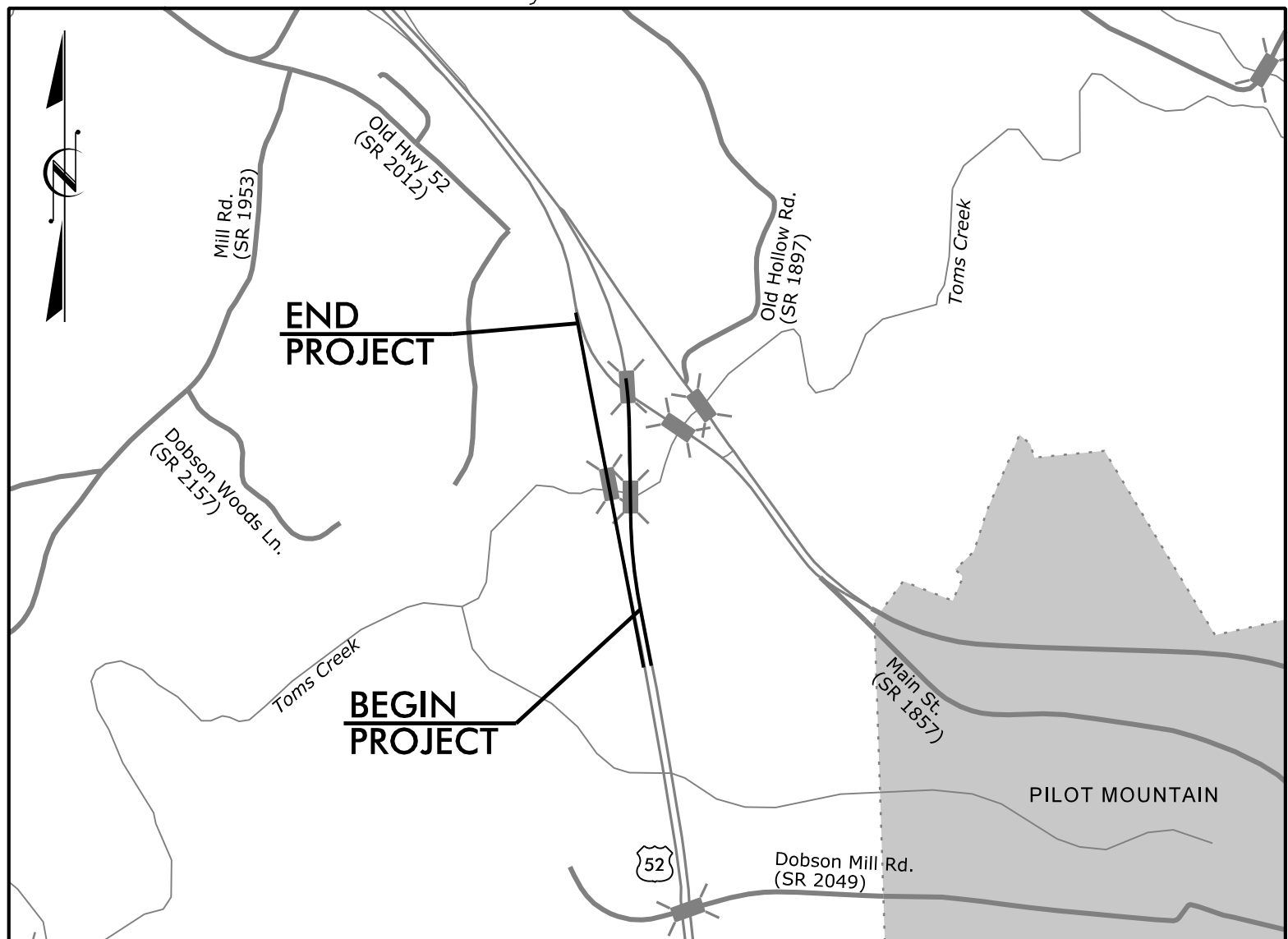


09_08/2019

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



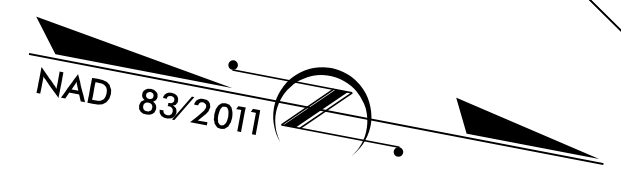
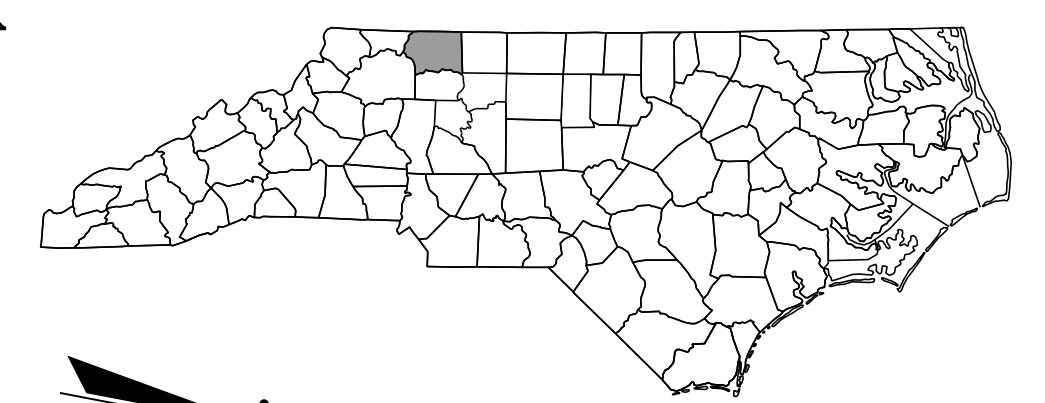
VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURRY COUNTY

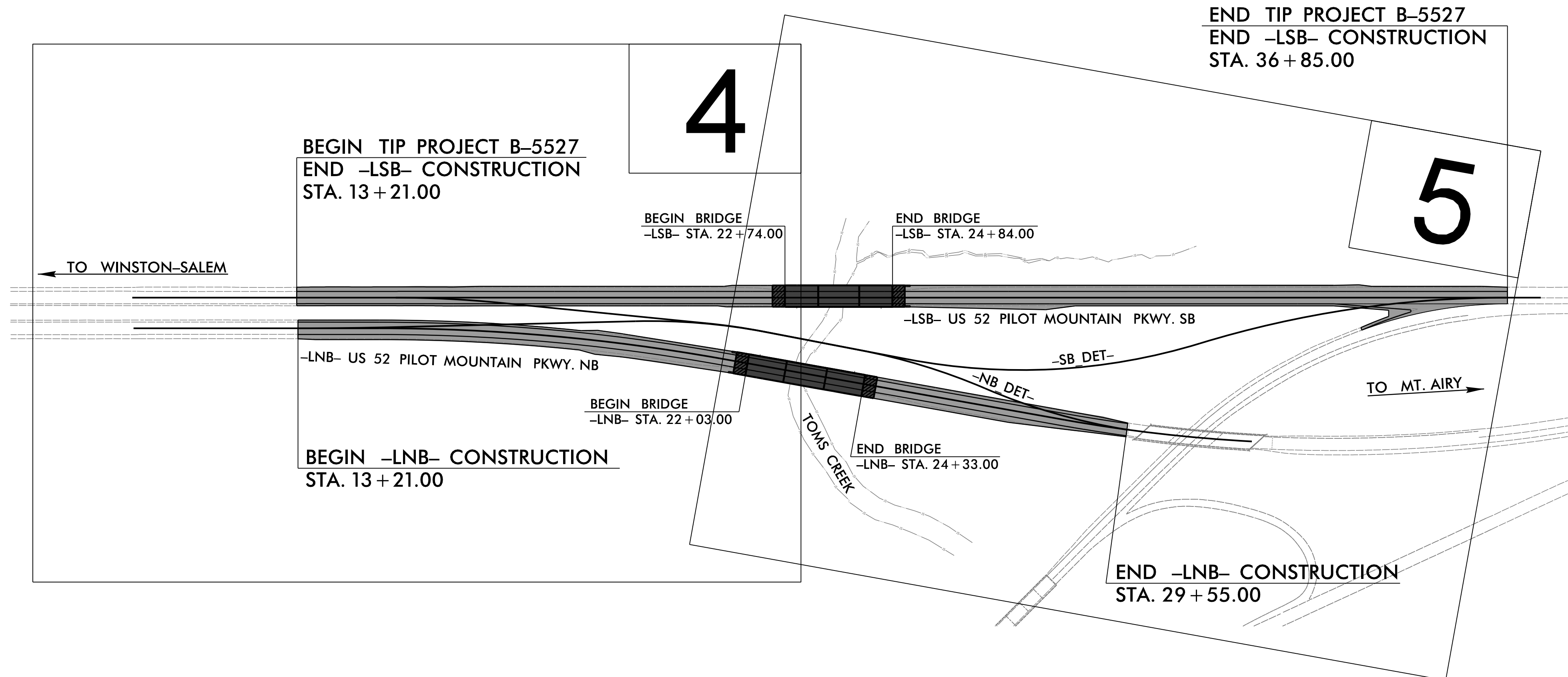
LOCATION: US 52 REPLACE BRIDGES 122 AND 126 OVER TOMS CREEK
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5527	1	179
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
55027.1.FS1	BRSTP-0052(49)	PE	
55027.2.1		ROW	
55027.2.1		UTIL	
55027.3.1		CONSTR.	



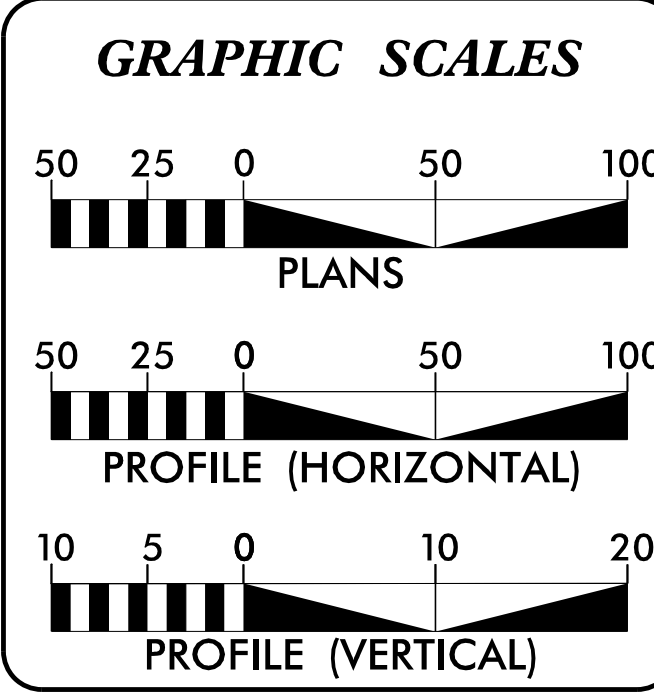
TIP PROJECT: B-5527

CONTRACT: C204208



- NOTES:**
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
 2. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2024 =	32,000
ADT 2045 =	39,000
K =	9 %
D =	50 %
T =	19 % *
V =	70 MPH
* TTST =	13% DUAL=6%
TIER =	STATEWIDE
FUNC CLASS =	INTERSTATE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5527 =	0.408 MI.
LENGTH STRUCTURE TIP PROJECT B-5527 =	0.040 MI.
TOTAL LENGTH TIP PROJECT B-5527 =	0.448 MI.

NOTE: -LSB- ALIGNMENT USED TO DETERMINE LENGTH OF PROJECT.

AMT
2024 STANDARD SPECIFICATIONS

Prepared for the North Carolina Department of Transportation in the Office of:
A. MORTON THOMAS AND ASSOCIATES, INC.
900 RIDGEFIELD DRIVE, SUITE 325 • RALEIGH, NC 27609
(919) 855-9989 • NC LICENSE NO. F-1049
WWW.AMTEngineering.COM

RIGHT OF WAY DATE:
JUNE 15, 2023

LETTING DATE:
APRIL 16, 2024

JASON T. GADDY, PE
PROJECT ENGINEER

JP HAINLINE, EI
PROJECT DESIGN ENGINEER

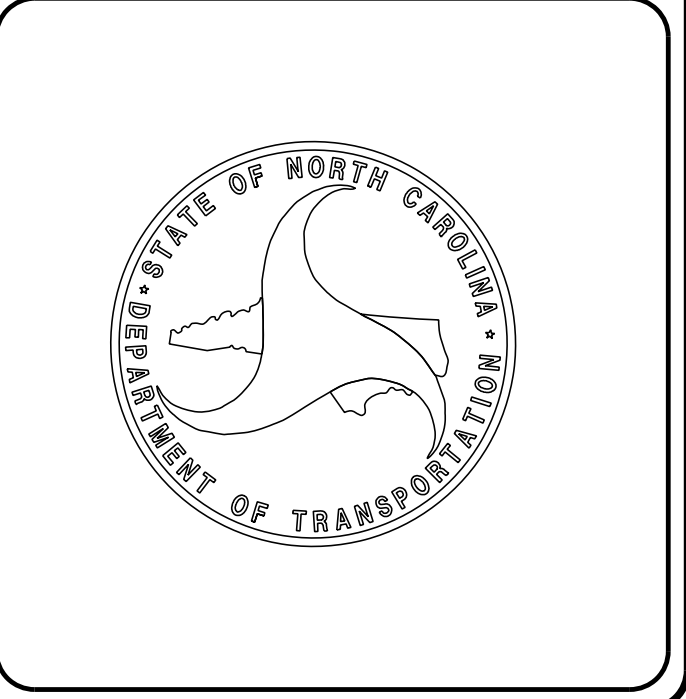
DAVID STUTTS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER
3/4/2024

DocuSigned by:
Kimi Schmidt
KIMI C. SCHMIDT, P.E.
102ECT19A04E496
SIGNATURE:

ROADWAY DESIGN ENGINEER
3/4/2024

DocuSigned by:
Jason T. Gaddy
JASON T. GADDY, P.E.
BAESD64400BA486
SIGNATURE:



3/4/2024 X:\Raleigh\14-783-005D - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_rdy_.tsh.dgn aacpcenter

INDEX OF SHEETS, LIST OF STANDARD DRAWINGS, & GENERAL NOTES

PROJECT REFERENCE NO. B-5527	SHEET NO. 1A
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-7	ROADWAY DETAILS
3B-1 THRU 3B-4	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
3G-1 THRU 3G-2	GEOTECHNICAL SUMMARIES
4 THRU 5	PLAN SHEETS
6 THRU 7	PROFILE SHEETS
TMP-1 THUR TMP-13	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
X-1	CROSS-SECTION INDEX SHEET
X-2 THRU X-19	CROSS-SECTION SHEETS
S1-1 THRU S1-32	STRUCTURE PLANS FOR -LNB- (850122)
S2-1 THRU S2-32	STRUCTURE PLANS FOR -LSB- (850126)

LIST OF STANDARD DRAWINGS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
<u>DIVISION 2 - EARTHWORK</u>	
200.03	Method of Clearing - Method III
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local (Detours)
225.04	Method of Obtaining Superelevation - Two Lane Pavement (Detours)
225.05	Method of Obtaining Superelevation - Divided Highways
240.01	Guide for Berm Ditch Construction
275.01	Rock Plating
<u>DIVISION 3 - PIPE CULVERTS</u>	
300.01	Method of Pipe Installation
<u>DIVISION 4 - MAJOR STRUCTURES</u>	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
423.02	Bridge Approach Fills - Type 1A Approach Fill for Integral Bridge Abutment
<u>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</u>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I (Detours)
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
<u>DIVISION 6 - ASPHALT BASES AND PAVEMENTS</u>	
654.01	Pavement Repairs
665.01	Asphalt Shoulders - Milled Rumble Strips
665.02	Limits for Asphalt Shoulders - Milled Rumble Strips
<u>DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS</u>	
700.01	Concrete Pavement Joints - Construction and Contraction Joints
700.05	Tying Proposed Pavement to Existing Pavement
<u>DIVISION 8 - INCIDENTALS</u>	
815.02	Subsurface Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.02	Aggregate Shoulder Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type "B"
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames
840.27	Brick Grated Drop Inlet Type "B"
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.33	Angled Vane Grates and Frames
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.37	Steel Grate and Frame
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
862.01	Guardrail Placement
862.02	Guardrail Installation
862.04	Anchoring End of Guardrail - for B-77 and B-83 Anchor Units
865.01	Cable Guiderail
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES

2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
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. 225.04 (DETOURS ONLY) & 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. 560.01 (DETOURS ONLY) & 560.02 (-LNB- & -LSB-).

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

SHOULDER DRAINS:

SHOULDER DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 816.02 AND DETAILS IN PLANS AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

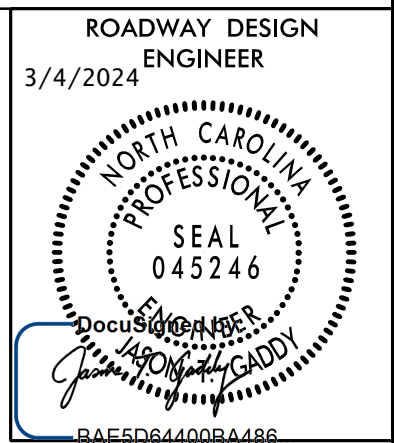
THERE ARE NO UTILITIES PRESENT ON THIS PROJECT.

ROCK:

ROCK IS ANTICIPATED BETWEEN -LNB- STA. 14+25 TO 19+75. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

RIGHT-OF-WAY:

ALL CONSTRUCTION ACTIVITIES TO REMAIN WITHIN EXISTING NCDOT RIGHT-OF-WAY.



12/2/2016

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

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---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	○ S
Well	○ W
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	□
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊗
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

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

EXISTING STRUCTURES:

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

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

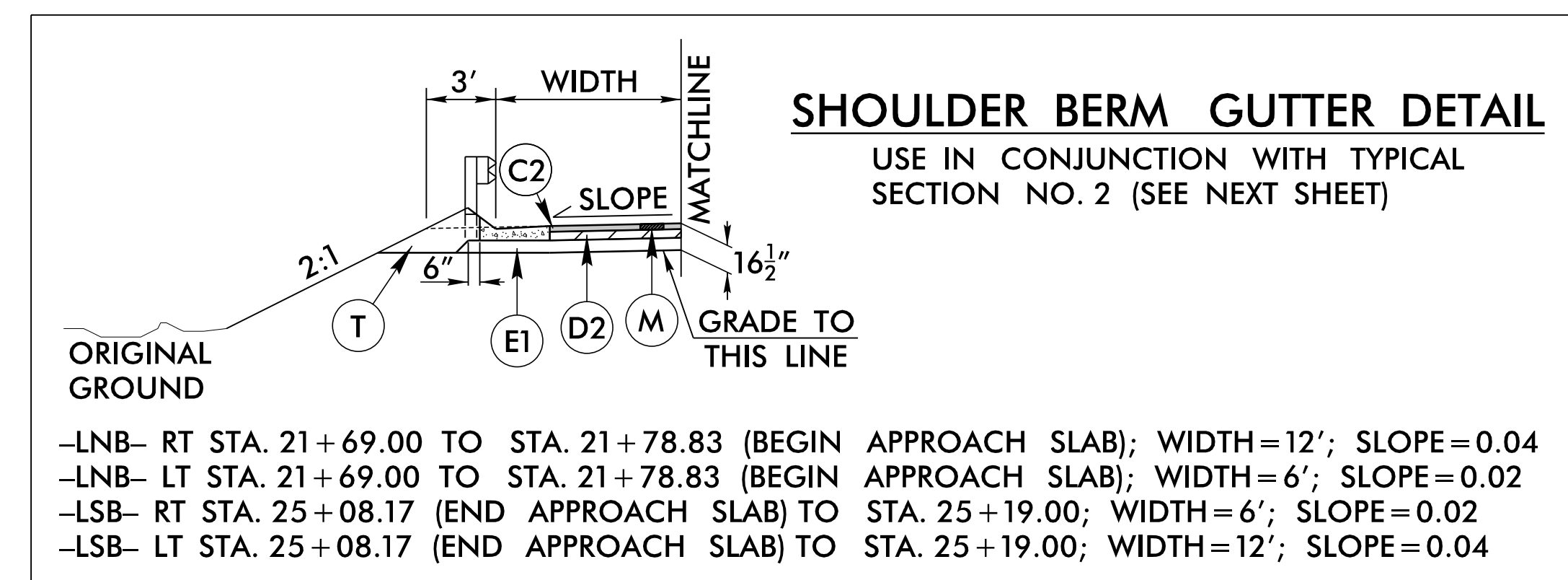
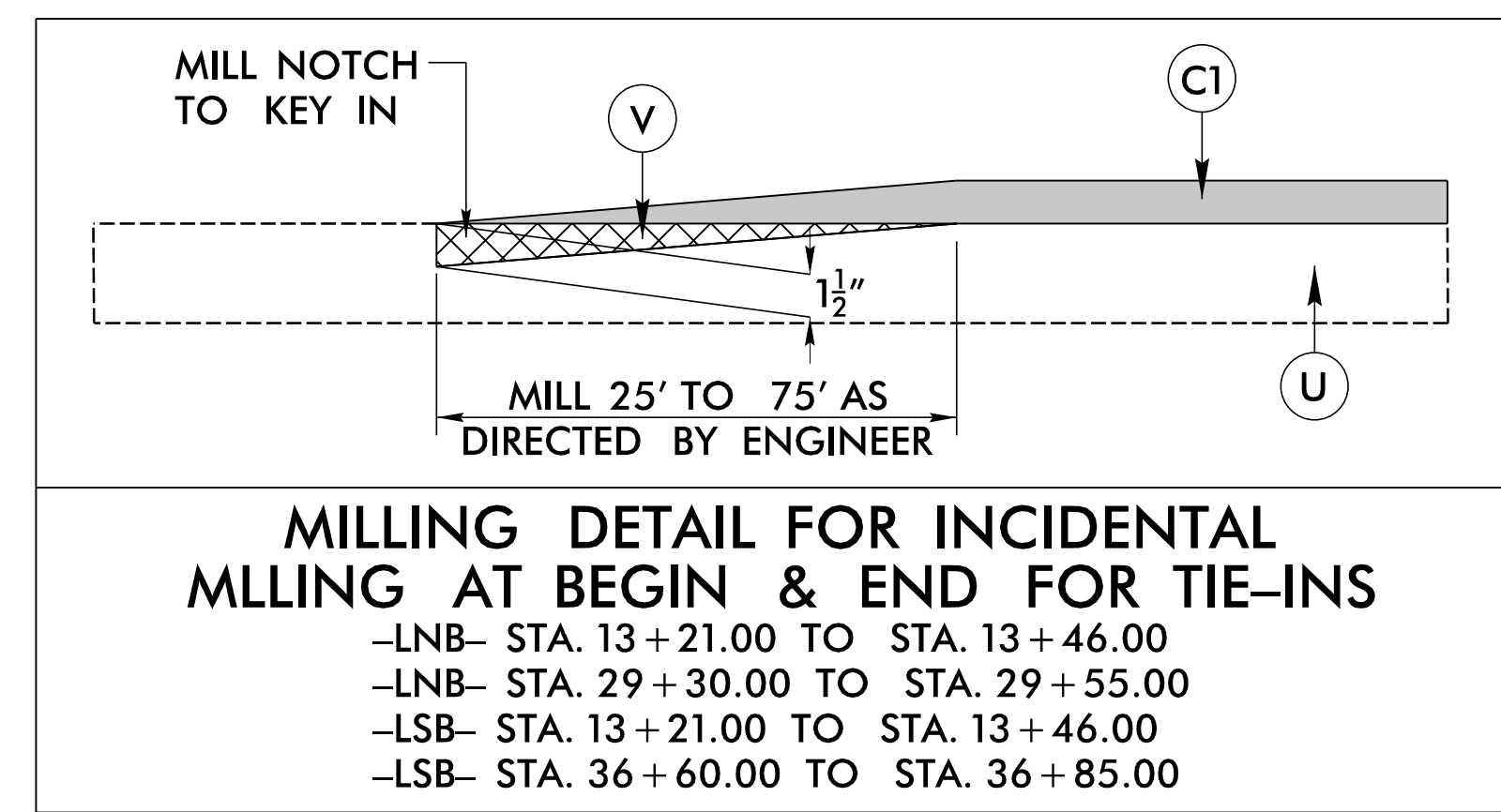
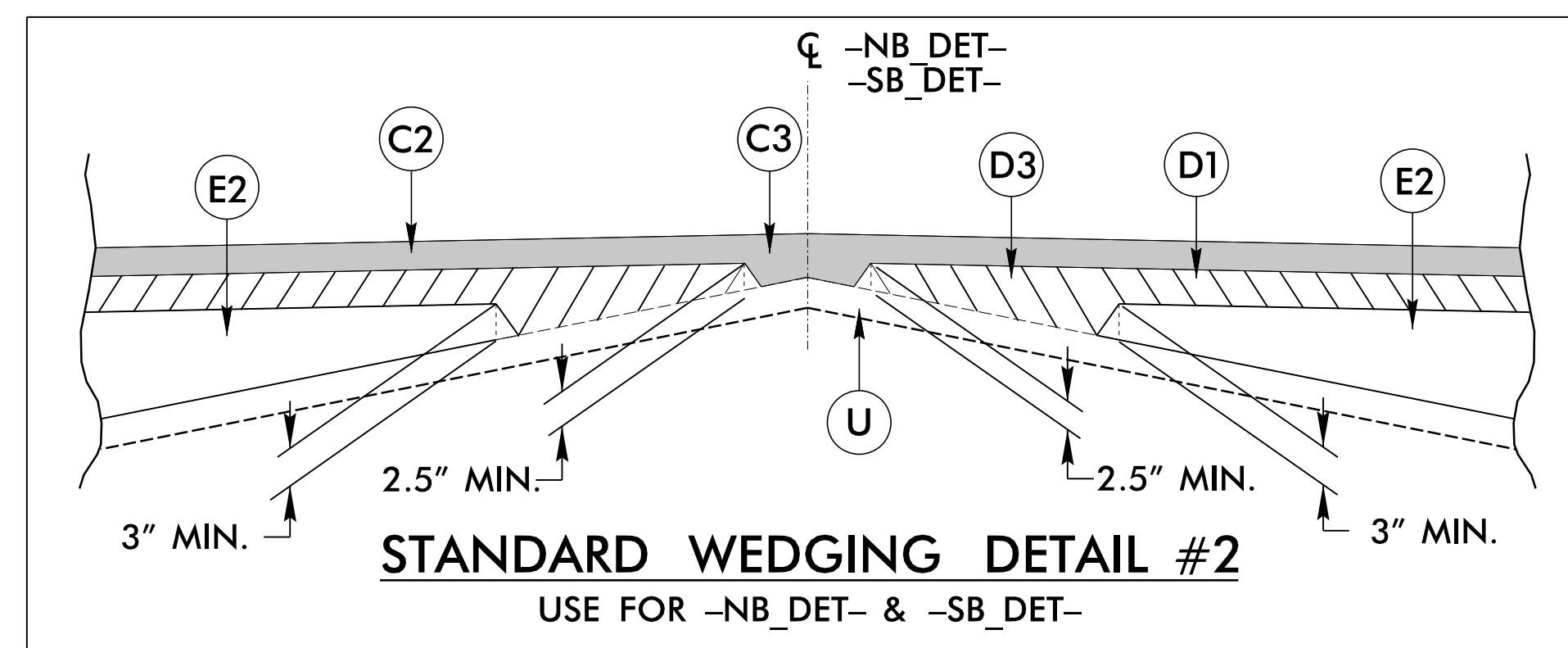
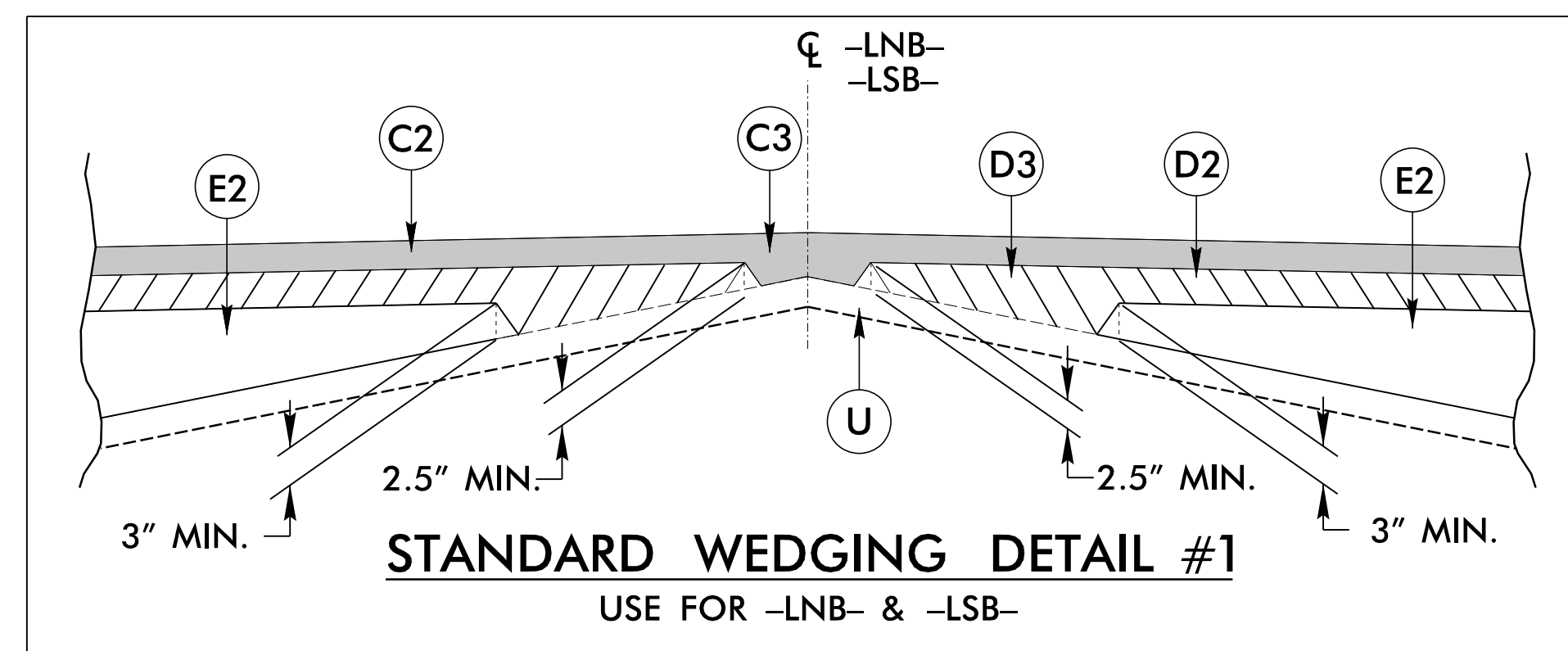
MISCELLANEOUS:

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

PROJECT REFERENCE NO. B-5527	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	PAVEMENT DESIGN ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	J1	PROP. 8" AGGREGATE BASE COURSE.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	M	MILLED RUMBLE STRIPS (STD. 665.01)
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	T	EARTH MATERIAL
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V	MILLING
D3	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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
E1	PROP. APPROX. 9½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 541.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	
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 5½" IN DEPTH.		



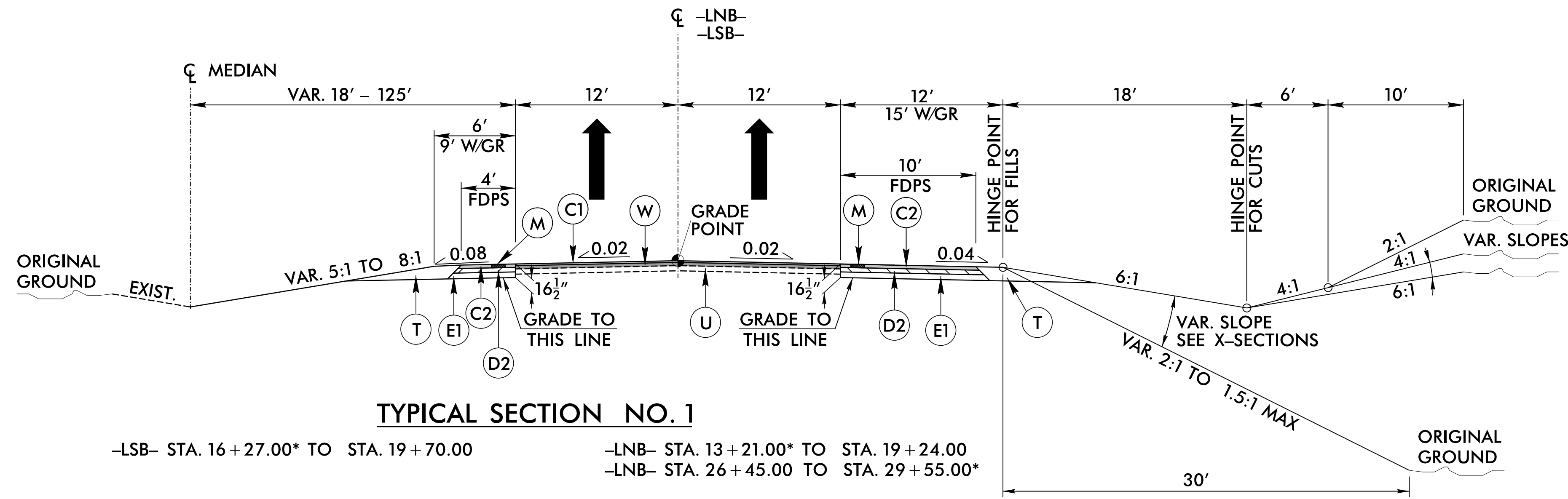
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NOTE: REMOVE AND REPLACE EXISTING PAVED SHOULDERS ALONG -LNB- & -LSB-.

PROJECT REFERENCE NO. B-5527	SHEET NO. 2A-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	PAVEMENT DESIGN ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

FINAL PAVEMENT SCHEDULE	
C1	1 1/2" S9.5D
C2	3" S9.5D
C3	VAR. S9.5D
D1	3" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	9 1/2" B25.0C
E2	VAR. B25.0C
J1	8" ABC
M	RUMBLE STRIPS
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W	VAR. WEDGE

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



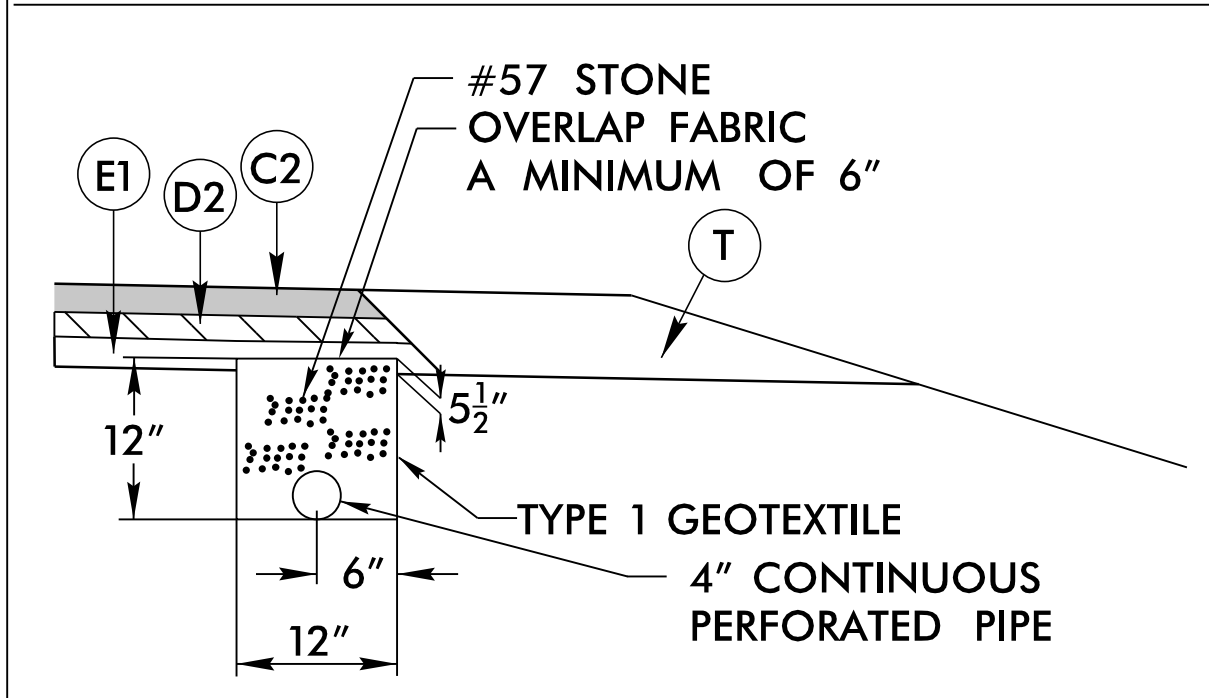
TYPICAL SECTION NO. 1

-LSB- STA. 16+27.00* TO STA. 19+70.00
 * OVERLAY EXISTING WITH C1 IN THE FOLLOWING LOCATIONS:
 -LSB- STA 13+21.00 TO 16+27.00
 -LSB- STA 32+18.00 TO 36+85.00

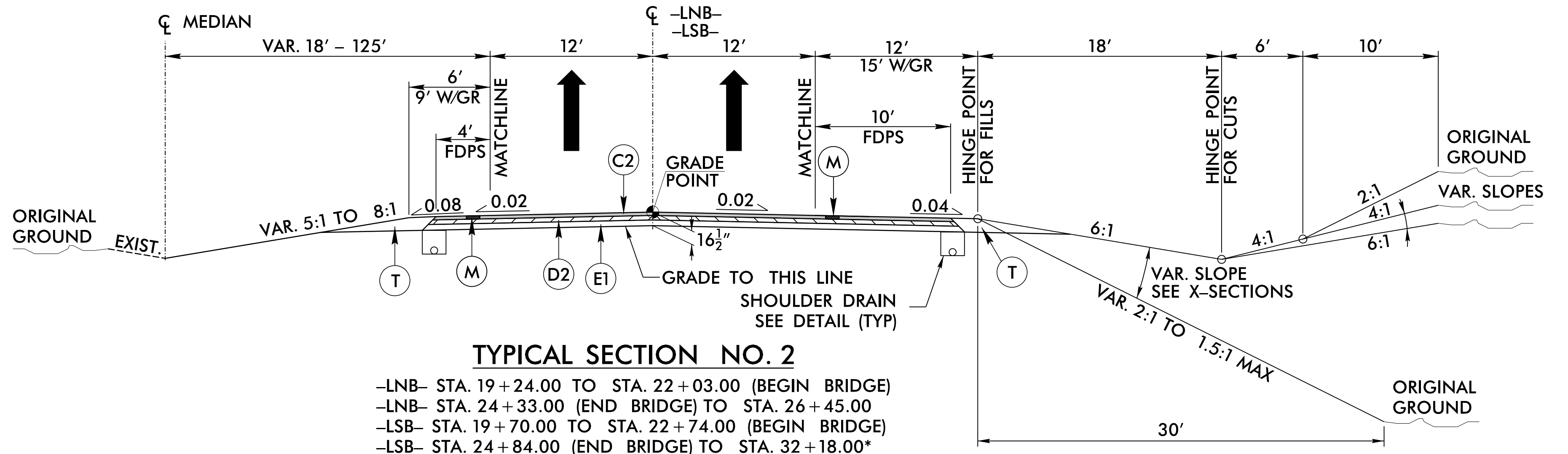
-LNB- STA. 13+21.00* TO STA. 19+24.00
 -LNB- STA. 26+45.00 TO STA. 29+55.00*
 * OVERLAY EXISTING WITH C1 IN THE FOLLOWING LOCATIONS:
 -LNB- STA 13+21.00 TO 14+37.00
 -LNB- STA 29+11.00 TO 29+55.00

NOTE: LINE PROPOSED DITCHES WITH MATTING IN THE FOLLOWING LOCATIONS:
 -LNB- STA. 16+50.00 TO STA. 22+00.00 - MEDIAN DITCH
 -LNB- STA. 15+50.00 TO STA. 20+00.00 - OUTSIDE DITCH RIGHT

TYPICAL SECTION NO. 2 SHOULDER DRAIN DETAIL
 USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

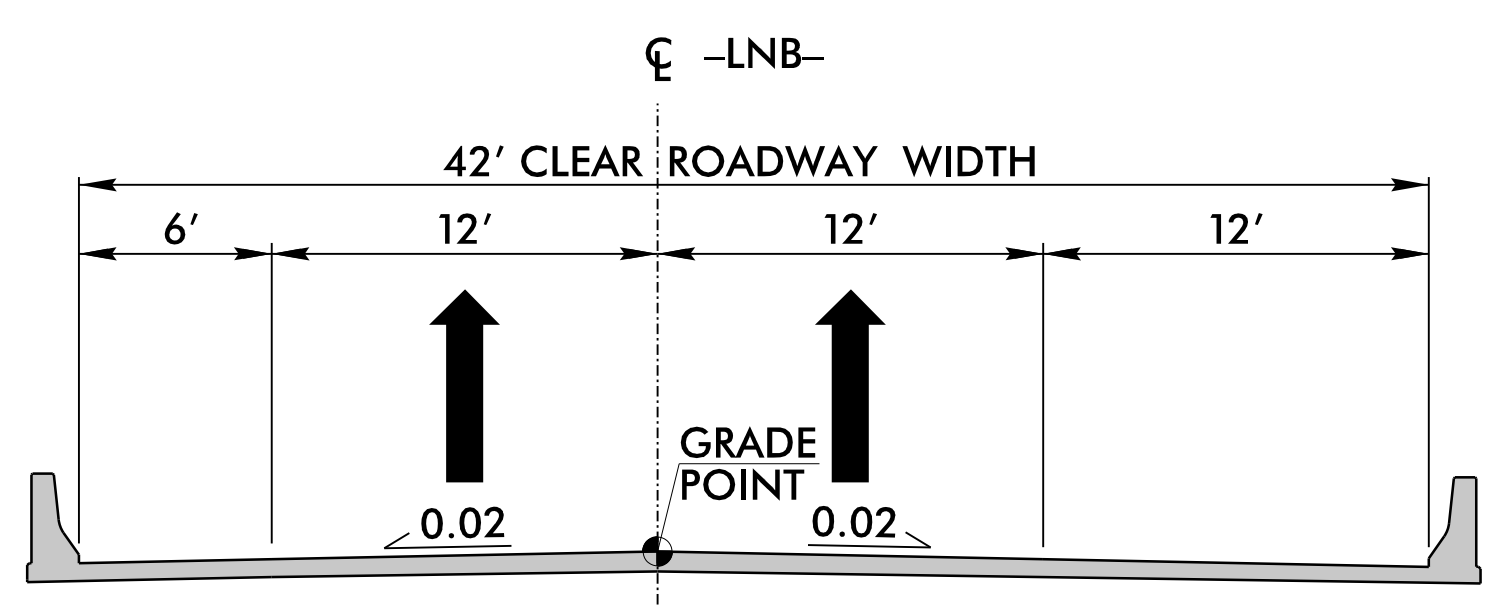


-LNB- RT STA. 13+21.00 TO STA. 21+75.00
 -LNB- RT STA. 24+70.00 TO STA. 27+75.00
 -LNB- LT STA. 24+70.00 TO STA. 29+00.00
 -LSB- LT STA. 13+21.00 TO STA. 22+50.00
 -LSB- LT STA. 25+20.00 TO STA. 36+85.00
 -LSB- RT STA. 13+21.00 TO STA. 22+50.00
 -LSB- RT STA. 25+20.00 TO STA. 33+50.00



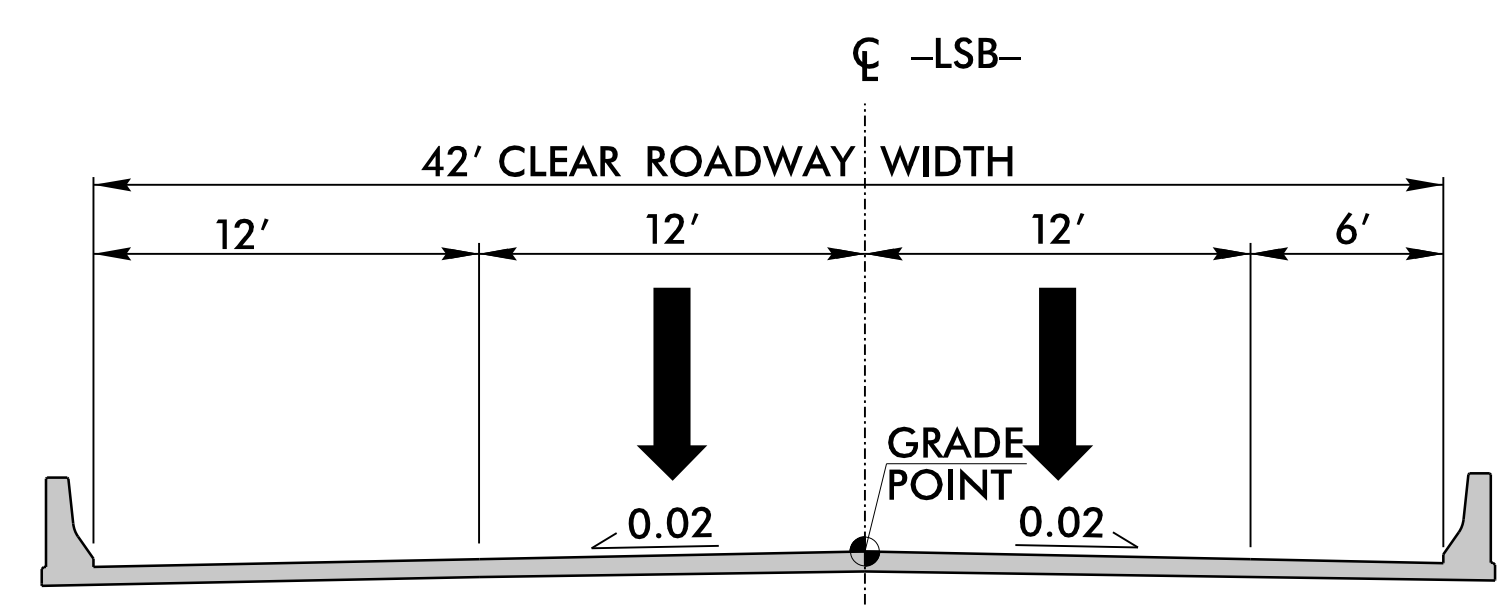
TYPICAL SECTION NO. 2

-LNB- STA. 19+24.00 TO STA. 22+03.00 (BEGIN BRIDGE)
 -LNB- STA. 24+33.00 (END BRIDGE) TO STA. 26+45.00
 -LSB- STA. 19+70.00 TO STA. 22+74.00 (BEGIN BRIDGE)
 -LSB- STA. 24+84.00 (END BRIDGE) TO STA. 32+18.00*
 FOR MATCHLINE INSET, SEE PREVIOUS SHEET.



STRUCTURE TYPICAL SECTION NO. 3A

-LNB- STA. 22+03.00 TO STA. 24+33.00



STRUCTURE TYPICAL SECTION NO. 3B

-LSB- STA. 22+74.00 TO STA. 24+84.00

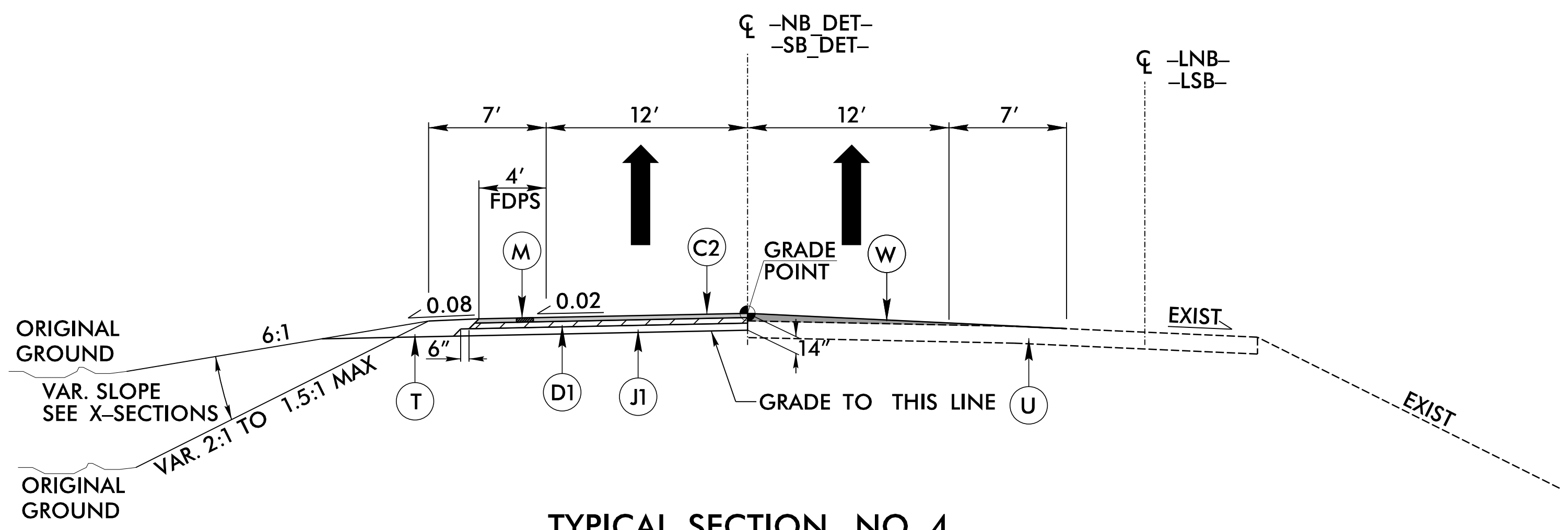
NOTE: REMOVE AND REPLACE EXISTING PAVED SHOULDERS ALONG -LNB- & -LSB- BEFORE CONSTRUCTING -NB_DET- & -SB_DET- WHERE DETOURS TIE INTO EXISTING.

3/4/2024 X:\Raleigh\114-783\0050 - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Frdj_tjy.pcdgn

FINAL PAVEMENT SCHEDULE	
C1	1½" S9.5D
C2	3" S9.5D
C3	VAR. S9.5D
D1	3" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	9½" B25.0C
E2	VAR. B25.0C
J1	8" ABC
M	RUMBLE STRIPS
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING
W	VAR. WEDGE

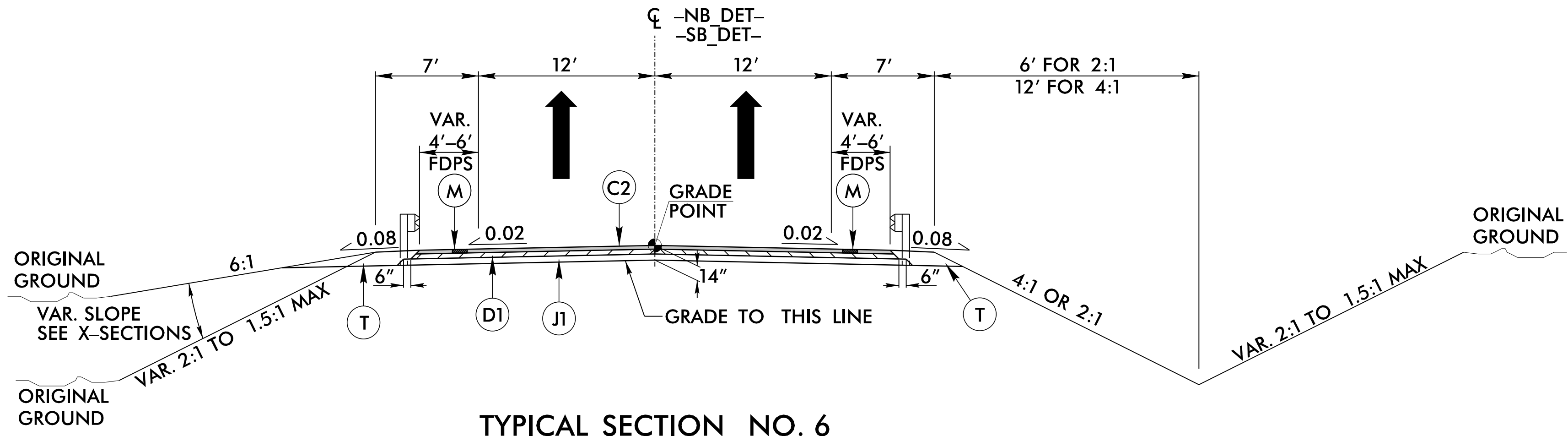
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. B-5527	SHEET NO. 2A-3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	PAVEMENT DESIGN ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



TYPICAL SECTION NO. 4

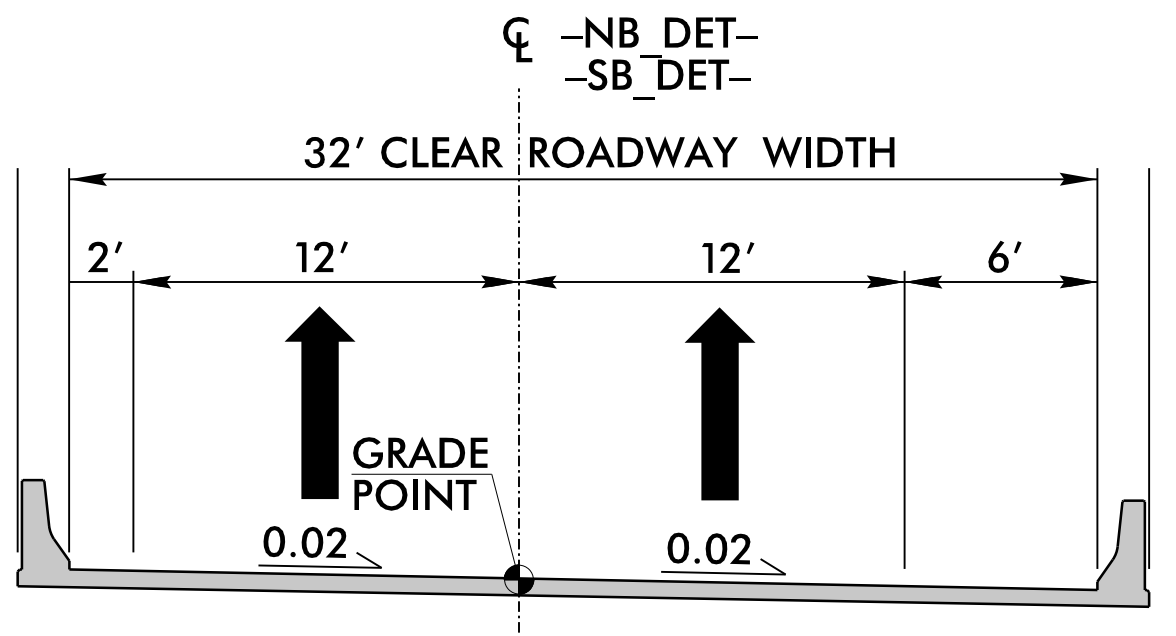
-NB_DET- STA. 10+00.00 TO STA. 13+63.64
 -NB_DET- STA. 24+75.16 TO STA. 26+47.18
 -SB_DET- STA. 10+00.00 TO STA. 12+23.10
 -SB_DET- STA. 29+70.49 TO STA. 31+92.46



TYPICAL SECTION NO. 6

-NB_DET- STA. 13+63.64 TO STA. 19+01.00 (BEGIN BRIDGE)
 -NB_DET- STA. 21+01.00 (END BRIDGE) TO STA. 24+75.16
 -SB_DET- STA. 12+23.10 TO STA. 17+12.13 (BEGIN BRIDGE)
 -SB_DET- STA. 19+12.13 (END BRIDGE) TO STA. 29+70.49

NOTE: FOR AREAS OF OVERLAP BETWEEN -SB_DET- & -NB_DET-, COORDINATE WITH ENGINEER TO DETERMINE IF ANY DETOUR PAVEMENT NEEDS TO BE REPLACED PRIOR TO PLACING TRAFFIC ON -NB_DET-.



DETOUR STRUCTURE* TYPICAL SECTION NO. 5

-NB_DET- STA. 19+01.00 TO STA. 21+01.00 &
 -SB_DET- STA. 17+12.13 TO STA. 19+12.13
 *NOTE: SAME BRIDGE, DIFFERENT STATIONS

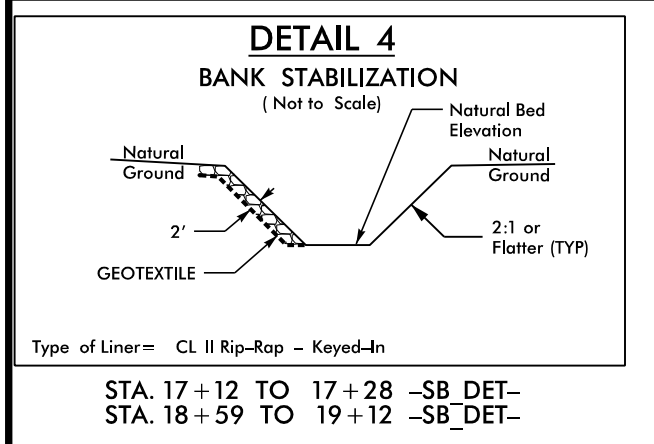
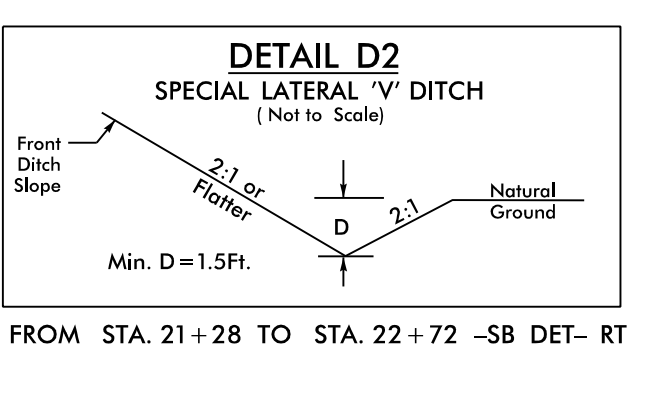
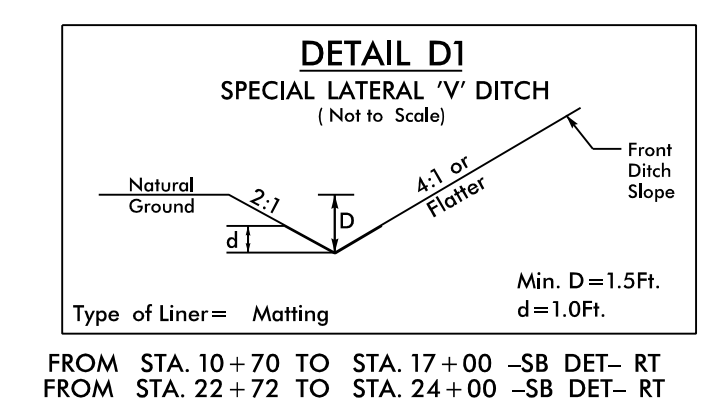
NOTE: REMOVE AND REPLACE EXISTING PAVED SHOULDERS ALONG -LNB- & -LSB- BEFORE CONSTRUCTING -NB_DET- & -SB_DET- WHERE DETOURS TIE INTO EXISTING.

3/4/2024 X:\Raleigh\114-783.0050 - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Fdy_tjpc.dgn

-SB_DET-

PI Sta 11+01.02 Δ = 5° 38' 33.0" (RT) D = 2' 47" 41.7" L = 201.88' T = 101.02' R = 2,050.00' e = 2% RO = VARIES	PI Sta 16+63.12 Δ = 5° 11' 50.0" (RT) D = 4' 48" 53.2" L = 107.94' T = 1,190.00' R = 1,190.00' e = 4% RO = 144'	PI Sta 23+01.87 Δ = 27° 49' 08.8" (LT) D = 4' 48" 53.2" L = 577.79' T = 294.71' R = 1,190.00' e = 4% RO = 144'
--	--	---

-SB_DET- DS = 55 MPH



STA. 17+12 TO 17+28 -SB_DET-
STA. 18+59 TO 19+12 -SB_DET-

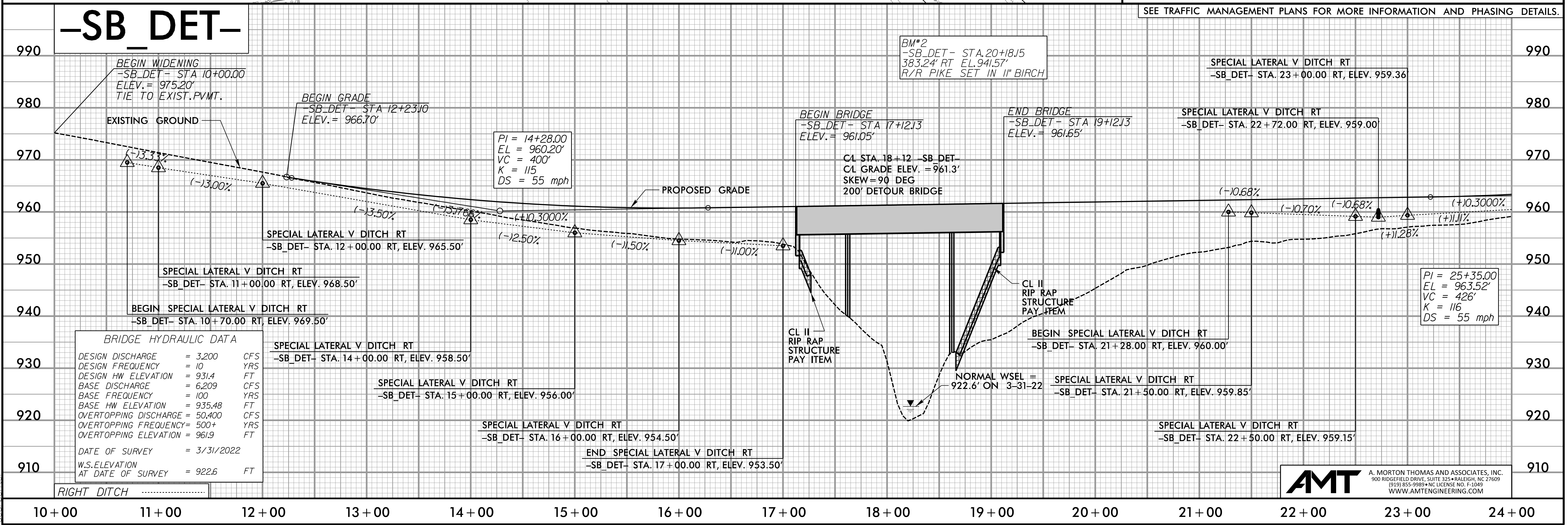
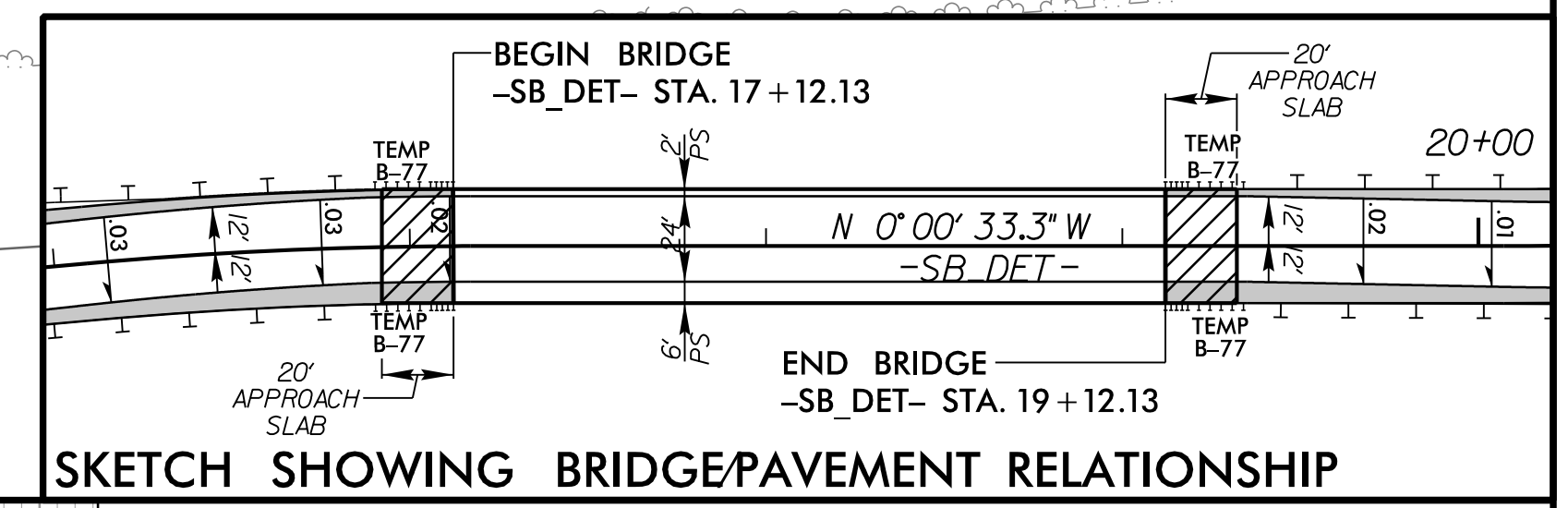
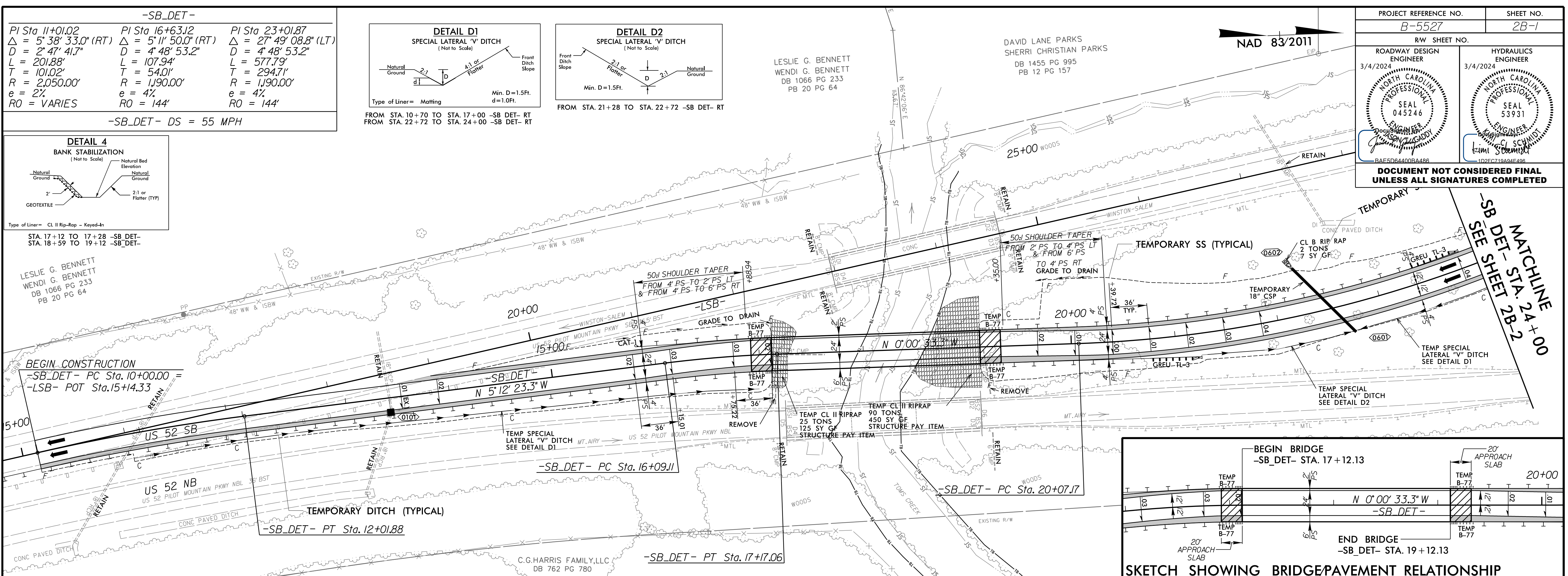
LESLIE G. BENNETT
WENDI G. BENNETT
DB 1066 PG 233
PB 20 PG 64

LESLIE G. BENNETT
WENDI G. BENNETT
DB 1066 PG 233
PB 20 PG 64

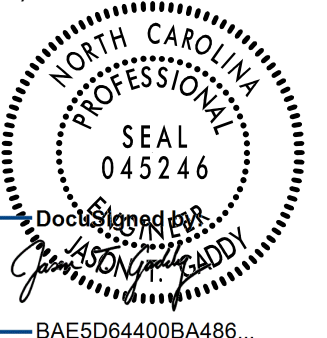

DAVID LANE PARKS
SHERRI CHRISTIAN PARKS
DB 1455 PG 995
PB 12 PG 157

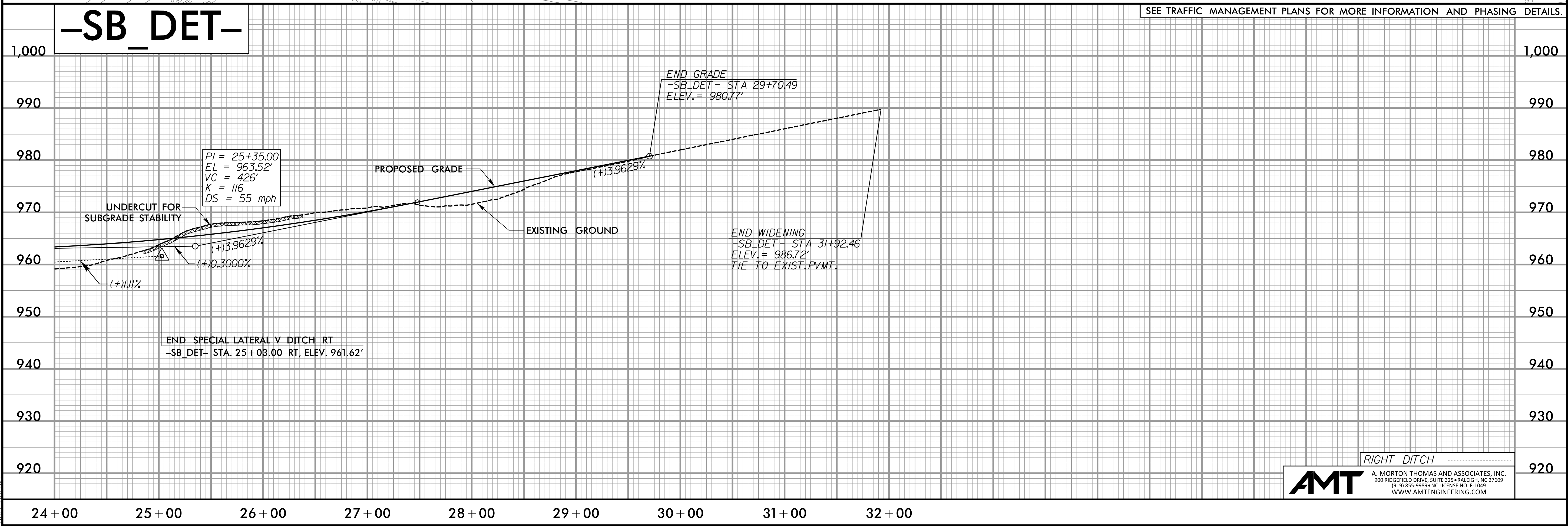
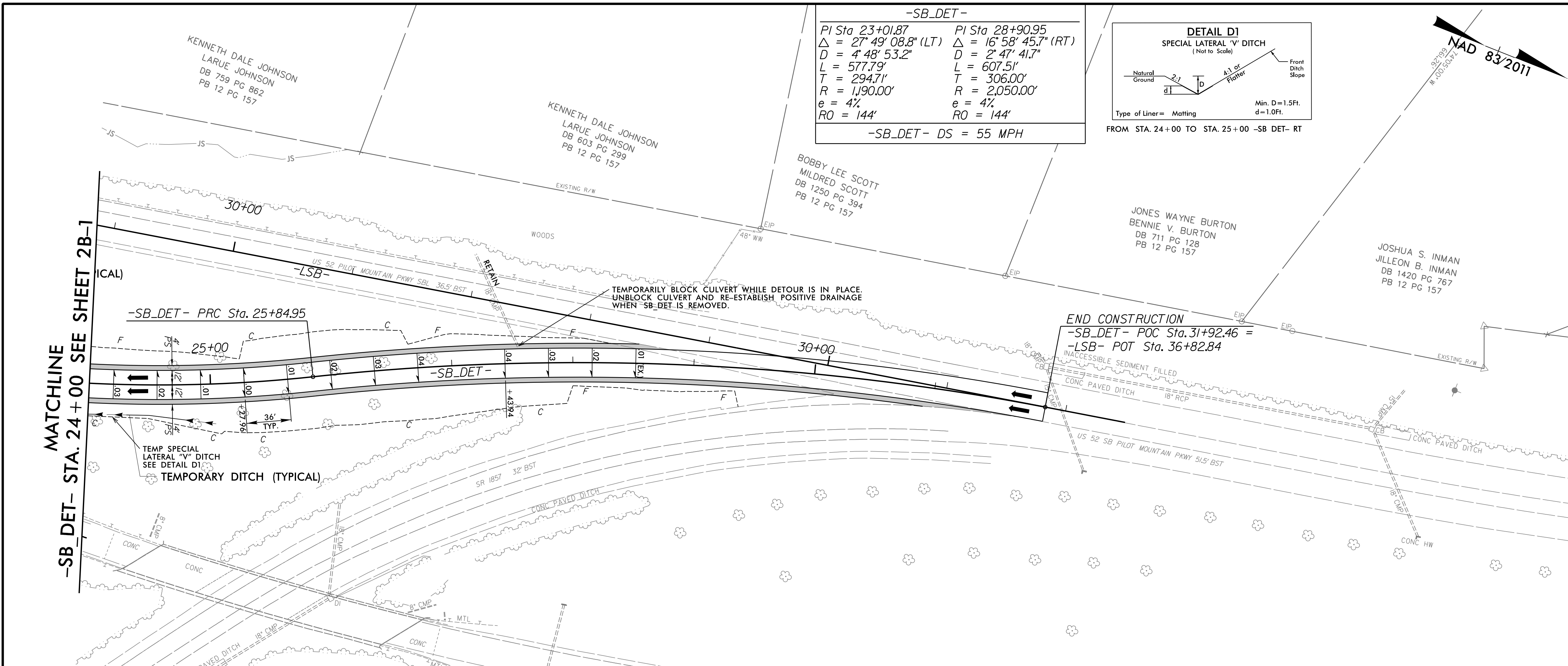
NAD 83/2011

PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-1
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER 3/4/2024	3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



3/4/2024 X:\Raleigh\114-783\005D - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Rdy_psh_02B_1.dgn

PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER 3/4/2024
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



RIGHT DITCH

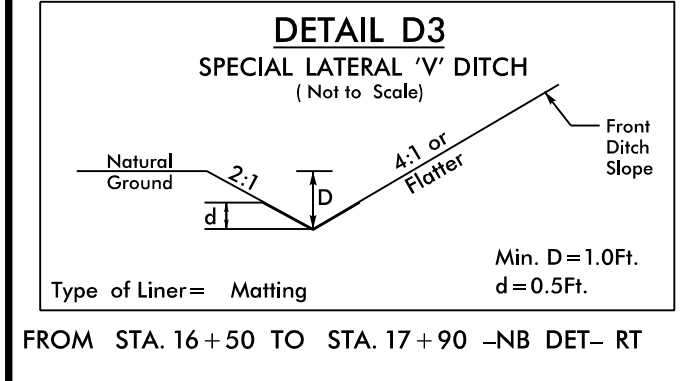
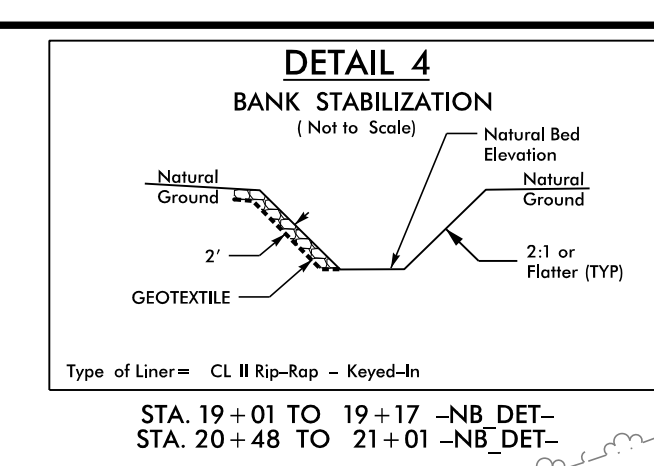
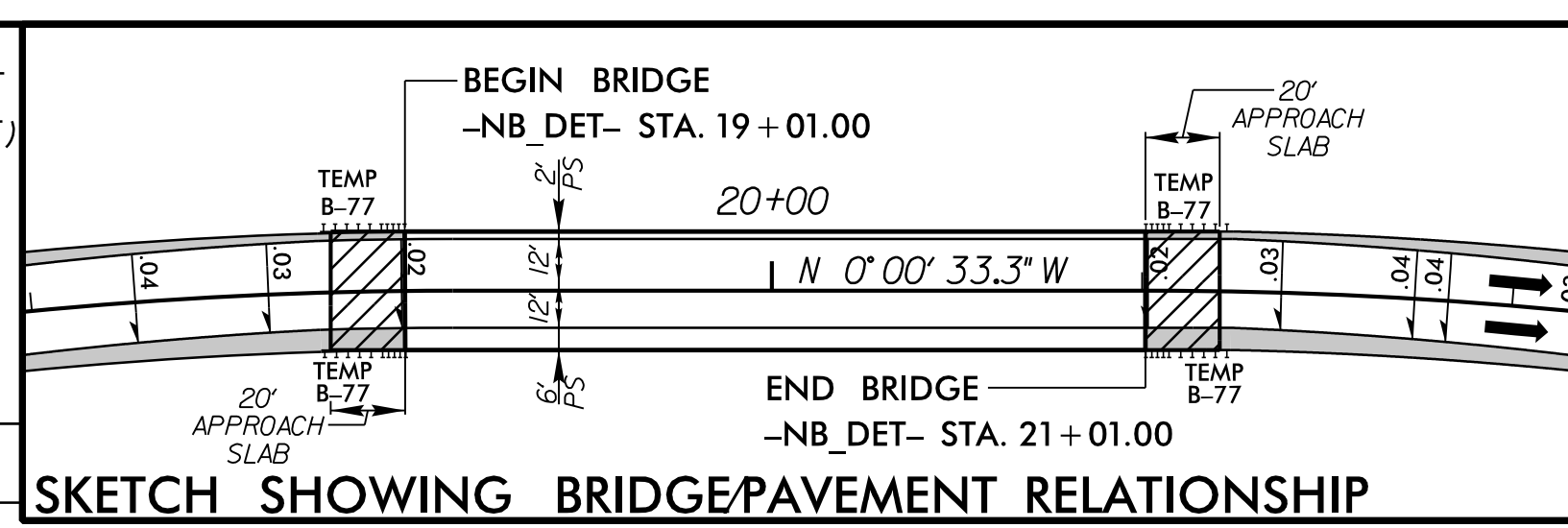


A. MORTON THOMAS AND ASSOCIATES, INC.
900 RIDGEFIELD DRIVE, SUITE 325 • RALEIGH, NC 27609
(919) 855-9989 • NC LICENSE NO. P-1049
WWW.AMTENGINEERING.COM

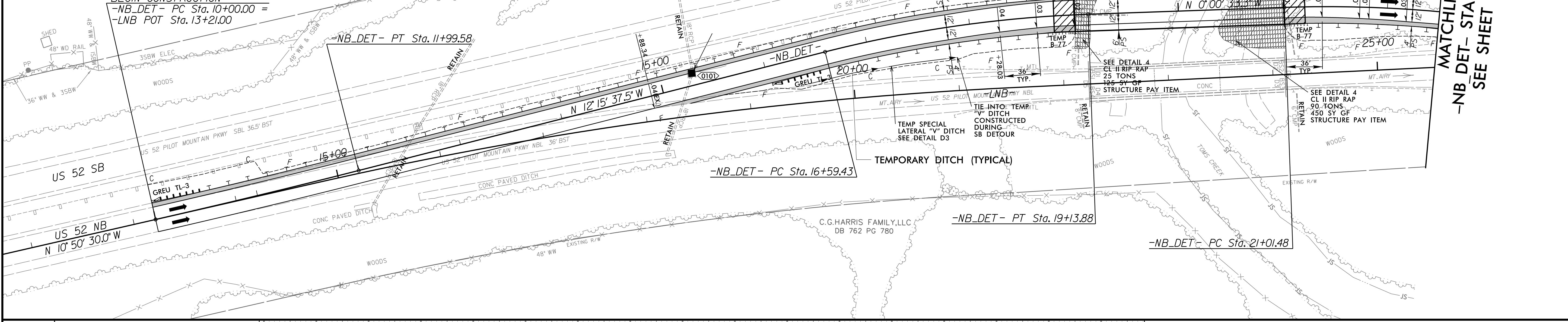
3/4/2024 X:\Raleigh\114-783\0050 - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Rdy_psh_02B_2.dgn
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 3/4/2024 11:14:58 AM

-NB_DET-

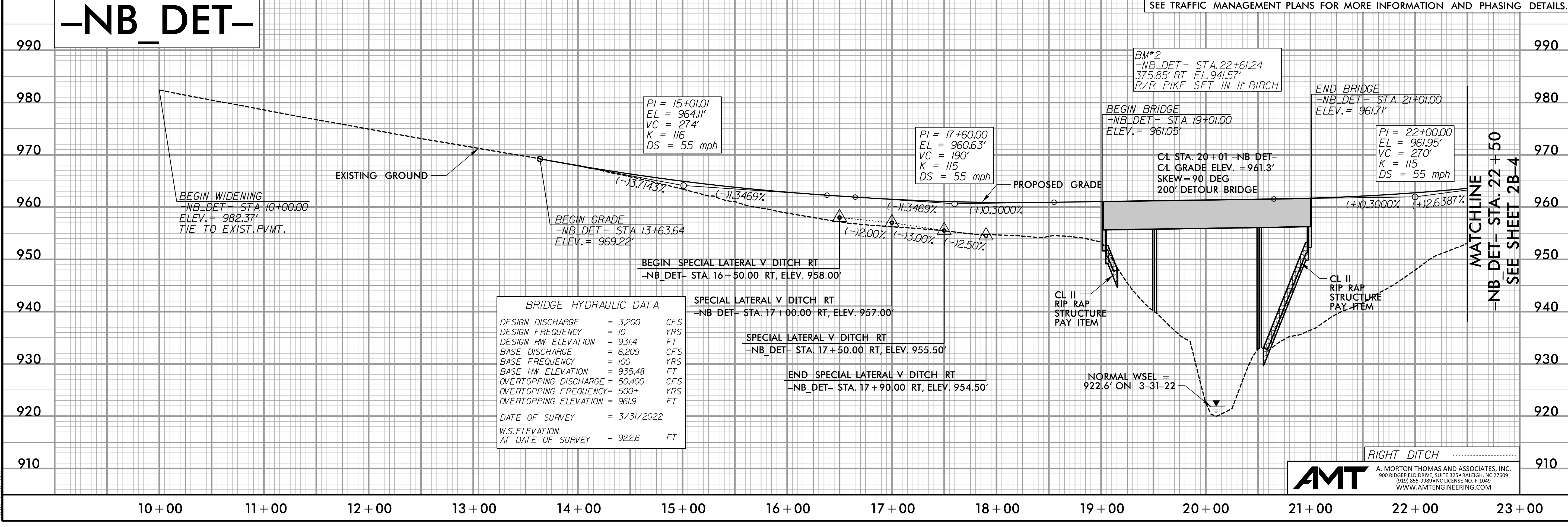
PI Sta 10+99.80 Δ = 1° 25' 07.5" (LT) D = 0° 42' 39.1" L = 199.58' T = 99.80' R = 8,060.00' DS = 60 MPH e = R.C. RO = 72'	PI Sta 17+87.14 Δ = 12° 15' 04.2" (RT) D = 4° 48' 53.2" L = 254.45' T = 127.71' R = 1,190.00' e = 4% RO = 144'	PI Sta 22+30.03 Δ = 12° 19' 54.4" (RT) D = 4° 48' 53.2" L = 256.12' T = 128.56' R = 1,190.00' e = 4% RO = 144'
---	---	---



FROM STA. 16+50 TO STA. 17+90 -NB_DET- RT





PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-3
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

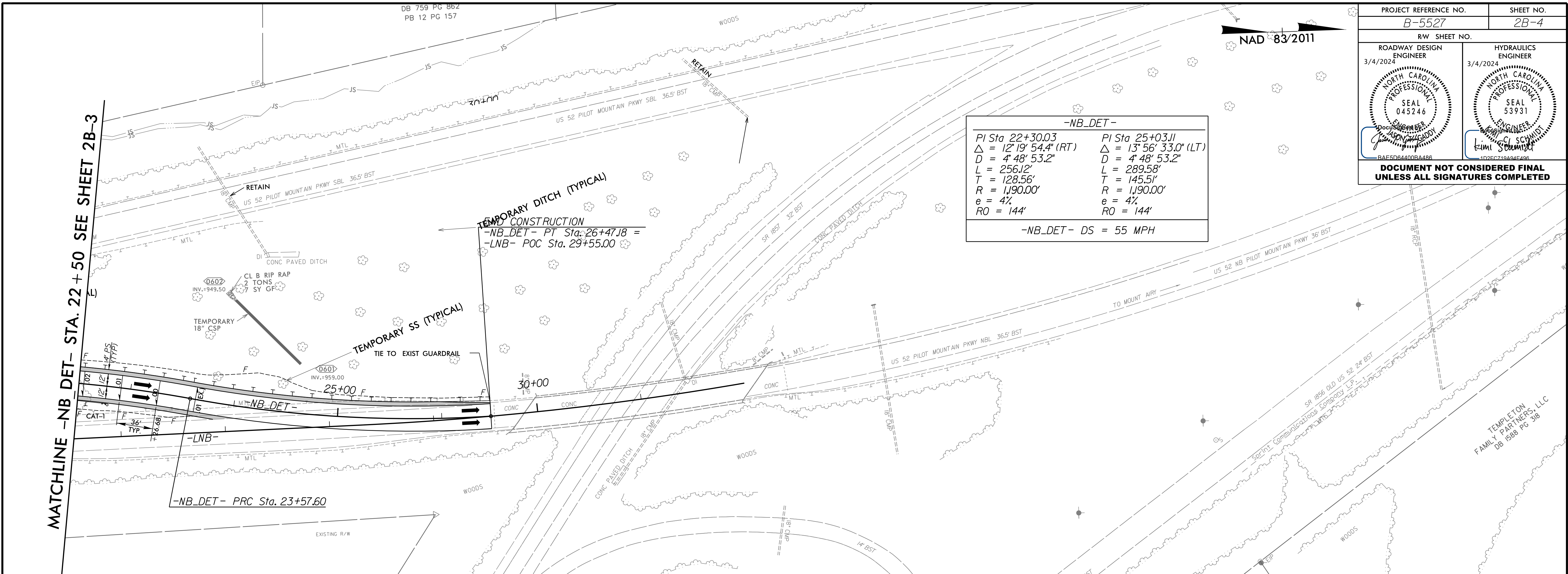


BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 3,200	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 931.4	FT
BASE DISCHARGE	= 6,209	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 935.48	FT
OVERTOPPING DISCHARGE	= 50,400	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 961.9	FT
DATE OF SURVEY	= 3/31/2022	
W.S. ELEVATION AT DATE OF SURVEY	= 922.6	FT

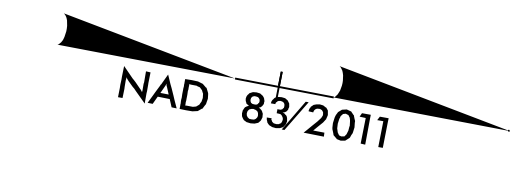
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PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER 3/4/2024
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

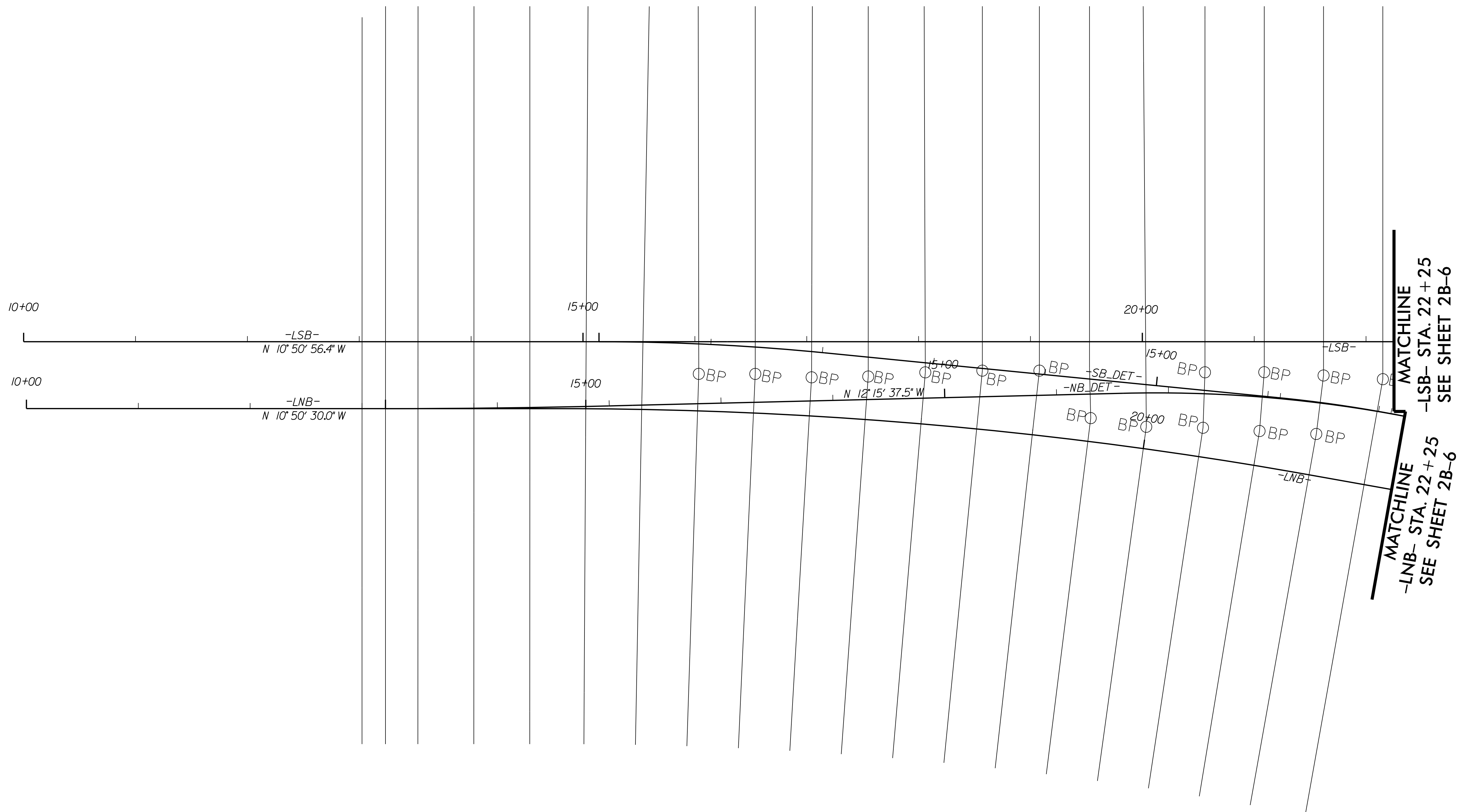


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CROSS-SECTION LAYOUT FOR CROSS-SECTION SHEETS X-2 THRU X-12



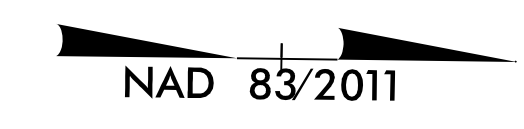
PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	



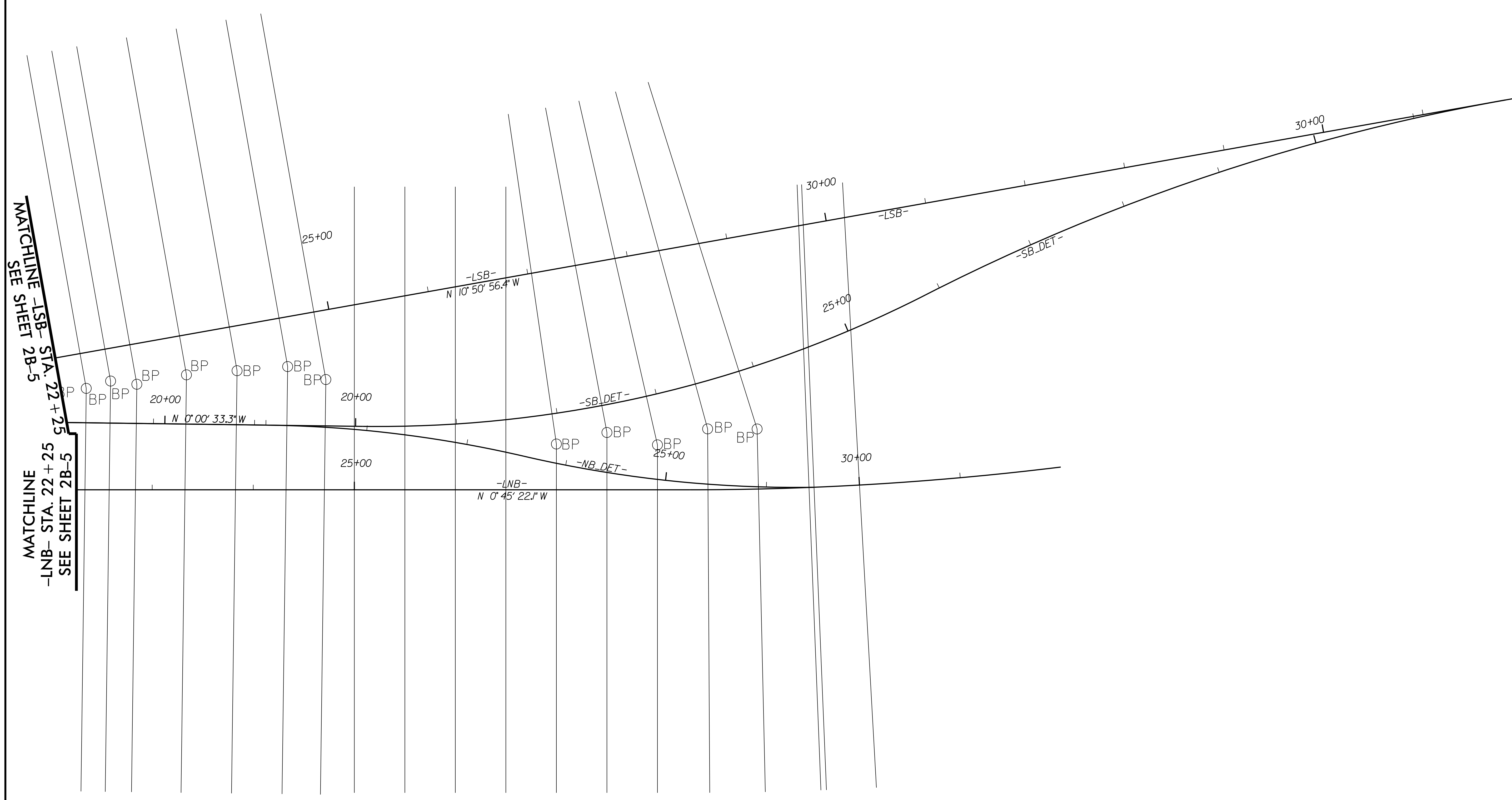
3/4/2024
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DocuSign Envelope ID: CDA15FEC-C5A9-499C-8787-399ABDBA6739

BP = BREAK POINT

CROSS-SECTION LAYOUT FOR CROSS-SECTION SHEETS X-2 THRU X-12



PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	
<small>RAESD64400BA486</small> DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



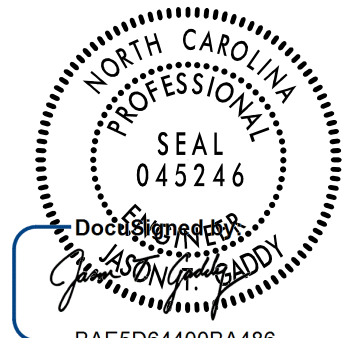
MATCHLINE -LSB- STA. 22 + 25
 SEE SHEET 2B-5
 MATCHLINE -LNB- STA. 22 + 25
 SEE SHEET 2B-5

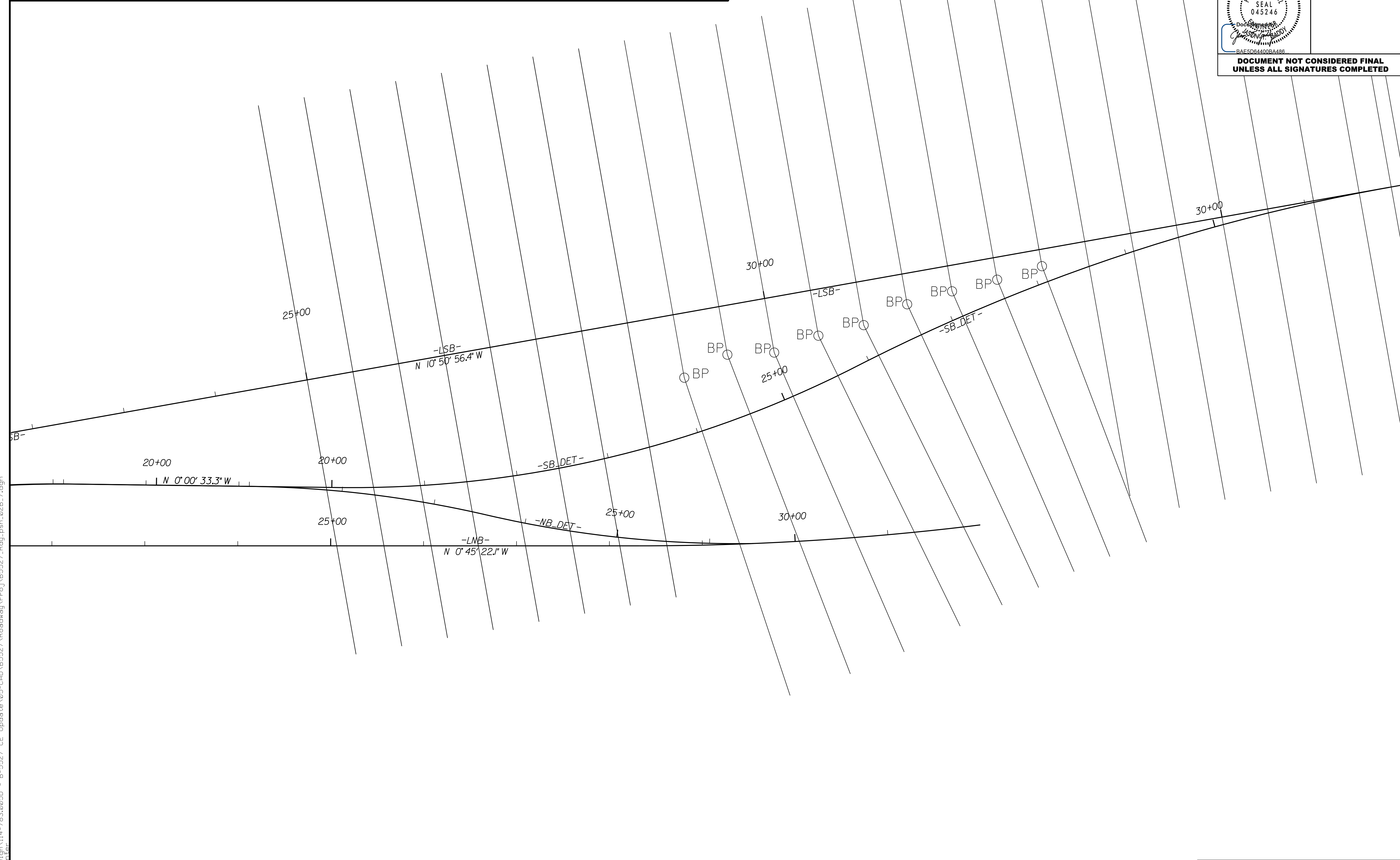
3/4/2024
 X:\Projects\14-783.0050 - B-5527 CE Update\05-CAD\B5527_Roadway\Proj\B5527_Rd.dwg
 J. Gaddy

BP = BREAK POINT

CROSS-SECTION LAYOUT FOR CROSS-SECTION SHEETS X-13 THRU X-19

NAD 83/2011

PROJECT REFERENCE NO. B-5527	SHEET NO. 2B-7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER
	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	



3/4/2024 X:\Raleigh\114-783.005D - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Fdy-ps-h_02B-7.dgn

BP = BREAK POINT

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

Note: Approximate quantities only. Clearing and Grubbing, Unclassified Excavation, Borrow Excavation, Fine Grading, Removal of Existing Asphalt Pavement, Removal of Existing Concrete Pavement, Breaking of Existing Asphalt Pavement, and Breaking of Existing Concrete Pavement will be paid for at the contract lump sum price for "Grading."

EARTHWORK SUMMARY

IN CUBIC YARDS

ALIGNMENT	STATION	STATION	DESCRIPTION OF WORK	EXCAVATION		EMBANKMENT	BORROW	TOTAL WASTE	COMMENTS
				TOTAL UNCLASS.	UNDERCUT				
PHASE I CONSTRUCTION ACTIVITIES									
-LNB-	15+11.44	22+13.41 (BEGIN BRIDGE)	CONSTRUCT SB DETOUR	195		2,408	2,213		
-LNB-	24+13.39 (END BRIDGE)	25+00.00	CONSTRUCT SB DETOUR			5,255	5,255		
-LSB-	25+00.00	36+82.84	CONSTRUCT SB DETOUR	1,827	650	9,286	7,459	650	
PHASE I SUBTOTALS				2,022	650	16,949	14,927	650	
PHASE II CONSTRUCTION ACTIVITIES									
-LNB-	19+57.39	22+58.82 (BEGIN BRIDGE)	CONSTRUCT US 52 SBL	451		741	290		
-LSB-	24+84.00 (END BRIDGE)	32+18.00	CONSTRUCT US 52 SBL	738		1,227	489		
PHASE II SUBTOTALS				1,189		1,968	779		
PHASE III CONSTRUCTION ACTIVITIES									
-LNB-	13+21.00	22+13.41 (BEGIN BRIDGE)	FINAL GRADE US SBL, REMOVE SB DETOUR, & CONSTRUCT NB DETOUR	885		510		374	
-LNB-	24+13.39 (END BRIDGE)	29+55.00	FINAL GRADE US SBL, REMOVE SB DETOUR, & CONSTRUCT NB DETOUR	3,481		656		2,824	
-LSB-	29+50.00	33+00.00	REMOVE SB DETOUR	432		975	543		
WASTE FROM THIS PHASE OF WORK IN LIEU OF BORROW							-543	-543	
PHASE III SUBTOTALS				4,798		2,141		2,655	STOCKPILE TO USE IN FUTURE PHASES
PHASE IV CONSTRUCTION ACTIVITIES									
-LNB-	19+24.00	22+03.00 (BEGIN BRIDGE)	CONSTRUCT US 52 NBL	422		4,421	3,999		
-LNB-	24+33.00 (END BRIDGE)	26+45.00	CONSTRUCT US 52 NBL			3,607	3,607		
STOCKPILED WASTE IN LIEU OF BORROW							-2,655	-2,655	UTILIZE STOCKPILE FROM PHASE III
PHASE IV SUBTOTALS				422		8,028	4,951	-2,655	
PHASE V CONSTRUCTION ACTIVITIES									
-LNB-	14+37.00	19+24.00	REMOVE NB DETOUR & FINAL GRADE US 52 NBL	2,107		600		1,506	
-LNB-	24+13.39 (END BRIDGE)	29+55.00	REMOVE NB DETOUR & FINAL GRADE US 52 NBL	6,590		394		6,195	
-LNB-	16+50.00	22+00.00	GRADE MEDIAN DITCH	2,485				2,485	
PHASE V SUBTOTALS				11,182		994		10,186	
TOTAL				19,613	650	30,080	20,657	10,836	
ADDITIONAL UNDERCUT					850	977	977	850	
MATERIAL FOR SHOULDER CONSTRUCTION						989	989		
LOSS DUE TO CLEARING & GRUBBING				-1,100			1,100		
WASTE IN LIEU OF BORROW							-3,066	-3,066	
PROJECT TOTAL				18,513	1,500	32,046	20,657	8,620	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT							1,032		
GRAND TOTAL				18,513	1,500	32,046	21,689	8,620	
SAY				18,600	1,500		21,700	8,700	

NOTE: SEE TRAFFIC MANAGEMENT PLANS FOR MORE DETAILS ON PROJECT PHASING.

NOTE: UNCLASSIFIED EXCAVATION, ACCEPTABLE, BUT NOT TO BE USED IN TOP 3 FT. OF EMBANKMENT OR BACKFILL, -SB_DET- 24+85 TO 26+38 (100 CY) PER GEOTECH REPORT (SEE ATTACHMENT)

3/14/2024 3:45:26 pm \\114-783-0050 - B-5527 CE Update\05-CAD\B5527-Roadway\Proc\B5527_RdJ_psh_3B-Series.dgn

6/16/99

COMPUTED BY: J. ADORNO DATE: 08-11-2023
CHECKED BY: M. DOUGLAS DATE: 10-02-2023

PROJECT REFERENCE NO. B-5527
SHEET NO. 3B-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUARDRAIL SUMMARY

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

LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHOR / END UNITS			IMPACT ATTENUATOR		REMOVE EXISTING GUARDRAIL	REMOVE & RESST EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS		
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	B-77	GREU TL-3	CAT-1	G	NG						
LNB	19+05.13	22+03.00	LT	297.87			BEGIN BRIDGE		6.0'	9.0'	50.0'		1.0'			1	1					131.53			
LNB	24+33.00	29+55.00	LT	522.00			END BRIDGE	TIE TO EXIST.	6.0'	9.0'		150.0'		3.0'		1							542.34		
LNB	19+05.13	22+03.00	RT	297.87			BEGIN BRIDGE		14.0'	17.0'	50.0'	100.0'	1.0'	2.0'		1	1						130.45		
LNB	24+33.00	29+55.00	RT	522.00			END BRIDGE	TIE TO EXIST.	12.0'	15.0'		230.0'		9.0'		1							544.62		
LSB	21+70.88	22+74.00	LT	103.12			BEGIN BRIDGE	22+50	12.0'	15.0'						1		1					16.15		
LSB	24+84.00	33+95.38	LT	911.38			32+00	END BRIDGE	12.0'	15.0'	50.0'		1.0'			1	1						934.18		
LSB	21+59.37	22+74.00	RT	114.63			BEGIN BRIDGE	22+50	6.0'	9.0'						1		1					59.74		
LSB	24+84.00	27+82.88	RT	298.88			26+00	END BRIDGE	6.0'	9.0'	50.0'	225.0'	1.0'	4.5'		1	1						309.12		
SUBTOTALS				3,067.75												8	4	2					2,668.13		
DEDUCTIONS																									
B-77 @ 22.875'				-183.00																					
GREU TL-3 @ 50'				-200.00																					
CAT-1 @ 6.25'				-12.50																					
Total				2,672.25																			2,668.13		
SAY				2,750												8	4	2					2,670		

NOTE: 20 ADDITIONAL GUARDRAIL POSTS

TEMPORARY GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHOR / END UNITS			IMPACT ATTENUATOR		REMOVE & RESET EXISTING GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	B-77	GREU TL-3	CAT-1	G	NG					
SB_DET	15+83.01	17+12.13	LT	129.12			END BRIDGE	16+00	4.0'	7.0'					1		1							
SB_DET	19+12.13	23+85.01	LT	472.88			23+75	BEGIN BRIDGE	4.0'	7.0'	50.0'		1.0'		1	1								
SB_DET	19+12.13	21+22.51	RT	210.38			BEGIN BRIDGE		4.0'	7.0'	50.0'		1.0'		1	1								
LSB	13+23.75	15+14.33	RT	190.58			15+14	13+23	4.0'	7.0'							1							
SB_DET	10+00.00	17+12.13	RT	712.13			END BRIDGE	10+00	4.0'	7.0'					1								SEE SHEET TMP-2	
NB_DET	10+00.00	19+01.00	LT	374.75			10+00	BEGIN BRIDGE	4.0'	7.0'	50.0'		1.0'				1						REMOVE & RESET GUARDRAIL USED FOR -SB_DET- & REUSE B-77	
NB_DET	21+01.00	26+47.18	LT	412.18			END BRIDGE	TIE TO EXIST.	4.0'	7.0'		50.0'		1.0'									REMOVE & RESET GUARDRAIL USED FOR -SB_DET- & REUSE B-77	
NB_DET	16+03.13	19+01.00	RT				BEGIN BIDGE		4.0'	7.0'	50.0'		1.0'				1						REMOVE & RESET GUARDRAIL USED FOR -SB_DET- & REUSE B-77	
NB_DET	21+01.00	22+80.13	RT				END BRIDGE	22+60	4.0'	7.0'								1					REMOVE & RESET GUARDRAIL USED FOR -SB_DET- & REUSE B-77	
LNB	21+96		LT												1								SEE SHEET TMP-4	
LSB	22+44		LT												1								SEE SHEET TMP-4	
LSB	35+20		RT														2						SEE SHEET TMP-5	
SB_DET	16+09		RT												1								SEE SHEET TMP-6	
LNB	21+92		LT												1								SEE SHEET TMP-8	
LNB	24+66		LT												1								SEE SHEET TMP-8	
LSB	21+64		RT												1								SEE SHEET TMP-8	
NB_DET	16+04		RT												1								SEE SHEET TMP-10	
SUBTOTALS				2,502.02												11	4	3					1,064.38	
DEDUCTIONS																								
B-77 @ 22.875'				-251.63																				SEE SHEET 2C-1 FOR TEMPORARY B-77 DETAIL
GREU TL-3 @ 50'				-200.00																				
CAT-1 @ 6.25'				-18.75																				
Total				2,031.65																			1,064.38	
SAY				2,087.50												11	4	3					1,100.00	

NOTE: ALL TEMPORARY GUARDRAIL & TEMPORARY ANCHOR UNITS TO BE REMOVED ONCE ALL TRAFFIC IS PLACED IN ITS FINAL TRAFFIC PATTERN.

3/4/2024
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3/4/2024
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COMPUTED BY: J. ADORNO DATE: 08-11-2023
CHECKED BY: M. DOUGLAS DATE: 10-02-2023

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.
B-5527 3B-3

REMOVAL OF EXISTING ASPHALT PAVEMENT

LINE	BEGIN STATION	END STATION	LOC.	LENGTH OR AREA	WIDTH	SQUARE YARDS	NOTES	
LNB	13+21	19+24	RT	4,991.14	---	554.57	EXIST. OUTSIDE PAVED SHOULDER	
LNB	13+21	19+24	LT	2,493.39	---	277.04	EXIST. MEDIAN PAVED SHOULDER	
LNB	21+28	22+24	RT	255.79	---	28.42	EXIST. OUTSIDE PAVED SHOULDER	
LNB	21+28	22+24	LT	265.71	---	29.52	EXIST. MEDIAN PAVED SHOULDER	
LNB	24+11	25+08	RT	243.37	---	27.04	EXIST. OUTSIDE PAVED SHOULDER	
LNB	24+11	25+08	LT	206.58	---	22.95	EXIST. MEDIAN PAVED SHOULDER	
LNB	26+45	29+55	RT	2,142.03	---	238.00	EXIST. OUTSIDE PAVED SHOULDER	
LNB	26+45	29+55	LT	1,098.32	---	122.04	EXIST. MEDIAN PAVED SHOULDER	
LSB	13+21	22+97	RT	3,596.90	---	399.66	EXIST. MEDIAN PAVED SHOULDER	
LSB	13+21	22+76	LT	7,894.17	---	877.13	EXIST. OUTSIDE PAVED SHOULDER	
LSB	24+62	36+07	RT	6,183.66	---	687.07	EXIST. MEDIAN PAVED SHOULDER	
LSB	24+62	36+85	LT	10,237.91	---	1,137.55	EXIST. OUTSIDE PAVED SHOULDER	
NB_DET	10+35	18+81	CL	15,759.89	---	1,751.10	DETOUR PAVEMENT	
NB_DET	21+20	25+95	CL	10,417.97	---	1,157.55	DETOUR PAVEMENT	
SB_DET	10+00	17+12	CL	5,353.74	---	594.86	DETOUR PAVEMENT	
SB_DET	19+12	29+60	CL	26,428.64	---	2,936.52	DETOUR PAVEMENT	
						TOTAL	10,841.02	
						SAY	10,850	

BREAKING OF EXISTING ASPHALT PAVEMENT

LINE	BEGIN STATION	END STATION	LOC.	LENGTH OR AREA	WIDTH	SQUARE YARDS	NOTES	
LNB	19+24	21+28	LT	808.03	---	89.78	EXIST. MEDIAN PAVED SHOULDER	
LNB	19+24	21+28	RT	1,660.21	---	184.47	EXIST. OUTSIDE PAVED SHOULDER	
LNB	25+08	26+45	LT	520.71	---	57.86	EXIST. MEDIAN PAVED SHOULDER	
LNB	25+08	26+45	RT	1,040.70	---	115.63	EXIST. OUTSIDE PAVED SHOULDER	
						TOTAL	447.74	
						SAY	450	

REMOVAL OF EXISTING CONCRETE PAVEMENT

LINE	BEGIN STATION	END STATION	LOC.	LENGTH OR AREA	WIDTH	SQUARE YARDS	NOTES	
LNB	21+28	22+24	CL	2,268.79	---	252.09	EXIST. TRAVEL LANES	
LNB	24+12	25+08	CL	2,295.94	---	255.10	EXIST. TRAVEL LANES	
LSB	19+70	22+96	CL	7,869.12	---	874.35	EXIST. TRAVEL LANES	
LSB	24+62	32+18	CL	17,978.07	---	1,997.56	EXIST. TRAVEL LANES	
						TOTAL	3,379.10	
						SAY	3,380	

NOTE: EXISTING 7" JOINTED CONCRETE PAVEMENT OVERLAID WITH ASPHALT.

BREAKING OF EXISTING CONCRETE PAVEMENT

LINE	BEGIN STATION	END STATION	LOC.	LENGTH OR AREA	WIDTH	SQUARE YARDS	NOTES	
LNB	19+24	21+28	CL	4,872.97	---	541.44	EXIST. TRAVEL LANES	
LNB	25+08	26+45	CL	3,310.23	---	367.80	EXIST. TRAVEL LANES	
						TOTAL	909.24	
						SAY	910	

NOTE: EXISTING 7" JOINTED CONCRETE PAVEMENT OVERLAID WITH ASPHALT.

6/16/99

COMPUTED BY: J. ADORNO DATE: 08-11-2023
CHECKED BY: M. DOUGLAS DATE: 10-02-2023

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.
B-5527 3B-4

SHOULDER BERM GUTTER SUMMARY

ALIGNMENT	SIDE	BEG. STA.	END STA.	LENGTH (LF)
LNB	LT	21+69.00	21+78.83	9.8
LNB	RT	21+69.00	21+78.83	9.8
LSB	LT	25+08.17	25+19.00	10.8
LSB	RT	25+08.17	25+19.00	10.8
			TOTAL	41.3
			SAY	45

CABLE GUIDERAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH (LF)		ANCHORS (EA)		REMOVE EXISTING GUIDERAIL (LF)
				SINGLE FACED	DOUBLE FACED	INTERMEDIATE	TERMINAL	
LSB	13+21.00	20+07.82	MED				1	686.82
LSB	13+21.00	20+07.82	MED		686.82		2	
			TOAL		686.82		3	686.82
			SAY		700		3	700

NOTE: PLACE ANCHOR UNIT TO TERMINATE EXISTING CABLE GUIDERAIL AT 13+21

3/4/2024
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

Table with columns for STATION, LOCATION, STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC), C.S. PIPE (12" to 48"), R.C. PIPE CLASS IV (12" to 48"), ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD STANDARD, CONCRETE TRANSITIONAL SECTION, SIDE DRAIN PIPE ELBOWS NO. & SIZE, CONCRETE & BRICK PIPE PLUG, C.Y., FLOWABLE FILL C.Y., PIPE REMOVAL LIN. FT., and REMARKS. Includes a 'PROJECT TOTALS' row at the bottom.

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ocapeter

SUMMARY OF SUBSURFACE DRAINAGE

LINE	BEGIN STATION	END STATION	LOCATION	DRAIN TYPE* UD / BD / SD	LF
CONTINGENCY				SD	600
				TOTAL (SF)	600

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

SUMMARY OF ROCK PLATING

LINE	BEGIN SLOPE (H:V)	BEGIN STATION	END SLOPE (H:V)	END STATION	LOCATION	ROCK PLATING DETAIL NO. 1/2/3/4	RIPRAP CLASS* 1/2/B	AREA (SF)
-LSB-	1.5:1	25+50.00	1.5:1	31+25.00	LT	275.01	1	3,214.46
						TOTAL (SF)		3,214.46
						TOTAL (SY)		357.16
						SAY (SY)		360

* USE CLASS 1, 2 OR B RIPRAP IF RIPRAP CLASS IS NOT SHOWN FOR ROCK PLATING LOCATION.

SUMMARY OF AGGREGATE SUBGRADE / STABILIZATION

LINE	BEGIN STATION	END STATION	AGGREGATE TYPE* ASU (1/2)/AST	AGGREGATE THICKNESS INCHES [8" FOR ASU(2)]	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION SY	GEOTEXTILE FOR SUBGRADE STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
CONTINGENCY			ASU (1)	12	100	200	300		
			TOTAL (CY / TONS / SY)		100	200 **	300 **		

* 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 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.

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COMPUTED BY: J. ADORNO DATE: 03/30/2023
 CHECKED BY: M. DOUGLAS DATE: 04/01/2023


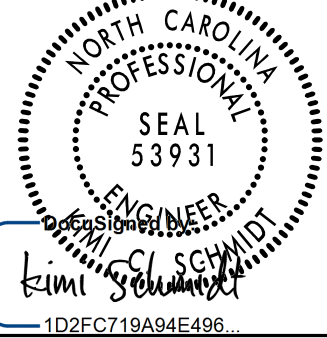
PROJECT REFERENCE NO. B-5527
 SHEET NO. 36-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SHOULDER DRAIN SUMMARY

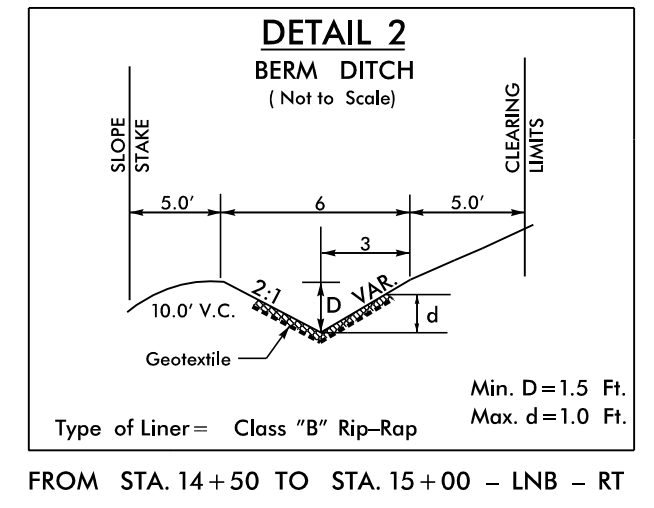
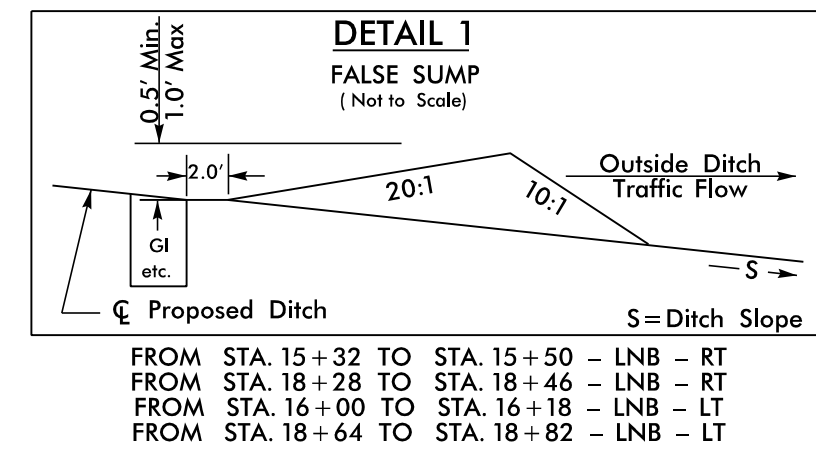
LINE	BEGIN STATION	END STATION	LOC.	SHOULDER DRAIN PIPE (FT)	SHOULDER DRAINS (FT)	OUTLET PIPES (FT)	CONCRETE PADS (EA)	OUTLET LOCATION
LNB	13+21.00	21+75.00	RT	954.50	954.50			Drainage Structure 402, 403, 406
LNB	24+70.00	27+75.00	RT	307.83	307.83	48.43	1	24+70 (Pad)
LNB	24+70.00	29+00.00	LT	430.82	430.82	40.35	2	24+70 (Pad) and 27+75 (Pad)
LSB	13+21.00	22+50.00	LT	936.45	936.45	30.61	1	Drainage Structure 412, 411, 22+50 (Pad)
LSB	25+20.00	36+85.00	LT	1181.77	1181.77			Drainage Structure 501, 506, 508
LSB	13+21.00	22+50.00	RT	941.57	941.57	29.31	1	Drainage Structure 410, 404, 409, 22+50 (Pad)
LSB	25+20.00	33+50.00	RT	840.84	840.84			Drainage Structure 503, 507, 509
TOTAL				5,593.78	5,593.78	148.70	5	
SAY				5,680	5,680	155	5	

SEE SHEET 3D-1 FOR THE LOCATION OF ALL DRAINAGE STRUCTURES OTHER THAN PADS.

PROJECT REFERENCE NO. B-5527		SHEET NO. 4
RW SHEET NO.		
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER 3/4/2024	
		
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		

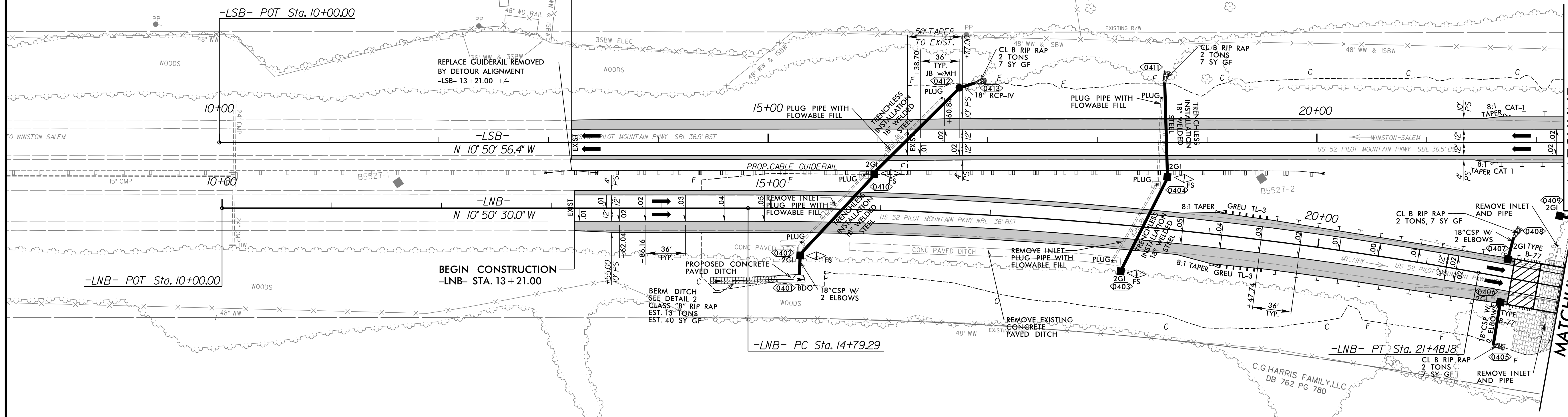
-LNB-
 PI Sta 18+14.60
 $\Delta = 10^{\circ}05'07.9"$ (RT)
 $D = 1^{\circ}30'28.0"$
 $L = 668.90'$
 $T = 335.31'$
 $R = 3,800.00'$
 $e = 5.0\%$
 $Ro = 180'$

NAD 83/2011



BEGIN TIP PROJECT B-5527
BEGIN CONSTRUCTION
-LSB- STA. 13+21.00

LESLIE G. BENNETT
 WENDI G. BENNETT
 DB 1066 PG 233
 PB 20 PG 64



MATCHLINE
-LSB- STA. 22+25
SEE SHEET 5
MATCHLINE
-LNB- STA. 22+25
SEE SHEET 5

FOR -LNB- PROFILE SEE SHEET 6
 FOR -LSB- PROFILE SEE SHEET 7

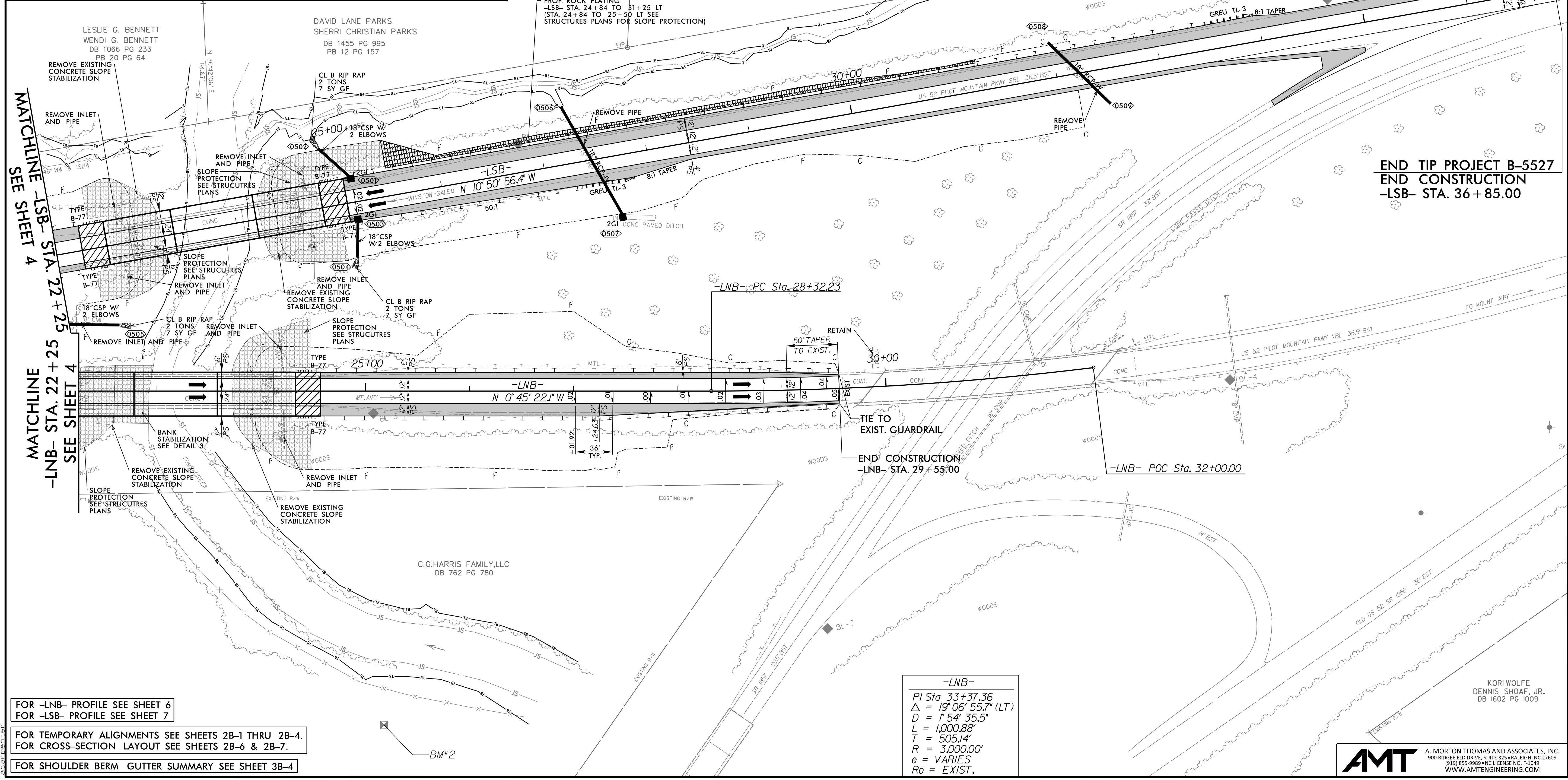
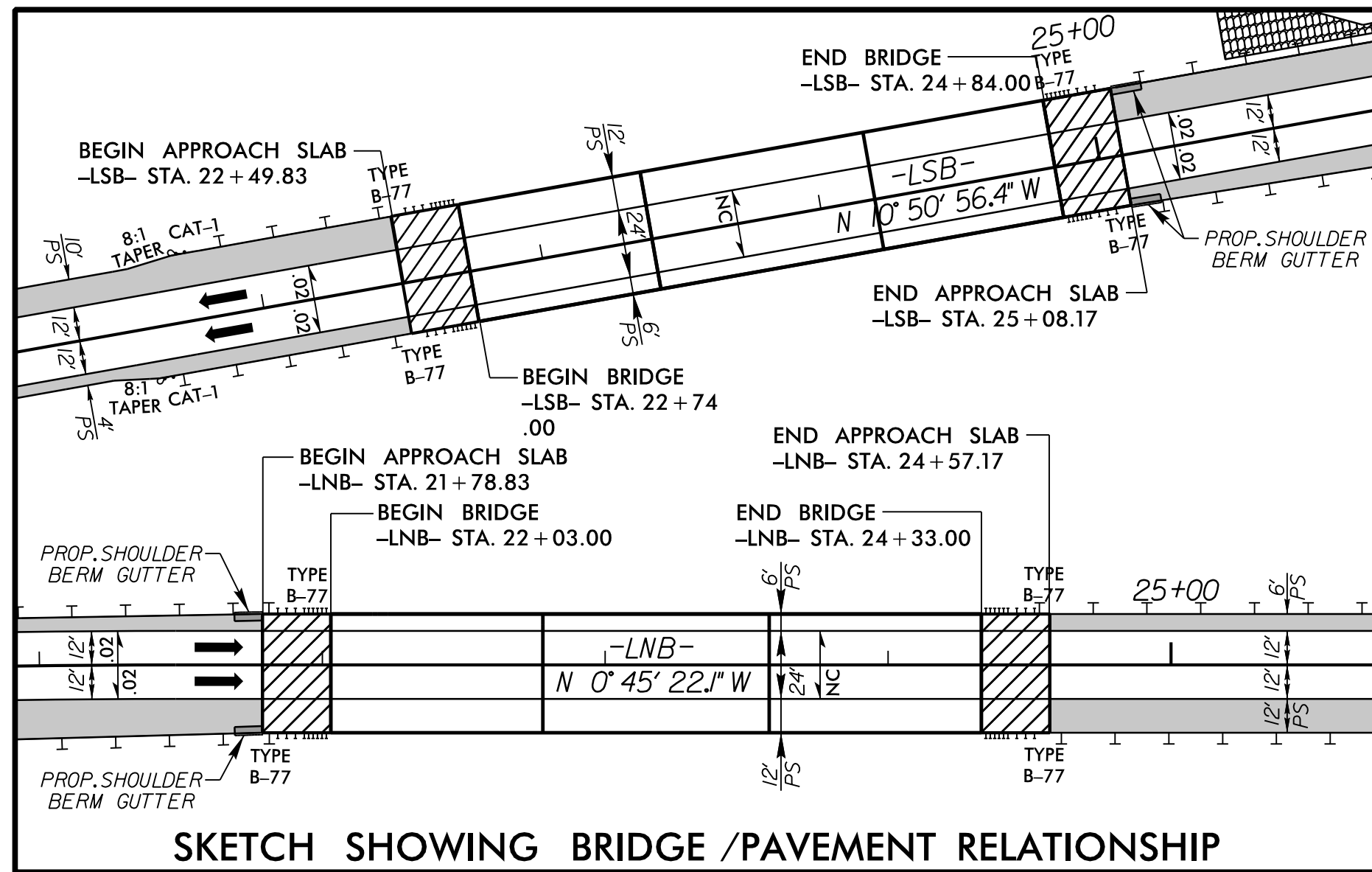
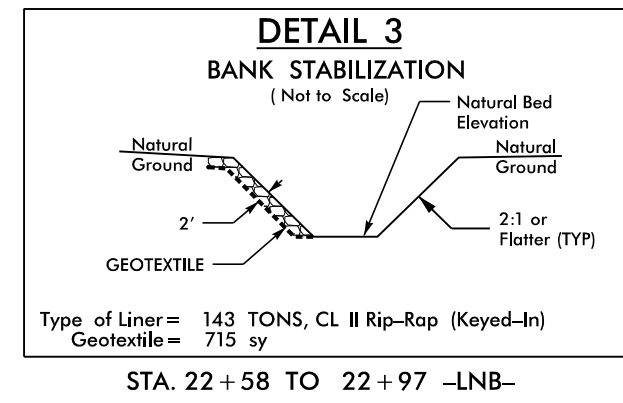
FOR TEMPORARY ALIGNMENTS SEE SHEETS 2B-1 THRU 2B-4.
 FOR CROSS-SECTION LAYOUT SEE SHEET 2B-5.
 FOR BRIDGE SKETCH SEE SHEET 5.

FOR SHOULDER BERM GUTTER SUMMARY SEE SHEET 3B-4

3/4/2024
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PROJECT REFERENCE NO. B-5527	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 3/13/2024 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045246 DAVID J. GADY	HYDRAULICS ENGINEER 3/13/2024 NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 53931 DAVID G. SCHMIDT
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NAD 83/2011



MATCHLINE -LSB- STA. 22+25 SEE SHEET 4

MATCHLINE -LNB- STA. 22+25 SEE SHEET 4

**END TIP PROJECT B-5527
END CONSTRUCTION
-LSB- STA. 36+85.00**

FOR -LNB- PROFILE SEE SHEET 6
FOR -LSB- PROFILE SEE SHEET 7

FOR TEMPORARY ALIGNMENTS SEE SHEETS 2B-1 THRU 2B-4.
FOR CROSS-SECTION LAYOUT SEE SHEETS 2B-6 & 2B-7.

FOR SHOULDER BERM GUTTER SUMMARY SEE SHEET 3B-4

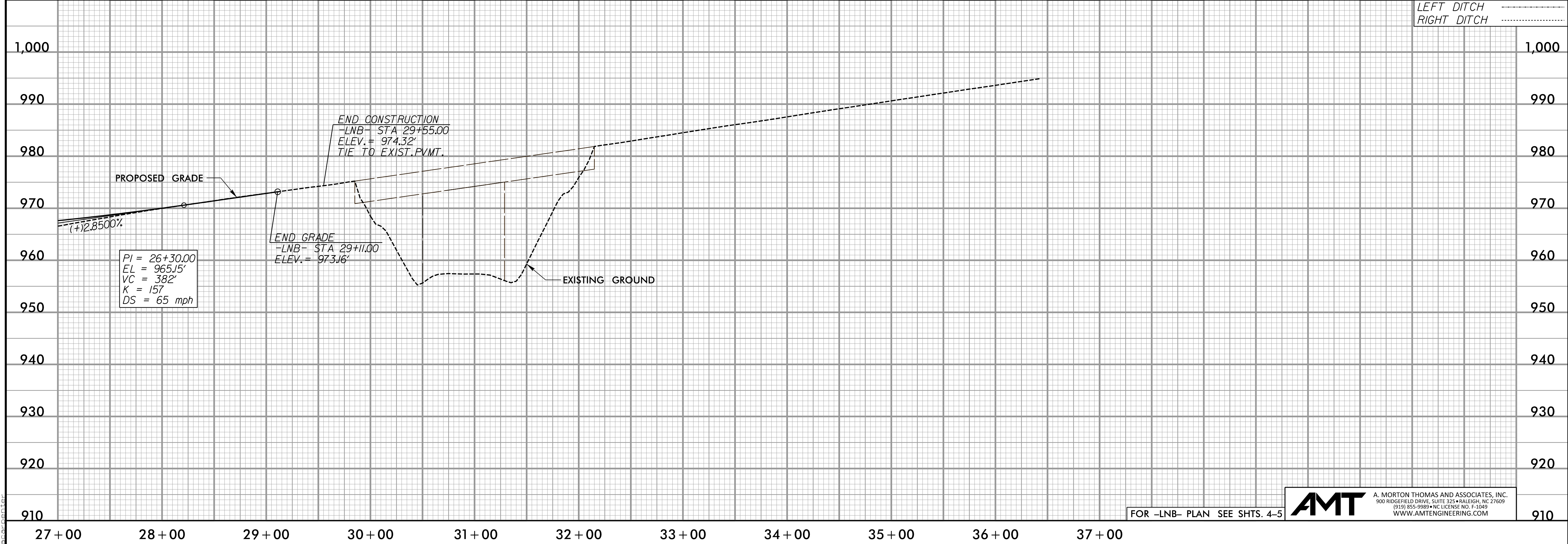
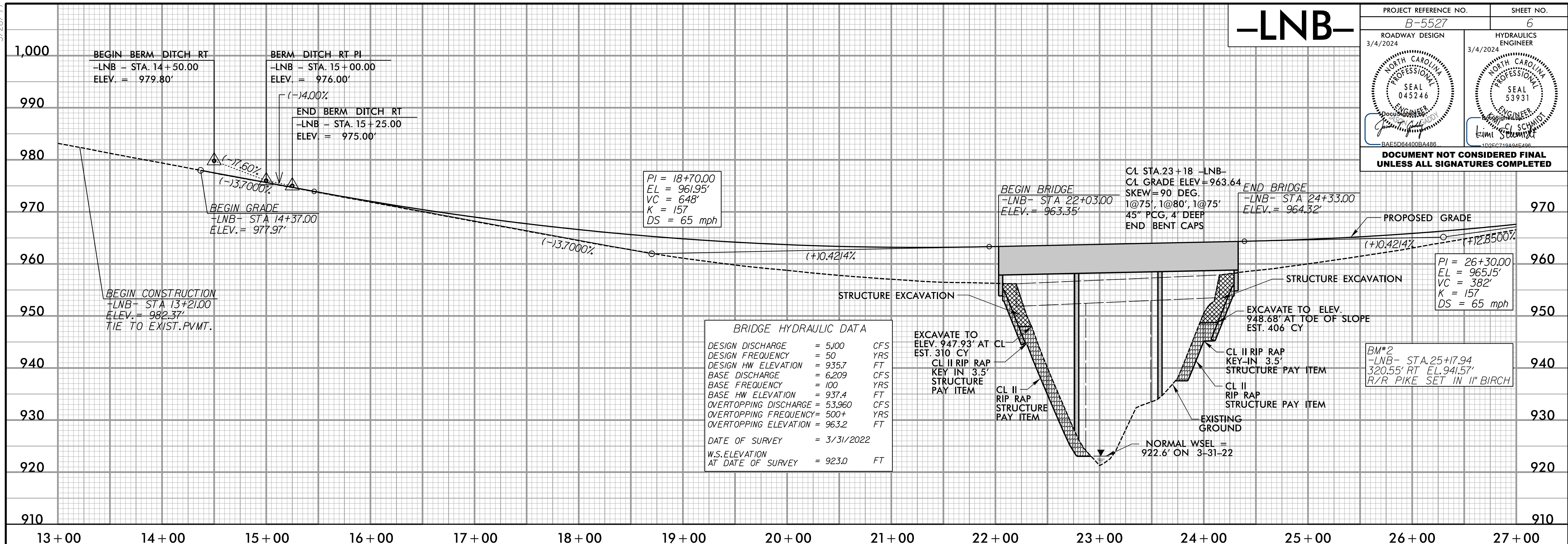
-LNB-
 PI Sta 33+37.36
 $\Delta = 19^{\circ} 06' 55.7''$ (LT)
 D = 1' 54' 35.5"
 L = 1,000.88'
 T = 505.14'
 R = 3,000.00'
 e = VARIES
 Ro = EXIST.

3/13/2024 X:\Projects\114-783-0050 - B-5527 CE Update\05-CAD\B5527\Roadway\Proj\B5527_Rd.dwg, psh, 05.dgn

5/28/24

-LNB-

PROJECT REFERENCE NO. B-5527	SHEET NO. 6
ROADWAY DESIGN 3/4/2024	HYDRAULICS ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

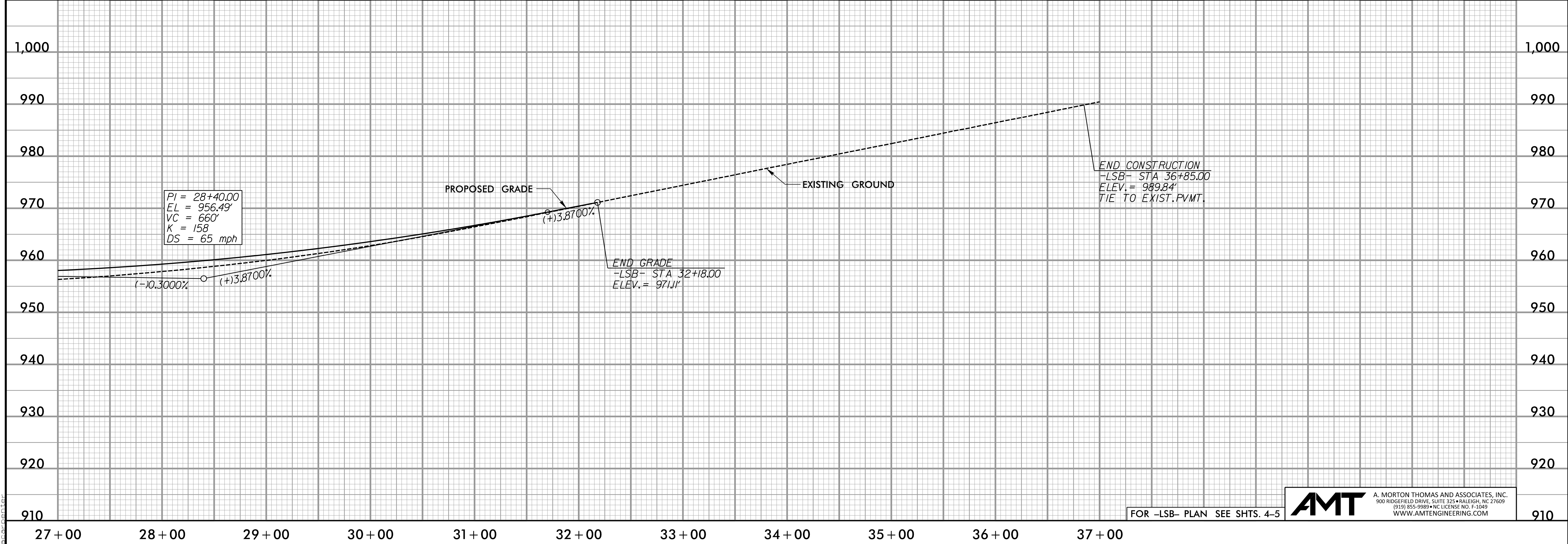
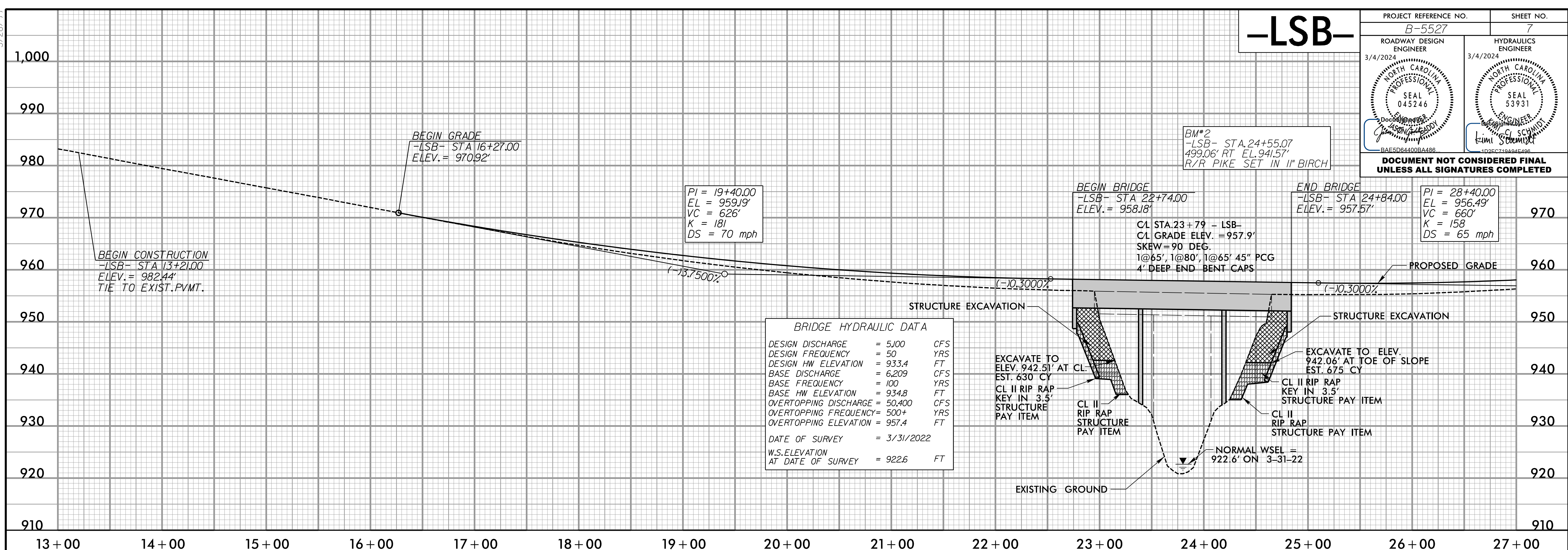


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5/28/24

-LSB-

PROJECT REFERENCE NO. B-5527	SHEET NO. 7
ROADWAY DESIGN ENGINEER 3/4/2024	HYDRAULICS ENGINEER 3/4/2024
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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