

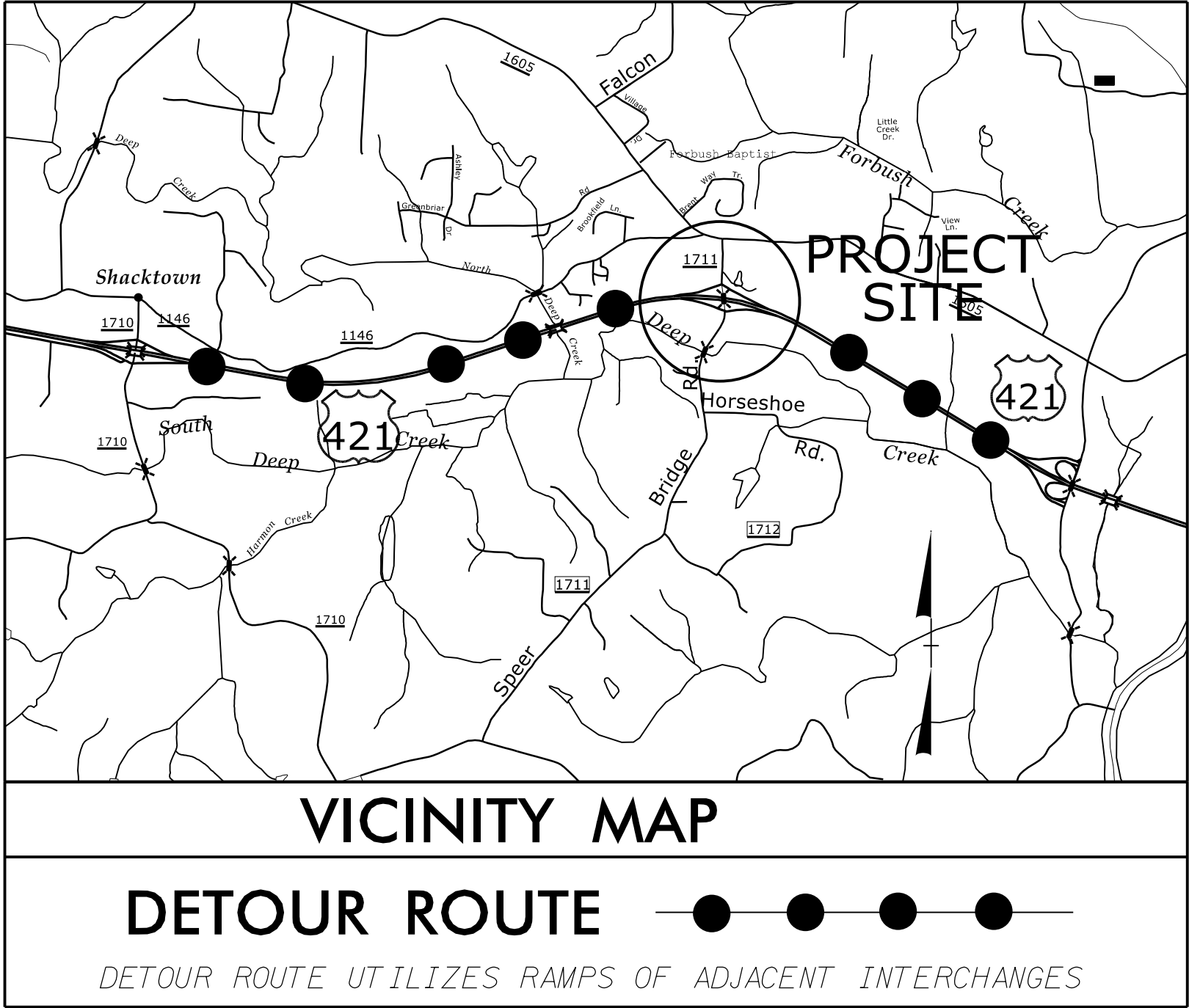
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tcloud

09/08/25

TIP PROJECT: HN-0028

CONTRACT: DK00442

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



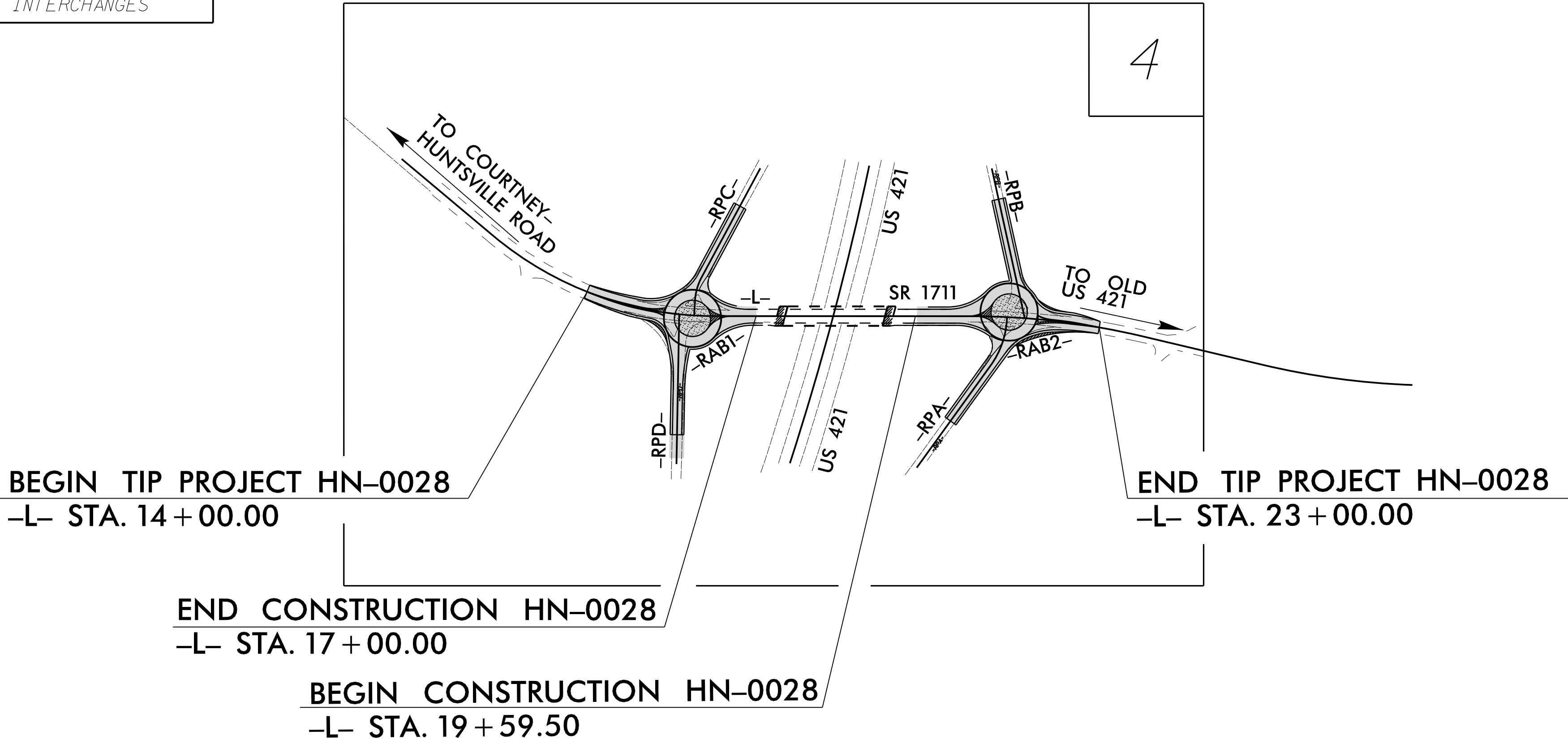
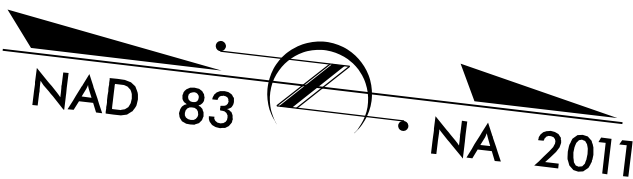
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

YADKIN COUNTY

LOCATION: ROUNDABOUTS ON SR 1711 (SPEER BRIDGE ROAD)
AT US 421 INTERCHANGE

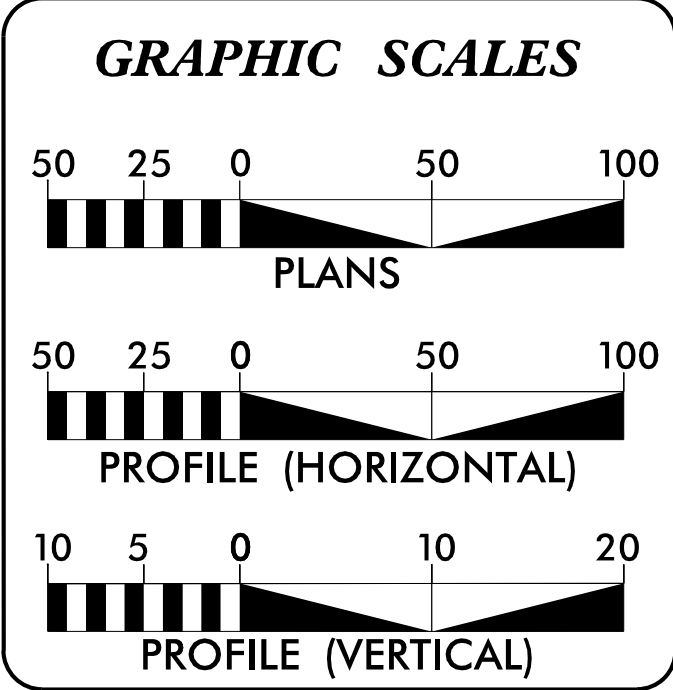
TYPE OF WORK: GRADING, PAVING AND DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0028	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
51458.1.1		PE	
51458.2.1		R /W	
51458.2.2		UTILITIES	
51458.3.1		CONSTR	



NOTES:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS IS A FULL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

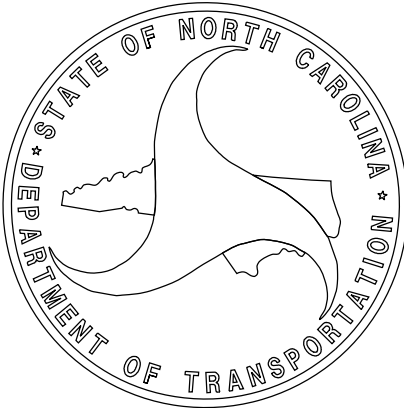


DESIGN DATA	
ADT 2025 =	3,263
ADT 2045 =	3,445
K =	10 %
D =	65 %
T =	3 % *
V =	NA
* TTST =	1% DUAL 2%
FUNC CLASS =	
MINOR COLLECTOR	
SUBREGIONAL TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT =	0.121 MILES
LENGTH STRUCTURES TIP PROJECT =	NA
TOTAL LENGTH TIP PROJECT =	0.121 MILES

Prepared In the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610	
2024 STANDARD SPECIFICATIONS	RAMIE A SHAW, PE PROJECT MANAGER
RIGHT OF WAY DATE: JULY 18, 2024	
LETTING DATE: JUNE 19, 2025	SHERRI E. CALHOUN, PE PROJECT TEAM LEAD

HYDRAULICS ENGINEER	
DocuSigned by: Cory Cavalier AD3380A477DF4B1 SIGNATURE:	P.E. 05/07/2025
ROADWAY DESIGN ENGINEER	
DocuSigned by: Sherri Calhoun 421927AD87EAC3 SIGNATURE:	P.E. 05/07/2025



8/17/99

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	ROUNDAABOUT DETAILS
2B-2	ROUNDAABOUT TRUCK APPRON DETAIL
3B-1	SUMMARY OF ROADWAY QUANTITIES
3D-1	DRAINAGE SUMMARY
4	PLAN SHEET
5 THRU 6	PROFILE SHEETS
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-5	SIGNING PLANS
X-1	CROSS-SECTION INDEX SHEET
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-34	CROSS-SECTIONS

STANDARD DRAWINGS

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
DIVISION 2 – EARTHWORK	
200.03	Method of Clearing – Method III
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 6 – ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 – INCIDENTALS	
840.20	Frame and Wide Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet for Cast Iron Double Frame and Grates
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

EFF. 01-16-2024
REV.

GENERAL NOTES

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 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

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.

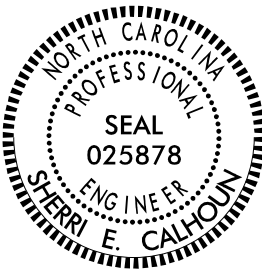
UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY DISTRIBUTION (DED),
SURRY-YADKIN EMC DISTRIBUTION (SYEMC), YADTEL (YAD), SPECTRUM/CHARTER/TWC
(CHAR).

PROJECT REFERENCE NO.
HN-0028

SHEET NO.
1A

ROADWAY DESIGN
ENGINEER



DocuSigned by:
Shari Callahan
4121627ADB164C3

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
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	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

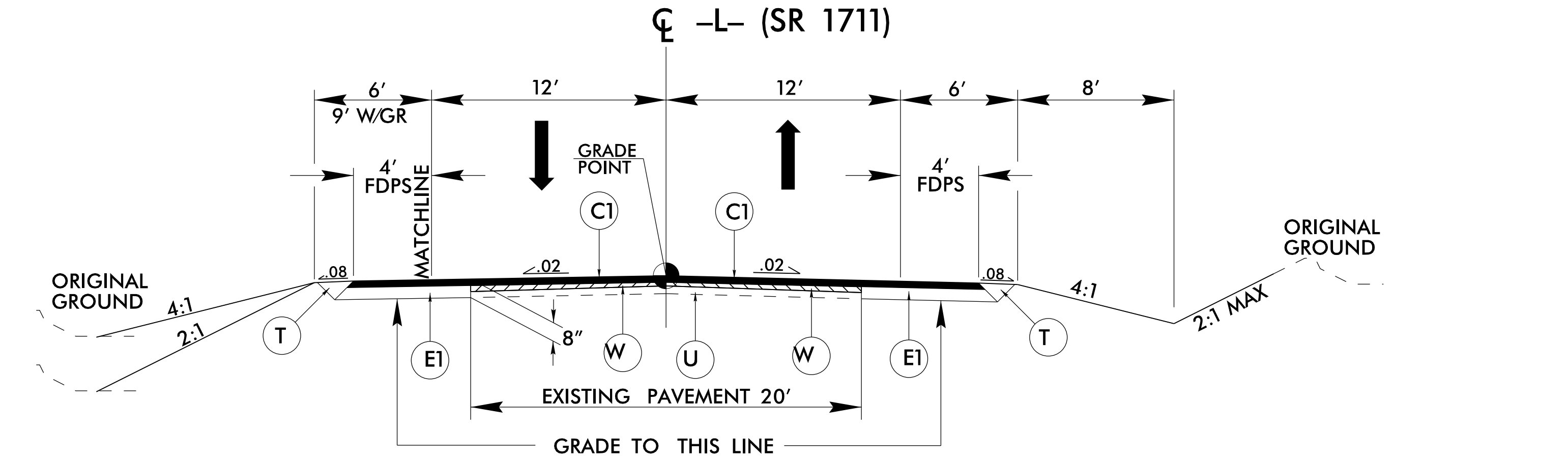
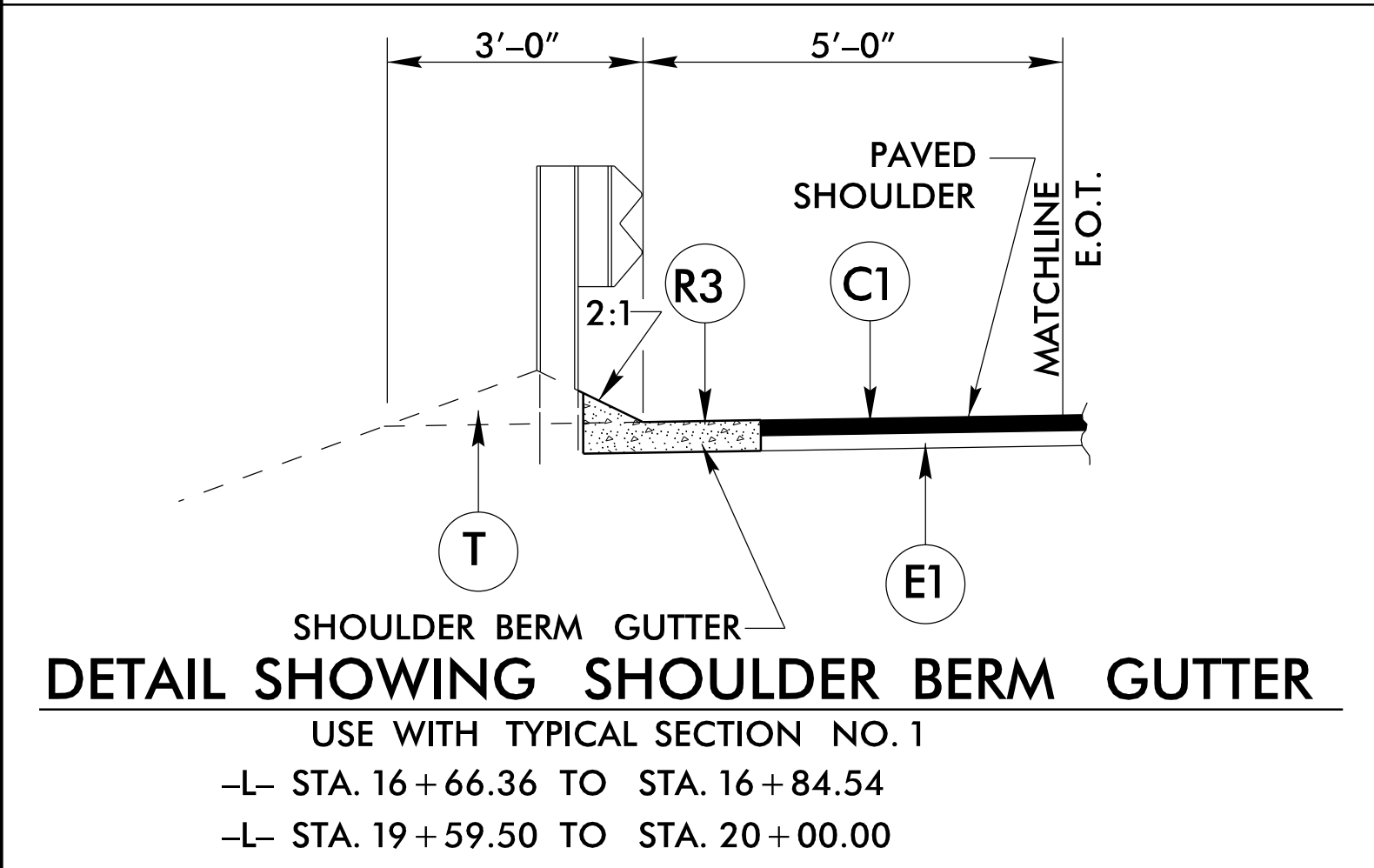
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent 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:	

6/2/99
05 MAY 2025 14:49
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1:cloud

FINAL PAVEMENT SCHEDULE	
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	
C1	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.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E3	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 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	10" JOINTED CONCRETE TRUCK APRON
R2	3" ROLLED CONCRETE CURB
R3	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)



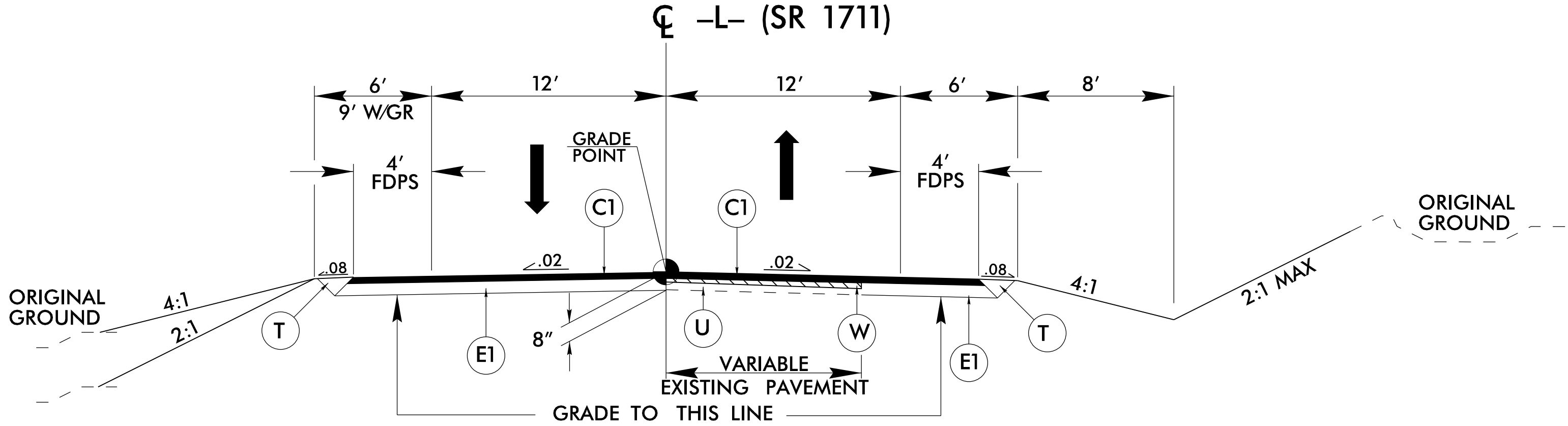
TYPICAL SECTION NO. 1

-L- STA. 14+00.00 TO STA. 15+40.07

-L- STA. 16+39.17 TO STA. 17+00.00

-L- STA. 19+59.50 TO STA. 20+50.00

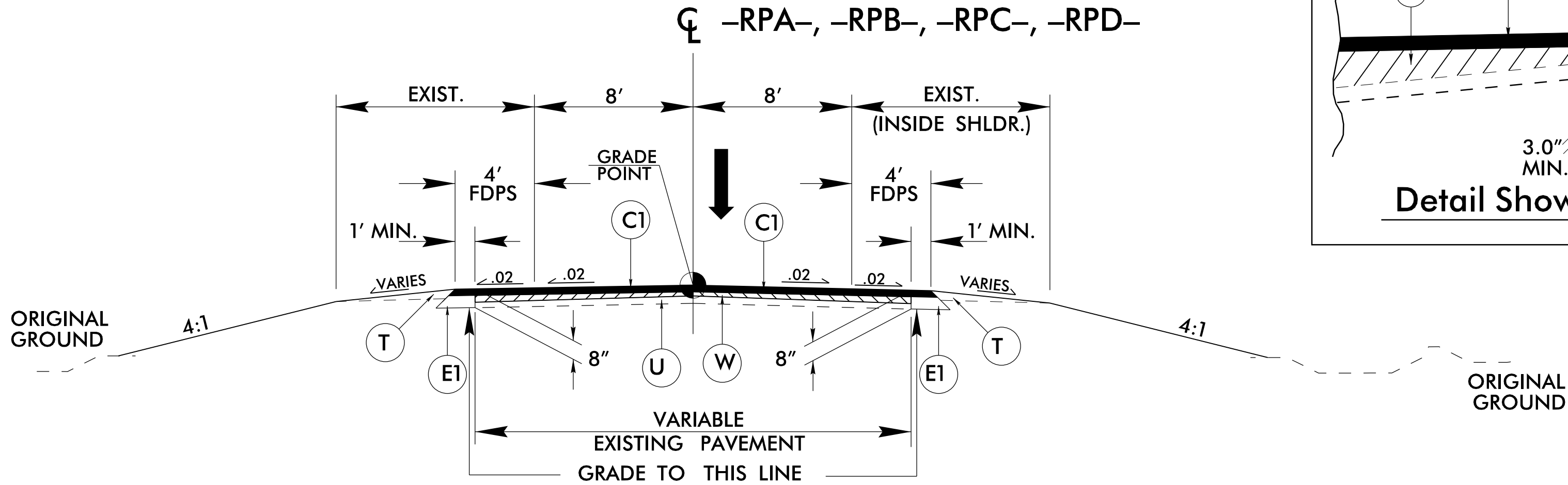
-L- STA. 22+50.00 TO STA. 23+00.00



TYPICAL SECTION NO. 2

-L- STA. 20+50.00 TO STA. 20+92.21

-L- STA. 21+90.24 TO STA. 22+50.00



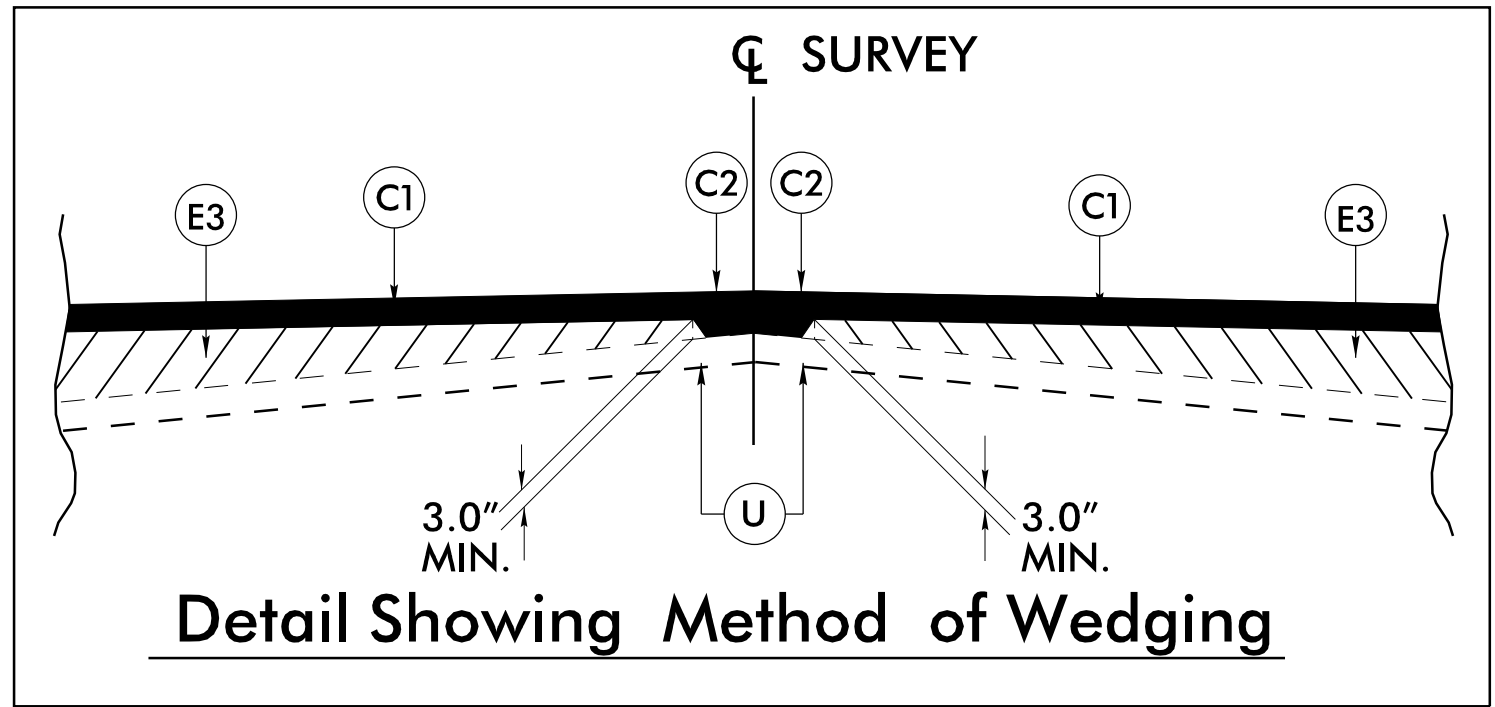
TYPICAL SECTION NO. 3

-RPA- STA. 10+40.74 TO STA. 11+70.00

-RPB- STA. 10+55.00 TO STA. 12+07.34

-RPC- STA. 10+75.00 TO STA. 11+27.00

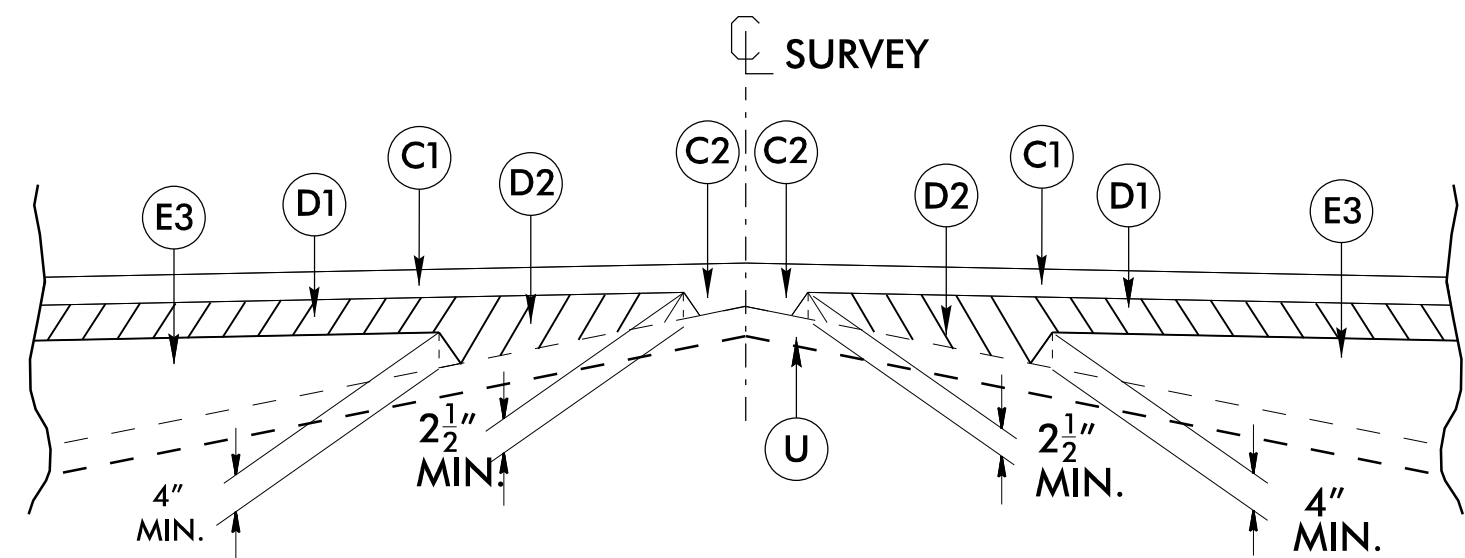
-RPD- STA. 11+85.00 TO STA. 12+50.00



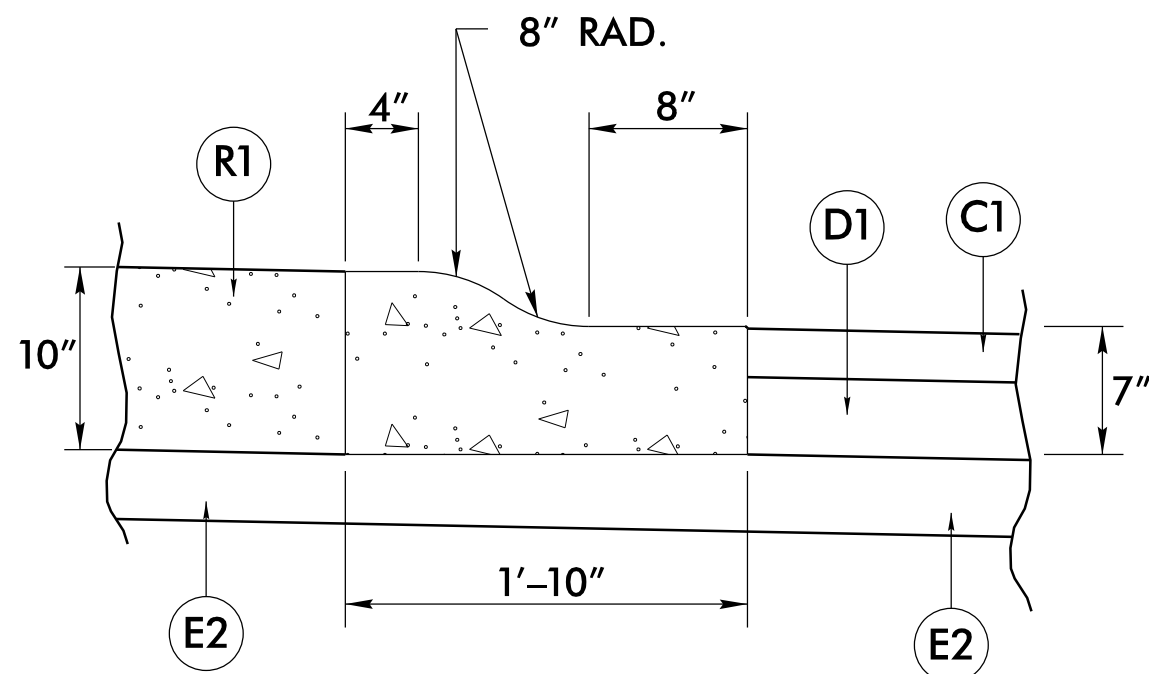
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

6/2/99

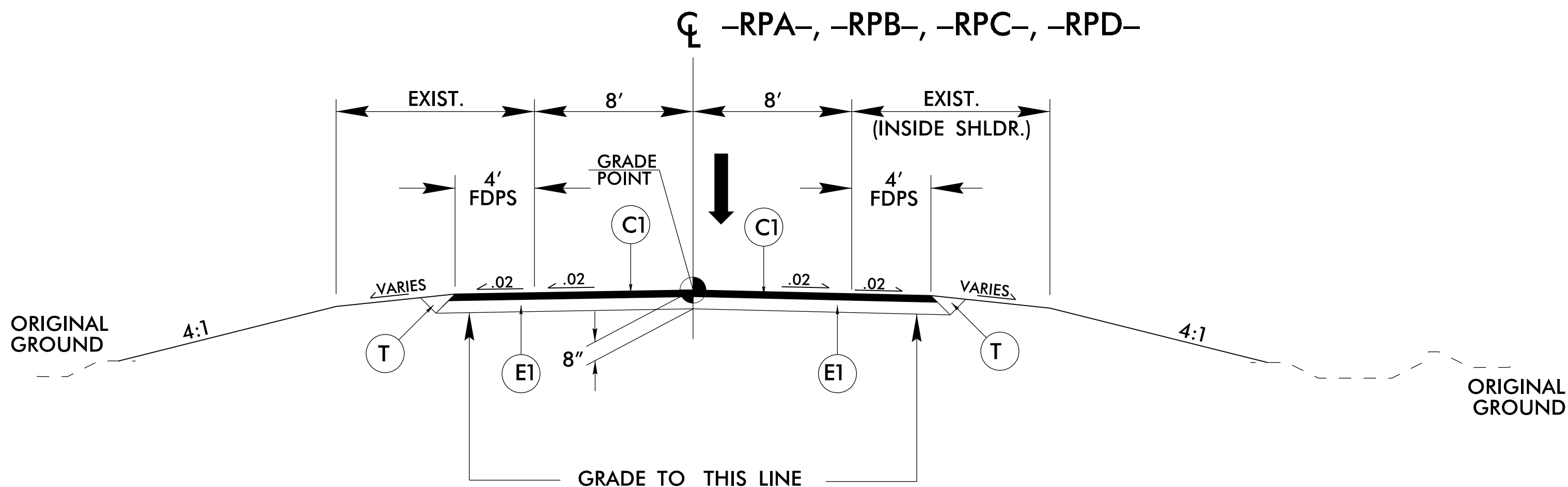
PAVEMENT SCHEDULE	
C1	3.0" S9.5B
C2	VAR. S9.5B
D1	4" I19.0C
D2	VAR. I19.0C
E1	5" B25.0C
E2	4" B25.0C
E3	VAR. B25.0C
R1	10" CONCRETE
R2	3" ROLLED CURB
R3	SBG
T	EARTH MATERIAL
U	EX. PAVEMENT
V	MILLING
W	WEDGING



DETAIL SHOWING METHOD OF WEDGING

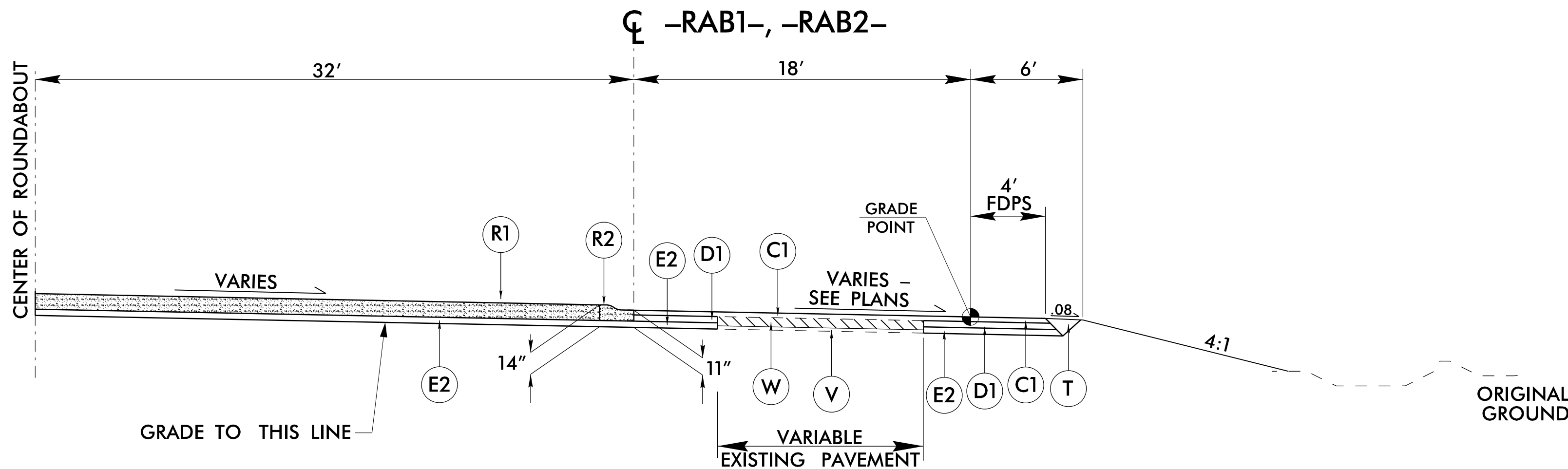


DETAIL SHOWING
3" ROLLED CONCRETE CURB
ROUNDBOUT TRUCK APRON



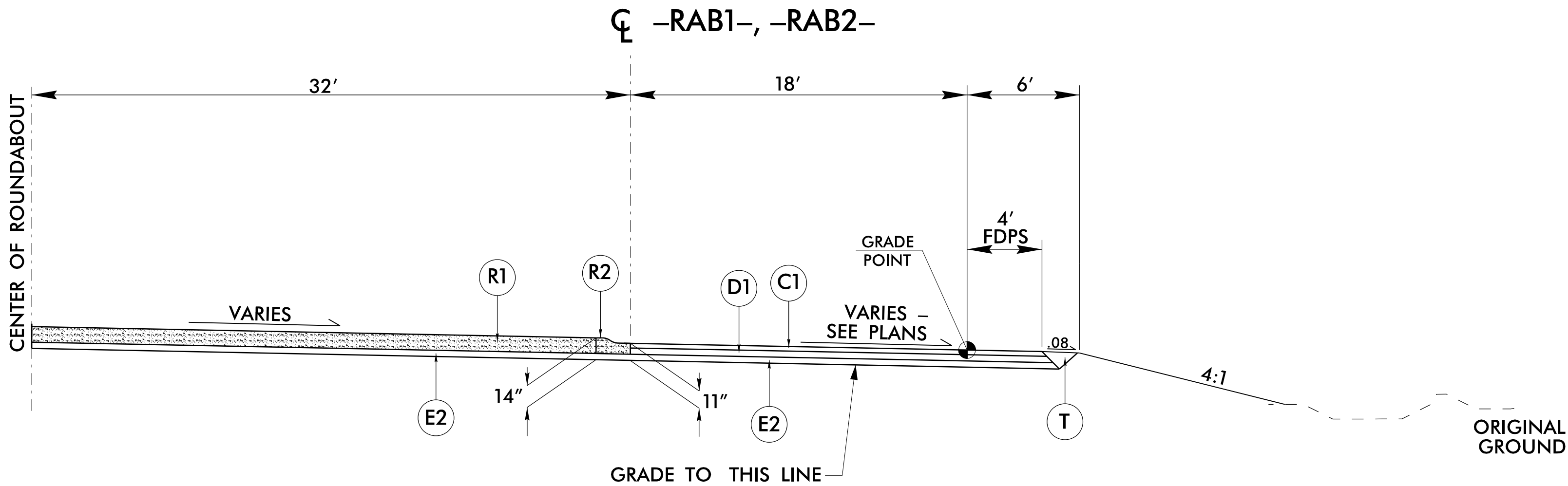
TYPICAL SECTION NO. 4

-RPA- STA. 11+70.00 TO STA. 12+10.00
-RPC- STA. 11+27.00 TO STA. 12+39.84
-RPD- STA. 10+50.76 TO STA. 11+85.00



TYPICAL SECTION NO. 5

-RAB1- STA. 10+00.00 TO STA. 11+20.00
-RAB1- STA. 12+20.00 TO STA. 12+80.00
-RAB2- STA. 10+00.00 TO STA. 10+40.00
-RAB2- STA. 10+60.00 TO STA. 11+20.00
-RAB2- STA. 12+20.00 TO STA. 13+14.01



TYPICAL SECTION NO. 6

-RAB1- STA. 11+20.00 TO STA. 12+20.00
-RAB1- STA. 12+80.00 TO STA. 13+13.94
-RAB2- STA. 10+40.00 TO STA. 10+60.00
-RAB2- STA. 11+20.00 TO STA. 12+20.00

PROJECT REFERENCE NO.		SHEET NO.	
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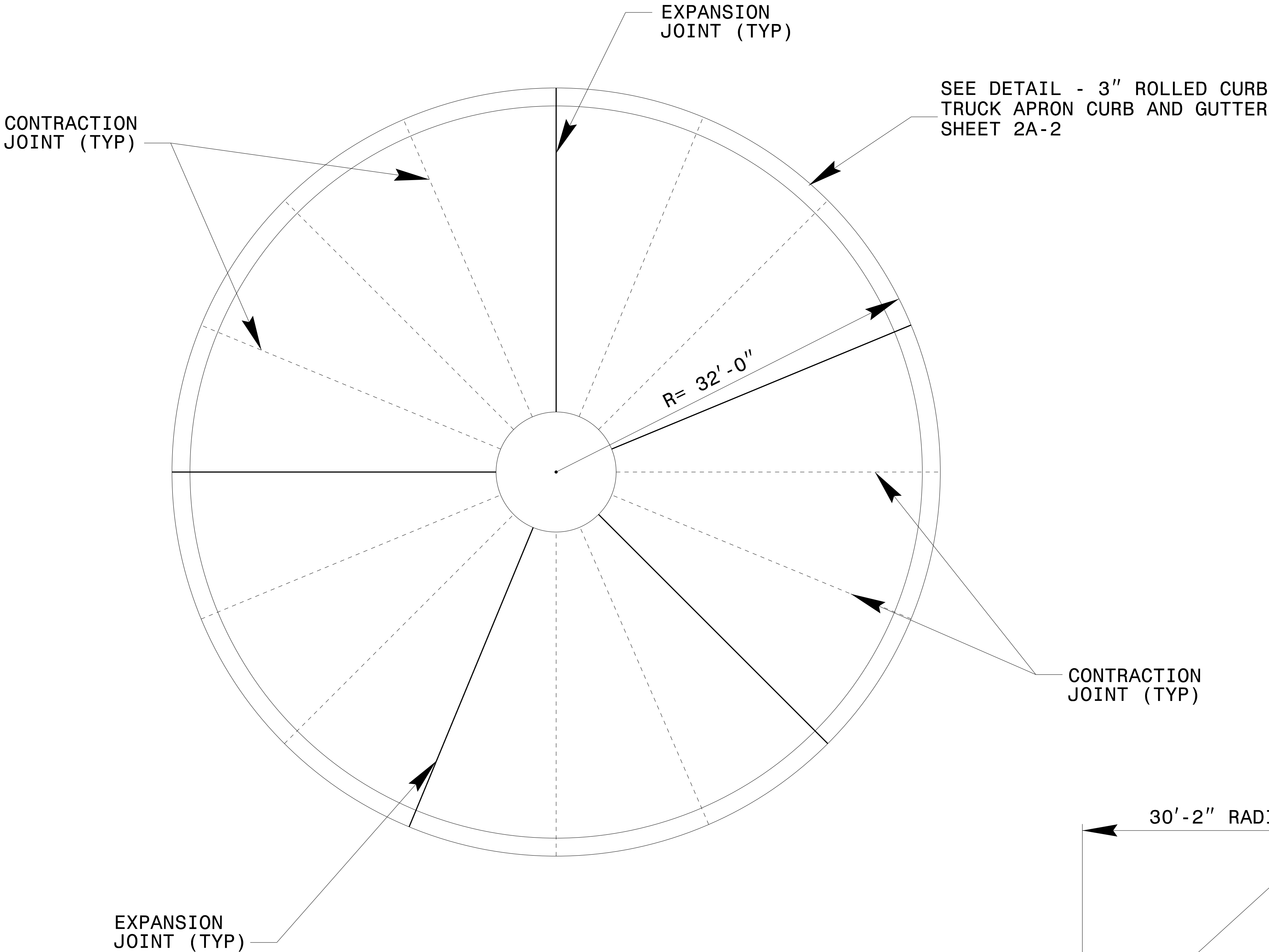
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REVISIONS

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asclaud

ROUNDAABOUT TRUCK APRON



SEE DETAIL - 3" ROLLED CURB
TRUCK APRON CURB AND GUTTER
SHEET 2A-2

PLACE CONTRACTION AND EXPANSION
JOINTS AS DIRECTED BY THE ENGINEER.

LEGEND

R1	10" JOINTED CONCRETE TRUCK APRON
E2	4" B25.0C

6X6-W5XW5 WELDED WIRE
FABRIC CENTERED IN SLAB
OR FIBER REINFORCEMENT

30'-2" RADIUS

SEE DETAIL - 3" ROLLED CURB
TRUCK APRON CURB AND GUTTER
SHEET 2A-2

FOR ROUNDAABOUT PAVEMENT
DESIGN SEE SHEET 2A-2

R1

E2

PROJECT REFERENCE NO. <i>HN-0028</i>	SHEET NO. <i>2B-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER  DocuSign <i>Sherri Calhoun</i> 05/07/2025	HYDRAULICS ENGINEER  DocuSign <i>Ramie Shaw</i> 05/07/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

COMPUTED BY: LC DATE: 3/26/2025 CHECKED BY: FH 3/26/2025										PROJECT NO. HN-0028					SHEET NO. 3B-1														
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS																													
SUMMARY OF EARTHWORK																													
CUBIC YARDS																													
Station to Station		Uncl. Exc. C.Y.	Embank. +% C.Y.	Borrow C.Y.	Waste C.Y.																								
SUMMARY NO. 1																													
-L- 14+00.00 TO 15+40.07		2	136	134																									
-L- 16+39.17 TO 17+00.00		7	358	351																									
-L- 19+59.50 TO 20+92.21		30	877	847																									
-L- 21+90.24 TO 23+00.00		42	66	24																									
SUMMARY NO. 1 TOTALS		81	1,437	1,356																									
SUMMARY NO. 2																													
-RPA- 10+40.74 TO 12+10.00			488	488																									
-RPB- 10+55.00 TO 12+07.34			47	47																									
-RPC- 10+75.00 TO 12+39.84			238	238																									
-RPD- 10+50.76 TO 12+10.00			1,710	1,710																									
SUMMARY NO. 2 TOTALS			2,482	2,482																									

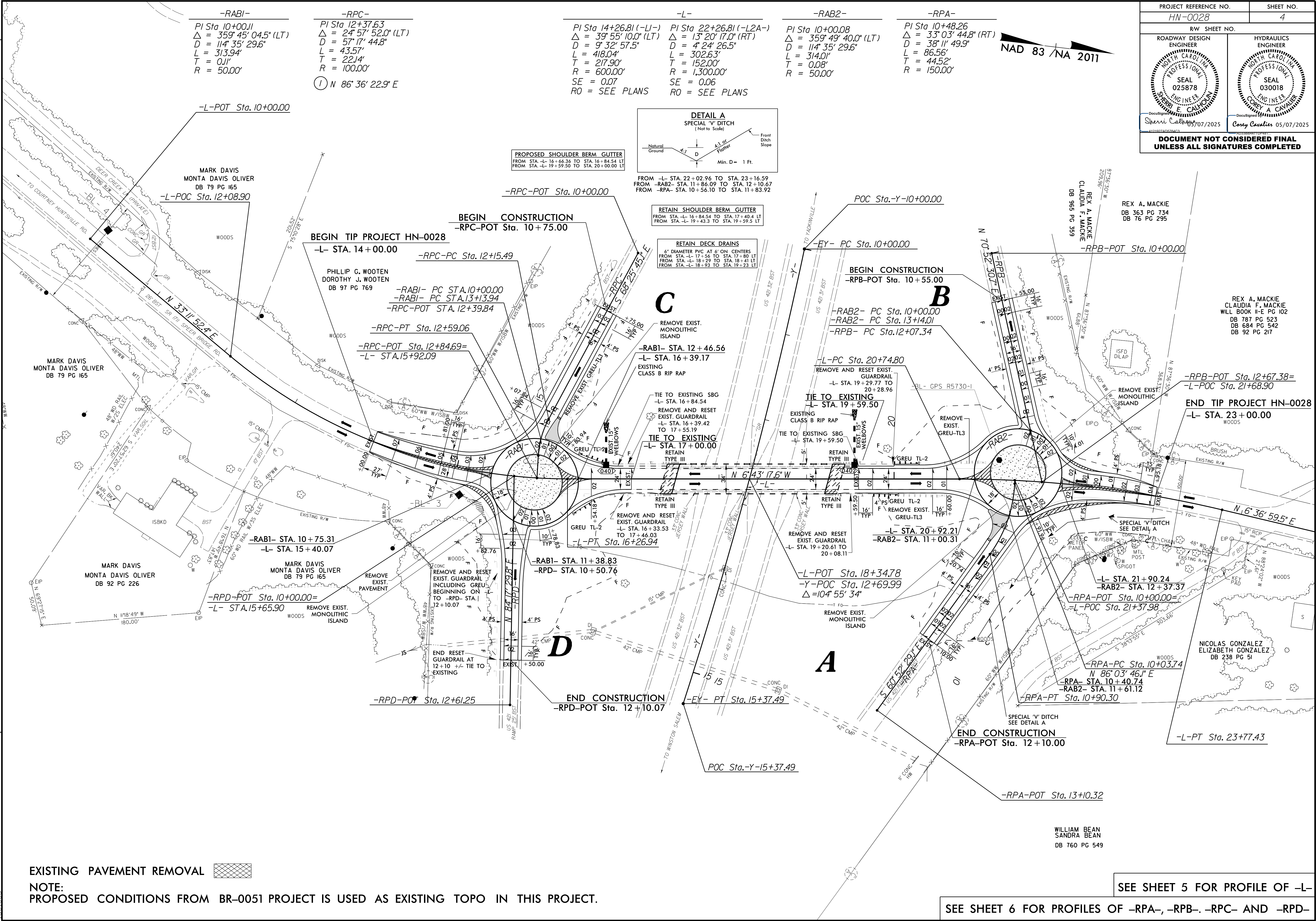
PROJECT REFERENCE NO.
HN-0028

RW SHEET NO.
4

ROADWAY DESIGN
ENGINEER
SEAL
025878
SHERRI E. CALHOUN
05/07/2025

HYDRAULICS
ENGINEER
SEAL
030018
COREY A. CAVALLIERE
05/07/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



EXISTING PAVEMENT REMOVAL

NOTE:
PROPOSED CONDITIONS FROM BR-0051 PROJECT IS USED AS EXISTING TOPO IN THIS PROJECT.

SEE SHEET 5 FOR PROFILE OF -L-

SEE SHEET 6 FOR PROFILES OF -RPA-, -RPB-, -RPC- AND -RPD-

REVISIONS

8/17/99

06-MAY-2025 09:39
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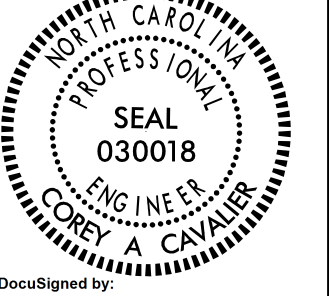
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PROJECT REFERENCE NO.
HN-0028

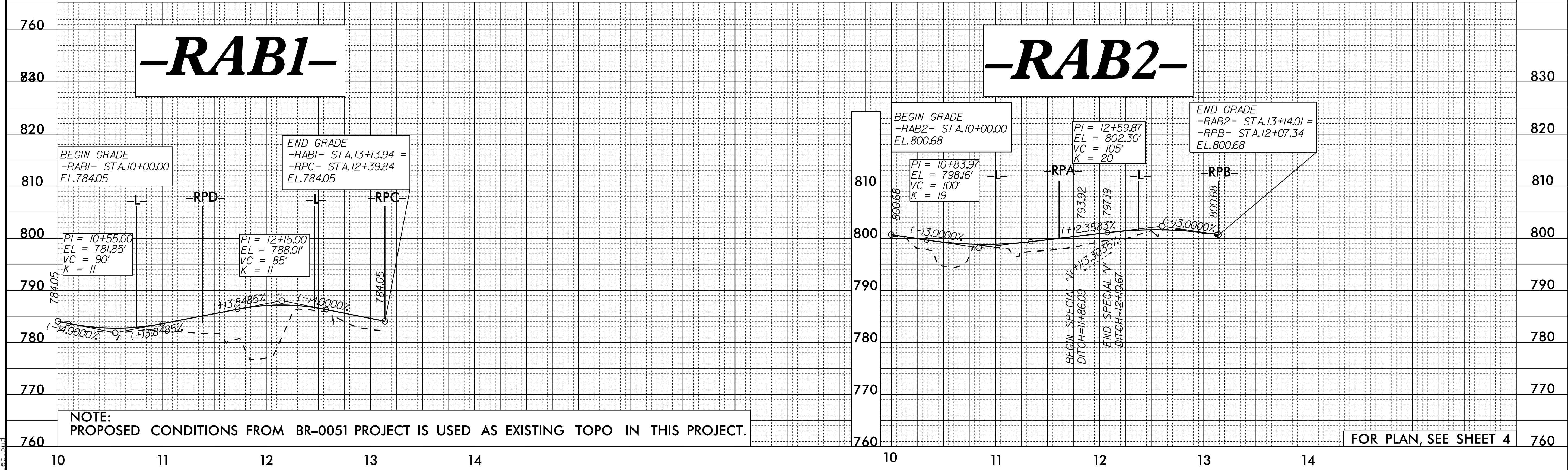
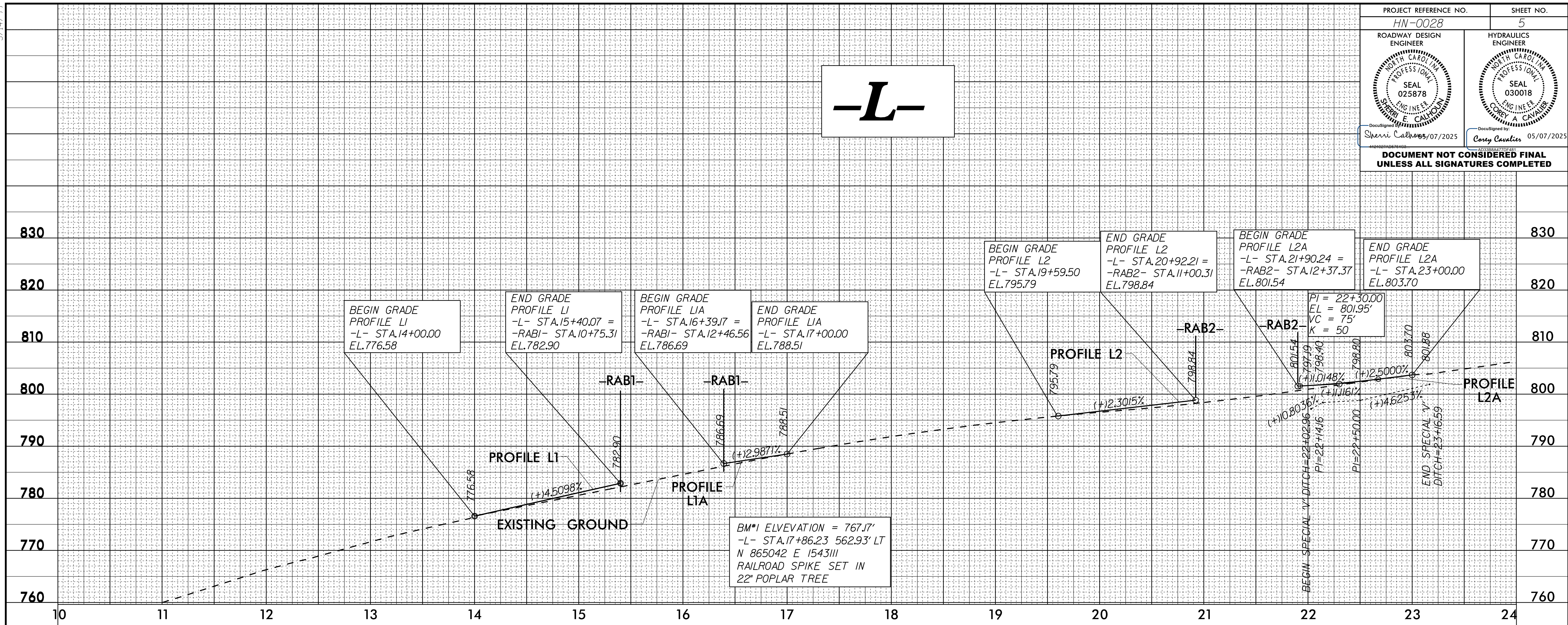
SHEET NO.
5

ROADWAY DESIGN
ENGINEER

Sherrill Calhoun
05/07/2025

HYDRAULICS
ENGINEER

Cory Cavalier
05/07/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

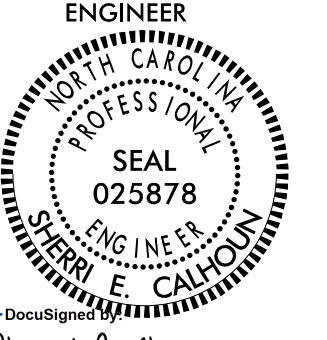
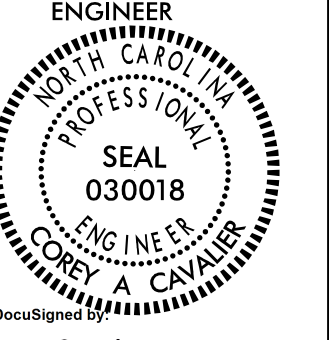


NOTE:
PROPOSED CONDITIONS FROM BR-0051 PROJECT IS USED AS EXISTING TOPO IN THIS PROJECT.

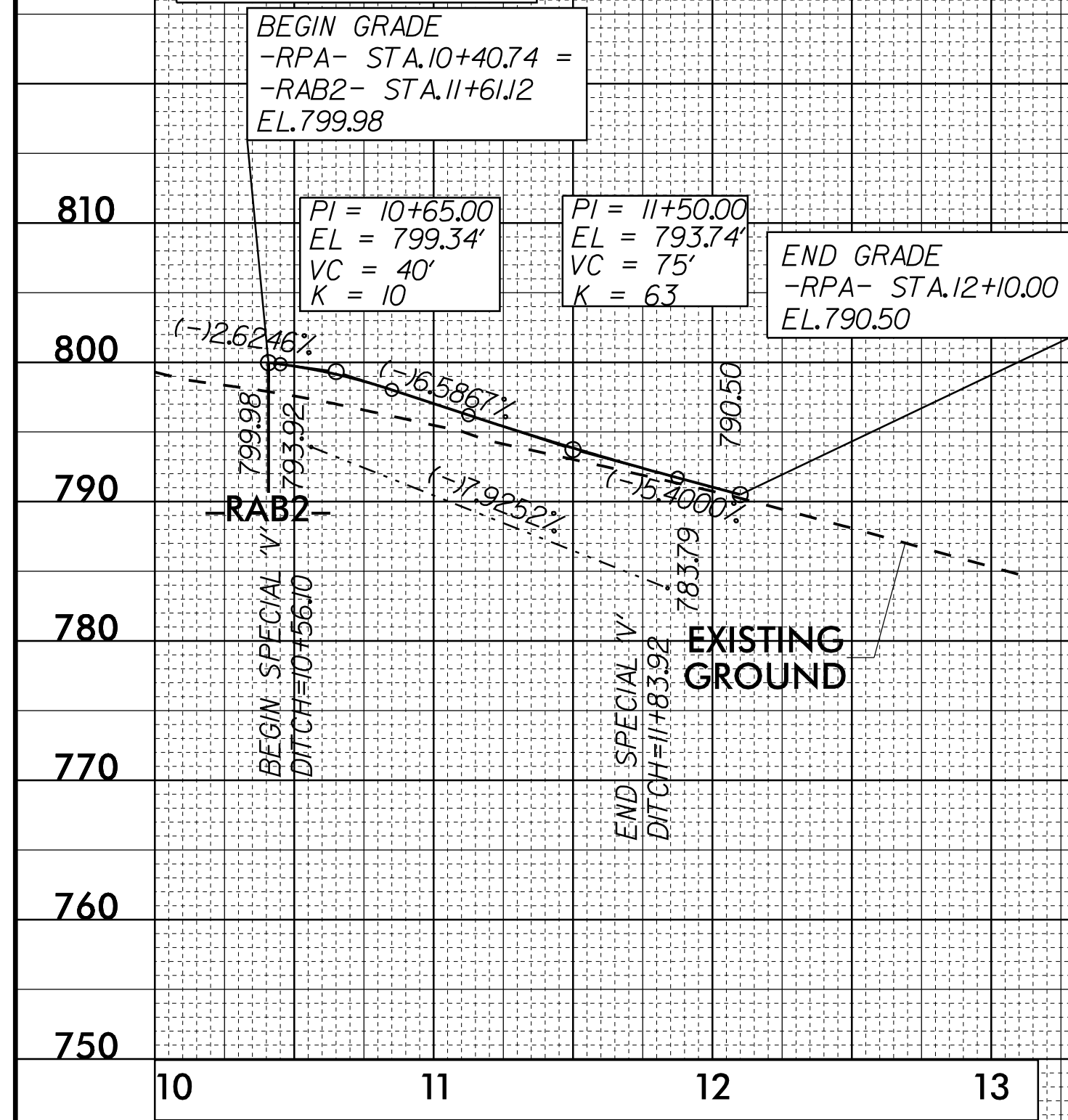
FOR PLAN, SEE SHEET 4

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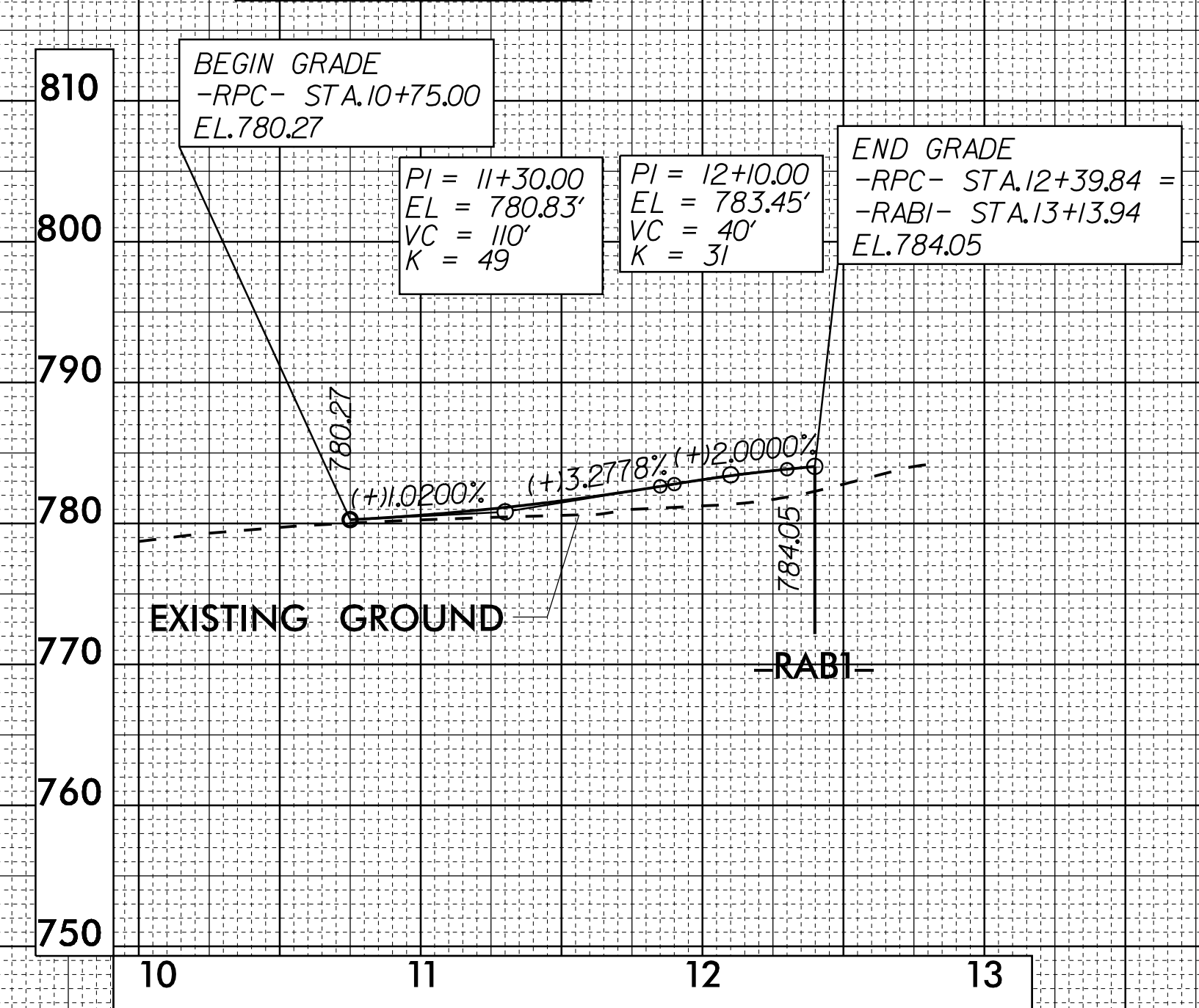
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PROJECT REFERENCE NO. <i>HN-0028</i>		SHEET NO. <i>6</i>
ROADWAY DESIGN ENGINEER  DocuSigned by <i>Sherri C. Cavalieri</i> 05/07/2025	HYDRAULICS ENGINEER  DocuSigned by <i>Corey Cavalieri</i> 05/07/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

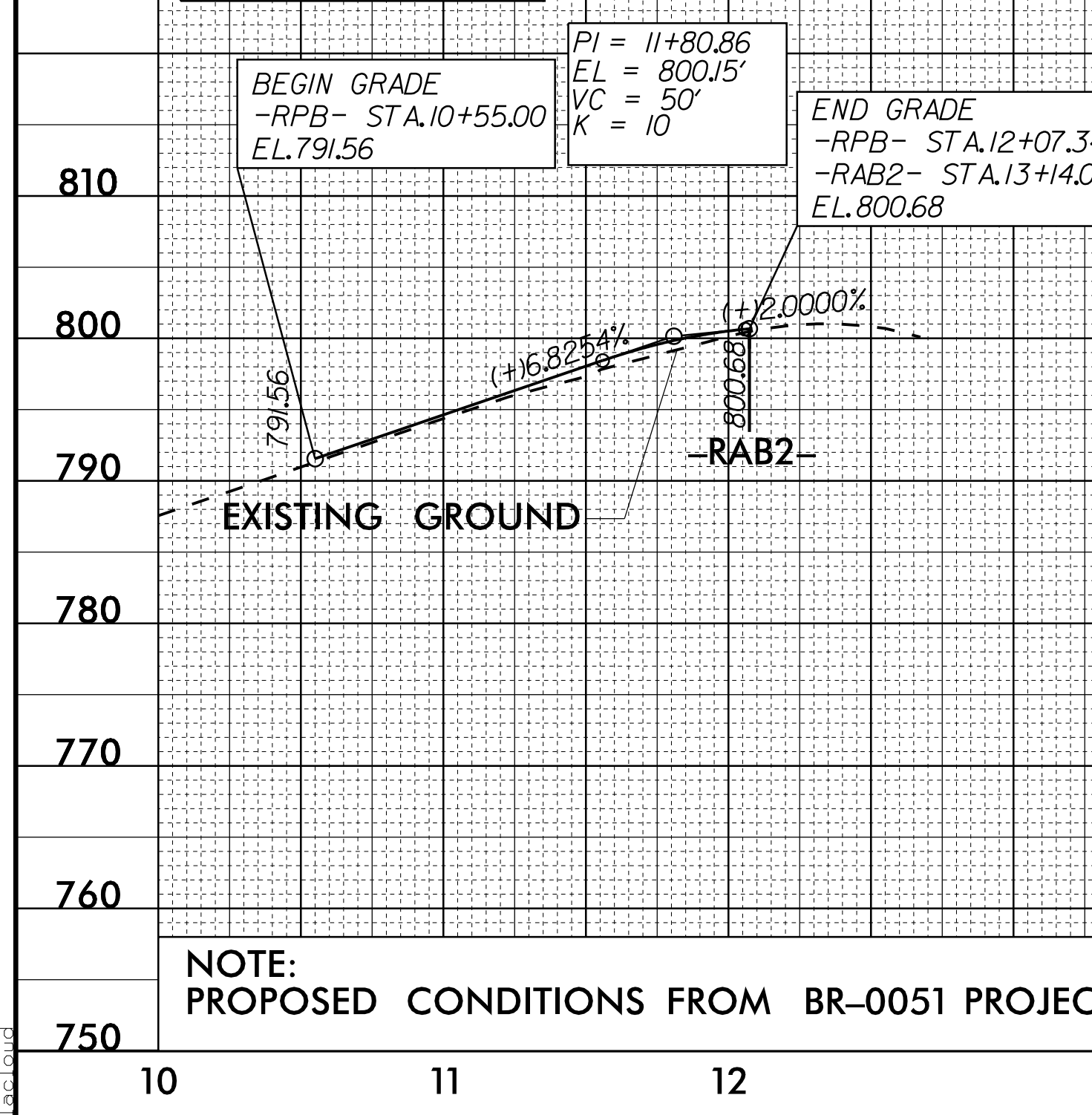
RPA



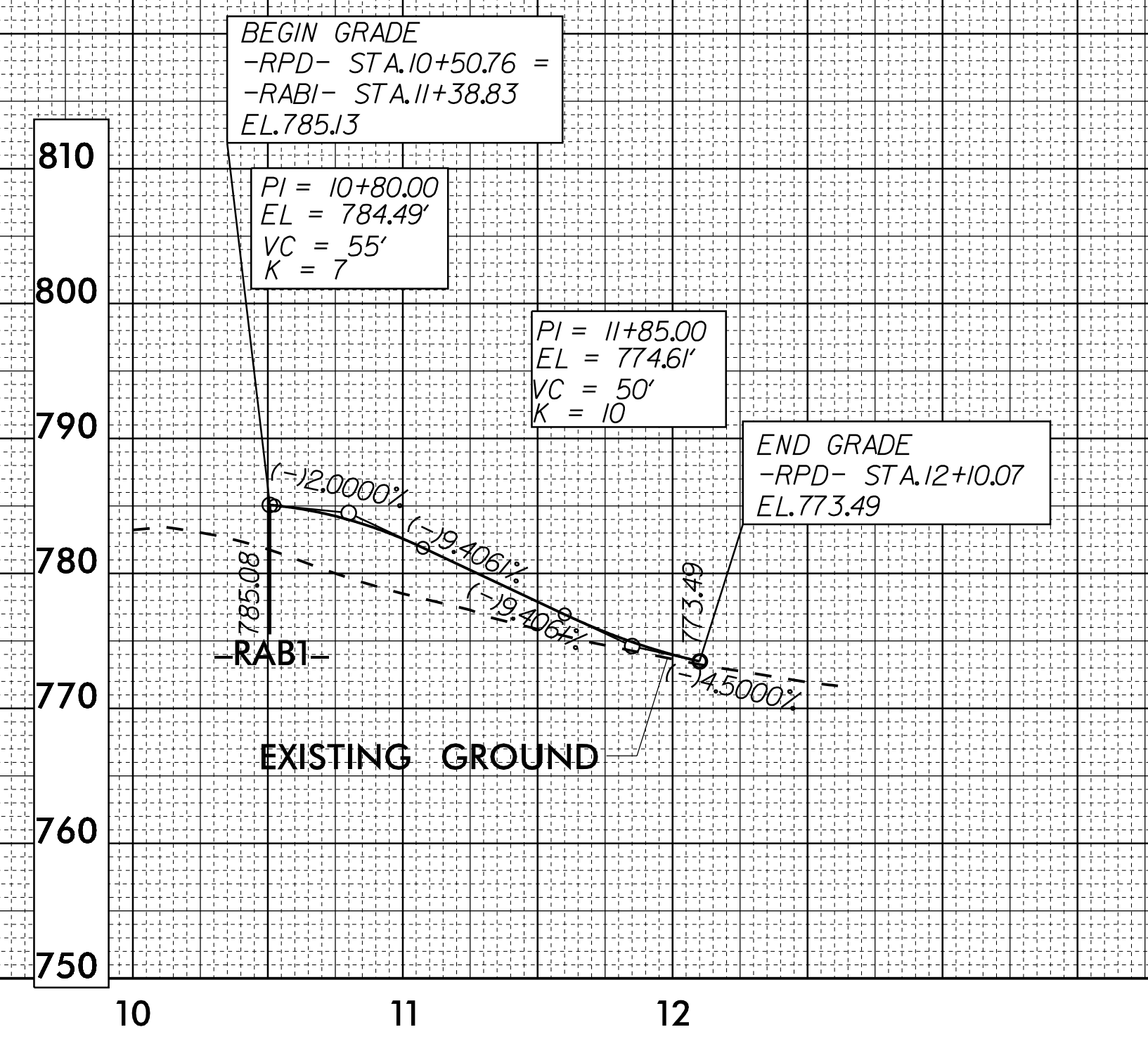
RPC



RPB



RPD



NOTE:
PROPOSED CONDITIONS FROM BR-0051 PROJECT IS USED AS EXISTING TOPO IN THIS PROJECT.

FOR PLAN, SEE SHEET 4

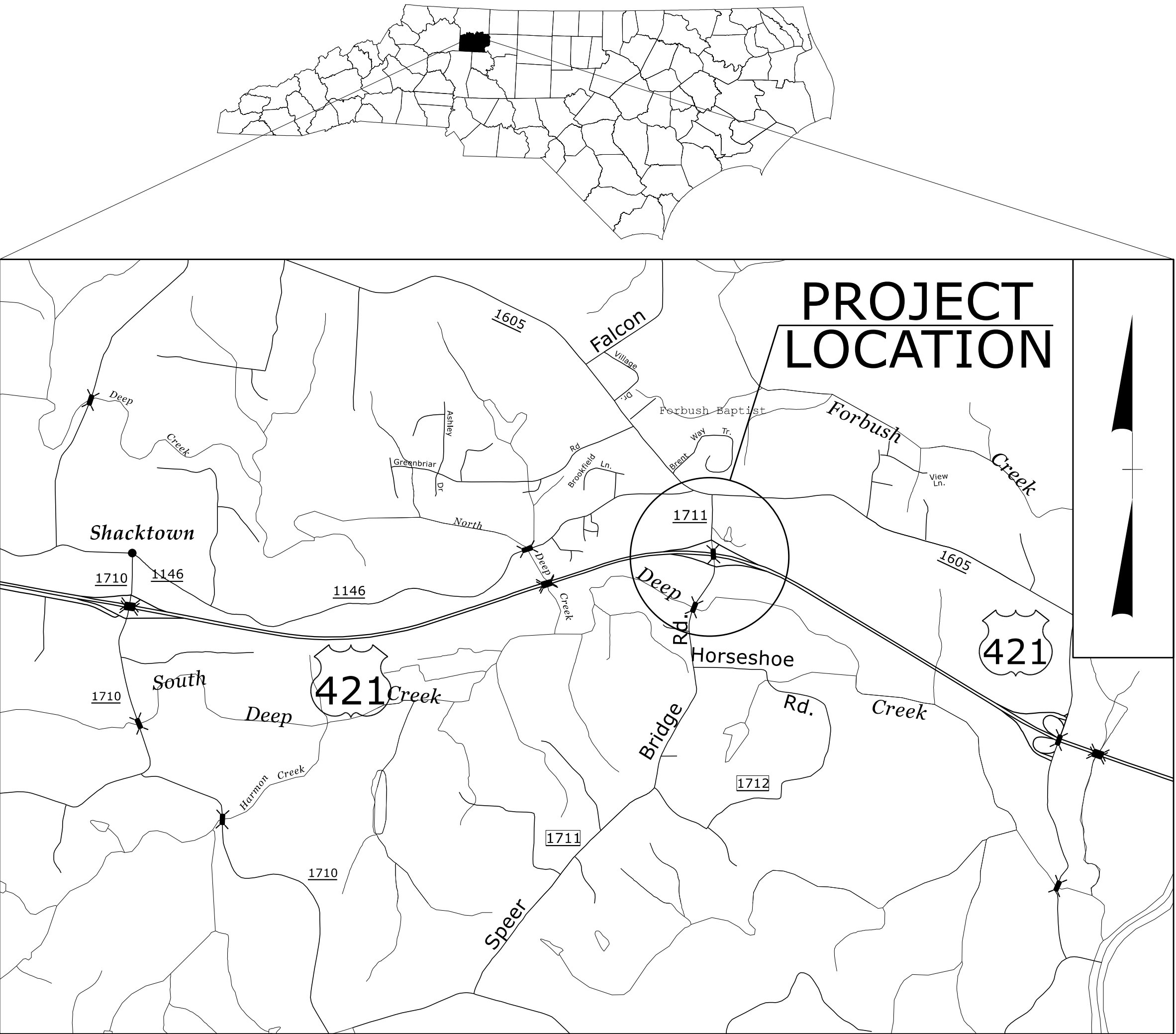
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

YADKIN COUNTY

LOCATION: ROUNDABOUTS ON SR 1711 (SPEER BRIDGE ROAD)
AT US 421 INTERCHANGE

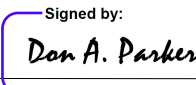


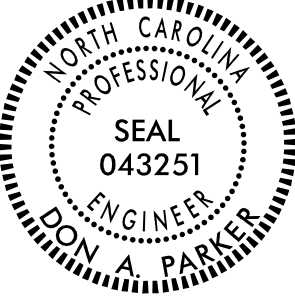
VICINITY MAP

INDEX OF SHEETS

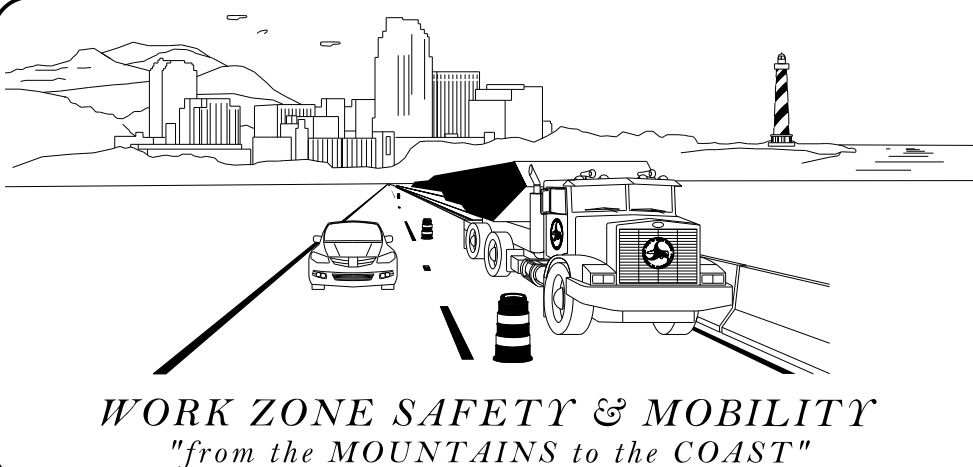
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, AND GENERAL NOTES)
TMP-2	SIGN DESIGN
TMP-2A	-RAB1- DETOUR
TMP-2B	-RAB2- DETOUR
TMP-2C	DETOUR SIGNING KEY
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

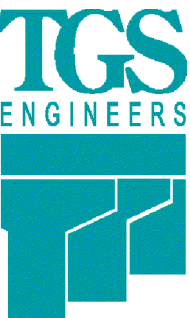
APPROVED:  Don A. Parker
DATE: 5/14/2025



TIP PROJECT: HN-0028



PLANS PREPARED FOR N.C.D.O.T. BY: TGS ENGINEERS



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.
PROJECT ENGINEER
CODA BRANNAN, E.I.
DESIGN ENGINEER



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

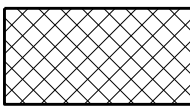
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

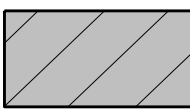
LEGEND

GENERAL

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

 WORK AREA

 REMOVAL

 WEDGING

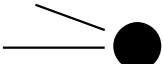
SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

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

APPROVED:

PROJ. REFERENCE NO.	SHEET NO.
HN-0028	TMP-1B
TGS ENGINEERS TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

GENERAL NOTES

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 UNDESIRED 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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.
- D) 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.
- E) 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

- F) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- H) 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.

- I) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- J) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

- L) 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.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
SPEER BRIDGE RD.	PAINT	NONE

- O) 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.

- P) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

- Q) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

FULL ROADWAY CLOSURES
ONE-LANE, TWO WAY OPERATION (FLAGGING)
RAMP CLOSURES / RELOCATION
OFF-SITE DETOURS / USE OF ALTERNATIVE

PROJ. REFERENCE NO.	SHEET NO.
HN-0028	TMP-2B
TGS ENGINEERS TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

MESSAGE NO. 1	MESSAGE NO. 2
SPR BRDG RD CLSD 3 MILES	DETOUR EXIT 249

CHANGEABLE MESSAGE SIGN

①

MESSAGE NO. 1	MESSAGE NO. 2
SPR BRDG ROAD CLOSED	DETOUR THIS EXIT

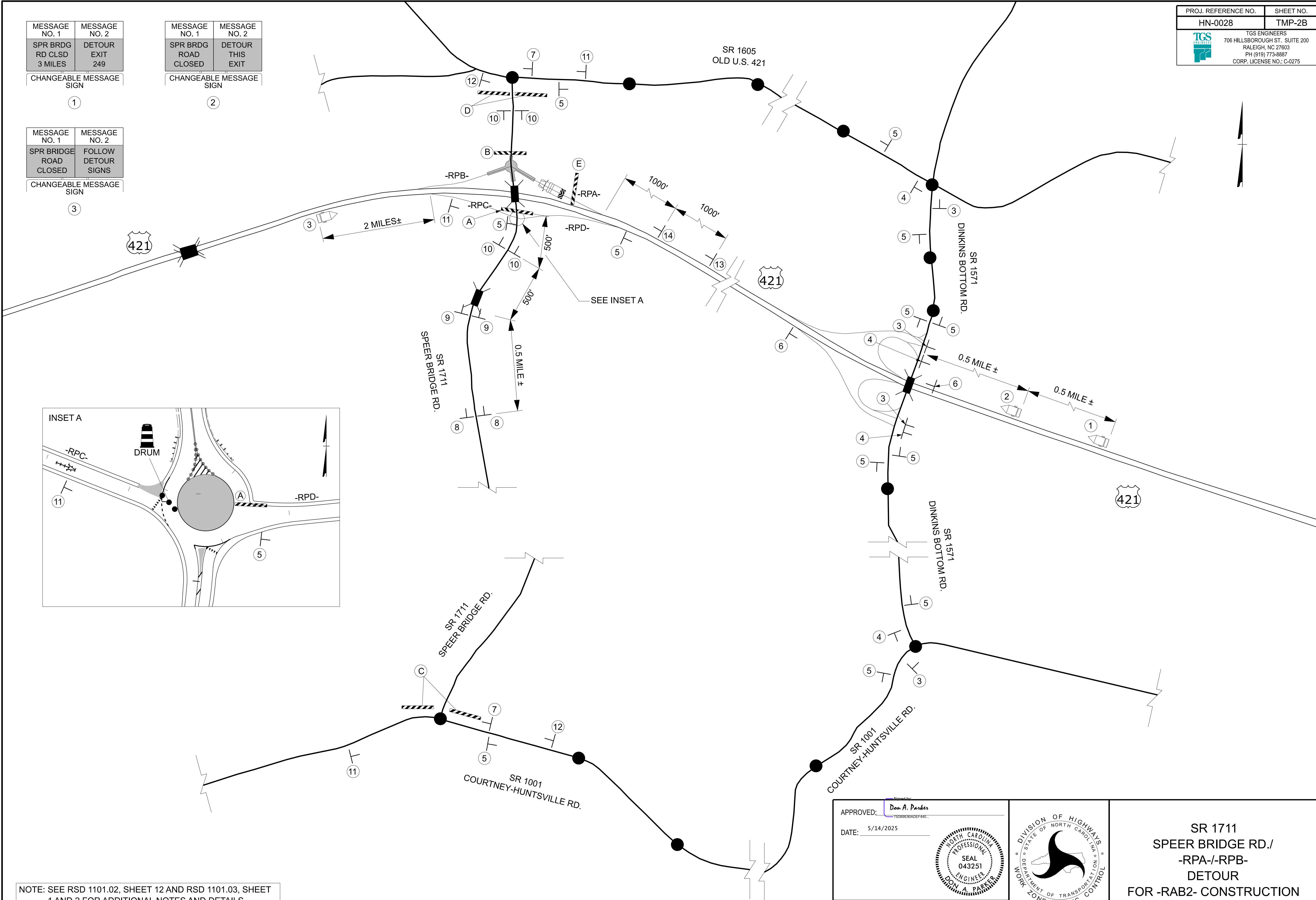
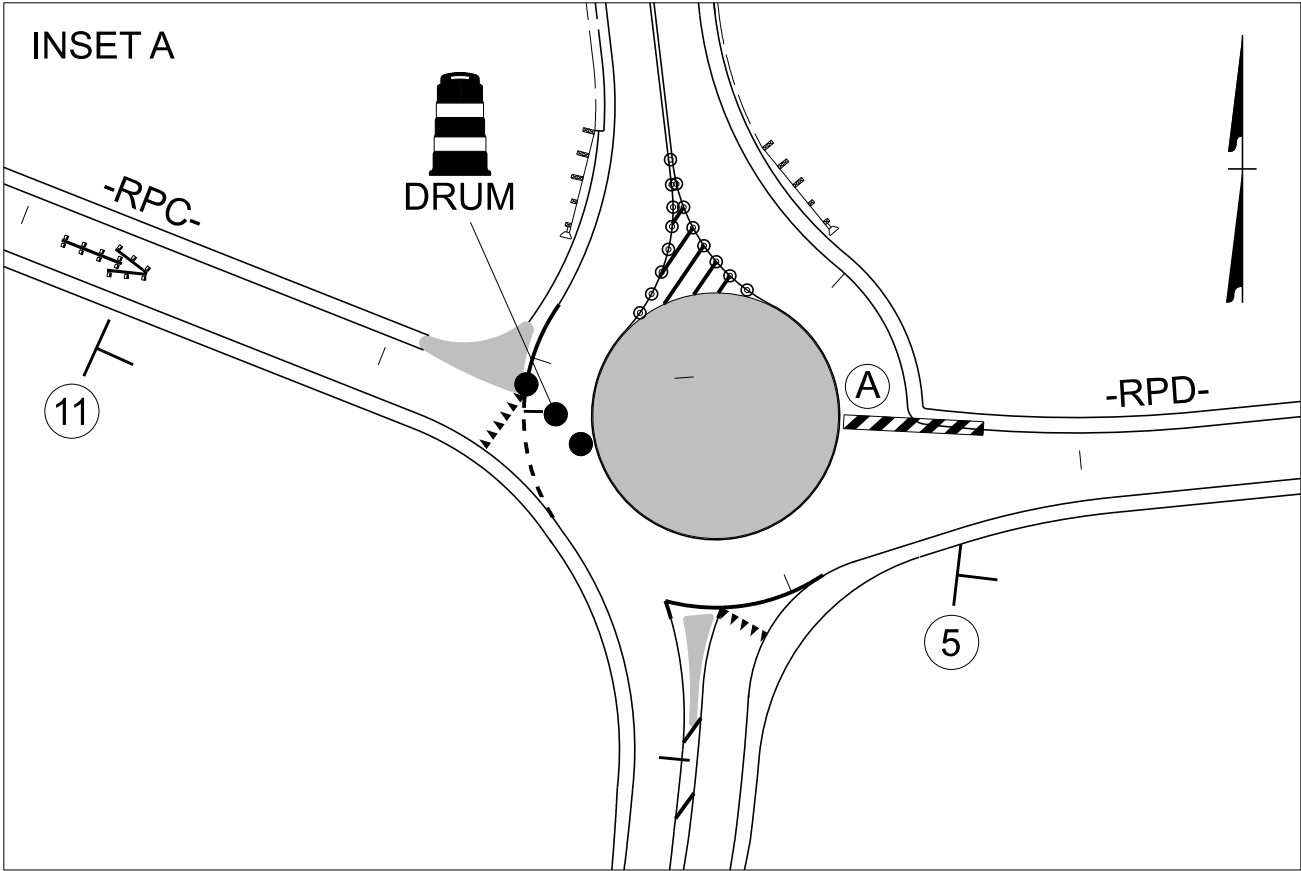
CHANGEABLE MESSAGE SIGN

②

MESSAGE NO. 1	MESSAGE NO. 2
SPR BRIDGE ROAD CLOSED	FOLLOW DETOUR SIGNS

CHANGEABLE MESSAGE SIGN

③



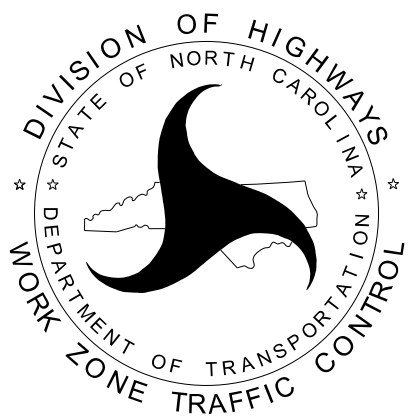
NOTE: SEE RSD 1101.02, SHEET 12 AND RSD 1101.03, SHEET 1 AND 2 FOR ADDITIONAL NOTES AND DETAILS.

APPROVED: Don A. Parker
DATE: 5/14/2025

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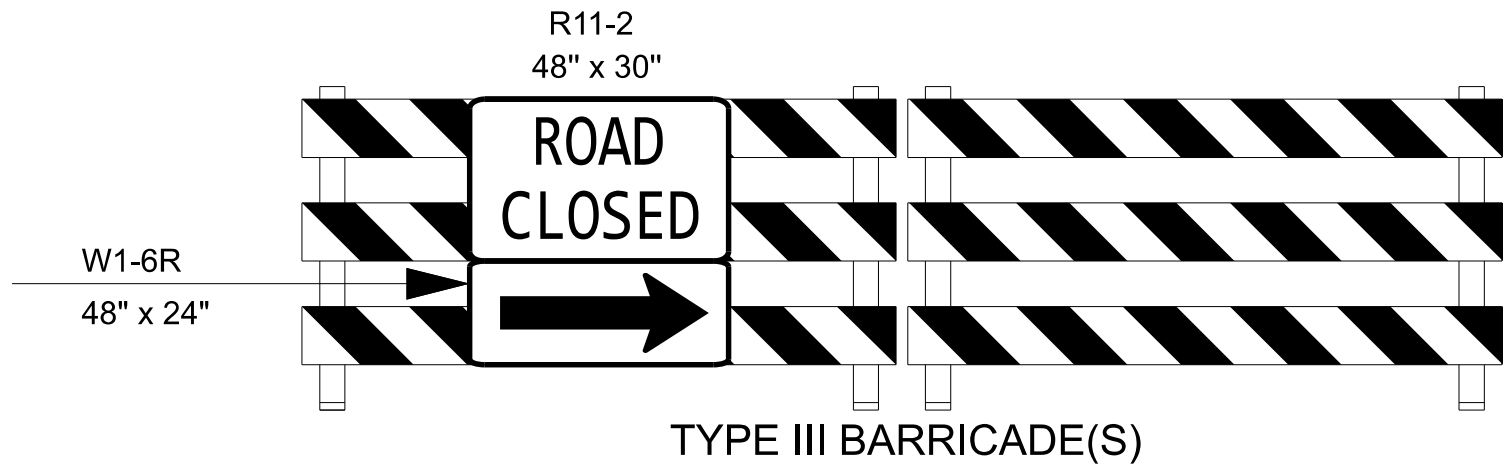
SEAL 043251
NORTH CAROLINA PROFESSIONAL ENGINEER
DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

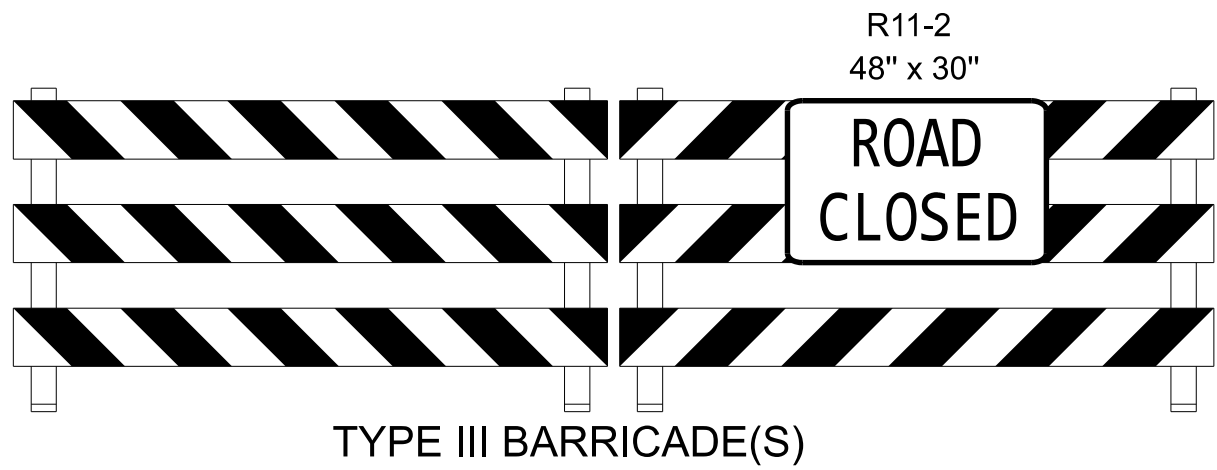


SR 1711
SPEER BRIDGE RD./
-RPA-/RPB-
DETOUR
FOR -RAB2- CONSTRUCTION

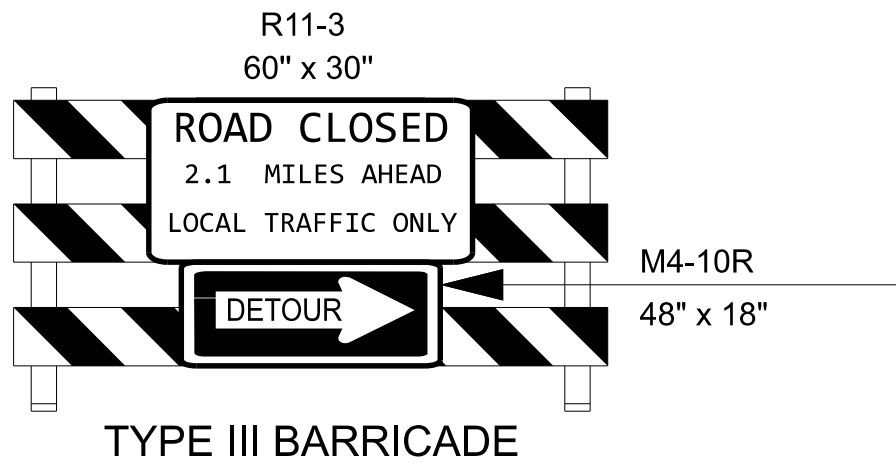
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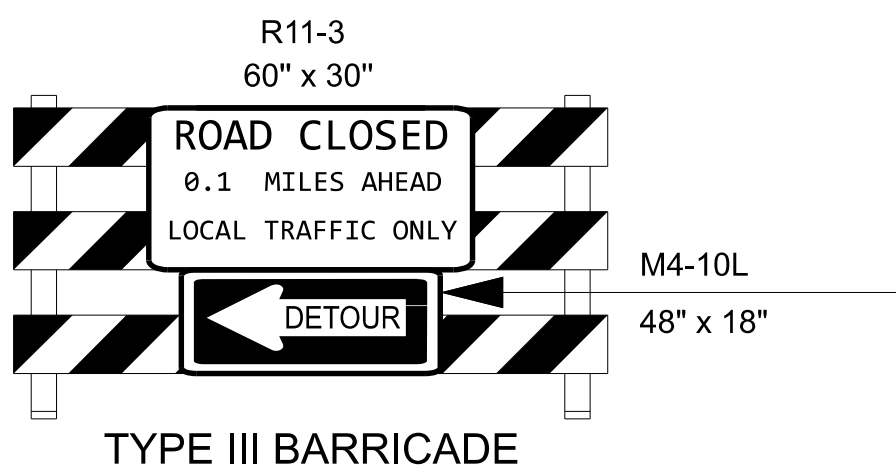
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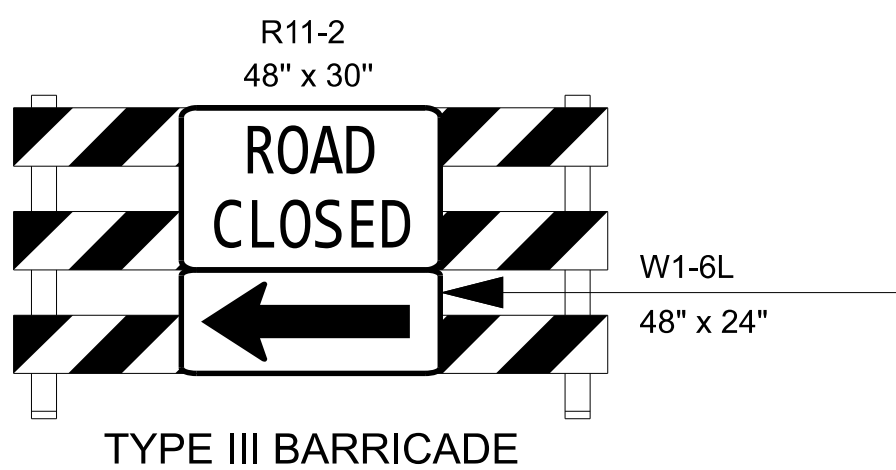
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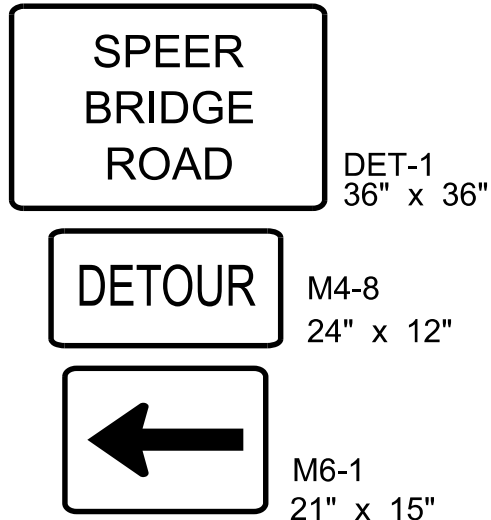
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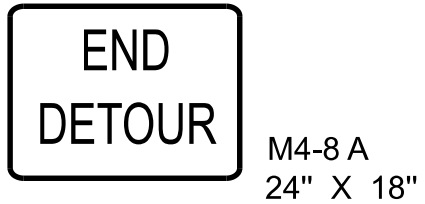
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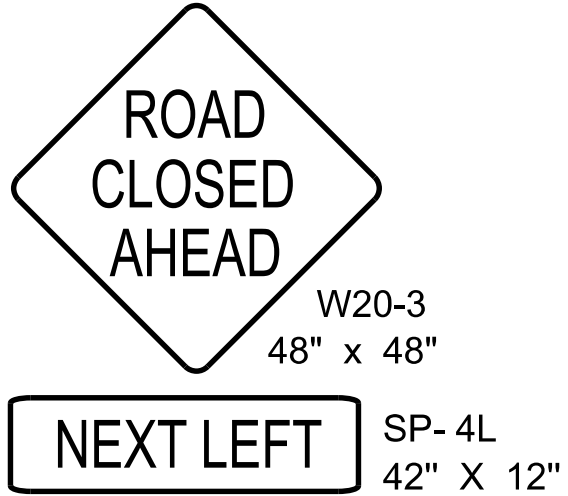
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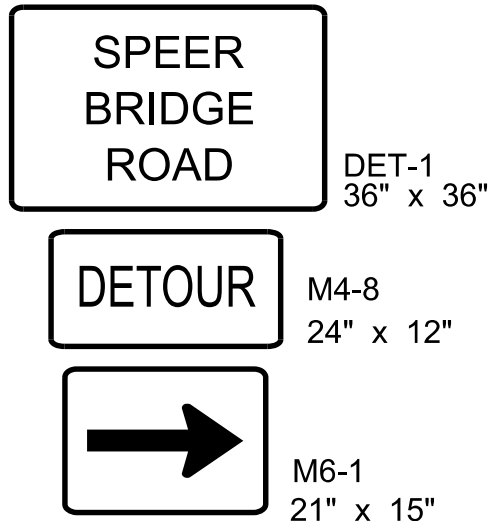
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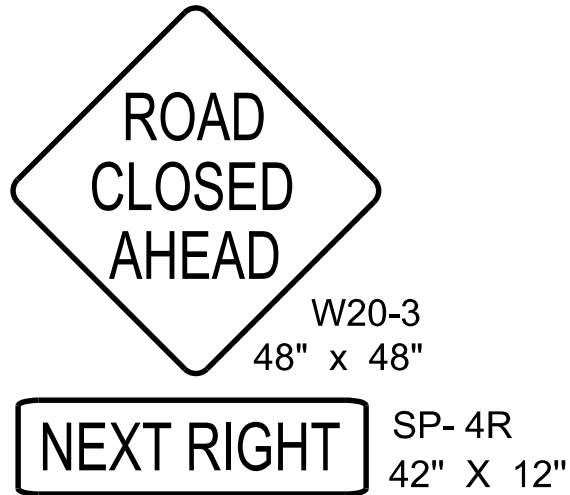
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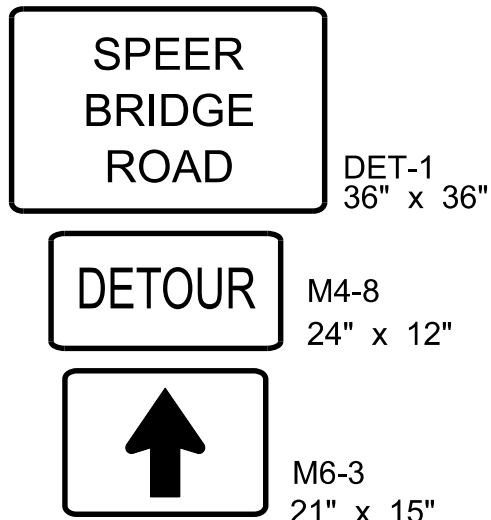
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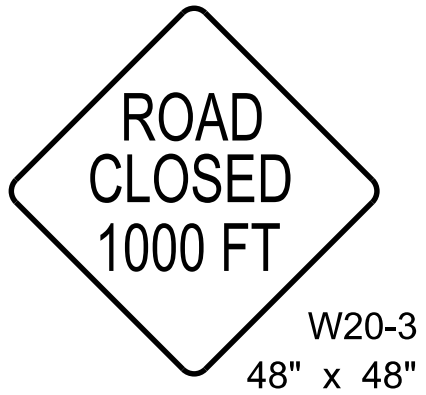
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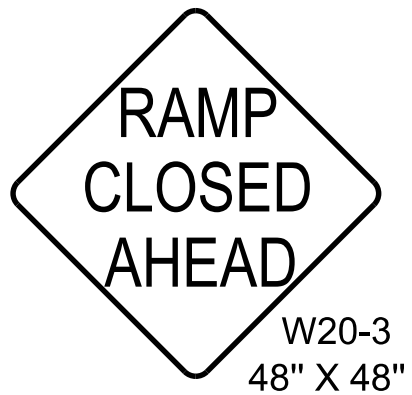
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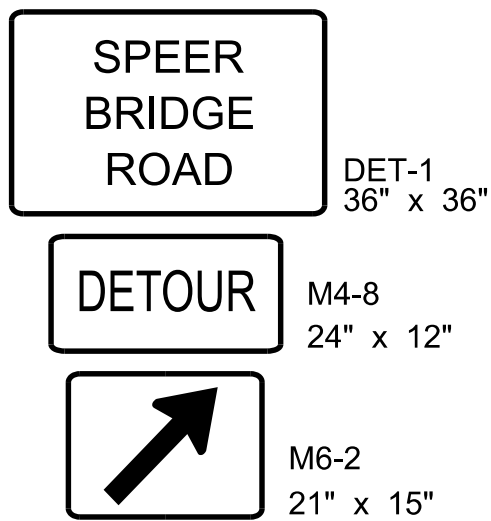
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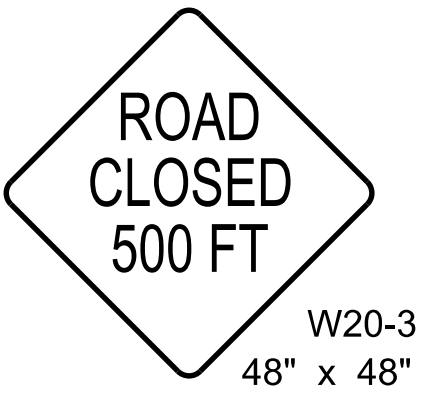
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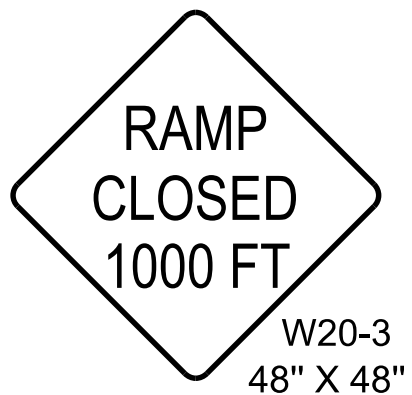
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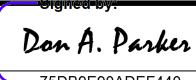
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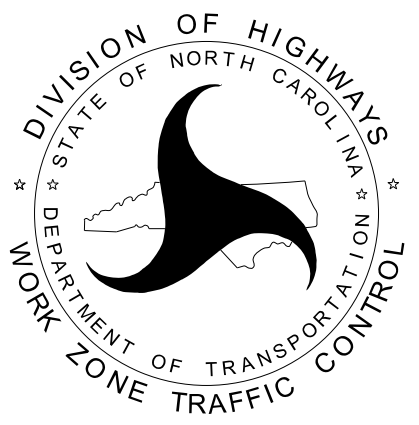
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14

APPROVED: 
DATE: 5/14/2025

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DETOUR
SIGNING KEY

PROJ. REFERENCE NO.	SHEET NO.
HN-0028	TMP-3
TCS ENGINEERS TCS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

PHASING

PHASE I

- STEP 1 -- INSTALL WORK ZONE ADVANCE WARNING SIGNS (SEE RSD 1101.01, SHEET 3
- INSTALL AND COVER ALL DETOUR SIGNING (SEE TMP-2A AND 2B)
- STEP 2 -- UNCOVER DETOUR SIGNING AND CLOSE RAMPS C AND D AND SPEER BRIDGE RD. (SEE TMP-2A, RSD 1101.02, SHEET 12, AND RSD 1101.03 , SHEET 1 AND 2)
- STEP 3 -- AWAY FROM TRAFFIC, CONSTRUCT -RPC-, -RPD- AND -L- FROM -L- STA. 14+00 +/- TO STA. 17+00 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, INCLUDING -RAB1- AND SPLITTER ISLAND (SEE ROADWAY PLANS).
- INSTALL PROPOSED GUARDRAIL FOR -RAB1- (SEE ROADWAY PLAN)
- INSTALL PROPOSED SIGNING FOR -RAB1- (SEE SIGNING PLAN)
- INSTALL TEMPORARY PAINT MARKINGS IN THE FINAL PATTERN FOR -RAB1- (SEE PAVEMENT MARKING PLAN)
- STEP 4 -- OPEN -RAB1-, -RPC- AND -RPD- TO THE FINAL PATTERN ON THE NEXT TO FINAL LAYER.

PHASE II

- STEP 1 -- ADJUST DETOUR SIGNING AND HARD CLOSURE POINT AND CLOSE RAMPS A AND B AND SPEER BRIDGE RD. (SEE TMP-2B, RSD 1101.02, SHEET 12, AND RSD 1101.03 , SHEET 1 AND 2)
- STEP 2 -- AWAY FROM TRAFFIC, CONSTRUCT -RPA-, -RPB- AND -L- FROM -L- STA. 19+82 +/- TO STA. 23+00 +/- UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, INCLUDING -RAB2- AND SPLITTER ISLAND (SEE ROADWAY PLANS).
- INSTALL PROPOSED GUARDRAIL FOR -RAB2- (SEE ROADWAY PLAN)
- INSTALL PROPOSED SIGNING FOR -RAB2- (SEE SIGNING PLAN)
- INSTALL TEMPORARY PAINT MARKINGS IN THE FINAL PATTERN FOR -RAB2- (SEE PAVEMENT MARKING PLAN)
- STEP 3 -- OPEN -RAB2-, -RPA- AND -RPB- TO THE FINAL PATTERN ON THE NEXT TO FINAL LAYER.

PHASE III

- STEP 1 -- USING FLAGGERS AND RSD 1101.02, SHEET 18, PLACE THE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS THROUGHOUT THE PROJECT LIMITS.
- STEP 2 -- REMOVE ALL TRAFFIC CONTROL DEVICES

APPROVED: Don A. Parker 75DB8E90ADEF440... DATE: 5/14/2025 SEAL 043251 PROFESSIONAL ENGINEER DON A. PARKER DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	PHASING
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T.I.P.: HN-0028

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
YADKIN COUNTY

LOCATION: ROUNDAABOUTS ON SR 1711 (SPEER BRIDGE ROAD)
 AT US 421 INTERCHANGE

TIP NO.	SHEET NO.
HN-0028	PMP-1
APPROVED: Signed by: Don A. Parker TJCSBES00ADEF440...	
DATE: 5/14/2025	
SEAL	
STATE OF NORTH CAROLINA PROFESSIONAL SEAL 043251 ENGINEER DON A. PARKER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE, SCHEDULE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, AND FINAL PAVEMENT MARKING SCHEDULE
PMP-1A	REVISED NCDOT ROADWAY STANDARD DRAWING
PMP-2-4	PAVEMENT MARKING DETAIL

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 2024 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
1205.03	PAVEMENT MARKINGS - EXIT AND ENTRANCE RAMPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDAABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1266.01	RAISED PAVEMENT MARKERS - TUBULAR MARKERS

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
-L- SR 1711 ROUNDAABOUTS	THERMOPLASTIC	NONE

US 421 ON/OFF RAMPS	THERMOPLASTIC	SNOWPLOWABLE POLYCARBONATE H-SHAPED (SEE SPECIAL PROVISION)
---------------------	---------------	---

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.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

FINAL PAVEMENT MARKING
SCHEDULE

SYMBOL DESCRIPTION

PAVEMENT MARKINGS

THERMOPLASTIC (4",90 MILS)

T1	(4") WHITE EDGELINE
T10	(4") YELLOW EDGELINE
T11	(4") YELLOW SINGLE CENTER
T13	(4") YELLOW DOUBLE CENTER

THERMOPLASTIC (6", 90 MILS)

T20	(6") WHITE EDGELINE
T30	(6") YELLOW EDGELINE

THERMOPLASTIC (8", 90 MILS)

T40	(8") WHITE GORELINE
T42	(8") YELLOW DIAGONAL
T45	(8") 3 FT. - 3 FT./SP WHITE MINISKIP

THERMOPLASTIC (12", 90 MILS)

T102	(12") YIELD LINE TRIANGLES (SEE SPECIAL PROVISION)
------	---

THERMOPLASTIC PAVEMENT MARKING SYMBOLS

T80	WRONG-WAY RAMP ARROW
-----	----------------------

PAVEMENT MARKERS

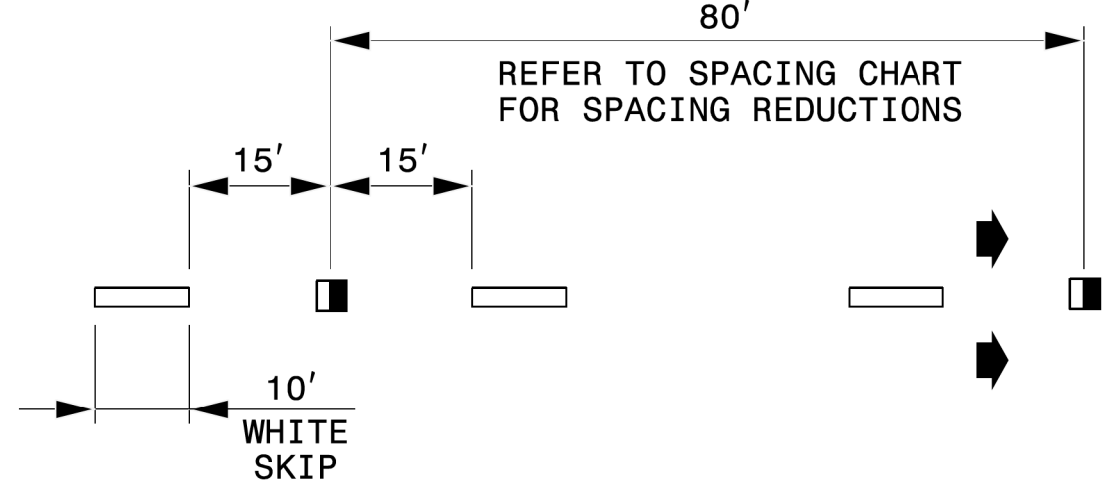
TIP NO.
HN-0028

SHEET NO.
PMP-1A

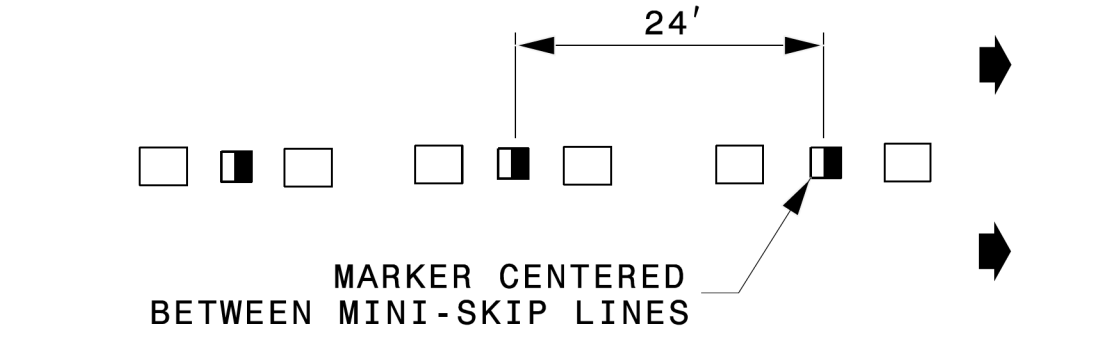
PROJECT REFERENCE NO.

SHEET NO.

10'-30'/SP SKIP LINE



3'-9'/SP MINI-SKIP LINE



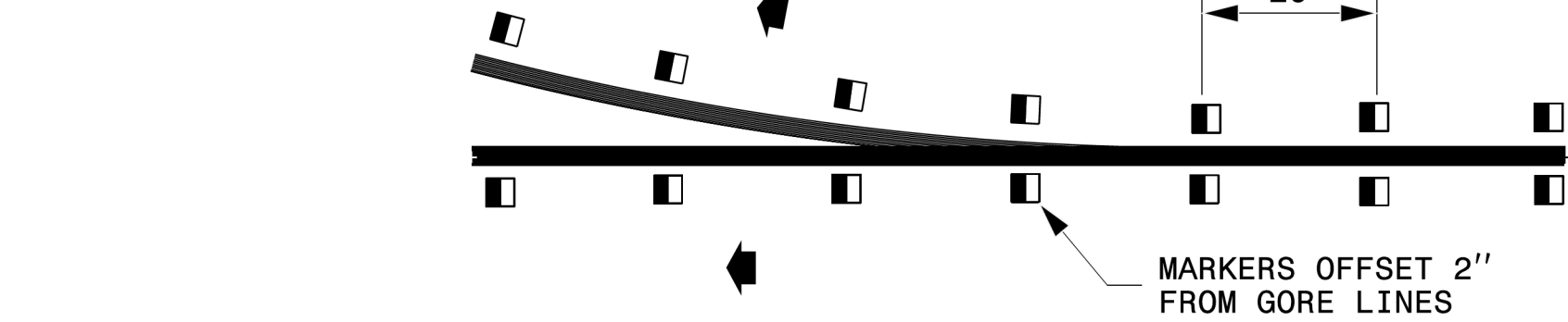
LEGEND

 CRYSTAL/RED PAVEMENT MARKER

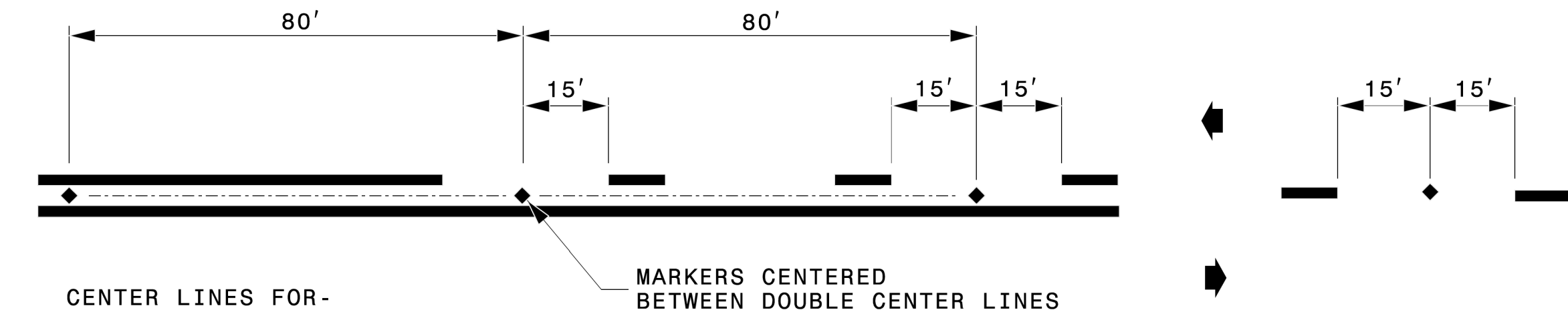
 YELLOW/YELLOW PAVEMENT MARKER

 DIRECTION OF TRAFFIC FLOW

GORE LINES

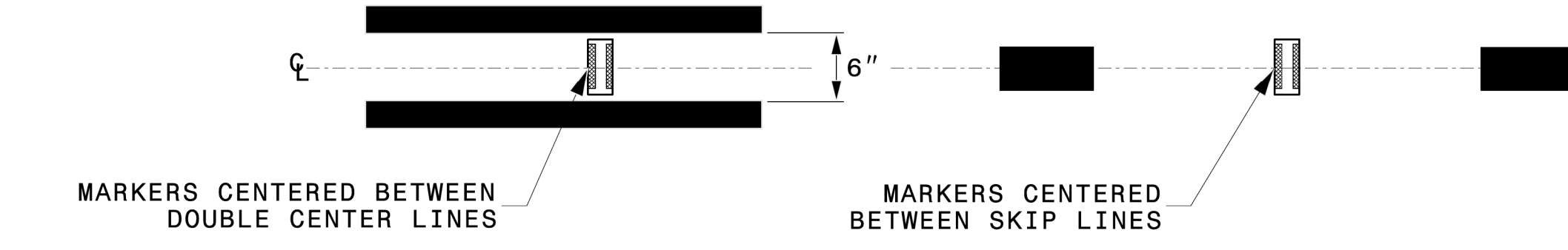


YELLOW CENTER LINES



DETAIL OF PAVEMENT MARKER PLACEMENT

RAISED REFLECTIVE PAVEMENT MARKERS



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

ROADWAY DETAIL DRAWING FOR
RAISED PAVEMENT MARKERS
INSTALLATION SPACING

SHEET 2 OF 3
1250D01

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

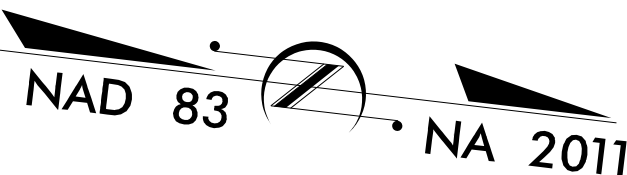
ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: DATE:

5/15/2025

Matthew V. Springer, PE

RAISED PAVEMENT MARKERS
INSTALLATION SPACING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0028	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



303(d) IMPAIRED WATER(S) EXIST ON THIS PROJECT

303(d) Impaired Water Zone(s) Exist	
From Sta.	Begin Project
to Sta.	End Project

Refer To E. C. Special Provisions for Special Considerations.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

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

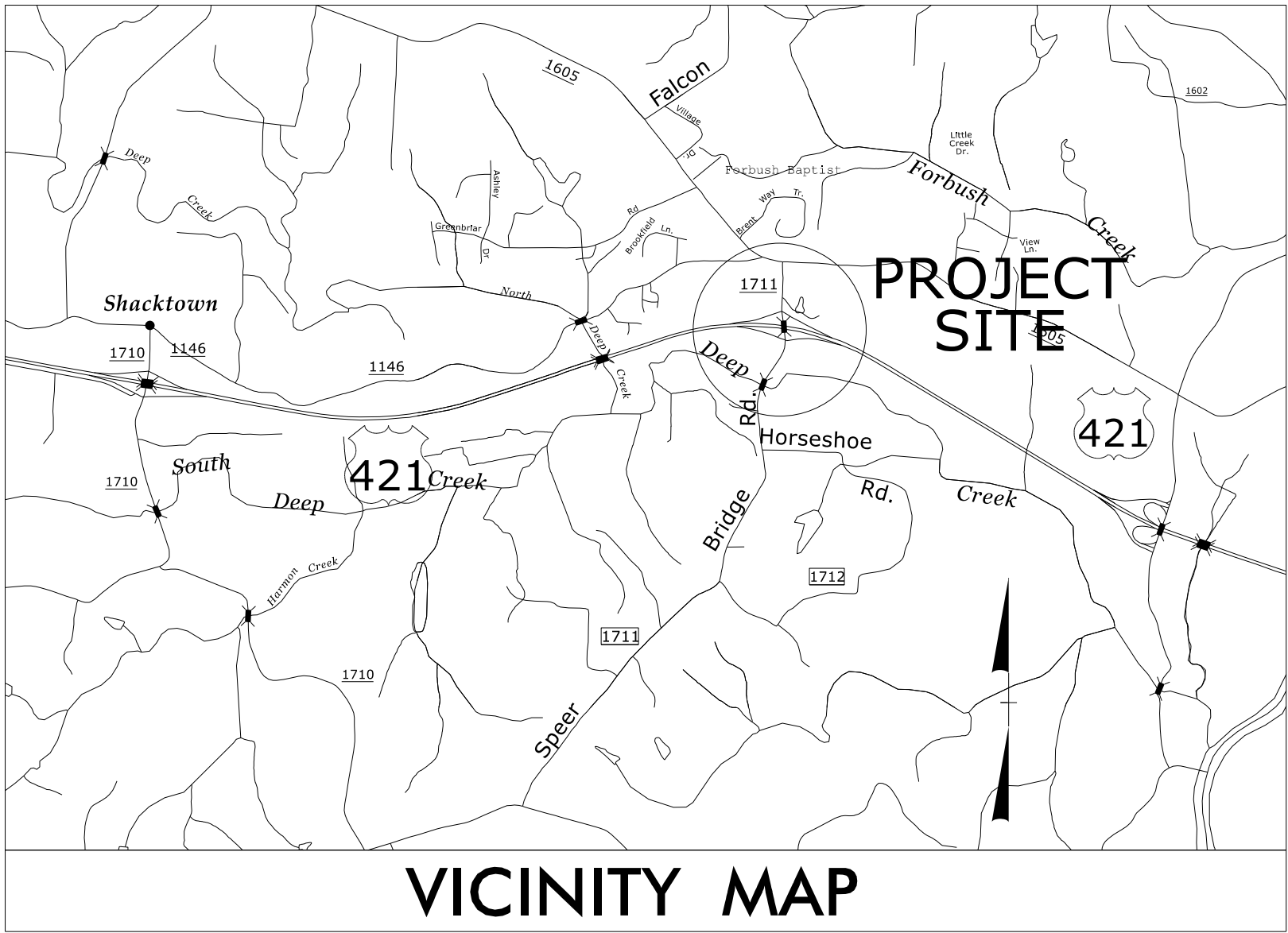
TIP PROJECT: HN-0028

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

YADKIN COUNTY

LOCATION: ROUNDABOUTS ON SR 1711 (SPEER BRIDGE ROAD)
AT US 421 INTERCHANGE

TYPE OF WORK: GRADING, PAVING AND DRAINAGE



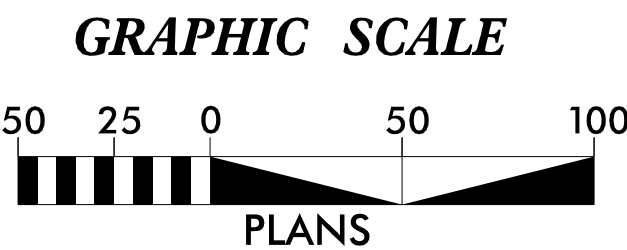
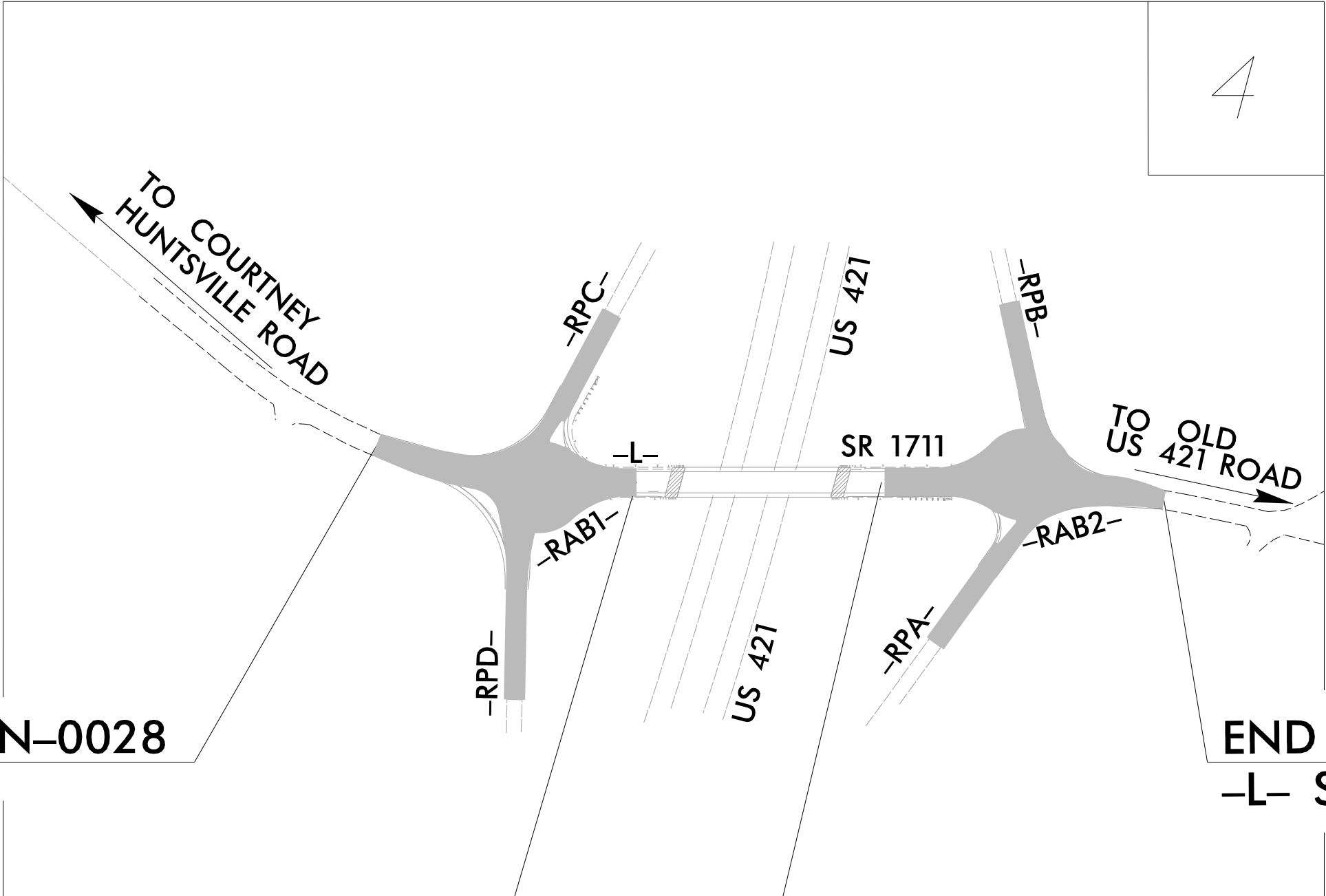
VICINITY MAP

BEGIN TIP PROJECT HN-0028
-L- STA. 14 + 00.00

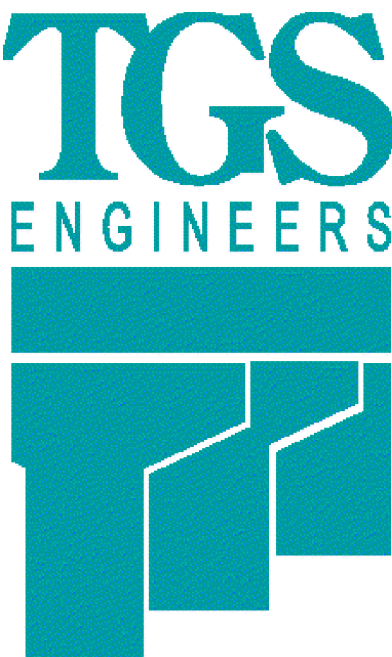
END TIP PROJECT HN-0028
-L- STA. 17 + 00.00

BEGIN TIP PROJECT HN-0028
-L- STA. 19 + 81.80

END TIP PROJECT HN-0028
-L- STA. 23 + 00.00



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG 010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.



Prepared in the Office of:
TGS ENGINEERS
706 HILLSBOROUGH ST. - SUITE 200
RALEIGH, NC 27603

Designed by:
Ben Henegar, PE 3564
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
HN-0028	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

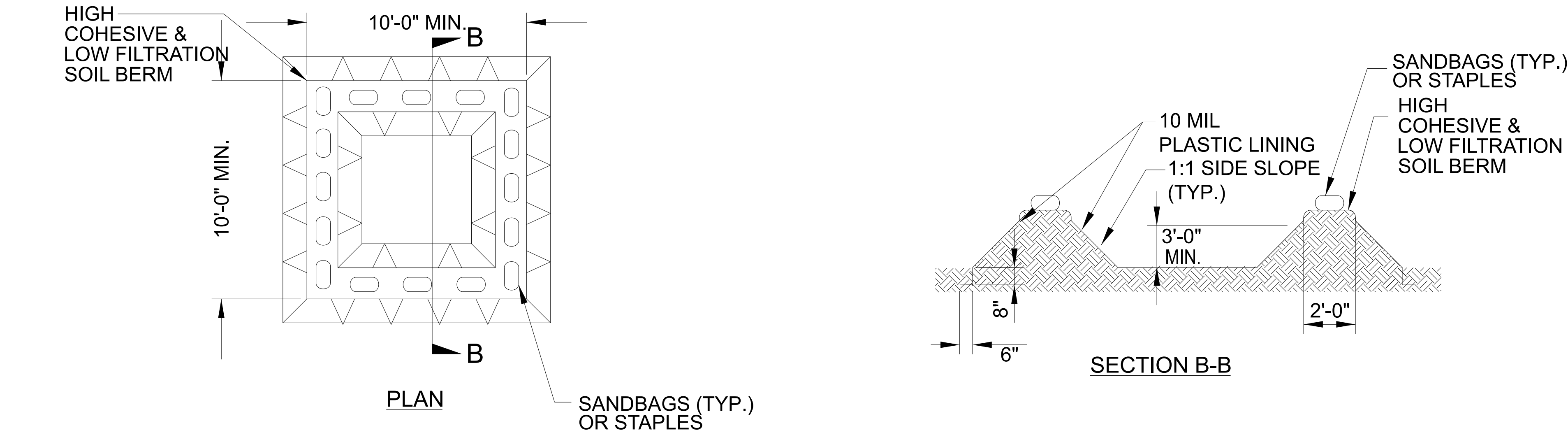
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

PROJECT REFERENCE NO.	SHEET NO.
HN-0028	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50’ IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND HQW ZONES.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND HQW ZONES.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
HN-0028	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

DITCHLINE EXCELSIOR MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	22+03	23+17	RT	125
4	-RAB2-	11+86	12+11	RT	25
4	-RPA-	10+56	11+84	LT	130
SUBTOTAL					280

SLOPE MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-RPD-	10+30	11+75	RT	365
4	-RPD-	10+20	12+00	LT	1,150
4	-L-	16+30	17+30	LT	130
4	-L-	20+00	21+40	LT	590
4	-L-	20+00	21+00	RT	380
4	-RPB-	12+00	12+50	LT	150
SUBTOTAL					2,765

MATTING FOR EROSION CONTROL TOTALS

	ESTIMATE (SY)
DITCHLINE STRAW MATTING SUBTOTAL	N/A
DITCHLINE EXCELSIOR MATTING SUBTOTAL	280
SLOPE MATTING SUBTOTAL	2,765
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER	175
TOTAL	3,220
SAY	3,300

T.I.P.: HN-0028

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
YADKIN COUNTY

LOCATION: ROUNDABOUTS ON SR 1711 (SPEER BRIDGE ROAD)
AT US 421 INTERCHANGE

TIP NO.
HN-0028

SHEET NO.
SIGN-1

Signed by:
Don A. Parker

APPROVED: 750B8E60ADE440...

DATE: 5/14/2025

SEAL

NORTH CAROLINA
PROFESSIONAL
SEAL
043251
ENGINEER
DON A. PARKER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- . ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON 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.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	496	L.F.
4096000000	904	SIGN ERECTION, TYPE D	4	EA.
4102000000	904	SIGN ERECTION, TYPE E	24	EA.
4108000000	904	SIGN ERECTION, TYPE F	6	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	30	EA.

INDEX

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

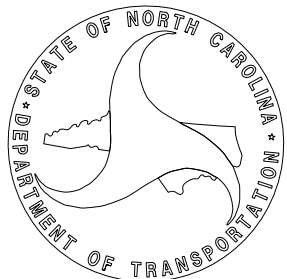
PLAN SUBMITTED TO: NCDOT

RAMIE A. SHAW, P.E.

PROJECT ENGINEER

SHERRI E. CALHOUN, P.E.

PROJECT TEAM LEAD



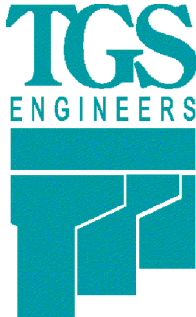
PLAN PREPARED BY: TGS ENGINEERS

DON A. PARKER, P.E.

PROJECT ENGINEER

CODA BRANNAN, E.I.

DESIGN ENGINEER



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

TIP NO.
HN-0028

SHEET NO.
SIGN-3

Signed by:
Don A. Parker
75069E90ADEF440...

APPROVED:

5/14/2025

DATE:

SEAL



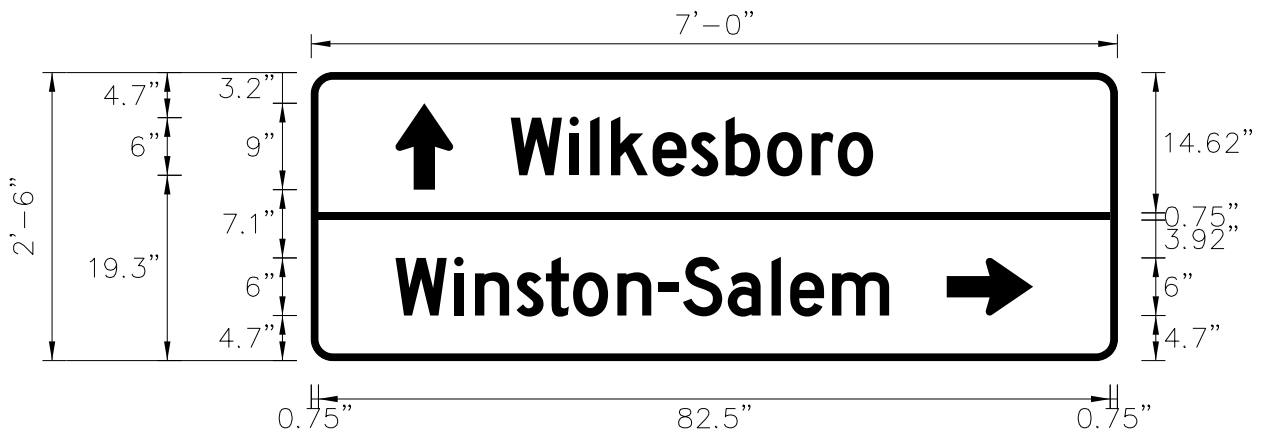
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UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH STREET
(SUITE 200)
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

SIGN NUMBER: 301
TYPE: D
QUANTITY: 1
SIGN WIDTH: 7'-0"
HEIGHT: 2'-6"
TOTAL AREA: 17.5 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White
SYMBOL X Y WID HT
AR_Type D 8.79 17.8 6 9
AR_Type D 66.21 4.7 6 9
MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: CMB
PROJECT ID: HN-0028
CHECKED BY: DAP
LOCATION: YADKIN CO.
Aug 26, 2024
DIV: 11



BORDER
R=2.25"
TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner																												Series/Size Text Length		
W	i	l	k	e	s	b	o	r	o																				D 2000 37.74	
20.79	26.91	29.07	31.23	35.55	39.57	43.17	47.49	52.11	54.87																					
W	i	n	s	t	o	n	-	S	a	l	e	m																		D 2000 51.42
8.79	14.91	17.07	21.39	24.45	27.27	31.89	36.15	38.73	43.41	47.97	49.89	54.27																		

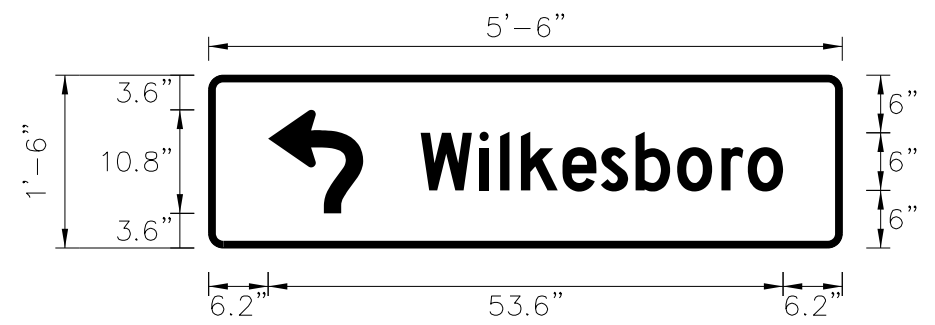
FILENAME: HN-0028 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 302
TYPE: D
QUANTITY: 1
SIGN WIDTH: 5'-6"
HEIGHT: 1'-6"
TOTAL AREA: 8.25 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White
SYMBOL X Y WID HT
AR_FISHOOK 6.18 3.6 9.9 10.8
MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: CMB
PROJECT ID: HN-0028
CHECKED BY: DAP
LOCATION: YADKIN CO.
Aug 26, 2024
DIV: 11



BORDER
R=1.5"
TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner																												Series/Size Text Length		
W	i	l	k	e	s	b	o	r	o																				D 2000 37.74	
22.08	28.2	30.36	32.52	36.84	40.86	44.46	48.78	53.4	56.16																					

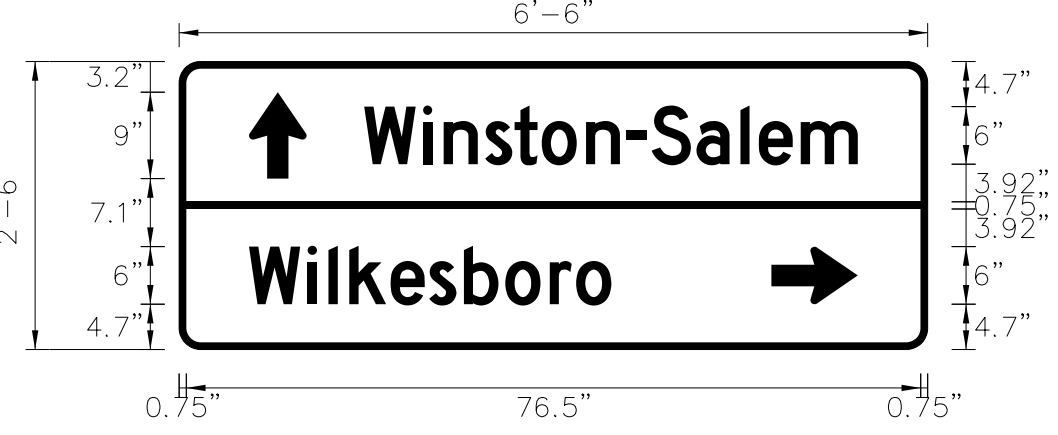
FILENAME: HN-0028 Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 303
TYPE: D
QUANTITY: 1
SIGN WIDTH: 6'-6"
HEIGHT: 2'-6"
TOTAL AREA: 16.25 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White
SYMBOL X Y WID HT
AR_Type D 7.29 17.8 6 9
AR_Type D 61.71 4.7 6 9
MAT'L: 0.125" (3.2 mm) ALUMINUM

DESIGN BY: CMB
PROJECT ID: HN-0028
CHECKED BY: DAP
LOCATION: YADKIN CO.
Aug 26, 2024
DIV: 11



BORDER
R=2.25"
TH=0.75"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner																												Series/Size Text Length
W	i	n	s	t	o	n	-	S	a																			

TIP NO.
HN-0028

SHEET NO.
SIGN-4

APPROVED:

Don A. Parker

75DBB6CADEF440...

DATE:

5/14/2025

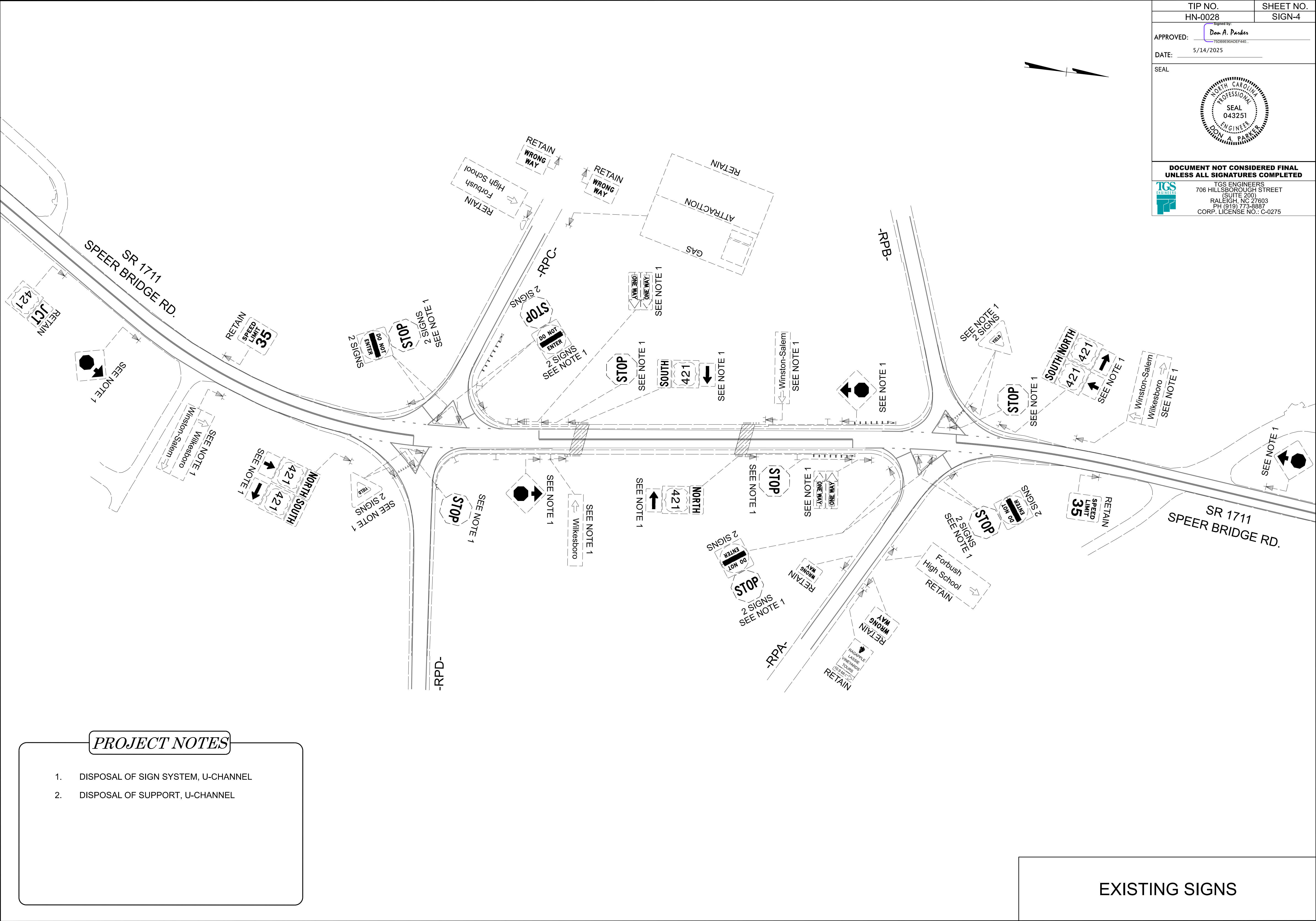
SEAL

PROFESSIONAL
ENGINEER
DON A. PARKER
SEAL
043251
NORTH CAROLINA

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

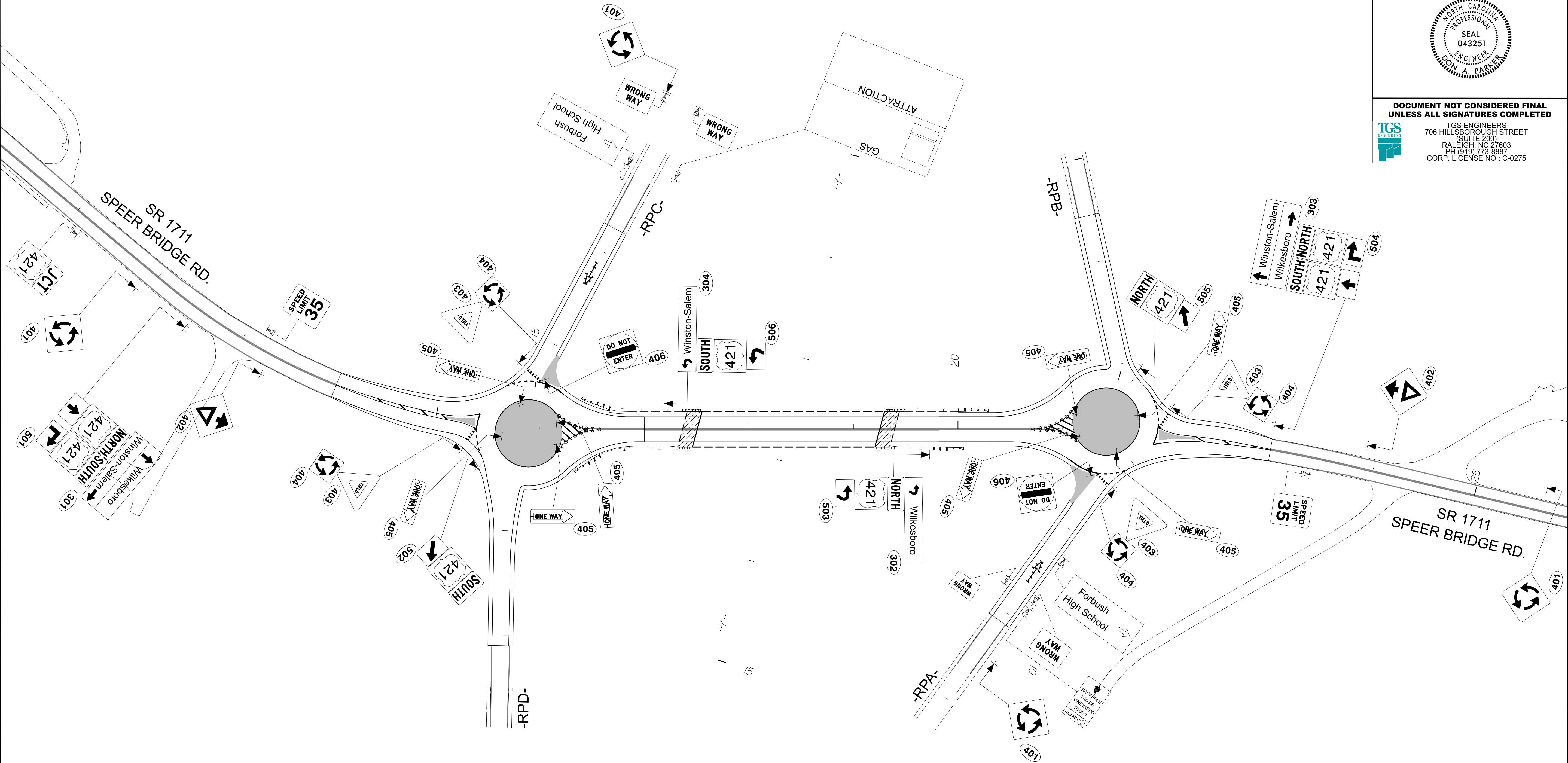
TGS ENGINEERS

706 HILLSBOROUGH STREET
(SUITE 200)
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



EXISTING SIGNS

TIP NO. HN-0028	SHEET NO. SIGN-5
APPROVED:  Signed by: Don A. Parker 750B8E9DADEF440...	
DATE: 5/14/2025	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 706 HILLSBOROUGH STREET (SUITE 200) RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



PROPOSED SIGNS

HN-0028
CROSS SECTION INDEX

CROSS SECTION SUMMARY	X-1A
-L-	X-2 THROUGH X-11
-RAB1-	X-12 THROUGH X-16
-RAB2-	X-17 THROUGH X-20
-RPA-	X-21 THROUGH X-23
-RPB-	X-24 THROUGH X-26
-RPC-	X-27 THORUGH X-30
-RPD-	X-31 THROUGH X-34

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS														PROJ. REFERENCE NO.	SHEET NO.
														HN-0028	X-1A
NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT															
CROSS-SECTION SUMMARY															
Station	Uncl. Exc.	Embt		Station	Uncl. Exc.	Embt		Station	Uncl. Exc.	Embt				Approximate quantities only. Unclassified excavation, fine grading, clearing and grubbing, borrow excavation, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".	
L1	(cu. yd.)	(cu. yd.)		RAB2	(cu. yd.)	(cu. yd.)		RPC	(cu. yd.)	(cu. yd.)					
14+00	0	0		10+00.00	0	0		12+00.00	0	48					
14+50.00	0	6		10+20.00	0	107		12+25.00	0	74					
15+00.00	1	45		10+40.00	0	50		12+39.84	0	27					
15+40.07	1	62		10+60.00	0	158									
				10+80.00	0	128									
Station	Uncl. Exc.	Embt		11+00.00	15	16		Station	Uncl. Exc.	Embt					
L1A	(cu. yd.)	(cu. yd.)		11+20.00	15	38		RPD	(cu. yd.)	(cu. yd.)					
16+39.17	0	0		11+40.00	0	62		10+50.76	0	0					
16+50.00	1	90		11+60.00	0	40		10+75.00	0	442					
17+00.00	6	208		11+80.00	0	43		11+00.00	0	383					
				12+00.00	0	43		11+25.00	0	273					
Station	Uncl. Exc.	Embt		12+20.00	2	31		11+50.00	0	191					
L2	(cu. yd.)	(cu. yd.)		12+40.00	8	16		11+75.00	0	99					
19+59.50	0	0		12+60.00	28	0		12+00.00	0	29					
20+00.00	6	27		12+80.00	39	12		12+50.00	0	8					
20+50.00	11	283		13+00.00	40	13									
20+92.21	13	421		13+14.01	31	1									
Station	Uncl. Exc.	Embt		Station	Uncl. Exc.	Embt									
L2A	(cu. yd.)	(cu. yd.)		RPA	(cu. yd.)	(cu. yd.)									
21+90.24	0	0		10+40.74	0	0									
22+0															

