

09/02/2019

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

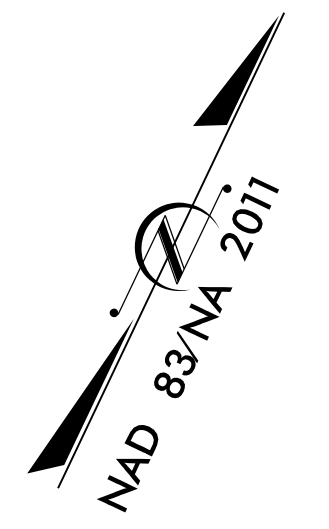
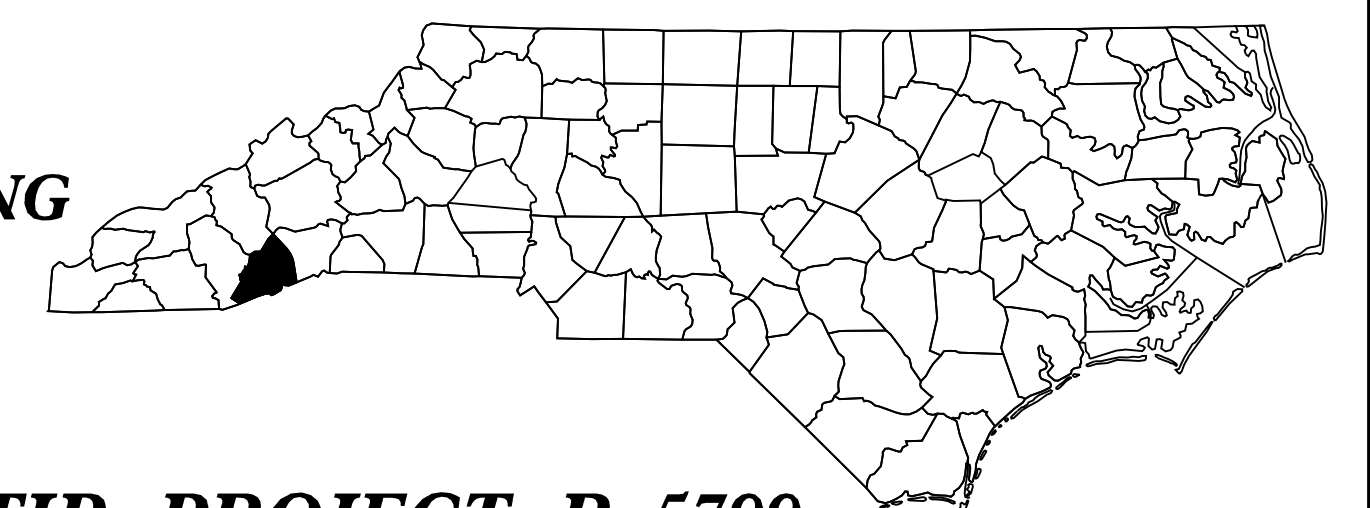
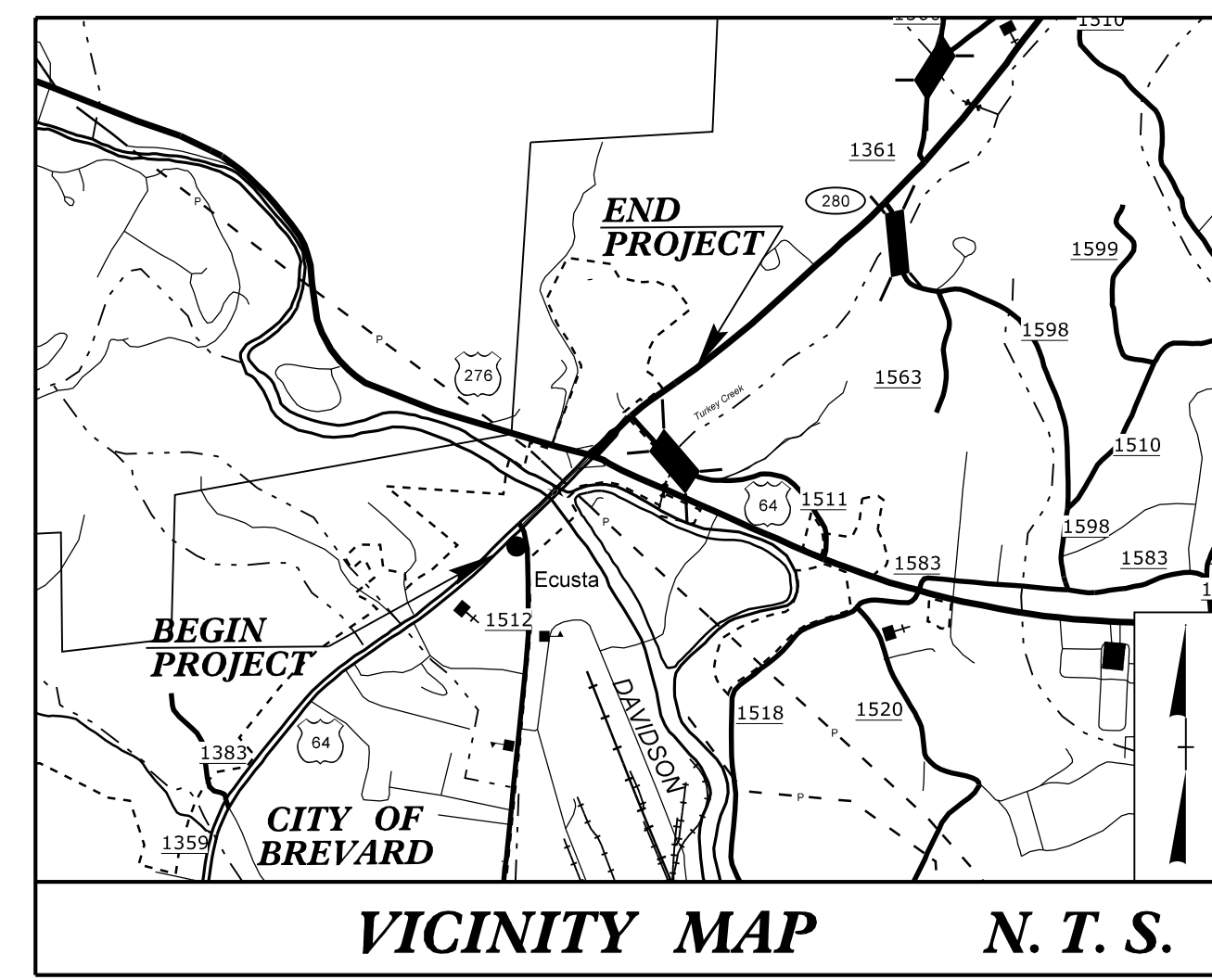
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSYLVANIA COUNTY

**LOCATION: INTERSECTIONS OF US 64, US 276 AND NC 280
CONSTRUCT INTERSECTION IMPROVEMENTS**

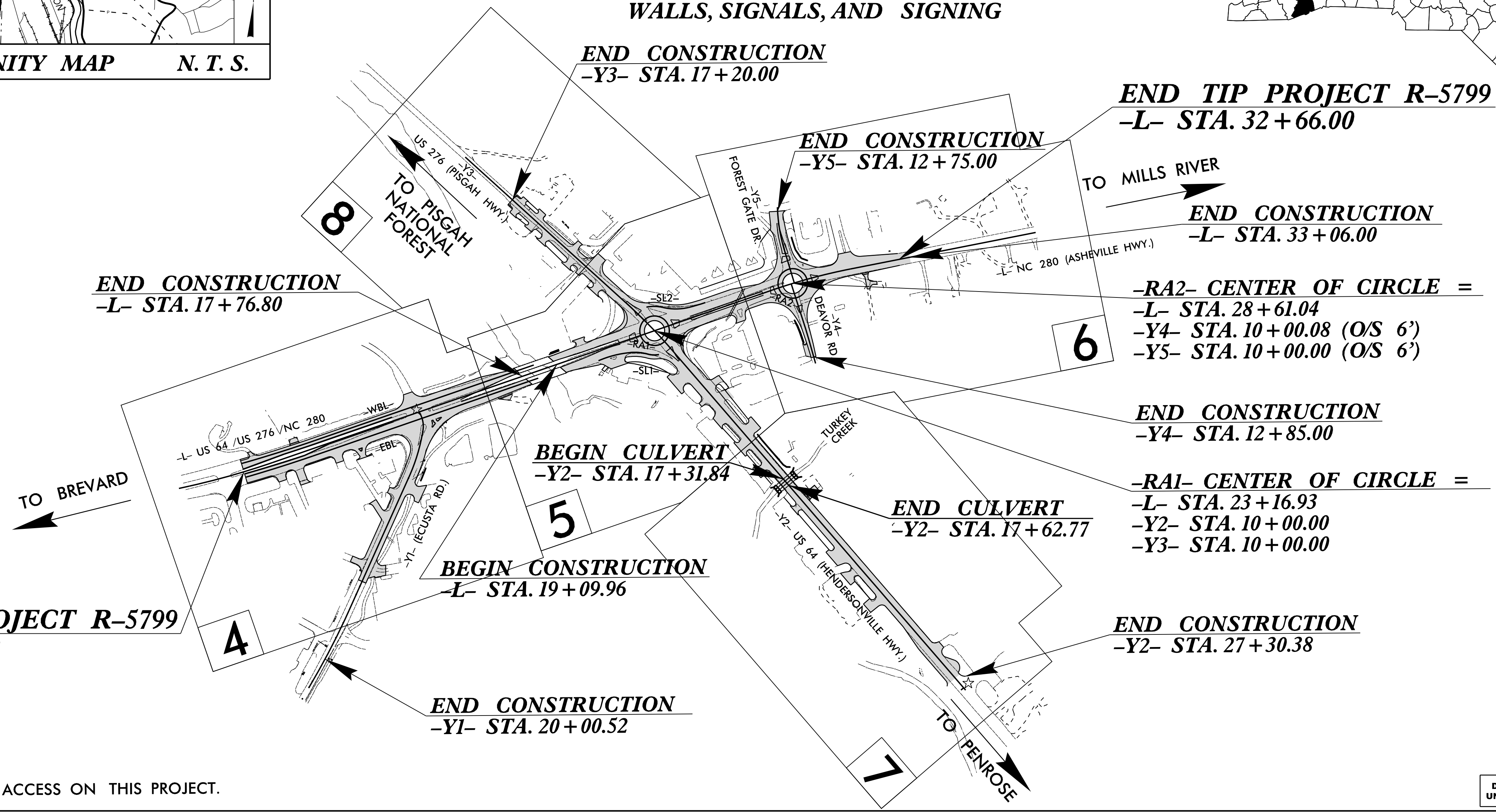
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERT, RETAINING
WALLS, SIGNALS, AND SIGNING**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5799	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
44984.1.1	N/A	P. E.	
44984.2.1	N/A	ROW, UTIL	
44984.3.1	N/A	CONST	



TIP PROJECT: R-5799

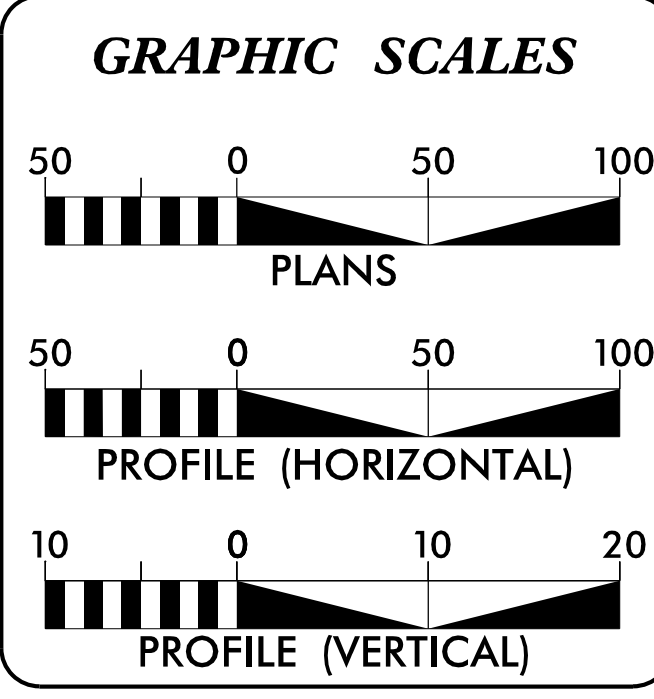
CONTRACT: C204856



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

★ EXISTING SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2023 =	25,400
ADT 2043 =	30,600
K =	9 %
D =	55 %
T =	6 % *
V =	45 MPH
* TTST =	2% + DUAL 4%
FUNC CLASS =	PRINCIPAL ARTERIAL REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5799 =	0.461 MILES
TOTAL LENGTH TIP PROJECT R-5799 =	0.461 MILES
-L- USED TO CALCULATE PROJECT LENGTH	

PREPARED IN THE OFFICE OF:

RS&H 1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
NC FIRM LICENSE NO: F-0493

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 16, 2021

LETTING DATE:
AUGUST 15, 2023

ALLISON DRAKE, PE
PROJECT ENGINEER

DREW MORROW, PE
PROJECT DESIGN ENGINEER

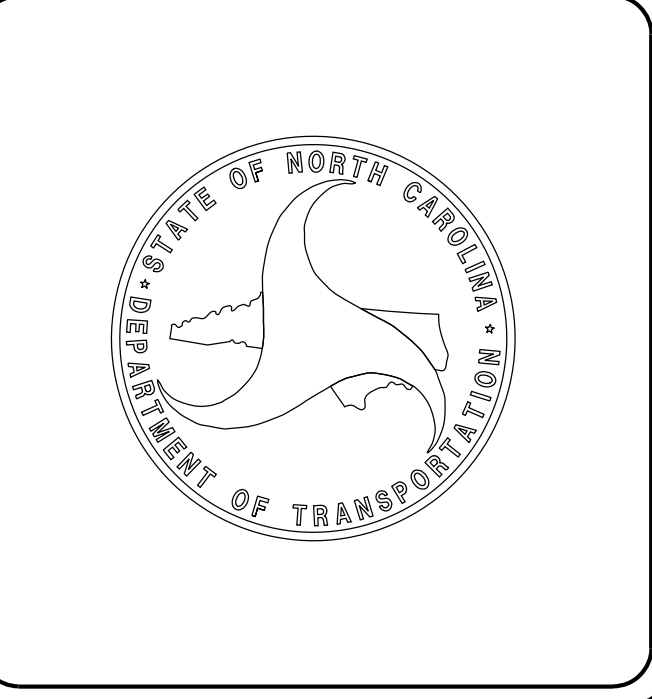
BARRY MOSTELLER
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by:
Alexander R. Vinson
SIGNATURE: P.E. 7/12/2023

ROADWAY DESIGN ENGINEER

DocuSigned by:
Allison C. Drake
SIGNATURE: P.E. 7/12/2023



20-JUN-2023 09:37
RA:Roadway Proj:R5799_Rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO. <i>R-5799</i>	SHEET NO. <i>1A</i>
ROADWAY DESIGN ENGINEER	
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-6	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	INTERSECTION DETAIL SHEET
2B-2 THRU 2B-5	ROUNDBABOUT DETAIL SHEETS
2B-6 THRU 2B-7	ROADWAY SHEAR POINT DIAGRAMS
2C-1	TYPE III - STRUCTURE ANCHOR UNIT
2C-2	TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT
2C-3	W-BEAM RAIL SECTION DETAIL
2C-4	1'-6" TO 2'-6" CURB AND GUTTER TRANSITION DETAIL
2C-5	DIRECTIONAL CURB RAMP DETAIL
2C-6	TYPE 2 PARALLEL CURB RAMP DETAIL
2C-7	TYPE 3 PARALLEL CURB RAMP DETAIL
2C-8	SHARED LANDING CURB RAMP DETAIL
2C-9	MEDIAN OR TURN LANE ISLAND CURB RAMP DETAIL
2C-10	HANDRAIL DETAIL
2C-11	ROCK PLATING DETAIL
2D-1 THRU 2D-3	SPECIAL DESIGN JUNCTION BOX DETAILS
2D-4	PROPOSED OFFSET CATCH BASIN DETAIL
2D-5	REINFORCED CONCRETE ENDWALL DETAIL
2D-6	CONVERT DROP INLET OR JB TO CATCH BASIN DETAIL
2D-7	CONVERT EXISTING DI, CB, OTCB, OR GI TO JUNCTION BOX DETAIL
2D-8	PARCEL 8 DRAINAGE DETAIL
3B-1	ROADWAY SUMMARIES
3D-1 THRU 3D-6	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 8	PLAN SHEETS
9 THRU 13	PROFILE SHEETS
RW-01 THRU RW-08	RIGHT-OF-WAY SHEETS
TMP-1 THRU TMP-23	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-6	PAVEMENT MARKING PLANS
E-1 THRU E-4	ELECTRICAL PLANS
EC-1 THRU EC-17	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-13	SIGNING PLANS
SIG-1 THRU SIG-MP8	SIGNAL PLANS
UC-1 THRU UC-8A	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-8	UTILITIES BY OTHERS PLANS
L-0 THRU L-19	LANDSCAPE PLANS
X-1 THRU X-1B	CROSS-SECTION SUMMARY SHEETS
X-2 THRU X-39	CROSS-SECTIONS
W-1 THRU W-7	RETAINING WALL PLANS
C-1 THRU C-10	CULVERT PLANS

GENERAL NOTES

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

**GRADE LINE:
GRADING AND SURFACING:**

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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 11.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

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

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.

SUBSURFACE DRAINS:

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

UNDERDRAINS:

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

DRIVEWAYS:

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

STREET TURNOUT:

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

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE POWER: DUKE ENERGY,
GAS: DOMINION ENERGY, TELEPHONE AND CABLE: COMPORIUM,
FIBER OPTIC: AT&T LD, AND OPTIMUM, WATER AND SEWER: CITY OF BREVARD

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

RIGHT-OF-WAY MARKERS:

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

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

STANDARD DRAWINGS

EFF. 01-16-2018
REV.

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	
200.02	Method of Clearing - Method 11
225.02	Guide for Grading Subgrade - Secondary and Local
225.05	Method of Obtaining Superlevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
275.01	Rock Plating
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method 1
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap



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	○ EP
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	---WLB---
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	-----
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 CA 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:

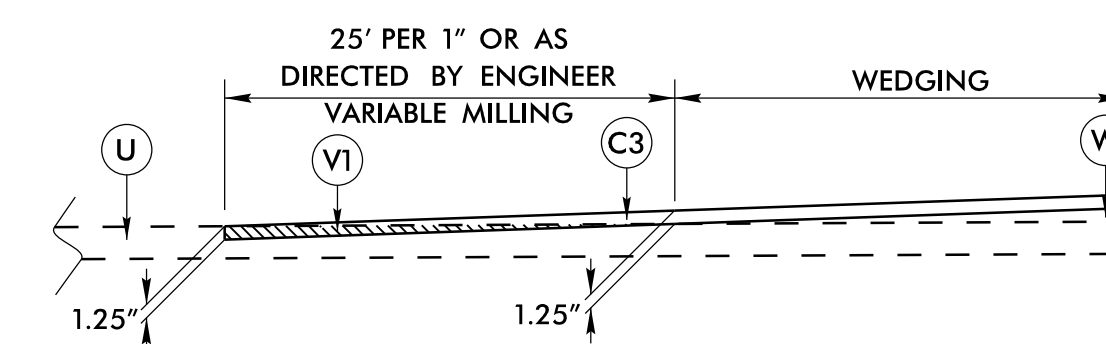
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

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	AATUR
End of Information	E.O.I.

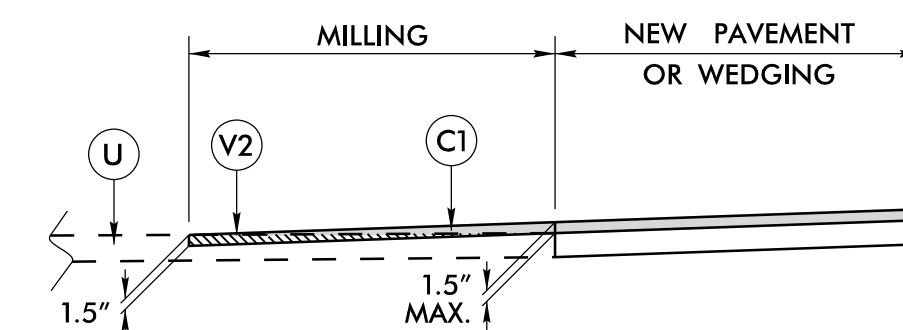
FINAL PAVEMENT SCHEDULE			
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	R4	9" X 18" CONCRETE CURB.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R5	5" MONOLITHIC CONCRETE ISLAND (KEYED IN).
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 LESS THAN 1.0" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.	R6	7" CONCRETE TRUCK APRON WITH WELDED WIRE MESH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S1	4" CONCRETE SIDEWALK.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
J1	PROP. 4" AGGREGATE BASE COURSE.	V1	MILLING, 0" - 1.25" (SEE MILLING DETAIL THIS SHEET)
R1	2'-6" CONCRETE CURB AND GUTTER.	V2	MILLING, 0" - 1.5" (SEE MILLING DETAIL THIS SHEET)
R2	1'-6" CONCRETE CURB AND GUTTER.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL.)
R3	8" X 18" CONCRETE CURB.		

NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE



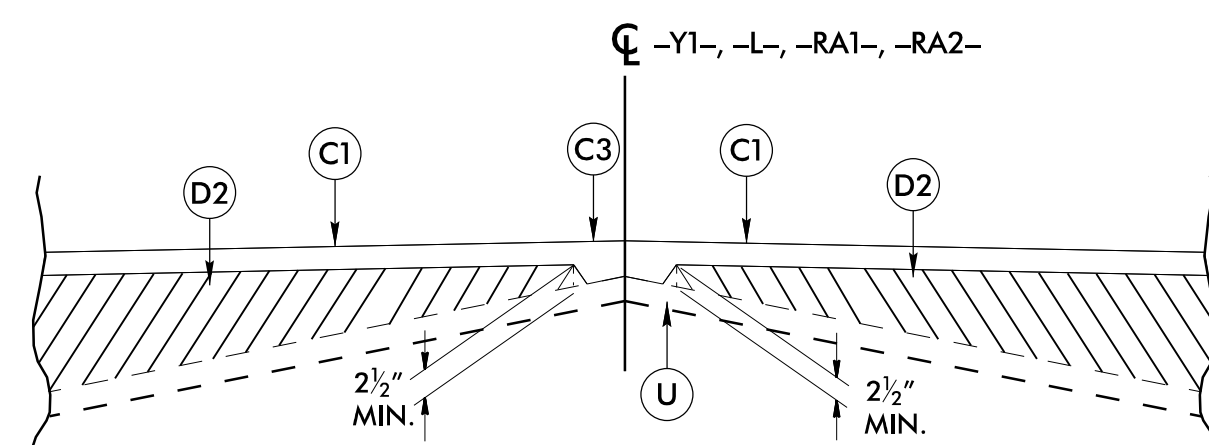
Detail of 0"-1.25" Milling At Pavement Tie-In

-L- STA. 32+66.00 TO STA. 33+06.00

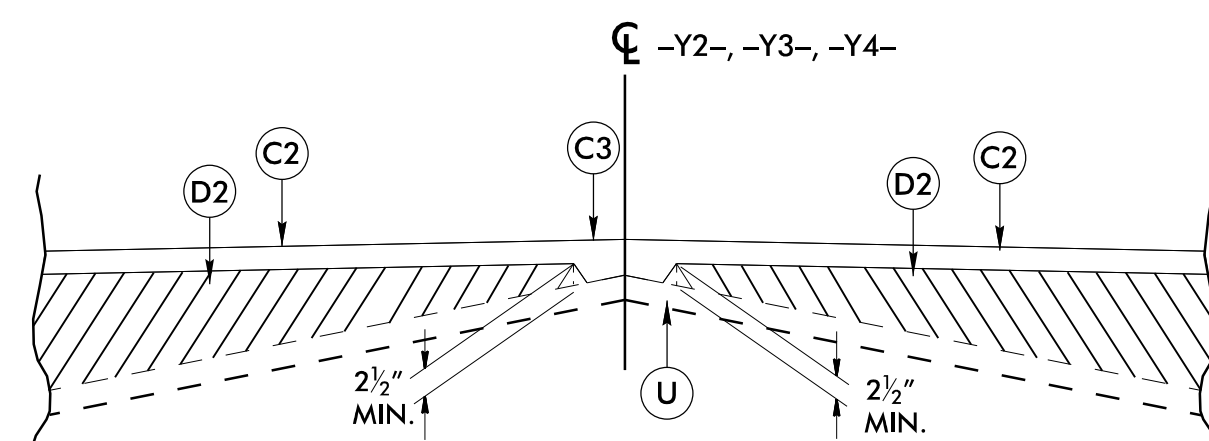


Detail of 0"-1.5" Milling At Pavement Tie-Ins

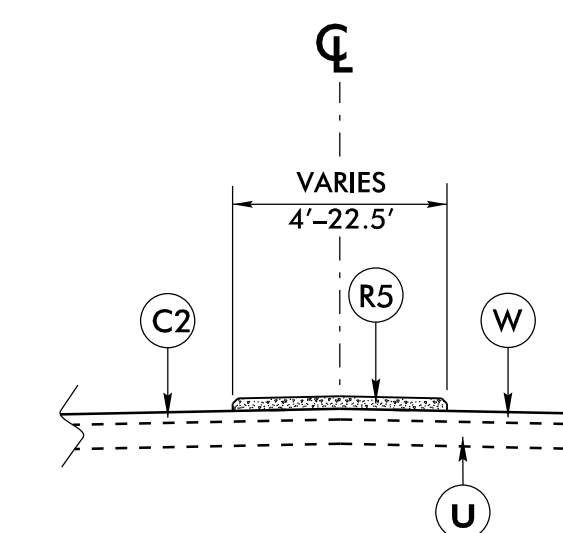
-L- STA. 7+00.00 TO STA. 7+50.00
 -L- STA. 17+70.56 TO STA. 18+20.56
 -L- STA. 19+11.14 TO STA. 19+61.14
 -Y1- STA. 16+30.00 TO STA. 16+80.00
 -Y2- STA. 26+60.00 TO STA. 27+10.00
 -Y3- STA. 16+70.00 TO STA. 17+20.00
 -Y4- STA. 12+35.00 TO STA. 12+85.00



Detail Showing Method of Wedging



Detail Showing Method of Wedging



5" MONOLITHIC ISLAND TRANSITION

-L- CL STA. 12+87.58 TO STA. 13+36.83
 -L- CL STA. 14+33.76 TO STA. 15+50.00
 -L- CL STA. 21+78.37 TO STA. 22+22.06
 -L- CL STA. 24+11.33 TO STA. 24+59.57
 -L- CL STA. 27+42.95 TO STA. 27+77.29
 -L- CL STA. 29+68.24 TO STA. 31+15.97
 -SL1- LT STA. 10+84.53 TO STA. 12+22.94
 -SL2- LT STA. 10+79.92 TO STA. 12+12.85
 -Y2- CL STA. 11+54.08 TO STA. 14+40.00
 -Y3- CL STA. 11+60.24 TO STA. 12+78.49
 -Y4- CL STA. 11+21.33 TO STA. 11+55.51
 -Y5- CL STA. 12+31.32 TO STA. 12+41.17

PROJECT REFERENCE NO. <i>R-5799</i>	SHEET NO. <i>2A-1</i>
ROADWAY DESIGN ENGINEER <i>Alison C. Drake</i>	PAVEMENT DESIGN ENGINEER <i>Scott Chrowski</i>
7/12/2023	7/13/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



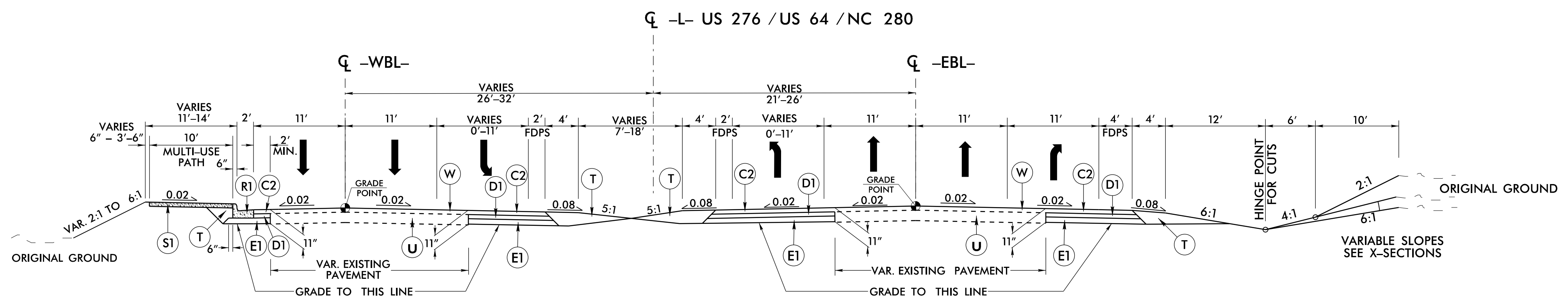
8/17/99

FINAL PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
E1	4" B25.0C
J1	4" ABC
R1	2'-6" C&G
R2	1'-6" C&G
S1	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

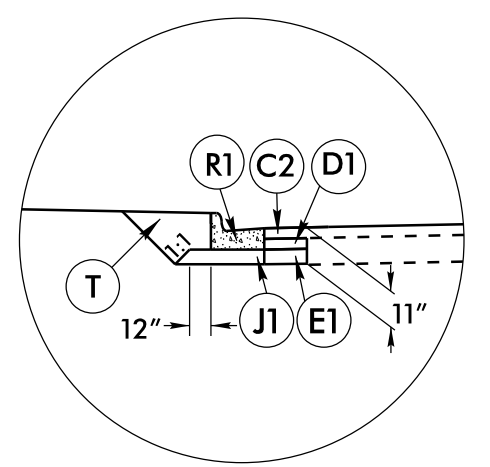
NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE

PROJECT REFERENCE NO. <i>R-5799</i>	SHEET NO. <i>2A-2</i>
ROADWAY DESIGN ENGINEER <i>Scott Crosswys</i>	PAVEMENT DESIGN ENGINEER <i>Scott Crosswys</i>

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

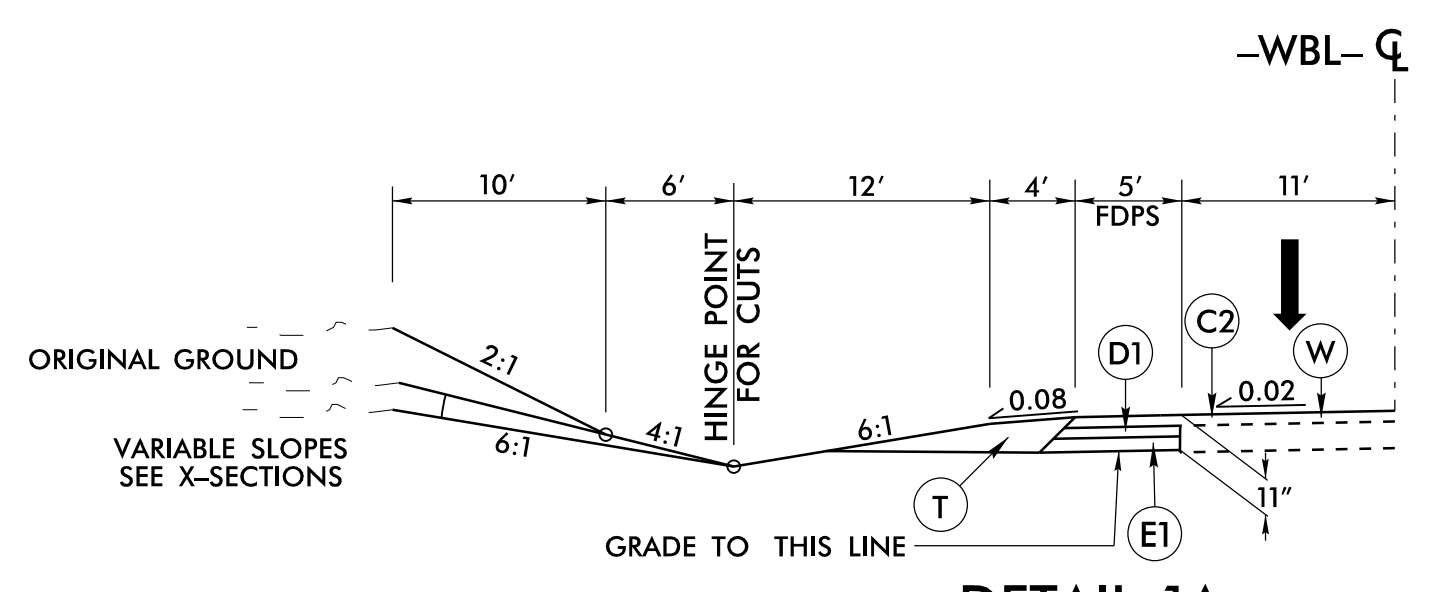


TYPICAL SECTION NO. 1
-L- STA. 7+00.00 TO STA. 13+37.58

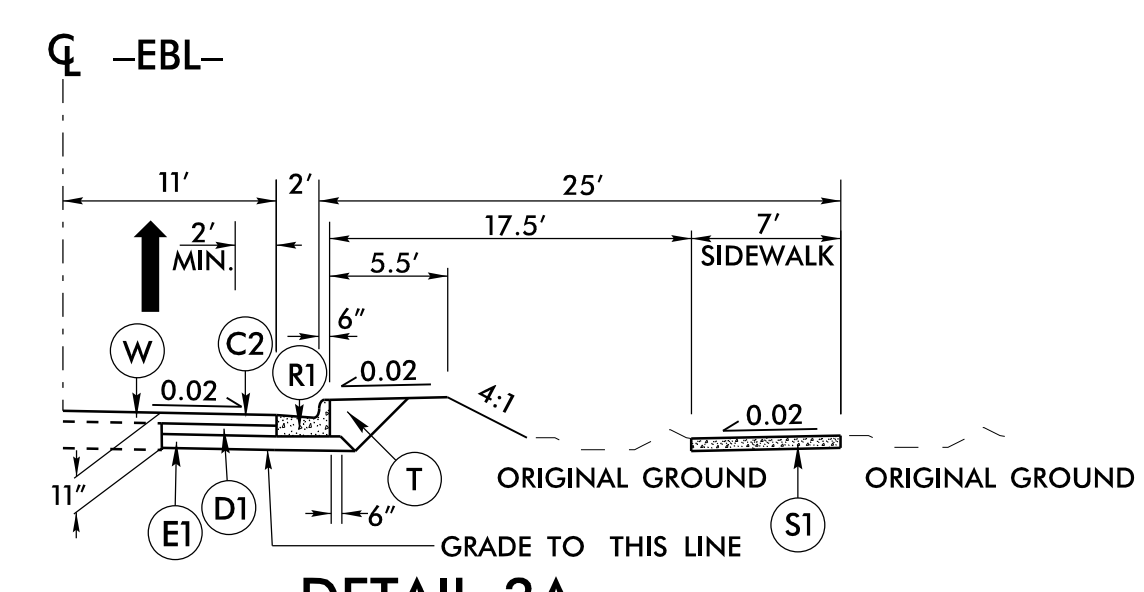


ABC OPTION UNDER 2'-6" C&G
DETAIL 'A'

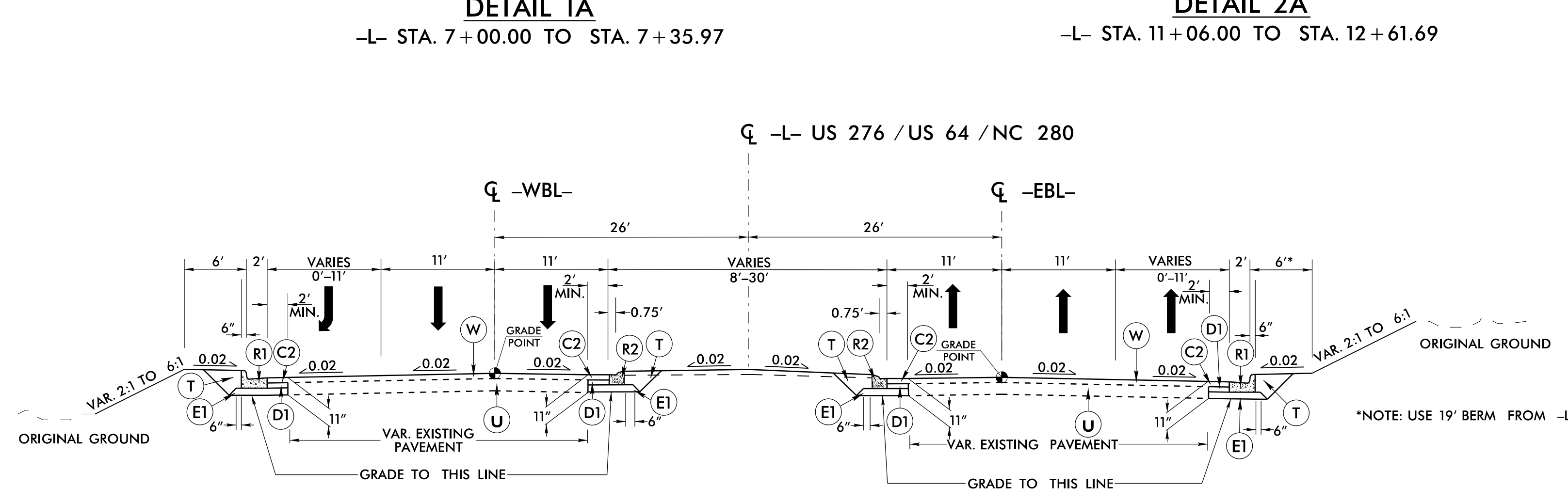
NOTE: CONTRACTOR CAN USE THIS ABC OPTION IN PLACE OF ASPHALT BASE UNDER THE 2'-6" C&G



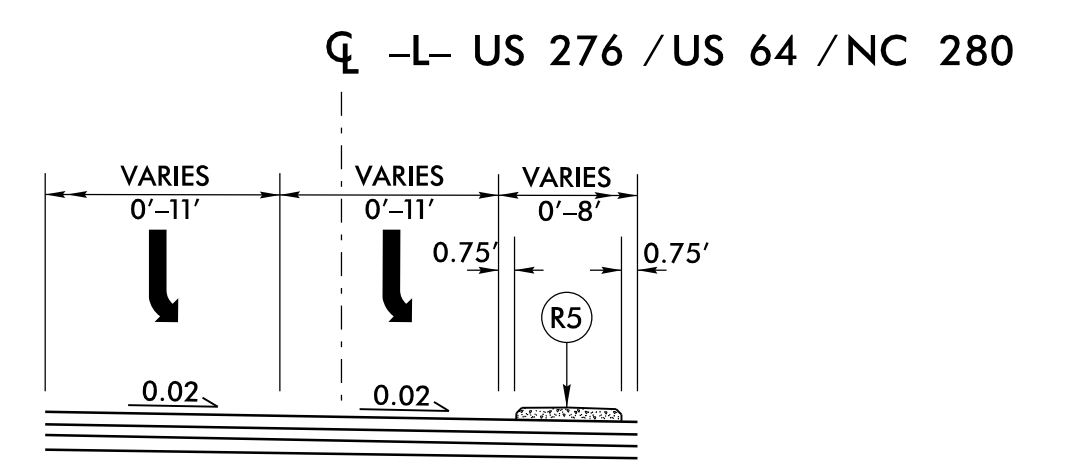
DETAIL 1A
-L- STA. 7+00.00 TO STA. 7+35.97



DETAIL 2A
-L- STA. 11+06.00 TO STA. 12+61.69



TYPICAL SECTION NO. 2
-L- STA. 13+37.58 TO STA. 18+20.56



DETAIL 2B
-L- STA. 14+33.01 TO STA. 15+50.00

*NOTE: USE 19' BERM FROM -L- STA. 15+00 RT TO STA. 15+50 RT

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 11/11/2023

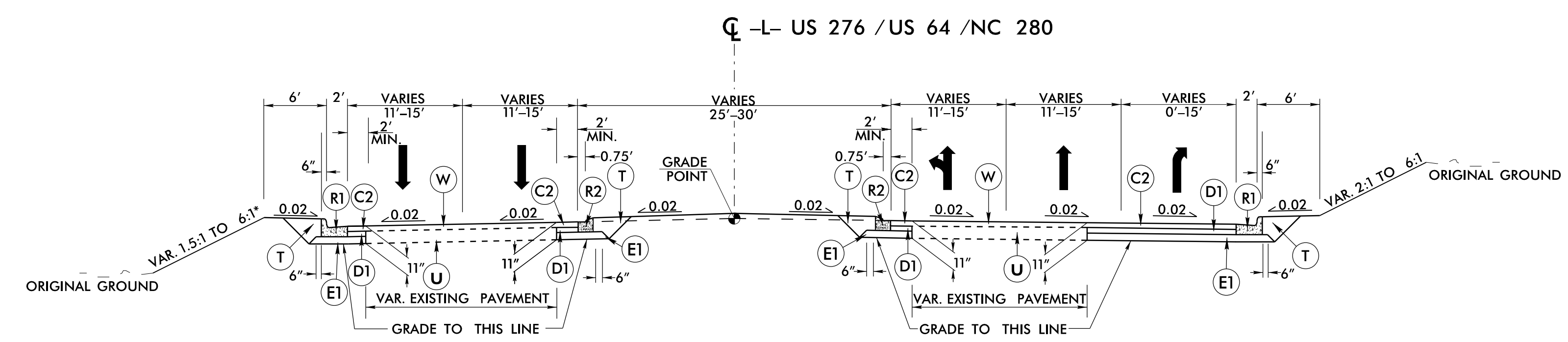
8/17/99

FINAL PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R2	1'-6" C&G
R4	9"X18" CURB
R5	5" ISLAND
R6	7" CONCRETE
S1	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

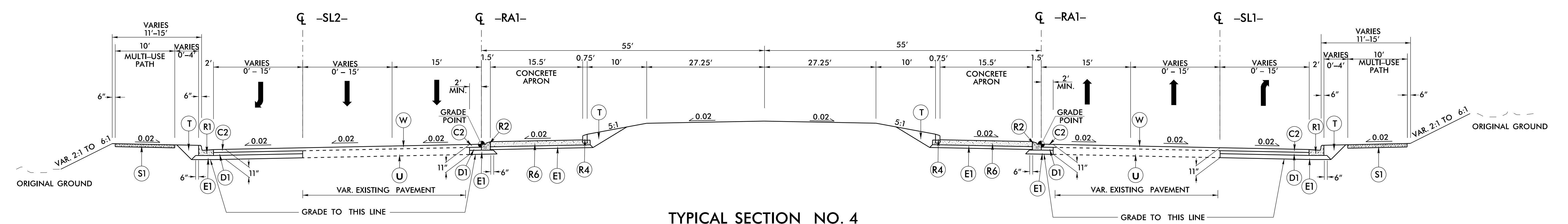
NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE

PROJECT REFERENCE NO. R-5799	SHEET NO. 2A-3
ROADWAY DESIGN ENGINEER TILSON C. DRINK	PAVEMENT DESIGN ENGINEER SCOTT PROBYNSKI

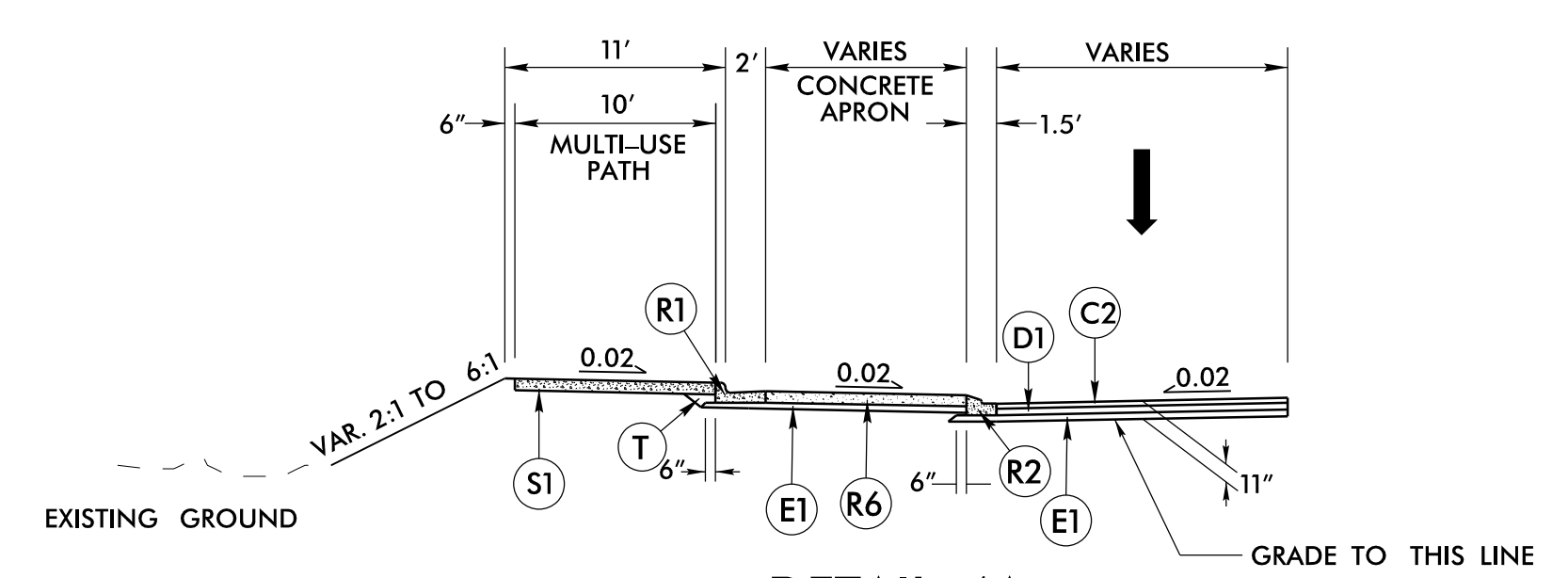
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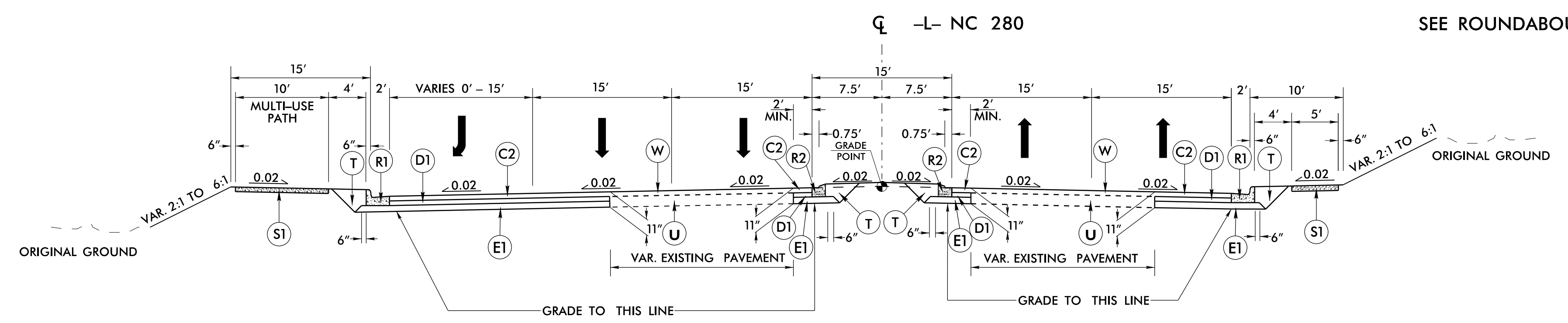
TYPICAL SECTION NO. 3
 -L- STA. 19+11.14 TO STA. 22+46.93
 *ROCK PLATING PROPOSED FOR ALL SLOPES STEEPER THAN 2:1



TYPICAL SECTION NO. 4
 -RA1- STA. 10+00.00 TO STA. 13+45.58



DETAIL 4A
 SEE ROUNDABOUT DETAIL SHEETS 2B-2 AND 2B-5



TYPICAL SECTION NO. 5
 -L- STA. 23+86.93 TO STA. 27+91.04

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 TILSON C. DRINK

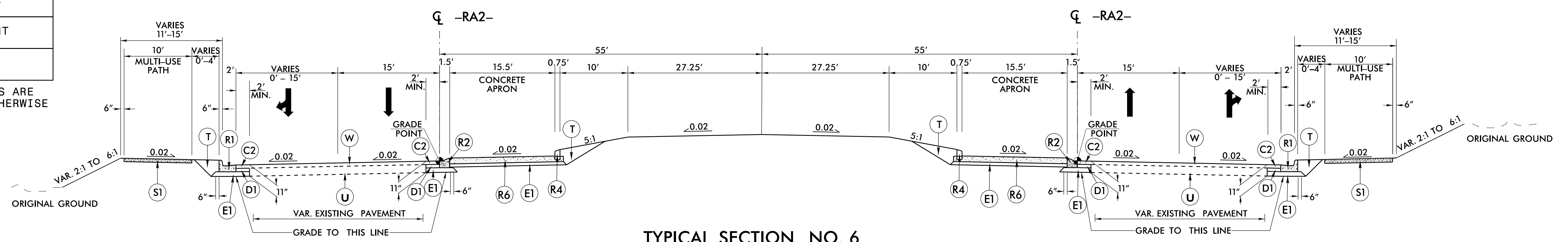
8/17/99

FINAL PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R2	1'-6" C&G
R4	9"X18" CURB
R5	5" ISLAND
R6	7" CONCRETE
S1	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

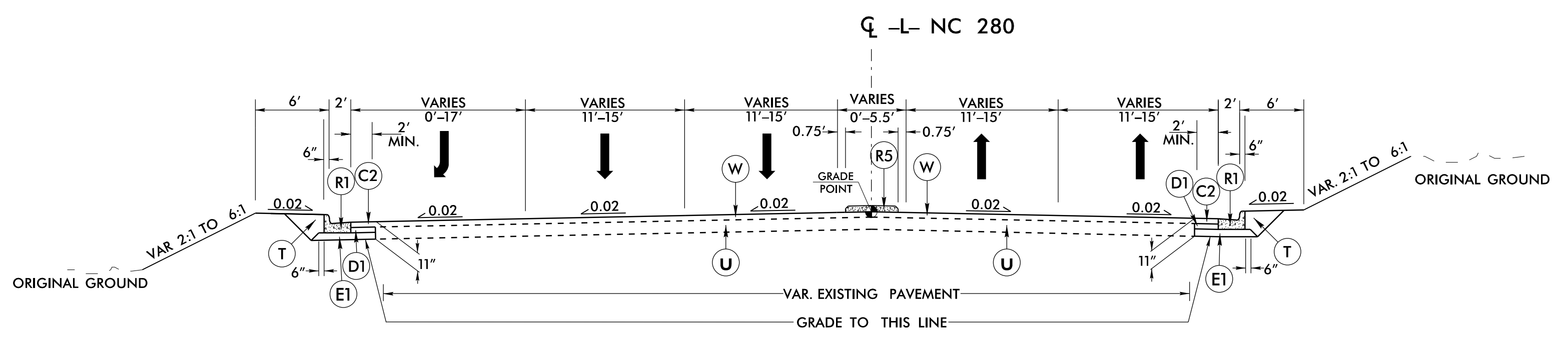
NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE

PROJECT REFERENCE NO. R-5799	SHEET NO. 2A-4
ROADWAY DESIGN ENGINEER 7/12/2023	PAVEMENT DESIGN ENGINEER 7/13/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TYPICAL SECTION NO. 6
-RA2- STA. 10+00.00 TO STA. 13+45.57



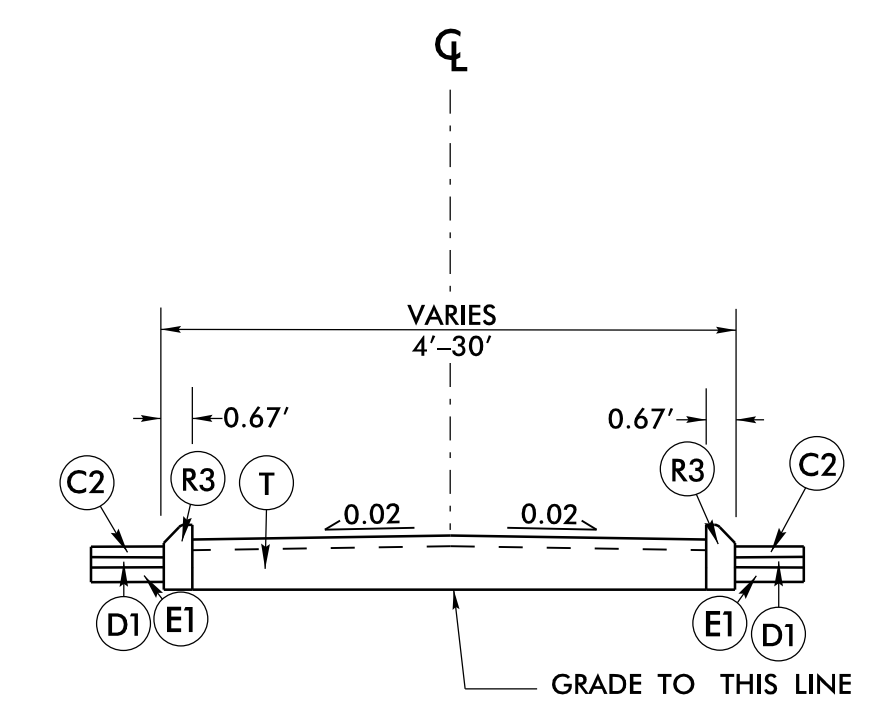
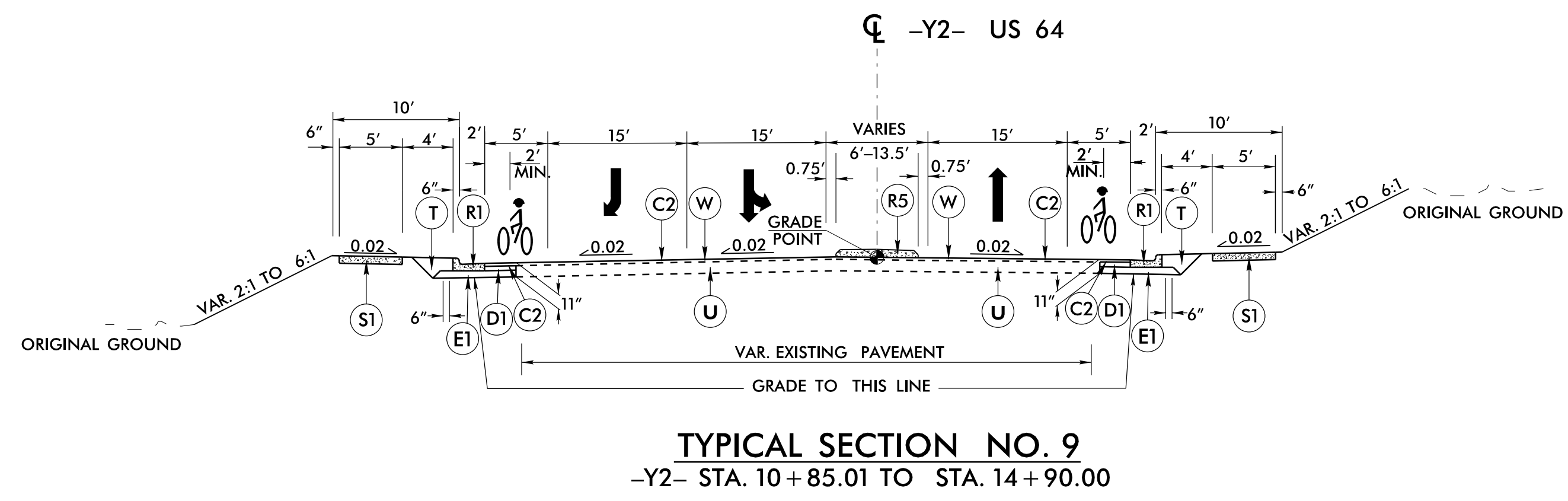
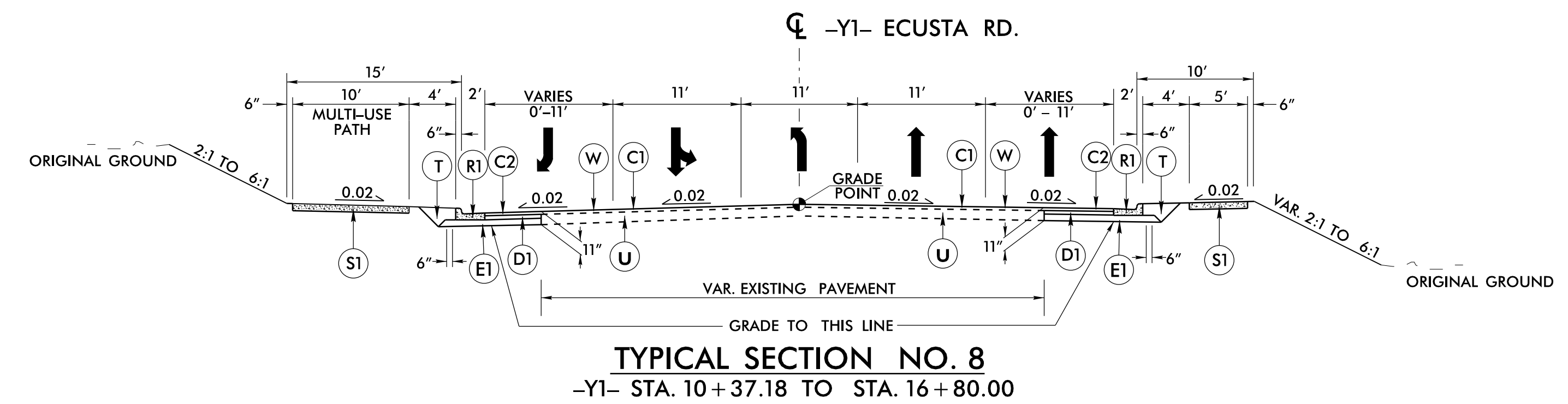
TYPICAL SECTION NO. 7
-L- STA. 29+31.04 TO STA. 32+66.00

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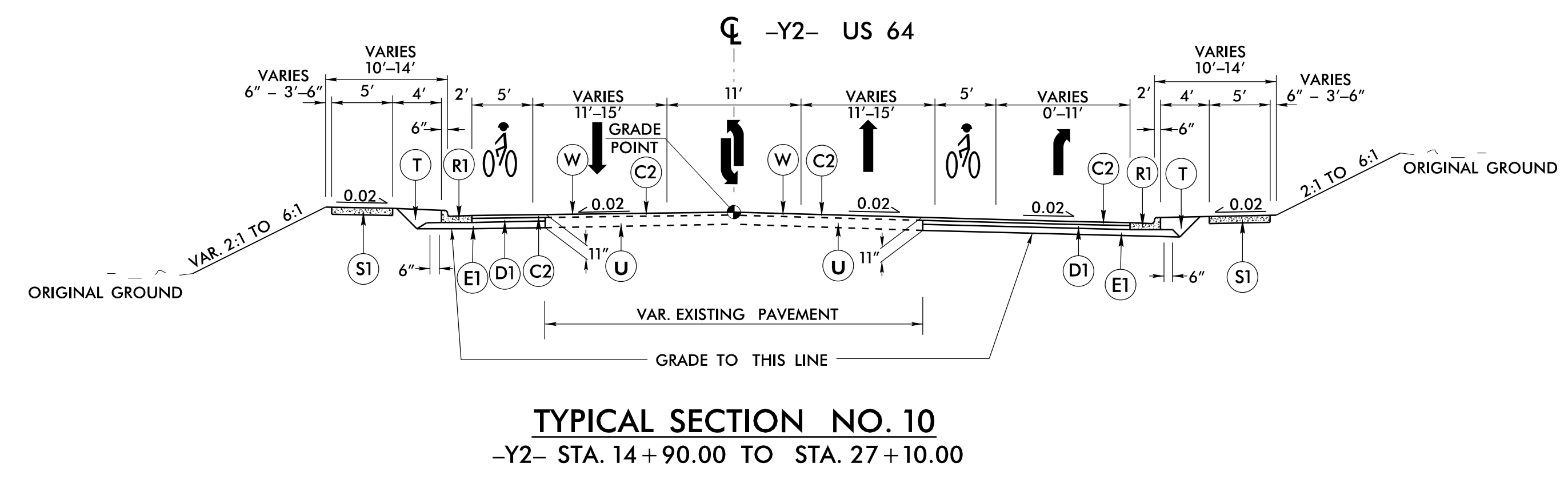
8/17/99

FINAL PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0C
E1	4" B25.0C
R1	2'-6" C&G
R3	8"X18" CURB
R5	5" ISLAND
S1	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

NOTE: PAVEMENT EDGES ARE 1:1 UNLESS SHOWN OTHERWISE



- L- STA. 22+17.62 TO STA. 22+46.93
- L- STA. 23+86.65 TO STA. 24+16.30
- L- STA. 27+71.19 TO STA. 27+91.25
- L- STA. 29+31.69 TO STA. 29+58.25
- Y2- STA. 10+86.28 TO STA. 11+44.08
- Y3- STA. 10+86.56 TO STA. 11+50.25
- Y4- STA. 10+86.27 TO STA. 11+11.33



PROJECT REFERENCE NO. <i>R-5799</i>	SHEET NO. <i>2A-5</i>
ROADWAY DESIGN ENGINEER <i>Matthew C. Drake</i>	PAVEMENT DESIGN ENGINEER <i>Scott R. Gysi</i>
7/12/2023	7/13/2023

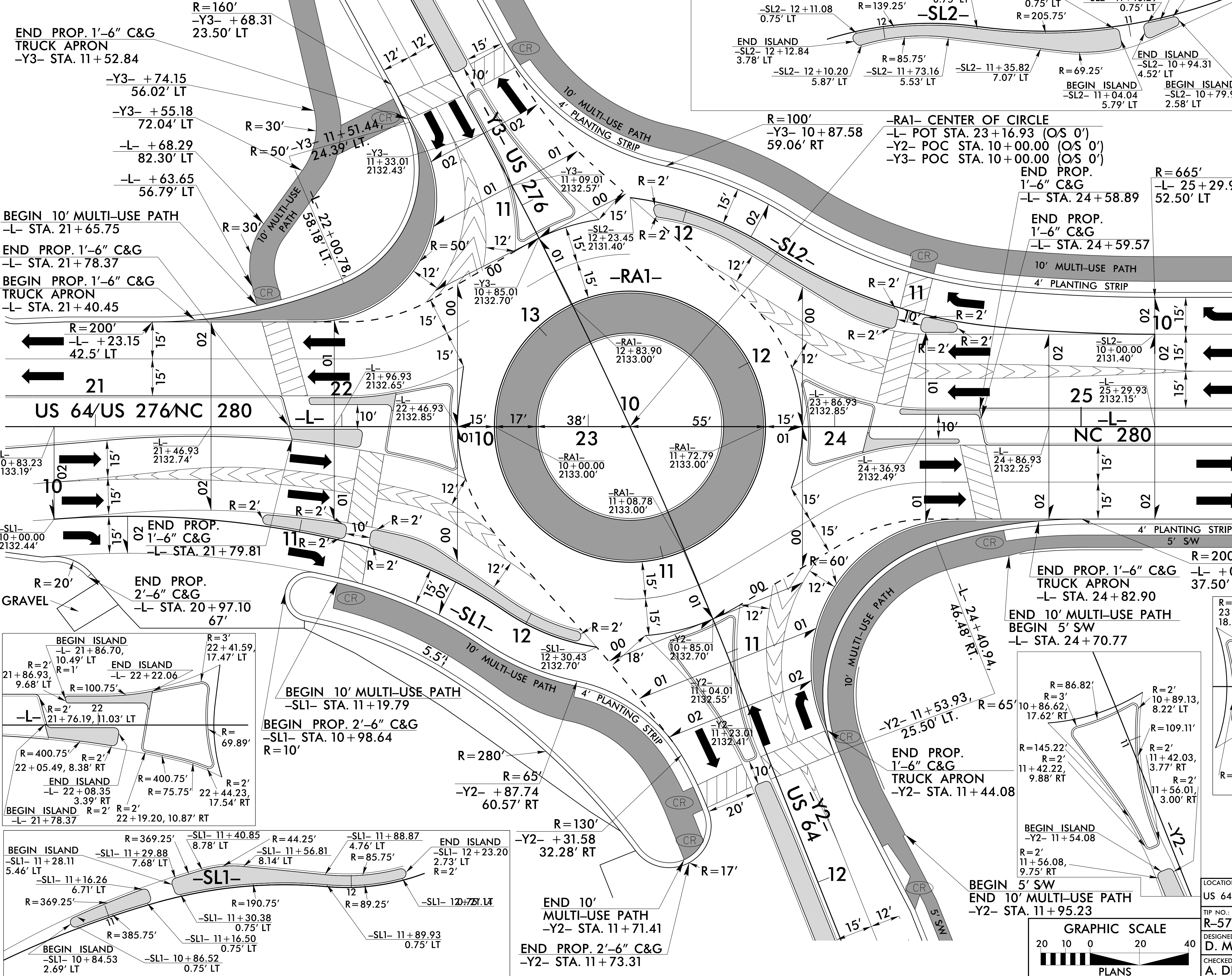
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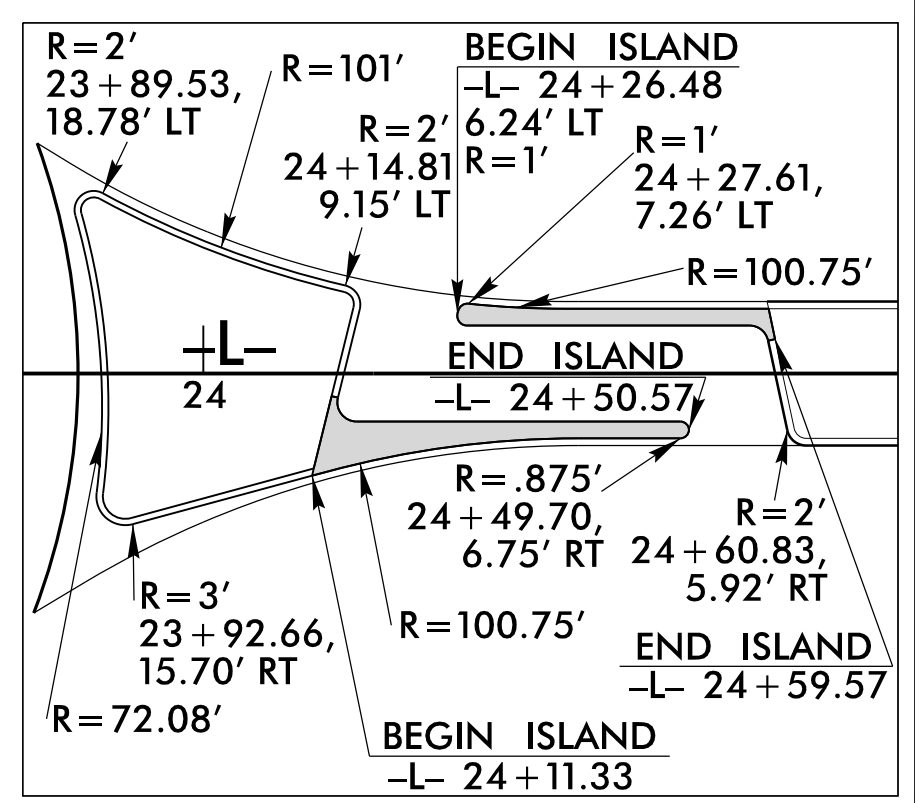
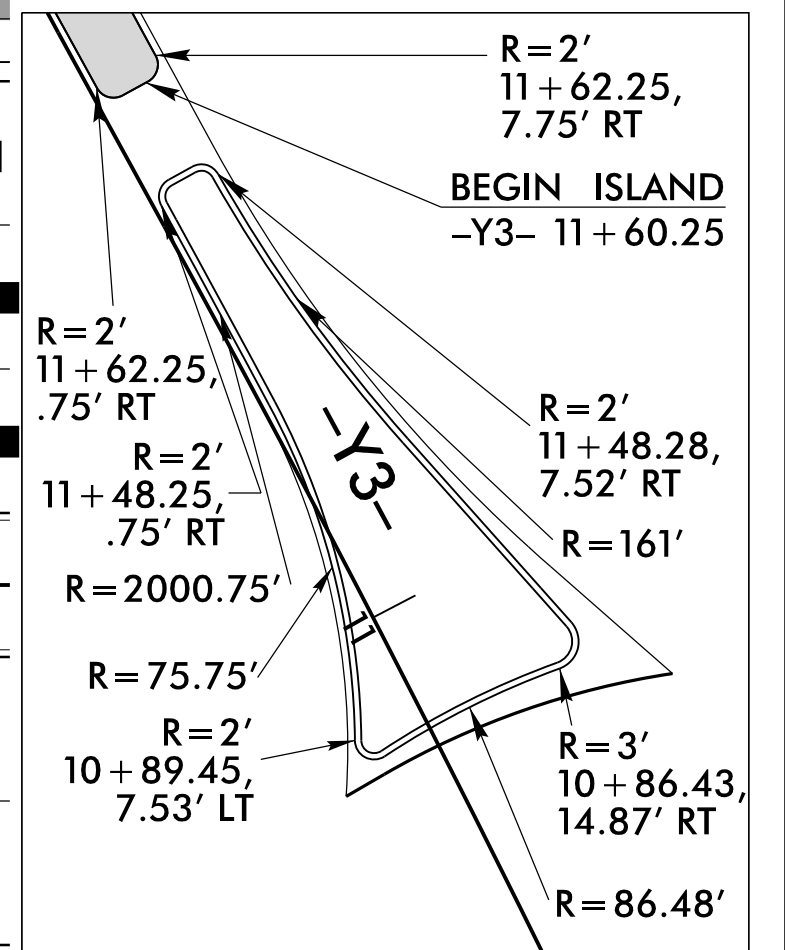
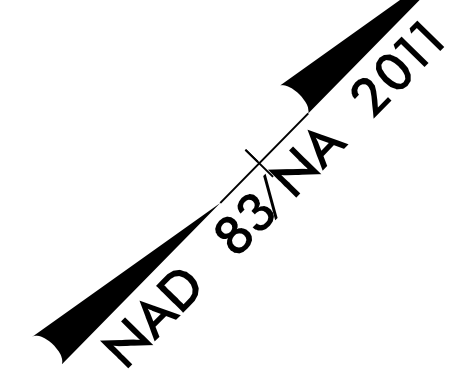
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ROUNDBABOUT -RA1- DETAIL



PROJECT REFERENCE NO. R-5799	SHEET NO. 2B-2
ROADWAY DESIGN ENGINEER	
6/15/2023	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



- PROP. SIDEWALK & MULTI-USE PATH
- PROP. MONO. ISLAND
- PROP. CURB RAMPS

LOCATION:
US 64 AND US 276/NC 280 INTERSECTION

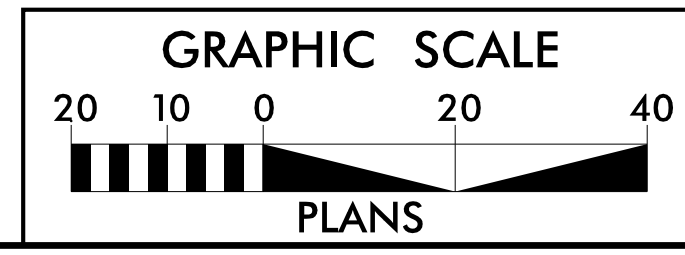
TIP NO.:
R-5799

COUNTY:
TRANSYLVANIA

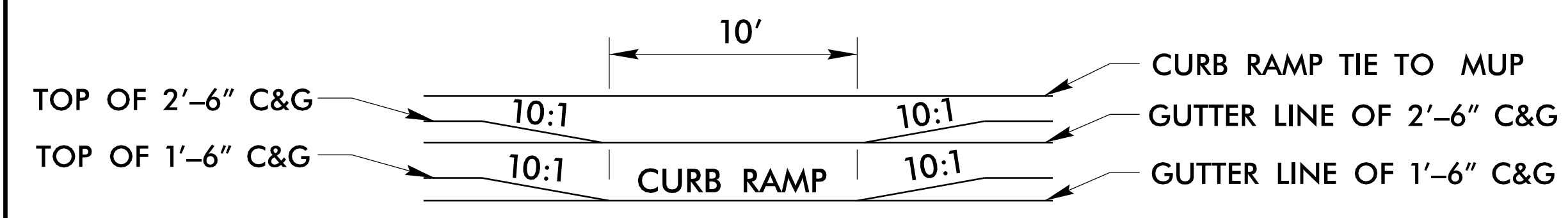
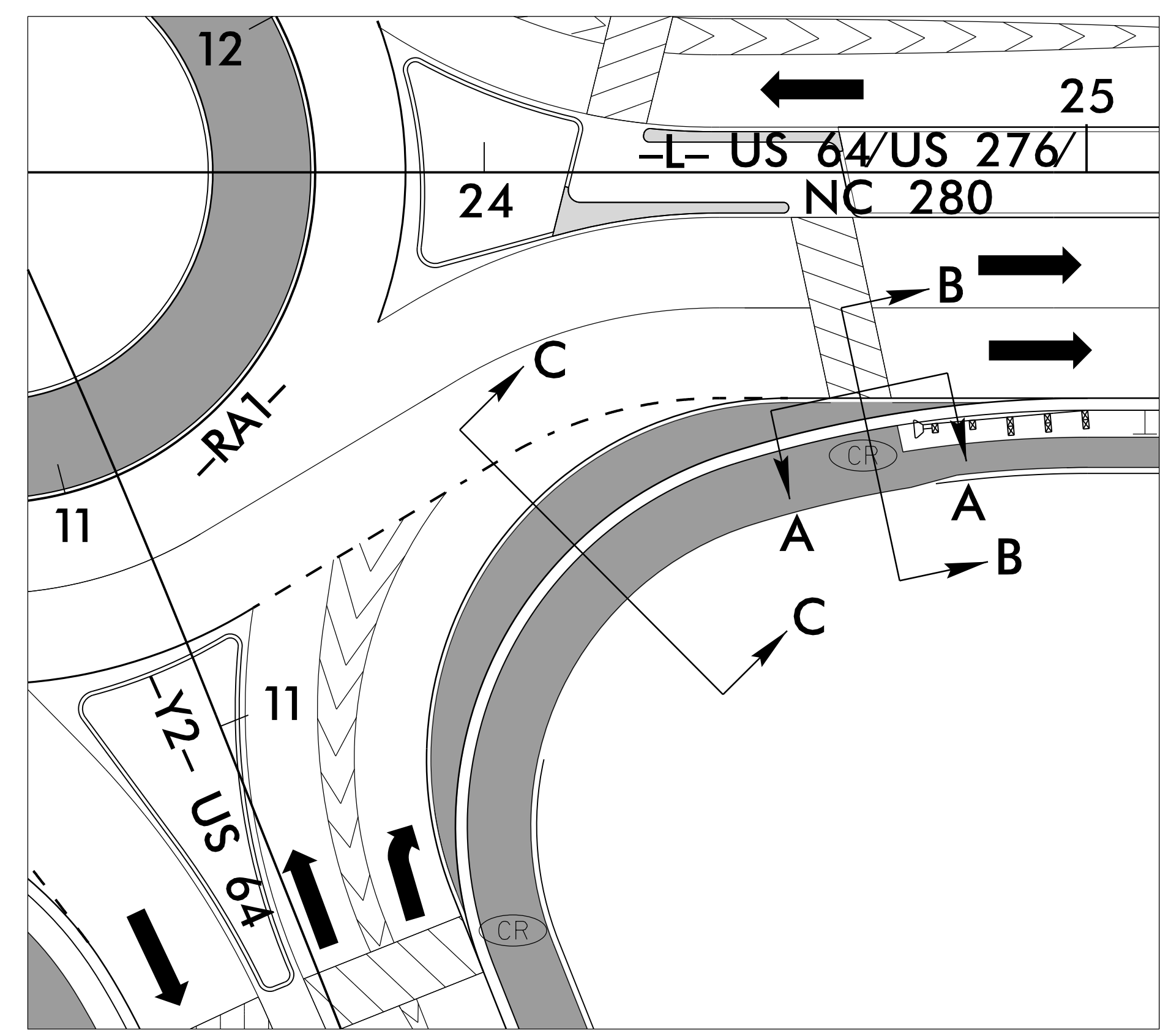
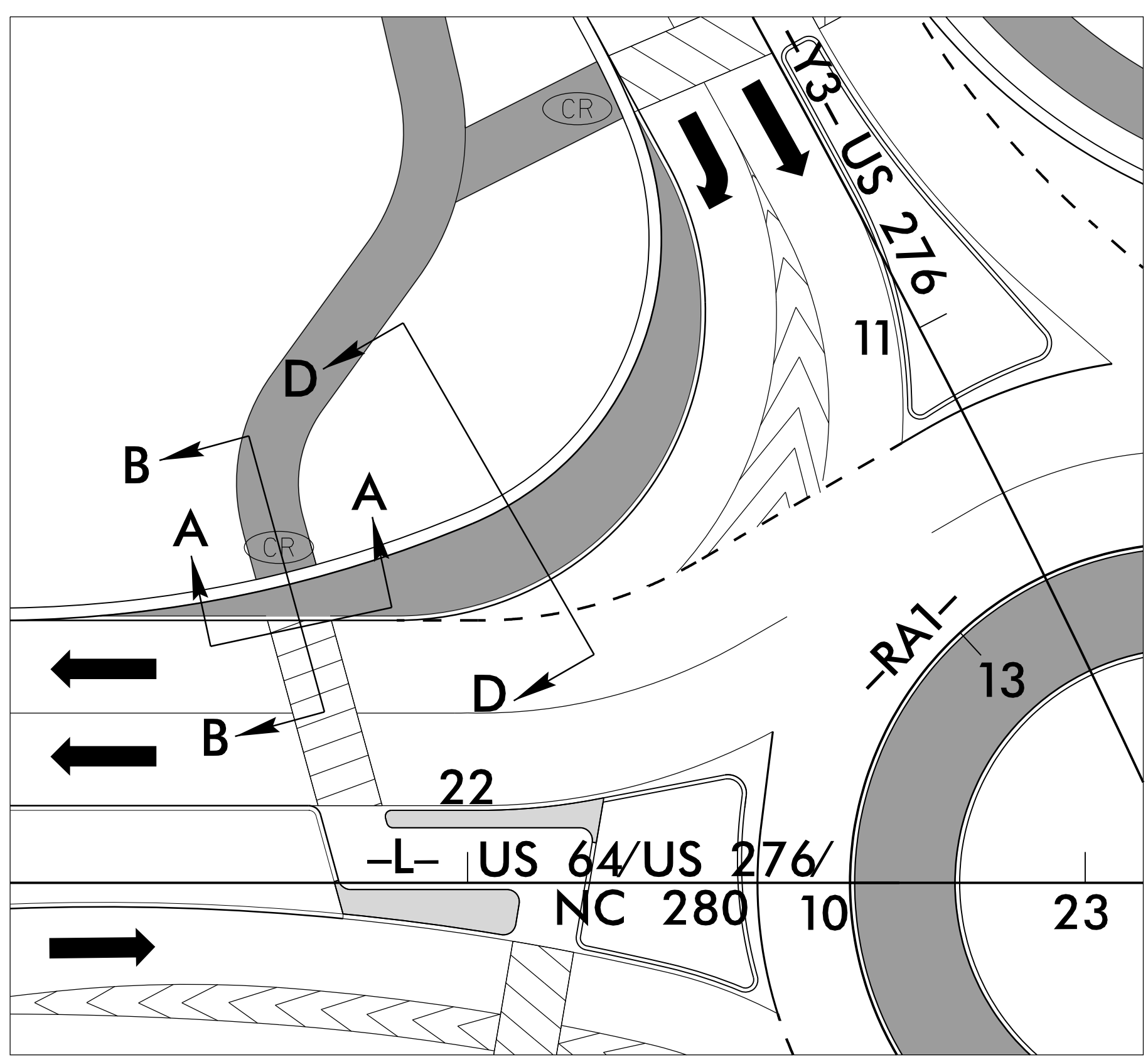
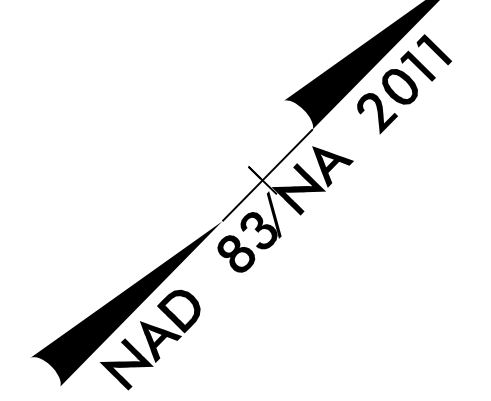
DESIGNED BY:
D. MORROW, PE

CHECKED BY:
A. DRAKE, PE

DATE:
7/1/2021

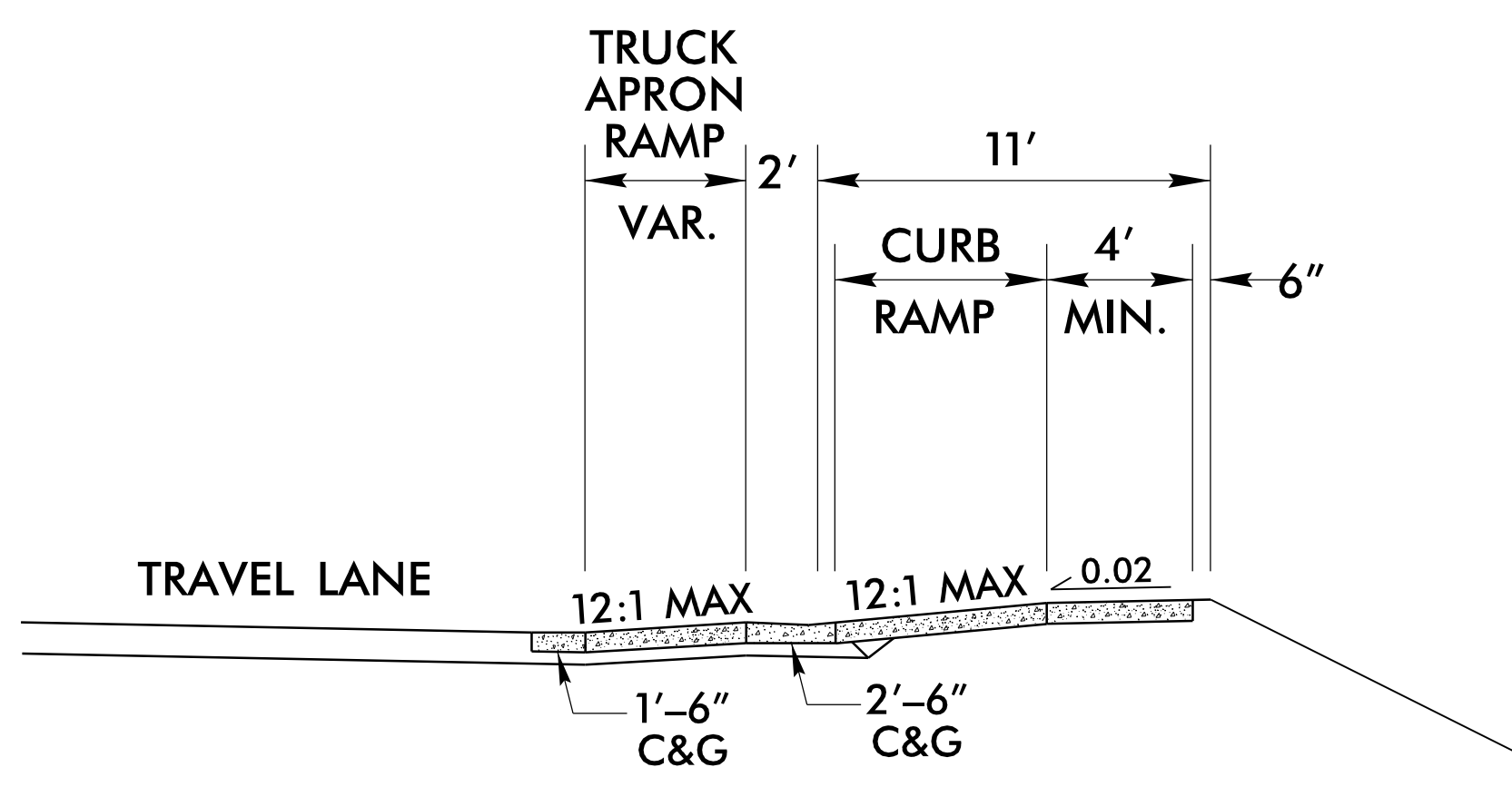


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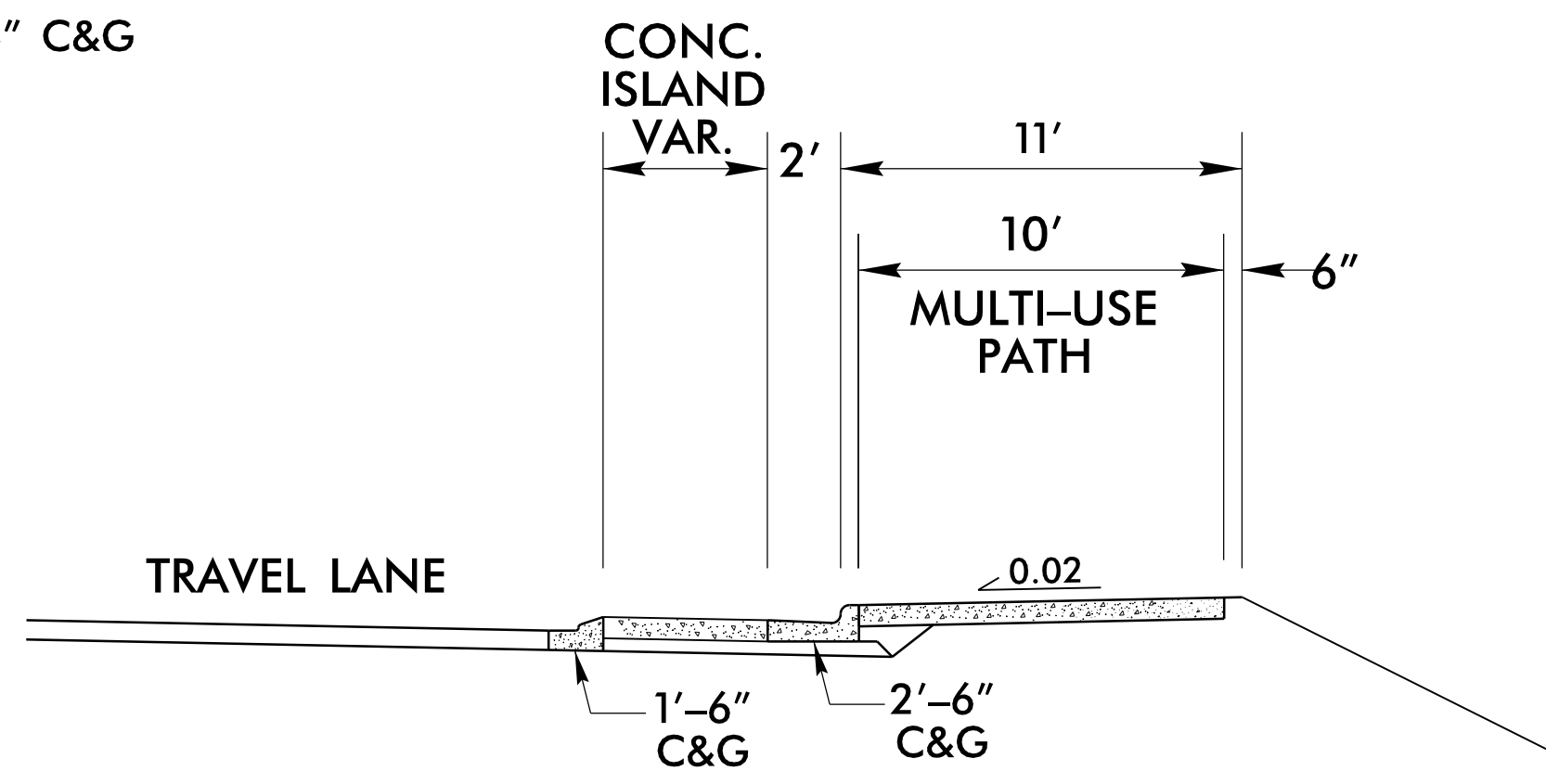
SECTION A-A

VIEW LOOKING NORMAL TO CURB RAMP



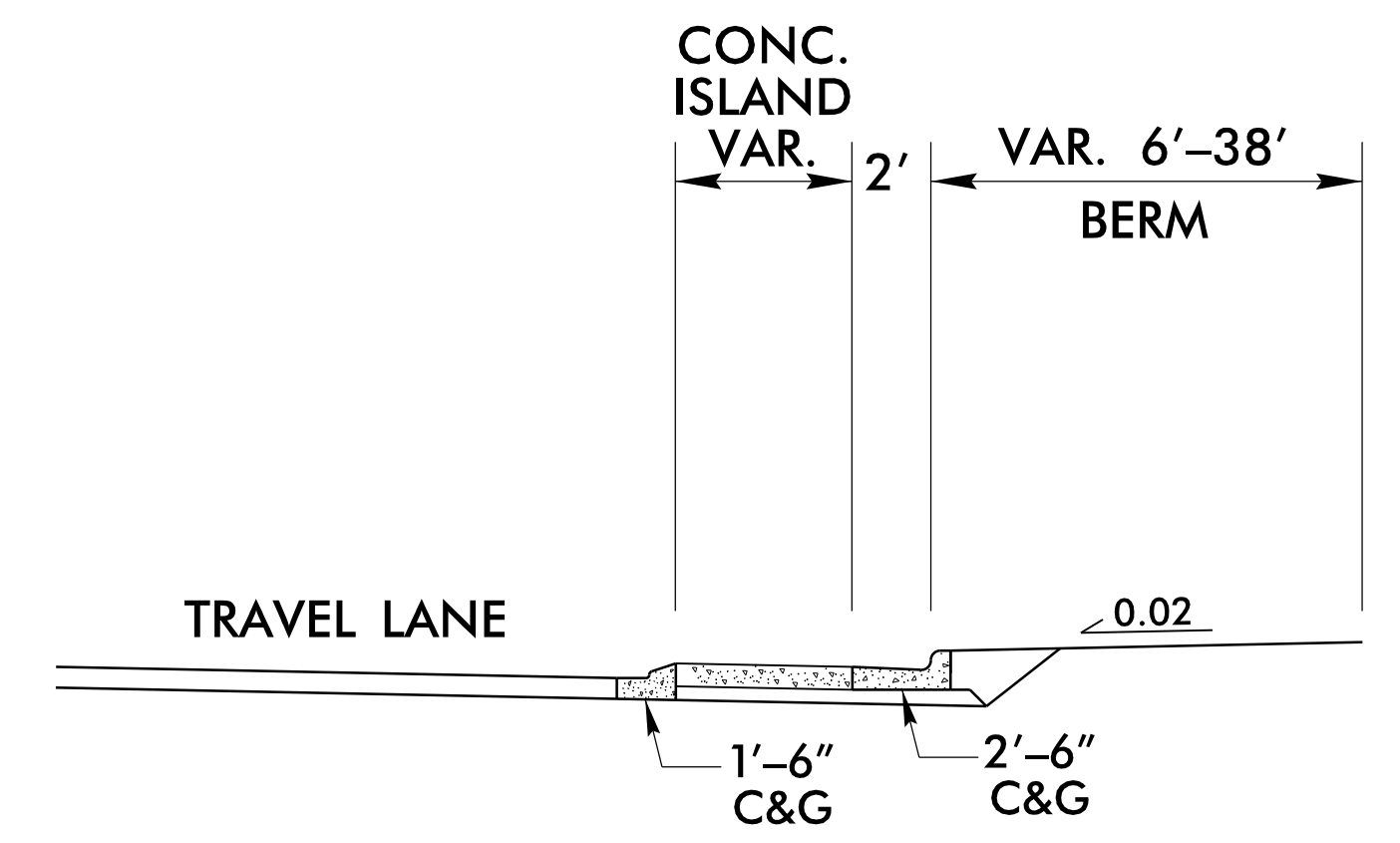
SECTION B-B

VIEW LOOKING DOWN TRAVEL LANE



SECTION C-C

VIEW LOOKING DOWN TRAVEL LANE




SECTION D-D

VIEW LOOKING DOWN TRAVEL LANE

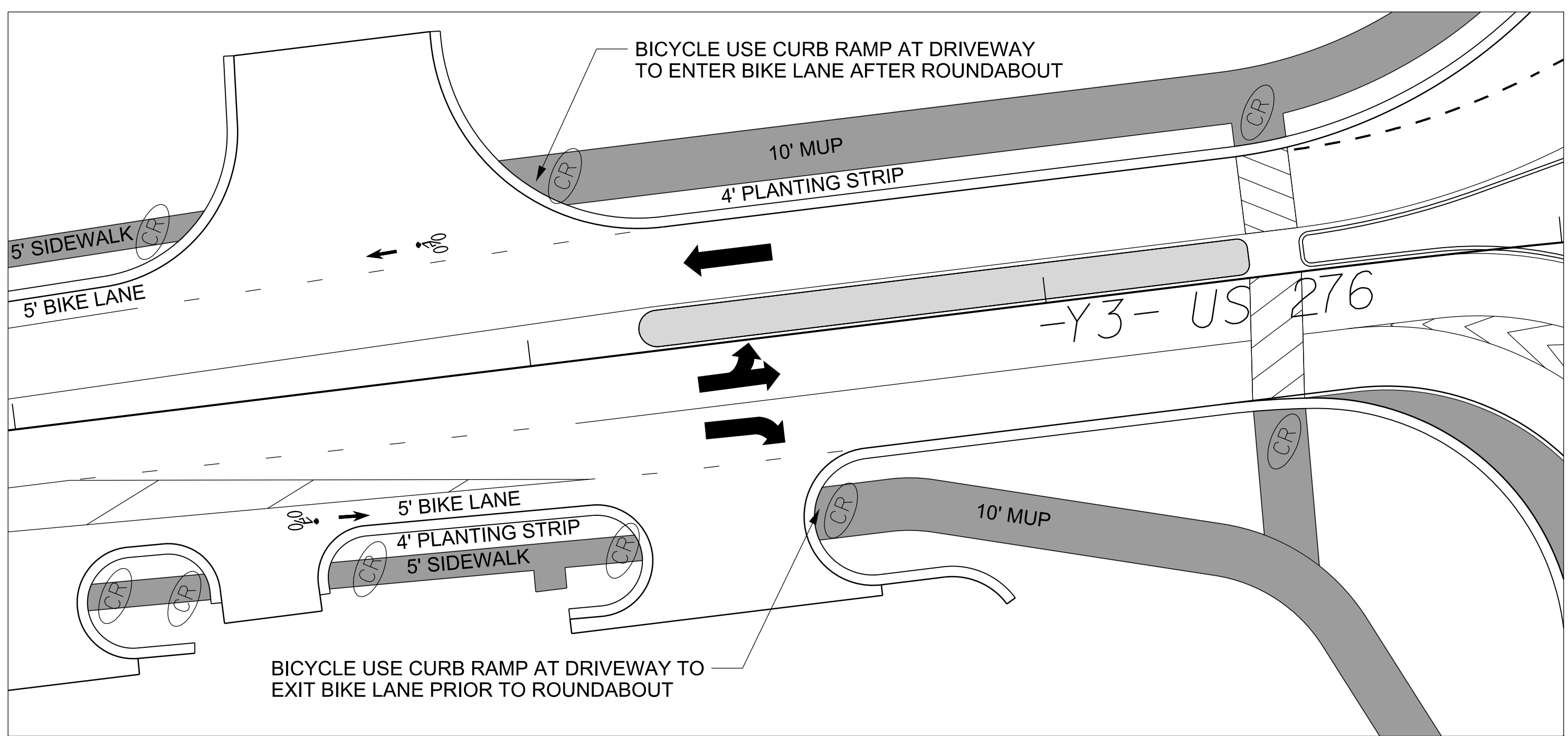
OUTSIDE TRUCK APRON AND CURB RAMP DETAILS AT -RA1-

8/17/99

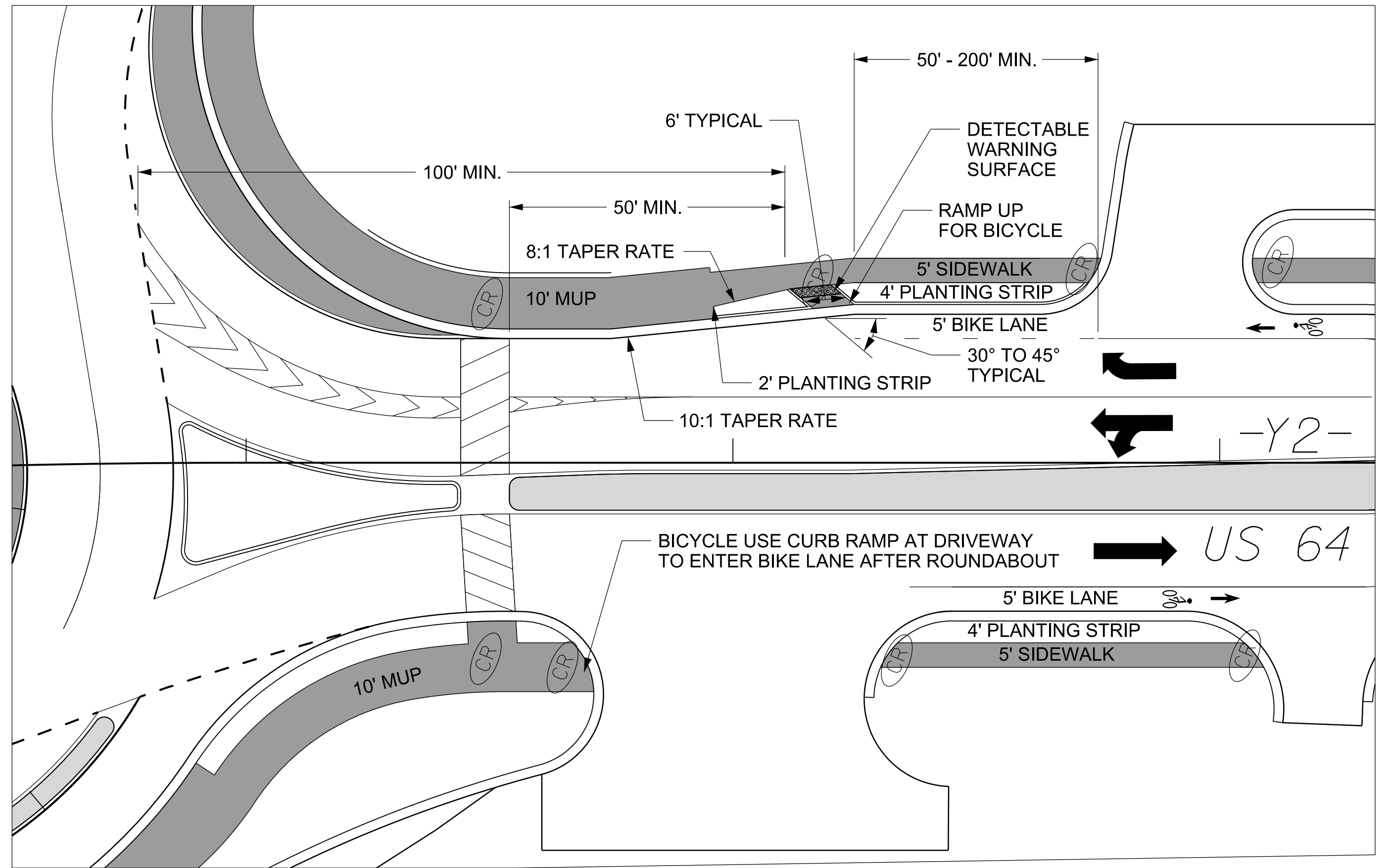
PROJECT REFERENCE NO. R-5799	SHEET NO. 2B-4
ROADWAY DESIGN ENGINEER	
	
6/15/2023	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NAD 83/NA 2011



BICYCLE ACCESS AT -RA1- AND -Y3-

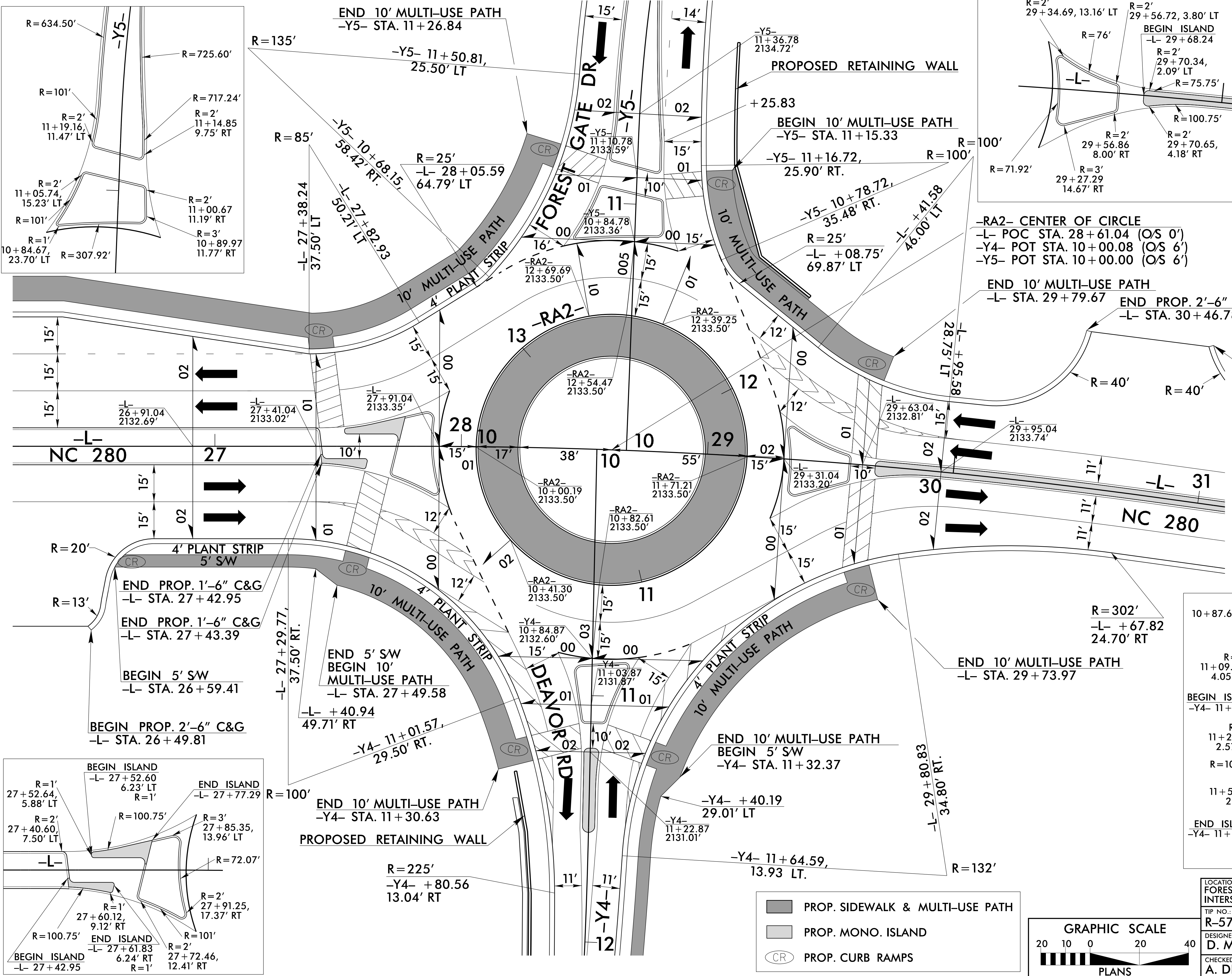


BICYCLE ACCESS AT -RA1- AND -Y2-

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ALLUSERS\NAME

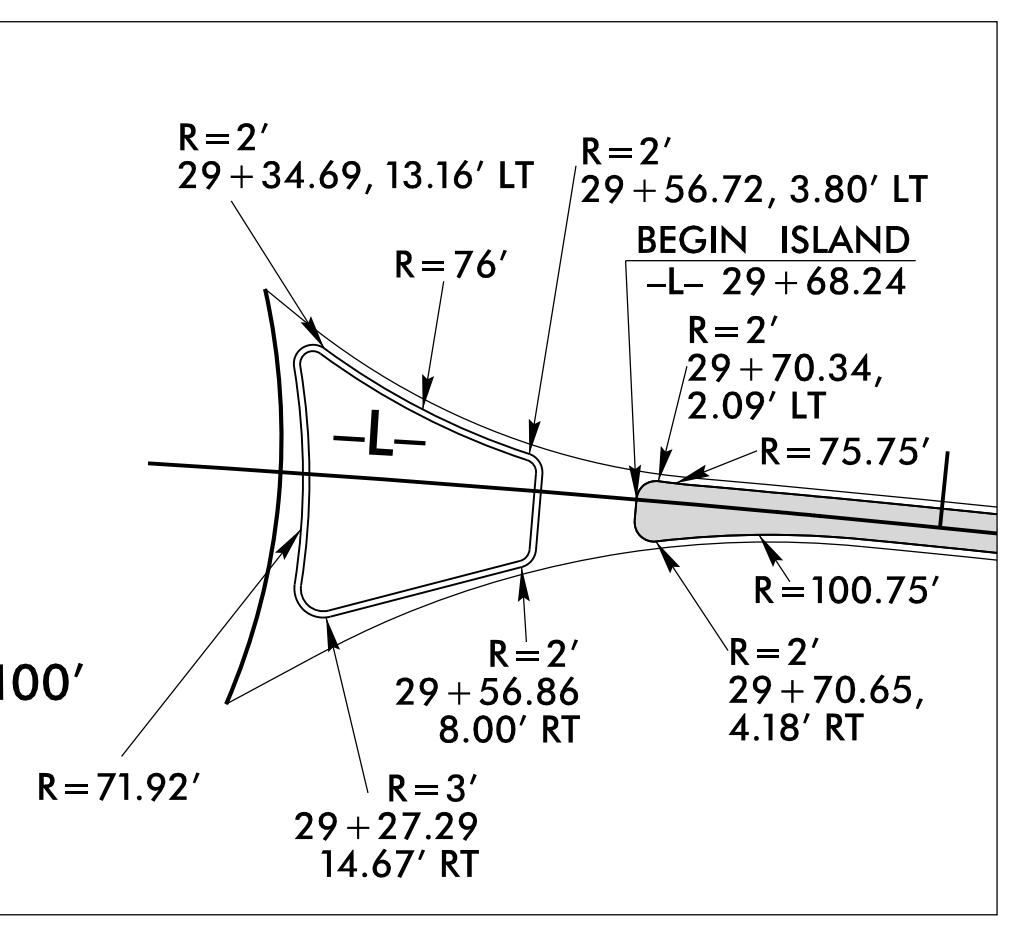
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ROUNDBABOUT -RA2- DETAIL



PROJECT REFERENCE NO. R-5799	SHEET NO. 2B-5
ROADWAY DESIGN ENGINEER SEAL 6/15/2023	

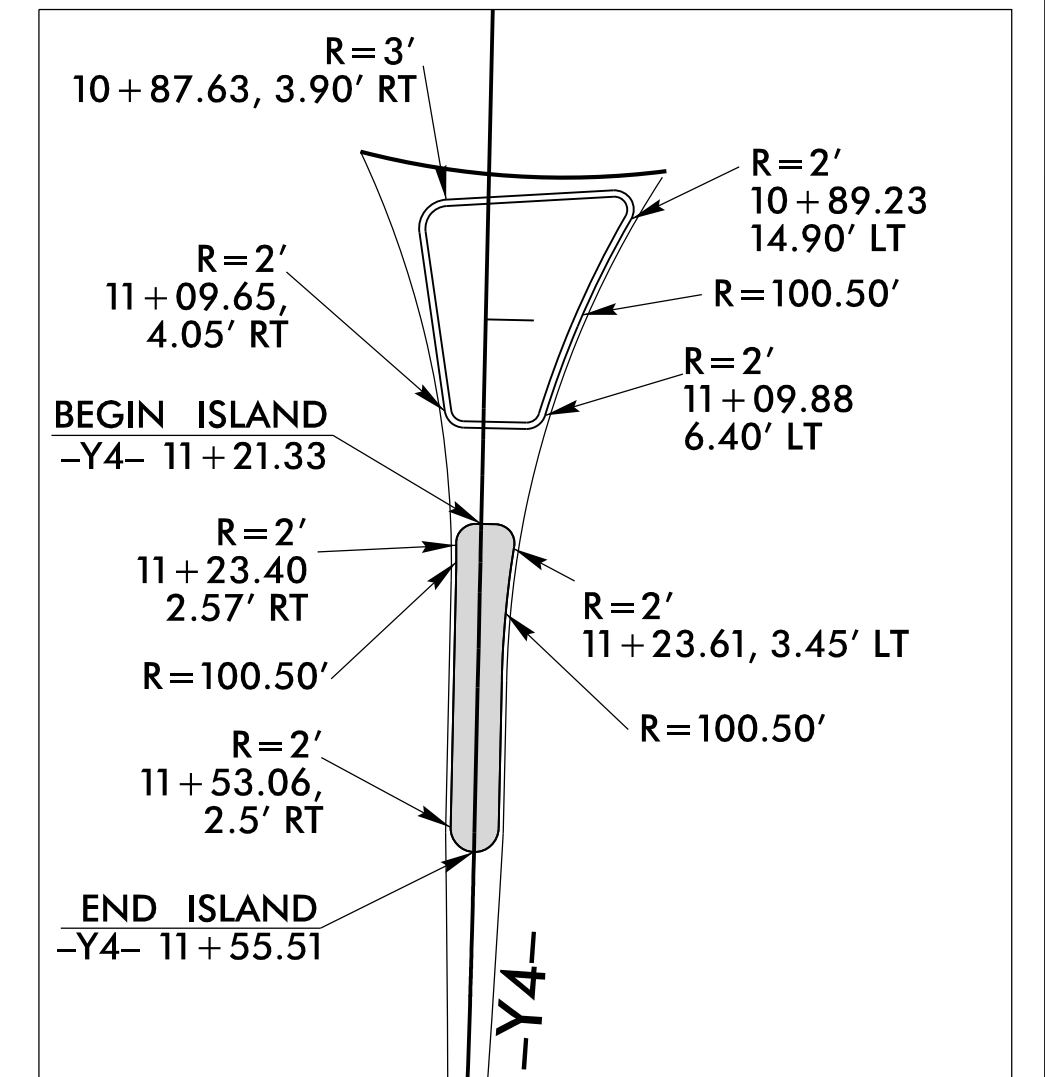
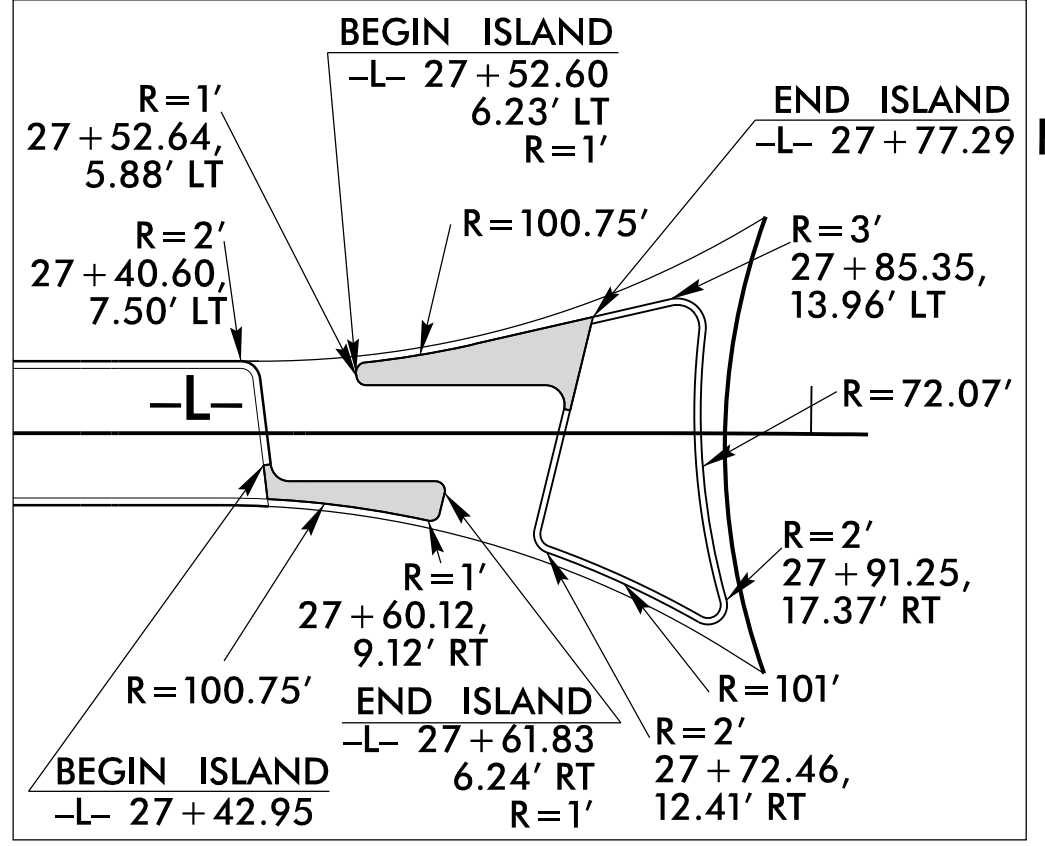
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



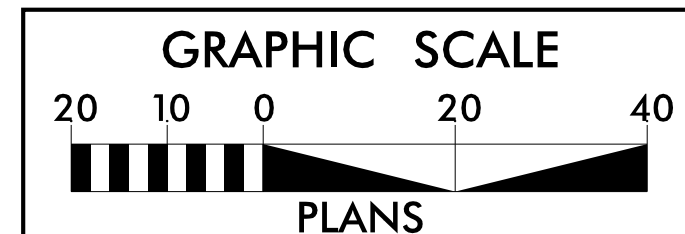
-RA2- CENTER OF CIRCLE
 -L- POC STA. 28+61.04 (OS 0')
 -Y4- POT STA. 10+00.08 (OS 6')
 -Y5- POT STA. 10+00.00 (OS 6')

END 10' MULTI-USE PATH
 -L- STA. 29+79.67
 END PROP. 2'-6" C&G
 -L- STA. 30+46.78

BEGIN PROP. 2'-6" C&G
 -L- STA. 30+97.61



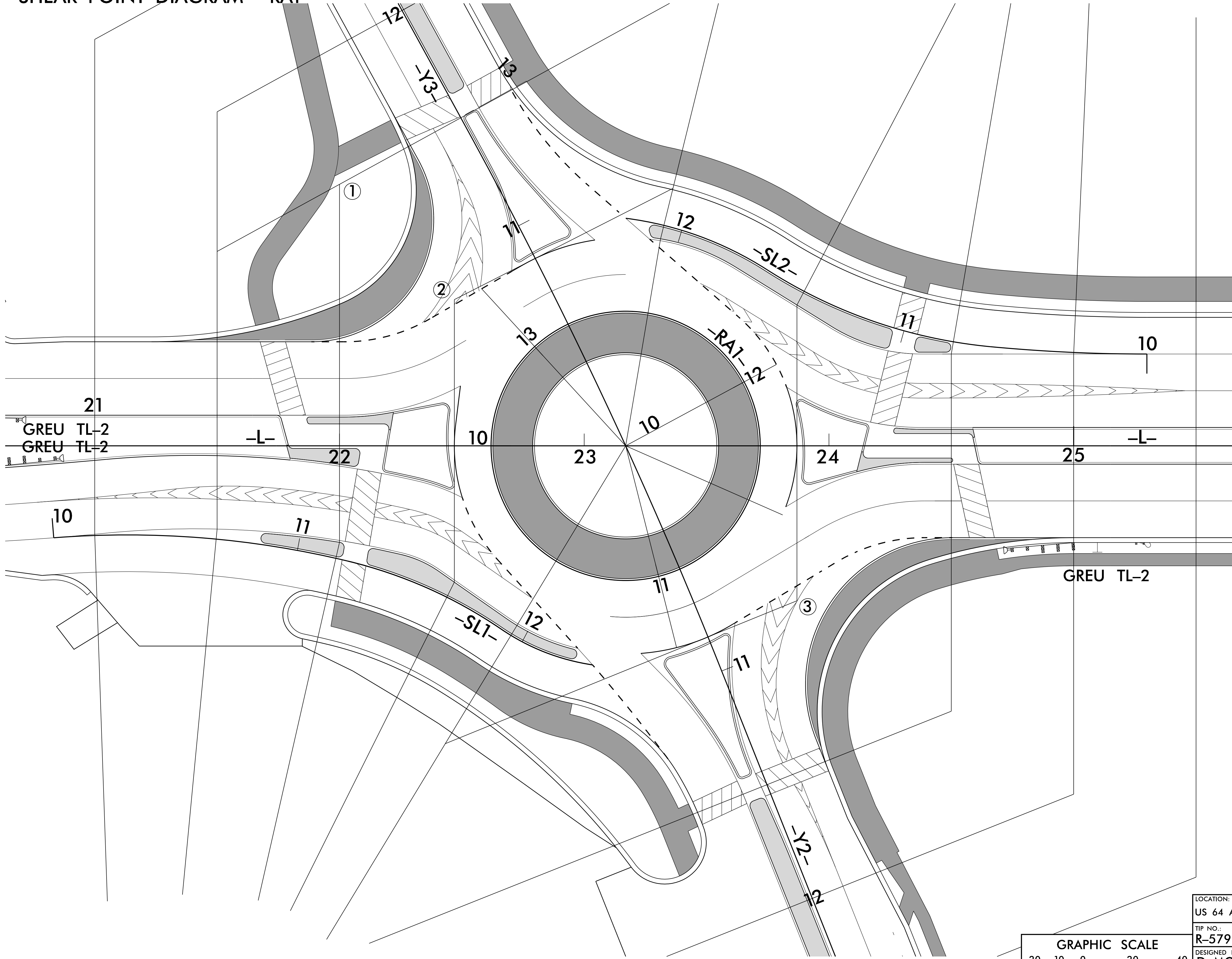
- PROP. SIDEWALK & MULTI-USE PATH
- PROP. MONO. ISLAND
- PROP. CURB RAMPS (CR)



LOCATION: FOREST GATE DR., DEAVOR ROAD, AND NC 280 INTERSECTION	COUNTY: TRANSYLVANIA
TIP NO.: R-5799	DESIGNED BY: D. MORROW, PE
CHECKED BY: A. DRAKE, PE	DATE: 7/1/2021

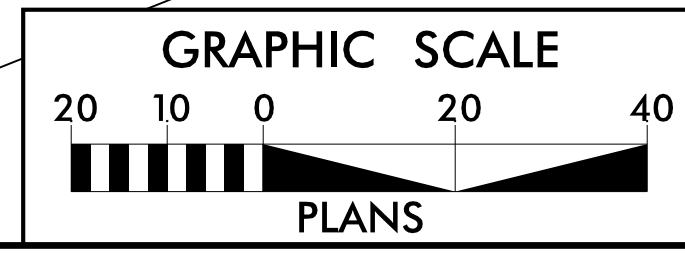
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SHEAR POINT DIAGRAM -RA1-



PROJECT REFERENCE NO. R-5799	SHEET NO. 2B-6
ROADWAY DESIGN ENGINEER ALISON C. DRAKE 6/15/2023	

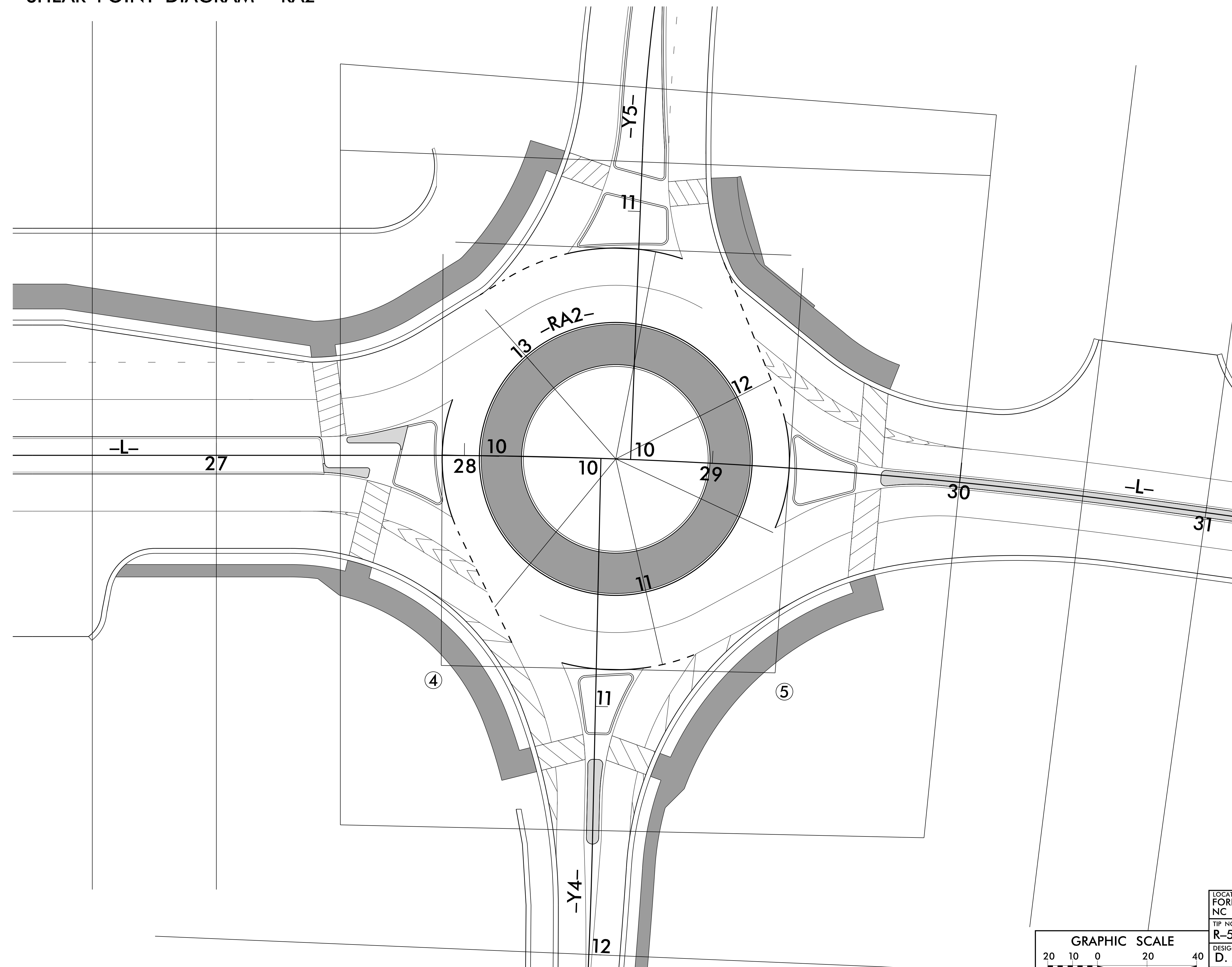
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



LOCATION: US 64 AND US 276/NC 280 INTERSECTION	COUNTY: TRANSYLVANIA
TIP NO.: R-5799	DESIGNED BY: D. MORROW, PE
CHECKED BY: A. DRAKE, PE	DATE: 8/18/2020

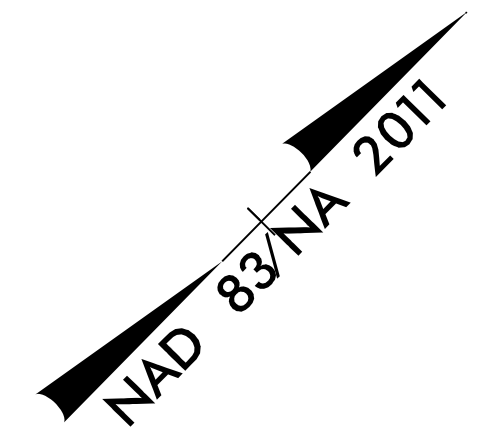
8/17/99

SHEAR POINT DIAGRAM -RA2-



PROJECT REFERENCE NO. R-5799	SHEET NO. 2B-7
ROADWAY DESIGN ENGINEER 6/15/2023	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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LOCATION: FOREST GATE DR., DEAVOR ROAD, AND NC 280 INTERSECTION	
TIP NO.: R-5799	COUNTY: TRANSYLVANIA
DESIGNED BY: D. MORROW, PE	
CHECKED BY: A. DRAKE, PE	DATE: 8/18/2020

GRAPHIC SCALE
20 10 0 20 40
PLANS

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE

SHEET 1 OF 7
862D03

SHEET 1 OF 7
862D03

**GUARDRAIL ANCHOR UNIT, TYPE III
FOR ATTACHMENT TO RAIL ON BRIDGE**

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

ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862D03

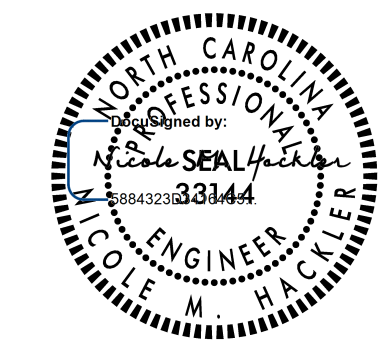
SHEET 2 OF 7
862D03

**GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER**

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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DATE:



5/23/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

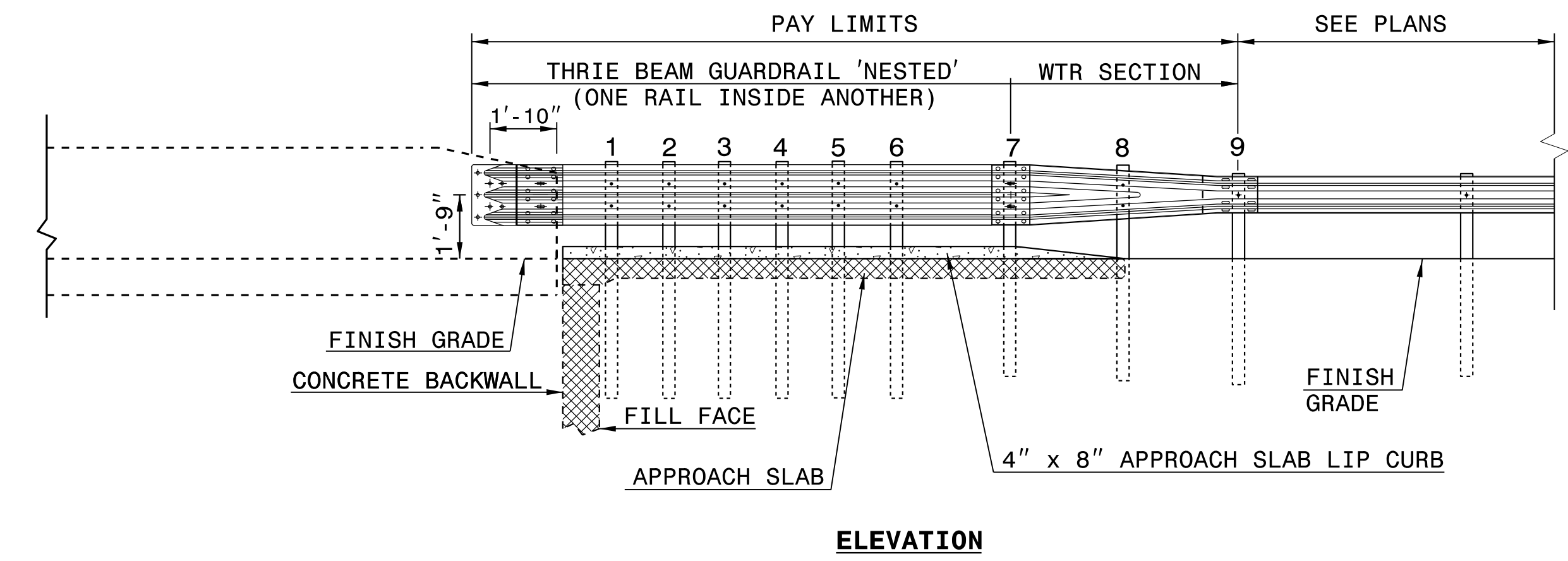
ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1
TYPE III SC

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

ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
STRUCTURE ANCHOR UNIT**

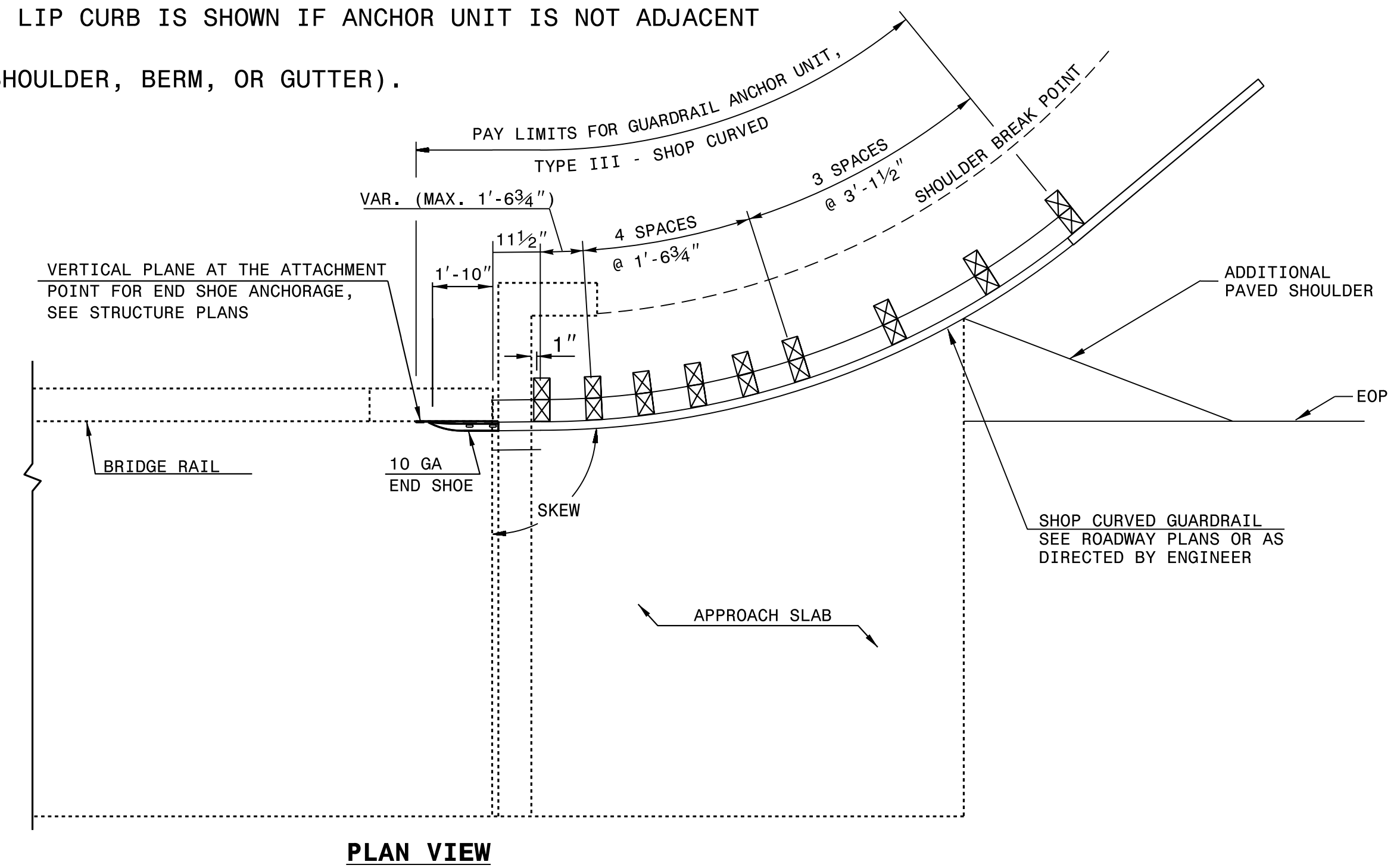
SHEET 1 OF 1
TYPE III SC



SEE ROADWAY PLANS FOR END TREATMENT

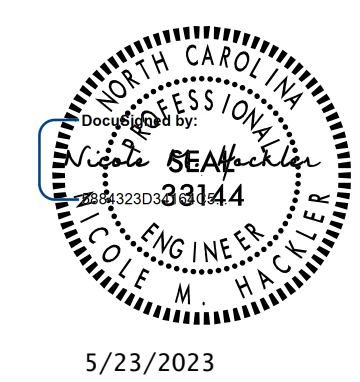
NOTE:

- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED
FOR ATTACHMENT TO RAIL ON BRIDGE**

29-SEP-2010 09:30 S:\Contracts\Contractacts\Special Details\ericward\usr\details\stand\862stds\type_iii_sc.dgn \$\$\$USERNAME\$\$\$



5/23/2023

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

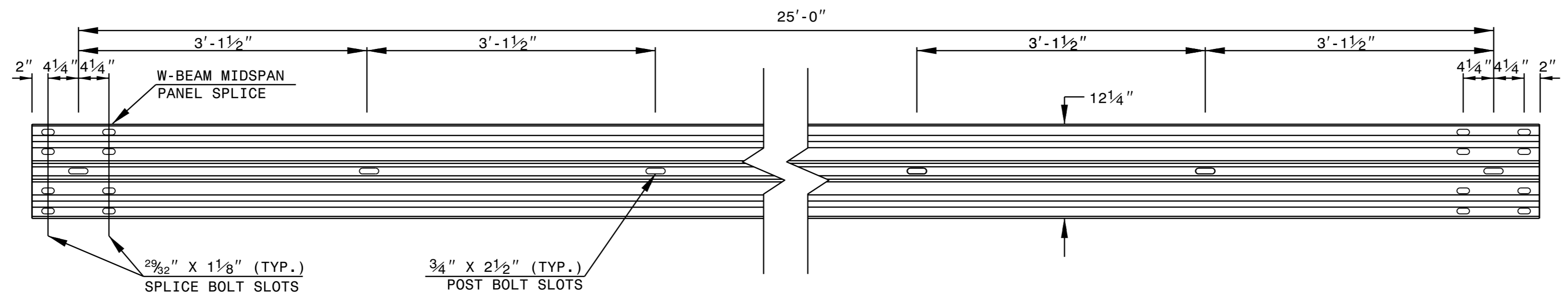
SEE PLATE FOR TITLE

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MODIFIED BY: T.S.Spell	DATE: 5-29-09
CHECKED BY:	DATE:
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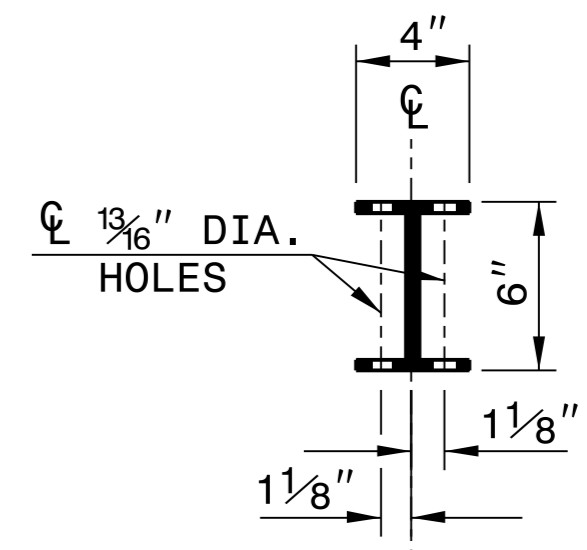
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

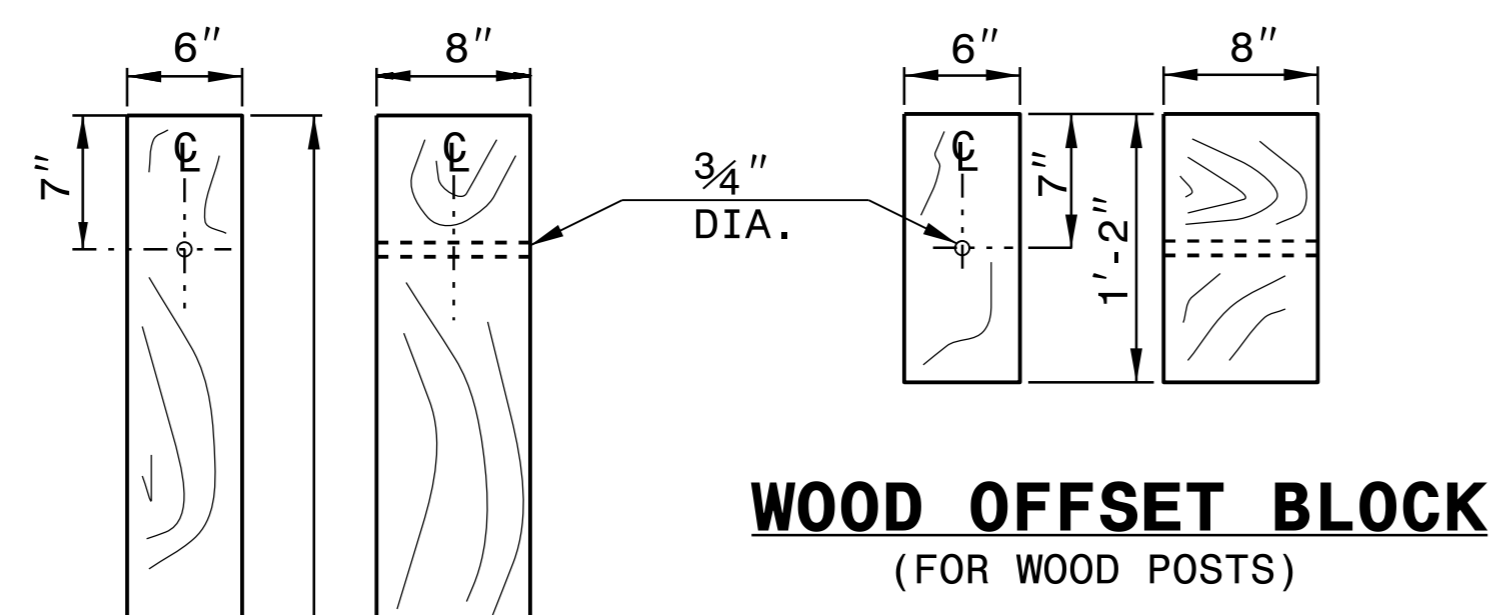
SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



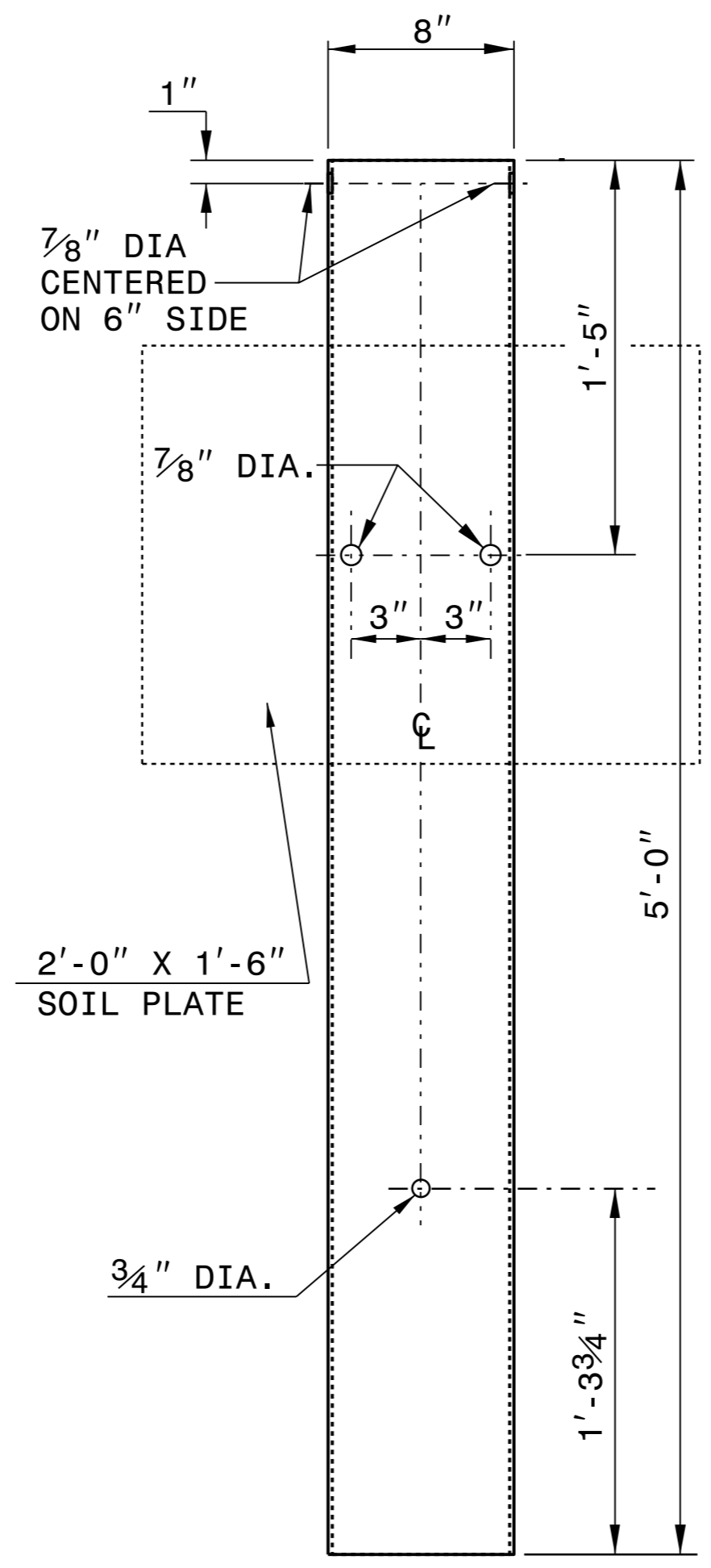
PLAN



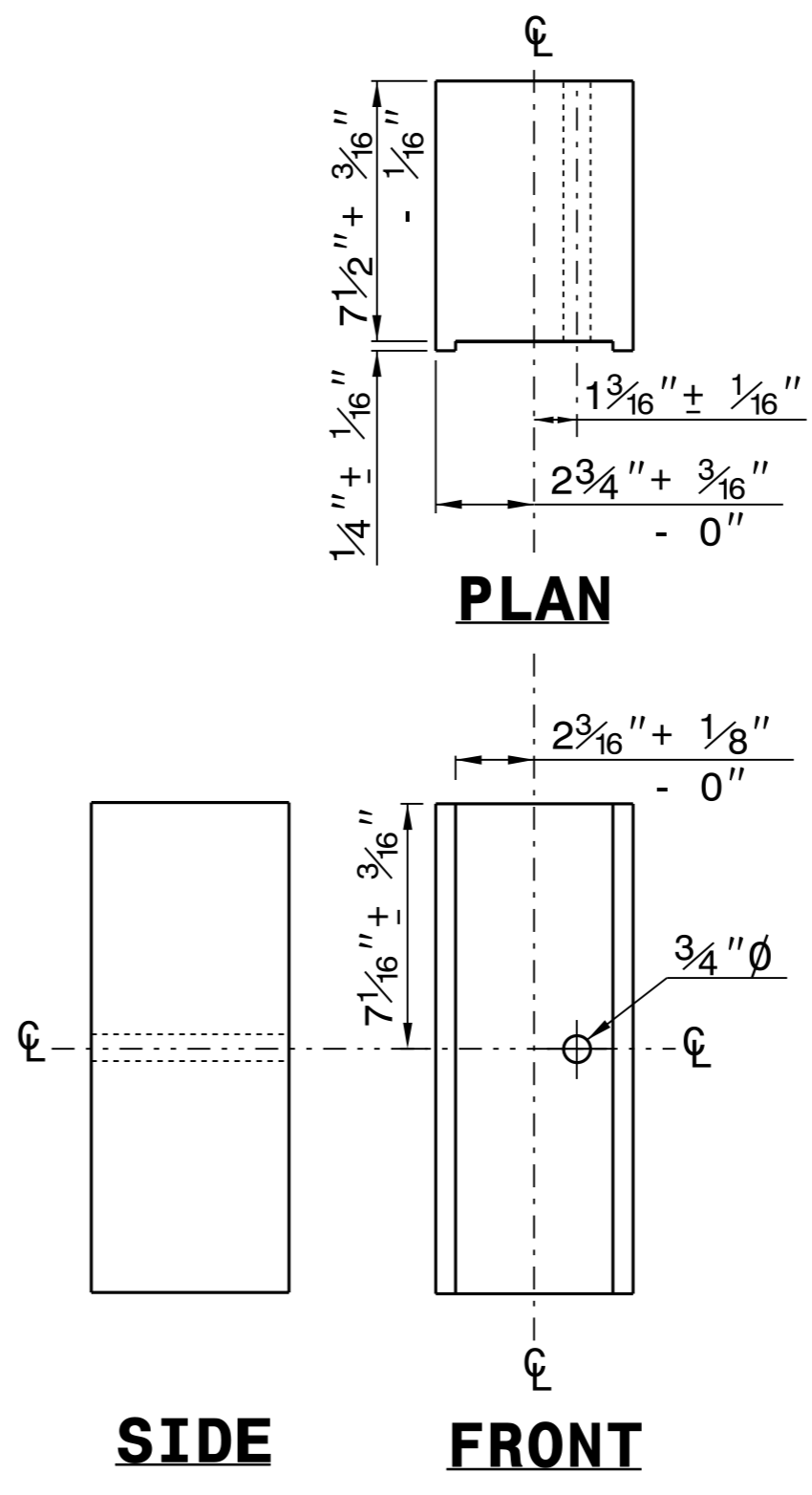
**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**

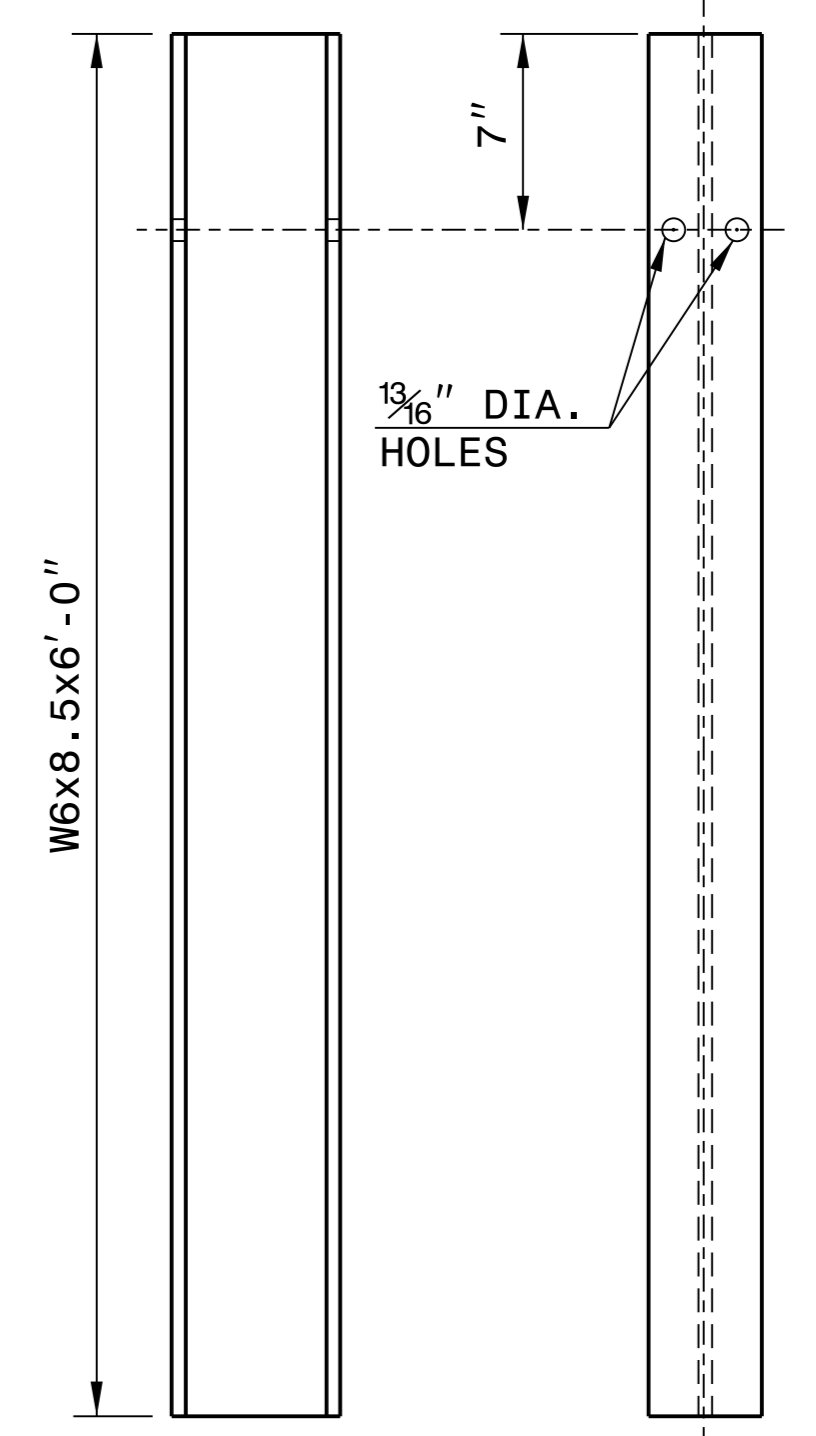


PLAN

SIDE

FRONT

**ROUTED
OFFSET BLOCK**



SIDE

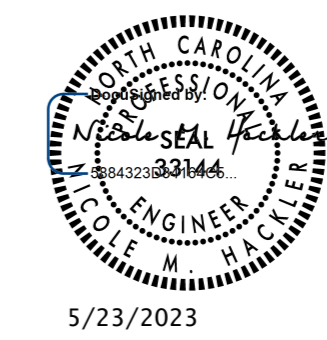
FRONT

"W6" STEEL POST

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

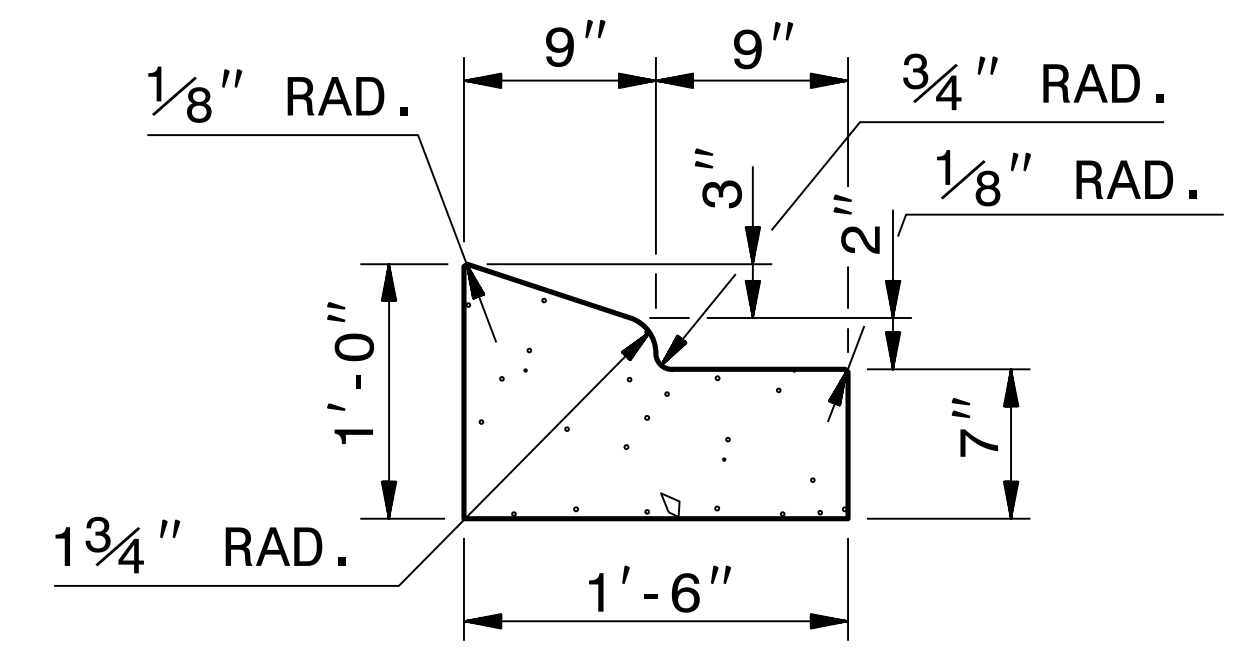
SHEET 6 OF 8
862D02



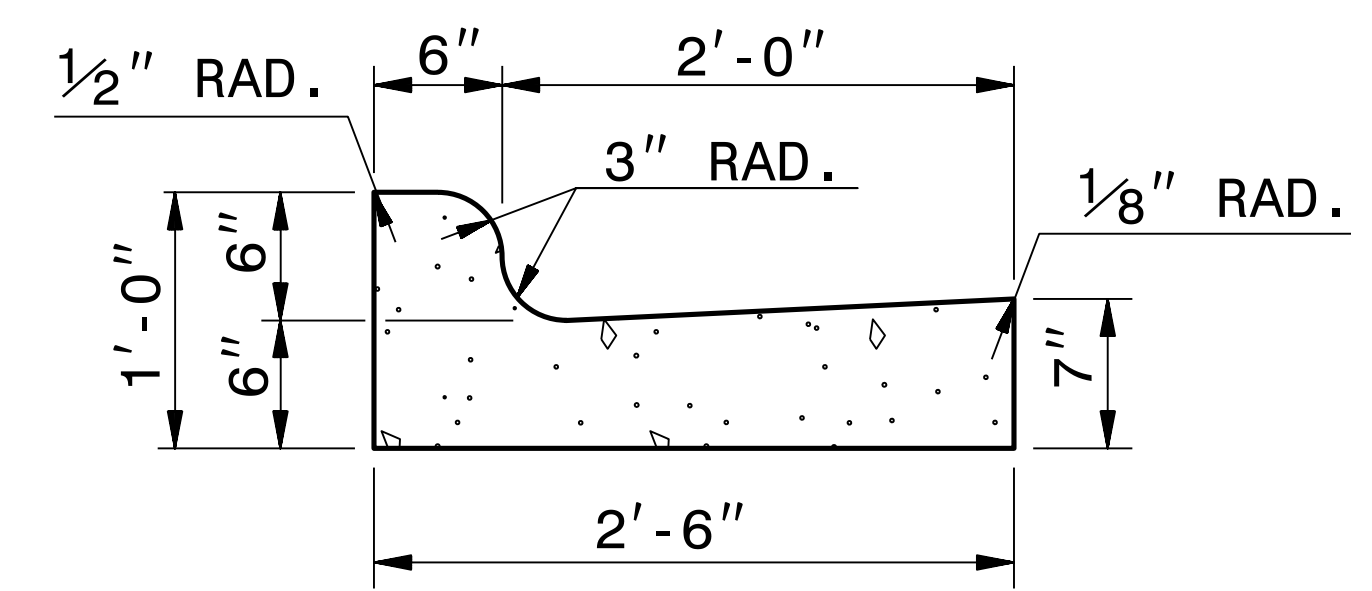
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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



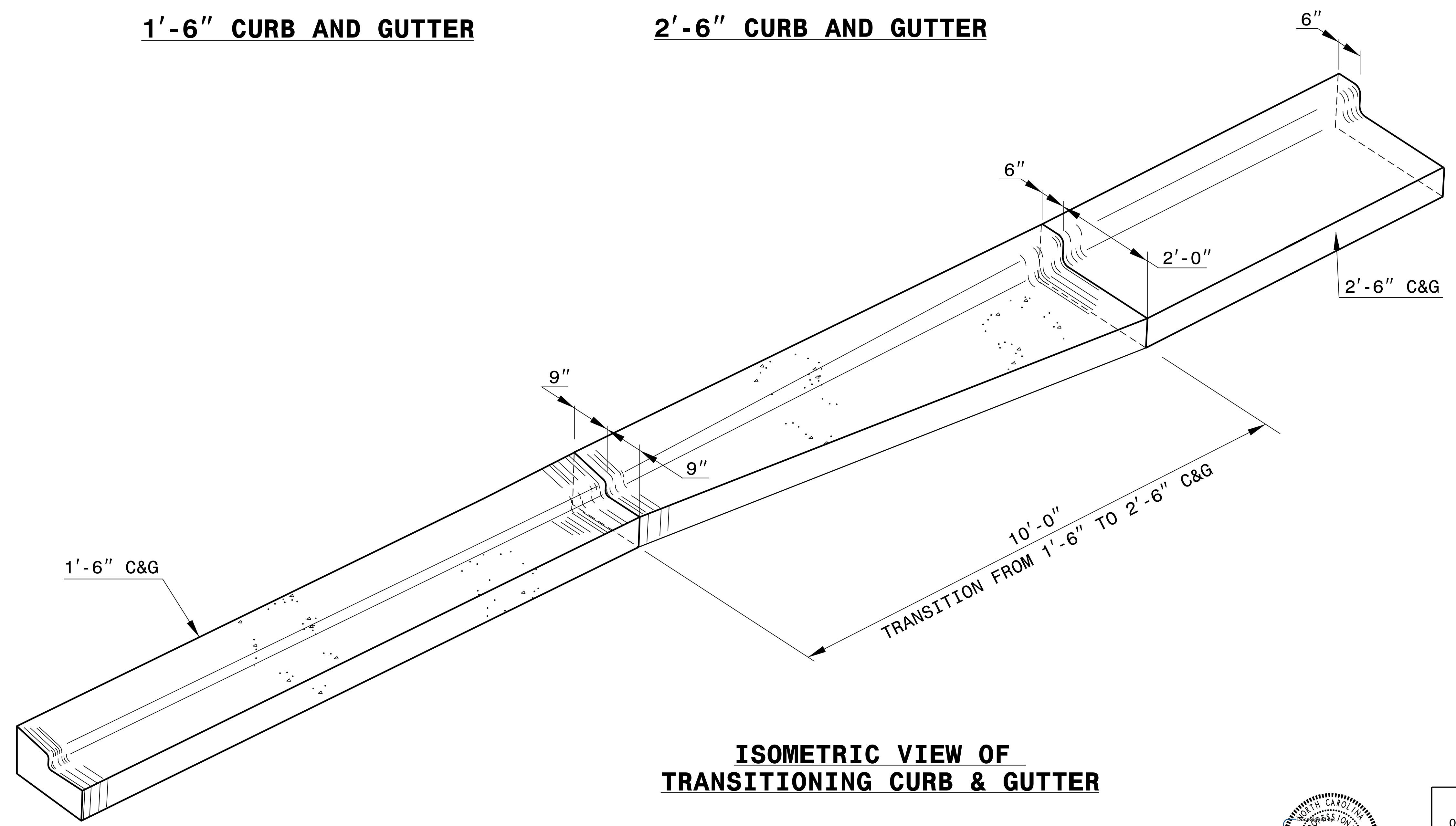
1'-6" CURB AND GUTTER



2'-6" CURB AND GUTTER

NOTE: SEE STD. DWG. 846.01 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.

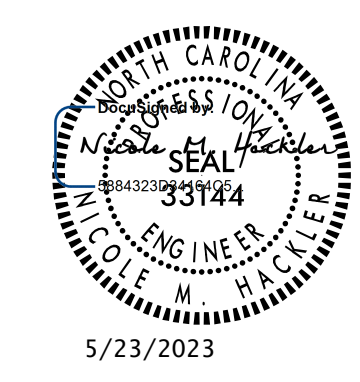


ISOMETRIC VIEW OF TRANSITIONING CURB & GUTTER

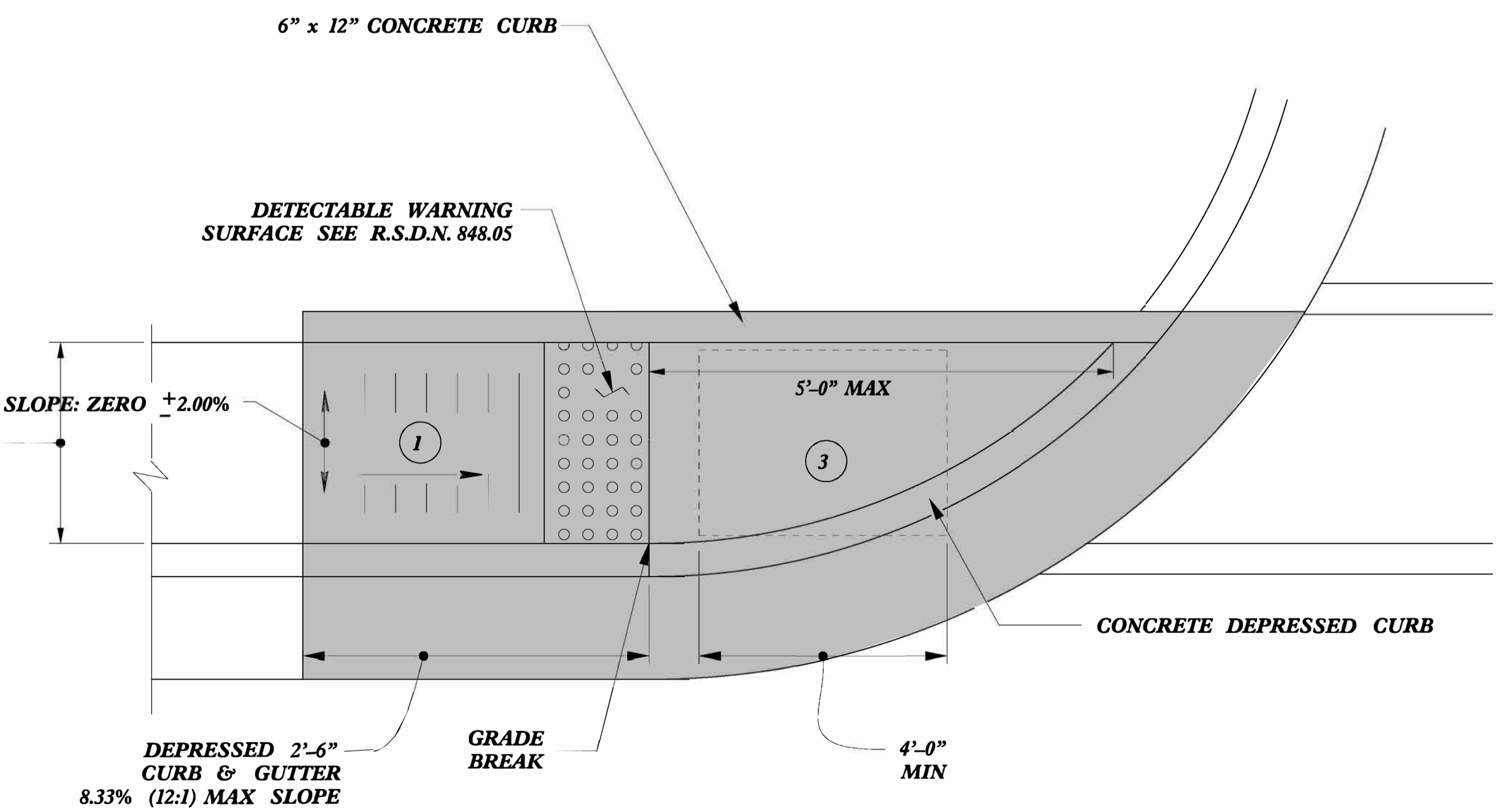
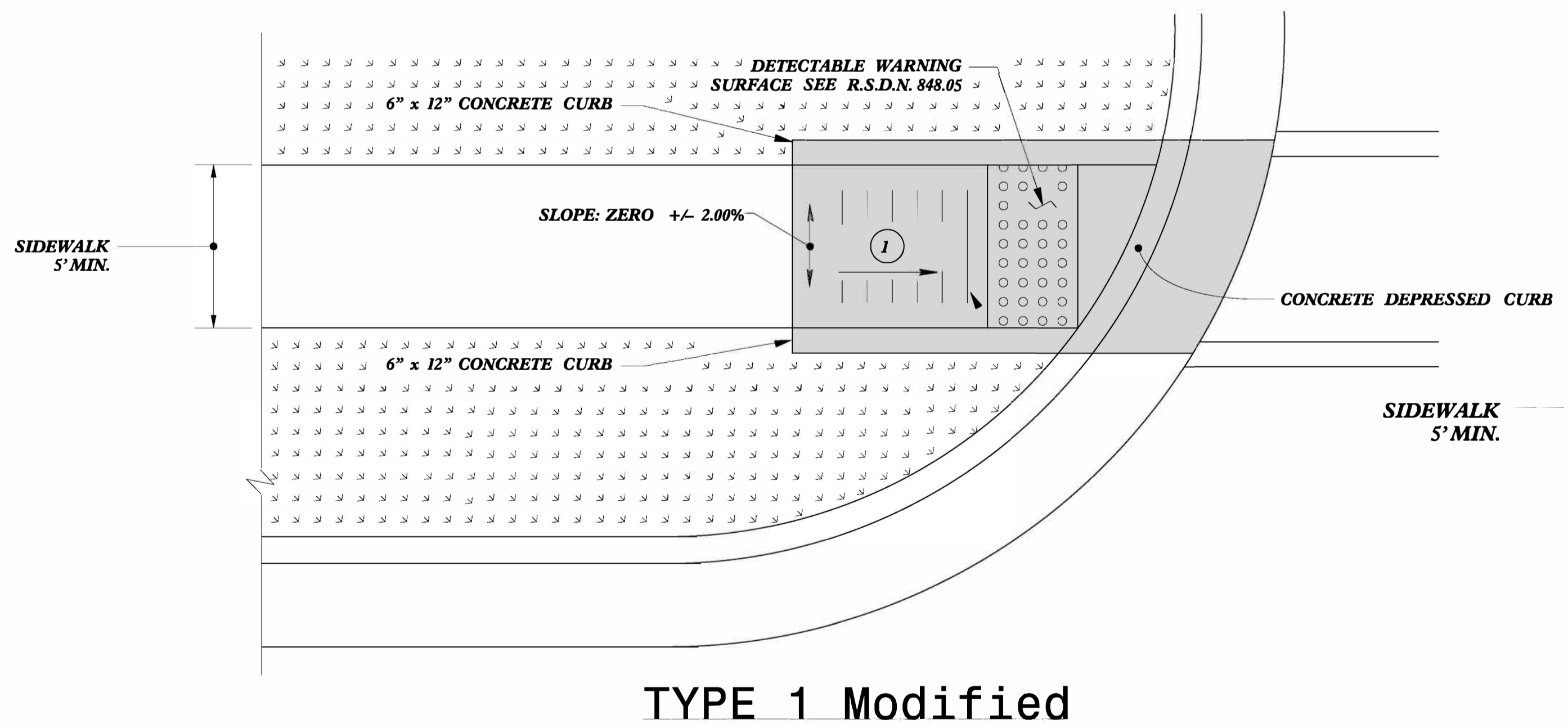
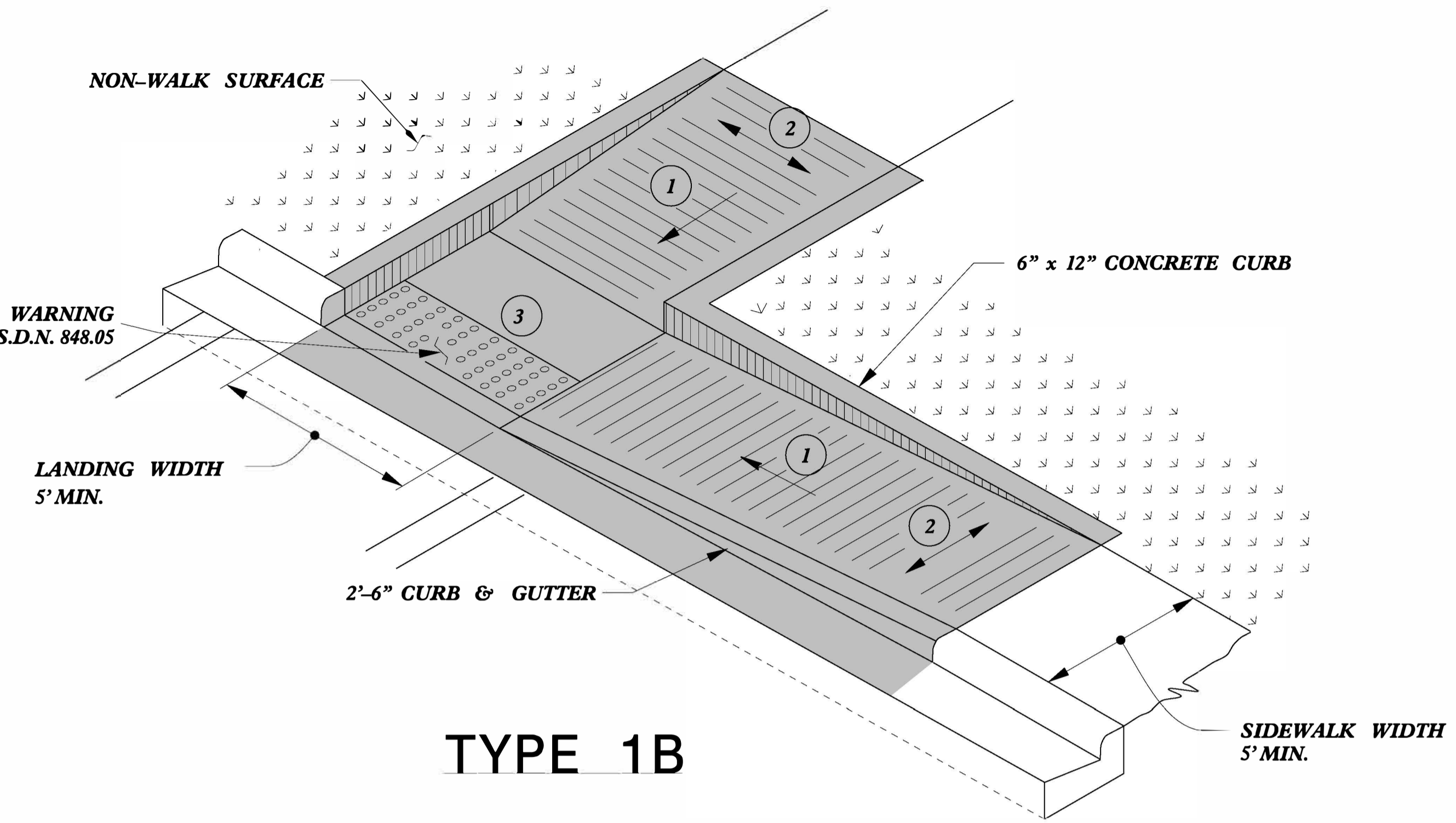
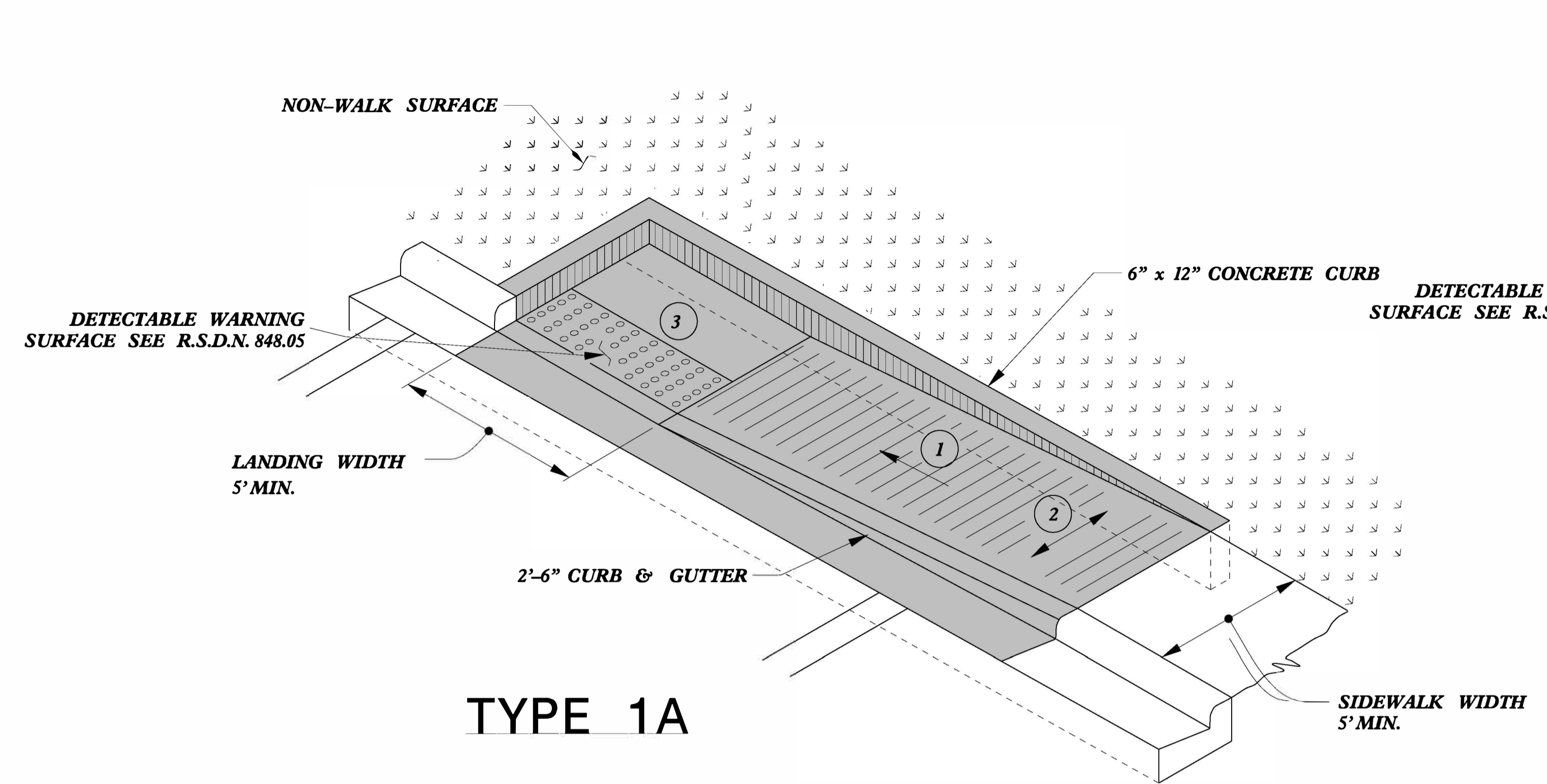
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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DETAIL OF 1'-6" TO 2'-6" CURB & GUTTER TRANSITION SECTION



ORIGINAL BY: T.S. SPELL DATE: MARCH 3, 2000
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: _DS174:/usr/details/stand/cgtransit.dgn

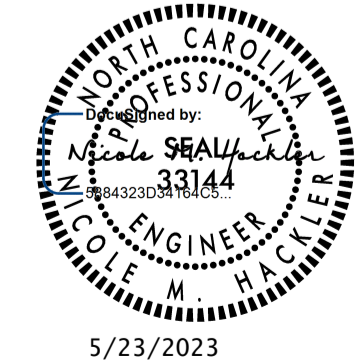


- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



PAY LIMITS FOR 1 CURB RAMP

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



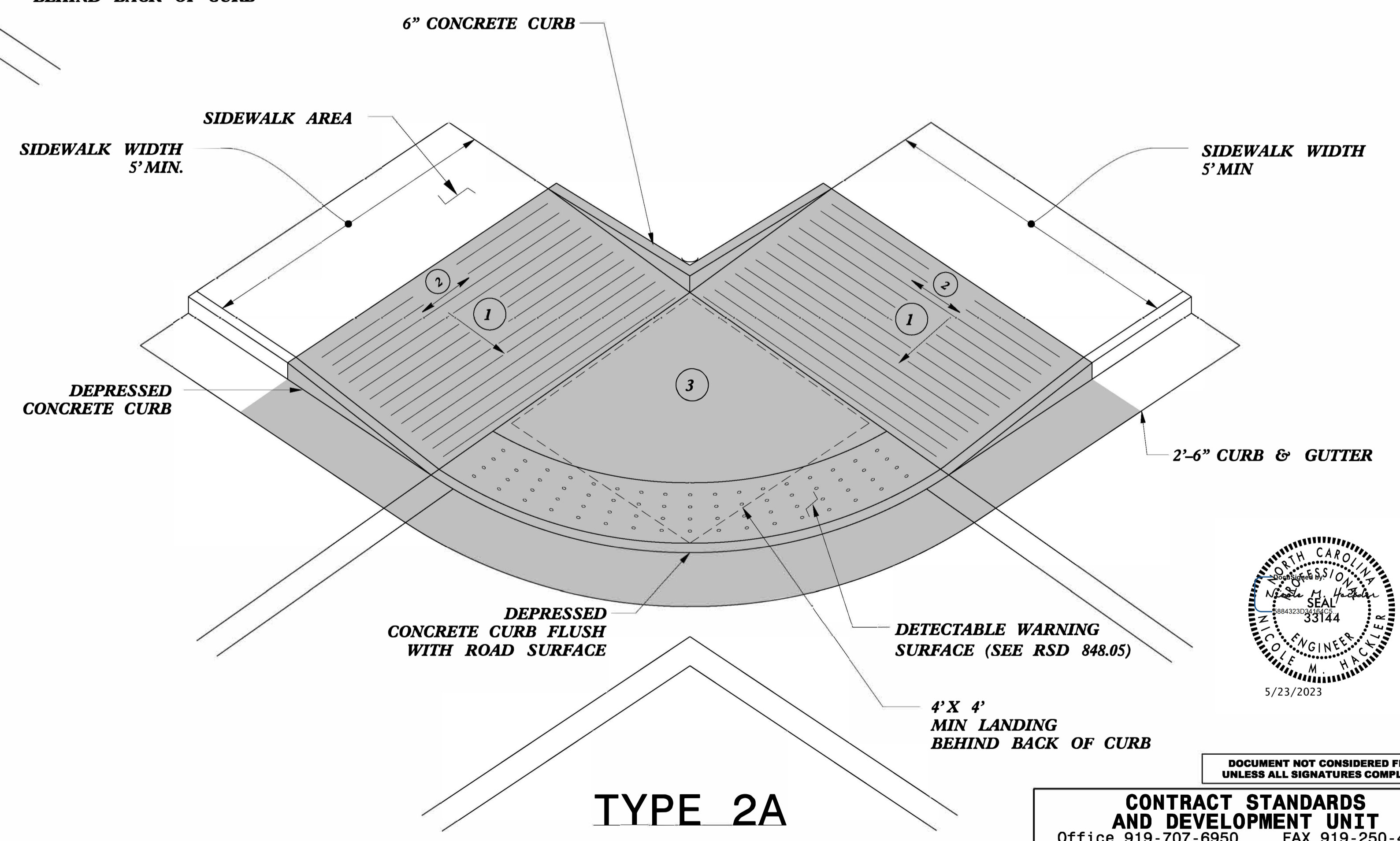
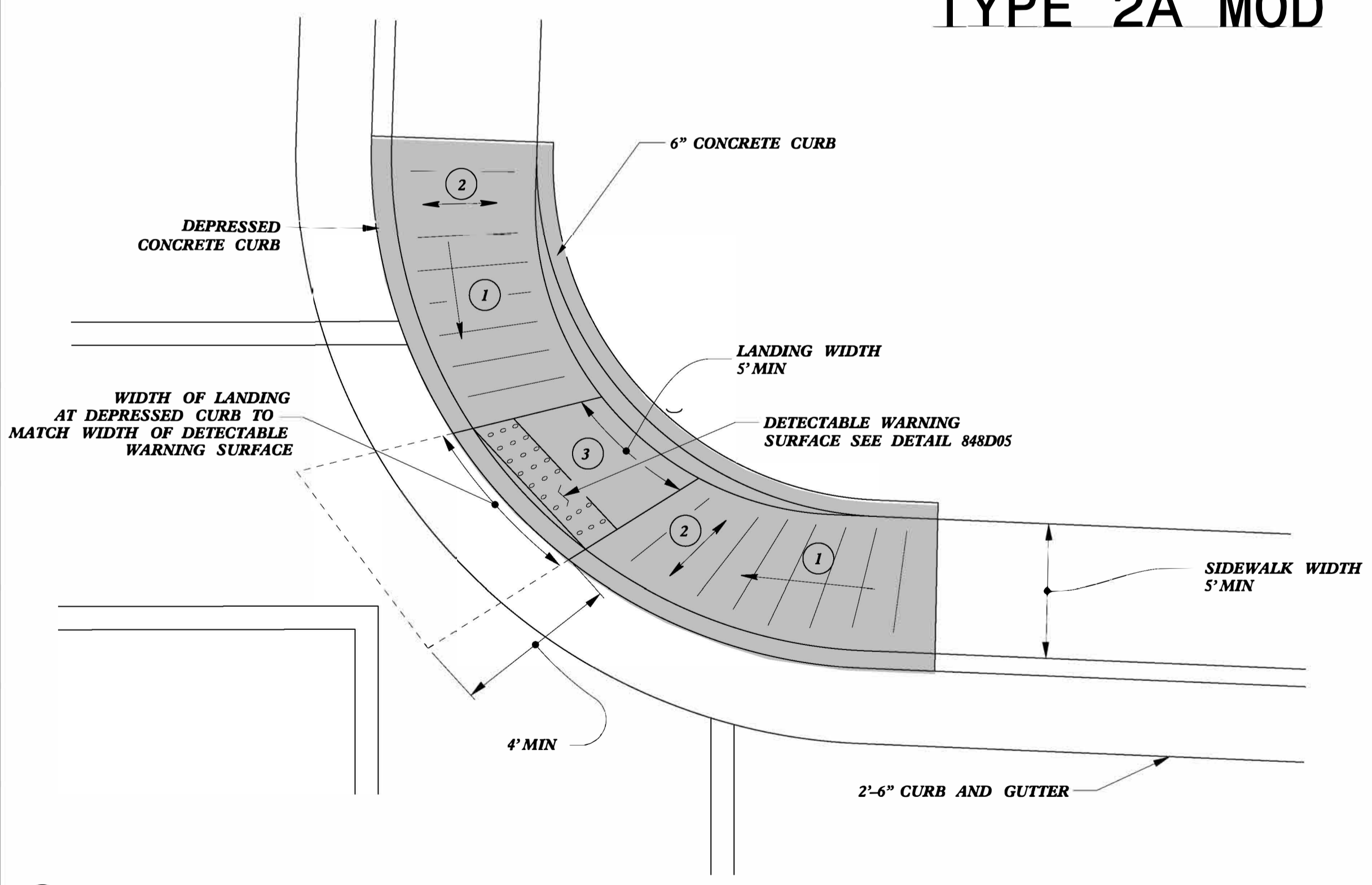
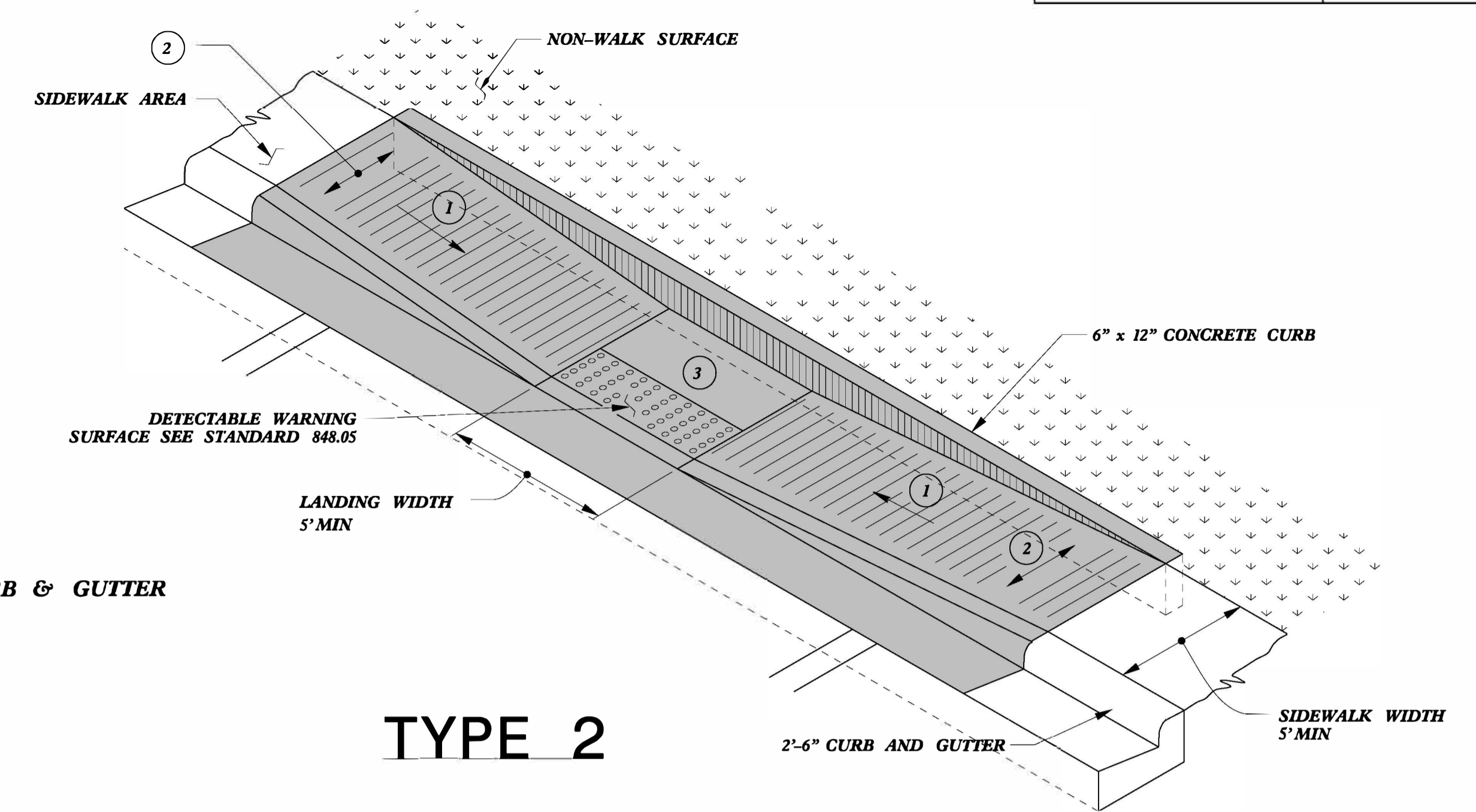
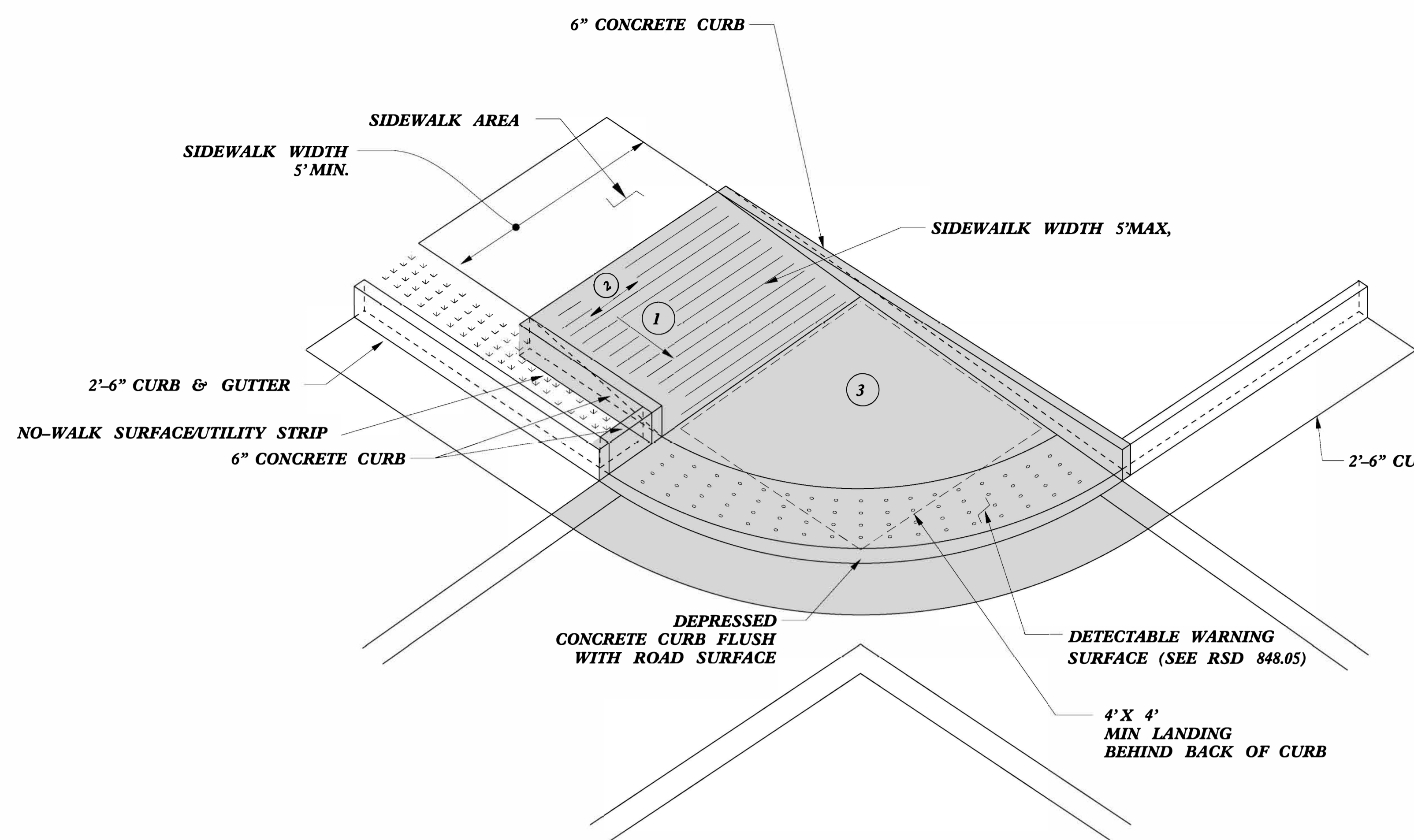
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99



- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

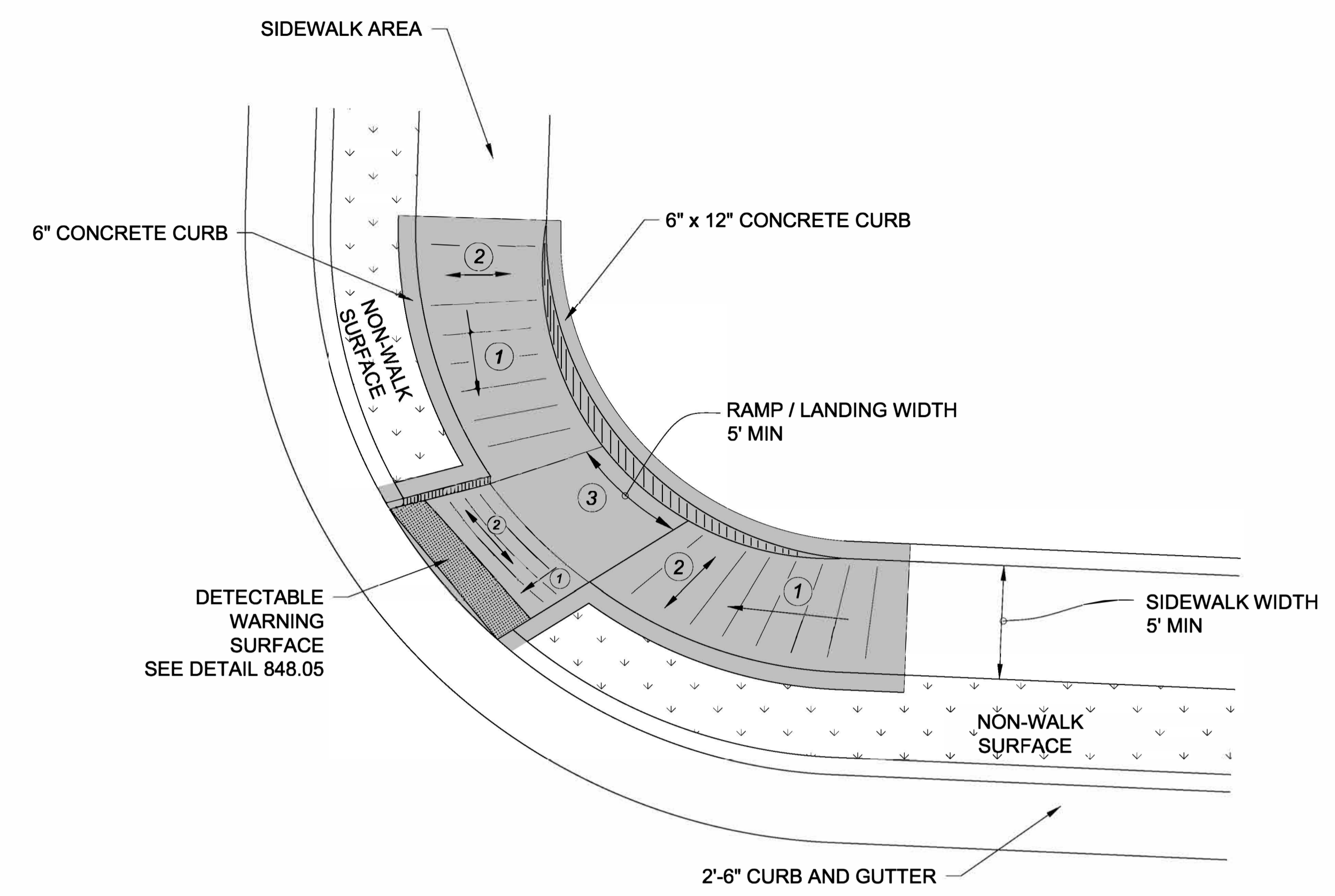
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

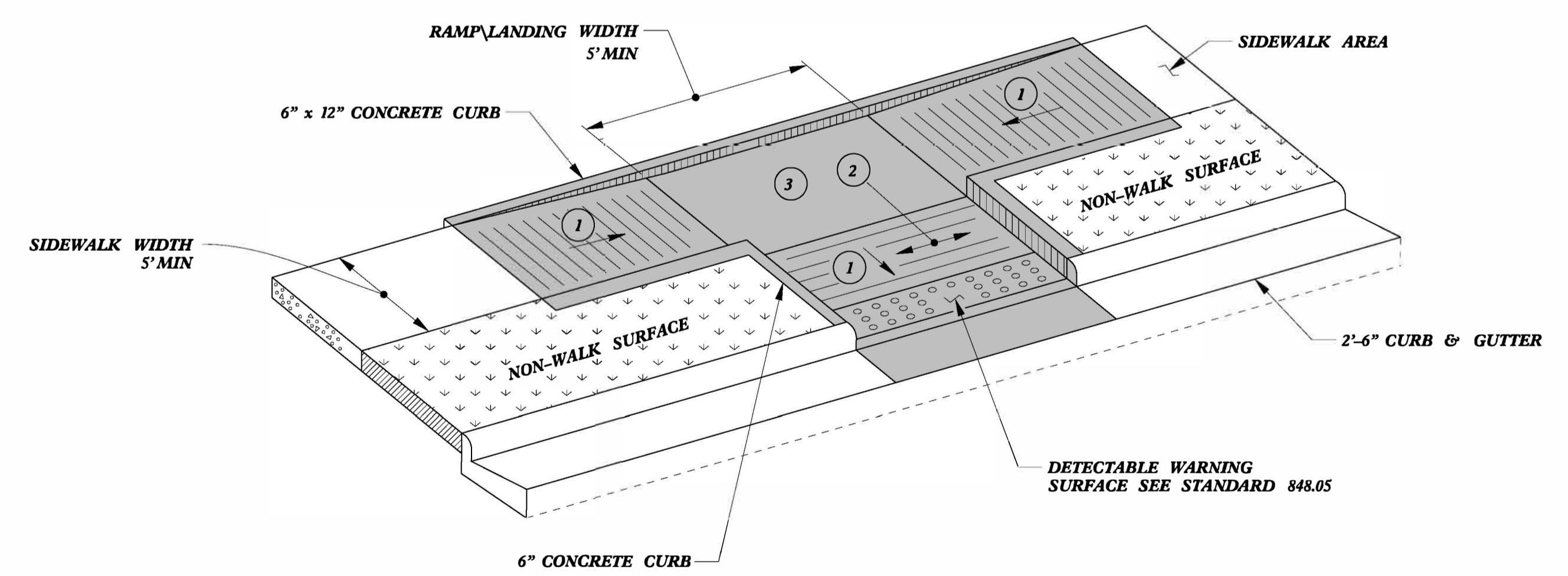
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 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99
C:\TEMP\DESIGN\2012CurbRamp\CurbRampDetails.dgn

PAY LIMITS FOR 1 CURB RAMP

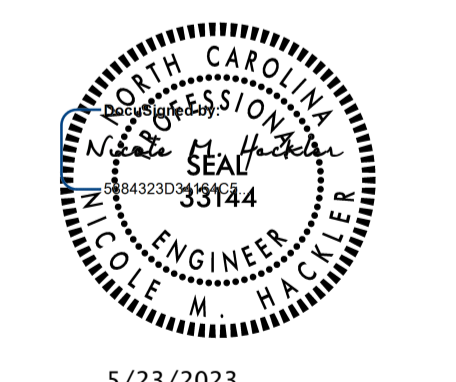


TYPE 3 MODIFIED
INSTALLATION IN A RADIUS



TYPE 3

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



5/23/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
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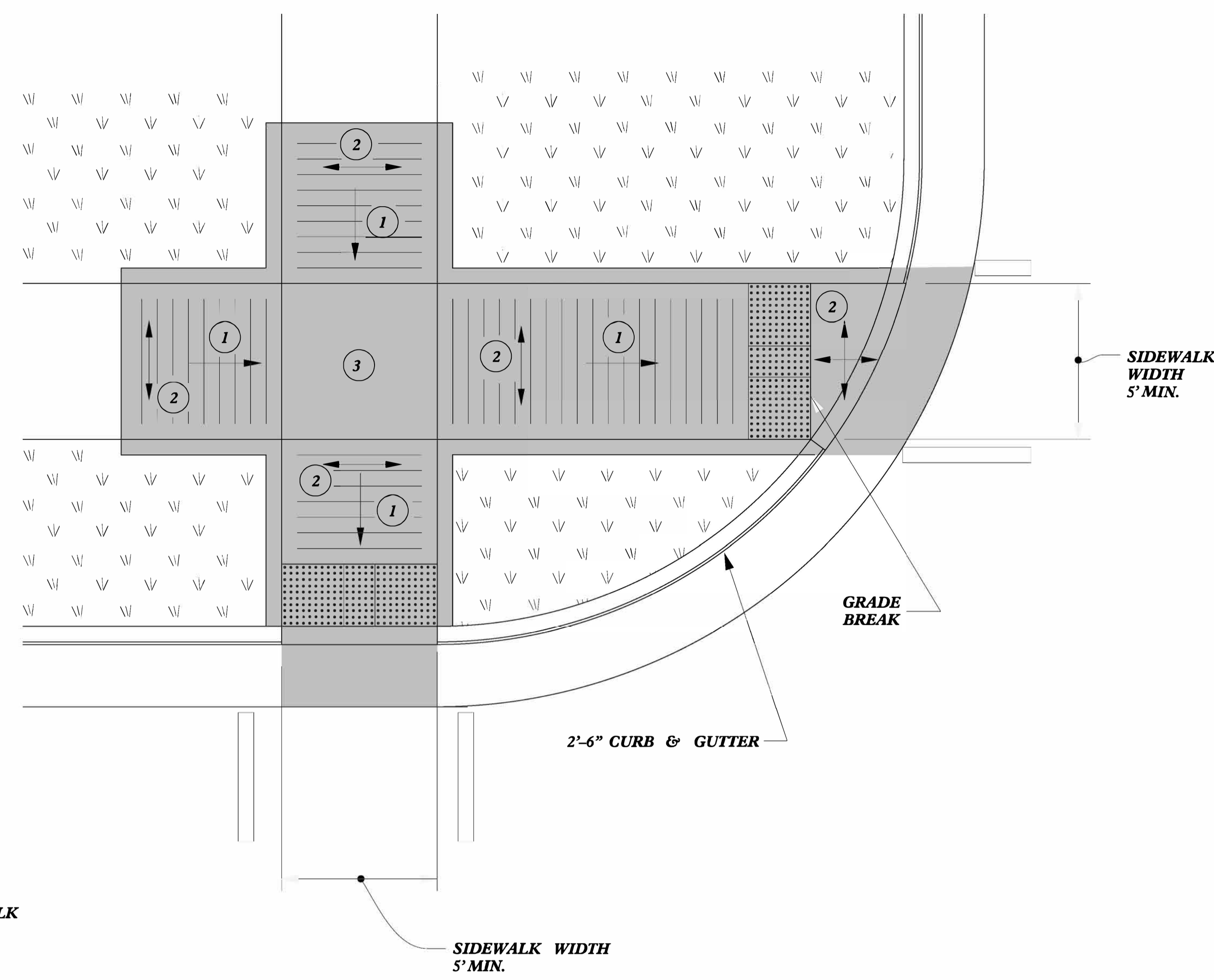
CURB RAMPS

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 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
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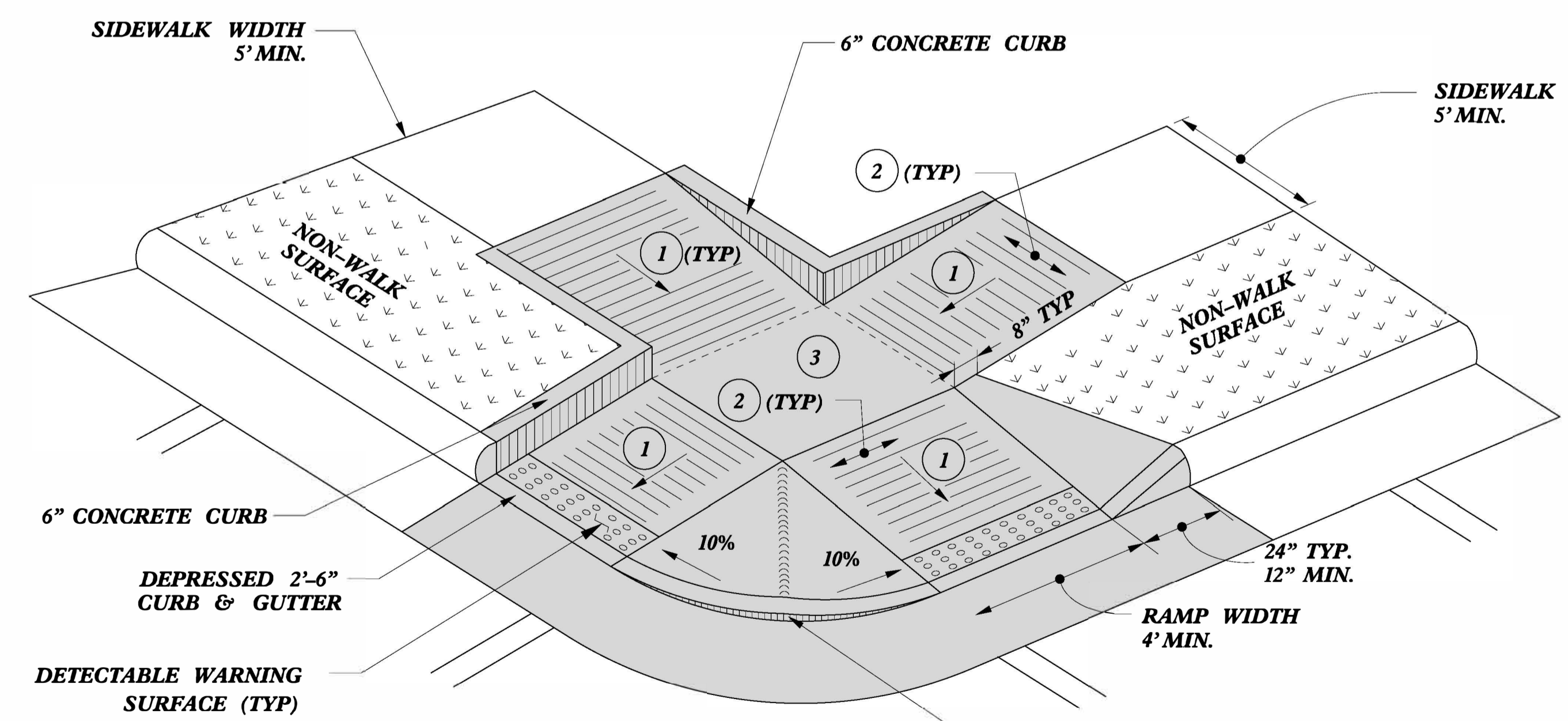
5/14/99

5/14/99

**PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS
OF TRUNCATED DOMES)**

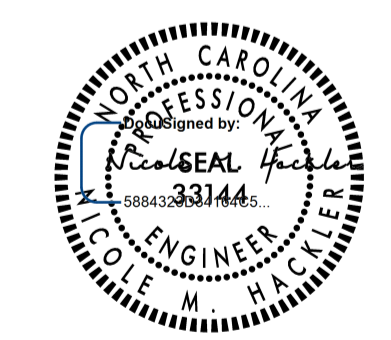


TYPE 5A



TYPE 5

- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



5/23/2023

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
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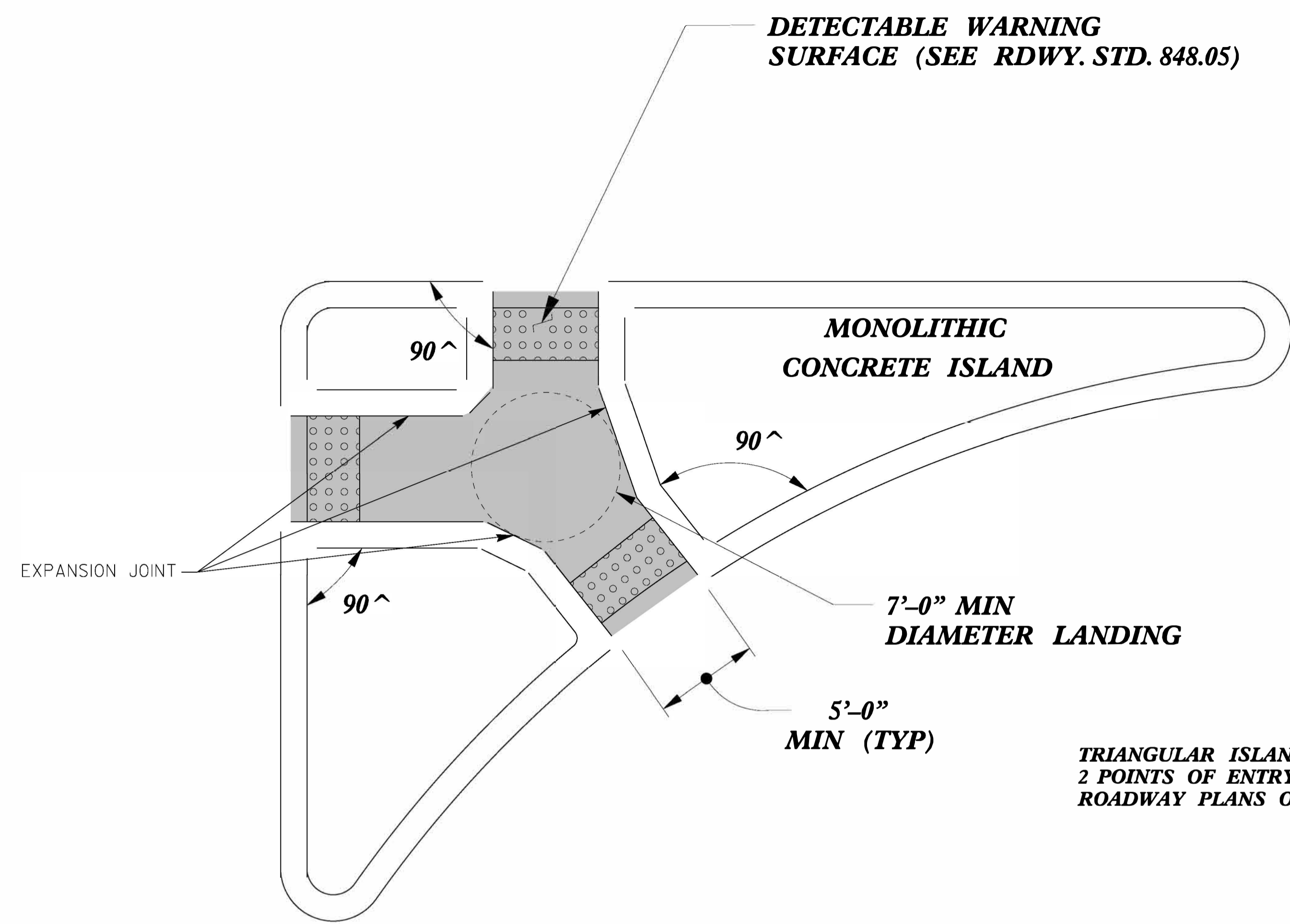
CURB RAMPS

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

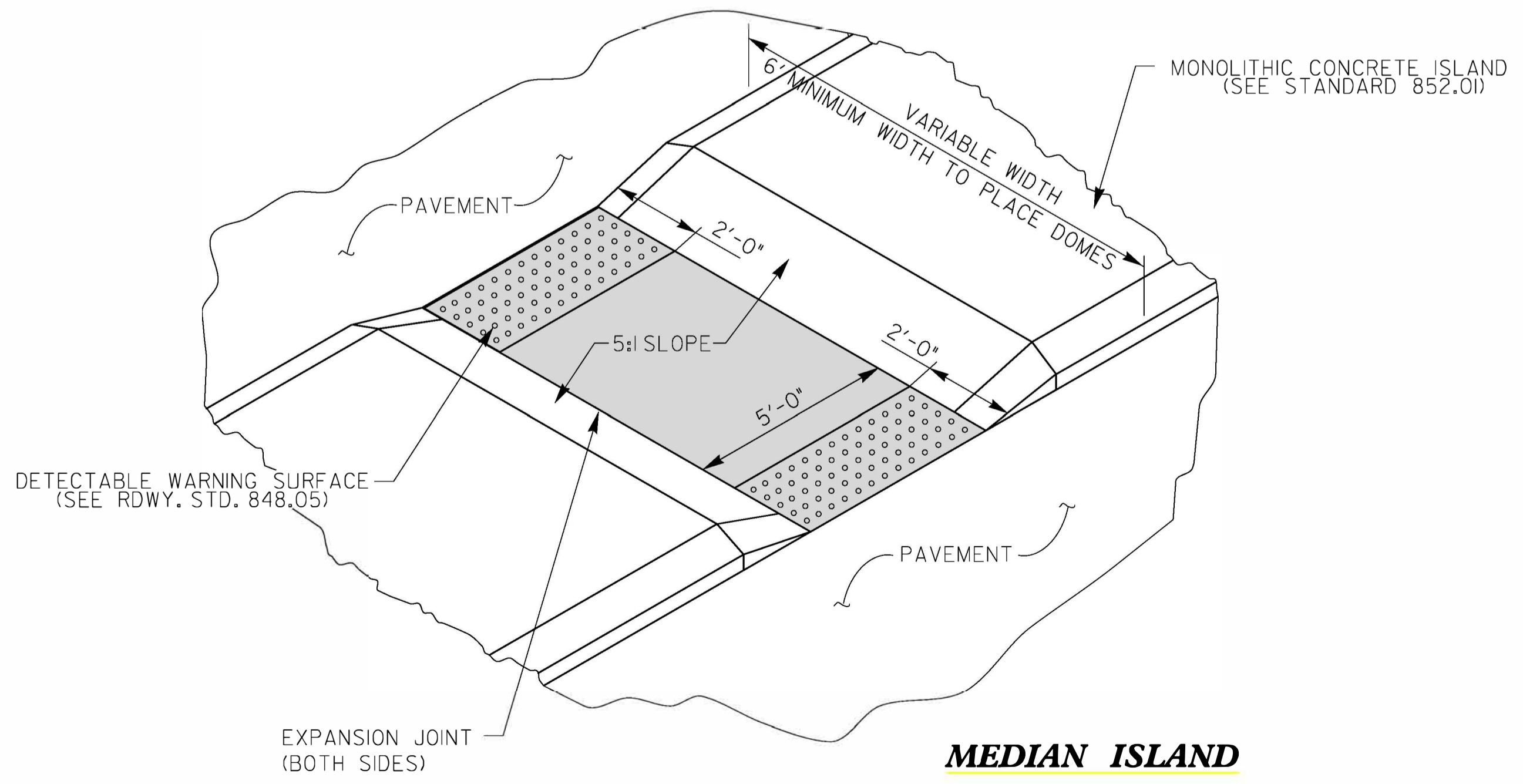
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

5/14/99

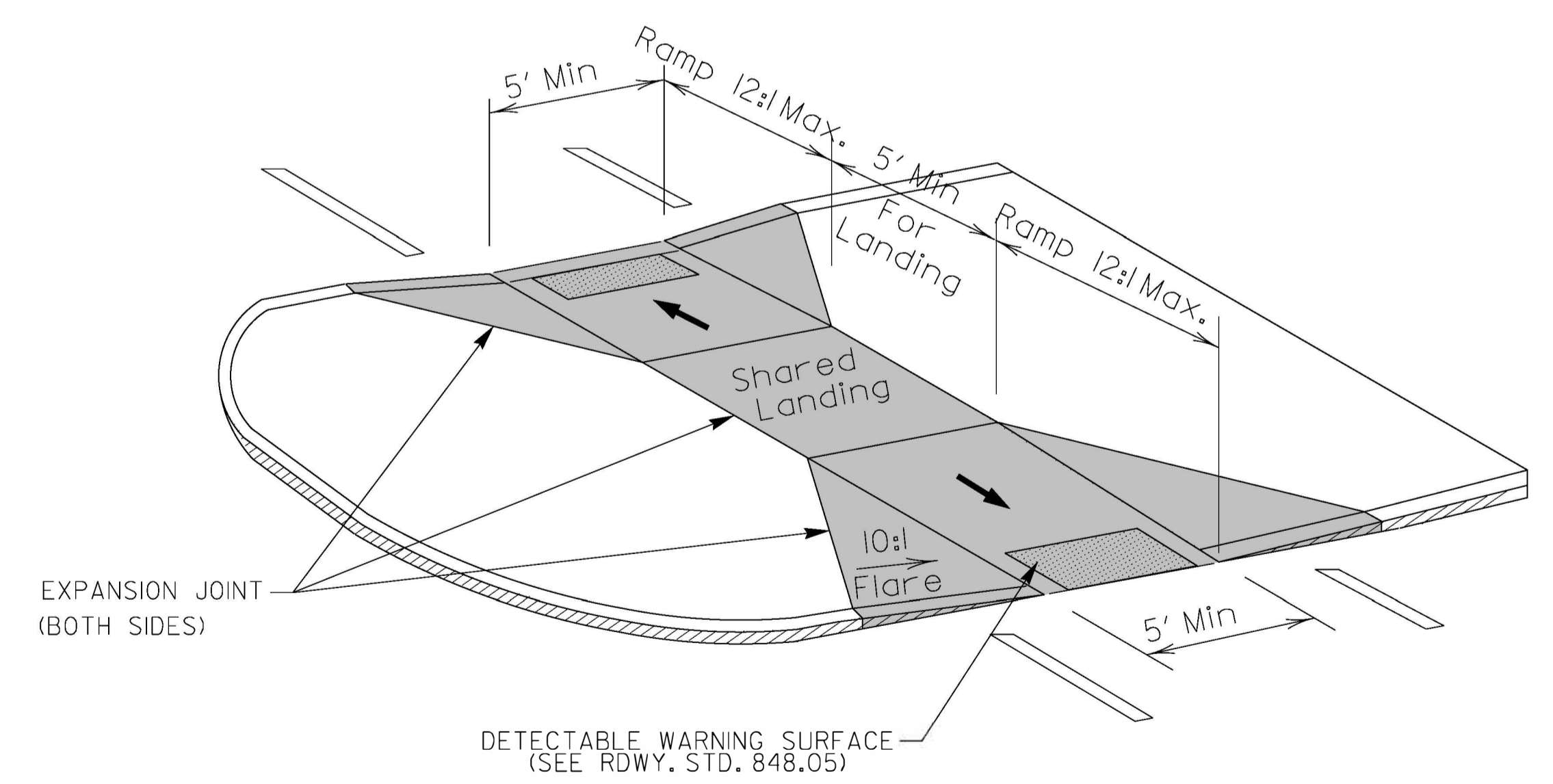
**PAY LIMITS FOR 2 OR 3 CURB RAMPS
(CALCULATE BASED ON NUMBER OF
SETS OF TRUNCATED DOMES)**



**TRIANGULAR ISLAND
WITH CUT THROUGH
TYPE 6**



**MEDIAN ISLAND
WITH CUT THROUGH
TYPE 7**



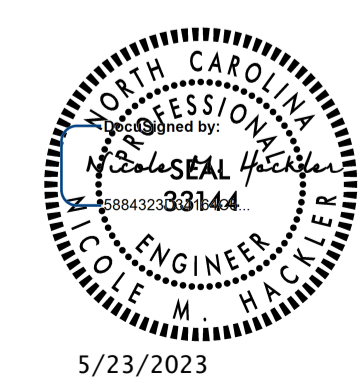
**MEDIAN ISLAND
CURB RAMPS
TYPE 8**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
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CURB RAMPS
Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn

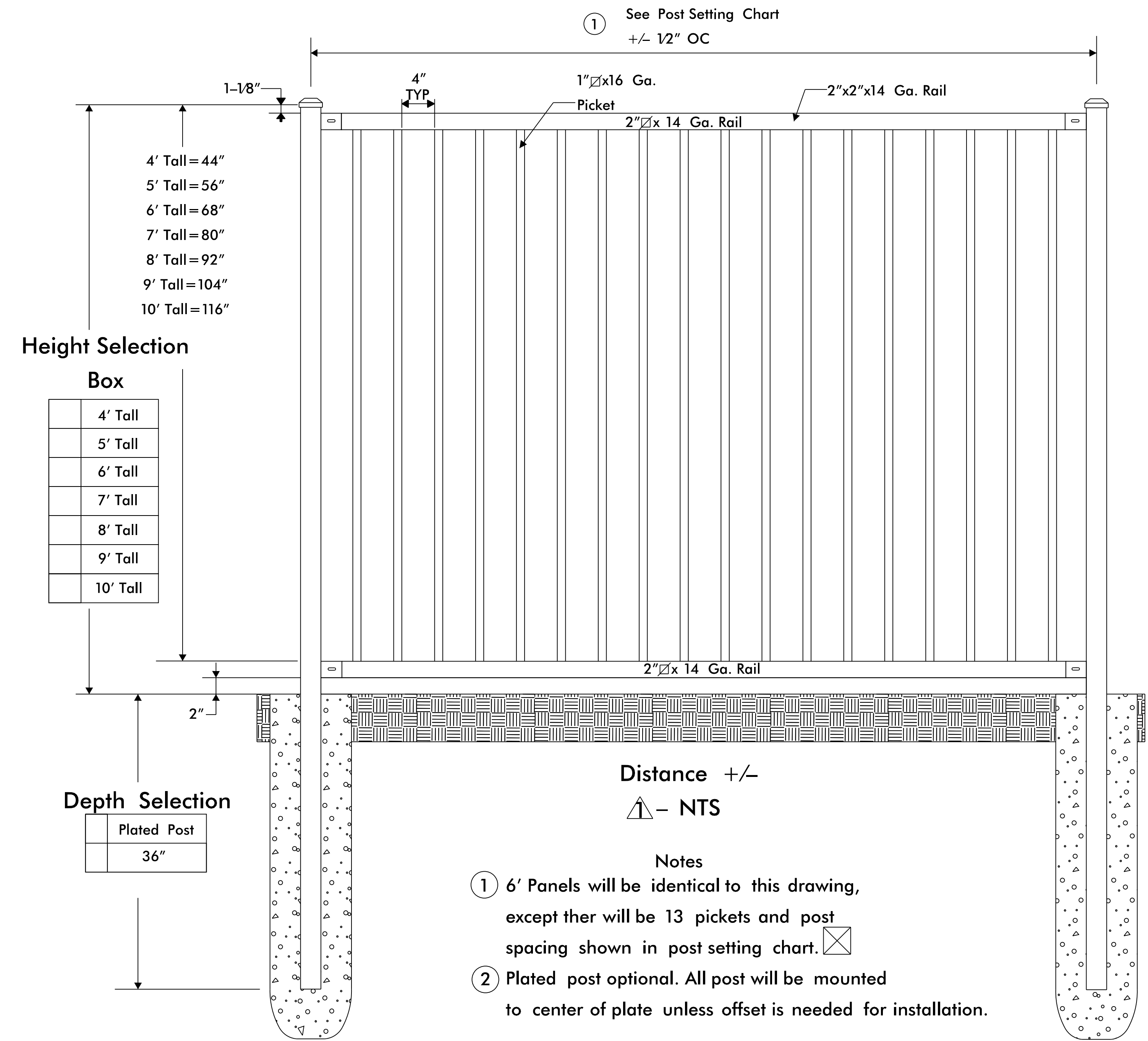


5/14/99
SYTIME
CONSTRUCTION
SURNAME

8/17/99

HANDRAIL DETAIL

PROJECT REFERENCE NO. R-5799	SHEET NO. 2C-10
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



Height Selection

4' Tall = 44"
5' Tall = 56"
6' Tall = 68"
7' Tall = 80"
8' Tall = 92"
9' Tall = 104"
10' Tall = 116"

Box

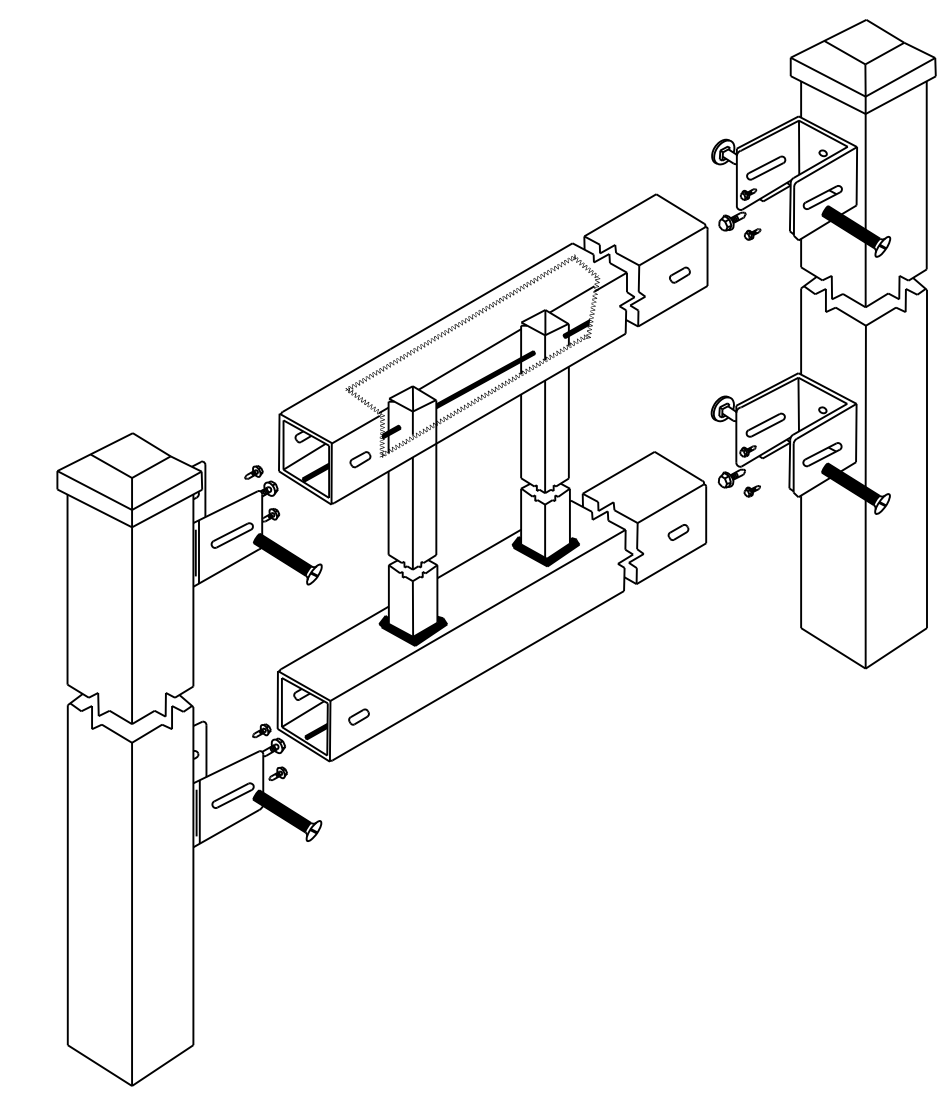
4' Tall
5' Tall
6' Tall
7' Tall
8' Tall
9' Tall
10' Tall

Depth Selection

Plated Post
36"

Post Selection Box

2-1/2" x 14 Ga. Post
2-1/2" x 12 Ga. Post
3" x 12 Ga. Post
4" x 11 Ga. Post
6" x 3/16" Wall. Post



Mounting Bracket Options

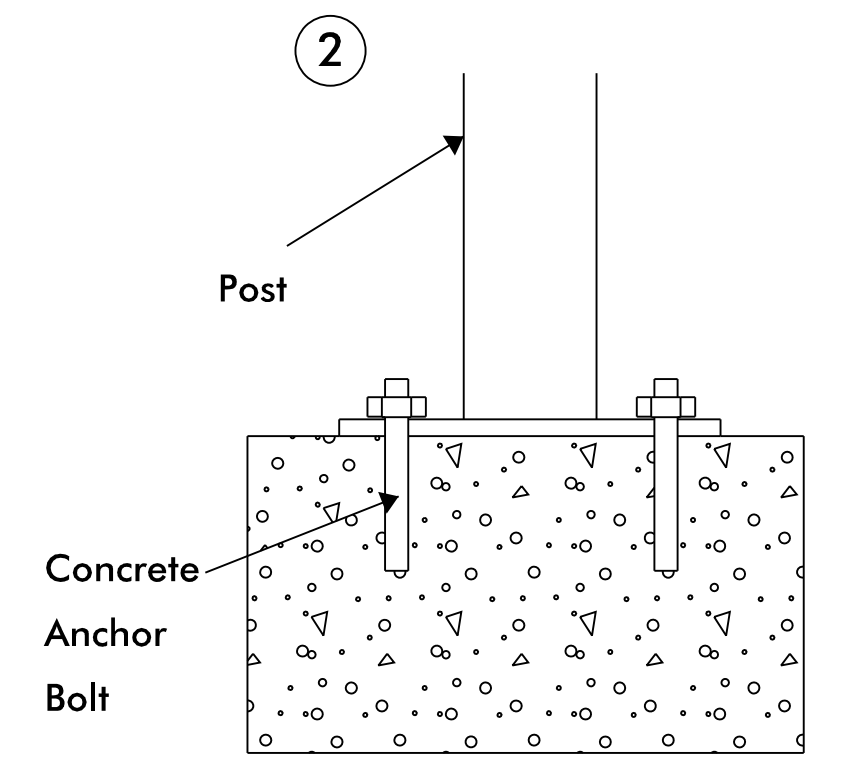
Industrial Swivel Bracket	Flat Mount Industrial Bracket
---------------------------	-------------------------------

Distance +/-
▲ - NTS

- Notes**
- ① 6' Panels will be identical to this drawing, except there will be 13 pickets and post spacing shown in post setting chart. ☒
 - ② Plated post optional. All post will be mounted to center of plate unless offset is needed for installation.

Plate Selection for Plated Post

Size	Thickness
4x4	
6x6	
8x8	
12x12	



☒ **Post Setting Chart**

POST SIZE	2-1/2" POSTS		3" POSTS		4" POSTS		6" POSTS	
	6'	8'	6'	8'	6'	8'	6'	8'
POST SETTINGS +/- 1/2" O.C.	71-1/4"	96"	71-3/4"	96-1/2"	72-3/4"	97-1/2"	74-3/4"	99-1/2"

30-MAR-2023 14:25
 R:\Projects\15799\15799_Rdy_Handrail_Detail.dgn
 R:\Projects\15799\15799_Rdy_Handrail_Detail.dgn

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

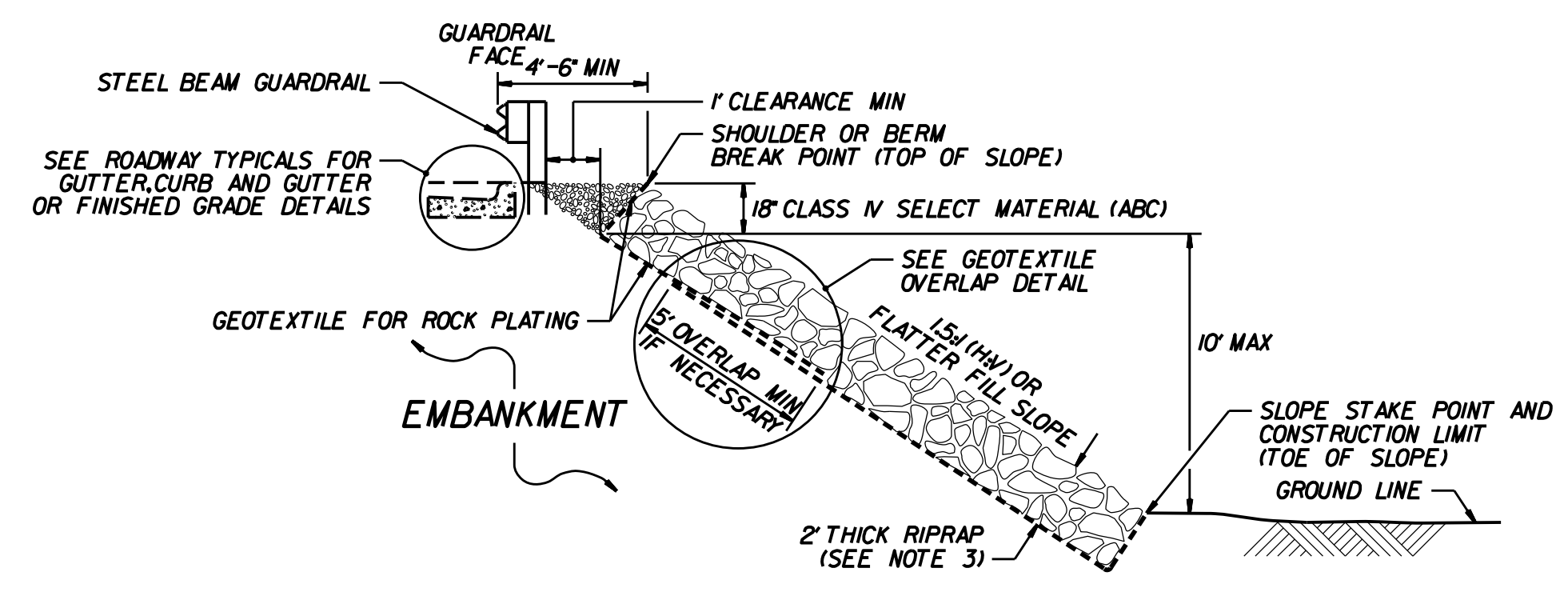
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
ROCK PLATING

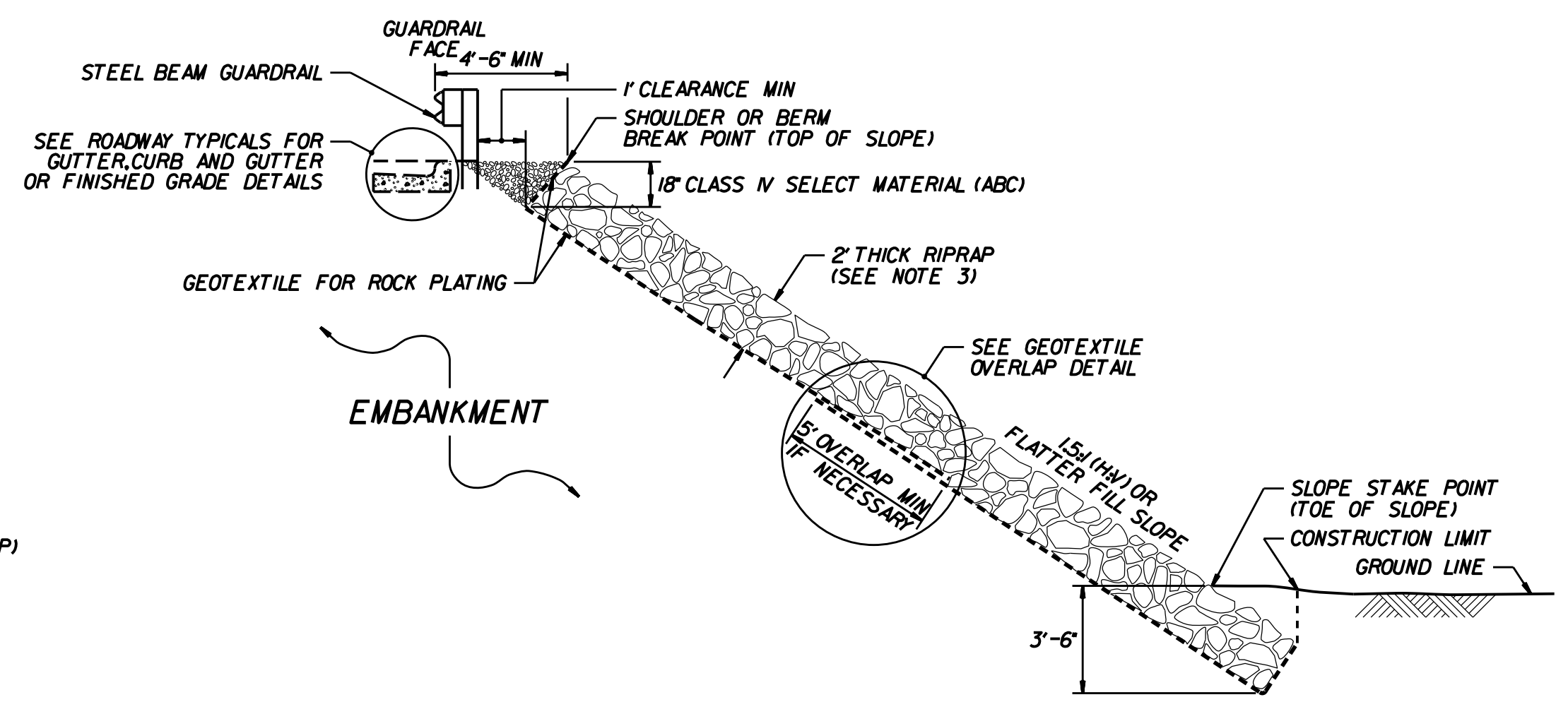
ROADWAY DETAIL DRAWING FOR
ROCK PLATING

SHEET 1 OF 1
275D01

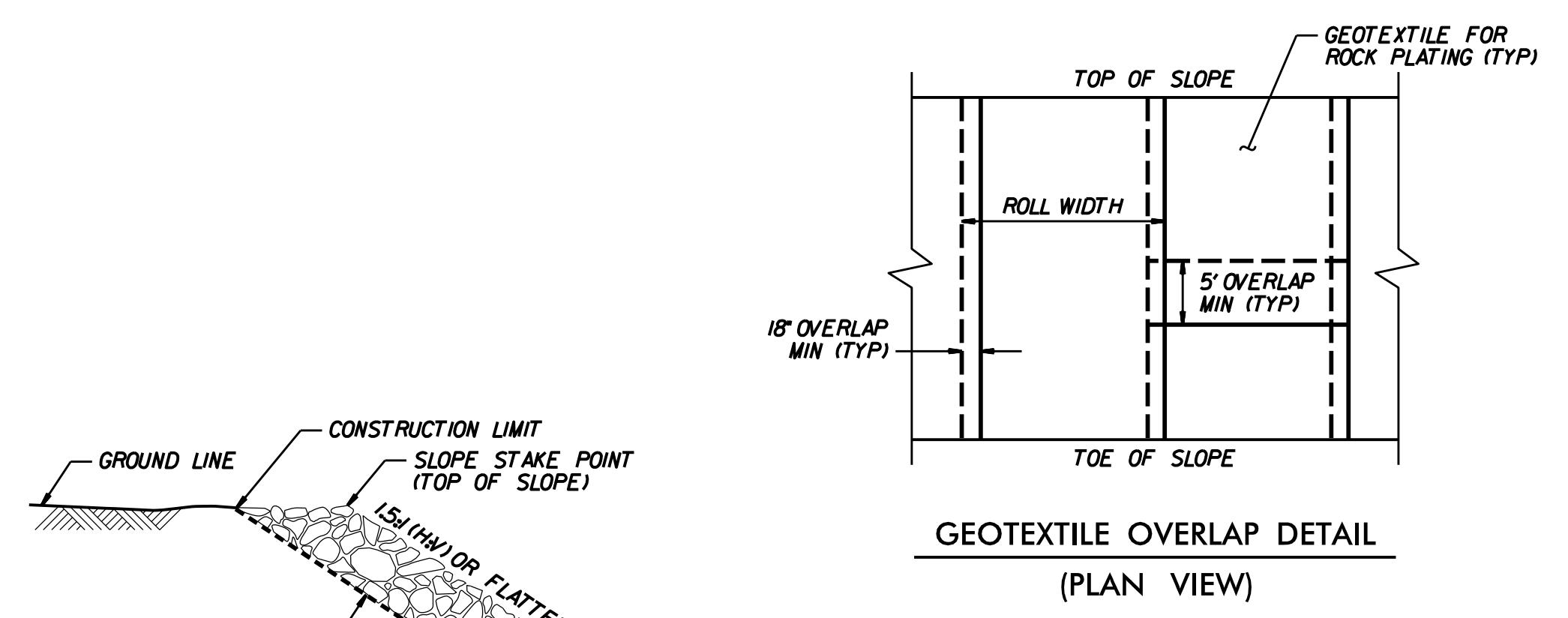
SHEET 1 OF 1
275D01



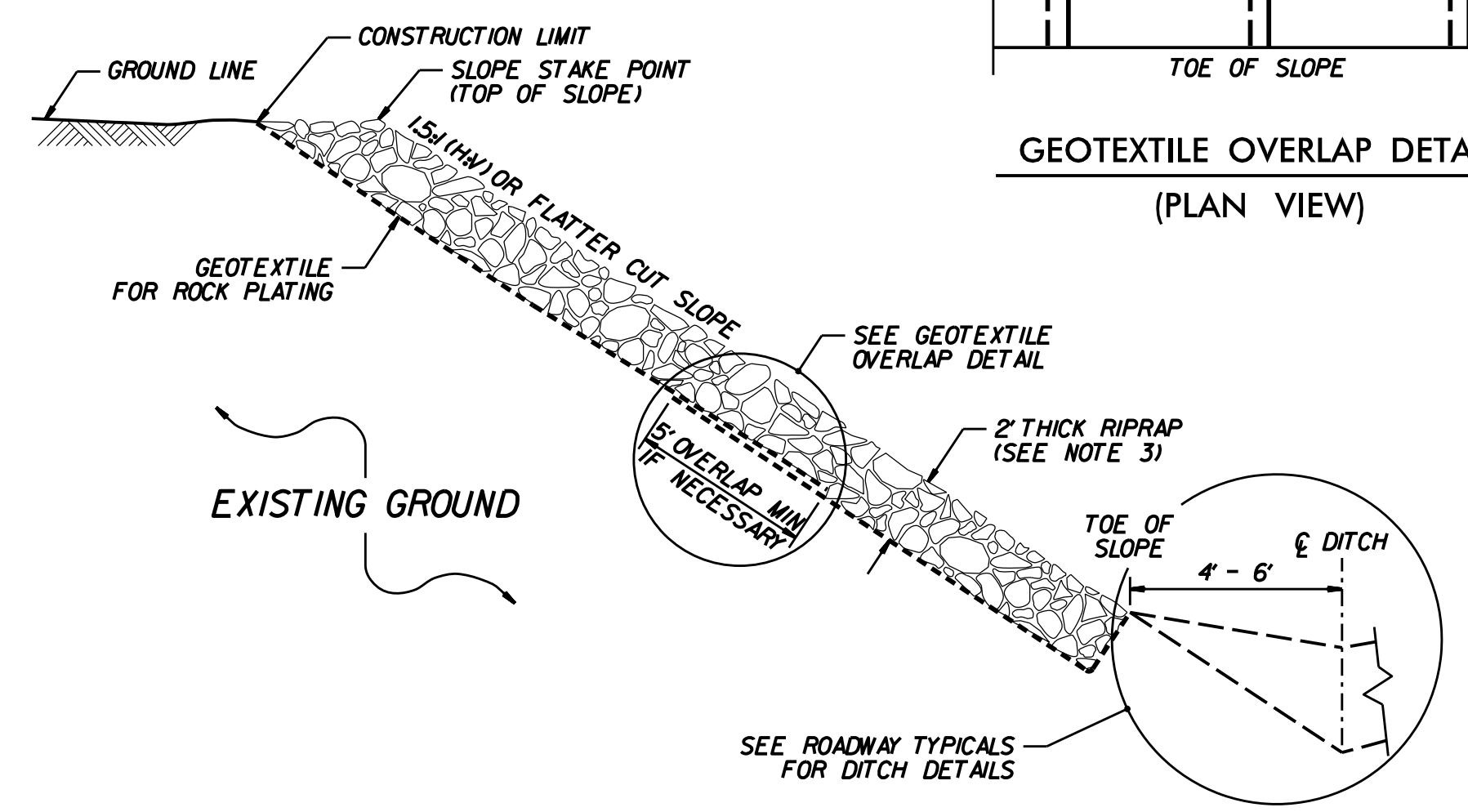
ROCK PLATING DETAIL NO. 1 - TYPICAL SECTION



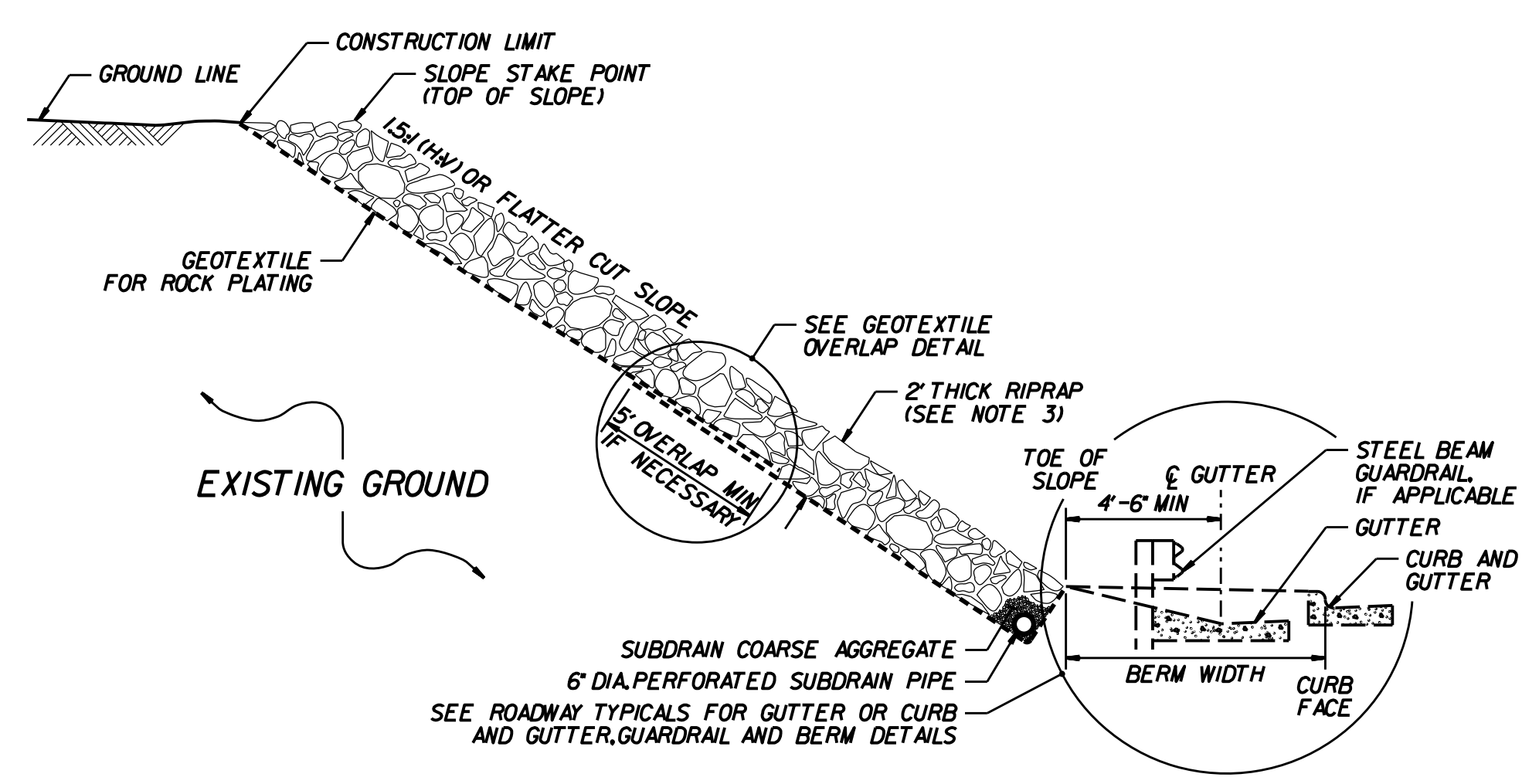
ROCK PLATING DETAIL NO. 2 - TYPICAL SECTION



GEOTEXTILE OVERLAP DETAIL (PLAN VIEW)

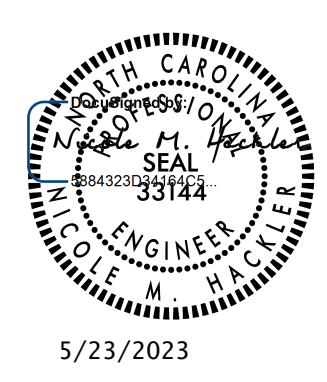


ROCK PLATING DETAIL NO. 3 - TYPICAL SECTION



ROCK PLATING DETAIL NO. 4 - TYPICAL SECTION

- NOTES:**
1. SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
 2. FOR ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
 3. USE CLASS I, 2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.



5/23/2023

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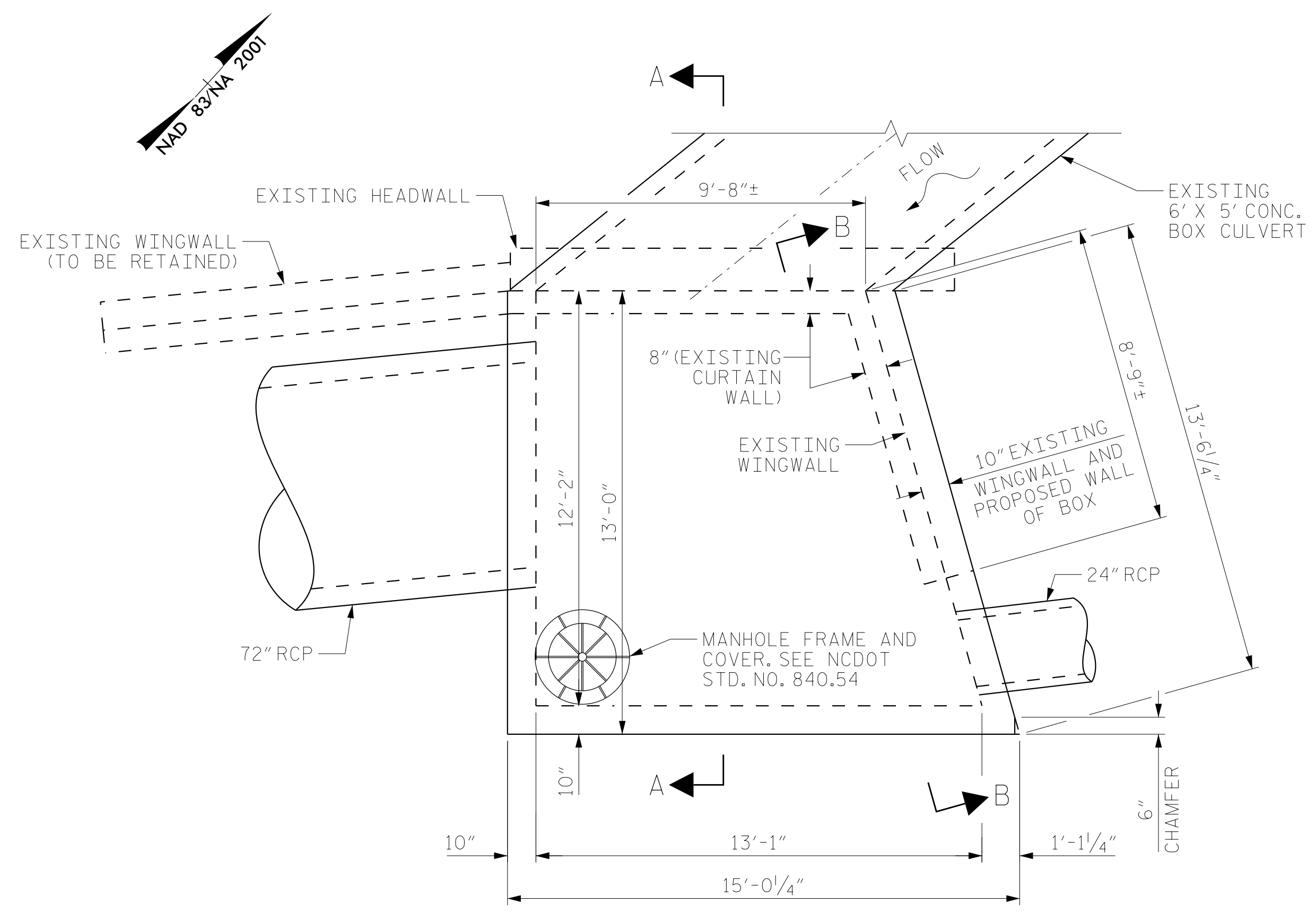
SEE TITLE BLOCK

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 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.:

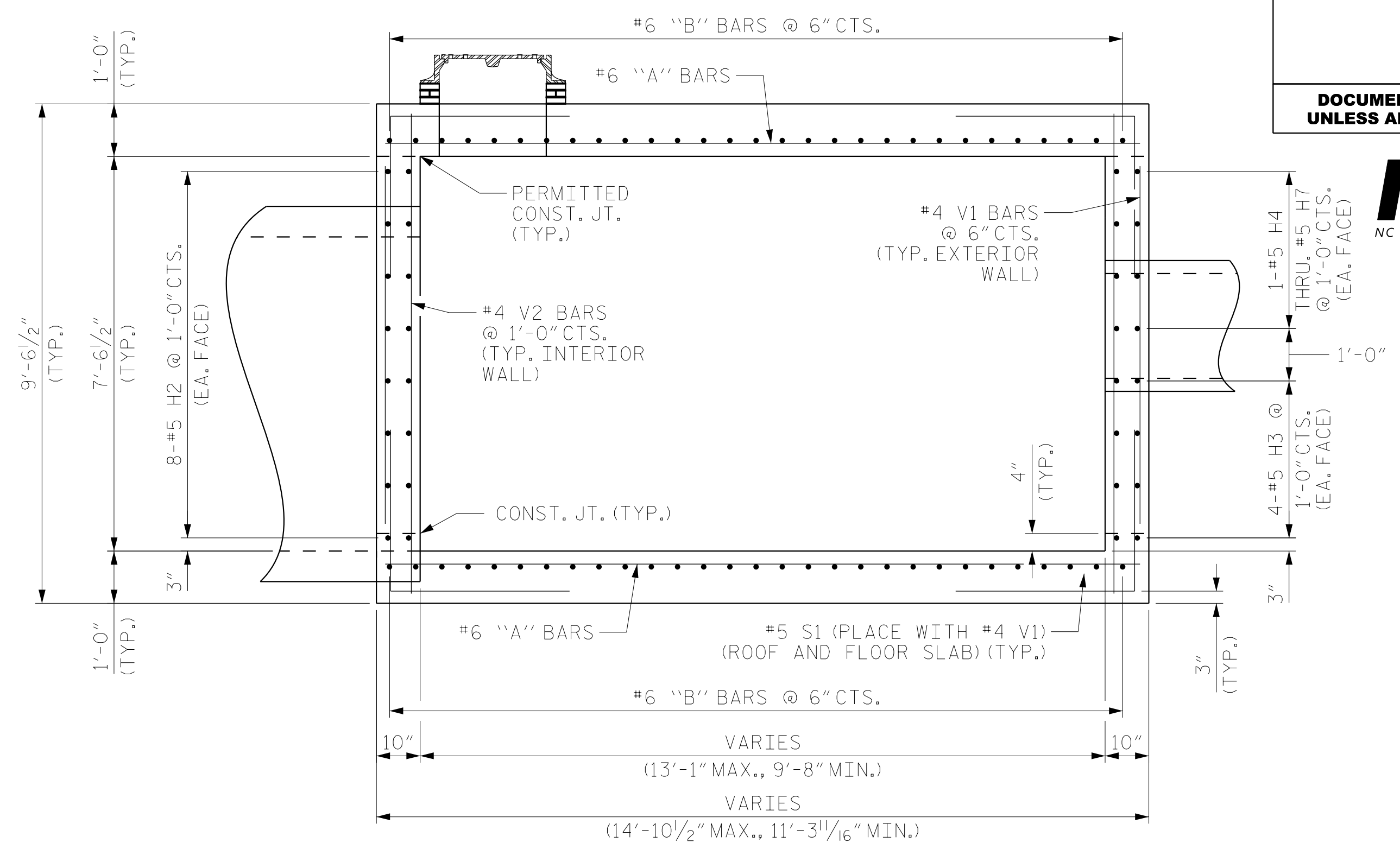
SYTIME
C:\PROGRAMS\AUTOCAD\ACAD
USERNAME



NOTE:
FOR PLAN OF FLOOR SLAB, PLAN OF ROOF SLAB,
AND ADDITIONAL NOTES, SEE SHEET 2D-2.

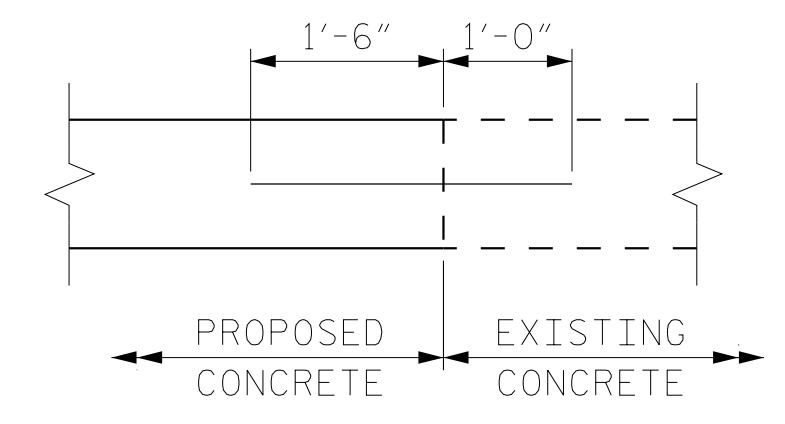


PLAN VIEW - 0528

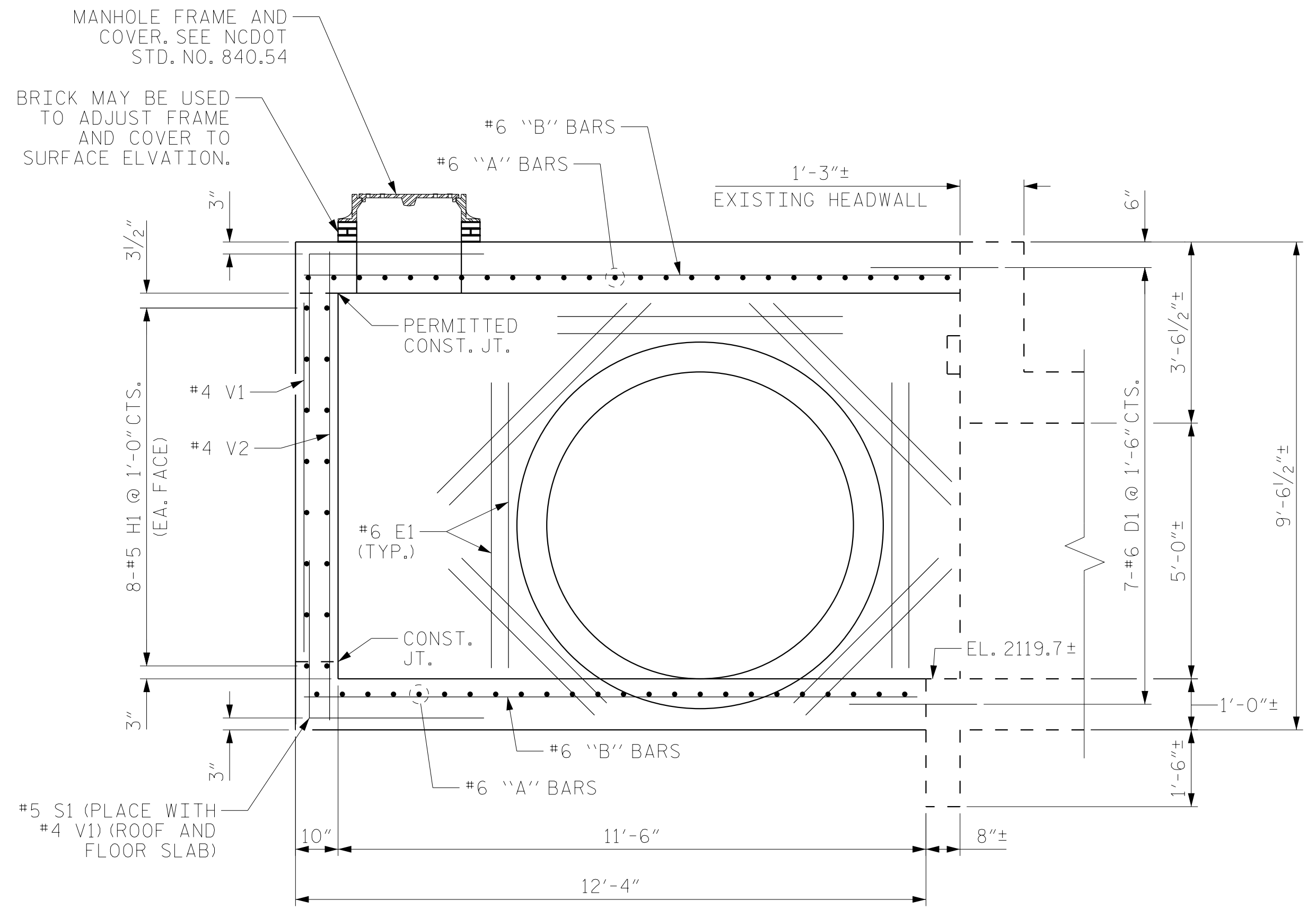


SECTION THROUGH BOX

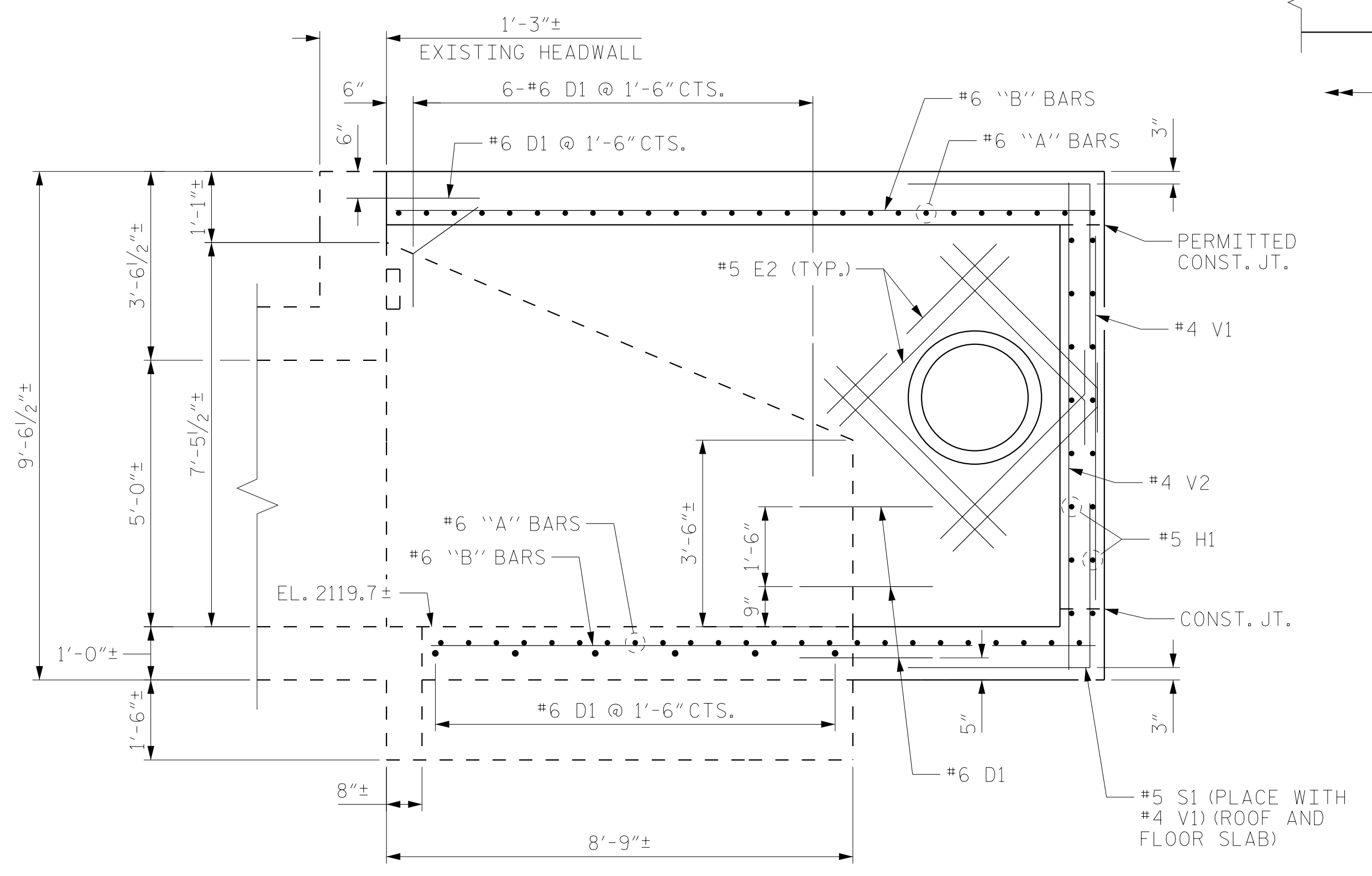
LOOKING UPSTREAM AT THE OPENING OF THE EXISTING RCBC



DOWEL DETAIL



SECTION A-A

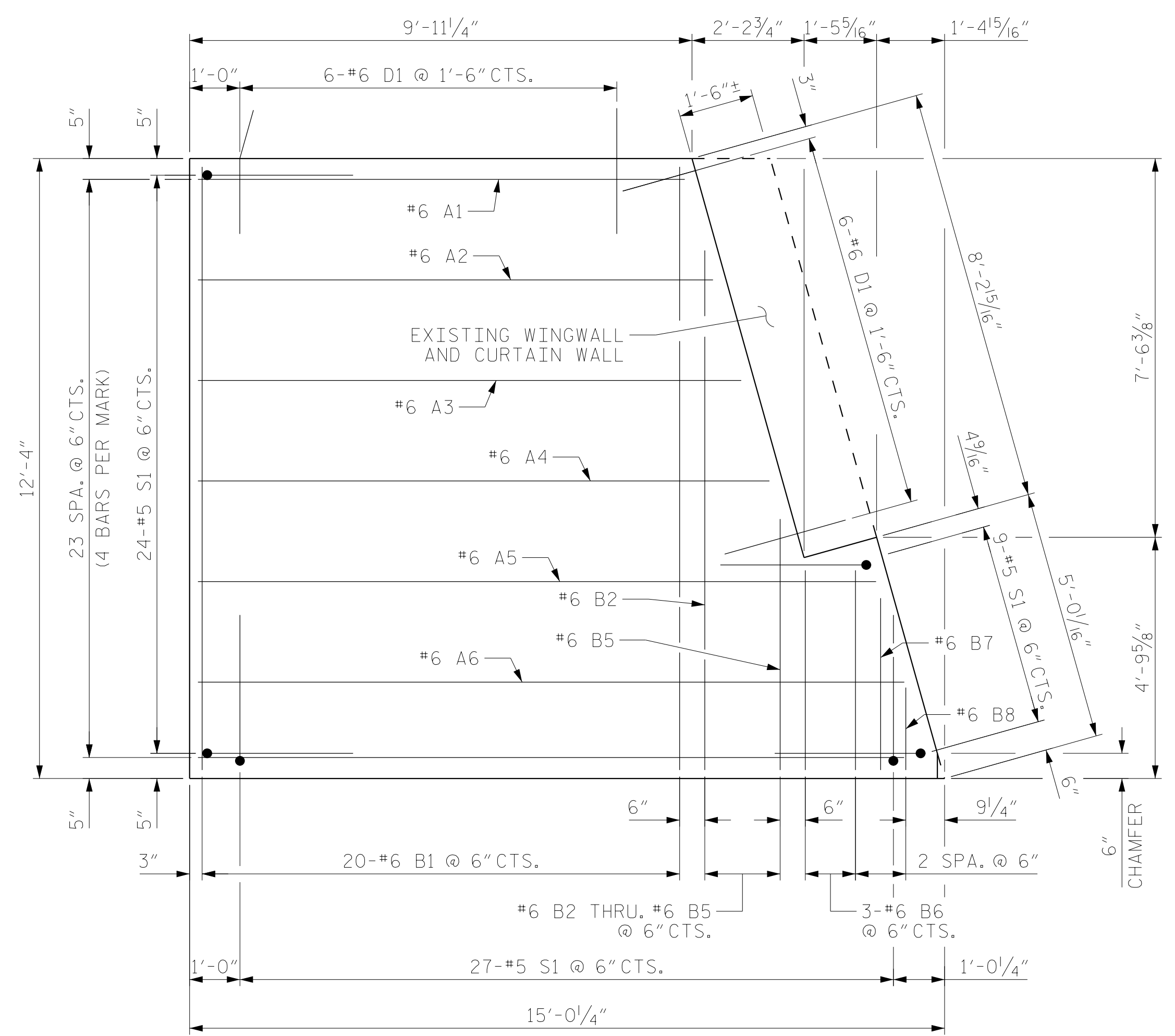


SECTION B-B

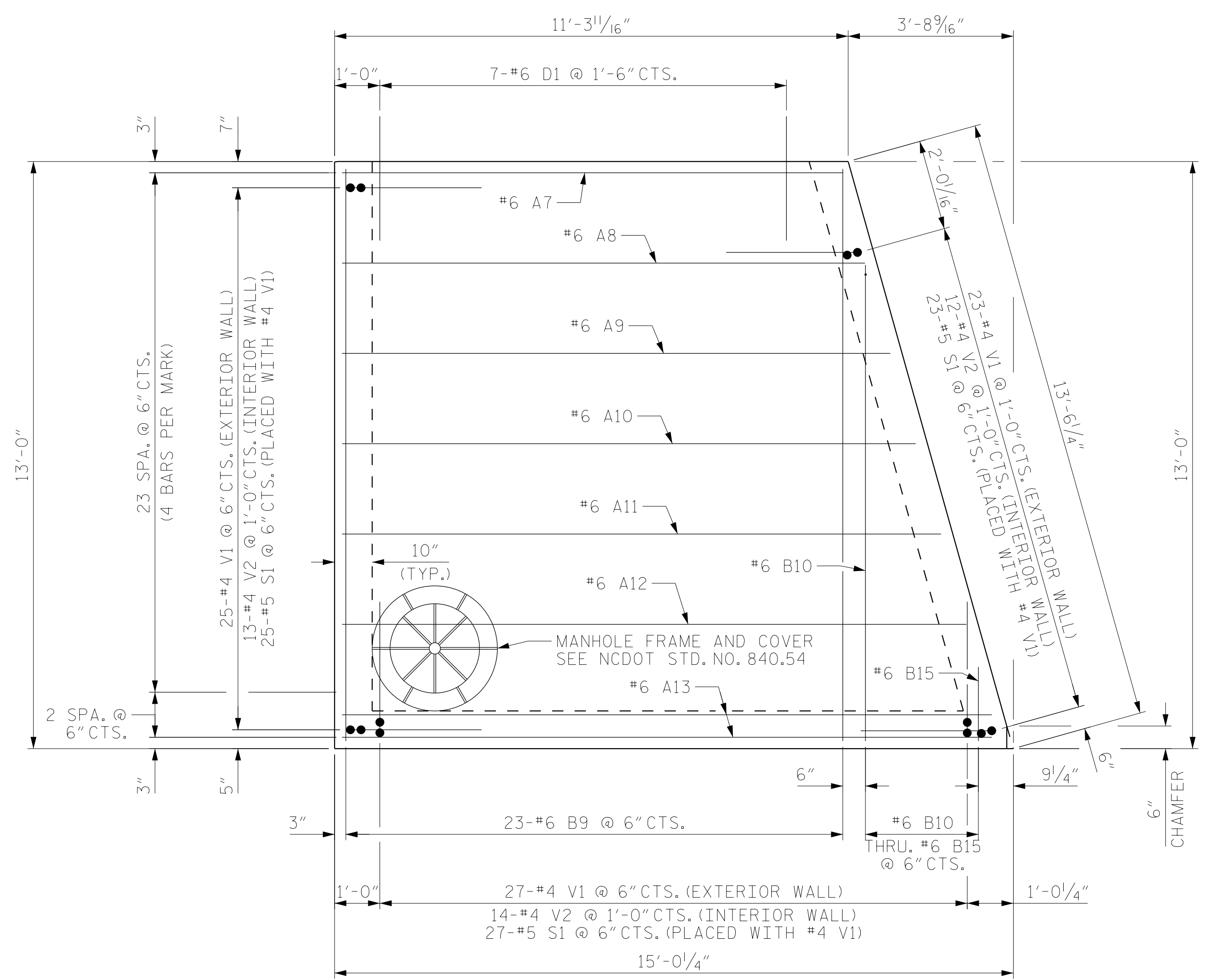
6/13/2023 X:\P\1030049021.R-5799_US 64-276 Intersection Design\Design\Roadway\Proj\Junction Box\0528\2D-1.dgn

DRAWN BY : NSC DATE : 10/2020
 CHECKED BY : MAL DATE : 10/2020
 DESIGN ENGINEER OF RECORD: MAL DATE : 10/2020

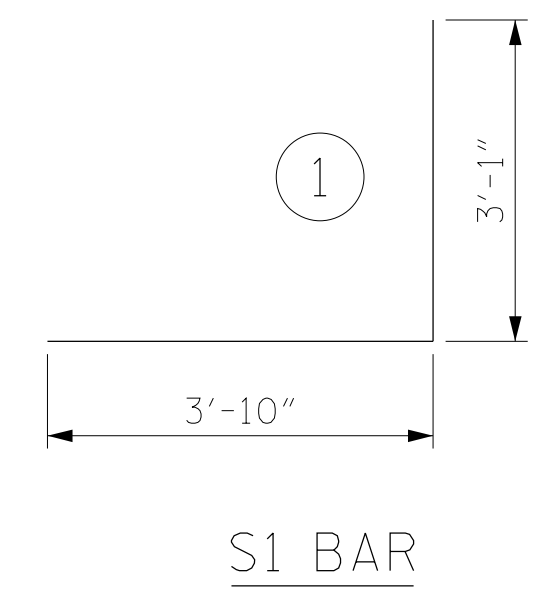
PROJECT REFERENCE NO. R-5799	SHEET NO. 2D-2
STRUCTURAL DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PLAN OF FLOOR SLAB
72" RCP NOT SHOWN FOR CLARITY



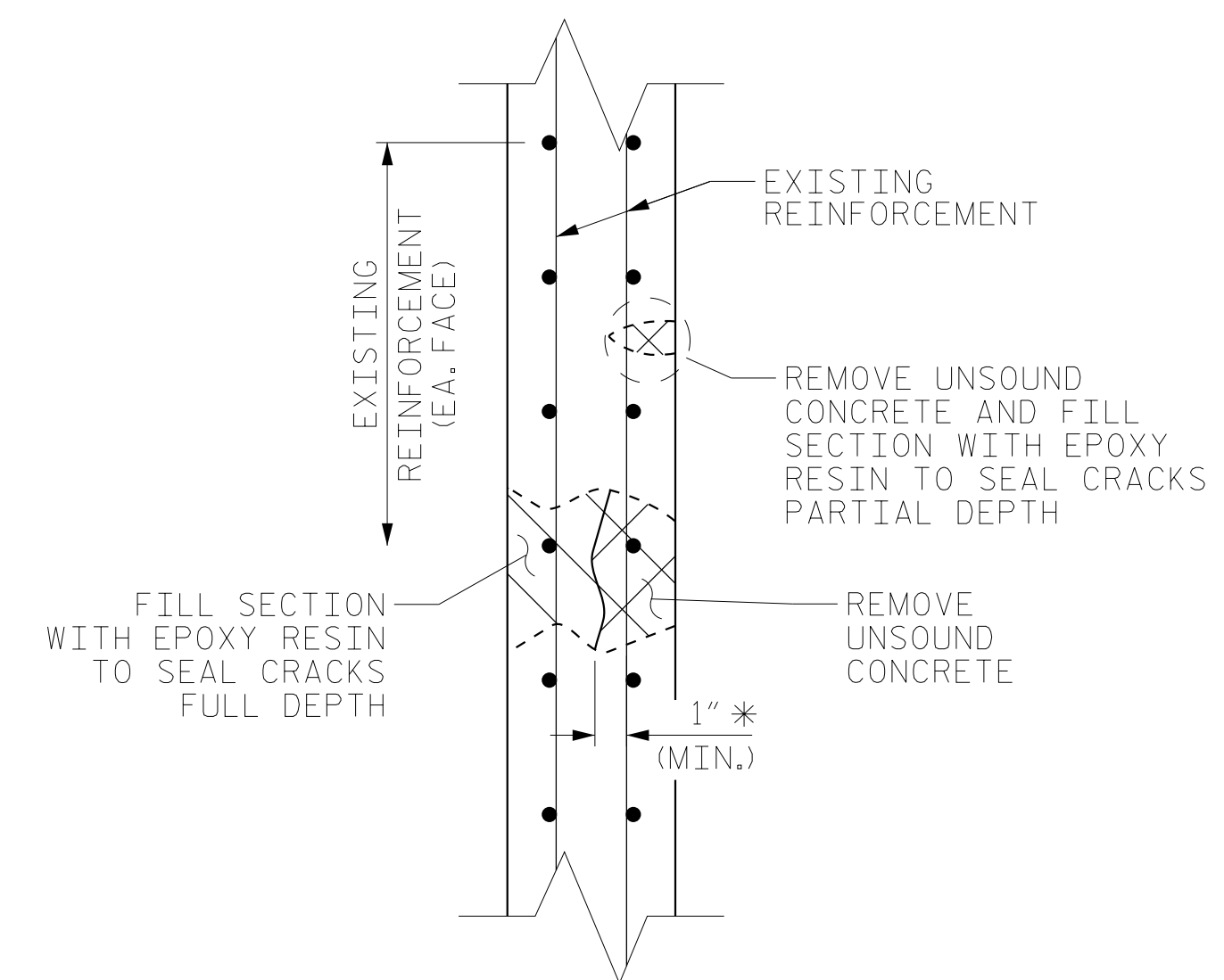
PLAN OF ROOF SLAB



S1 BAR

NOTES:

- ALL EXPOSED CORNERS TO BE CHAMFERED 1".
- CLASS "A" CONCRETE TO BE USED THROUGHOUT.
- IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD DRAWING 840.00.
- THE COST OF REINFORCING STEEL BARS SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF "REINFORCED CONCRETE DRAINAGE STRUCTURE."
- REINFORCING STEEL SHALL BE CUT, BENT, OR RELOCATED TO POSITION PIPE AS DIRECTED BY THE ENGINEER.
- ALL MATERIAL AND WORKMANSHIP SHALL BE OF GOOD QUALITY AND SHALL BE APPROVED BY THE ENGINEER.
- USE FORMS TO CONSTRUCT THE FLOOR SLAB.
- REBARS CROSSING PIPE OPENING OR PASSING WITHIN 2" OF A PIPE SHALL BE CUT, BENT, OR OTHERWISE RESHAPED SO AS TO CLEAR THE OPENING.
- FIELD BEND #6 D1 BARS AS NECESSARY FOR DOWELING INTO EXISTING REINFORCED CONCRETE BOX CULVERT.
- DIMENSIONS ARE FROM BEST INFORMATION AVAILABLE. MEASUREMENTS SHALL BE FIELD VERIFIED.
- THE MINIMUM COVER TO REINFORCEMENT SHALL BE 2" UNLESS NOTED OTHERWISE.
- CONCRETE QUANTITIES DO NOT ACCOUNT FOR PIPE OPENINGS.
- FOR REPAIR SEQUENCE FOR CRACKS, SEE EPOXY RESIN INJECTION SPECIAL PROVISION.
- PROVIDE STEPS AT 12" CENTERS IN ACCORDANCE WITH NCDOT STD. NO. 840.66.
- ADJUST THE STEEL, CONCRETE, AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)



**EXTERIOR WALLS
CRACK REPAIR**

*1" DIMENSION IS FROM REINFORCEMENT OR LIMIT OF CRACK DEPTH, WHICHEVER IS FURTHER IN DEPTH FROM THE INTERIOR FACE.

BILL OF MATERIAL											
JUNCTION BOX 0528											
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	4	#6	STR	9'-8"	58	B11	1	#6	STR	8'-10"	13
A2	4	#6	STR	10'-3"	62	B12	1	#6	STR	7'-1"	11
A3	4	#6	STR	10'-10"	65	B13	1	#6	STR	5'-3"	8
A4	4	#6	STR	11'-4"	68	B14	1	#6	STR	3'-6"	5
A5	4	#6	STR	13'-6"	81	B15	1	#6	STR	1'-10"	3
A6	4	#6	STR	14'-1"	85						
A7	4	#6	STR	11'-0"	66	D1	35	#6	STR	2'-6"	131
A8	4	#6	STR	11'-6"	69						
A9	4	#6	STR	12'-1"	73	E1	28	#6	STR	6'-0"	252
A10	4	#6	STR	12'-8"	76	E2	16	#5	STR	4'-7"	76
A11	4	#6	STR	13'-3"	80						
A12	4	#6	STR	13'-10"	83	H1	16	#5	STR	14'-5"	241
A13	2	#6	STR	14'-5"	43	H2	16	#5	STR	12'-8"	211
						H3	8	#5	STR	4'-5"	37
B1	20	#6	STR	12'-0"	360	H4	2	#5	STR	5'-10"	12
B2	1	#6	STR	10'-5"	16	H5	2	#5	STR	8'-0"	17
B3	1	#6	STR	8'-7"	13	H6	2	#5	STR	10'-3"	21
B4	1	#6	STR	6'-10"	10	H7	2	#5	STR	12'-5"	26
B5	1	#6	STR	5'-1"	8						
B6	3	#6	STR	4'-0"	18	S1	135	#5	1	6'-11"	974
B7	1	#6	STR	3'-6"	5						
B8	1	#6	STR	1'-10"	3	V1	75	#4	STR	6'-10"	342
B9	23	#6	STR	12'-8"	438	V2	39	#4	STR	9'-1"	237
B10	1	#6	STR	10'-7"	16						

REINFORCING STEEL 4,413 LBS.
CLASS "A" CONCRETE 19.8 C.Y.

6/13/2023 10:30:04 9021.R-5799_US 64-276 Intersection Design\Design\Roadway\Proj\Junction Box\0528\2D-2.dgn

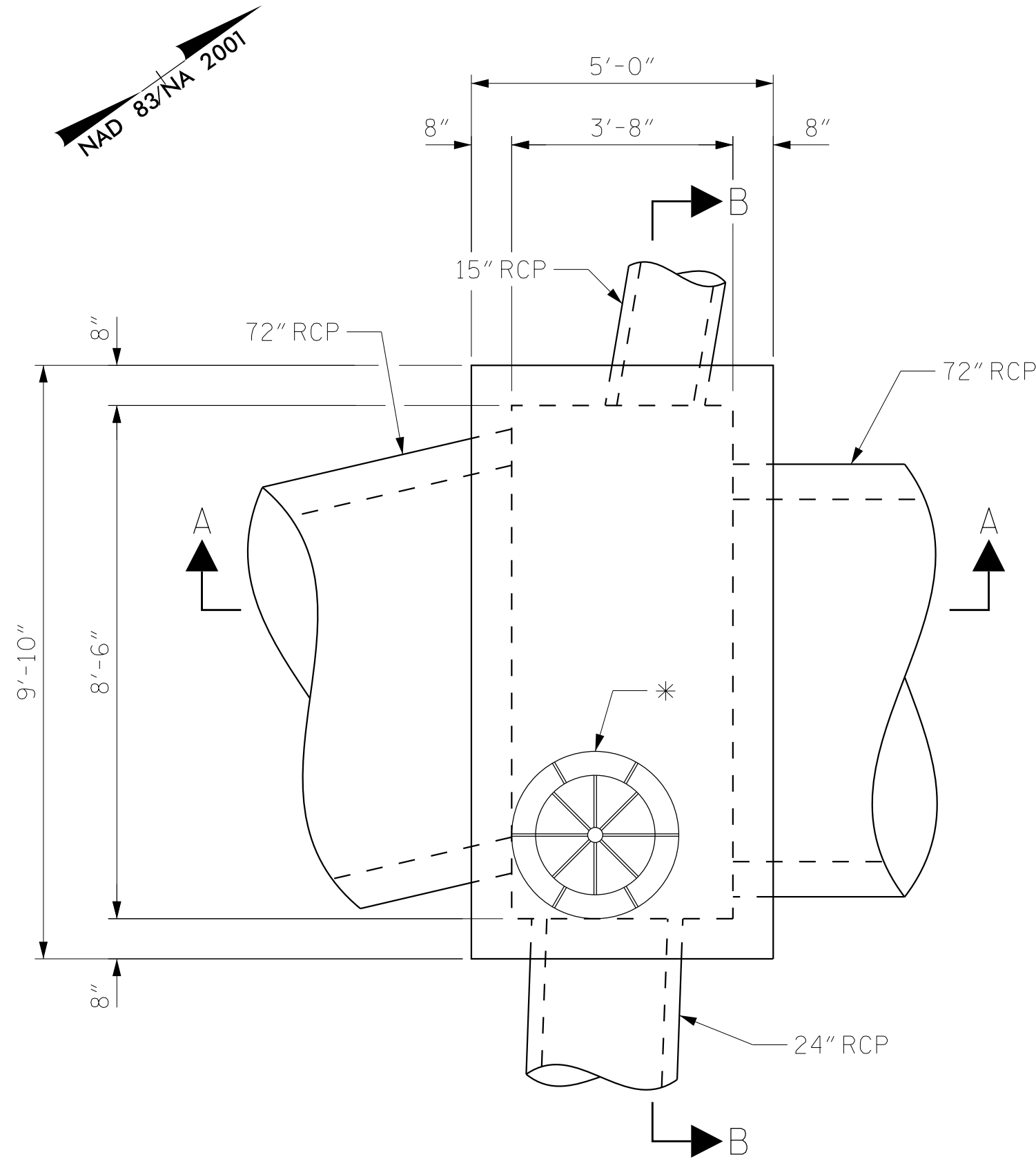
DRAWN BY : NSC DATE : 10/2020
 CHECKED BY : MAL DATE : 10/2020
 DESIGN ENGINEER OF RECORD: MAL DATE : 10/2020

PROJECT REFERENCE NO. R-5799	SHEET NO. 2D-3
STRUCTURAL DESIGN ENGINEER	
6/15/2023	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



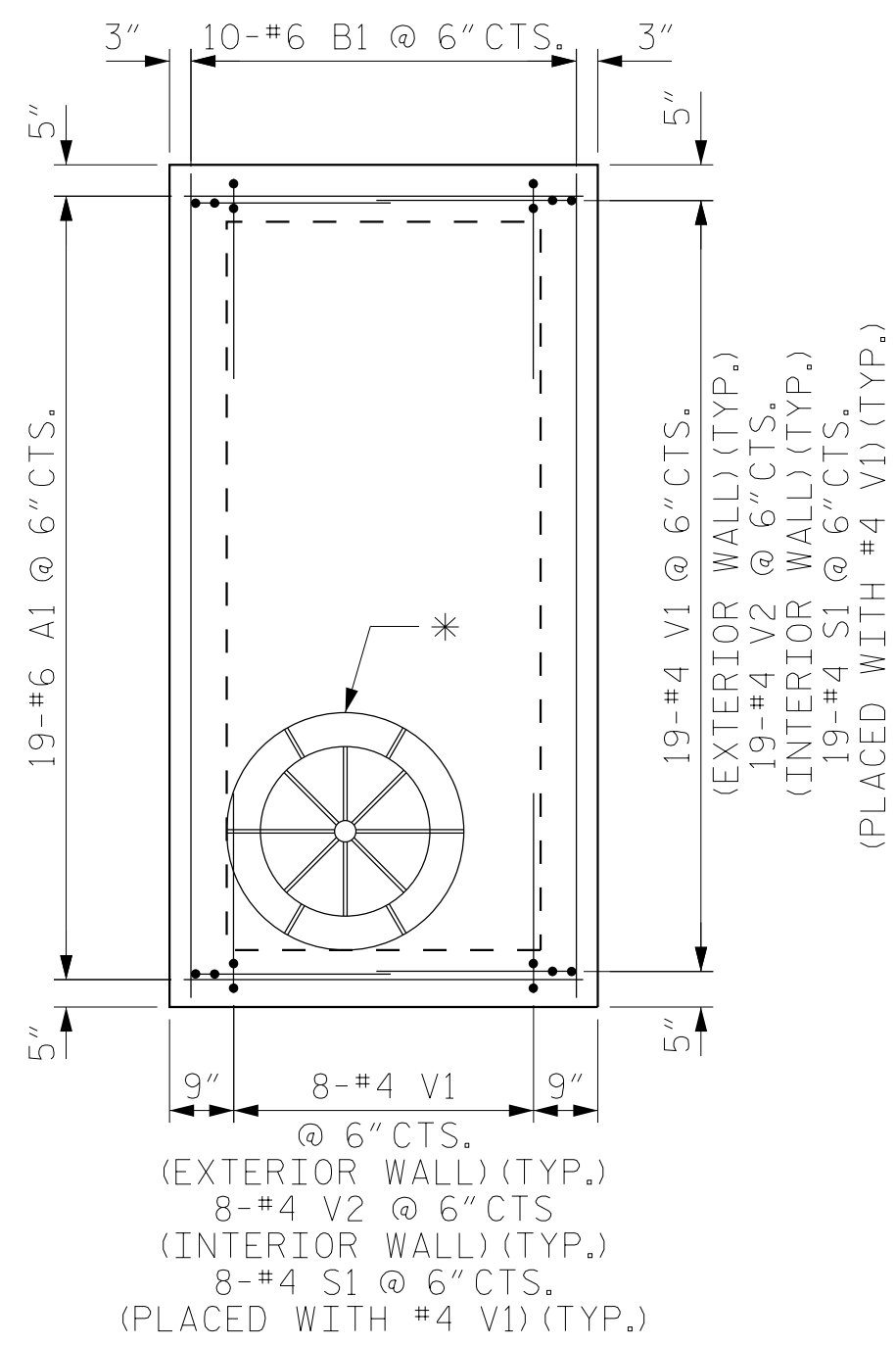
NOTES:

- ALL EXPOSED CORNERS TO BE CHAMFERED 1".
- CLASS "A" CONCRETE TO BE USED THROUGHOUT.
- USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
- 2" MINIMUM CONCRETE COVERAGE ON ALL REBAR, UNLESS NOTED OTHERWISE.
- REBAR CROSSING PIPE OPENINGS OR PASSING WITHIN 2" OF A PIPE SHALL BE CUT, BENT, OR OTHERWISE RESHAPED SO AS TO CLEAR THE OPENING.
- IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.
- THE COST OF REINFORCING STEEL BARS SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF "REINFORCED CONCRETE DRAINAGE STRUCTURE."
- REINFORCING STEEL SHALL BE CUT, BENT, OR RELOCATED TO POSITION PIPE AS DIRECTED BY THE ENGINEER.
- ALL MATERIAL AND WORKMANSHIP SHALL BE OF GOOD QUALITY AND SHALL BE APPROVED BY THE ENGINEER.
- CONCRETE QUANTITIES DO NOT ACCOUNT FOR PIPE OPENINGS.
- PROVIDE STEPS AT 12" CENTERS IN ACCORDANCE WITH NCDOT STD. NO. 840.66.
- ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)



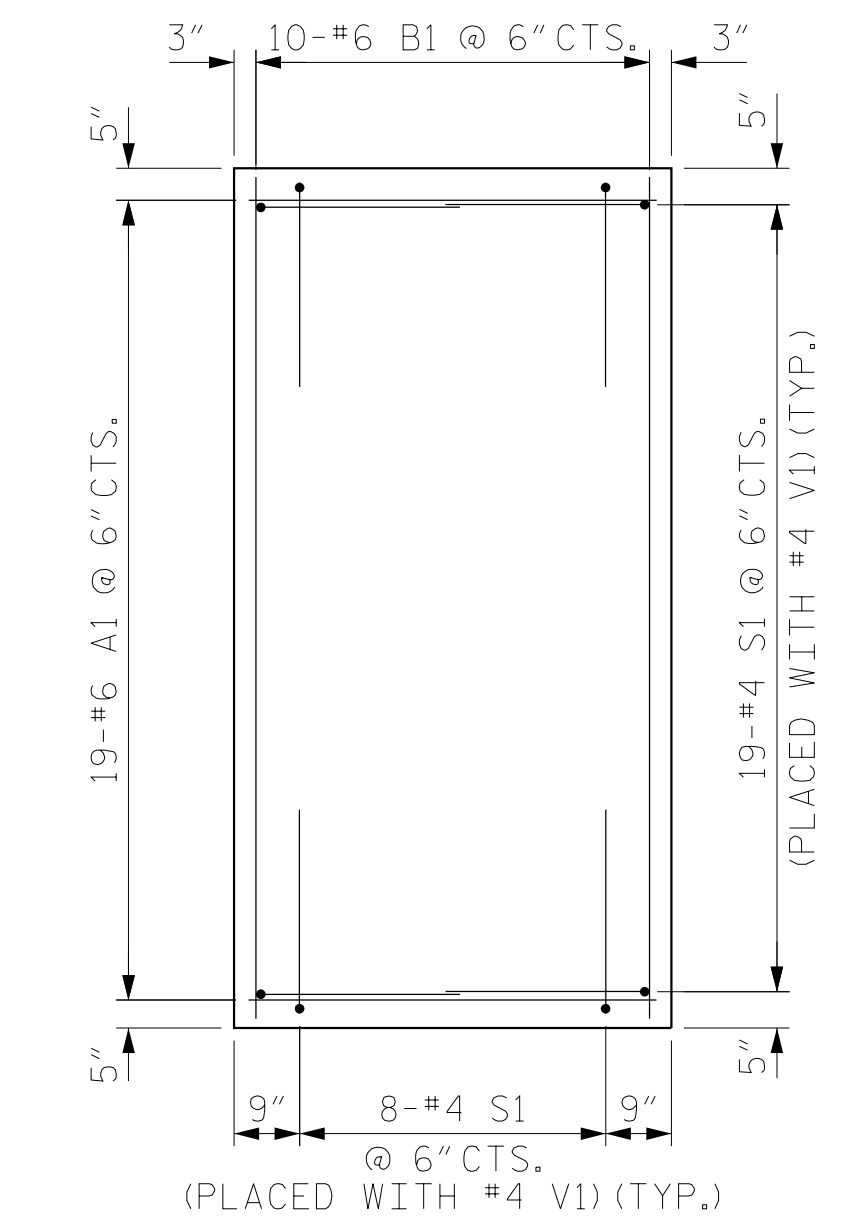
PLAN VIEW - 0529

* MANHOLE FRAME AND COVER SEE NCDOT STD. NO. 840.54



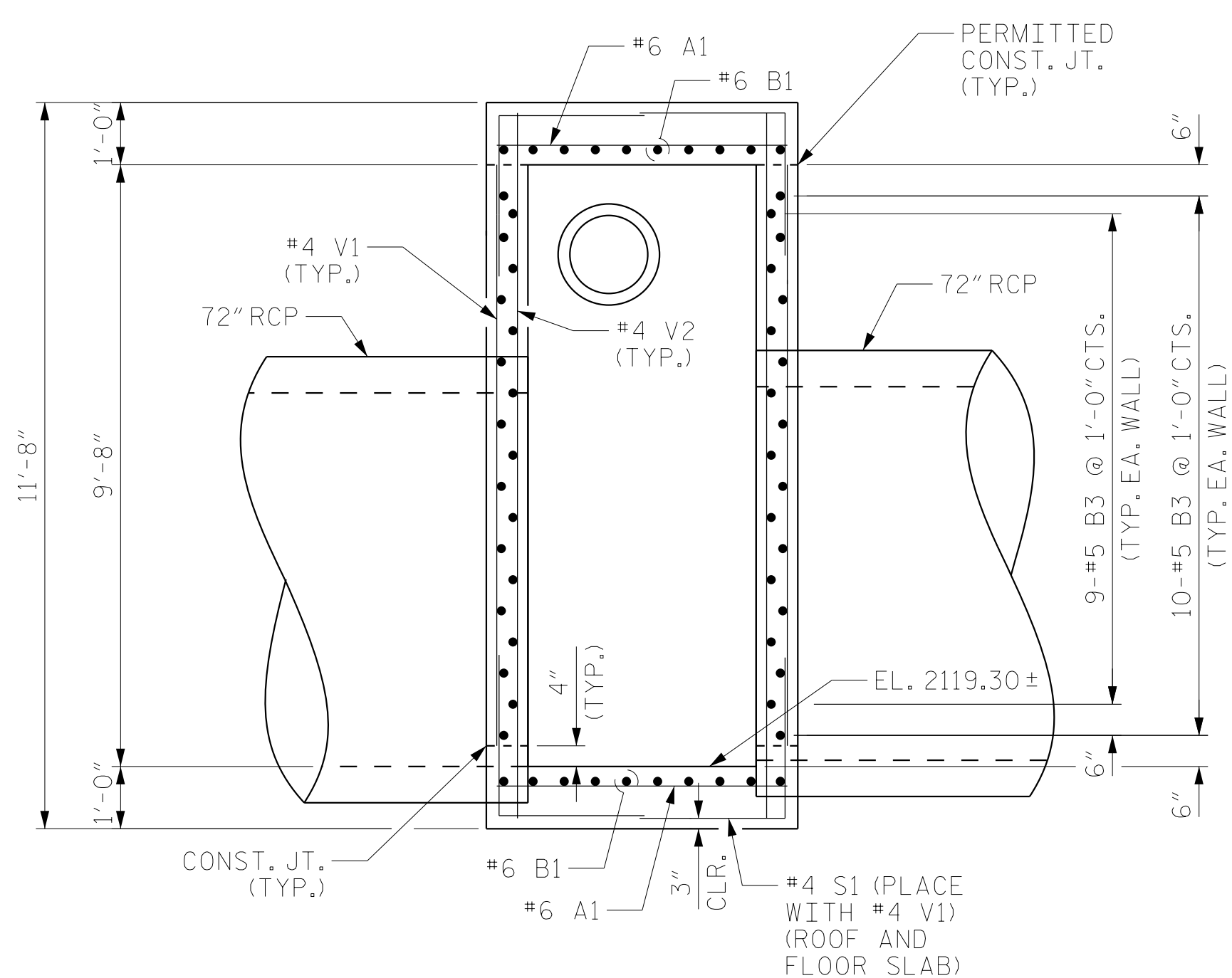
PLAN OF ROOF SLAB

* MANHOLE FRAME AND COVER SEE NCDOT STD. NO. 840.54

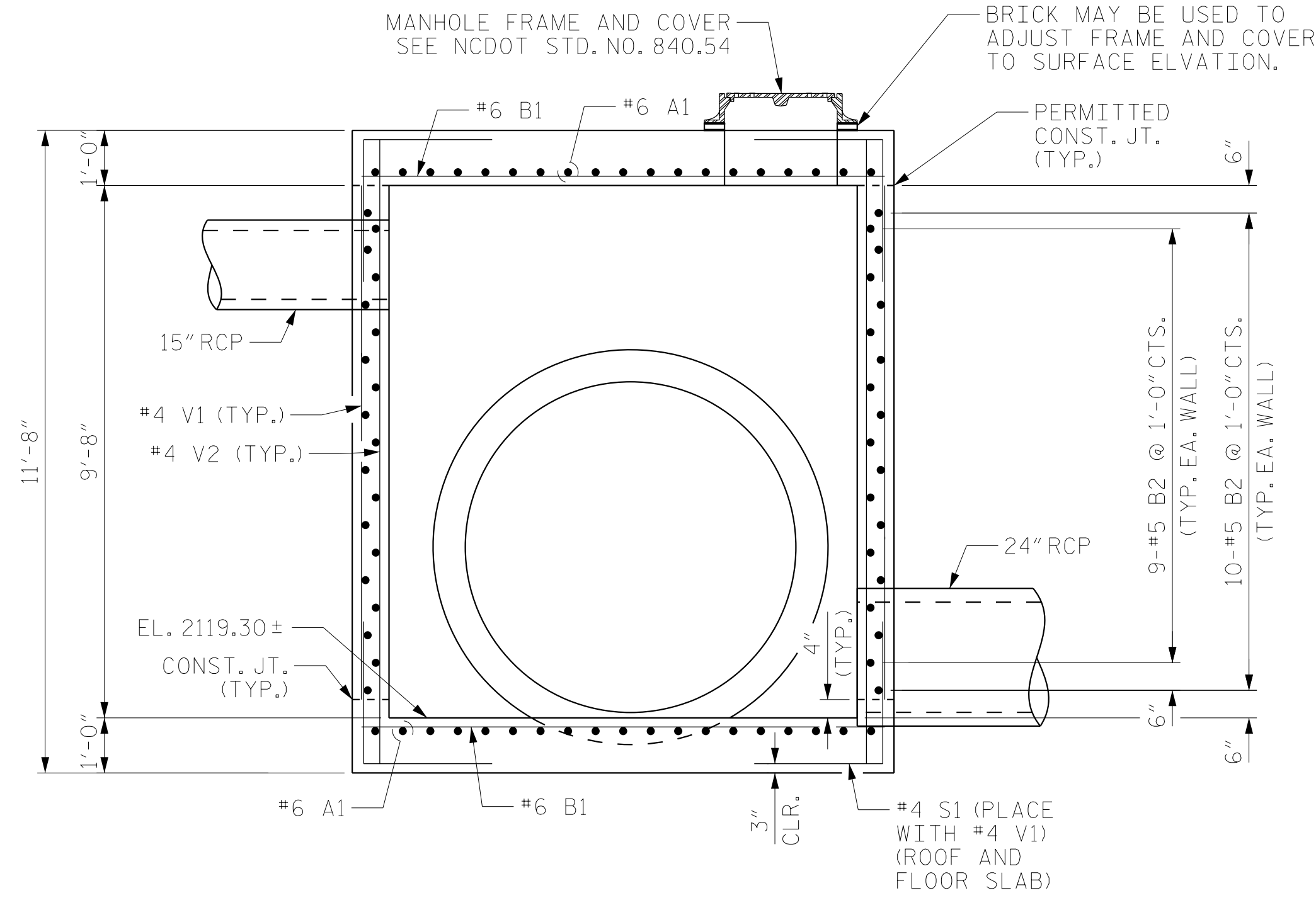


PLAN OF FLOOR SLAB

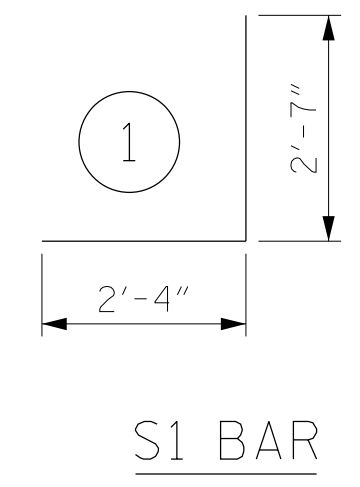
72" RCP'S NOT SHOWN FOR CLARITY.



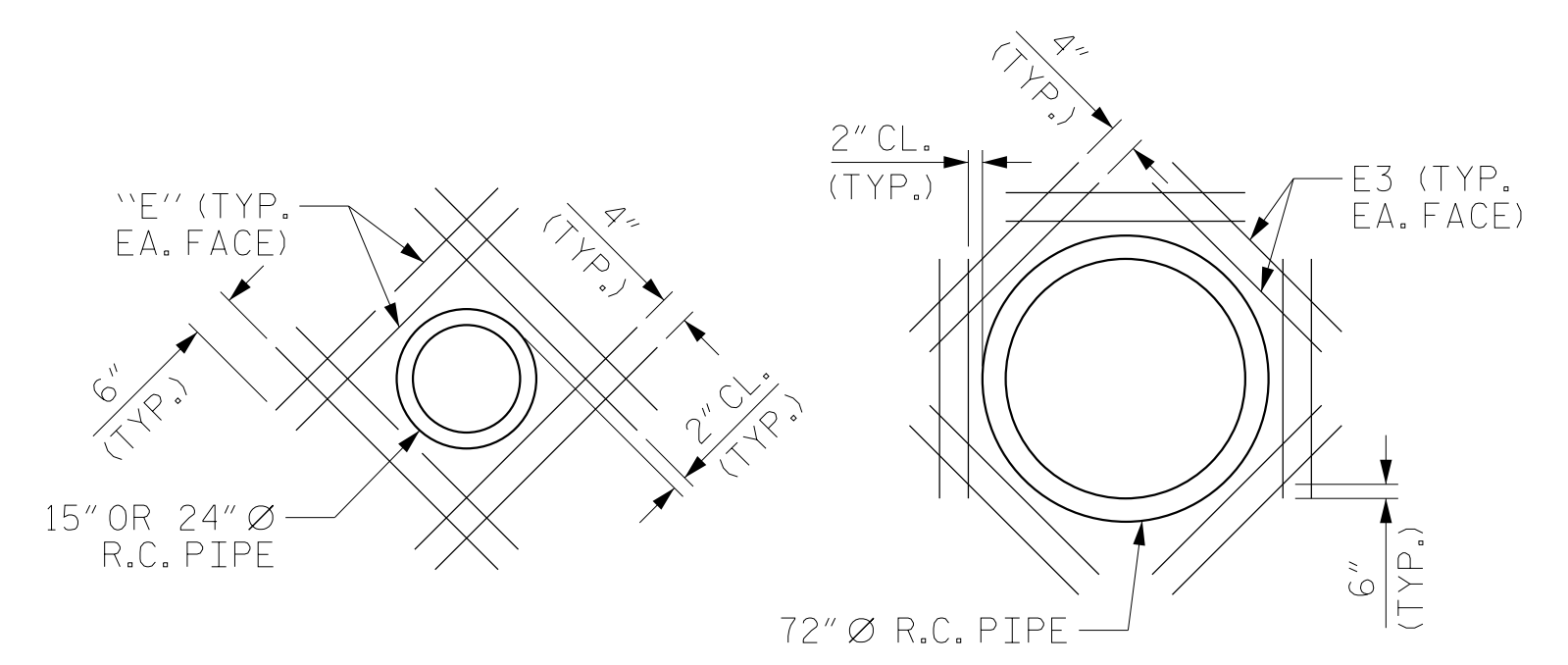
SECTION A-A



SECTION B-B



S1 BAR



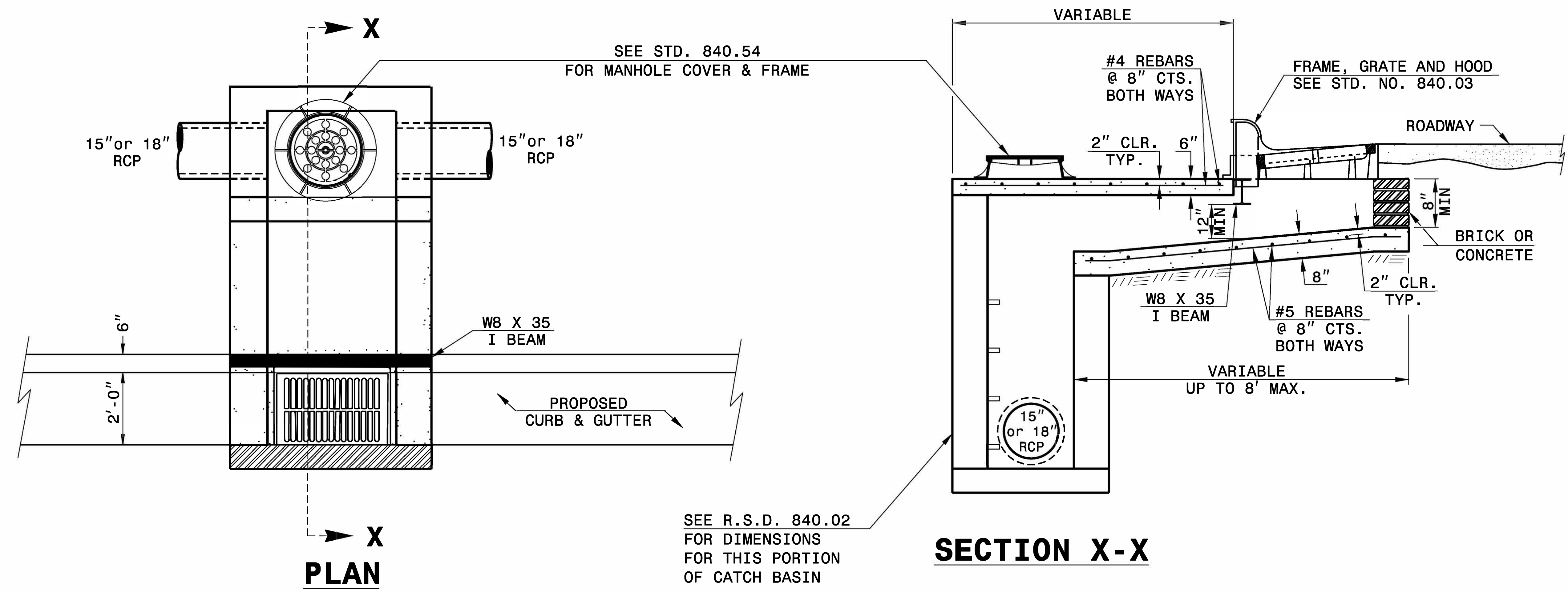
TYPICAL DETAIL OF REINFORCING AROUND PIPE

BILL OF MATERIAL					
JUNCTION BOX 0529					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	38	#6	STR.	4'-8"	266
B1	20	#6	STR.	9'-6"	285
B2	38	#5	STR.	4'-8"	185
B3	38	#5	STR.	9'-6"	377
E1	16	#5	STR.	3'-8"	61
E2	16	#5	STR.	4'-7"	76
E3	56	#6	STR.	5'-0"	421
S1	108	#4	1	4'-11"	355
V1	54	#4	STR.	9'-4"	337
V2	54	#4	STR.	11'-4"	409
REINFORCING STEEL					2,772 LBS.
CLASS "A" CONCRETE					10.1 C.Y.

PIPE SIZE	BAR MARK	LENGTH
15"	#5 E1	3'-8"
24"	#5 E2	4'-7"
72"	#6 E3	5'-0"

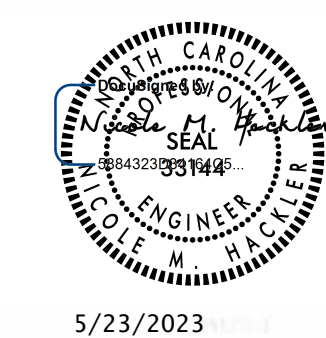
6/13/2023 X:\P\1830049021_R-5799_US 64-276 Intersection Design\Design\Roadway\Proj\Junction_Box\0529\2D-3.dgn

DRAWN BY: _____ TWL DATE: 10/2020
 CHECKED BY: _____ MAL DATE: 10/2020
 DESIGN ENGINEER OF RECORD: _____ MAL DATE: 10/2020



SEE R.S.D. 840.02
FOR DIMENSIONS
FOR THIS PORTION
OF CATCH BASIN

NOTES:
 MORTAR JOINTS 1/2" TO 1/4" THICK.
 USE CLASS "B" CONCRETE THROUGHOUT.
 USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

PROPOSED OFFSET CATCH BASIN

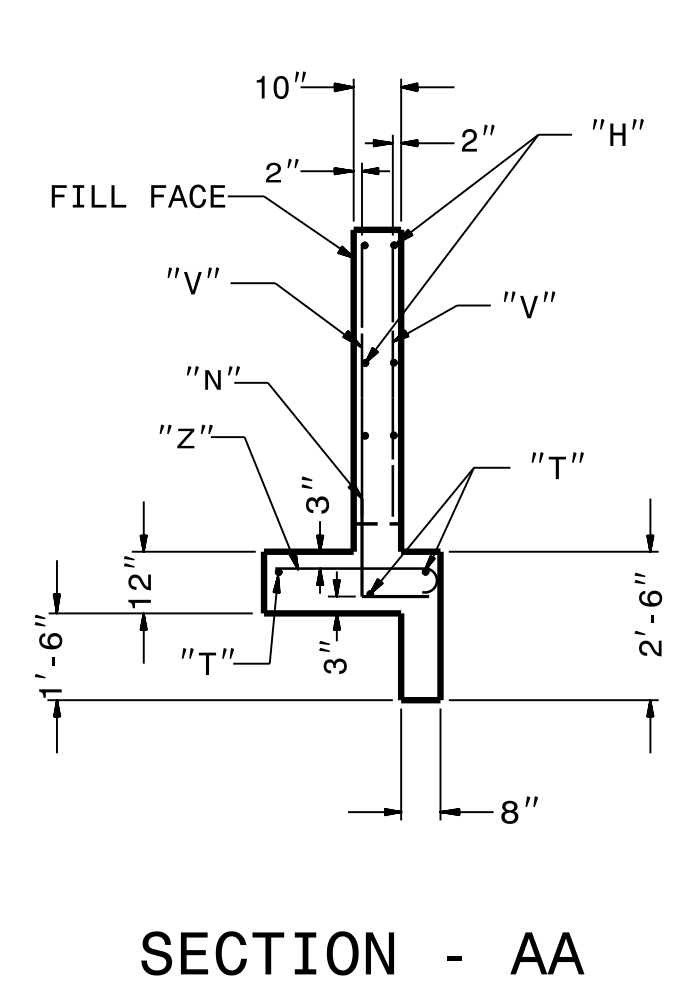
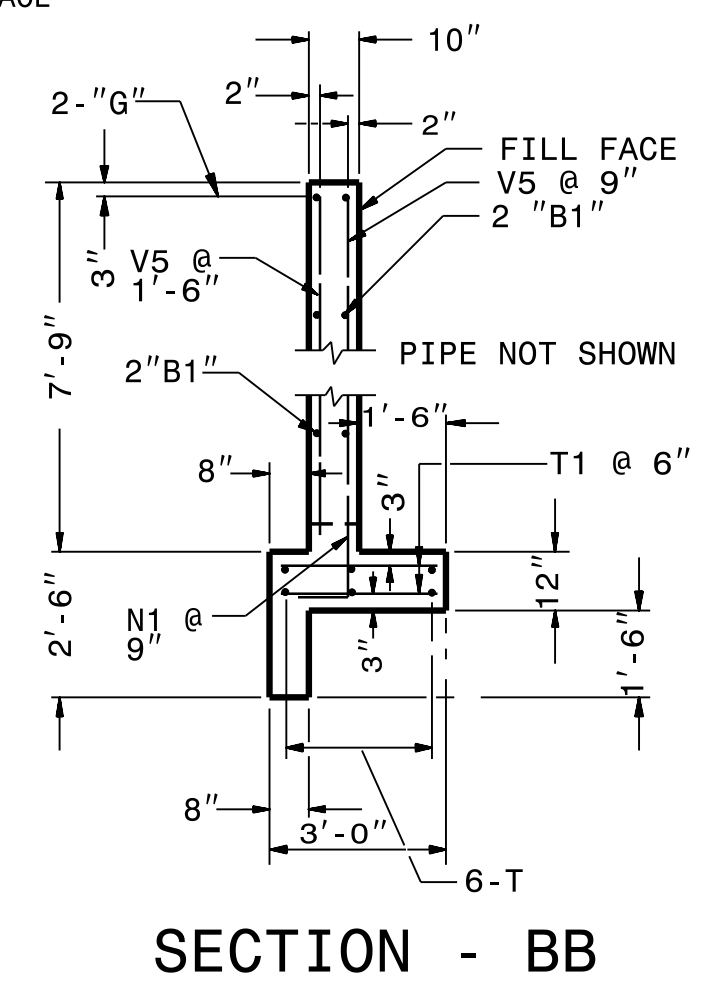
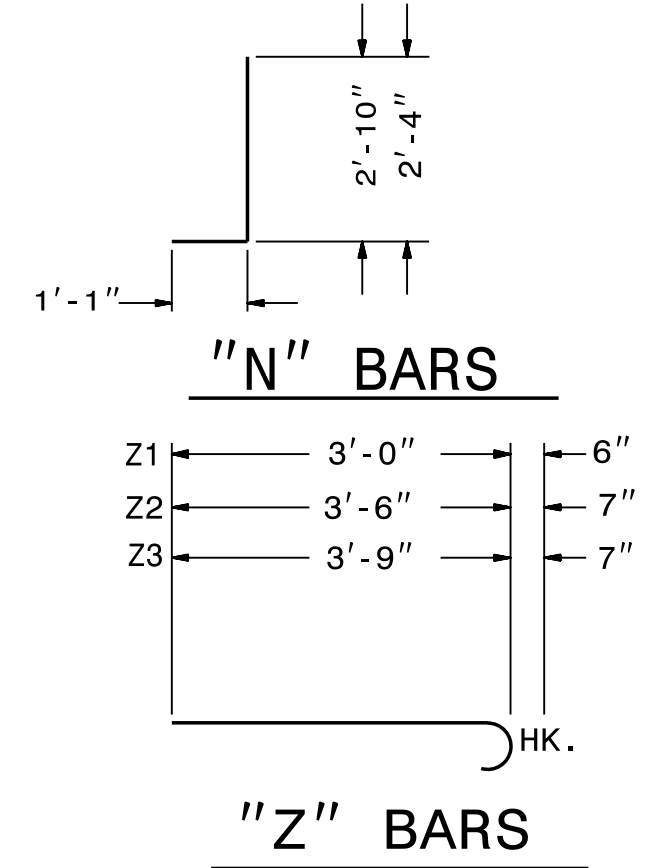
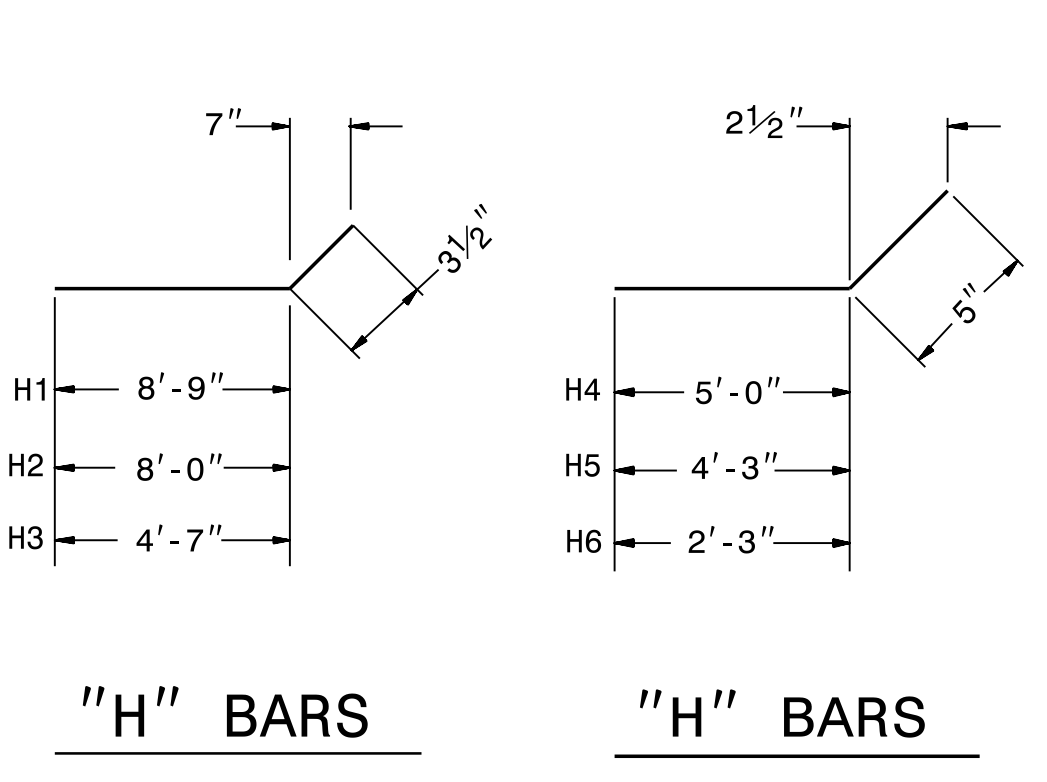
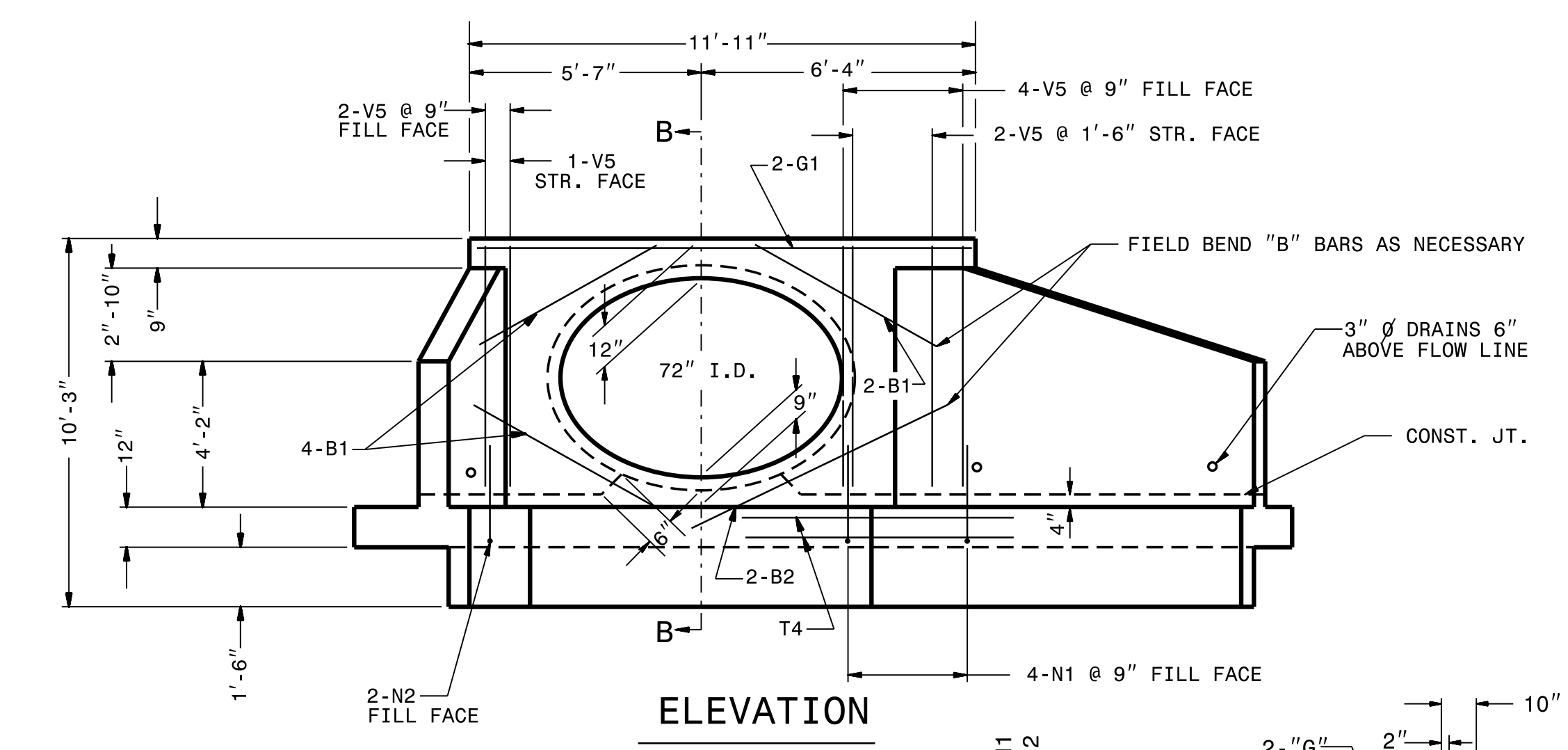
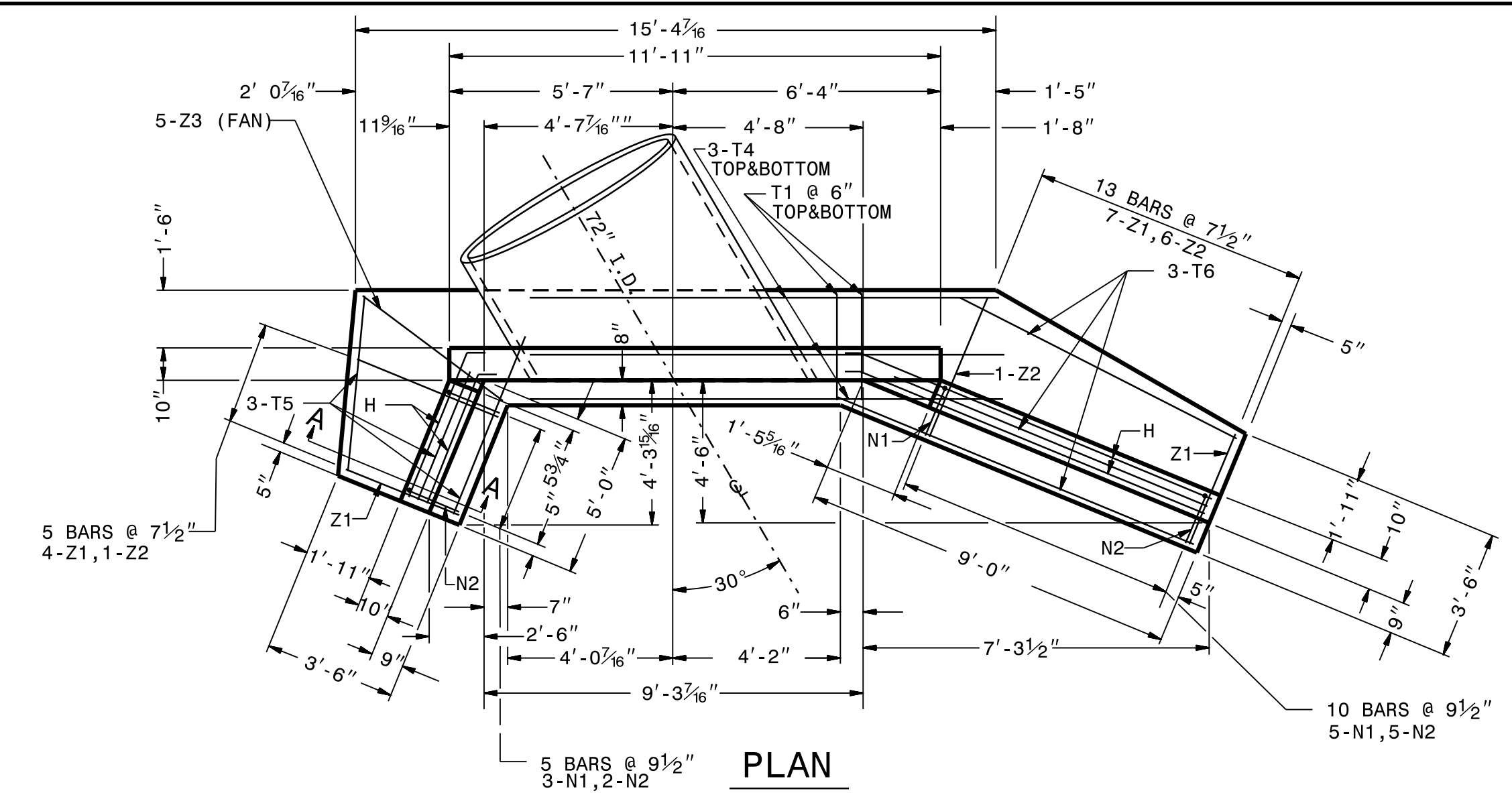
ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: K. KEMPF DATE: 11/13/15
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: nbritt/english/hydro/840d06 offset_boxes.dgn

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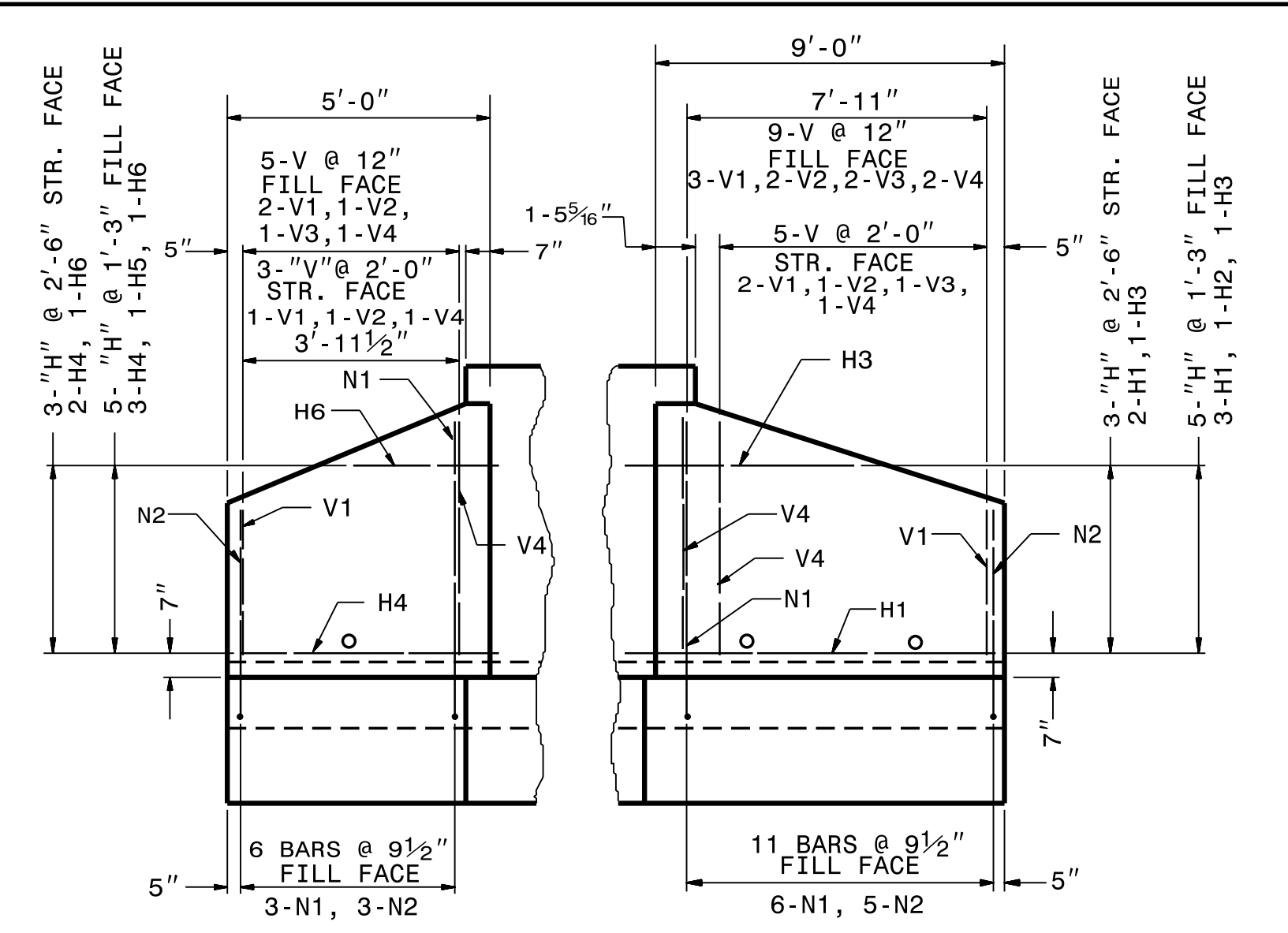
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR REINFORCED CONCRETE ENDWALL FOR SINGLE 72" PIPE 60° OR 120° SKEW

SHEET 1 OF 1 838D41



NOTES: ALL CONCRETE TO BE CLASS "A". ALL REINFORCING STEEL TO BE ASTMA615-GRADE 60. ALL REINFORCING STEEL TO BE DEFORMED BARS. WHERE SPLICING OF REINFORCEMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS. THE FOOTING, CURTAIN WALL AND 4\"/>



WING ELEVATION

Table with 5 columns: BAR, SIZE, LENGTH, NO., WEIGHT. It lists materials for reinforcement steel and pipe, including items like Z1, Z2, Z3, N1, N2, V1, V2, V3, V4, V5, H1, H2, H3, H4, H5, H6, G1, T1, T4, T5, T6, B1, B2, and totals for REINFORCING STEEL LBS., CONC./C.M. CU. YDS., and CONC./R.C. CU. YDS.

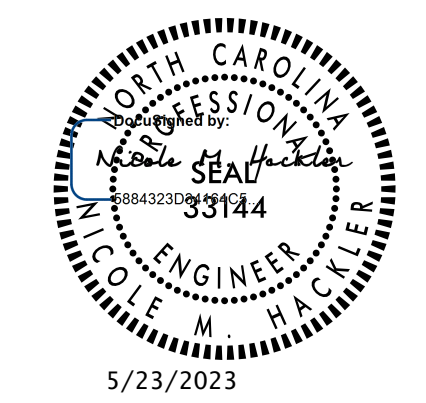
DRAWING NOT TO SCALE

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

ENGLISH DETAIL DRAWING FOR REINFORCED CONCRETE ENDWALL FOR SINGLE 72" PIPE 60° OR 120° SKEW

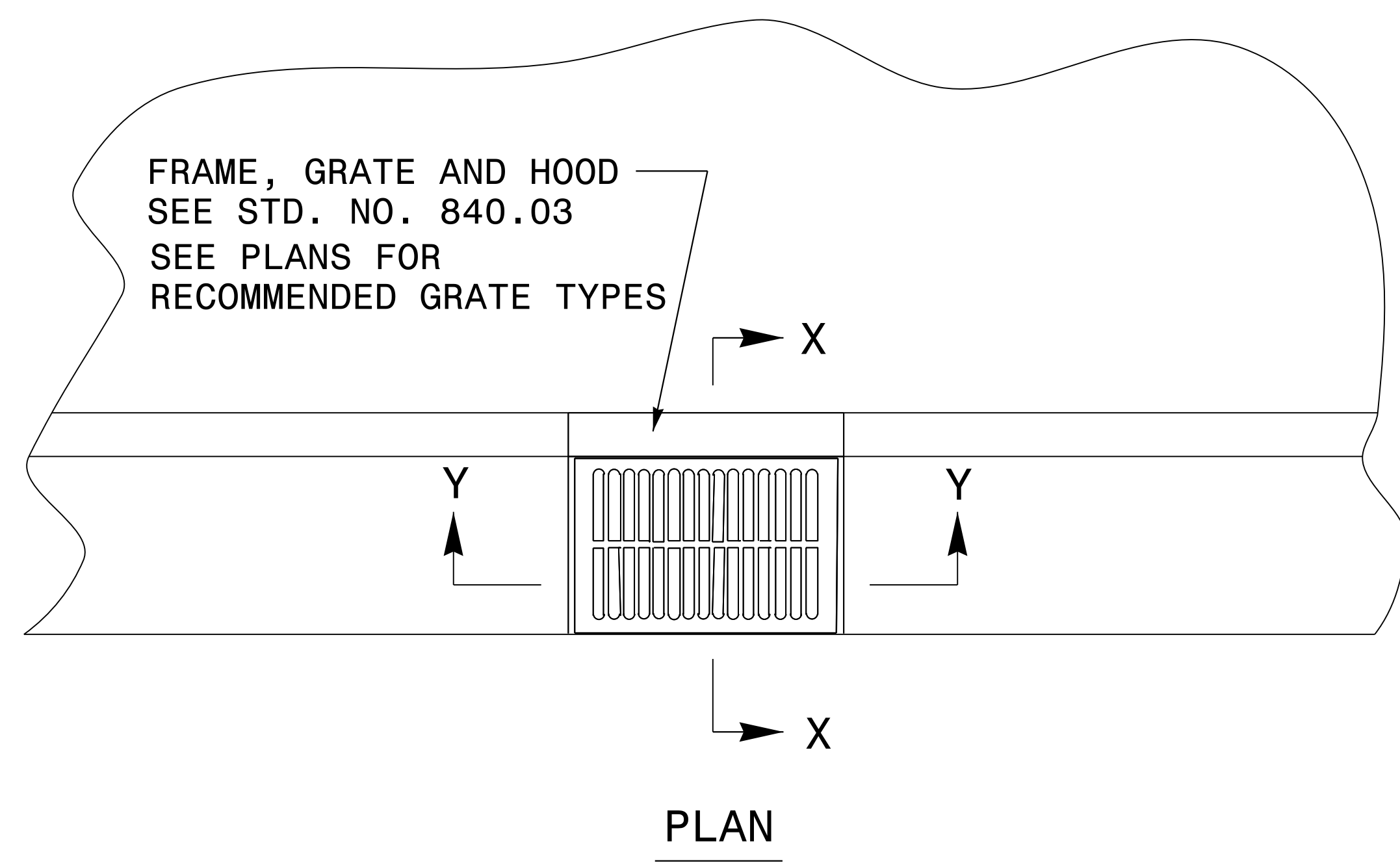
SHEET 1 OF 1 838D41

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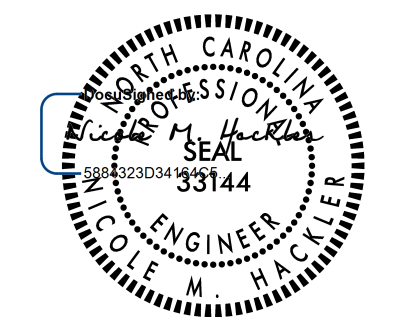
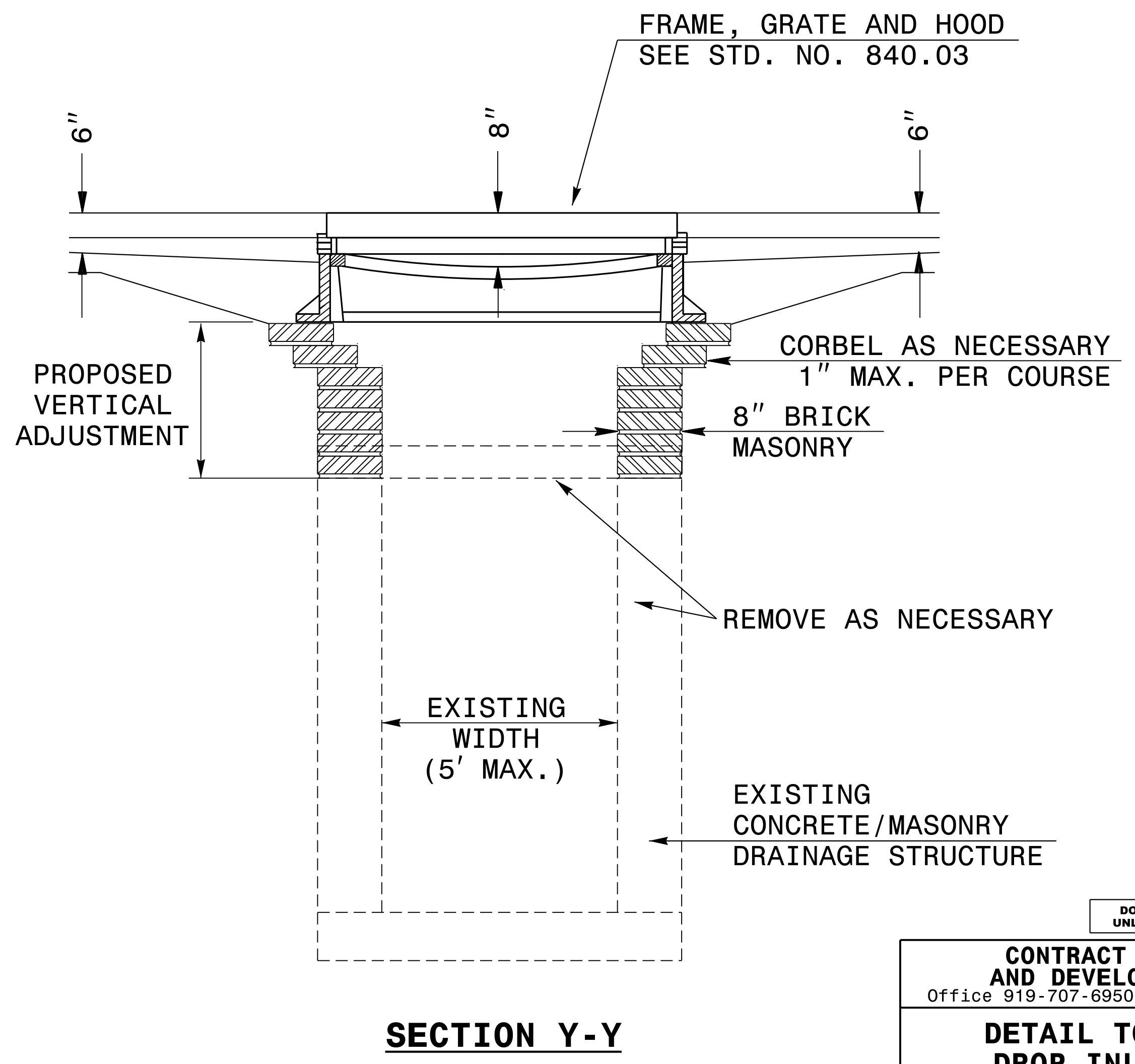
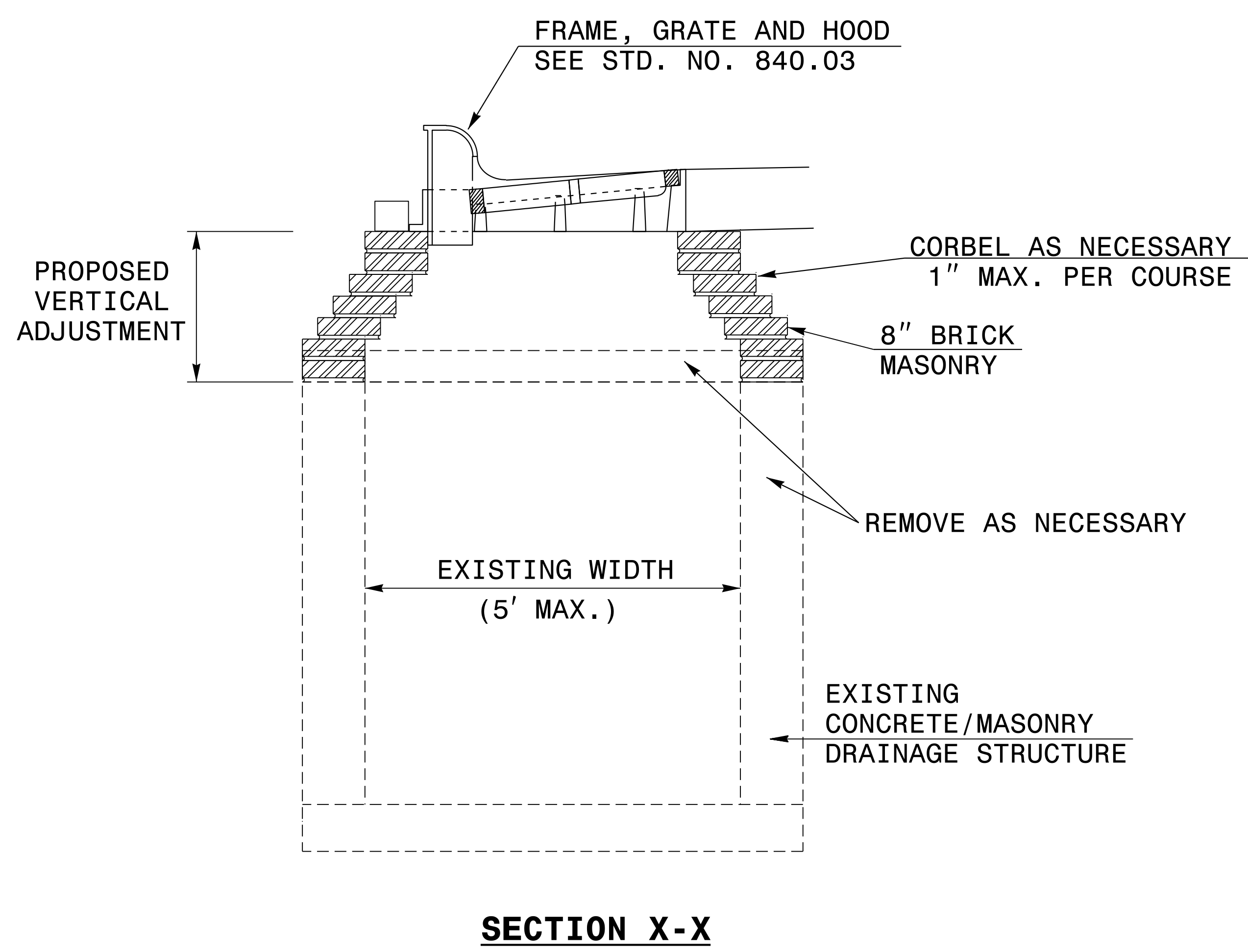
CONTRACT STANDARDS & DEVELOPMENT UNIT STANDARDS AND SPECIAL DESIGN Office 919-707-6950 FAX 919-250-4119 DETAIL OF REINFORCED CONCRETE ENDWALL FOR SINGLE 72" DIAMETER PIPE - 60° SKEW ORIGINAL BY: rnbritt DATE: 06-23-10 MODIFIED BY: rnbritt DATE: 06-23-10 CHECKED BY: DATE: FILE SPEC.: details/rnbritt/english/hydro/72endwall1_60sk.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



GENERAL NOTES:

- THE ROADWAY PLANS INDICATE STRUCTURES TO BE CONVERTED.
- AFTER REMOVAL, STORE GRATES AND FRAMES AS DIRECTED BY THE ENGINEER.
- 4" SOLID CLAY BRICK, JUMBO BRICK, CONCRETE, OR 4" SOLID CONCRETE BLOCK MAY BE USED FOR VERTICAL ADJUSTMENT OF THE STRUCTURE.
- CONVERT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.



5/23/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

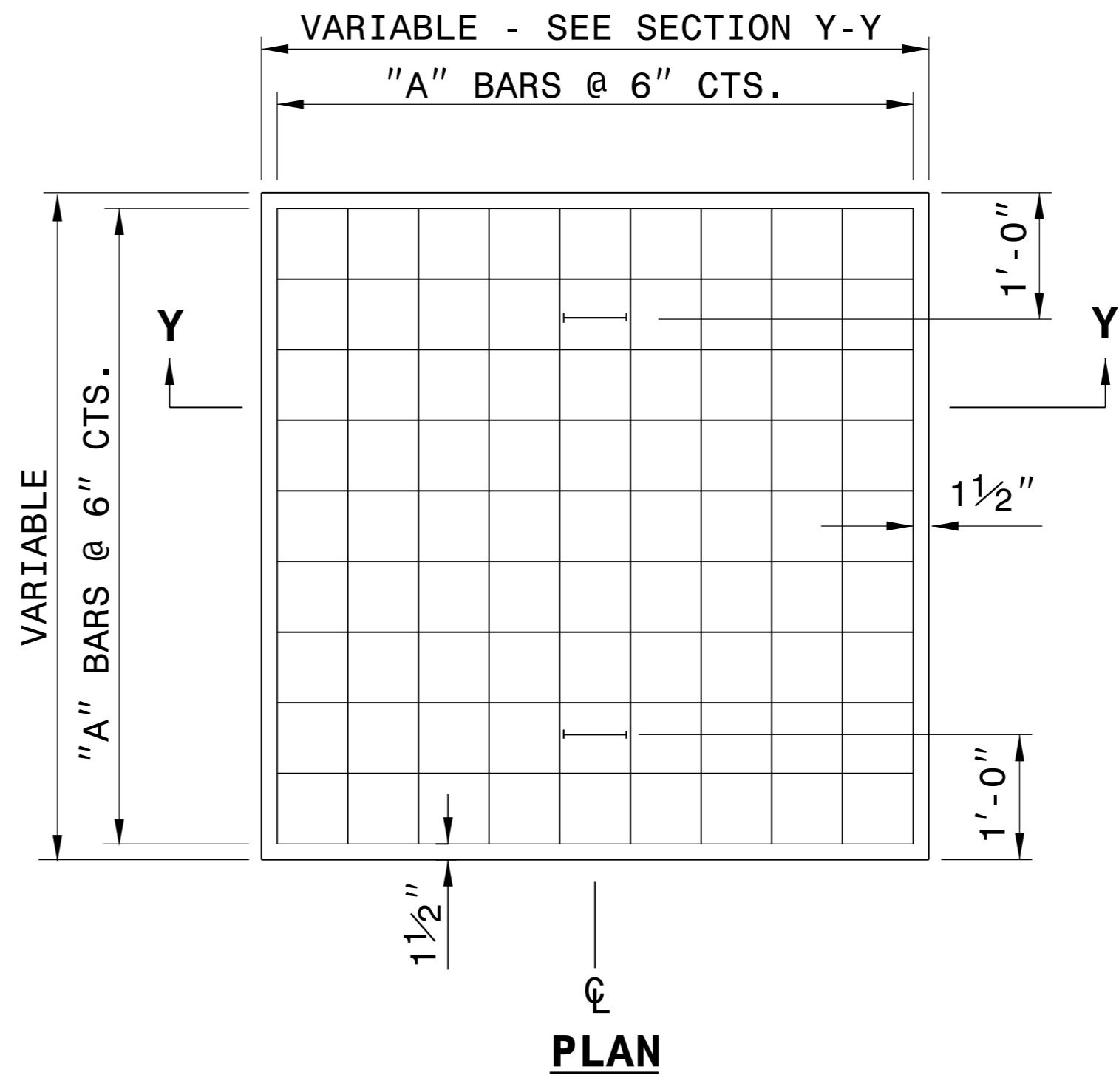
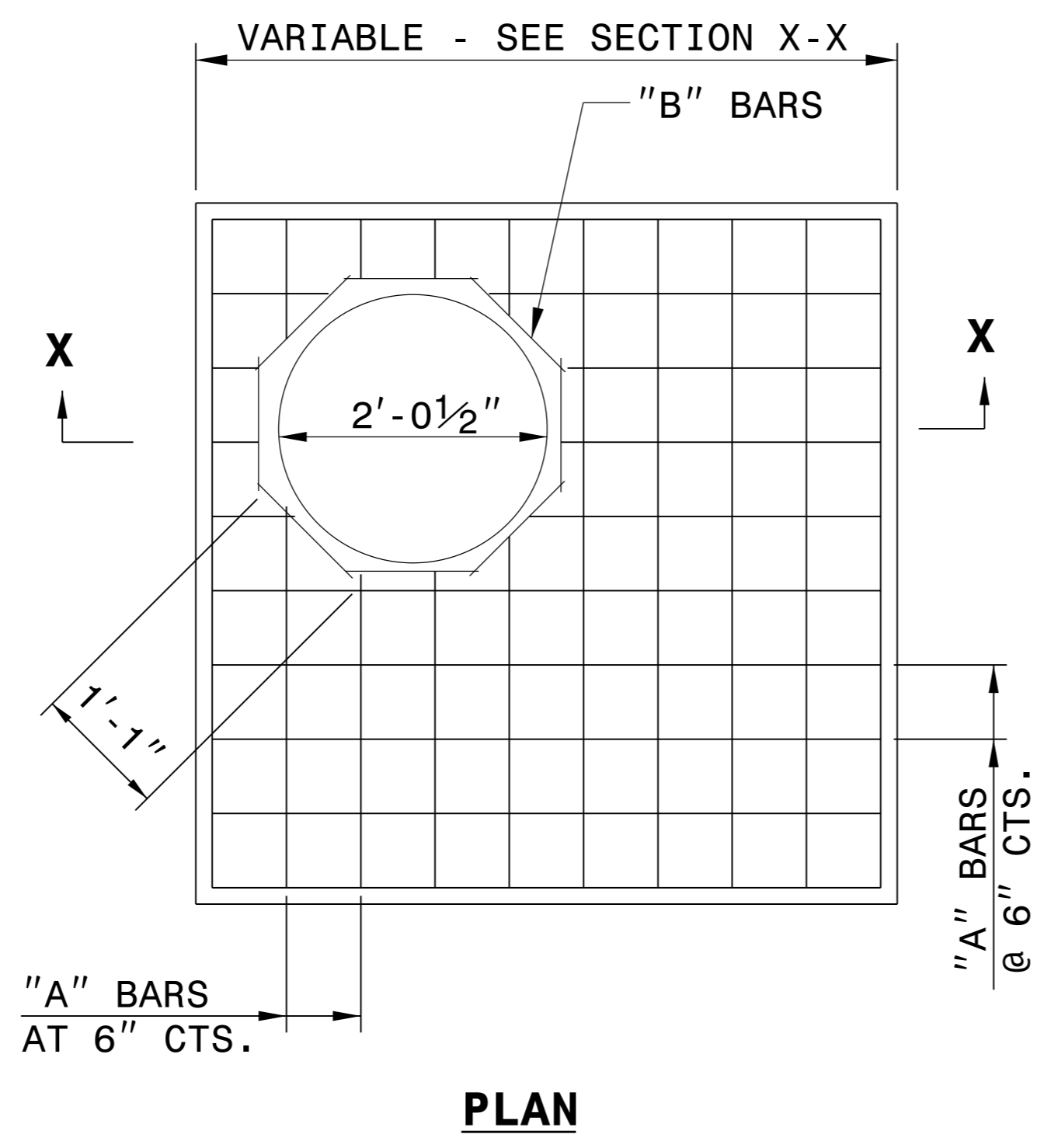
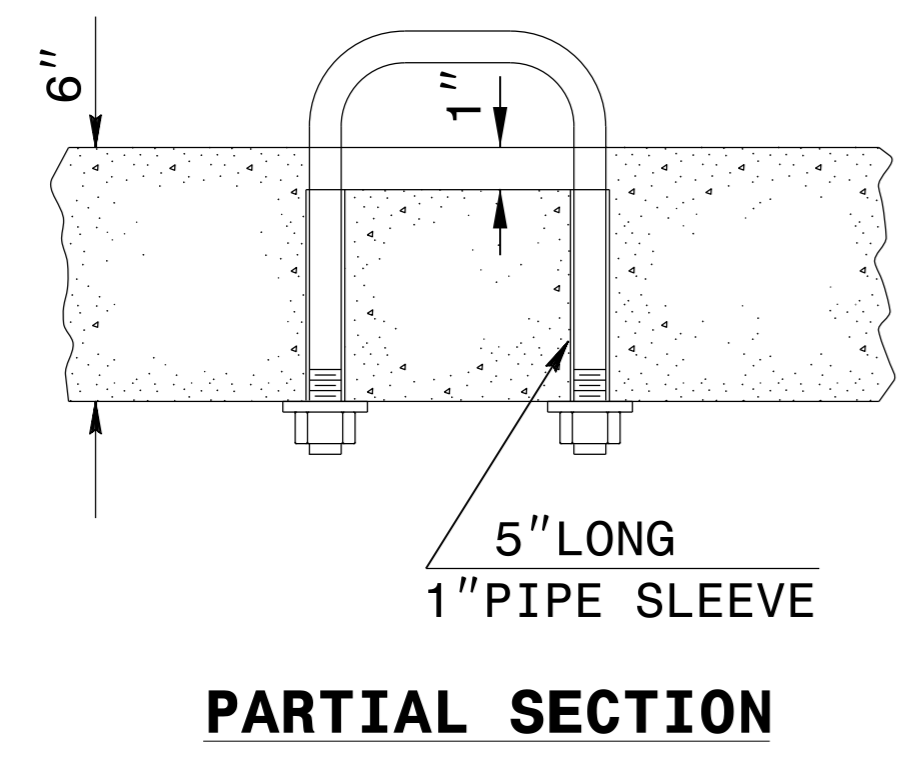
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL TO CONVERT DROP INLET OR JB TO CATCH BASIN

ORIGINAL BY: E.E. WARD DATE: 11-97
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DS37:usr\details\stand\jbtocb.dgn

26-JUN-2017 10:42 S:\Contracts\Special Details\convert DI or JB to CB.dgn .jhoverton AT USD-292595

5/14/99

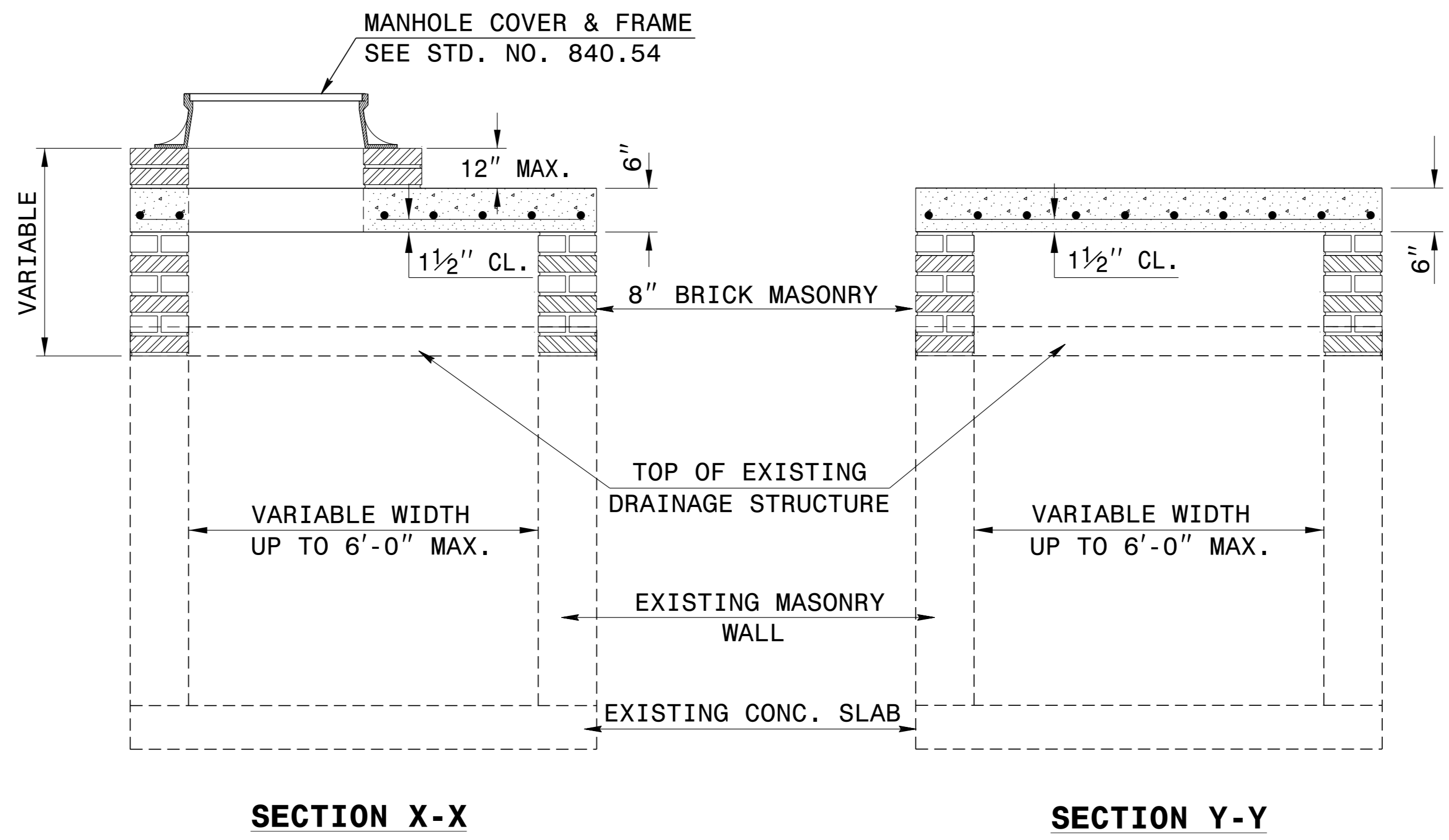
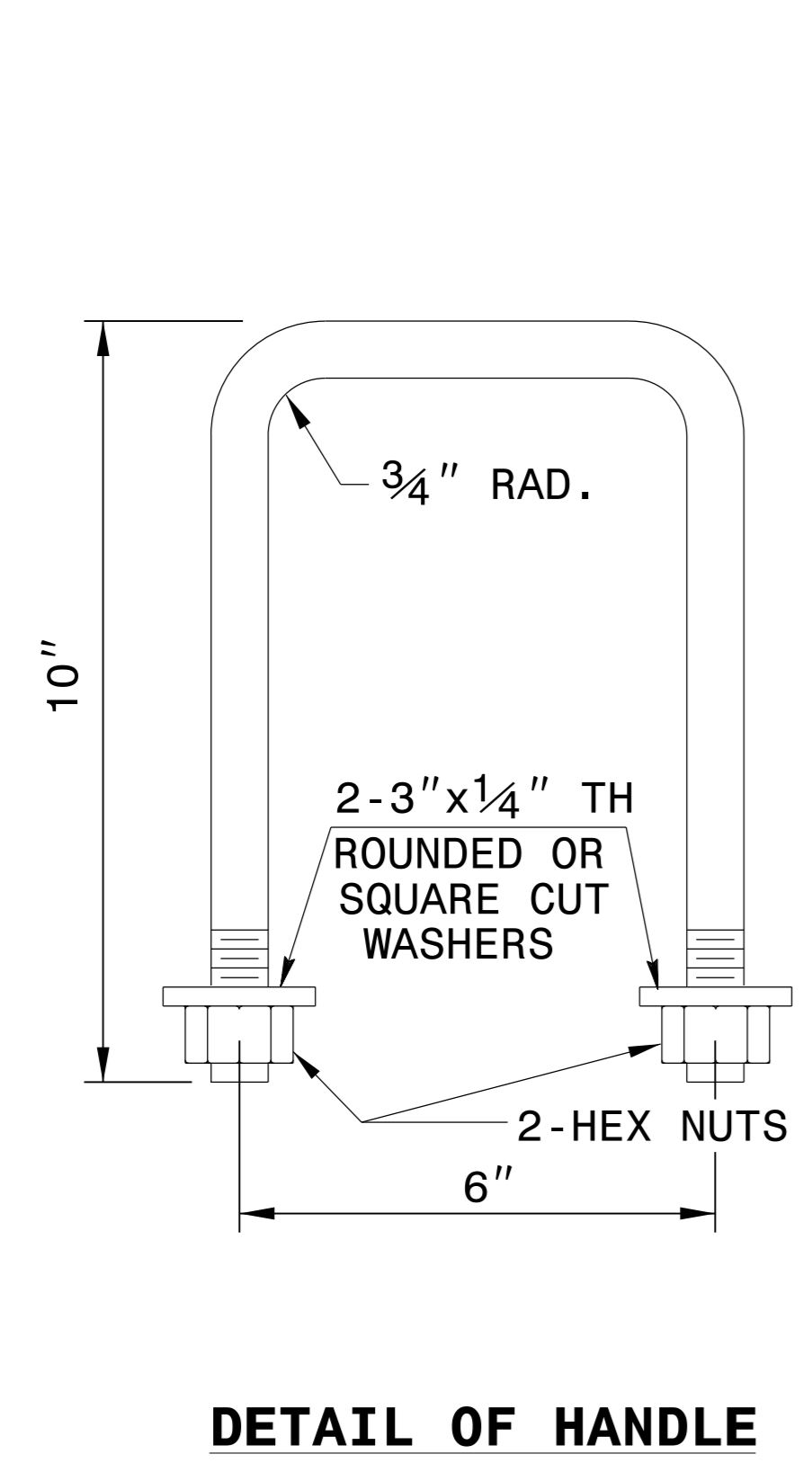


GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

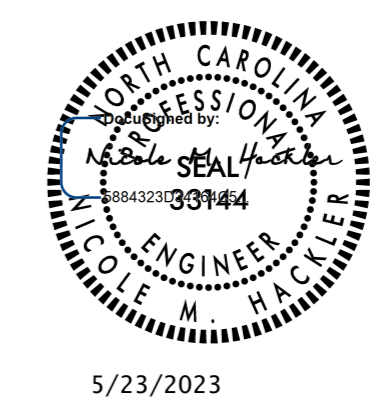
THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.



BILL OF MATERIALS				
REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111

*** NOTE:**
 QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.



5/23/2023

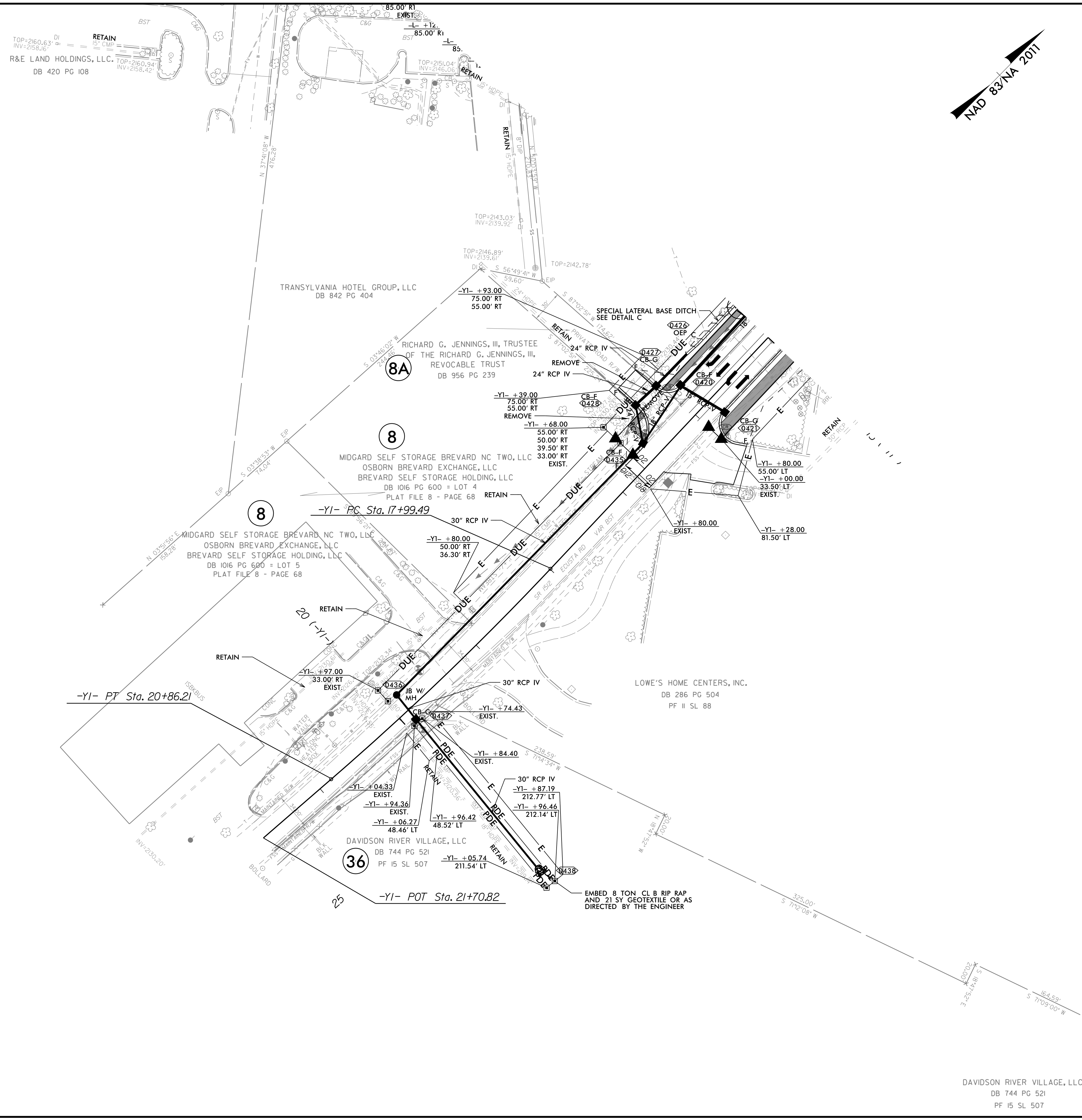
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL TO CONVERT EXISTING DI, CB, OTCB or GI TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: NOV. 1997
 MODIFIED BY: T.S.S. DATE: FEB. 2000
 CHECKED BY: DATE:
 FILE SPEC.: ds174:/usr/details/stand/boxtojb.dgn

8/17/19



PROJECT REFERENCE NO. R-5799	SHEET NO. 2D-8
ROADWAY DESIGN ENGINEER ALISON C. DRAKE Professional Seal 7/12/2023	HYDRAULICS ENGINEER ALEXANDER R. WOOD Professional Seal 7/12/2023

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



05-JUL-2023 15:35
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USER:RAM

DAVIDSON RIVER VILLAGE, LLC
DB 744 PG 521
PF 15 SL 507

12/06/07

COMPUTED BY: CLR DATE: 5/2/2023
CHECKED BY: BEP DATE: 5/4/2023

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. R-5799 SHEET NO. 3B-1

SUMMARY OF EARTHWORK
IN CUBIC YARDS

Table with columns: STATION, UNCL. EXCAV., UNDERCUT, EMBANK. +%, BORROW, WASTE. Includes subtotals for PHASE I, PHASE II STEP 1, PHASE II STEP 2, PHASE III, PHASE IV, and GRAND TOTALS.

Table with columns: STATION, UNCL. EXCAV., UNDERCUT, EMBANK. +%, BORROW, WASTE. Includes subtotals for PHASE V, PHASE VI STEP 3, and GRAND TOTALS.

200 TONS INCIDENTAL STONE (CONTINGENCY PROVIDED BY DIVISION)
EST. SHALLOW UNDERCUT = 500 CY
CLASS IV SUBGRADE STABILIZATION = 1,000 TONS
PER GEOTECH RECOMMENDATION, ESTIMATED 1,450 CY OF UNDERCUT TO BE USED AT THE DISCRETION OF THE RESIDENT ENGINEER

PAVEMENT REMOVAL SUMMARY



Table with columns: SURVEY LINE, STATION, STATION, YD. Includes subtotals for TOTAL and SAY.

Earthwork quantities are calculated by the roadway designer. These earthwork quantities are based in part on subsurface data provided by the geotechnical designer.

"Note: Approximate quantities only. Unclassified excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the contract lump sum price for grading."

GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL BERM WIDTH = DISTANCE FROM FACE OF CURB 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

Large table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL BERM WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (GREU TL-2, GREU TL-3, CAT-1, TYPE-III, TYPE-III SC), IMPACT ATTENUATOR TYPE 350 (EA, G, NG), SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS.

ANCHOR DEDUCTION
GREU TL-2: 17 @ 25' = 425'
GREU TL-3: 2 @ 50' = 100'
TYPE-III: 8 @ 18.75' = 150'
CAT-1: 8 @ 6.25' = 50'
TYPE III SHOP CURVE: 1 @ 18.75' = 18.75'
GRAND TOTAL = 743.5'
ADDITIONAL GUARDRAIL POSTS = 10

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COMPUTED BY: LKM DATE: 6/4/2023
CHECKED BY: ARV DATE: 6/4/2023

PROJECT NO. R-5799 SHEET NO. 3D-2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC), C.S. PIPE, R.C. PIPE CLASS III, R.C. PIPE CLASS IV, R.C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD STANDARD 840.03, CONCRETE TRANSITIONAL SECTION, TYPE OF GRATE, and REMARKS. Includes a SHEET TOTAL row at the bottom.

ABBREVIATIONS
C.A.A. - CORRUGATED ALUMINUM INLET
C.B. - CATCH BASIN
C.S. - CORRUGATED STEEL
D.I. - DROP INLET
G.D.I. - GRATED DROP INLET
P.D.P.E. - HIGH DENSITY POLYETHYLENE
J.B. - JUNCTION BOX
M.H. - MANHOLE
N.S. - NARROW SLOT
P.V.C. - POLYVINYL CHLORIDE
R.C. - REINFORCED CONCRETE
T.B.D.I. - TRAFFIC BEARING DROP INLET
T.B.J.B. - TRAFFIC BEARING JUNCTION BOX
W.S. - WIDE SLOT

RD2/8821

COMPUTED BY: LKM DATE: 6/4/2023
CHECKED BY: ARV DATE: 6/4/2023

PROJECT NO. R-5799 SHEET NO. 3D-3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC), C.S. PIPE, R.C. PIPE CLASS III, R.C. PIPE CLASS IV, R.C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD STANDARD 840.03, CONCRETE TRANSITIONAL SECTION, TYPE OF GRATE, and REMARKS. Includes a summary row at the bottom labeled SHEET TOTAL.

ABBREVIATIONS
C.A.A - CORRUGATED ALUMINUM INLET
C.B - CATCH BASIN
C.S. - CORRUGATED STEEL
D.I. - DROP INLET
G.D.I. - GRATED DROP INLET
P.D.P.E. - HIGH DENSITY POLYETHYLENE
J.B. - JUNCTION BOX
M.H. - MANHOLE
N.S. - NARROW SLOT
P.V.C. - POLYVINYL CHLORIDE
R.C. - REINFORCED CONCRETE
T.B.D.I. - TRAFFIC BEARING DROP INLET
T.B.J.B. - TRAFFIC BEARING JUNCTION BOX
W.S. - WIDE SLOT

COMPUTED BY: LKM DATE: 6/4/2023
CHECKED BY: ARV DATE: 6/4/2023

PROJECT NO. R-5799 SHEET NO. 3D-5

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

Table with columns for LINE & STATION, OFFSET, STRUCTURE NUMBER, TOP ELEVATION, INVERT ELEVATION, MINIMUM REQUIRED SLOPE, SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC), C.S. PIPE, R.C. PIPE CLASS III, R.C. PIPE CLASS IV, R.C. PIPE CLASS V, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, FRAME, GRATES, AND HOOD STANDARD, CONCRETE TRANSITIONAL SECTION, and ABBREVIATIONS. Includes a summary table at the bottom for SHEET TOTAL, PROJECT TOTAL, and SAY TOTAL.

RD2/0821

COMPUTED BY: GTF DATE: 02/11/20
 CHECKED BY: JPM DATE: 02/11/20

(5-15-18)

PROJECT NO. SHEET NO.
 44984.1.1 3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				UD	1000
				TOTAL LF:	1000

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY					500	1000	2000		
					TOTAL CY/TONS/SY:	500	1000**	2000**	0

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

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	1.5:1	19+16	1.5:1	19+57	LT	1	*	30
							TOTAL SY:	30

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

**SUMMARY OF
 SETTLEMENT GAUGES**

Gauge No.	LINE and Station	Offset	
		Distance FT	Direction LT/RT
1	-L- 27+97	81	RT
2	-L- 28+57	13	RT
3	-L- 29+20	82	RT
TOTAL GAUGES (EACH):			3

**SUMMARY OF EMBANKMENT
 WAITING PERIODS**

LINE	Station	Station	MONTHS
-Y4-	10+00	11+75	1
-RA-	10+00	11+50	1
-L-	27+00 (10' LT to 150' RT)	30+00 (10' LT to 150' RT)	1

