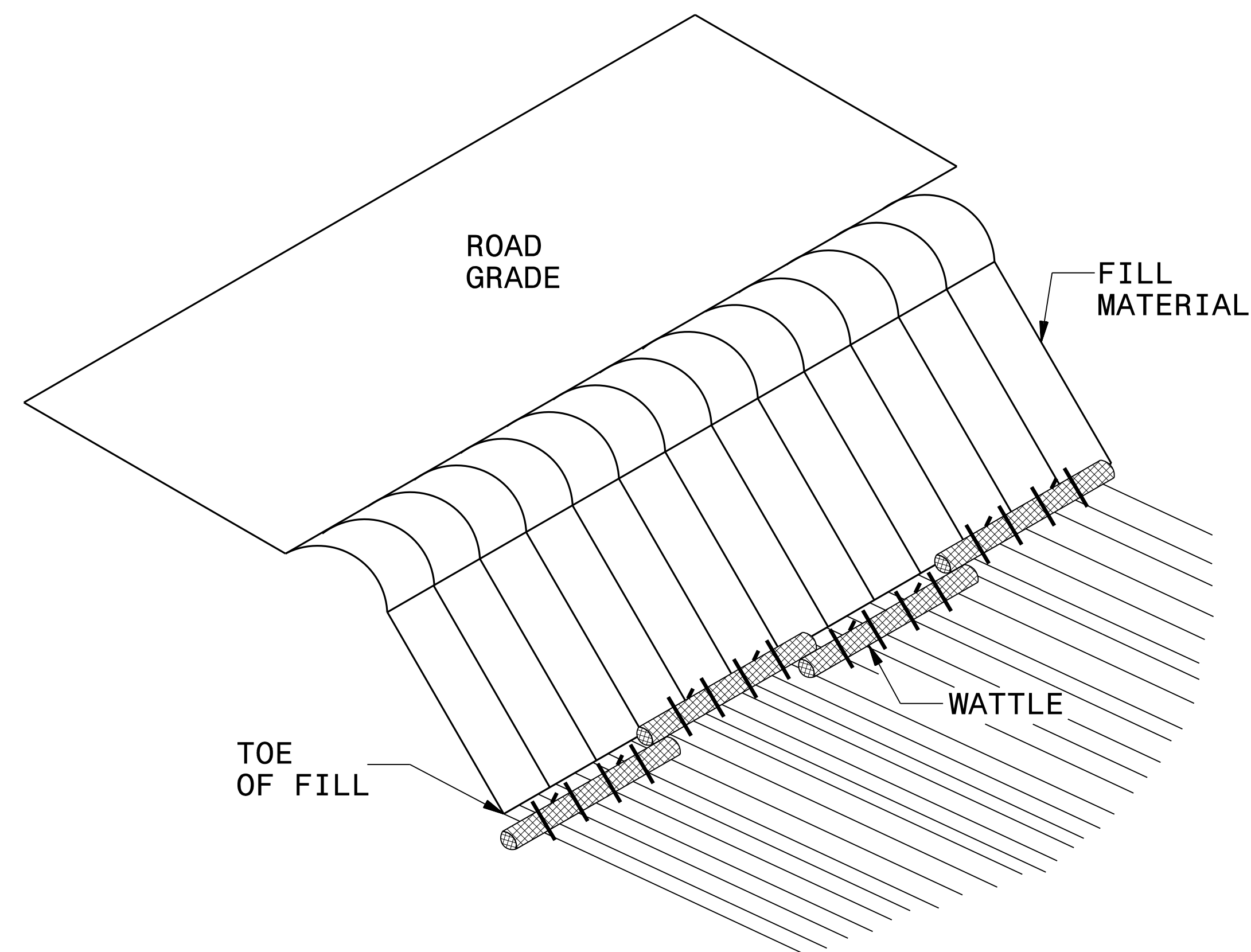
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

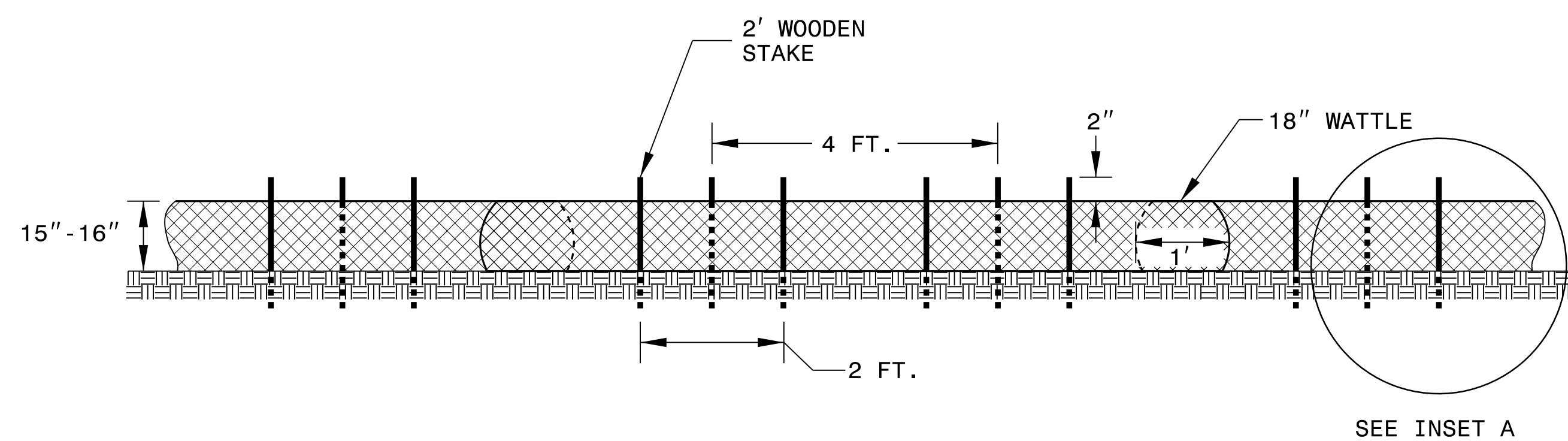


PROJECT REFERENCE NO. U-5947	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE BARRIER DETAIL



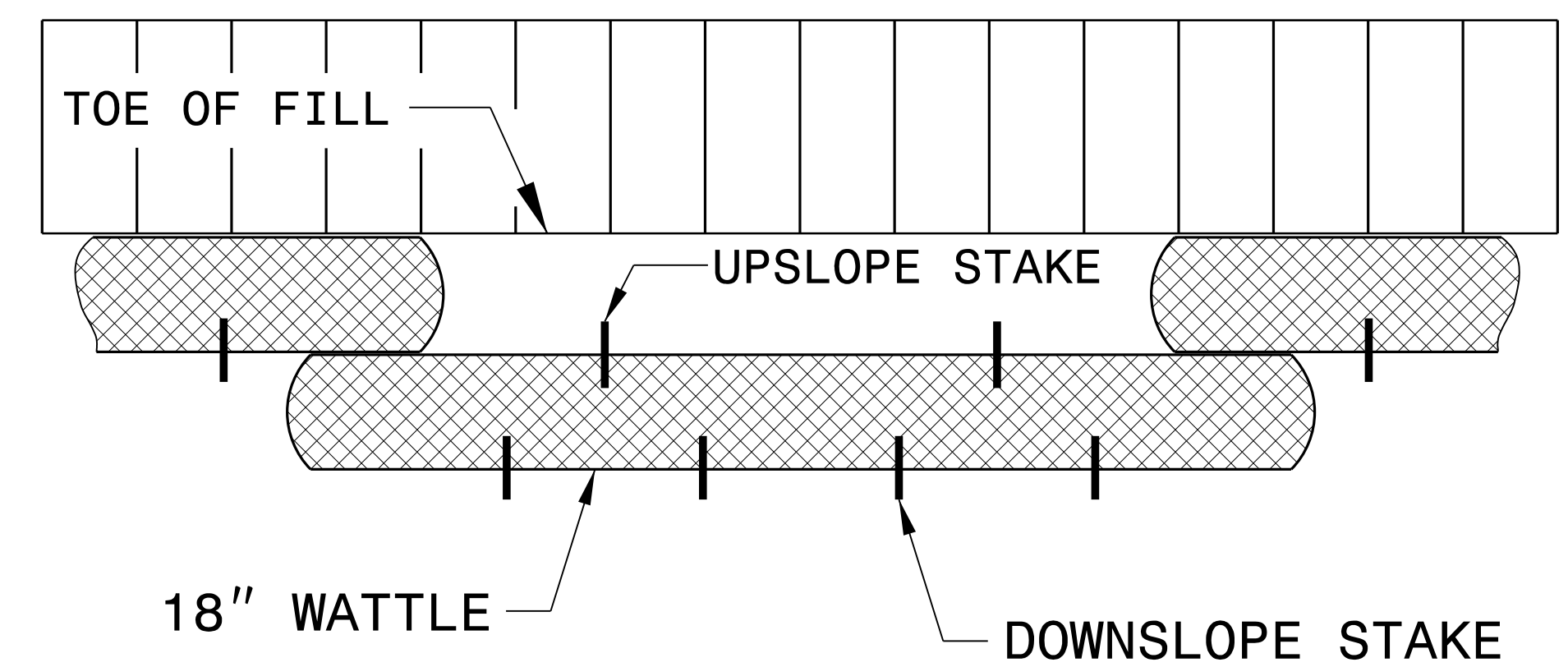
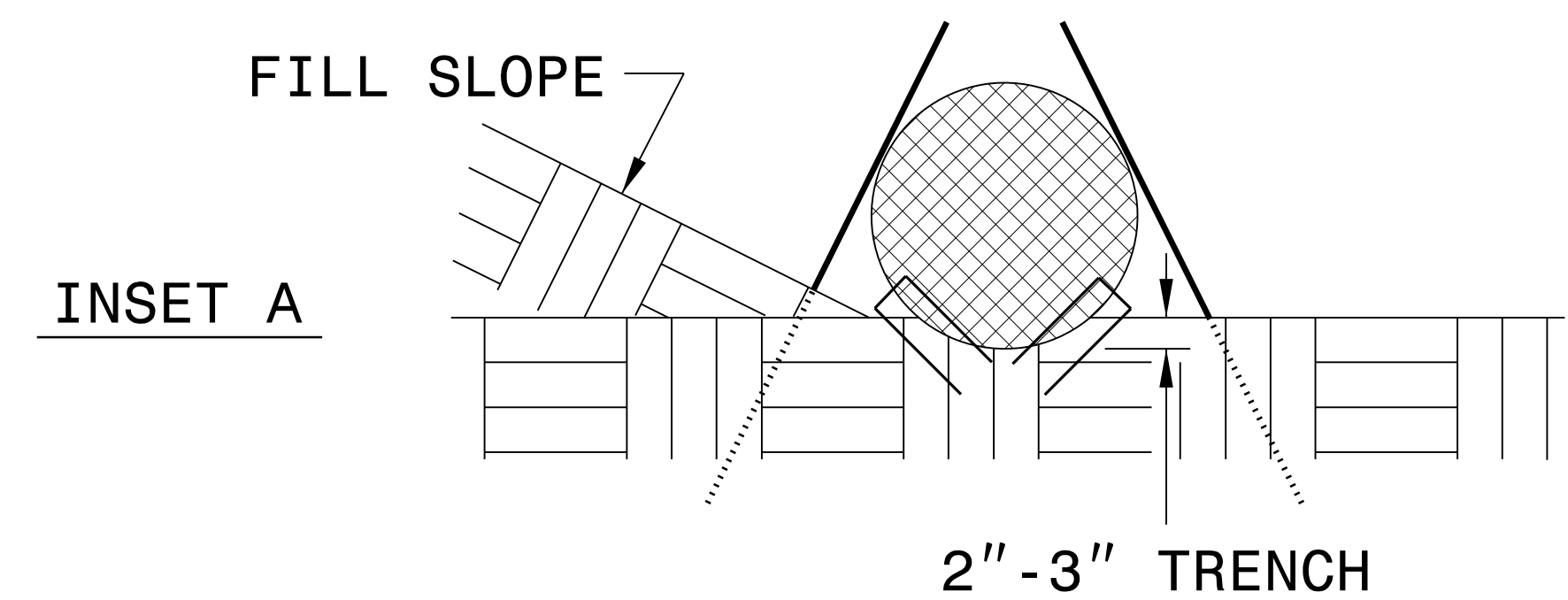
ISOMETRIC VIEW



FRONT VIEW

NOTES:

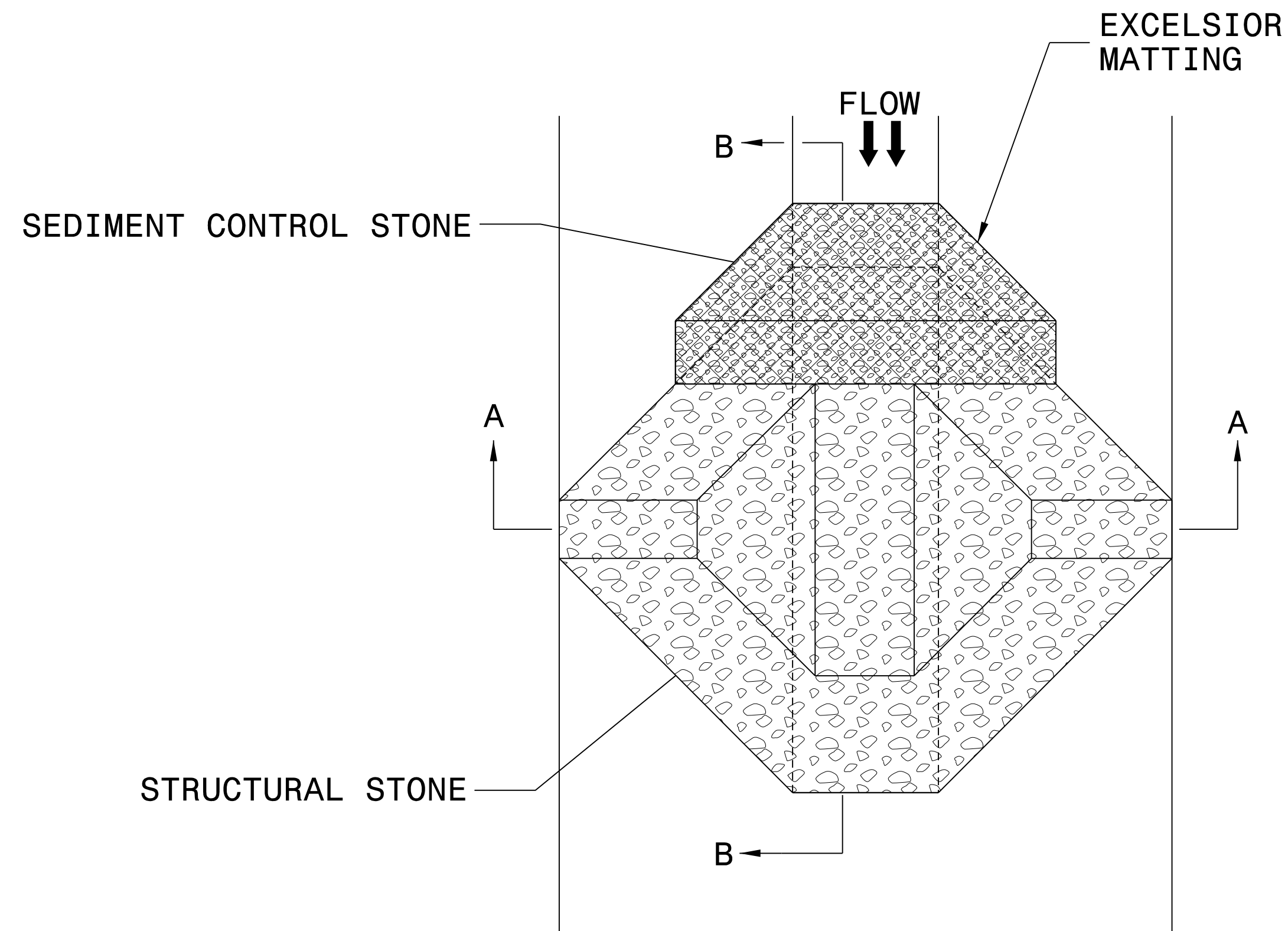
- USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.



TOP VIEW

PROJECT REFERENCE NO. U-5947	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN

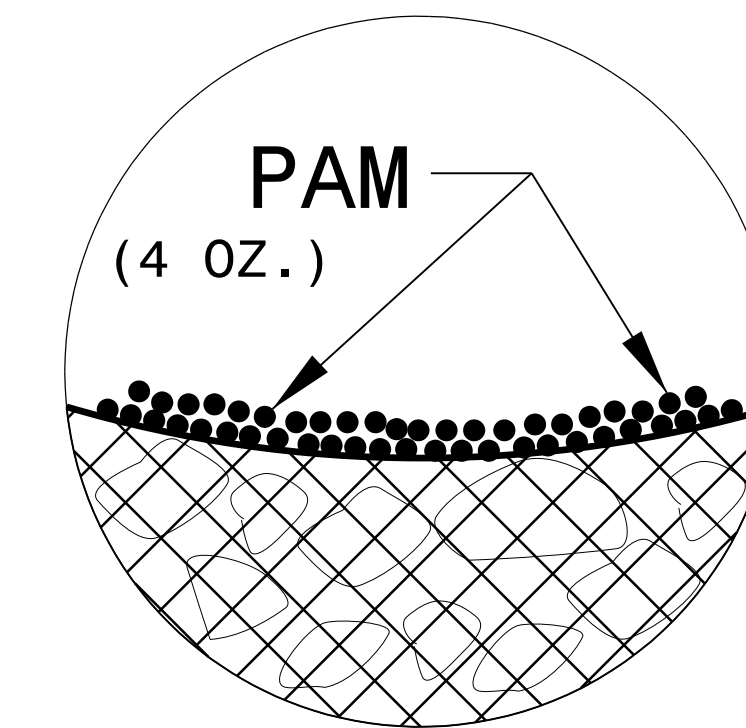
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

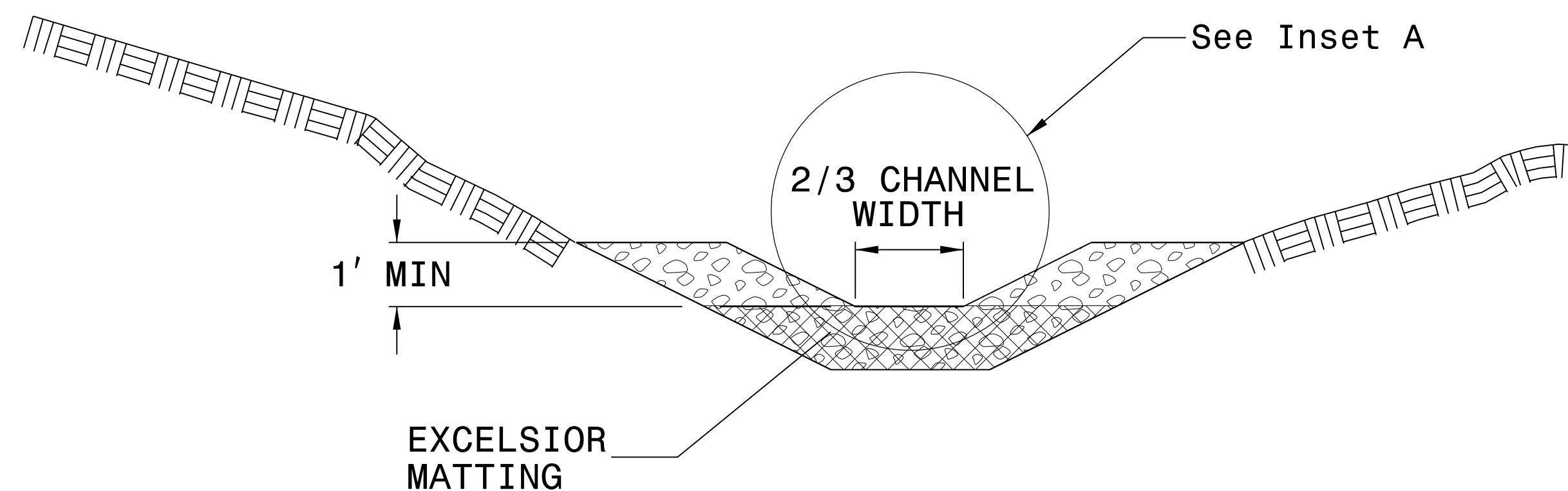
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

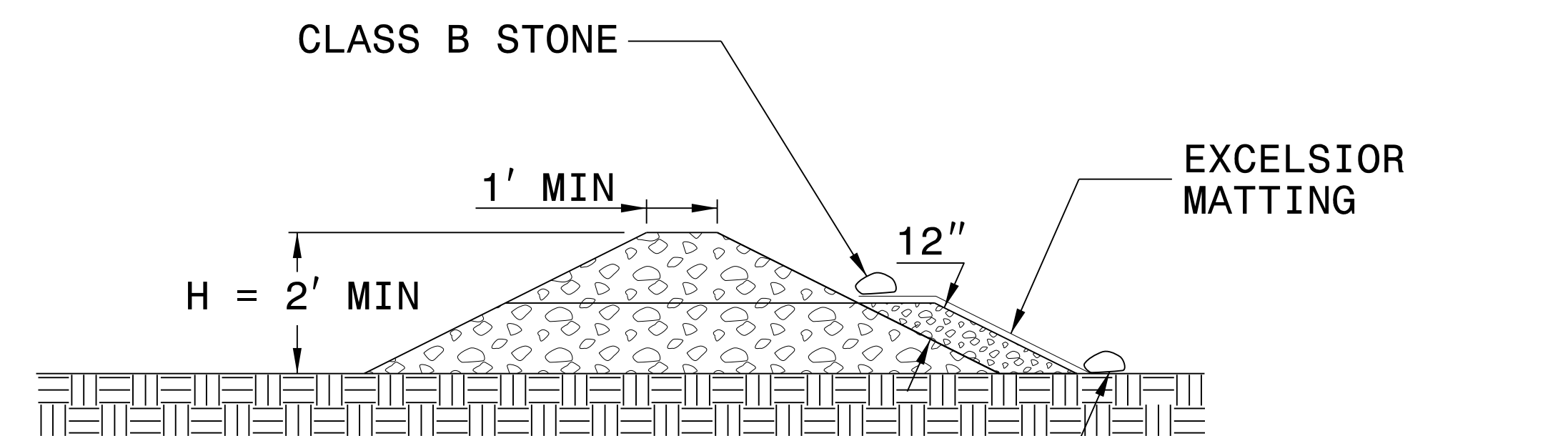
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-5947</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

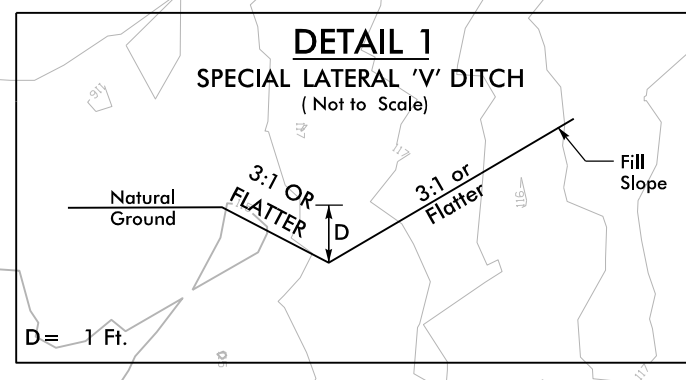
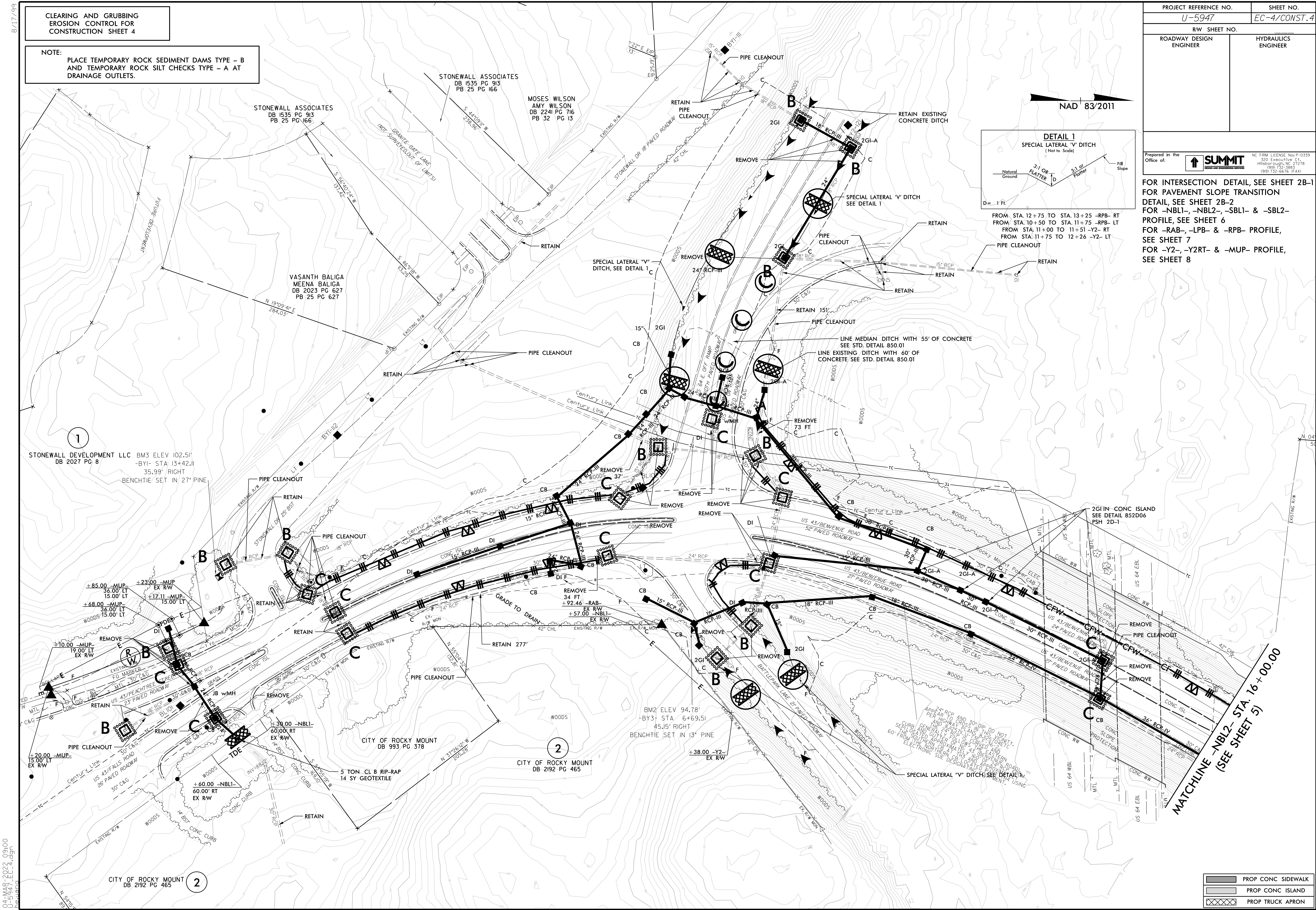
**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4**

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

PROJECT REFERENCE NO. U-5947	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of:
SUMMIT
NC FIRM LICENSE No: P-0339
300 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

FOR INTERSECTION DETAIL, SEE SHEET 2B-1
FOR PAVEMENT SLOPE TRANSITION
DETAIL, SEE SHEET 2B-2
FOR -NBL1-, -NBL2-, -SBL1- & -SBL2-
PROFILE, SEE SHEET 6
FOR -RAB-, -LPB- & -RPB- PROFILE,
SEE SHEET 7
FOR -Y2-, -Y2RT- & -MUP- PROFILE,
SEE SHEET 8



FROM STA. 12+75 TO STA. 13+25 -RPB- RT
FROM STA. 10+50 TO STA. 11+75 -RPB- LT
FROM STA. 11+00 TO STA. 11+51 -Y2- RT
FROM STA. 11+75 TO STA. 12+26 -Y2- LT

	PROP CONC SIDEWALK
	PROP CONC ISLAND
	PROP TRUCK APRON

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04-MAR-2023 09:00
U-5947 EC-4.dgn

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4**

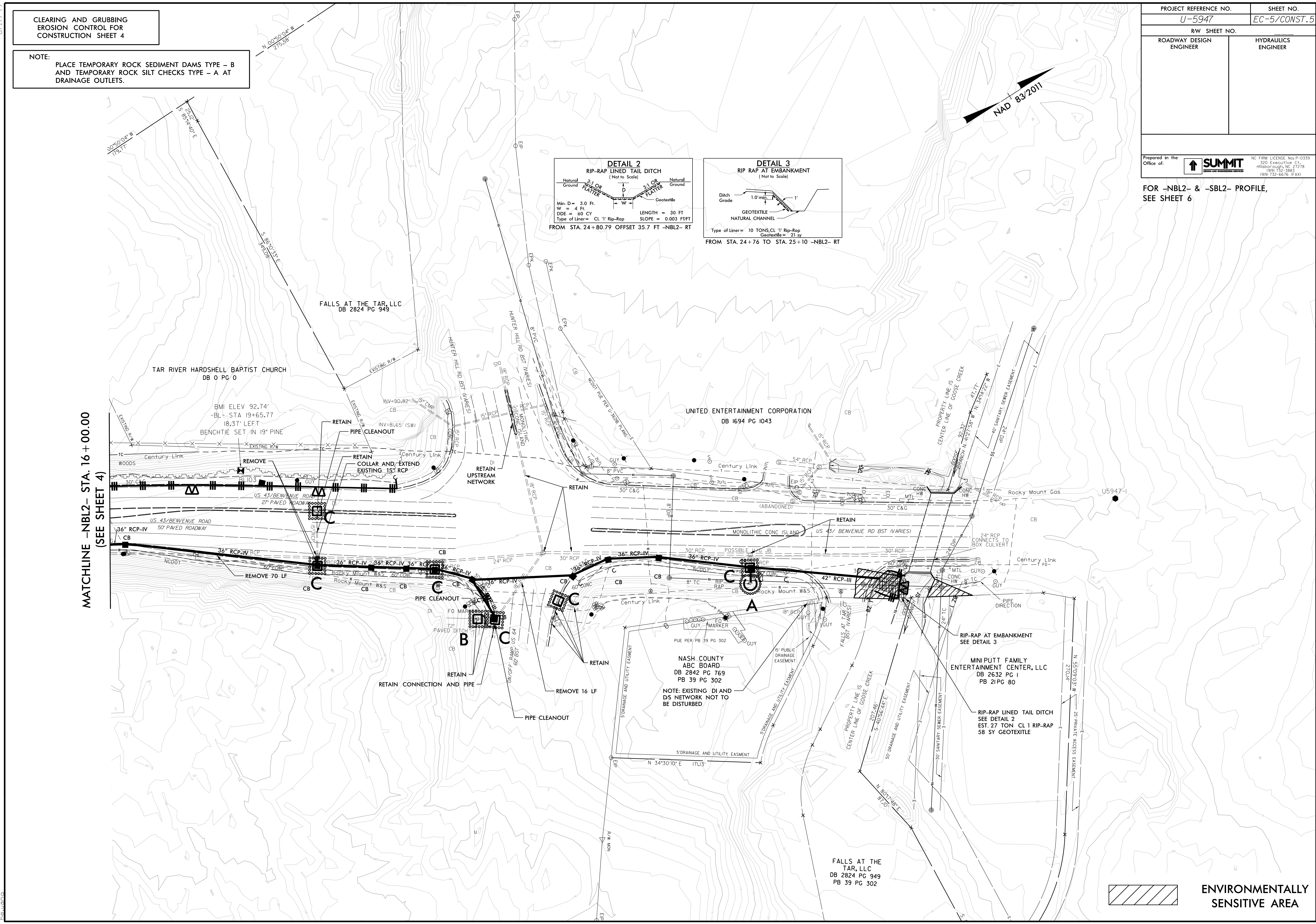
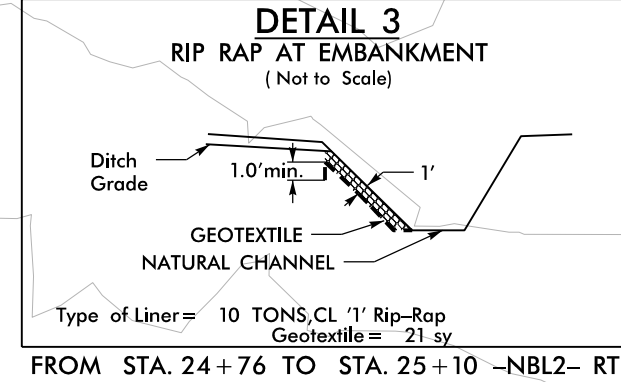
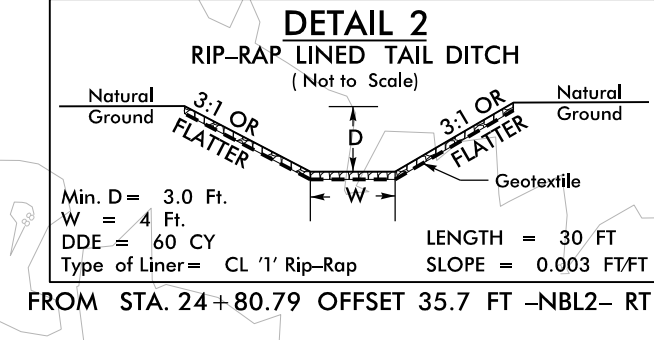
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

PROJECT REFERENCE NO. <i>U-5947</i>	SHEET NO. <i>EC-5/CONST.5</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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SUMMIT
INCORPORATED
NC FIRM LICENSE NO: P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 332-3883
(919) 732-6676 (FAX)

FOR -NBL2- & -SBL2- PROFILE,
SEE SHEET 6

**MATCHLINE -NBL2- STA. 16 + 00.00
(SEE SHEET 4)**



**ENVIRONMENTALLY
SENSITIVE AREA**

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04-MAR-2022 09:00
U-5947 EC-5.dgn
brouha

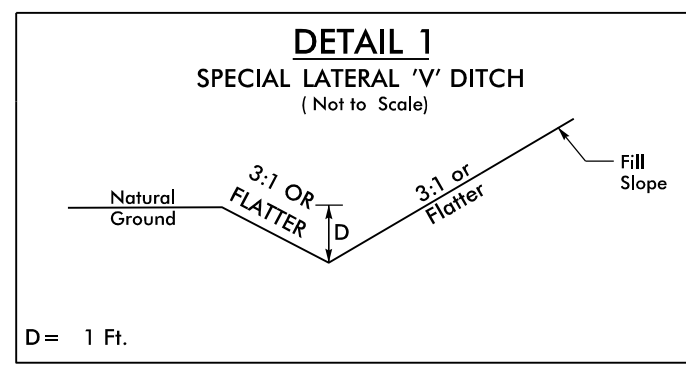
INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

INSTALL PSRM IN THE PROPOSED DITCH LINE.

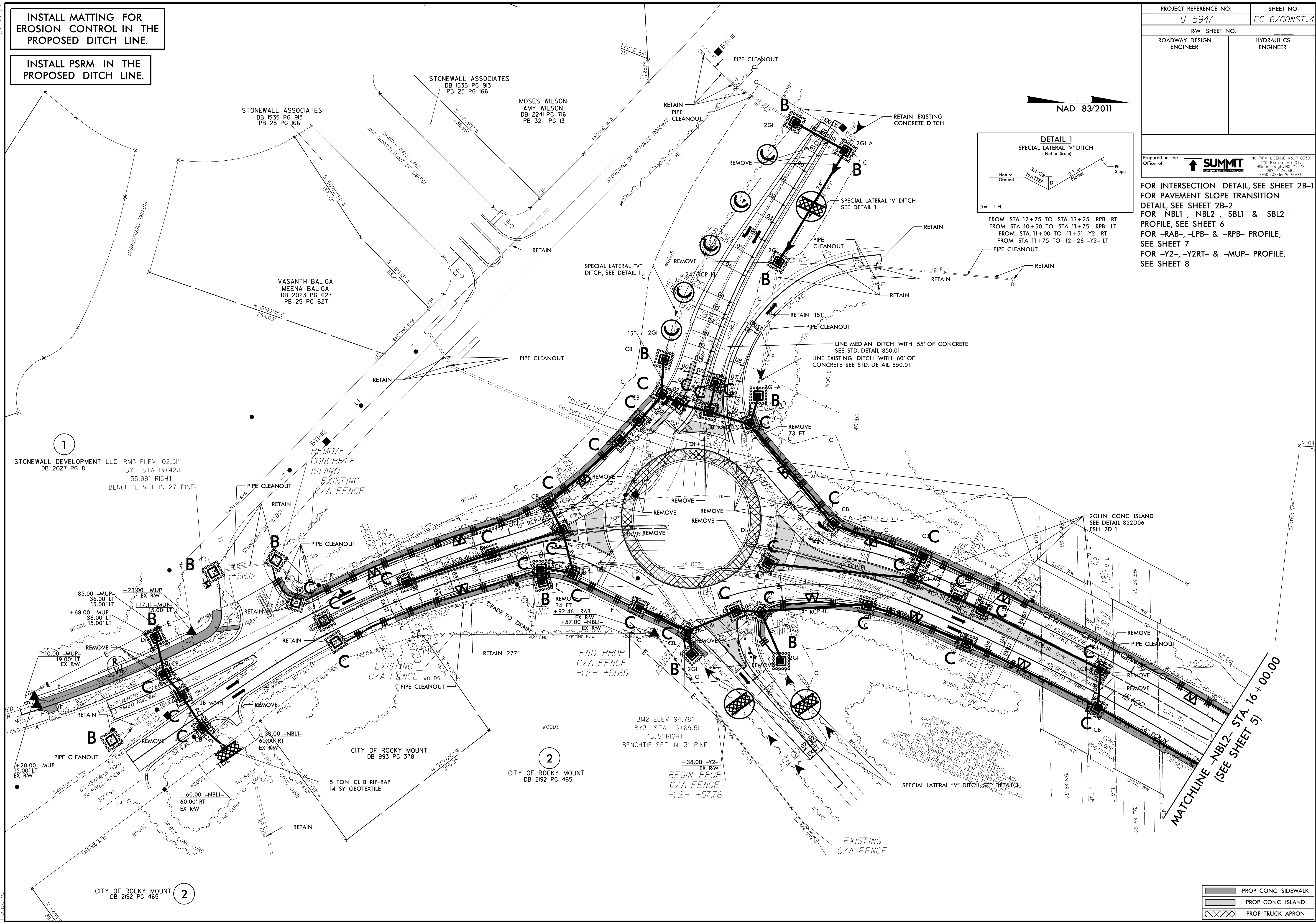
PROJECT REFERENCE NO.	SHEET NO.
U-5947	EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NC FIRM LICENSE No: P-0339
 300 Executive Ct.
 Hillsborough, NC 27278
 (919) 732-3883
 (919) 732-6676 (FAX)

FOR INTERSECTION DETAIL, SEE SHEET 2B-1
 FOR PAVEMENT SLOPE TRANSITION DETAIL, SEE SHEET 2B-2
 FOR -NBL1-, -NBL2-, -SBL1- & -SBL2- PROFILE, SEE SHEET 6
 FOR -RAB-, -LPB- & -RPB- PROFILE, SEE SHEET 7
 FOR -Y2-, -Y2RT- & -MUP- PROFILE, SEE SHEET 8



FROM STA. 12+75 TO STA. 13+25 -RPB- RT
 FROM STA. 10+50 TO STA. 11+75 -RPB- LT
 FROM STA. 11+00 TO 11+51 -Y2- RT
 FROM STA. 11+75 TO 12+26 -Y2- LT



	PROP CONC SIDEWALK
	PROP CONC ISLAND
	PROP TRUCK APRON

8.17.99
 04-MAR-2022 09:00
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 heman

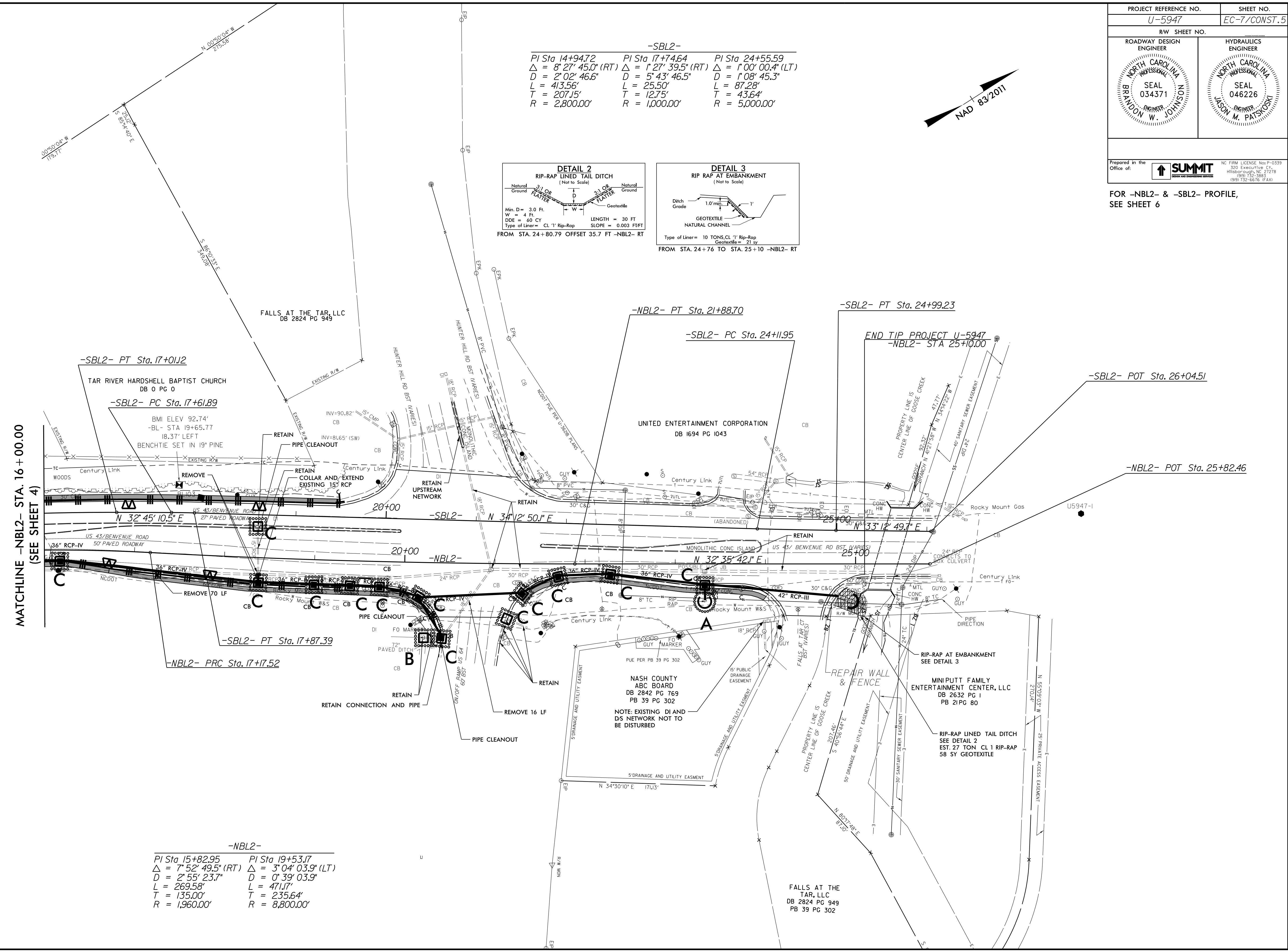
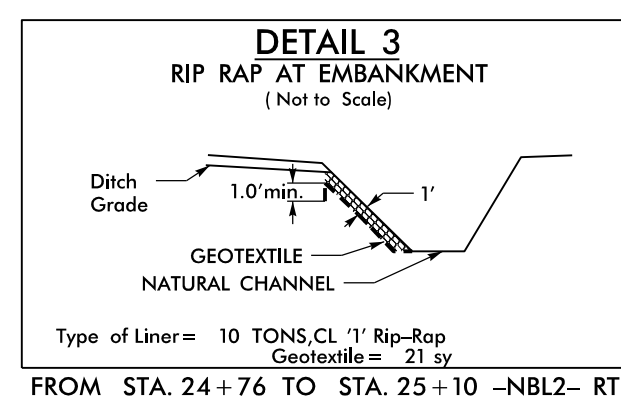
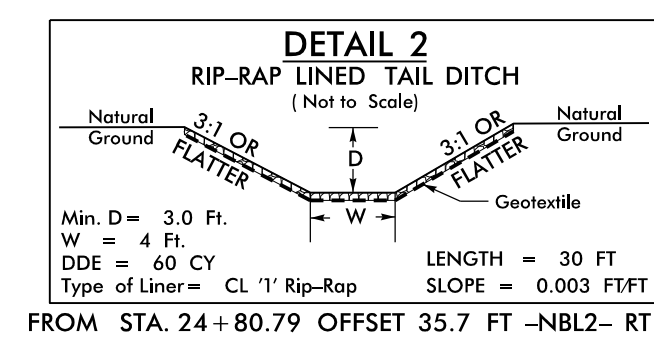
PROJECT REFERENCE NO. U-5947	SHEET NO. EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: NC FIRM LICENSE No: P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 332-3883
(919) 732-6676 (FAX)

FOR -NBL2- & -SBL2- PROFILE, SEE SHEET 6

-SBL2-

PI Sta 14+94.72 Δ = 8° 27' 45.0" (RT) D = 2' 02' 46.6" L = 413.56' T = 207.15' R = 2,800.00'	PI Sta 17+74.64 Δ = 1° 27' 39.5" (RT) D = 5' 43' 46.5" L = 25.50' T = 12.75' R = 1,000.00'	PI Sta 24+55.59 Δ = 1° 00' 00.4" (LT) D = 1' 08' 45.3" L = 87.28' T = 43.64' R = 5,000.00'
---	---	---



MATCHLINE -NBL2- STA. 16+00.00 (SEE SHEET 4)

-NBL2-

PI Sta 15+82.95 Δ = 7° 52' 49.5" (RT) D = 2' 55' 23.7" L = 269.58' T = 135.00' R = 1,960.00'	PI Sta 19+53.17 Δ = 3° 04' 03.9" (LT) D = 0' 39' 03.9" L = 471.17' T = 235.64' R = 8,800.00'
---	---

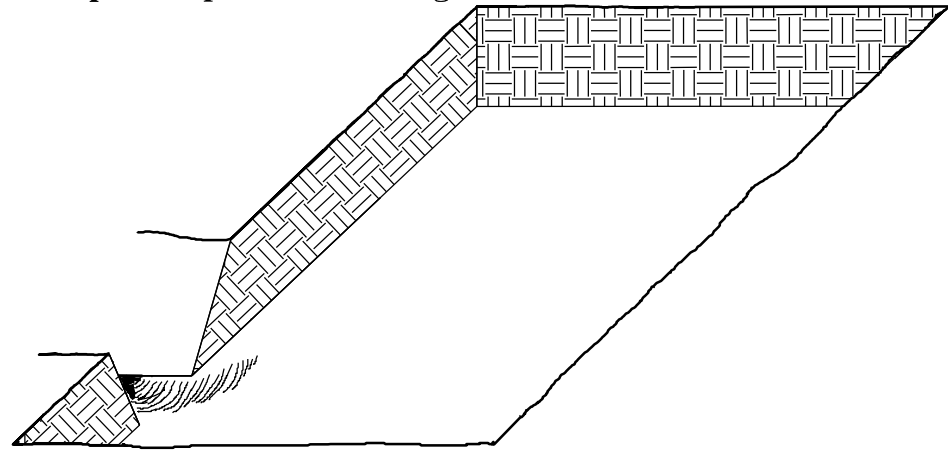
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PLANTING DETAILS

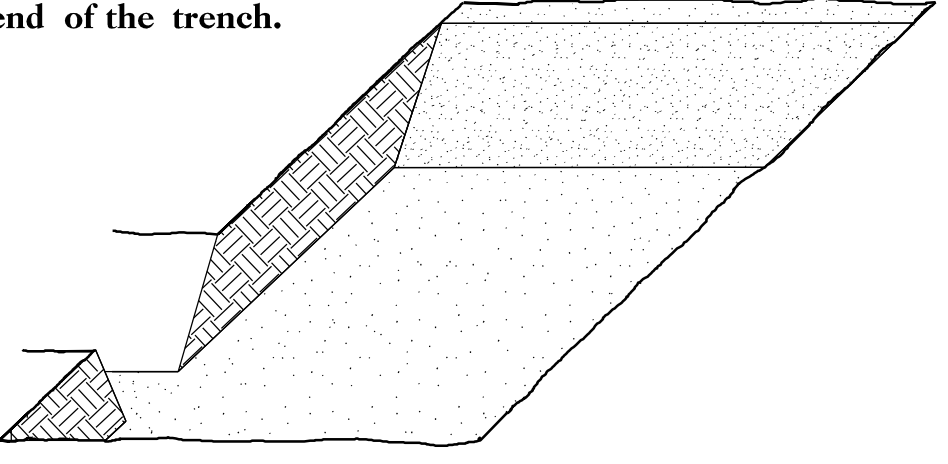
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

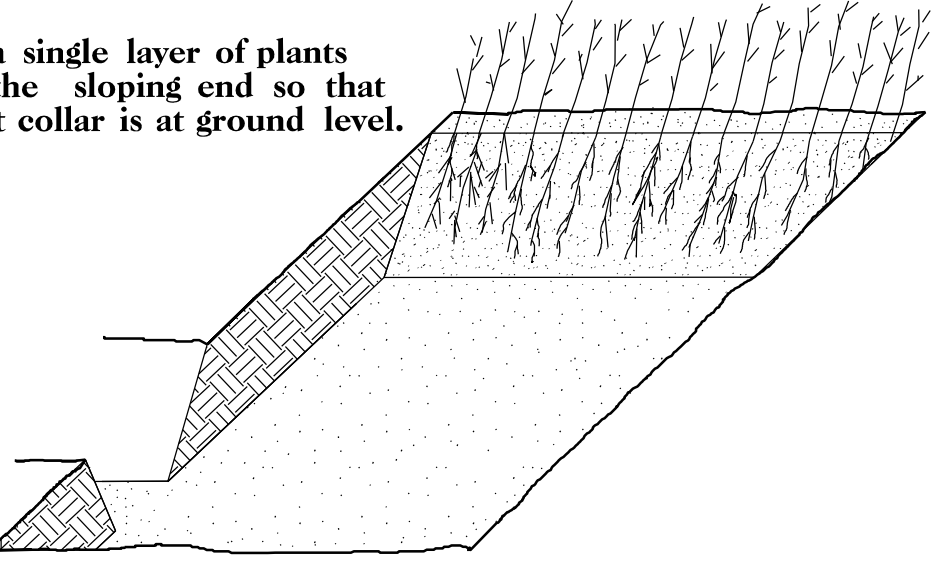
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



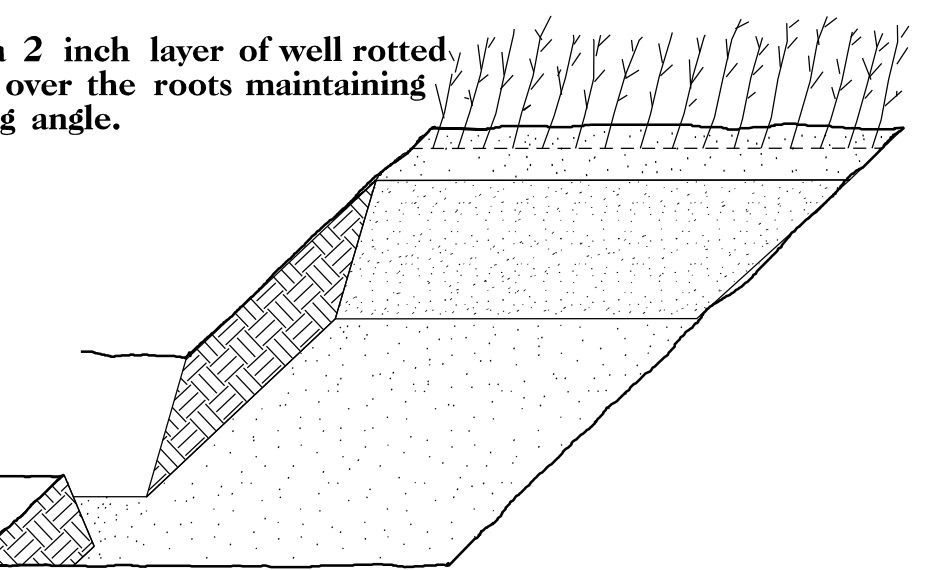
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

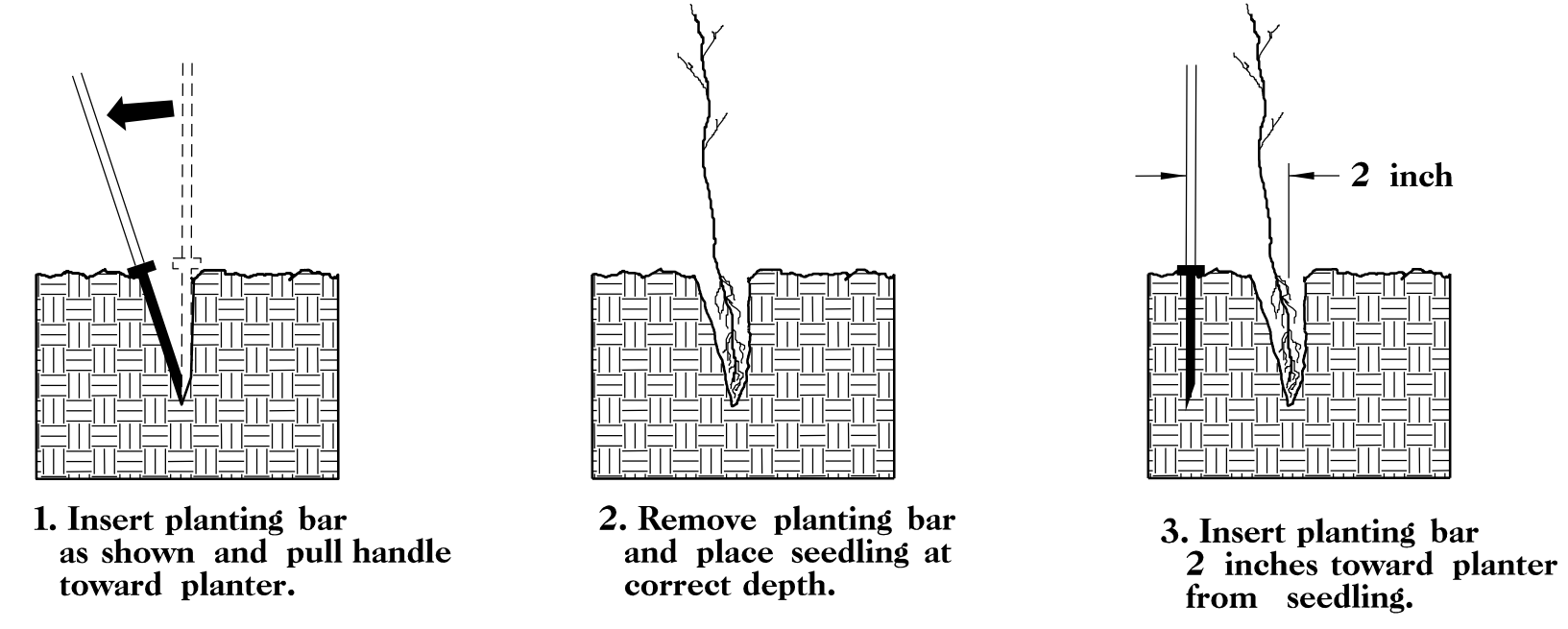


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

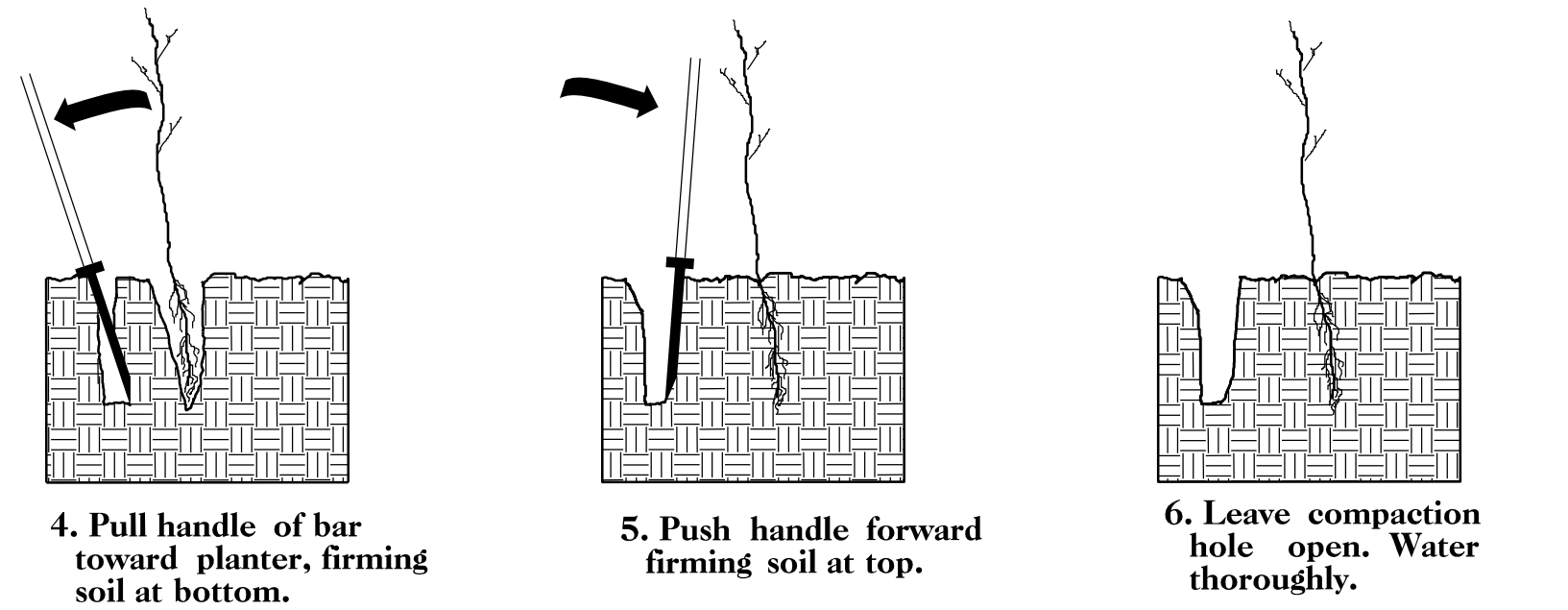


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



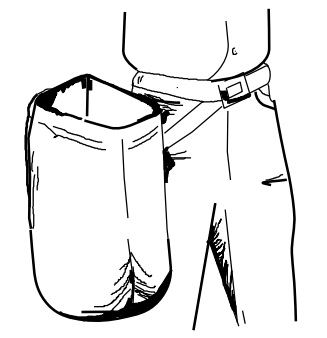
1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



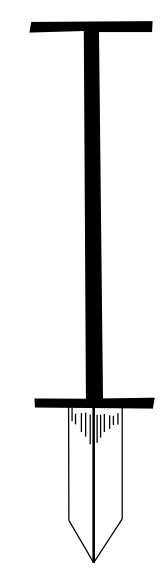
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
25% NYSSA SYLVATICA	BLACK GUM	12 in - 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR



REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

TOWN OF HOLLY SPRINGS
NORTH CAROLINA

**SIGNING PLAN
NASH COUNTY**

LOCATION: INTERCHANGE OF US 64 BYPASS & NC 43 (BENVENUE ROAD)

PROJECT NO. U-5947	SHEET NO. SIGN-1
Documented by: APPROVED: <i>Faith E. Jahnke</i> SD0285BCET09466	
DATE: 4/20/2022	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsborough, NC 27278 (919) 732-3883 (919) 732-6676 (FAX)

PROJECT: U-5947

CONTRACT: DD00379

GENERAL NOTES

SIGNS FURNISHED BY CONTRACTOR.

WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.

ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.

WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.

THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

ANY SIGNS THAT ARE DAMAGED DURING CONSTRUCTION SHOULD BE REPLACED IN KIND.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
901.70	SIGN STRINGERS AND SUPPORT SPACING
901.80	SIGN MOUNTING DETAILS, TYPE A AND TYPE B SIGNS
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.20	SECONDARY SIGN MOUNTING
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.40	SINGLE LANE ROUNDABOUT SIGNING, WITH PEDESTRIANS

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.		
4025000000	901	CONTRACTOR FURNISHED, TYPE D SIGN	10.5 SF
4025000000	901	CONTRACTOR FURNISHED, TYPE E SIGN	185.3 SF
4025000000	901	CONTRACTOR FURNISHED, TYPE F SIGN	97.7 SF
4054000000	902	PLAIN CONCRETE SIGN FOUNDATIONS	1 CY
4060000000	903	SUPPORTS, BREAKAWAY STEEL BEAM	636 LB
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	480 LF
4096000000	904	SIGN ERECTION, TYPE D (GROUND MOUNTED)	1 EA
4102000000	904	SIGN ERECTION, TYPE E (GROUND MOUNTED)	27 EA
4108000000	904	SIGN ERECTION, TYPE F (GROUND MOUNTED)	6 EA
4116100000	904	SIGN ERECTION, RELOCATE TYPE A (GROUND MOUNTED)	3 EA
4116100000	904	SIGN ERECTION, RELOCATE TYPE D (GROUND MOUNTED)	3 EA
4116100000	904	SIGN ERECTION, RELOCATE TYPE E (GROUND MOUNTED)	4 EA
4116100000	904	SIGN ERECTION, RELOCATE TYPE F (GROUND MOUNTED)	1 EA
4138000000	907	DISPOSAL OF SUPPORT, STEEL BEAM	4 EA
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	11 EA
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	14 EA

PROJECT NOTES

- SIGN ERECTION, RELOCATE TYPE A (GROUND MOUNTED)
- SIGN ERECTION, RELOCATE TYPE D (GROUND MOUNTED)
- SIGN ERECTION, RELOCATE TYPE E (GROUND MOUNTED)
- SIGN ERECTION, RELOCATE TYPE F (GROUND MOUNTED)
- DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	SIGN DESIGNS
SIGN-3	TYPE E SIGNS
SIGN-3A	TYPE F SIGNS
SIGN-4 & 4A	EXISTING SIGNS
SIGN-5 & 5A	PROPOSED SIGNS

Prepared in the Office of:



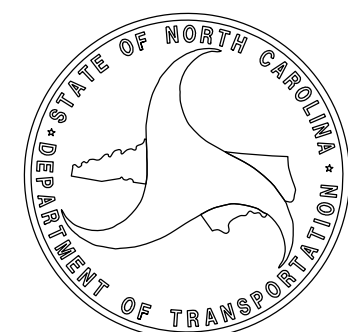
NC FIRM LICENSE No: P-0339
320 Executive Ct
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



FAITH E. JAHNKE, PE PROJECT DESIGNER

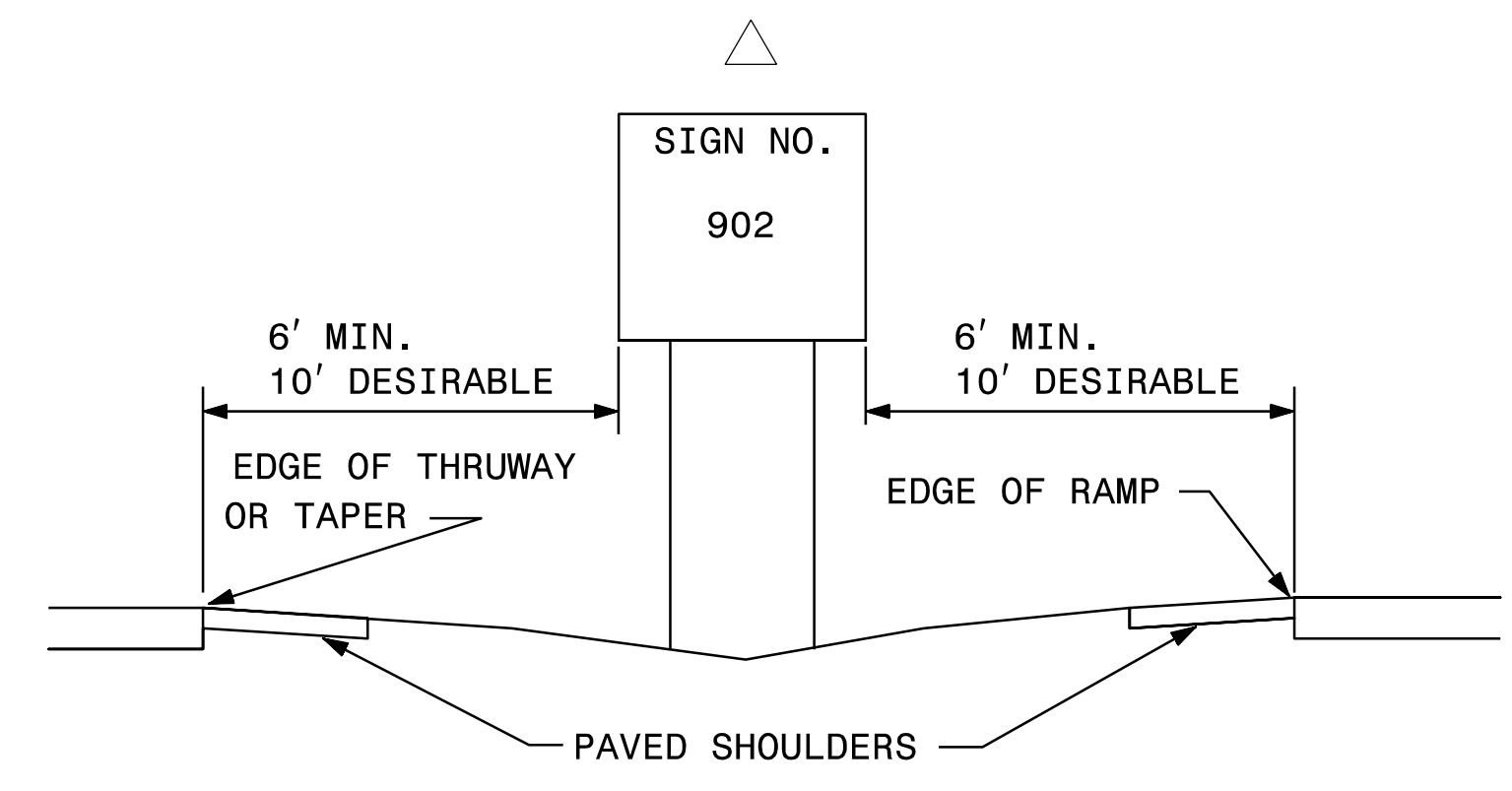
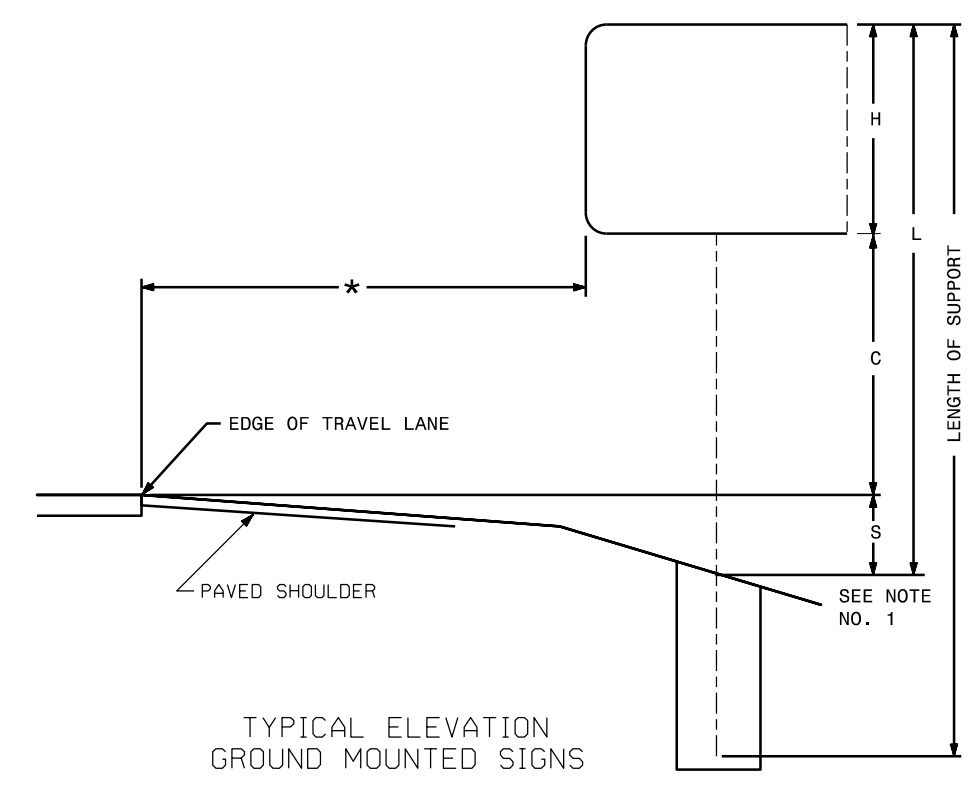
PROJECT DESIGNER

BRANDON W. JOHNSON, PE PROJECT DESIGN ENGINEER

PROJECT DESIGN ENGINEER



TIP NO. U-5947	SHEET NO. SIGN-2A
APPROVED: <i>Faith E. Janke</i> B002856C7C9466	
DATE: 4/20/2022	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	



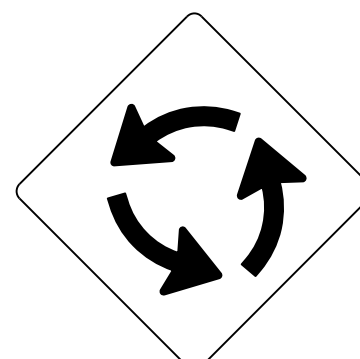

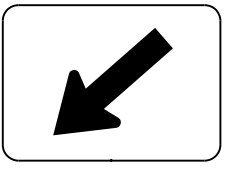
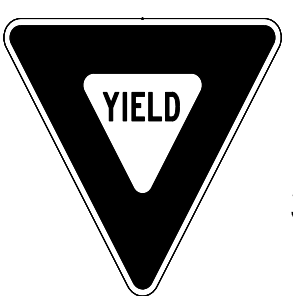


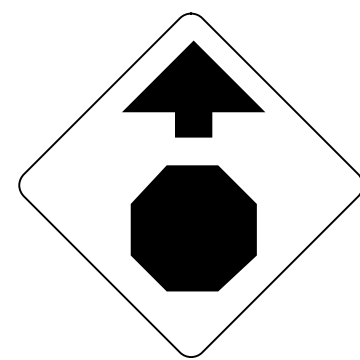

Version: 3.1 Posted: 6/2/2017



NUMBER	TYPE	SIGN			ROADWAY STATION	NUMBER OF SUPPORTS	BEAM SECTION	SUPPORT TYPE BA or S	OMNI COUPLER	ATTACHMENT METHOD	MOUNTING METHOD	HORIZONTAL CLEARANCE* (ft.)	SUPPORT SPACING	LENGTH (ft)			LEFT SUPPORT (ft)			CENTER SUPPORT (ft)			RIGHT SUPPORT (ft)			SUPPORT WEIGHTS		FOOTINGS				FIELD VERIFIED SEE NOTE 2 (mm/dd/yy)
		w	x	h										S	L	LENGTH	S	L	LENGTH	S	L	LENGTH	B/A (lbs.)	SIMPLE (lbs.)	DIAMETER (ft.)	DEPTH (ft.)	REINFORCED (c.y.)	PLAIN (c.y.)				
																													SNS HT "H"	MTG HT "C"	EMBED-MENT	
901	A	90	x	84	-RPB- STA. 11+78	2	S4x7.7	BA	N/A	N/A	N/A	10.00	4.40	7.00	7.00	3.0	0.87	14.87	17.87	0.00	0.00	0.00	2.00	16.00	19.00	323.90	0	1.0	3.5	0.00	0.20	---
902	A	90	x	84	-RPB- STA. 12+43	2	S4x7.7	BA	N/A	N/A	N/A	10.00	4.40	7.00	7.00	3.0	0.60	14.60	17.60	0.00	0.00	0.00	0.61	14.61	17.61	311.12	0	1.0	3.5	0.00	0.20	---
														TOTAL	TOTAL					TOTAL	TOTAL											
														635.02	0.00					0.00	0.41											
														USE:	636.00	0.00					0.00	1.00										

NOTES

- DIMENSION "S" REPRESENTS AN INCREASE (+), OR A DECREASE (-) IN POLE LENGTH, RELATIVE TO THE ELEVATION OF THE EDGE OF TRAVEL LANE.
- FIELD VERIFICATIONS SHALL BE REQUIRED FOR ALL SUPPORTS, SEE (*) ARTICLE 903-3. FABRICATORS SHALL BE AISC CERTIFIED IN CATEGORY 1, SEE (*) ARTICLE 1072-1. (*) = N.C.D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES
- PLAN LOCATIONS FOR EXISTING UTILITIES ARE BASED ON THE BEST AVAILABLE INFORMATION AND, THEREFORE MAY NOT BE PRECISELY ACCURATE. THEREFORE, IT IS INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK IN A LOCATION.

**TYPE "A" AND TYPE "B"
GROUND MOUNTED SIGNS**

<p>401 QUANTITY REQ'D: 4</p>  <p>W2-6 30" X 30"</p> <p>ONE "U" POST PER SIGN</p>	<p>402 QUANTITY REQ'D: 8</p>  <p>W11-2 36" X 36"</p> <p>ONE "U" POST PER SIGN</p>	<p>403 QUANTITY REQ'D: 8</p>  <p>W16-7PL 24" X 12"</p> <p>MOUNT BELOW SIGN 402 IN 8 INSTALLATIONS</p>	<p>404 QUANTITY REQ'D: 7</p>  <p>R1-2 36" X 36" X 36"</p> <p>ONE "U" POST PER SIGN</p>	<p>405 QUANTITY REQ'D: 4</p>  <p>R6-4 30" X 24"</p> <p>ONE "U" POST PER SIGN</p>	<p>406 QUANTITY REQ'D: 2</p>  <p>R3-8a 30" X 30"</p> <p>ONE "U" POST PER SIGN</p>
<p>407 QUANTITY REQ'D: 1</p>  <p>W3-1 30" X 30"</p> <p>ONE "U" POST PER SIGN</p>	<p>408 QUANTITY REQ'D: 1</p>  <p>R3-8 36" X 36"</p> <p>ONE "U" POST PER SIGN</p>				

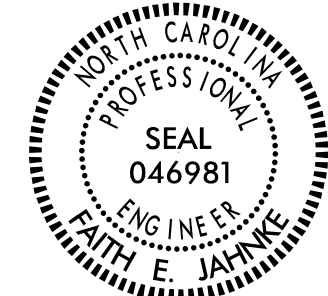
TIP NO. U-5947	SHEET NO. SIGN-3
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APPROVED: <i>Faith E. Jahnke</i> <small>BD02B9CE7C3466...</small>	
DATE: 3/9/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	NC FIRM LICENSE No. P-0339 320 Executive Ct., Henderson, NC 27534 (919) 752-3888 (919) 752-6676 (FAX)

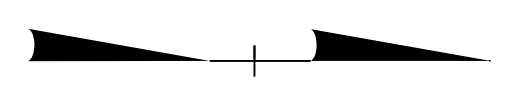
TYPE "E" SIGNS

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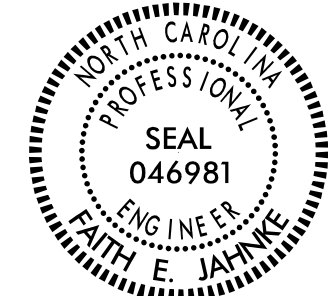

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APPROVED: DATE: 3/9/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	NC FIRM LICENSE No. P-0339 320 Executive Ct., Hillsborough, NC 27278 (919) 732-3888 (919) 732-6676 (FAX)

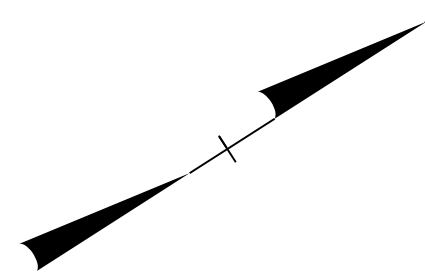
TYPE "F" SIGNS

TIP NO. U-5947	SHEET NO. SIGN-4
Designed by: <i>Faith E. Jahnke</i>	
APPROVED: <i>Faith E. Jahnke</i> Professional Engineer No. 046981	
DATE: 4/20/2022	
SEAL	
	
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Prepared in the Office of:	NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsboro, NC 27720 (919) 752-2885 (919) 752-6676 (FAX)

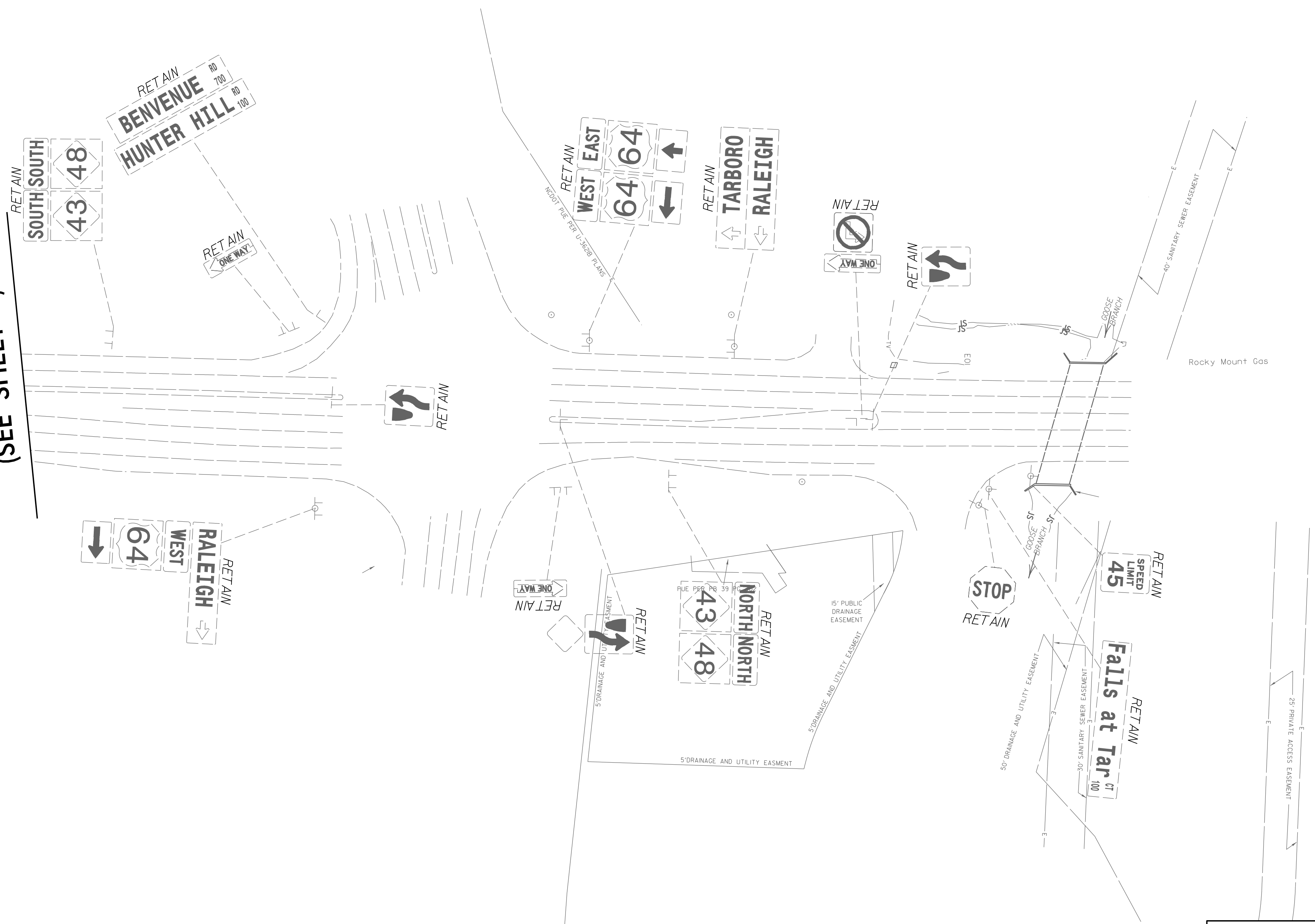


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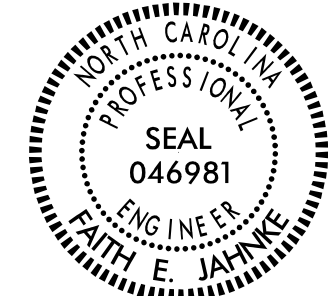

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APPROVED: <i>Faith E. Jahnke</i> B002868CE7C9468	
DATE: 3/9/2022	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of: 	NC FIRM LICENSE No: P-0339 320 Executive Ct. Hillsboro, NC 27520 (919) 752-2885 (919) 752-6676 (FAX)

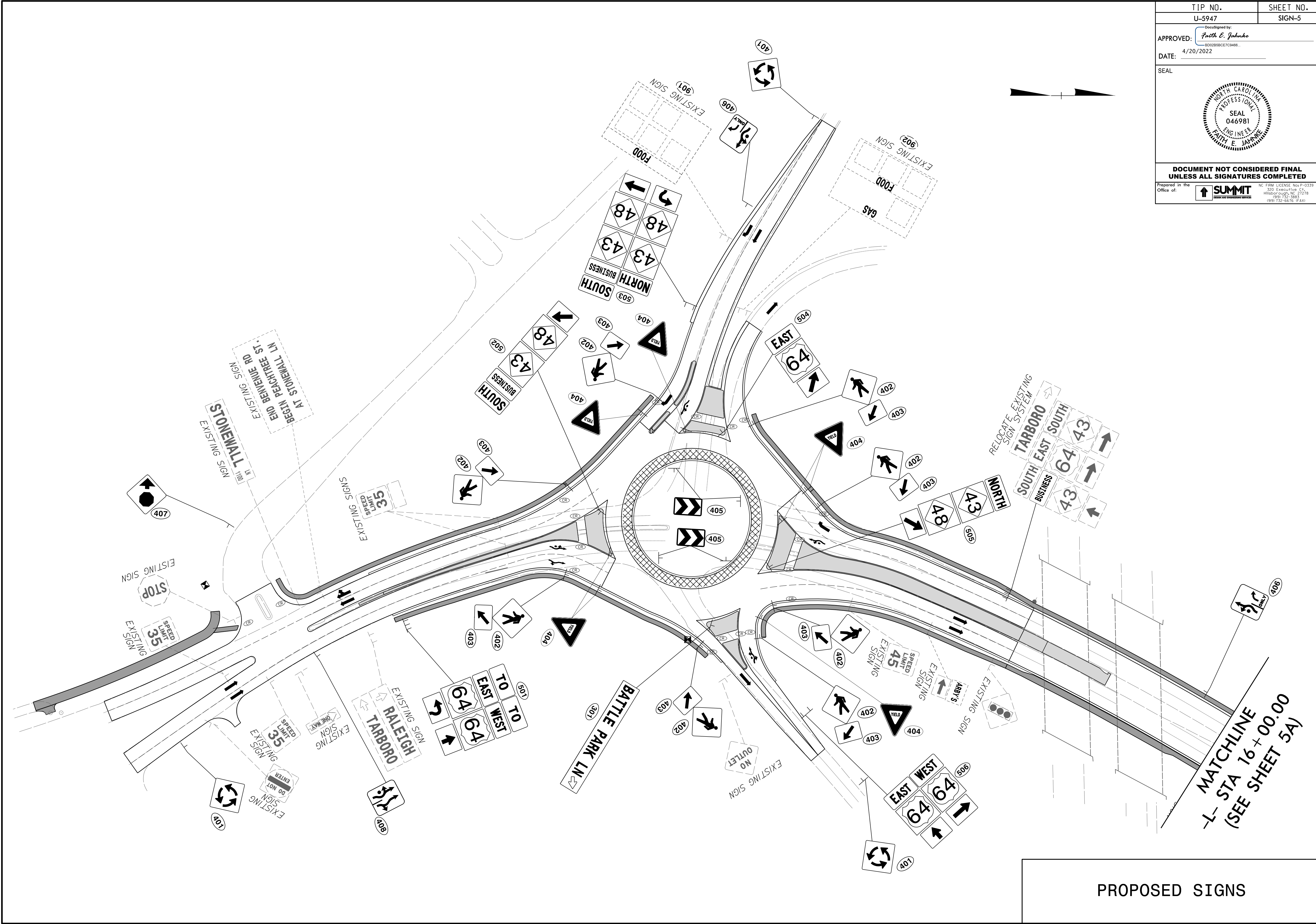


MATCHLINE
-L- STA 16+00.00
(SEE SHEET 4)

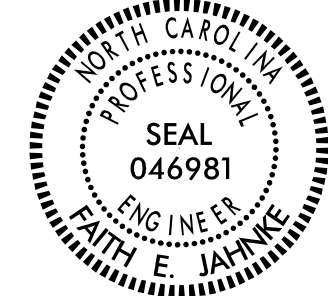



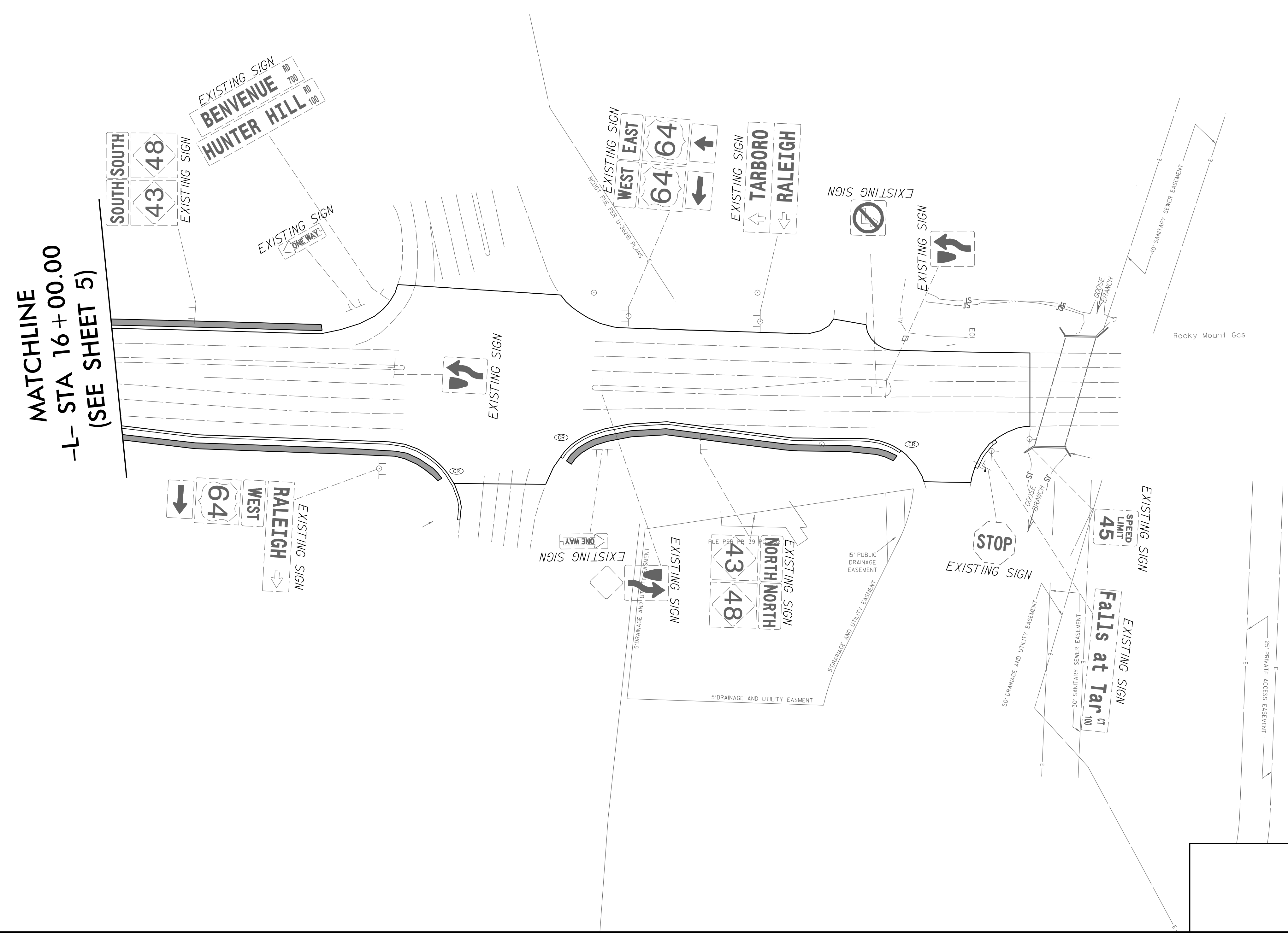
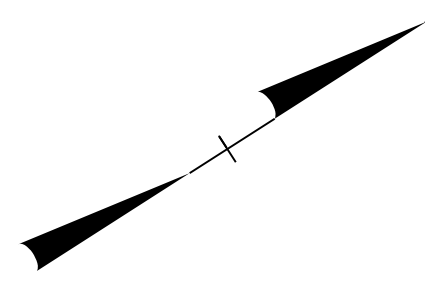
EXISTING SIGNS

TIP NO. U-5947	SHEET NO. SIGN-5
Designed by: <i>Faith E. Jahnke</i>	
APPROVED: <i>Faith E. Jahnke</i> B01269CE7C9466...	
DATE: 4/20/2022	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared in the Office of:	NC FIRM LICENSE No. P-0339 320 Executive Ct., Hillsboro, NC 27520 (919) 752-2885 (919) 752-6676 (Fax)
	



PROPOSED SIGNS

TIP NO. U-5947	SHEET NO. SIGN-5A
APPROVED: <i>Faith E. Jahnke</i> 3/9/2022	
SEAL	
	
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Prepared in the Office of:	 <small>NC FIRM LICENSE No. P-0339 320 Executive Ct. Hillsboro, NC 27520 (919) 752-2883 (919) 752-6676 (Fax)</small>



PROPOSED SIGNS

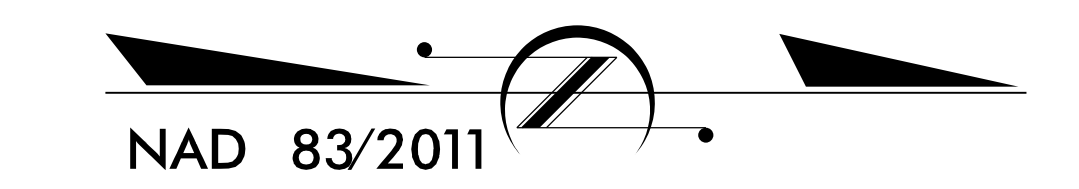
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
NASH COUNTY**

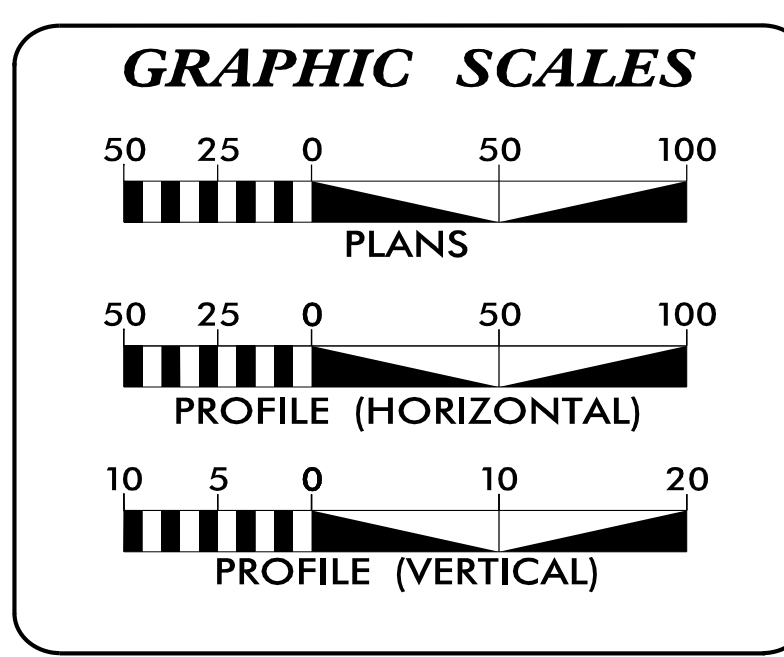
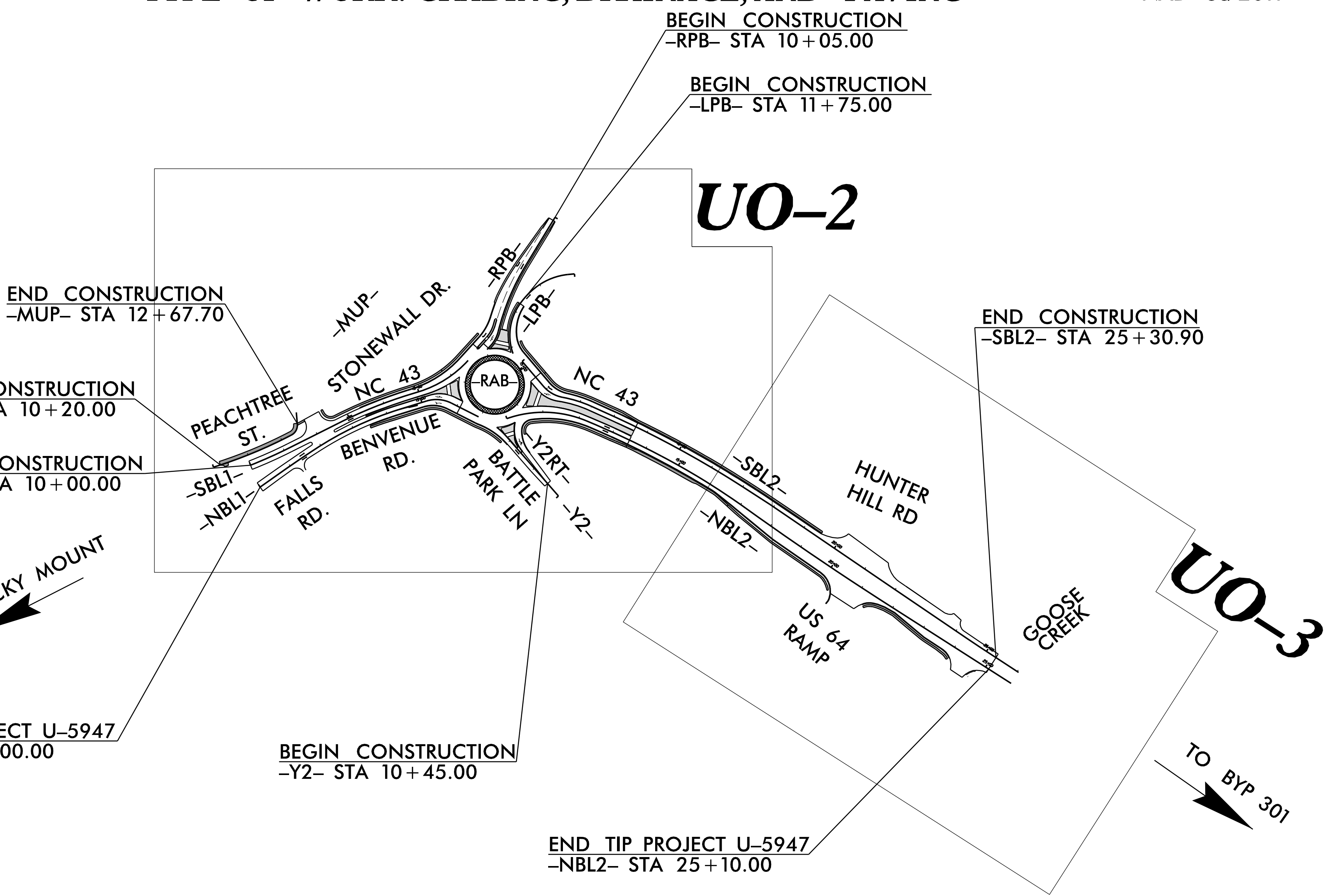
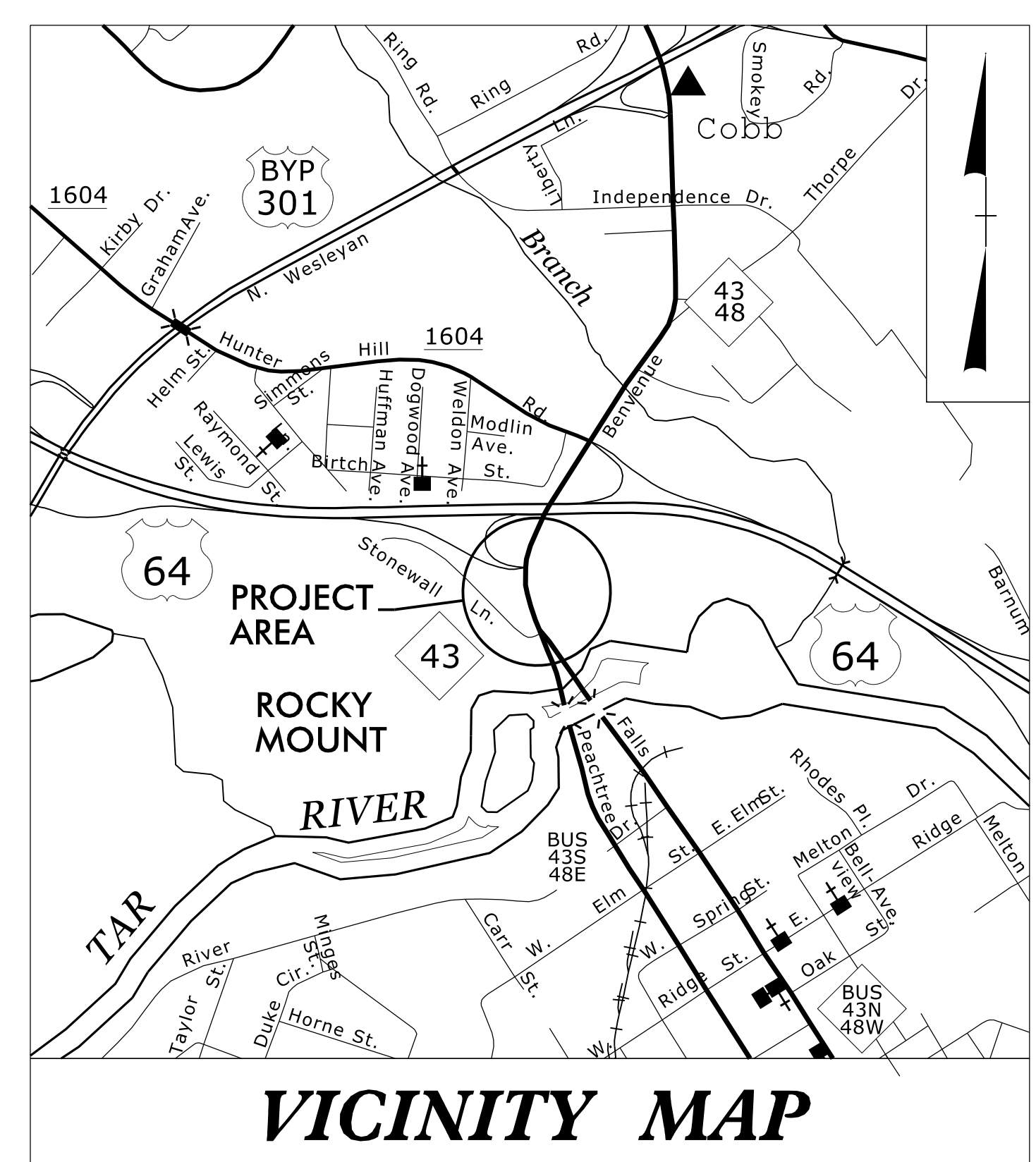
**LOCATION: INTERCHANGE OF US 64 BYPASS
& NC 43 (BENVENUE ROAD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING**

T.I.P. NO.	SHEET NO.
U-5947	UO-1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



TIP PROJECT: U-5947



INDEX OF SHEETS	
SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2 THRU UO-3	UBO PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS	
(A) POWER - CITY OF ROCKY MOUNT	
(B) COMMUNICATIONS - MCNC	
(C) COMMUNICATIONS - NCDOT	

PREPARED IN THE OFFICE OF:

TELICS
1598 WESTBROOK PLAZA DR.
SUITE 202
WINSTON-SALEM, NC 27103
(336) 705-8844

<u>CORY WOOD</u>	UTILITY PROJECT MANAGER
<u>CORY WOOD</u>	PROJECT UTILITY COORDINATOR

**DIVISION OF HIGHWAYS
DIVISION 4**
509 WARD BLVD.
WILSON, NC 27895

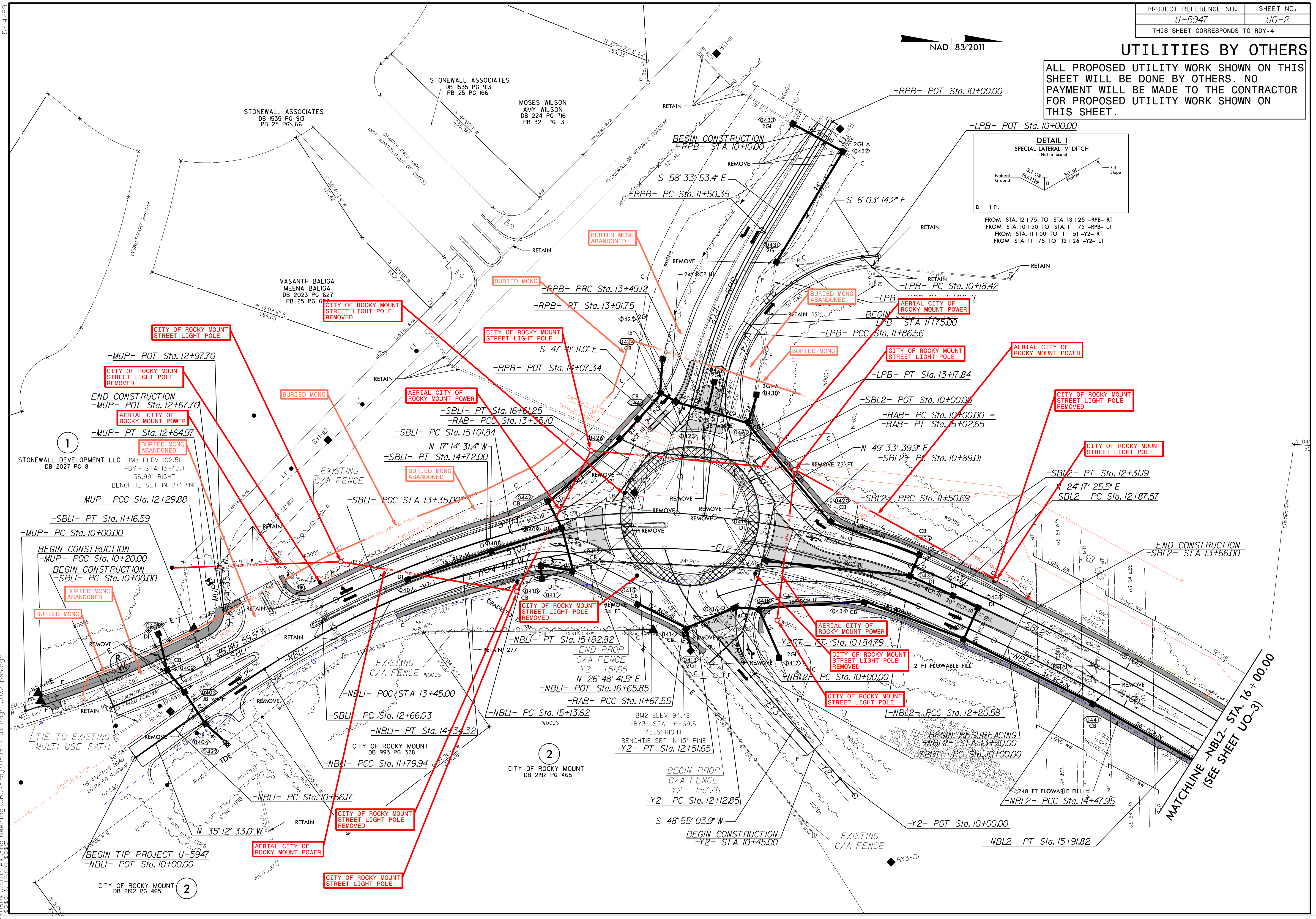
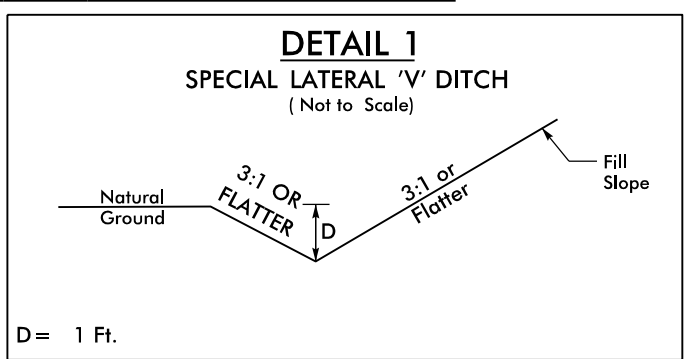
<u>KYLE PLEASANT</u>	DIVISION UTILITY ENGINEER
<u>RUSSELL BROADWELL</u>	PROJECT MANAGER

02-MAR-2022 20:49 C:\UTB\FE\5021\U-5947\UBOs\Utilities\Engineering\UBO\Proj\U-5947_ut_.tsh_U001.psh.dgn \$\$\$USERNAME\$\$\$

NAD 83/2011

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



5/14/09
 02-MAR-2022 22:53
 U-5947
 Engineering\UBO\Proj\U-5947\ut_rdy4_U002_psh.dgn
 \$\$\$\$\$\$

1

2

CITY OF ROCKY MOUNT DB 2192 PG 465

CITY OF ROCKY MOUNT DB 993 PG 378

CITY OF ROCKY MOUNT DB 2192 PG 465

STONEWALL DEVELOPMENT LLC DB 2027 PG 8
 BM3 ELEV 102.51'
 -BY1- STA 13+42.11
 35.99' RIGHT
 BENCHMARK SET IN 27" PINE

STONEWALL ASSOCIATES DB 1535 PG 913 PB 25 PG 166

STONEWALL ASSOCIATES DB 1535 PG 913 PB 25 PG 166

MOSES WILSON AMY WILSON DB 2241 PG 716 PB 32 PG 13

VASANTH BALIGA MEENA BALIGA DB 2023 PG 627 PB 25 PG 6

STONEWALL DEVELOPMENT LLC DB 2027 PG 8
 BM3 ELEV 102.51'
 -BY1- STA 13+42.11
 35.99' RIGHT
 BENCHMARK SET IN 27" PINE

BM2 ELEV 94.78'
 -BY3- STA 6+69.51
 45.15' RIGHT
 BENCHMARK SET IN 13" PINE

BEGIN PROP C/A FENCE
 -Y2- +57.76
 -Y2- PC Sta. 12+12.85

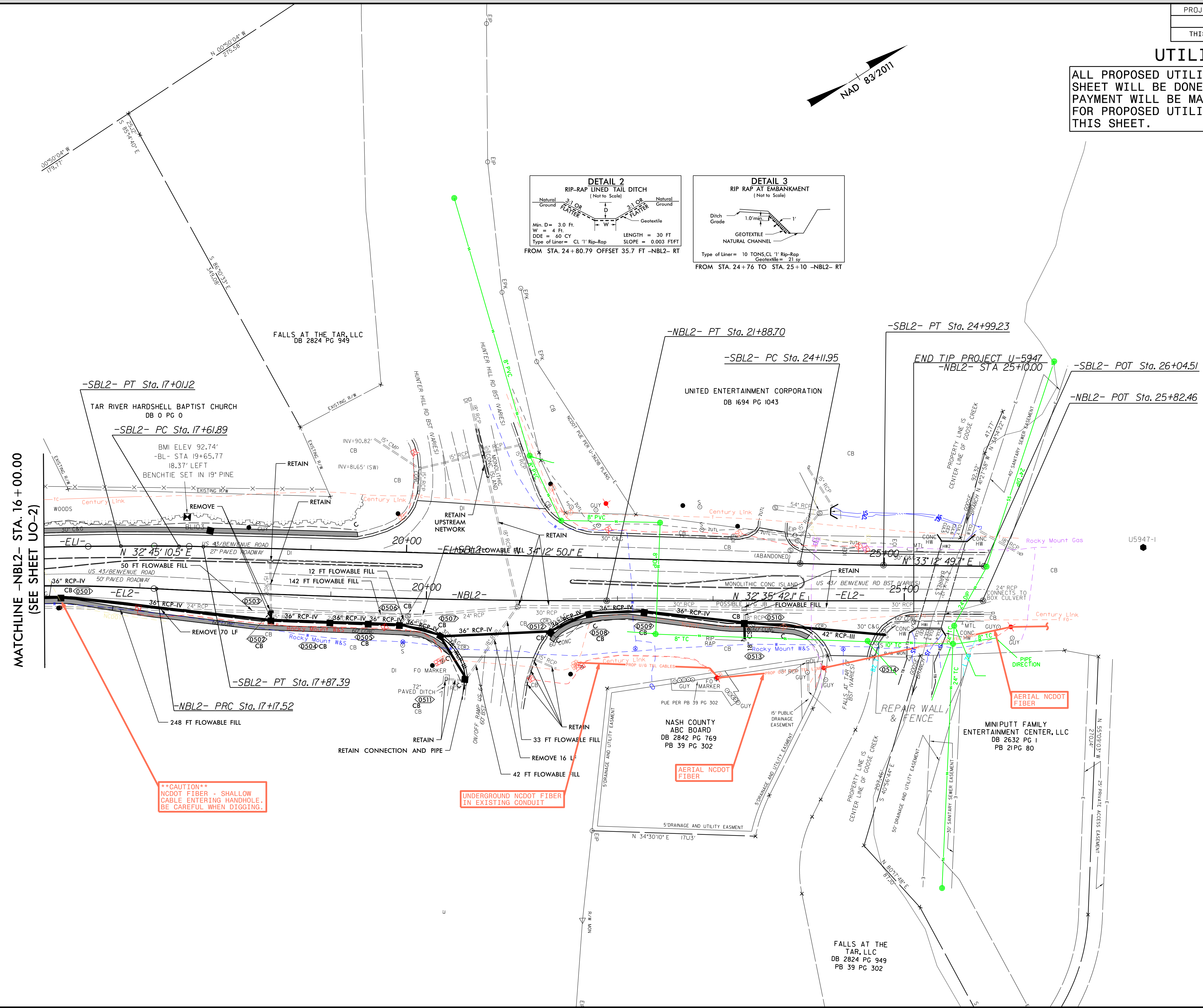
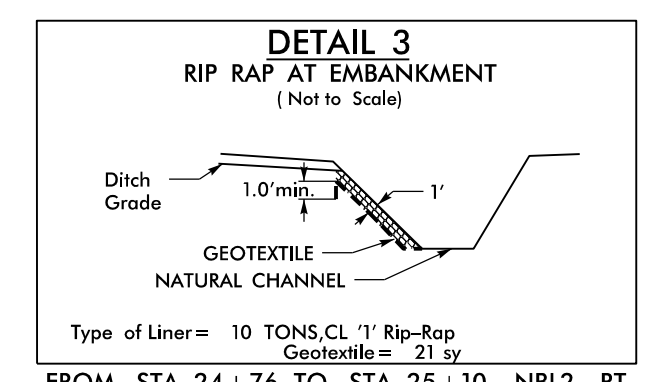
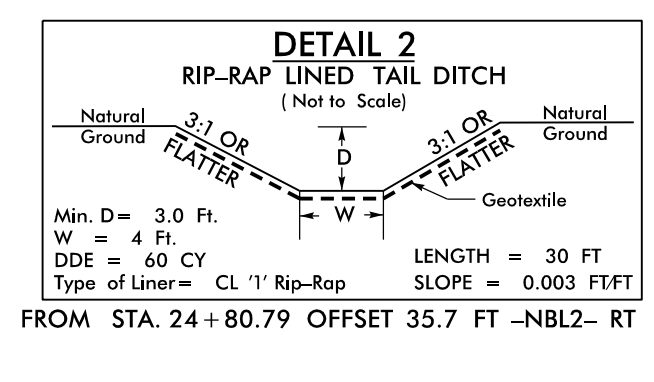
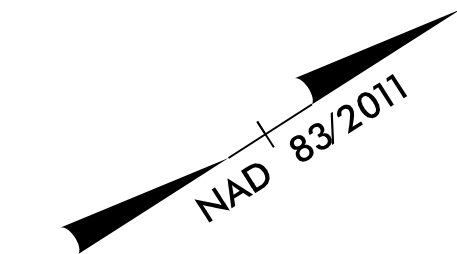
BEGIN CONSTRUCTION
 -Y2- STA 10+45.00

BY3-131

MATCHLINE -NBL2- STA. 16+00.00
 (SEE SHEET U0-3)

UTILITIES BY OTHERS

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U-5947 INDEX OF CROSS-SECTIONS

<i>LINE</i>	<i>PAGES</i>
-NBL 1 - & -SBL 1 -	X-2 TO X-6
-NBL 2 - & -SBL 2 -	X-7 TO X-18
-RAB -	X-19 TO X-22
-RPB - & -LPB -	X-23 TO X-26
-Y2 - & -Y2RT -	X-27 TO X-28
-MUP -	X-29 TO X-30

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJ. REFERENCE NO.	SHEET NO.
U-5947	X-1A

Approximate quantities only. Unclassified excavation, borrow excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

CROSS-SECTION SUMMARY

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

Station	Uncl. Exc.	Embt	Station	Uncl. Exc.	Embt
Nbl1	(cu. yd.)	(cu. yd.)	Rab	(cu. yd.)	(cu. yd.)
13+00.00	0	0	14+50.00	0	367
13+25.00	5	0	14+75.00	31	362
13+45.00	12	0	15+00.00	243	350
13+50.00	5	0			
13+75.00	20	1	Station	Uncl. Exc.	Embt
14+00.00	17	4			
14+25.00	18	8	Rpb	(cu. yd.)	(cu. yd.)
14+50.00	15	13	10+10.00	0	0
14+75.00	15	19	10+25.00	110	7
15+00.00	15	22	10+50.00	194	10
15+25.00	26	21	10+75.00	204	10
15+50.00	66	15	11+00.00	219	14
15+75.00	150	17	11+25.00	228	19
16+00.00	251	31	11+50.00	230	24
			11+75.00	227	27
Station	Uncl. Exc.	Embt	12+00.00	215	31
Nbl2	(cu. yd.)	(cu. yd.)	12+25.00	207	34
10+50.00	0	0	12+50.00	211	38
10+75.00	557	16	12+75.00	176	48
11+00.00	287	8	13+00.00	106	53
11+25.00	127	4	13+25.00	61	50
11+50.00	64	1	13+50.00	47	45
11+75.00	29	0	13+75.00	51	36
12+00.00	13	2	14+00.00	101	28
12+25.00	7	3			
12+50.00	6	4	Station	Uncl. Exc.	Embt
12+75.00	6	4			
13+00.00	8	5	Y2	(cu. yd.)	(cu. yd.)
13+25.00	13	3	10+50.00	0	0
13+50.00	10	0	10+75.00	1	4
			11+00.00	0	8
Station	Uncl. Exc.	Embt	11+25.00	22	13
Rab	(cu. yd.)	(cu. yd.)	11+50.00	86	23
10+00.00	0	0	11+75.00	65	27
10+25.00	325	342	12+00.00	75	26
10+50.00	89	342	12+25.00	231	31
10+75.00	0	358	12+50.00	319	19
11+00.00	0	399			
11+25.00	48	404			
11+50.00	60	388			
11+75.00	17	408			
12+00.00	25	438			
12+25.00	22	461			
12+50.00	2	477			
12+75.00	0	451			
13+00.00	0	400			
13+25.00	111	363			
13+50.00	305	343			
13+75.00	311	374			
14+00.00	120	387			
14+25.00	3	368			

6/23/16

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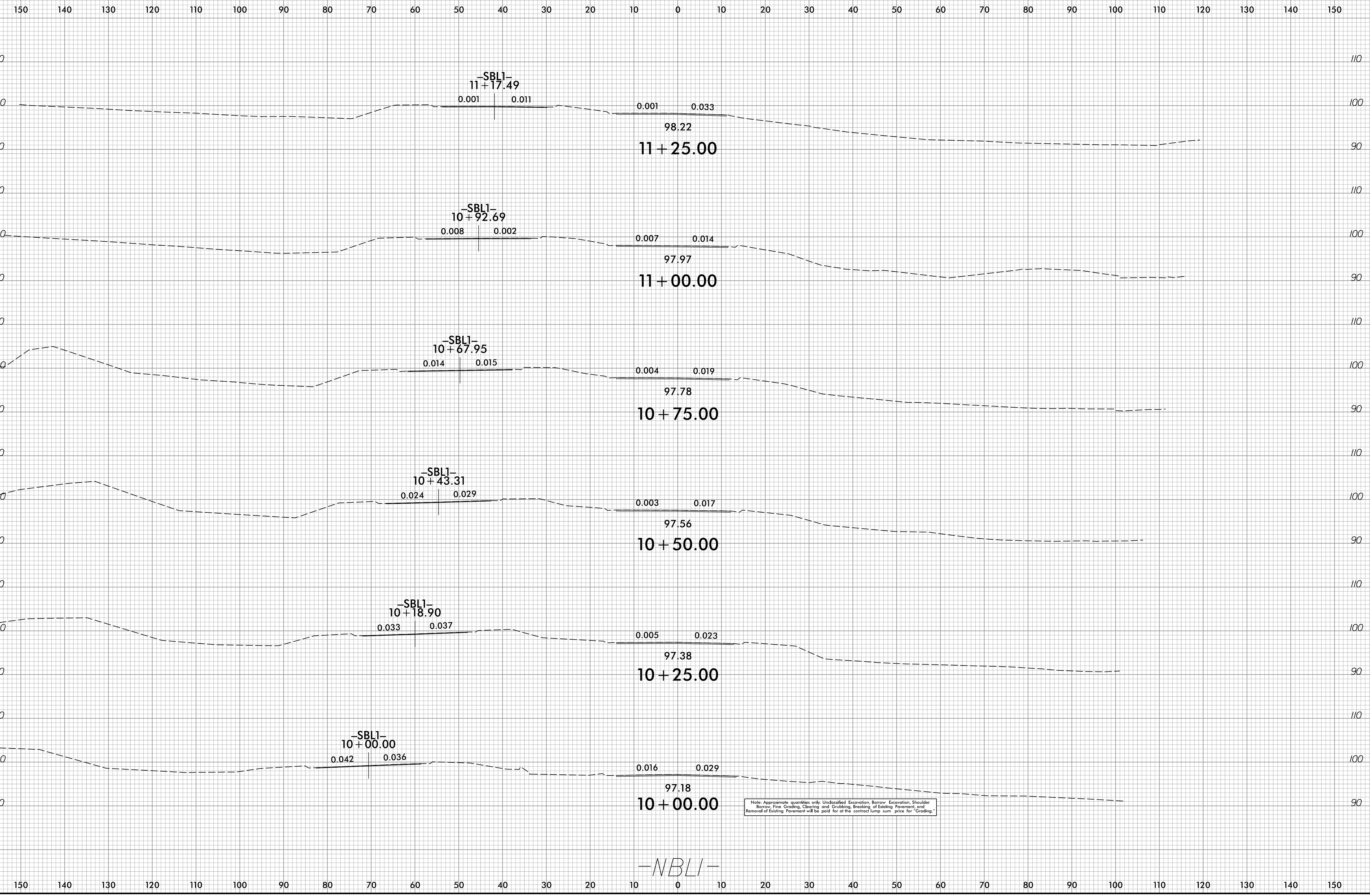


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(919) 732-6676 (Fax)



PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-2



Note: Approximate quantities only. Unclassified Excavation, Borrow, Excavation, Shoulder Borrow, 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."

-NBLI-

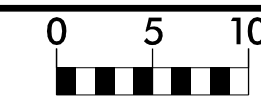
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jstn.john

6/23/16

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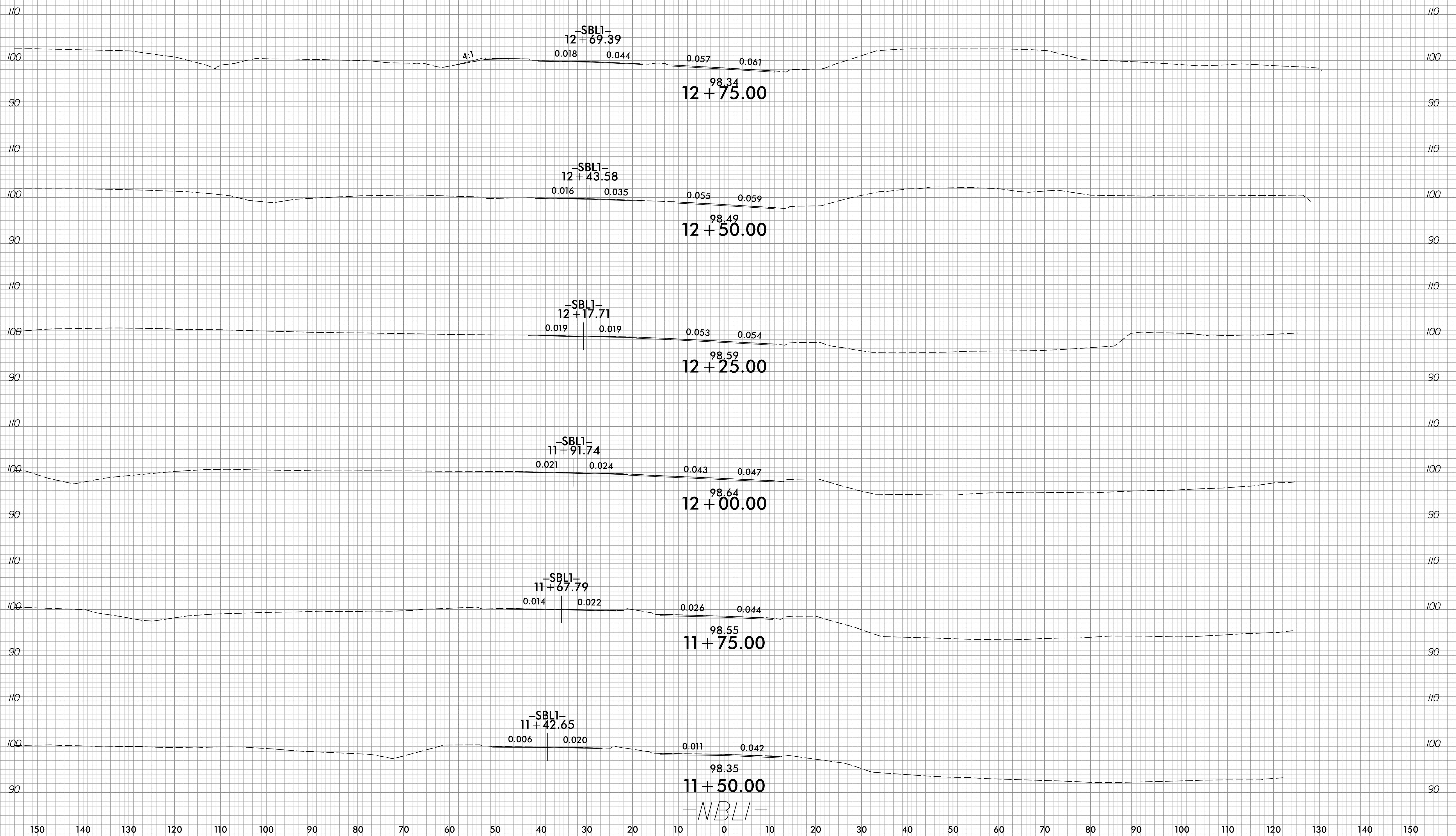
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PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-3

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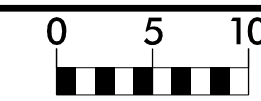
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6/23/16

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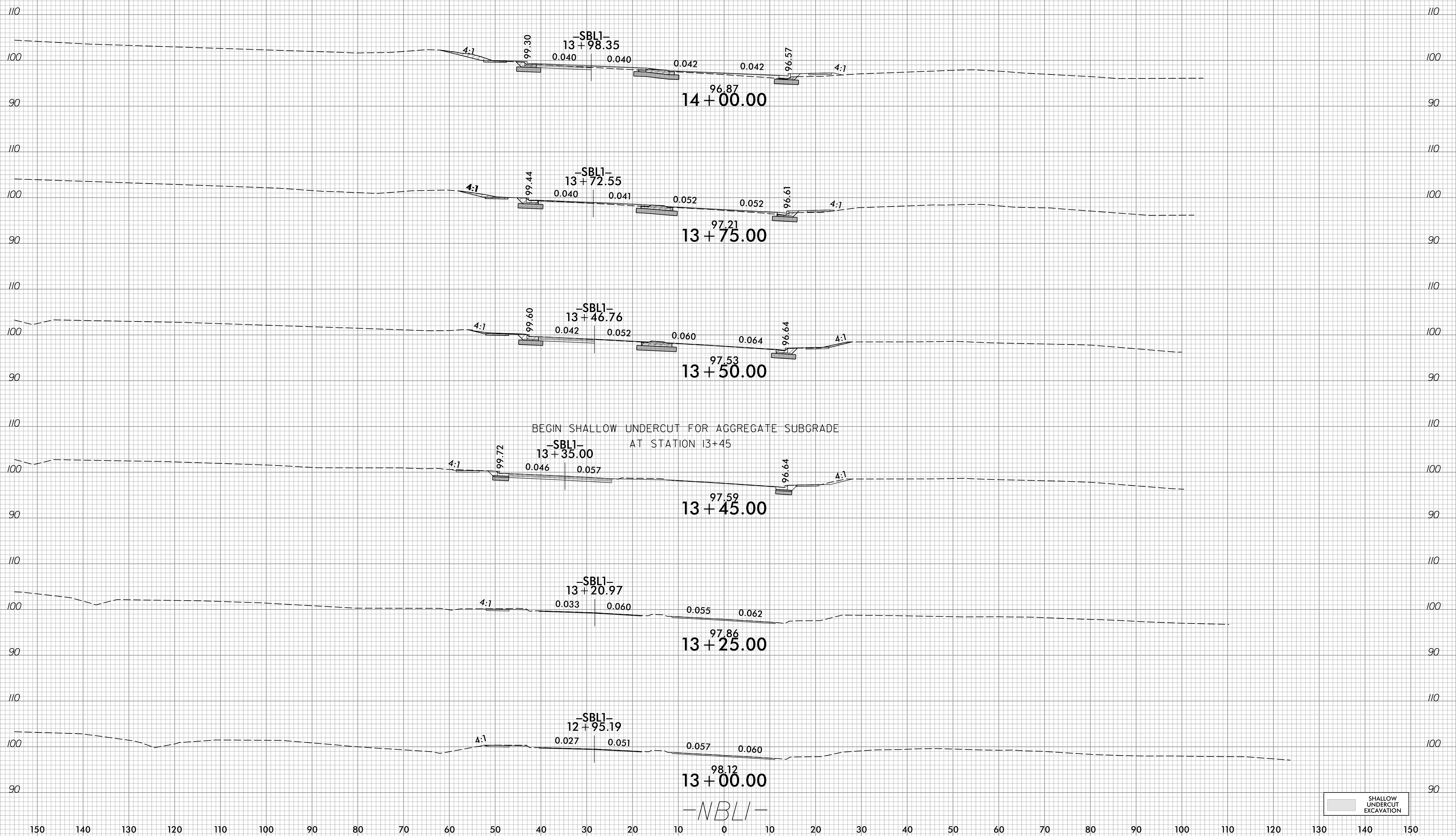
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PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-4

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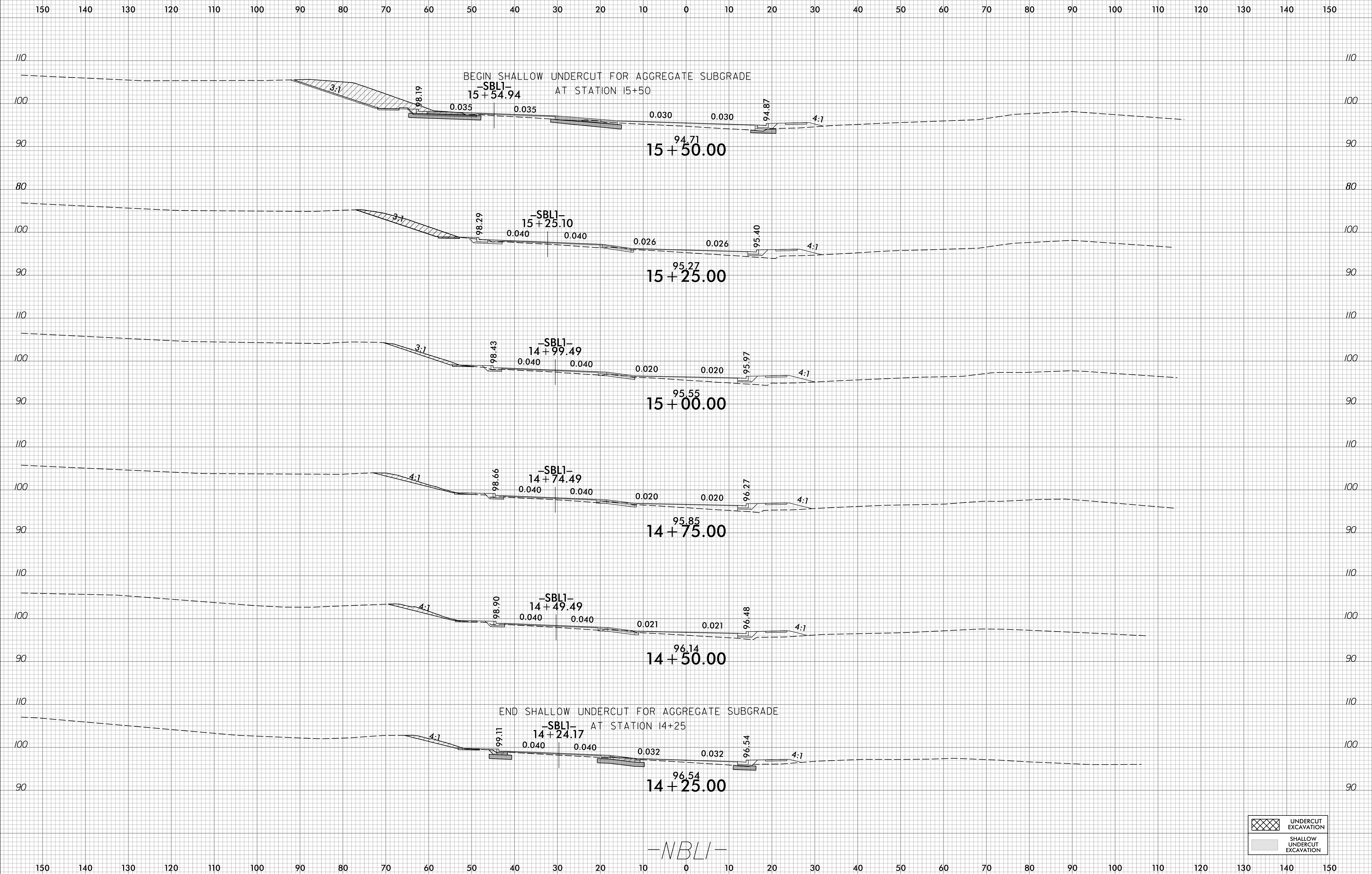
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j.dunn

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-NBLI-

SHALLOW UNDERCUT EXCAVATION

6/23/16



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 jay.dj

UNDERCUT EXCAVATION
 SHALLOW UNDERCUT EXCAVATION

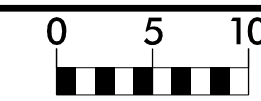
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6/23/16

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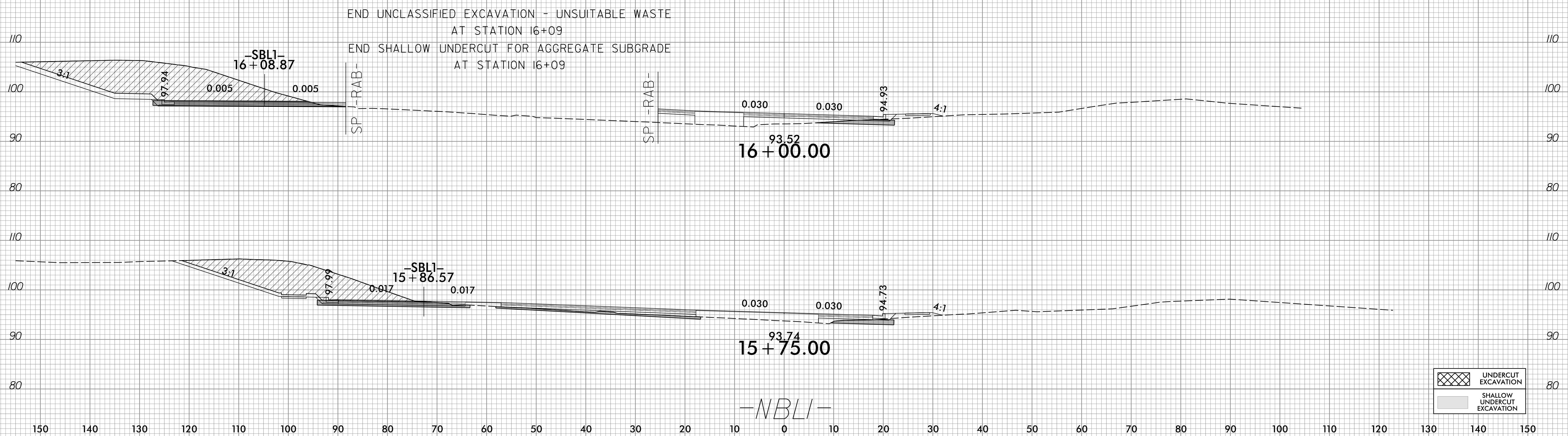
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SHEET NO.
X-6

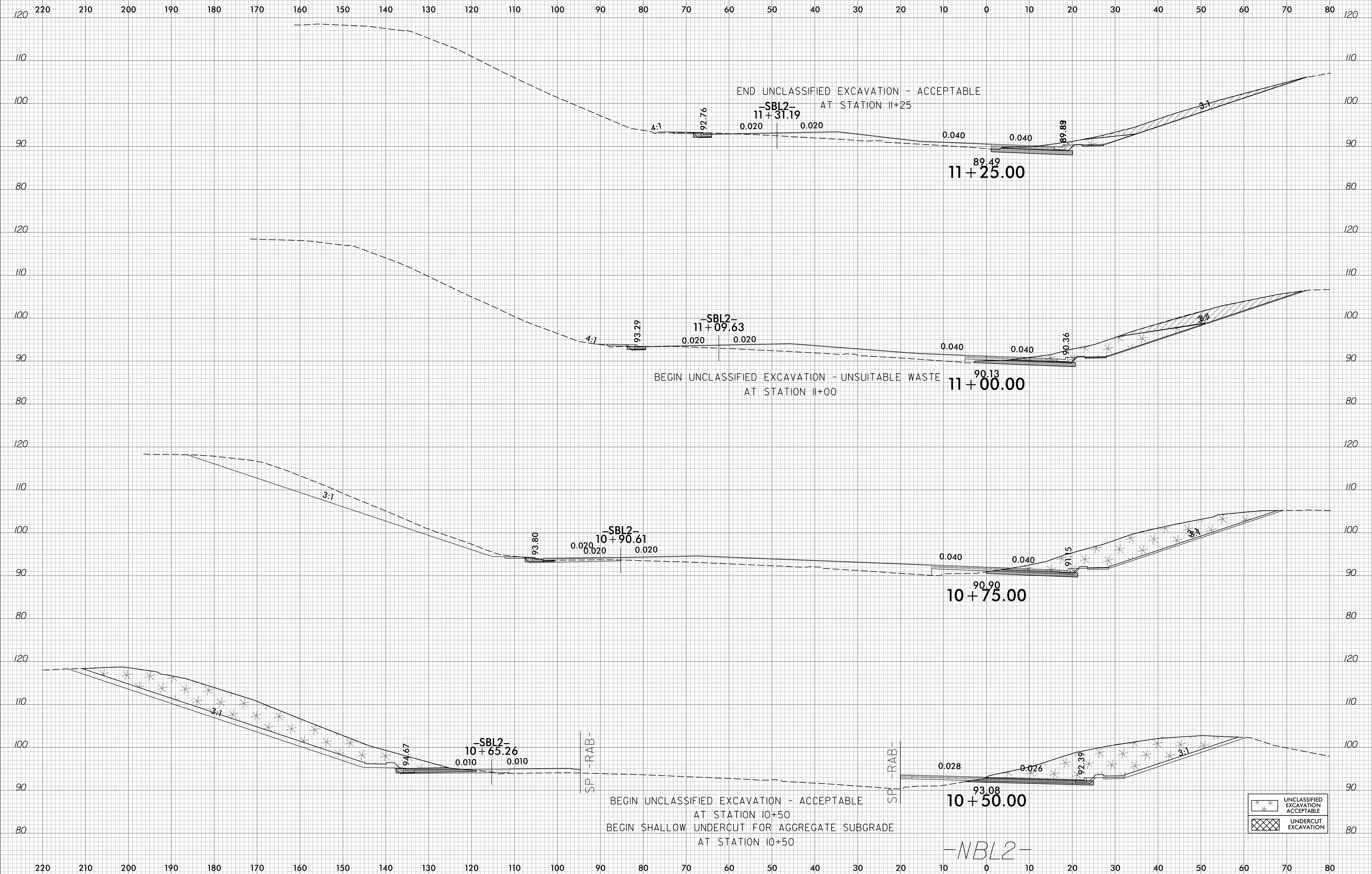
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6/23/16



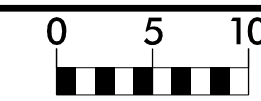
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John.Dunn

6/23/16

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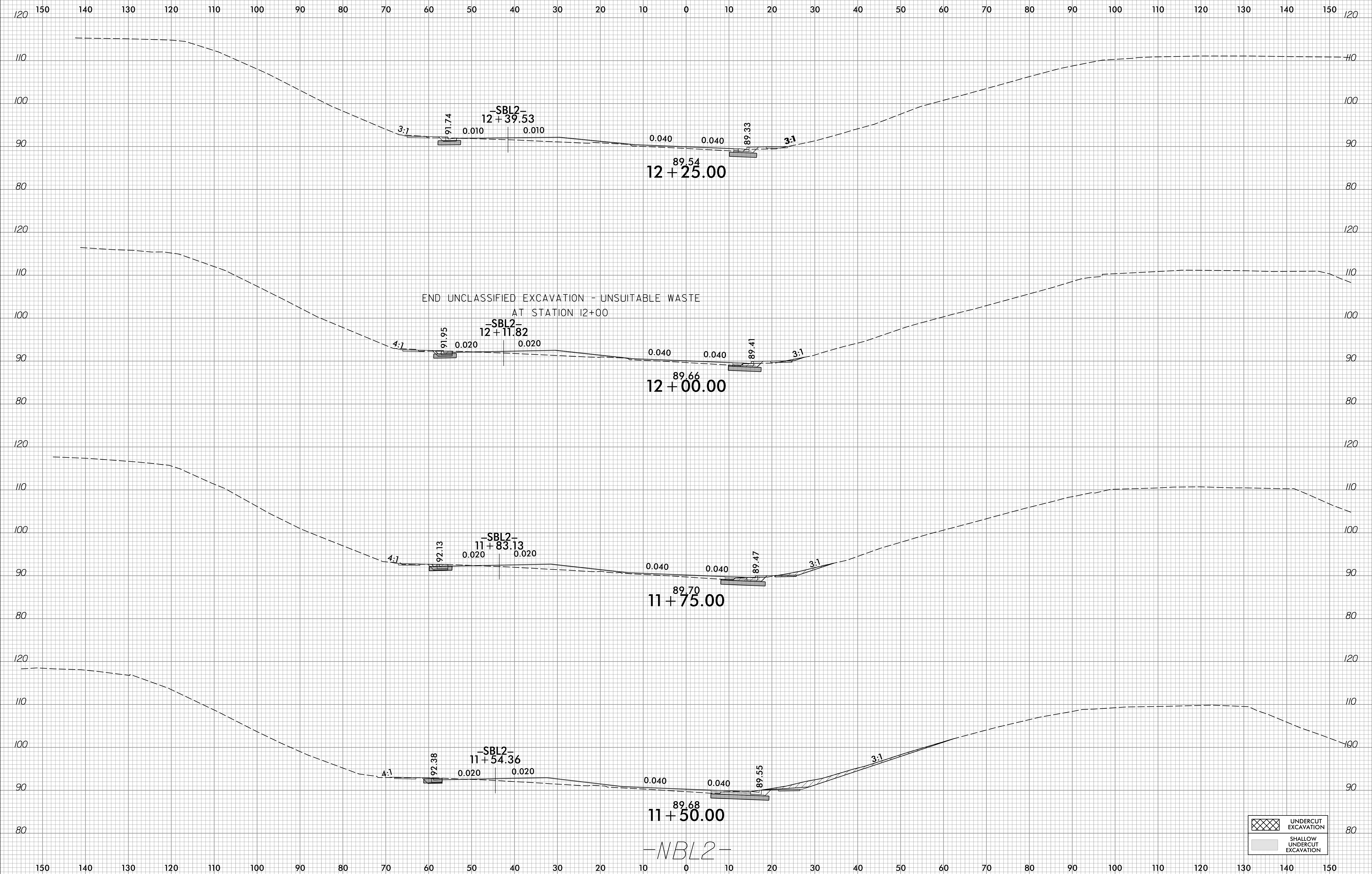


PROJ. REFERENCE NO.

U-5947

SHEET NO.

X-8



END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
AT STATION 12+00

Legend:

- UNDERCUT EXCAVATION
- SHALLOW UNDERCUT EXCAVATION

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j.d.j

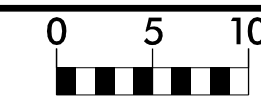
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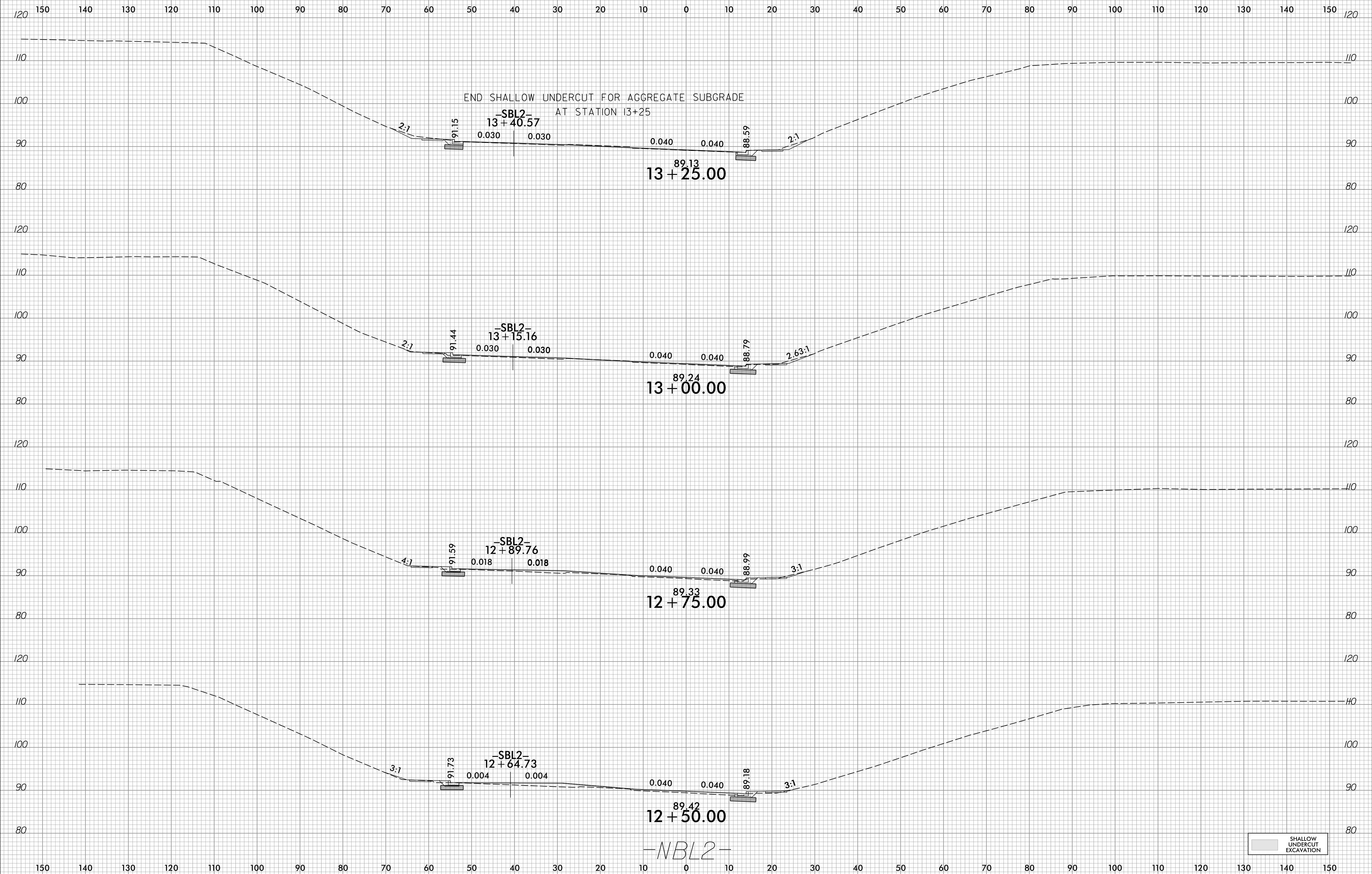


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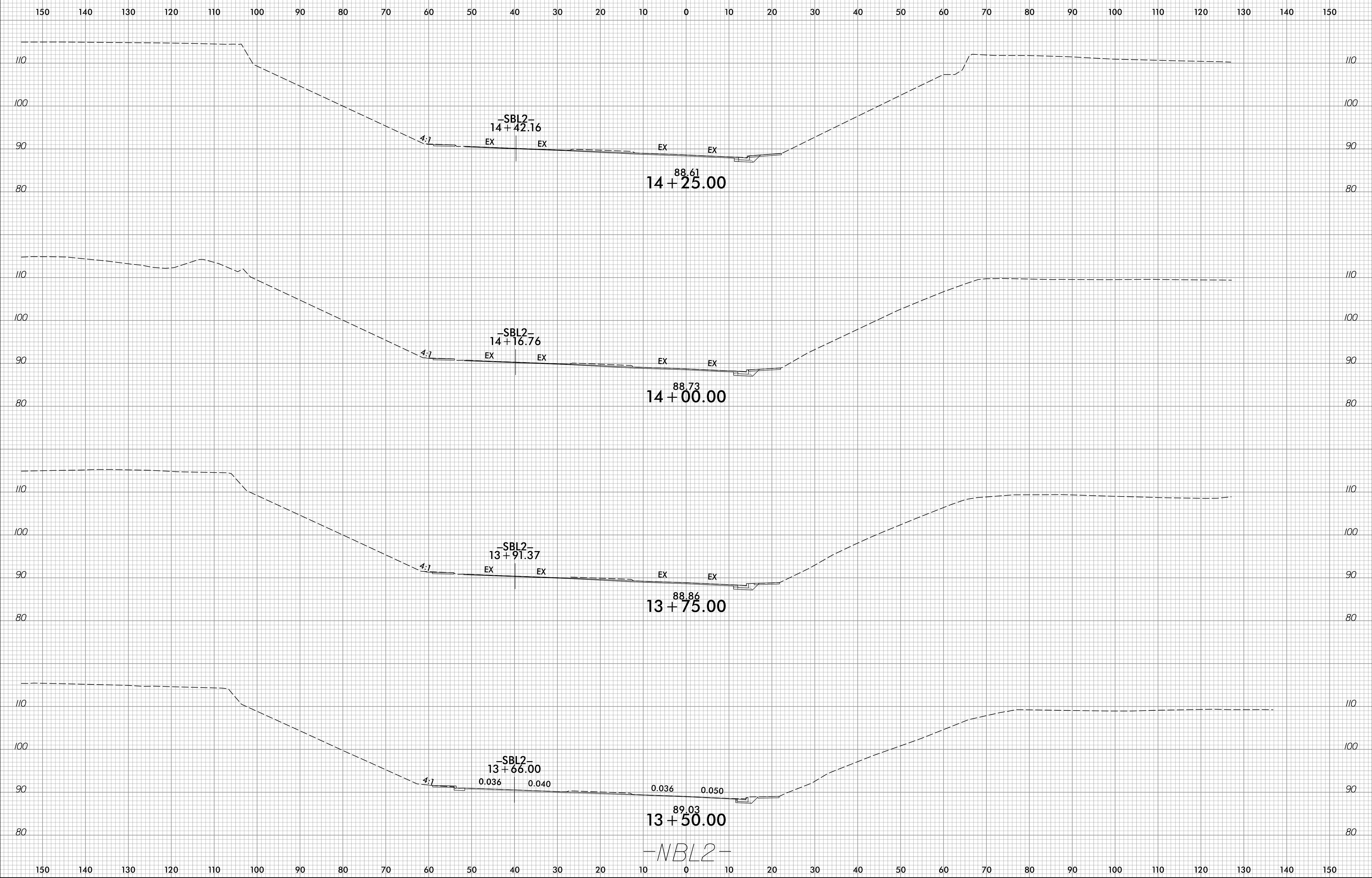
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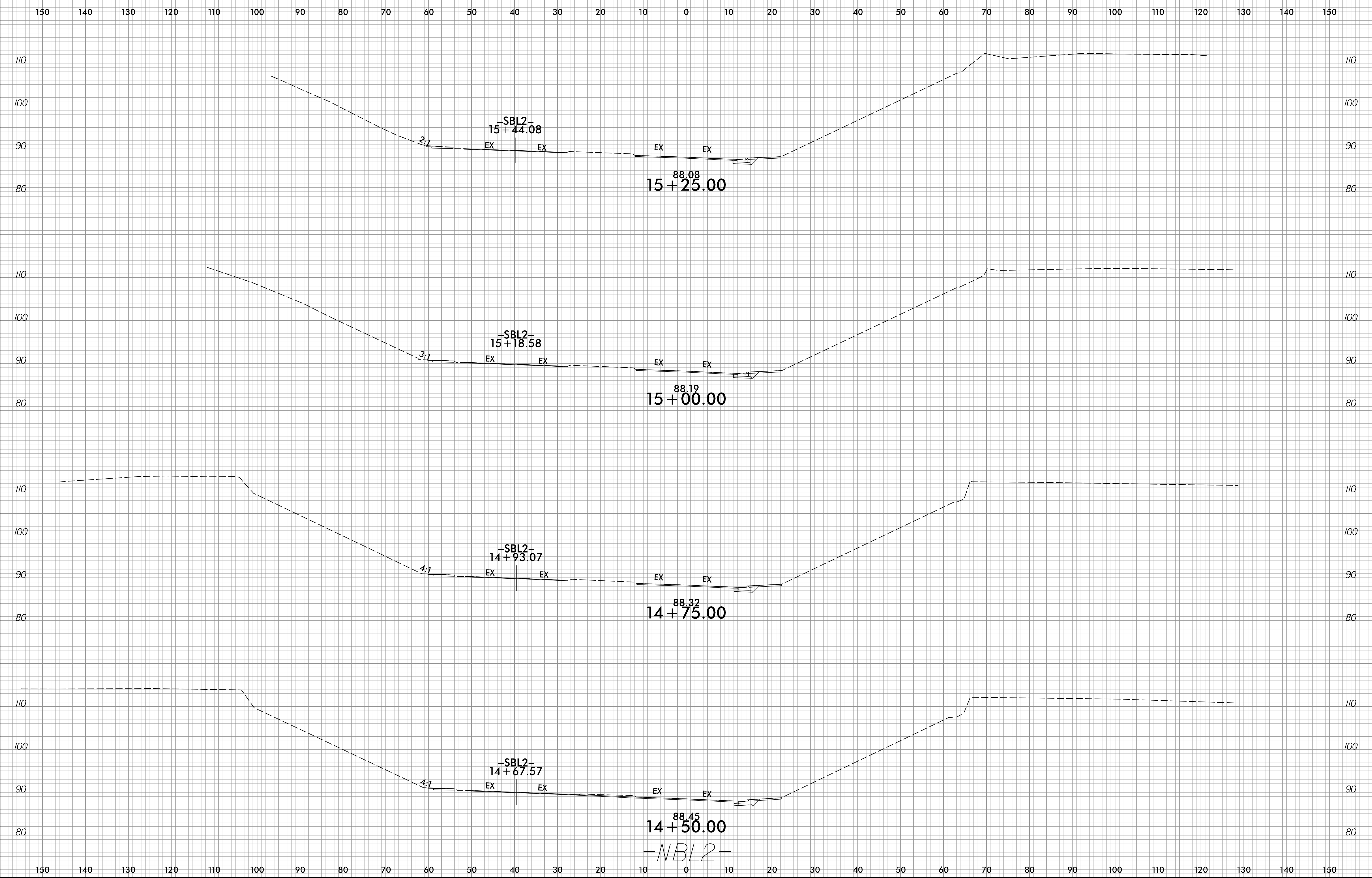
SHALLOW UNDERCUT EXCAVATION

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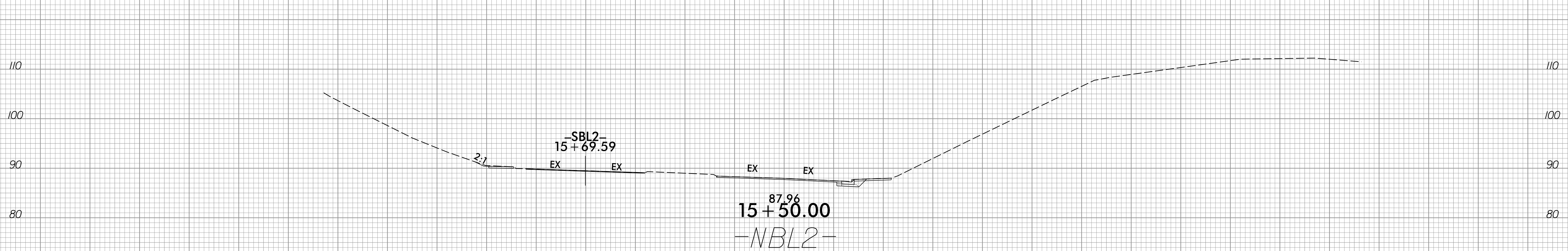
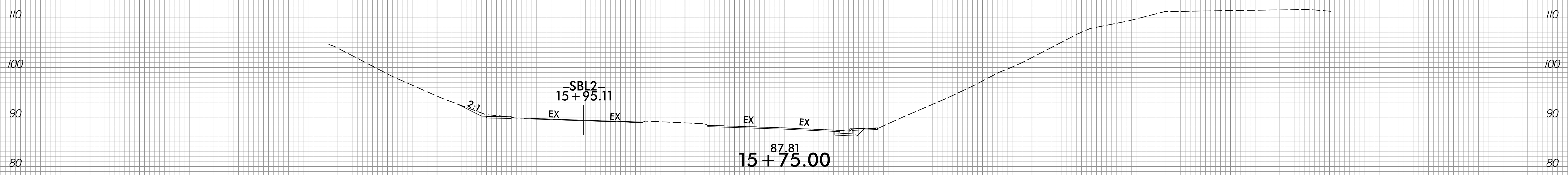
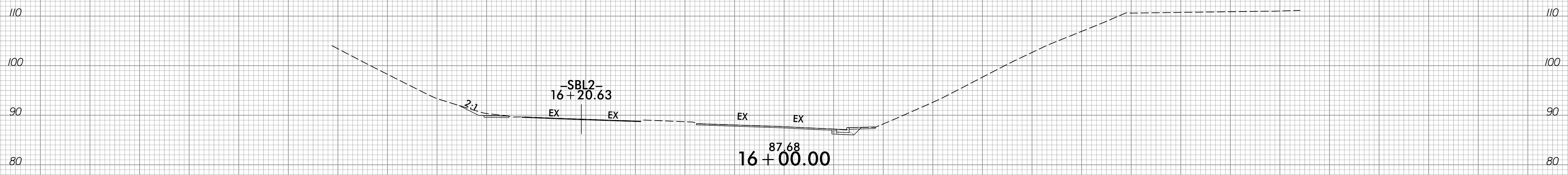
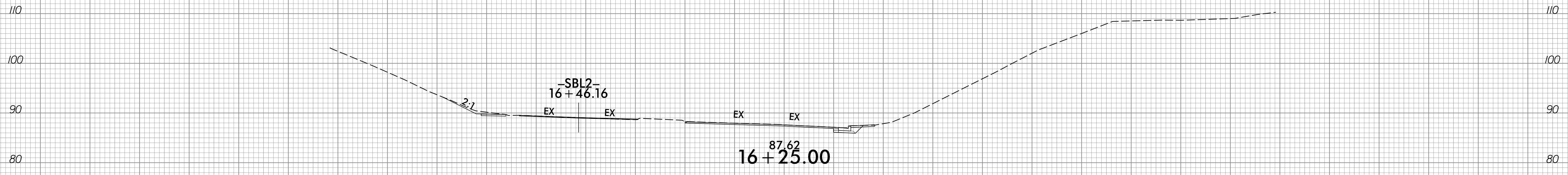
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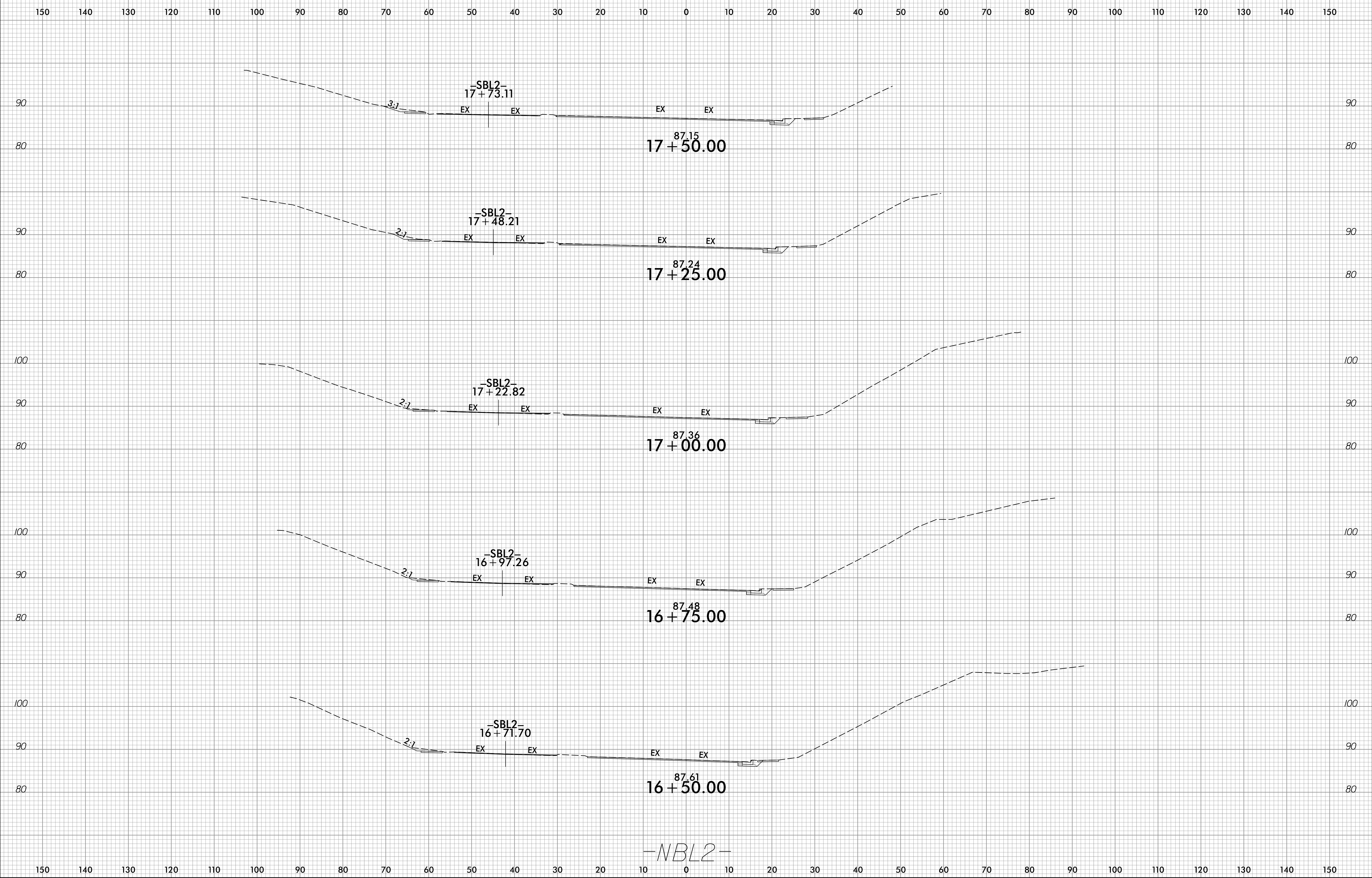
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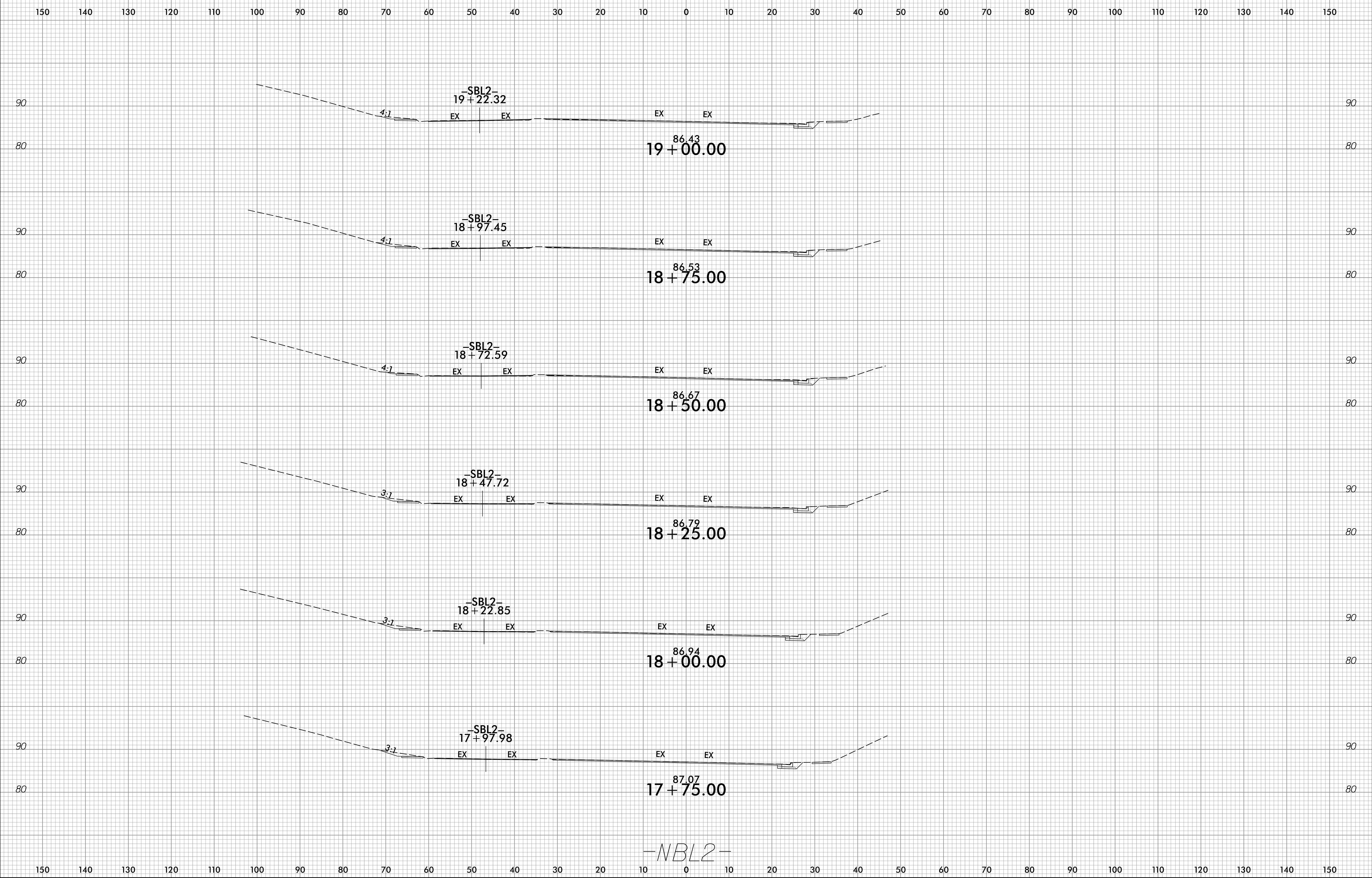
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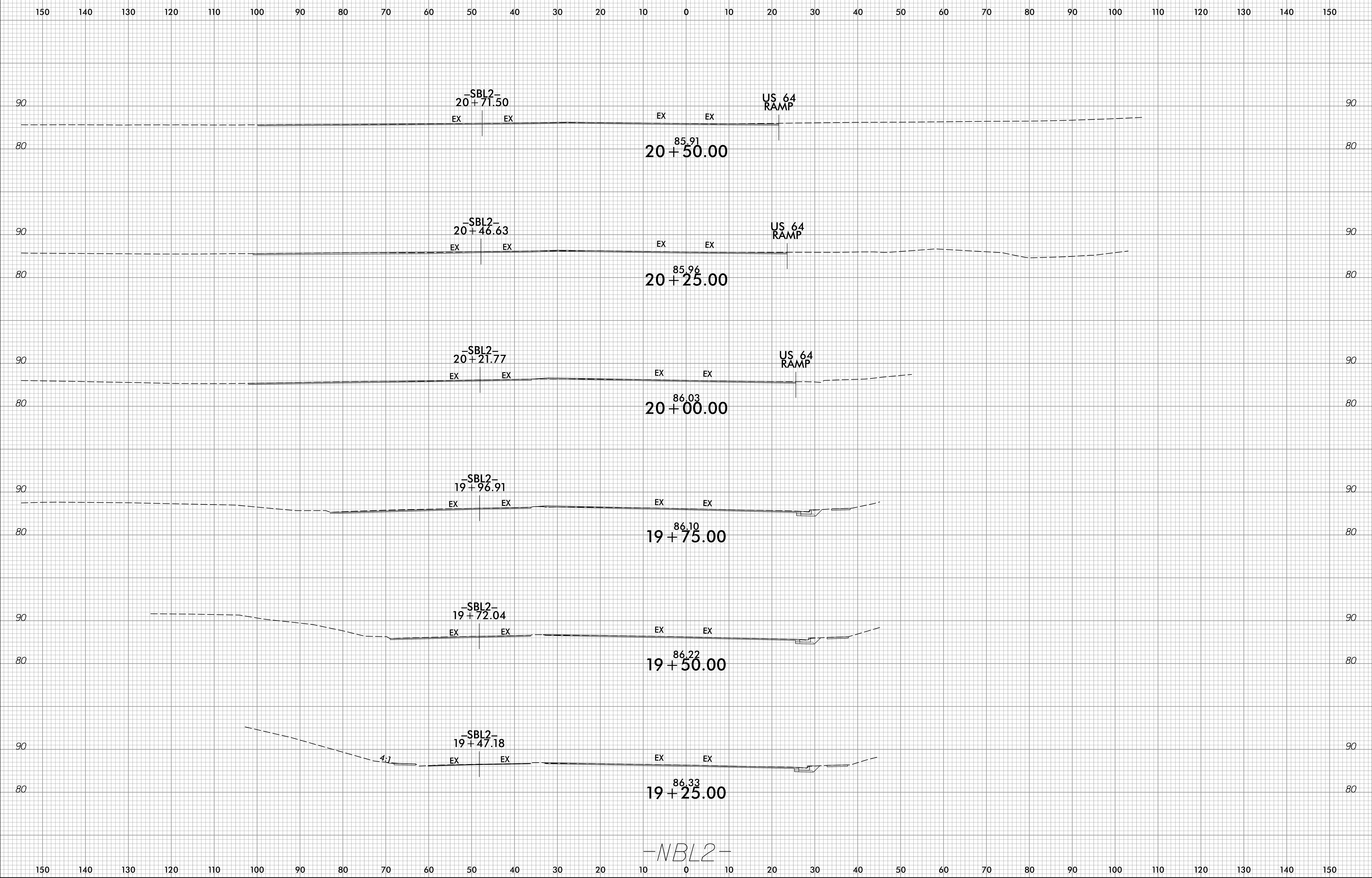


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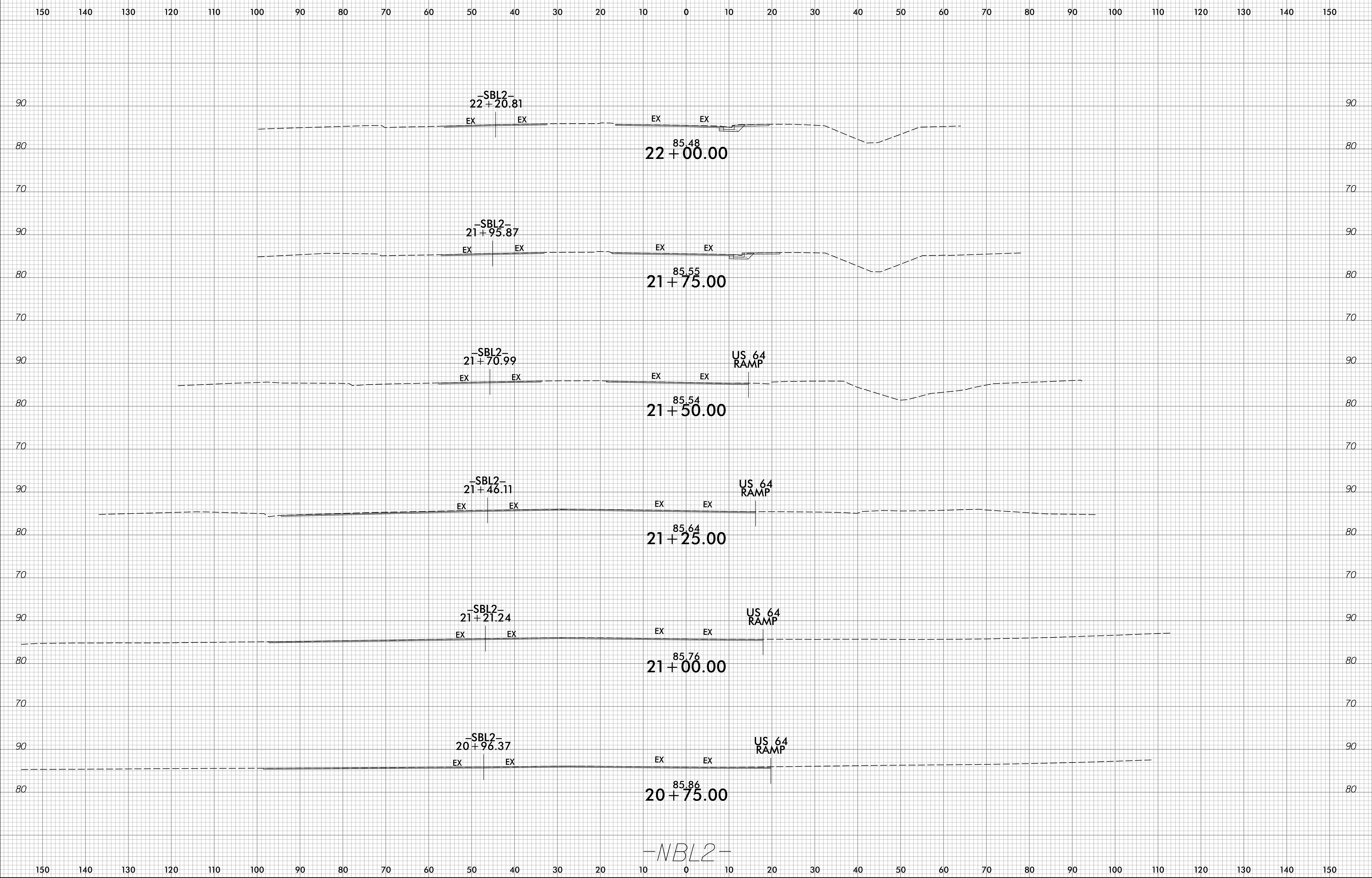


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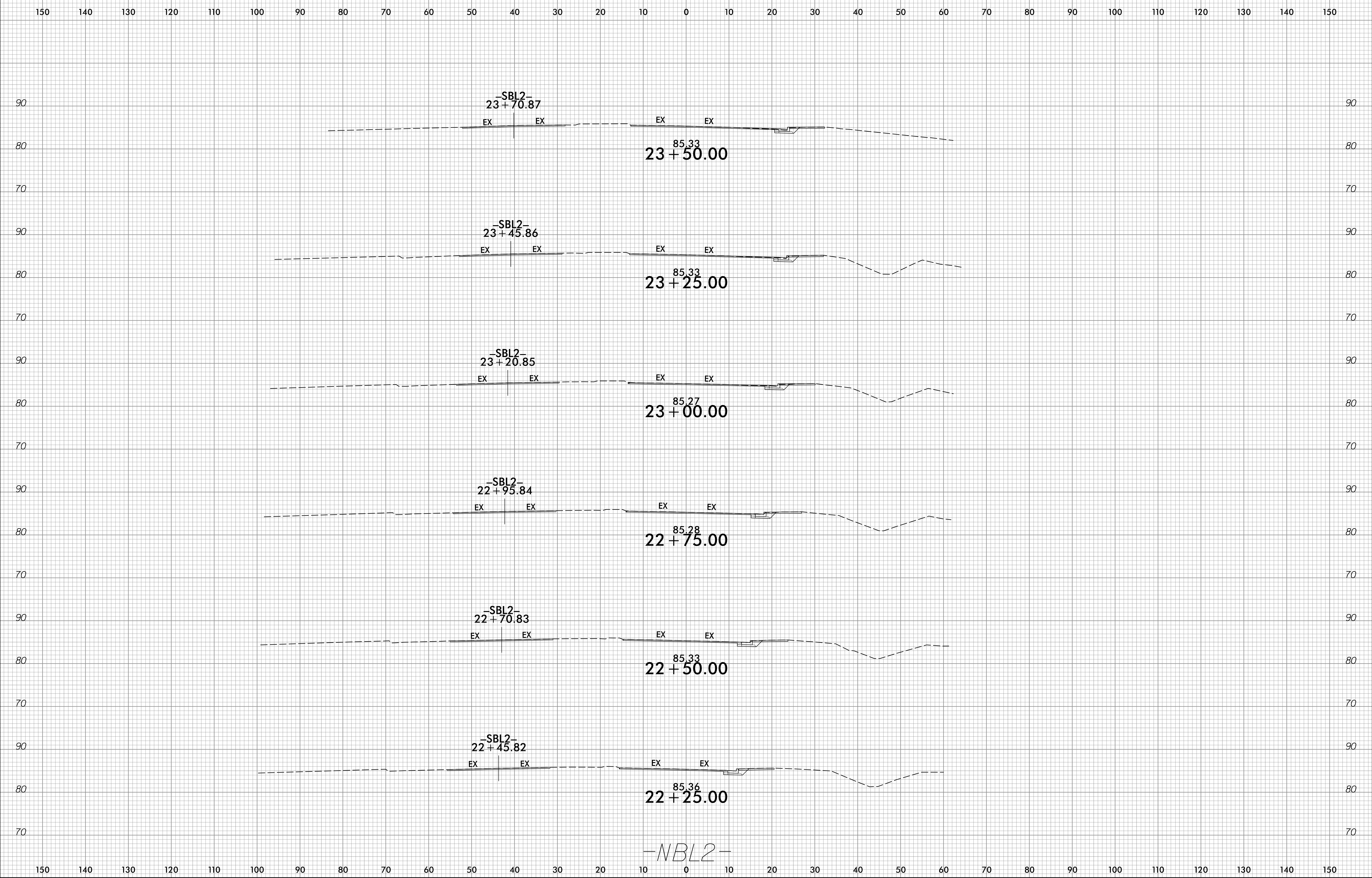
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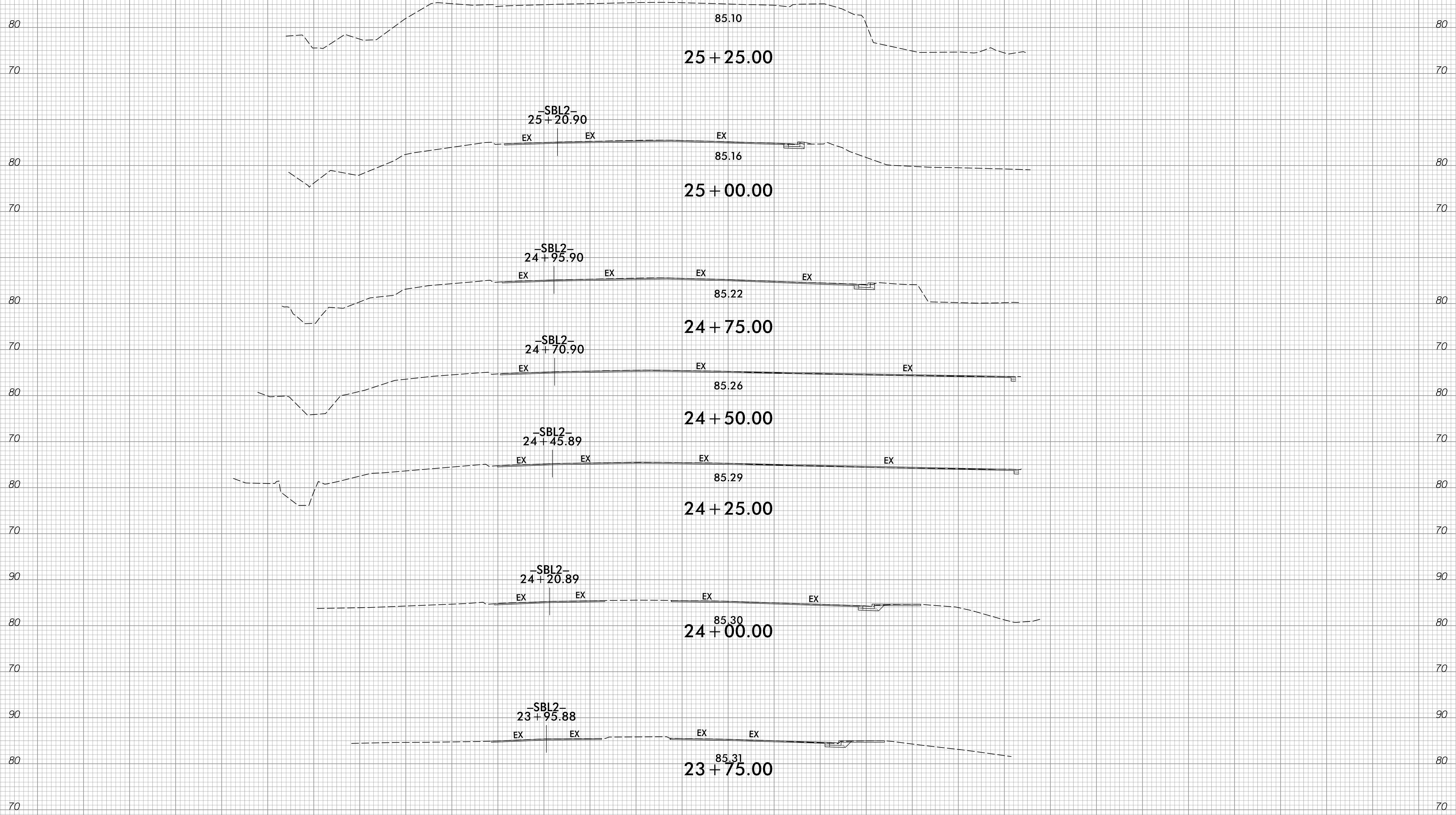


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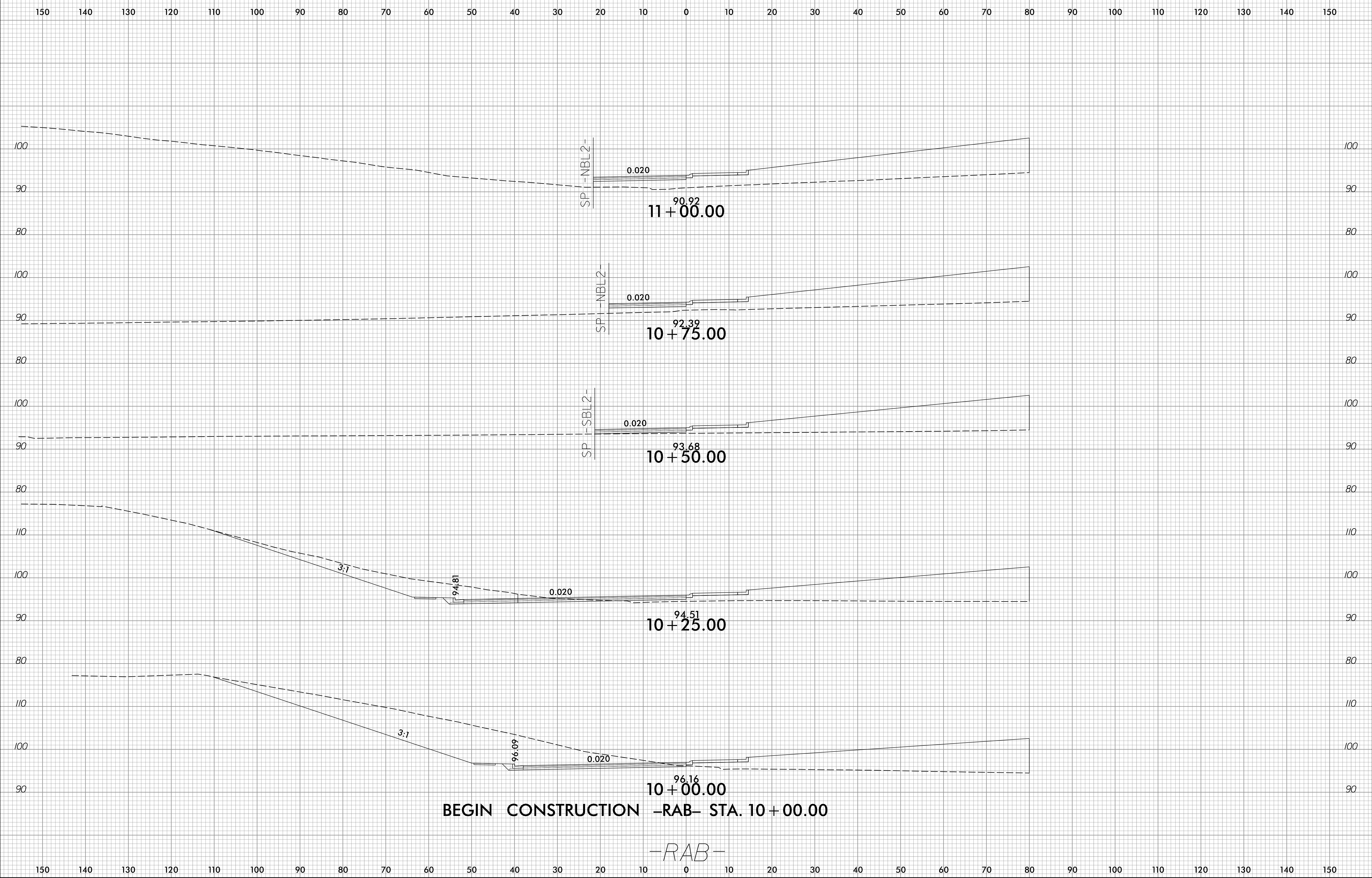
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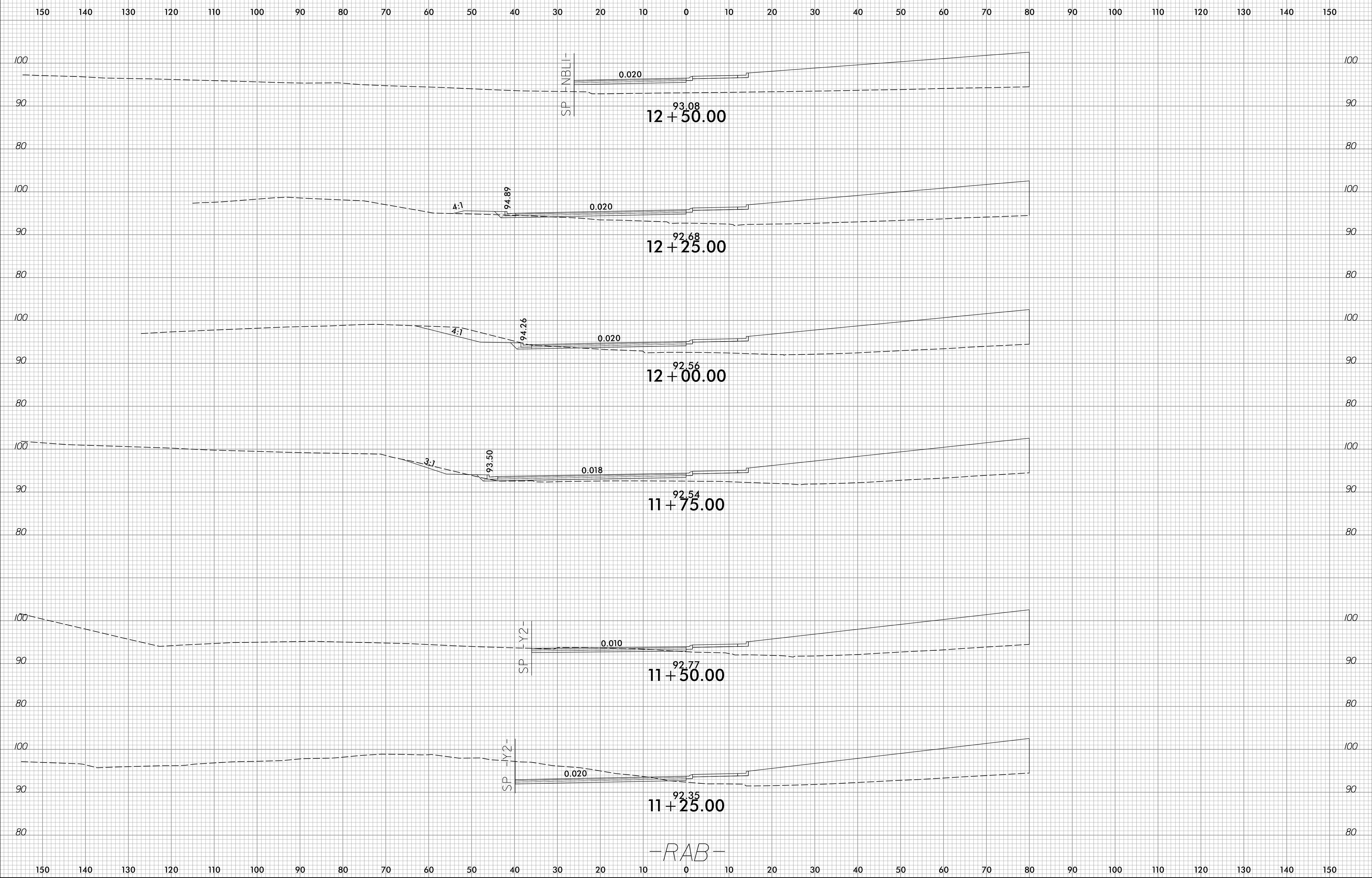


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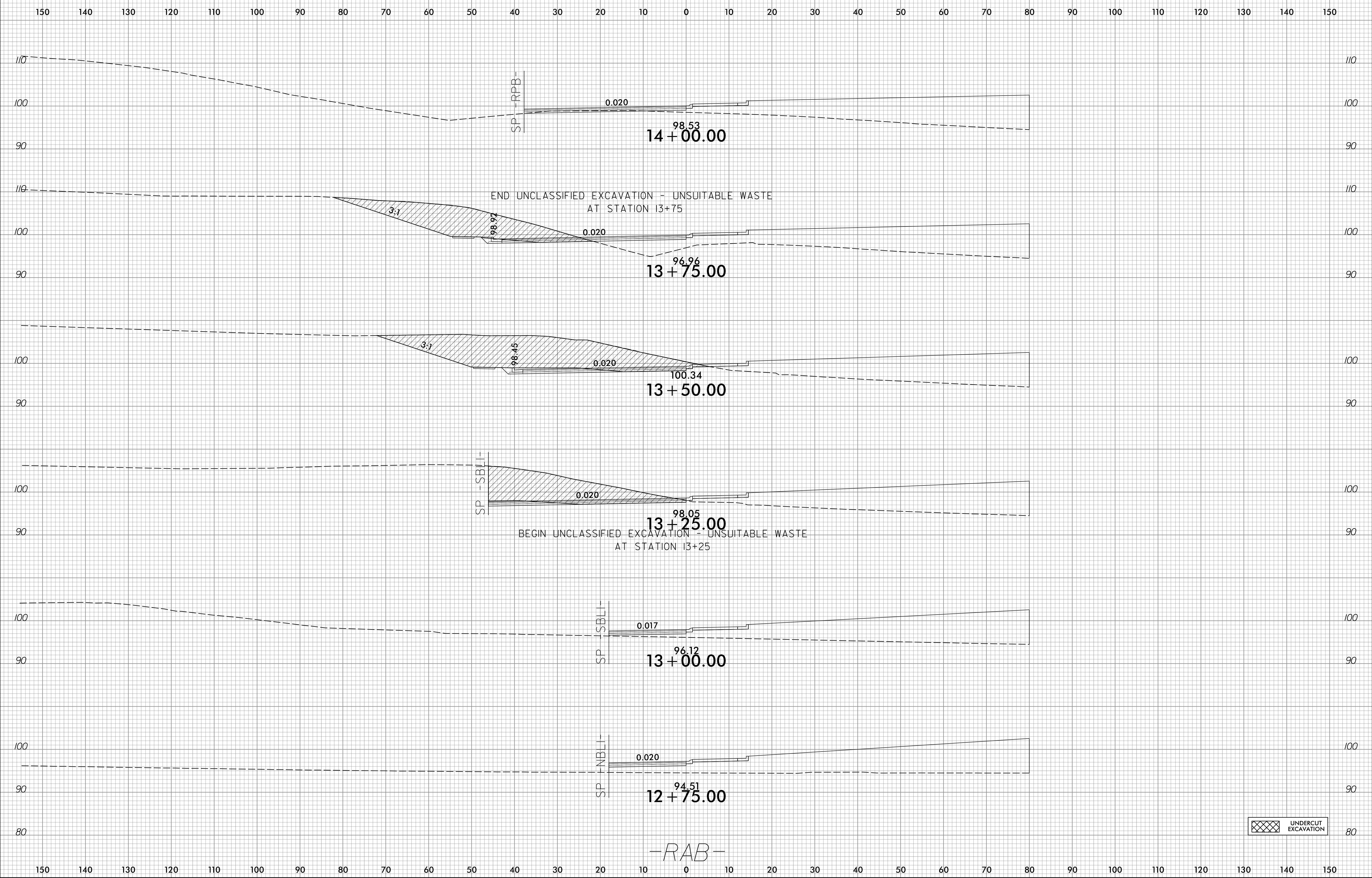
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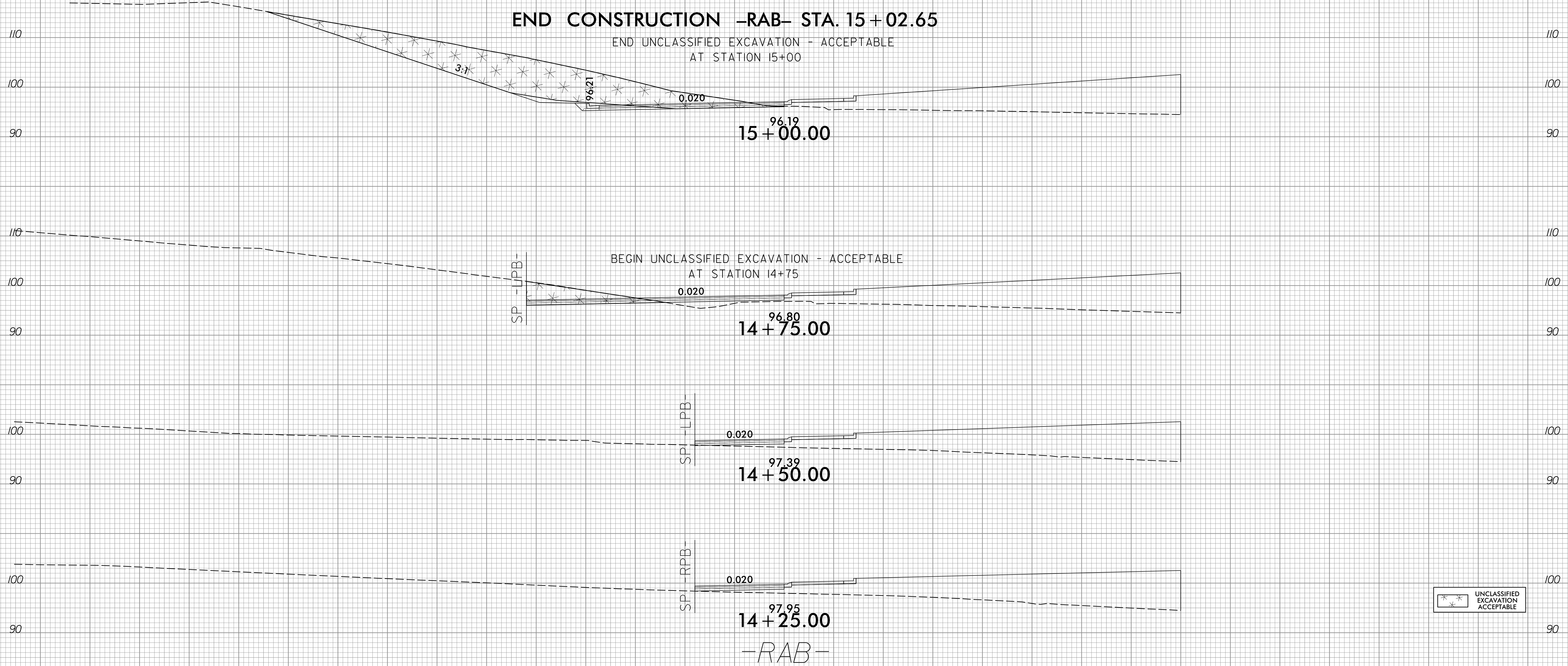


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UNCLASSIFIED EXCAVATION ACCEPTABLE

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6/23/16

Prepared in the Office of:

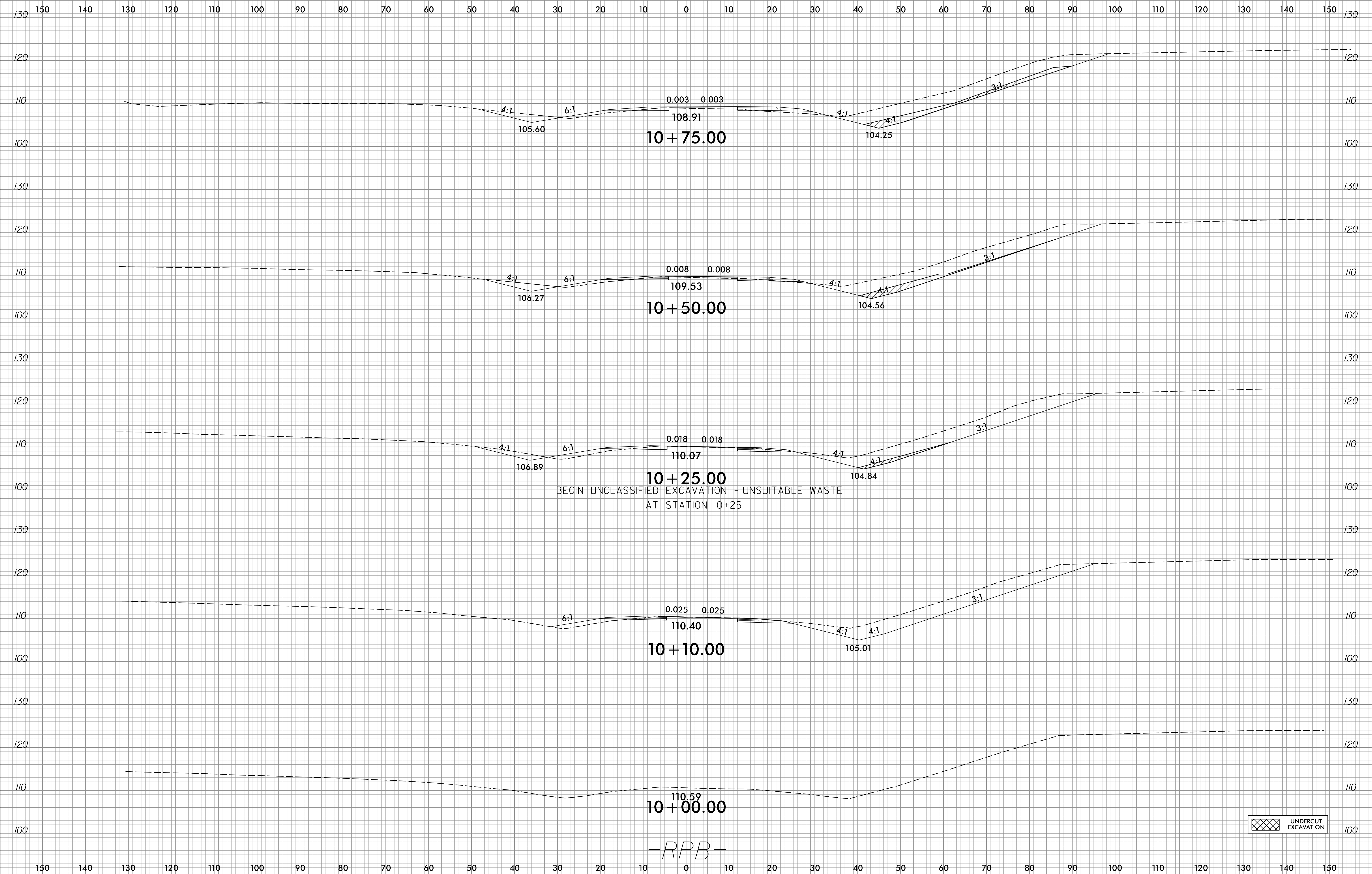


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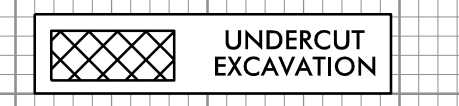
PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-23



BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
AT STATION 10+25

-RPB-



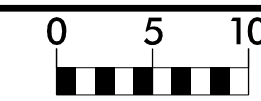
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6/23/16

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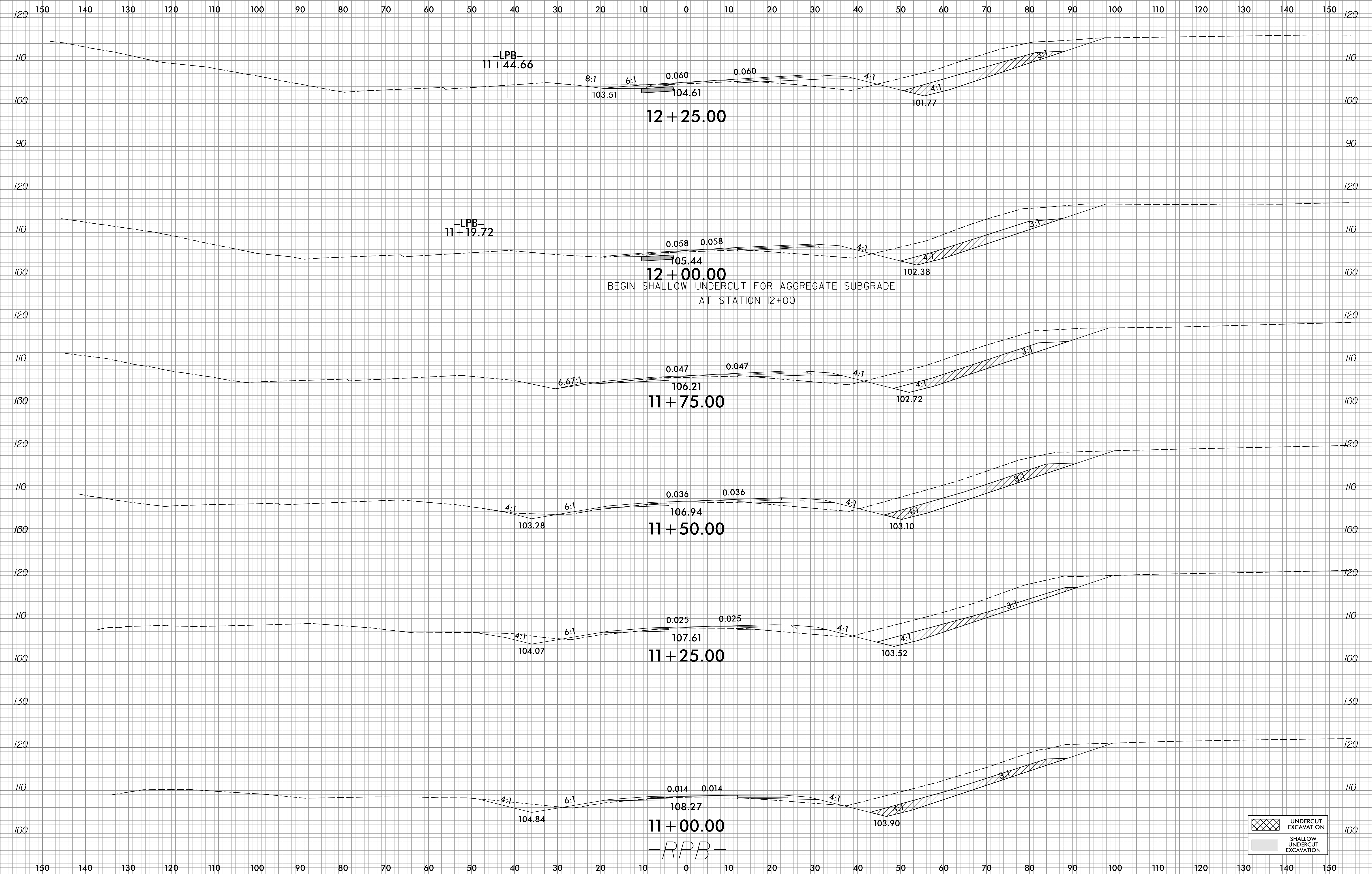


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PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-24



UNDERCUT EXCAVATION
 SHALLOW UNDERCUT EXCAVATION

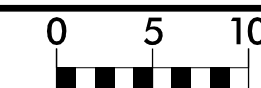
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6/23/16

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(919) 732-6676 (FAX)

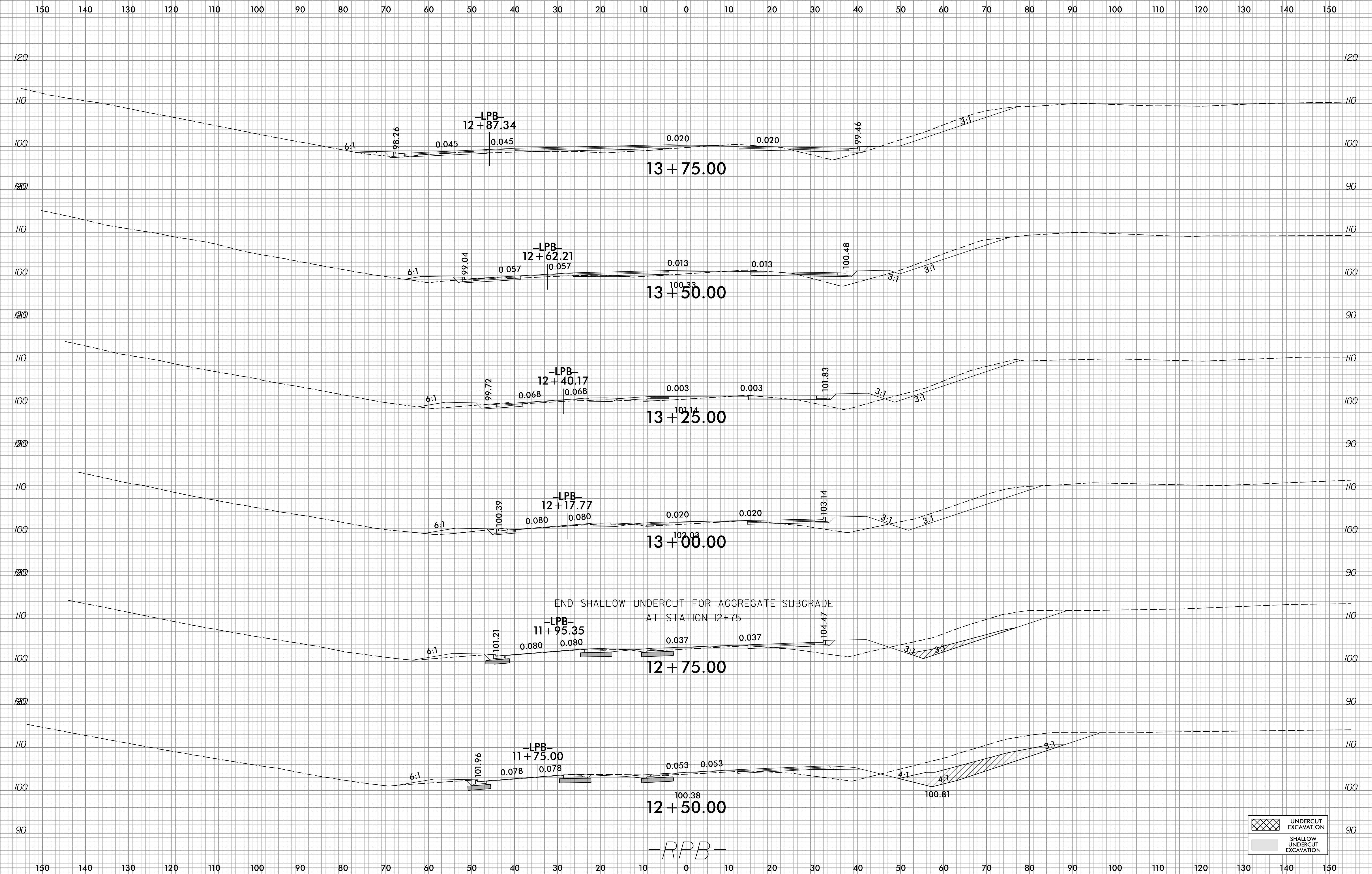


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U-5947

SHEET NO.

X-25

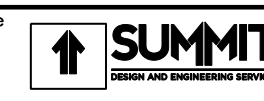


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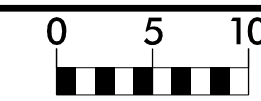
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6/23/16

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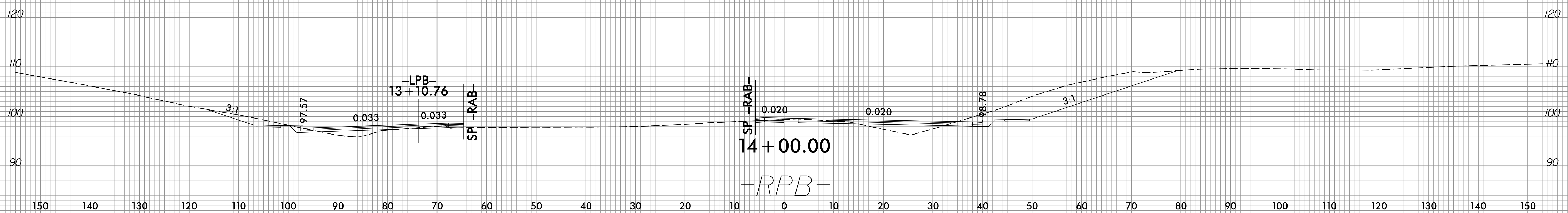
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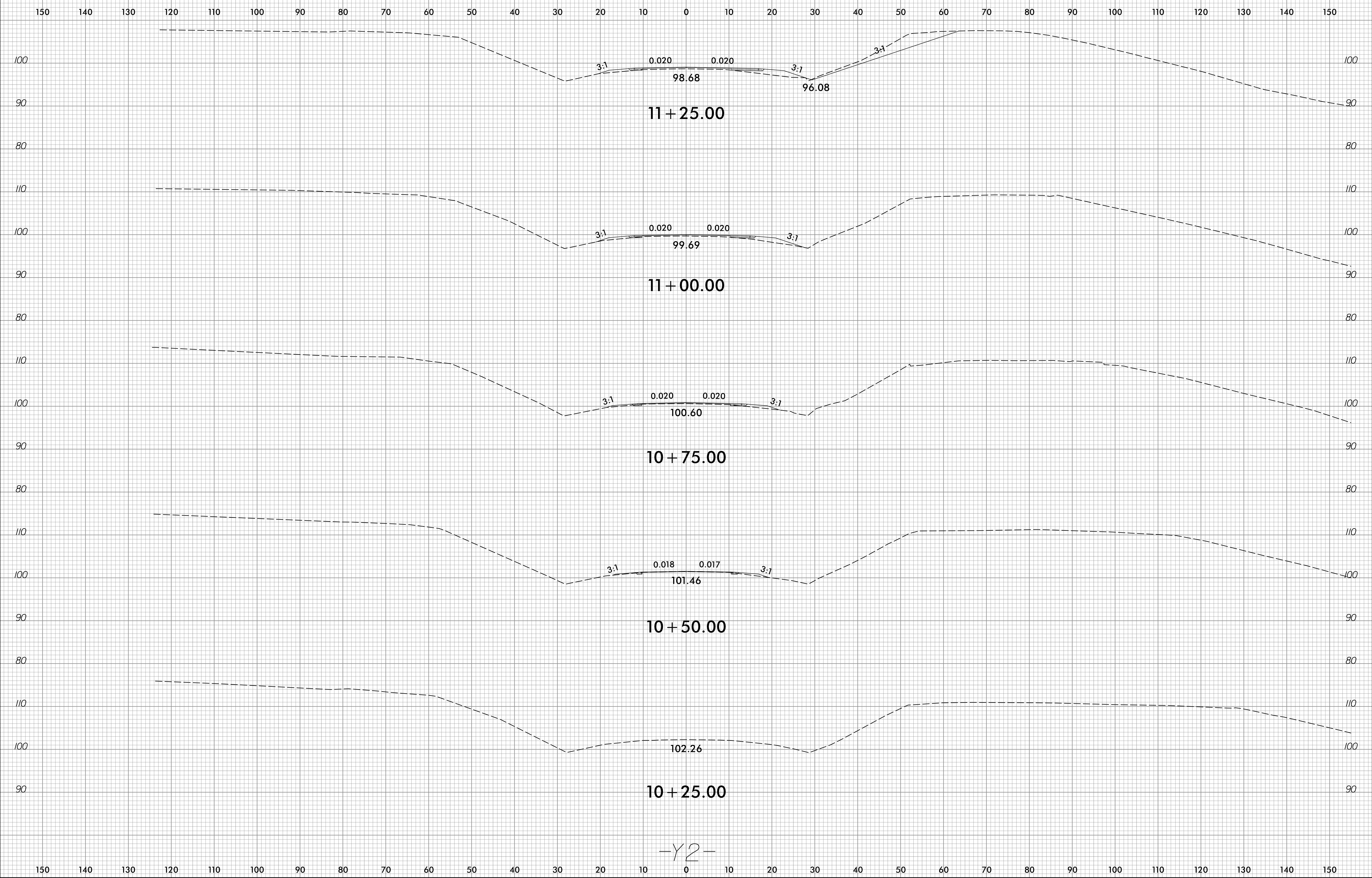
PROJ. REFERENCE NO.
U-5947

SHEET NO.
X-26

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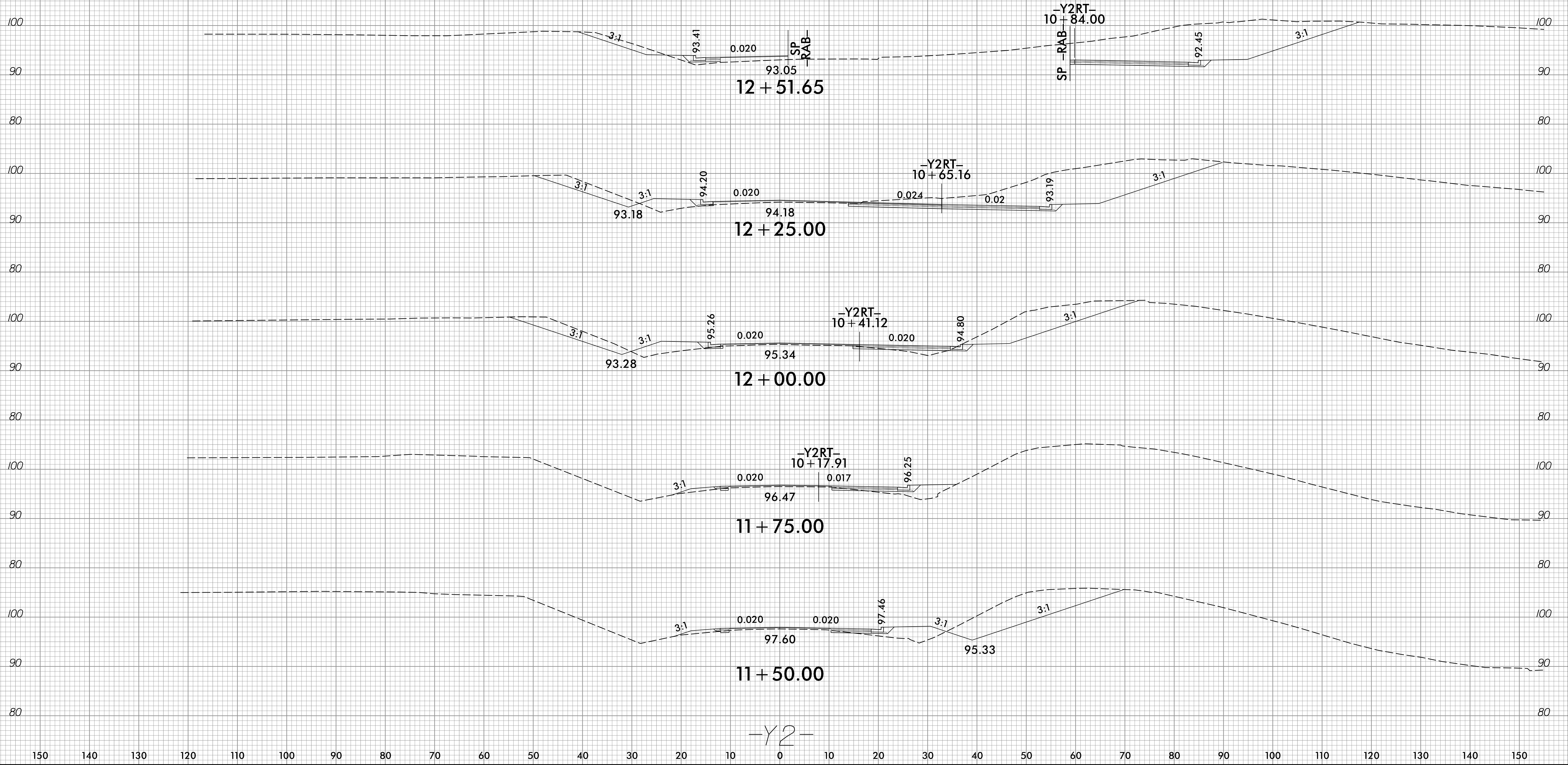


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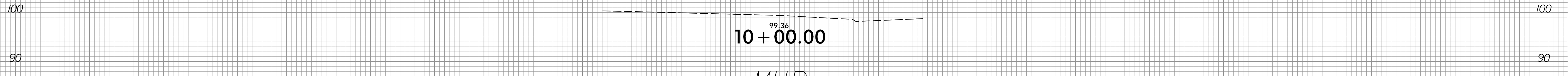
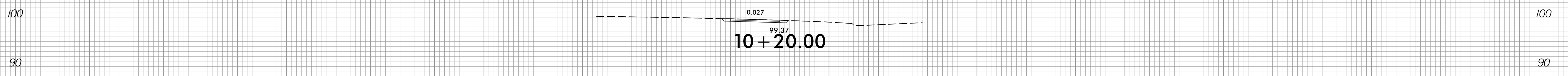
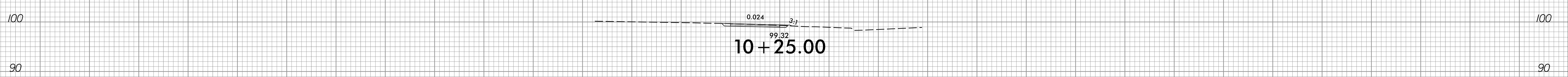
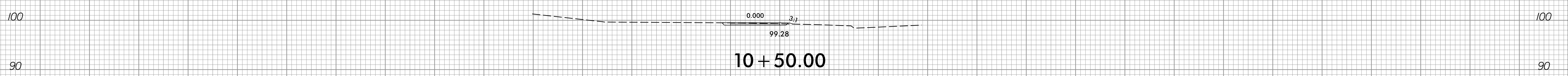
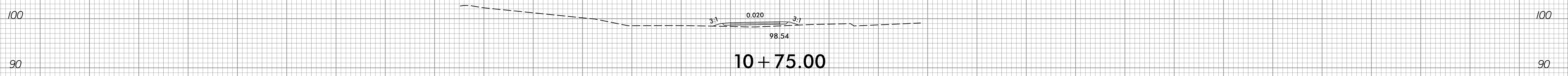
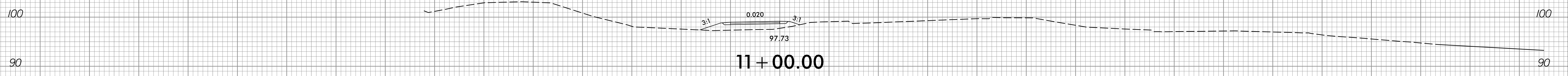
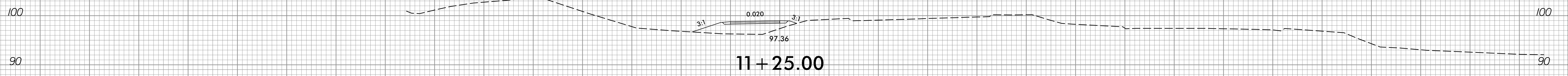
NC FIRM LICENSE No. P-0339
320 Executive Ct.
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



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U-5947

SHEET NO.
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



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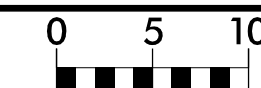
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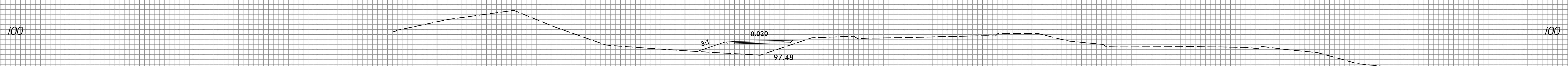
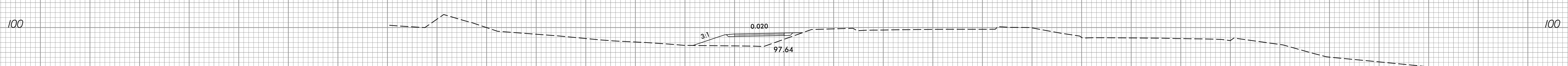
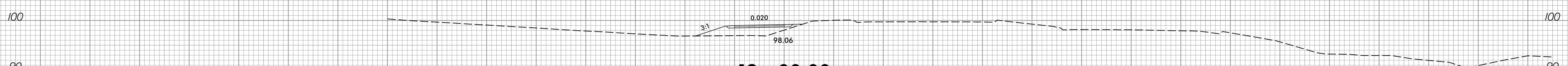
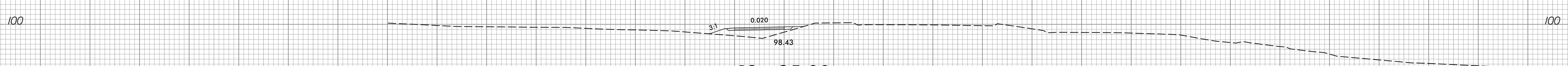
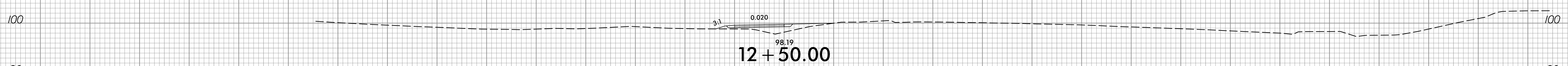
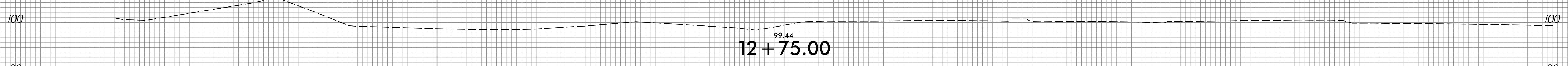
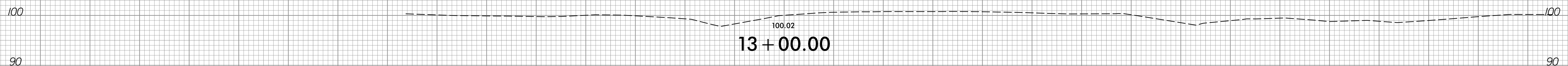
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SHEET NO.
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