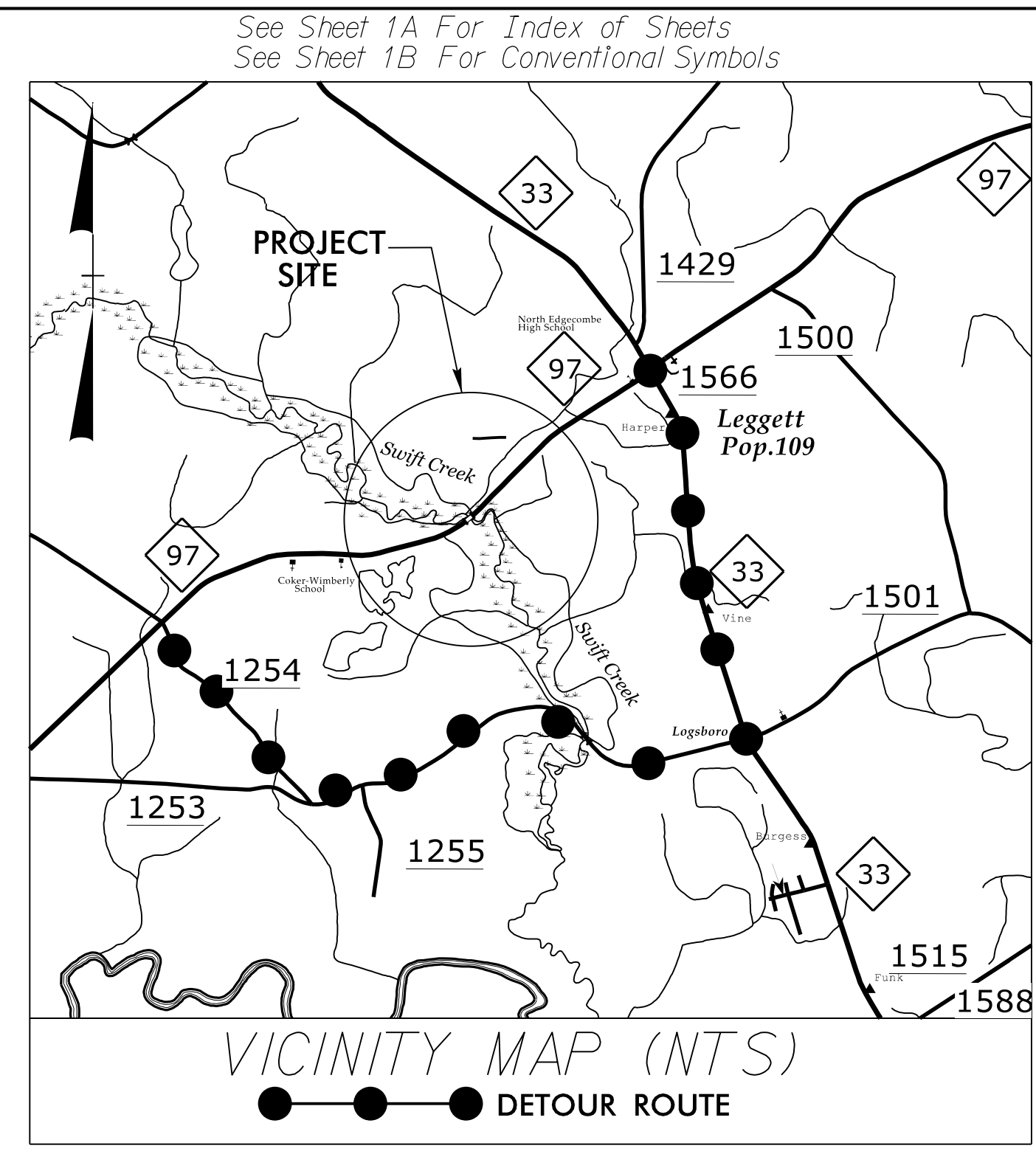


09_08/19

TIP PROJECT: B-5671

CONTRACT: C204517

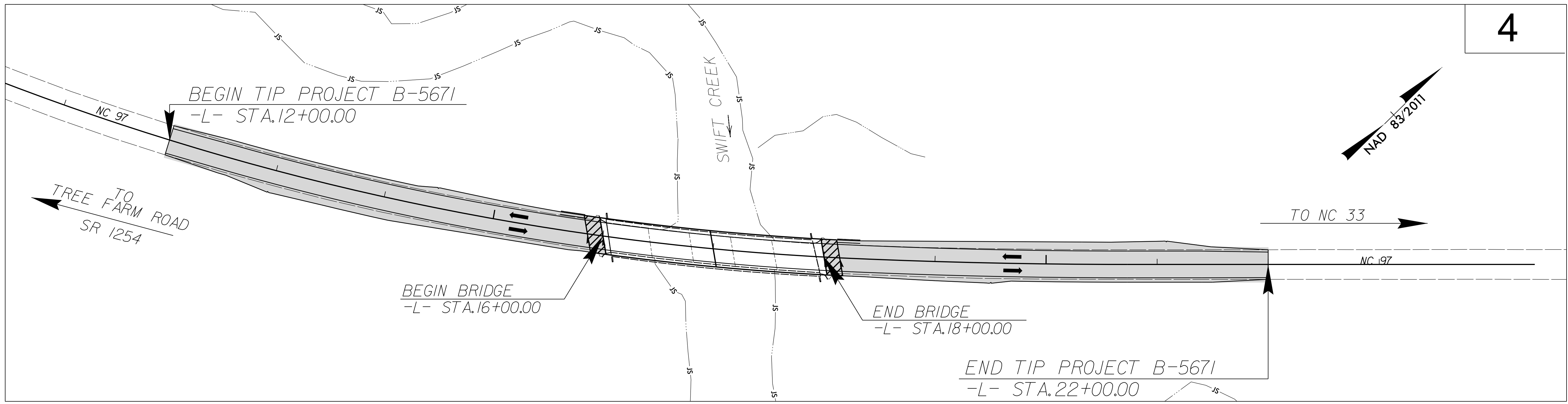


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
EDGECOMBE COUNTY

**LOCATION: REPLACE BRIDGE NO. 87 OVER SWIFT CREEK
ON NC 97**

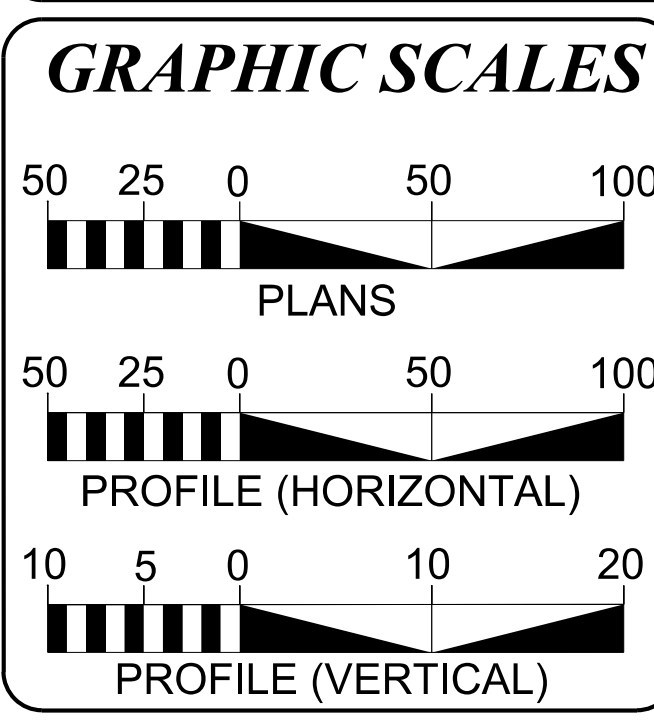
TYPE OF WORK: DRAINAGE, GRADING, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5671	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45626.1.1		P.E.	
45626.2.1		RW & UTIL.	
45626.3.1		CONSTR.	



4

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2020 =	3434
ADT 2040 =	4600
K =	8 %
D =	55 %
T =	13 % *
V =	60 MPH
* TTST = 5% DUAL 8%	
FUNC CLASS = MAJOR COLLECTOR	
REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5671	= .151 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5671	= .038 MILES
TOTAL LENGTH OF TIP PROJECT B-5671	= .189 MILES

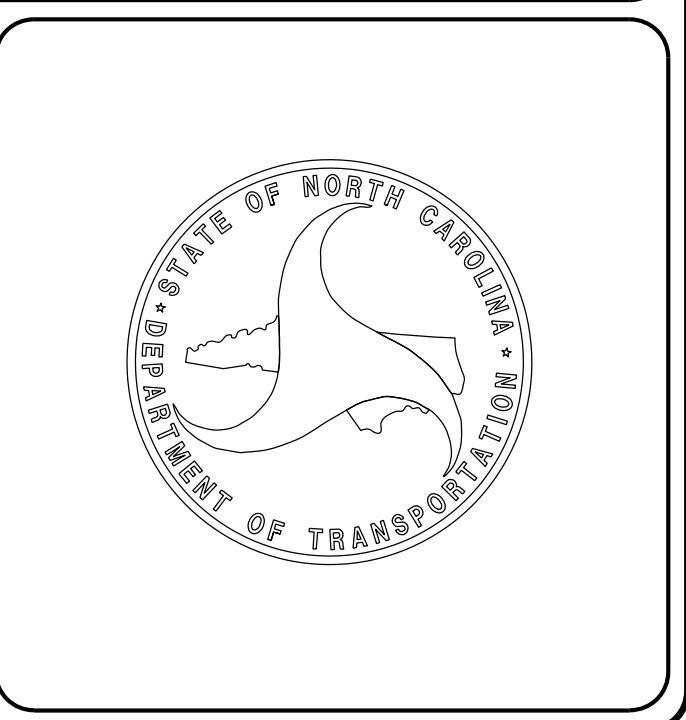
Prepared in the Office of: KCI KCI Associates of N.C., P.A. 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 Fax (919) 783-9266 http://www.kci.com	Plans Prepared For: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr. Raleigh NC, 27610
2018 STANDARD SPECIFICATIONS	DEWAYNE L. SYKES, P.E. PROJECT ENGINEER
RIGHT OF WAY DATE: NOVEMBER 18, 2019	BRYAN E. HOUGH, P.E. PROJECT DESIGN ENGINEER
LETTING DATE: FEBRUARY 16, 2021	DAVID STUTTS, P.E. STRUCTURES MANAGEMENT UNIT
NCDOT CONTACT:	

HYDRAULICS ENGINEER

DocuSigned by:
CACC6918EBC437
SIGNATURE:

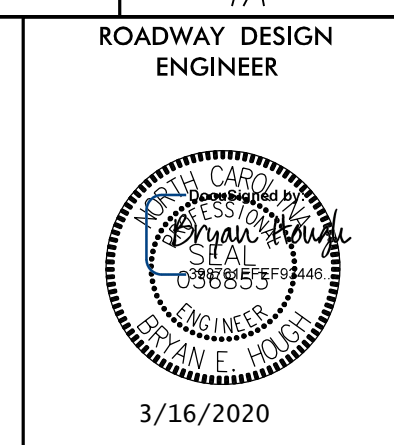
ROADWAY DESIGN ENGINEER

DocuSigned by:
Bryan Hough
398781E9EF93446
SIGNATURE:



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\$\$\$\$\$SERVNAME\$\$\$\$\$

8/17/99



EFF. 01-16-2018

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	TYPICAL SECTIONS, PAVEMENT SCHEDULE, WEDGING DETAIL, PROFILE KEY-IN DETAIL, SHOULDER BERM GUTTER DETAIL AND GUARDRAIL INSET
2C-1	GUARDRAIL INSTALLATION
3B-1	SUMMARY OF EARTHWORK, SUMMARY OF SHOULDER BERM GUTTER, SUMMARY OF PAVEMENT REMOVAL, SUMMARY OF BREAKING OF EXISTING PAVEMENT, AND SUMMARY OF GUARDRAIL
3D-1	DRAINAGE SUMMARY SHEET
3G-1	GEOTECHNICAL SUMMARY SHEET
4	PLAN SHEET
5	PROFILE SHEET
RW-01 TO RW-04	RIGHT OF WAY PLANS
TMP-1 TO TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1 TO PMP-2	PAVEMENT MARKING PLANS
EC-1 TO EC-6	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 TO SIGN-3	SIGNING PLANS
UC-1 TO UC-6	UTILITY CONSTRUCTION PLANS
UO-1 TO UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS SECTION SUMMARY SHEET
X-1 TO X-12	-L- CROSS-SECTIONS
S-1 TO S-29	STRUCTURE PLANS

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

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

SUBSURFACE DRAINS:
 SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO.815.02 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.

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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:
 UTILITY OWNERS ON THIS PROJECT ARE CENTURYLINK, EDGEcombe COUNTY WATER AND SEWER, AND AT&T.
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 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 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
DIVISION 4 - MAJOR STRUCTURES	
422.01	Bridge Approach Fills - Type I Standard Approach Fill
422.03	Reinforced Bridge Approach Fills - Type A Alternate Approach Fill For Integral Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.20	Frames and Wide Slot Flat Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Riprap in Pipe Outlets

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

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	○ MILEPOST 35
Switch	□ 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	○ R W
New Right of Way Line with Pin and Cap	○ R W ▲
New Right of Way Line with Concrete or Granite R/W Marker	▲ R W
New Control of Access Line with Concrete C/A Marker	△ R W
Existing Control of Access	△
New Control of Access	△
Existing Easement Line	--- E ---
New Temporary Construction Easement	--- E ---
New Temporary Drainage Easement	--- TDE ---
New Permanent Drainage Easement	--- PDE ---
New Permanent Drainage / Utility Easement	--- DUE ---
New Permanent Utility Easement	--- PUE ---
New Temporary Utility Easement	--- TUE ---
New Aerial Utility Easement	--- AUE ---

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼

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

Hedge	-----
Woods Line	-----
Orchard	☼ ☼ ☼ ☼
Vineyard	□ Vineyard

EXISTING STRUCTURES:

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

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.*)	--- P ---
U/G Power Line LOS C (S.U.E.*)	--- P ---
U/G Power Line LOS D (S.U.E.*)	--- P ---

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.*)	--- T ---
U/G Telephone Cable LOS C (S.U.E.*)	--- T ---
U/G Telephone Cable LOS D (S.U.E.*)	--- T ---
U/G Telephone Conduit LOS B (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS C (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS D (S.U.E.*)	--- TC ---
U/G Fiber Optics Cable LOS B (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS C (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS D (S.U.E.*)	--- T FO ---

WATER:

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

TV:

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

GAS:

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

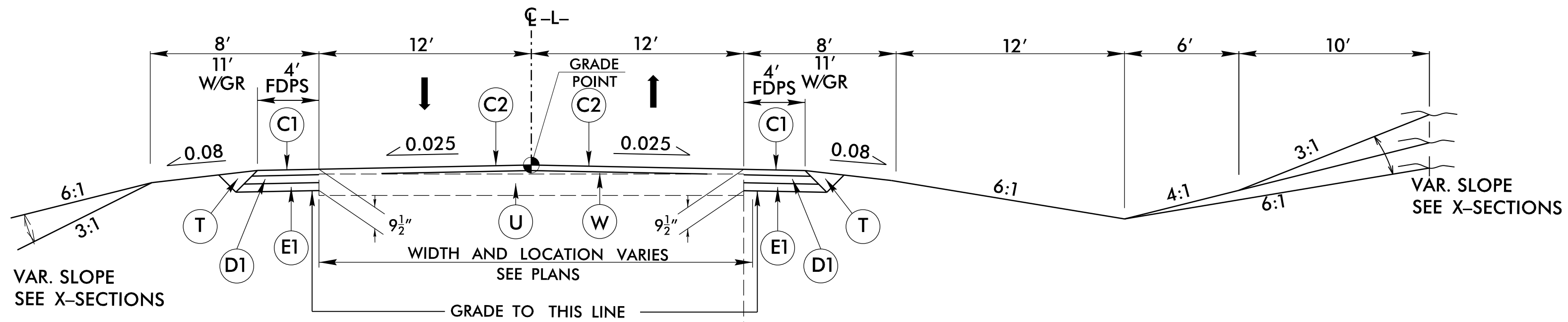
SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	--- 7UTL ---
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	AATUR
End of Information	E.O.I.

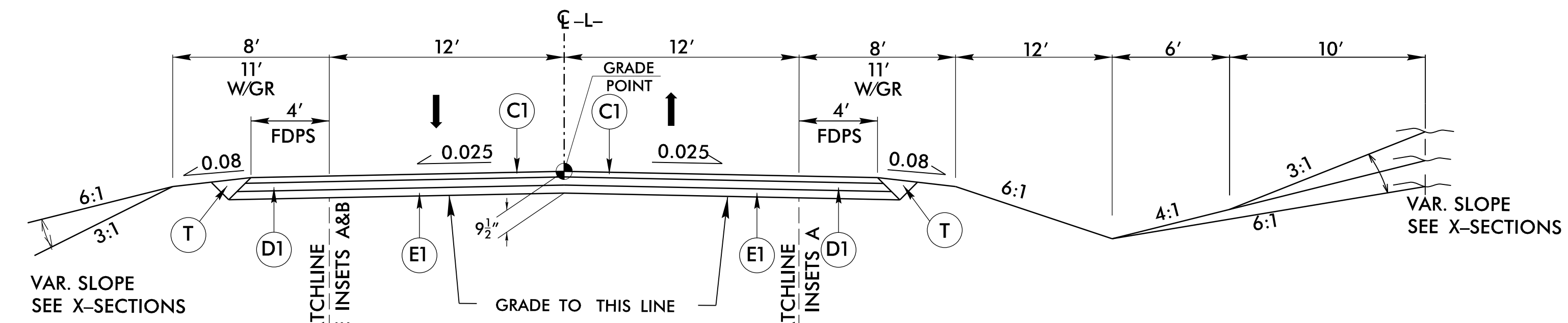
FINAL PAVEMENT SCHEDULE	
ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD.
C3	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 1.5" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 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. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	INCIDENTAL MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).



ROADWAY TYPICAL SECTION NO. 1

ROADWAY TYPICAL SECTION NO. 1

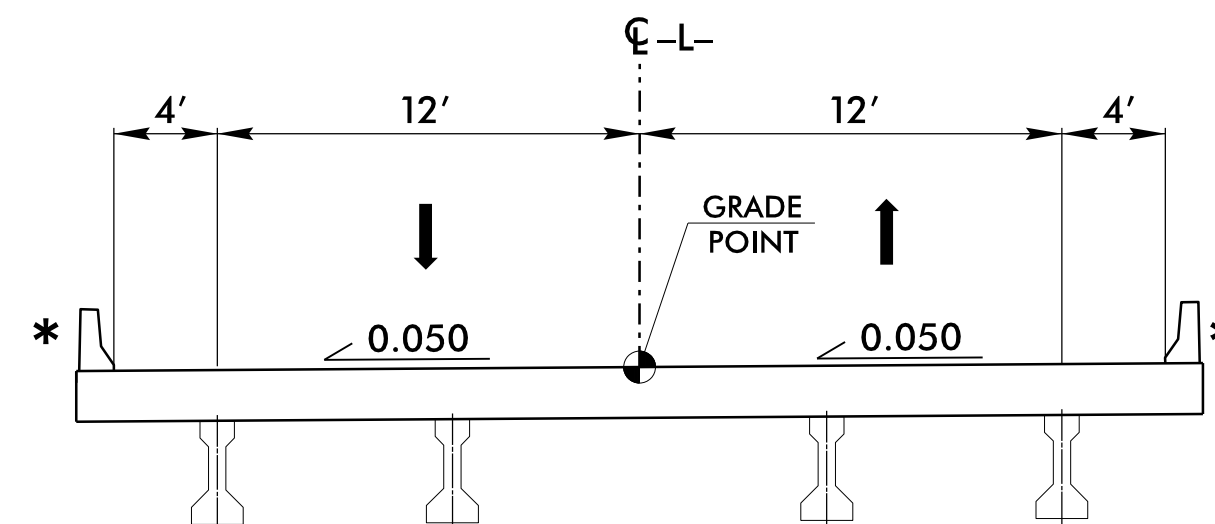
-L- STA. 12+00.00 TO STA. 13+20.00
 -L- STA. 20+35.00 TO STA. 22+00.00



ROADWAY TYPICAL SECTION NO. 2

ROADWAY TYPICAL SECTION NO. 2

-L- STA. 13+20.00 TO STA. 16+00.00 (BEGIN BRIDGE)
 -L- STA. 18+00.00 (END BRIDGE) TO STA. 20+35.00

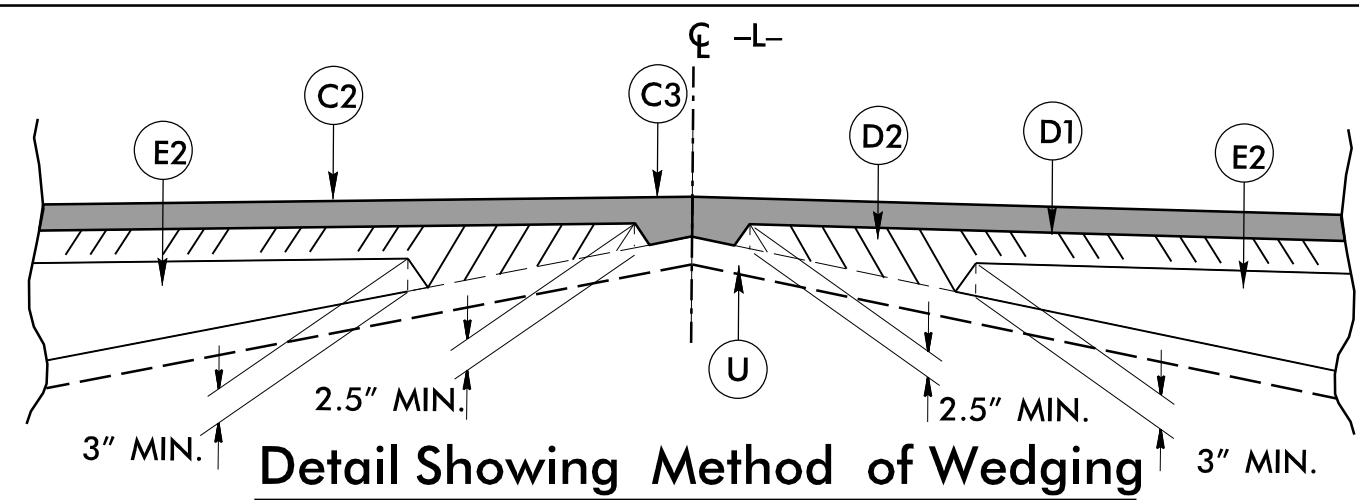


BRIDGE TYPICAL SECTION

-L- BRIDGE TYPICAL SECTION

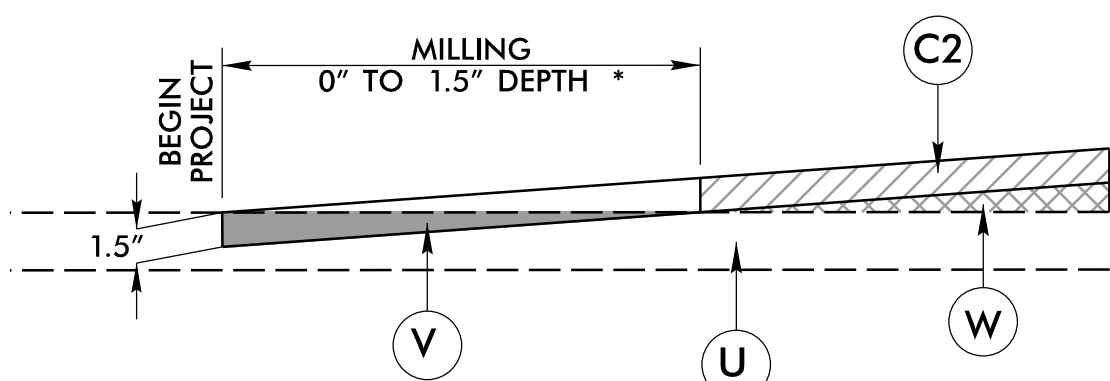
-L- STA. 16+00.00 (BEGIN BRIDGE) TO STA. 18+00.00 (END BRIDGE)

* SEE STRUCTURE PLANS FOR RAIL TYPE AND DIMENSIONS



Detail Showing Method of Wedging

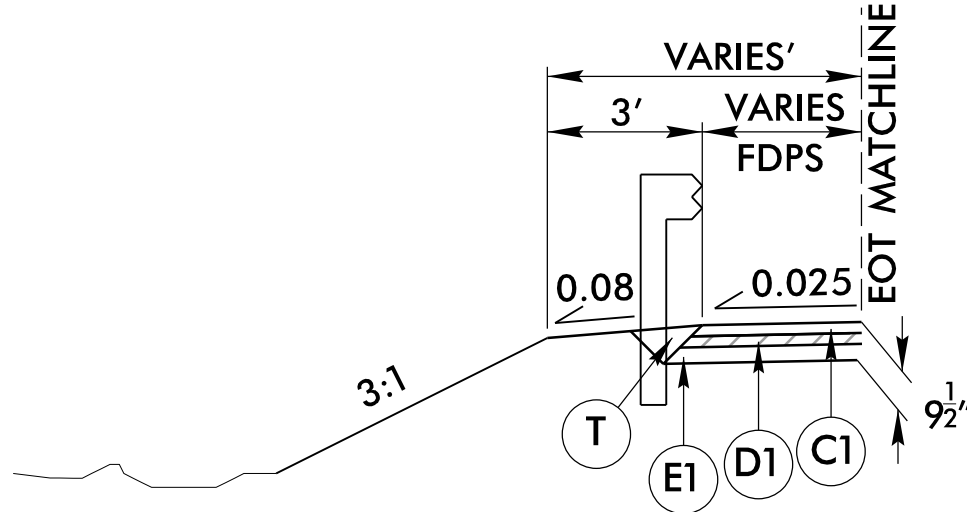
PROFILE KEY-IN DETAIL



NOTE: MIRROR FOR END PROJECT

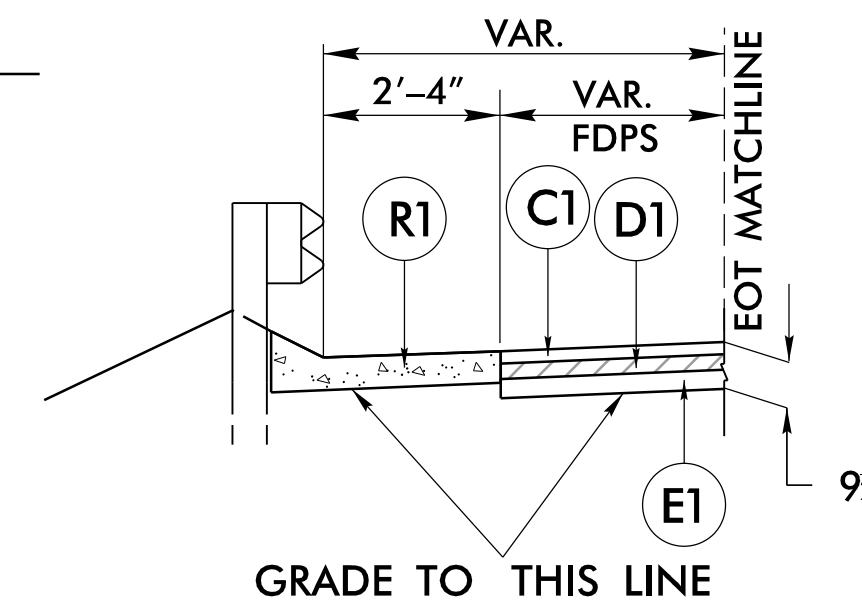
* MILL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER

INSET A



USE WITH TYPICAL SECTIONS NO. 1 & 2
 USE IN GUARDRAIL LOCATIONS (SEE GUARDRAIL SUMMARY 3B-1)

INSET B



DETAIL SHOWING SHOULDER BERM GUTTER (SBG) ON TOP OF SUBGRADE USE WITH TYPICAL SECTION NO. 2

-L- STA. 15+59.00 TO STA. 15+81.44 (LT)
 -L- STA. 18+11.11 TO STA. 18+32.00 (LT)

PROJECT REFERENCE NO. B-5671	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER <i>[Signature]</i> 2/19/2020	PAVEMENT DESIGN ENGINEER <i>[Signature]</i> 2/20/2020
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
KCI Engineers • Planners • Scientists • Construction Managers 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 • Fax (919) 783-9266	

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

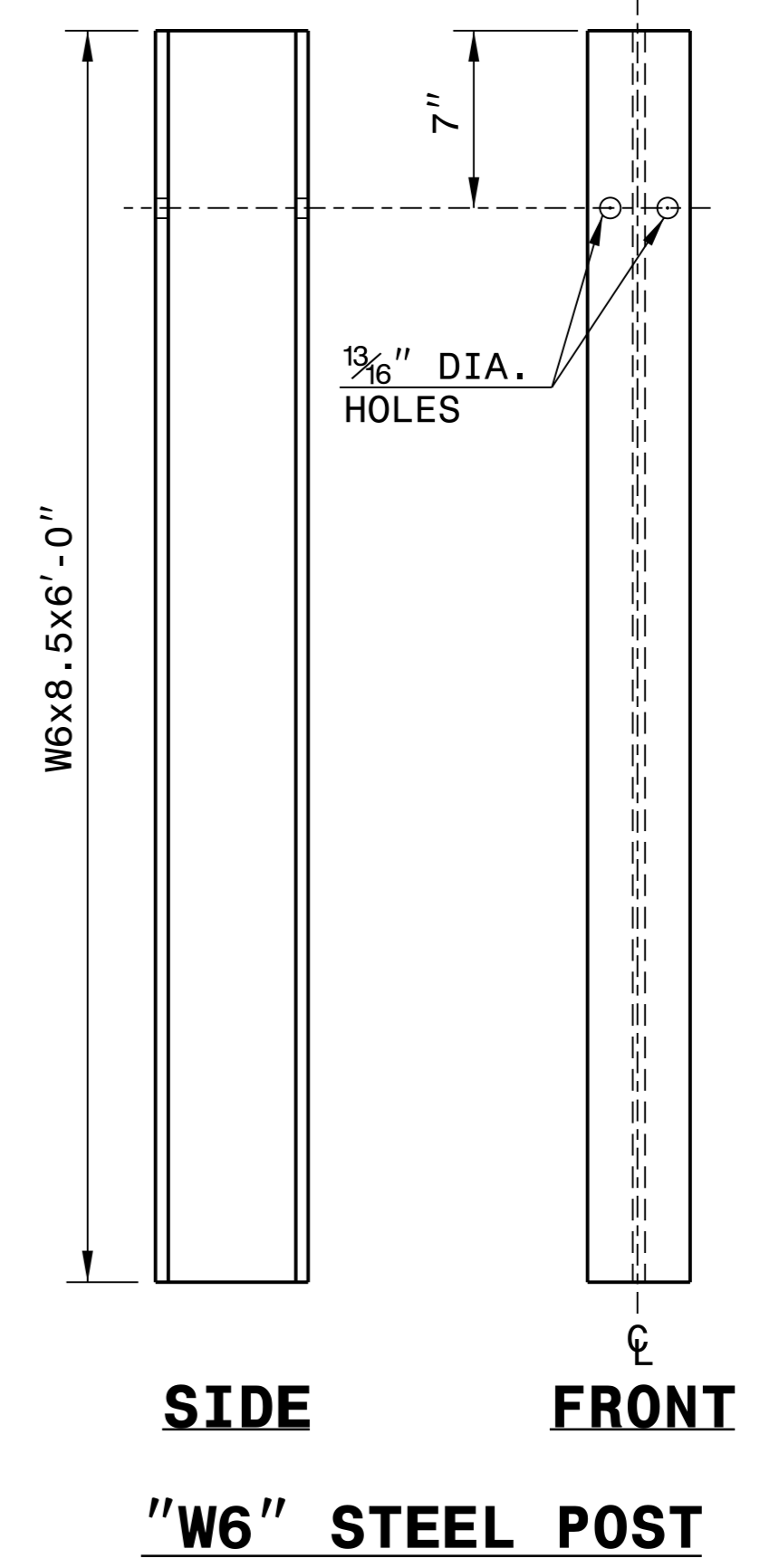
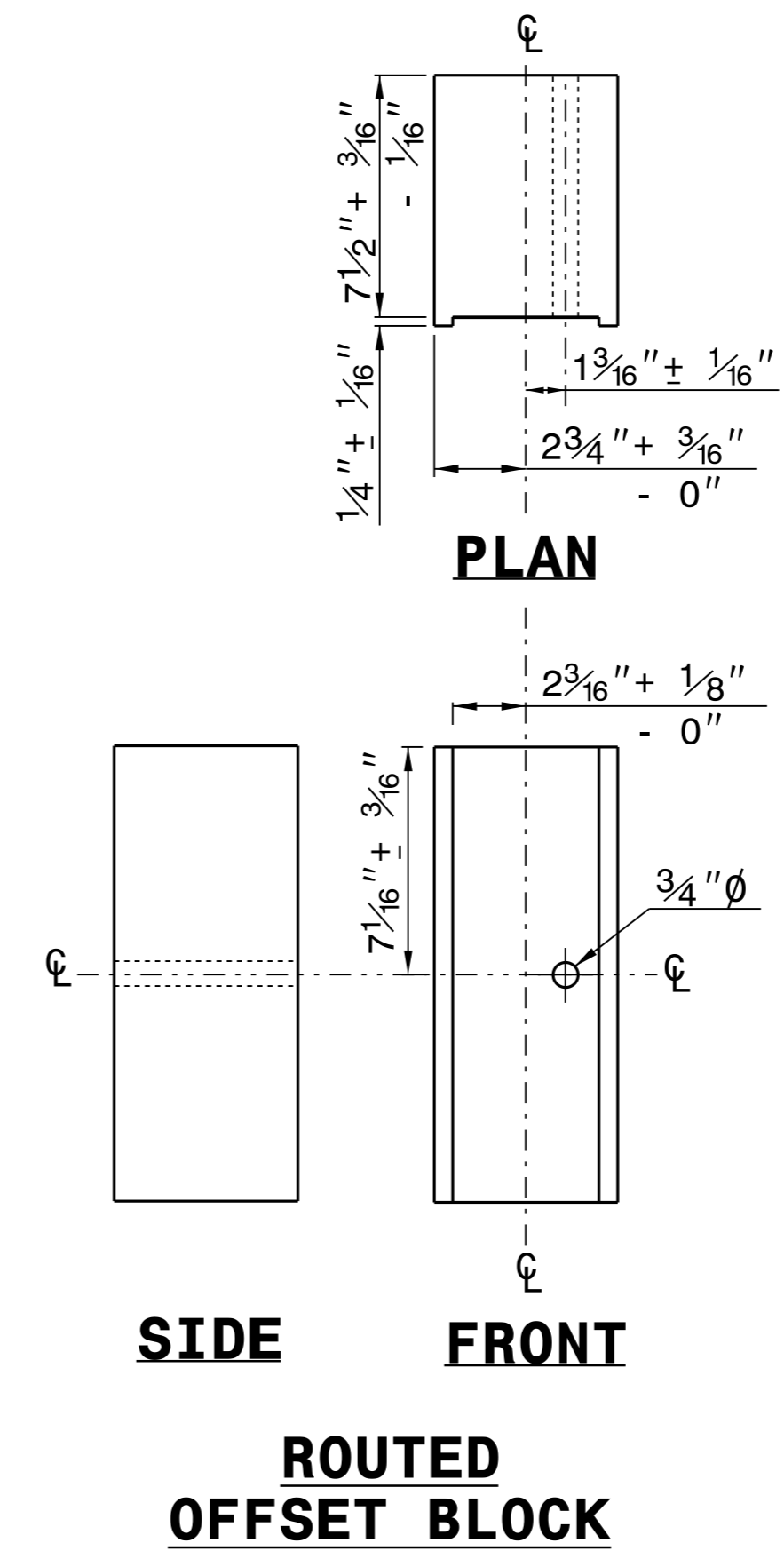
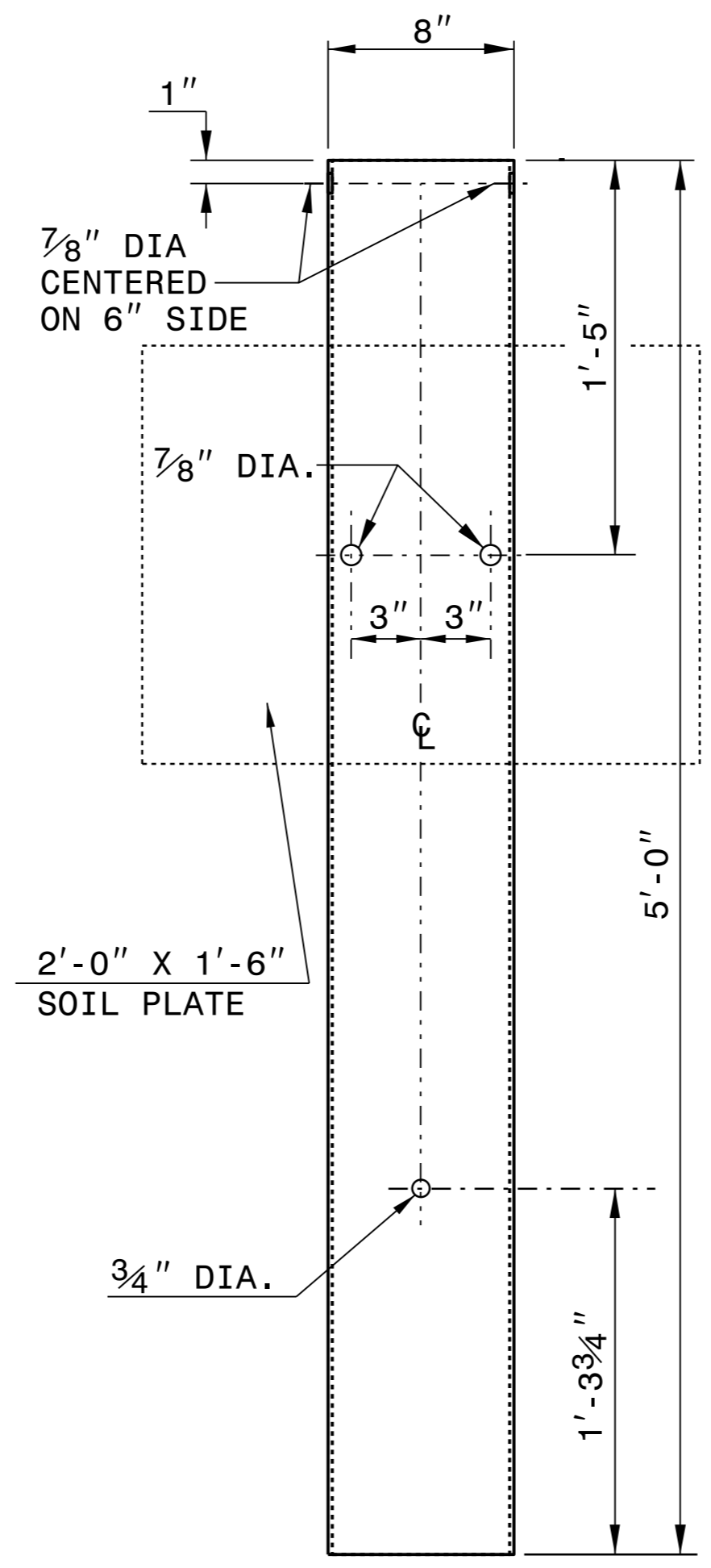
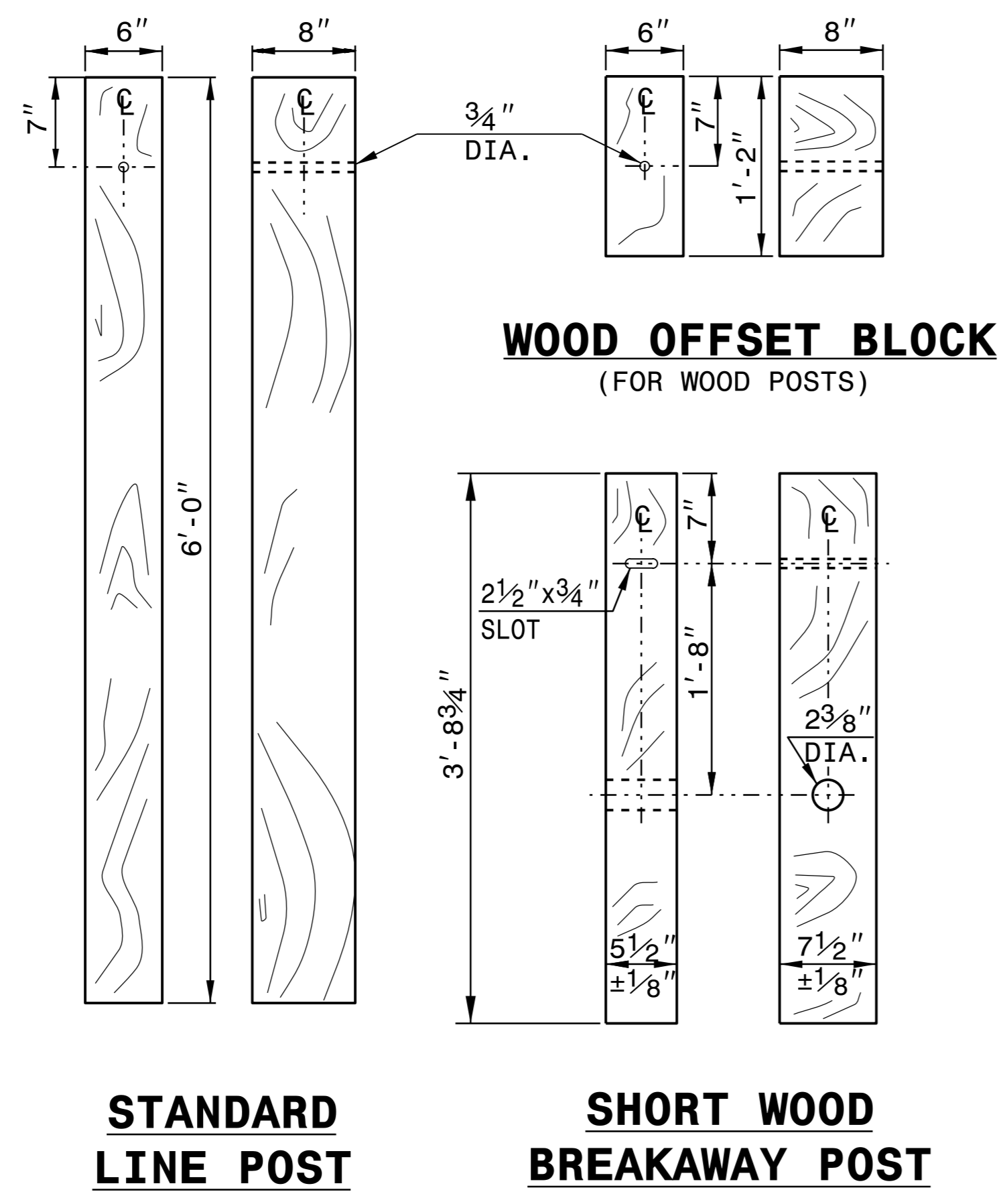
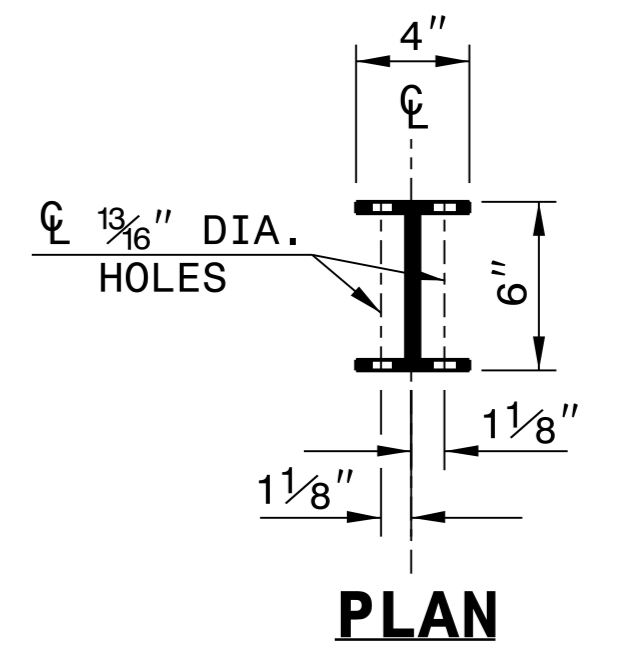
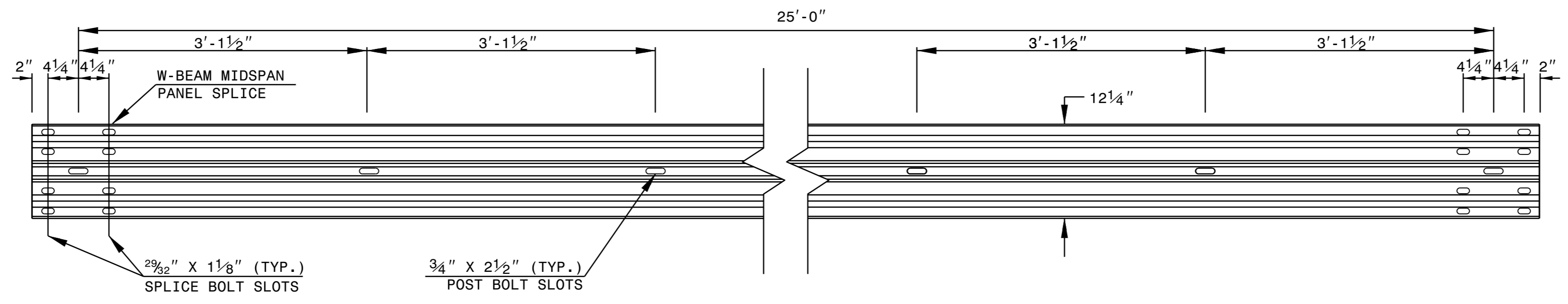
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



SYSTEM PARTS



2/25/2020

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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

COMPUTED BY: Tyler C. Bottoms DATE: 4/24/19
CHECKED BY: Jinyoung Park DATE: 5/6/19

(5-15-18)

PROJECT NO.	SHEET NO.
B-5671	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS


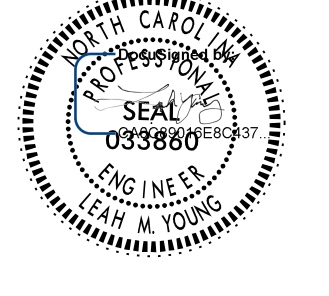
SUMMARY OF SUBSURFACE DRAINAGE

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

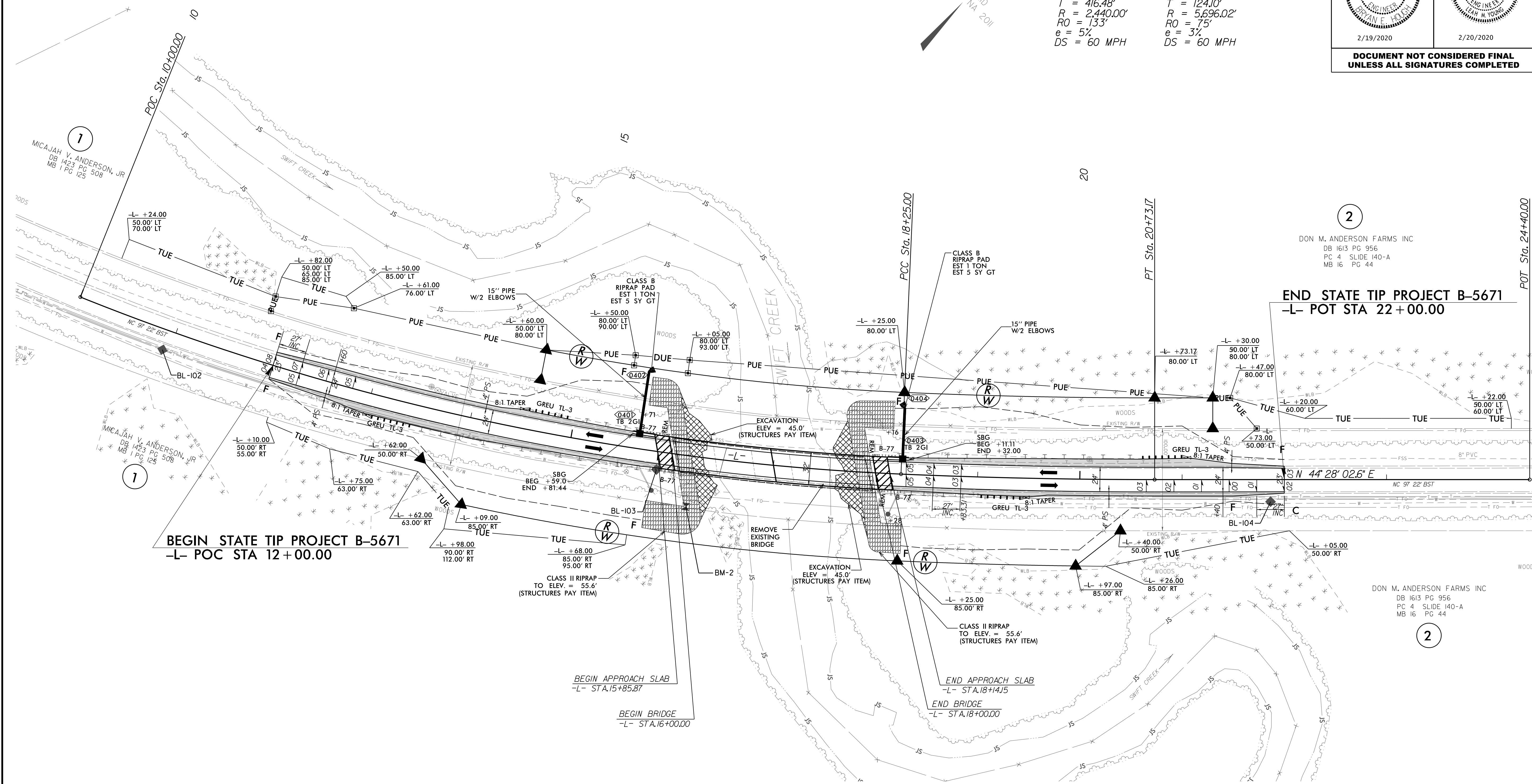
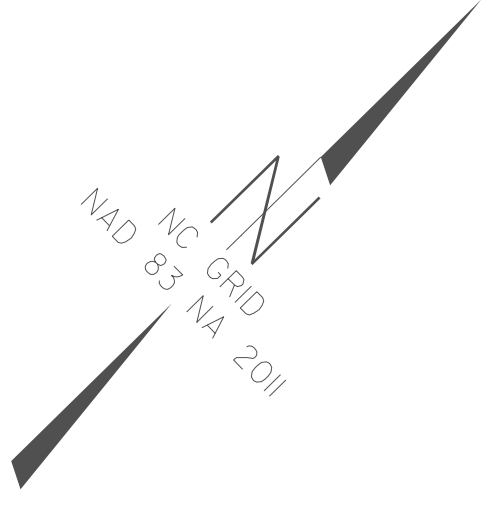
*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

8/17/19

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8/17/19

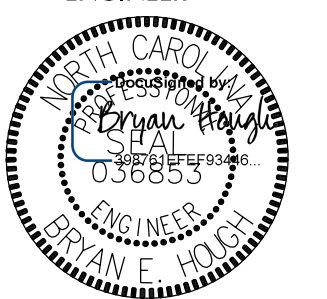
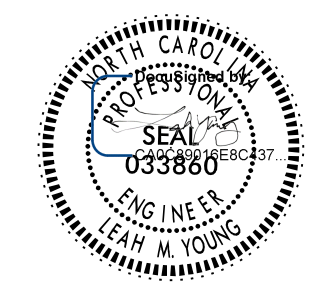
PROJECT REFERENCE NO. B-5671		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
2/19/2020		2/20/2020	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

-L-	
PI Sta 14+16.48 $\Delta = 19' 22" 21.2" (LT)$ $D = 2' 20" 53.5"$ $L = 825.00'$ $T = 416.48'$ $RO = 133'$ $e = 5\%$ $DS = 60 MPH$	PI Sta 19+49.10 $\Delta = 2' 29' 46.6" (LT)$ $D = 1' 00' 21.2"$ $L = 248.17'$ $T = 124.10'$ $RO = 5,696.02'$ $e = 3\%$ $DS = 60 MPH$



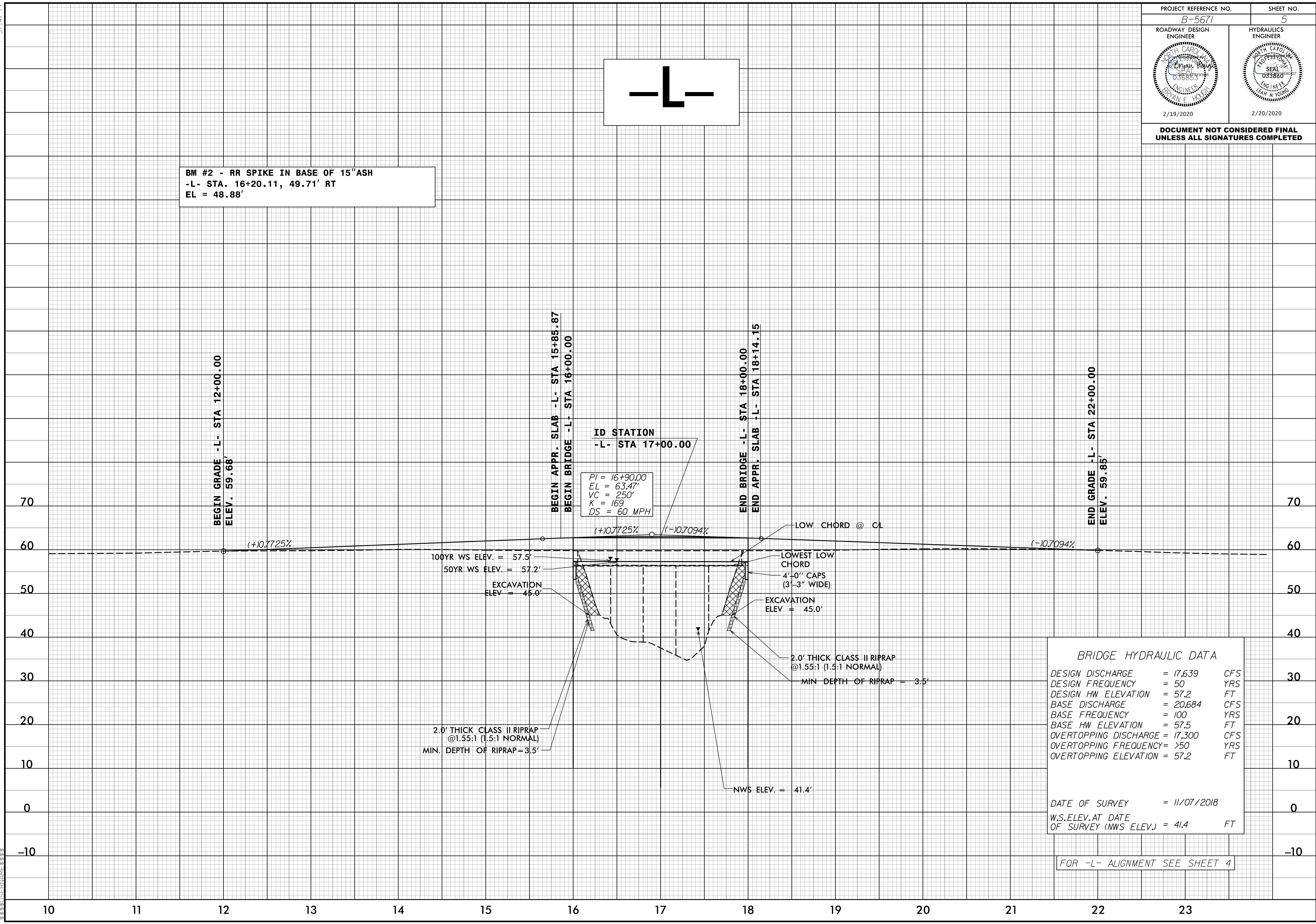
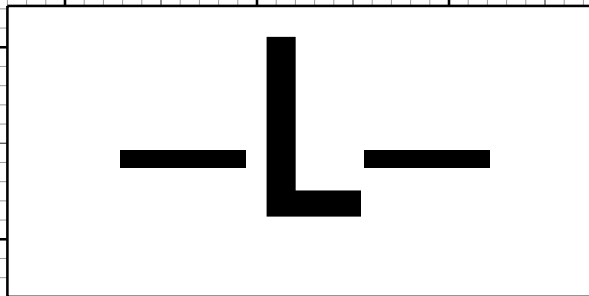
FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE PLANS SEE SHEETS S-1 TO S-29

5/14/19
19.FEB.2020 13:37
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PROJECT REFERENCE NO. B-5671	SHEET NO. 5
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
2/19/2020	2/20/2020

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

**BM #2 - RR SPIKE IN BASE OF 15" ASH
-L- STA. 16+20.11, 49.71' RT
EL = 48.88'**



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 17.639	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 57.2	FT
BASE DISCHARGE	= 20.684	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 57.5	FT
OVERTOPPING DISCHARGE	= 17.300	CFS
OVERTOPPING FREQUENCY	= >50	YRS
OVERTOPPING ELEVATION	= 57.2	FT

DATE OF SURVEY = 11/07/2018
W.S.ELEV. AT DATE OF SURVEY (NWS ELEV.) = 41.4 FT

FOR -L- ALIGNMENT SEE SHEET 4