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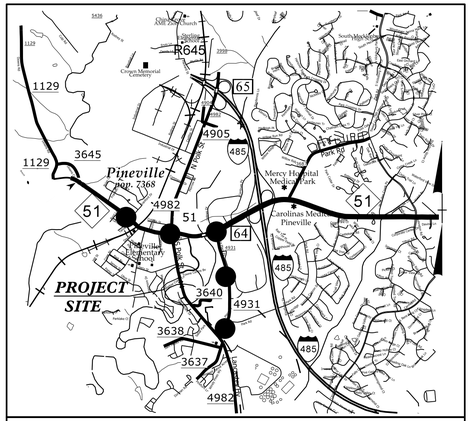
09/08/99

TIP PROJECT: B–5105

CONTRACT: C203550

See Sheet 1A For Index of Sheets



VICINITY MAP

DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

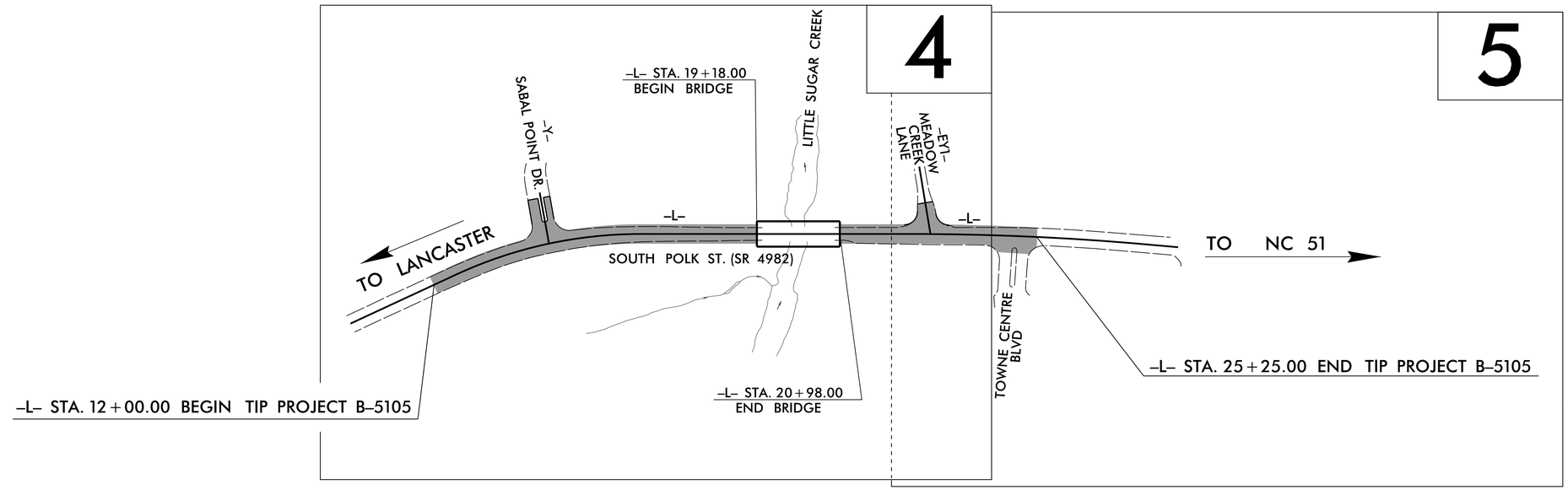
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–5105	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42180.1.1	BRSTP–4982(7)	PE
42180.2.FD1	BRSTP–4982(7)	R/W
42180.2.FDU1	BRSTP–4982(7)	UTILITIES
42180.3.FD1	BRSTP–4982(7)	CONSTRUCTION

LOCATION: BRIDGE 49 ON SR 4982 (SOUTH POLK ST.) OVER LITTLE SUGAR CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE AND SIGNALS

NAD 83/
NSRS 2007



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2015 = 17,700
ADT 2035 = 24,600
K = 11 %
D = 65 %
T = 6 % *
V = 40 MPH
* TTST =1% DUAL 5%
FUNC CLASS = COLLECTOR
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–5105 = 0.217 MILES

LENGTH STRUCTURE TIP PROJECT B–5105 = 0.034 MILES

TOTAL LENGTH TIP PROJECT B–5105 = 0.251 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 17, 2014

LETTING DATE: AUGUST 18, 2015

G. E. BREW, PE
PROJECT ENGINEER

I. T. YOUNIS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030453 ENGINEER Aaron C. Carver

DocuSigned by: Aaron C. Carver 5/19/2015 P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW

DocuSigned by: Gregory Brew 5/19/2015 P.E.
SIGNATURE:

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

STATE OF NORTH CAROLINA

15-APR-2015 08:09
R:\Roadway\Proj\B5105_Rdy_tsh.dgn
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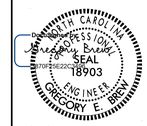
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5105	1A

ROADWAY DESIGN ENGINEER



5/19/2015

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

LIST OF STANDARD DRAWINGS

2012 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, 2012 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
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
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
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
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
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

LIST OF GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

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

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

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

STREET TURNOUT:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII 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 WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

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: PINEVILLE ELECTRIC DEPARTMENT- POWER, PINEVILLE TELEPHONE, AT & T OF NORTH CAROLINA, PIEDMONT NATURAL GAS AND CHARLOTTE MECKLENBURG UTILITIES- WATER.

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 CONTRACT.

CURB RAMPS
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS IN ACCORDANCE WITH STD. 848.05 AND/OR 848.06.

02/03/15

PROJECT REFERENCE NO.	SHEET NO.
B-5105	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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 Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

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
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- 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 — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

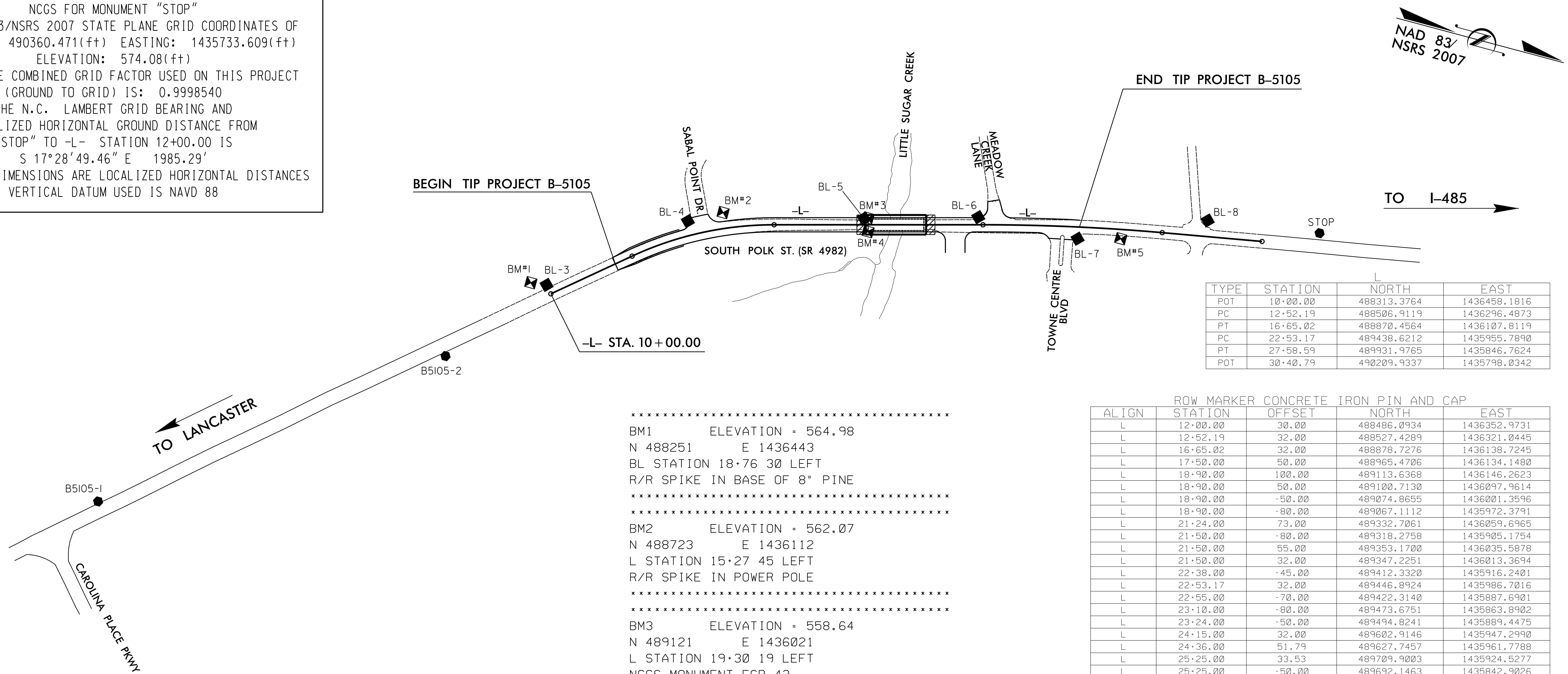
TBL 11/18/13

PROJECT REFERENCE NO.	SHEET NO.
B-5105	1C-1
Location and Surveys	

SURVEY CONTROL SHEET
FINAL PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "STOP"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 490360.471(ft) EASTING: 1435733.609(ft)
ELEVATION: 574.08(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998540
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "STOP" TO -L- STATION 12+00.00 IS
S 17°28'49.46" E 1985.29'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



L

TYPE	STATION	NORTH	EAST
POT	10+00.00	488313.3764	1436458.1816
PC	12+52.19	488506.9119	1436296.4873
PT	16+65.02	488870.4564	1436107.8119
PC	22+53.17	489438.6212	1435955.7890
PT	27+58.59	489931.9765	1435846.7624
POT	30+40.79	490209.9337	1435798.0342

****
BM1 ELEVATION = 564.98
N 488251 E 1436443
BL STATION 18+76 30 LEFT
R/R SPIKE IN BASE OF 8" PINE
****

****
BM2 ELEVATION = 562.07
N 488723 E 1436112
L STATION 15+27 45 LEFT
R/R SPIKE IN POWER POLE
****

****
BM3 ELEVATION = 558.64
N 489121 E 1436021
L STATION 19+30 19 LEFT
NCGS MONUMENT EGB 43
****

****
BM4 ELEVATION = 558.64
N 489131 E 1436058
L STATION 19+30 20 RIGHT
CITY OF CHARLOTTE MONUMENT L-SUGAR 1
****

****
BM5 ELEVATION = 567.94
N 489824 E 1435894
L STATION 26+43 26 RIGHT
R/R SPIKE IN BASE OF 28" PINE
****

ROW MARKER CONCRETE IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+00.00	30.00	488486.0934	1436352.9731
L	12+52.19	32.00	488527.4289	1436321.0445
L	16+65.02	32.00	488878.7276	1436138.7245
L	17+50.00	50.00	488965.4706	1436134.1480
L	18+90.00	100.00	489113.6368	1436146.2623
L	18+90.00	50.00	489100.7130	1436097.9614
L	18+90.00	-50.00	489074.8655	1436001.3596
L	18+90.00	-80.00	489067.1112	1435972.3791
L	21+24.00	73.00	489332.7061	1436059.6965
L	21+50.00	-80.00	489318.2758	1435905.1754
L	21+50.00	55.00	489353.1700	1436035.5878
L	21+50.00	32.00	489347.2251	1436013.3694
L	22+38.00	-45.00	489412.3320	1435916.2401
L	22+53.17	32.00	489446.8924	1435986.7016
L	22+55.00	-70.00	489422.3140	1435887.6901
L	23+10.00	-80.00	489473.6751	1435863.8902
L	23+24.00	-50.00	489494.8241	1435889.4475
L	24+15.00	32.00	489602.9146	1435947.2990
L	24+36.00	51.79	489627.7457	1435961.7788
L	25+25.00	33.53	489709.9003	1435924.5277
L	25+25.00	-50.00	489692.1463	1435842.9026
L	25+25.00	-29.87	489696.4250	1435862.5740

PERMANENT EASEMENT MARKER

ALIGN	STATION	OFFSET	NORTH	EAST
L	15+00.00	-54.00	488692.7746	1436115.0953
L	15+00.00	-50.00	488694.4608	1436118.7225
L	16+00.00	-85.00	488780.7334	1436046.3375
L	16+00.00	70.00	488830.9437	1436192.9796
L	16+00.00	32.00	488818.6341	1436157.0287
L	16+65.02	-82.00	488849.2614	1436028.5985
L	17+03.00	-90.00	488883.8811	1436011.0539
L	18+25.00	98.00	489050.3287	1436161.1312
L	18+90.00	-90.00	489064.5264	1435962.7189
L	20+95.00	-90.00	489262.5601	1435909.7314
L	20+95.00	-80.00	489265.1448	1435919.3916
L	21+20.00	-90.00	489286.7105	1435903.2695
L	21+20.00	-80.00	489289.2953	1435912.9297
L	21+92.00	-90.00	489356.2638	1435884.6592

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B5105-1	487232.7180	1437352.6870	594.38	OUTSIDE PROJECT LIMITS	
2	B5105-2	488072.0380	1436704.2460	573.28	OUTSIDE PROJECT LIMITS	
3	BL-3	488295.1400	1436436.8850	563.98	OUTSIDE PROJECT LIMITS	
4	BL-4	488633.0620	1436160.3690	560.12	14+29.72	40.83 LT
5	BL-5	489110.1830	1436025.1910	557.96	19+17.96	17.85 LT
6	BL-6	489420.1170	1435938.3940	560.06	22+39.79	21.59 LT
7	BL-7	489706.0460	1435924.6330	565.04	25+21.19	32.82 RT
8	BL-8	490046.8560	1435780.5200	570.39	28+83.19	45.41 LT
9	STOP	490360.4710	1435733.6090	574.08	OUTSIDE PROJECT LIMITS	

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/*

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5105_LS_CONTROL.TXT
   B5105_LS_LOCAL.TXT

2. *SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.*

3. *PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM, UTILIZING THE NCGS RTN SYSTEM (VRS).*

   MONUMENTS USED OR SET FOR PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT:

⬢ *INDICATES GEODETIC CONTROL MONUMENTS FOR HORIZONTAL CONTROL*
■ *INDICATES BASELINE MONUMENTS FOR HORIZONTAL PROJECT CONTROL*
⧓ *INDICATES BENCHMARKS FOR VERTICAL CONTROL*

NOTE: DRAWING NOT TO SCALE

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2A-1

ROADWAY DESIGN ENGINEER

DocuSigned by: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18903 ENGINEER GREGORY E. BREW
5/20/2015

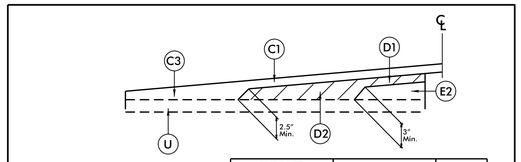
PAVEMENT DESIGN ENGINEER

DocuSigned by: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039819 ENGINEER LONYA T. HEWARD
5/20/2015

FINAL PAVEMENT SCHEDULE

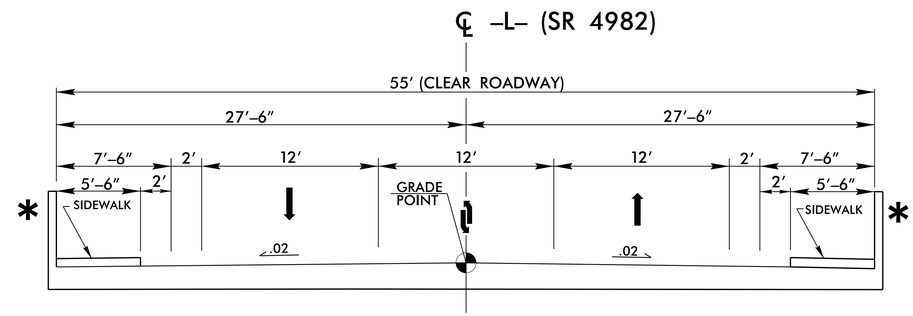
C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
E1	PROP. APPROX. 5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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	2′-6″CONCRETE CURB AND GUTTER.
R2	1′-6″CONCRETE CURB AND GUTTER.
R3	5″ MONOLITHIC CONCRETE ISLAND.
S	4″ CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. 1.5″ DEPTH.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL).

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



LINE	SURFACE				INTERMEDIATE				BASE	
	C1	C3			D1	D2			E2	
–L– (USE WITH TYP. SECTION 1)	X	X			X	X			X	
–Y– & –EY1– (USE WITH TYP. SECTIONS 4 & 5)	X	X			X	X			X	

DETAIL SHOWING METHOD OF WEDGING

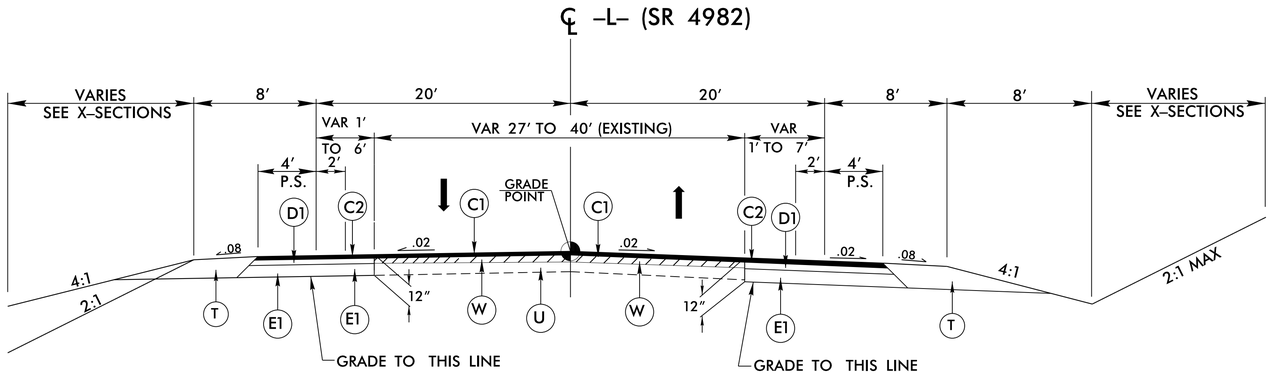


* SEE STRUCTURE PLANS

* SEE STRUCTURE PLANS

TYPICAL SECTION ON STRUCTURE

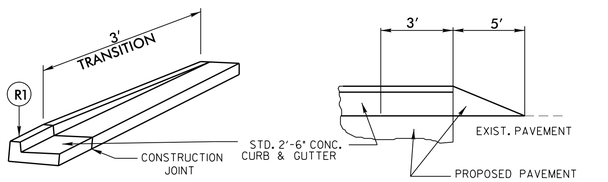
–L– STA. 19+18.00 TO 20+98.00



TYPICAL SECTION NO. 1

–L– STA 12+00.00 TO 12+25.00, TRANSITION FROM EXIST. TO TYPICAL SECTION 1

–L– STA 12+25.00 TO 14+00.00

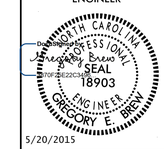


DETAIL OF 2′–6″ CONCRETE CURB & GUTTER TRANSITION

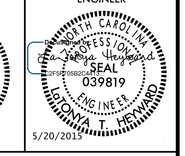
TO BE USED IN CONJUNCTION WITH STD. 846.01
USE WITH TYPICAL SECTION NO. 2

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2A-2

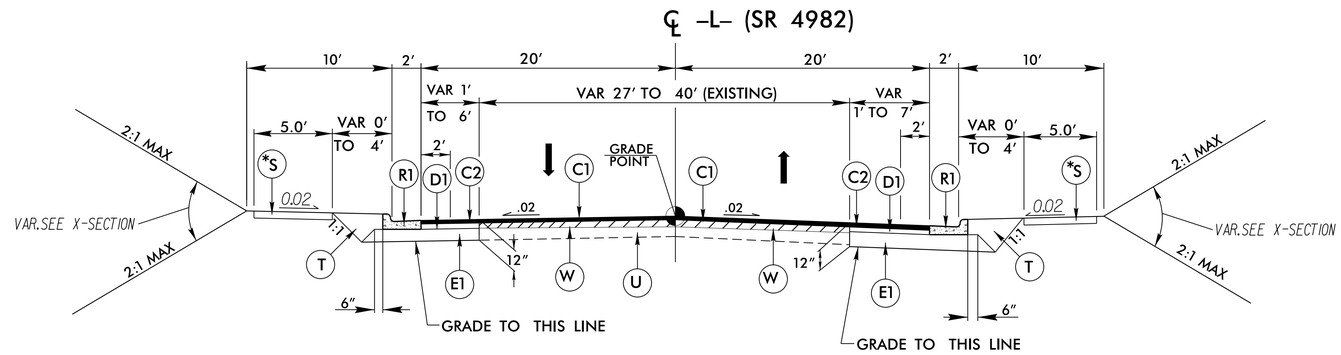
ROADWAY DESIGN ENGINEER



PAVEMENT DESIGN ENGINEER



PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
D1	4" I19.0B
E1	5" B25.0B
R1	2'-6" C&G
R2	1'-6" C&G
R3	CONC. ISLAND
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



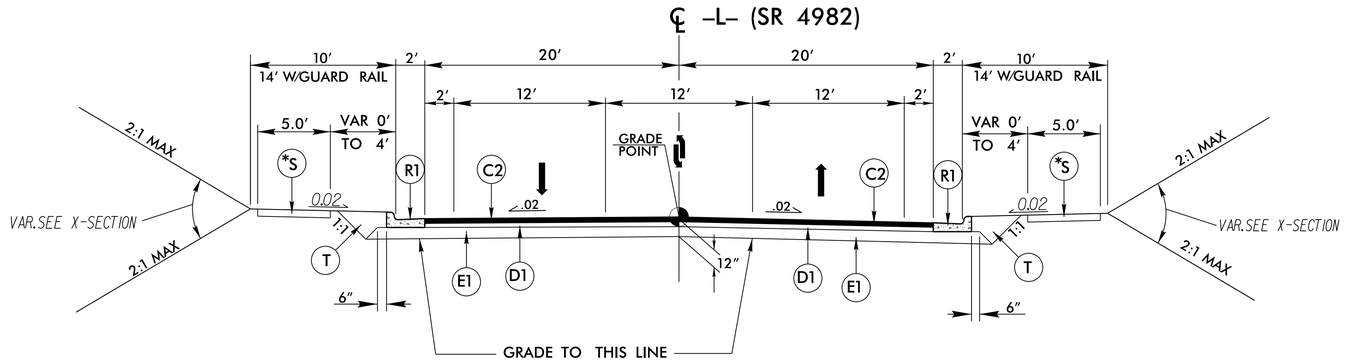
TYPICAL SECTION NO. 2

–L– STA 14+00.00 TO 18+50.00

–L– STA 22+50.00 TO 25+00.00

–L– STA 25+00.00 TO 25+25.00,
TRANSITION FROM T.S. 2 TO EXIST.

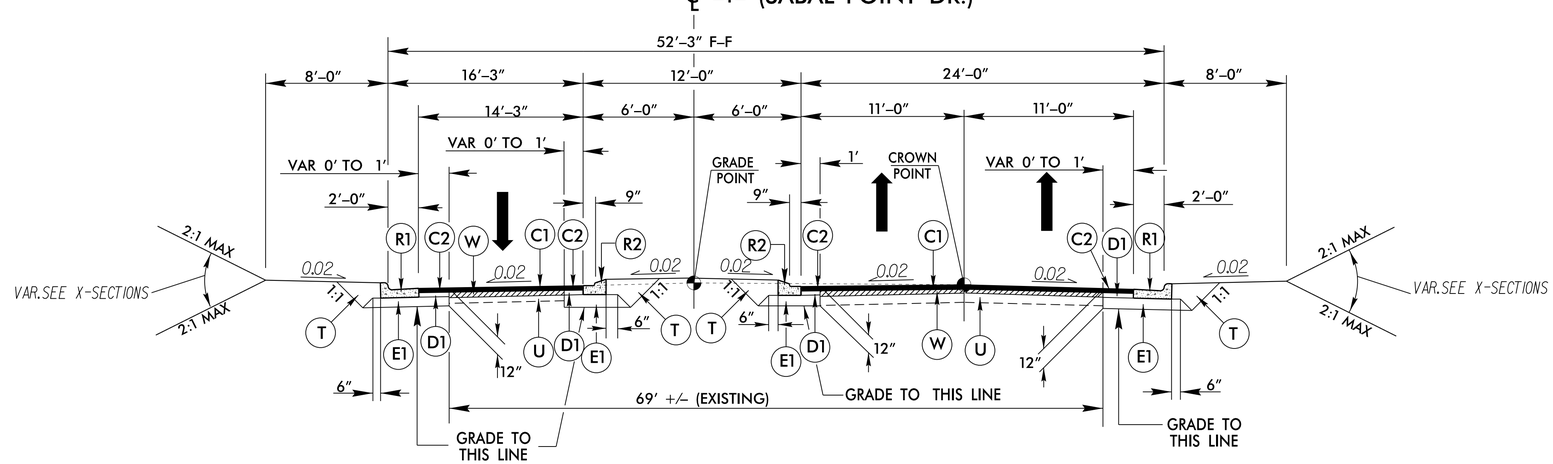
* SEE PLANS FOR SIDEWALK LOCATION



TYPICAL SECTION NO. 3

–L– STA. 18+50.00 TO 19+18.00 (BEGIN BRIDGE)

–L– STA. 20+98.00 (END BRIDGE) TO 22+50.00



TYPICAL SECTION NO. 4

–Y– STA. 11+25.00 TO 11+75.00

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2A-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW

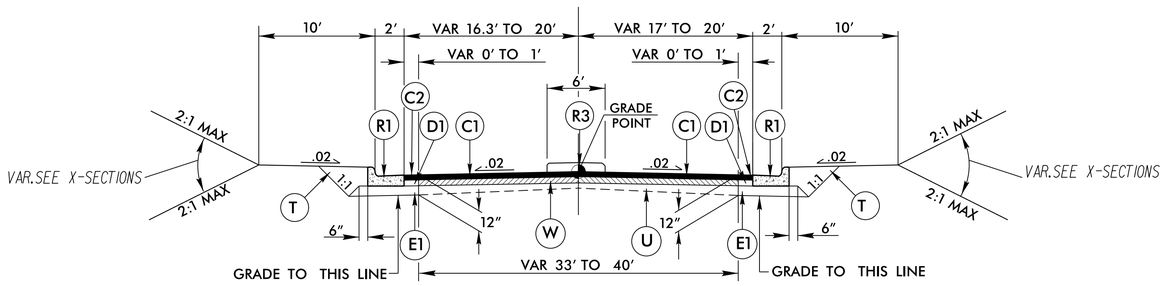
5/20/2015

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER LGONYA T. HEYWARD

5/20/2015

℄ –EY1– (MEADOW CREEK LANE)



TYPICAL SECTION NO. 5

–EY1– STA. 11+00.00 TO 11+17.78

TYPICAL SECTION NO. 6

INTERSECTION OF SOUTH POLK STREET AND CAROLINA PARKWAY
(SEE SHEET 2B–2 FOR MILLING & RESURFACING LIMITS)

INTERSECTION OF SOUTH POLK STREET AND NC 51
(SEE SHEET 2B–3 FOR MILLING & RESURFACING LIMITS)

PAVEMENT SCHEDULE	
C1	1.5″ S9.5B
C2	3″ S9.5B
D1	4″ I19.0B
E1	5″ B25.0B
R1	2′-6″ C&G
R2	1′-6″ C&G
R3	CONC. ISLAND
S	CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	1.5″ MILLING
W	WEDGING

5/14/99

FOR PLANS SEE SHEETS 4 & 5	PROJECT REFERENCE NO.	SHEET NO.
	B-5105	2B-1
	R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BRENY

5/19/2015

25 0 50

GRAPHIC SCALE

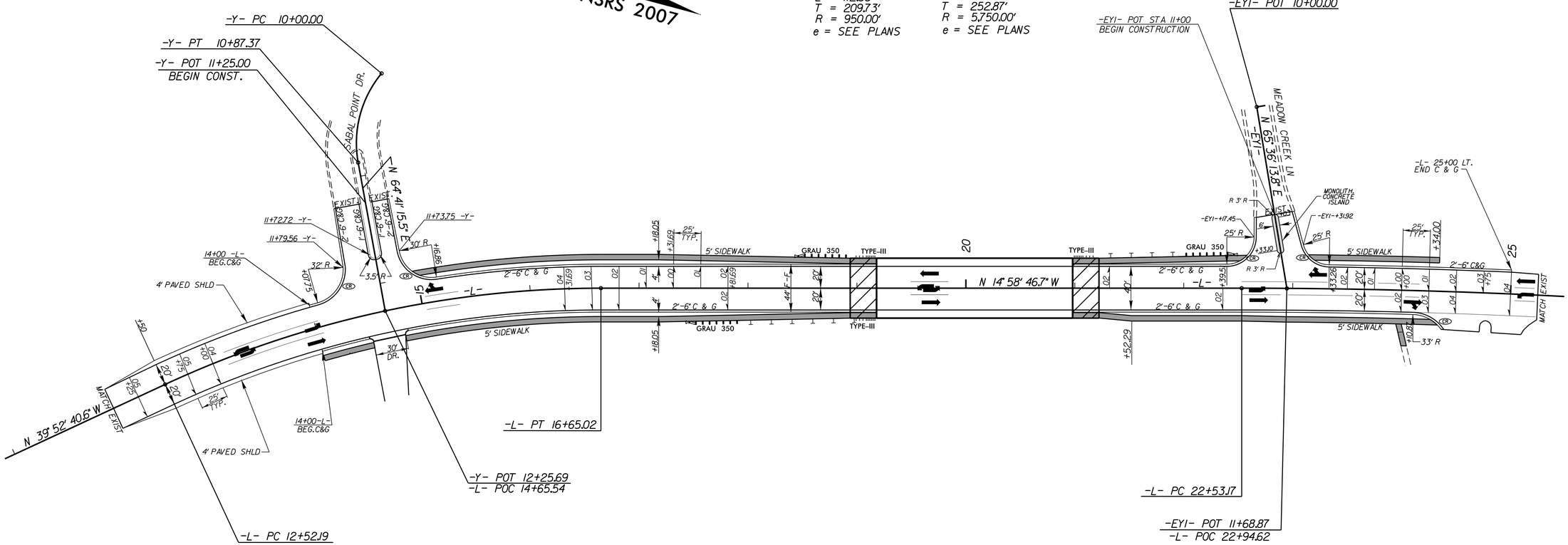
INTERSECTION DETAILS

-Y-
PI Sta 10+46.69
△ = 50° 03' 32.4" (LT)
D = 57° 17' 44.8"
L = 87.37'
T = 46.69'
R = 100.00'
e = SEE PLANS

-L-
PI Sta 14+61.92
△ = 24° 53' 53.9" (RT)
D = 6° 01' 52.1"
L = 412.83'
T = 209.73'
R = 950.00'
e = SEE PLANS

PI Sta 25+06.05
△ = 5° 02' 10.5" (RT)
D = 0° 59' 47.2"
L = 505.42'
T = 252.87'
R = 5,750.00'
e = SEE PLANS

NAD 83/NSRS 2007



SEE SHEET PMP-4 FOR PAVEMENT MARKING PLAN	PROJECT REFERENCE NO.	SHEET NO.
	B-5105	2B-2

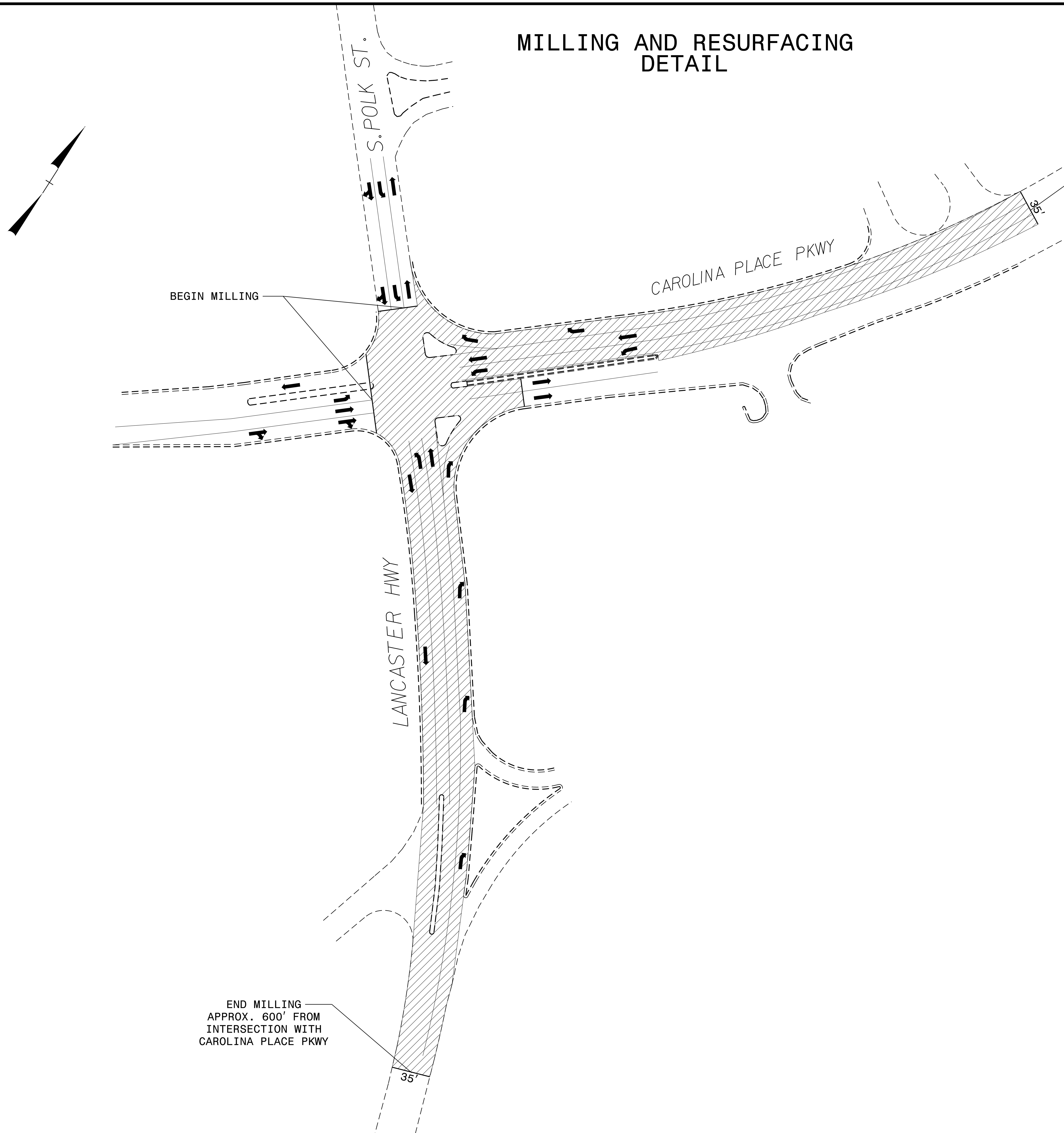
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18903 GREGORY E. BREW

DocuSigned by: Gregory Brew 3870F25E22C3496...

5/19/2015

MILLING AND RESURFACING DETAIL



25 0 50

GRAPHIC SCALE

AREA TO BE MILLED & RESURFACED

REVISIONS

8/17/99

18-MAY-2015 15:05
R:\Roadway\Proj\B5105_Rdy_DETAIL2.dgn
$$$$USERNAME$$$$

SEE SHEET PMP-5 FOR PAVEMENT MARKING PLAN	PROJECT REFERENCE NO.	SHEET NO.
	B-5105	2B-3

ROADWAY DESIGN ENGINEER

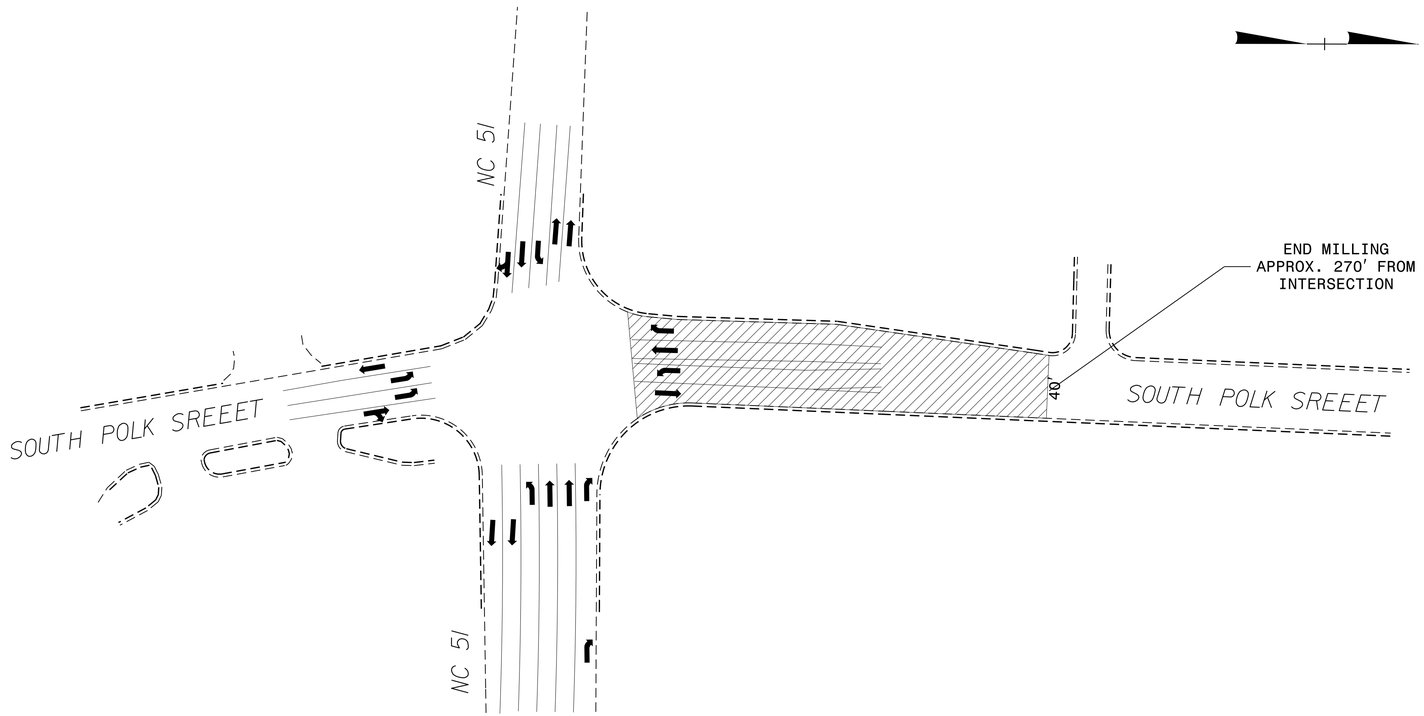
5/19/2015

25 0 50

GRAPHIC SCALE

MILLING AND RESURFACING DETAIL

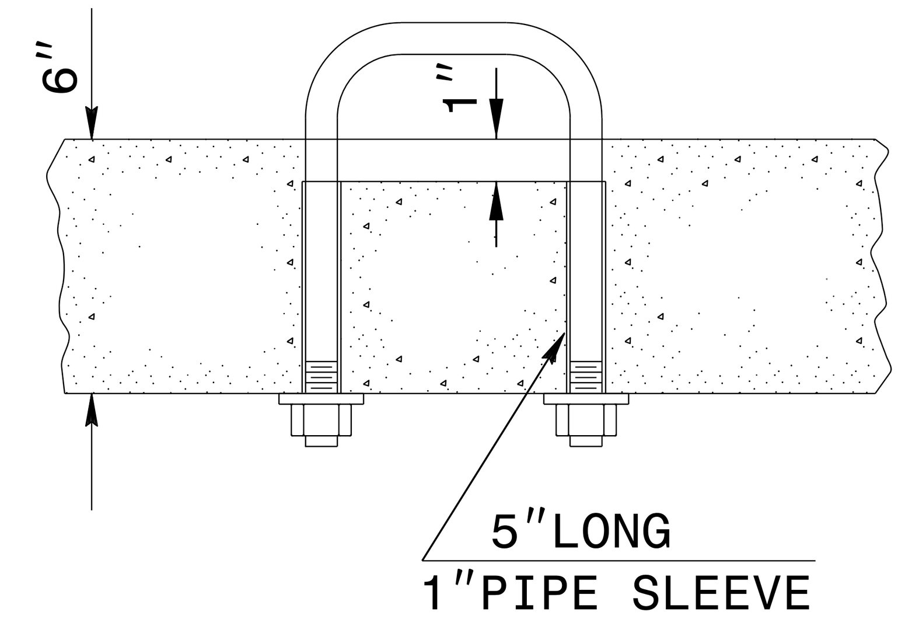
AREA TO BE MILLED & RESURFACED



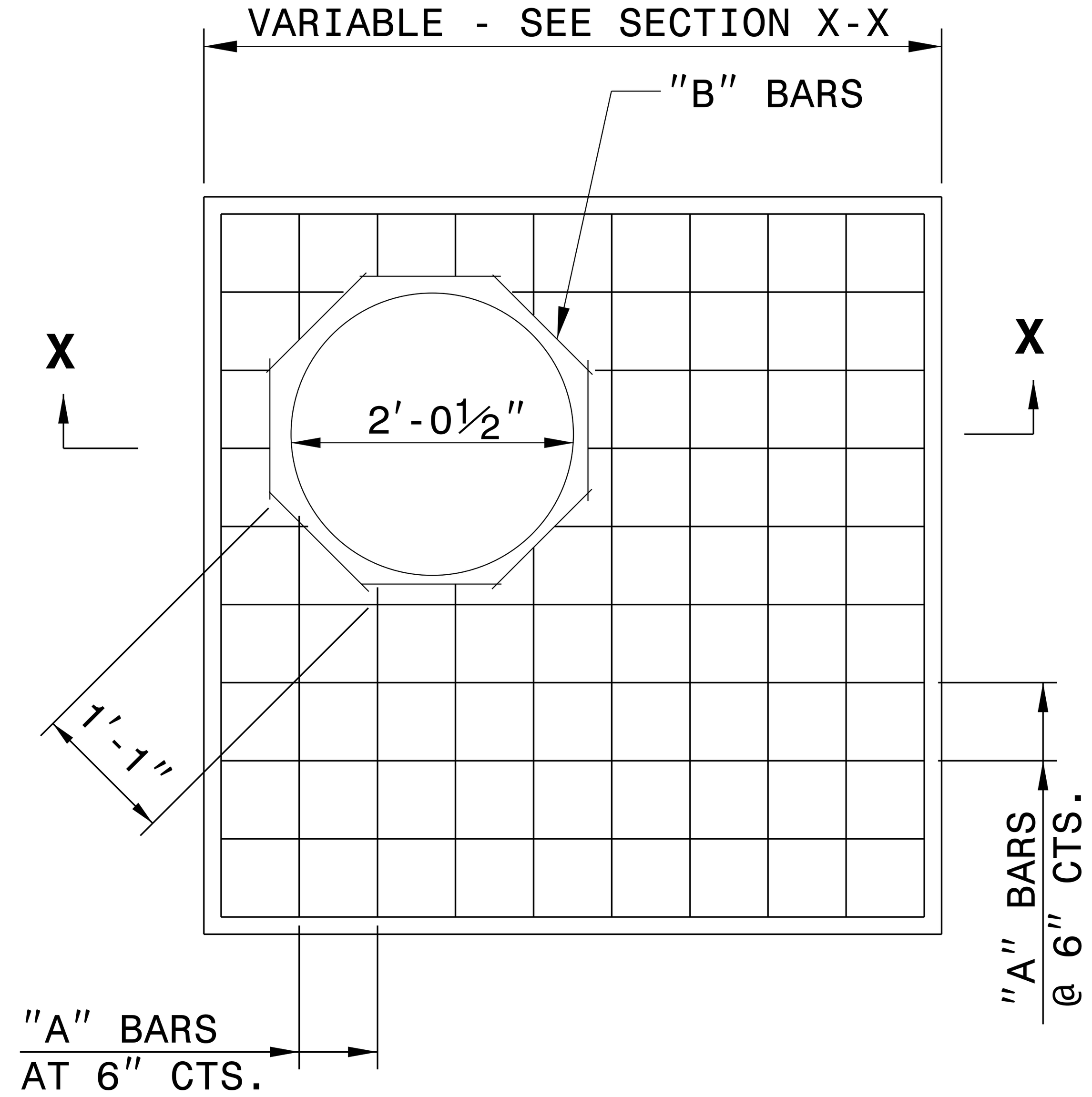
REVISIONS

8/17/99

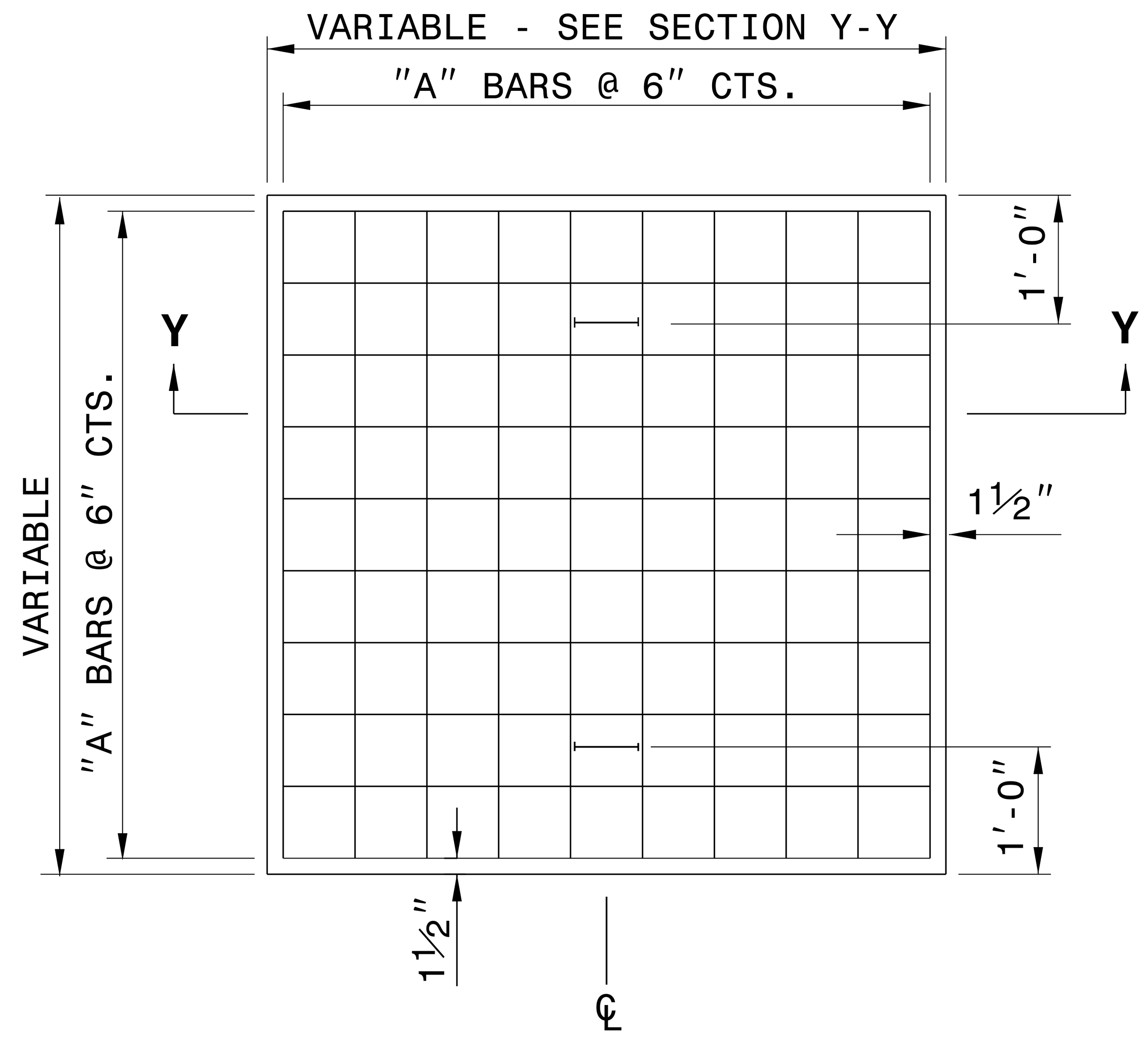
PROJECT REFERENCE NO.	SHEET NO.
B-5105	2C-1



PARTIAL SECTION



PLAN



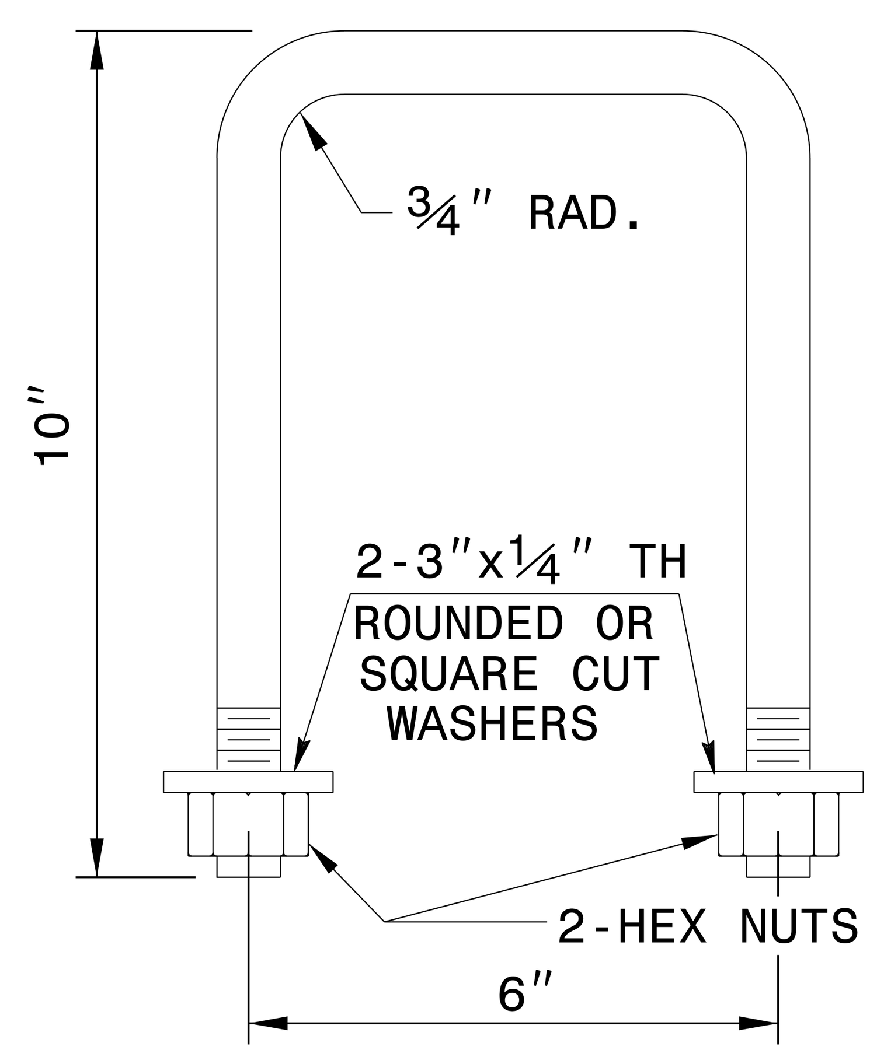
PLAN

GENERAL NOTES:

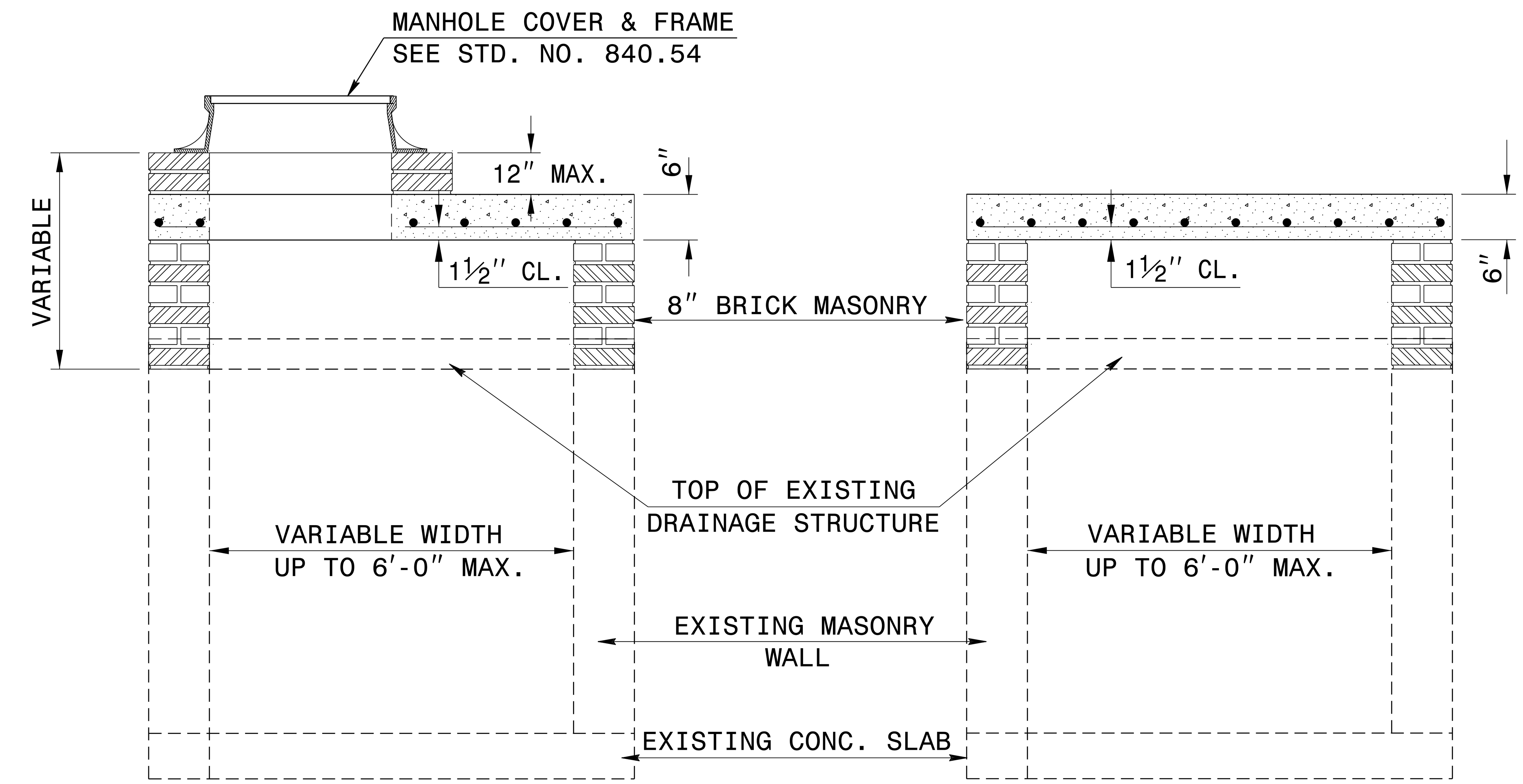
CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

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

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.



DETAIL OF HANDLE



SECTION X-X

SECTION Y-Y

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.

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton
Joel Howerton 5/20/2015

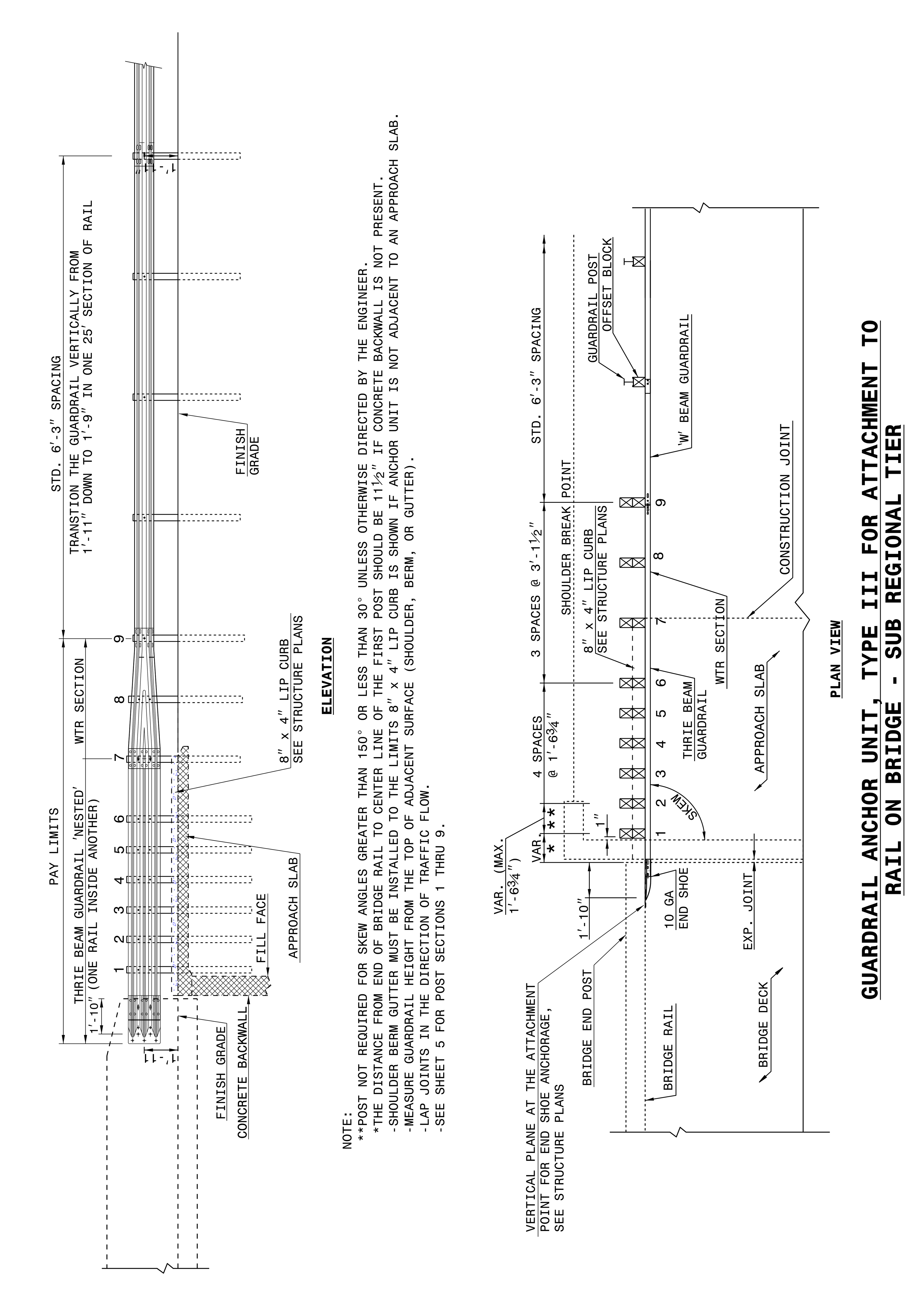
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

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/boxtojbe.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2C-2

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

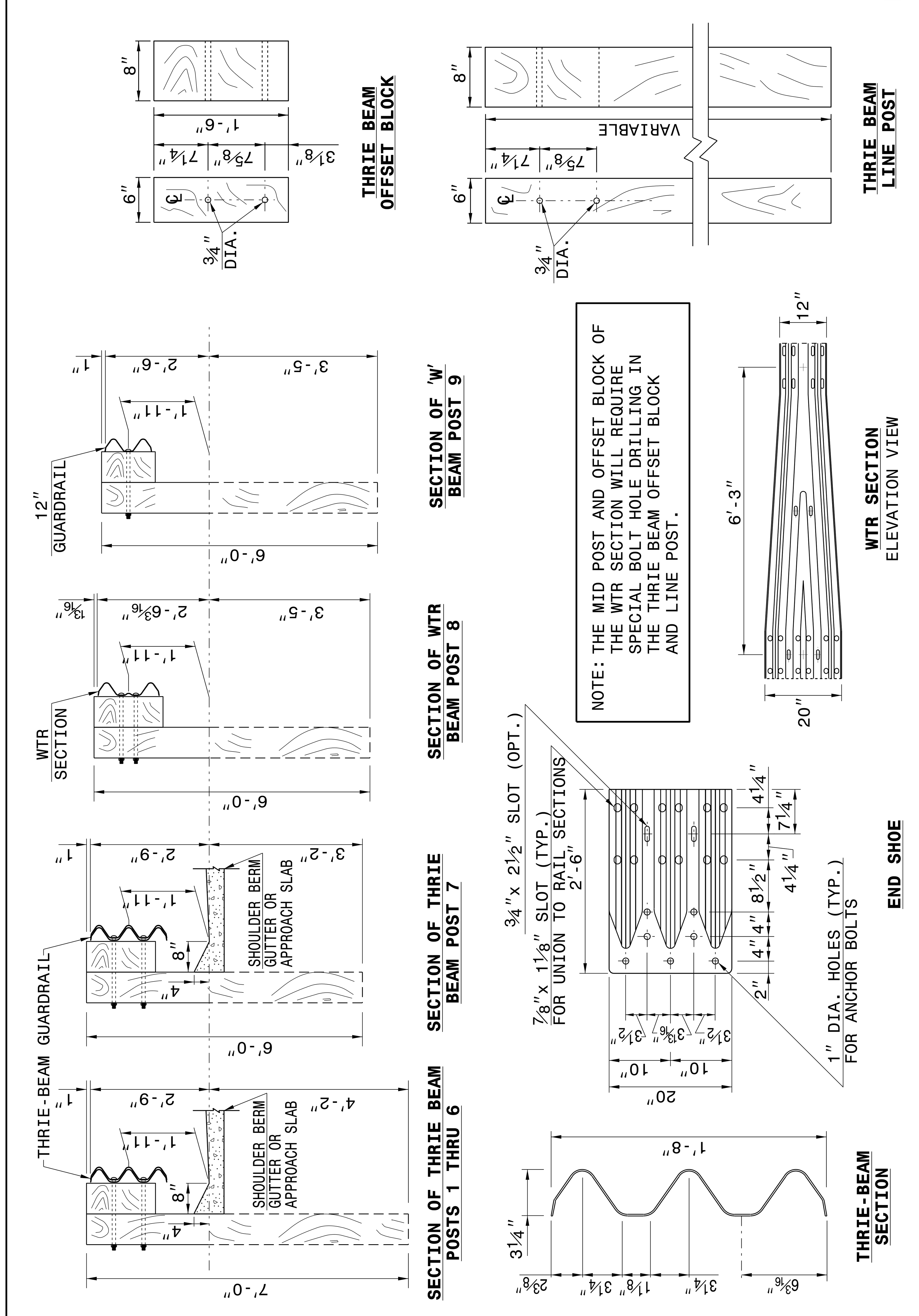


STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH 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**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III
SHEET 3 OF 7 862d03



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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 **862d03**

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 Joel S. Howerton

DocuSigned by: Joel Howerton 5/20/2015

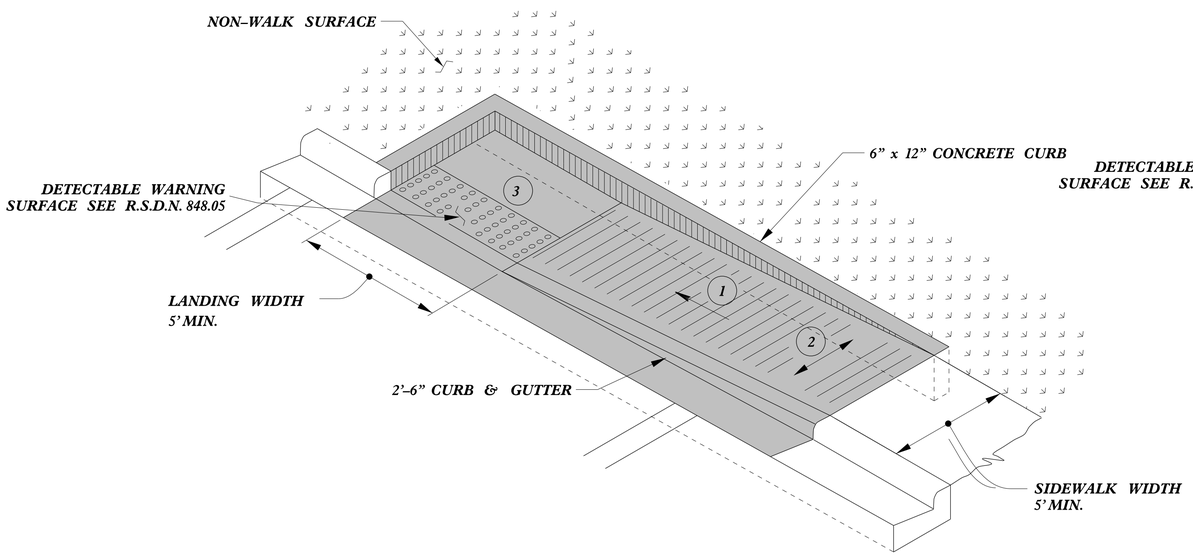
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

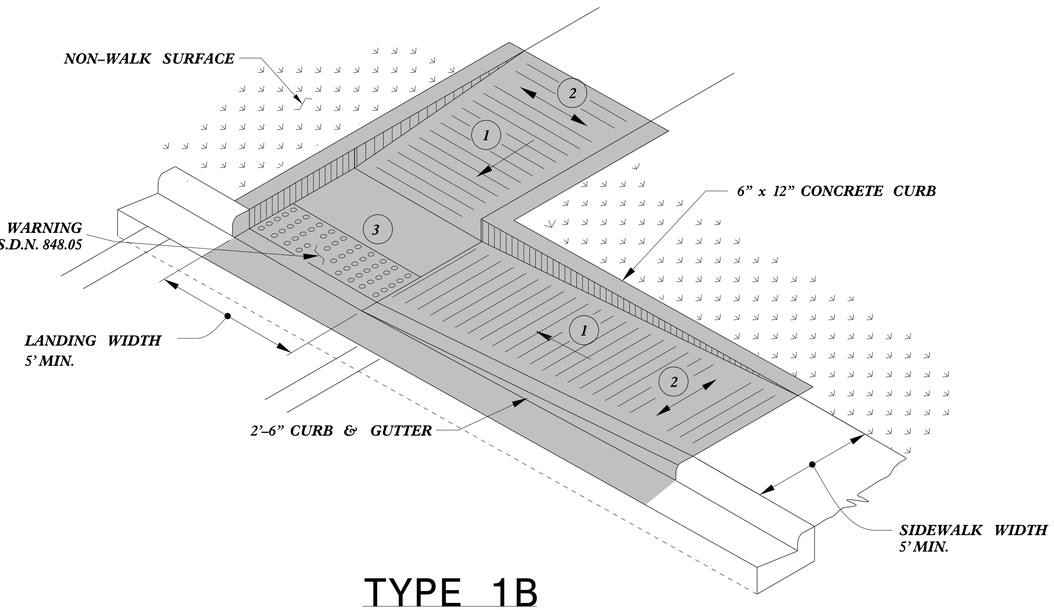
ORIGINAL BY: J HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2C-3



TYPE 1A



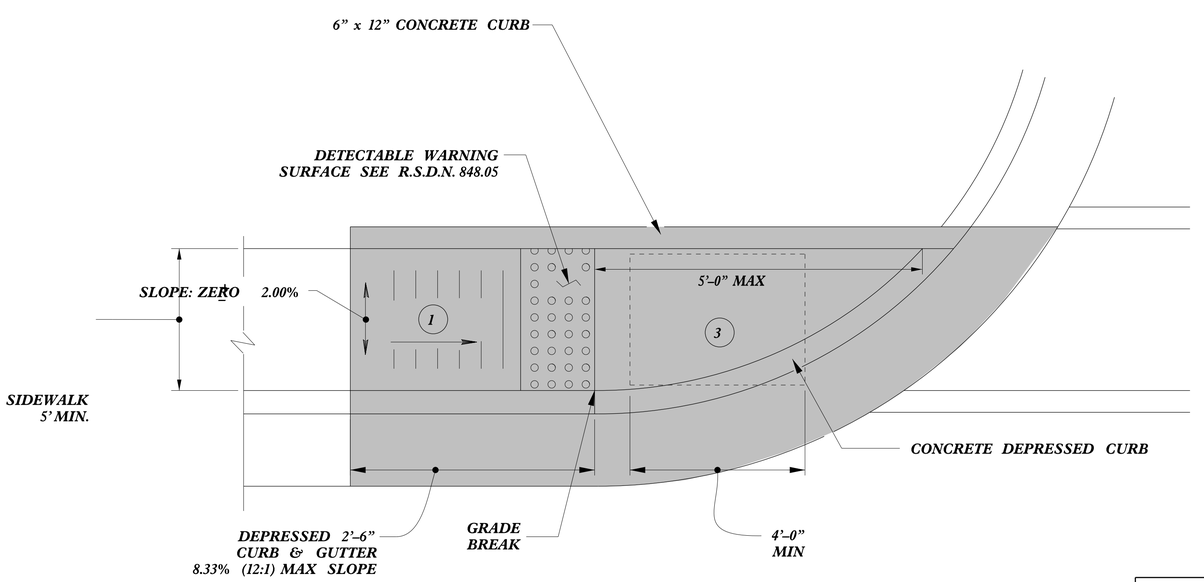
TYPE 1B

PAY LIMITS FOR 1 CURB RAMP

(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.*



TYPE 1

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

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

DocuSigned by: Joel Howerton 873F3D17DCDC45F... 5/20/2015

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

CURB RAMPS

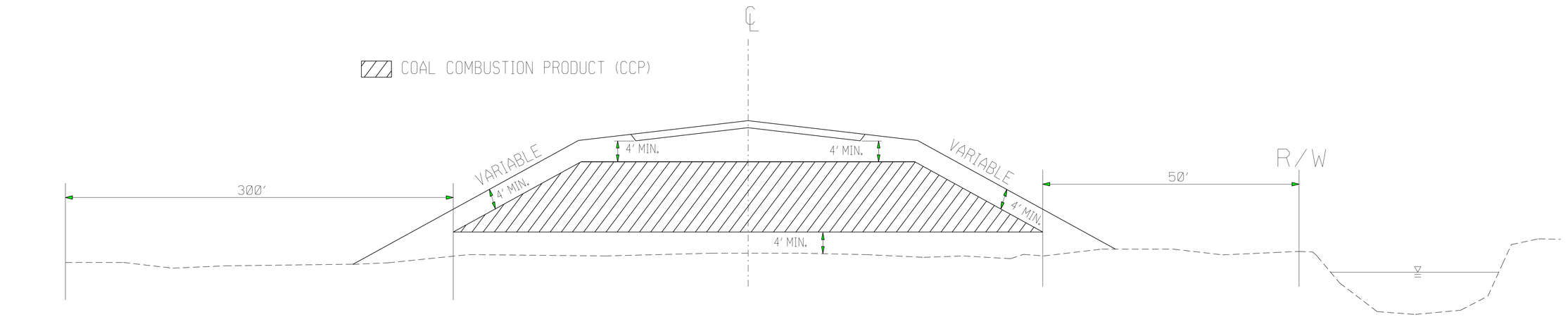
Directional Ramps

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

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5105	2C-4

COAL COMBUSTION PRODUCT PLACEMENT



*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

PLACE CCP IN HATCHED AREA IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS

PLACE CCP A MINIMUM OF 5' ABOVE SEASONAL HIGH GROUND WATER

PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

PLACE SOIL BORROW MATERIAL ON THE OUTSIDE OF CCP AS EACH LIFT OF CCP IS PLACED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

Joel Howerton 5/20/2015
873F3D17DCDC45F...

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

COAL COMBUSTION PRODUCT PLACEMENT DETAIL

ORIGINAL BY: J.S.H. DATE: 3/16/15
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: joel/coal combustion material detail.dgn

$$$$SYSTIME$$$$
$$$$ENTIME$$$$
$$$$USERNAME$$$$

COMPUTED BY: IY	DATE: 3/16/2015
CHECKED BY: KDA	DATE 3/23/2015

PROJECT NO.	SHEET NO.
B-5105	3B-1

RD277970

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

CUBIC YARDS

Station to Station	Uncl. Exc. C.Y.	Embank. +% C.Y.	Borrow C.Y.	Waste C.Y.
SUMMARY NO. 1				
-L- 12+00.00 TO 19+18.00	316	5,897	5,581	
-L- 20+98.00 TO 25+25.00	330	1,630	1,300	
-Y- 11+25.00 TO 11+75.00	17	14		3
-EY1- 11+00.00 TO 11+25.00	4	5	1	
SUMMARY NO. 1 TOTALS	667	7,546	6,882	3
PROJECT TOTAL	667	7,546	6,882	3
ENDBENT EMBANKMENT		446	446	
EST. SHOULDER MATERIAL		47	47	
Loss due to Clearing & Grubbing	-100		100	
WASTE IN LIEU OF BORROW			-3	-3
Est 5% To Replace Topsoil at Borrow Pit			374	
GRAND TOTALS	567		7,845	
SAY	750		8,000	

ESTIMATED UNDERCUT = 1,000 CY
ESTIMATED SELECT GRANULAR MATERIAL = 250 CY
ESTIMATED SHALLOW UNDERCUT = 300 CY
CLASS IV SUBGRADE STABILIZATION = 570 TONS
ESTIMATED DRAINAGE DITCH EXCAVATION = 185 CY

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

Note: Earthwork quantities are calculated by the Roadway Design Unit
These earthwork quantities are based in part on subsurface data
Provided by the Geotechnical Engineering Unit.

SUMMARY OF ASPHALT PAVEMENT REMOVAL

LINE	Station to Station	LOC LT/RT/CL	Asphalt Removal SQ. YDS.
-L-	18+25.00 TO 19+29.70	CL	326.34
-L-	20+86.53 TO 22+75.00	CL	737.58
	PROJECT TOTAL		1,063.92
		SAY	1,070

GUARDRAIL SUMMARY

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

LINE	BEG. STA.	END STA.	LOC.	LENGTH (FT.) STRAIGHT	LENGTH (FT.) SHOP CURVED	LENGTH (FT.) DOUBLE FACED	WARRANT POINT APPR. END	WARRANT POINT TRAIL. END	"N" DIST. FROM E.O.L.	TOTAL SHLDR. WIDTH	FLARE LENGTH APPR. END	FLARE LENGTH TRAIL. END	W APPR. END	W TRAIL. END	ANCHORS GRAU 350	ANCHORS TYPE III	IMP. ATTEN. TYPE 350 EA	IMP. ATTEN. TYPE 350 G	IMP. ATTEN. TYPE 350 NG	REMOVE EXIST. GUARDRAIL	REMARKS
-L-	18+43.00	19+18.00	LT.	75.00'				19+18.00	10'	14'		56.25'		1.125'	1	1				228'	FILL WARRANT
-L-	20+98.00	22+48.00	LT.	150.00'			20+98.00		10'	14'	131.25'		2.625'		1	1				102'	SHORTENED DUE TO DRIVE
-L-	17+43.00	19+18.00	RT.	175.00'			19+18.00		10'	14'	156.25'		3.125'		1	1				188'	
-L-	20+86.50	21+34.34	RT.																	51'	
		SUB-TOTALS		400.00'											3	3				569'	SUB-TOTALS
DEDUCTIONS FOR ANCHOR UNITS																					
		(3 GRAU @ 50')		-150.00'																	
		(3 TYPE III @ 18.75')		-56.25'																	
		PROJECT TOTAL		193.75'																	
		SAY		200.00'																	
ADDITIONAL GUARDRAIL POSTS = 5 EACH																					

COMPUTED BY: KDA	DATE: 1/27/2015	PROJECT NO. B-5105	SHEET NO. 3D-1
CHECKED BY: ITY	DATE: 3/23/2015		

RD277970

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)

STATION SIZE THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-L-																			
14+43.50	RT	401		559.90	556.48														
		401	401A		556.48	556.08													
15+24.86	RT	401A		559.53	556.08														
		401A	402		556.08	555.67													
16+06.50	RT	402		559.16	555.67														
		402	403		555.67	549.87													
17+76.50	RT	404		558.85	555.68														
		404	405		555.68	555.40													
18+26.50	RT	405		558.60	555.40														
		405	406		555.40	539.41													
18+90.00	RT	407		558.90	555.73														
		407	405		555.73	555.40													
18+26.50	LT	408		558.60	555.41														
		408	409		555.41	552.21													
18+90.00	LT	410		558.90	555.73														
		410	408		555.73	555.41													
21+25.00	LT	411		559.78	553.61														
		411	412		553.61	543.08													
21+25.00	RT	413		559.78	556.36														
		413	411		556.36	556.14													
21+85.00	RT	414		561.82	558.40														
		414	413		558.40	556.36													
22+40.00	LT	415		561.06	554.19														
		415	411		554.19	553.61													
22+64.00	LT	416		561.32	554.31														
		416	415		554.31	554.19													
23+39.00	LT	417		563.52	555.82														
23+39.00		418		561.31	557.04														
		418	417		557.04	555.82													
PROJECT TOTALS																			

STATION	LOCATION	FROM	TO	C.S. PIPE 12" .064	C.S. PIPE 15" .064	C.S. PIPE 18" .064	C.S. PIPE 24" .064	C.S. PIPE 30" .079	C.S. PIPE 36" .079	C.S. PIPE 42" .109	C.S. PIPE 48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
-L-																											
14+43.50	RT	401																									
		401	401A											80'													
15+24.86	RT	401A																									
		401A	402											80'													
16+06.50	RT	402																									
		402	403			32'																					
17+76.50	RT	404																									
		404	405																		48'						
18+26.50	RT	405																									
		405	406		56'																						
18+90.00	RT	407																									
		407	405																		60'						
18+26.50	LT	408																									
		408	409		36'																						
18+90.00	LT	410																									
		410	408																		64'						
21+25.00	LT	411																									
		411	412				52'																				
21+25.00	RT	413																									
		413	411																			44'					
21+85.00	RT	414																									
		414	413																			160'					
22+40.00	LT	415																									
		415	411												112'												
22+64.00	LT	416																									
		416	415												24'												
23+39.00	LT	417																									
23+39.00		418																									
		418	417											12'													
PROJECT TOTALS					92'	32'	52'							172'	136'						172'	204'					

STATION	LOCATION	FROM	TO	** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	ENDWALLS CU. YARDS C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION (EACH) DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16			CONVERT D.I. TO J.B. W/M.H. COVER (SEE DETAIL 2C-1)	MANHOLE FRAME & COVER STD. 840.54	ADJUST EXISTING MANHOLE								DRAINAGE PIPE ELBOWS NO. & SIZE		C. S. PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. 'B' C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
-L-																																								
14+43.50	RT	401									1			1		1																								
		401	401A																																					
15+24.86	RT	401A									1			1		1																								
		401A	402																																					
16+06.50	RT	402									1			1		1																								
		402	403																																2 @ 18"					
17+76.50	RT	404									1			1		1																								
		404	405																																					
18+26.50	RT	405									1			1	1																									
		405	406																																2 @ 15"					
18+90.00	RT	407									1			1			1																							
		407	405																																					
18+26.50	LT	408									1			1	1																									
		408	409																																2 @ 15"					
18+90.00	LT	410									1			1		1																								
		410	408																																					
21+25.00	LT	411									1	1.17		1		1																								
		411	412																																2 @ 24"					
21+25.00	RT	413									1			1			1																							
		413	411																																					
21+85.00	RT	414									1			1			1																							
		414	413																																					
22+40.00	LT	415									1	1.87		1		1																								
		415	411																																			82	REMOVE 30" RCP AND HEADWALL
22+64.00	LT	416																								1														
		416	415																																					
23+39.00	LT	417										2.7												1	1															
23+39.00		418									1									1	1																			
		418	417																																					
																																			4 @ 15"					
												5.74																							2 @ 18"					
PROJECT TOTALS											13	6'		12	2	7	3			1	1			1	1	1									2 @ 24"			82'	PROJECT TOTAL

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

COMPUTED BY:	KDA	DATE:	3/11/2015
CHECKED BY:	IY	DATE:	3/26/2015

PROJECT NO.	SHEET NO.
B-5105	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF AGGREGATE SUBGRADE / STABILIZATION

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY					300	570	500		
			TOTAL CY/TONS/SY:		**300**	**570**	**500**		

***ASU = Aggregate Subgrade**
***AST = Aggregate Stabilization**

***Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.**

PROJ. REFERENCE NO.	SHEET NO.
B-5105	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	WESTDALE SABLA POINT
2	4	N.C. STATE
3	4 & 5	JAMES W. THROWER, JR.
3A	4	LANDMARK AT CHESTERFIELD, LP
4	4 & 5	SIGNATURE PINEVILLE, LLC
5	4 & 5	LUCK STONE CORPORATION
6	5	THE DEXTER & BIRDIE YAGER FAMILY PARTNERSHIP

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

PROJECT REFERENCE NO.	SHEET NO.
B-5105	4

RW SHEET NO.

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW — 5/19/2015

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 030453 ENGINEER Aaron C. Carver — 5/19/2015

SEE SHEET PMP-3 FOR CURB RAMP LOCATIONS

FOR PROFILE OF -L- SEE SHEET 6

FOR PROFILE OF -EY- & -EY1- SEE SHEET 7

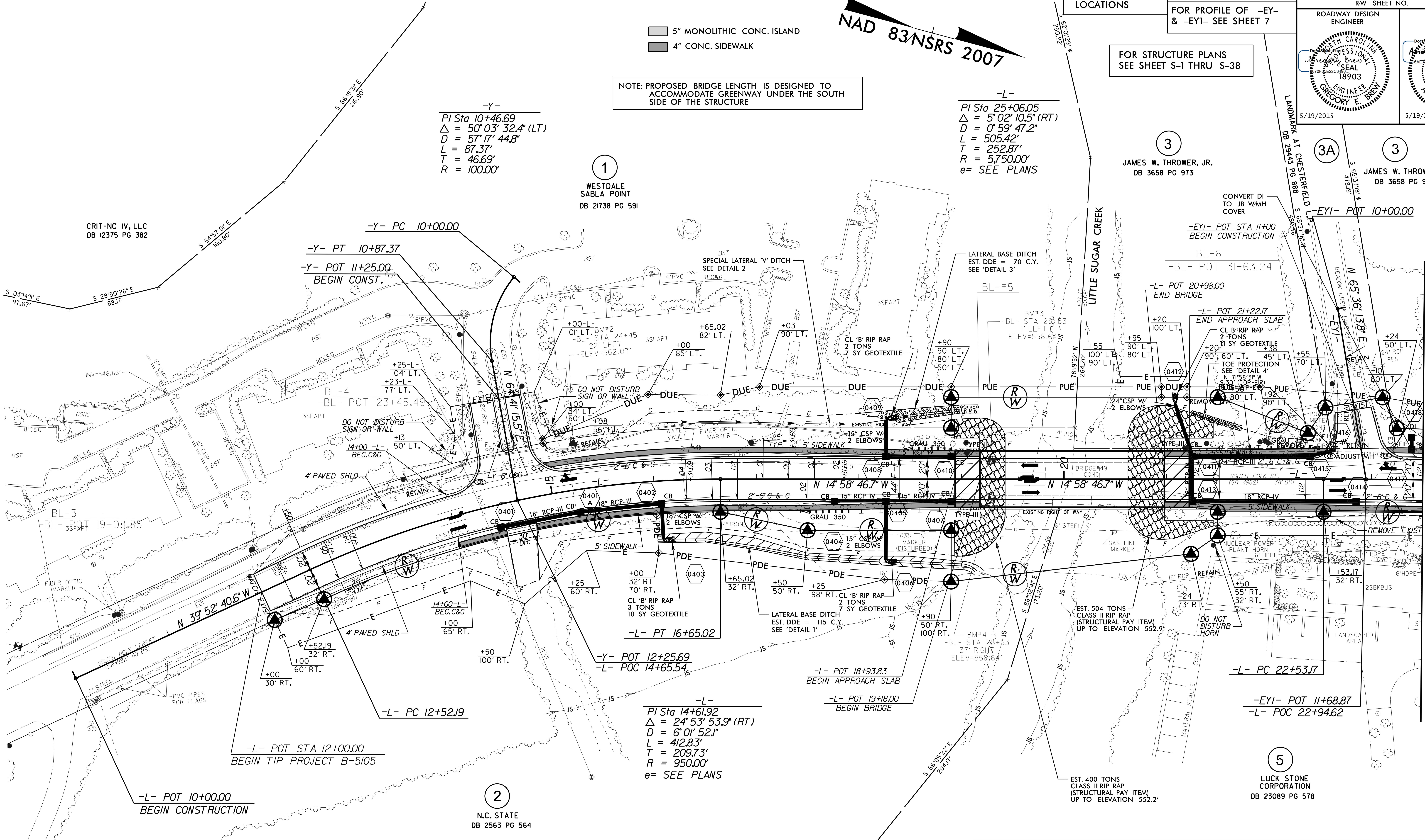
FOR STRUCTURE PLANS SEE SHEET S-1 THRU S-38

NAD 83/NSRS 2007

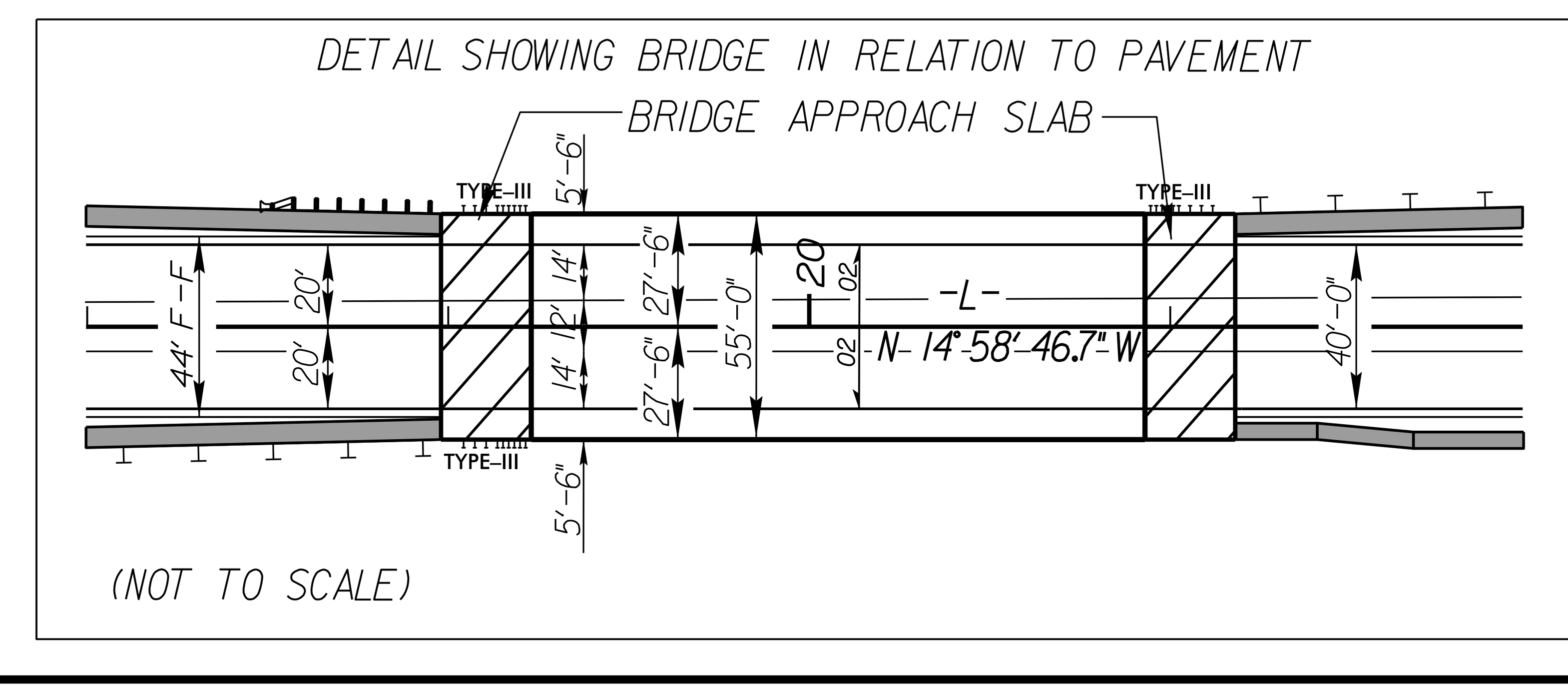
5" MONOLITHIC CONC. ISLAND

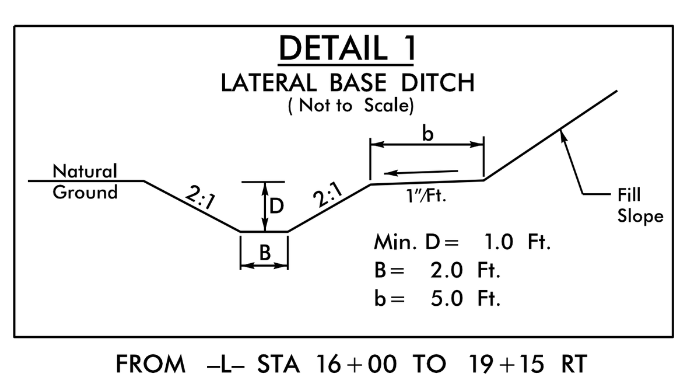
4" CONC. SIDEWALK

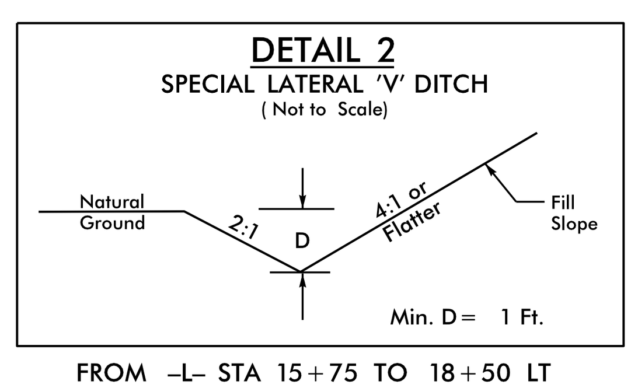
NOTE: PROPOSED BRIDGE LENGTH IS DESIGNED TO ACCOMMODATE GREENWAY UNDER THE SOUTH SIDE OF THE STRUCTURE

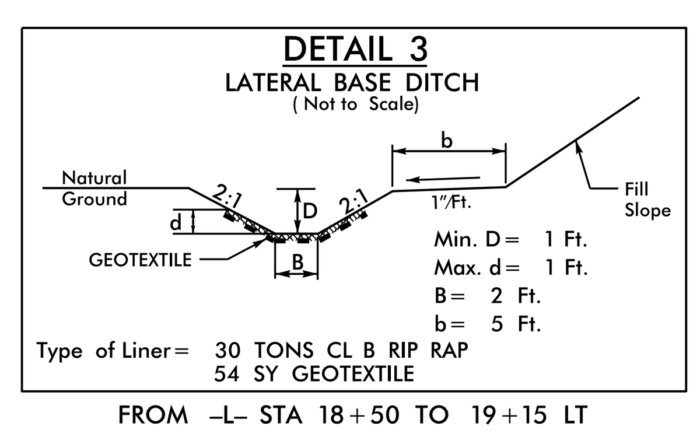

-Y-
PI Sta 10+46.69
Δ = 50° 03' 32.4" (LT)
D = 57° 17' 44.8"
L = 87.37'
T = 46.69'
R = 100.00'
-L-
PI Sta 25+06.05
Δ = 5° 02' 10.5" (RT)
D = 0° 59' 47.2"
L = 505.42'
T = 252.87'
R = 5,750.00'
e= SEE PLANS
-L-
PI Sta 14+61.92
Δ = 24° 53' 53.9" (RT)
D = 6° 01' 52.1"
L = 412.83'
T = 209.73'
R = 950.00'
e= SEE PLANS
1 WESTDALE SABLA POINT DB 21738 PG 591
2 N.C. STATE DB 2563 PG 564
3 JAMES W. THROWER, JR. DB 3658 PG 973
3A
5 LUCK STONE CORPORATION DB 23089 PG 578
CRIT-NC IV, LLC DB 12375 PG 382
LANDMARK AT CHESTERFIELD L.P. DB 29443 PG 888
LITTLE SUGAR CREEK
-Y- PC 10+00.00
-Y- PT 10+87.37
-Y- POT 11+25.00 BEGIN CONST.
-Y- POT 12+25.69
-L- POC 14+65.54
-L- PT 16+65.02
-L- PC 12+52.19
-L- POT STA 12+00.00 BEGIN TIP PROJECT B-5105
-L- POT 10+00.00 BEGIN CONSTRUCTION
-L- POT 18+93.83 BEGIN APPROACH SLAB
-L- POT 19+18.00 BEGIN BRIDGE
-L- POT 20+98.00 END BRIDGE
-L- POT 21+22.17 END APPROACH SLAB
-L- PC 22+53.17
-EY1- POT 11+68.87
-L- POC 22+94.62
-EY1- POT STA 11+00 BEGIN CONSTRUCTION
-EY1- POT 10+00.00
BL-6 -BL- POT 31+63.24
BL-4 -BL- POT 23+45.49
BL-3 -BL- POT 19+08.85
BL-#5
BM#2 -BL- STA 24+45 22' LEFT ELEV=562.07'
BM#3 -BL- STA 28+53 1' LEFT ELEV=558.64'
BM#4 -BL- STA 28+53 37' RIGHT ELEV=558.64'
N 39° 52' 40.6" W
N 14° 58' 46.7" W
N 64° 41' 15.5" E
N 65° 36' 13.8" E
SPECIAL LATERAL 'V' DITCH SEE DETAIL 2
LATERAL BASE DITCH EST. DDE = 70 C.Y. SEE 'DETAIL 3'
LATERAL BASE DITCH EST. DDE = 115 C.Y. SEE 'DETAIL 1'
CL 'B' RIP RAP 2 TONS 7 SY GEOTEXTILE
CL 'B' RIP RAP 3 TONS 10 SY GEOTEXTILE
EST. 504 TONS CLASS II RIP RAP (STRUCTURAL PAY ITEM) UP TO ELEVATION 552.9'
EST. 400 TONS CLASS II RIP RAP (STRUCTURAL PAY ITEM) UP TO ELEVATION 552.2'
CONVERT DI TO JB W/MH COVER
TOE PROTECTION SEE 'DETAIL 4'
DO NOT DISTURB SIGN OR WALL
DO NOT DISTURB HORN
4' PAVED SHLD
5' SIDEWALK
2'-6" C & G
18" RCP-III
15" RCP-IV
15" CSP W/ 2 ELBOWS
24" CSP W/ 2 ELBOWS
GRAU 350
TYPE-III
EXISTING RIGHT OF WAY
MATCHLINE -L- STA. 23+50.00 SEE SHEET 5

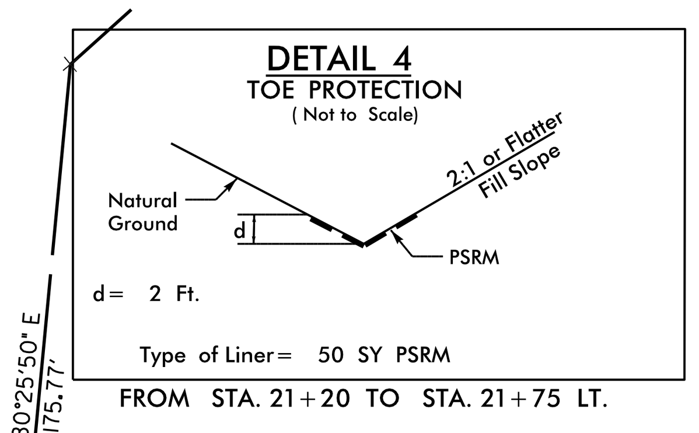
DETAIL SHOWING BRIDGE IN RELATION TO PAVEMENT



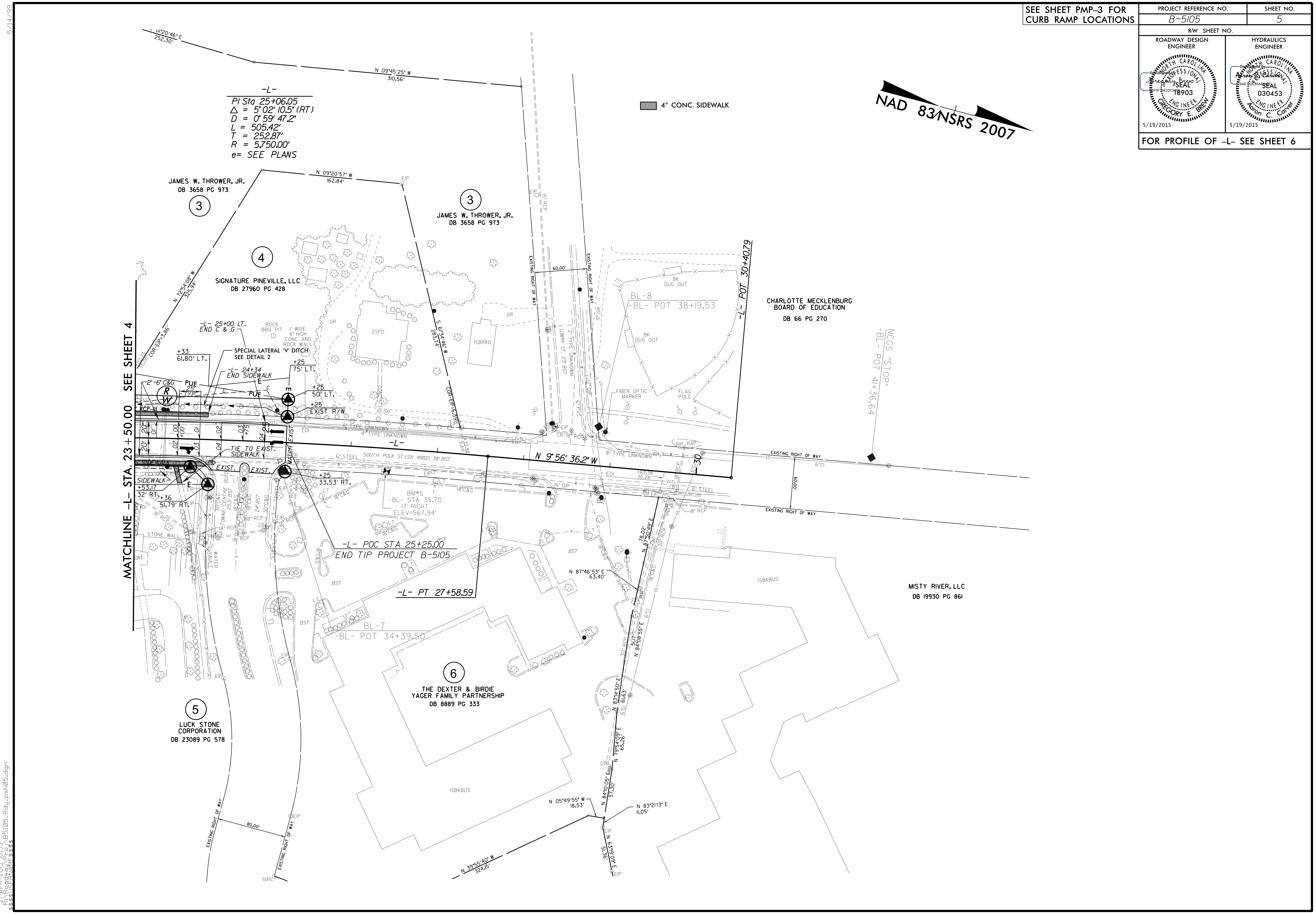








SEE SHEET PMP-3 FOR CURB RAMP LOCATIONS	PROJECT REFERENCE NO.	SHEET NO.
	B-5105	5
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18903 GREGORY E. BREW 5/19/2015	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030453 Aaron C. Carver 5/19/2015
	FOR PROFILE OF -L- SEE SHEET 6	



PROJECT REFERENCE NO.	SHEET NO.
B-5105	6

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18903 GREGORY E. BREW — DocuSigned by: Gregory Brew 3870F25E22C3496... — 5/19/2015

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030453 Aaron C. Carver — DocuSigned by: Aaron C. Carver 6AE722E35AE3457... — 5/19/2015

-L-

DITCH LEGEND	
LEFT DITCH	-·-·-·-·-
RIGHT DITCH	- - - - - -

BM#1 ELEV=564.98'
-BL- STA 18+76 (30' LEFT)
R/R SPIKE IN BASE OF 8" PINE

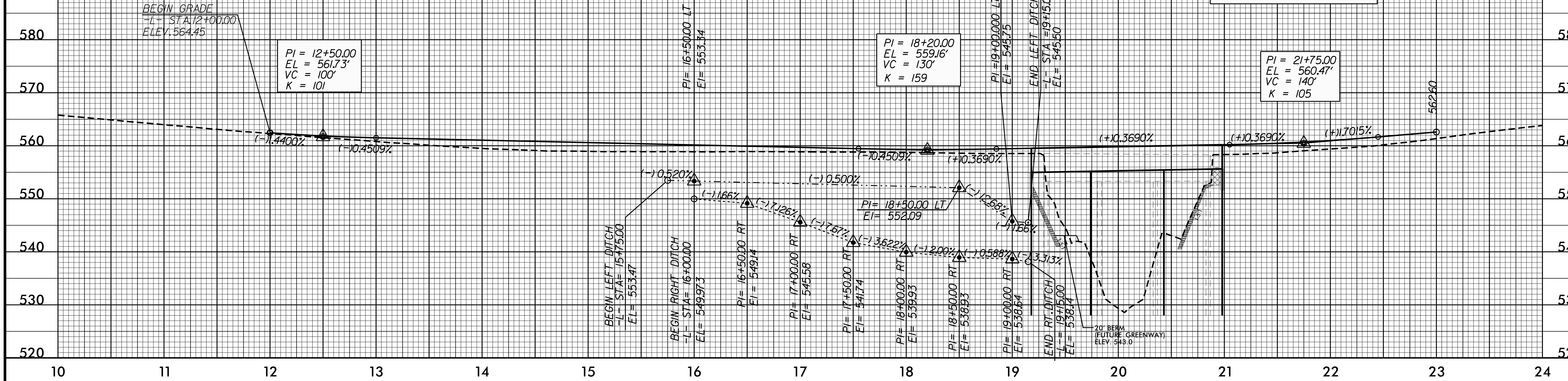
BM#2 ELEV=562.07'
-BL- STA 24+45 (22' LEFT)
R/R SPIKE IN POWER POLE

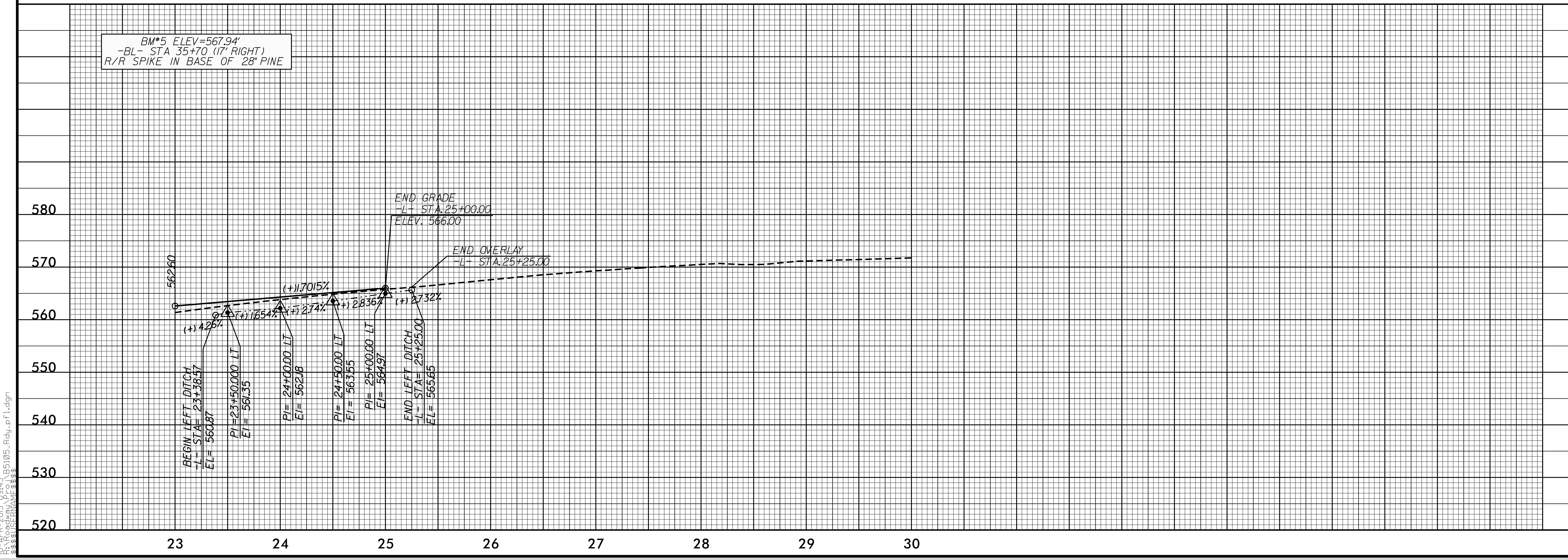
BM#3 ELEV=558.64'
-BL- STA 28+53 1' LEFT
NCGS MONUMENT EBG 43

BM#4 ELEV=558.64'
-BL- STA 28+53 (37' RIGHT)
CITY OF CHARLOTTE MONUMENT
L-SUGAR 1

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 12261	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 552.3	FT
BASE DISCHARGE	= 13909	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 553.42	FT
OVERTOPPING DISCHARGE	= 25132	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 559.3	FT
DATE OF SURVEY	= 3-14-2013	
W.S.ELEVATION AT DATE OF SURVEY	= 532.3	FT





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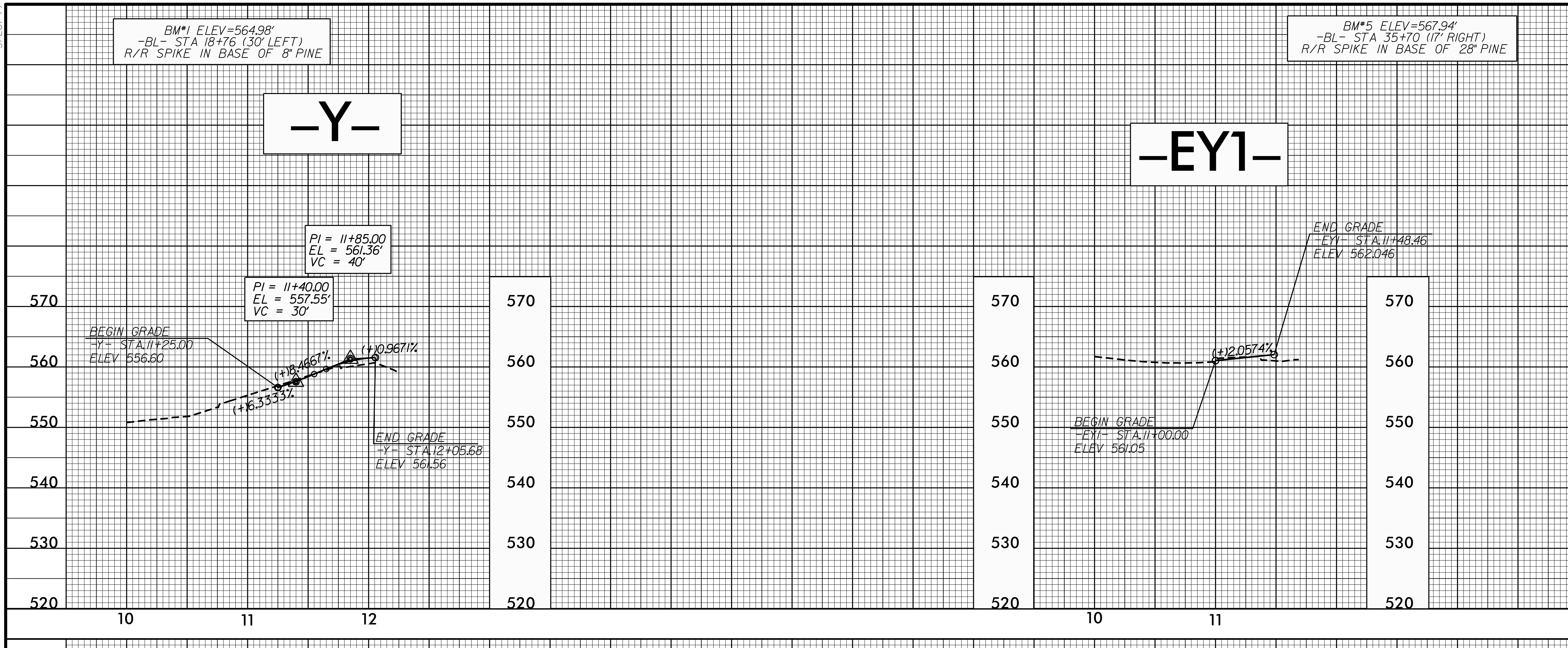
PROJECT REFERENCE NO.	SHEET NO.
B-5105	7

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DocuSigned by: Gregory Brew 3870F25E22C3496... NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW 5/19/2015	DocuSigned by: Aaron C. Carver 6AE722E35AE3457... NORTH CAROLINA PROFESSIONAL SEAL 030453 ENGINEER Aaron C. Carver 5/19/2015



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