STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS #43527	1	

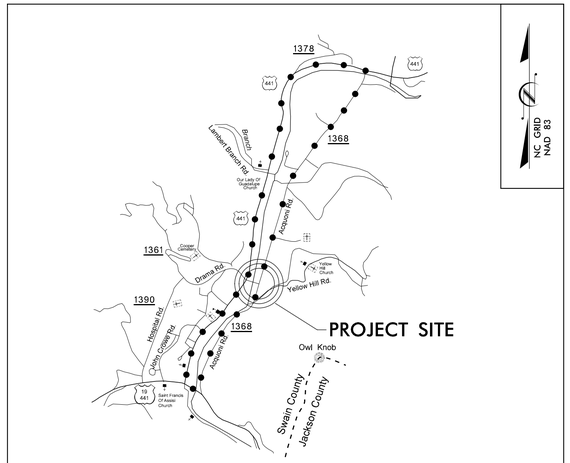
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

EASTERN BAND OF CHEROKEE INDIANS

SWAIN COUNTY

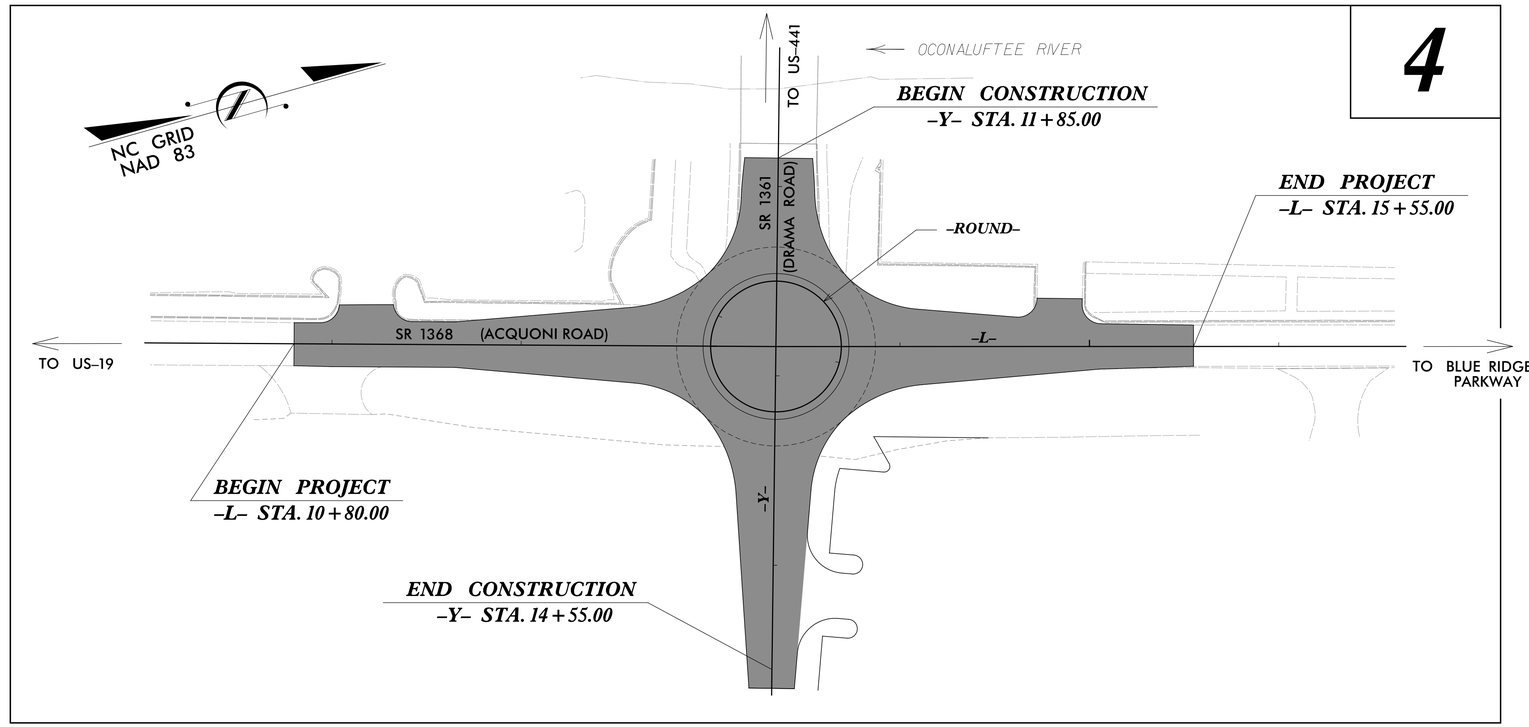
LOCATION: INTERSECTION OF SR 1368 (ACQUONI ROAD) AND SR 1361 (DRAMA ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, EROSION CONTROL, TRAFFIC CONTROL, SIGNING, AND PAVEMENT MARKING



VICINITY MAP

PHASE III DETOUR ROUTE



PROJECT: ACQUONI ROAD ROUNDABOUT

Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH ROADWAY PROJECT = 0.090 MI.

Prepared In the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

REECE SCHULER, PE
PROJECT ENGINEER

DENNIS BOUTON, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
RALPH CANNADY, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033023 ENGINEER BRADLEY S. RIDNOUR

Bradley S Ridnour, PE 7-23-2013 P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER

7-23-2013 P.E.
SIGNATURE:

EASTERN BAND OF CHEROKEE

TRIBAL SEAL OF THE EASTERN BAND OF THE CHEROKEE NATION

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER 7-23-2013

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2A	ROUNDABOUT DETAILS
2B	ROUNDABOUT DETAILS
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE QUANTITIES.
3B	EARTHWORK SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-7	TRAFFIC MANAGEMENT PLANS
SD-1	SPECIAL TRAFFIC CONTROL SIGN DETAIL
PM-1 THRU PM-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-0	CROSS-SECTION SUMMARY
X-1 THRU X-10	CROSS-SECTIONS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: POWER - DUKE ENERGY
WATER - EBCI
TELEPHONE - FRONTIER COMMUNICATIONS

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 Janurary 17, 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 Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.11	Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
838.01	Concrete Endwall for Single & Double Pipe Culverts
840.02	Concrete Catch Basin
840.03	Frame, Grates, & Hood
840.52	Precast Manhole 4', 5', and 6' Diameter
840.54	Manhole Frame & Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.05	Curb Ramp
852.01	Concrete Islands
852.02	Concrete Mountable Median
866.01	Chain Link Fence
876.02	Guide for Rip Rap at Pipe Outlets

$$$$SYSTIME$$$$ $$$$USERNAME$$$$ $$$$DGN$$$$

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	1-B

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

EASTERN BAND OF
CHEROKEE INDIANS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

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
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Proposed Wheel Chair Ramp Curb Cut — WCC
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

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

MISCELLANEOUS:

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

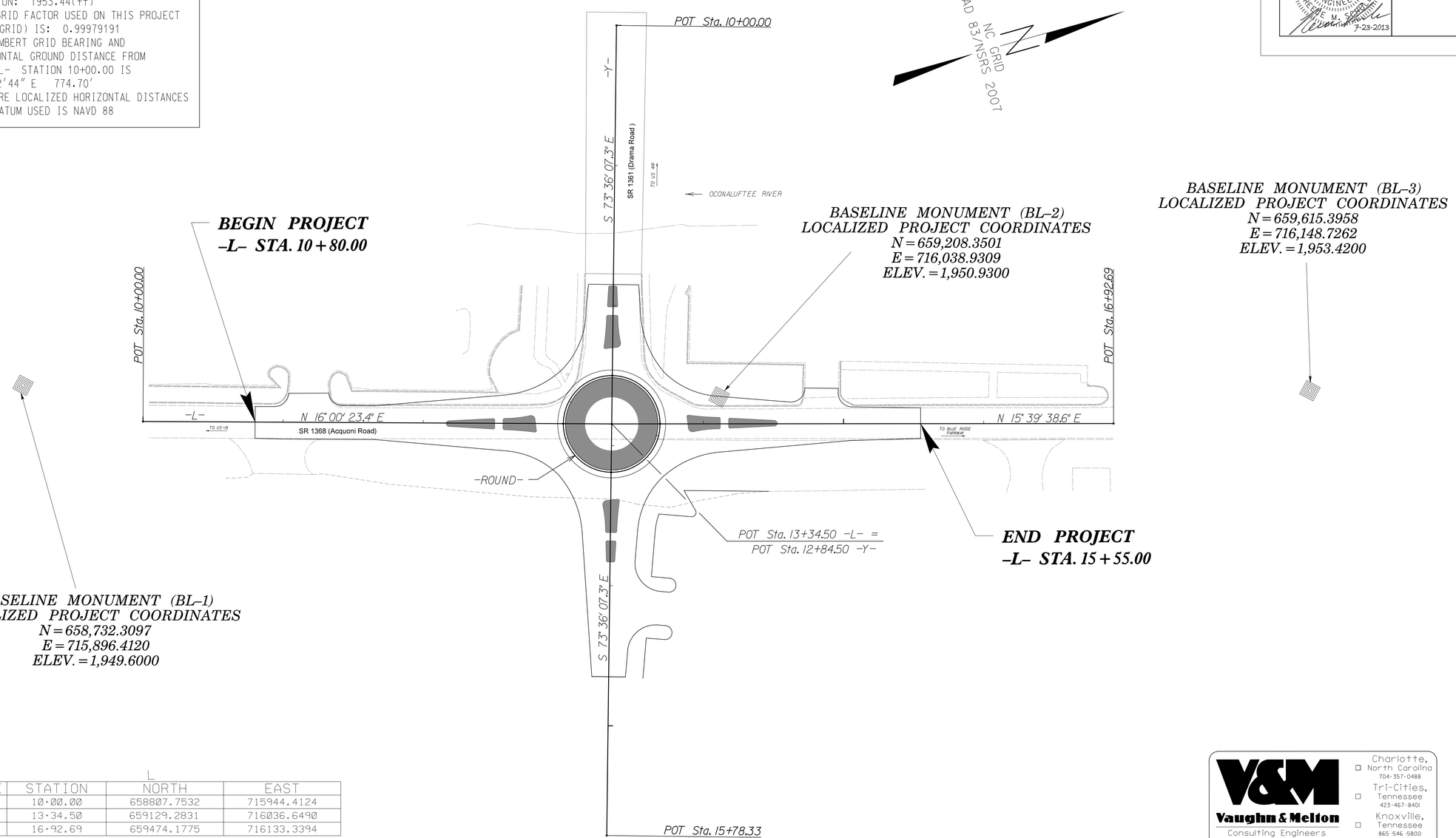
PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	1C
Location and Surveys	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 REGISTERED PROFESSIONAL ENGINEER STEVE M. SCHEER
7-23-2013

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS774.70' FOR MONUMENT "MUSEUM"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 659392.0210(ft) EASTING: 715435.7020(ft)
ELEVATION: 1953.44(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99979191
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "MUSEUM" TO -L- STATION 10+00.00 IS
S 41°02'44" E 774.70'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

SURVEY CONTROL SHEET



L

TYPE	STATION	NORTH	EAST
POT	10+00.00	658807.7532	715944.4124
POT	13+34.50	659129.2831	716036.6490
POT	16+92.69	659474.1775	716133.3394

Y

TYPE	STATION	NORTH	EAST
POT	10+00.00	659209.6008	715763.7172
POT	12+84.50	659129.2831	716036.6490
POT	15+78.33	659046.3343	716318.5217

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	658732.3097	715896.4120	1949.60	9+14.25	25.34' LT
2	BL-2	659208.3501	716038.9309	1950.93	14+11.25	19.15' LT
3	BL-3	659615.3958	716148.7262	1953.42	18+32.82	23.30' LT

SCALE: 20 10 0 20 40

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Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865 546 5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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NOTES:

1. THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY VAUGHN & MELTON ENGINEERING & SURVEYING.

INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY VAUGHN & MELTON.

REVISIONS

8/17/99

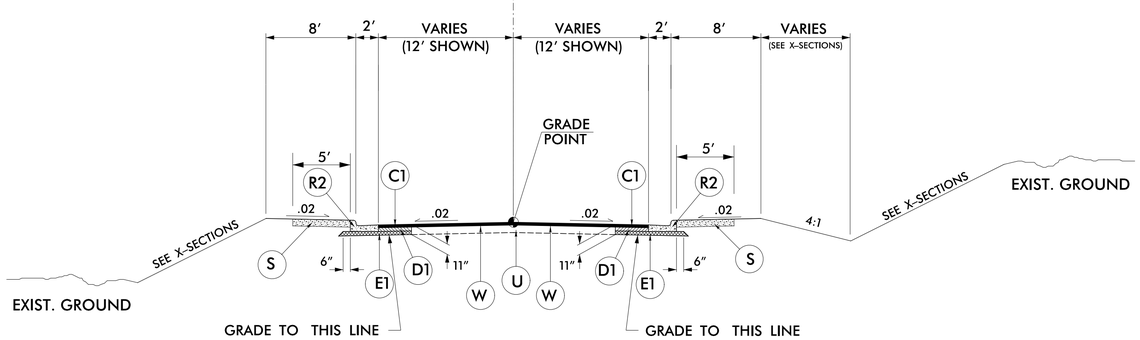
CYTIME $$DATE$$ $$DGN$$
CVBLE $$USER$$ $$FNAME$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER — 7-23-2013

NORTH CAROLINA PROFESSIONAL SEAL 20114 ENGINEER — 7-23-2013

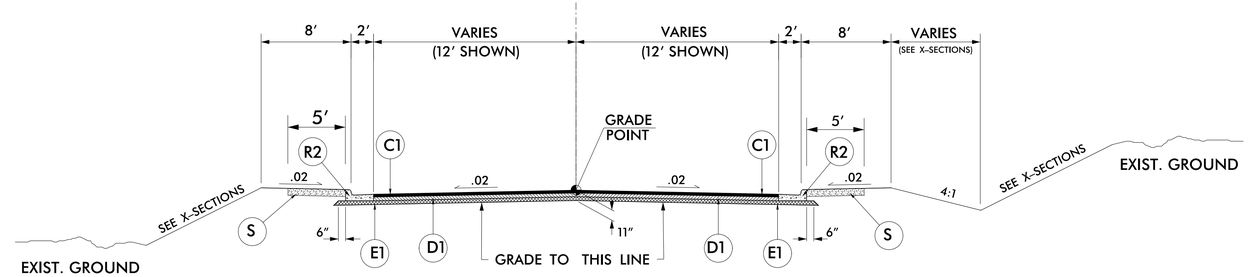
℄ –L– ACQUONI RD
–Y– DRAMA RD



TYPICAL SECTION 1

–L– STA. 10+80 TO STA. 12+82
–L– STA. 13+87 TO STA. 15+55
–Y– STA. 11+85 TO STA. 12+32

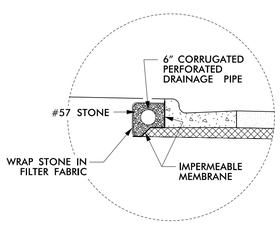
℄ –Y– DRAMA RD



TYPICAL SECTION 2

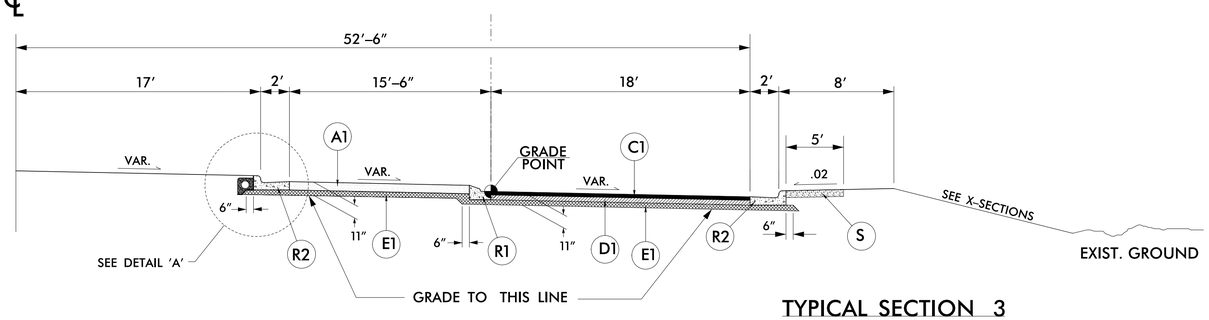
–Y– STA. 13+37 TO STA. 14+65

–L– STA. 13+34.50
–Y– STA. 12+84.50 ℄



DETAIL A

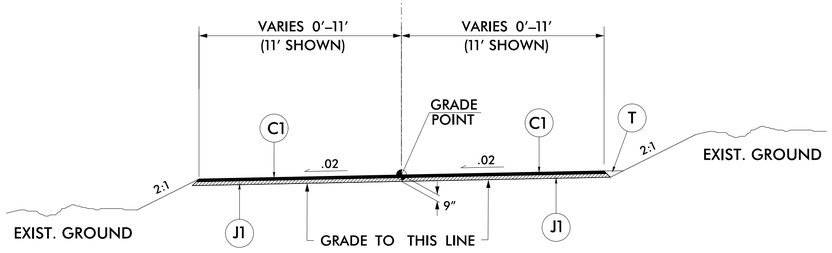
–ROUND–



TYPICAL SECTION 3

–ROUND– STA. 10+00 TO STA. 12+16.77

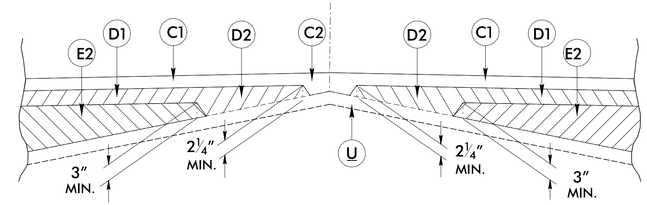
℄ DETOUR



TYPICAL SECTION 4

–DET– STA. 10+00 TO STA. 16+81.98

℄ SURVEY



W – Detail Showing Method of Wedging

PAVEMENT SCHEDULE	
A1	7″ PORTLAND CONCRETE PAVEMENT
C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD PER 1″ DEPTH TO BE PLACE AT LAYERS NOT TO EXCEED 1½″ IN DEPTH.
C2	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 AT LAYERS NOT TO EXCEED 1½″ IN DEPTH.
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD PER 1″ DEPTH TO BE PLACED AT LAYERS NOT LESS THAN 2½″ IN DEPTH. OR GREATER THAN 4″ IN DEPTH
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD PER 1″ DEPTH TO BE PLACED AT LAYERS NOT LESS THAN 3″ IN DEPTH. OR GREATER THAN 5½″ IN DEPTH
J1	6″ AGGREGATE BASE COURSE
R1	1′-6″ CONCRETE CURB AND GUTTER
R2	2′6″ CONCRETE CURB AND GUTTER
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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

6/2/99
$$$$SYSTEM$$$$
$$$$USER NAME$$$$
$$$$DGN$$$$
$$$$FRAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER
7-23-2013

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Spartanburg, South Carolina 864-574-4775

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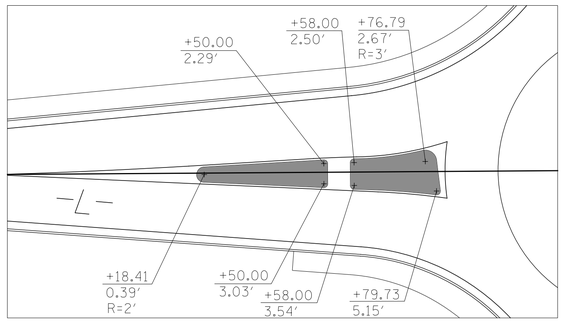
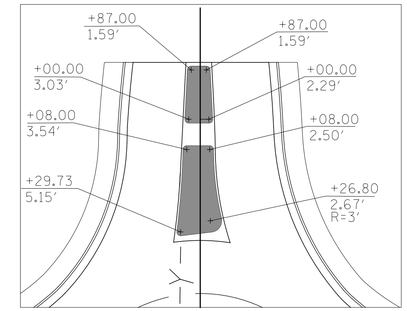
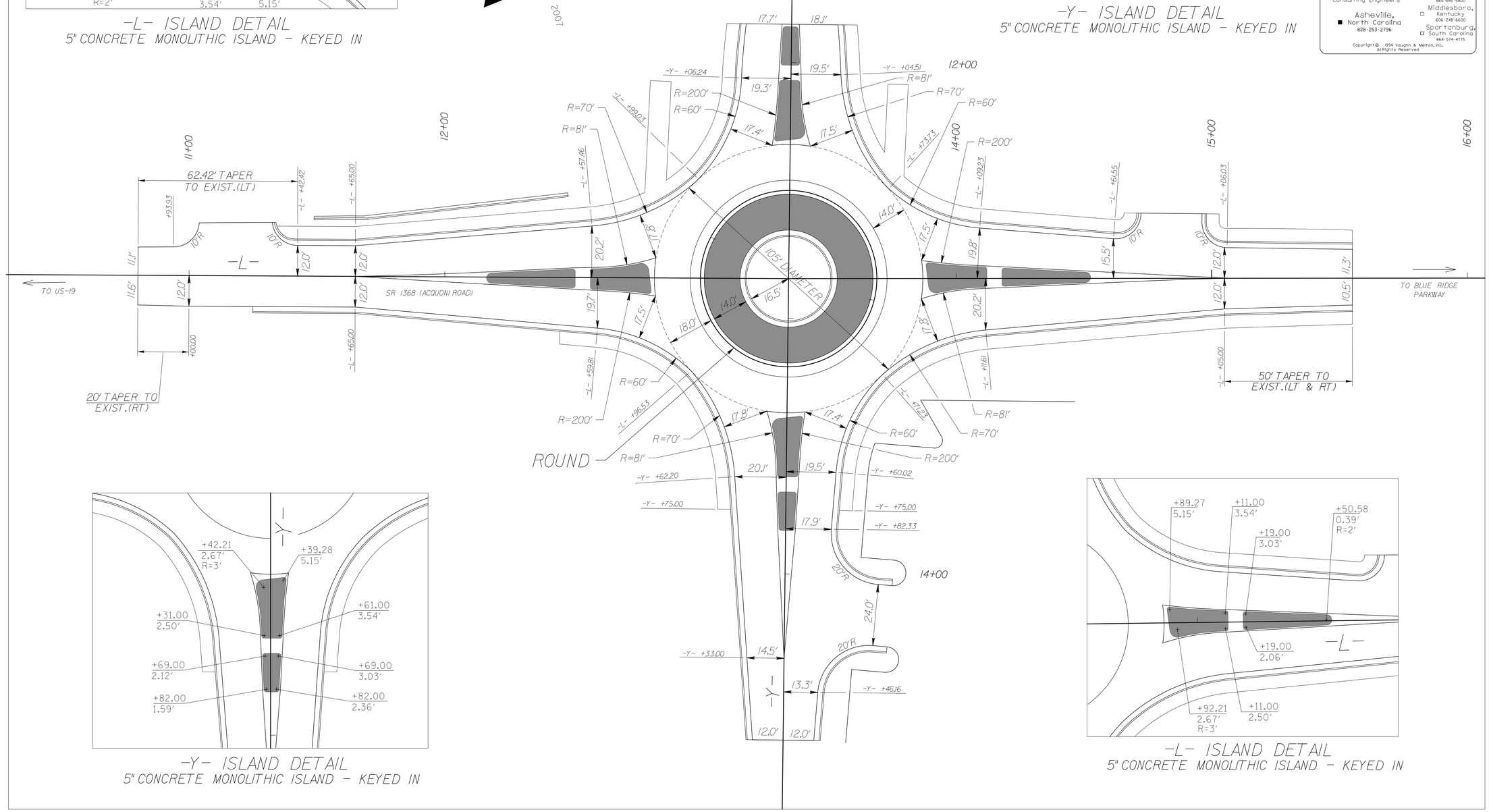
NOTE: ALL RADII ON ISLANDS ARE 1' UNLESS OTHERWISE LABELED



-L- ISLAND DETAIL
5" CONCRETE MONOLITHIC ISLAND - KEYED IN



-Y- ISLAND DETAIL
5" CONCRETE MONOLITHIC ISLAND - KEYED IN



-Y- ISLAND DETAIL
5" CONCRETE MONOLITHIC ISLAND - KEYED IN

-L- ISLAND DETAIL
5" CONCRETE MONOLITHIC ISLAND - KEYED IN

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER

7-23-2013

V&M
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Asheville, North Carolina 828-253-2796
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Spartanburg, South Carolina 864-574-4775

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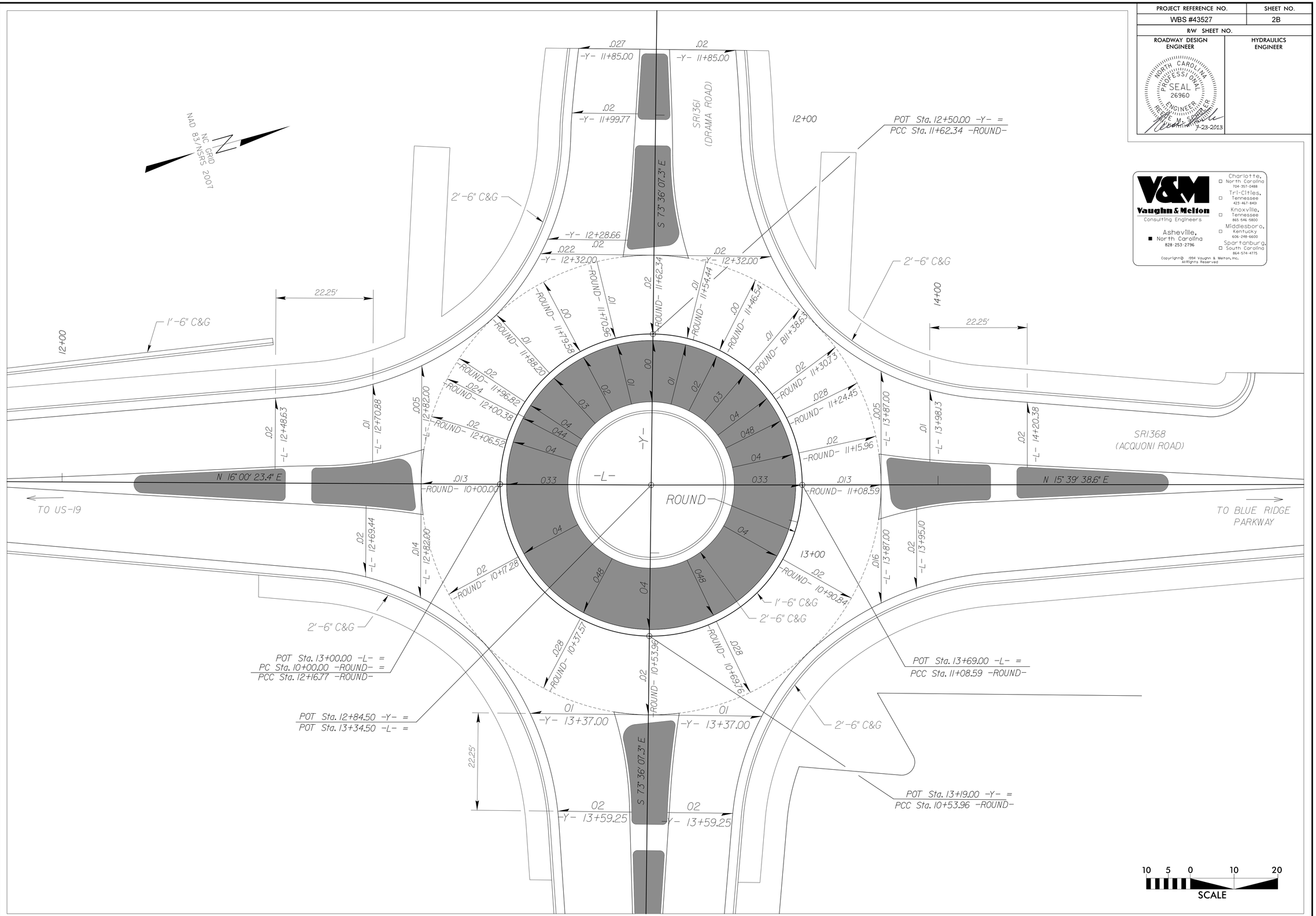

REVISIONS

8/17/93

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

0000100000-N	800	1	LS	Mobilization
0000400000-N	801	1	LS	Construction Surveying
0043000000-N	226	1	LS	Grading
0156000000-E	250	1,155	SY	Removal of Existing Asphalt Pavement
0195000000-E	265	50	CY	Select Granular Material
0196000000-E	270	50	SY	Geotextile for Soil Stabilization
0318000000-E	300	65	Tons	Foundation Conditioning Material, Minor Strs
0320000000-E	300	250	SY	Foundation Conditioning Geotextile
0366000000-E	310	116	LF	15" RC Pipe
0372000000-E	310	496	LF	18" RC Pipe
0594000000-E	310	115	LF	24" CS Pipe Culverts, 0.064" Thick
0995000000-E	340	360	LF	Pipe Removal
1121000000-E	520	1,065	Tons	Agg. Base Course
1220000000-E	545	50	Tons	Incidental Stone Base
1297000000-E	607	210	SY	Milling Asphalt Pavement, 1.5" Depth
1489000000-E	610	2,050	Tons	Asphalt Conc Base Course Type B25.0B
1498000000-E	610	550	Tons	Asphalt Conc Intermediate Course Type I19.0B
1525000000-E	610	510	Tons	Asphalt Conc Surface Course Type S9.5B
1575000000-E	620	150	Tons	Asphalt Binder for Plant Mix, Grade PG 64-22
1869000000-E	710	254.12	SY	7" Port Cement Conc Pvmt, Misc (Without Dowels)
2209000000-E	838	1.70	CY	Concrete Endwalls
2253000000-E	840	1.1052	CY	Pipe Collars
2286000000-N	840	12	EA	Masonry Drainage Structures
2308000000-E	840	1.40	LF	Masonry Drainage Structures
2374000000-E	840	6	EA	Frame with Grate & Hood, STD 840.03, Type E
2374000000-E	840	3	EA	Frame with Grate & Hood, STD 840.03, Type F
2374000000-E	840	1	EA	Frame with Grate & Hood, STD 840.03, Type G
2396000000-E	840	2	EA	Frame with Cover, STD 840.54
2542000000-E	846	279.26	LF	1'-6" Concrete Curb & Gutter
2549000000-E	846	1244.71	LF	2'-6" Concrete Curb & Gutter
2591000000-E	848	507.64	SY	4" Concrete Sidewalk
2605000000-N	848	11	EA	Concrete Curb Ramp
2655000000-E	852	161.52	SY	5" Monolithic Concrete Island (keyed-in)
3572000000-E	867	325	LF	Chain Link Fence Reset
3649000000-E	876	10	TON	Rip Rap, Class B
3656000000-E	876	50	SY	Geotextile for Drainage
4025000000-E	901	206	SF	Contractor Furnished, Type 'E' Sign
4072000000-E	903	210	LF	Supports, 3-LB Steel U-Channel
4078000000-E	903	42	EA	Supports, 2-LB Steel U-Channel
4400000000-E	1110	475	SF	Stationary Work Zone Signs
4410000000-E	1110	194	SF	Barricade Mounted Work Zone Signs
4430000000-N	1130	72	EA	Drums
4445000000-E	1140	104	LF	Barricades (Type III)
4450000000-E	1150	40	HR	Flagger (By Hour)
4590000000-E	SP	12	LF	Generic Traffic Control Item (Barricades - Type II)
4686000000-E	1205	3,000	LF	Thermoplastic Pavement Marking Lines (4", 120 MILS)
4695000000-E	1205	140	LF	Thermoplastic Pavement Marking Lines (8", 90 MILS)
4710000000-E	1205	320	LF	Thermoplastic Pavement Marking Lines (24", 120 MILS)
4721000000-E	1205	20	EA	Thermoplastic Pavement Marking Character (120 MILS)
4725000000-E	1205	28	EA	Thermoplastic Pavement Marking Symbol (90 MILS)
4770000000-E	1205	765	LF	Cold Applied Plastic Pvmt Marking Lines, Type 4 (4")
4810000000-E	1205	2,000	LF	Paint Pavement Marking Lines (4")
4850000000-E	1205	1,645	LF	Removal of Pavement Marking Lines (4")
4870000000-E	1205	40	LF	Removal of Pavement Marking Line (24")
4875000000-E	1205	2	EA	Removal of Pavement Marking Symbols & Characters
5265000000-E	1091	200	LF	Generic Lighting Item - 2" HDPE Electrical Conduit
6000000000-E	1605	1,785	LF	Temp Silt Fence
6006000000-E	1610	15	TON	Stone for Eros Cntrl, A
6012000000-E	1610	30	TON	Sediment Control Stone
6015000000-E	1615	1	ACRES	Temporary Mulching
6018000000-E	1620	50	LBS	Seed for Temp Seeding
6021000000-E	1620	0.10	TON	Fertilizer for Temp Seed
6030000000-E	1630	20	CY	Silt Excavation
6036000000-E	1631	20	SY	Matting for Erosion Control
6042000000-E	1632	240	LF	1/4" Hardware Cloth
6071010000-E	SP	24	LF	Wattle
6084000000-E	1660	0.35	ACR	Seeding & Mulching
6090000000-E	1661	50.0	LB	Seed for Repair Seeding
6108000000-E	1665	0.10	TON	Fertilizer Topdressing
6117000000-E	1675	5	EA	Response for Erosion Control

5/28/99
INTERSECTION

COMPUTED BY: DAB DATE: 02-17-2013
CHECKED BY: RMS DATE: 02-17-2013

EASTERN BAND OF CHEROKEE INDIANS
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	3-A

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".

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

Station (Size / Thickness or Gauge)	Location (LT, RT, or CL)	Structure No. From	Structure No. To	Top Elevation	Invert Elevation	Invert Elevation	Slope Critical	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	Do Not Use RCP	Do Not Use CSP	Do Not Use CAAP	Do Not Use HDPE	C.S. Pipe 12" .064	15" .064	18" .064	24" .064	36" .079	42" .109	48" .109	R.C. Pipe (Class III) 15"	18"	24"	30"	36"	42"	48"	R.C. Pipe (Class IV) 12"	15"	18"	24"	30"	36"	42"	48"
–L– 11+51	LT	CB–1																																							
–L– 11+51	LT	CB–2	CB–1		1947.12	1947.07																					8														
–L– 11+51	LT	CB–2		1950.12																																					
–L– 11+51	RT	CB–3		1950.12																																					
–L– 11+40	RT	CB–3	HW–2		1947.37	1947.21																					16														
–L– 11+97	LT	CB–4	CB–1																								92														
–L– 12+44	LT	CB–4																																							
–Y– 11+70	LT	MH–1	OUT		1946.71	1945.37																						36													
–Y– 11+89	LT	MH–1		1950.44																																					
–Y– 12+36	LT	MH–2	MH–1		1947.18	1946.71																						92													
–Y– 12+83	LT	MH–2		1953.50																																					
–Y– 13+27	LT	CB–6	MH–2		1947.89	1947.44																						84													
–Y– 13+71	LT	CB–6		1951.19																																					
–Y– 13+71	CL	CB–5	CB–6		1948.10	1947.89																						40													
–Y– 13+71	RT	CB–5		1951.35																																					
–L– 14+01	RT	CB–7	MH–2		1947.58	1947.18																						76													
–L– 14+40	RT	CB–7		1951.51																																					
–L– 14+72	RT	CB–8	CB–7		1947.90	1947.58																						60													
–L– 15+04	RT	CB–8		1951.39																																					
–L– 15+04	CL	CB–9	CB–8		1948.04	1947.90																						24													
–L– 15+23	RT	HW–1	CB–8		1948.64	1948.14																						40													
–L– 15+04	LT	CB–9		1951.39																																					
–L– 15+27	LT	CB–10	CB–9		1948.27	1948.04																						44													
–L– 15+50	LT	CB–10		1951.52																																					
–DET– 11+55	LT																						70																		
–DET– 15+68	RT																						45																		
–L– 11+99	LT																																								
–Y– 11+77	LT																																								
–Y– 12+22	LT																																								
–Y– 13+08	CL																																								
TOTAL																							115				116	496													

Station	** R. C. Pipe (Class V)	*** R. C. Pipe Culverts, Contractor Design Pipe	*** R. C. Pipe Culverts, Contractor Design Pipe	15" Side Drain Pipe	18" Side Drain Pipe	Endwalls Std. 838.01, Std. 838.11 or Std. 838.80 (Unless Noted Otherwise) Cu. Yds. R.C.P.	Cu. Yds. C.S.P.	Quantities for Drainage Structures Per Each (0' thru 5.0')	Lin. *Ft. A 5.0' thru 10.0'	Lin. *Ft. B 10.0' and above (* Total L.F. for pay quantity shall be Col. 'A' + (1.3 X Col. 'B'))	C.B. Std. 840.01 or Std. 840.02	Frame, Grates and Hood Standard 840.03 Type of Grate E	F	G	Concrete Transitional Section Catch Basin	Drop Inlet	J.B. with M.H.	Conc. Collars Cl. "B" C.Y. Std 840.72	M.H. Frame & Cover Std. 840.54	Pipe Removal Lin.Ft.	Remarks
–L– 11+51											1	1									
–L– 11+51																					
–L– 11+51											1		1								
–L– 11+51											1			1							
–L– 11+40						0.7															
–L– 11+97																					
–L– 12+44											1	1									
–Y– 11+70																					
–Y– 11+89											1						1		1		
–Y– 12+36																					
–Y– 12+83								1	1.4		1						1		1		
–Y– 13+27																					
–Y– 13+71											1	1									
–Y– 13+71																					
–Y– 13+71											1	1									
–L– 14+01																					
–L– 14+40											1		1								
–L– 14+72																					
–L– 15+04											1	1									
–L– 15+04																					
–L– 15+23						1.0															
–L– 15+04											1	1									
–L– 15+27																					
–L– 15+50											1		1								
–DET– 11+55																		0.5526			
–DET– 15+68																		0.5526			
–L– 11+99																				94	REMOVE 15" RCP & CATCH BASINS (2)
–Y– 11+77																				25	REMOVE 12" HDPE
–Y– 12+22																				66	REMOVE 12" CMP & CATCH BASIN
–Y– 13+08																				175	REMOVE 24" RCP
TOTAL						1.7		1	1.4		12	6	3	1			2	1.1052	2	360	

ABBREVIATIONS

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

6/21/00
$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

COMPUTED BY: DAB DATE: 02-26-2013
CHECKED BY: RMS DATE: 02-27-2013

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	3-B

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY NO.1					
–L– STA. 10 + 80.00 TO STA. 12 + 50.00	53		220	167	
–L– STA. 14 + 00.00 TO STA. 15 + 55.00	36		355	319	
SUBTOTAL SUMMARY NO.1	89		575	486	
SUMMARY NO.2					
–Y– STA. 11 + 85.00 TO STA. 14 + 65.00	333		465	132	
SUBTOTAL SUMMARY NO.2	333		465	132	
SUMMARY NO.2					
–DET– STA. 10 + 00.00 TO STA. 16 + 82.00	301		331	30	
SUBTOTAL SUMMARY NO.2	301		331	30	
PROJECT SUBTOTAL	723		1371	648	
LOSS DUE TO CLEARING & GRUBBING	–36			36	
WASTE TO REPLACE BORROW					
PROJECT TOTAL	687		1371	684	
GRAND TOTAL	687			684	
SAY	750			700	

CONTINGENCY ITEMS:

INCIDENTAL STONE = 50 TONS
UNDERCUT EXCAVATION = 25 CY
SELECT GRANULAR MATERIAL = 50 CY
CLASS IV SUBGRADE STABILIZATION = 50 TONS
FABRIC FOR SOIL STABILIZATION = 50 SY

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, and clearing & grubbing, will be paid for at the contract lump sum price for "grading".

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REBECCA M. SCHEULLER 7-23-2013

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 033023 ENGINEER BRADLEY S. RIDNOUR 7-23-2013

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Tri-Cities, Tennessee 423-467-8401
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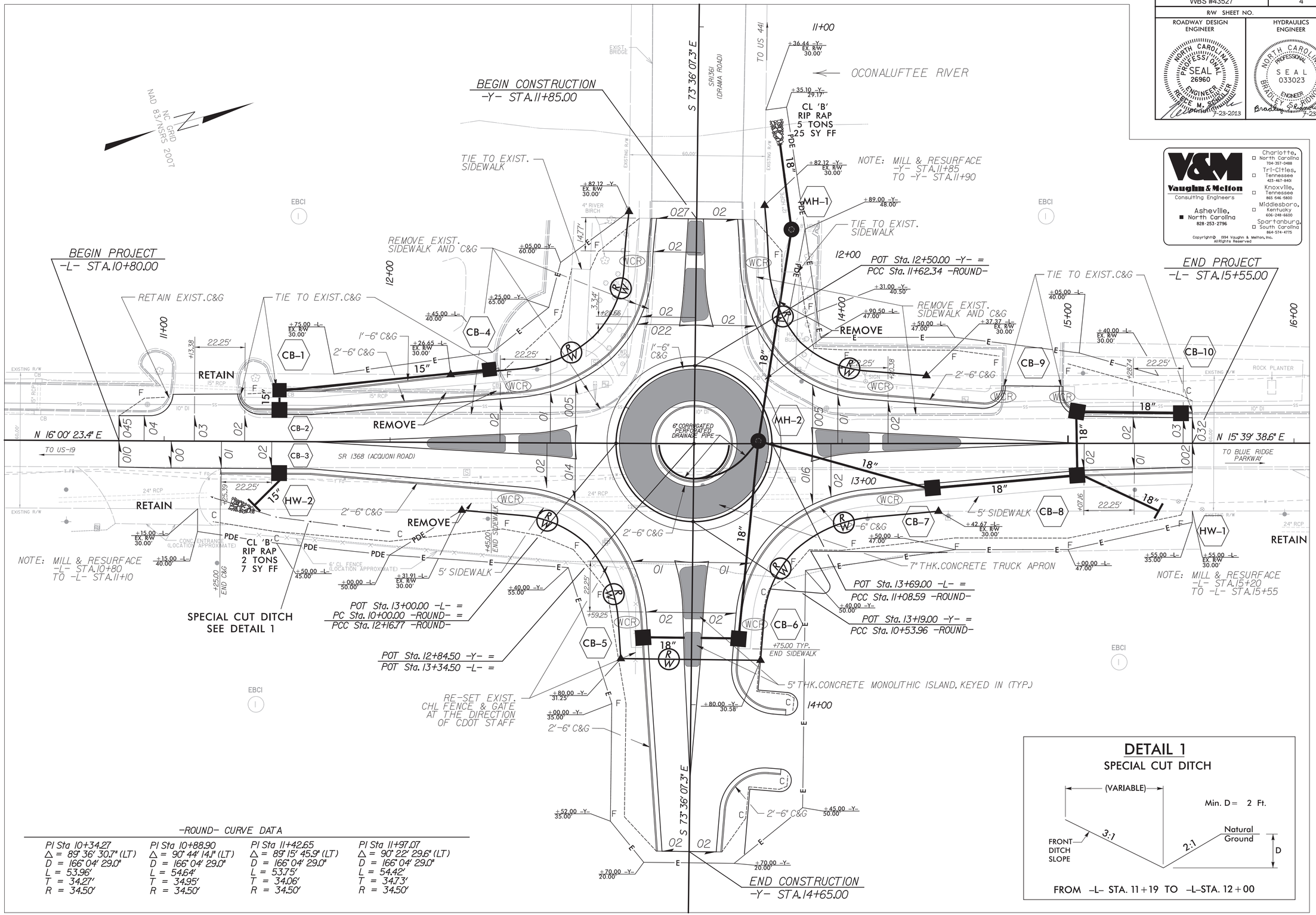


-ROUND- CURVE DATA

PI Sta 10+34.27	PI Sta 10+88.90	PI Sta 11+42.65	PI Sta 11+97.07
Δ = 89° 36' 30.7" (LT)	Δ = 90° 44' 14.1" (LT)	Δ = 89° 15' 45.9" (LT)	Δ = 90° 22' 29.6" (LT)
D = 166° 04' 29.0"	D = 166° 04' 29.0"	D = 166° 04' 29.0"	D = 166° 04' 29.0"
L = 53.96'	L = 54.64'	L = 53.75'	L = 54.42'
T = 34.27'	T = 34.95'	T = 34.06'	T = 34.73'
R = 34.50'	R = 34.50'	R = 34.50'	R = 34.50'

DETAIL 1
SPECIAL CUT DITCH

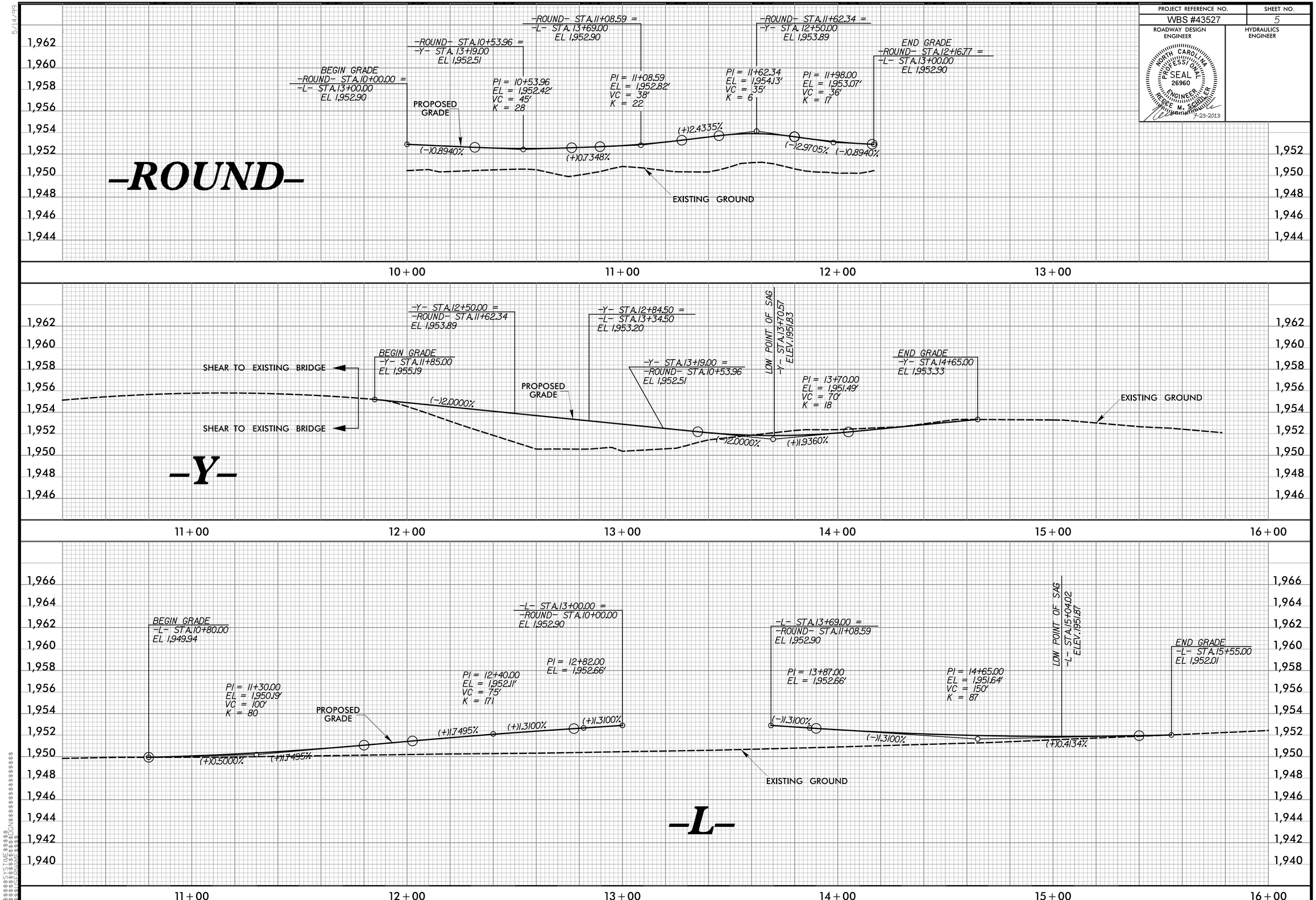
FROM -L- STA. 11+19 TO -L-STA. 12+00

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REBECCA M. SCHULER
7-23-2013



5/14/99

SYCNTE$$
SEWE$$
SEDNME$$
SCDNS$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS #43527	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

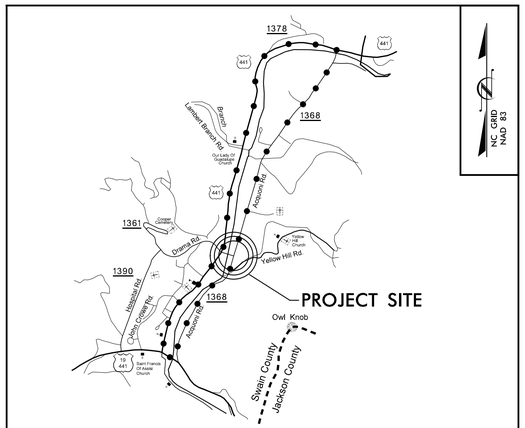
EASTERN BAND OF CHEROKEE INDIANS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

SWAIN COUNTY

LOCATION: INTERSECTION OF SR 1368 (ACQUONI ROAD) AND SR 1361 (DRAMA ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, EROSION CONTROL, TRAFFIC CONTROL, SIGNING, AND PAVEMENT MARKING



VICINITY MAP

PHASE III DETOUR ROUTE

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

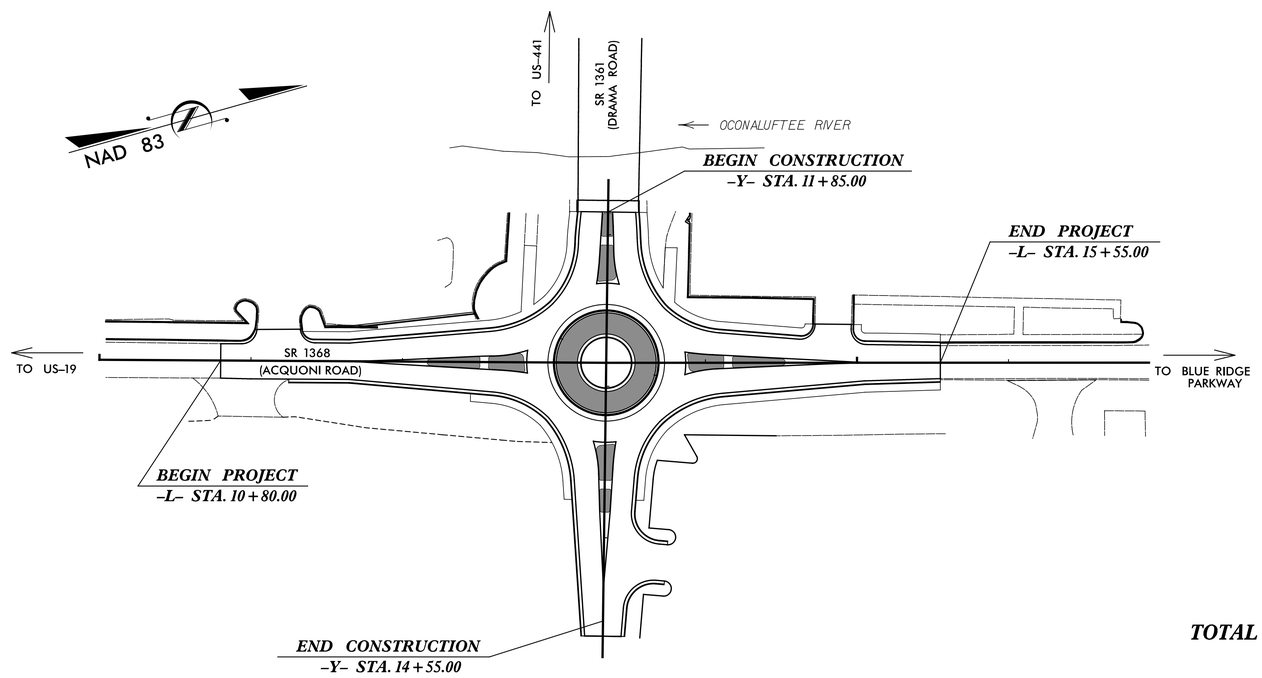
2012 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-0100000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3,2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1607.01	Gravel Constructin Entrance	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1634.01	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

Level III-A: Designer of Erosion and Sediment Control Plans

Dennis Bouton, P.E.
Date Issued: 6/12/2012
Date Expires: 12/31/2015
Certification Number: 3172

TOTAL DISTURBED AREA = 32,999 SQ. FT.
= 0.758 ACRES

PROJECT: ACQUONI ROAD ROUNDABOUT

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

LEVEL III-A ENGINEER:
DENNIS A. BOUTON, PE
CERTIFICATION NO: 3172

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Prepared for the Transportation Office of:

SEAL OF THE EASTERN BAND OF THE CHEROKEE NATION
NOVEMBER 28, 1870
TM

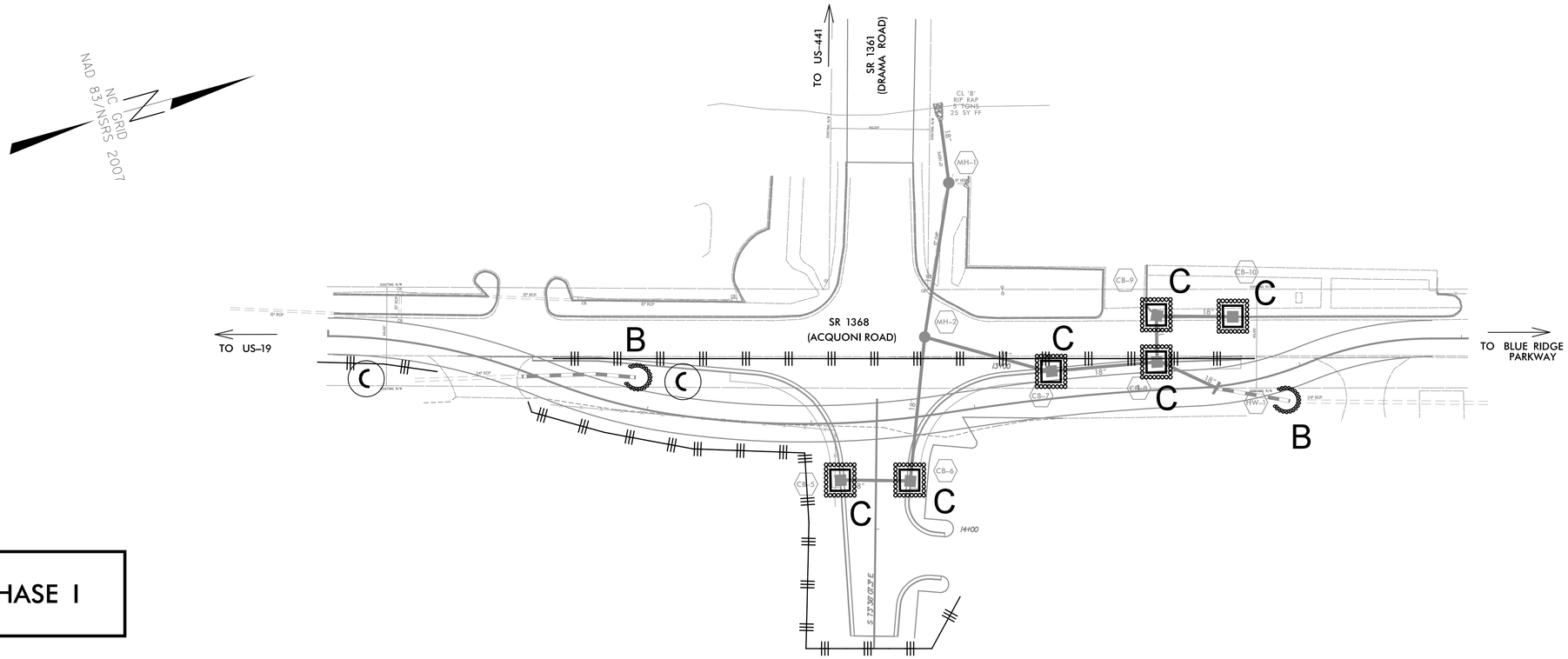
Roadway Standard Drawings

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

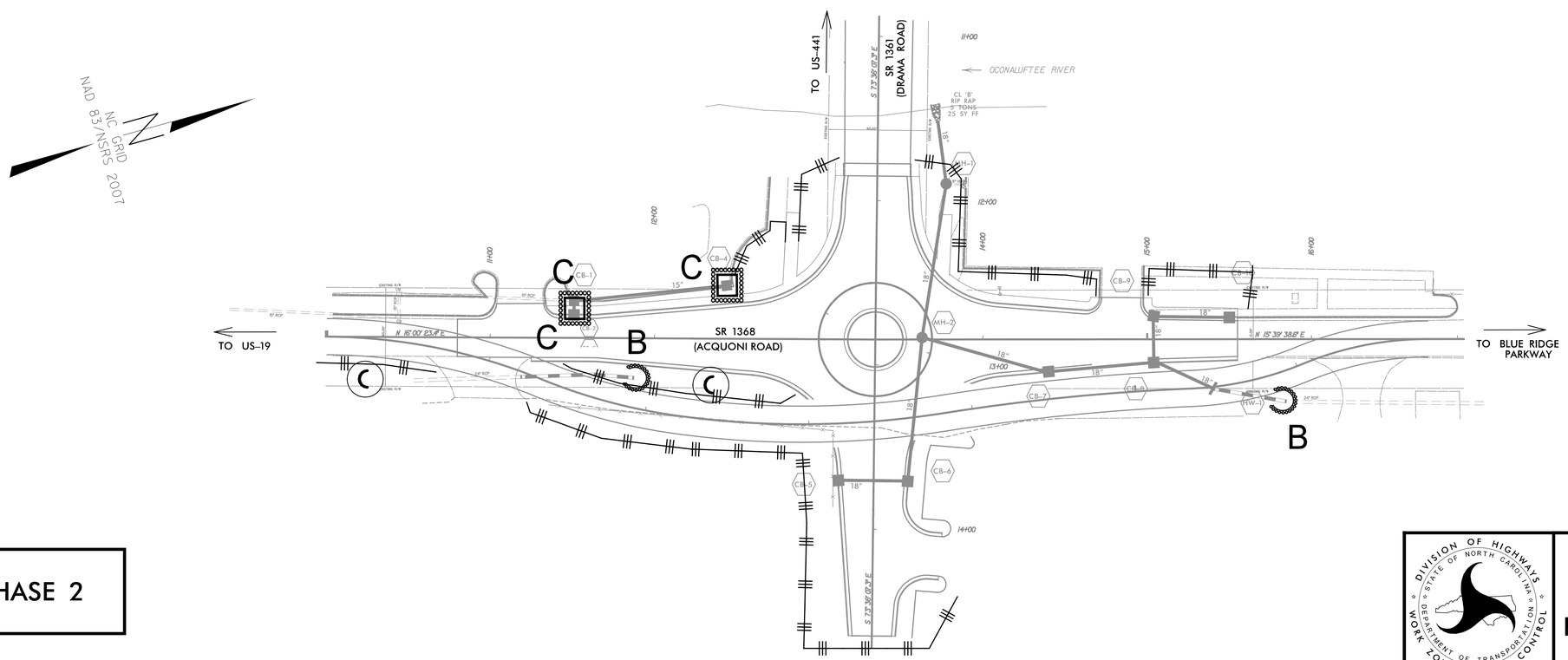
1605.01 Temporary Silt Fence
1631.01 Matting Installation
1632.03 Rock Inlet Sediment Trap Type C
1635.02 Rock Pipe Inlet Sediment Trap Type B

5/14/99
DGN: $$$$$$$$
DATE: $$$$$$$$
TIME: $$$$$$$$
USER: $$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	EC-2



PHASE I



PHASE 2

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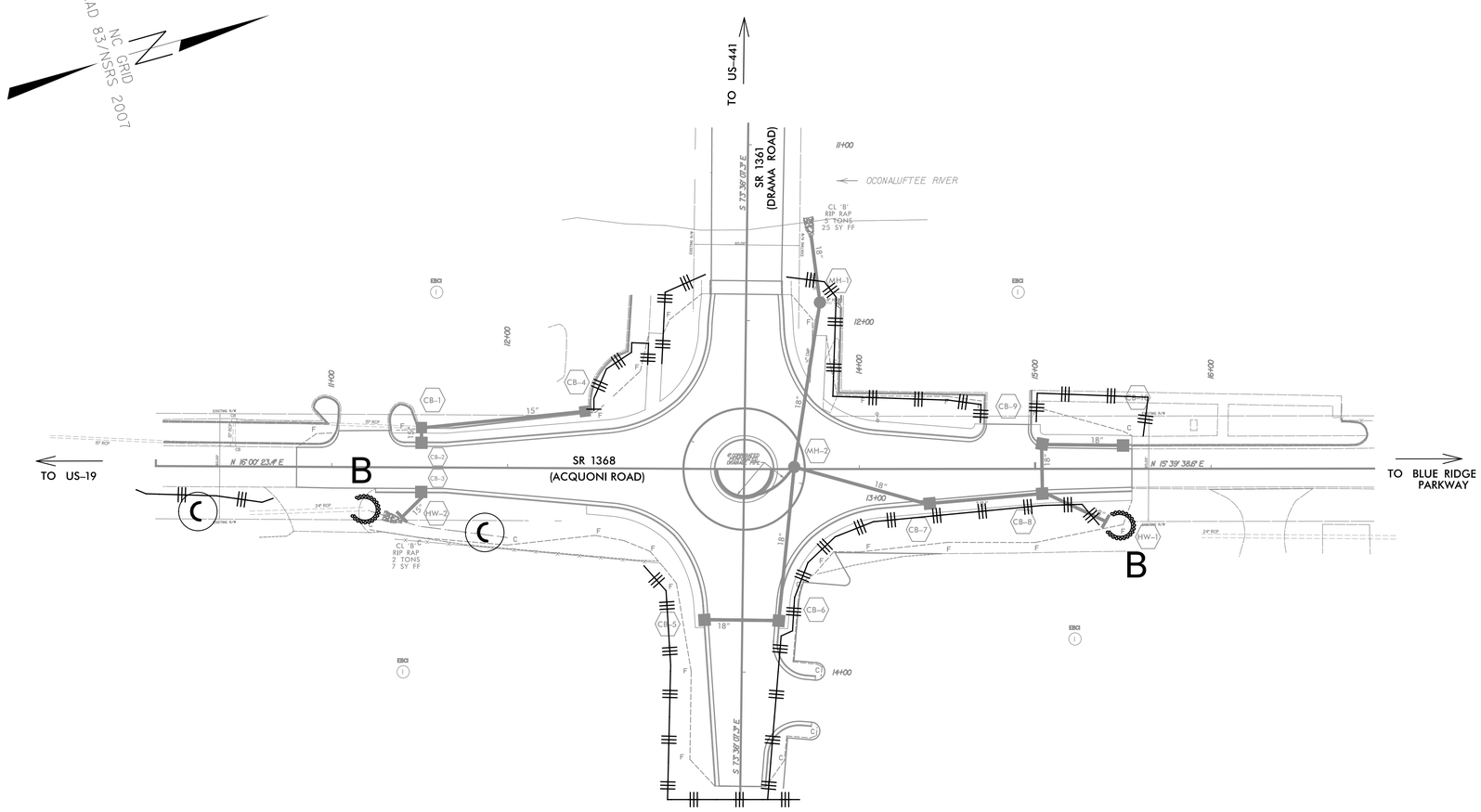
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

EROSION CONTROL PLAN – PHASES I & II

8/17/95
SYSTIME $$$$
ENGINEER $$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	EC-3



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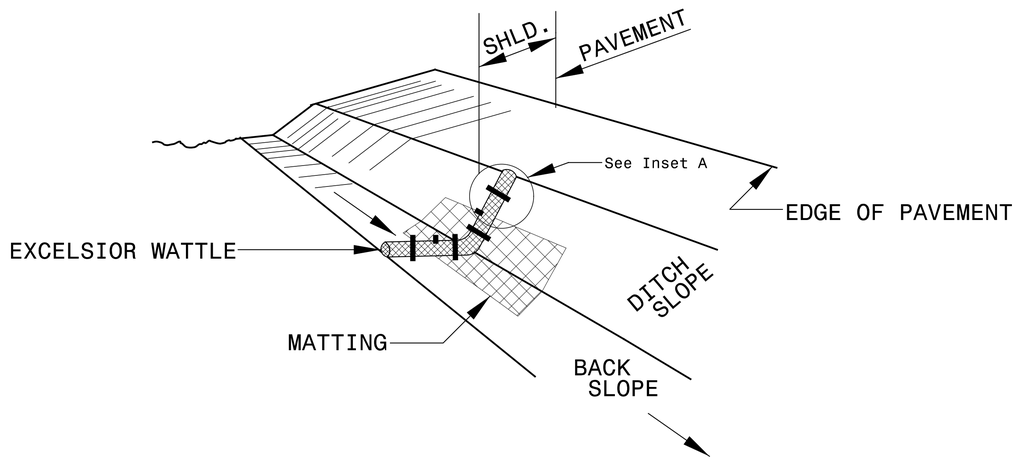
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

EROSION CONTROL PLAN – PHASE III

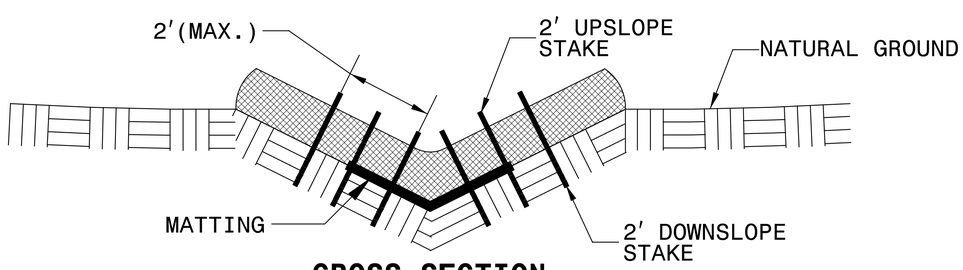
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	EC-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

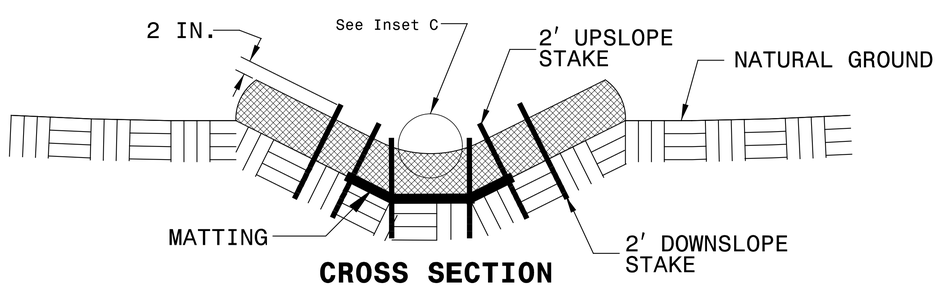
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. 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.

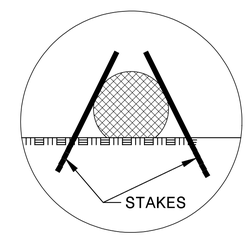
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

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.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



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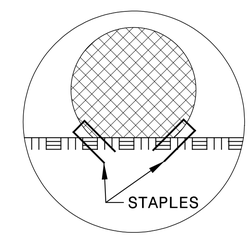

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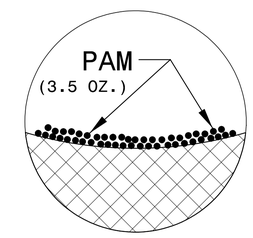

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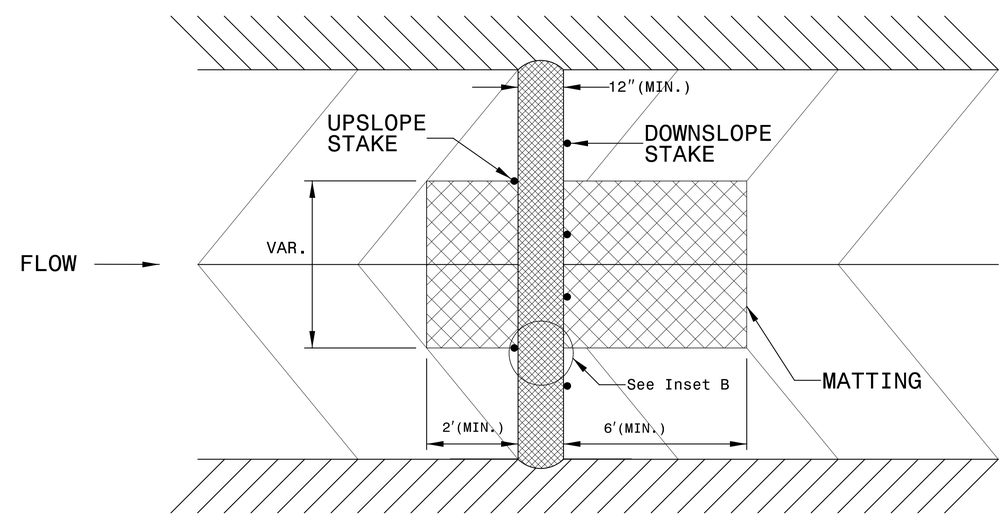


TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	EC-5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS #43527	SIGN-1	4

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

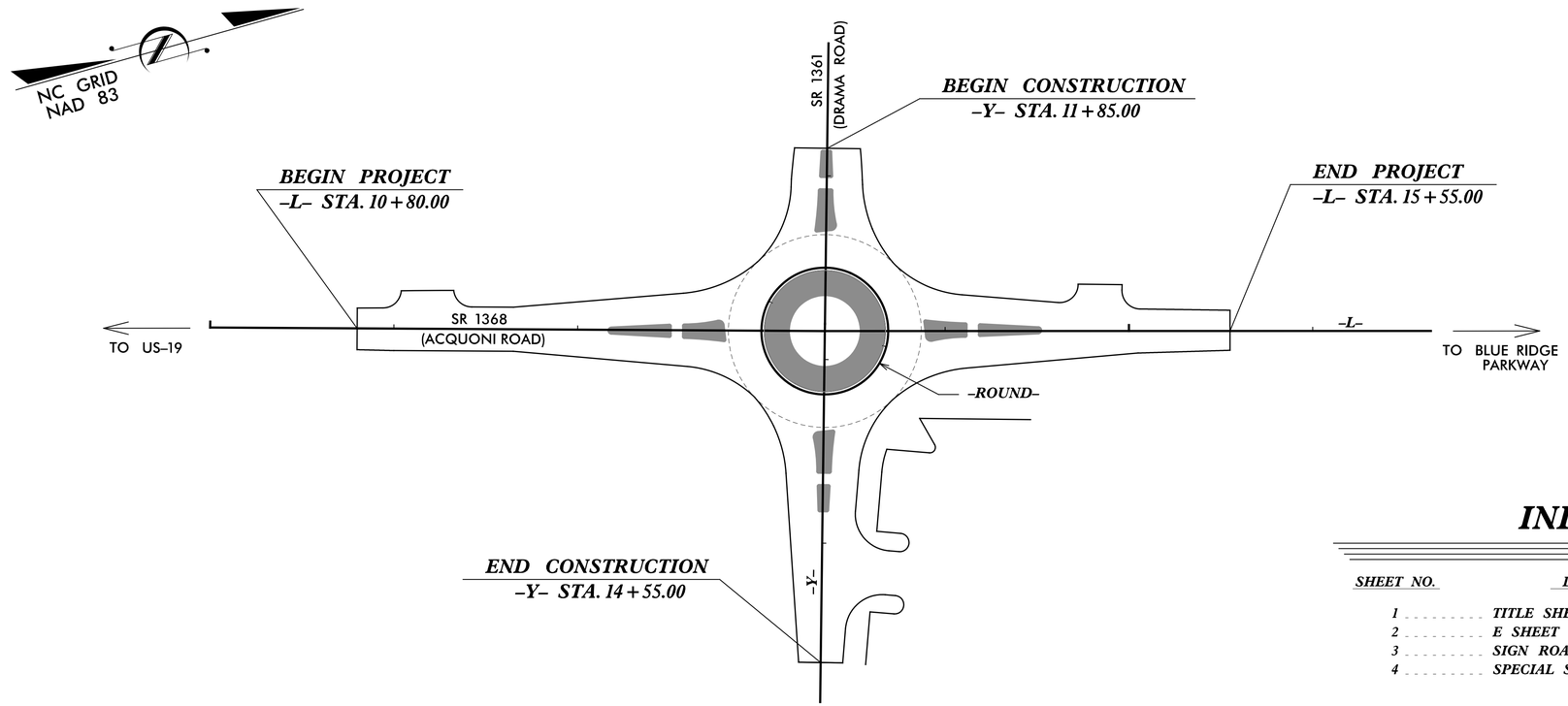
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SWAIN COUNTY

LOCATION: INTERSECTION OF SR 1368 (ACQUONI ROAD) AND SR 1361 (DRAMA ROAD)

SIGNING PLANS

PROJECT: ACQUONI ROAD ROUNDABOUT



INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	E SHEET
3	SIGN ROADWAY SHEET (PROPOSED SIGNS)
4	SPECIAL SIGN DETAIL

GRAPHIC SCALES

30 15 0 30 60
PLANS

V&M
Vaughn & Melton
Consulting Engineers

Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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Prepared In the Office of:
VAUGHN & MELTON
1318-F PATTON AVE.
ASHEVILLE NC, 28806
FOR THE NORTH CAROLINA DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

REECE M. SCHULER, P.E.
PROJECT ENGINEER

DENNIS A. BOUTON, P.E.
PROJECT DESIGN ENGINEER

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LOYD D. BROWN

7-23-2013 P.E.

SIGNATURE:

$$$$$$$$$$ SYSTIME$$$$$$$$$$ DGN$$$$$$$$$$ DLERAME$$$$$$$$$$ 09/28/99

PROJ. REFERENCE NO.	SHEET NO.
WBS #43527	SIGN-2

V&M
Vaughn & Melton
Consulting Engineers
Asheville, North Carolina 828-253-2796
Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865 546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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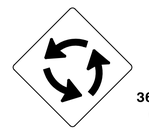
TYPE "E" SIGNS

301

QUANTITY REQ'D 4



36 x 36
W2-6

ONE "U" POST PER SIGN

304

QUANTITY REQ'D 8

36 x 36 x 36
R1-2

ONE "U" POST PER SIGN

307

QUANTITY REQ'D 8

30 x 18
W16-7

YELLOW/GREEN REFLECTIVE SHEETING
MOUNT BELOW SIGN 306
IN 8 INSTALLATIONS

ONE "U" POST PER SIGN

* **302**

QUANTITY REQ'D 2

36 x 8
W16-8P

MOUNT BELOW SIGN 301
IN 2 INSTALLATIONS

ONE "U" POST PER SIGN

305

QUANTITY REQ'D 2

24 x 30
R2-1

ONE "U" POST PER SIGN

308

QUANTITY REQ'D 4

30 x 24
R6-4

ONE "U" POST PER SIGN

* **303**

QUANTITY REQ'D 2

30 x 8
W16-8P

MOUNT BELOW SIGN 301
IN 2 INSTALLATIONS

ONE "U" POST PER SIGN

306

QUANTITY REQ'D 8

30 x 30
W11-2

YELLOW/GREEN REFLECTIVE SHEETING
ONE "U" POST PER SIGN

309

QUANTITY REQ'D 4

24 x 30
R4-7

ONE "U" POST PER SIGN

* NOTE: SEE SHEET SIGN-4 FOR SIGN DESIGN

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD D. BROWN
2-23-2013

E SIGNS

SCALE:	NONE
DATE:	2-11-13
DWG. BY:	DAB
DESIGN BY:	DAB
REVIEWED BY:	LDB

DIVISION OF HIGHWAYS — TRAFFIC ENGINEERING BRANCH

REVISIONS

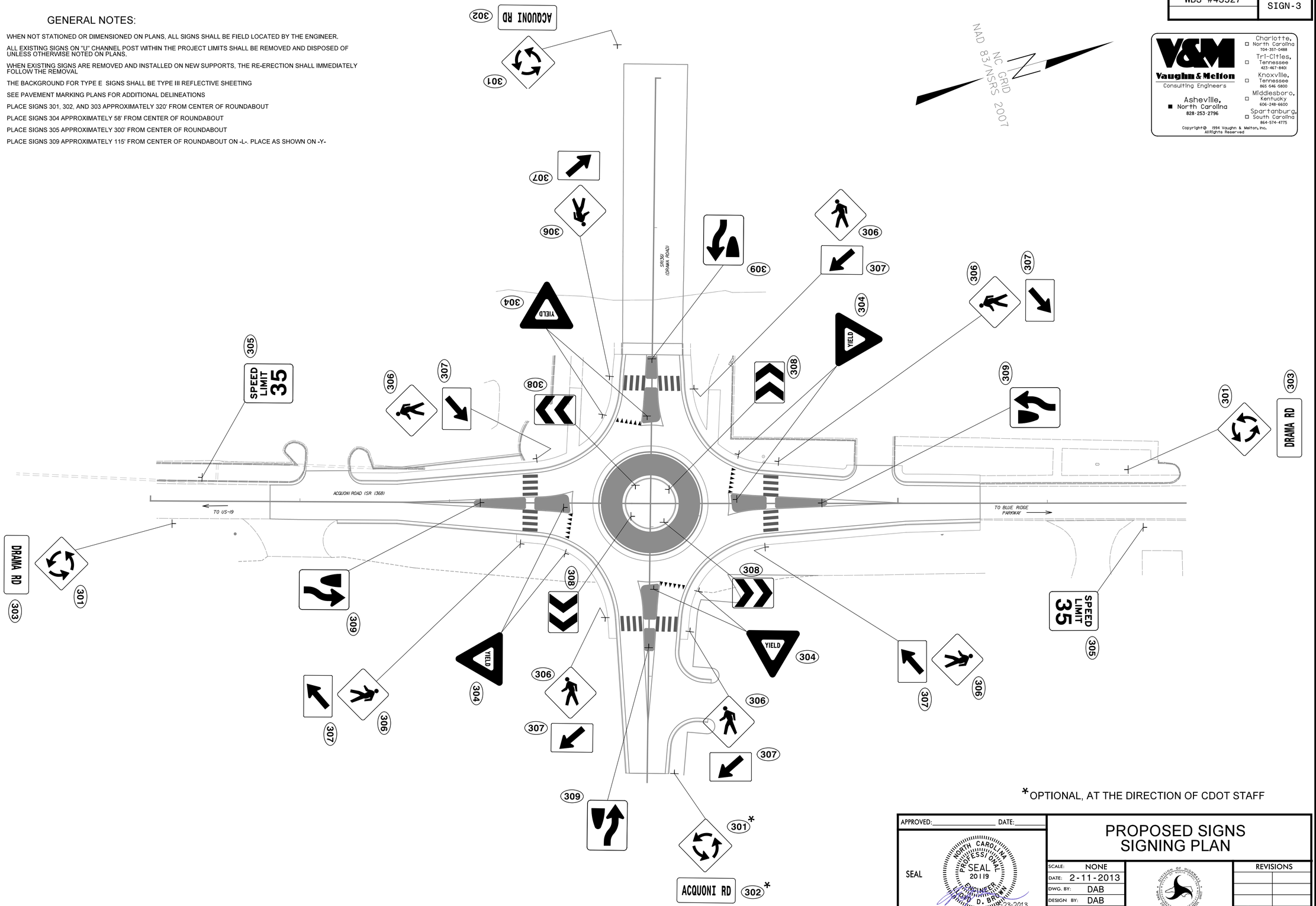
CADD FILE

$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
WBS #43527	SIGN-3

GENERAL NOTES:

- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL
- THE BACKGROUND FOR TYPE E SIGNS SHALL BE TYPE III REFLECTIVE SHEETING
- SEE PAVEMENT MARKING PLANS FOR ADDITIONAL DELINEATIONS
- PLACE SIGNS 301, 302, AND 303 APPROXIMATELY 320' FROM CENTER OF ROUNDABOUT
- PLACE SIGNS 304 APPROXIMATELY 58' FROM CENTER OF ROUNDABOUT
- PLACE SIGNS 305 APPROXIMATELY 300' FROM CENTER OF ROUNDABOUT
- PLACE SIGNS 309 APPROXIMATELY 115' FROM CENTER OF ROUNDABOUT ON -L-. PLACE AS SHOWN ON -Y-



*OPTIONAL, AT THE DIRECTION OF CDOT STAFF

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Consulting Engineers
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APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LONG D. BROWN
2-23-2013

PROPOSED SIGNS SIGNING PLAN

SCALE:	NONE
DATE:	2-11-2013
DWG. BY:	DAB
DESIGN BY:	DAB
REVIEWED BY:	LDB

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

REVISIONS

CADD FILE

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
WBS# 43527	SIGN-4

SIGN NUMR: DRAMA RD
TYPE: E Ground
QUANTITY: 2

BACKG. COLOR: YELLOW
COPY COLOR: RGB

DESIGN BY: ACC
PROJECT ID: WBS# 43527

CHK BY: DAB
DATE: FEB. 27,2013

SIGN WIDTH: 2′-6″
HEIGHT: 0′-8″
TOTAL AREA: 1.7 Sq.Ft.

MAT′L: 0.063 in.(1.6 mm) ALUMINUM

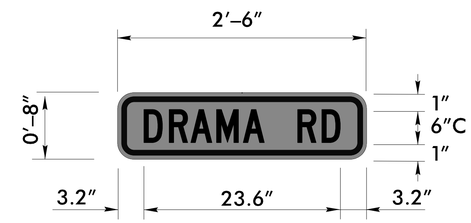
BORDER TYPE: FLUSH
RECESS: 0.06″
WIDTH: 0.41″
RADII: 1.91″

NO. Z BARS:
LENGTH: in.

SYMBOL	X	Y	WID	HT

USE NOTES: 1,3,4

1. Legend and border shall be direct applied encapsulated lens reflective sheeting.
2. Legend and border shall be direct applied enclosed lens reflective sheeting.
3. Shields shall be encapsulated lens reflective sheeting on 0.8mm aluminum and demountable.
4. Background shall be encapsulated lens reflective sheeting.
5. Background shall be enclosed lens reflective sheeting.
6. Center arrows vertically on sign.



BORDER
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TH=0.41″

Panel Style: construction_guide.ssi
M.U.T.C.D.: 2009 Edition

Letter spacings are to start of next letter

																										Series/Size Text Length
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	3.2	3	2.6	3.1	3.2	2.6	4	2.9	2.2	3.2																23.6

SIGN NUMR: ACQUONI RD
TYPE: E Ground
QUANTITY: 2

BACKG. COLOR: YELLOW
COPY COLOR: RGB

DESIGN BY: ACC
PROJECT ID: WBS# 43527

CHK BY: DAB
DATE: FEB. 27,2013

SIGN WIDTH: 3′-0″
HEIGHT: 0′-8″
TOTAL AREA: 2.0 Sq.Ft.

MAT′L: 0.063 in.(1.6 mm) ALUMINUM

BORDER TYPE: FLUSH
RECESS: 0.06″
WIDTH: 0.41″
RADII: 1.91″

NO. Z BARS:
LENGTH: in.

SYMBOL	X	Y	WID	HT

USE NOTES: 1,3,4

1. Legend and border shall be direct applied encapsulated lens reflective sheeting.
2. Legend and border shall be direct applied enclosed lens reflective sheeting.
3. Shields shall be encapsulated lens reflective sheeting on 0.8mm aluminum and demountable.
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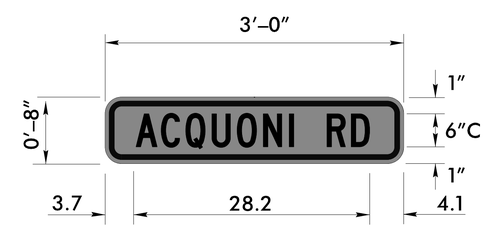

BORDER
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TH=0.41″

Panel Style: construction_guide.ssi
M.U.T.C.D.: 2009 Edition

Letter spacings are to start of next letter

																										Series/Size Text Length
		A	C	Q	U	O	N	I		R	D															C 2000/4
	3.7	3	3	3.2	3	3.2	3.1	0.6	4	2.9	2.2	4.1														28.2

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LEONARD D. BROWN

7-23-2013

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN DESIGN

Spacing Factor is 1 unless specified otherwise

FILENAME: 31230-04_Sgn_04.DGN

$$$$SYSTIME$$$$
$$$$USERNAME$$$$ $$$$DGN$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	PM-1

EASTERN BAND OF CHEROKEE INDIANS

PAVEMENT MARKING PLAN

SWAIN COUNTY

INDEX

SHEET NO.	DESCRIPTION
PM-1	PAVEMENT MARKING PLAN COVER SHEET
PM-2	PAVEMENT MARKING SCHEDULE AND DETAIL

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS THEY APPEAR 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:

STD NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE & MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKER - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	RAISED PAVEMENT MARKERS - BRIDGES
1250.01	PAVEMENT MARKER - SPACING
1251.01	RAISED PAVEMENT MARKERS - TEMPORARY AND PERMANENT

GENERAL NOTES

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.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR1361 (DRAMA ROAD)	THERMOPLASTIC	PERMANENT RAISED
SR1368 (ACQUONI ROAD)	THERMOPLASTIC	PERMANENT RAISED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

E) ON ASPHALT SURFACES USE HEATED-IN-PLACE THERMOPLASTIC OR EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS.

F) MARKERS SHALL BE INSTALLED ACCORDING TO THE NCDOT ROADWAY STANDARD DRAWING 1250.01.

V&M Vaughn & Melton Consulting Engineers

Asheville, North Carolina 828-253-2796

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APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. SCHULER

7-23-2013

PAVEMENT MARKING PLAN COVER SHEET

SCALE:	NONE
DATE:	MAR 13
DWG. BY:	MAF
DESIGN BY:	DAB
REVIEWED BY:	RMS

REVISIONS

CADD FILE

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	PM-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER RENEE M. SCHULER
9-23-2013

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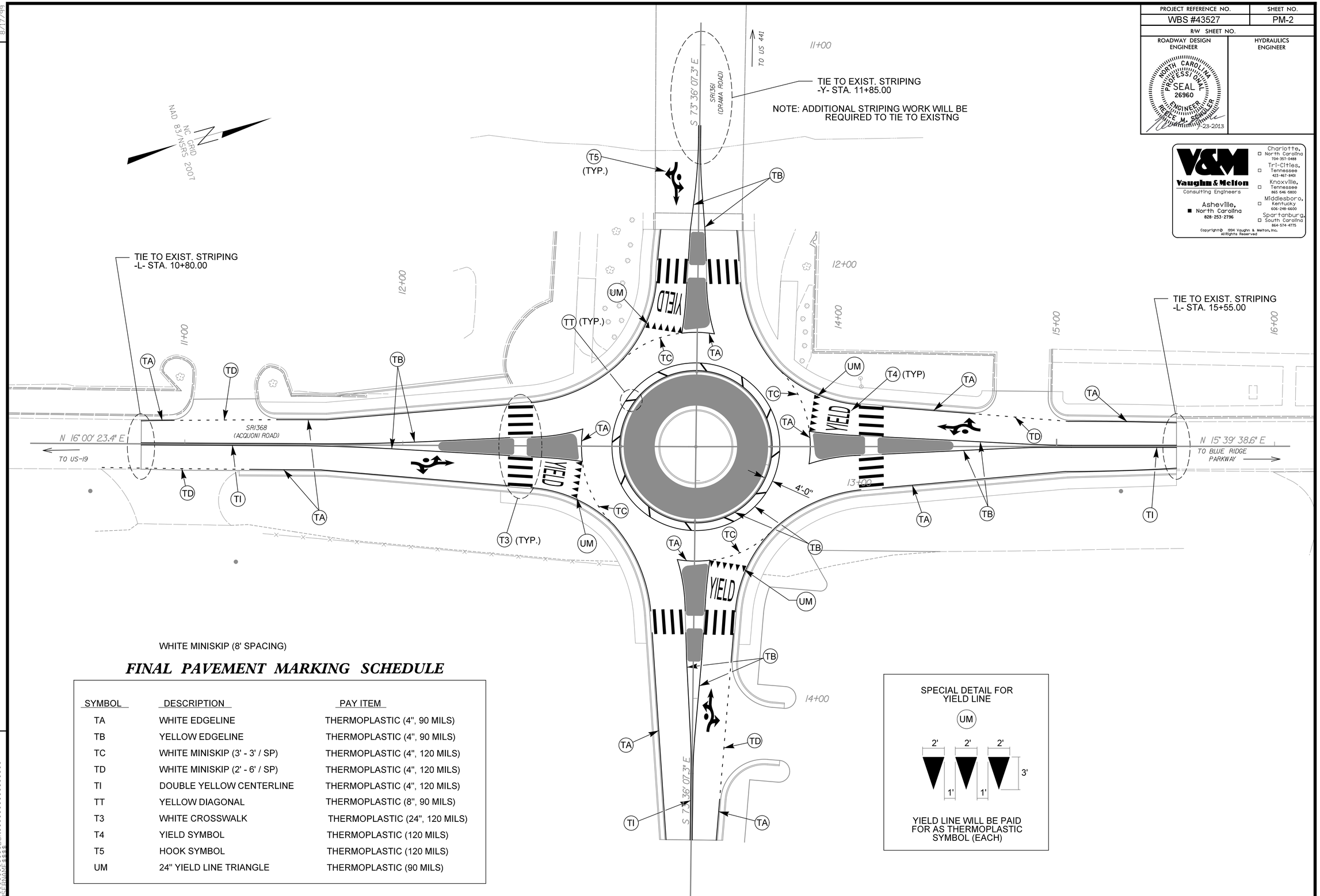


WHITE MINISKIP (8' SPACING)

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 MILS)
TB	YELLOW EDGELINE	THERMOPLASTIC (4", 90 MILS)
TC	WHITE MINISKIP (3' - 3' / SP)	THERMOPLASTIC (4", 120 MILS)
TD	WHITE MINISKIP (2' - 6' / SP)	THERMOPLASTIC (4", 120 MILS)
TI	DOUBLE YELLOW CENTERLINE	THERMOPLASTIC (4", 120 MILS)
TT	YELLOW DIAGONAL	THERMOPLASTIC (8", 90 MILS)
T3	WHITE CROSSWALK	THERMOPLASTIC (24", 120 MILS)
T4	YIELD SYMBOL	THERMOPLASTIC (120 MILS)
T5	HOOK SYMBOL	THERMOPLASTIC (120 MILS)
UM	24" YIELD LINE TRIANGLE	THERMOPLASTIC (90 MILS)

SPECIAL DETAIL FOR YIELD LINE

UM

YIELD LINE WILL BE PAID FOR AS THERMOPLASTIC SYMBOL (EACH)

REVISIONS

8/17/99

PROJ. REFERENCE NO.	SHEET NO.
WBS# 43527	SD-1

SIGN NUMR: ACQUONI RD
TYPE: D Ground
QUANTITY: 11

BACKG. COLOR: Orange
COPY COLOR: RGB

DESIGN BY: ACC
PROJECT ID: WBS# 43527

CHK BY: DAB
DATE: FEB. 28,2013

SIGN WIDTH: 4′-0″
HEIGHT: 1′-0″
TOTAL AREA: 4 Sq.Ft.

MAT'L: 0.063 in.(1.6 mm) ALUMINUM

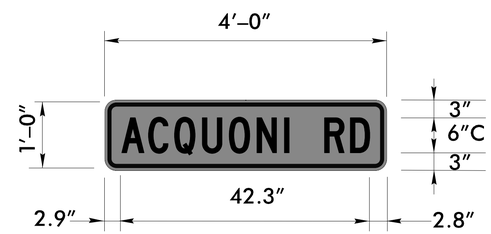
BORDER TYPE: FLUSH
RECESS: 0.06″
WIDTH: 0.41″
RADII: 1.91″

NO. Z BARS:
LENGTH: in.

SYMBOL	X	Y	WID	HT

USE NOTES: 1,3,4,6

1. Legend and border shall be direct applied encapsulated lens reflective sheeting.
2. Legend and border shall be direct applied enclosed lens reflective sheeting.
3. Shields shall be encapsulated lens reflective sheeting on 0.8mm aluminum and demountable.
4. Background shall be encapsulated lens reflective sheeting.
5. Background shall be enclosed lens reflective sheeting.
6. Center arrows vertically on sign.



BORDER
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TH=0.41″

Panel Style: construction_guide.ssi
M.U.T.C.D.: 2009 Edition

Letter spacings are to start of next letter

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Spacing Factor is 1 unless specified otherwise

FILENAME: 31230-04_TC_SD-1.DGN

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LEONARD D. BROWN

2-23-2013

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

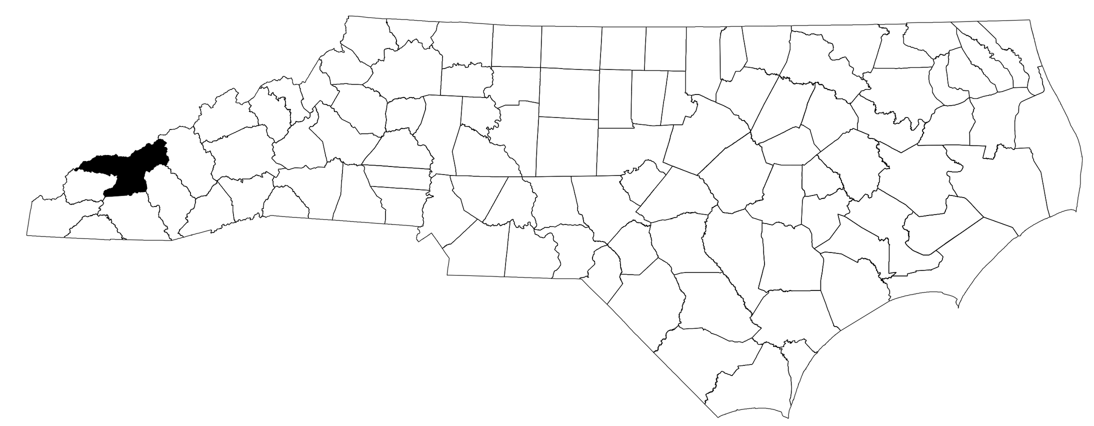
SPECIAL SIGN DESIGN

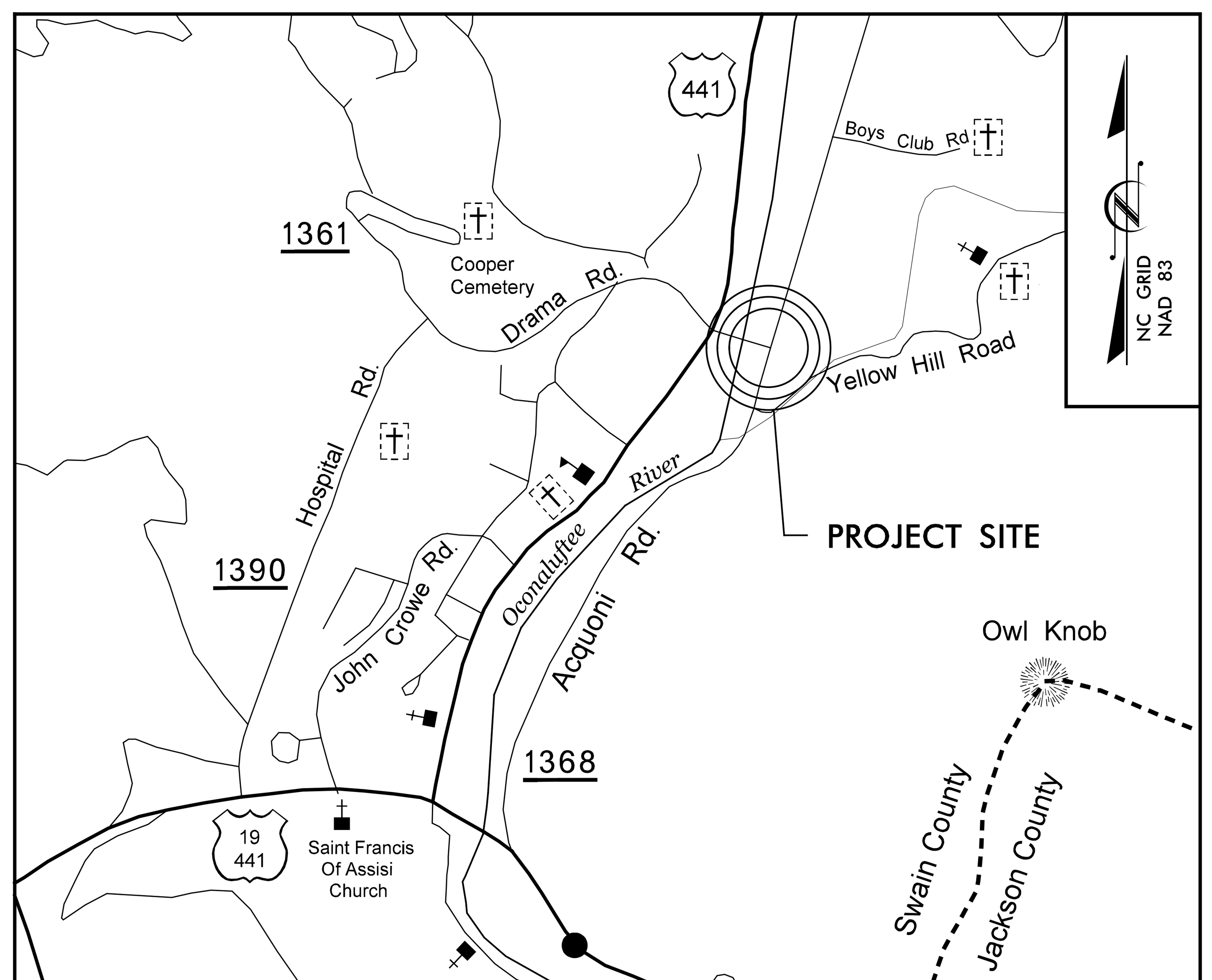
$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$
$$$$USERNAME$$$$

EASTERN BAND OF CHEROKEE INDIANS

TRANSPORTATION MANAGEMENT PLAN

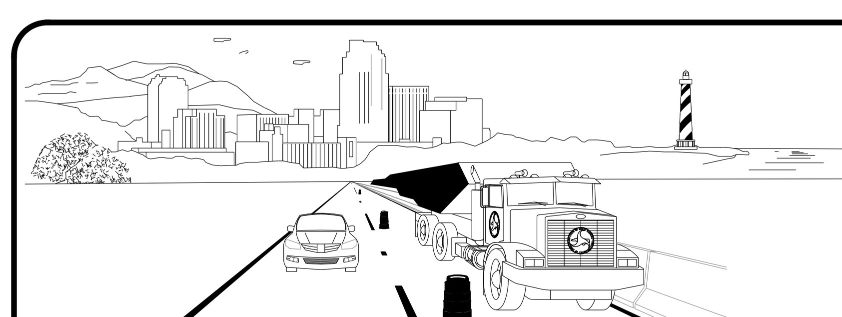
SWAIN COUNTY





VICINITY MAP

LOCATION: INTERSECTION OF SR1368 (ACQUONI ROAD) AND SR 1361 (DRAMA ROAD)



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1580 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1580
1020 BIRCH RIDGE DRIVE, RALEIGH, NC 27610 (DELIVERY)
PHONE: (919) 250-4094 FAX: (919) 250-4098

J. S. BOURNE, P.E.	*STATE TRAFFIC MANAGEMENT ENGINEER*
LLOYD D. BROWN, P.E.	*TRAFFIC CONTROL PROJECT ENGINEER*
DENNIS A. BOUTON, P.E.	*TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
DENNIS A. BOUTON, P.E.	*TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND LOCAL NOTES)
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	WORK ZONE ADVANCE WARNING SIGN DETAILS
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL
TMP-7	TEMPORARY TRAFFIC CONTROL DETOUR PROFILE
SD-1	SPECIAL SIGN DESIGN

PLANS PREPARED BY:

V&M Vaughn & Melton Consulting Engineers
■ Asheville, North Carolina 828-253-2796
□ Charlotte, North Carolina 704-357-0488

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PROJECT ENGINEER LLOYD D. BROWN, P.E.
DESIGN ENGINEER DENNIS A. BOUTON, P.E.

APPROVED:
DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD D. BROWN
7-23-2013

SHEET NO. TMP-1

PROJECT: ACQUONI ROAD ROUNDABOUT

$$$$SYSTIME$$$$ $$$$DGN$$$$ $$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
WBS No. 43527	TMP-1A

ROADWAY STANDARD DRAWINGS

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:

STD. NO.	TITLE
840.52	PRECAST MANHOLE 4',5' AND 6' DIAMETER
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.12	PAVEMENT MARKINGS - BRIDGES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- TEMPORARY PAVEMENT

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	PAINT
PA	WHITE EDGE LINE (4")
PI	YELLOW DOUBLE CENTER (4")
P4	STOP BAR (24"WHITE)
	TAPE
TA	WHITE EDGE LINE (4")
TI	YELLOW DOUBLE CENTER (4")

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM — SKINNY DRUM — TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY (T E M P)
- PORTABLE TRAFFIC SIGNAL

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER RONALD D. BROWN
7-23-2013

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

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 UNDESIRED 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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

LOCAL NOTES:

1) **EMERGENCY VEHICLE ACCESS MUST BE MAINTAINED AT ALL TIMES.**

2) **NOTIFY THE CHEROKEE SCHOOLS AND SWAIN COUNTY SCHOOL BOARD 30 DAYS BEFORE ANY LANE CLOSURES.**

TRAFFIC PATTERN ALTERATIONS

H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

K) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 100 ft IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

L) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

M) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

O) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKING

P) INSTALL TEMPORARY PAVEMENT MARKINGS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1361 (DRAMA ROAD)	PAINT	NONE
SR 1368 (ACQUONI ROAD)	PAINT/TAPE	NONE

Q) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

T) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 100 ft AND 200 ft RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

MANAGEMENT STRATEGIES

TRAFFIC WILL BE MAINTAINED ON THE EXISTING ROAD AS DETOUR ALIGNMENT IS CONSTRUCTED.
PHASE 2 SHOWS TRAFFIC SHIFTED TO THE DETOUR ALIGNMENT USING DRUMS AND PAVEMENT MARKINGS WHILE THE REMAINDER IS CONSTRUCTED. A FLAGGING OPERATION WILL BE USED TO CONSTRUCT THE NEW TIE-INS.

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD D. BROWN
7-23-2013

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN
(MANAGEMENT STRATEGIES & GENERAL NOTES)

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
WBS No. 43527	TMP-2

PROJECT PHASING

PHASE I

STEP 1: - ERECT WORK ZONE ADVANCED WARNING SIGNS USING DETAIL DRAWINGS FOR WORK ZONE SIGNS. (SEE RDWY STD 1101.01 AND SHEET TMP-3)

STEP 2: - MAINTAINING TRAFFIC ON THE EXISTING ROADWAY AND USING RDWY STD 1101.02 SHEET 1 OF 15, RDWY STD 1101.04, FLAGGERS AND DRUMS AS NEEDED PERFORM THE FOLLOWING:

NOTE: CONTRACTOR MAY CONSTRUCT A, B, AND C, CONCURRENTLY.

A) CONSTRUCT PROPOSED DRAINAGE STRUCTURES AND PIPES AS FOLLOWS:
- MH-1
- MH-2 (UP TO ELEVATION OF EXISTING ROADWAY USING TEMPORARY MANHOLE GRADE RING TO TEMPORARILY MAINTAIN EXISTING ROADWAY RIM ELEVATION)
- CB-7
- CB-6
- CB-8 THROUGH CB-10
- CB-5

B) CONSTRUCT PROPOSED WIDENING, GRADING, AND CURB & GUTTER RIGHT OF -L- TO THE EDGE OF EXISTING ROADWAY UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (EXCEPT FOR RAISED ISLAND IN ROUND-A-BOUT) FOR THE FOLLOWING STATION RANGES (-DET- TO MAKE TEMPORARY TIE WITH TEMPORARY PAVEMENT):

-L- STA 11+30 TO STA 15+55 (EXCLUDING CURB & GUTTER FROM -L- 11+25 TO STA 11+52, AND -L- STA 14+65 TO STA 15+00, AND EXCLUDING SIDEWALK FROM -Y- STA 13+45 LT TO -L- STA 15+55 RT) (SEE TMP-4).

-Y- STA 12+94 TO STA 14+65 (EXCLUDING CURB & GUTTER FROM -Y- STA 13+10 LEFT TO -Y- STA 13+47 LEFT, AND FROM -Y- STA 13+20 RIGHT TO -Y- STA 13+52 RIGHT) (SEE TMP-4)

NOTE: MOVE AND MAINTAIN EXISTING TRAFFIC SIGNALS AS NECESSARY.

C) INSTALL TEMPORARY PIPES FROM:
-L- STA 11+63 TO 11+85 (RIGHT) (SEE TMP-4)
-L- STA 15+40 TO 15+85 (RIGHT) (SEE TMP-4)

PHASE II

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE STEPS 1 & 2.

STEP 1: - ERECT AND COVER WORK ZONE ADVANCED WARNING SIGNS AND DETOUR SIGNS USING DETAIL DRAWINGS FOR WORK ZONE SIGNS. (SEE RDWY STD 1101.01 AND SHEETS TMP-3 & TMP-5.)

STEP 2: - MAINTAINING TRAFFIC ON THE EXISTING ROADWAY AND USING RDWY STD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NEEDED PERFORM THE FOLLOWING:

NOTE: WORK IN A CONTINUOUS MANNER TO COMPLETE A, B, & C

A) TIE THE EXISTING ROADWAY TO THE NEWLY CONSTRUCTED WIDENED/TEMPORARY PAVEMENT SECTIONS USING WEDGING AS NECESSARY FROM:
L STA 10+00 (RT) TO STA 11+20 (RT)
L STA 15+55 (RT) TO STA 16+65 (RT)

B) PLACE TEMPORARY PAVEMENT MARKING AS SHOWN ON TMP-5

C) USING RDWY STD 1101.02 SHEET 1 OF 15 AND RDWY STD 1101.03 SHEETS 2 & 3 OF 9, UNCOVER SIGNS, PLACE BARRICADES AS SHOWN ON TMP-3 & TMP-5 AND SHIFT TRAFFIC TO A TWO-WAY, TWO-LANE PATTERN ALONG -DET- WHILE CLOSING -Y- AS SHOWN ON TMP-5. COVER AND TAKE EXISTING TRAFFIC SIGNALS OFFLINE.

STEP 3: - MAINTAINING TRAFFIC ALONG -DET- AND USING DETAIL DRAWINGS AND RDWY STD 1101.03 SHEET 2 & 3 OF 9 AND FLAGGERS PERFORM THE FOLLOWING:

A) CONSTRUCT PROPOSED WIDENING, GRADING, AND CURB & GUTTER UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE FOR THE FOLLOWING:

-L- STA 10+80 TO -L- 15+55 (EXCLUDING CURB & GUTTER RIGHT OF -L- FROM L- STA 11+25 TO STA 11+52 AND -L- STA 14+65 TO STA 15+00 AND SIDEWALK FROM Y- STA 13+45 LT TO L- STA 15+55 RT) (SEE TMP-5).
-Y- STA 11+85 TO 12+94 (SEE TMP-5)

B) CONSTRUCT PROPOSED DRAINAGE STRUCTURES AND PIPES AS FOLLOWS:
- CB-1 (SEE TMP-5)
- CB-2 (SEE TMP-5)
- CB-4 (SEE TMP-5)
- THE PERMANENT GRADE RING ON MH-2

PHASE III

NOTE: PHASE III SHALL BE COMPLETED IN A CONTINUOUS MANNER.
DURATION OF TEMPORARY ROAD CLOSURE FOR PHASE III TO BE NO MORE THAN 20 CALENDAR DAYS.

STEP 1: - MAINTAINING TRAFFIC ON THE TWO-WAY TWO-LANE DETOUR AND USING RDWY STD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NEEDED, PERFORM THE FOLLOWING:

A) INSTALL AND COVER ADVANCE WARNING AND DETOUR SIGNAGE AS SHOWN ON TMP-6 AND IN ACCORDANCE WITH RDWY STD 1101.03.

B) UNCOVER SIGNS AND USING RDWY STD 1101.01 SHEET 1 OF 15 AND FLAGGERS AS NEEDED, CLOSE ACQUONI ROAD AND DRAMA ROAD DETOURING TRAFFIC AS SHOWN ON TMP-6 AND IN ACCORDANCE WITH RDWY STD 1101.03.

STEP 2: -

A) COMPLETE CONSTRUCTION OF REMAINING PROPOSED ROUNDABOUT WIDENING, CURB & GUTTER, GRADING, MEDIANS, DRAINAGE AND SIDEWALK ALONG -L- AND -Y-. (SEE TMP-6)

B) PLACE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS (SEE PAVEMENT MARKING PLANS) AND SIGNING (SEE SIGNING PLANS).

STEP 3: - USING RDWY STD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NEEDED, REMOVE DETOURS, BARRICADES AND ALL TEMPORARY TRAFFIC CONTROL DEVICES WHILE OPENING ACQUONI ROAD AND DRAMA ROAD UP TO FINAL TRAFFIC PATTERN.

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD D. BROWN
7-23-2013

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

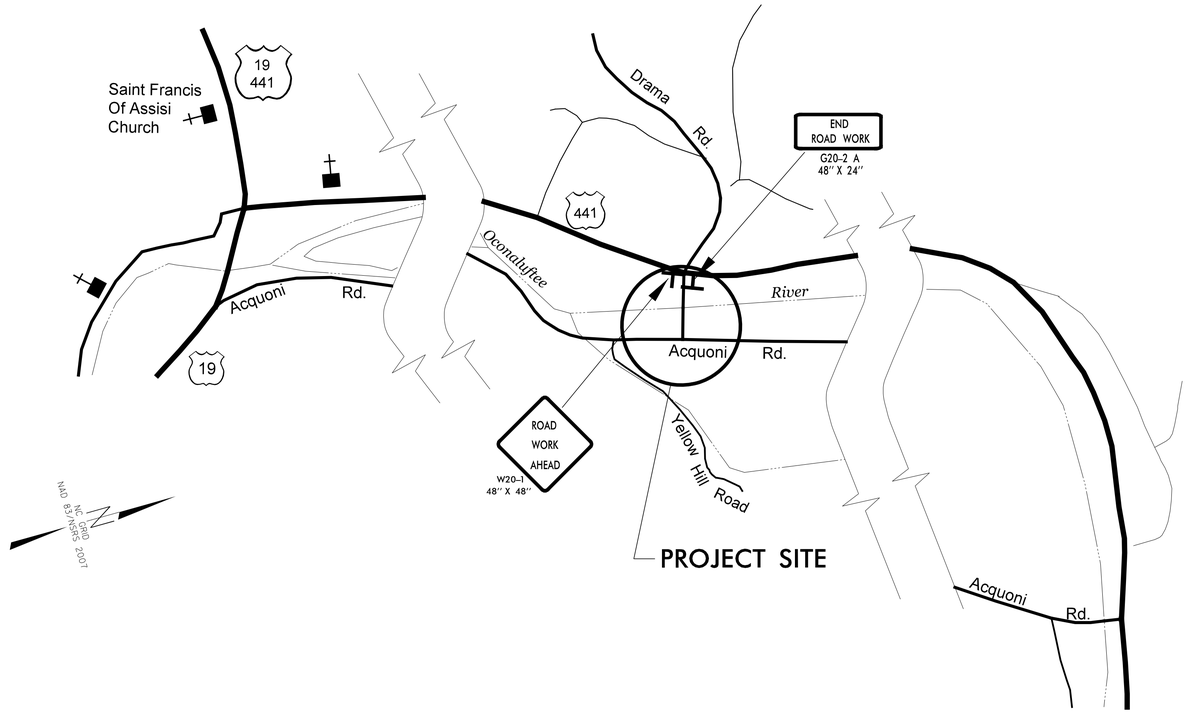
PHASING

$$$$$SYSTIME$$$$$ $$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$ $$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	TMP-3

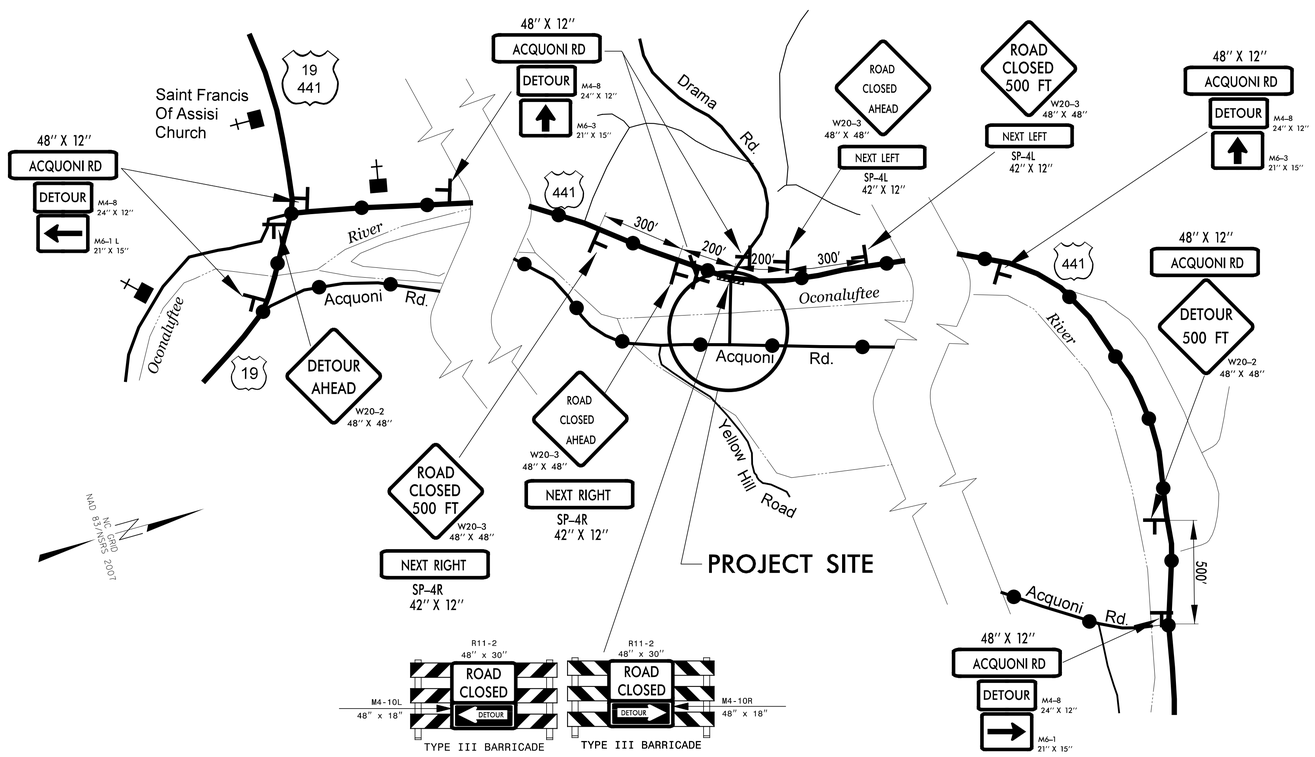
WORK ZONE ADVANCED WARNING SIGNS PHASE I

NOTE: SEE RDY STD DWG 1101.01 AND SHEET TMP–4 FOR ADDITIONAL SIGNAGE REQUIREMENTS



WORK ZONE ADVANCED WARNING SIGNS PHASE II

NOTE: SEE RDY STD DWG 1101.01 AND SHEET TMP–5 FOR ADDITIONAL SIGNAGE REQUIREMENTS



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SEAL

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7-23-2013

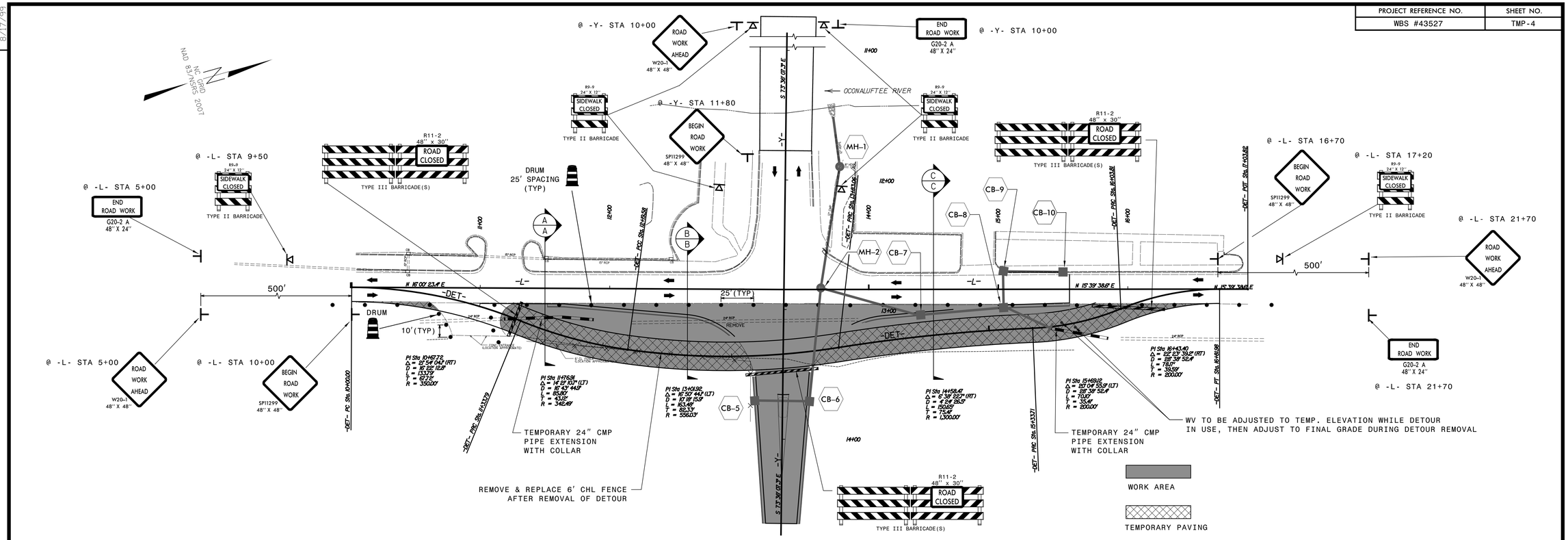
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

ADVANCE WARNING AND DETOUR SIGNS PHASE I & II

8/17/99

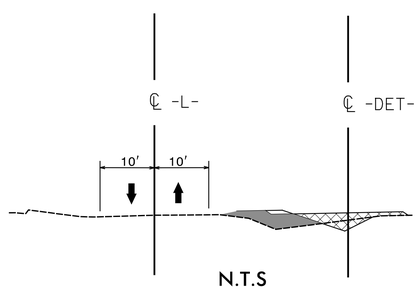
USER NAME = $USERNAME$
DGN = $$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	TMP-4



SECTION A-A

-L- STA 11+50

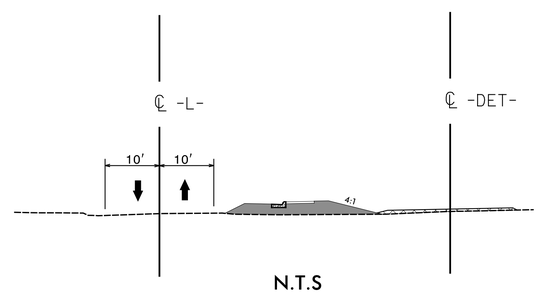


WORK AREA

TEMPORARY PAVING

SECTION B-B

-L- STA 12+60

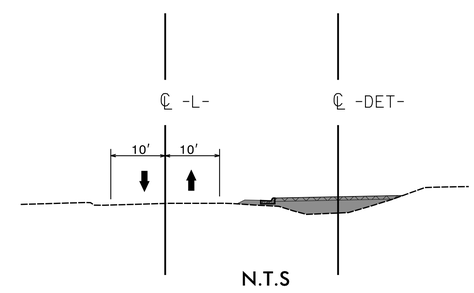


WORK AREA

TEMPORARY PAVING

SECTION C-C

-L- STA 14+50



WORK AREA

TEMPORARY PAVING

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SEAL

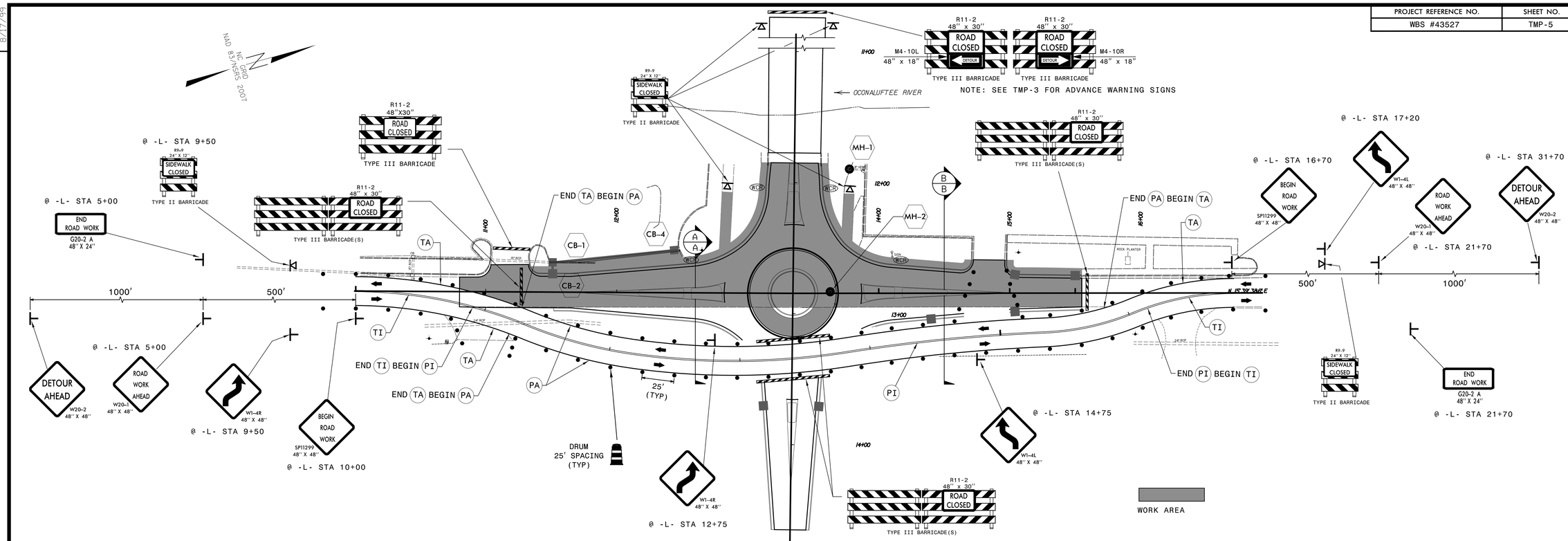
NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD D. BROWN

9-23-2013

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

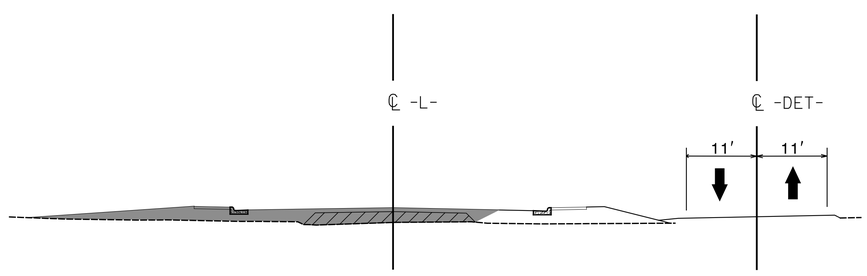
PHASE I

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	TMP-5



SECTION A-A

-L- STA 12+60



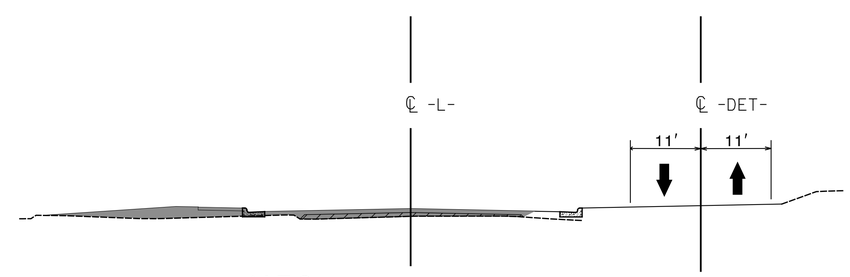
N.T.S

WORK AREA

PROPOSED WEDGING

SECTION B-B

-L- STA 14+50



N.T.S

WORK AREA

PROPOSED WEDGING

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NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LLOYD R. BROWN

7-23-2013

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

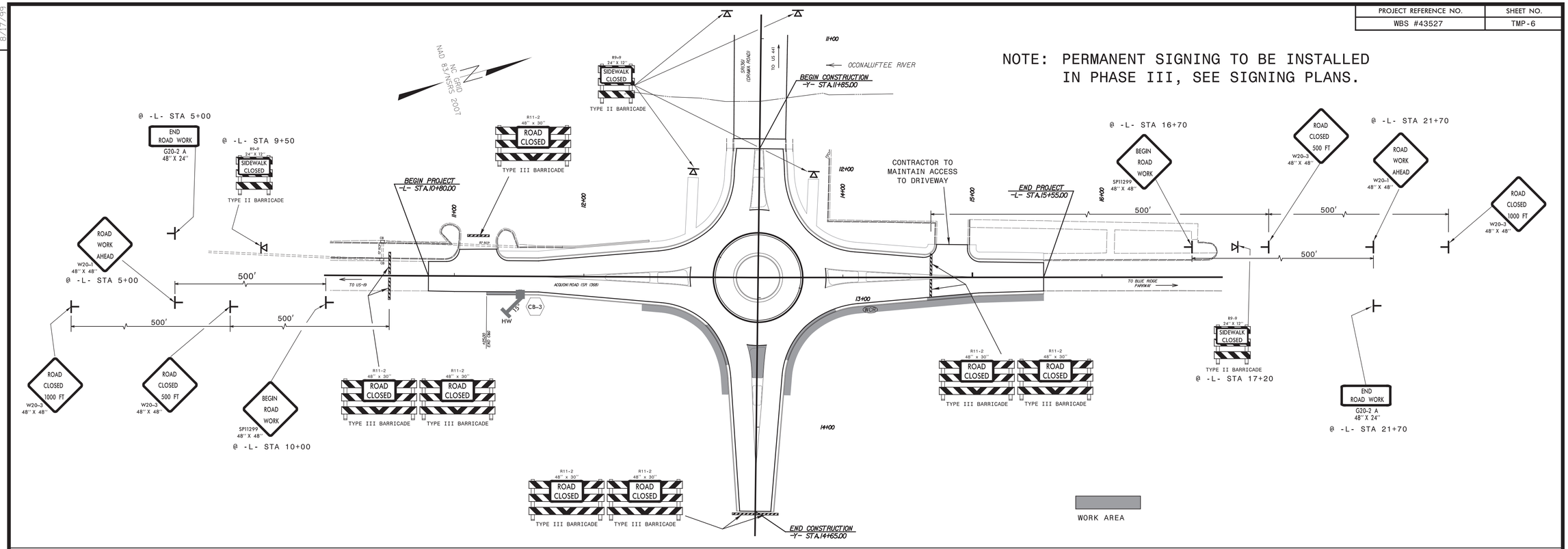
PHASE II

8/17/99

SYSTEM NAME = CLN

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	TMP-6

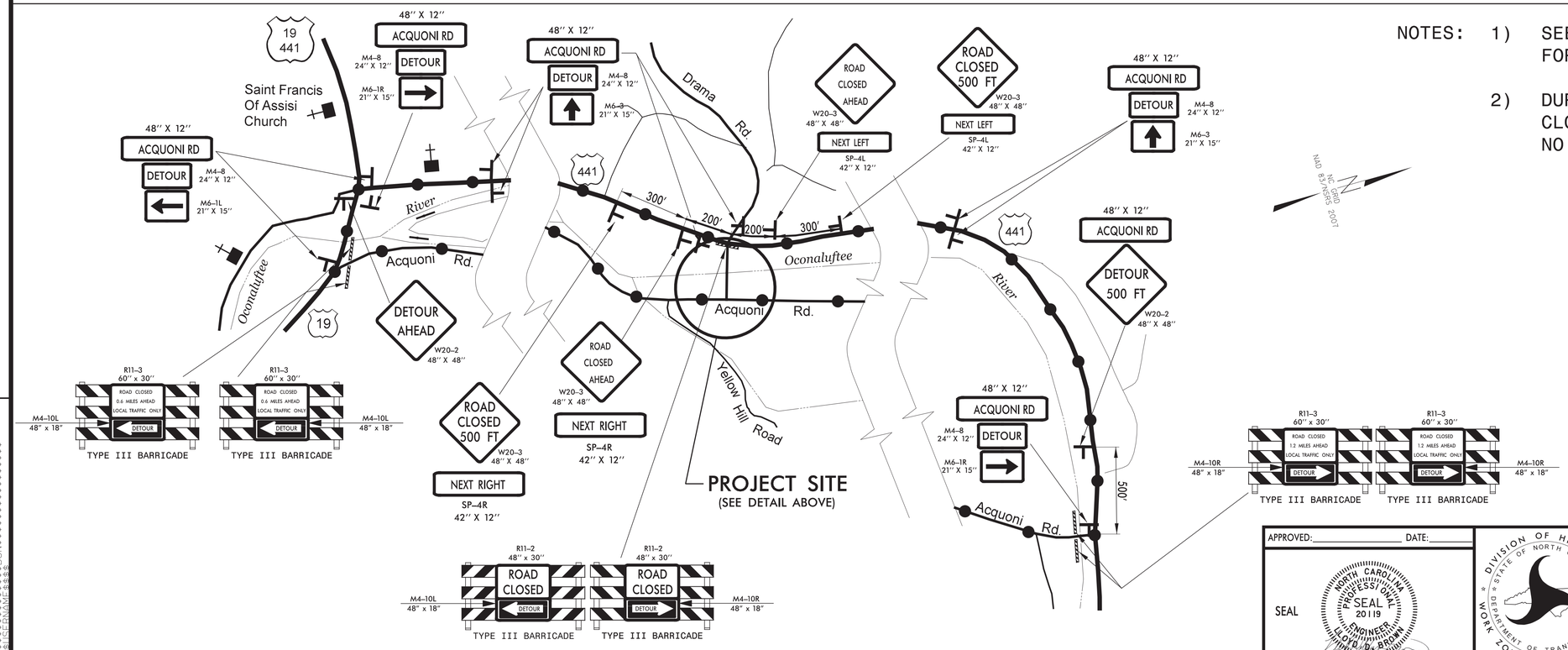
NOTE: PERMANENT SIGNING TO BE INSTALLED IN PHASE III, SEE SIGNING PLANS.



NOTES:

1) SEE SIGNING PLANS S-2 & S-3 FOR PERMANENT SIGNING.

2) DURATION FOR TEMPORARY ROAD CLOSURE FOR PHASE III TO BE NO MORE THAN 20 CALENDAR DAYS.



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Charlotte, North Carolina 704-357-0488
Tri-Cities, Tennessee 423-467-8401
Knoxville, Tennessee 865-546-5800
Middlesboro, Kentucky 606-248-6600
Spartanburg, South Carolina 864-574-4775

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APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER LEVON D. BROWN
7-23-2013

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

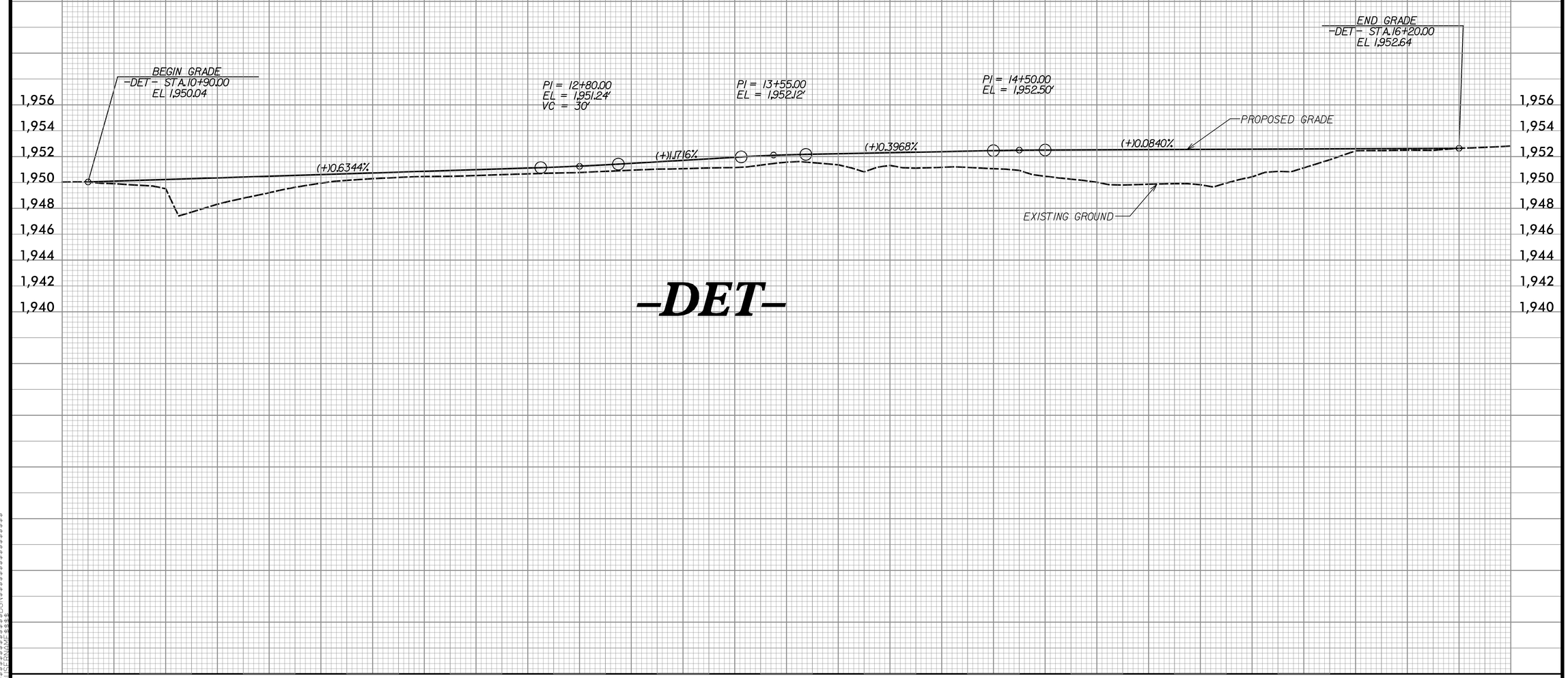
PHASE III

8/17/99

SCSTATE CD-65 DLNM

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	TMP-7
TRAFFIC CONTROL DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20119 ENGINEER FLOYD D. BROWN
7-23-2013



5/14/99

$$$$SYTIME$$$$
$$$$SYNAME$$$$
$$$$_____
$$$$CRNAME$$$$
$$$$CNS$$$$$$$$$$$$$$$$$$$$

PROJECT: ACQUONI ROAD ROUNDABOUT

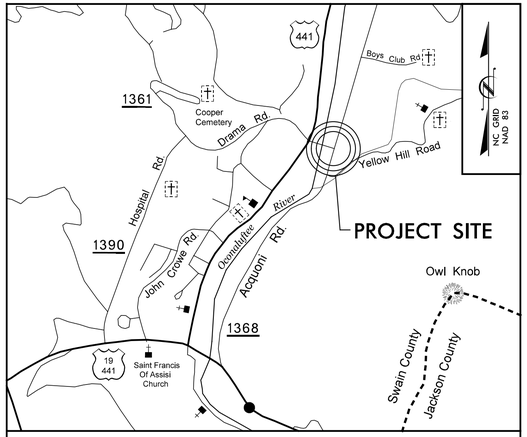
EASTERN BAND OF CHEROKEE INDIANS

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	UO-1

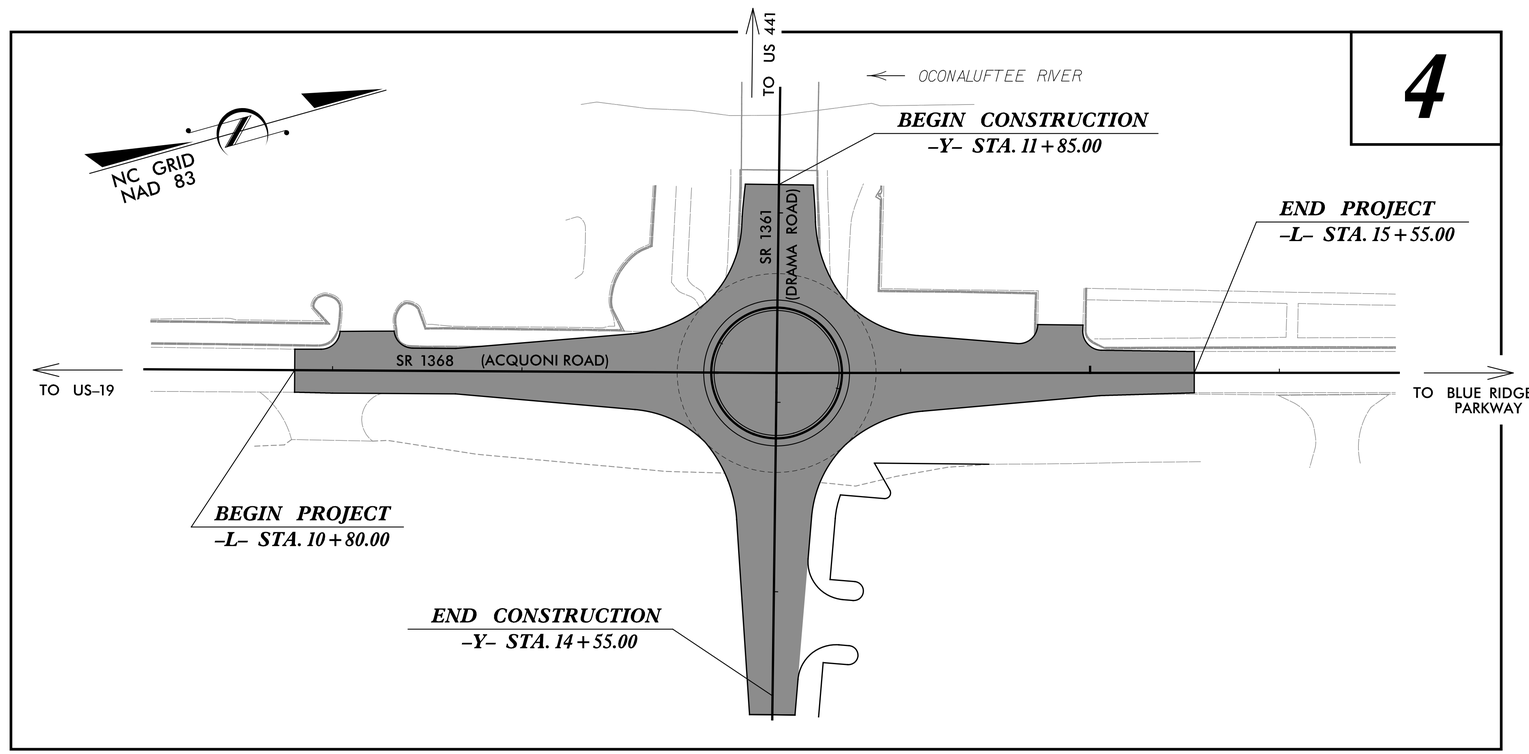
UTILITIES BY OTHERS PLANS
SWAIN COUNTY

LOCATION: INTERSECTION OF SR 1368 (ACQUONI ROAD) AND SR 1361 (DRAMA ROAD)

TYPE OF WORK: AERIAL POWER, TELEPHONE, CABLE TELEVISION



VICINITY MAP



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GRAPHIC SCALES

30 15 0 30 60
PLANS

30 15 0 30 60
PROFILE (HORIZONTAL)

6 3 0 6 12
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT

(1) TELEPHONE - FRONTIER COMMUNICATIONS
(2) POWER - DUKE ENERGY
(3) WATER - EBCI

V&M
Vaughn & Melton
Consulting Engineers
Asheville, North Carolina
828-253-2796

PREPARED FOR THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
UTILITIES SQUAD LEADER PROJECT ENGINEER
Reece Schuler, PE — UTILITIES PROJECT DESIGNER

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

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	UO-2

V&M
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Consulting Engineers
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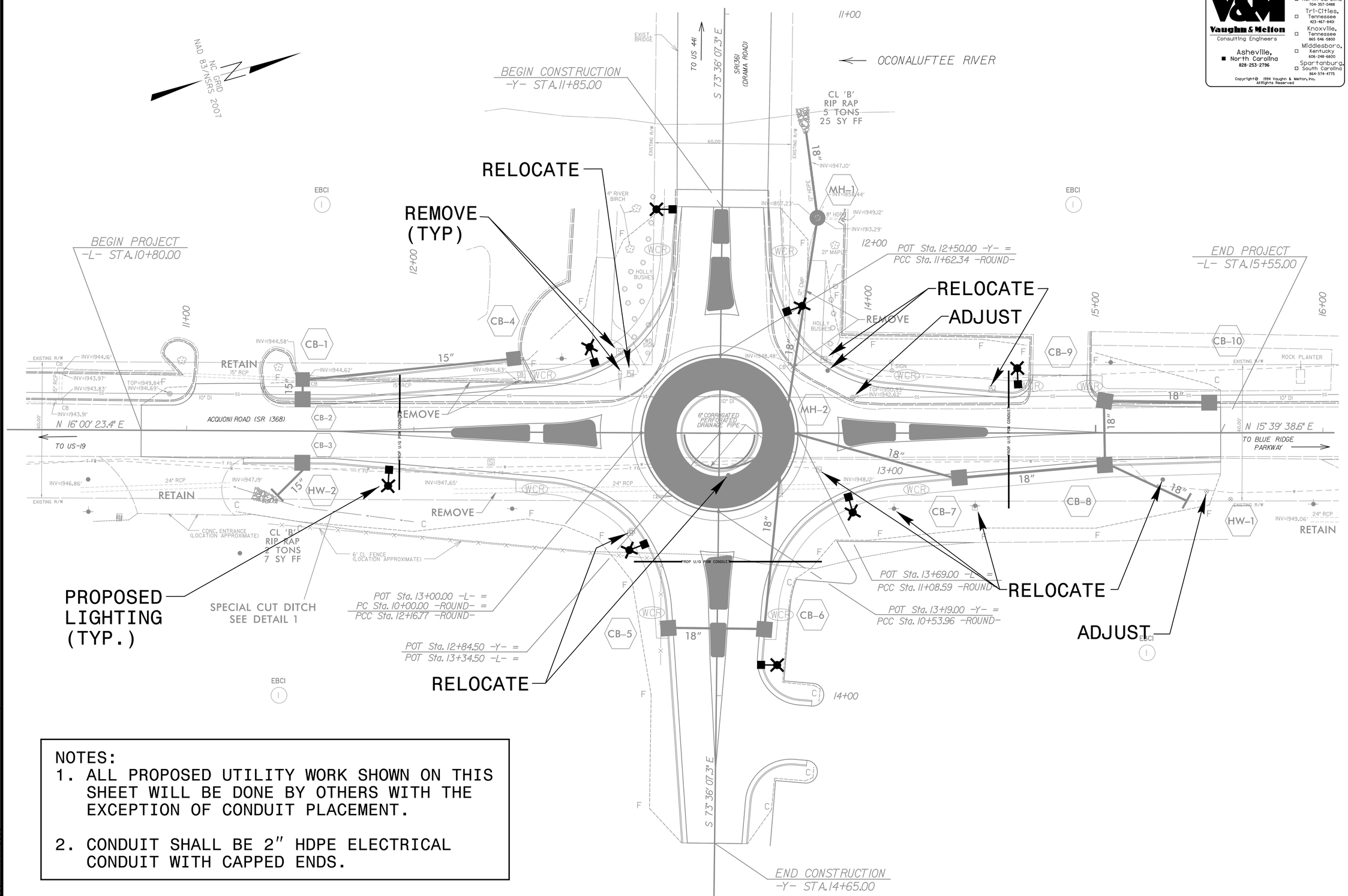


NOTES:
1. ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS WITH THE EXCEPTION OF CONDUIT PLACEMENT.

2. CONDUIT SHALL BE 2" HDPE ELECTRICAL CONDUIT WITH CAPPED ENDS.

REVISIONS

8/17/99

COMPUTED BY: DAB DATE: 02-26-2013
CHECKED BY: RMS DATE: 02-27-2013

PROJECT REFERENCE NO.	SHEET NO.
WBS #43527	X-0

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 26960 ENGINEER REECE M. MCMILLER
7-23-2013

CROSS SECTION SUMMARY

IN CUBIC YARDS

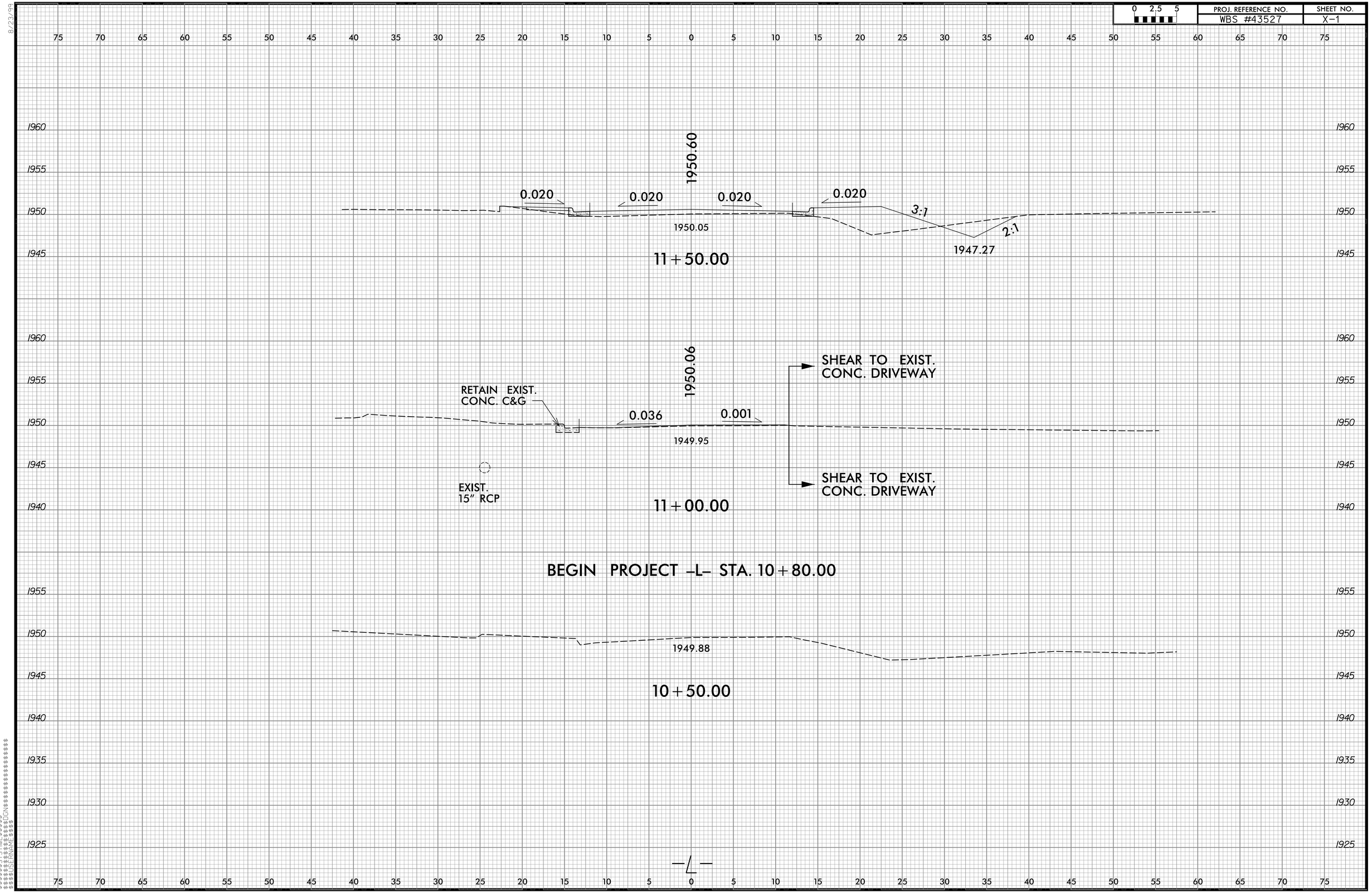
-L- LOCATION	UNCLASSIFIED EXCAVATION	EMBT
11+00	0	0
11+50	9	28
12+00	21	73
12+50	23	88
13+00	0	0
13+50	0	0
14+00	0	0
14+50	16	140
15+00	11	107
15+50	9	62

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

-Y- LOCATION	UNCLASSIFIED EXCAVATION	EMBT
12+00	0	0
12+50	19	165
13+00	7	85
13+50	34	140
14+00	137	6
14+50	125	7

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, and clearing & grubbing, will be paid for at the contract lump sum price for "grading".

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-1



8/23/99

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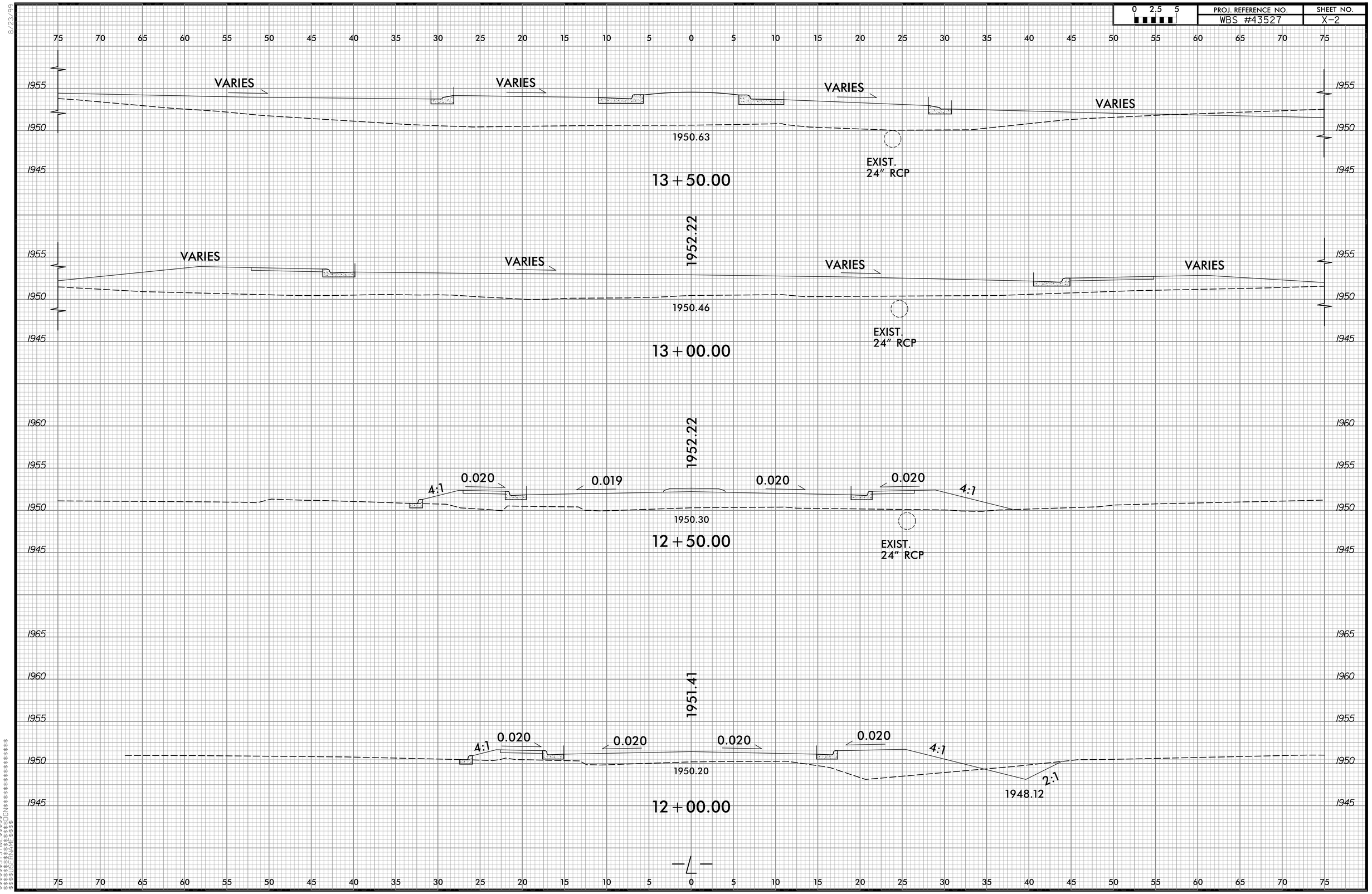
$$$$CELNAME$$$$
$$$$DGNNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-10

12+00.00

-ROUND-

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-2



8/23/99

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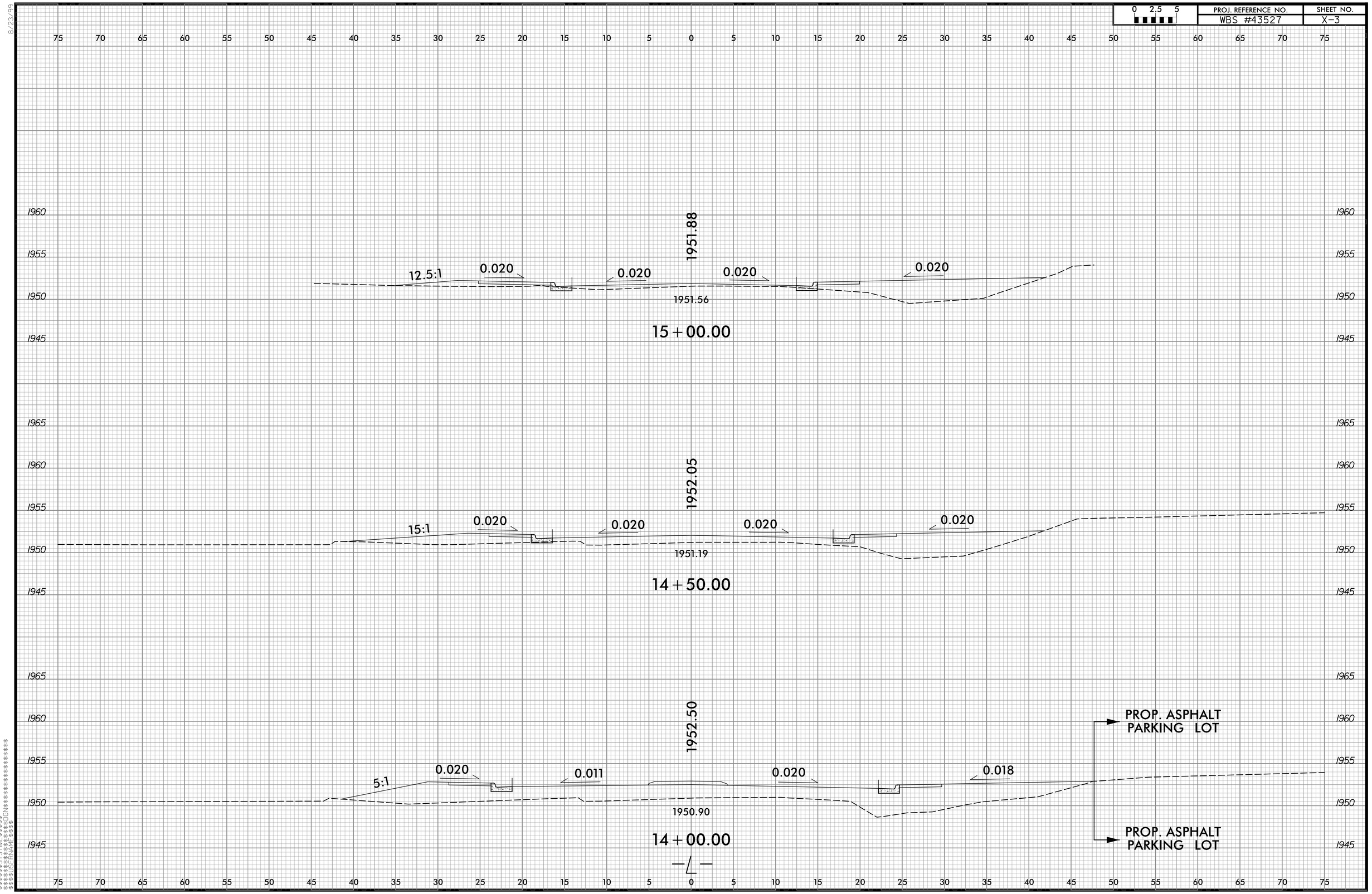
	WBS #43527	X-3

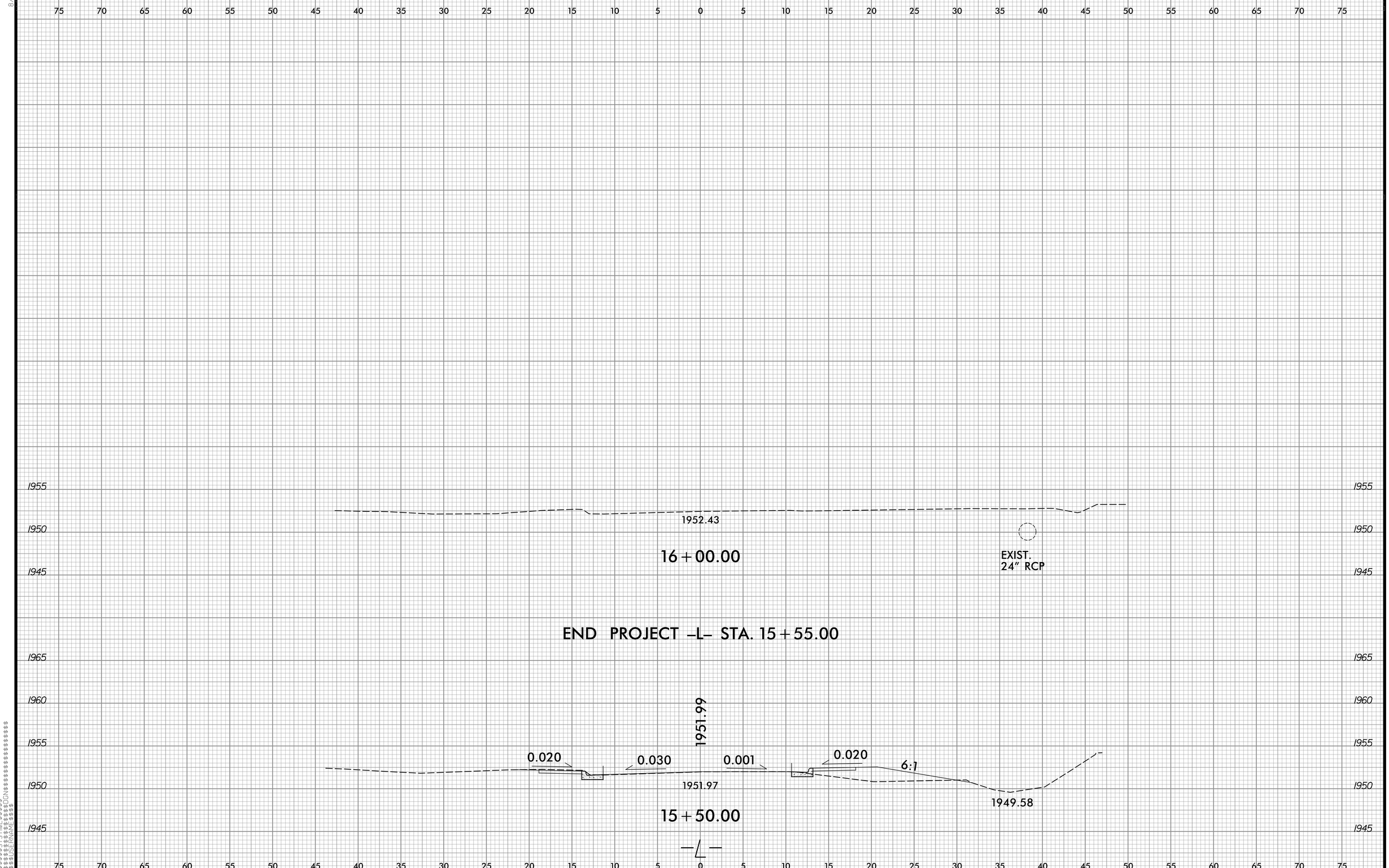


8/23/99

$$SYSTIME$$
$$SYSNAME$$
$$DWG$$
$$USERNAME$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-4



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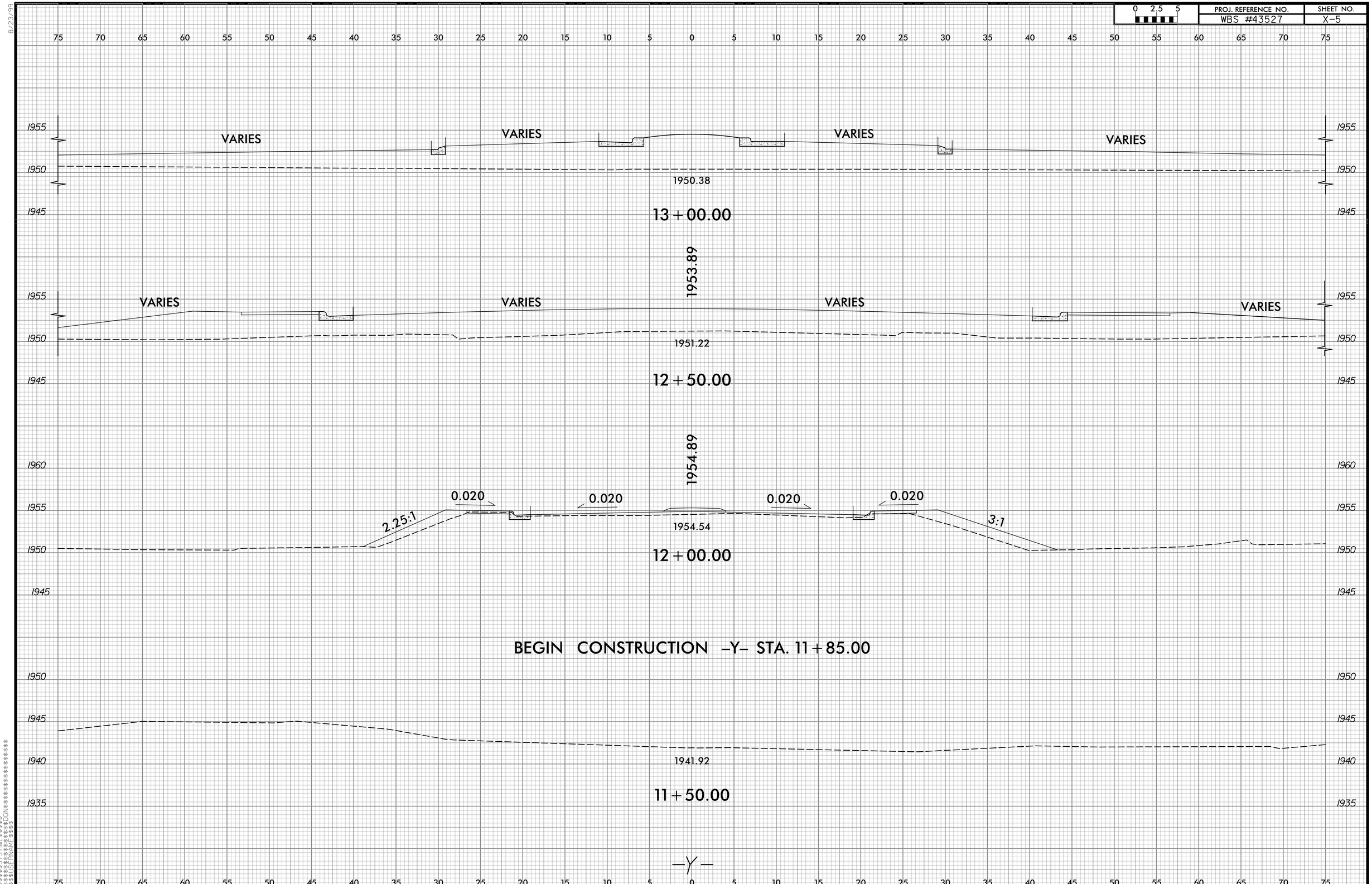
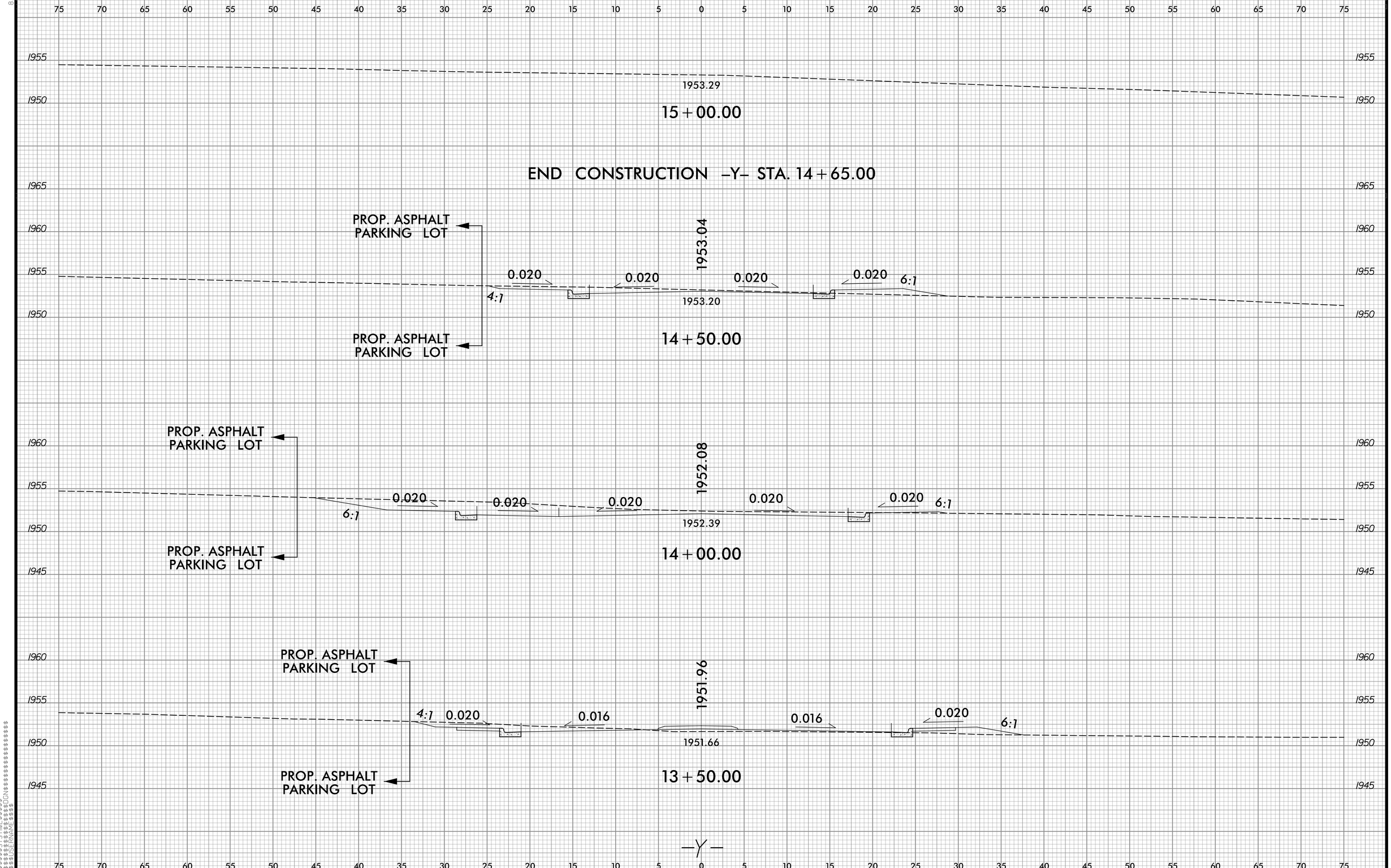
$$$$SIGNON$$$$
$$$$DGNFRAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-5



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-6



8/23/99

$$$$SYSTIME$$$$
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$$$$DERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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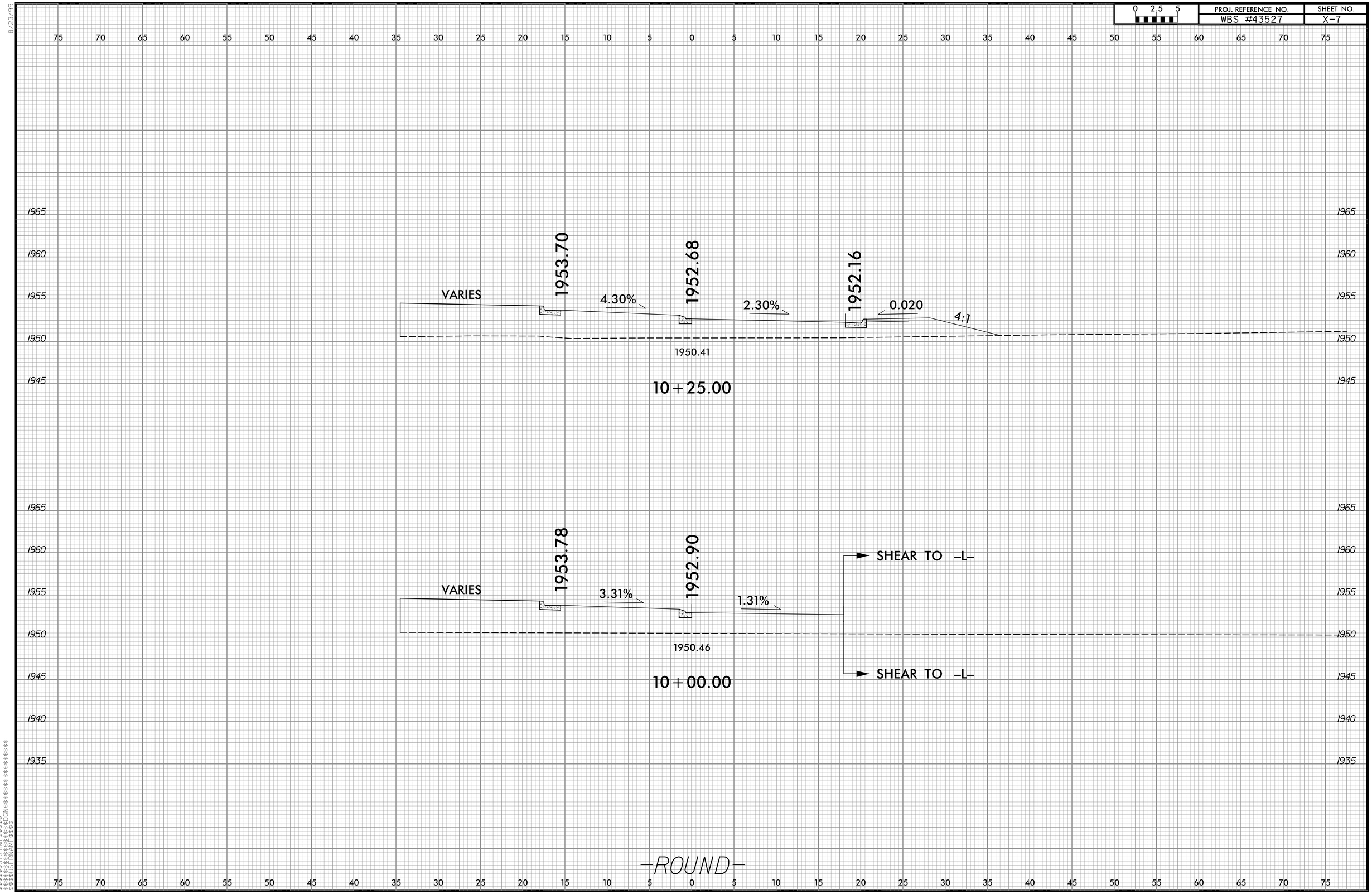

8/23/99
$$$$SYSTIME$$$$
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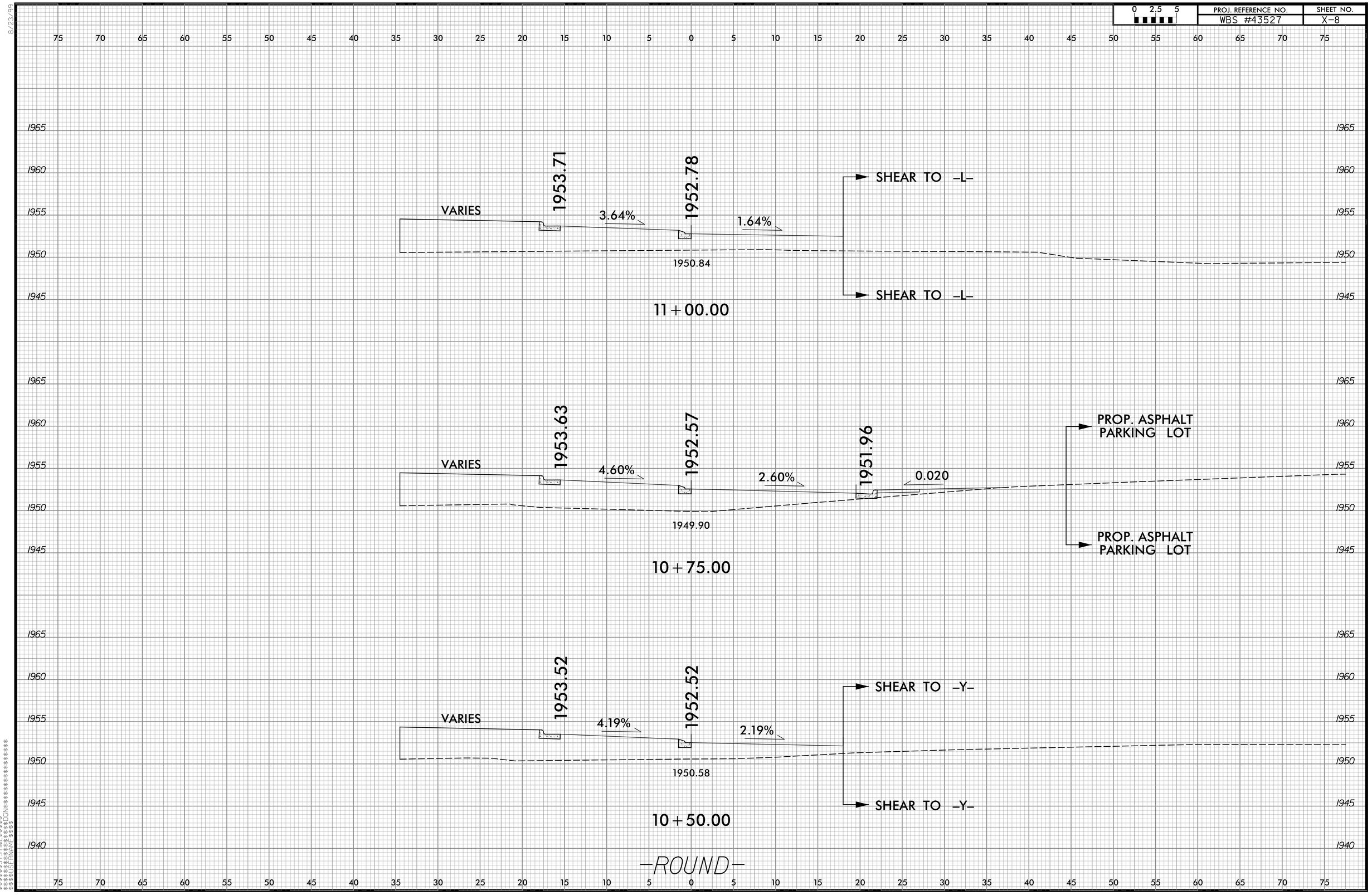
$$$$DGNFILE$$$$
$$$$DERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-8



8/23/99

$$$$SYSTIME$$$$
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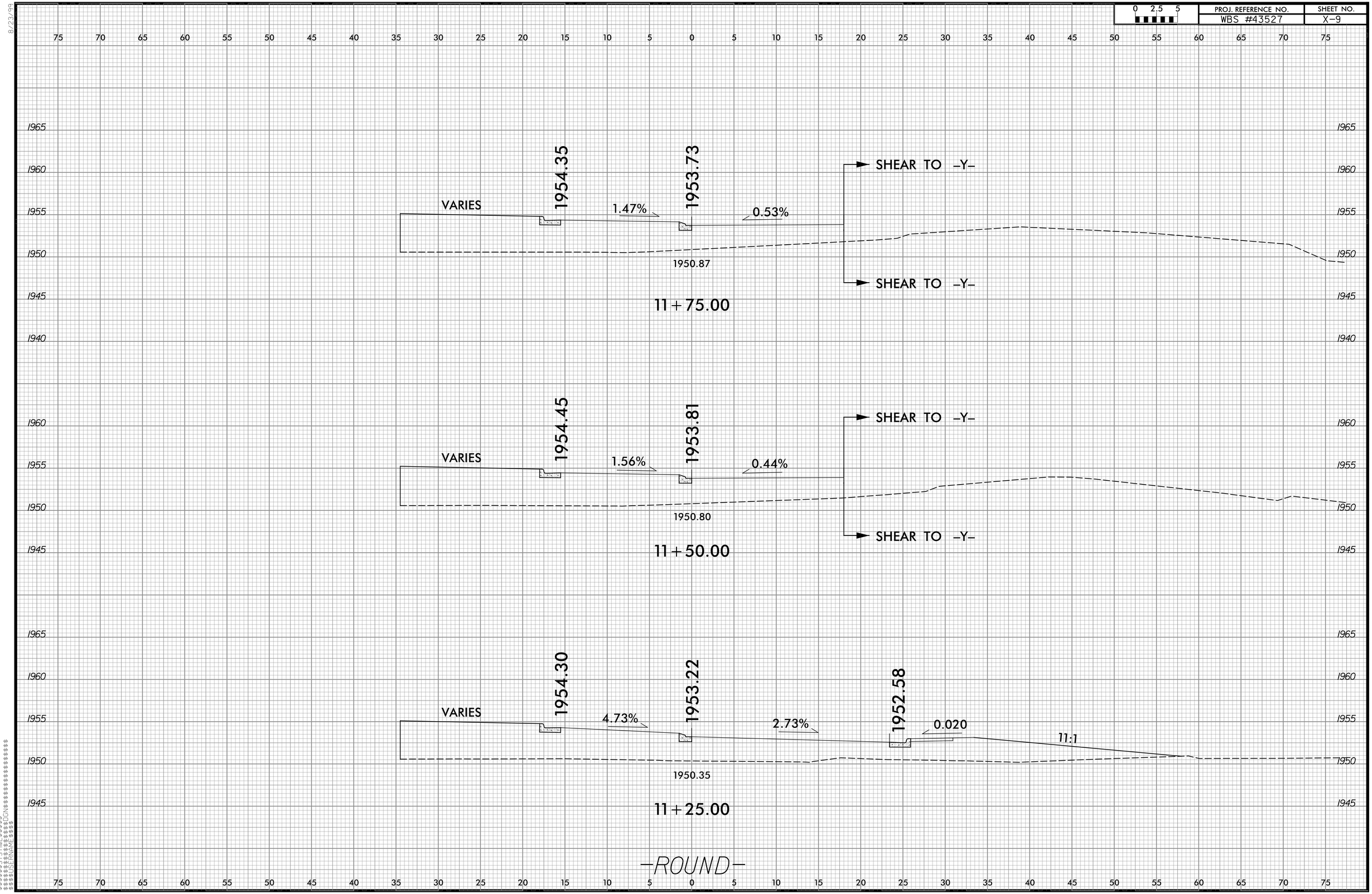
$$$$DGN$$$$
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	WBS #43527	X-9



8/23/99

$$$$SYSTIME$$$$
$$$$SSIONS$$$$
$$$$DERNAME$$$$