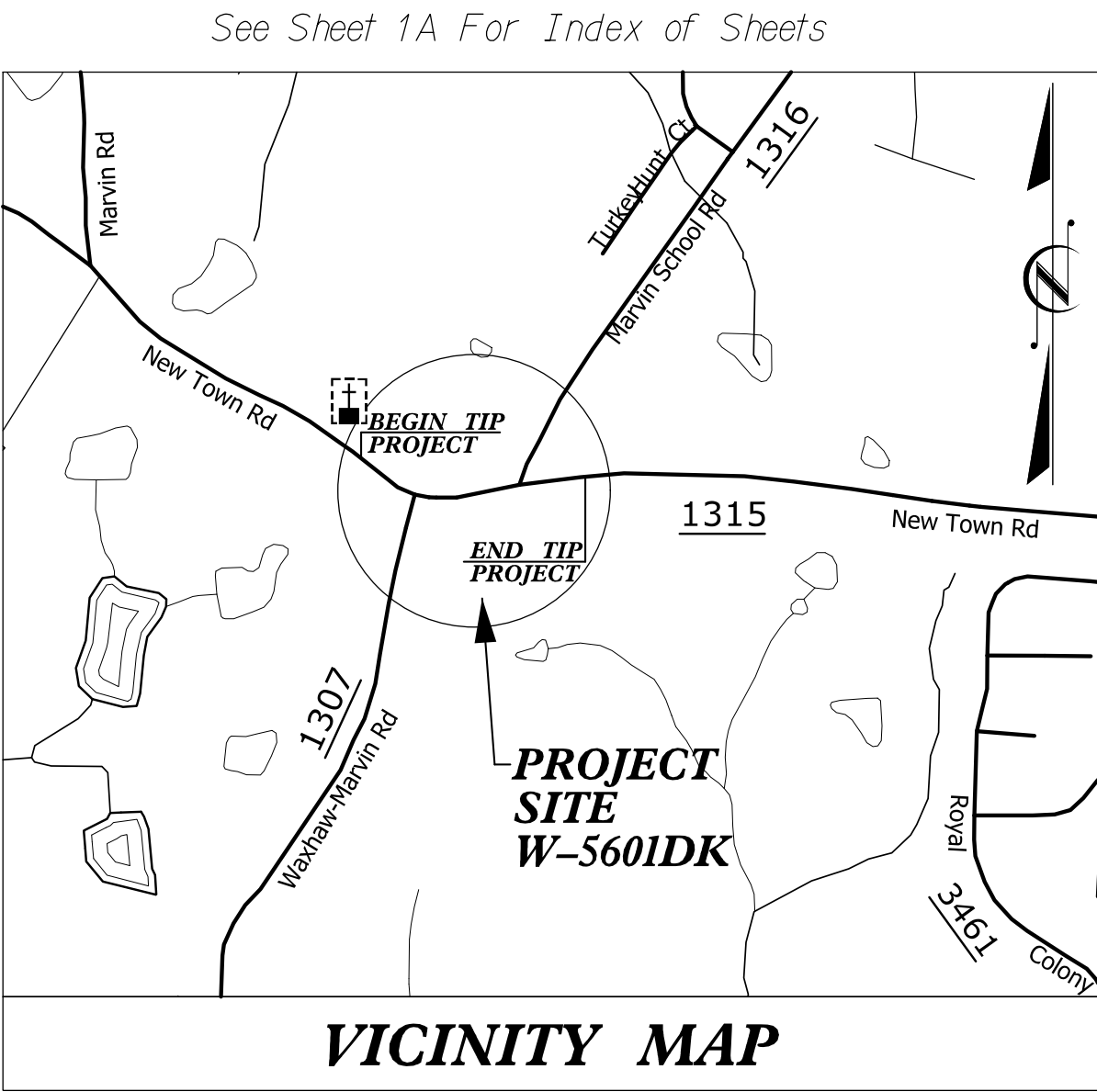


TIP PROJECT: W-5601DK

CONTRACT: 50138.3.116



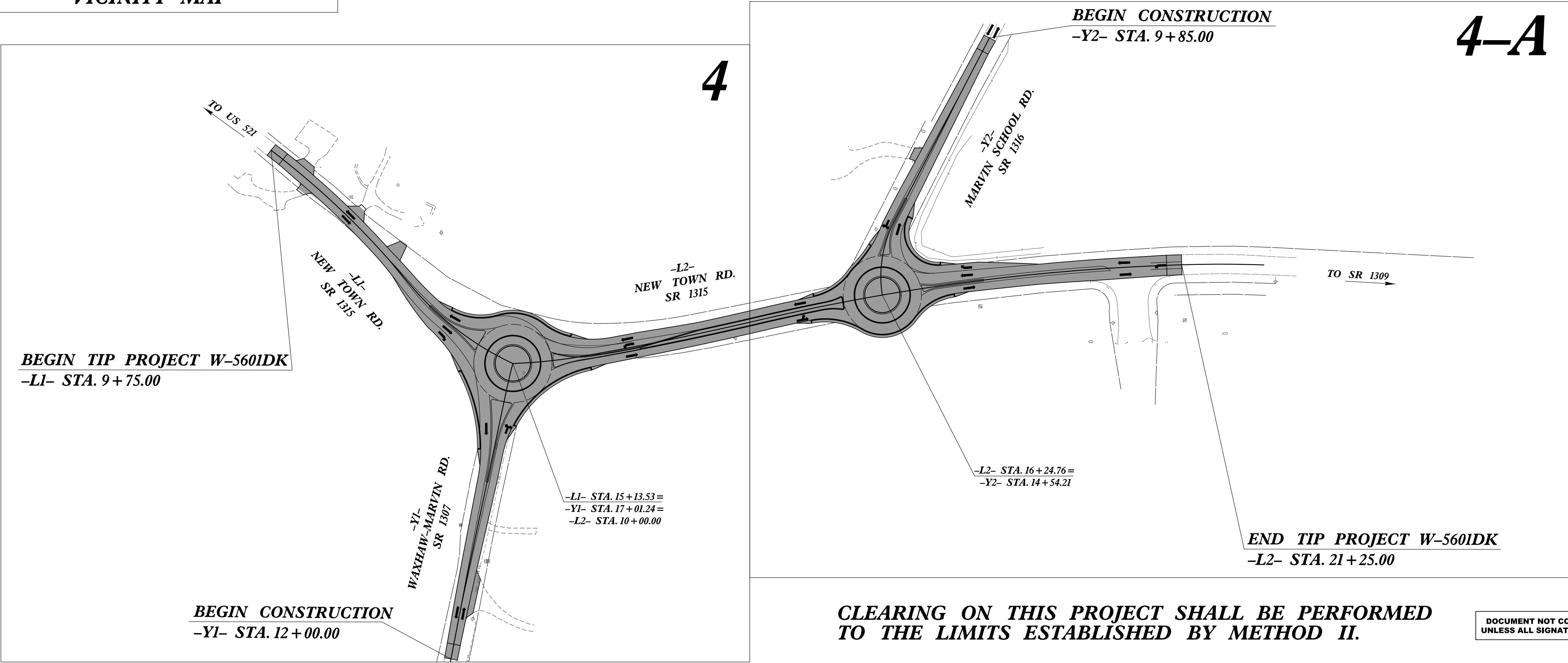
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

LOCATION: INTERSECTIONS OF NEW TOWN RD (SR 1315) AND WAXHAW MARVIN RD (SR 1307)/
NEW TOWN RD (SR 1315) AND MARVIN SCHOOL RD (SR 1316)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, EROSION
CONTROL, AND PAVEMENT MARKINGS

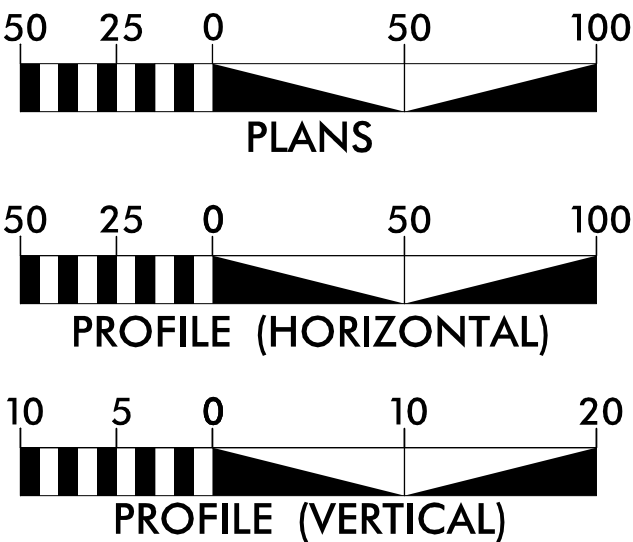
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601DK	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.116	HSIP-1315(017)	PE	
50138.2.116	HSIP-1315(017)	RW UTIL.	
50138.3.116	HSIP-1315(017)	CONST.	



**CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD II.**

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2017 = 7000
ADT 2037 = 13,000
DHV = NA %
D = NA %
T = NA % *
V = 40 MPH
* TTST = NA DUAL NA
FUNC CLASS =
URBAN COLLECTOR

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT W-5601DK = 0.499 MILES
TOTAL LENGTH TIP PROJECT W-5601DK = 0.499 MILES

PREPARED IN THE OFFICE OF:



434 Fayetteville Street, Suite 1500 Raleigh, NC 27601
Tel. (919) 836-4040 www.wsp-pb.com
License No. F-0891

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

DAVID GOURLEY, PE
PROJECT ENGINEER

LETTING DATE:

HOLLY CHRISTENBURY, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:

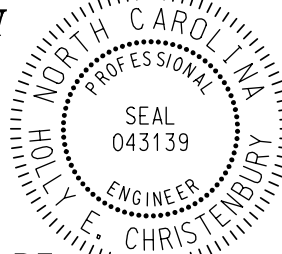
TIMOTHY M. BOLAND, PE
DIVISION 10 OPERATIONS ENGINEER

HYDRAULICS ENGINEER

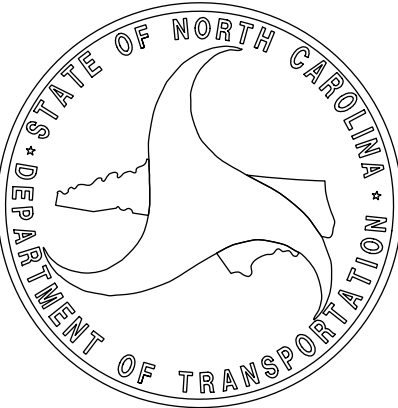


DocuSigned by:
Kana Stansell
4/18/2018
SIGNATURE: KANA STANSELL
P.E.

ROADWAY DESIGN
ENGINEER



DocuSigned by:
Holly Christenbury
4/18/2018
SIGNATURE: HOLLY CHRISTENBURY
P.E.



8/17/99

4/17/2018
R:\Roadway\Proj\Marvin_rdy_tsh_01a.dgn
15H004407

PROJECT REFERENCE NO.	SHEET NO.
W-560/DK	1A

EFF. 01-16-2018
REV.

GENERAL NOTES: 2018 SPECIFICATIONS

EFFECTIVE: 01-16-2018
REVISED:

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – N. C. Department of Transportation – Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2	EARTHWORK
200.02	Method of Clearing – Method II
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3	PIPE CULVERTS
310.10	Driveway Pipe Construction
DIVISION 5	SUBGRADE, BASES AND SHOULDERS
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 8	INCIDENTALS
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Islands
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEET
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B THRU 2-C	ROUNDAABOUT LAYOUT
2-D	PAYMENT REMOVAL
2-E THRU 2-F	PROPOSED RIGHT-OF-WAY
3-A	MISCELLANEOUS SUMMARIES (RGHT-OF-WAY, EARTHWORK, DRAINAGE SUMMARY, GUARDRAIL)
4 THRU 5	PLAN SHEETS
6 THRU 7	PROFILE SHEETS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLAN
EC-1 THRU EC-7	EROSION CONTROL PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-12	CROSS-SECTIONS

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 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.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

UTILITY	OWNER
POWER	UNION POWER
TELEPHONE	WINDSTREAM
WATER	UNION COUNTY
CABLE	TIME WARNER CABLE
GAS	PIEDMONT NATURAL GAS
SEWER	UNION COUNTY

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

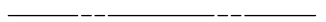
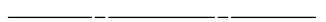
ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

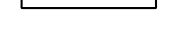
CONVENTIONAL PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
W-5601DK	1B

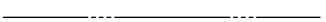
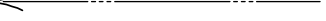
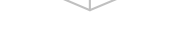
BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin	
Computed Property Corner	
Property Monument	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

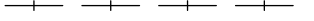
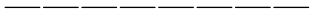
BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	

HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

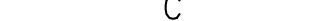
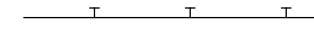
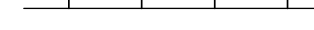
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Exist Permanent Easment Pin and Cap	
New Permanent Easement Pin and Cap	
Vertical Benchmark	
Existing Right of Way Marker	
Existing Right of Way Line	
New Right of Way Line	
New Right of Way Line with Pin and Cap	
New Right of Way Line with Concrete or Granite R/W Marker	
New Control of Access Line with Concrete C/A Marker	
Existing Control of Access	
New Control of Access	
Existing Easement Line	
New Temporary Construction Easement	
New Temporary Drainage Easement	
New Permanent Drainage Easement	
New Permanent Drainage /Utility Easement	
New Permanent Utility Easement	
New Temporary Utility Easement	
New Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	

VEGETATION:

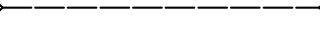
Single Tree	
Single Shrub	

Note: Not to Scale

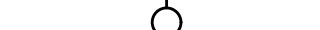
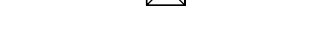
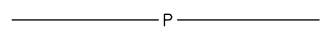
*S.U.E. = Subsurface Utility Engineering

Hedge	
Woods Line	
Orchard	
Vineyard	

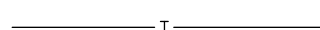
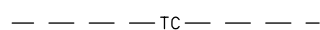
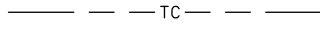
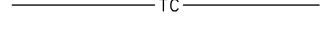
EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

UTILITIES:

POWER:	
Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	
U/G Power Line LOS B (S.U.E.*)	
U/G Power Line LOS C (S.U.E.*)	
U/G Power Line LOS D (S.U.E.*)	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Cable LOS B (S.U.E.*)	
U/G Telephone Cable LOS C (S.U.E.*)	
U/G Telephone Cable LOS D (S.U.E.*)	
U/G Telephone Conduit LOS B (S.U.E.*)	
U/G Telephone Conduit LOS C (S.U.E.*)	
U/G Telephone Conduit LOS D (S.U.E.*)	
U/G Fiber Optics Cable LOS B (S.U.E.*)	
U/G Fiber Optics Cable LOS C (S.U.E.*)	
U/G Fiber Optics Cable LOS D (S.U.E.*)	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line LOS B (S.U.E.*)	
U/G Water Line LOS C (S.U.E.*)	
U/G Water Line LOS D (S.U.E.*)	
Above Ground Water Line	

TV:

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

GAS:

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

SANITARY SEWER:

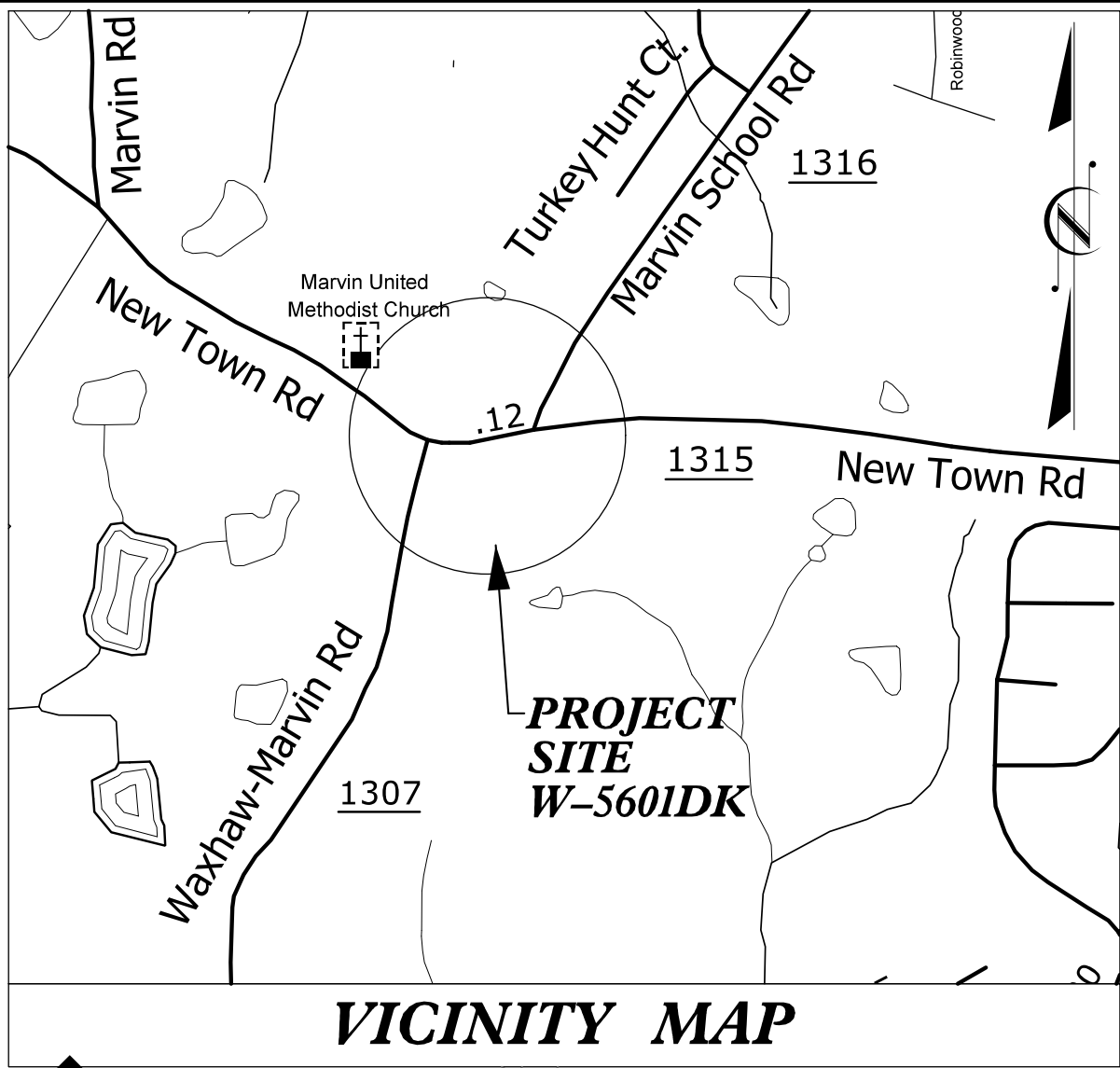
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Forced Main Line LOS B (S.U.E.*)	
SS Forced Main Line LOS C (S.U.E.*)	
SS Forced Main Line LOS D (S.U.E.*)	

MISCELLANEOUS:

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

8/17/99

4/17/2018
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15H004407



VICINITY MAP

SURVEY CONTROL SHEET W-5601DK

PROJECT REFERENCE NO.	SHEET NO.
W-5601DK	1C-1

BL	POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
1		-BL-1	457223.7630	1455955.7056	691.79	OUTSIDE PROJECT LIMITS	
2		-BL-2	456807.1879	1456452.9036	685.35	-L2-10+34.29	7.73 LT
3		-BL-3	456882.6831	1456992.2674	675.37	-L2-15+79.54	20.90 RT
4		-BL-4	456984.3508	1457483.4032	662.41	-L2-20+79.18	24.62 LT
5		-BL-5	456993.1623	1458305.3572	675.70	OUTSIDE PROJECT LIMITS	
6		-BY1-6	456455.2829	1456054.3931	666.33	OUTSIDE PROJECT LIMITS	
7		-BY1-7	455979.4178	1456276.3712	677.74	OUTSIDE PROJECT LIMITS	
8		-BY1-8	456439.0139	1456322.5013	691.75	-Y1-13+30.51	19.46 LT
9		-BY2-9	457531.3438	1457308.2365	654.28	OUTSIDE PROJECT LIMITS	

**-L1- STA. 9+75.00 END STATE PROJECT W-5601DK
LOCALIZED PROJECT COORDINATES
N = 457151.6079 E = 1456017.7415**

**-Y2-
MARVIN SCHOOL RD
SR 1316**

**-L1-
NEW TOWN RD
SR 1315**

**-L2-
NEW TOWN RD
SR 1315**

**-L2- STA. 21+25.00 END STATE PROJECT W-5601DK
LOCALIZED PROJECT COORDINATES
N = 456961.4336 E = 1457530.2568**

**-Y1-
WAXHAW-MARVIN RD
SR 1307**

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY WSP FOR REBAR & CAPT "-BY- 1-8" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 456439.014(±) EASTING: 1456322.501(±) ELEVATION: 691.75(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999863516850 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "-BY- 1-8" TO BY-1 STATION 9+17.95 IS N 84 33' 00" W 1,011.57' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTES:

- THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY WSP|PB. CONTROL POINTS PROVIDED ARE AS FOLLOWS:
BL-1 BL-4 BY1-7
BL-2 BL-5 BY1-8
BL-3 BY1-6 BY2-9
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY WSP|PB.
INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY WSP|PB.

NOTE: DRAWING NOT TO SCALE

EXISTING GROUND

1.5"

25'

AS DIRECTED BY THE ENGINEER

W

U

VARIABLE DEPTH MILLING DETAIL
For Profile Connections
Tying Proposed Pavements to Existing Pavements

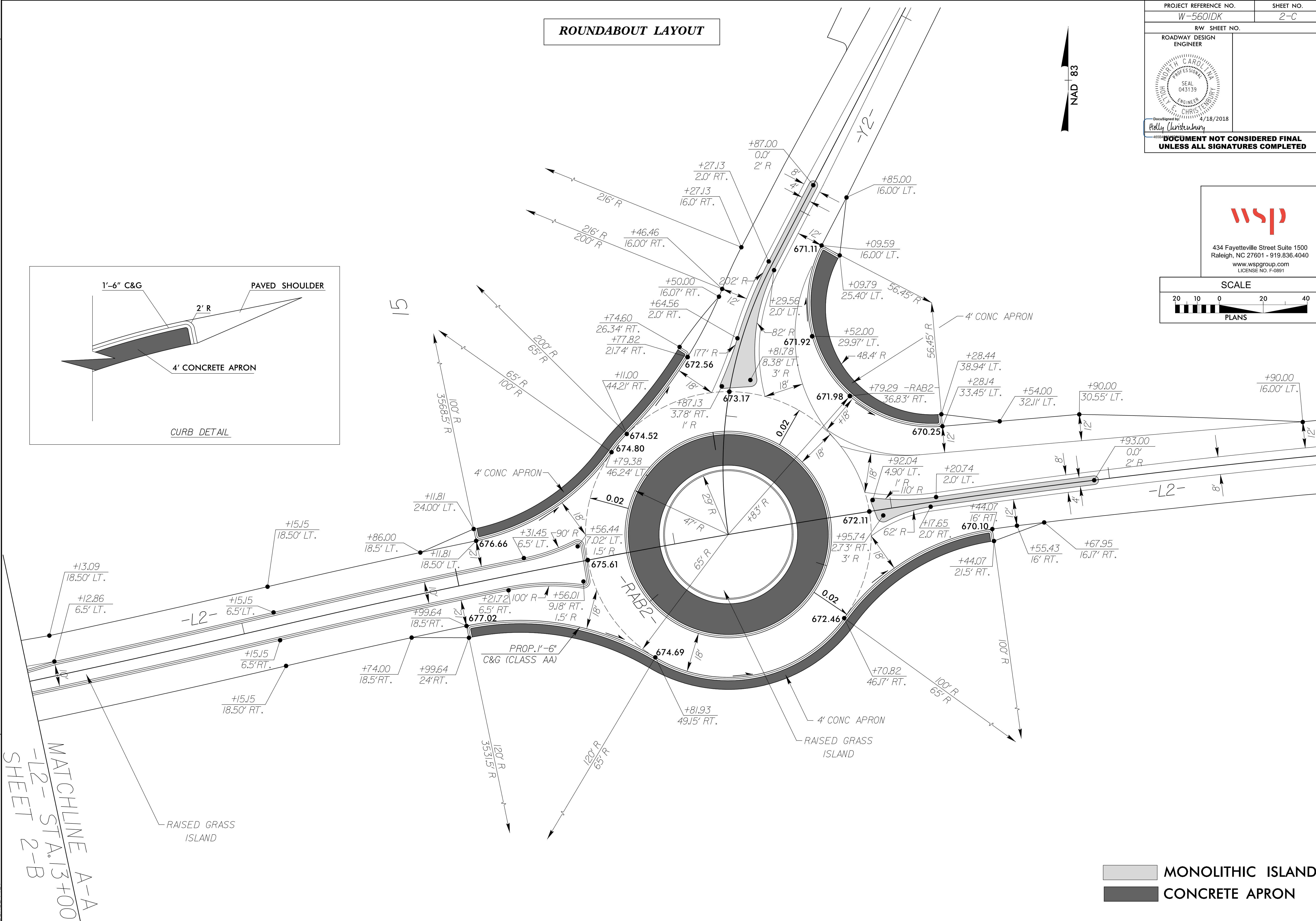
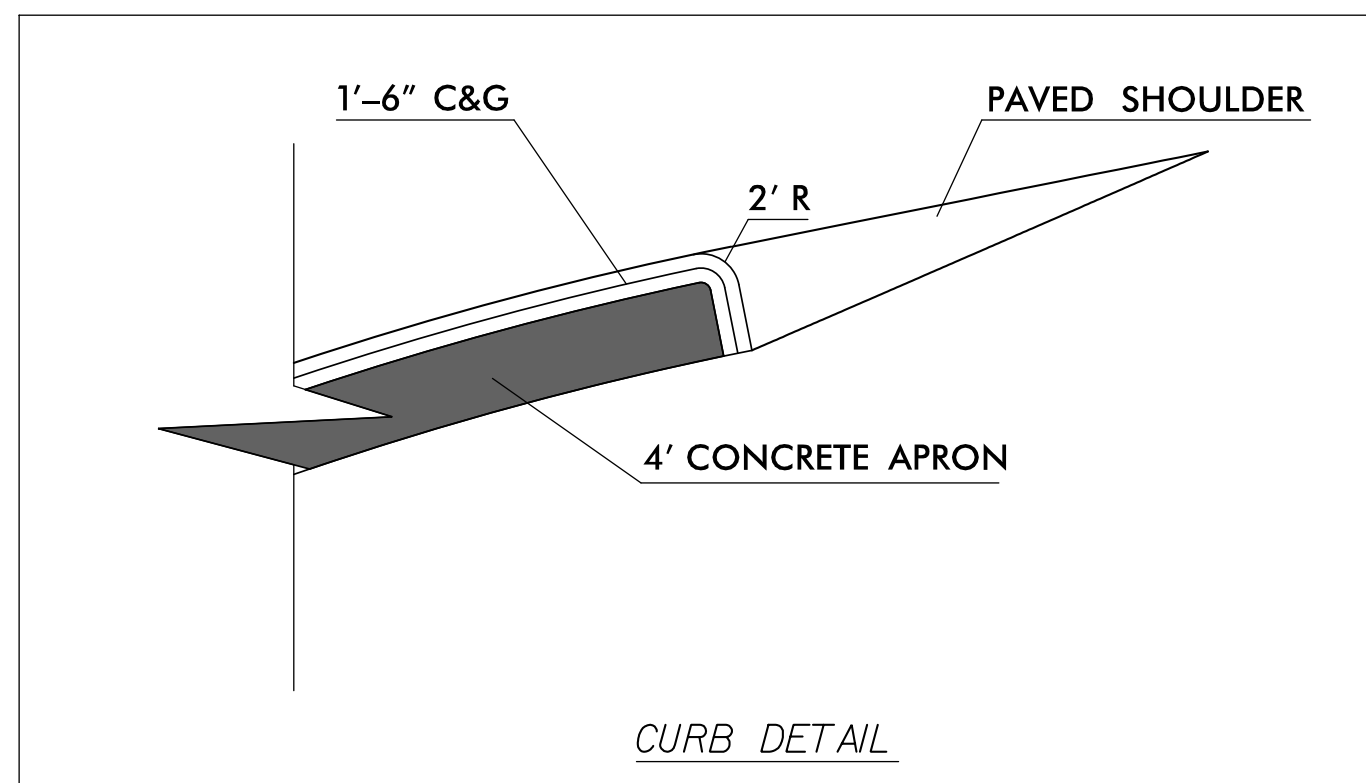
W	WEDGING
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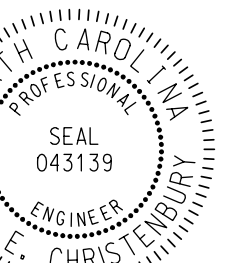
NAD 83



MONOLITHIC ISLAND
CONCRETE APRON

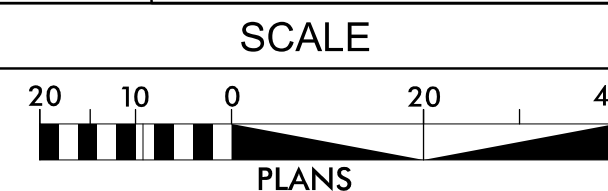
ROUNDABOUT LAYOUT



PROJECT REFERENCE NO.	SHEET NO.
W-5601DK	2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	 4/18/2018 <i>J. H. Christensen</i>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

WS |

434 Fayetteville Street Suite 1500
Raleigh, NC 27601 - 919.836.4040
www.wspgroup.com
LICENSE NO. F-0891



MONOLITHIC ISLAND
CONCRETE APRON

PAVEMENT REMOVAL

PROJECT REFERENCE NO. <i>W-5601DK</i>	SHEET NO. <i>2-D</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	

Seal of the State of North Carolina
Professional Engineer
State Professional Seal No. 043139
E. Christensen
State of North Carolina

Designed by
Ely Christensen

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

Fayetteville Street Suite 1500
 gh, NC 27601 - 919.836.4040
 www.wspgroup.com
 LICENSE NO. F-0891

02

 BREAKING OF PAVEMENT

 PAVEMENT REMOVAL

8/17/99

REVISIONS

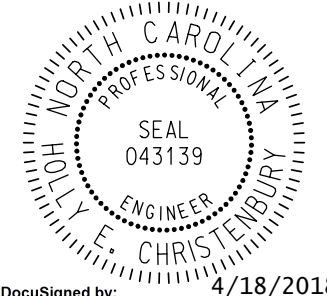
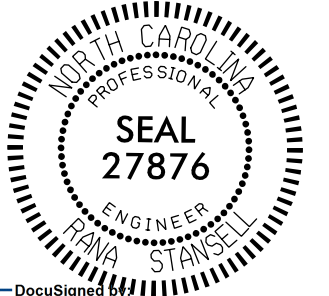
4/18/2018
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USHC02407

BEGIN TIP PROJECT W-5601DK
-L1- PC STA. 9+75.00

BEGIN CONSTRUCTION
-Y1- STA. 12+00.00

PROPOSED ROW

NAD 83

PROJECT REFERENCE NO.		SHEET NO.
W-5601DK		2-E
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		
DocuSigned by: Holly Christenbury 46654	4/18/2018	DocuSigned by: Rana Stansell 4/18/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



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Raleigh, NC 27601 - 919.836.4040
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LICENSE NO. F-0891

-  MILLING/RESURFACING
-  MONOLITHIC ISLAND
-  CONCRETE APRON

8/17/99

REVISIONS

4/18/2018
R:\Roadway\Pro\Marvin_rdy_psh_02F.dgn
USC02407

PROPOSED ROW

MATCHLINE A-A
REFER TO PSH 2-E

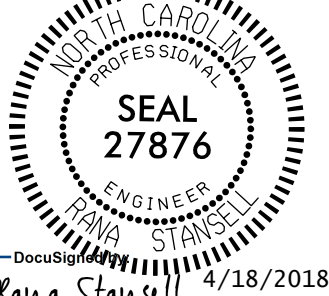
-12- STA. 14+00

-L2- STA. 16+24.76 =
-Y2- STA. 14+54.21

BEGIN CONSTRUCTION
-Y2- STA. 9+85.00

END TIP PROJECT W-5601DK
-L2- STA. 21+25.00

NAD 83

PROJECT REFERENCE NO. W-5601DK		SHEET NO. 2-F
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		
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-  MILLING/RESURFACING
-  MONOLITHIC ISLAND
-  CONCRETE APRON

SUMMARY OF EARTHWORK

DDE: 30 CY
UNDERCUT EXCAVATION: 50 CY
SHOULDER BORROW: 230 CY

RIGHT OF WAY AREA DATA

PAVEMENT REMOVAL SUMMARY

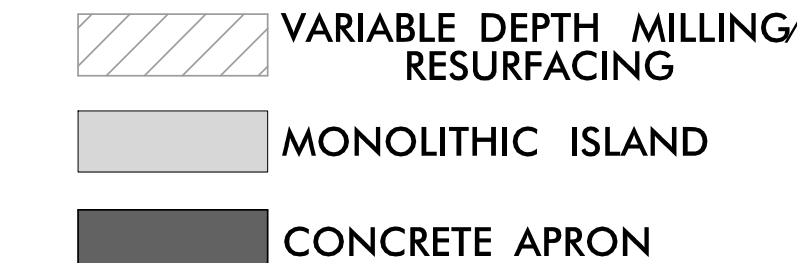
PAVEMENT BREAKING SUMMARY

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

CURB & GUTTER SUMMARY

STANDARD 1'-6" CURB AND GUTTER				
LINE	STATION	STATION	LENGTH	REMARKS
L2	-12- 12 + 06.00 (LT)	-12- 15 + 57.96 (LT)	360.90	
L2	-12- 12 + 06.00 (RT)	-12- 15 + 57.96 (RT)	362.20	
TOTAL CLASS AA 1'-6" CURB & GUTTER:			723.10	
SAY:			730	

MODIFIED 2'-6" CURB AND GUTTER				
LINE	STATION	STATION	LENGTH	REMARKS
RAB1	CENTRAL ISLAND		197.90	
RAB2	CENTRAL ISLAND		197.90	
TOTAL MODIFIED 2'-6" CURB & GUTTER:			395.80	
SAY:			400	



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Raleigh, NC 27601 - 919.836.4040

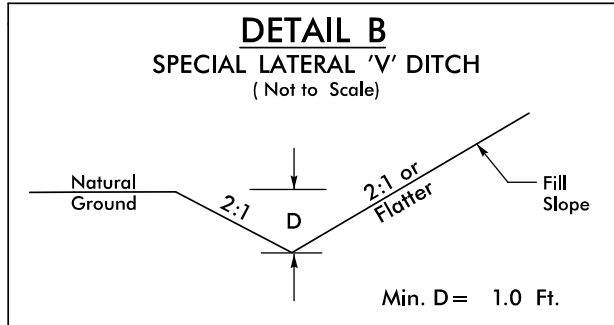
www.wspgroup.com
LICENSE NO. F-0891

REFERENCES:
FOR PROFILES -L1-, -Y1-, -RAB1-, SEE SHEET 6
FOR PROFILE -L2-, SEE SHEET 7
FOR RIGHT-OF-WAY, SEE SHEET 2-E
FOR PAVEMENT REMOVAL SEE SHEET 2-D
FOR ROUNDABOUT DETAIL, SEE SHEET 2-B
INCIDENTAL MILLING APPROXIMATELY 25'
AT EACH TIE IN TO PROVIDE A
SMOOTH TRANSITION TO THE EXISTING
ASPHALT PAYMENT. SEE TYP. 2 FOR DETAIL.

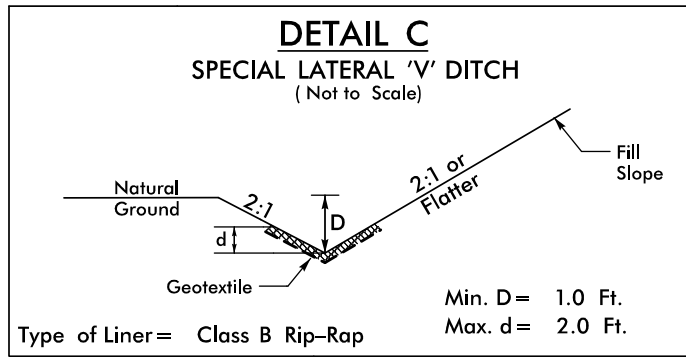
8/17/99

REVISIONS

4/18/2018
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15-H-004407



FROM STA. 15+00 TO STA. 15+60 -L2- LT
FROM STA. 10+50 TO STA. 12+00 -Y2- RT
FROM STA. 10+10 TO STA. 13+50 -Y2- LT
FROM STA. 19+00 TO STA. 21+00 -L2- LT

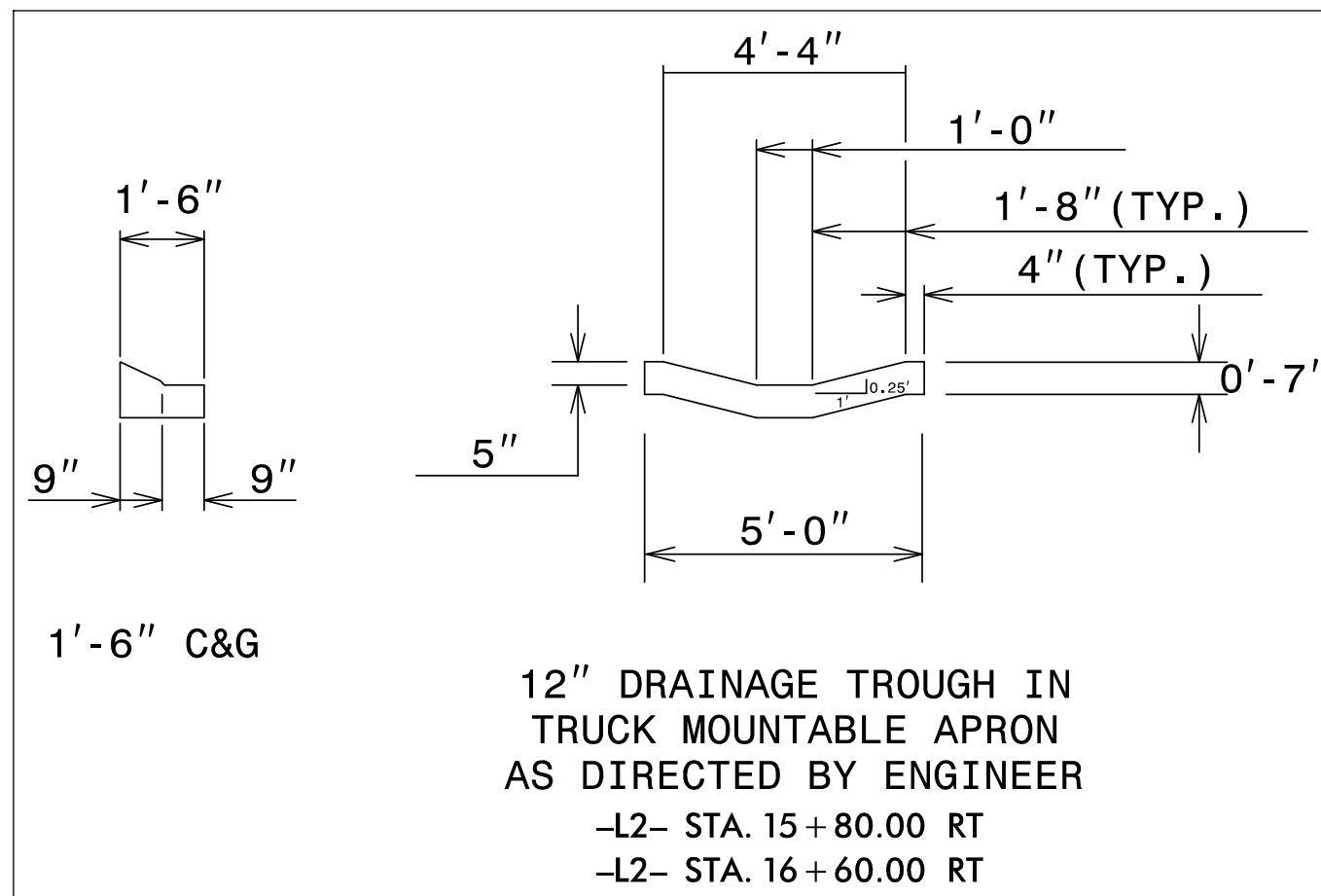


FROM STA. 12+35 TO STA. 14+23 -Y2- RT
FROM STA. 15+00 TO STA. 19+50 -L2- RT
FROM STA. 16+89 TO STA. 17+50 -L2- LT

SPECIAL LATERAL 'V' DITCH
STA. 12+35 TO
STA. 14+23 -Y2- RT
LINE w/ RIPRAP
SEE DETAIL C
60 TONS ; 133 SYFF

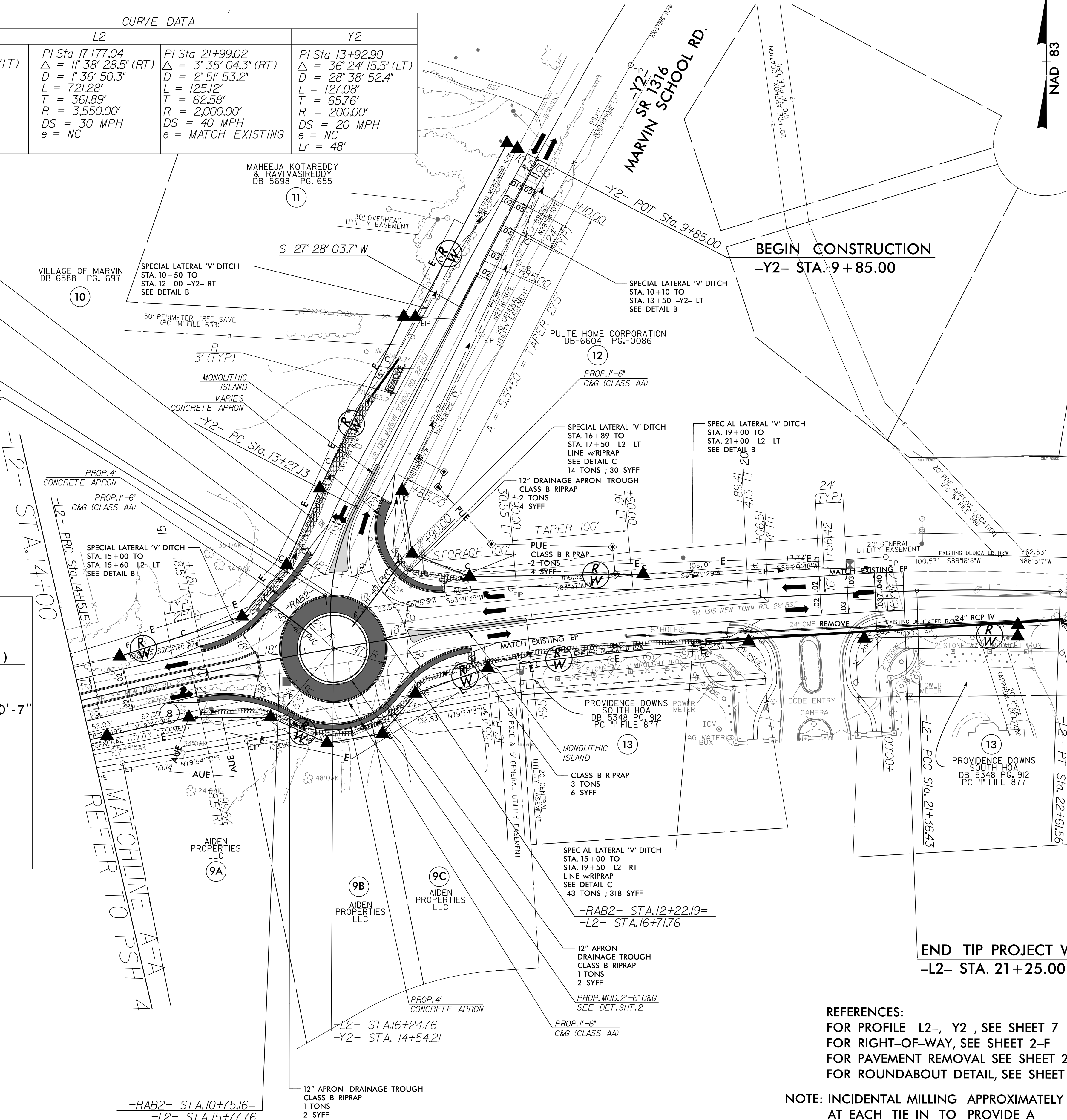
-RAB2- STA. 12+90.08=
-Y2- STA. 14+07.10

-RAB2- STA. 10+00.00=
-Y2- STA. 14+07.98, 5.15' RT



12" DRAINAGE TROUGH IN
TRUCK MOUNTABLE APRON
AS DIRECTED BY ENGINEER
-L2- STA. 15+80.00 RT
-L2- STA. 16+60.00 RT

CURVE DATA			
L2		Y2	
PI Sta 12+65.46	PI Sta 17+77.04	PI Sta 21+99.02	PI Sta 13+92.90
$\Delta = 3^{\circ} 16' 50.1''$ (LT)	$\Delta = 1^{\circ} 38' 28.5''$ (RT)	$\Delta = 3^{\circ} 35' 04.3''$ (RT)	$\Delta = 36^{\circ} 24' 15.5''$ (LT)
$D = 1^{\circ} 05' 43.9''$	$D = 1^{\circ} 36' 50.3''$	$D = 2^{\circ} 51' 53.2''$	$D = 28^{\circ} 38' 52.4''$
$L = 299.45'$	$L = 721.28'$	$L = 125.12'$	$L = 127.08'$
$T = 149.77'$	$T = 361.89'$	$T = 62.58'$	$T = 65.76'$
$R = 5,230.00'$	$R = 3,550.00'$	$R = 2,000.00'$	$R = 200.00'$
$DS = 40$ MPH	$DS = 30$ MPH	$DS = 40$ MPH	$DS = 20$ MPH
$e = NC$	$e = NC$	$e = MATCH$ EXISTING	$e = NC$
			$Lr = 48'$



PROJECT REFERENCE NO. W-5601DK		SHEET NO. 5	
RW SHEET NO. 2-F		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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END TIP PROJECT W-5601DK
-L2- STA. 21+25.00

REFERENCES:
FOR PROFILE -L2-, -Y2-, SEE SHEET 7
FOR RIGHT-OF-WAY, SEE SHEET 2-F
FOR PAVEMENT REMOVAL SEE SHEET 2-D
FOR ROUNDABOUT DETAIL, SEE SHEET 2-C

NOTE: INCIDENTAL MILLING APPROXIMATELY 25'
AT EACH TIE IN TO PROVIDE A
SMOOTH TRANSTION TO THE EXISTING
ASPHALT PAYMENT. SEE TYP. 2 FOR DETAIL.

	VARIABLE DEPTH MILLING/ RESURFACING
	MONOLITHIC ISLAND
	CONCRETE APRON

5/28/99

PROJECT REFERENCE NO.
W-560/DK

ROADWAY DESIGN
ENGINEER

SEAL
043139

PROFESSIONAL
ENGINEER

JOHN W. CHRISTENSEN

DocuSigned by
Holly Christensen
4/18/2018

SHEET NO.
6

HYDRAULICS
ENGINEER

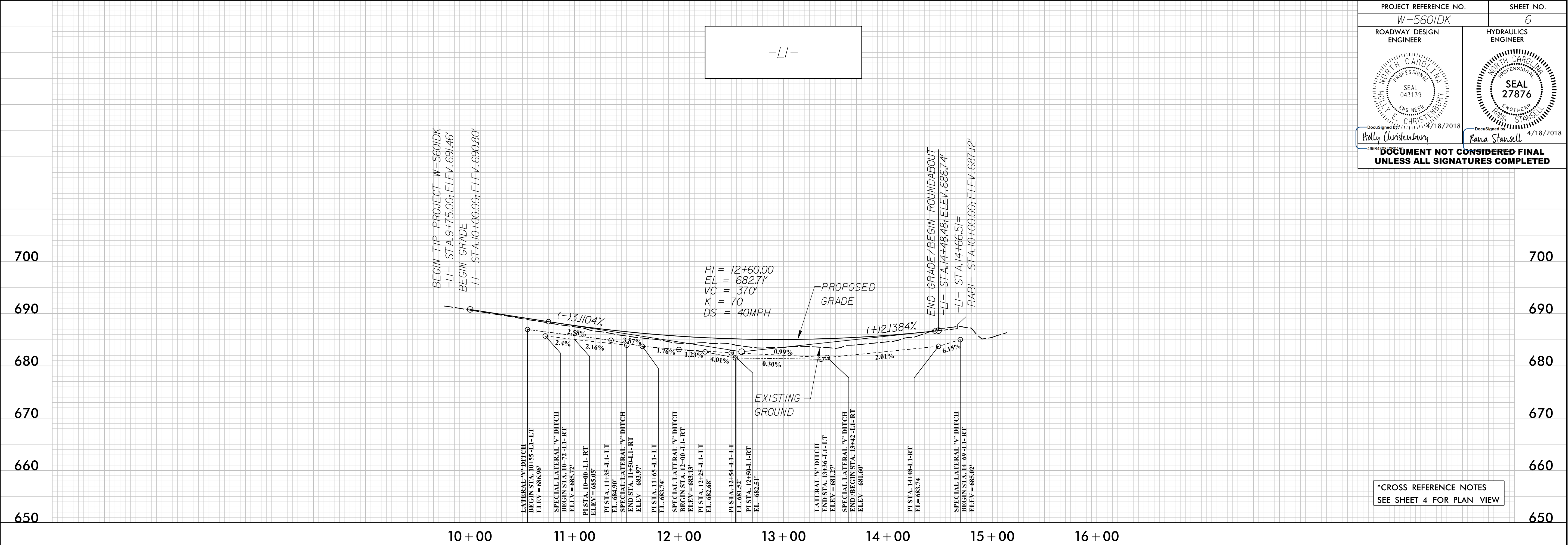
SEAL
27876

PROFESSIONAL
ENGINEER

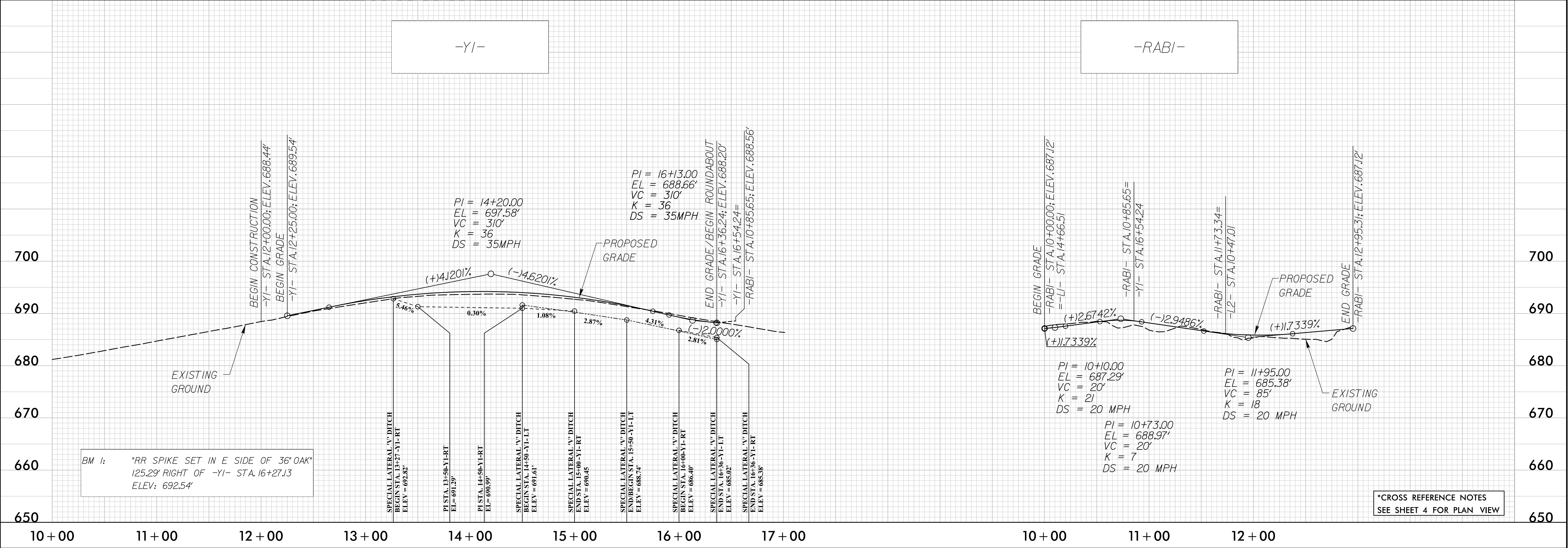
KEITH CARROLL STANSELL

DocuSigned by
Kara Stansell
4/18/2018

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5/28/19

PROJECT REFERENCE NO.
W-560/DK

ROADWAY DESIGN
ENGINEER

SEAL
043139

ENGINEER
E. CHRISTENBURY

DocuSign
4/18/2018

SHEET NO.
7

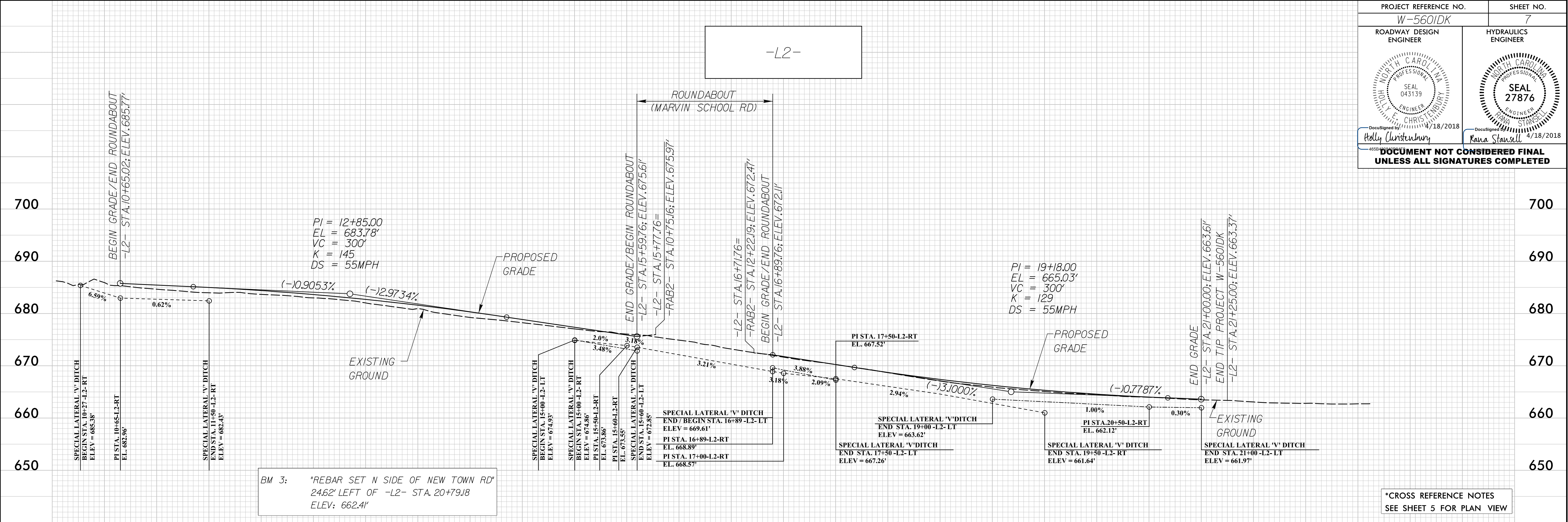
HYDRAULICS
ENGINEER

SEAL
27876

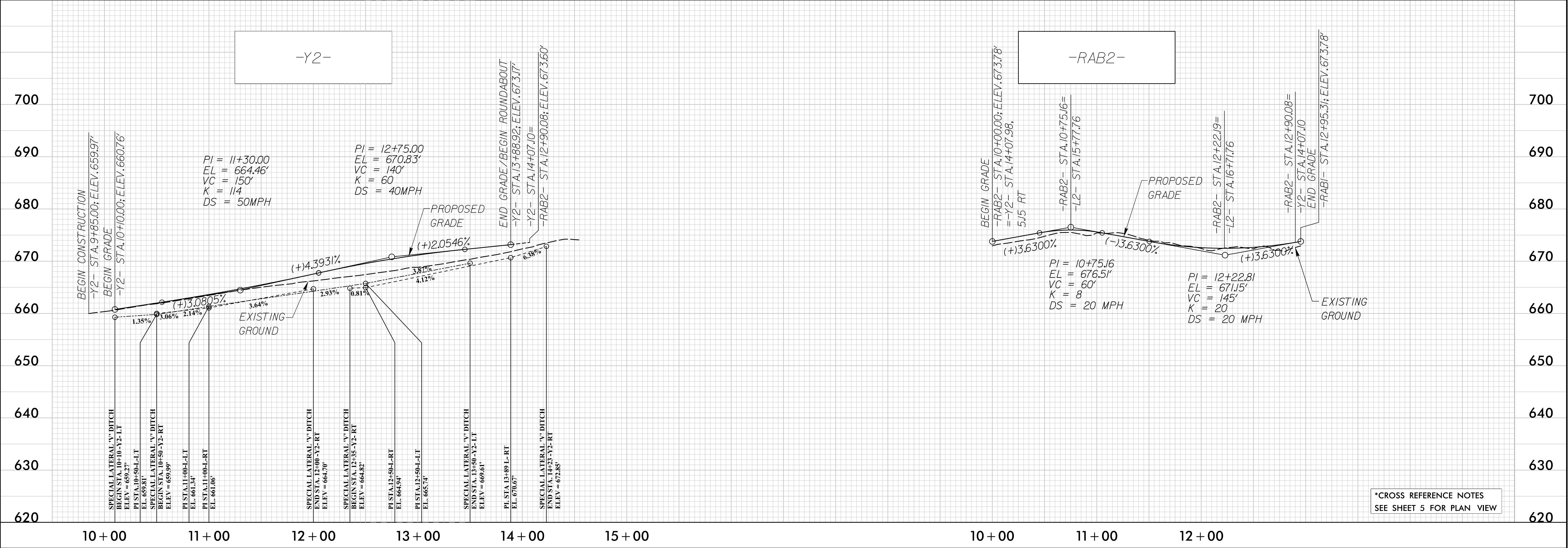
ENGINEER
KARA STANSELL

DocuSign
4/18/2018

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4/17/2018
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15:06:40



THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -
PROJECT SERVICES UNIT - 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:

<u>STD. NO.</u>	<u>TITLE</u>
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

THERMOPLASTIC (4", 90 MIL)

TA	WHITE EDGELINE
TB	YELLOW EDGELINE

THERMOPLASTIC (4", 120 MIL)

T8 2 FT- 6 FT SP WHITE MINISKIP
TD 3 FT- 9 FT SP WHITE MINISKIP
TI YELLOW DOUBLE CENTER

THERMOPLASTIC (8", 90 MIL)

TN	WHITE GORELINE
TP	YELLOW DIAGONAL

THERMOPLASTIC (8", 120 MIL)

```
T13  3 FT- 9 FT SP WHITE MINISKIP
T17  3 FT- 3 FT SP WHITE MINISKIP
```

THERMOPLASTIC SYMBOLS (90 MIL)

UA	LEFT TURN ARROW
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW
UD	COMBO LEFT/STRAIGHT ARROW
UE	24" YIELD LINE TRIANGLE
UF	FISH-HOOK W/ CIRCLE STRAIGHT ARROW
WA	FISH-HOOK W/ CIRCLE LEFT ARROW

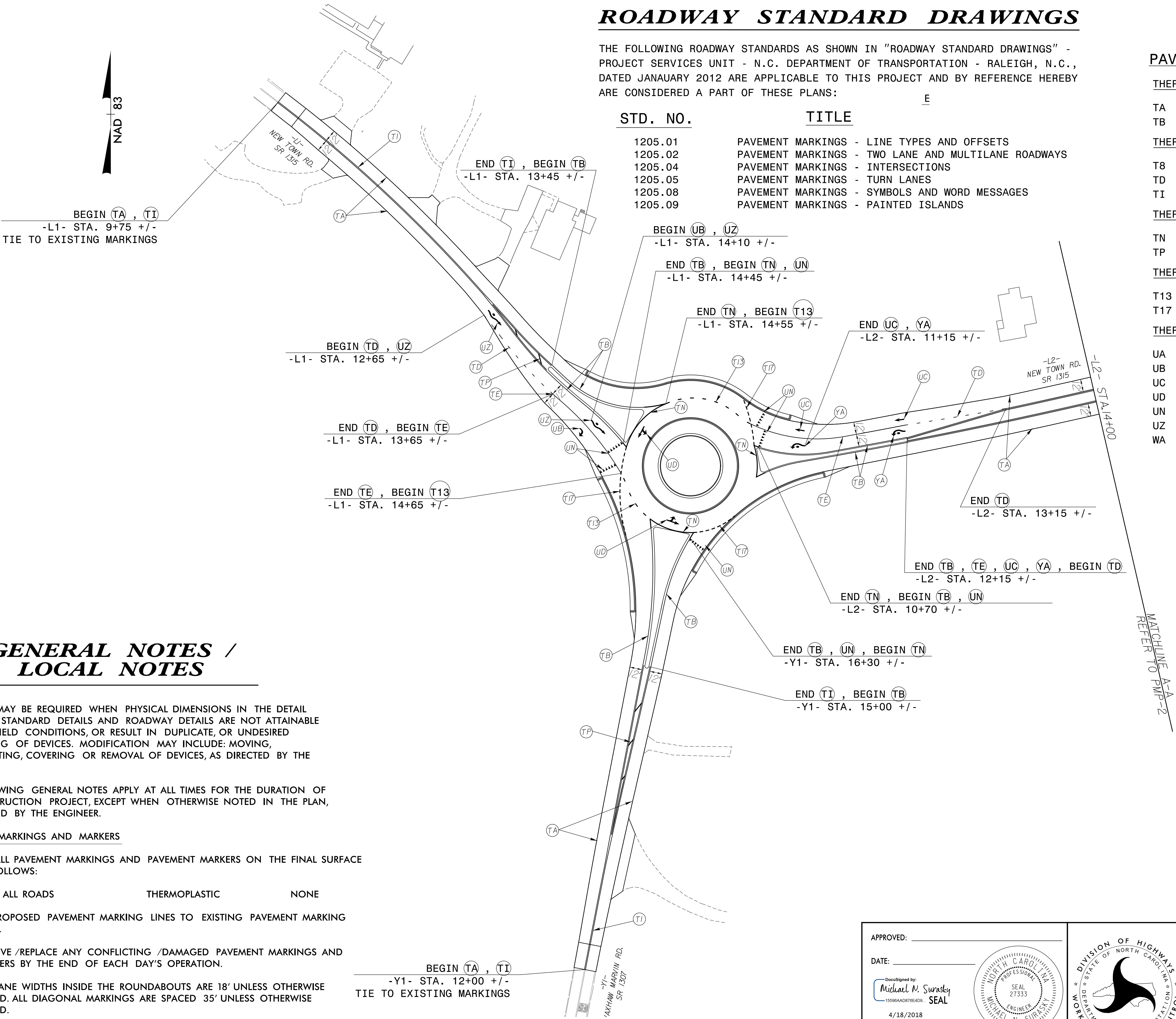
**GENERAL NOTES /
LOCAL NOTES**

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

PAVEMENT MARKINGS AND MARKERS

- | | | | |
|----|---|---------------|------|
| A) | INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS: | | |
| | ALL ROADS | THERMOPLASTIC | NONE |
| B) | TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES. | | |
| C) | REMOVE /REPLACE ANY CONFLICTING /DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION. | | |
| D) | ALL LANE WIDTHS INSIDE THE ROUNDABOUTS ARE 18' UNLESS OTHERWISE NOTED. ALL DIAGONAL MARKINGS ARE SPACED 35' UNLESS OTHERWISE NOTED. | | |



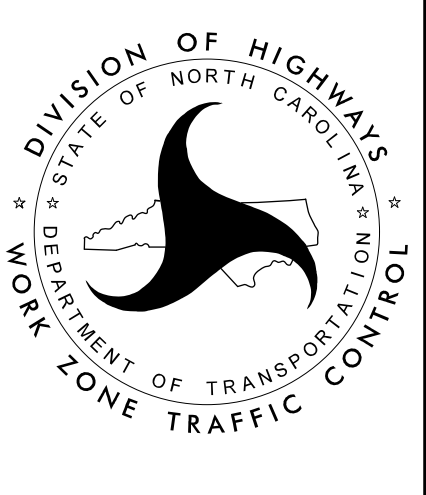
APPROVED: _____

DATE: _____

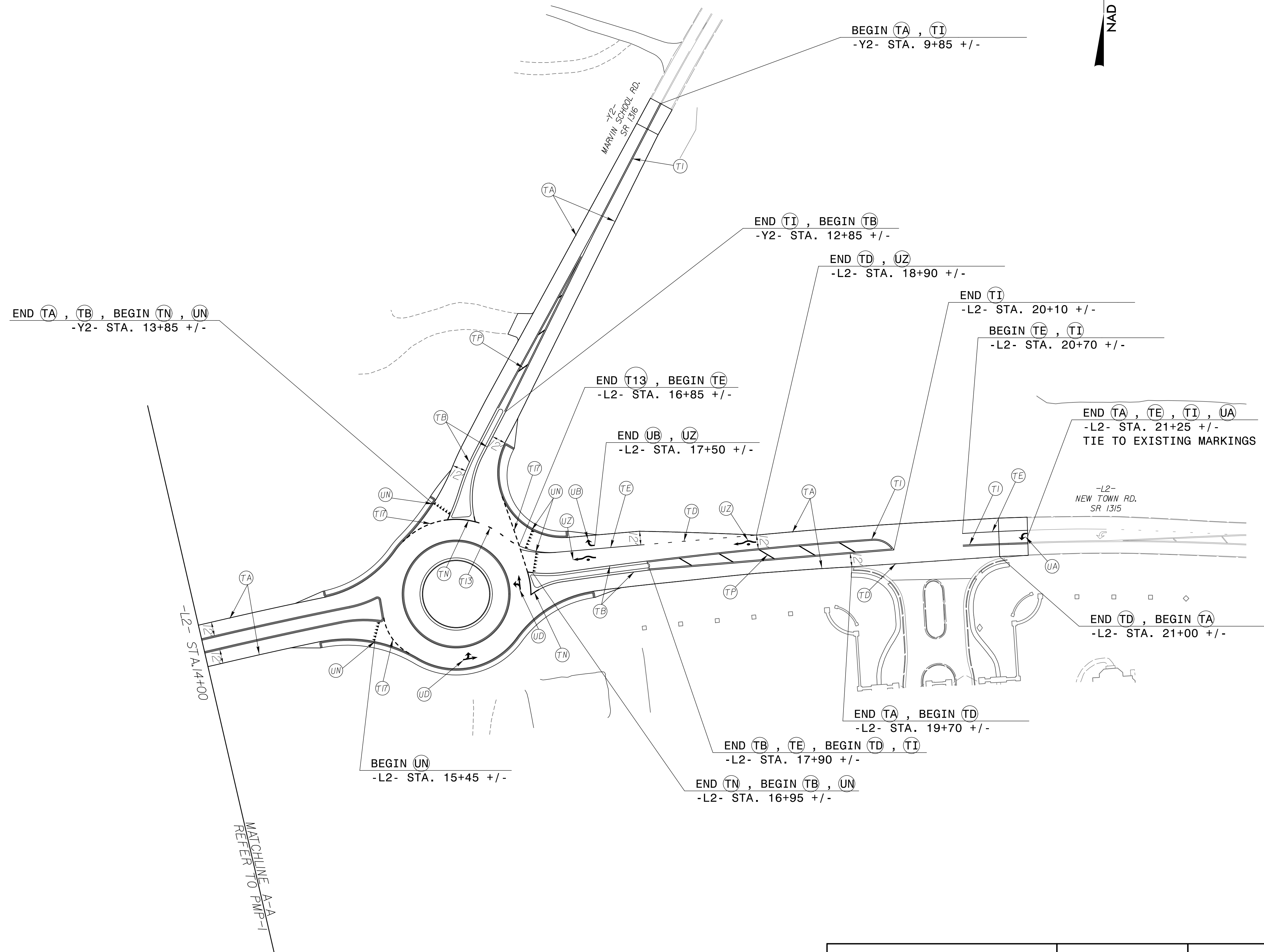
DocuSign by:
Michael N. Sunawsky
15566AADD79EAD9 SEAL

4/18/2018

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wsp
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC. NO. F-0165



APPROVED: _____

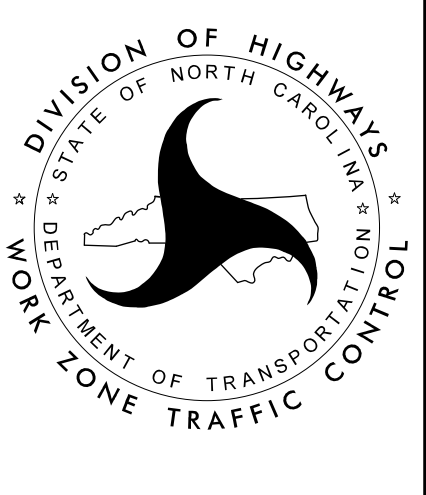
DATE: _____

DocuSigned by:
Michael N. Suraskey
15596AADR7E4D02
SEAL

4/18/2018

NOTAR PUBLIC
PROFESSIONAL
SEAL
27333
ENGINEER
MICHAEL N. SURASKEY

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UNLESS ALL SIGNATURES COMPLETED



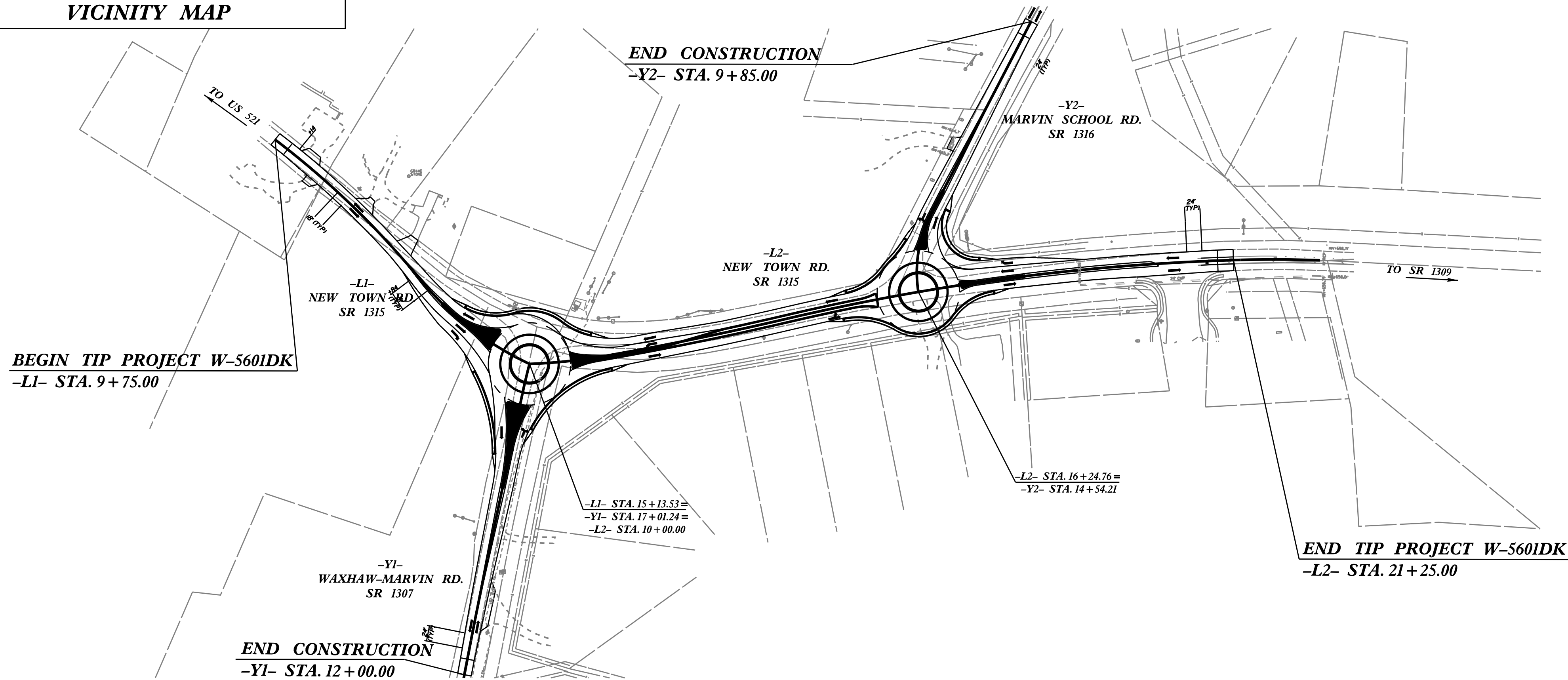
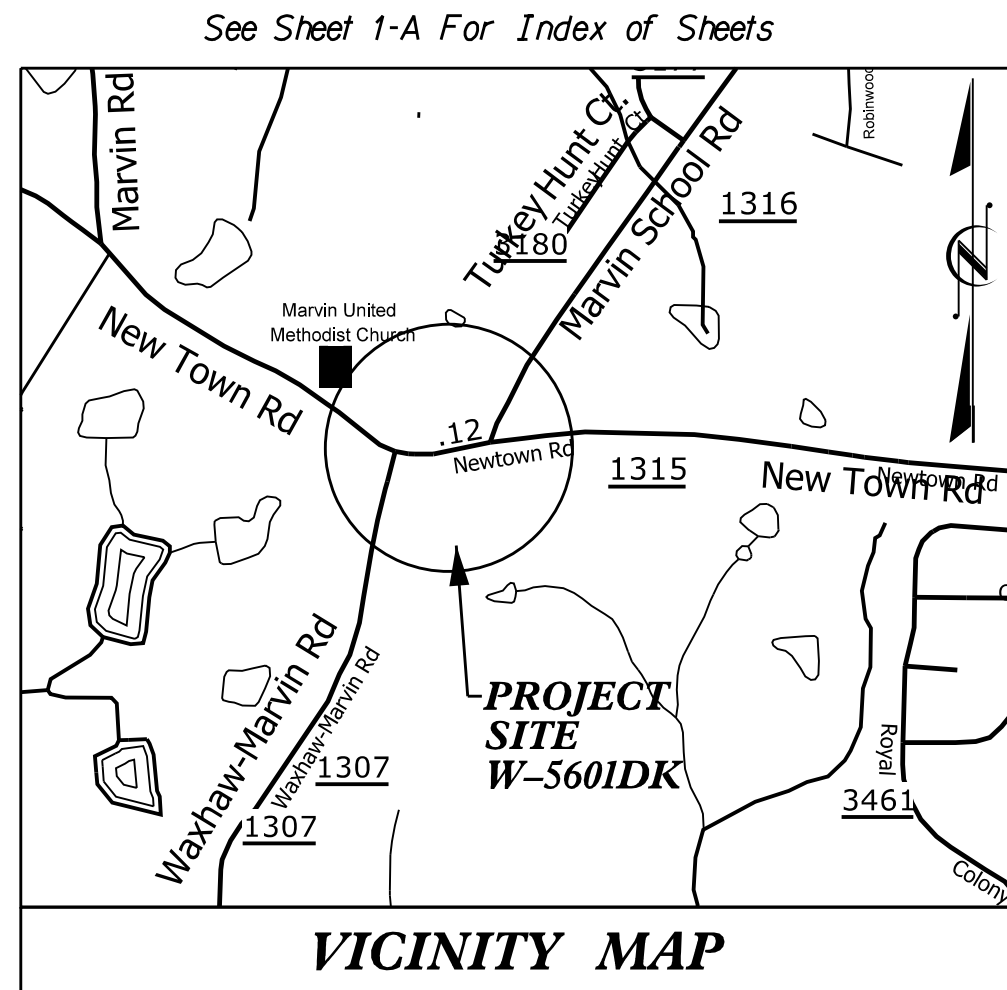
WSP
1001 Morehead Square Dr.
Suite 610
Charlotte NC, 28203
NC LIC. NO. F-0165

DK: Village 4/18/2018 RAB\Hydraulics\CADD\Erosion Control\W-5601DK-EC-ECL.TSH.dgn

TIP PROJECT: W-5601DK

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

LOCATION: INTERSECTIONS OF NEW TOWN RD (SR 1315) AND WAXHAW MARVIN RD (SR 1307)/
NEW TOWN RD (SR 1315) AND MARVIN SCHOOL RD (SR 1316)
TYPE OF WORK: CONSTRUCT A ROUNDABOUT, GRADING, DRAINAGE,
EROSION CONTROL, PAVING, AND PAVEMENT MARKINGS



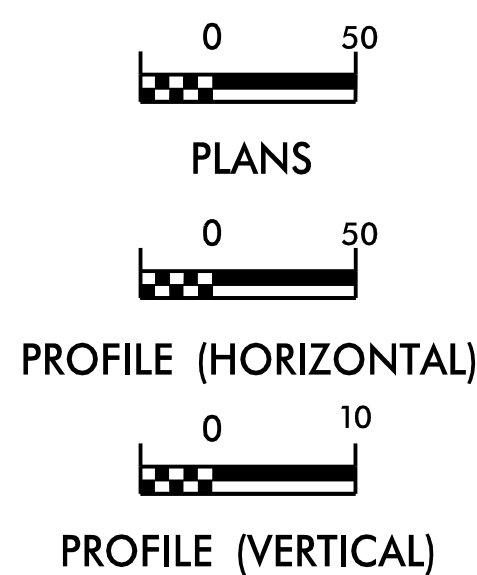
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601DK	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	TD
1630.02	Silt Basin Type B	III III III
1633.01	Temporary Rock Silt Check Type-A	III III III
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	III III III
1633.02	Temporary Rock Silt Check Type-B	III III III
	Wattle/Coir Fiber Wattle	III III III
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	III III III
1634.01	Temporary Rock Sediment Dam Type-A	III III III
1634.02	Temporary Rock Sediment Dam Type-B	III III III
1635.01	Rock Pipe Inlet Sediment Trap Type-A	III III III
1635.02	Rock Pipe Inlet Sediment Trap Type-B	III III III
1630.04	Stilling Basin	III III III
1630.06	Special Stilling Basin	III III III
	Rock Inlet Sediment Trap:	III III III
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	III III III
	Tiered Skimmer Basin	III III III
	Infiltration Basin	III III III

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

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared In the Office of:
WSP | PARSONS BRINCKERHOFF
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601

Designed by:
RANA STANSELL, PE 3597
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
2018 STANDARD SPECIFICATIONS

Reviewed by:

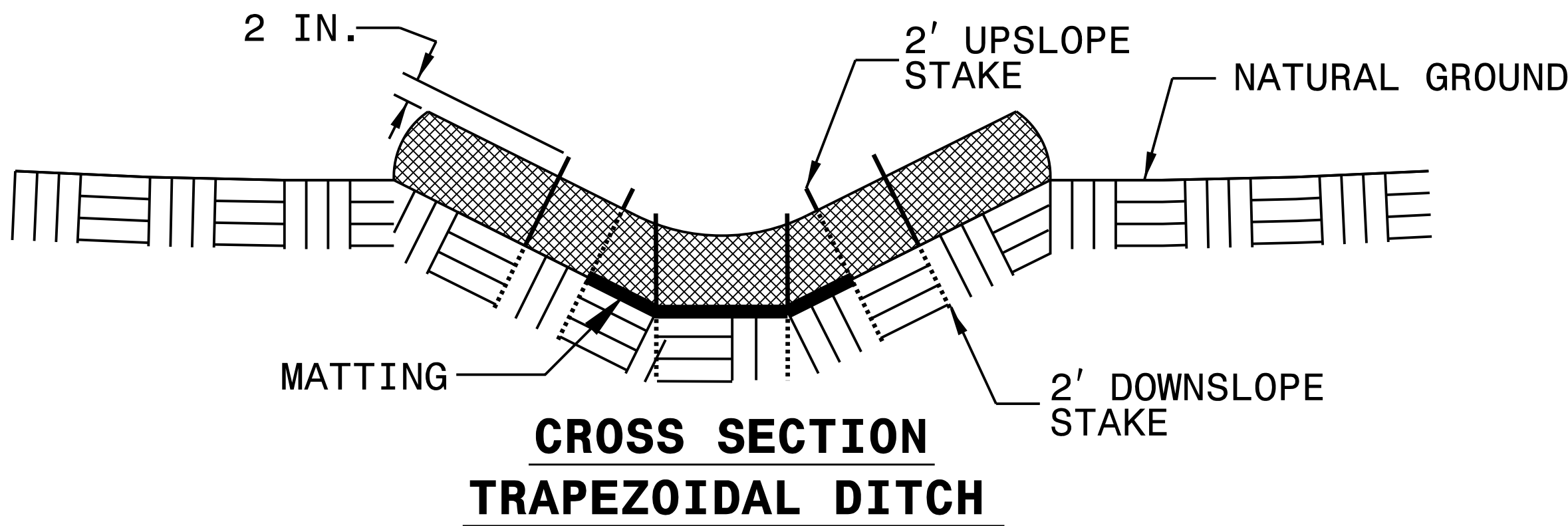
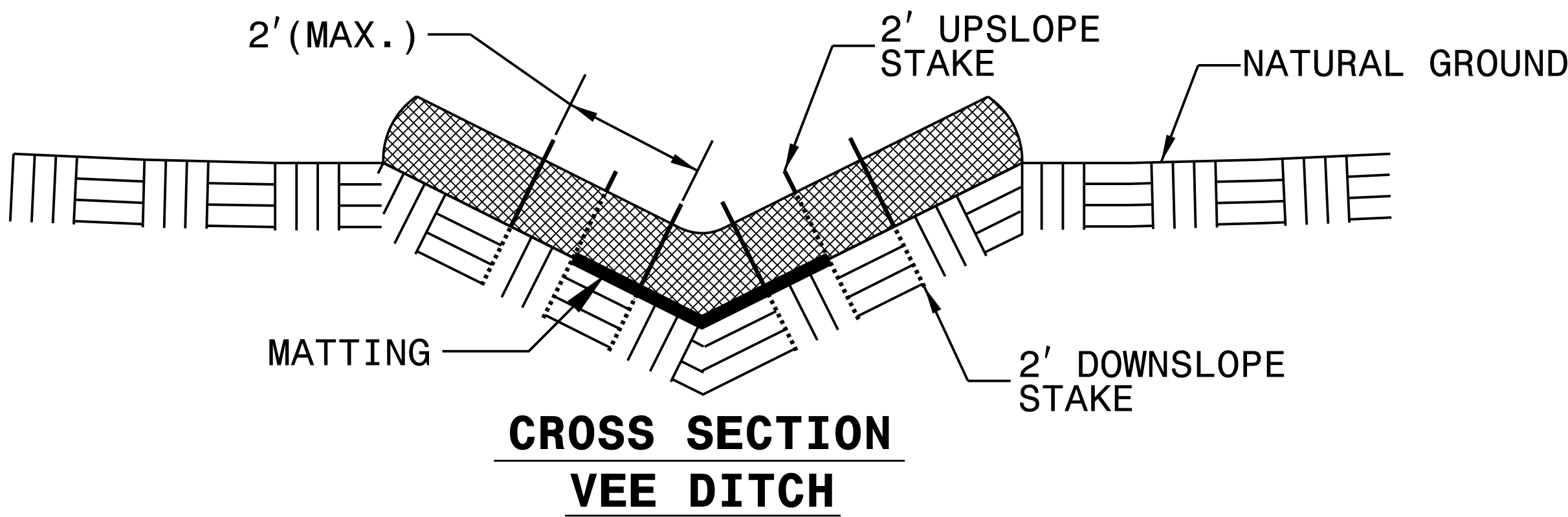
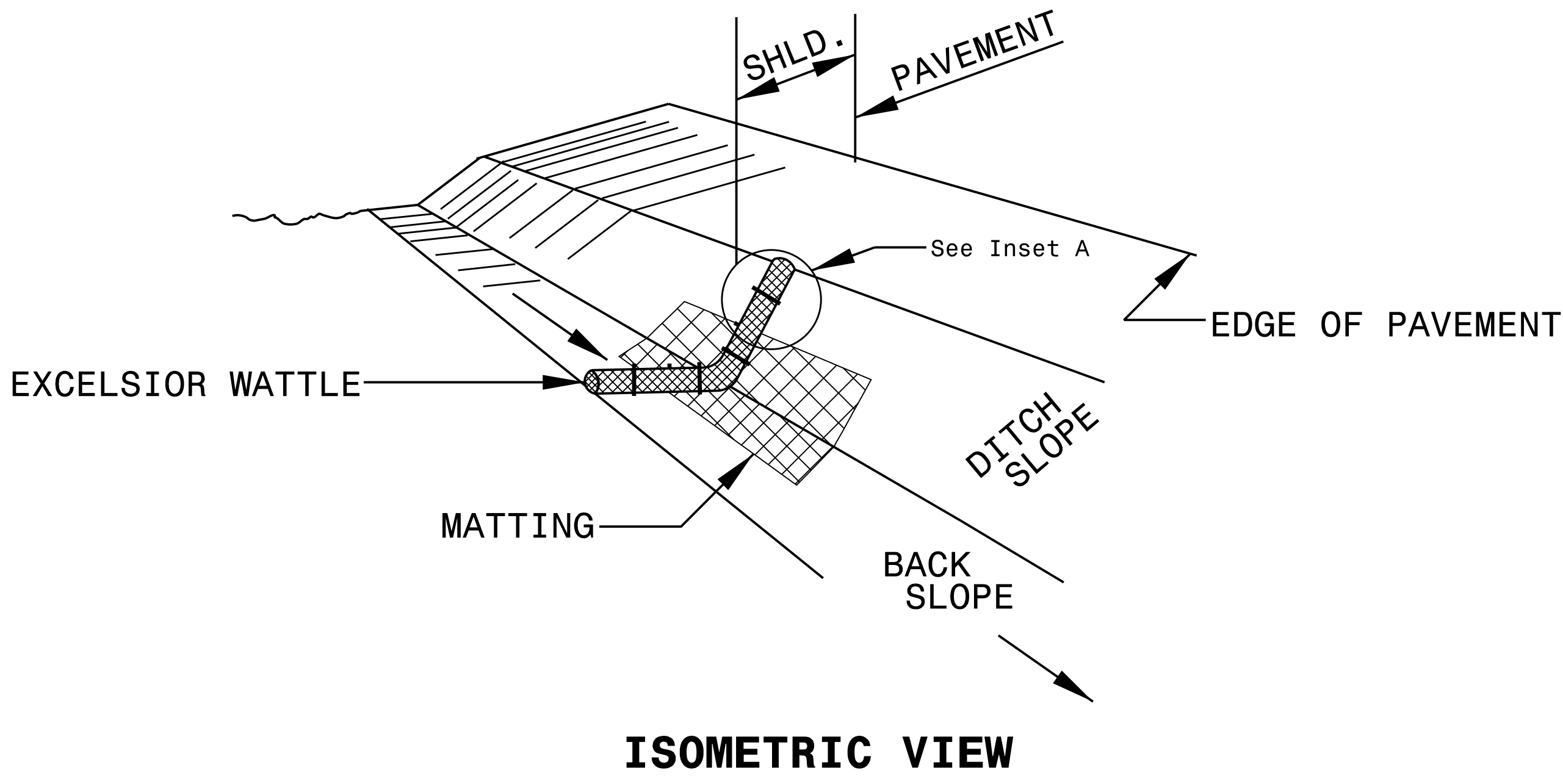
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

PROJECT REFERENCE NO.		SHEET NO.	
W-560IDK		EC-2	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

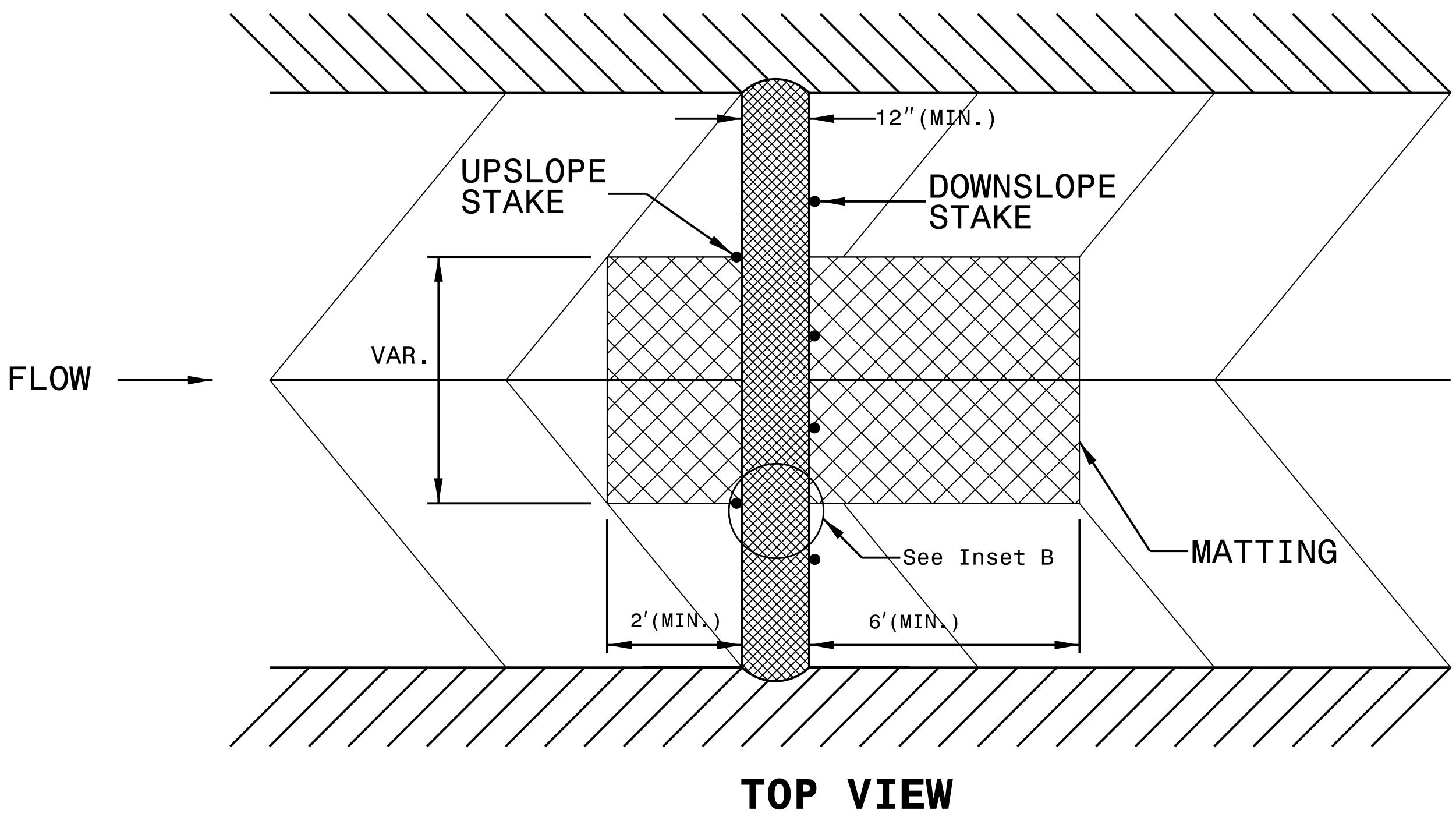
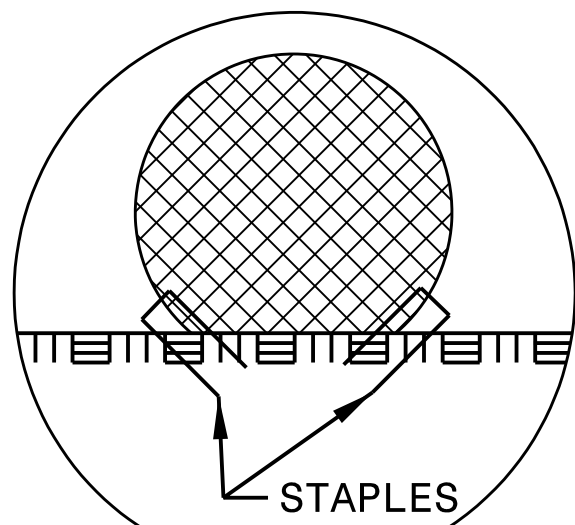
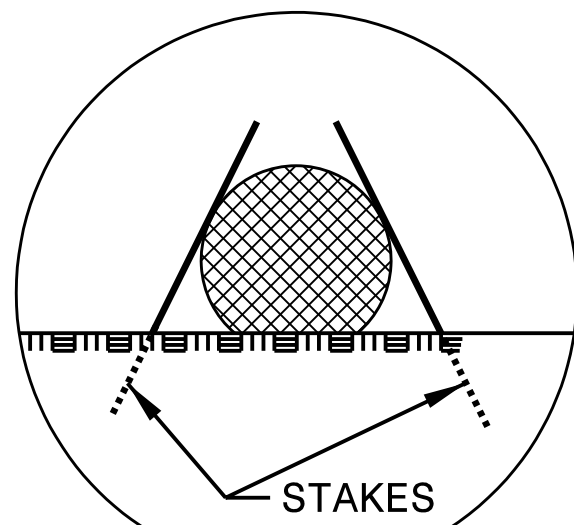
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>W-5601DK</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

[illegible]

MATTING FOR EROSION CONTROL

[illegible]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
W-560/DK	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
W-5601DK	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

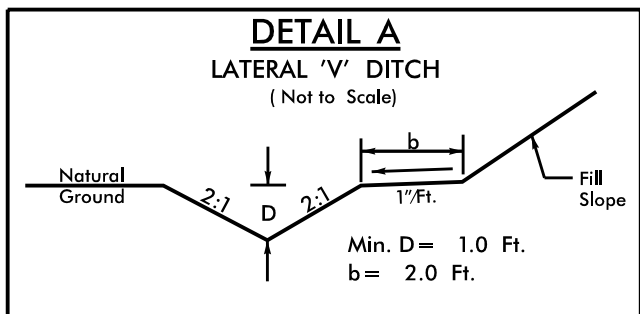
CONTRACTOR SHALL INSTALL AN ONSITE CONCRETE WASHOUT STRUCTURE PER THE NCDOT DETAIL AND SPECIAL PROVISIONS. ACTUAL LOCATION OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD. CONCRETE WASHOUT STRUCTURE SHALL BE MAINTAINED BY THE CONTRACTOR. ALL CONCRETE TRUCKS SHALL USE THE CONCRETE WASHOUT STRUCTURE. NO WASHOUT OF CONCRETE TRUCKS SHALL BE ALLOWED EXCEPT IN THE CONCRETE WASHOUT STRUCTURE.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

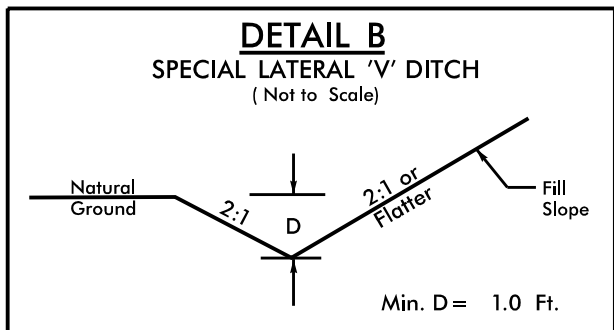
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

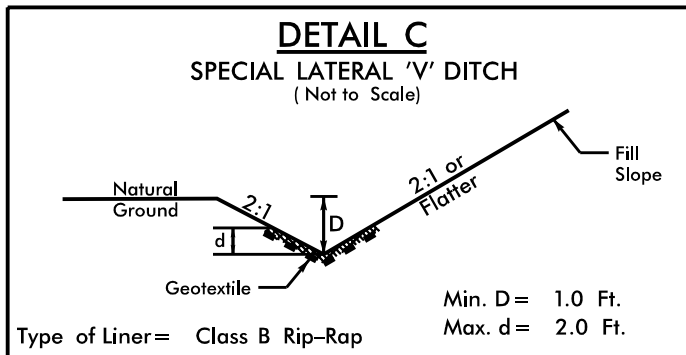
BEGIN TIP PROJECT W-5601DK
-L1- PC STA. 9+75.00



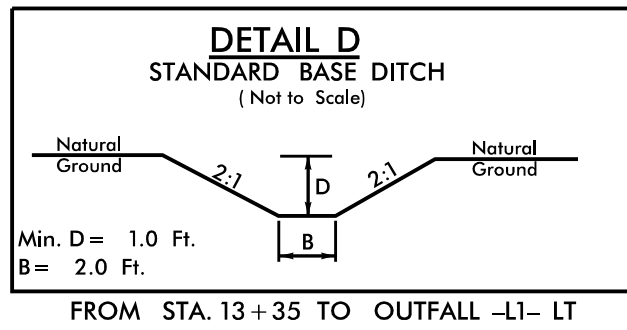
FROM STA. 10+55 TO STA. 13+36 -L1- LT



FROM STA. 10+72 TO STA. 11+50 -L1- RT
FROM STA. 12+00 TO STA. 13+42 -L1- RT
FROM STA. 13+42 TO STA. 14+00 -L1- RT
FROM STA. 14+50 TO STA. 15+50 -Y1- LT
FROM STA. 13+27 TO STA. 15+00 -Y1- RT
FROM STA. 16+00 TO STA. 16+36 -Y1- RT



FROM STA. 14+00 TO STA. 14+69 -L1- RT
FROM STA. 15+50 TO STA. 16+36 -Y1- LT
FROM STA. 10+27 TO STA. 11+50 -L2- RT

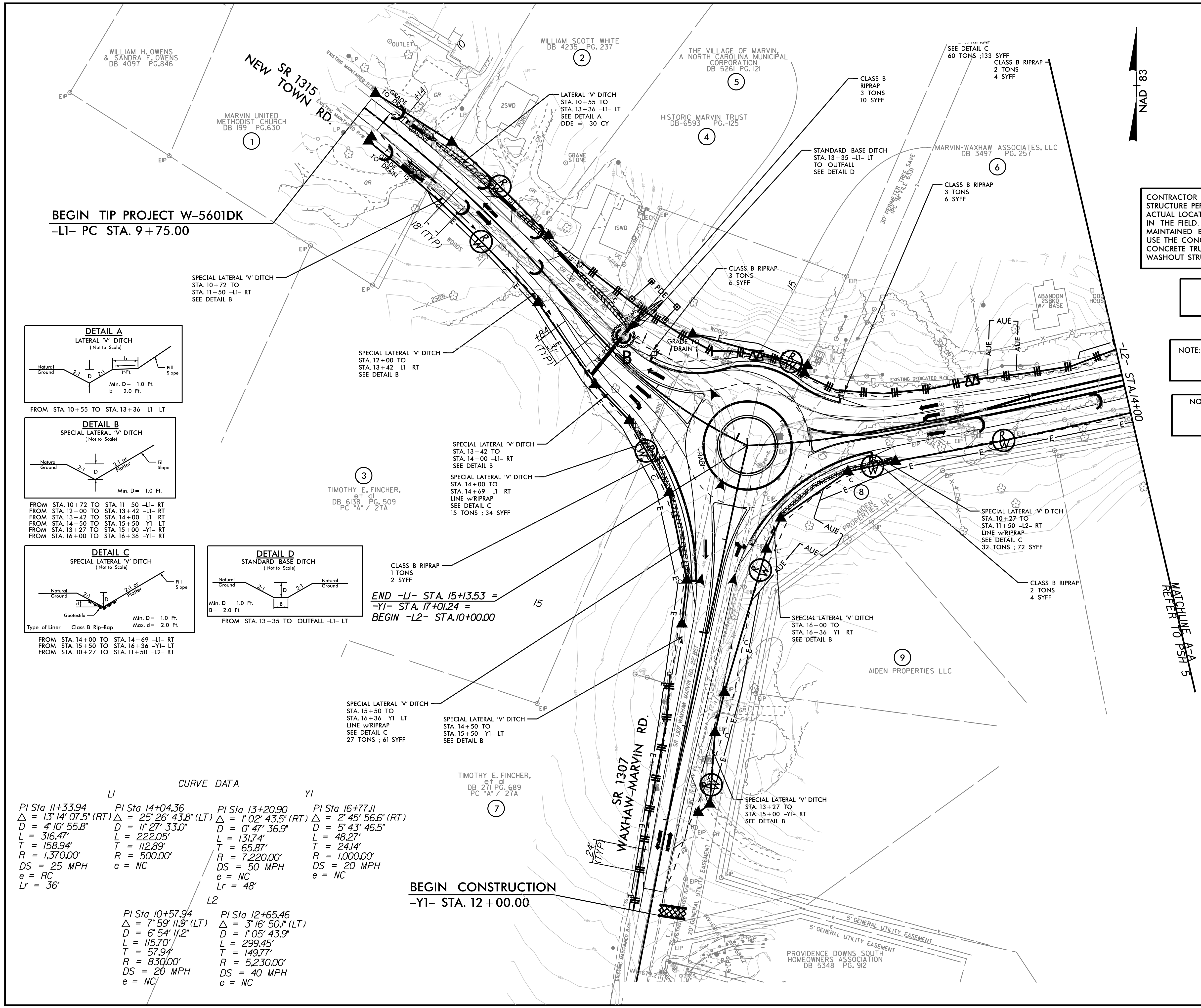


FROM STA. 13+35 TO OUTFALL -L1- LT

END -L1- STA. 15+13.53 =
-Y1- STA. 17+01.24 =
BEGIN -L2- STA. 10+00.00

CURVE DATA			
L1		Y1	
PI Sta 11+33.94 $\Delta = 13^{\circ}14'07.5''$ (RT) D = 4'10" 55.8" L = 316.47' T = 158.94' R = 1,370.00' DS = 25 MPH e = RC Lr = 36'	PI Sta 14+04.36 $\Delta = 25^{\circ}26'43.8''$ (LT) D = 1'27" 33.0" L = 222.05' T = 112.89' R = 500.00' e = NC	PI Sta 13+20.90 $\Delta = 1^{\circ}02'43.5''$ (RT) D = 0'47" 36.9" L = 131.74' T = 65.87' R = 7,220.00' DS = 50 MPH e = NC Lr = 48'	PI Sta 16+77.11 $\Delta = 2^{\circ}45'56.6''$ (RT) D = 5'43" 46.5" L = 48.27' T = 24.14' R = 1,000.00' DS = 20 MPH e = NC

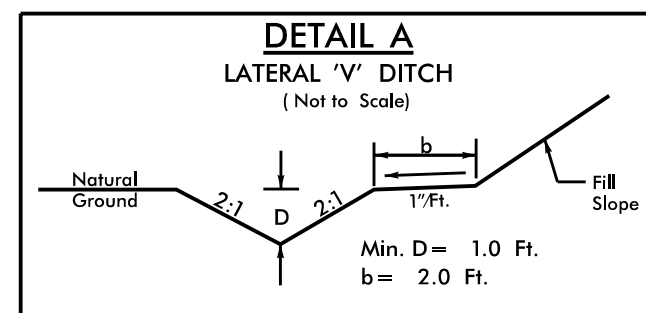
L2	
PI Sta 10+57.94 $\Delta = 7^{\circ}59'11.9''$ (LT) D = 6'54" 11.2" L = 115.70' T = 57.94' R = 830.00' DS = 20 MPH e = NC	PI Sta 12+65.46 $\Delta = 3^{\circ}16'50.1''$ (LT) D = 1'05" 43.9" L = 299.45' T = 149.77' R = 5,230.00' DS = 40 MPH e = NC



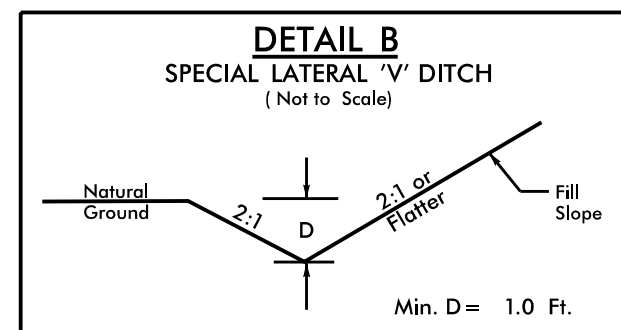
PROJECT REFERENCE NO.	SHEET NO.
W-5601DK	EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL CLASS B RIP RAP
IN THE PROPOSED DITCH LINE
STA 14+00 TO STA 14+69 RT -L1-
STA 10+27 TO STA 11+50 RT -L2-
STA 15+50 TO STA 16+36 LT -Y1-

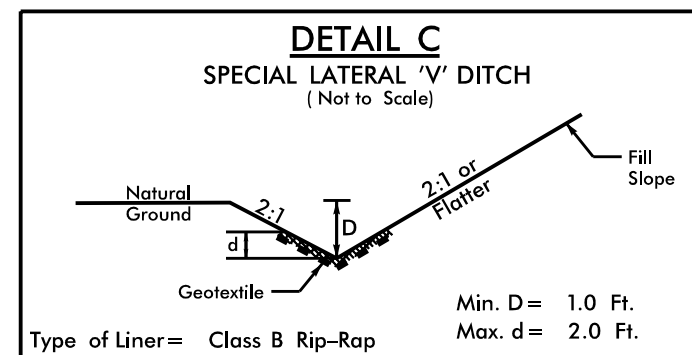
BEGIN TIP PROJECT W-5601DK
-L1- PC STA. 9+75.00



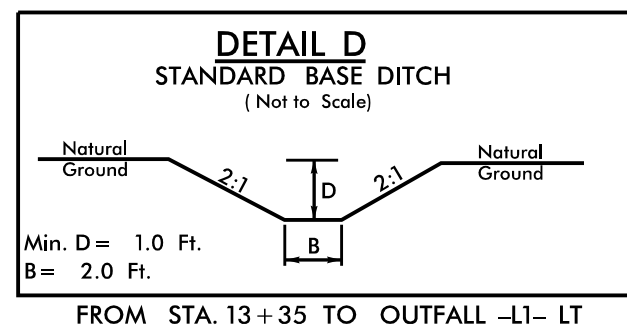
FROM STA. 10+55 TO STA. 13+36 -L1- LT



FROM STA. 10+72 TO STA. 11+50 -L1- RT
FROM STA. 12+00 TO STA. 13+42 -L1- RT
FROM STA. 13+42 TO STA. 14+00 -L1- RT
FROM STA. 14+50 TO STA. 15+50 -Y1- LT
FROM STA. 13+27 TO STA. 15+00 -Y1- RT
FROM STA. 16+00 TO STA. 16+36 -Y1- RT



FROM STA. 14+00 TO STA. 14+69 -L1- RT
FROM STA. 15+50 TO STA. 16+36 -Y1- LT
FROM STA. 10+27 TO STA. 11+50 -L2- RT



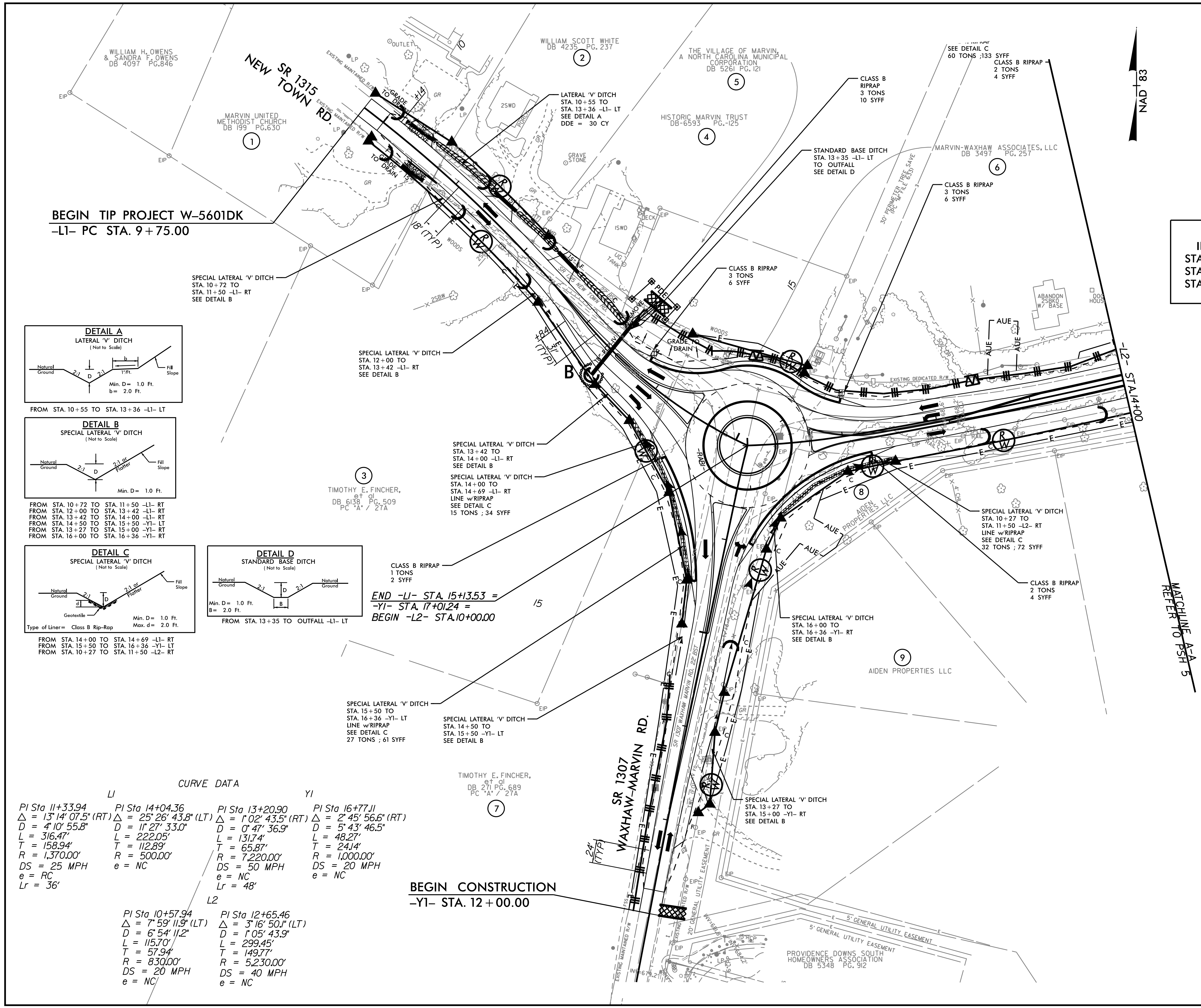
FROM STA. 13+35 TO OUTFALL -L1- LT

END -L1- STA. 15+13.53 =
-Y1- STA. 17+01.24 =
BEGIN -L2- STA. 10+00.00

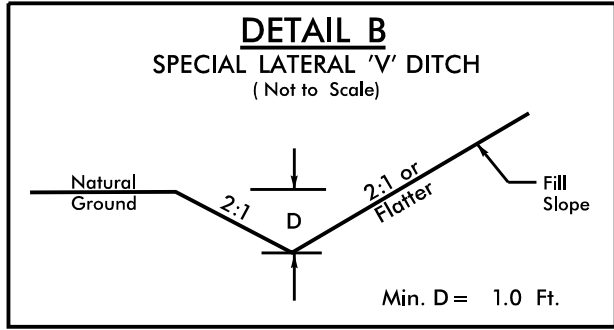
CURVE DATA			
L1		Y1	
PI Sta 11+33.94 $\Delta = 13^{\circ} 14' 07.5''$ (RT) D = 4' 10' 55.8" L = 316.47' T = 158.94' R = 1,370.00' DS = 25 MPH e = RC Lr = 36'	PI Sta 14+04.36 $\Delta = 25^{\circ} 26' 43.8''$ (LT) D = 1' 27' 33.0" L = 222.05' T = 112.89' R = 500.00' e = NC	PI Sta 13+20.90 $\Delta = 1^{\circ} 02' 43.5''$ (RT) D = 0' 47' 36.9" L = 131.74' T = 65.87' R = 7,220.00' DS = 50 MPH e = NC Lr = 48'	PI Sta 16+77.11 $\Delta = 2^{\circ} 45' 56.6''$ (RT) D = 5' 43' 46.5" L = 48.27' T = 24.14' R = 1,000.00' DS = 20 MPH e = NC

L2	
PI Sta 10+57.94 $\Delta = 7^{\circ} 59' 11.9''$ (LT) D = 6' 54' 11.2" L = 115.70' T = 57.94' R = 830.00' DS = 20 MPH e = NC	PI Sta 12+65.46 $\Delta = 3^{\circ} 16' 50.1''$ (LT) D = 1' 05' 43.9" L = 299.45' T = 149.77' R = 5,230.00' DS = 40 MPH e = NC

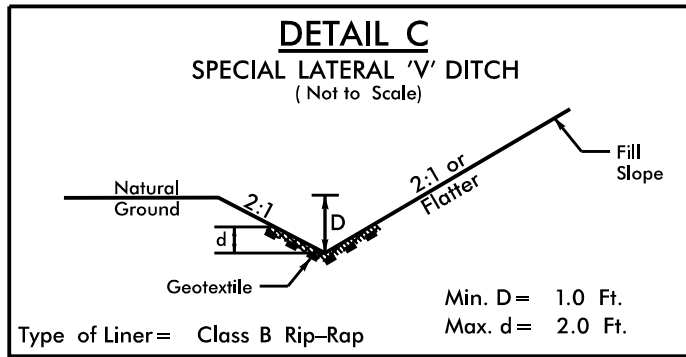
BEGIN CONSTRUCTION
-Y1- STA. 12+00.00



PROJECT REFERENCE NO.		SHEET NO.
W-5601DK		EC-7/CONST.5
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER



FROM STA. 15+00 TO STA. 15+60 -L2- LT
FROM STA. 10+50 TO STA. 12+00 -Y2- RT
FROM STA. 10+10 TO STA. 13+50 -Y2- LT
FROM STA. 19+00 TO STA. 21+00 -L2- LT



FROM STA. 12+35 TO STA. 14+23 -Y2- RT
FROM STA. 15+00 TO STA. 19+50 -L2- RT
FROM STA. 16+89 TO STA. 17+50 -L2- LT

SPECIAL LATERAL 'V' DITCH
STA. 12+35 TO
STA. 14+23 -Y2- RT
LINE w/ RIPRAP
SEE DETAIL C

INSTALL CLASS B RIP RAP
IN THE PROPOSED DITCH LINE
STA 16+89 TO STA 17+50 LT -L2-
STA 15+00 TO STA 19+50 RT -L2-
STA 12+35 TO STA 14+23 RT -Y2-

CURVE DATA

L2

PI Sta 12+65.46
 $\Delta = 3^\circ 16' 50.1''$ (LT)
 $D = 1^\circ 05' 43.9''$
 $L = 299.45'$
 $T = 149.77'$
 $R = 5,230.00'$
 $DS = 40$ MPH
 $e = NC$

PI Sta 17+77.04
 $\Delta = 1^\circ 38' 28.5''$ (RT)
 $D = 1^\circ 36' 50.3''$
 $L = 721.28'$
 $T = 361.89'$
 $R = 3,550.00'$
 $DS = 30$ MPH
 $e = NC$

PI Sta 21+99.02
 $\Delta = 3^\circ 35' 04.3''$ (RT)
 $D = 2^\circ 51' 53.2''$
 $L = 125.12'$
 $T = 62.58'$
 $R = 2,000.00'$
 $DS = 40$ MPH
 $e = MATCH EXISTING$

Y2

PI Sta 13+92.90
 $\Delta = 36^\circ 24' 15.5''$ (LT)
 $D = 28^\circ 38' 52.4''$
 $L = 127.08'$
 $T = 65.76'$
 $R = 200.00'$
 $DS = 20$ MPH
 $e = NC$
 $Lr = 48'$

VILLAGE OF MARVIN
DB-6588 PG. 697

SPECIAL LATERAL 'V' DITCH
STA. 10+50 TO
STA. 12+00 -Y2- RT
SEE DETAIL B

30' PERIMETER TREE SAVE
(PC "M" FILE 633)

MAHEEJA KOTAREDDY
& RAVI VASIREDDY
DB 5698 PG. 655

PULTE HOME CORPORATION
DB-6604 PG. 0086

SPECIAL LATERAL 'V' DITCH
STA. 16+89 TO
STA. 17+50 -L2- LT
LINE w/ RIPRAP
SEE DETAIL C
14 TONS ; 30 SYFF

SPECIAL LATERAL 'V' DITCH
STA. 19+00 TO
STA. 21+00 -L2- LT
SEE DETAIL B

12" DRAINAGE APRON TROUGH
CLASS B RIPRAP
2 TONS
4 SYFF

PUE
CLASS B RIPRAP
2 TONS
4 SYFF

CLASS B RIPRAP
3 TONS
6 SYFF

SPECIAL LATERAL 'V' DITCH
STA. 15+00 TO
STA. 19+50 -L2- RT
LINE w/ RIPRAP
SEE DETAIL C
143 TONS ; 318 SYFF

12" APRON
DRAINAGE TROUGH
CLASS B RIPRAP
1 TONS
2 SYFF

-L2- STA 16+24.76 =
-Y2- STA. 14+54.21

12" APRON DRAINAGE TROUGH
CLASS B RIPRAP
1 TONS
2 SYFF

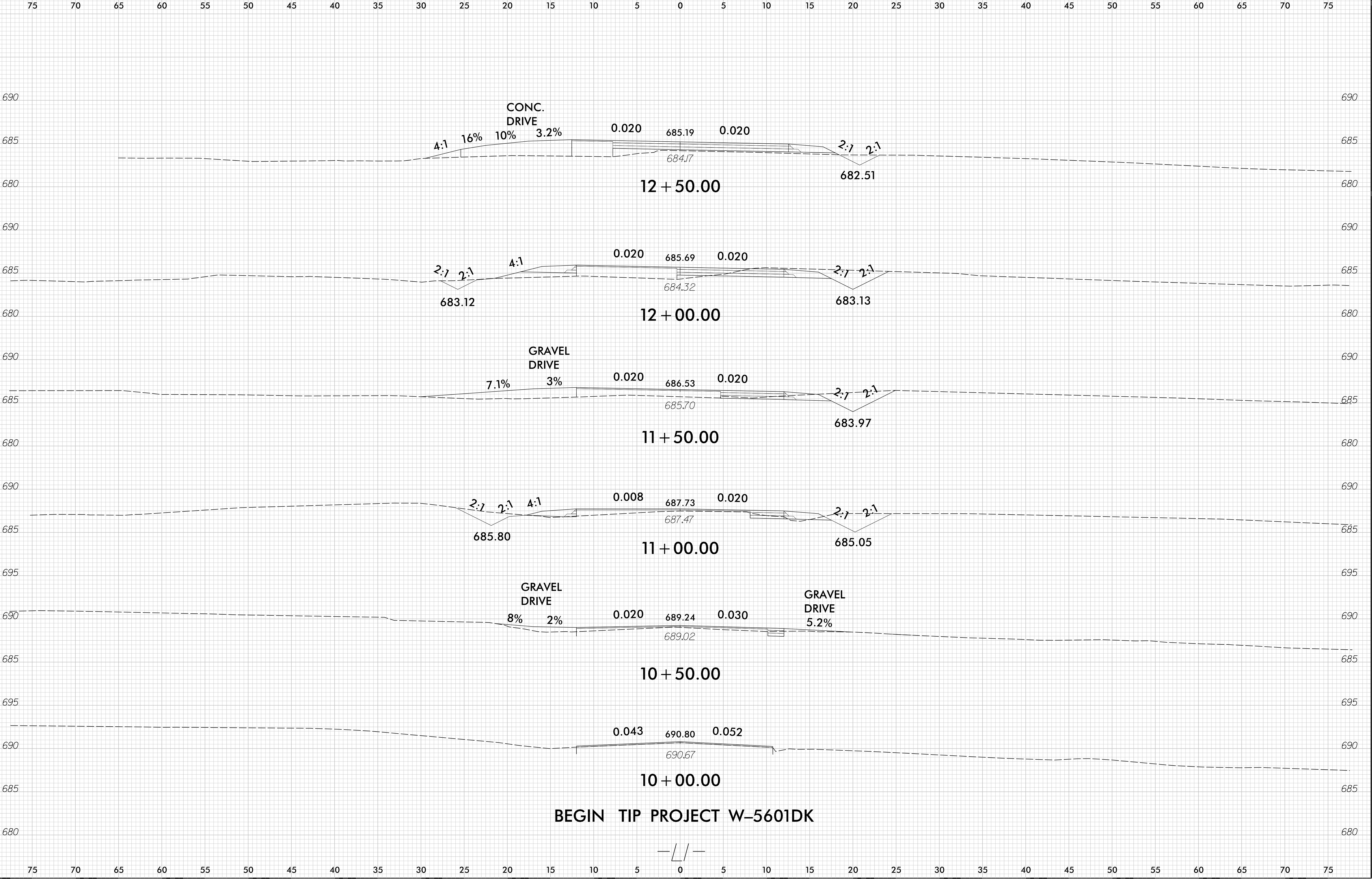
END TIP PROJECT W-5601DK
-L2- STA. 21+25.00

NAD 83

[illegible]

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-1

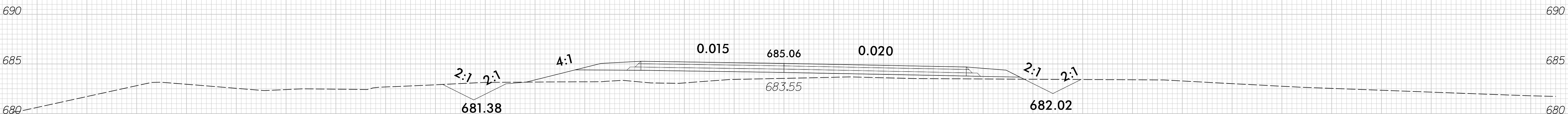
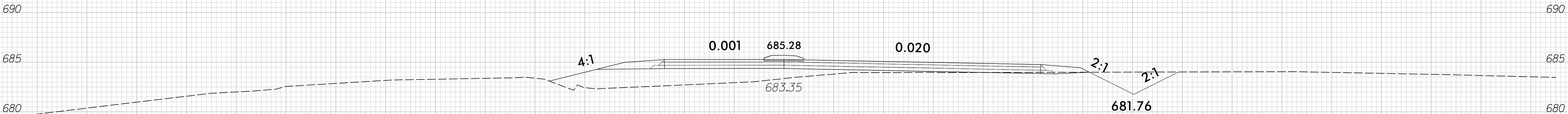
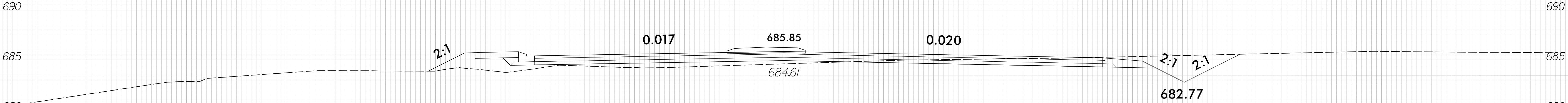
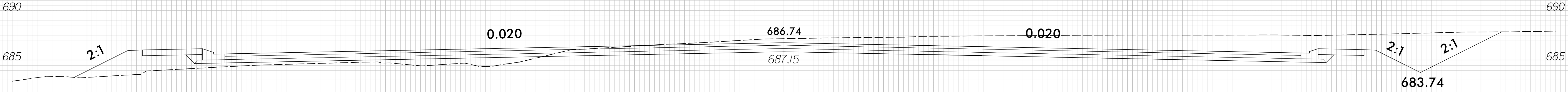


4/17/2018
C:\Users\jguy\Documents\CorridorModeling\W5601DK.rdy.xplL1.dgn

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-2

ROUNDAABOUT (WAXHAW-MARVIN RD)(-RAB1-)

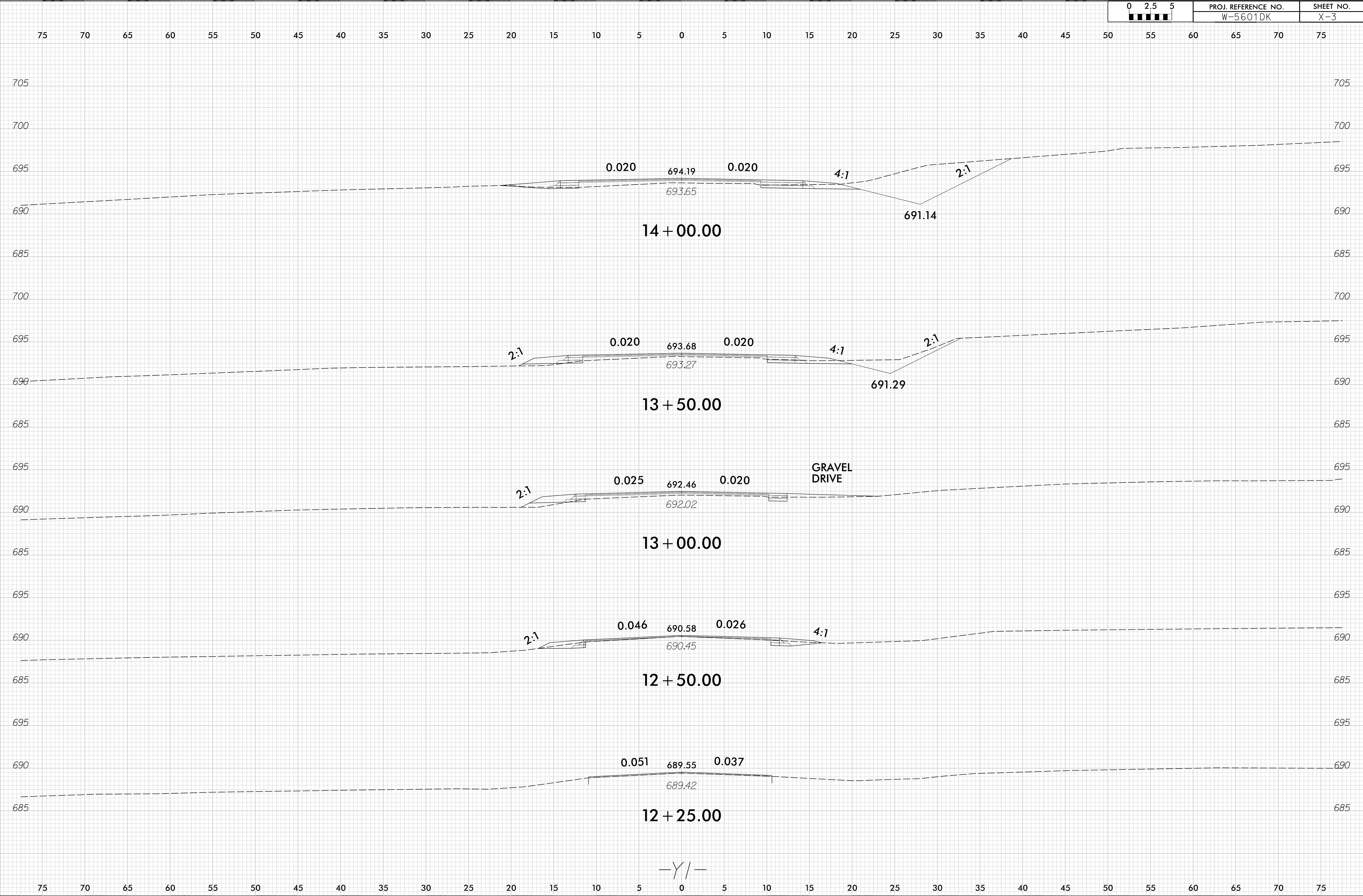


4/17/2018
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031024487



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4/17/2018
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W5601DK

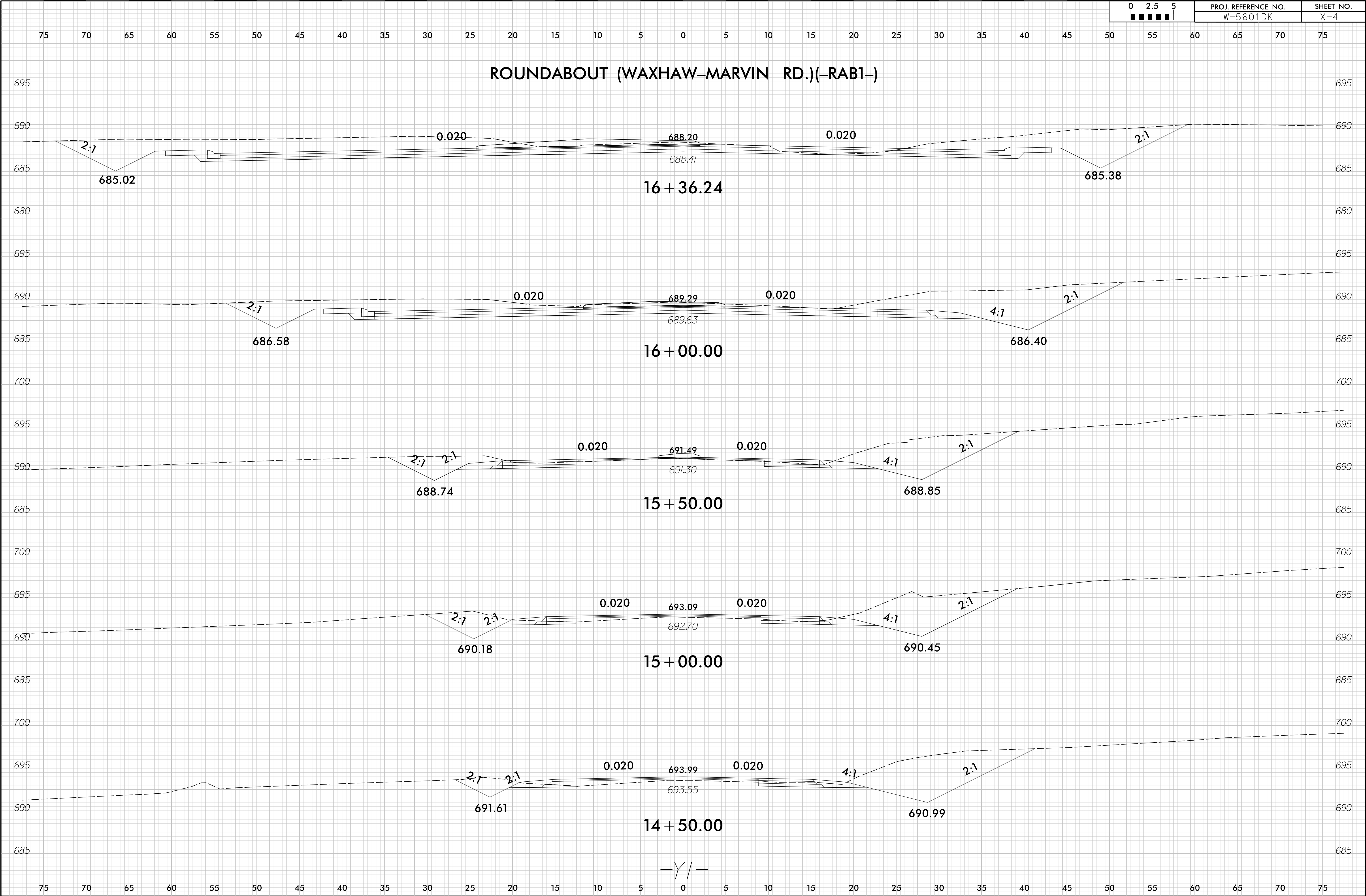
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-3



8/23/99

4/17/2018
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W560IDK

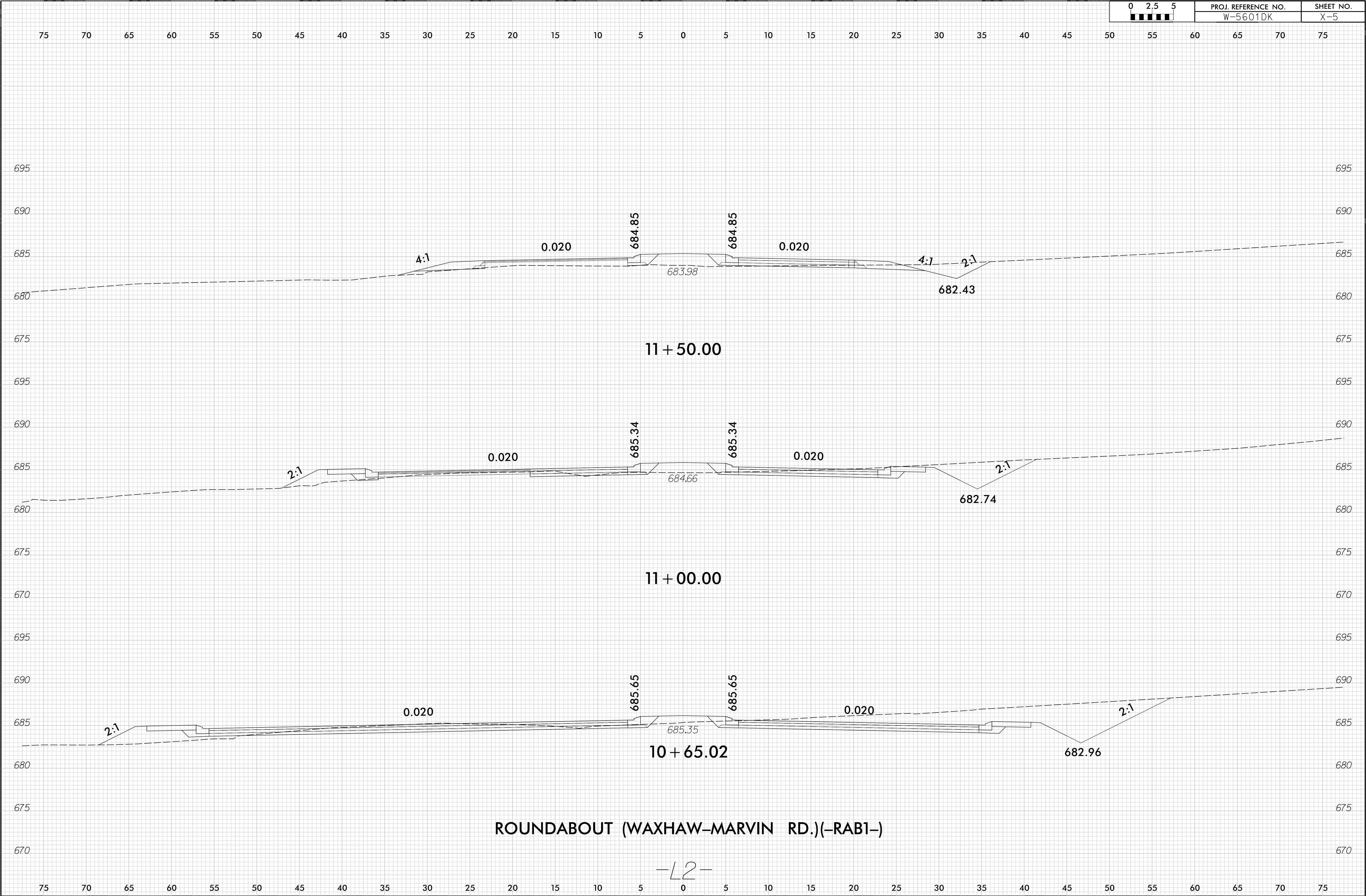
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-4



8/23/99

4/17/2018
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W560DK

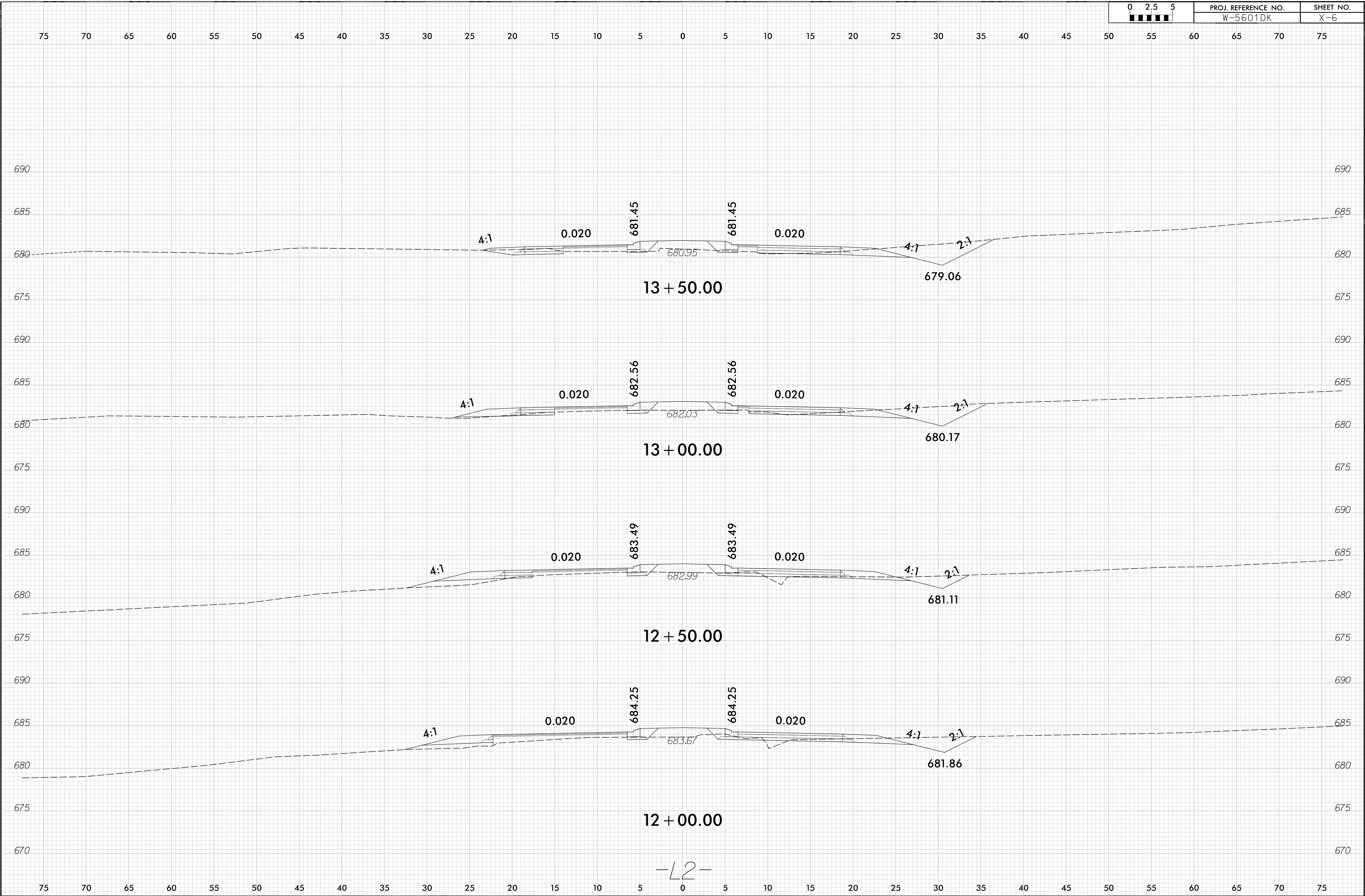
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-5



8/23/99

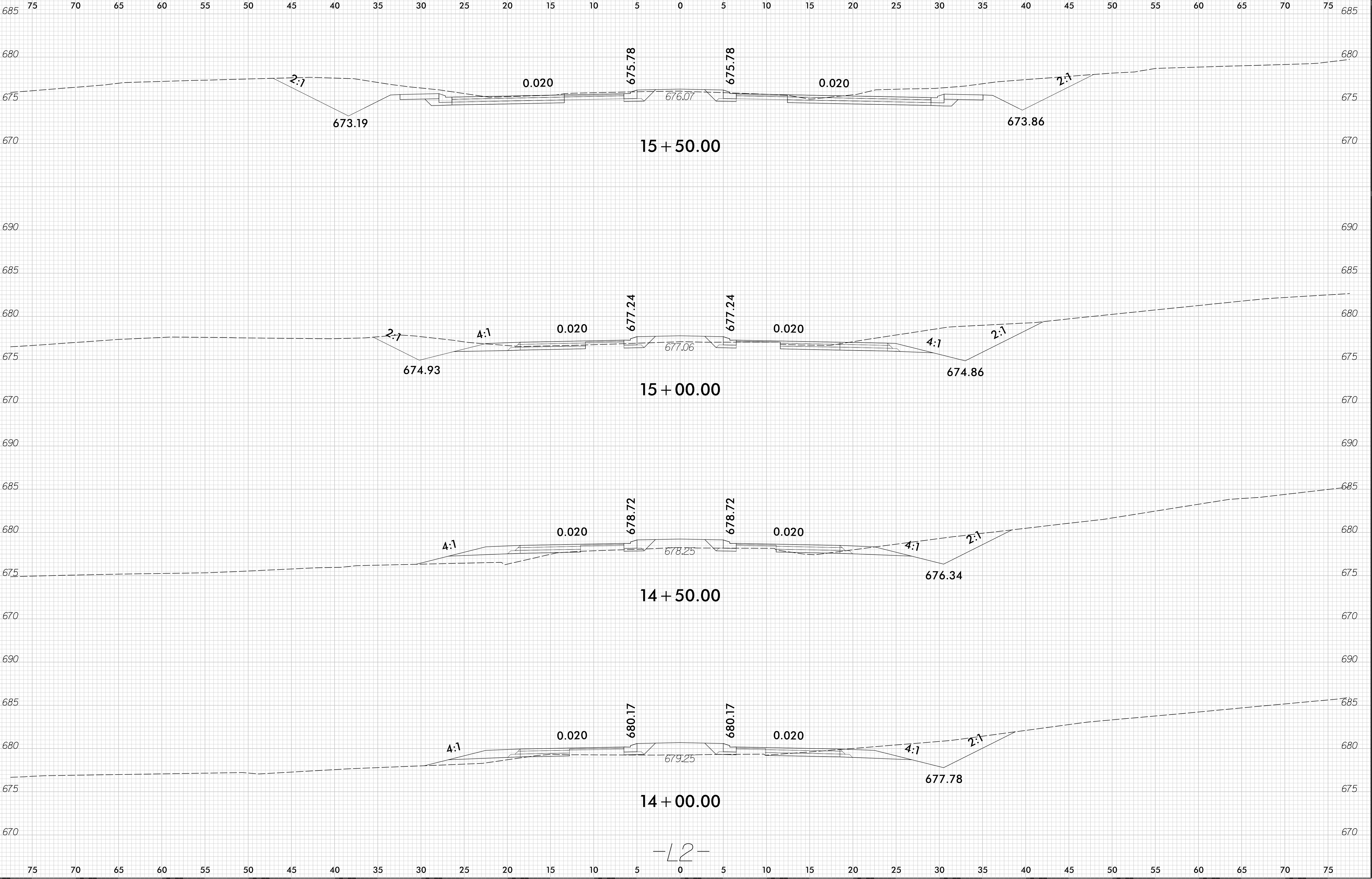
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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-6



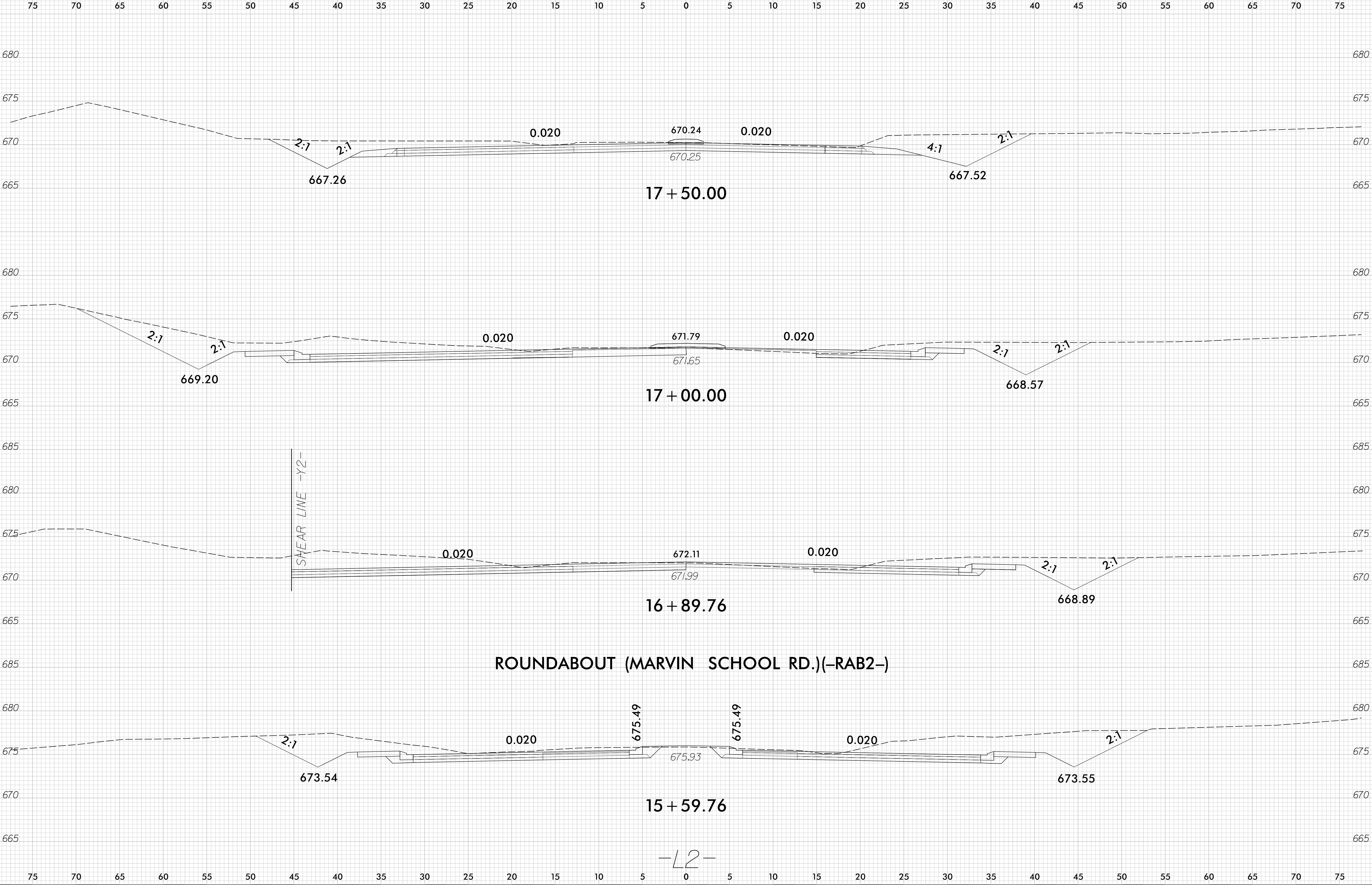
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-7

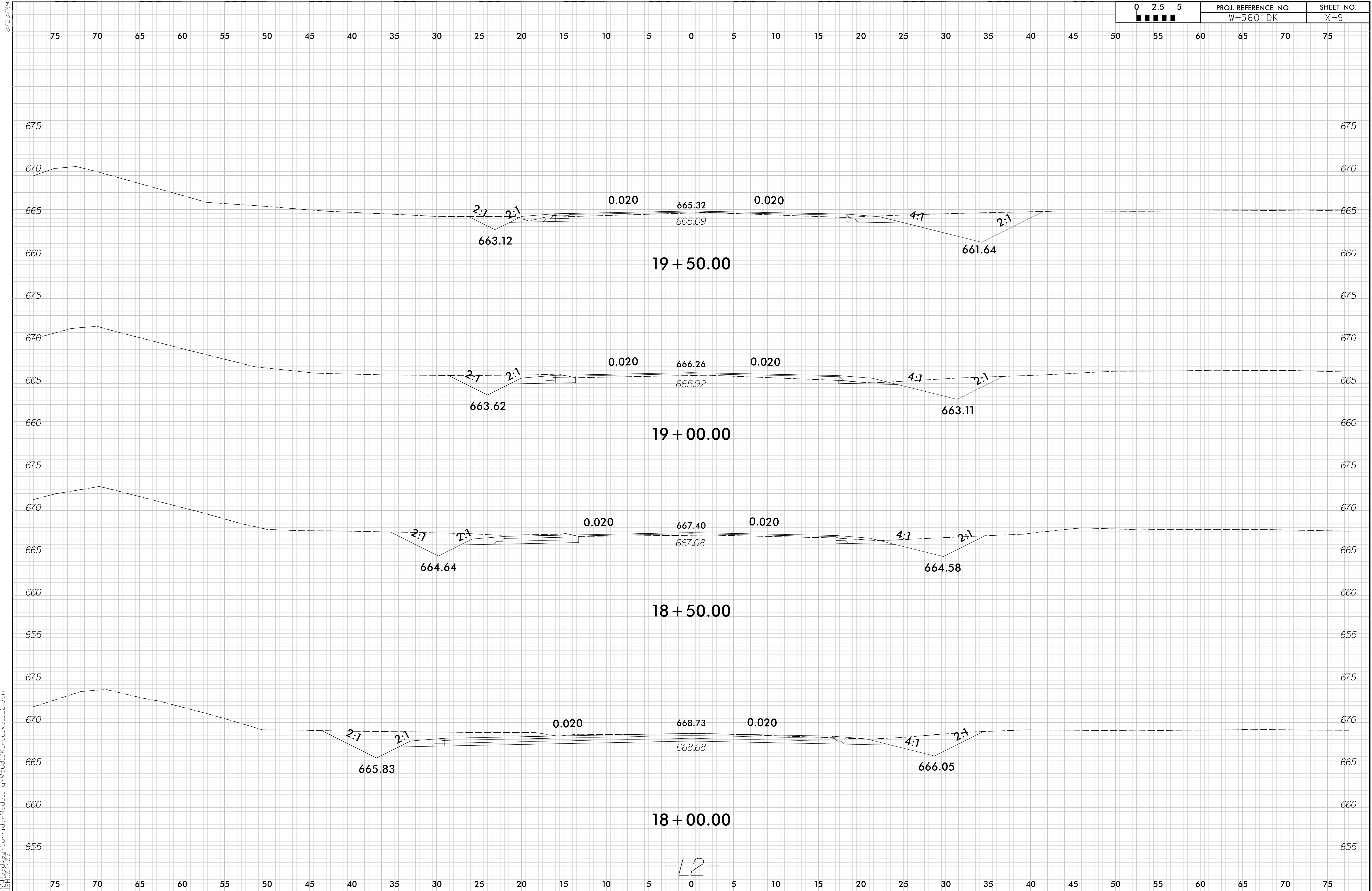


8/23/99

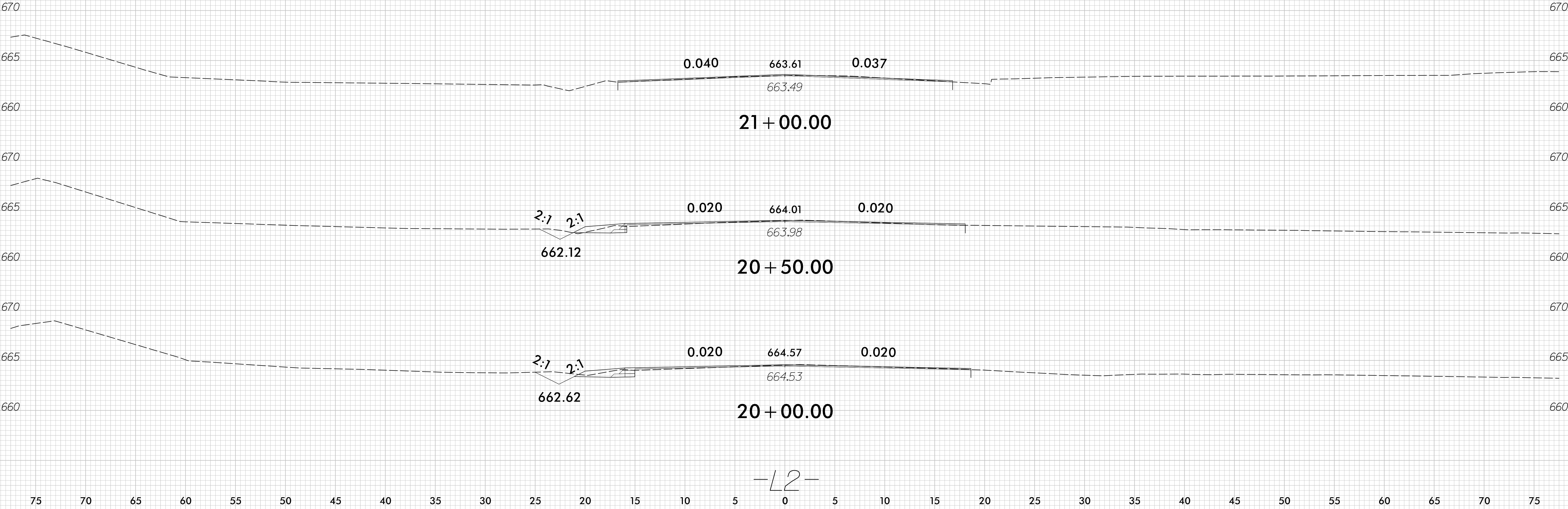
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-8

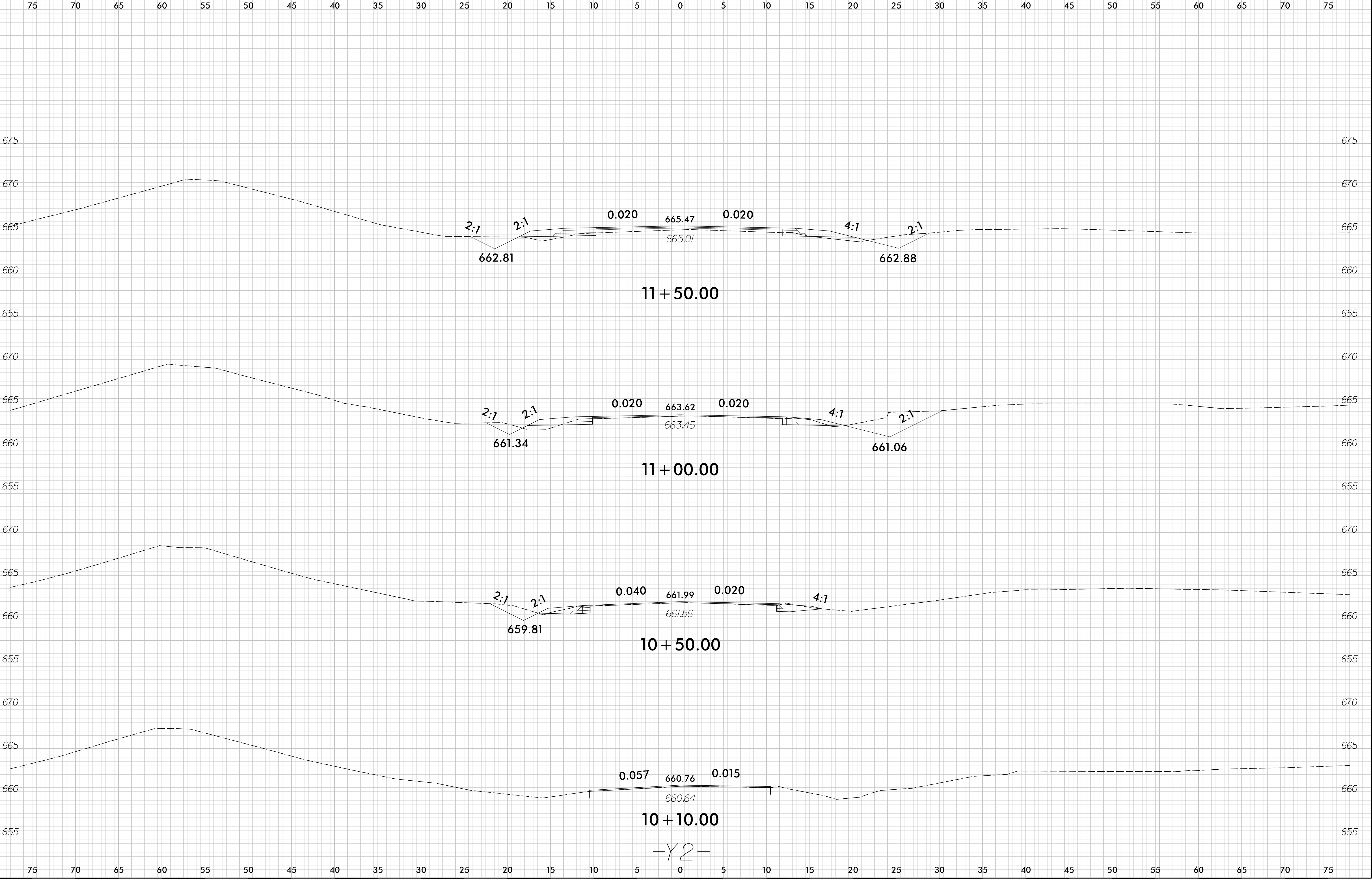


4/17/2018
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CS104487



END TIP W-5601DK PROJECT





8/23/99

4/17/2018
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USC44487

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	W-5601DK	X-12

ROUNDBABOUT (MARVIN SCHOOL RD)(-RAB2-)

SHEAR LINE -L2-

13 + 88.92

13 + 50.00

13 + 00.00

12 + 50.00

12 + 00.00

-Y2-

673.17

671.80

0.020

2:1

2:1

670.67

0.020

672.37

0.020

4:1

2:1

669.07

0.020

671.17

0.020

4:1

2:1

667.00

0.020

669.56

0.020

4:1

2:1

664.94

0.020

667.53

0.020

4:1

2:1

664.70

2:1

2:1

665.74

2:1

2:1

664.27