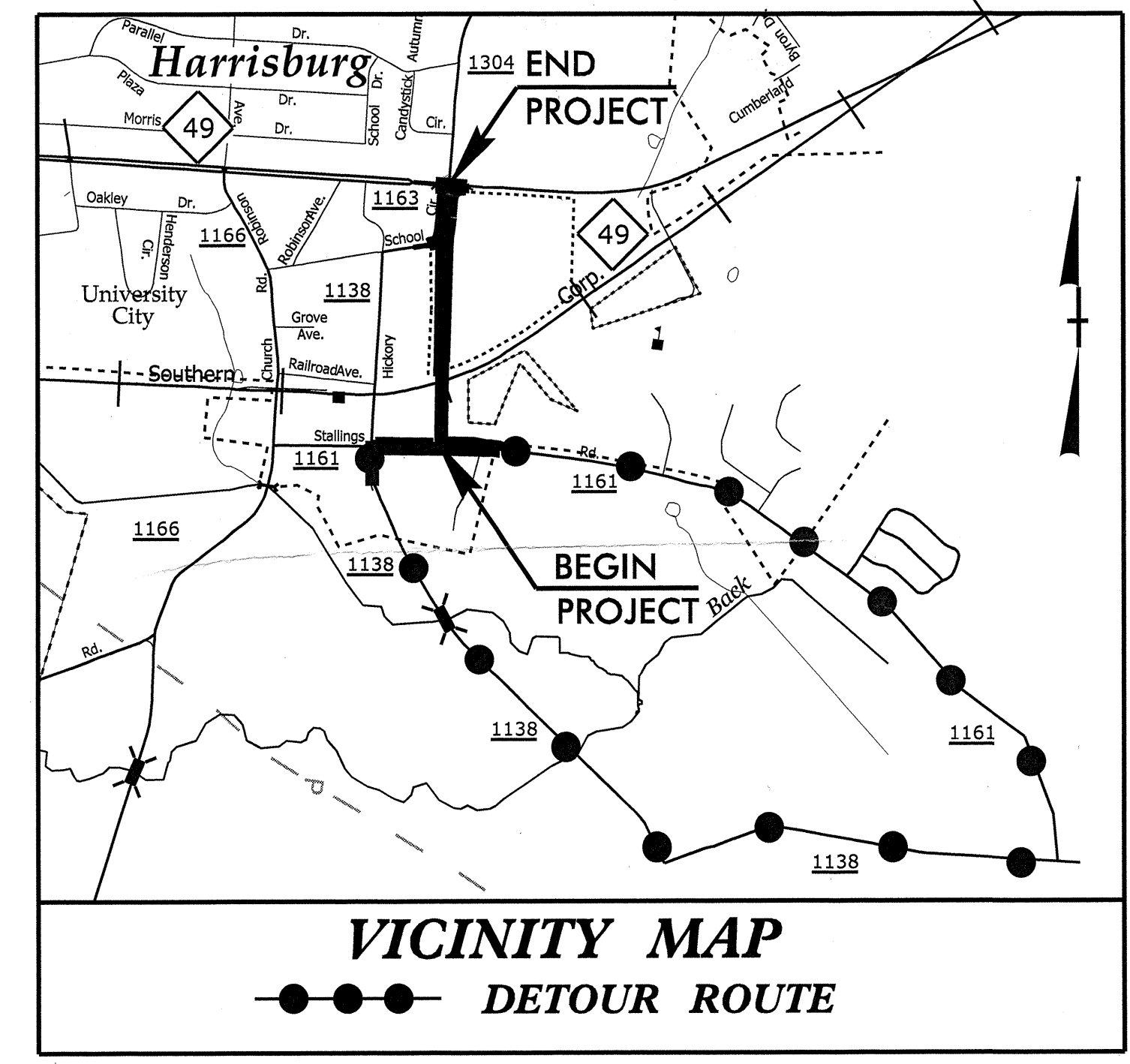


DCN
0077DEL P10a4

TIP PROJECT: P-5208D

CONTRACT: C203146

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



STATE OF NORTH CAROLINA
NCDOT RAIL DIVISION
CABARRUS COUNTY

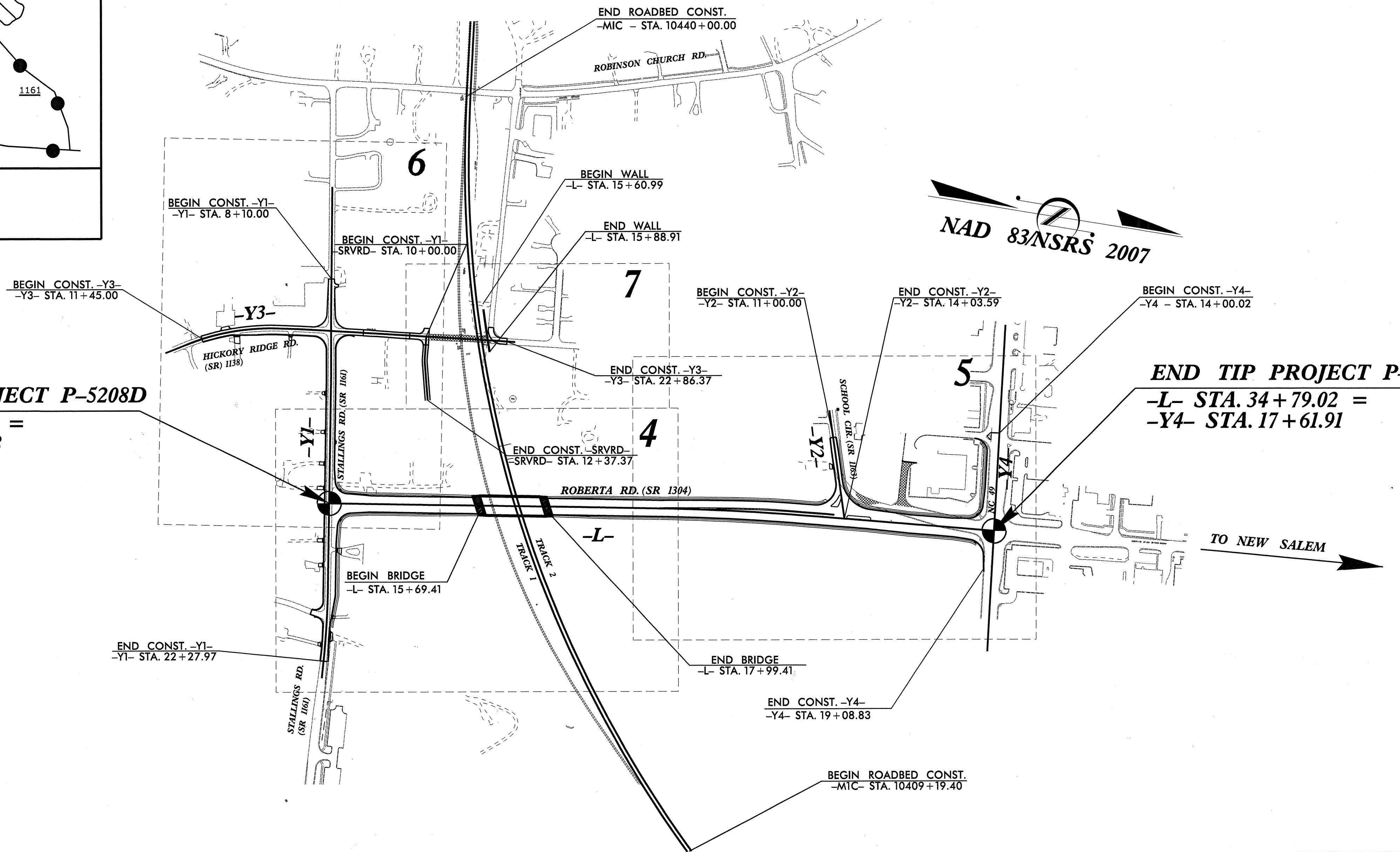


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	P-5208D	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50000.1.STR09T1B		P.E., UTILITIES P.E.	
50000.1.STR10T3		P.E., UTILITIES P.E.	
43219.2.STR09P5208		RIGHT OF WAY	
50000.3.STR04T4E	FRA-FR-HSR-0006-10-01-00	UTIL CONST.	

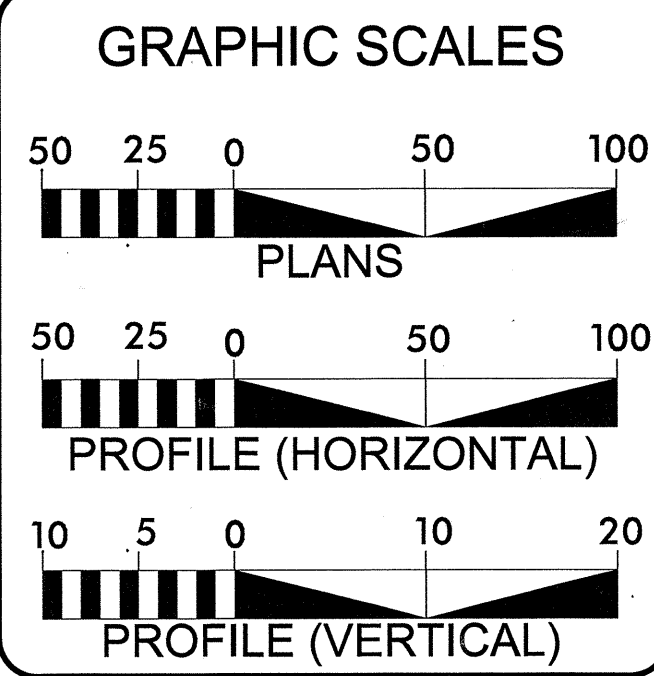
LOCATION: ROBERTA RD. EXTENSION OVER NS/NCR FROM STALLINGS RD. (SR 1161) TO NC 49.
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS, STRUCTURES AND TRACKBED

BEGIN TIP PROJECT P-5208D
-L- STA. 10+00.00 =
-Y1- STA. 16+40.18

END TIP PROJECT P-5208D
-L- STA. 34+79.02 =
-Y4- STA. 17+61.91



TO NEW SALEM →



ADT 2010	=	0
ADT 2035	=	34,800
DHV	=	15 %
D	=	65 %
T	=	3 % *
V	=	40 MPH
*TTST 1% + DUAL 2%		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT P-5208D	=	0.426 MI
LENGTH STRUCTURE TIP PROJECT P-5208D	=	0.044 MI
TOTAL LENGTH OF TIP PROJECT P-5208D	=	0.470 MI

Prepared in the Office of:
Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518
NC License No. F-1084

WSP
Transportation & Infrastructure
15401 Watson Parkway Suite 100
Cary, NC 27513-9198
www.wspinc.com
LICENSEE NCE # 0261

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 30, 2012

LETTING DATE:
APRIL 16, 2013

DAVID L. WILVER, PE
PROJECT ENGINEER

WARREN JOHNSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 935621
DAVID L. WILVER
2-18-13 P.E.

SIGNATURE:
ROADWAY DESIGN ENGINEER

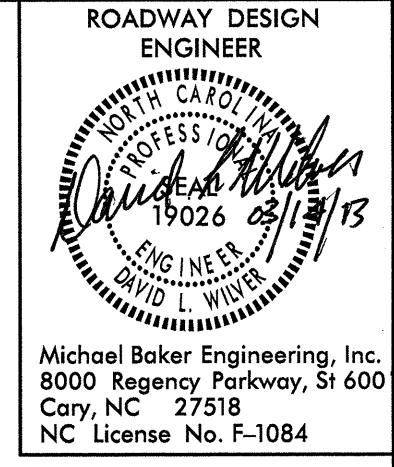
Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19026
DAVID L. WILVER
2-18-13 P.E.

SIGNATURE:

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

ENGINEERING AND SAFETY BRANCH
CAPITAL YARD
1556 MAIL SERVICE CENTER
RALEIGH, NC 27699-1556

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WJohnson AT CAR W JOHNSON



Michael Baker Engineering, Inc.
8000 Regency Parkway, St. 600
Cary, NC 27518
NC License No. F-1084

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-E	SURVEY CONTROL SHEET
1-F	CENTERLINE COORDINATE LIST
2 THRU 2-D	PAVEMENT SCHEDULE, TYPICAL SECTIONS
2-E	DITCH DETAIL SHEET
2-F	CONVERT CB OR DITO JB DETAIL
2-G	MODIFIED CONCRETE FLUME DETAIL
3 (2 SHEETS)	SUMMARY OF QUANTITIES
3-A THRU 3-C	DRAINAGE SUMMARY SHEETS
3-D	GUARDRAIL SUMMARY, PAVEMENT REMOVAL AND EMBANKMENT WAITING PERIOD TABLE
3-E	EARTHWORK SUMMARY
3-F	PARCEL INDEX SHEET
4 THRU 7	PLAN SHEETS
8 THRU 10	PROFILE SHEETS
TMP-1 THRU TMP-17	TRAFFIC CONTROL PLANS
PM-1 AND PM-5	PAVEMENT MARKING PLANS
EC-01 THRU EC-16	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
SIG-1 AND SIG-10	SIGNAL PLANS
ITS-1 THRU ITS-4	COMMUNICATIONS CABLE AND CONDUIT ROUTING PLANS
UC-1 THRU UC-9	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-5	UTILITIES (BY OTHERS)
X-1	CROSS SECTION INDEX SHEET
X-1A THRU X-1B	CROSS SECTION SUMMARY SHEET
X-2 THRU X-66	CROSS-SECTIONS
RR-1 THRU RR-8	RAILROAD ROADBED PLANS
S1 THRU S39	STRUCTURE PLANS
W-1 THRU W-2	RETAINING WALL DETAILS

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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" to 24" Pipe
310.03	Cross Pipe End Section - Precast Concrete Section for 18" to 30" Pipe
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
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	
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwalls 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
840.22	Frames and Wide Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
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
848.06	Curb Ramp - Existing Curb & Gutter
852.01	Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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 II.

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.

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 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.

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 Duke Energy, Time Warner Cable, Windstream, PSNC, Town of Harrisburg, NCDOT, and NCR.

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 RAMPS IN ACCORDANCE WITH STD. 848.05 AND/OR 848.06.

DCN 0077DEL P10a4

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STATE OF NORTH CAROLINA
RAIL DIVISION

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

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

DCN 0077DEL P10a4

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ _{IP}
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-
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	▬
False Sump	▬

RAILROADS:

Standard Gauge	-----
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○ _{CA}
Proposed Control of Access	○ _{CA}
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
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	-----

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	□
Telephone Cell Tower	●
U/G Telephone Cable Hand Hole	□
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	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	----- _{A/G Water}

TV:

TV Satellite Dish	☑
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
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:

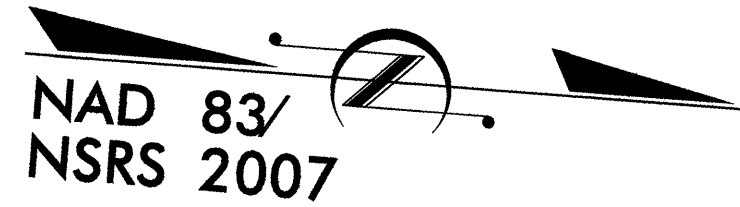
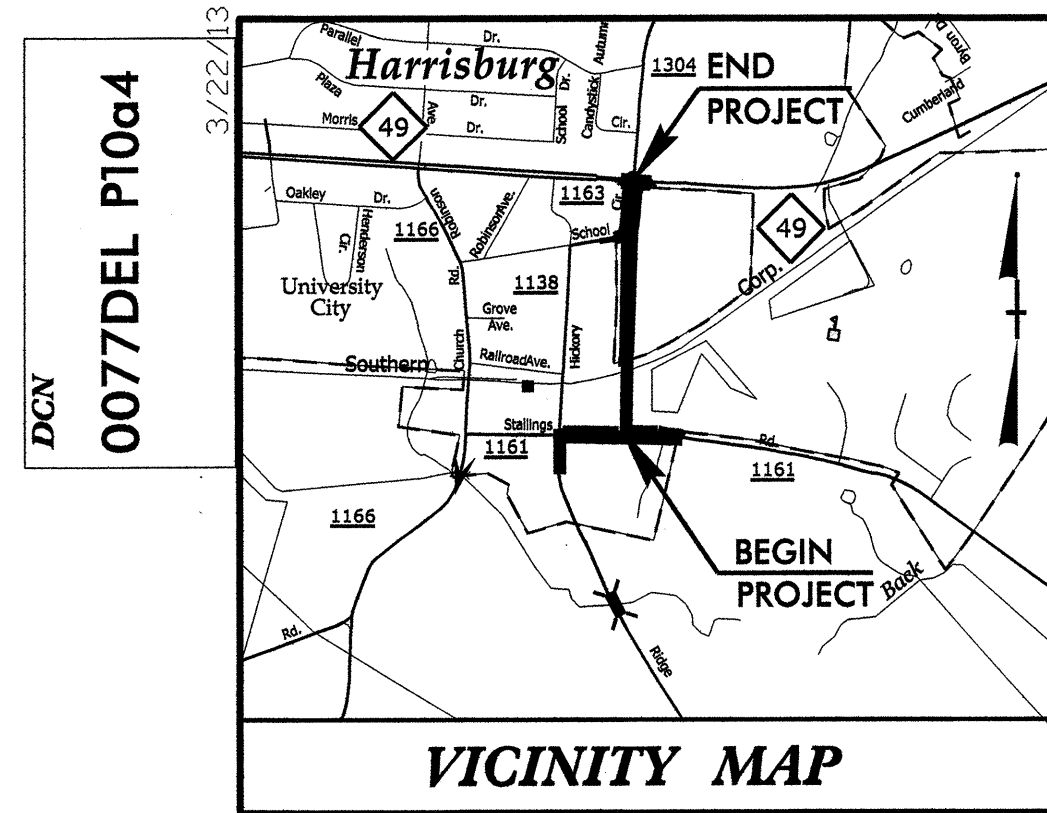
Sanitary Sewer Manhole	○ _{SS}
Sanitary Sewer Cleanout	○ ₊
U/G Sanitary Sewer Line	----- _{SS}
Above Ground Sanitary Sewer	----- _{A/G Sanitary Sewer}
Recorded SS Forced Main Line	----- _{FSS}
Designated SS Forced Main Line (S.U.E.*)	----- _{FSS}

MISCELLANEOUS:

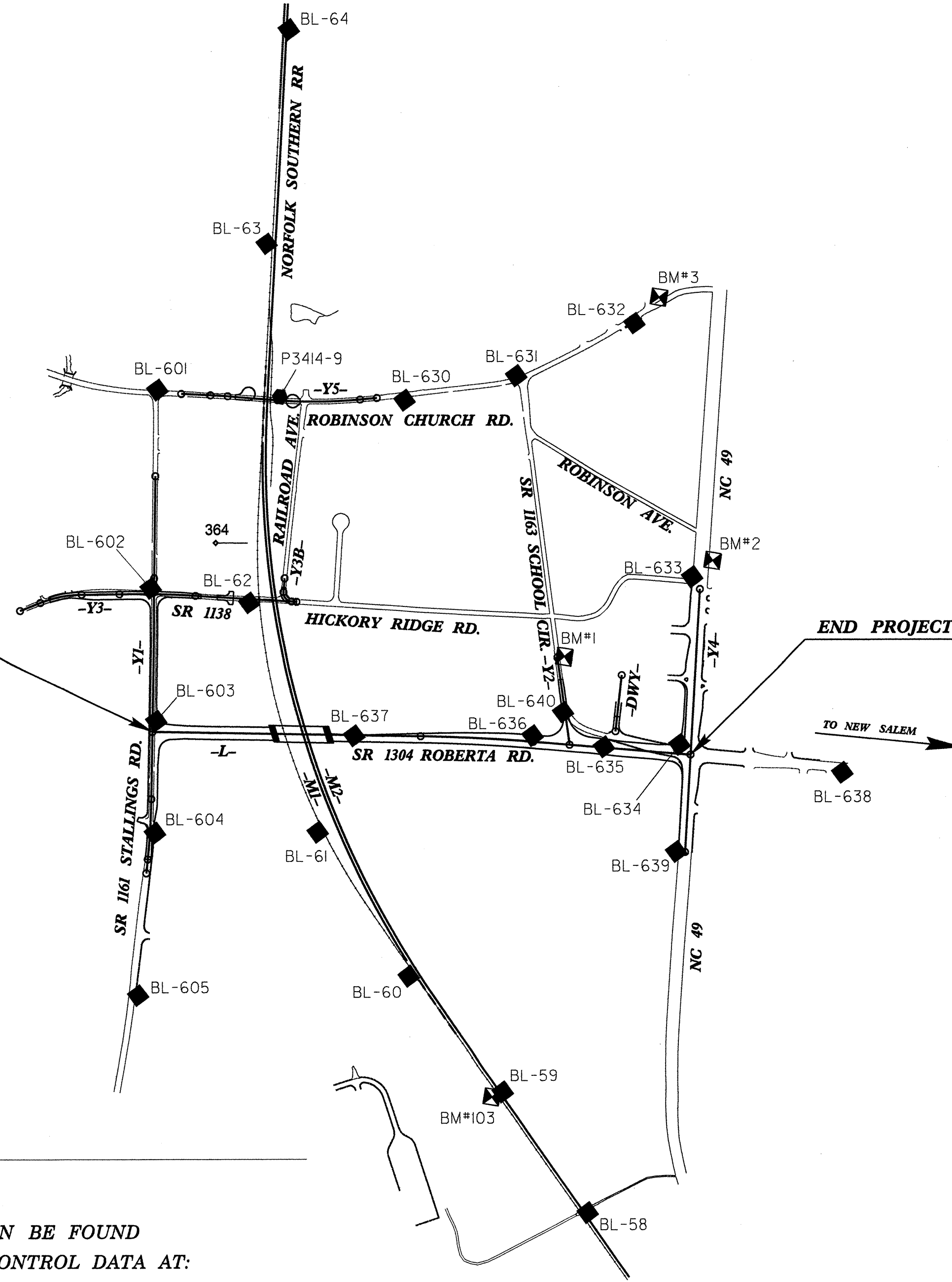
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	----- _{2UTL}
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□ _{UST}
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊗
U/G Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

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VETTERSON AT PARRYMAN

SURVEY CONTROL SHEET



BEGIN PROJECT P-5208D
 -L- STA. 10+00.00 =
 -Y1- STA. 16+40.18



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "P3414-15" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 572927.0137(ft) EASTING: 1490817.4654(ft) ELEVATION: 700.64(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998439800

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "P3414-15" TO -L- STATION 10+00.00 IS N 87°07'11.9" E 17794.410'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

.....

BM1 ELEVATION - 629.35
 N 575640 E 1507955
 Y2 STATION 10+01.32 LEFT
 RR-SPIKE IN BASE OF POWER POLE

.....

BM2 ELEVATION - 634.87
 N 576245 E 1507413
 Y4 STATION 22+11
 S 86°28'29.27" W DIST 1344.67
 RR-SPIKE IN BASE OF POWER POLE

.....

BM3 ELEVATION - 677.93
 N 575813 E 1506260
 Y5 STATION 19+02
 N 28°40'20.72" W DIST 1378.87
 RR-SPIKE IN BASE OF POWER POLE

.....

BM103 ELEVATION - 598.58
 N 575624 E 1509999
 M1 STATION 10405+88 28 LEFT
 RR SPIKE SET IN ROOT OF A 24" BEECH TREE, SOUTHSIDE OF TRACK

.....

BL POINT	DESC.	NORTH	EAST	ELEVATION	M1 STATION	OFFSET
P34147	P3414-7	577551.9729	1511897.8101	585.96	10378+83.43	45.27 RT
BL57	BL-57	576911.6508	1511333.8543	591.44	10387+33.77	25.28 LT
BL58	BL-58	576141.6138	1510457.1011	598.38	10398+99.47	27.53 RT
BL59	BL-59	575669.5364	1509968.6202	601.39	10405+78.79	25.92 RT
BL60	BL-60	575160.9206	1509514.8140	602.65	10412+57.49	29.00 LT
BL61	BL-61	574644.1286	1508928.8503	609.28	10420+26.66	91.02 LT
BL62	BL-62	574169.0195	1507934.6229	609.98	10431+06.18	109.03 LT
P34149	P3414-9	574162.3541	1506986.4491	610.51	10440+33.66	71.82 RT
BL63	BL-63	573993.0230	1506301.8672	609.70	10447+32.41	26.02 LT
BL64	BL-64	573942.7297	1505320.4362	611.81	10457+13.81	24.79 RT
BL65	BL-65	573786.4207	1504296.0301	616.65	10467+48.86	25.43 LT
BL66	BL-66	573746.7595	1503421.1030	624.88	10476+23.23	25.02 RT
BL67	BL-67	573561.6555	1502118.5391	637.77	10489+37.92	25.27 LT
P341411	P3414-11	573520.1777	1501138.6901	648.83	10499+16.85	34.15 RT

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
E061	BL-61	574644.1286	1508928.8503	609.28	1+768	450.62 RT
BL637	BL-637	574740.7894	1508463.3042	627.04	1+928	3.04 RT
BL636	BL-636	575551.6093	1508334.6384	616.19	2+748	28.13 LT
BL635	BL-635	575883.2517	1508334.8871	607.75	3+078	3.10 LT
BL634	BL-634	576225.1226	1508269.9879	618.32	3+424	42.27 LT
BL638	BL-638	576984.2878	1508280.1983	615.95	OUTSIDE PROJECT LIMITS	

BY1A POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BL640	BL-640	575672.8469	1508205.4315	619.54	1+250	9.13 RT
E0634	BL-634	576225.1226	1508269.9879	618.32	OUTSIDE PROJECT LIMITS	

BY1B POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
BL633	BL-633	576163.1733	1507499.8614	635.31	OUTSIDE PROJECT LIMITS	
E00634	BL-634	576225.1226	1508269.9879	618.32	1+718	53.83 RT
BL639	BL-639	576286.5080	1508759.4794	607.92	OUTSIDE PROJECT LIMITS	

BL062 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
BL605	BL-605	573942.7030	1509795.3120	588.38	OUTSIDE PROJECT LIMITS	
BL604	BL-604	573904.8890	1509049.2600	594.76	2+106	22.86 LT
BL603	BL-603	573829.9270	1508537.2350	597.66	1+590	16.01 LT
BL602	BL-602	573710.2000	1507939.0870	595.10	0+981	15.90 RT
BL601	BL-601	573599.5210	1507042.3300	594.51	OUTSIDE PROJECT LIMITS	
E09	P3414-9	574162.3541	1506986.4491	610.51	OUTSIDE PROJECT LIMITS	
BL630	BL-630	574731.1019	1506912.2285	628.17	OUTSIDE PROJECT LIMITS	
BL631	BL-631	575220.5869	1506721.4329	655.79	OUTSIDE PROJECT LIMITS	
BL632	BL-632	575720.0581	1506396.9927	673.52	OUTSIDE PROJECT LIMITS	

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION](https://connect.ncdot.gov/resources/location)

THE FILES TO BE FOUND ARE AS FOLLOWS:
P5208D_LS_CONTROL.TXT
P5208D_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
 - ⊙ INDICATES NGS GEODETIC MONUMENTS USED FOR HORIZONTAL CONTROL
 - ⊕ INDICATES USGS BENCHMARKS

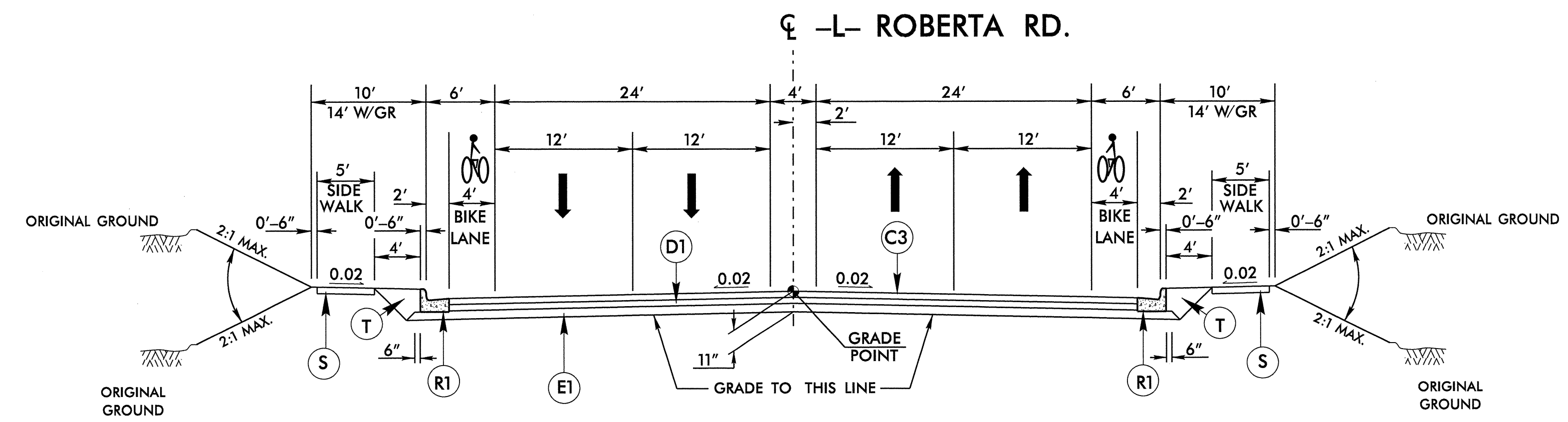
NOTE: DRAWING NOT TO SCALE

DCN 0077DEL P10a4

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E2	PROP. APPROX. 8.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C3	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.	E3	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.
C4	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C5	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.	R1	2'-6" CONCRETE CURB AND GUTTER.
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R2	5" MONOLITHIC CONCRETE ISLAND.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	5" CONCRETE SIDEWALK
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL.
D3	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.	U	EXISTING PAVEMENT.
D4	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS)

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



-L- STA 10+18.00 TO STA 15+69 +/- (BEGIN BRIDGE)
 -L- STA 17+99 +/- (END BRIDGE) TO STA 22+31.89

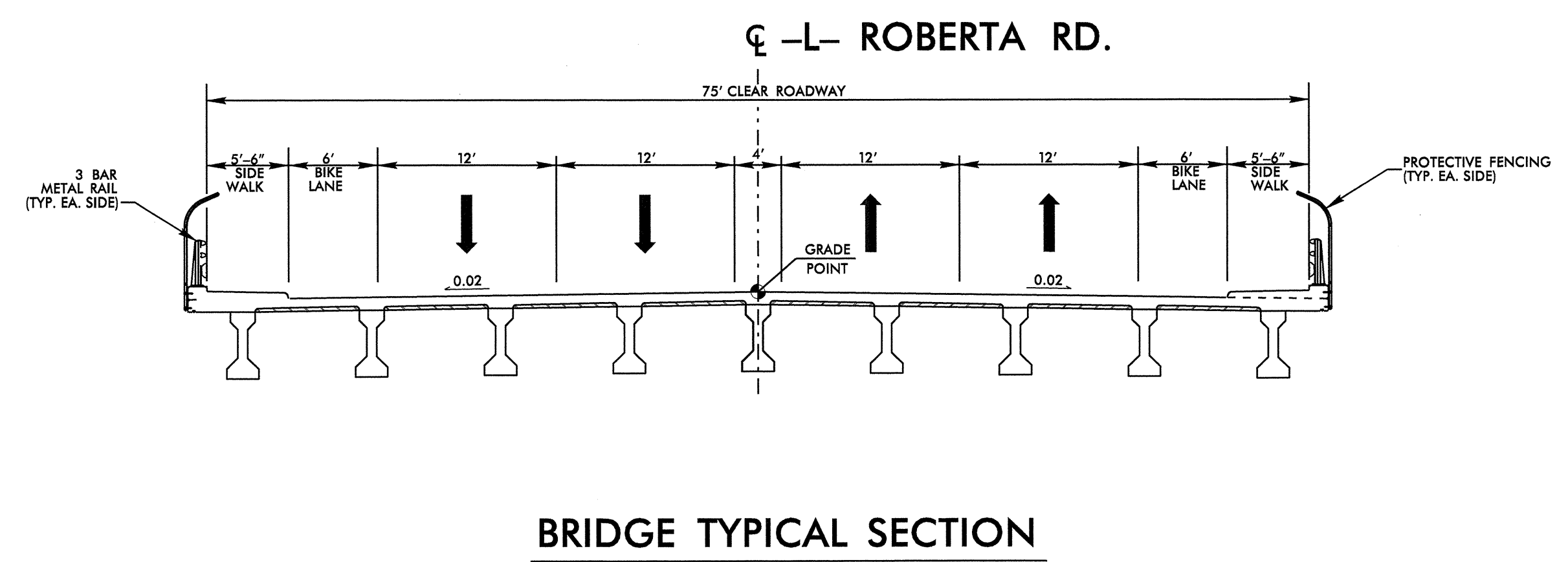
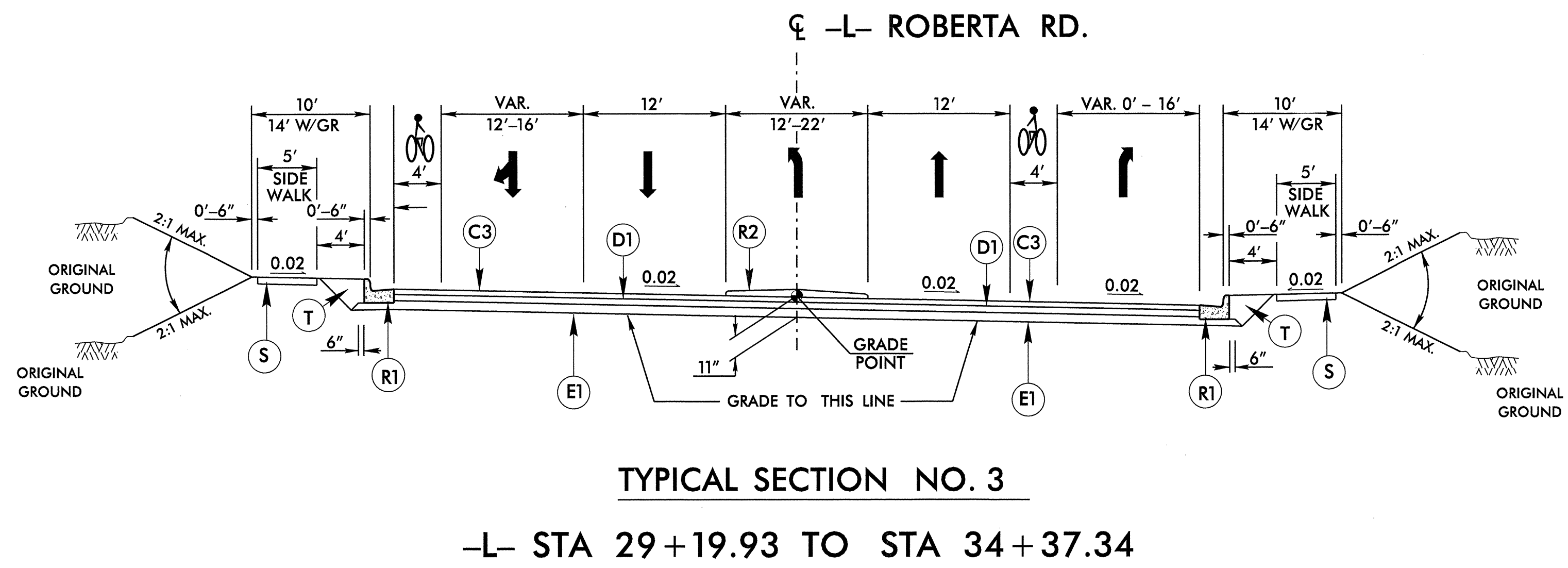
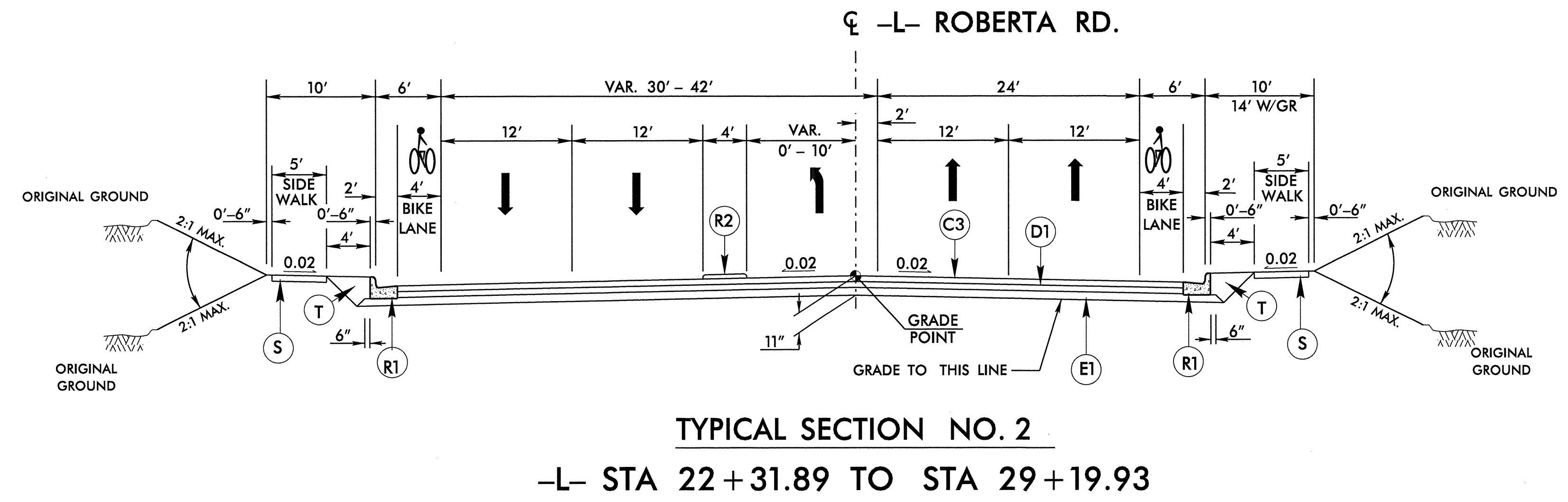
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. DAVID L. WINNER 19026 02/10/13	PAVEMENT DESIGN PROFESSIONAL ENGINEER SEAL 22893 MICHAEL BAKER ENGINEERING, INC. CLARK J. STANLEY 19026 02/10/13
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	

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 EL PAK W/110101

DCN 0077DEL P10a4

PROJECT REFERENCE NO. P-5208D	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID L. WINNER 19026 0218	PAVEMENT DESIGN ENGINEER SEAL 22883 3/4/13 DAVID L. WINNER
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	

PAVEMENT SCHEDULE	
C3	3" S9.5B
C4	3" S9.5C
C5	VAR. S9.5B
C6	VAR. S9.5C
D1	4" I19.0B
D2	4" I19.0C
D3	VAR. I19.0B
D4	VAR. I19.0C
E1	4" B25.0B
E2	8.0" B25.0C
E3	VAR. B25.0B
E4	VAR. B25.0C
R1	2'-6" C & G
R2	5" CONCRETE ISLAND
S	5" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT

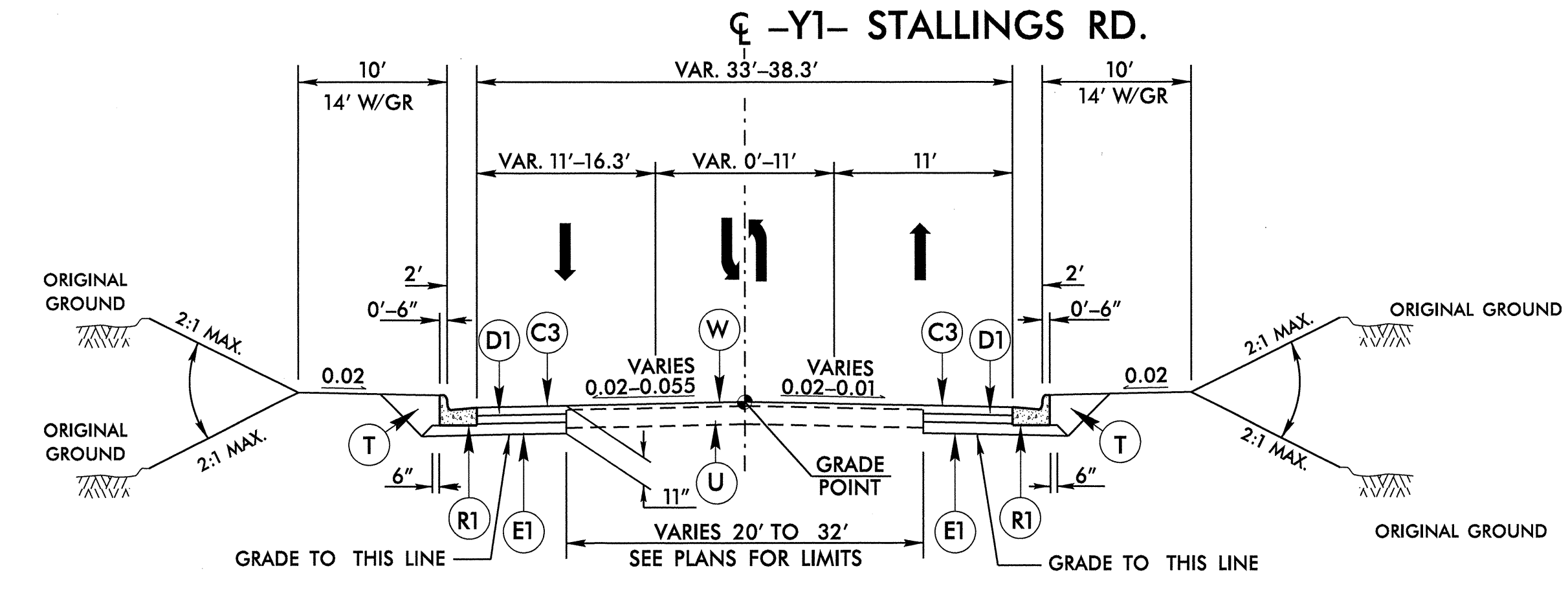


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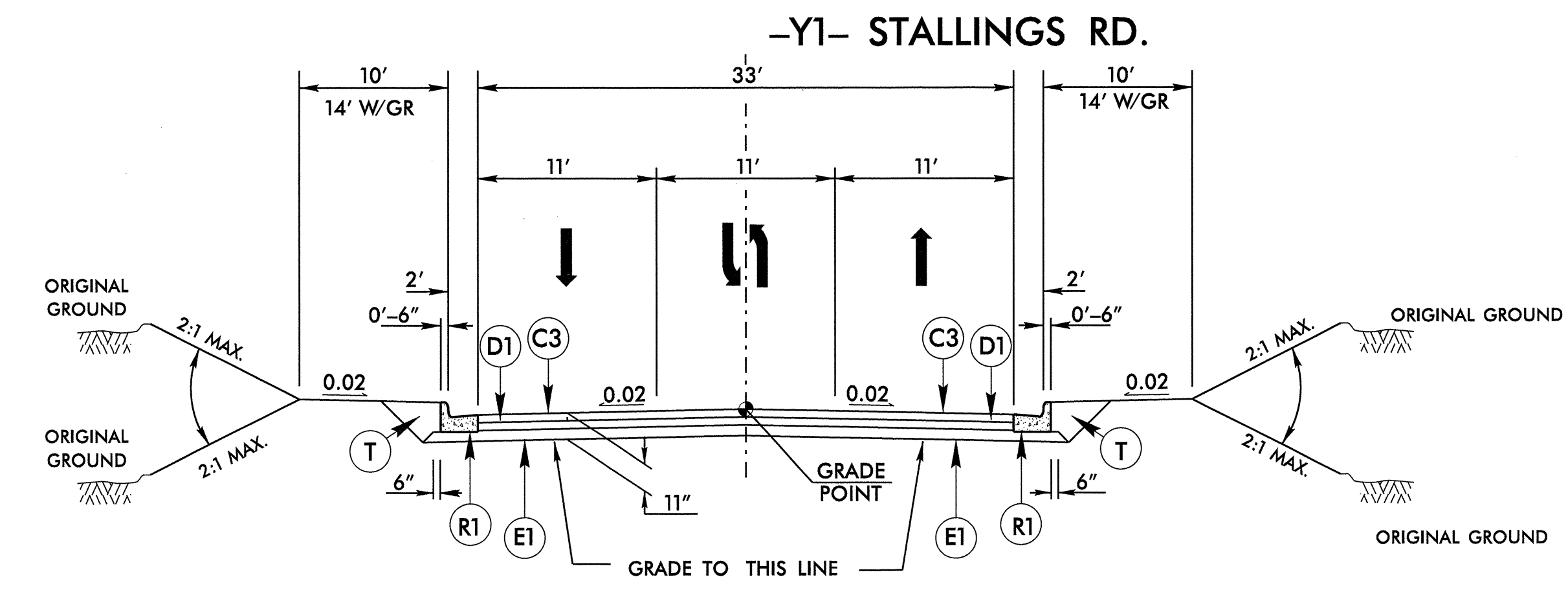
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID L. WILSON 19026 02/13	PAVEMENT DESIGN ENGINEER SEAL 22888 3/1/13 DAVID L. WILSON
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	

PAVEMENT SCHEDULE	
C3	3" S9.5B
C4	3" S9.5C
C5	VAR. S9.5B
C6	VAR. S9.5C
D1	4" I19.0B
D2	4" I19.0C
D3	VAR. I19.0B
D4	VAR. I19.0C
E1	4" B25.0B
E2	8.0" B25.0C
E3	VAR. B25.0B
E4	VAR. B25.0C
R1	2'-6" C & G
R2	5" CONCRETE ISLAND
S	5" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPH. (SEE WEDGING)



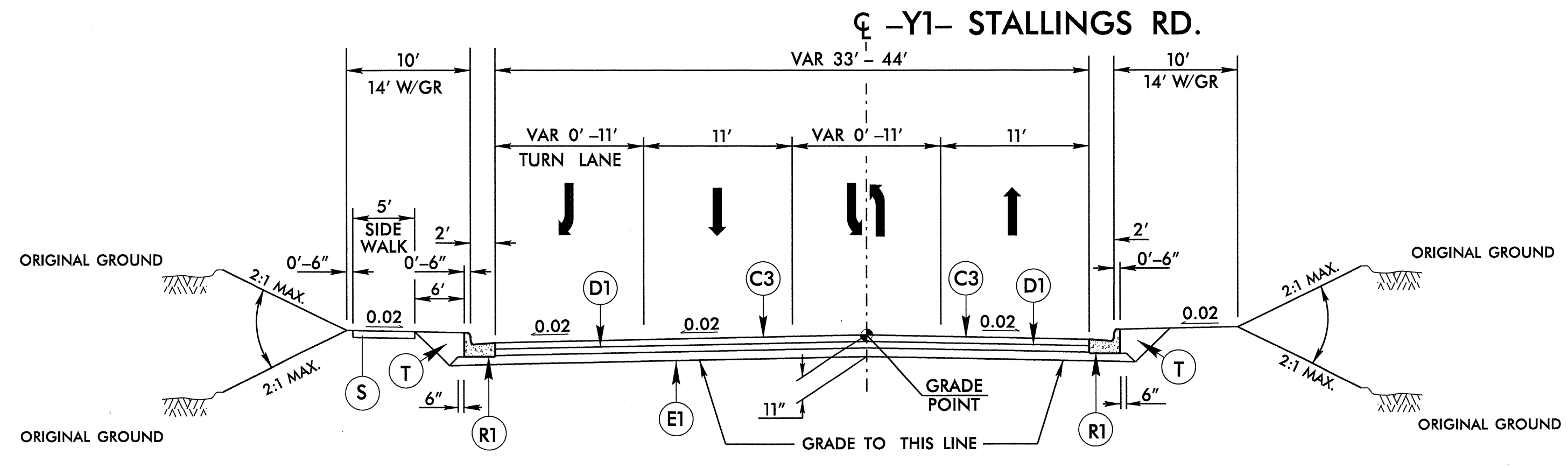
TYPICAL SECTION NO. 4

-Y1- STA 8+10.00 TO STA 9+92.66
 -Y1- STA 10+27.99 TO STA 11+25.00
 -Y1- STA 21+00.00 TO STA 22+27.97



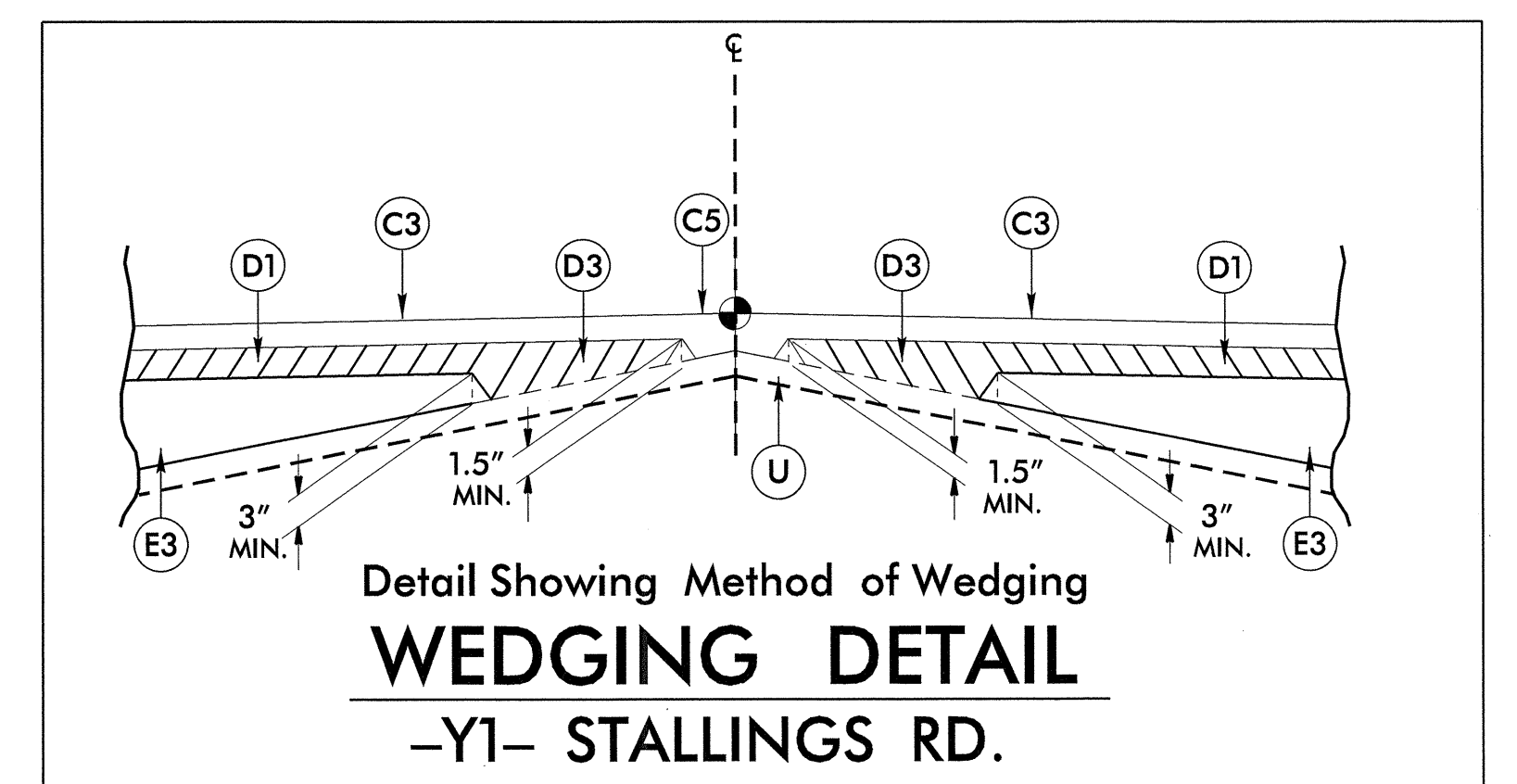
TYPICAL SECTION NO. 5

-Y1- STA 11+25.00 TO STA 16+86.68



TYPICAL SECTION NO. 6

-Y1- STA 16+86.68 TO STA 21+00.00

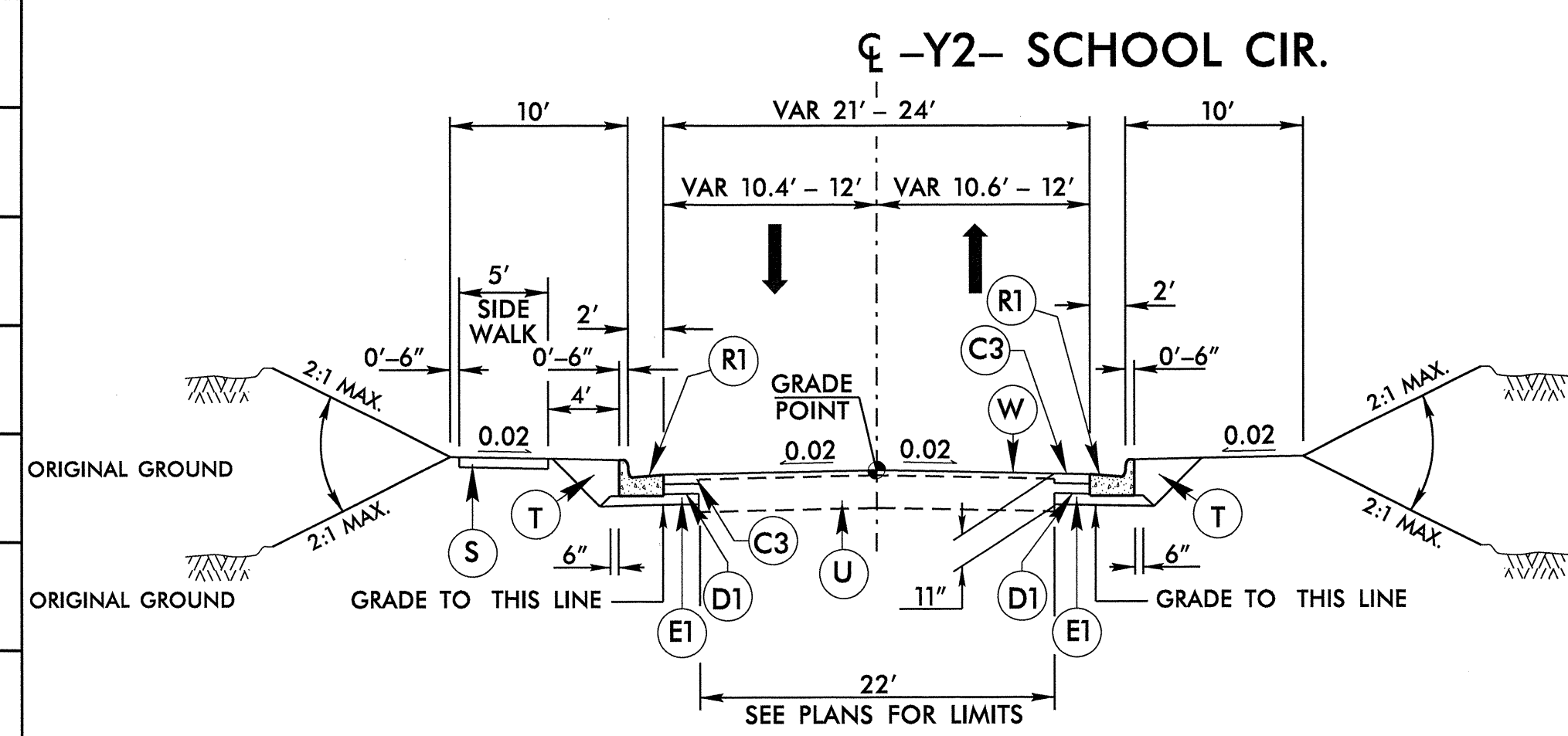


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 W. Johnson

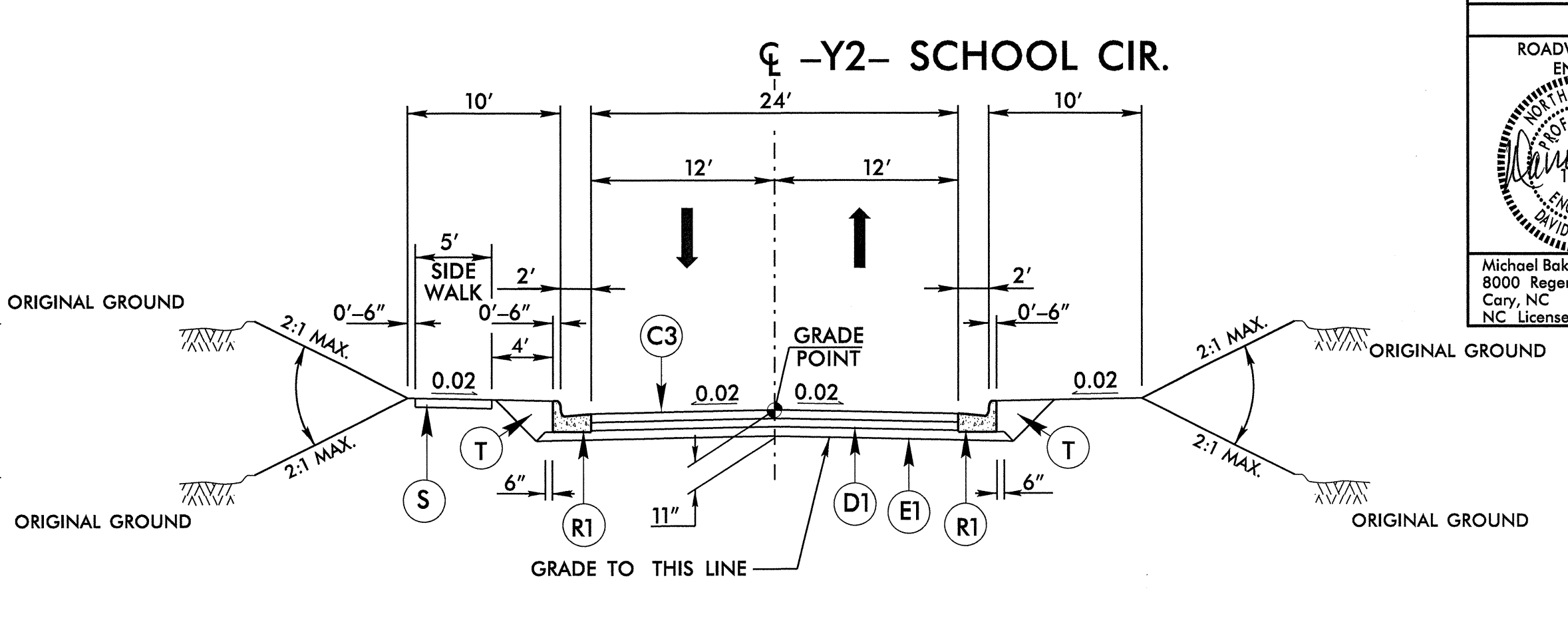
DCN
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PROJECT REFERENCE NO. P-5208D	SHEET NO. 2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. DAVID L. WILSON 19026 02/13	PAVEMENT DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. DAVID L. WILSON 22888 3/1/13
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	

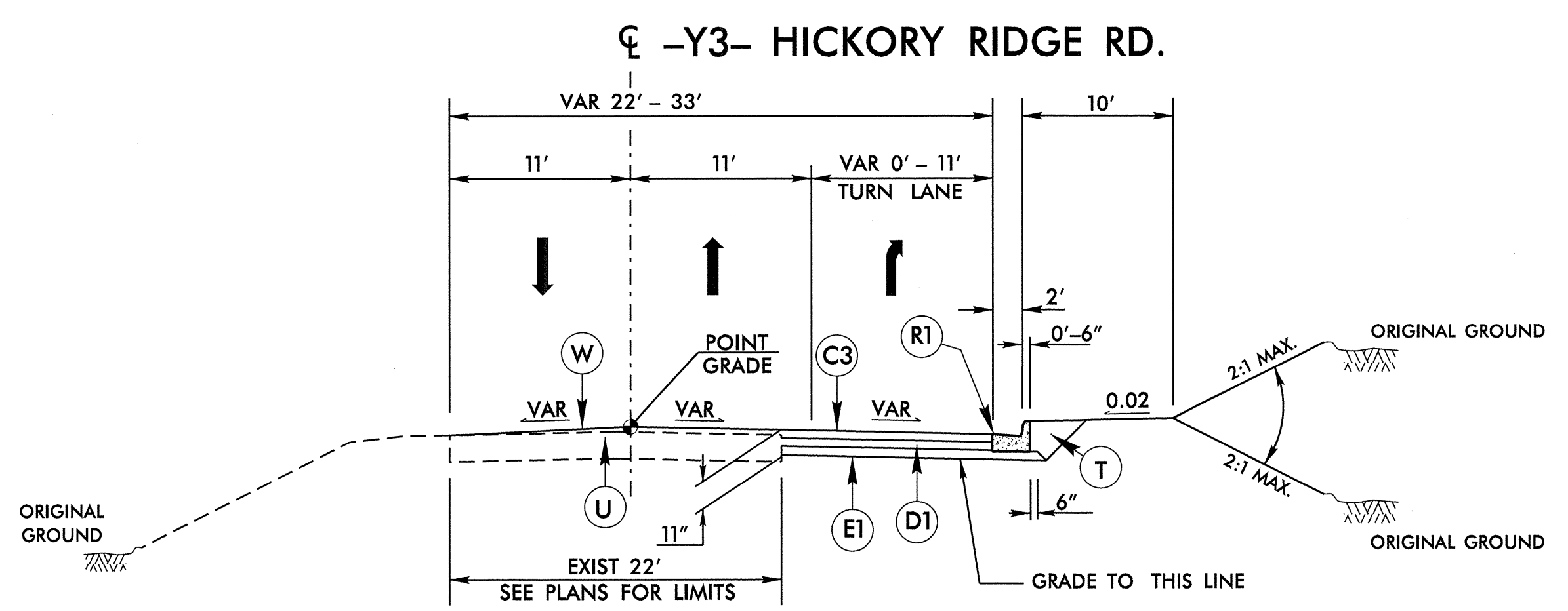
PAVEMENT SCHEDULE	
C2	1 1/2" S9.5C
C3	3" S9.5B
C4	3" S9.5C
C5	VAR. S9.5B
C6	VAR. S9.5C
D1	4" I19.0B
D2	4" I19.0C
D3	VAR. I19.0B
D4	VAR. I19.0C
E1	4" B25.0B
E2	8.0" B25.0C
E3	VAR. B25.0B
E4	VAR. B25.0C
R1	2'-6" C & G
R2	5" CONCRETE ISLAND
S	5" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT



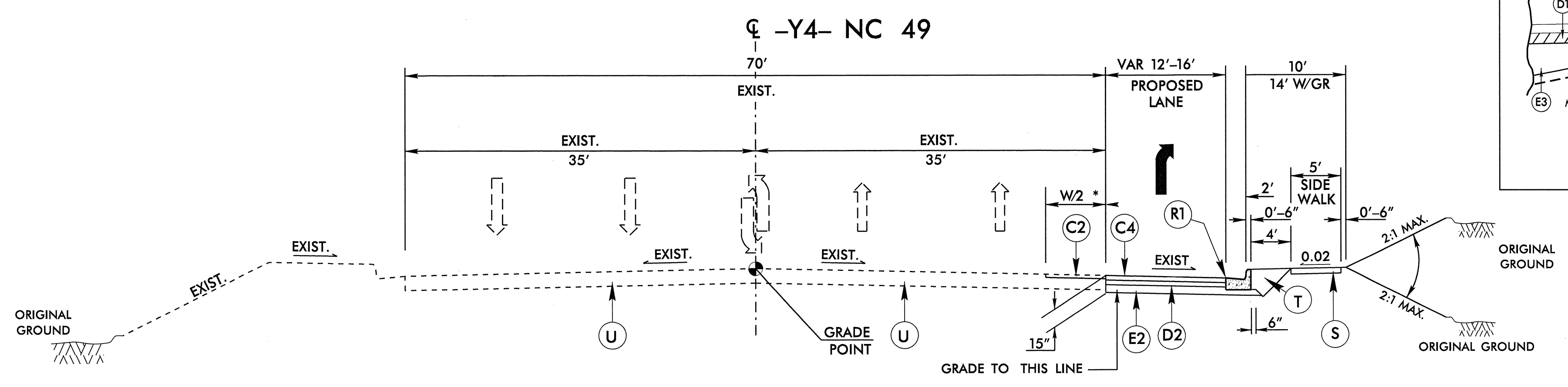
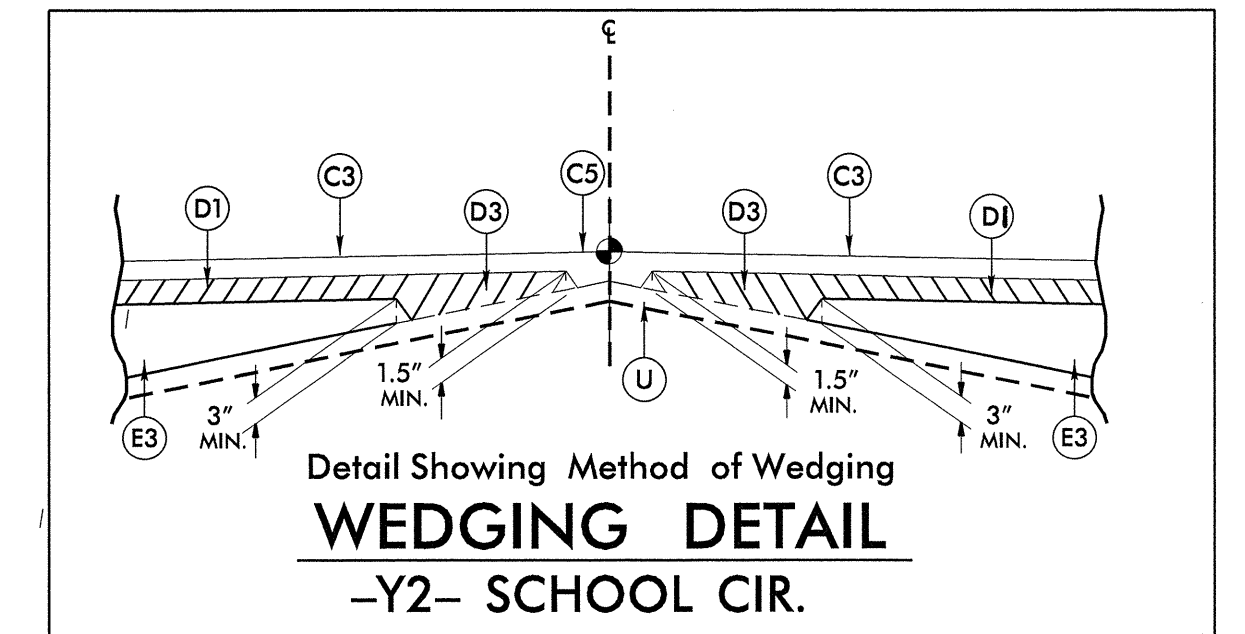
TYPICAL SECTION NO. 7
-Y2- STA 11+00.00 TO STA 12+40.00



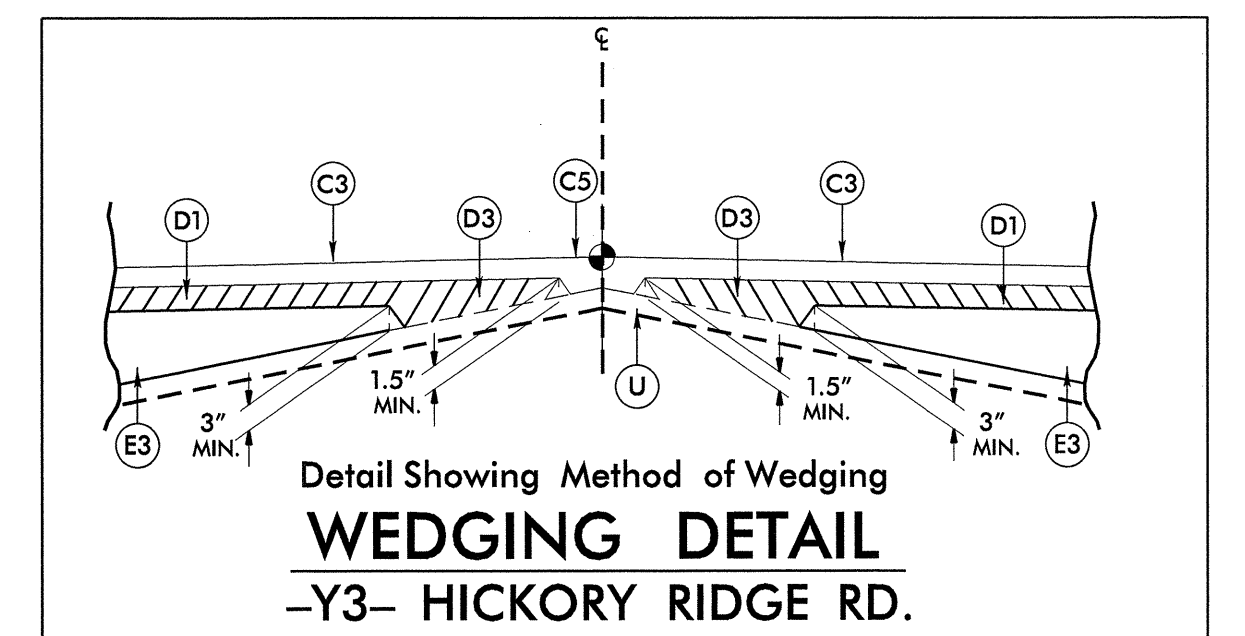
TYPICAL SECTION NO. 8
-Y2- STA 12+40.00 TO STA 13+76.13



TYPICAL SECTION NO. 9
-Y3- STA 11+45.00 TO STA 16+12.50



TYPICAL SECTION NO. 10
-Y4- STA 14+25.83 TO STA 19+08.83



* MILL 1-1/2" AND OVERLAY HALF THE WIDTH OF THE TRAVEL LANE

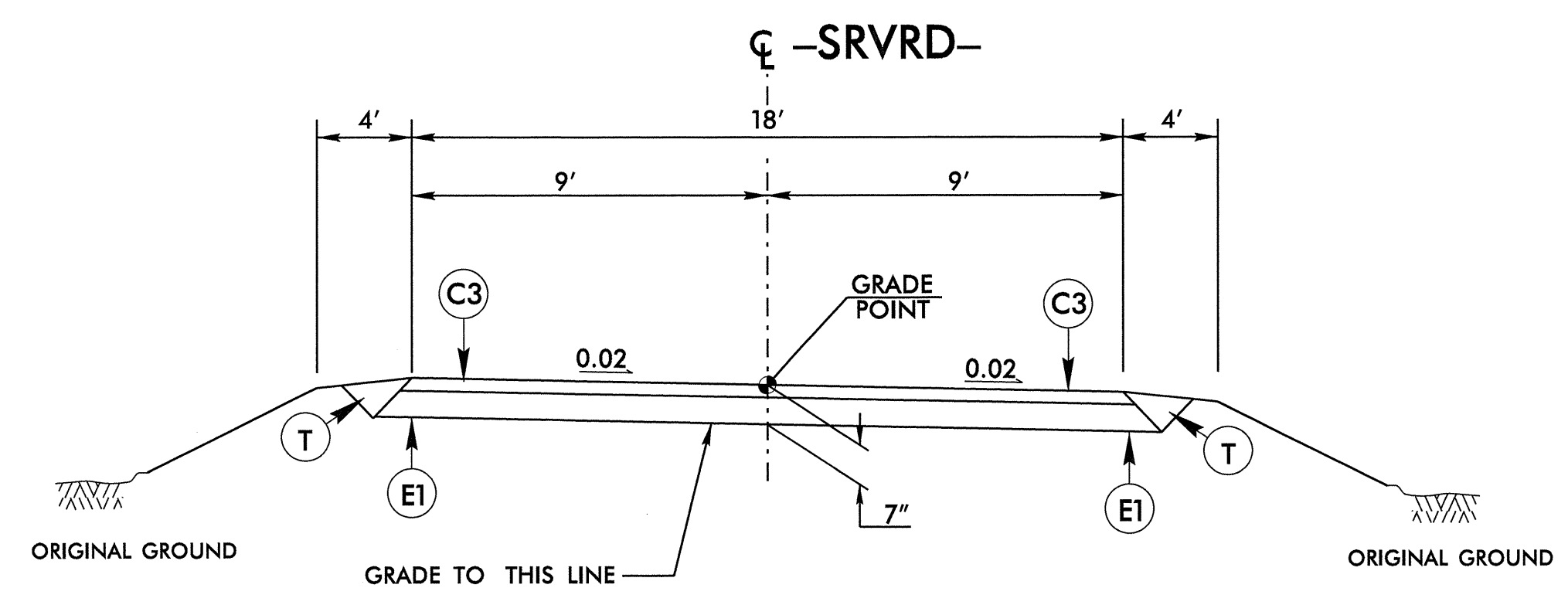
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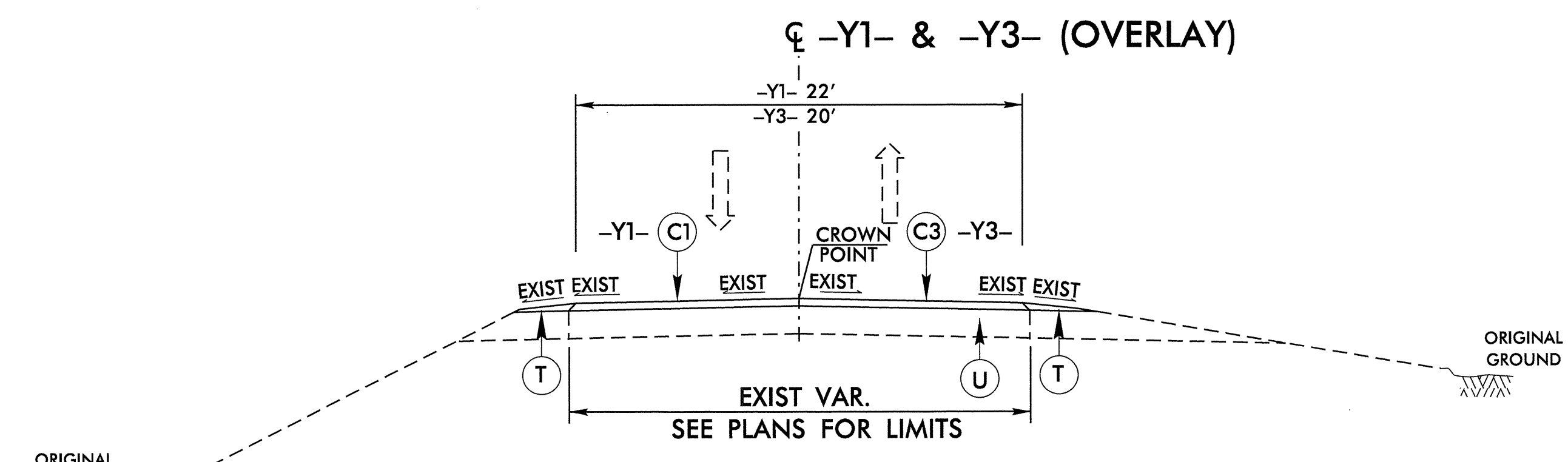
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PAVEMENT SCHEDULE	
C1	1 1/2" S9.5B
C3	3" S9.5B
C4	3" S9.5C
C5	VAR. S9.5B
C6	VAR. S9.5C
D1	4" I19.0B
D2	4" I19.0C
D3	VAR. I19.0B
D4	VAR. I19.0C
E1	4" B25.0B
E2	8.0" B25.0C
E3	VAR. B25.0B
E4	VAR. B25.0C
R1	2'-6" C & G
R2	5" CONCRETE ISLAND
S	5" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT

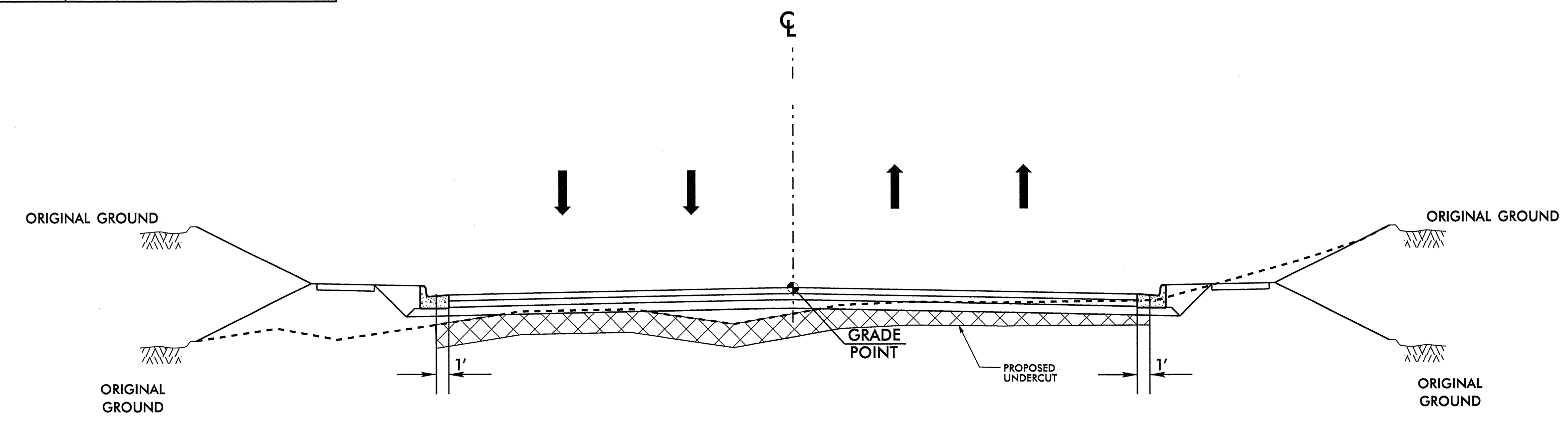
PROJECT REFERENCE NO. P-5208D	SHEET NO. 2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. 19026 DAVID L. WILSON	PAVEMENT DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. 3/4/13 SEAL 22896 DAVID L. WILSON
Michael Baker Engineering, Inc. 8000 Regency Parkway, Suite 600 Cary, NC 27518 NC License No. F-1084	



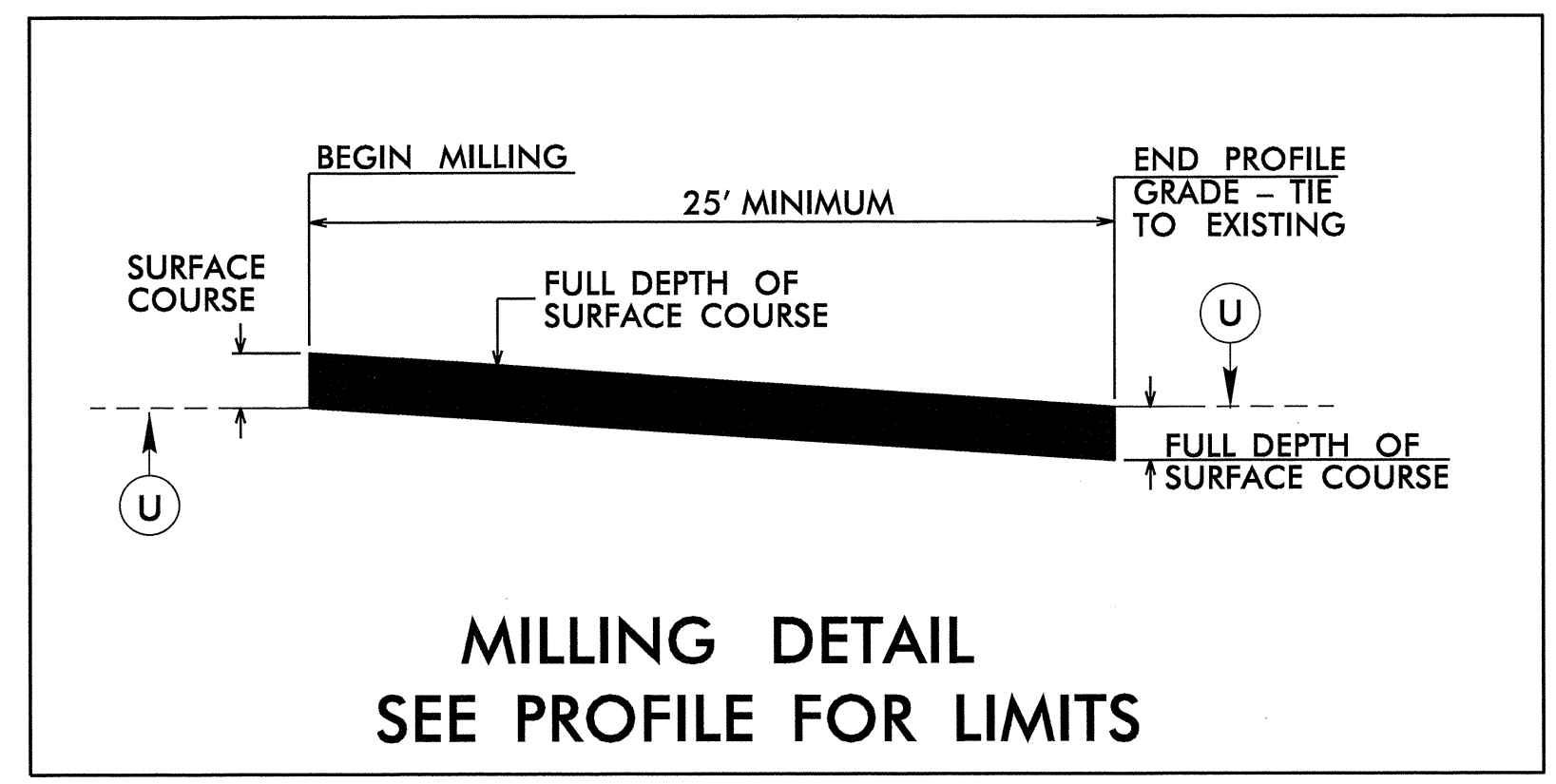
TYPICAL SECTION NO. 11
-SRVRD- STA 10+00.00 TO STA 12+37.37



TYPICAL SECTION NO. 12
-Y1- STA 9+92.66 TO STA 10+27.99
-Y3- STA 16+18.05 TO STA 17+49.80

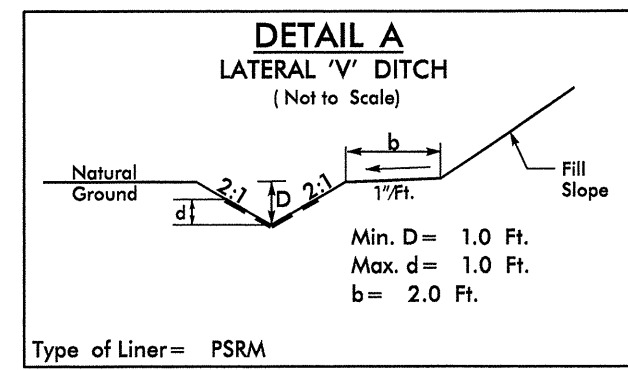


TYPICAL UNDERCUT SECTION

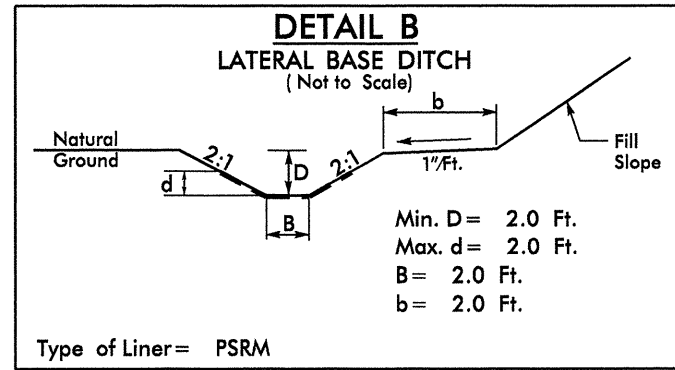


MILLING DETAIL
SEE PROFILE FOR LIMITS

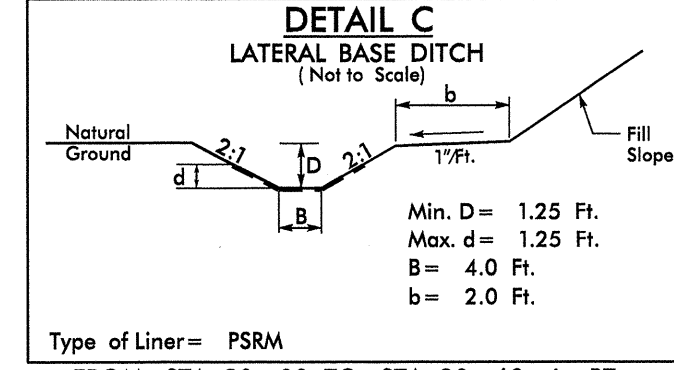
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RW SHEET NO.			
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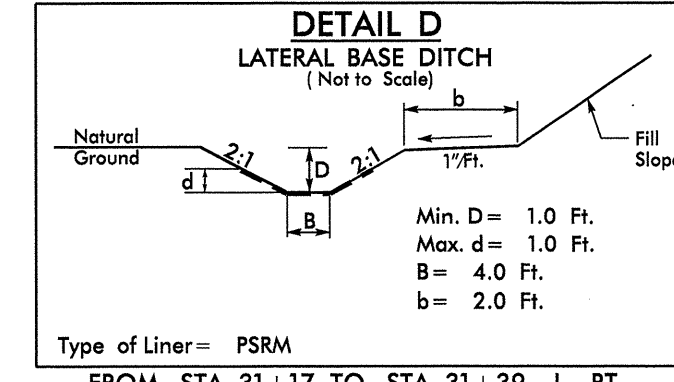
FROM STA. 20+00 TO STA. 24+50 -L- LT
 FROM STA. 26+75 TO STA. 28+15 -L- LT
 FROM STA. 31+39 TO STA. 33+78 -L- LT
 FROM STA. 10+25 TO STA. 12+37 -SRVRD- RT
 FROM STA. 11+50 TO STA. 13+00 -Y2- RT
 FROM STA. 16+94 -Y3- RT TO STA. 10+60 -Y1- LT
 FROM STA. 13+00 -Y2- RT TO STA. 28+15 -L- LT



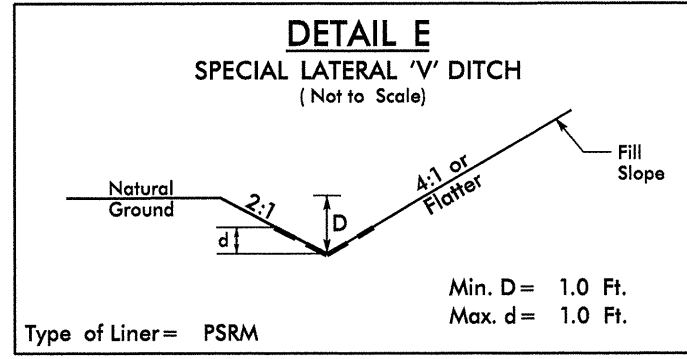
FROM STA. 24+50 TO STA. 26+75 -L- LT



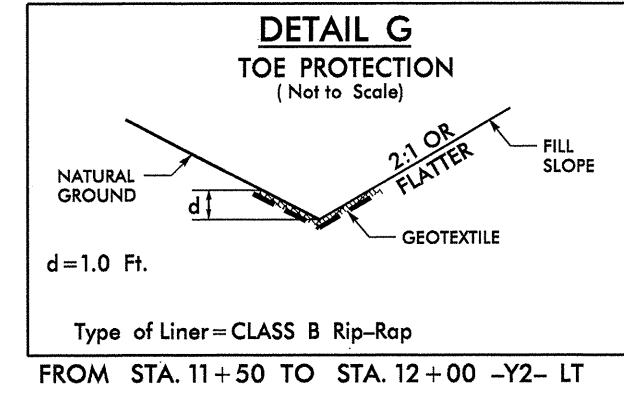
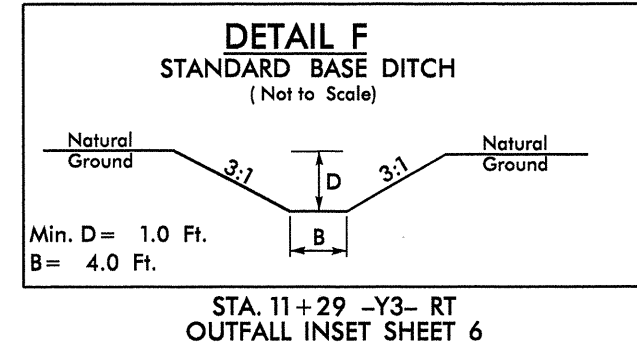
FROM STA. 30+00 TO STA. 30+60 -L- RT



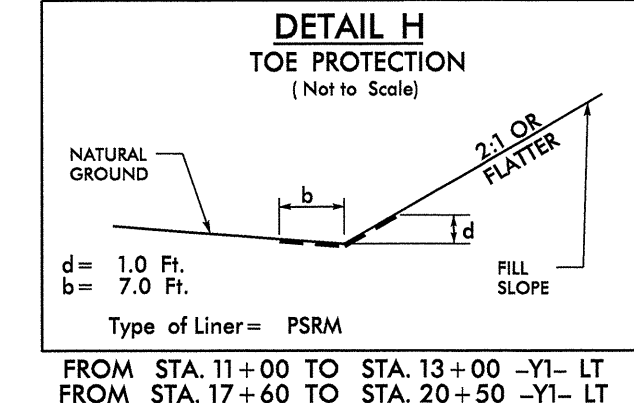
FROM STA. 31+17 TO STA. 31+39 -L- RT



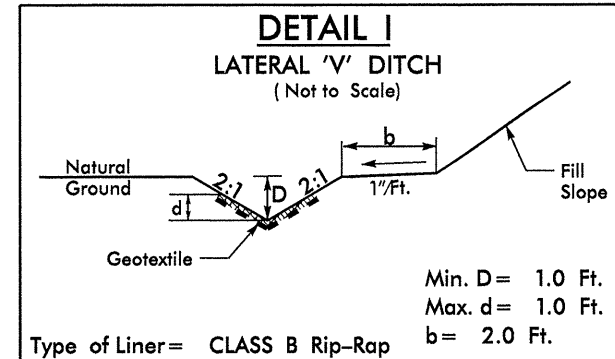
FROM STA. 19+23 TO STA. 19+50 -Y3- RT



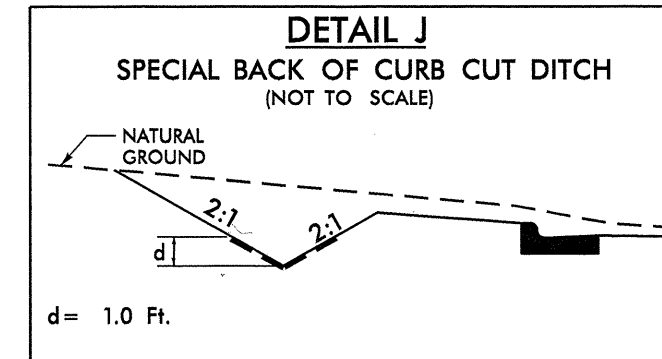
FROM STA. 11+50 TO STA. 12+00 -Y2- LT



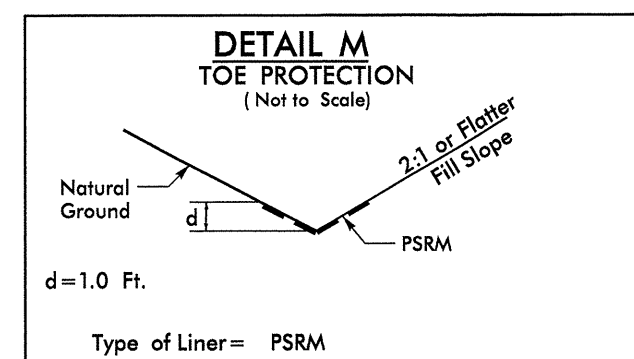
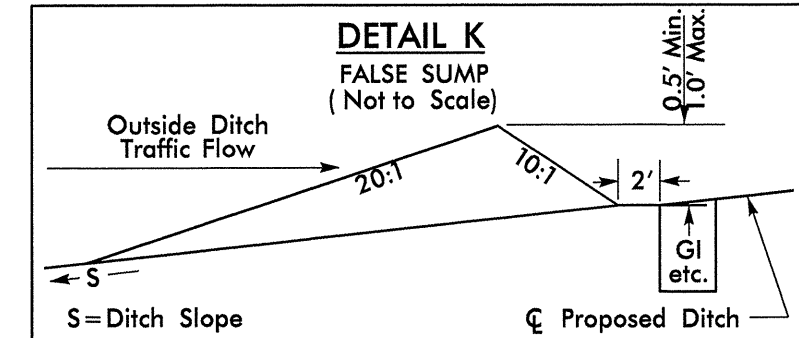
FROM STA. 11+00 TO STA. 13+00 -Y1- LT
 FROM STA. 17+60 TO STA. 20+50 -Y1- LT
 FROM STA. 9+00 TO STA. 9+80 -Y1- LT



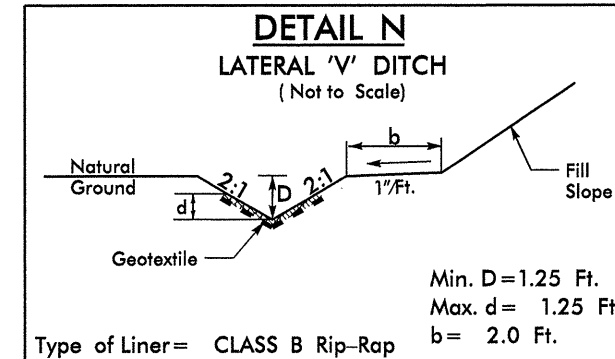
FROM STA. 11+00 TO STA. 11+50 -Y2- LT
 FROM STA. 12+50 TO STA. 13+00 -Y2- LT
 FROM STA. 10+60 TO STA. 10+85 -Y1- LT



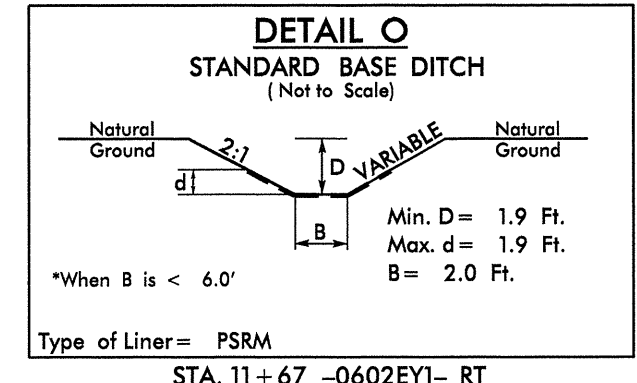
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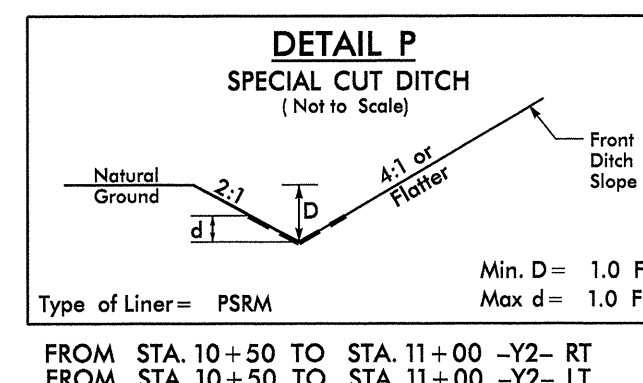
FROM STA. 31+81 TO STA. 33+49 -L- LT



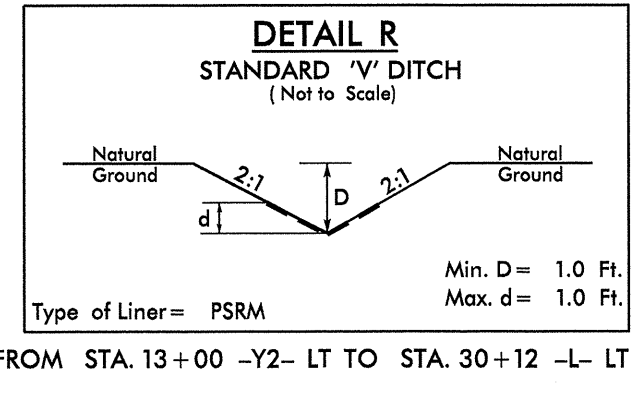
FROM STA. 20+70 TO STA. 21+00 -Y1- LT



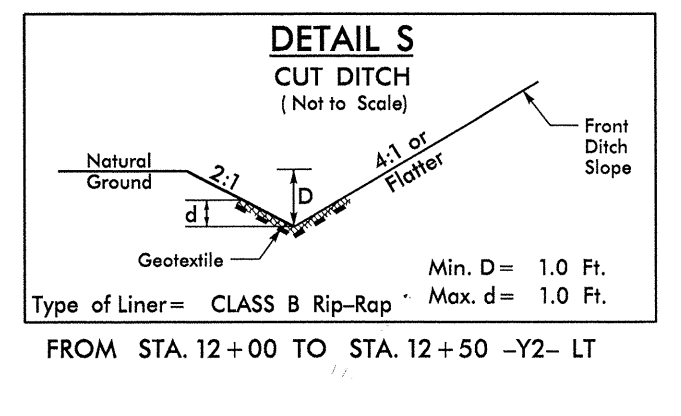
STA. 11+67 -0602EY1- RT



FROM STA. 10+50 TO STA. 11+00 -Y2- RT
 FROM STA. 10+50 TO STA. 11+00 -Y2- LT



FROM STA. 13+00 -Y2- LT TO STA. 30+12 -L- RT



FROM STA. 12+00 TO STA. 12+50 -Y2- LT

DETAIL Q
RIP-RAPPED ENERGY DISSIPATOR BASIN

NOTE A: IF EXIT VELOCITY OF BASIN IS SPECIFIED, EXTEND BASIN AS REQUIRED TO OBTAIN SUFFICIENT CROSS SECTIONAL AREA AT SECTION A-A SUCH THAT Q_{DES}/(CROSS SECTION AREA AT SEC. A-A) = SPECIFIED VELOCITY.

NOTE B: WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIP-RAP IN FLOOR OF BASIN SHOULD BE AT SAME ELEVATION OR LOWER THAN NATURAL CHANNEL BOTTOM. AT SEC. A-A, PROVIDE SMOOTH TRANSITION FROM END OF APRON TO NATURAL CHANNEL WIDTH.

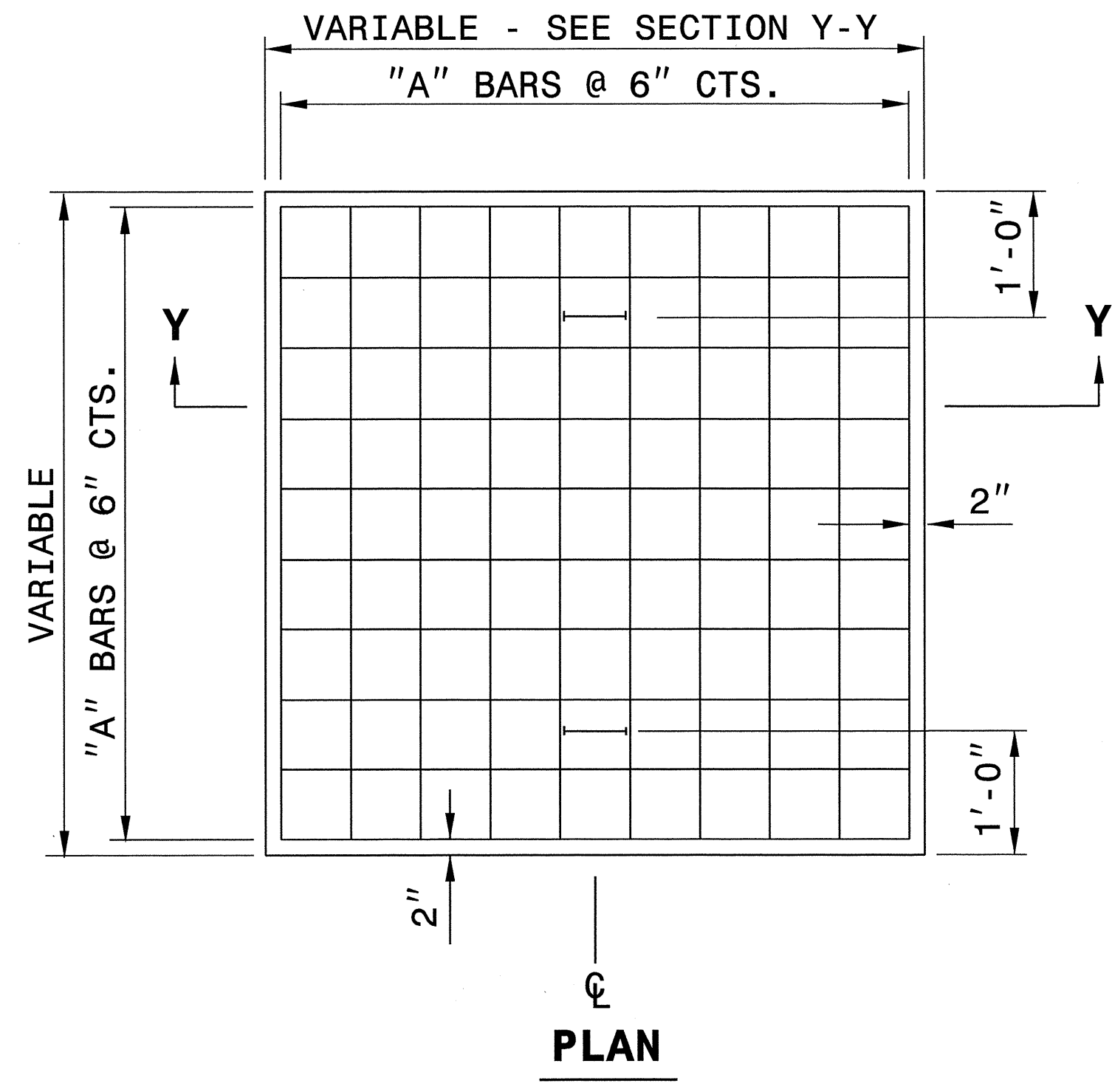
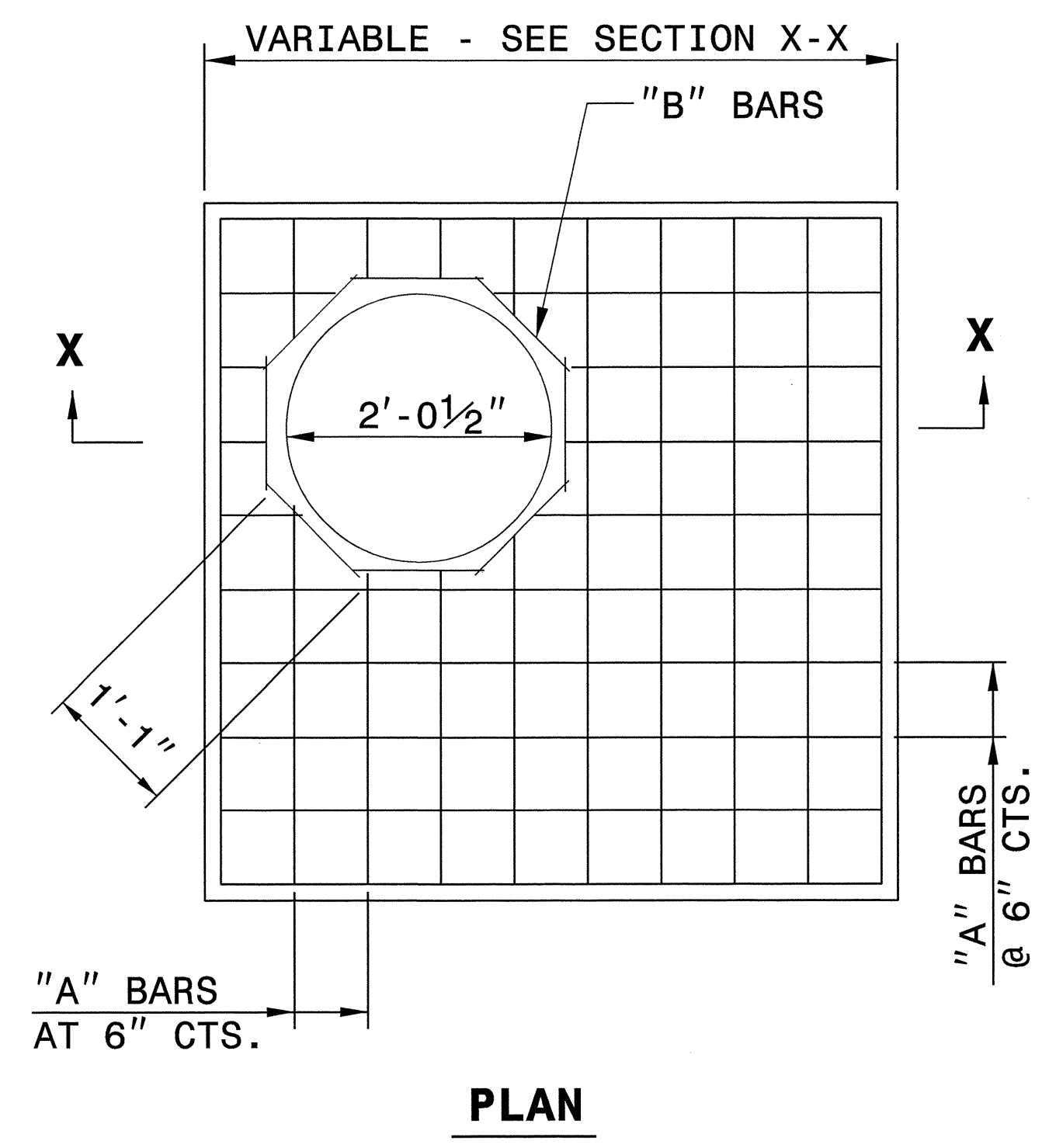
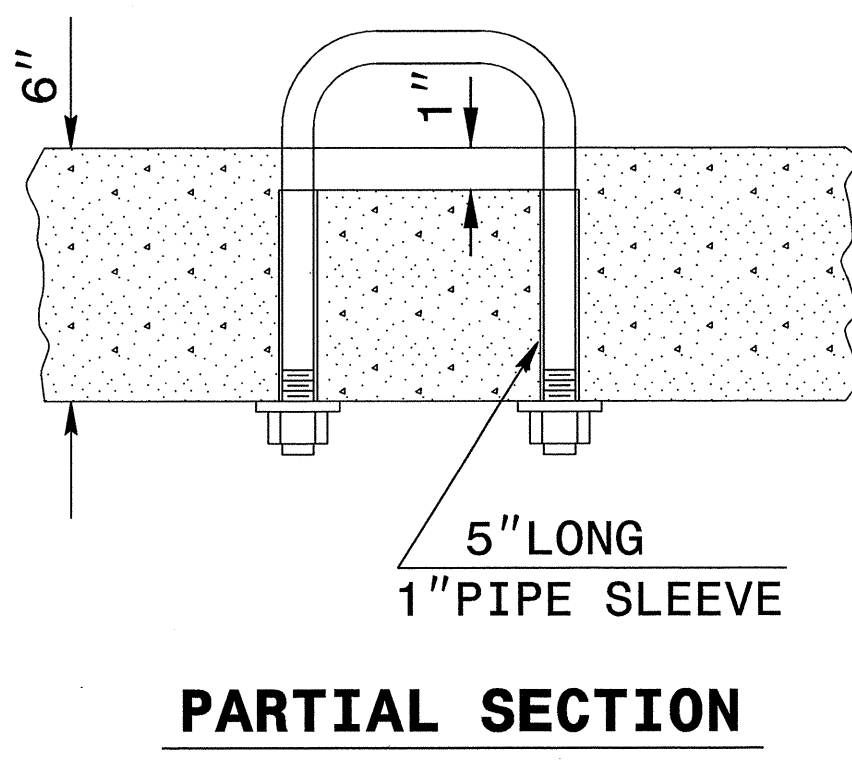
DIM	1	2	3	4	5	6	7	8
A	2	1						
B	2	1						
C	2	2						
D	1	1						
E	4	4						
F	12	4						
G	18	12						
H	6	4						

1	30+60 -L- RT
2	31+17 -L- RT
3	
4	
5	
6	
7	
8	

*ALL DIMENSIONS APPROXIMATE IN FT

NOTE: W₀ = DIAMETER OF PIPE, WIDTH OF BOX OR SPAN OF PIPE-ARCH CULVERTS, OR BASE WIDTH OF DITCH

FROM STA. 30+60 TO STA. 30+84 -L- RT
 FROM STA. 31+01 TO STA. 31+17 -L- RT

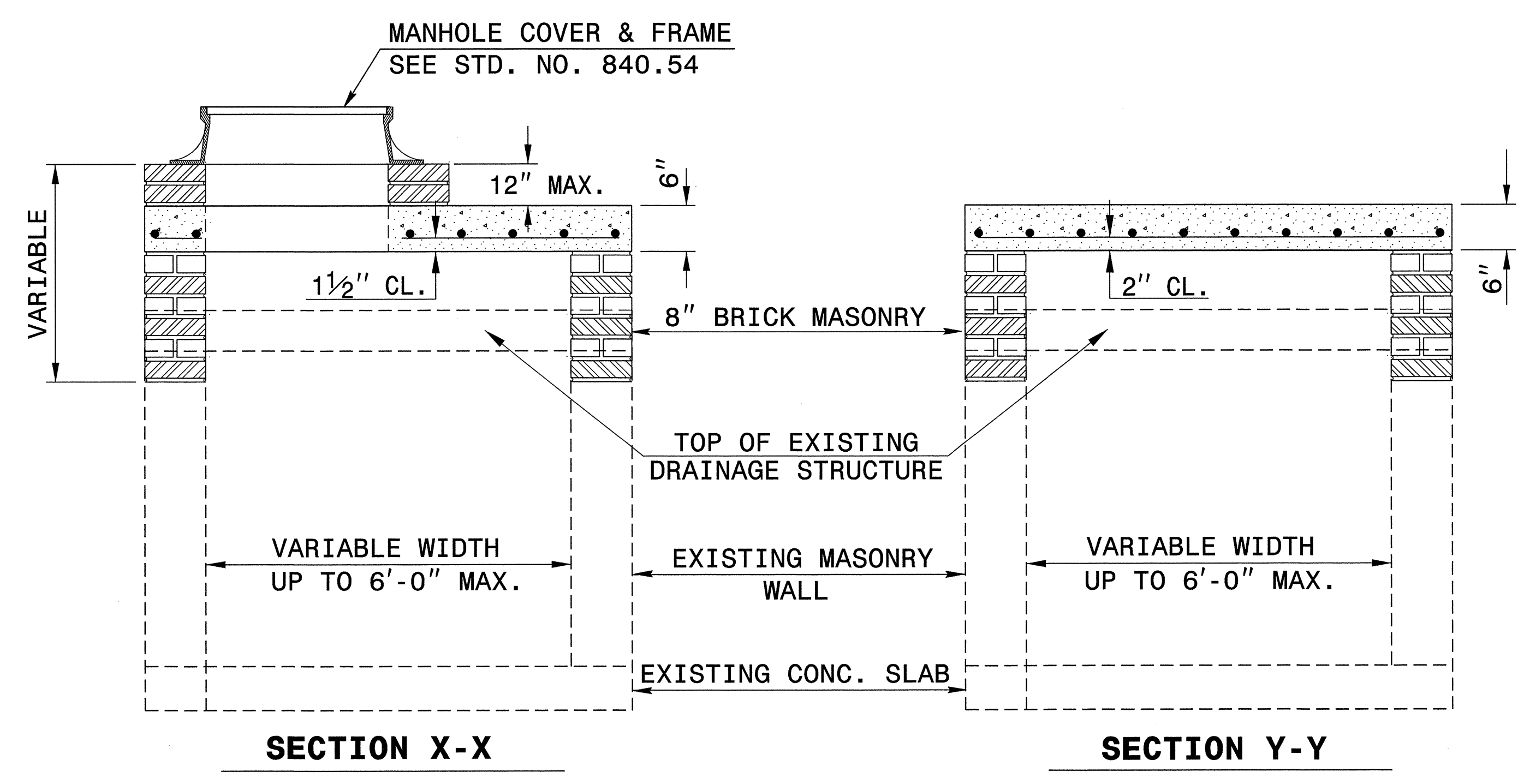
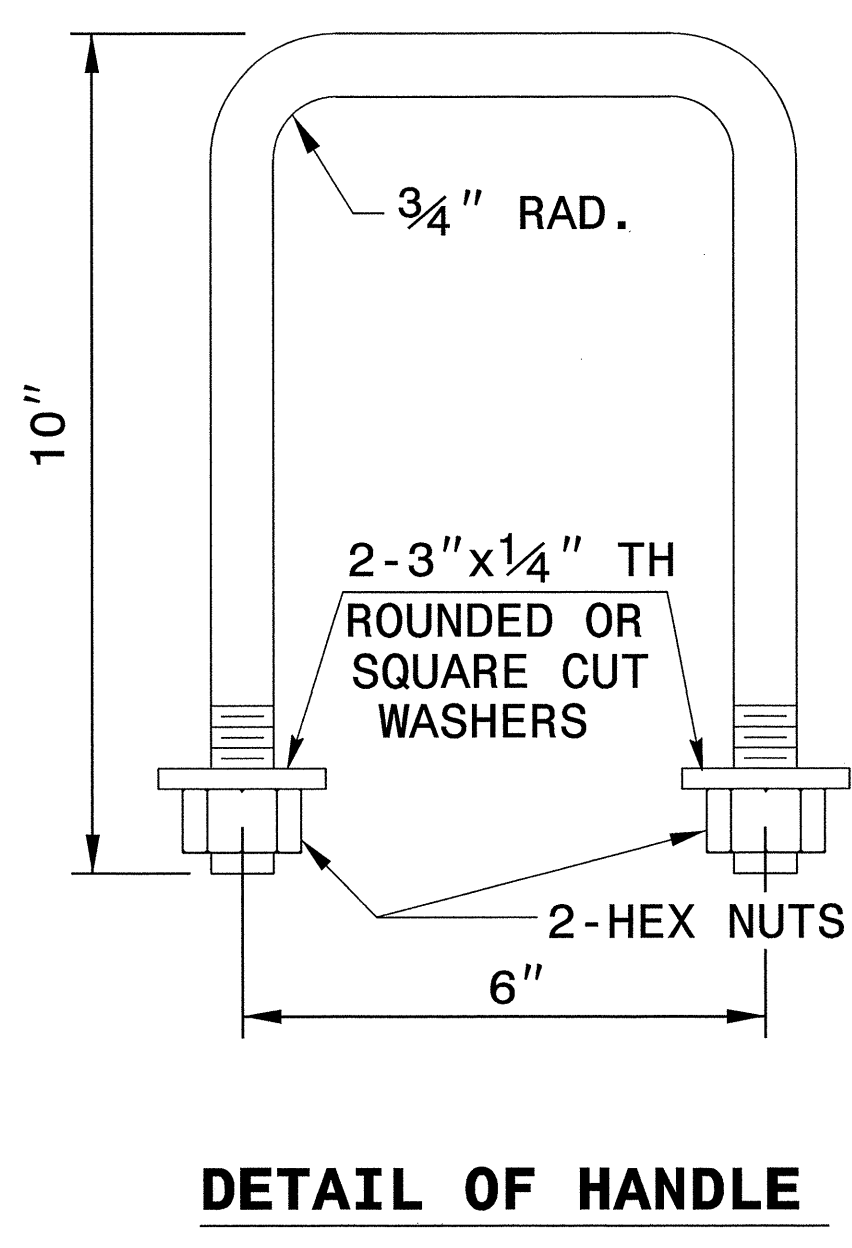


GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

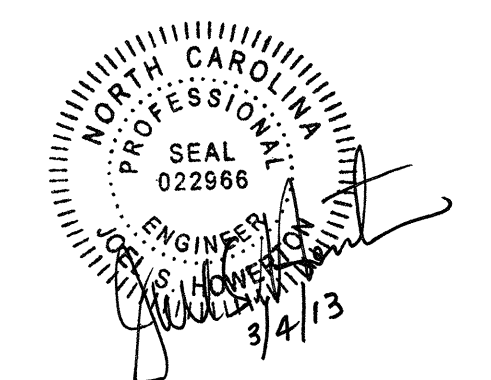
FIELD VERIFY THE DIMENSIONS FOR THE EXISTING BOXES

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"				.433 *
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.



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

DETAIL TO CONVERT EXISTING DROP INLET OR CATCH BASIN TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: NOV. 1997
 MODIFIED BY: E.E.W. DATE: 8-28-02
 CHECKED BY: DATE:
 FILE SPEC.: /usr/details/stand/boxtoibe.dgn

 SYSTEMS

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

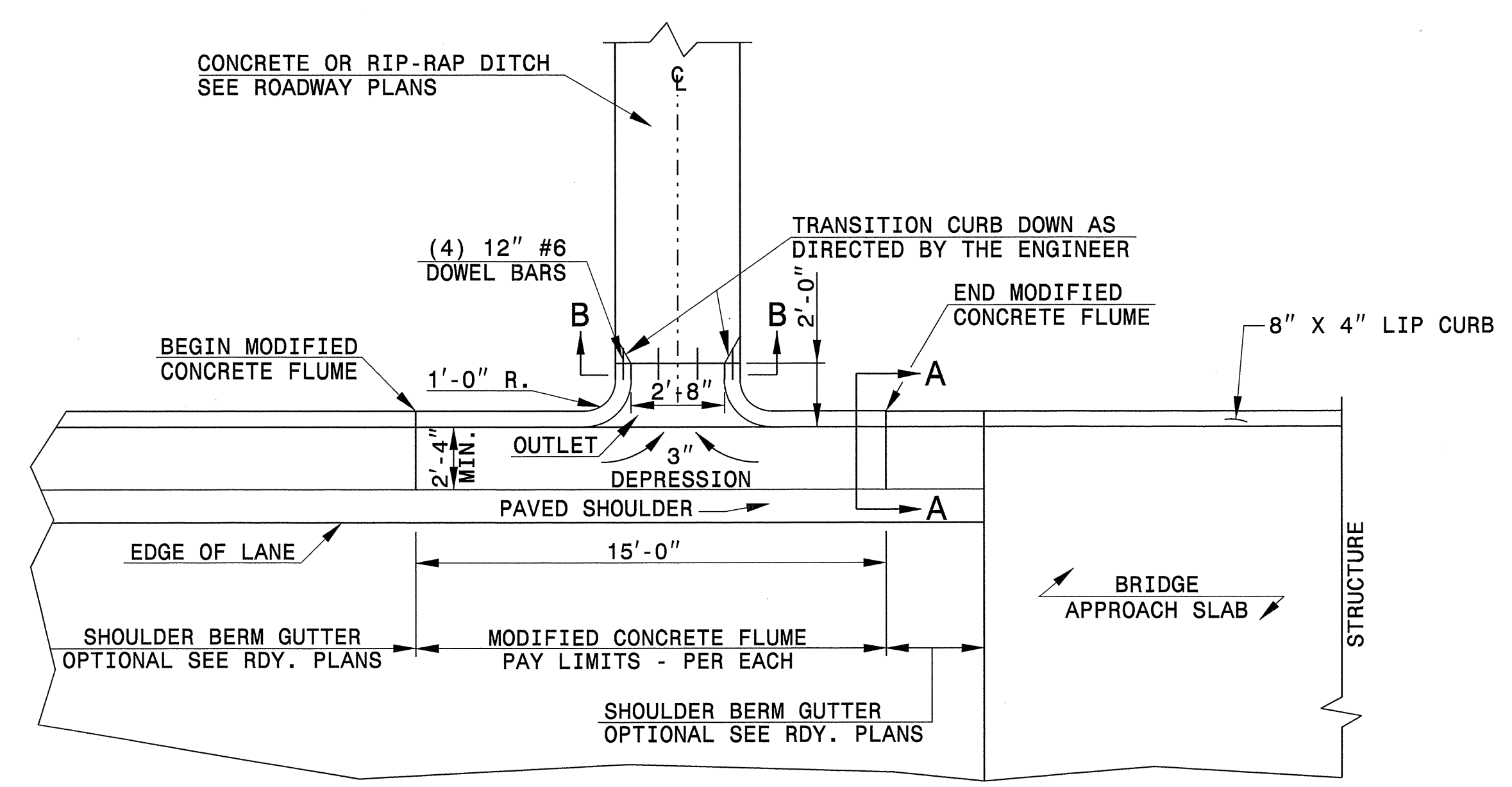
ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1
MODFLMDTCH

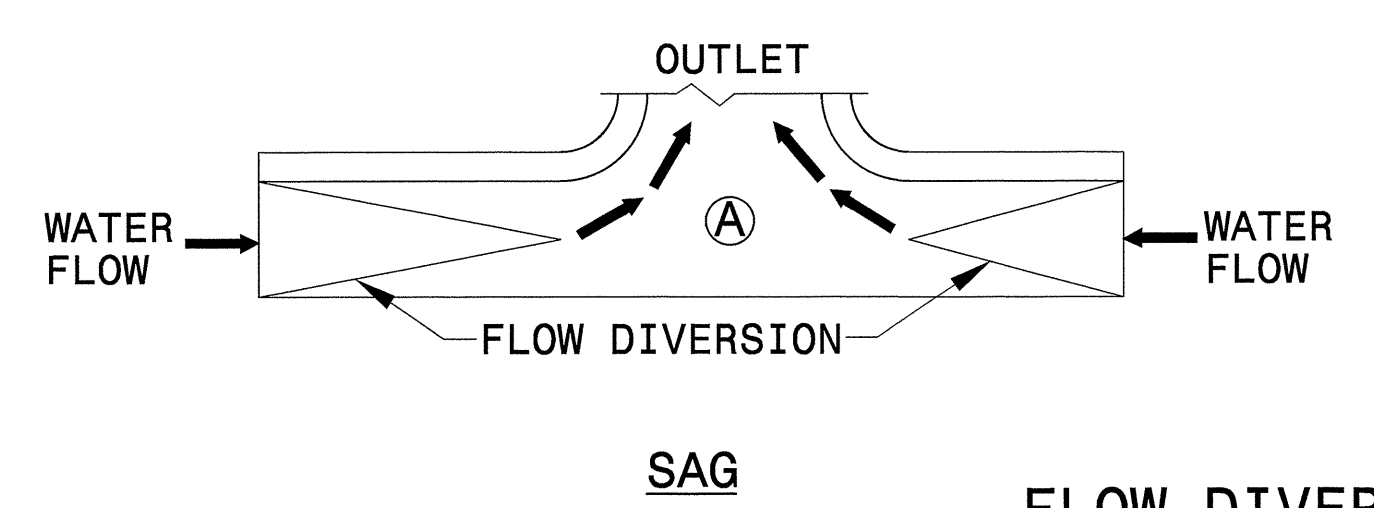
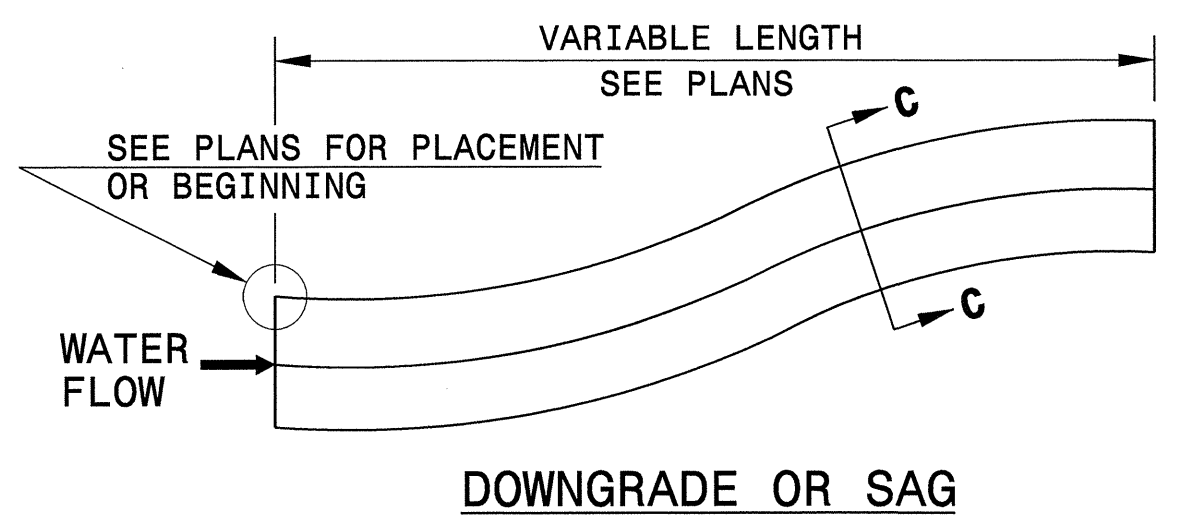
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

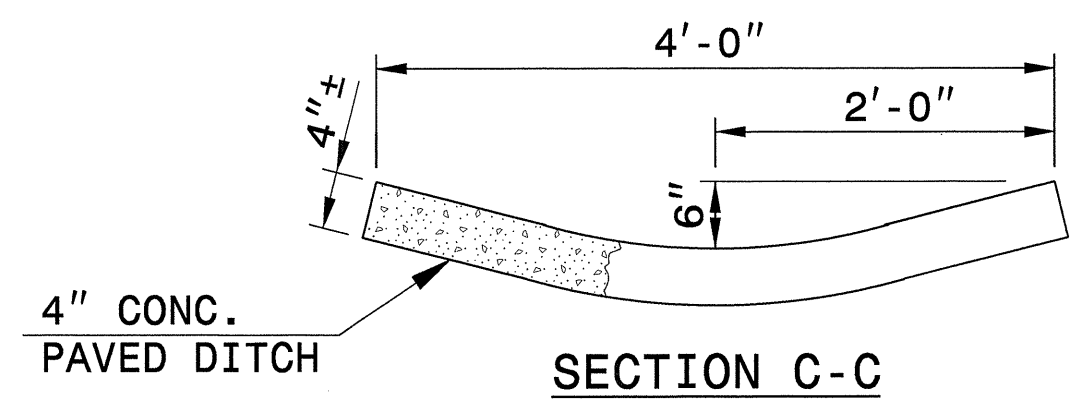
SHEET 1 OF 1
MODFLMDTCH



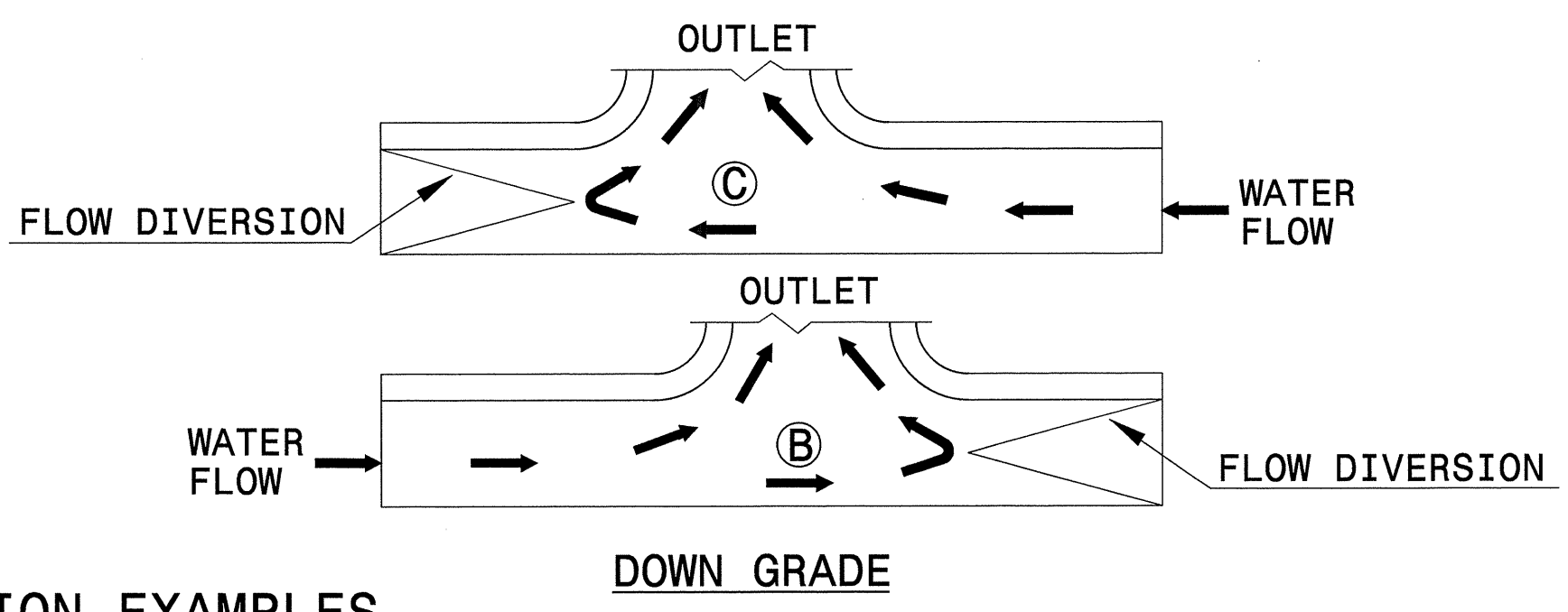
PLAN VIEW



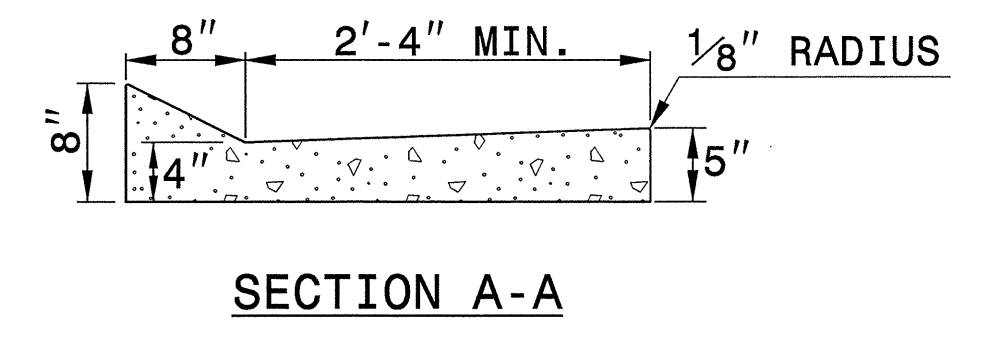
FLOW DIVERSION EXAMPLES



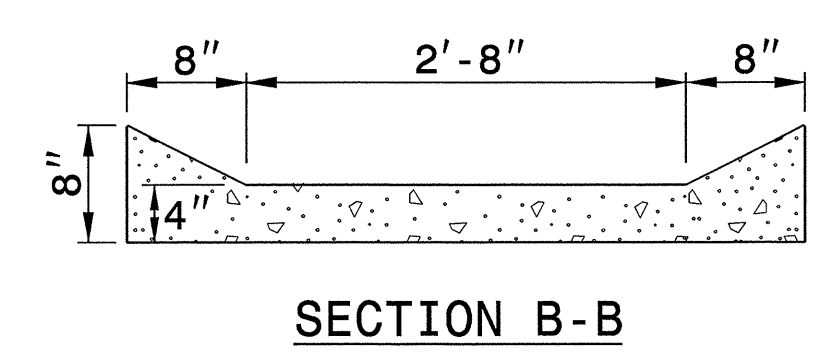
SECTION C-C



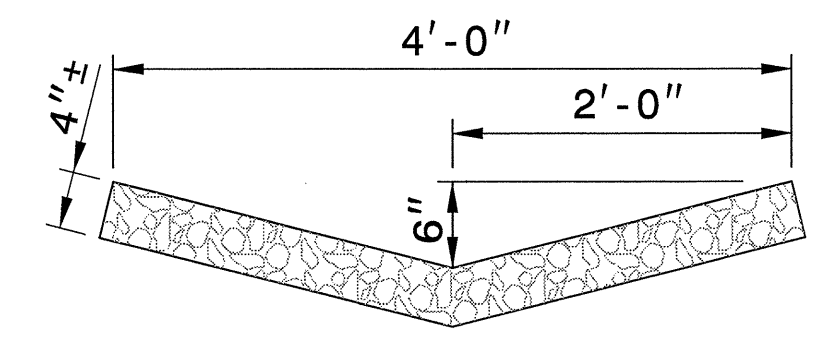
DOWN GRADE



SECTION A-A

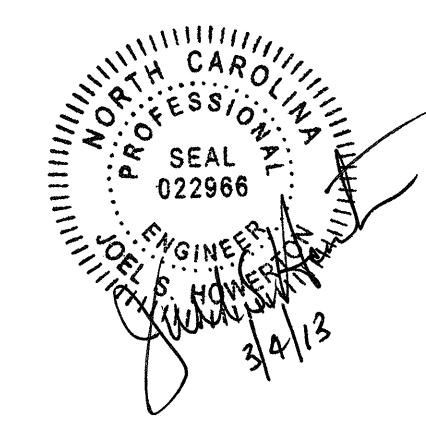


SECTION B-B



RIP-RAP LINED DITCH

- NOTES:
- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
 - CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
 - CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
 - CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER.
 - MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.



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

SEE PLATE FOR TITLE

ORIGINAL BY: E.E. Ward DATE: Apr. 2002
MODIFIED BY: E.E. Ward DATE: July 2004
CHECKED BY: DATE:
FILE SPEC.: w:\details\stand\modifiedflume.dgn

SYSTEMS
USER NAME

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203146

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0004000000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (16+84.41 -L-)
0036000000-E	225	5,500	CY	UNDERCUT EXCAVATION
0050000000-E	226	2	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0063000000-N	SP	Lump Sum		GRADING
0106000000-E	230	97,500	CY	BORROW EXCAVATION
0134000000-E	240	2,340	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	250	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	950	SY	GEOTEXTILE FOR SOIL STABILIZA-TION
0318000000-E	300	1,448	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES
0320000000-E	300	2,050	SY	FOUNDATION CONDITIONING GEO-TEXTILE
0345000000-E	310	20	LF	24" SIDE DRAIN PIPE
0366000000-E	310	240	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	132	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	20	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	128	LF	30" RC PIPE CULVERTS, CLASS III
0390000000-E	310	100	LF	36" RC PIPE CULVERTS, CLASS III
0396000000-E	310	116	LF	42" RC PIPE CULVERTS, CLASS III
0448200000-E	310	3,516	LF	15" RC PIPE CULVERTS, CLASS IV
0448300000-E	310	480	LF	18" RC PIPE CULVERTS, CLASS IV
0448400000-E	310	28	LF	24" RC PIPE CULVERTS, CLASS IV
0448500000-E	310	500	LF	30" RC PIPE CULVERTS, CLASS IV
0448600000-E	310	612	LF	36" RC PIPE CULVERTS, CLASS IV

ItemNumber	Sec #	Quantity	Unit	Description
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	5	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3628000000-E	876	510	TON	RIP RAP, CLASS I
3649000000-E	876	75	TON	RIP RAP, CLASS B
3656000000-E	876	2,450	SY	GEOTEXTILE FOR DRAINAGE
3832000000-E	SP	380	TF	RAILROAD TRACK TO BE REMOVED
3885000000-E	SP	10,000	TON	GENERIC TRACKWORK ITEM SUBBALLAST
4025000000-E	901	224.5	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
4025000000-E	901	6	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (F)
4072000000-E	903	364	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	31	EA	SIGN ERECTION, TYPE E
4108000000-N	904	1	EA	SIGN ERECTION, TYPE F
4116100000-N	904	3	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
4155000000-N	907	20	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	366	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	224	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	307	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	1	EA	FLASHING ARROW BOARD
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	117	EA	DRUMS
4435000000-N	1135	120	EA	CONES
4445000000-E	1145	232	LF	BARRICADES (TYPE III)
4450000000-N	1150	3,000	HR	FLAGGER
4480000000-N	1165	1	EA	TMA

SUMMARY OF QUANTITIES - P-5208D

ItemNumber	Sec #	Quantity	Unit	Description
0536000000-E	310	130	LF	**** HDPE PIPE CULVERTS (24")
0986000000-E	SP	64	LF	GENERIC PIPE ITEM 36" BCCMP CULV, 0.109" THICK
0986000000-E	SP	88	LF	GENERIC PIPE ITEM 36" WELDED STEEL PIPE, 0.532" THICK, GRADE B IN SOIL
0986000000-E	SP	88	LF	GENERIC PIPE ITEM 36" WELDED STEEL PIPE, 0.532" THICK, GRADE B NOT IN SOIL
0986000000-E	SP	40	LF	GENERIC PIPE ITEM 36" WELDED STEEL PIPE, 0.532" THICK, GRADE B OPEN CUT
0995000000-E	340	745	LF	PIPE REMOVAL
1099500000-E	505	2,563	CY	SHALLOW UNDERCUT
1099700000-E	505	200	TON	CLASS IV SUBGRADE STABILIZA-TION
1220000000-E	545	500	TON	INCIDENTAL STONE BASE
1489000000-E	610	5,520	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1491000000-E	610	300	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1498000000-E	610	4,460	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1503000000-E	610	170	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1519000000-E	610	3,980	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1523000000-E	610	160	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1575000000-E	620	730	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	100	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	45	CY	SUBDRAIN EXCAVATION
2033000000-E	815	34	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE

ItemNumber	Sec #	Quantity	Unit	Description
4510000000-N	SP	160	HR	LAW ENFORCEMENT
4516000000-N	1180	120	EA	SKINNY DRUM
4650000000-N	1251	20	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	3,214	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	17,098	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	708	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4697000000-E	1205	807	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 120 MILS)
4710000000-E	1205	278	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4721000000-E	1205	16	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)
4725000000-E	1205	85	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4770000000-E	1205	1,820	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (I)
4770000000-E	1205	1,820	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (IV)
4780000000-E	1205	54	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (8") (I)
4780000000-E	1205	54	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (8") (IV)
4810000000-E	1205	22,134	LF	PAINT PAVEMENT MARKING LINES (4")
4815000000-E	1205	14	LF	PAINT PAVEMENT MARKING LINES (6")
4820000000-E	1205	1,568	LF	PAINT PAVEMENT MARKING LINES (8")
4835000000-E	1205	278	LF	PAINT PAVEMENT MARKING LINES (24")
4840000000-N	1205	16	EA	PAINT PAVEMENT MARKING CHARAC-TER
4845000000-N	1205	85	EA	PAINT PAVEMENT MARKING SYMBOL

ItemNumber	Sec #	Quantity	Unit	Description
2209000000-E	838	14.6	CY	ENDWALLS
2264000000-E	840	0.2	CY	PIPE PLUGS
2275000000-E	SP	24	CY	FLOWABLE FILL
2286000000-N	840	68	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	30.79	LF	MASONRY DRAINAGE STRUCTURES
2354000000-N	840	1	EA	FRAME WITH GRATE, STD 840.22
2355000000-N	840	6	EA	FRAME WITH GRATE, STD 840.29
2374000000-N	840	8	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	25	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	27	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	4	EA	FRAME WITH COVER, STD 840.54
2451000000-N	852	1	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLET
2549000000-E	846	7,600	LF	2'-6" CONCRETE CURB & GUTTER
2570000000-N	SP	3	EA	MODIFIED CONCRETE FLUME
2591000000-E	848	5,100	SY	4" CONCRETE SIDEWALK
2605000000-N	848	10	EA	CONCRETE CURB RAMP
2612000000-E	848	150	SY	6" CONCRETE DRIVEWAY
2655000000-E	852	530	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
2830000000-N	858	1	EA	ADJUSTMENT OF MANHOLES
2860000000-N	859	4	EA	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX
2875000000-N	859	1	EA	CONVERT EXISTING CATCH BASIN TO DROP INLET
3030000000-E	862	850	LF	STEEL BM GUARDRAIL
3105000000-N	862	3	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS

ItemNumber	Sec #	Quantity	Unit	Description
4850000000-E	1205	1,500	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4870000000-E	1205	50	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
4875000000-N	1205	11	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4900000000-N	1251	20	EA	PERMANENT RAISED PAVEMENT MARKERS
5325200000-E	1510	518	LF	2" WATER LINE
5325600000-E	1510	1,059	LF	6" WATER LINE
5325800000-E	1510	1,169	LF	8" WATER LINE
5536000000-E	1515	2	EA	2" VALVE
5540000000-E	1515	2	EA	6" VALVE
5546000000-E	1515	4	EA	8" VALVE
5589100000-E	1515	1	EA	1" AIR RELEASE VALVE
5606000000-E	1515	1	EA	2" BLOW OFF
5648000000-N	1515	10	EA	RELOCATE WATER METER
5649000000-N	1515	5	EA	RECONNECT WATER METER
5666000000-E	1515	3	EA	FIRE HYDRANT
5691300000-E	1520	324	LF	8" SANITARY GRAVITY SEWER
5709200000-E	1520	647	LF	4" FORCE MAIN SEWER
5775000000-E	1525	3	EA	4" DIA UTILITY MANHOLE
5776000000-E	1525	1	EA	5" DIA UTILITY MANHOLE
5781000000-E	1525	2.17	LF	UTILITY MANHOLE WALL, 4" DIA
5782000000-E	1525	8.19	LF	UTILITY MANHOLE WALL, 5" DIA
5798000000-E	1530	548	LF	ABANDON *** UTILITY PIPE (4")
5800000000-E	1530	994	LF	ABANDON 6" UTILITY PIPE
5801000000-E	1530	1,458	LF	ABANDON 8" UTILITY PIPE
5815500000-N	1530	3	EA	REMOVE FIRE HYDRANT
5828000000-N	1530	2	EA	REMOVE UTILITY MANHOLE
5835700000-E	1540	222	LF	16" ENCASEMENT PIPE

SUMMARY OF QUANTITIES - P-5208D

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
5835800000-E	1540	212	LF	18" ENCASMENT PIPE	6084000000-E	1660	35	ACR	SEEDING & MULCHING	7432000000-E	1722	1	EA	2" RISER WITH HEAT SHRINK TUBING
5871400000-E	1550	111	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL	6087000000-E	1660	25	ACR	MOWING	7444000000-E	1725	1,575	LF	INDUCTIVE LOOP SAWCUT
5871410000-E	1550	111	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL	6090000000-E	1661	500	LB	SEED FOR REPAIR SEEDING	7456000000-E	1726	5,960	LF	LEAD-IN CABLE (*****)(14-2)
5871500000-E	1550	106	LF	TRENCHLESS INSTALLATION OF 8" IN SOIL	6093000000-E	1661	2	TON	FERTILIZER FOR REPAIR SEEDING	7516000000-E	1730	3,100	LF	COMMUNICATIONS CABLE (**FIBER)(12)
5871510000-E	1550	106	LF	TRENCHLESS INSTALLATION OF 8" NOT IN SOIL	6096000000-E	1662	1,000	LB	SEED FOR SUPPLEMENTAL SEEDING	7541000000-N	1731	4	EA	MODIFY SPLICE ENCLOSURE
6000000000-E	1605	8,000	LF	TEMPORARY SILT FENCE	6108000000-E	1665	20	TON	FERTILIZER TOPDRESSING	7552000000-N	1731	2	EA	INTERCONNECT CENTER
6006000000-E	1610	800	TON	STONE FOR EROSION CONTROL, CLASS A	6114500000-N	1667	20	MHR	SPECIALIZED HAND MOWING	7564100000-N	1732	2	EA	FIBER-OPTIC TRANSCEIVER, SELF-HEALING RING
6009000000-E	1610	1,000	TON	STONE FOR EROSION CONTROL, CLASS B	6117000000-N	SP	40	EA	RESPONSE FOR EROSION CONTROL	7566000000-N	1733	5	EA	DELINEATOR MARKER
6012000000-E	1610	900	TON	SEDIMENT CONTROL STONE	6132000000-N	SP	20	EA	GENERIC EROSION CONTROL ITEM SUPPLEMENTAL RESPONSE FOR EROSION CONTROL	7575180000-N	1735	1	EA	CABLE TRANSFER
6015000000-E	1615	40	ACR	TEMPORARY MULCHING	7048500000-E	1705	5	EA	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	7576000000-N	SP	2	EA	METAL STRAIN SIGNAL POLE
6018000000-E	1620	1,200	LB	SEED FOR TEMPORARY SEEDING	7060000000-E	1705	4,055	LF	SIGNAL CABLE	7613000000-N	SP	2	EA	SOIL TEST
6021000000-E	1620	6	TON	FERTILIZER FOR TEMPORARY SEEDING	7120000000-E	1705	12	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)	7614100000-E	SP	12	CY	DRILLED PIER FOUNDATION
6024000000-E	1622	800	LF	TEMPORARY SLOPE DRAINS	7132000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)	7642100000-N	1743	2	EA	TYPE I POST WITH FOUNDATION
6029000000-E	SP	200	LF	SAFETY FENCE	7144000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)	7684000000-N	1750	2	EA	SIGNAL CABINET FOUNDATION
6030000000-E	1630	3,000	CY	SILT EXCAVATION	7229000000-N	SP	3	EA	APS DETECTOR STATION	7686000000-N	1752	3	EA	CONDUIT ENTRANCE INTO EXISTING FOUNDATION
6036000000-E	1631	21,150	SY	MATTING FOR EROSION CONTROL	7252000000-E	1710	305	LF	MESSENGER CABLE (1/4")	7756000000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
6037000000-E	SP	100	SY	COIR FIBER MAT	7264000000-E	1710	920	LF	MESSENGER CABLE (3/8")	7780000000-N	1751	19	EA	DETECTOR CARD (TYPE 2070L)
6038000000-E	SP	2,175	SY	PERMANENT SOIL REINFORCEMENT MAT	7279000000-E	1715	2,475	LF	TRACER WIRE	7901010000-N	1753	2	EA	CABINET BASE ADAPTER
6042000000-E	1632	2,100	LF	1/4" HARDWARE CLOTH	7300000000-E	1715	2,455	LF	UNPAVED TRENCHING (*****)(1, 2')	7960000000-N	SP	2	EA	METAL POLE FOUNDATION REMOVAL
6071012000-E	SP	1,500	LF	COIR FIBER WATTLE	7300000000-E	1715	20	LF	UNPAVED TRENCHING (*****)(2, 2')	7972000000-N	SP	2	EA	METAL POLE REMOVAL
6071020000-E	SP	300	LB	POLYACRYLAMIDE (PAM)	7324000000-N	1716	10	EA	JUNCTION BOX (STANDARD SIZE)					
6071030000-E	1640	1,000	LF	COIR FIBER BAFFLE	7348000000-N	1716	7	EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)					
6071050000-E	SP	2	EA	*** SKIMMER (1-1/2')	7360000000-N	1720	4	EA	WOOD POLE					
6071050000-E	SP	1	EA	*** SKIMMER (2-1/2')	7372000000-N	1721	8	EA	GUY ASSEMBLY					
6071050000-E	SP	1	EA	*** SKIMMER (3')	7420000000-E	1722	4	EA	2" RISER WITH WEATHERHEAD					

COMPUTED BY: AMH DATE: 3/1/2013
CHECKED BY: MJO DATE: 3/1/2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: Invert Elevations 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" & UNDER)

Main data table with columns for Station, Structure No., Top Elevation, Invert Elevation, Slope, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Endwalls, Quantities for Drainage Structures, Frame, Grates, and Hood Standard, Concrete Transitional Section, and Abbreviations.

01-MAR-2013 16:25
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GRAND TOTAL 22.71

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

COMPUTED BY: WEJ DATE: 09-26-12
CHECKED BY: DLW DATE: 09-26-12

DCN 0077DEL P10c4

"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.

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS										
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	AT-1	TES	TYPE III	G					NG									
-L-	11+50.	15+81.66	LT	431.66			12+00.00		7.5																													
-L-	17+87.15	20+50.	LT	262.85			20+00.00		7.5																													
-L-	14+50.	15+81.66	RT	131.66			19+50.00		7.5																													
-L-	18+11.66	1950	RT	138.34			19+00.00		7.5																													
*-MAIN TRK-	10430+75	10432+00	RT	125.00					5																												*For plan view see "Railroad Roadbed Plans"	
*-MAIN TRK-	10431+25	10431+48	LT	25.00					2																												*For plan view see "Railroad Roadbed Plans"	
TOTAL				989.51																																		
ANCHOR UNITS ADJUSTMENT =				-275																																		
SAY				850.00																																		
ADDITIONAL GUARDRAIL POSTS =				5																																		

PAVEMENT REMOVAL

STATION	LOCATION	REMOVAL OF ASPHALT PAVEMENT	BREAKING OF ASPHALT PAVEMENT
-L- Sta.29+53.00 TO 30+69.00	RT	203 SQ-YD	
-L- Sta.30+97.00 TO 31+76.50	RT	470 SQ-YD	
-Y3- Sta.19+95.10 TO 22+24.26	LT+RT	566 SQ-YD	
*-MI- Sta.10431+06 TO 10431+46	LT	256 SQ-YD	
*-MI- Sta.10430+92 TO 10431+25	LT	128 SQ-YD	
*-MI- Sta.10430+83 TO 10431+23	RT	204 SQ-YD	
TOTAL		1827 SQ-YD	

* DATA FROM ROADBED PLANS

SUMMARY OF BRIDGE WAITING PERIODS

BRIDGE DESCRIPTION	End Bent/ Bridge No.	MONTHS
-L- STA.15+69.41 TO STA 17+99.41	EB 1 & 2	1.0

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

04-MAR-2013 07:35
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ME:Johnson

DCN 0077DEL P10a4

COMPUTED BY: WEJ DATE: 11-12-12
 CHECKED BY: DLW DATE: 11-13-12

PROJECT REFERENCE NO. P-5208D SHEET NO. 3-E

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **SUMMARY OF EARTHWORK**

STATION	STATION	EXCAVATION		EMBANKMENT	BORROW	WASTE
		TOTAL UNCLASS.	UNDERCUT	EMBANK. +20%		TOTAL
L Sta. 10+50.00	L Sta. 15+69.41(Begin Bridge)			60,588	60,588	
Y1 Sta. 8+10.00	Y1 Sta. 22+27.97	633	348	8,297	7,664	348
Y3 Sta. 11+45.00	Y3 Sta. 15+95.78	151		144		7
Y3 Sta. 16+50.00	Y3 Sta. 19+85.10	35		164	129	
-SRVRD- Sta. 10+25.00	-SRVRD- Sta. 12+37.36			244	244	
SUBTOTAL # 1		819	348	69,437	68,625	355
L Sta. 17+99.41(End Bridge)	L Sta. 34+50.00	48	1,348	69,008	68,960	1,348
Y2 Sta. 11+00.00	Y2 Sta. 13+50.00	95		1,290	1,195	
Y3 Sta. 22+24.19	Y3 Sta. 22+86.37					
Y4 Sta. 14+50.00	Y4 Sta. 17+08.33	240	224	13		451
SUBTOTAL # 2		383	1,572	70,312	70,155	1,799
*M1 Sta. 10409+19.40	M1 Sta. 10439+00.00	54,675	1,460	1,364		54,771
SUBTOTAL # 3		54,675	1,460	1,364		54,771
*M1 Sta. 10439.+00.00	M1 Sta. 10440+00.00	1,135	75			1,210
SUBTOTAL # 4		1,135	75			1,210
TOTAL		57,012	3,455	141,113	138,780	58,135
*ADDITIONAL UNDERCUT			1,965			1,965
SHOULDER BORRW				1,032	1,032	
BORROW TO REPLACE UNDERCUT				6,504	6,504	
WASTE IN LIEU OF BORROW						-54,680
PROJECT TOTAL		57,012	5,420	148,649	91,636	5,420
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					4,582	
GRAND TOTAL		57,012	5,420		96,218	
SAY		57,100	5,500		96,300	

*DATA FROM ROADBED PLANS AND CONTINGENCY
 EST. DDE = 2340 CY
 EST. SHALLOW UNDERCUT 1,750 CY
 EST. SHALLOW UNDERCUT BY STATIONS 813 CY
 TOTAL SHALLOW UNDERCUT 2563 CY
 CLASS IV SUBGRADE STABILIZATION 200 TONS

NOTE: Approximate quantities only. Unclassified Excavation, Shoulder Borrow, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

03-MAR-2013 09:56
 Y:\Projects\NC001\5208D\DISCIPLINE\Roadway\Proj\5208D_rdy_TYP.dgn
 ME Johnson

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

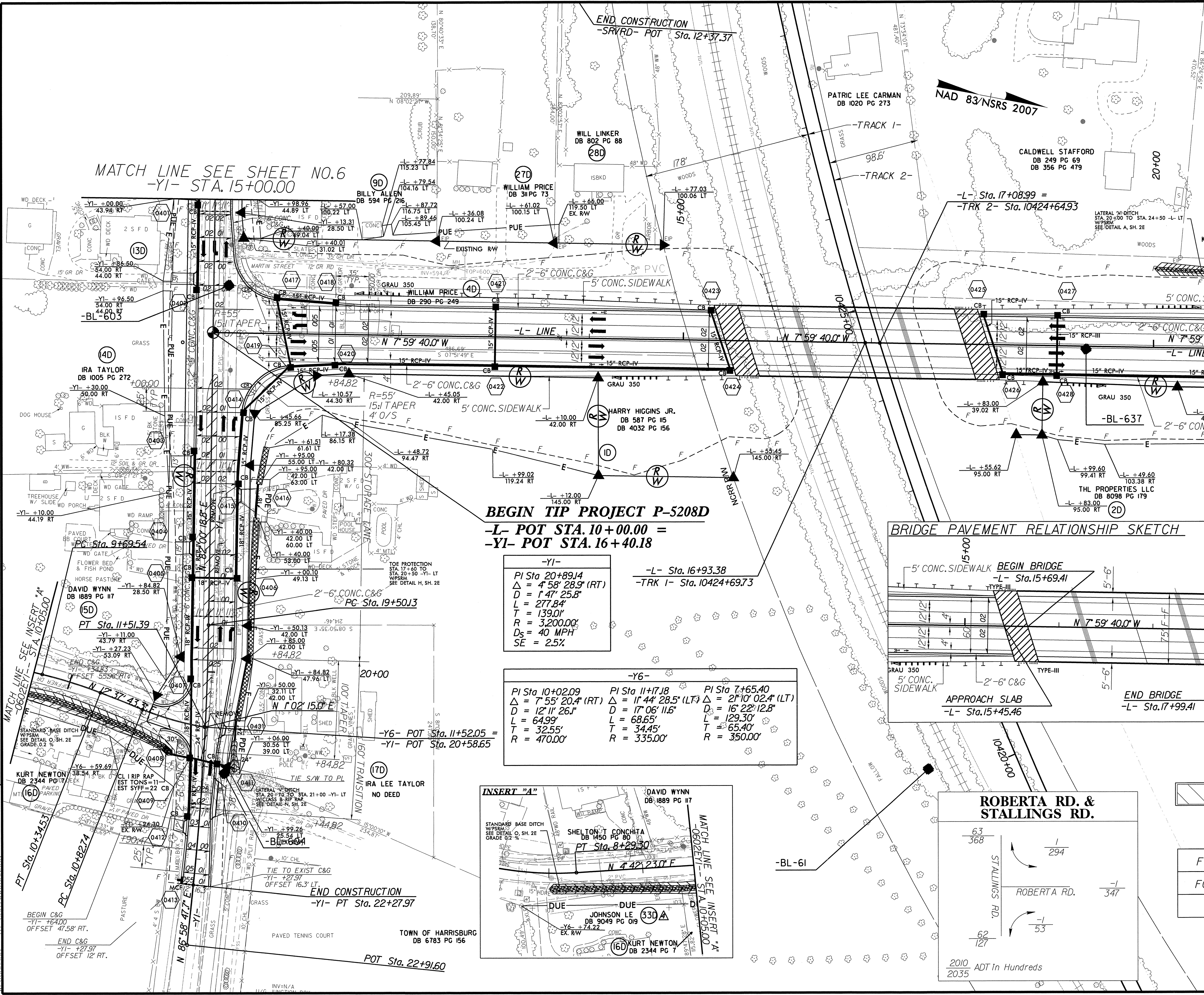
PARCEL NO.	PROPERTY OWNERS NAMES	SHEET NO.
1D	HARRY HIGGINS JR.	4
2D	THL PROPERTIES LLC	4
3D	ELIZABETH WILLIAMS	5
4D	WILLIAM PRICE	4
5D	MICHAEL HAYES	5
6D	JERRY ALMOND	5
7D	THE MASON WALLACE COMPANY	5
8D	AW 1 LIMITED PARTNERSHIP	5
9D	BILLY ALLEN	4 & 5
10D	DONALD PLUMMER	6
11D	DONALD PLUMMER	6
12D	BLUME FAMILY FARM, LLC	6
13D	LARRY PIGG	4 & 6
14D	IRA TAYLOR	4
15D	DAVID WYNN	4 & 6
16D	KURT NEWTON	4
17D	IRA LEE TAYLOR	4
18D	EMMETT AND SARAH SAPP	6
19D	THE COVENANT CHURCH OF HARRISBURG, INC.	6
20D	MATTHEW CRAIG	7
21D	CAMERON HERRERA	7
22D	CYNTHIA BEHLING	6
23D	DENNIS TAYLOR	6
24D	DAVID PUCKETT	6
25D	WILLIAM BRYANS	5
26D	PAUL W AND BERTHA E SMITH	7
27D	WILLIAM PRICE	4
28D	WILL LINKER	4
29D	WILLIAM JOHNSTONE	5
30D	MARTHA MELVIN	5
31D	IDA BARRIER	7
32D	PATRICA LEE CARMAN	7
33D	LE JOHNSON	4
34D	JAMES W. AND JENNA C. TAYLOR	6
35D	RICHARD MORRISON JR. AND ANNA MORRISON	6
36D	YATES MILLER, JR. & LINDA THREATT, McCACHERN	6

DCN
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REVISIONS

DGN
0077DEL P10a4

PROJECT REFERENCE NO. P-5208D	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MICHAEL BAKER ENGINEERING, INC. 19026 07/13	HYDRAULICS ENGINEER WSP Sells, Inc. 19026 07/13
Michael Baker Engineering, Inc. 6000 Regency Parkway, S1 600 Cary, NC 27518 NC License No. F-1084	WSP Sells, Inc. 15401 Weston Pkwy, S1 100 Cary, NC 27513 NC License No. F-0891



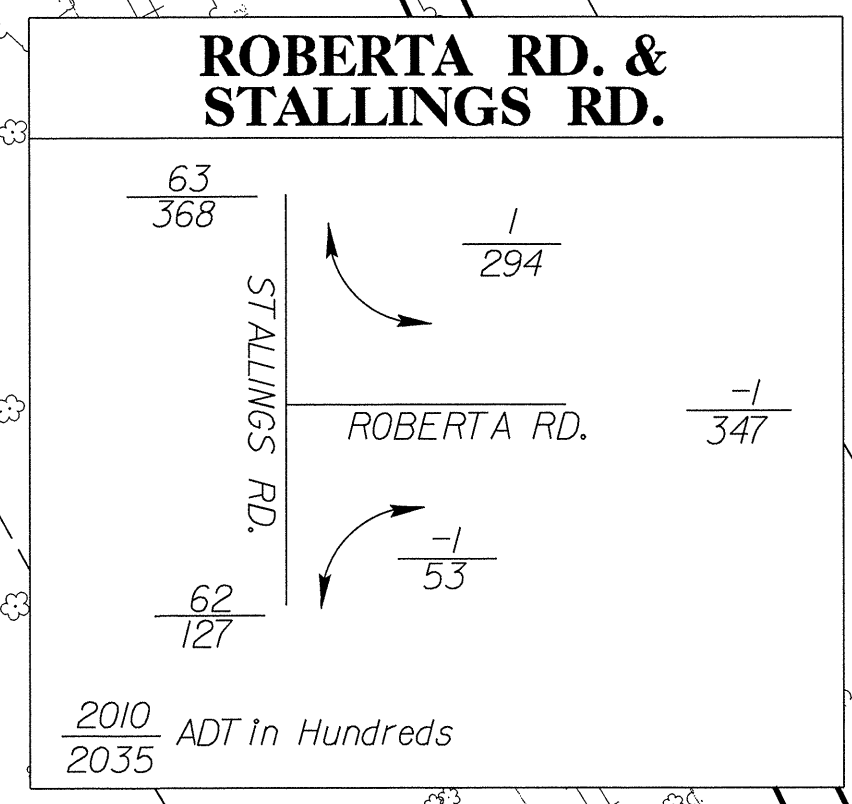
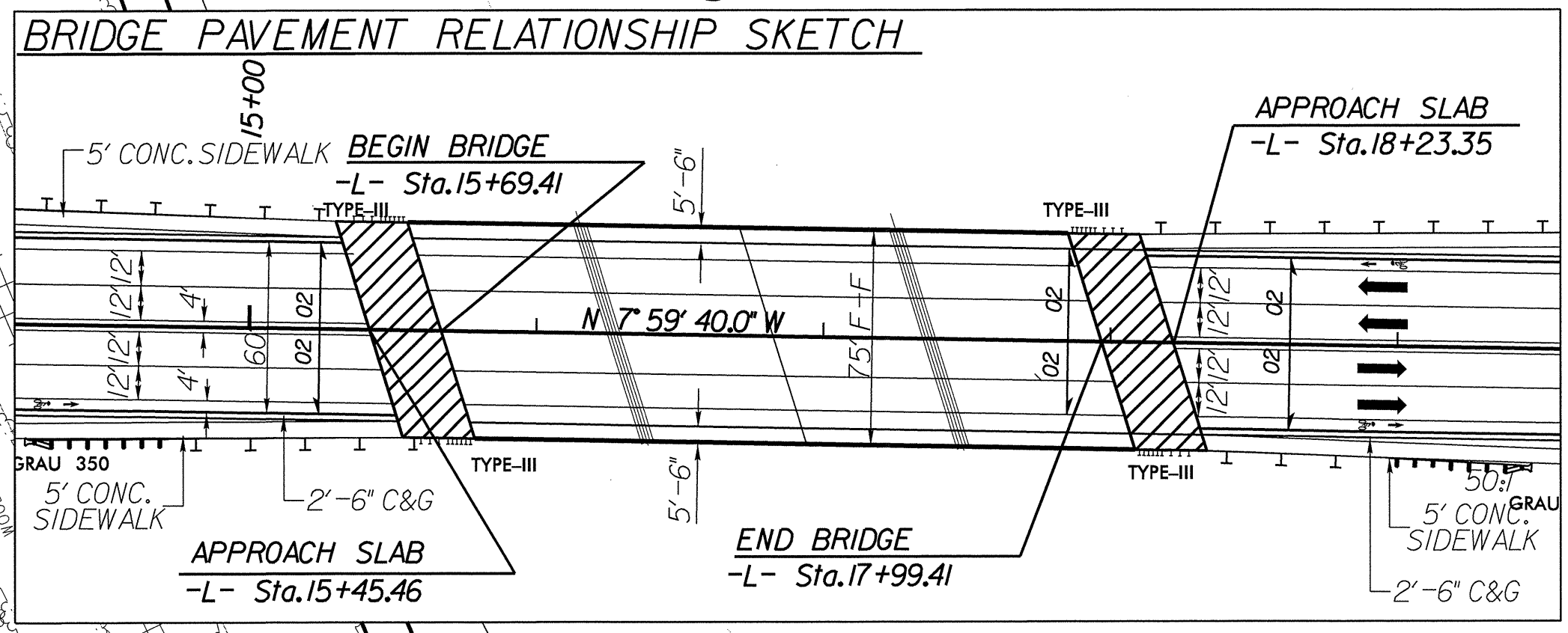
BEGIN TIP PROJECT P-5208D
-L- POT STA. 10+00.00 =
-YI- POT STA. 16+40.18

-YI-
 PI Sta 20+89.14
 $\Delta = 4' 58'' 28.9''$ (RT)
 $D = 1' 47'' 25.8''$
 $L = 277.84'$
 $T = 139.0'$
 $R = 3,200.00'$
 $D_s = 40$ MPH
 $SE = 2.5\%$

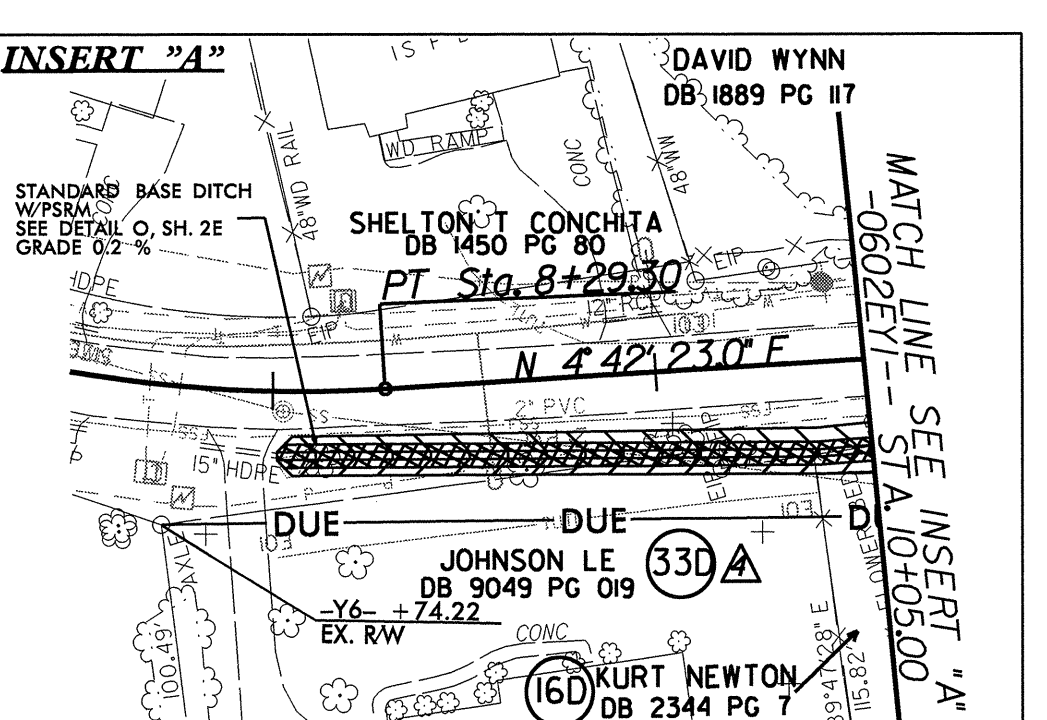
-L- Sta. 16+93.38
-TRK 1- Sta. 10424+69.73

-Y6-

PI Sta 10+02.09 $\Delta = 7' 55'' 20.4''$ (RT) $D = 12' 11'' 26.1''$ $L = 64.99'$ $T = 32.55'$ $R = 470.00'$	PI Sta 11+17.18 $\Delta = 1' 44'' 28.5''$ (LT) $D = 17' 06'' 11.6''$ $L = 68.65'$ $T = 34.45'$ $R = 335.00'$	PI Sta 7+65.40 $\Delta = 2' 10'' 02.4''$ (LT) $D = 16' 22'' 12.8''$ $L = 129.30'$ $T = 65.40'$ $R = 350.00'$
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FOR -L- PROFILE SEE SHEET 8
 FOR -YI- PROFILE SEE SHEET 9
 FOR STRUCTURE PLANS
 SEE SHEETS S-1 THRU S-39



REVISIONS

19-FEB-2013 12:46: V:\Projects\NCDOT\N-5208D\DISCIPLINE\Roadway\N-5208D-rdu-psr-04.dgn
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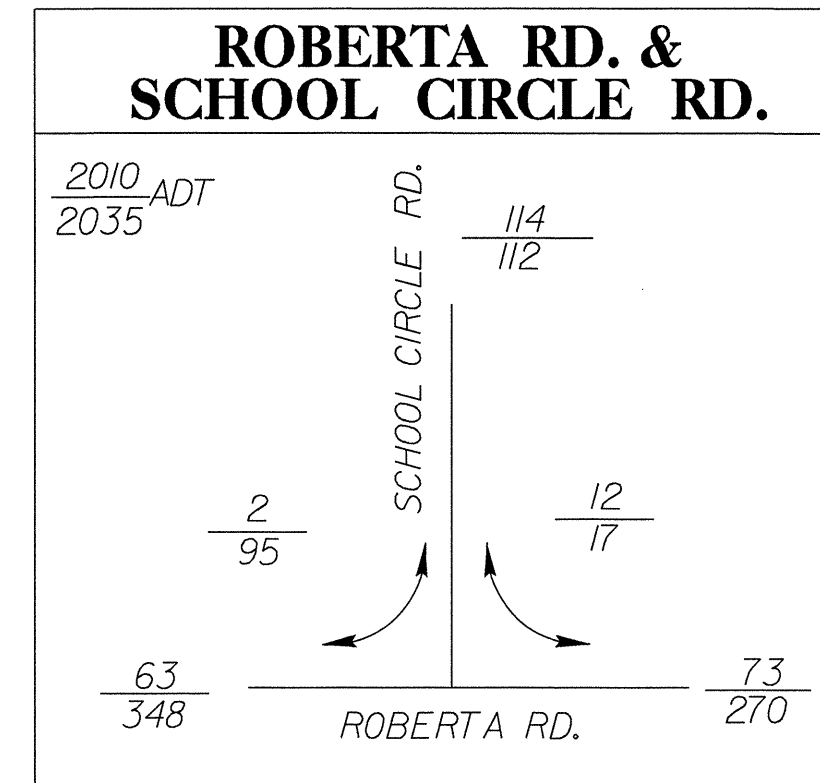
MATCH LINE SEE SHEET NO.5
-L- STA. 22+00.00

MATCH LINE SEE SHEET NO.6
-YI- STA. 15+00.00

TOWN OF HARRISBURG
DB 6783 PG 156

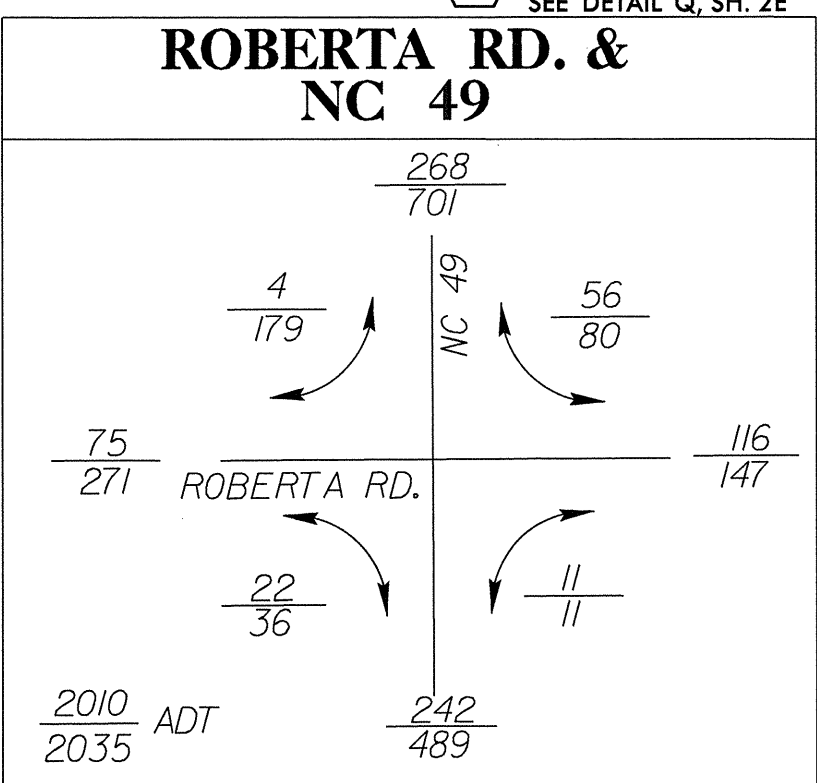
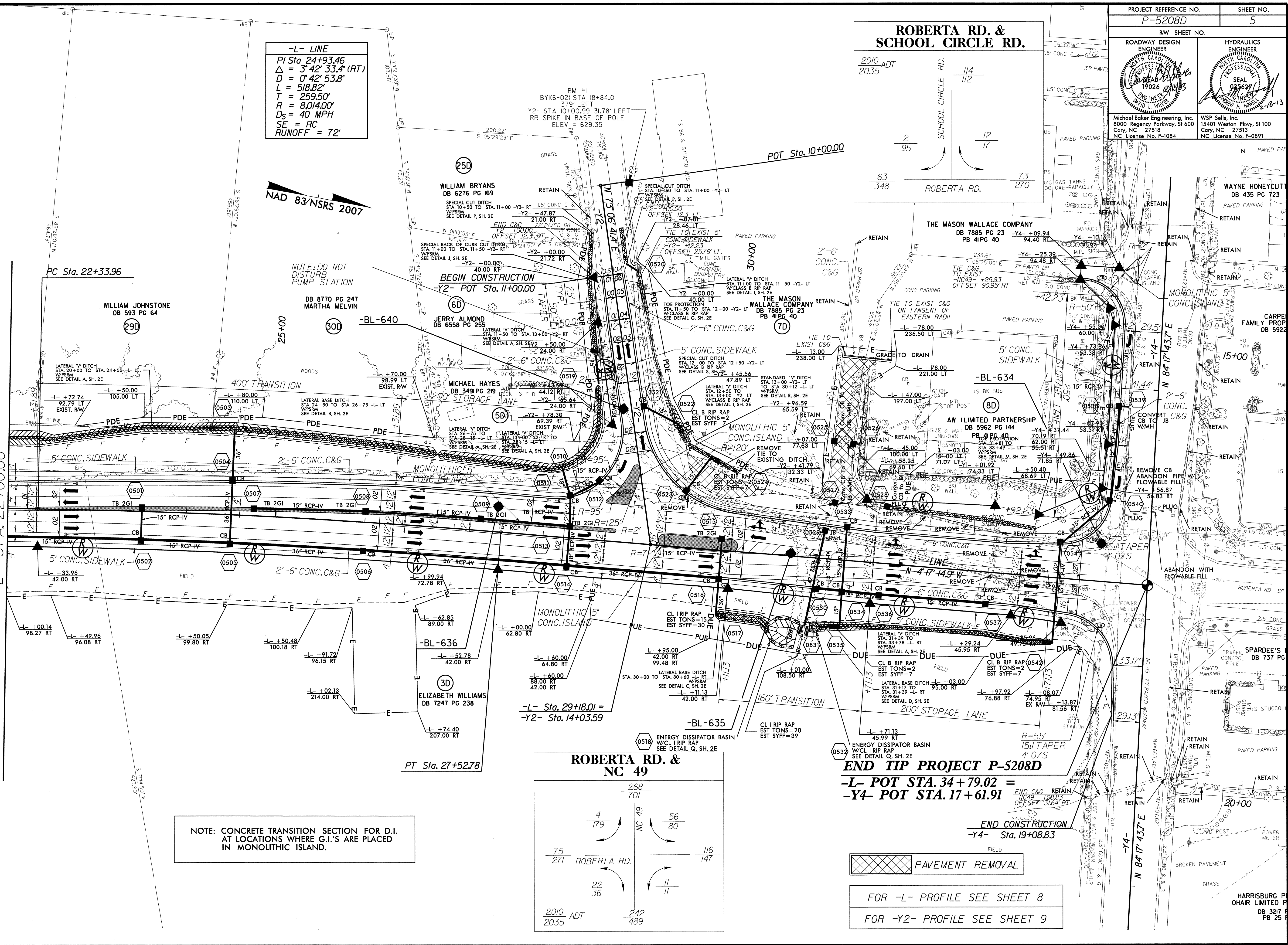
2010 ADT In Hundreds
2035

96105E
N. 01.05.2E W



-L- LINE
 PI Sta 24+93.46
 $\Delta = 5^{\circ} 42' 33.4''$ (RT)
 $D = 0^{\circ} 42' 53.8''$
 $L = 518.82'$
 $T = 259.50'$
 $R = 8014.00'$
 $D_s = 40$ MPH
 $SE = RC$
 $RUNOFF = 72'$

MATCH LINE SEE SHEET NO. 4
-L- STA. 22+00.00



END TIP PROJECT P-5208D

-L- POT STA. 34 + 79.02 =
-Y4- POT STA. 17 + 61.91

END CONSTRUCTION
-Y4- Sta. 19+08.83

PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHEET 8

FOR -Y2- PROFILE SEE SHEET 9

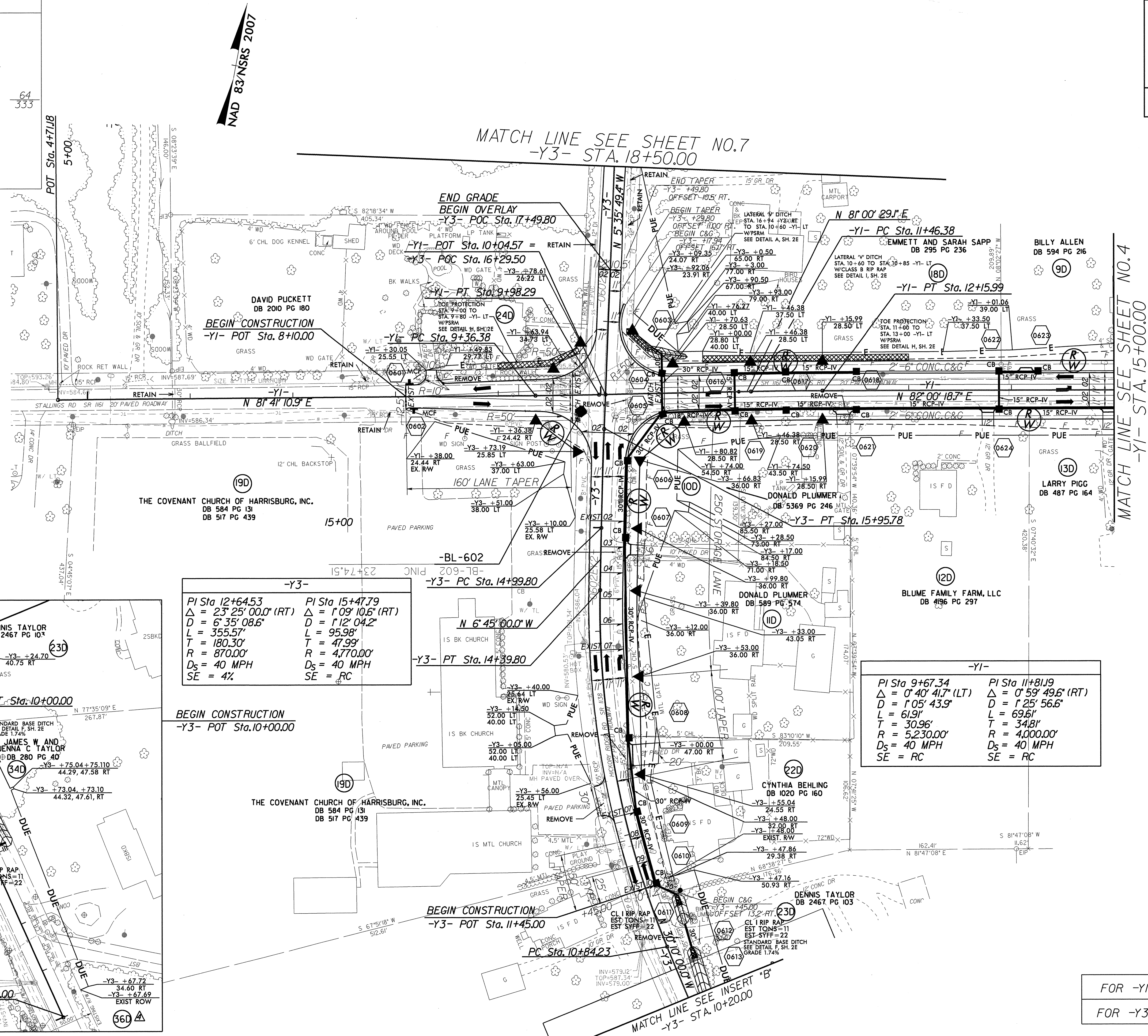
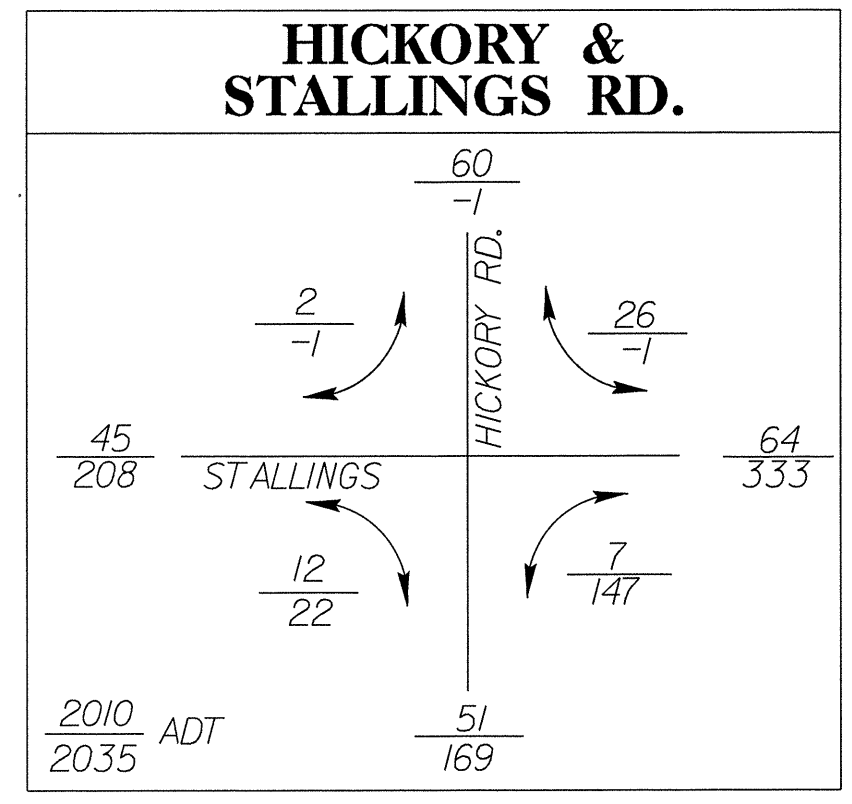
NOTE: CONCRETE TRANSITION SECTION FOR D.I. AT LOCATIONS WHERE G.I.'S ARE PLACED IN MONOLITHIC ISLAND.

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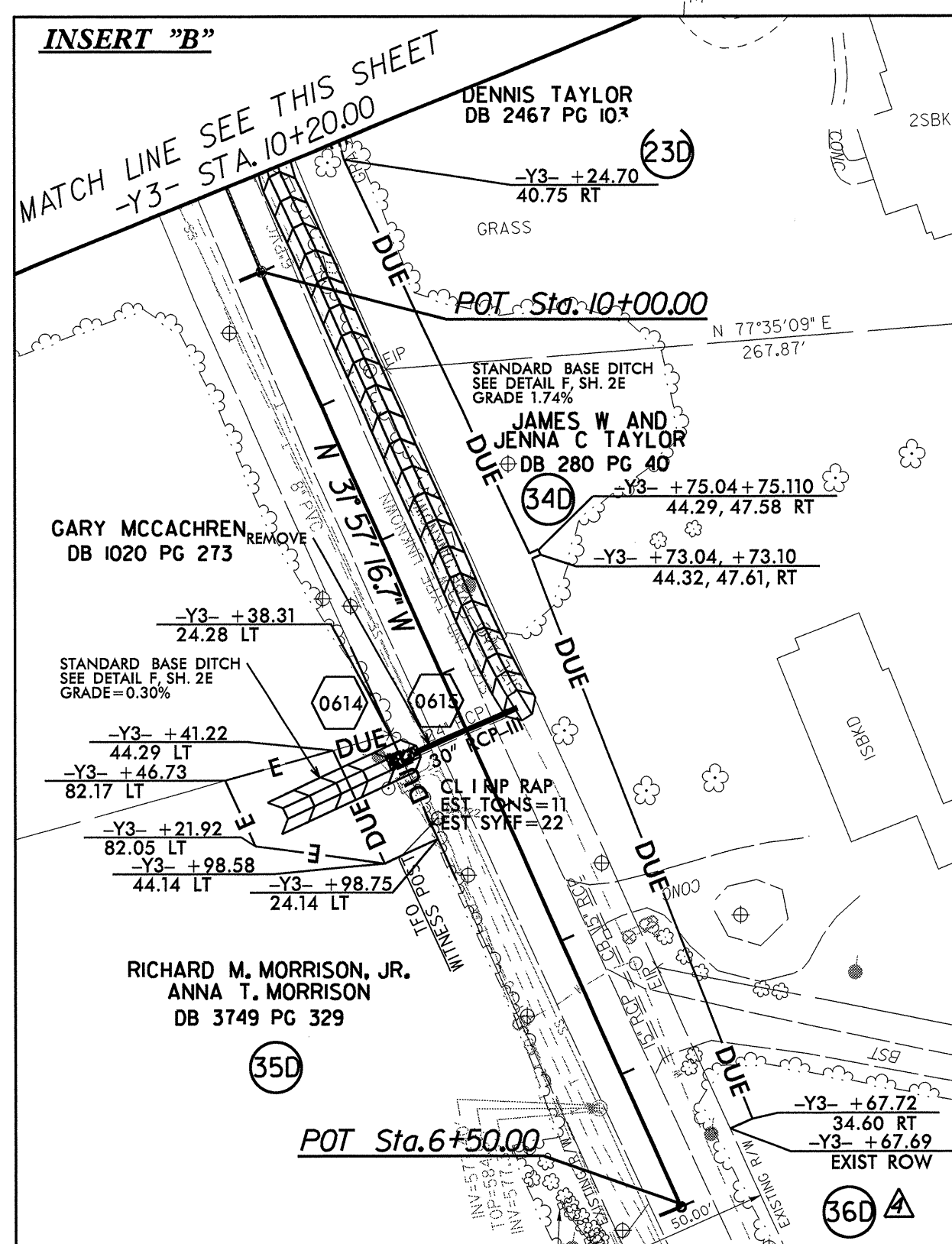
REVISIONS

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 V:\Users\mjohnson

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REVISIONS



PI Sta 12+64.53 $\Delta = 23^{\circ} 25' 00.0''$ (RT) D = 6' 35' 08.6" L = 355.57' T = 180.30' R = 870.00' D _s = 40 MPH SE = 4%	PI Sta 15+47.79 $\Delta = 1^{\circ} 09' 10.6''$ (RT) D = 1' 12' 04.2" L = 95.98' T = 47.99' R = 4,770.00' D _s = 40 MPH SE = RC
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PI Sta 9+67.34 $\Delta = 0^{\circ} 40' 41.7''$ (LT) D = 1' 05' 43.9" L = 61.91' T = 30.96' R = 5,230.00' D _s = 40 MPH SE = RC	PI Sta 11+81.19 $\Delta = 0^{\circ} 59' 49.6''$ (RT) D = 1' 25' 56.6" L = 69.61' T = 34.81' R = 4,000.00' D _s = 40 MPH SE = RC
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FOR -Y1- PROFILE SEE SHEET 9

FOR -Y3- PROFILE SEE SHEET 10

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PROJECT REFERENCE NO. <i>P-5208D</i>	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID L. WILSON 19026 03 SEAL	HYDRAULICS ENGINEER DAVID L. WILSON 19026 03 SEAL
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	WSP Sells, Inc. 15401 Weston Pkwy, St 100 Cary, NC 27513 NC License No. F-0891

DCN
0077DEL P10a4

NAD 83/NSRS 2007

MATCH LINE SEE SHEET NO.6
-Y3- STA. 18+50.00



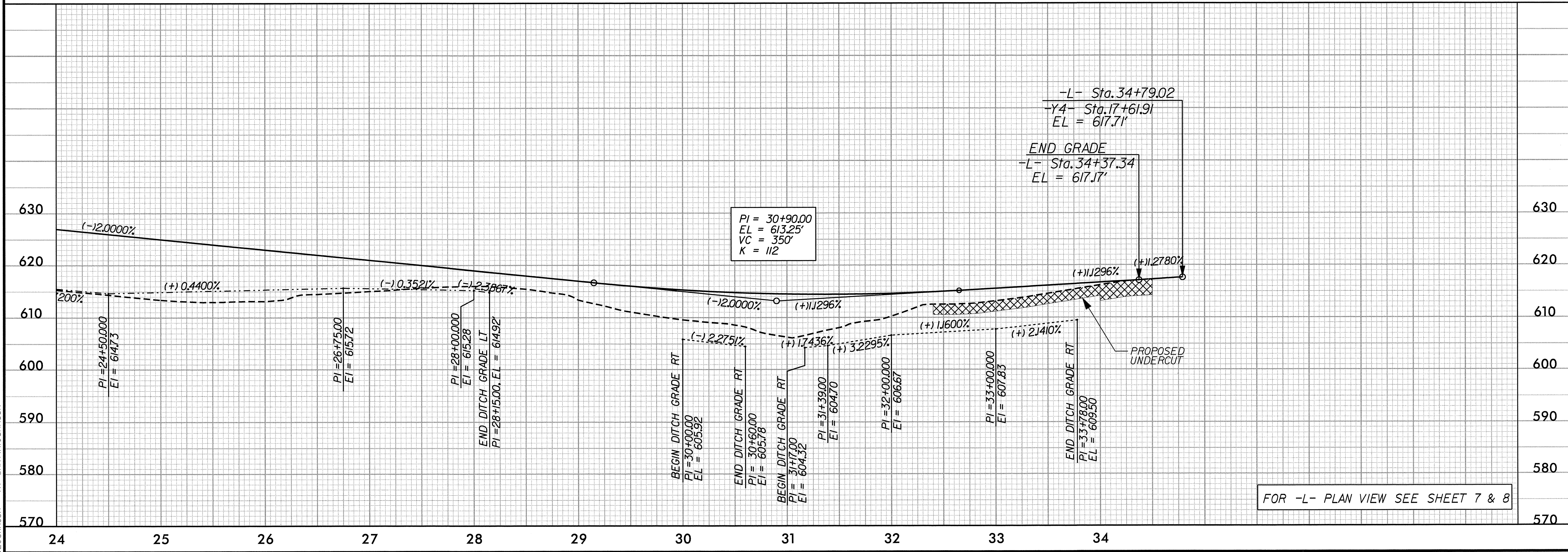
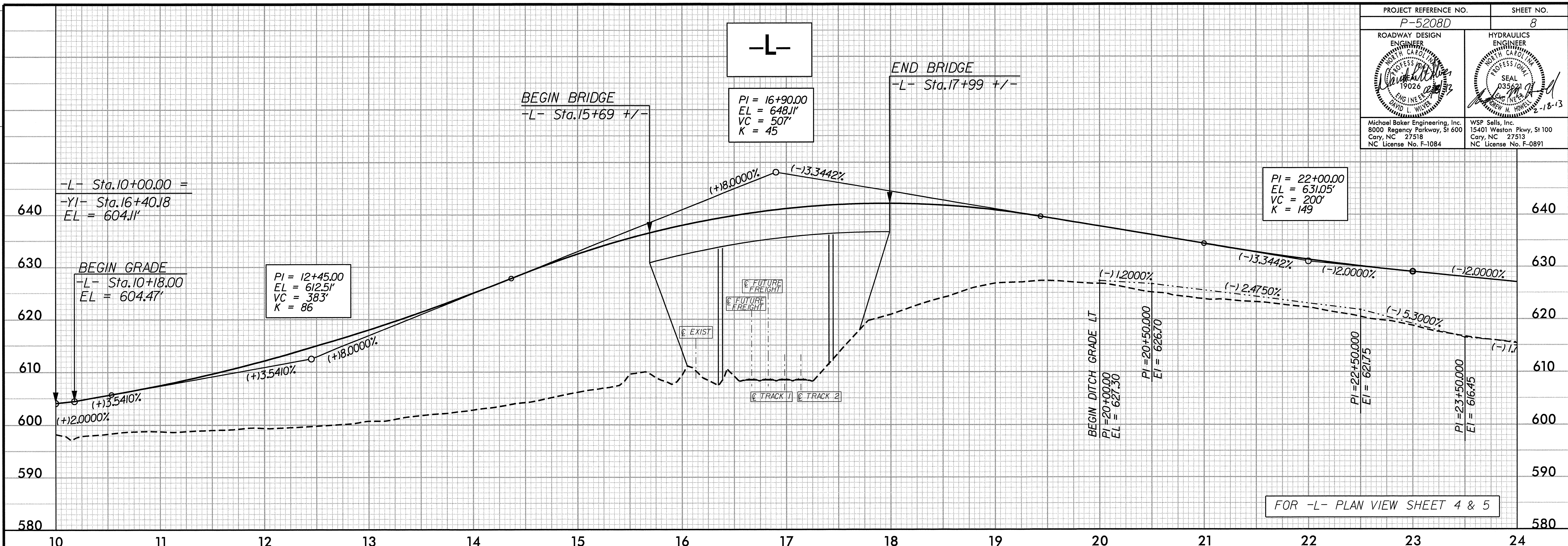
REVISIONS

PAVEMENT REMOVAL

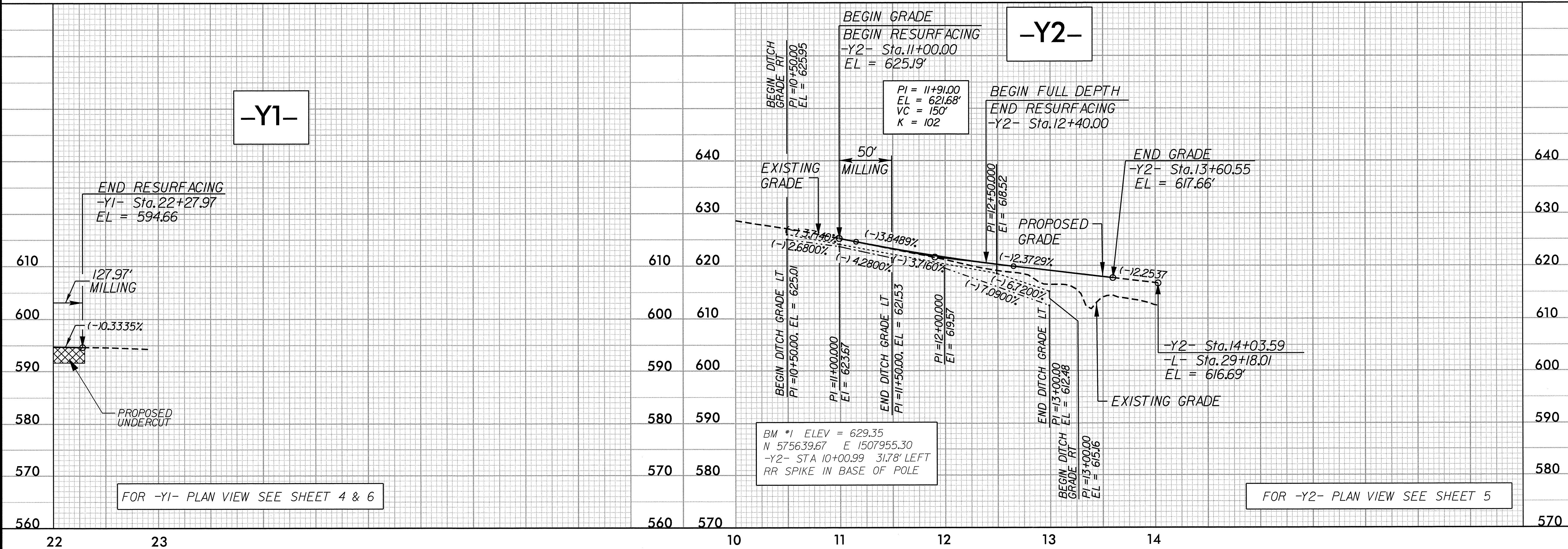
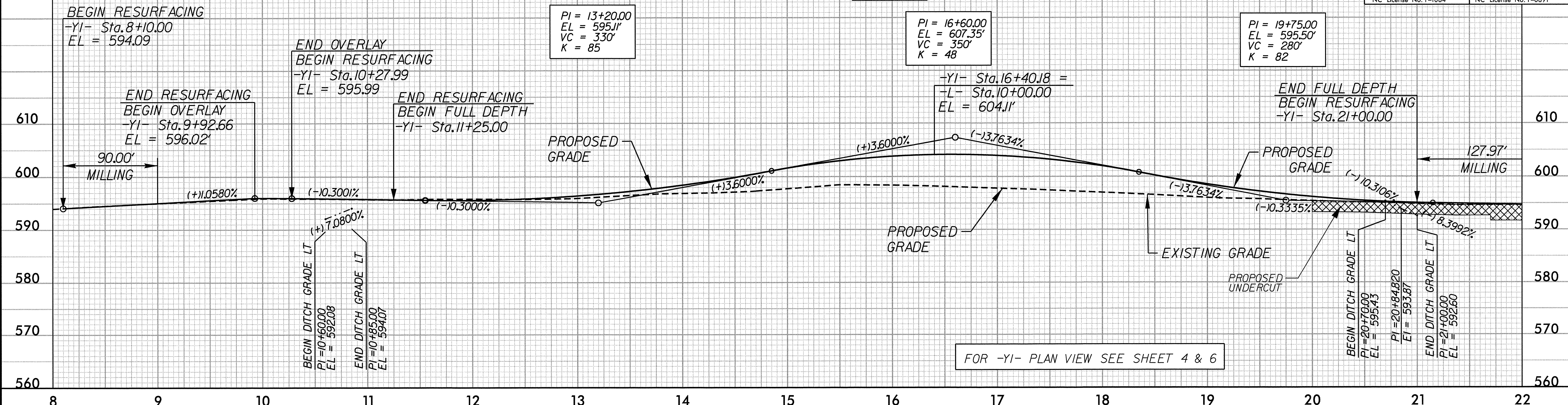
FOR -Y3- SEE PROFILE SHEET 10
FOR -SRVRD- SEE PROFILE SHEET 10
FOR RETAINING WALL SEE SHEETS W1 AND W2

01-MAR-2013 16:26
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 0077DEL P10a4

PROJECT REFERENCE NO. P-5208D	SHEET NO. 8
ROADWAY DESIGN ENGINEER DAVID L. WILSON 19026 ENGINEER 2-18-13	HYDRAULICS ENGINEER WSP SALLS, INC. 15401 Weston Pkwy, St 100 Cary, NC 27513 NC License No. F-0891
Michael Baker Engineering, Inc. 8000 Regency Parkway, St 600 Cary, NC 27518 NC License No. F-1084	WSP Salls, Inc. 15401 Weston Pkwy, St 100 Cary, NC 27513 NC License No. F-0891



18-FEB-2013 04:14
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 AT: CARY\WJ\JOHNSON
 ME: JOHNSON



18-FEB-2013 14:14
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 ME:lab

