SUP

PROJECT ID: 1550-04-60

COUNTY: WASHBURN

JULY 2017

ORDER OF SHEETS

TOTAL SHEETS = 74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1550-04-60		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

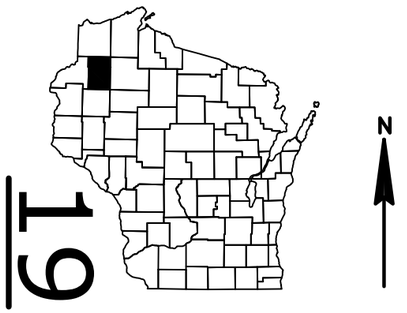
CUMBERLAND - SPOONER

CTH B E. JUNCTION TO GREEN VALLEY ROAD

USH 63

WASHBURN COUNTY

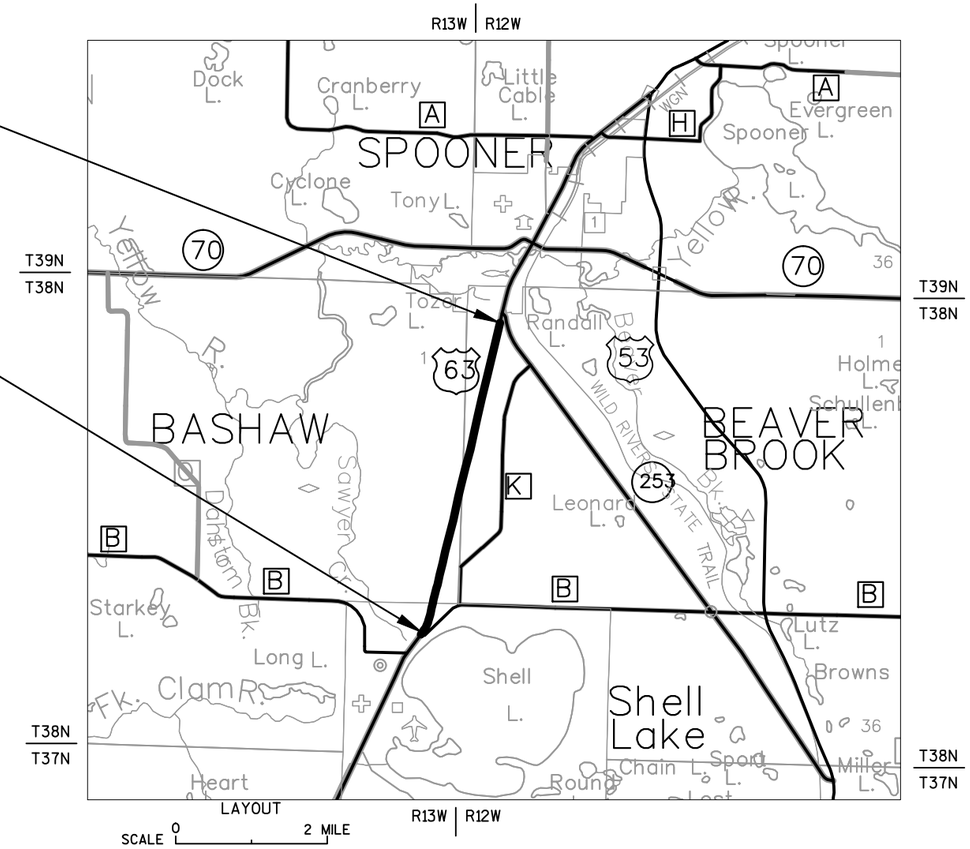
STATE PROJECT NUMBER
1550-04-60



N

END PROJECT 1550-04-60
STA. 703+00 USH 63
X: 738330.6474
Y: 561602.0803

BEGIN PROJECT 1550-04-60
STA. 483+83 USH 63
X: 733493.6844
Y: 540255.9017



TOTAL NET LENGTH OF CENTERLINE = 4.156

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WASHBURN COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	2010	= 4500
A.A.D.T.	2017	= 5000
D.H.V.	2036	= 884
D.D.		= 61/39
T.		= 9.4%
DESIGN SPEED		= 35-55
ESALS		=

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	TRAVIS JENSEN
Project Manager	PHILIP KEPPERS
Regional Examiner	TOU YANG
Regional Supervisor	DAVID OSTROWSKI

APPROVED FOR THE DEPARTMENT

DATE: 4/27/2017 Philip L. Keppers (Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
APPROX.	APPROXIMATE
A.E.W.	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
AZ.	AZIMUTH
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
C/L	CENTER LINE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CFS	CUBIC FEET/SECOND
C.Y., CU. YD.	CUBIC YARD
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORTATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
D.	DIRECTIONAL DISTRIBUTION
DISCH. OR DIS.	DISCHARGE
EA.	EACH
ELECT.	ELECTRIC
EL. OR ELEV.	ELEVATION
EMB.	EMBANKMENT
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FIN.	FINISHED
FT.	FOOT
F.L.	FLOW LINE
GA.	GAUGE
HORIZ.	HORIZONTAL
CWT.	HUNDREDWEIGHT
INL.	INLET
LT.	LEFT
L.H.F.	LEFT-HAND FORWARD
LIN.	LINEAR
LIN. FT.	LINEAR FOOT
L.S.	LUMP SUM
MAX.	MAXIMUM
MI.	MILE
MISC.	MISCELLANEOUS
N.E.	NORTH EAST
N.W.	NORTH WEST
PAV'T	PAVEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
LB.	POUND
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQ'D	REQUIRED
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHR.	SHRINKAGE
SL.	SLOPE
STD.	STANDARD
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAY
STA.	STATION
S.P.P.A.	STRUCTURAL PLATE PIPE ARCH
STRUCT.	STRUCTURE
SURF.	SURFACE
TEL.	TELEPHONE
TN.	TOWN
T.	TRUCKS (PERCENT OF)
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE

UTILTIES

KYLE SCHLAMPP
CENTURYLINK - COMMUNICATIONS LINE
20 S. WILSON AVE.
RICE LAKE, WI 54868
(715) 292-0082
KYLE.SCHLAMPP@CENTURYLINK.COM

THOMAS HAASE
CHARTER COMMUNICATIONS - COMMUNICATIONS LINE
2304 S. MAIN ST.
RICE LAKE, WI 54868
(715) 719-0564
TOM.HAASE@CHARTER.COM

STACEY HAUGEN
XCEL ENERGY - ELECTRICITY
2911 PIONEER AVE.
RICE LAKE, WI 54868
(715) 418-9710
STACEY.RAETHER@XCELENERGY.COM

MITCH BROWN
SHELL LAKE MUNICIAPL UTILITIES - WATER
P.O. BOX 520
SHELL LAKE, WI 54871-0520
Publicworks@shelllake.org

LEWIS KNAPP
WE ENERGIES - GAS/PETROLEUM
104 W. SOUTH STREET
RICE LAKE, WI 54868
(715) 234-9605 CELL: (715) 419-2196
LEWIS.KNAPP@WE-ENERGIES.COM

SCOTT DEVOE
BARRON ELECTRIC COOP.
P.O. BOX 261
SPOONER, WI 54801
(715) 537-3171 office
(715) 418-1182 mobile
sdevoe@barronelectric.com

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

* THE LOCATIONS AND STATIONING OF EXISTING BEAMGUARD SHOWN ON PLAN ARE APPROXIMATE. CONTRACTOR MUST HAVE ANY UTILITIES IN BEAMGUARD REPLACEMENT AREAS LOCATED PRIOR TO INSTALLATION OF NEW BEAMGUARD.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS ARE APPROXIMATE AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS PERMITTED BY ENGINEER.

PROJECT CONTACTS

WI DEPARTMENT OF NATURAL RESOURCES
NW District Headquarters
ATTN: Shawn Haseleu
810 West Maple Street
Spooner, WI 54801
715-635-4228

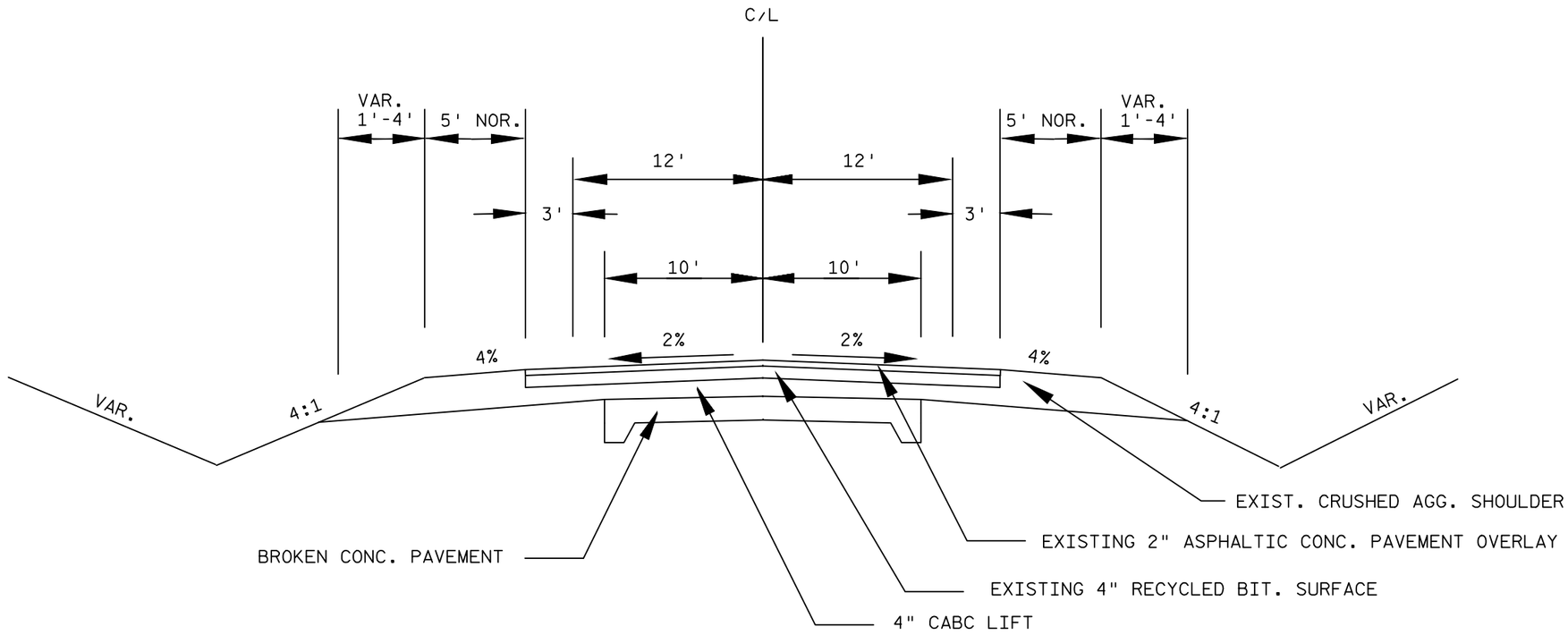
WI DEPARTMENT OF TRANSPORTATION
NW REGION - SUPERIOR
ATTN: TRAVIS JENSEN, PROJECT LEADER
1701 N 4TH STREET
SUPERIOR, WI 54880
715-395-3025

WI DEPARTMENT OF TRANSPORTATION
NW REGION - SUPERIOR
ATTN: PHIL KEPPERS, PROJECT MANAGER
1701 N 4TH STREET
SUPERIOR, WI 54880
715-395-3027

WASHBURN COUNTY HIGHWAY DEPARTMENT
ATTN: FRANK SCALZO, HIGHWAY COMMISSIONER
1600 COUNTY HIGHWAY H
SPOONER, WI 54801
715-635-4480

WISCONSIN GREAT NORTHERN RAILROAD
ATTN: GREG VREELAND
PO BOX 46
SPOONER, WI 54801
715-635-3200

PROJECT NO:1550-04-60	HWY:USH 63	COUNTY:WASHBURN	GENERAL NOTES, UTILITIES, ABBREVIATIONS	SHEET 2 E



EXISTING TYPICAL SECTION

STA. 483+54 - 703+00

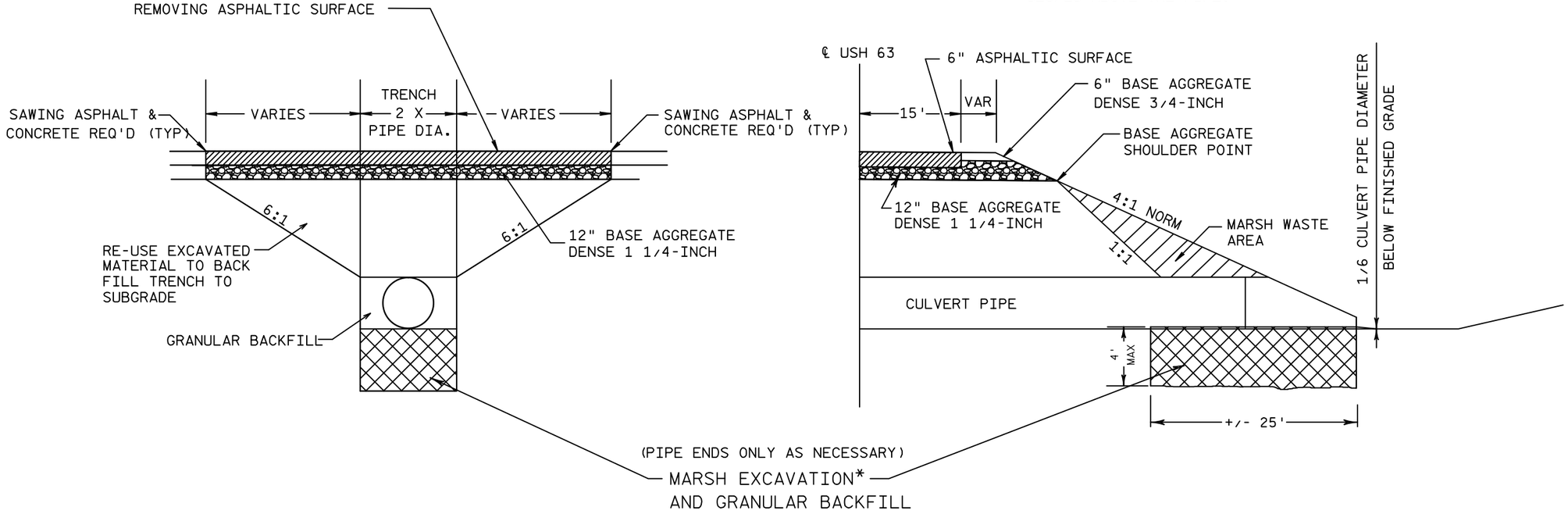
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	TYPICAL SECTIONS	SHEET 3 E

FILE NAME : $$....designfile....$$
LAYOUT NAME - TS

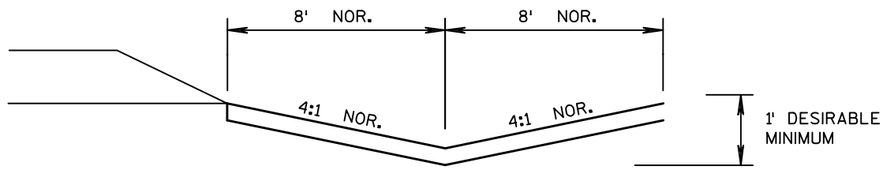
PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : _____PLOTSCALE$$...pdesettingfile.....$$

WISDOT/CADDS SHEET 42

*NOTE: MARSH EXCAVATION AND GRANULAR BACKFILL IS INCIDENTAL TO ITEM OF CULVERT PIPE REPLACEMENT. MARSH WASTE SHALL BE DISPOSED OF ON THE SLOPES ABOVE THE PIPE.

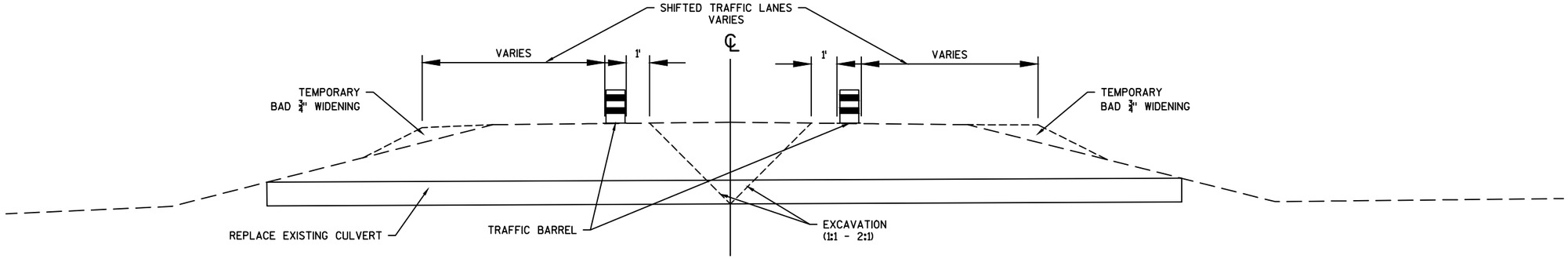


PIPE REPLACEMENT DETAIL

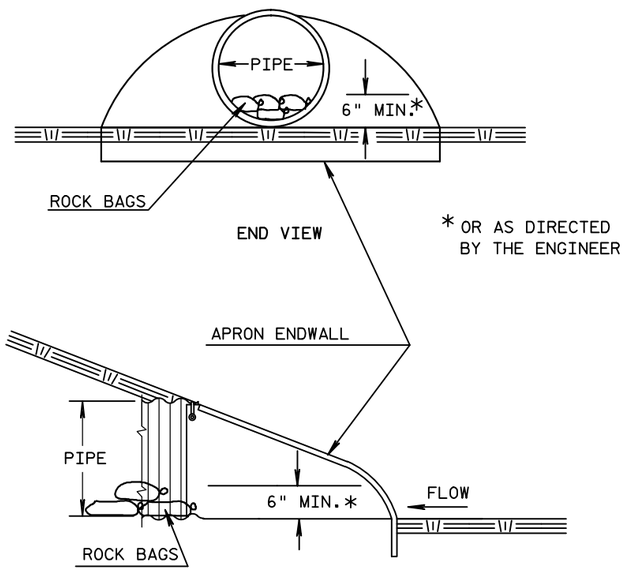


EROSION MAT DETAIL FOR DITCHES

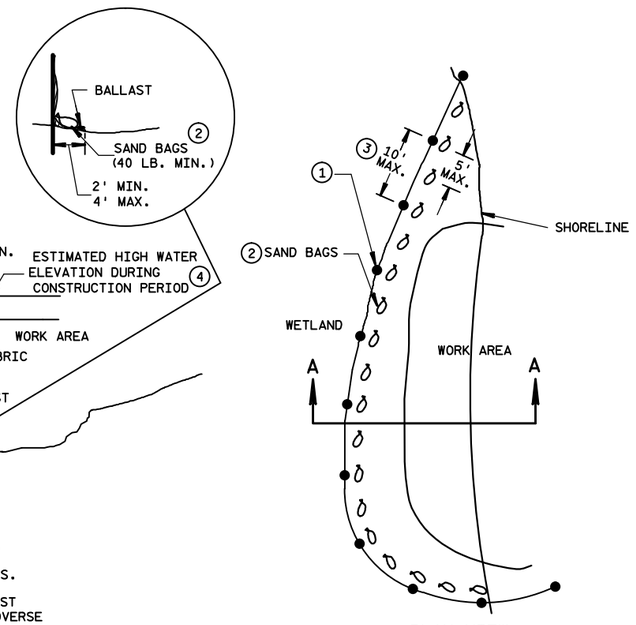
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CONSTRUCTION DETAILS	SHEET 4 E



CULVERT REPLACEMENT STAGING DETAIL



CULVERT PIPE DITCH CHECK



NOTES:

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

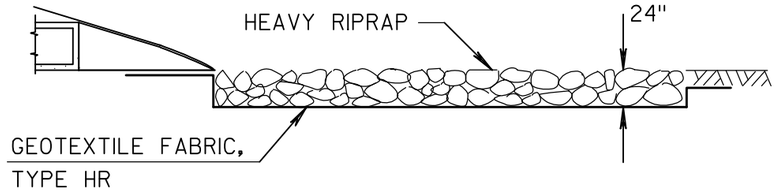
② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

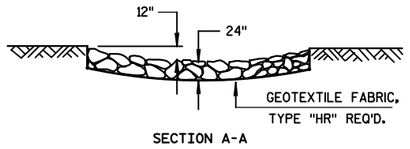
④ ELEVATION VALUE TO BE ESTABLISHED BY THE CONTRACTOR BASED ON THE TIME OF YEAR AND DURATION OF THE ACTIVITY.

TURBIDITY BARRIER DETAIL

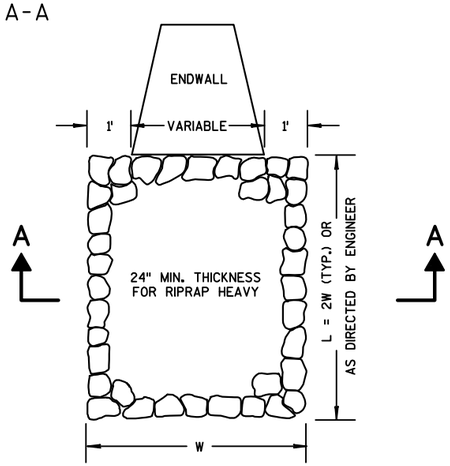
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CONSTRUCTION DETAILS	SHEET 5 E



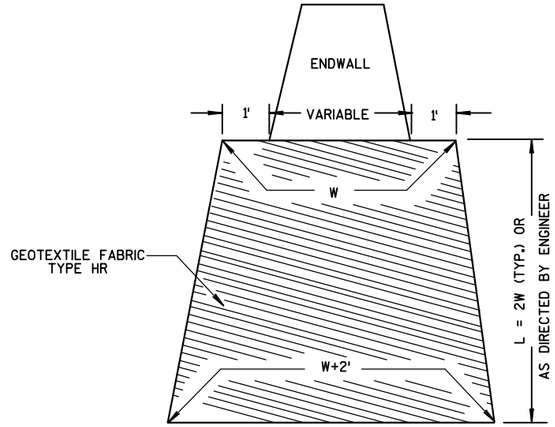
SECTION A-A



SECTION A-A



RIPRAP HEAVY TREATMENT AT CULVERTS



GEOTEXTILE FABRIC TREATMENT AT CULVERTS

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = _____ ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = _____ACRES

2

THE TEMPORARY SETTLING BASIN SHALL BE COMPLETED PRIOR TO THE BEGINNING OF PUMPING OPERATIONS. CONTRACTOR SHALL PUMP WATER TO BASIN PRIOR TO DISCHARGE INTO ADJACENT WETLANDS, LAKES, OR STREAMS.

TEMPORARY SETTING BASINS SHALL BE PLACED IN A LOCATION NOT TO IMPEDE TRAFFIC FLOW OR AFFECT WETLANDS OR FLOOD PLAINS.

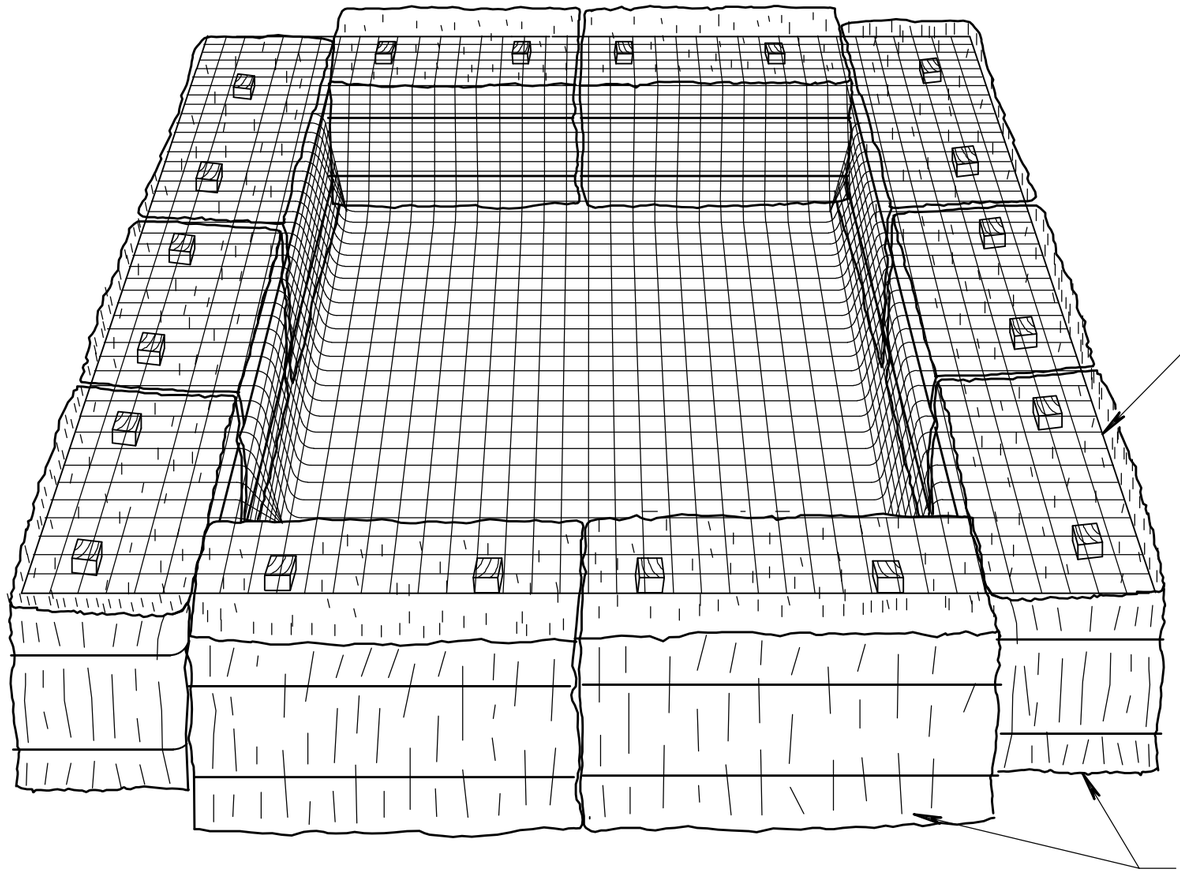
BASINS SHALL BE SIZED SO THAT THE TURBIDITY OF THE WATER LEAVING THE SETTLING BASIN DOES NOT EXCEED THE TURBIDITY OF THE RECEIVING WATERS OR CAUSE ANY DEPOSITION OF MATERIALS INTO ANY ADJACENT WETLAND OR FLOOD PLAIN.

MAINTAIN THE TEMPORARY SETTLING BASIN AS REQUIRED INCLUDING REMOVING AND DISPOSING OF SEDIMENT DEPOSITS. BASIN SHALL BE KEPT LESS THAN 10% FULL OF SEDIMENT. REMOVE AND REPLACE ANY PORTION OF THE SETTING BASIN NO LONGER FIT FOR USE, AS THE ENGINEER DIRECTS.

UPON COMPLETION OF THE WORK, REMOVE THE TEMPORARY SETTLING BASIN AND RETURN AREA TO PRE-CONSTRUCTION CONDITIONS. DISPOSE OF BALES, GEOTEXTILE FABRIC, AND SEDIMENTS OFF THE PROJECT SITE IN A MANNER ACCEPTABLE TO THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR FURNISHING, PLACING, MAINTAINING, AND REMOVING ALL MATERIALS NEEDED TO CONSTRUCT THE TEMPORARY SETTLING BASIN; AND FOR ALL FURNISHING ALL LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE CONTRACT WORK.

PAID FOR AS EROSION BALES AND GEOTEXTILE FABRIC TYPE DF.



TEMPORARY SETTLING BASIN

(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)
EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$$\frac{800\ \text{C.F.}}{1.5\ \text{FT.}} = 533\ \text{S.F.}$$

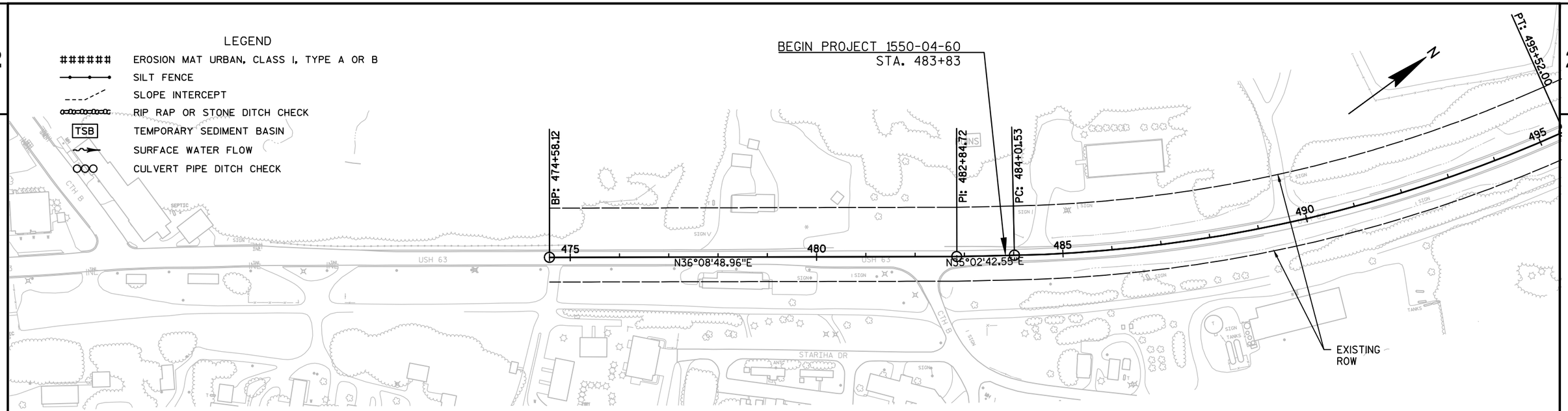
USE A 20 FT. X 27 FT. BASIN

2

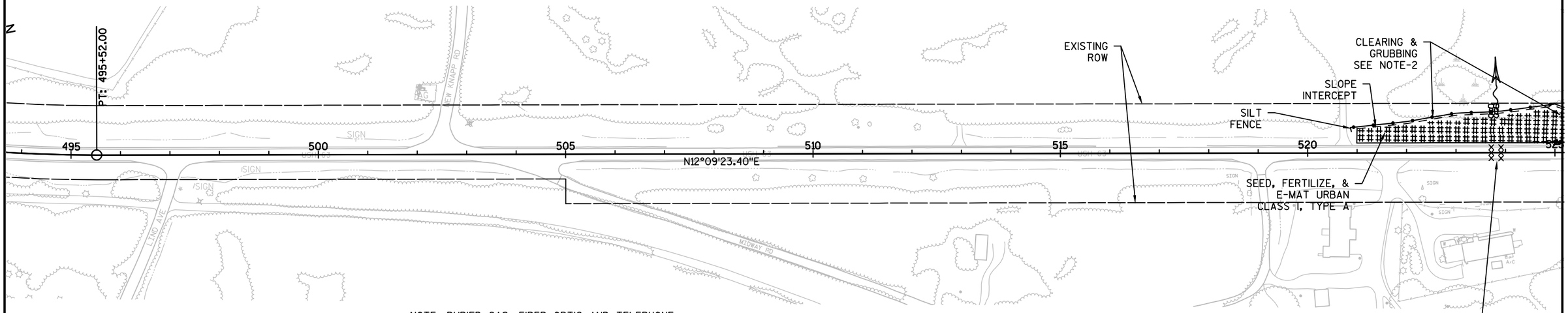
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CONSTRUCTION DETAILS	SHEET 7 E

LEGEND

- ###### EROSION MAT URBAN, CLASS I, TYPE A OR B
- SILT FENCE
- SLOPE INTERCEPT
- RIP RAP OR STONE DITCH CHECK
- TSB TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW
- CULVERT PIPE DITCH CHECK



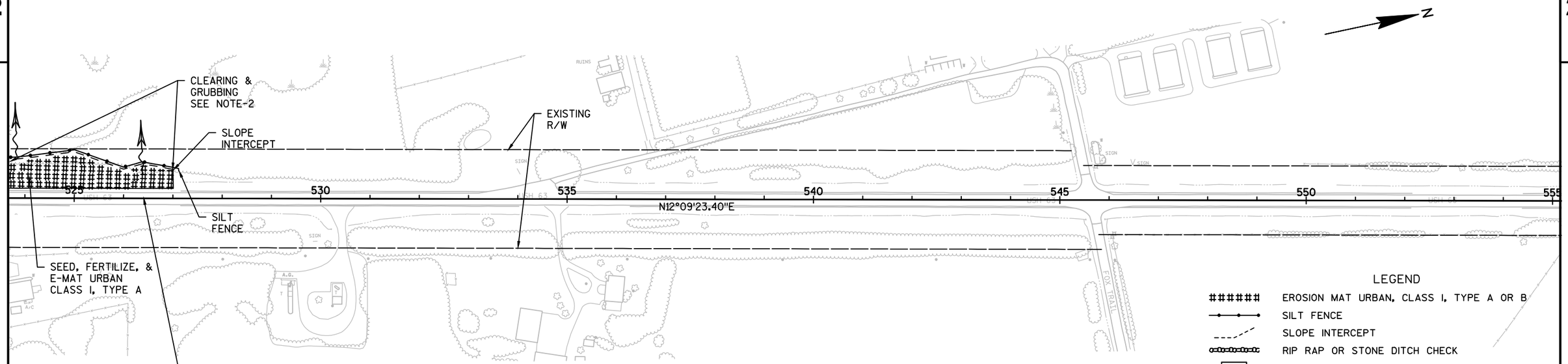
NOTE-2: CLEARING AND GRUBBING LIMITS SHALL BE 10' BEYOND SLOPE INTERCEPTS BUT SHALL NOT EXTEND BEYOND THE EXISTING R/W.



NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	EROSION CONTROL	SHEET 8	E

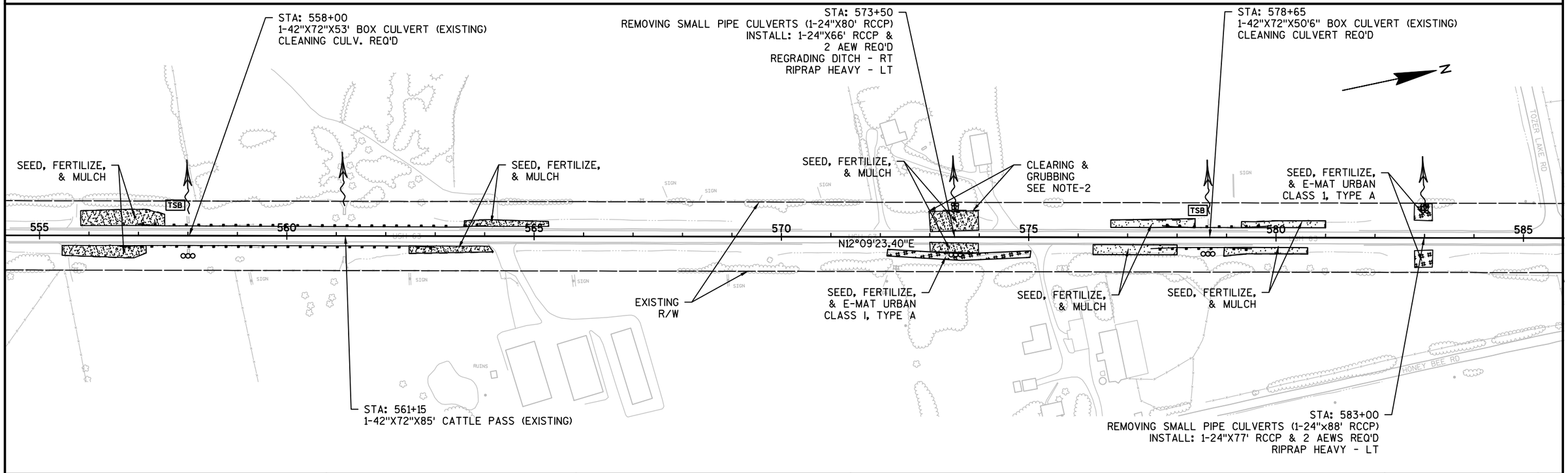
NOTE-2: CLEARING AND GRUBBING LIMITS SHALL BE 10' BEYOND SLOPE INTERCEPTS BUT SHALL NOT EXTEND BEYOND THE EXISTING R/W.



NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

LEGEND

- ###### EROSION MAT URBAN, CLASS I, TYPE A OR B
- SILT FENCE
- SLOPE INTERCEPT
- RIP RAP OR STONE DITCH CHECK
- TSB TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW
- CULVERT PIPE DITCH CHECK



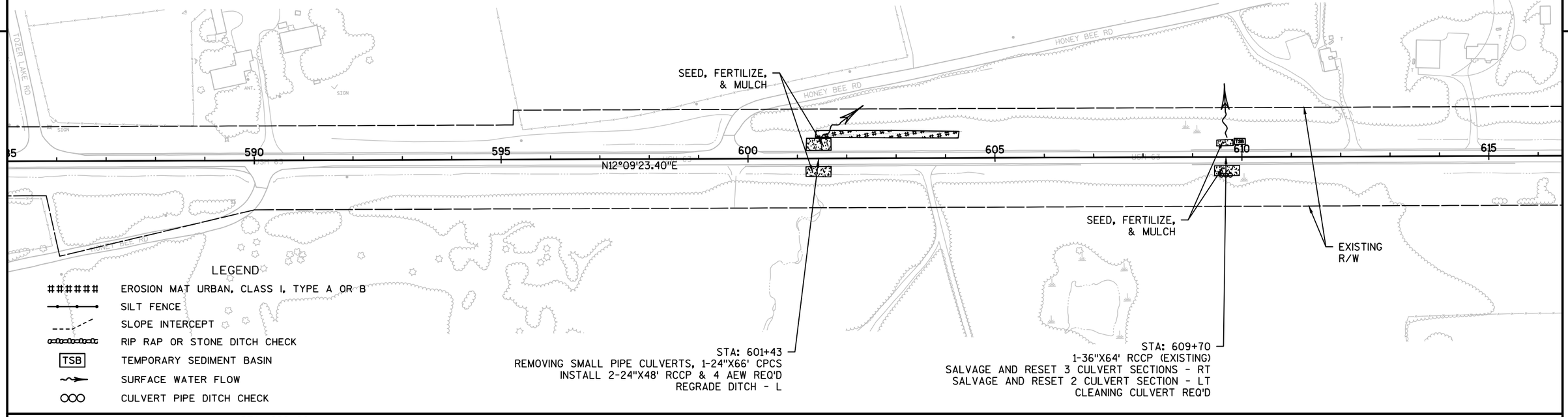
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	EROSION CONTROL	SHEET 9	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_EC.DWG
LAYOUT NAME - EC-2

PLOT DATE : 10/5/2016 8:36 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:200 FT

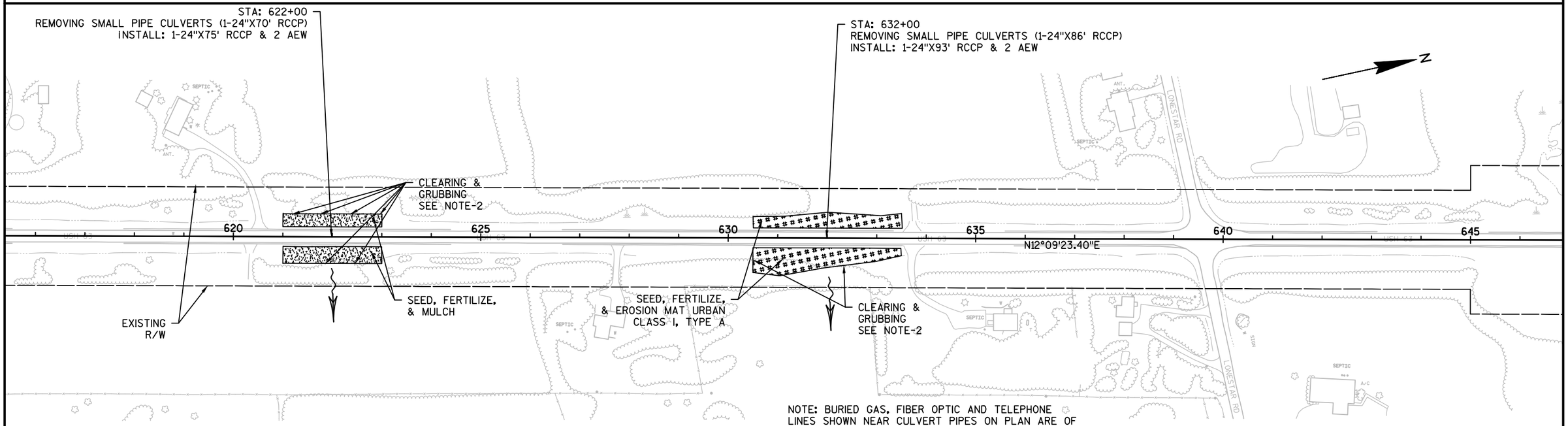
WISDOT/CADDS SHEET 44

NOTE-2: CLEARING AND GRUBBING LIMITS SHALL BE 10' BEYOND SLOPE INTERCEPTS BUT SHALL NOT EXTEND BEYOND THE EXISTING R/W.



LEGEND

- ###### EROSION MAT URBAN, CLASS I, TYPE A OR B
- SILT FENCE
- SLOPE INTERCEPT
- RIP RAP OR STONE DITCH CHECK
- TSB TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW
- CULVERT PIPE DITCH CHECK



NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	EROSION CONTROL	SHEET 10	E

2

2

STA: 654+25
1-36"X74' RCCP (EXISTING)

NOTE-2: CLEARING AND GRUBBING LIMITS SHALL BE 10' BEYOND SLOPE INTERCEPTS BUT SHALL NOT EXTEND BEYOND THE EXISTING R/W.

STA: 672+05
REMOVING SMALL PIPE CULVERTS, 1-24"X76' CMCP
INSTALL: 1-24"X73' RCCP & 2 AEW REQ'D

N

SEED, FERTILIZE, & MULCH

TURBIDITY BARRIER

WETLAND

650 655 660 665 670 675

USH 63

TSB

N12°09'23.40"E

SEED, FERTILIZE, & MULCH

SEED, FERTILIZE, & MULCH

STA: 649+20
REMOVING SMALL PIPE CULVERTS, 1-24"X64' RCCP
INSTALL 1-24"X59' RCCP & 2 AEW

LEGEND

######	EROSION MAT URBAN, CLASS I, TYPE A OR B
	SILT FENCE
	SLOPE INTERCEPT
	RIP RAP OR STONE DITCH CHECK
TSB	TEMPORARY SEDIMENT BASIN
	SURFACE WATER FLOW
	CULVERT PIPE DITCH CHECK

STA: 675+70
1-24"X70' RCCP (EXISTING)
SALVAGE AND RESET 3 CULVERT SECTIONS - RT
SALVAGE AND RESET 3 CULVERT SECTIONS - LT
CLEANING CULVERT REQ'D

STA: 691+60
1-24"X74' RCCP (EXISTING)
SALVAGE AND RESET 2 CULVERT SECTION - RT
SALVAGE AND RESET 3 CULVERT SECTIONS - LT
CLEANING CULVERT REQ'D

STA: 700+00
1-24"X62' RCCP (EXISTING)
SALVAGE AND REST 1 CULVERT SECTION - LT & RT
CLEANING CULVERT REQ'D

N

ANT.

SEPTIC

GREEN VALLEY RD

680 685 690 695 700 705

USH 63

N12°09'23.40"E

TSB

SEED, FERTILIZE, & MULCH

E-MAT URBAN CLASS I, TYPE A

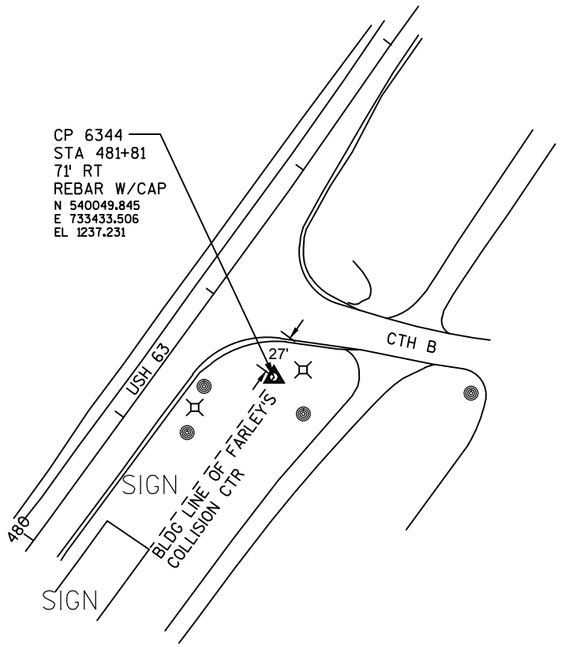
SEED, FERTILIZE, & MULCH

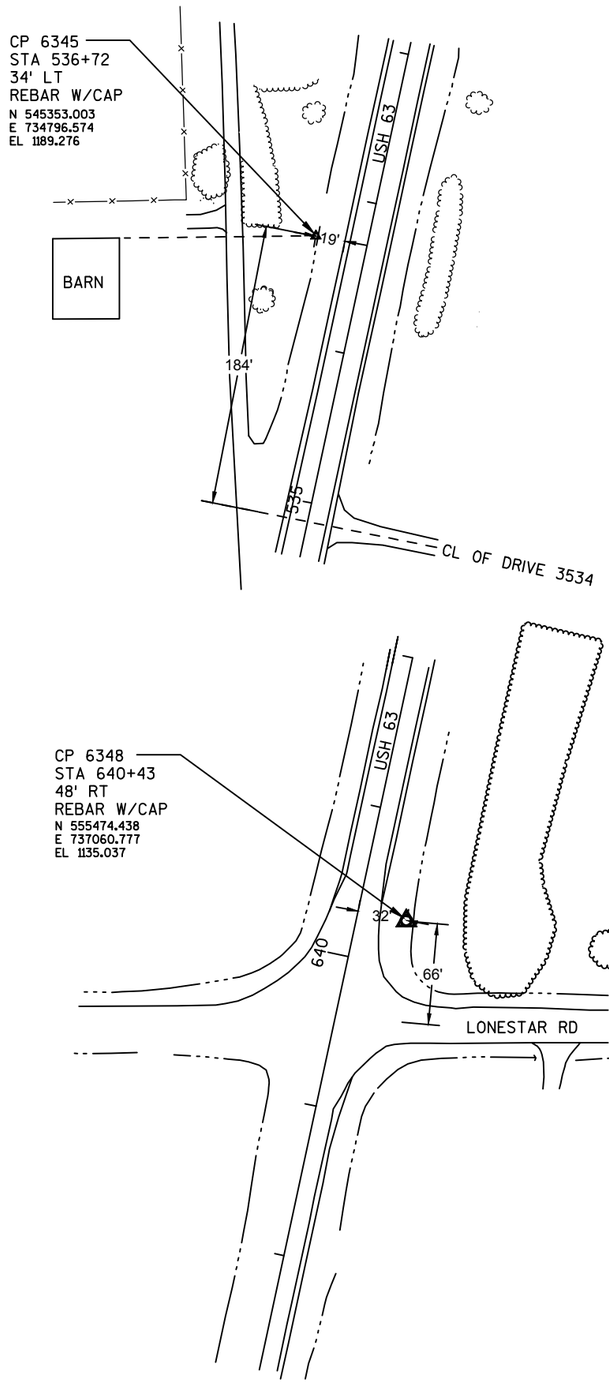
END PROJECT 1550-04-60
STA. 703+00

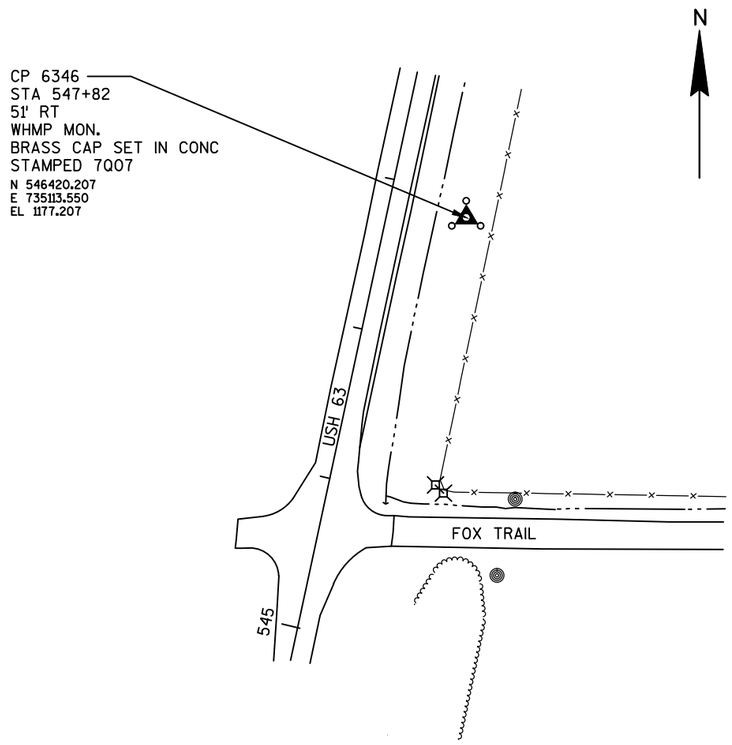
NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

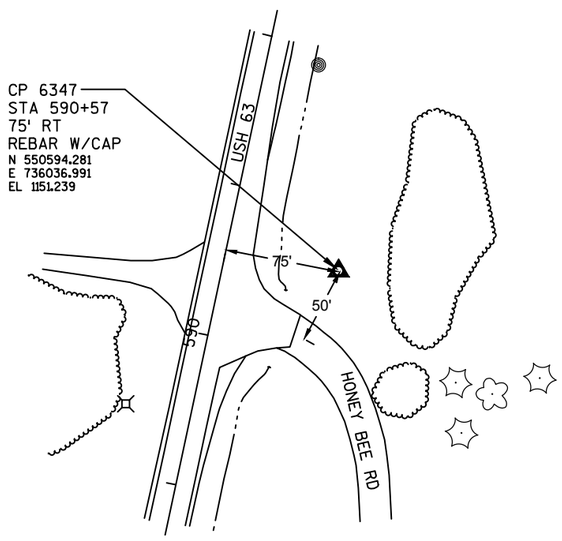
STA: 698+00
1-24"X116' RCCP (EXISTING)
SALVAGE AND RESET 3 CULVERT SECTIONS - LT & RT
CLEANING CULVERT REQ'D

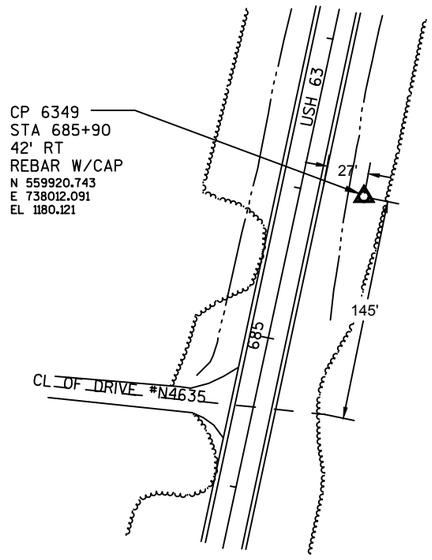
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	EROSION CONTROL	SHEET 11	E











PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CONTROL POINT LOCATIONS	SHEET 12	E

Estimate Of Quantities

1550-04-60

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	9.000	9.000
0020	201.0205	Grubbing	STA	9.000	9.000
0030	203.0100	Removing Small Pipe Culverts	EACH	8.000	8.000
0040	204.0100	Removing Pavement	SY	1,124.000	1,124.000
0050	204.0110	Removing Asphaltic Surface	SY	1,687.000	1,687.000
0060	208.0100	Borrow	CY	5,761.000	5,761.000
0070	209.1100	Backfill Granular Grade 1	CY	112.000	112.000
0080	213.0100	Finishing Roadway (project) 01. 1550-04-60	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	827.000	827.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,449.000	1,449.000
0110	465.0110	Asphaltic Surface Patching	TON	597.000	597.000
0120	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0130	520.8700	Cleaning Culvert Pipes	EACH	7.000	7.000
0140	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	446.000	446.000
0150	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	94.000	94.000
0160	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	93.000	93.000
0170	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	14.000	14.000
0180	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0190	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0200	606.0300	Riprap Heavy	CY	9.000	9.000
0210	614.0920	Salvaged Rail	LF	808.000	808.000
0220	614.2310	MGS Guardrail 3 HS	LF	1,463.000	1,463.000
0230	614.2610	MGS Guardrail Terminal EAT	EACH	8.000	8.000
0240	618.0100	Maintenance And Repair of Haul Roads (project) 01.1550-04-32	EACH	1.000	1.000
0250	619.1000	Mobilization	EACH	1.000	1.000
0260	625.0500	Salvaged Topsoil	SY	10,649.000	10,649.000
0270	627.0200	Mulching	SY	5,867.000	5,867.000
0280	628.1104	Erosion Bales	EACH	112.000	112.000
0290	628.1504	Silt Fence	LF	712.000	712.000
0300	628.1520	Silt Fence Maintenance	LF	712.000	712.000
0310	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0320	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0330	628.2006	Erosion Mat Urban Class I Type A	SY	7,320.000	7,320.000
0340	628.6005	Turbidity Barriers	SY	33.000	33.000
0350	628.7555	Culvert Pipe Checks	EACH	8.000	8.000
0360	629.0210	Fertilizer Type B	CWT	8.000	8.000
0370	630.0120	Seeding Mixture No. 20	LB	334.000	334.000

1550-04-60

Line	Item	Item Description	Unit	Total	Qty
0380	633.5200	Markers Culvert End	EACH	34.000	34.000
0390	642.5001	Field Office Type B	EACH	1.000	1.000
0400	643.0100	Traffic Control (project) 01.1550-04-32	EACH	1.000	1.000
0410	643.0300	Traffic Control Drums	DAY	2,324.000	2,324.000
0420	643.0900	Traffic Control Signs	DAY	1,586.000	1,586.000
0430	645.0111	Geotextile Type DF Schedule A	SY	168.000	168.000
0440	645.0120	Geotextile Type HR	SY	18.000	18.000
0450	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,788.000	1,788.000
0460	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
0470	650.9910	Construction Staking Supplemental Control (project) 01.1550-04-32	LS	1.000	1.000
0480	650.9920	Construction Staking Slope Stakes	LF	11,753.000	11,753.000
0490	690.0150	Sawing Asphalt	LF	480.000	480.000
0500	690.0250	Sawing Concrete	LF	320.000	320.000
0510	SPV.0060	Special 01. Salvage & Reset 2 Culvert Sections	EACH	2.000	2.000
0520	SPV.0060	Special 02. Salvage & Reset 3 Culvert Sections	EACH	6.000	6.000
0530	SPV.0090	Special 01. Regrading Ditch	LF	572.000	572.000

CLEARING

STATION	TO	STATION	LOCATION	201.0105 STA
522+59	-	527+00	LEFT	4
573+00	-	574+00	LEFT	1
621+20	-	621+80	LEFT	1
622+00	-	622+50	RIGHT	1
622+50	-	623+00	LEFT	1
630+50		632+25	RIGHT	2
			TOTAL 0010	9

GRUBBING

STATION	TO	STATION	LOCATION	201.0205 STA
522+59	-	527+00	LEFT	4
573+00	-	574+00	LEFT	1
621+20	-	621+80	LEFT	1
622+00	-	622+50	RIGHT	1
622+50	-	623+00	LEFT	1
630+50		632+25	RIGHT	2
			TOTAL 0010	9

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH
523+80	ML	1
573+50	ML	1
583+00	ML	1
601+43	ML	1
622+00	ML	1
632+00	ML	1
649+20	ML	1
672+05	ML	1
	TOTAL 0010	8

REMOVING PAVEMENT

STATION	TO	STATION	LOCATION	204.0100 SY
523+33	-	524+27	ML	209
573+18	-	573+82	ML	142
582+53	-	583+47	ML	209
601+38	-	601+48	ML	22
648+82	-	649+58	ML	169
631+53	-	632+47	ML	209
649+10	-	649+30	ML	49
671+74	-	672+26	ML	116
			TOTAL 0010	1124

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	204.0110 SY
523+33	-	524+27	ML	313
573+18	-	573+82	ML	213
582+53	-	583+47	ML	313
601+38	-	601+48	ML	33
621+62	-	622+38	ML	253
631+53	-	632+47	ML	313
649+10	-	649+30	ML	73
671+74	-	672+26	ML	173
			TOTAL 0010	1687

BORROW

STATION	TO	STATION	LOCATION	208.0100 CY
521+00	-	527+00	FORESLOPE - LT	3838
		556+66	BG - EAT -RT	91
		557+03	BG - EAT - LT	233
		562+97	BG - EAT - RT	7
		564+09	BG - EAT - LT	47
573+00	-	574+00	CULVERT	43
		577+50	BG - EAT - RT	30
		577+86	BG - EAT - LT	41
		579+44	BG - EAT - RT	10
		579+80	BG - EAT -LT	33
621+00	-	623+00	CULVERT	208
630+50	-	633+50	CULVERT	883
			TOTAL 0010	5761

BACKFILL GRANULAR GRADE 1

STATION	LOCATION	209.1100 CY
523+80	CULVERT	17
573+50	CULVERT	12
583+00	CULVERT	14
601+43	CULVERT	12
622+00	CULVERT	13
632+00	CULVERT	17
649+20	CULVERT	13
672+05	CULVERT	15
	TOTAL 0010	112

FINISHING ROADWAY (1550-04-60)

LOCATION	213.0100 EACH
	1
TOTAL 0010	1

BASE AGGREGATE DENSE 3/4-INCH

STATION	TO	STATION	LOCATION	305.0110 TON
523+30	-	524+30	SHOULDERS	52
523+30	-	524+30	TEMP WIDENING	70
573+18	-	573+82	SHOULDERS	36
573+10	-	573+90	TEMP WIDENING	27
582+53	-	583+47	SHOULDERS	52
582+50	-	583+50	TEMP WIDENING	144
601+38	-	601+48	SHOULDERS	6
601+38	-	601+48	TEMP WIDENING	10
621+62	-	622+38	SHOULDERS	42
621+60	-	622+40	TEMP WIDENING	27
631+53	-	632+47	SHOULDERS	52
631+50	-	632+50	TEMP WIDENING	133
649+10	-	649+30	SHOULDERS	12
648+80	-	649+60	TEMP WIDENING	53
671+74	-	672+26	SHOULDERS	29
671+55		672+55	TEMP WIDENING	61
UNDISTRIBUTED				20
			TOTAL 0010	827

BASE AGGREGATE DENSE 1 1/4-INCH

STATION	TO	STATION	LOCATION	305.0120 TON
523+30	-	524+30	PAVMT BASE	251
573+18	-	573+82	PAVMT BASE	171
582+53	-	583+47	PAVMT BASE	251
601+38	-	601+48	PAVMT BASE	27
621+62	-	622+38	PAVMT BASE	203
631+53	-	632+47	PAVMT BASE	251
649+10	-	649+30	PAVMT BASE	59
671+74	-	672+26	PAVMT BASE	139
UNDISTRIBUTED				100
			TOTAL 0010	1449

ASPHALTIC SURFACE PATCHING

STATION	TO	STATION	LOCATION	465.0110 TON
523+33	-	524+27	ML	105
573+18	-	573+82	ML	72
582+53	-	583+47	ML	105
601+38	-	601+48	ML	11
621+62	-	622+38	ML	85
631+53	-	632+47	ML	105
649+10	-	649+30	ML	25
671+74	-	672+26	ML	58
UNDISTRIBUTED				30
			TOTAL 0010	597

CONCRETE COLLARS FOR PIPE

STATION	LOCATION	520.8000 EACH
609+70	LT & RT	2
675+70	LT & RT	2
691+60	LT & RT	2
698+00	LT & RT	2
	TOTAL 0010	8

3

SITE RESTORATION

STATION	TO	STATION	LOCATION	CLEANING CULVERT PIPES 520.8700 EACH	RIPRAP HEAVY 606.0300 CY	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	EROSION BALES 628.1104 EACH	EROSION MAT URBAN CLASS I TYPE A 628.2006 SY	CULVERT PIPE CHECKS 628.7555 EACH	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB
521+00	-	527+00	FORESLOPE - LT		3	3419			3419		2.15	92.31
		556+66	BG - EAT -RT			417	417				0.26	11.25
		557+03	BG - EAT - LT			584	584				0.37	15.76
		558+00	CULVERT	1				14		1		
		561+15	CULVERT									
		562+97	BG - EAT - RT			245	245				0.15	6.62
		564+09	BG - EAT - LT			224	224				0.14	6.05
573+00	-	574+00	CULVERT		3	644	644		516		0.41	17.38
		577+50	BG - EAT - RT			382	382				0.24	10.32
		577+86	BG - EAT - LT			311	311				0.20	8.40
		578+65	CULVERT	1				14		1		
		579+44	BG - EAT - RT			251	251				0.16	6.77
		579+80	BG - EAT -LT			250	250				0.16	6.76
		583+00	CULVERT		3				274		0.17	7.39
		601+43	CULVERT				229		508		0.14	6.19
		609+70	CULVERT	1			157	14		1	0.10	4.24
621+00	-	623+00	CULVERT			1222	1222				0.77	33.00
630+50	-	633+50	CULVERT			2167			2167		1.37	58.50
		649+20	CULVERT				83				0.05	2.25
		654+25	CULVERT									
		672+05	CULVERT			333	333				0.21	9.00
		675+70	CULVERT	1			89	14		1	0.06	2.40
		691+60	CULVERT	1			133	14		1	0.08	3.60
		698+00	CULVERT	1				14	386	1	0.24	10.43
		700+00	CULVERT	1			212	14		1	0.13	5.72
			UNDISTRIBUTED			200	100	14	50	1	0.20	10.00
			TOTAL 0010	7	9	10649	5867	112	7320	8	8	334

3

CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH

STATION	LOCATION	522.0124 LF
573+50	ML	66
583+00	ML	77
601+43	ML	96
622+00	ML	75
649+20	ML	59
672+05	ML	73
	TOTAL 0010	446

CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH

STATION	LOCATION	522.0130 LF
523+80	ML	94
	TOTAL 0010	94

CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH

STATION	LOCATION	522.0136 LF
632+00	ML	93
	TOTAL 0010	93

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH

STATION	LOCATION	522.1024 EACH
573+50	ML	2
583+00	ML	2
601+43	ML	4
622+00	ML	2
649+20	ML	2
672+05	ML	2
	TOTAL 0010	14

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH

STATION	LOCATION	522.1030 EACH
523+80	ML	2
	TOTAL 0010	2

APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH

STATION	LOCATION	522.1036 EACH
632+00	ML	2
	TOTAL 0010	2

3

SALVAGED RAIL

STATION	TO	STATION	LOCATION	614.0920 LF
556+57	-	559+31	LT	274
556+70	-	559+44	RT	274
578+00	-	579+30	LT	130
578+00	-	579+30	RT	130
			TOTAL 0010	808

MGS GUARDRAIL 3 HS

STATION	TO	STATION	LOCATION	614.2310 LF
557+43	-	563+56	LT	613.0
557+15	-	562+50	RT	687.5
578+25	-	579+13	LT	87.5
578+32	-	579+07	RT	75.0
			TOTAL 0010	1463.0

MGS GUARDRAIL TERMINAL EAT

STATION	TO	STATION	LOCATION	614.2610 EACH
555+90	-	556+43	LT	1
555+98	-	556+51	RT	1
562+56	-	563+09	LT	1
563+39	-	563+92	RT	1
577+72	-	578+25	LT	1
577+79	-	578+32	RT	1
579+13	-	579+66	LT	1
579+07	-	579+60	RT	1
			TOTAL 0010	8

3

MAINTENANCE AND REPAIR OF HAUL ROADS (1550-04-32)

LOCATION	618.0100 EACH
PROJECT	1
TOTAL 0010	1

MOBILIZATION

LOCATION	619.1000 EACH
PROJECT	1
TOTAL 0010	1

SILT FENCE SUMMARY

STATION	TO	STATION	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF
521+00	-	527+00	FORESLOPE - LT	612	612
			UNDISTRIBUTED	100	100
			TOTAL 0010	712	712

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH
PROJECT	6
TOTAL 0010	6

MOBILIZATIONS EMERGENCY EROSION CONTROL

LOCATION	628.1910 EACH
PROJECT	6
TOTAL 0010	6

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH
523+80	CULVERT END	2
558+00	CULVERT END	2
561+15	CULVERT END	2
573+50	CULVERT END	2
578+65	CULVERT END	2
583+00	CULVERT END	2
601+43	CULVERT END	2
609+70	CULVERT END	2
622+00	CULVERT END	2
632+00	CULVERT END	2
649+20	CULVERT END	2
654+25	CULVERT END	2
672+05	CULVERT END	2
675+70	CULVERT END	2
691+60	CULVERT END	2
698+00	CULVERT END	2
700+00	CULVERT END	2
	TOTAL 0010	34

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 SY
649+20	CULVERT ENDS	33
	TOTAL 0010	33

FIELD OFFICE TYPE B

LOCATION	642.5001 EACH
PROJECT	1
TOTAL 0010	1

TRAFFIC CONTROL SUMMARY

STATION	TO	STATION	LOCATION	TRAFFIC CONTROL (1550-04-60) 643.0100 EACH	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	REMARKS
483+83	-	703+00	PROJECT	1			
483+83	-	703+00	PROJECT			1218	SDD 15C4
483+83	-	703+00	PROJECT		1740	348	SDD 15D28
521+00	-	527+00	SHOULDER - LEFT		160	20	NARROW SHOULDER, 45 MPH
523+30	-	524+30	CULVERT REPL.-TEMP WIDENING		20		
573+00	-	574+00	CULVERT REPL.-TEMP WIDENING		10		
573+00	-	574+00	SHOULDER - LEFT		14		
582+00	-	584+00	CULVERT REPL.-TEMP WIDENING		20		
601+23	-	601+63	CULVERT REPL.-TEMP WIDENING		10		
621+50	-	622+50	CULVERT REPL.-TEMP WIDENING		10		
631+50	-	632+50	CULVERT REPL.-TEMP WIDENING		20		
648+70	-	649+70	CULVERT REPL.-TEMP WIDENING		10		
671+55	-	672+55	CULVERT REPL.-TEMP WIDENING		10		
					300		UNDISTRIBUTED
			TOTAL 0010	1	2324	1586	

GEOTEXTILE FABRIC SUMMARY

STATION	LOCATION	GEOTEXTILE FABRIC TYPE DF SCHEDULE A 645.0111 SY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY	REMARKS
523+80	CULVERT END		6	RIPRAP
558+00	CULVERT END	28		TSB
573+50	CULVERT END		6	RIPRAP
583+00	CULVERT END		6	RIPRAP
609+70	CULVERT END	28		TSB
675+70	CULVERT END	28		TSB
691+60	CULVERT END	28		TSB
698+00	CULVERT END	28		TSB
700+00	CULVERT END	28		TSB
	TOTAL 0010	168	18	

PAVEMENT MARKING EPOXY 4-INCH

STATION	TO	STATION	LOCATION	646.0106 LF	REMARKS
523+30	-	524+30	ML	225	200' WHITE, 25' YELLOW
573+18		573+82	ML	256	128' WHITE, 128' YELLOW
582+57		583+43	ML	280	172' WHITE, 107.5' YELLOW
601+38	-	601+48	ML	23	20' WHITE, 3' YELLOW
621+68		622+32	ML	256	128' WHITE, 128' YELLOW
631+53		632+47	ML	376	188' WHITE, 188' YELLOW
649+10	-	649+30	ML	65	40' WHITE, 45' YELLOW
671+74	-	672+26	ML	208	104' WHITE, 104' YELLOW
UNDISRTIBUTED				100	
			TOTAL 0010	1788	

CONSTRUCTION STAKING PIPE CULVERTS

STATION	LOCATION	650.6000 EACH
523+80	CULVERT	1
573+50	CULVERT	1
583+00	CULVERT	1
601+43	CULVERT	1
622+00	CULVERT	1
632+00	CULVERT	1
649+20	CULVERT	1
672+05	CULVERT	1
TOTAL 0010		8

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1550-04-32)

LOCATION	650.9910 LS
PROJECT	1
TOTAL 0010	1

CONSTRUCTION STAKING SLOPE STAKES

STATION	TO	STATION	LOCATION	650.9920 LF
521+00	-	527+00	FORESLOPE - LT	600
555+46	-	656+29	GUARD RAIL - LT & RT	10083
573+00	-	574+00	FORESLOPE - LT	100
576+30	-	581+00	GUARD RAIL - LT & RT	470
621+00	-	623+00	FORESLOPE - LT & RT	200
630+50	-	633+50	FORESLOPE - LT & RT	300
			TOTAL 0010	11753

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
523+33	ML	30
524+27	ML	30
573+18	ML	30
573+82	ML	30
582+53	ML	30
583+47	ML	30
601+38	ML	30
601+48	ML	30
621+62	ML	30
622+38	ML	30
631+53	ML	30
632+47	ML	30
649+09	ML	30
649+31	ML	30
671+74	ML	30
672+26	ML	30
TOTAL 0010		480

SAWING CONCRETE

STATION	LOCATION	690.0250 LF
523+33	ML	20
524+27	ML	20
573+18	ML	20
573+82	ML	20
582+53	ML	20
583+47	ML	20
601+38	ML	20
601+48	ML	20
621+62	ML	20
622+38	ML	20
631+53	ML	20
632+47	ML	20
649+09	ML	20
649+31	ML	20
671+74	ML	20
672+26	ML	20
TOTAL 0010		320

SALVAGE AND RESET 2 CULVERT SECTIONS

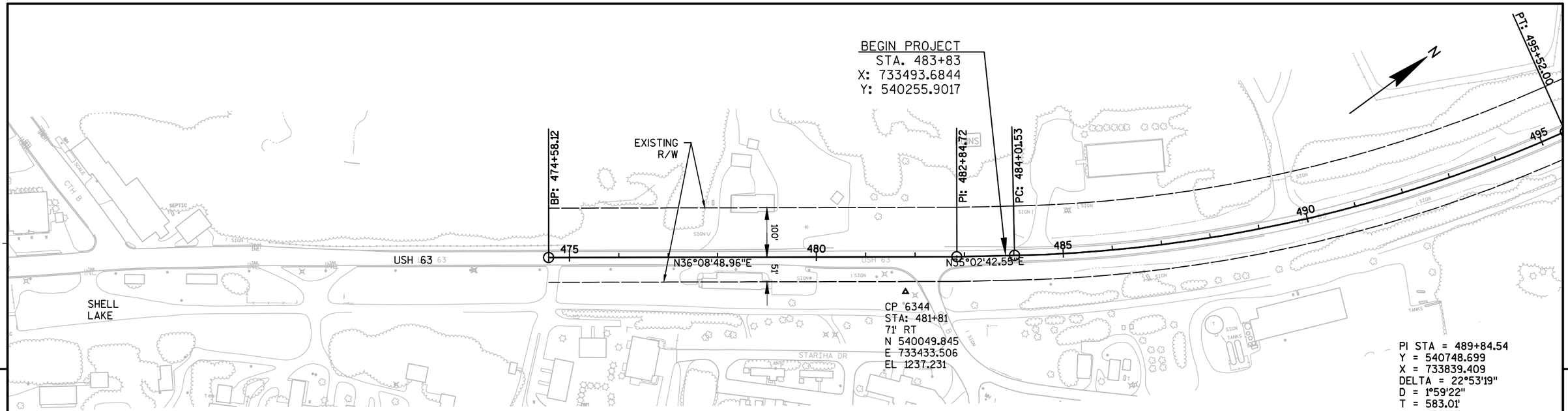
STATION	LOCATION	SPV.0060.01 EACH
609+70	CULVERT END LT	1
691+60	CULVERT END RT	1
	TOTAL 0010	2

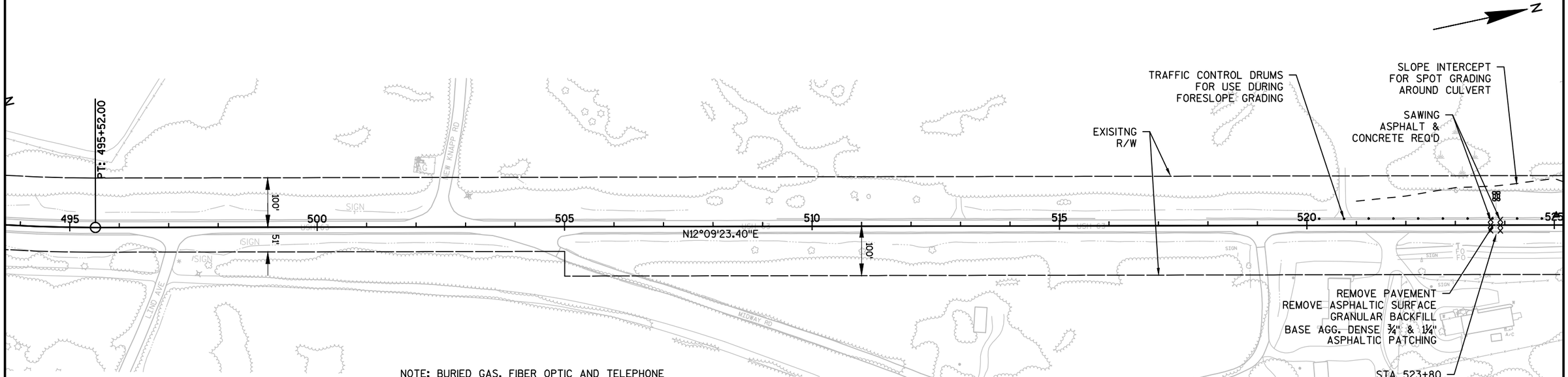
SALVAGE AND RESET 3 CULVERT SECTIONS

STATION	LOCATION	SPV.0060.02 EACH
609+70	CULVERT END RT	1
675+70	CULVERT END LT & RT	2
691+60	CULVERT END LT	1
698+00	CULVERT END LT & RT	2
	TOTAL 0010	6

REGRADING DITCH

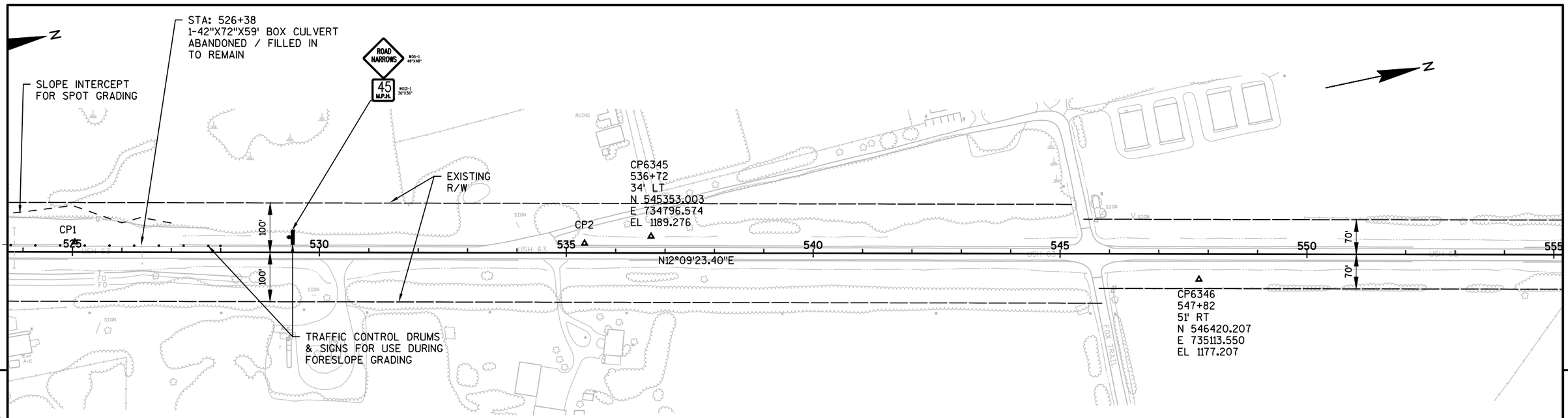
STATION	TO	STATION	LOCATION	SPV.0090.01 LF
572+16	-	575+00	DITCH - R	284
601+37	-	604+25	DITCH - L	288
			TOTAL 0010	572





NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

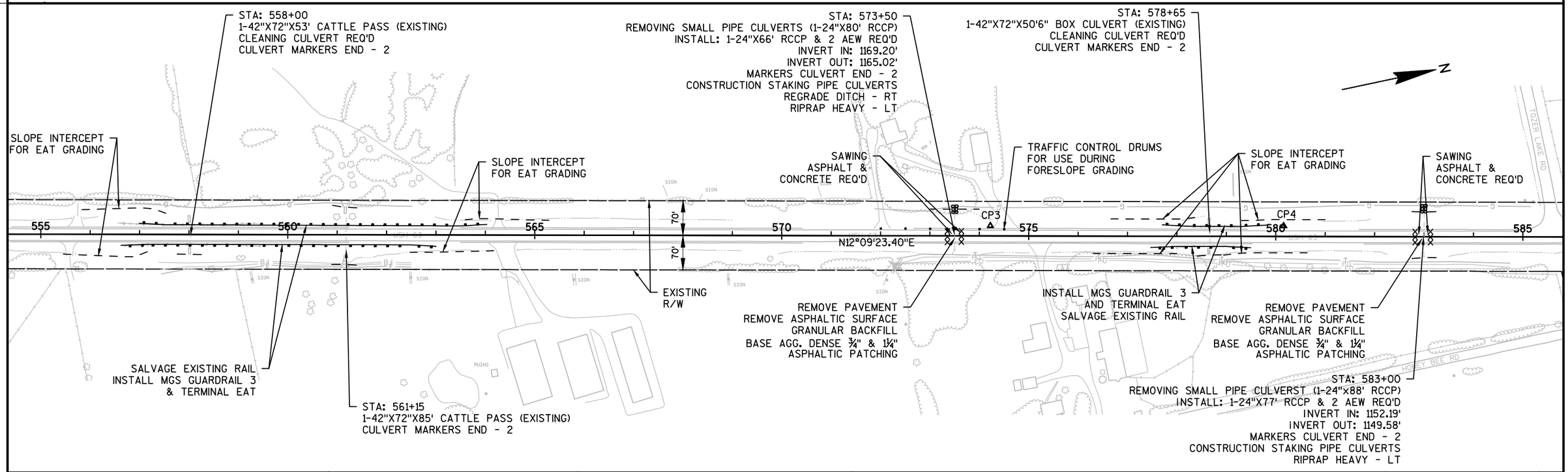
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	DUAL PLAN	SHEET 22	E



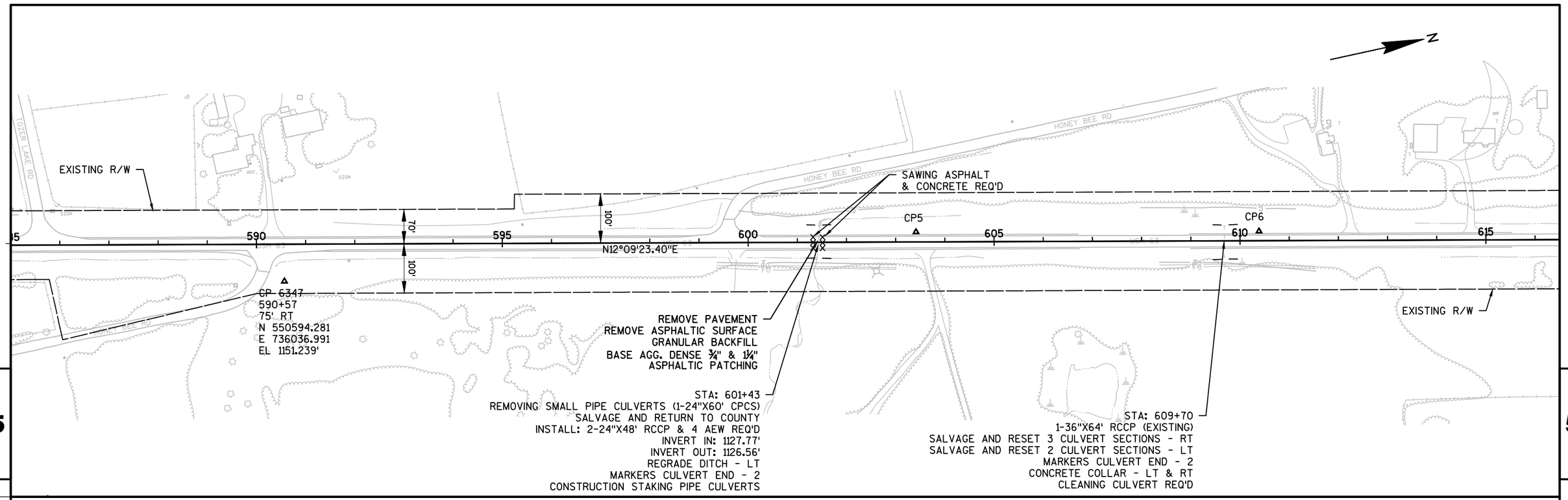
5

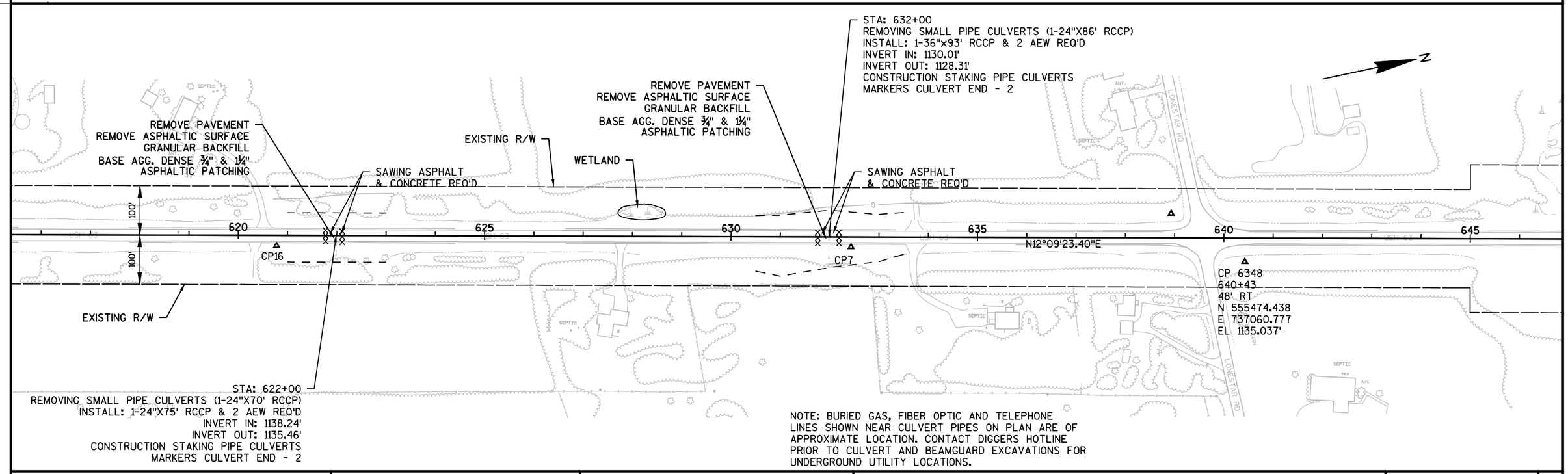
5

NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.



PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	DUAL PLAN	SHEET 23	E





PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	DUAL PLAN	SHEET 24	E

STA: 654+25
EXISTING 36"X74' RCCP
EQUALIZER PIPE
MARKERS CULVERT END - 2

STA: 672+05
REMOVING SMALL PIPE CULVERTS (1-24"X76' CMCP)
INSTALL: 1-24"X73' RCCP & 2 AEW REQ'D
INVERT IN: 1150.43'
INVERT OUT: 1149.19'
MARKERS CULVERT END - 2
CONSTRUCTION STAKING PIPE CULVERTS

WETLAND

SAWING ASPHALT
& CONCRETE REQ'D

EXISTING R/W

REMOVE PAVEMENT
REMOVE ASPHALTIC SURFACE
GRANULAR BACKFILL
BASE AGG. DENSE ¾" & 1¼"
ASPHALTIC PATCHING

SAWING ASPHALT
& CONCRETE REQ'D

150'
100'
100'
150'

650 655 660 665 670 675

CP10 CP9 CP15 CP17

N12°09'23.40"E

EXISTING R/W

REMOVE PAVEMENT
REMOVE ASPHALTIC SURFACE
GRANULAR BACKFILL
BASE AGG. DENSE ¾" & 1¼"
ASPHALTIC PATCHING

STA: 649+20
REMOVING SMALL PIPE CULVERTS, 1-24"X64' RCCP
INSTALL 1-24"X59' RCCP & 2 AEW
INVERT IN: MATCH EXISTING
INVERT OUT: MATCH EXISTING
MARKERS CULVERT END - 2
CONSTRUCTION STAKING PIPE CULVERTS

STA: 675+70
1-24"X70' RCCP (EXISTING)
SALVAGE AND RESET 3 CULVERT SECTIONS - RT
SALVAGE AND RESET 3 CULVERT SECTION - LT
CONCRETE COLLAR - LT & RT
CLEANING CULVERT REQ'D
MARKERS CULVERT END - 2

5 5

STA: 691+60
1-24"X74' RCCP (EXISTING)
SALVAGE AND RESET 2 CULVERT SECTION - RT
SALVAGE AND RESET 3 CULVERT SECTIONS - LT
CONCRETE COLLAR - LT & RT
CLEANING CULVERT REQ'D
MARKERS CULVERT END - 2

STA: 700+00
1-24"X62' RCCP (EXISTING)
CLEANING CULVERT REQ'D
MARKERS CULVERT END - 2

100'
100'

680 685 690 695 700 705

CP11 CP12 CP13

N12°09'23.40"E

CP 6349
STA 685+90
42' RT
N 559920.743
E 738012.091
EL 1180.121'

END PROJECT 1550-04-60
STA. 703+00
X: 738330.6474
Y: 561602.0803

NOTE: BURIED GAS, FIBER OPTIC AND TELEPHONE LINES SHOWN NEAR CULVERT PIPES ON PLAN ARE OF APPROXIMATE LOCATION. CONTACT DIGGERS HOTLINE PRIOR TO CULVERT AND BEAMGUARD EXCAVATIONS FOR UNDERGROUND UTILITY LOCATIONS.

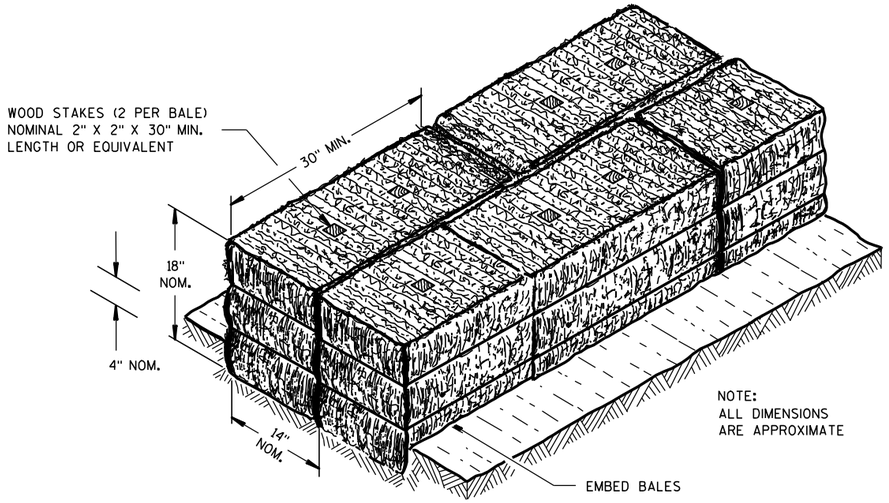
STA: 698+00
1-24"X116' RCCP (EXISTING)
SALVAGE AND RESET 3 CULVERT SECTIONS - LT & RT
CONCRETE COLLAR - LT & RT
CLEANING CULVERT REQ'D
MARKERS CULVERT END - 2

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	DUAL PLAN	SHEET 25	E

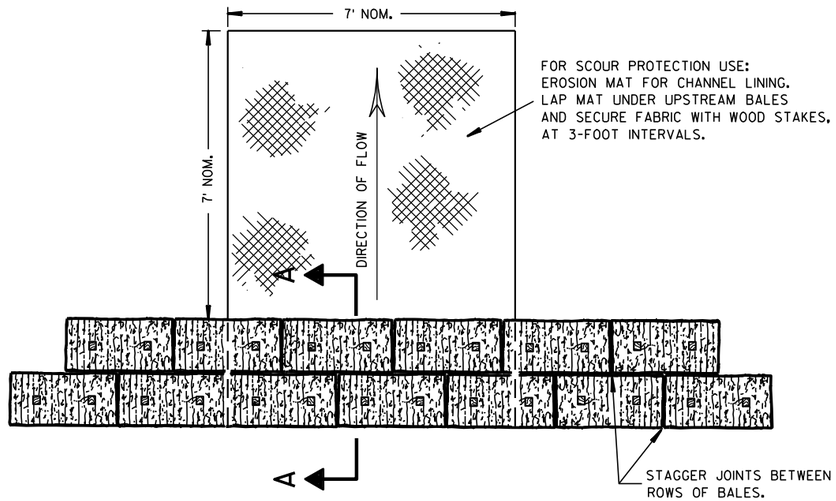
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-03A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C12-05	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-04A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

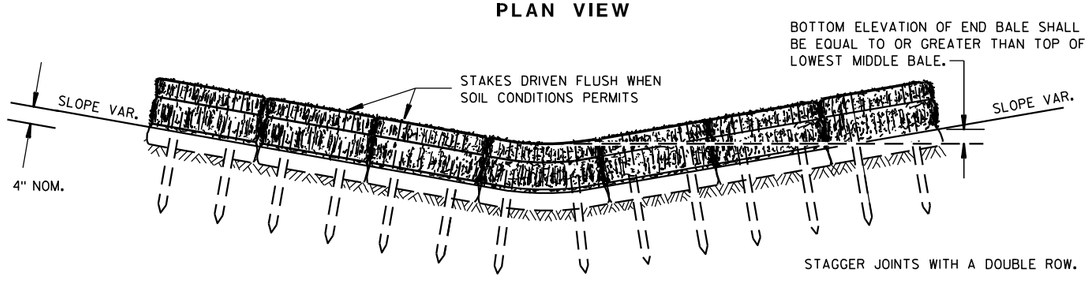
6



SECTION A-A



PLAN VIEW



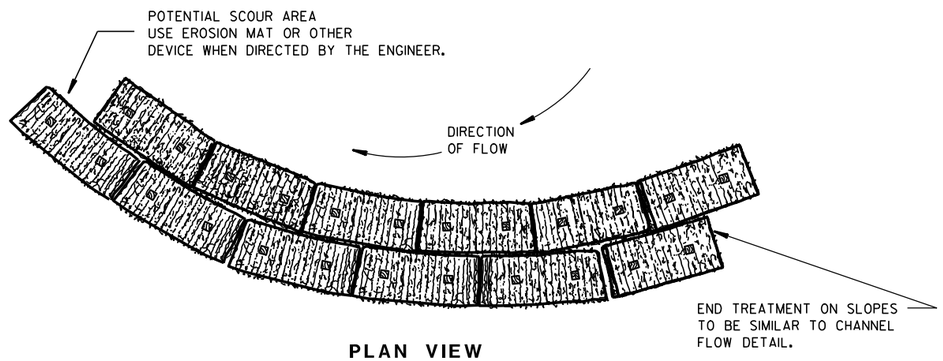
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

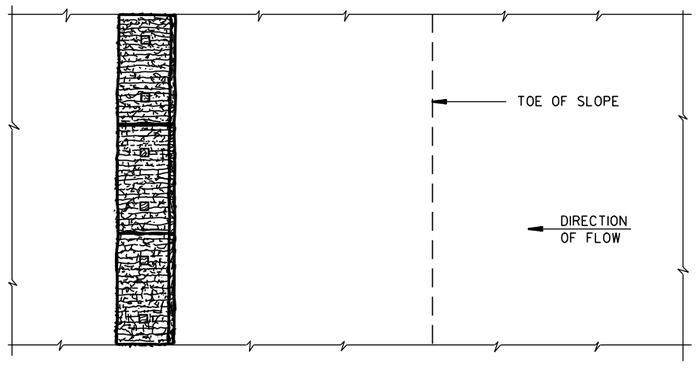
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

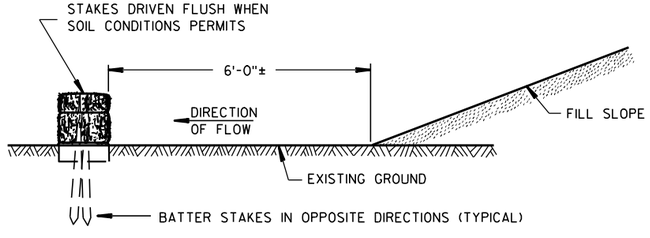


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

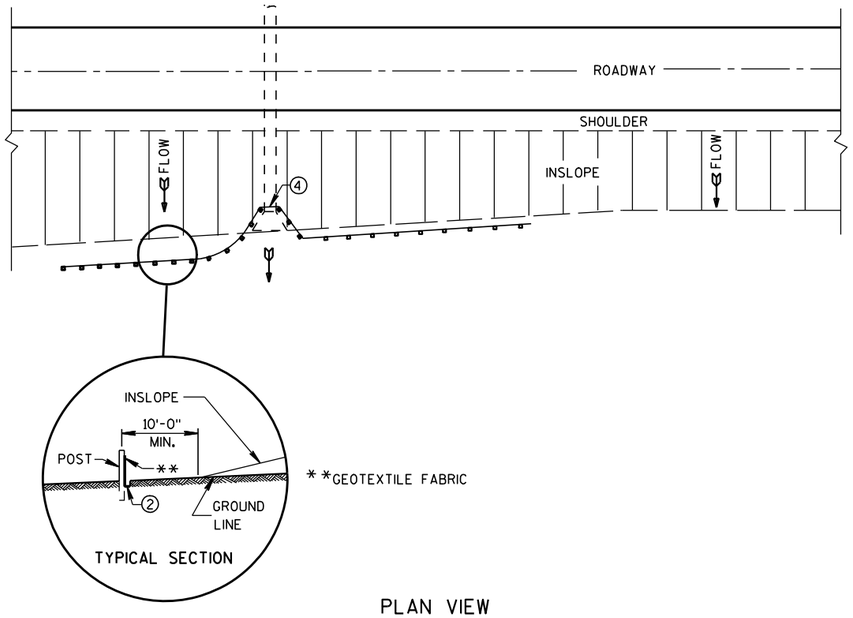
APPROVED

6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

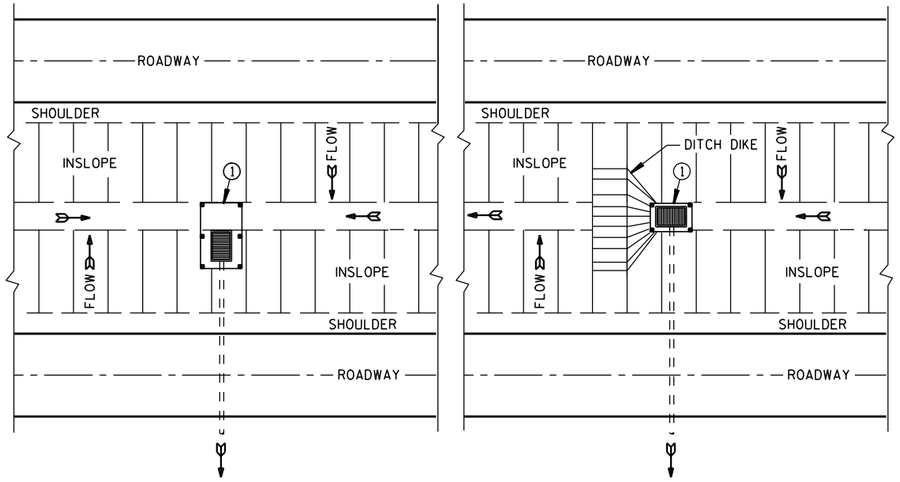
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

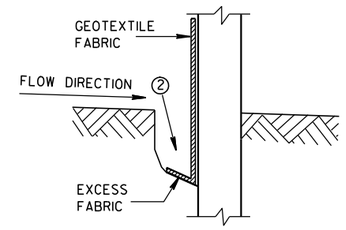
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

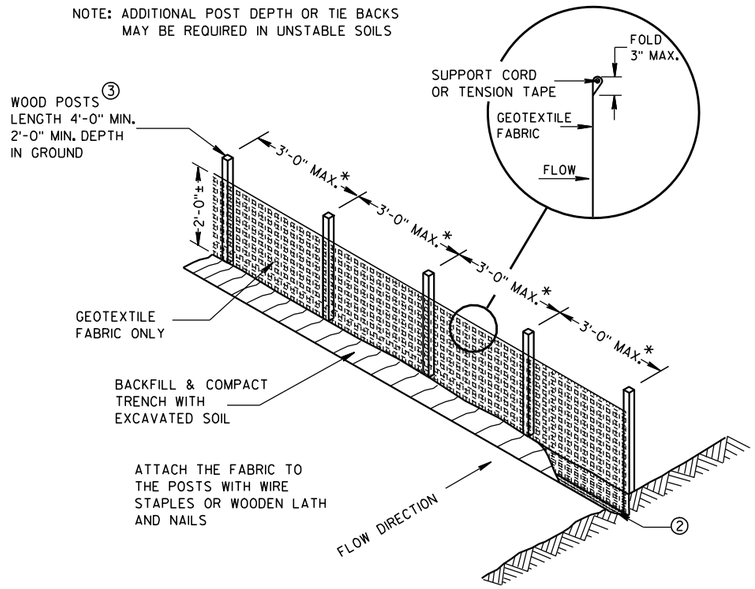
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

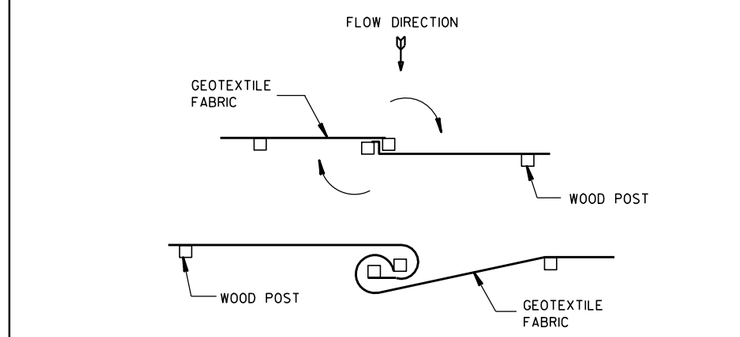


TRENCH DETAIL

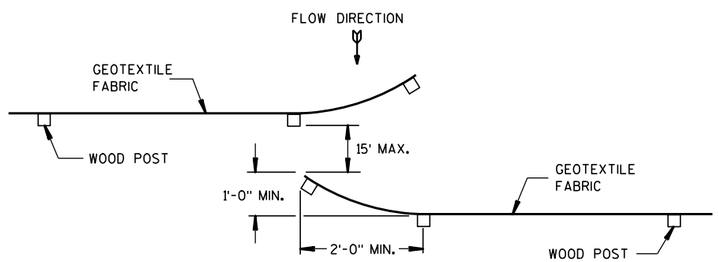


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

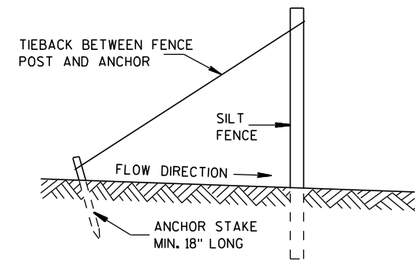


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

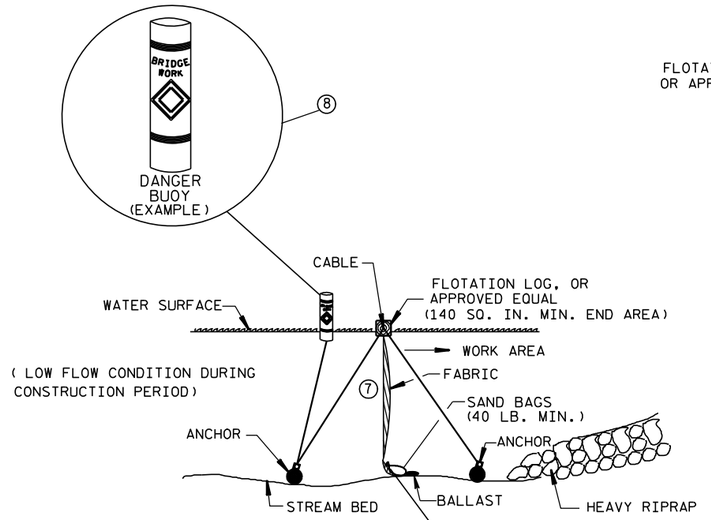
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

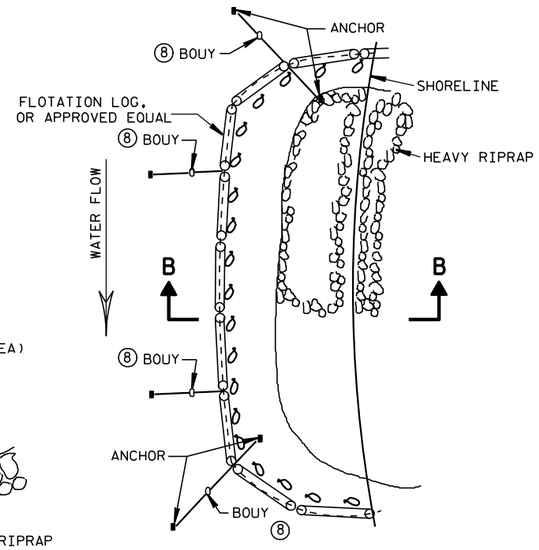
S.D.D. 8 E 9-6

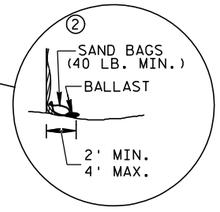
6

S.D.D. 8 E 9-6

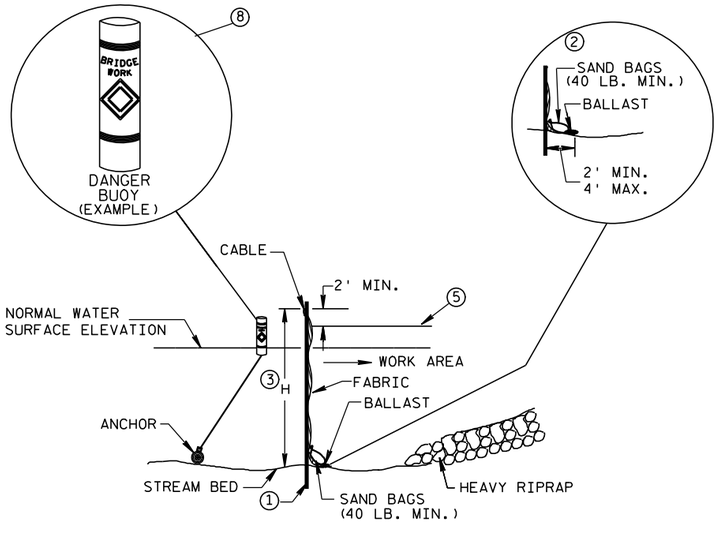


SECTION B-B

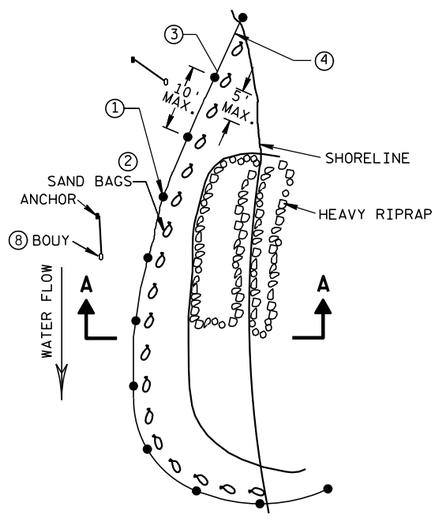




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

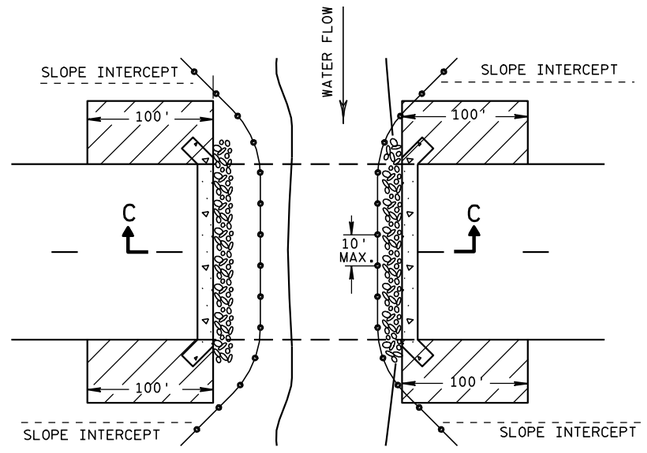
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

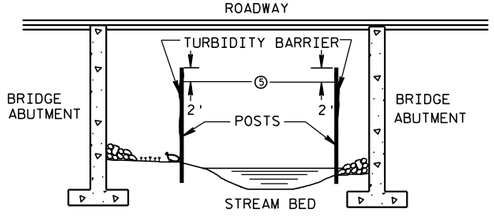
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

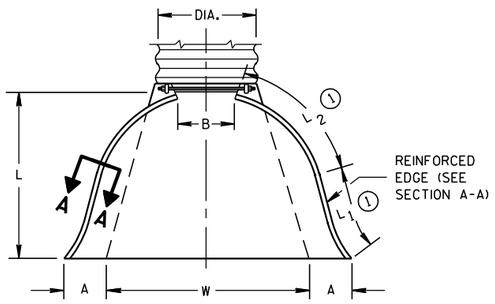
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

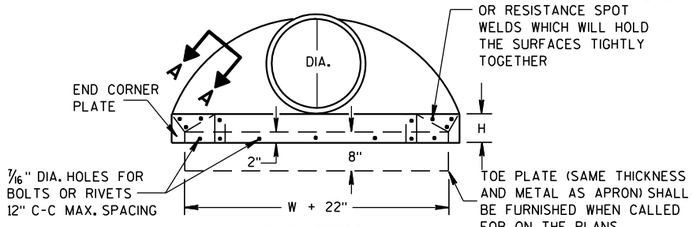
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

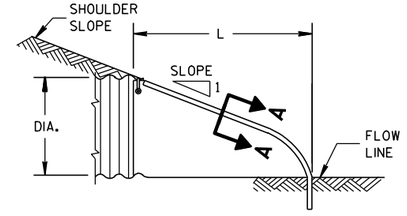
* MINIMUM
** MAXIMUM



PLAN VIEW

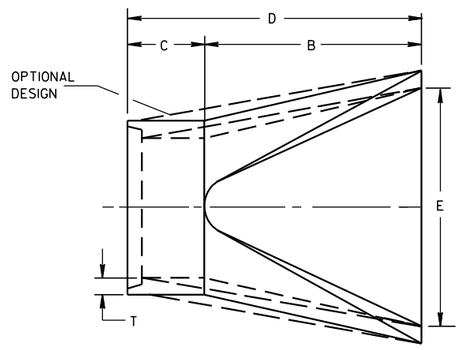


END VIEW

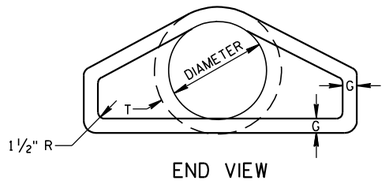


SIDE ELEVATION

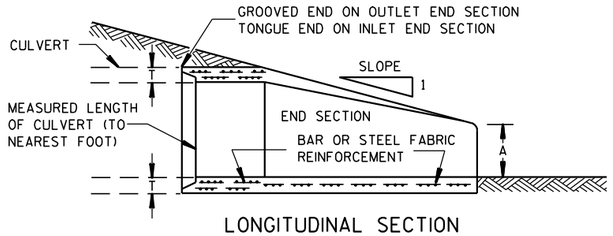
METAL ENDWALLS



PLAN

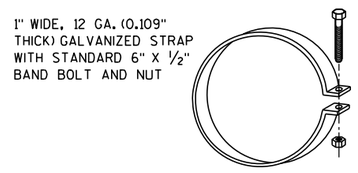


END VIEW



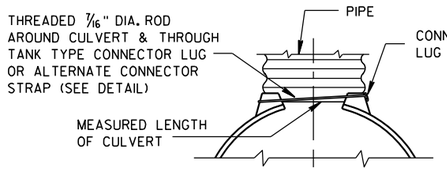
LONGITUDINAL SECTION

CONCRETE ENDWALLS

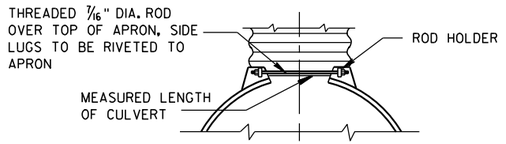


ALTERNATE FOR TYPE 1 CONNECTION

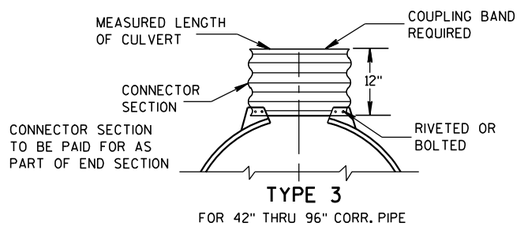
END SECTION CONNECTOR STRAP



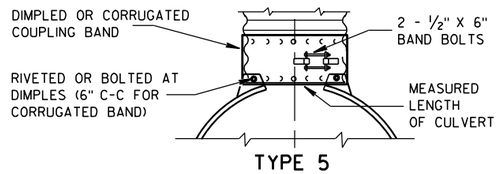
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

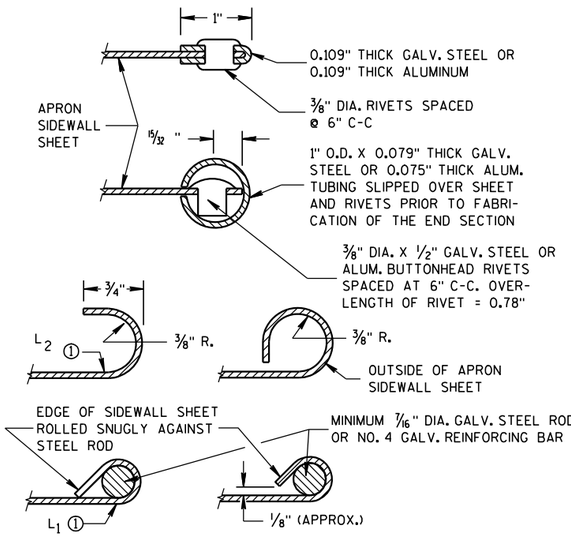
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

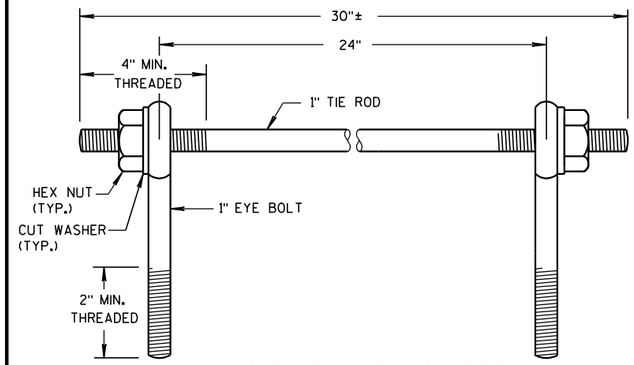
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

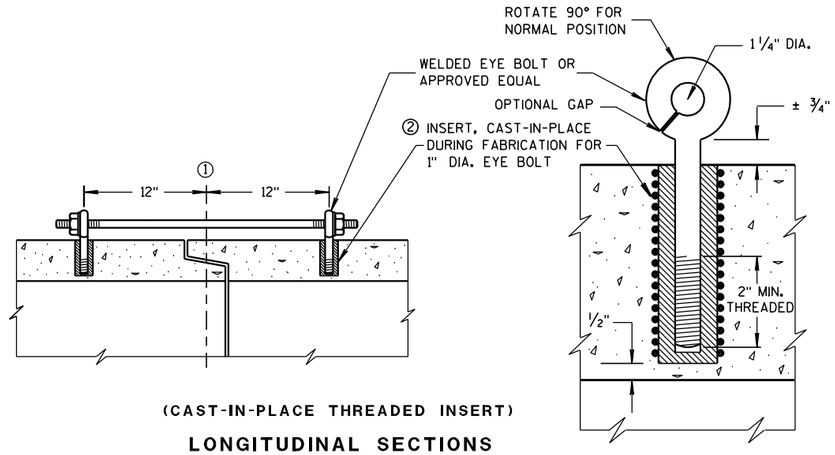
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

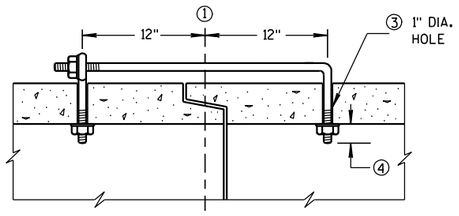
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

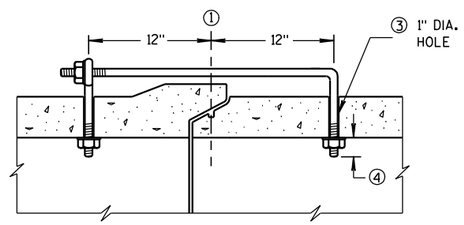
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

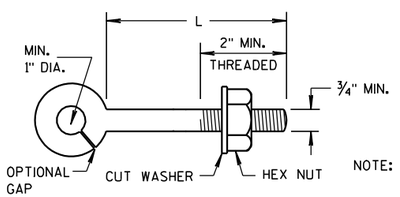


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

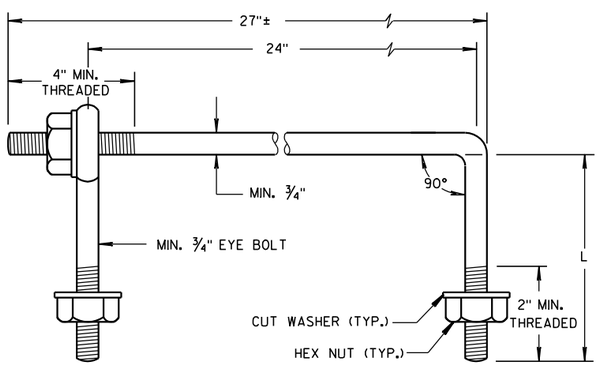
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

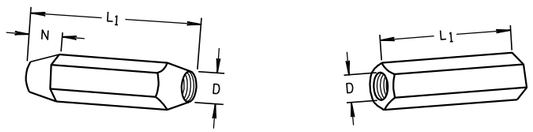
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

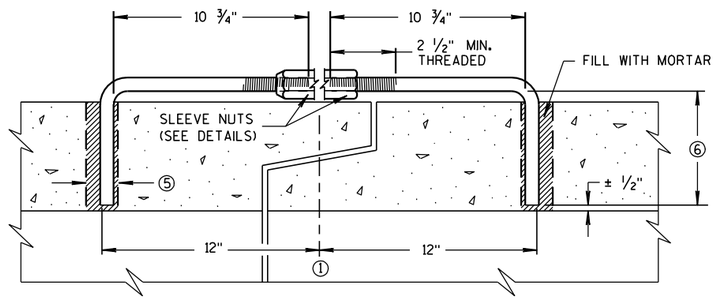
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

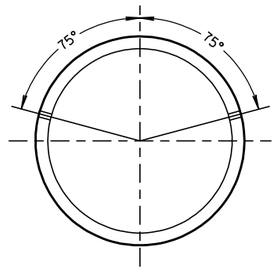
SLEEVE NUTS



LONGITUDINAL SECTION

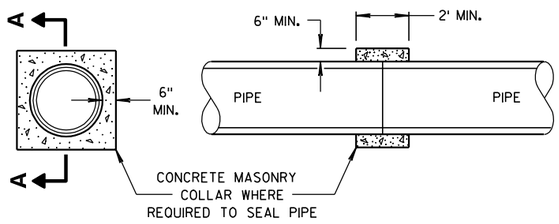
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

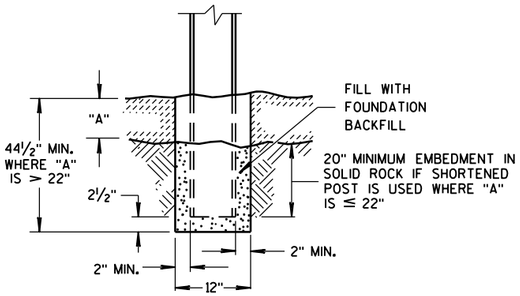
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

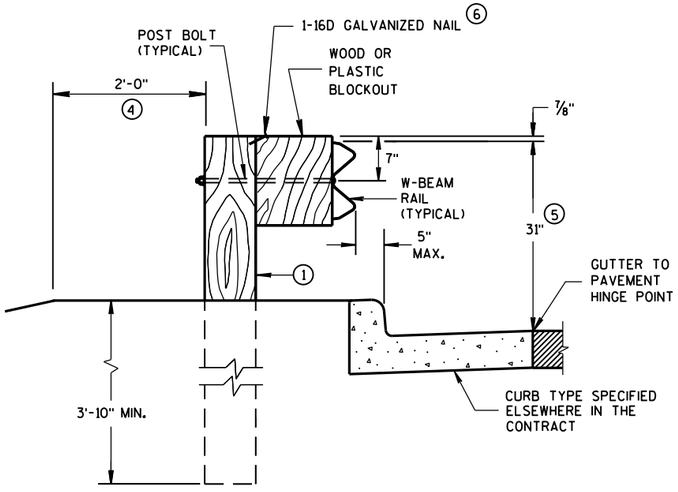
④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

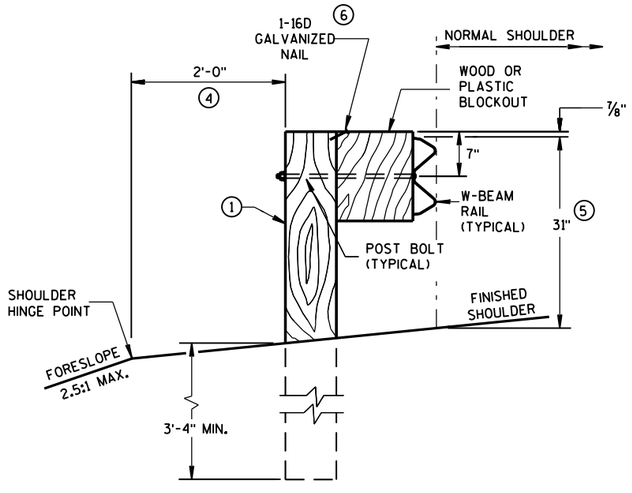
⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



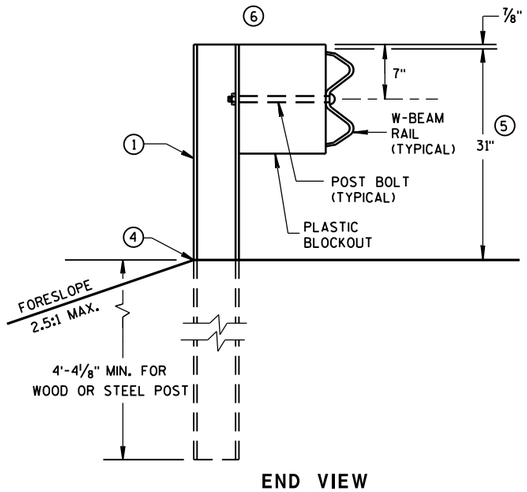
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



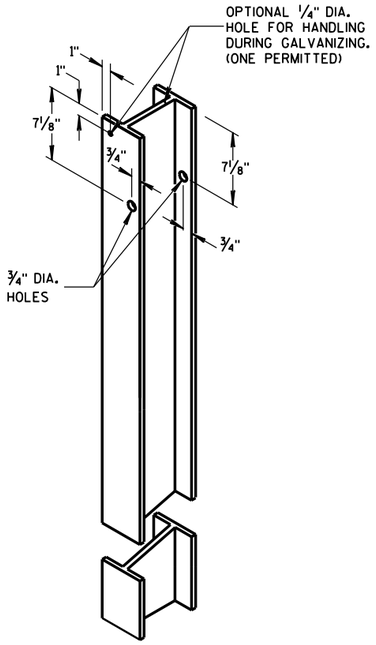
END VIEW
LOCATED ALONG A CURBED ROADWAY



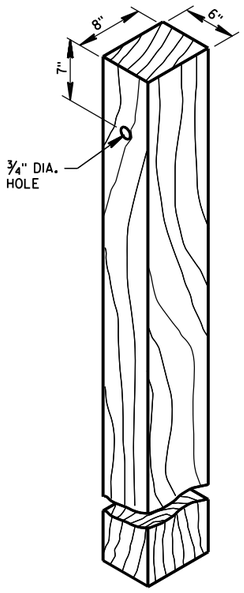
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



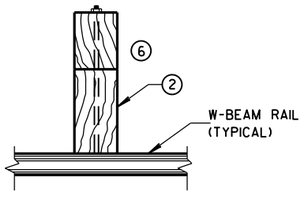
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



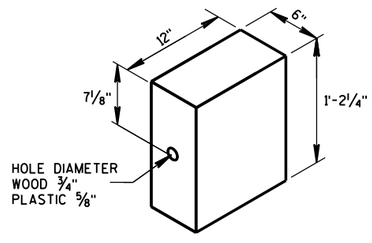
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



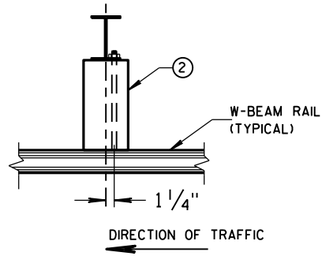
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



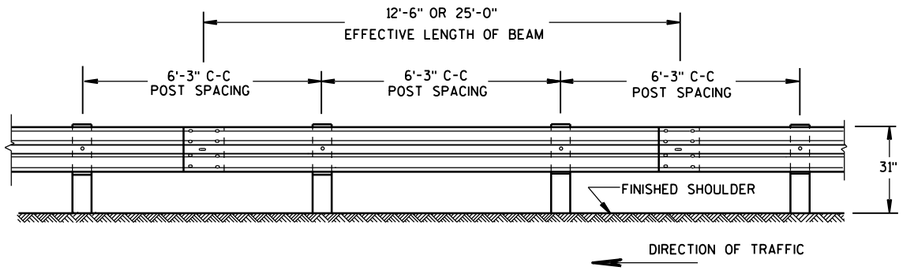
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

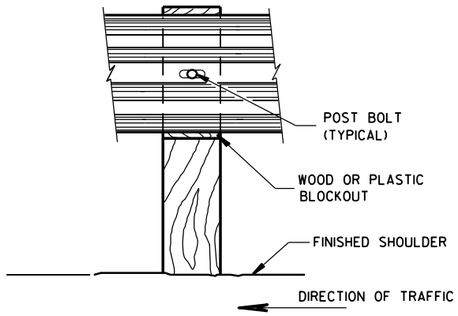
6

S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

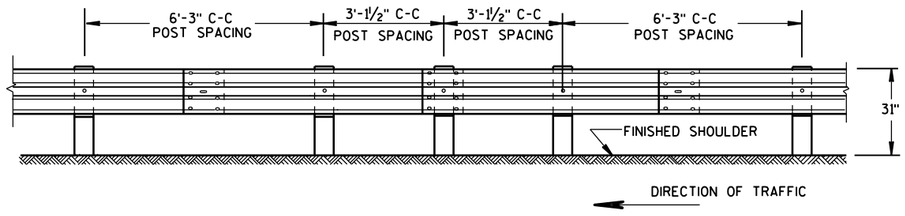
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

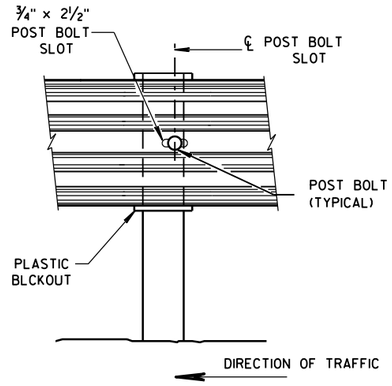
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

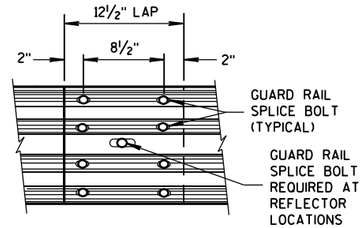


FRONT VIEW

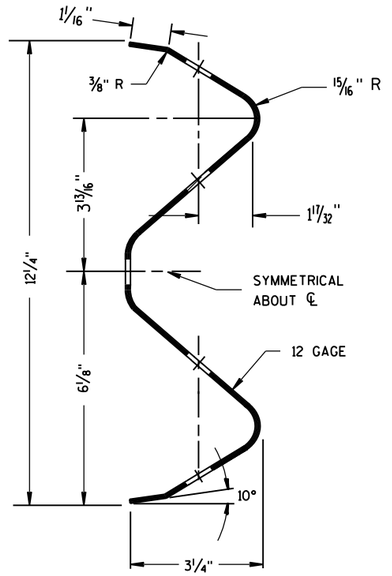
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



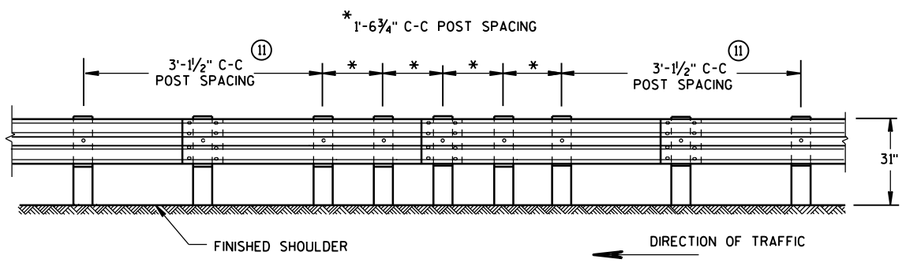
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

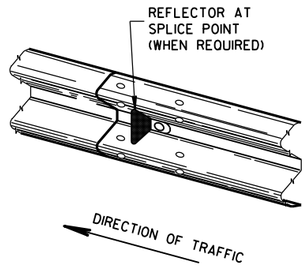


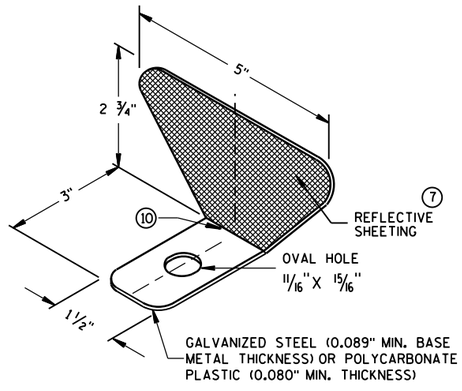
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (9) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (10)	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

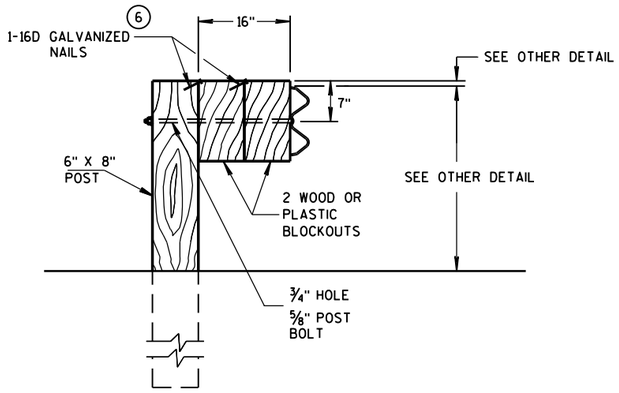
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 42-4b

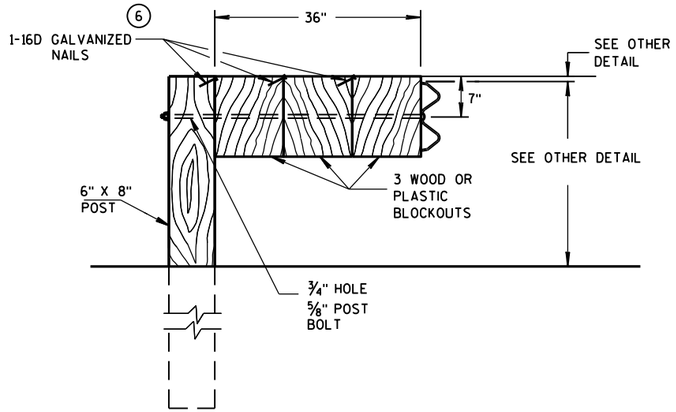
6

S.D.D. 14 B 42-4b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

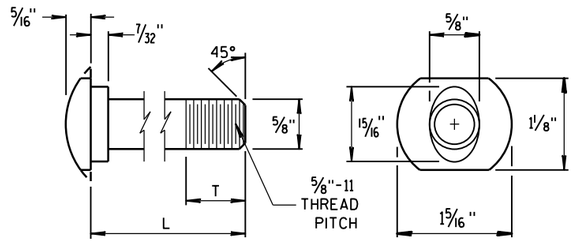


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

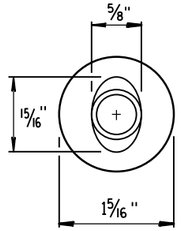
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

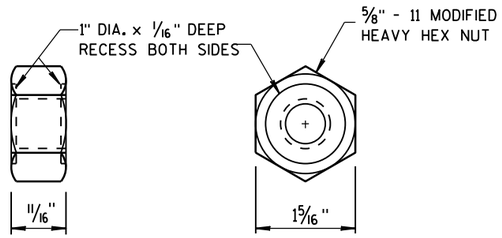


POST BOLT TABLE

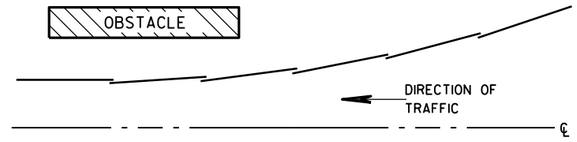
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

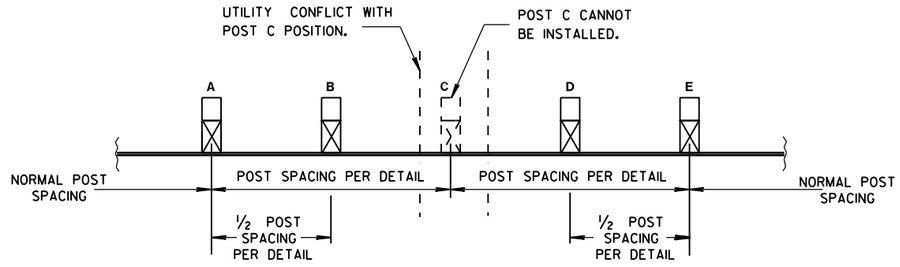


POST BOLT, SPLICE BOLT AND RECESS NUT

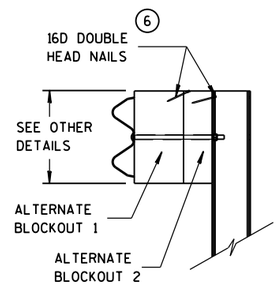


PLAN VIEW

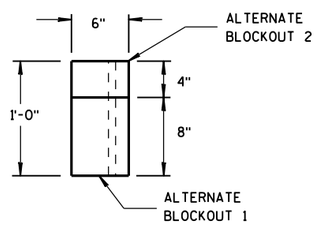
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-4c

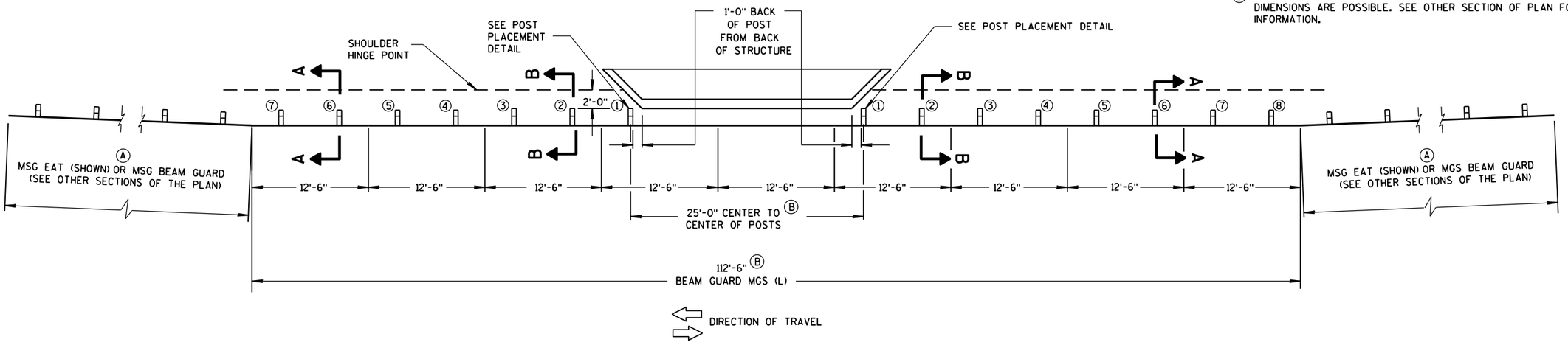
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

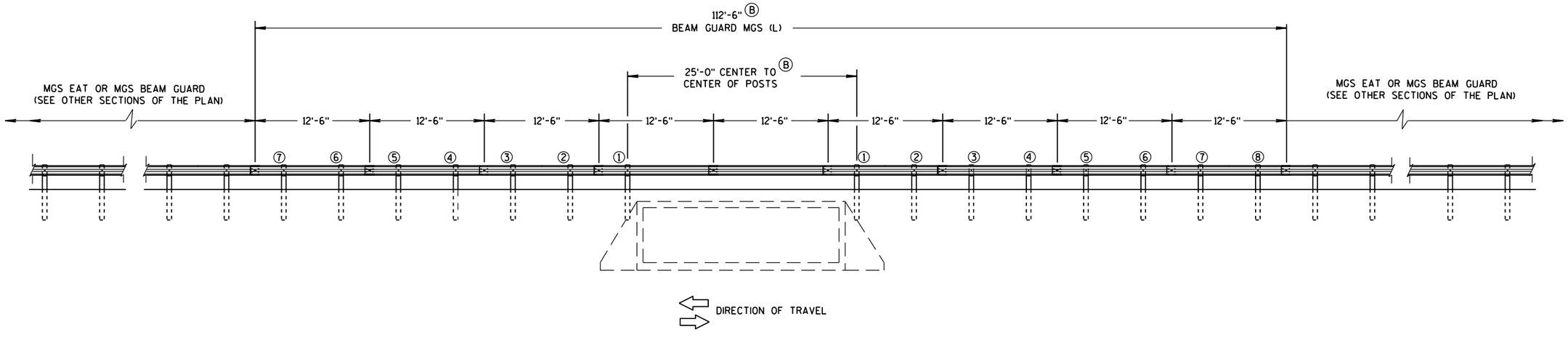
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 43-3a

6

S.D.D. 14 B 43-3a

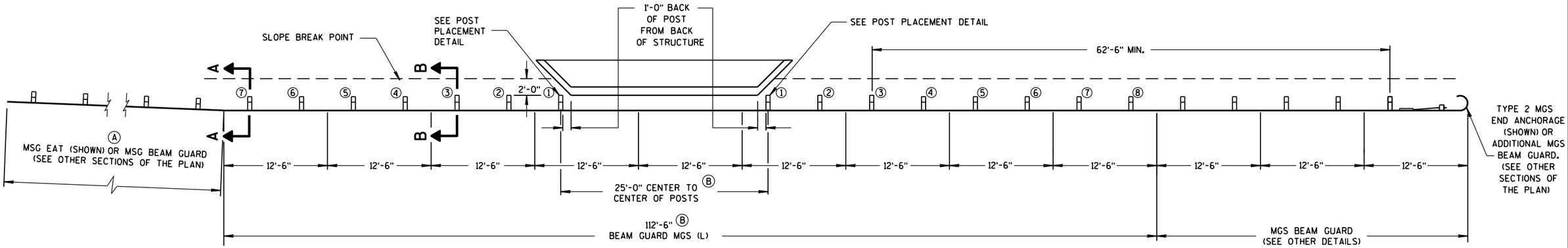
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

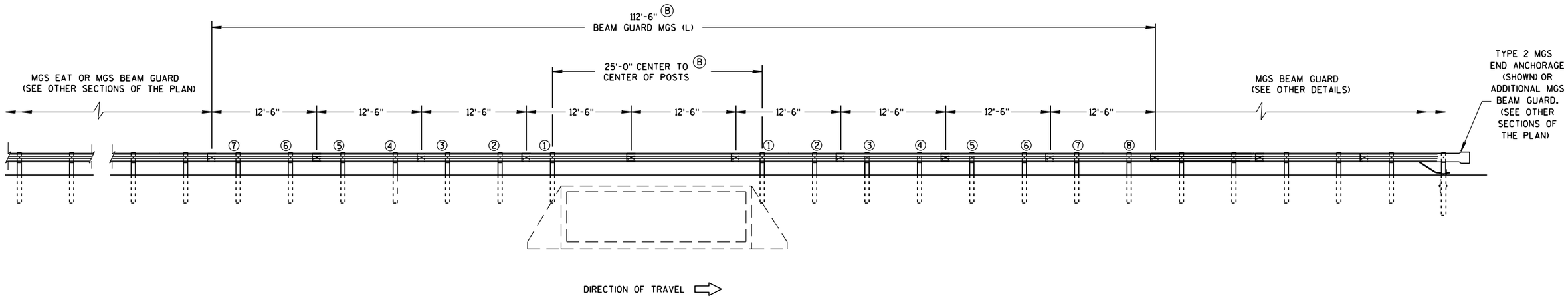
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



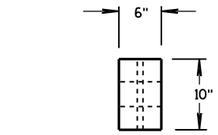
ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

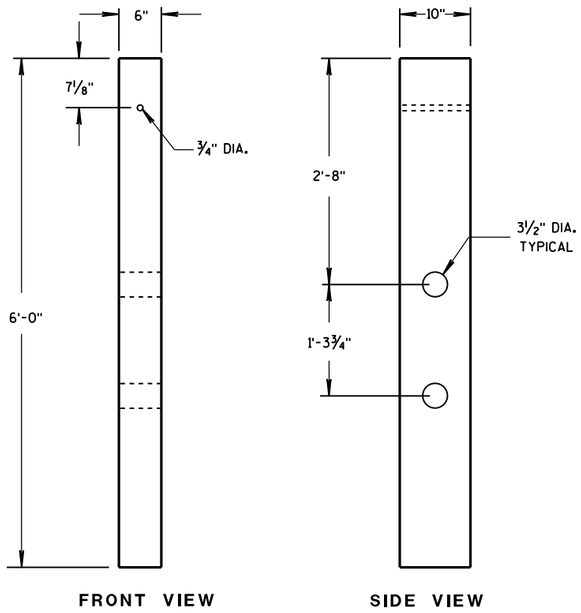
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 43-3b

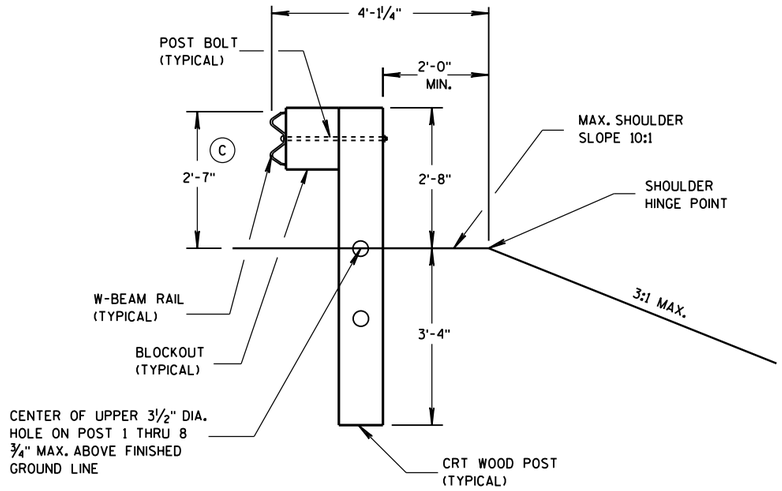


PLAN VIEW



FRONT VIEW SIDE VIEW

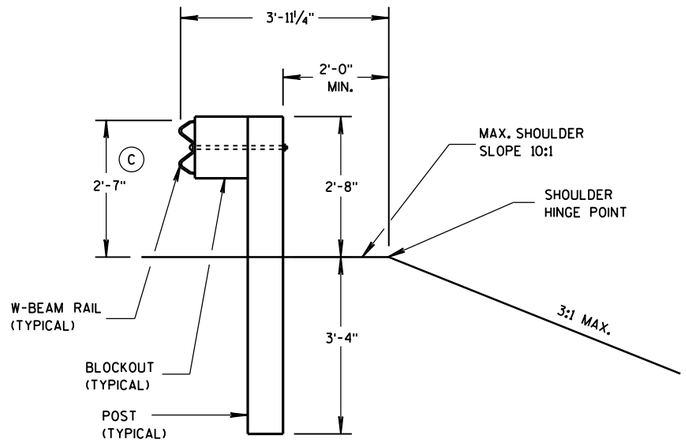
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



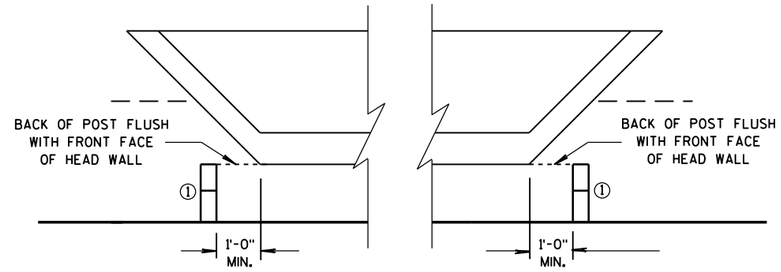
SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

(C) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6
S.D.D. 14 B 43-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

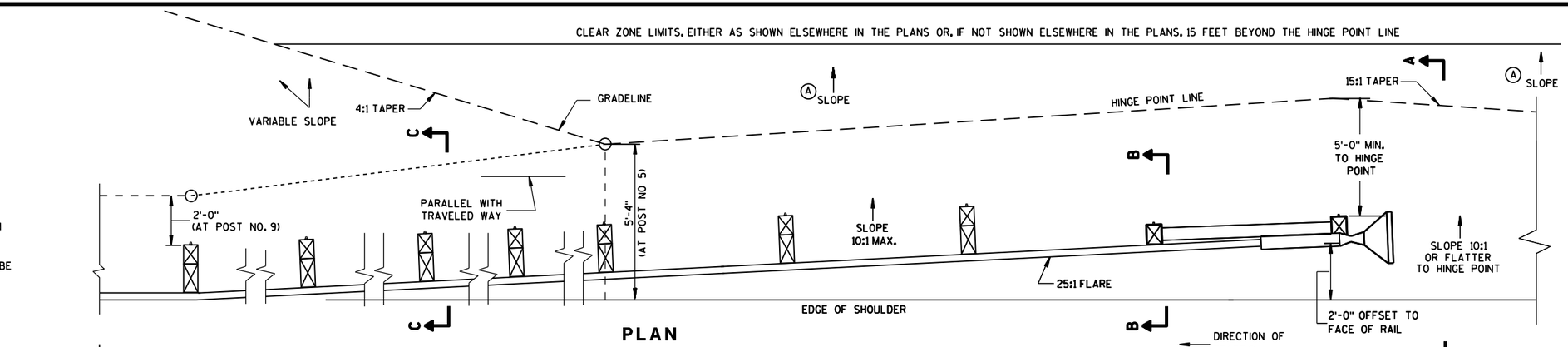
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

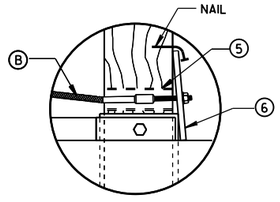
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

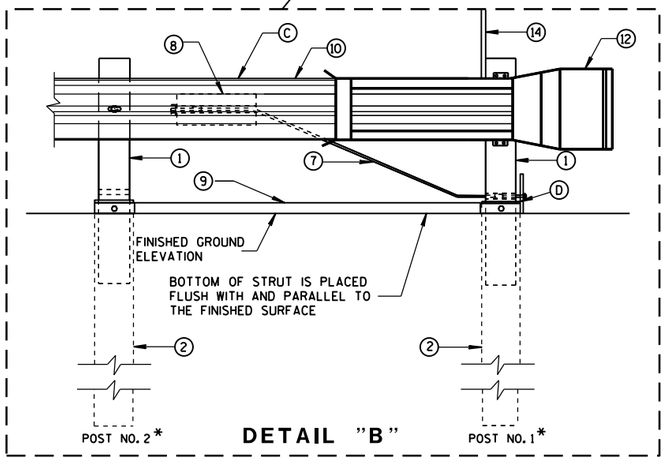
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

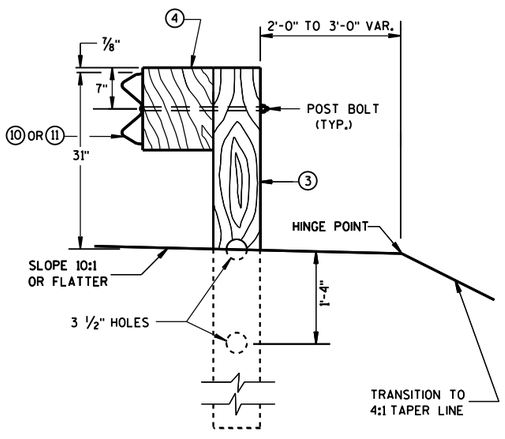
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



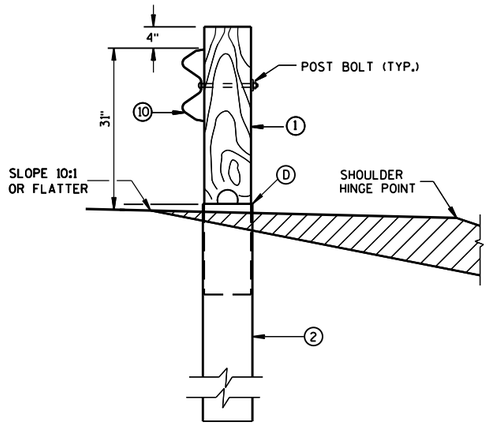
ELEVATION







SECTION C-C
TYPICAL AT POST NOS. 3-9



SECTION B-B
TYPICAL AT POST NO. 2*

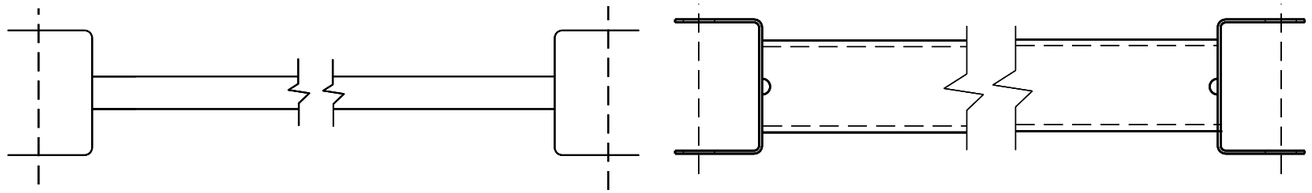
SECTION A-A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

S.D.D. 14 B 44-2a

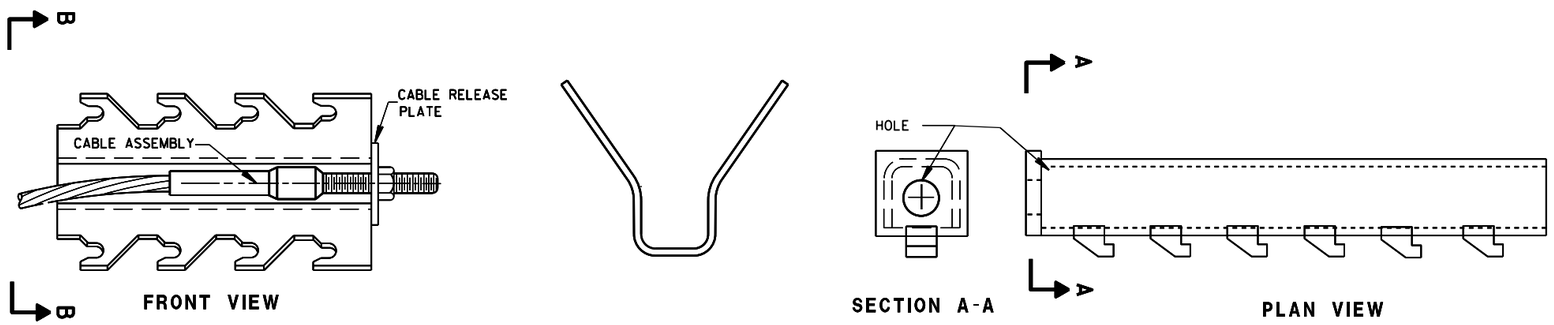


⑨ Ⓗ

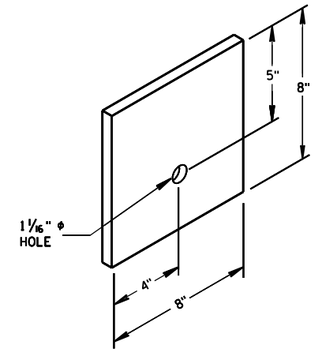
GENERIC GROUND STRUT

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX ⑧ Ⓗ



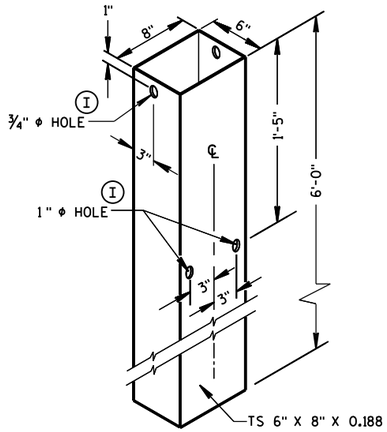
BEARING PLATE ⑥

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

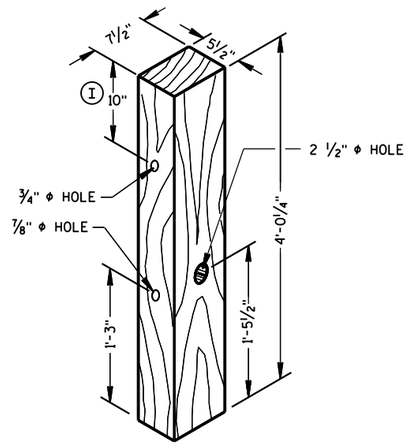
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 44-2b

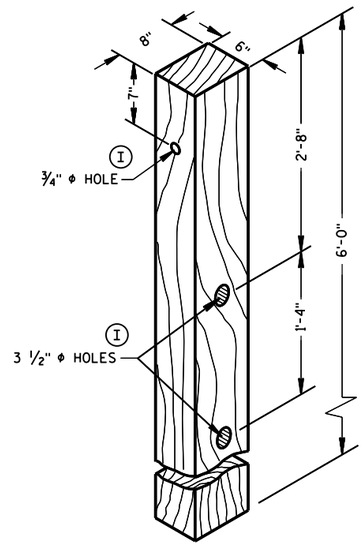


FOUNDATION TUBE (2)



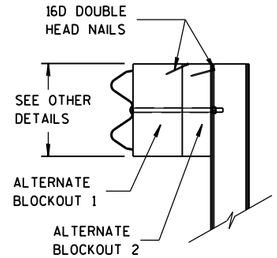
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

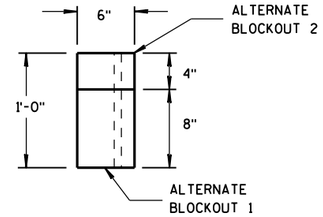


POSTS NUMBER 3-9

WOOD CRT POST (3)

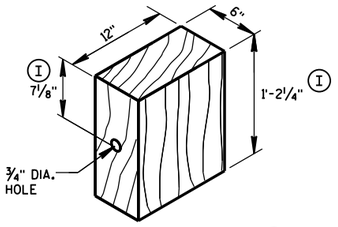


SIDE VIEW



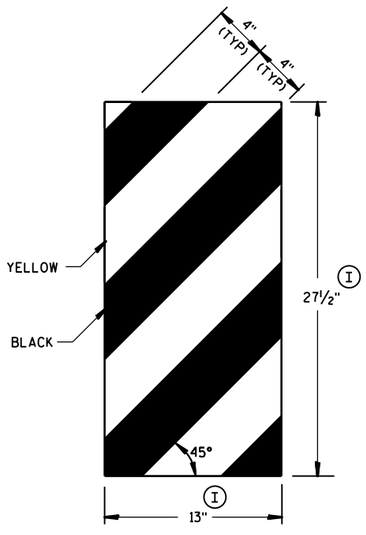
TOP VIEW

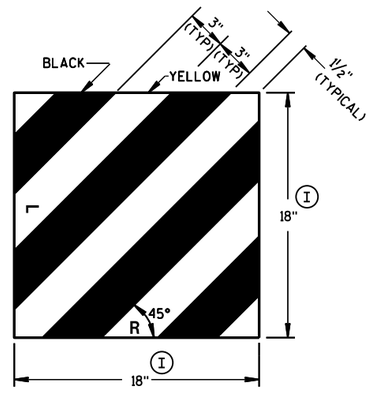
ALTERNATE WOOD BLOCKOUT DETAIL



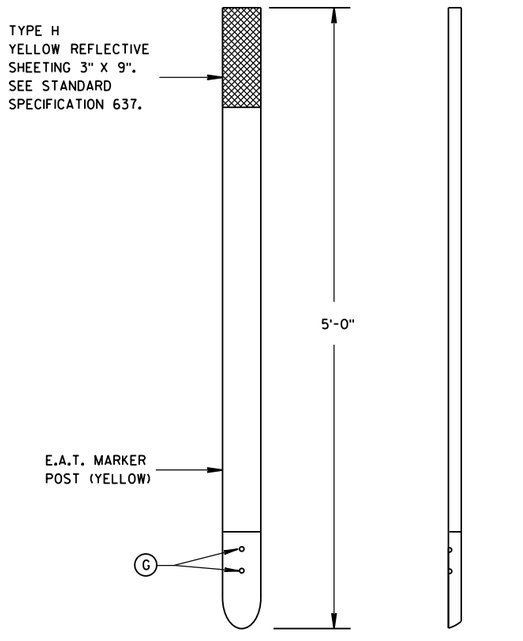
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





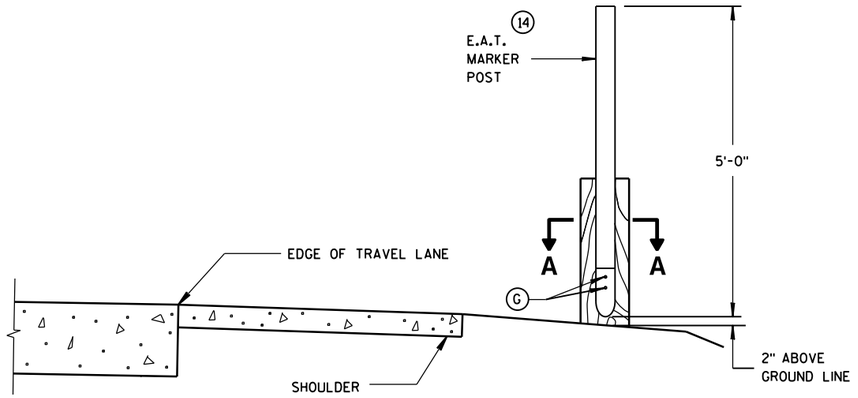
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

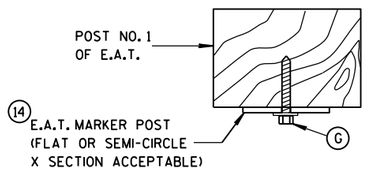
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

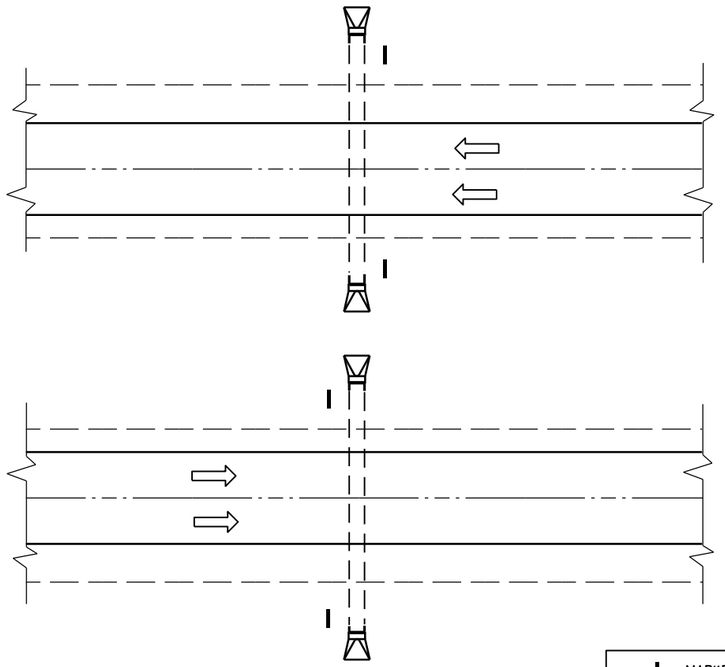
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

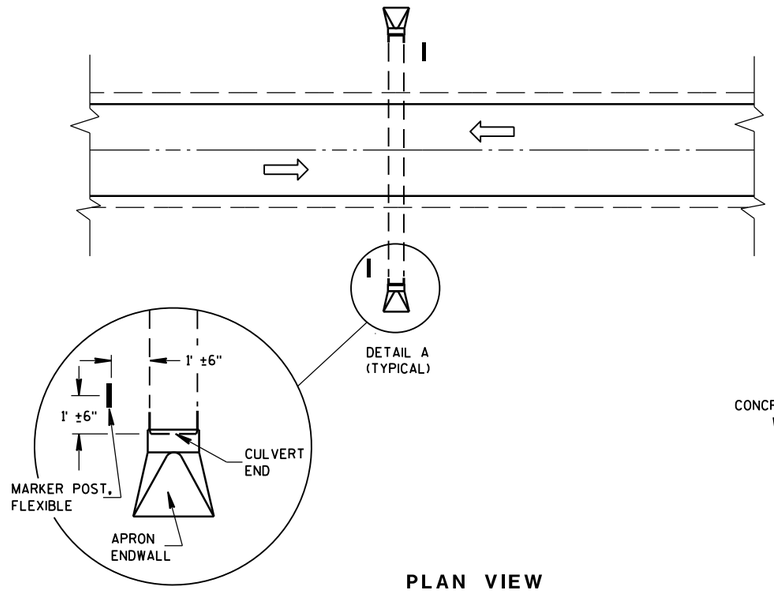
6

S.D.D. 14 B 44-2c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

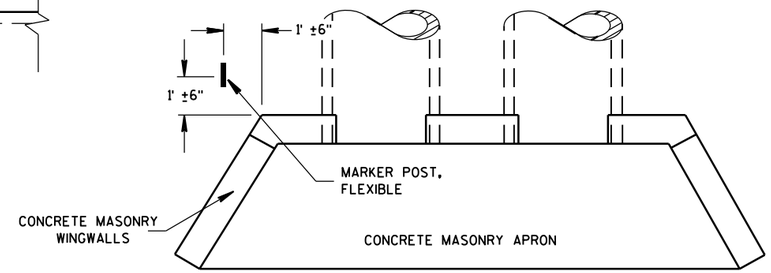
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

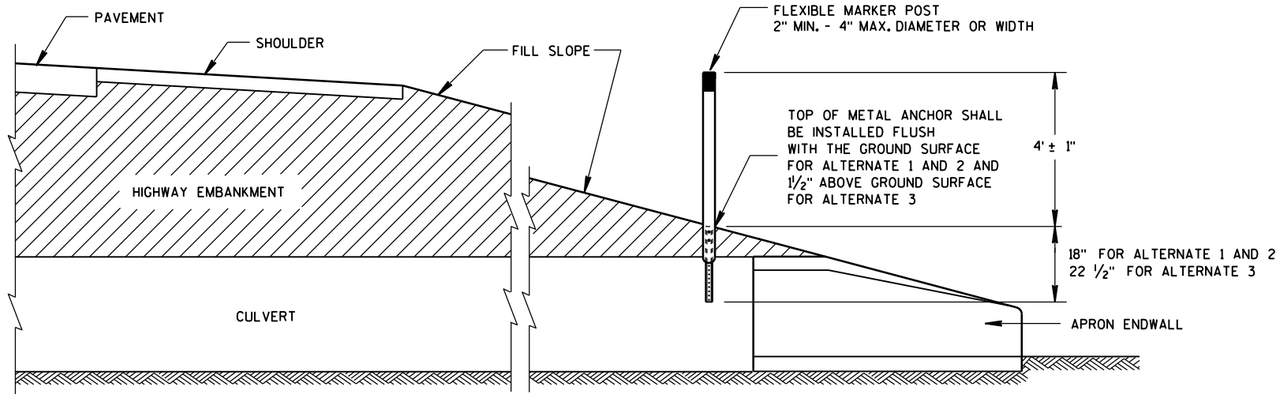
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

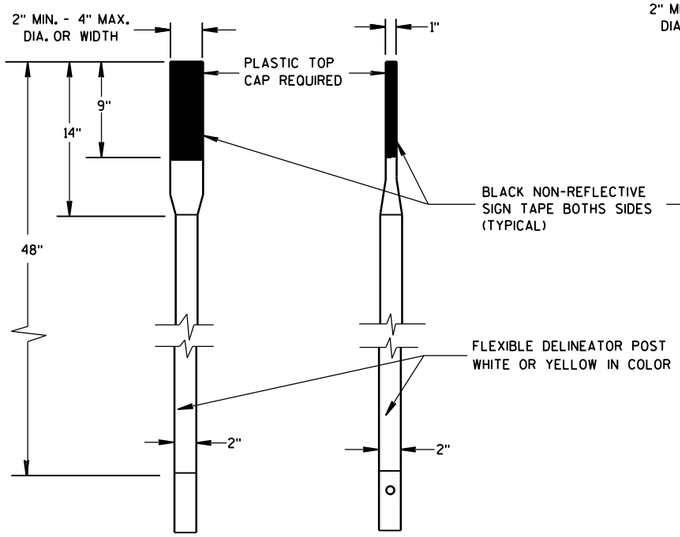
FLEXIBLE MARKER POST

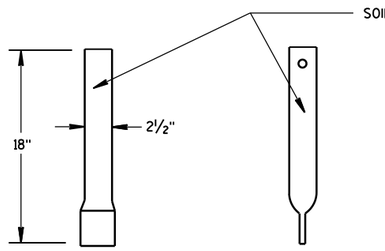
FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

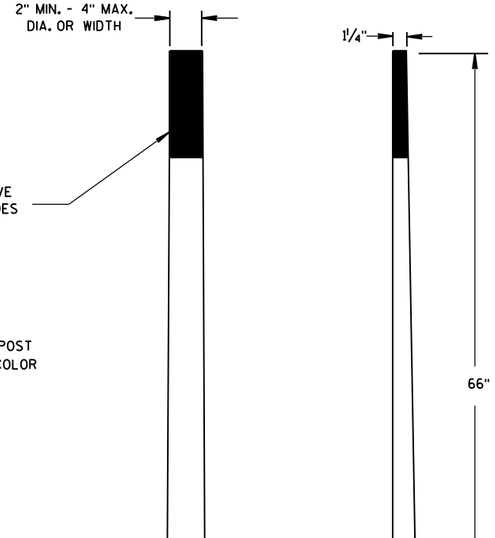
S.D.D. 15 A 3-2a





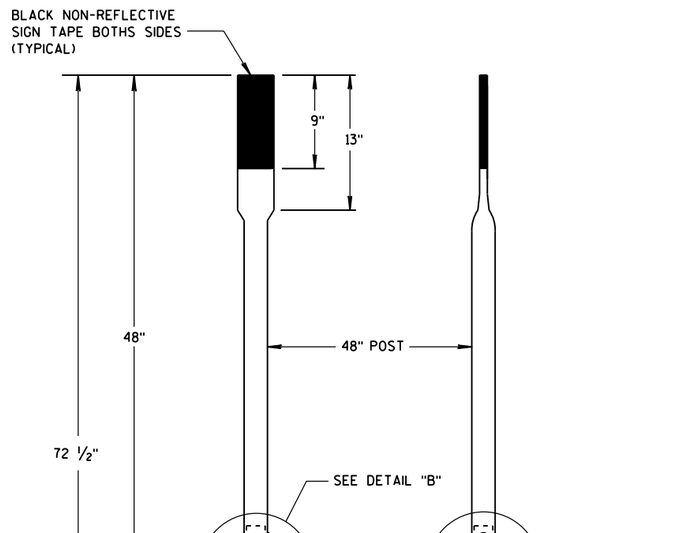
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

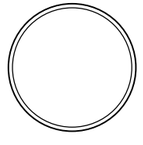
ALTERNATE 2



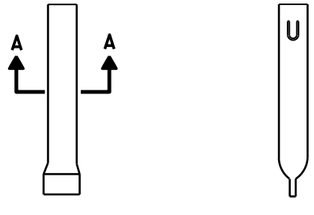
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

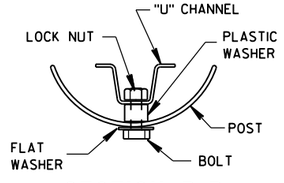


SECTION A-A

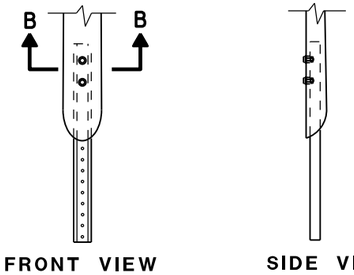


FRONT VIEW SIDE VIEW

ALTERNATE 1

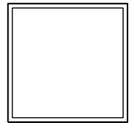


SECTION B-B

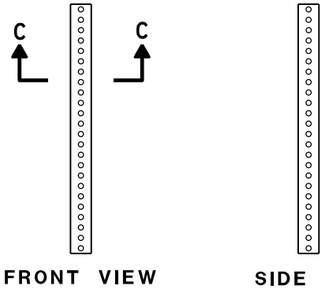


FRONT VIEW SIDE VIEW

ALTERNATE 2



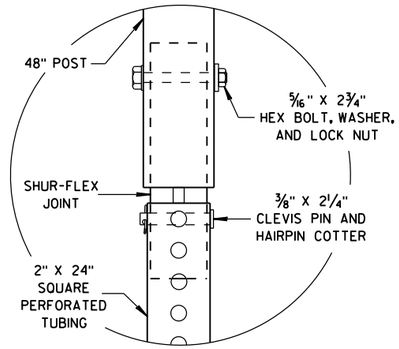
SECTION C-C



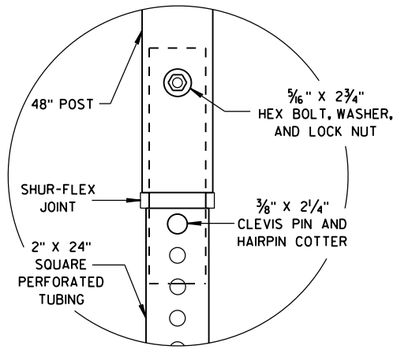
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

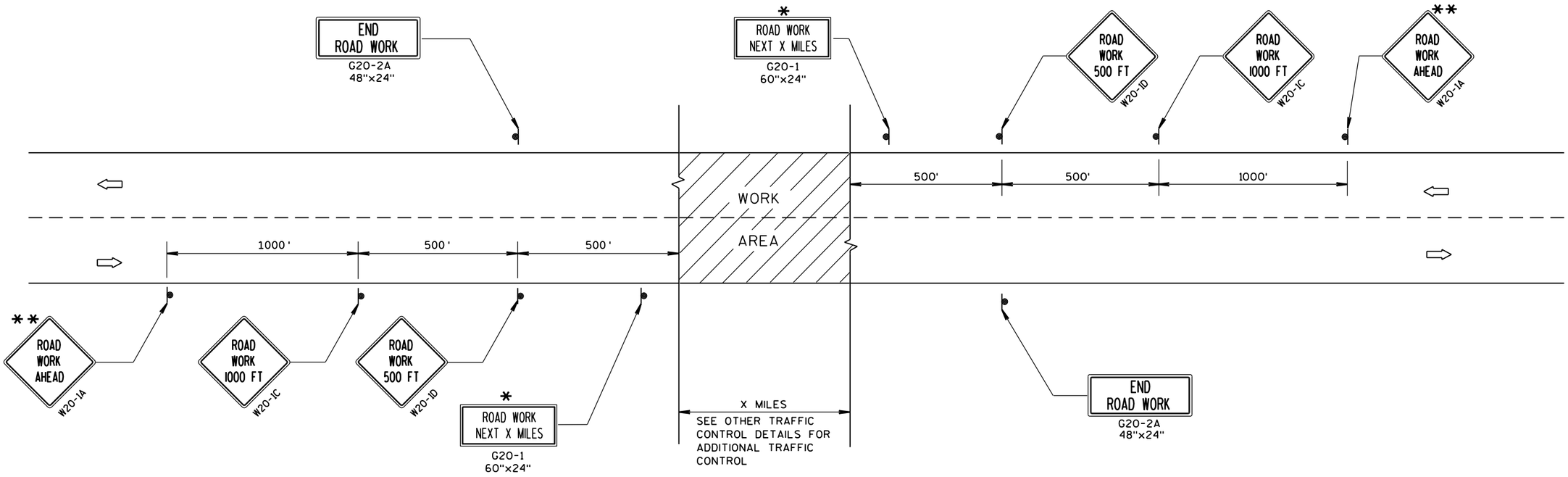
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

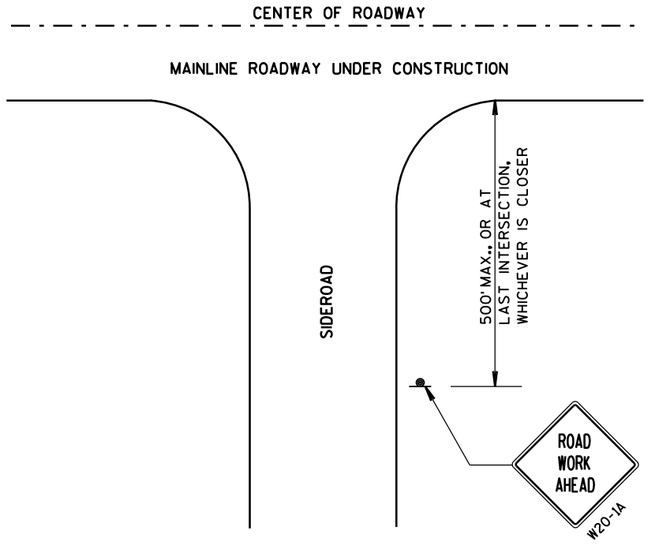
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

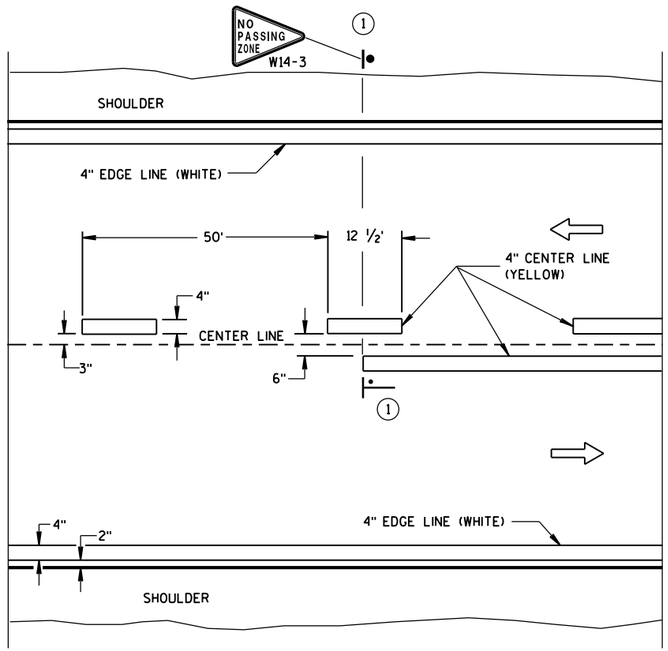
FHWA

6

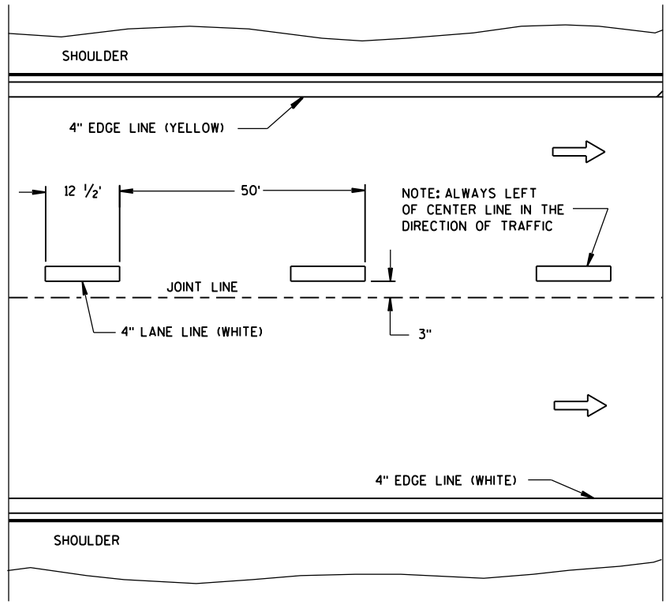
S.D.D. 15 C 4-3

6

S.D.D. 15 C 4-3



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

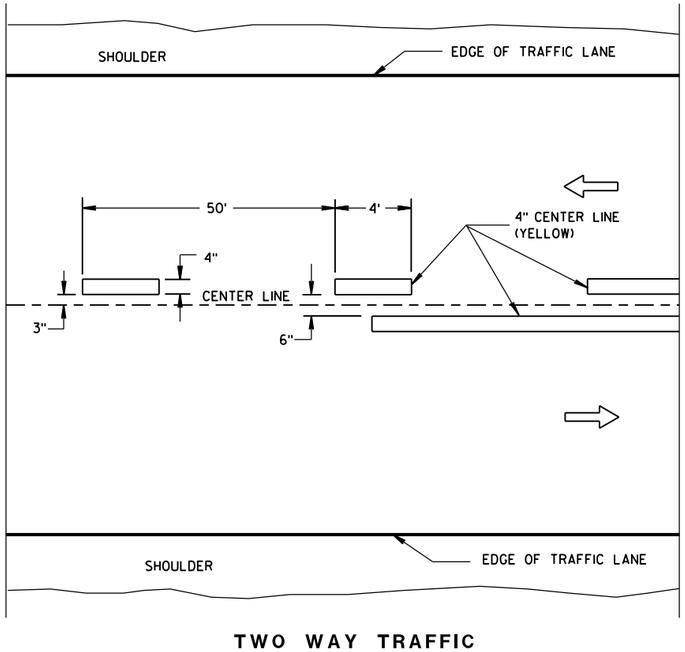
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

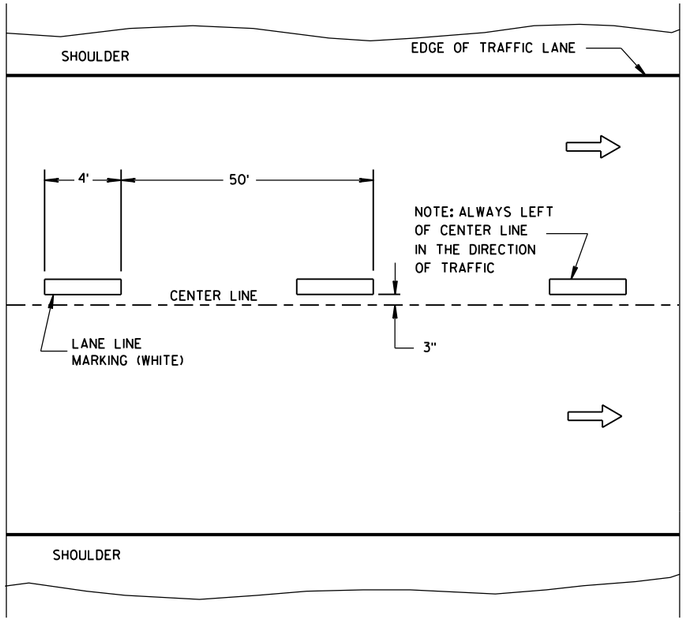
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]INEER
FHWA

6

S.D.D. 15 C 8-17a

6

S.D.D. 15 C 8-17a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

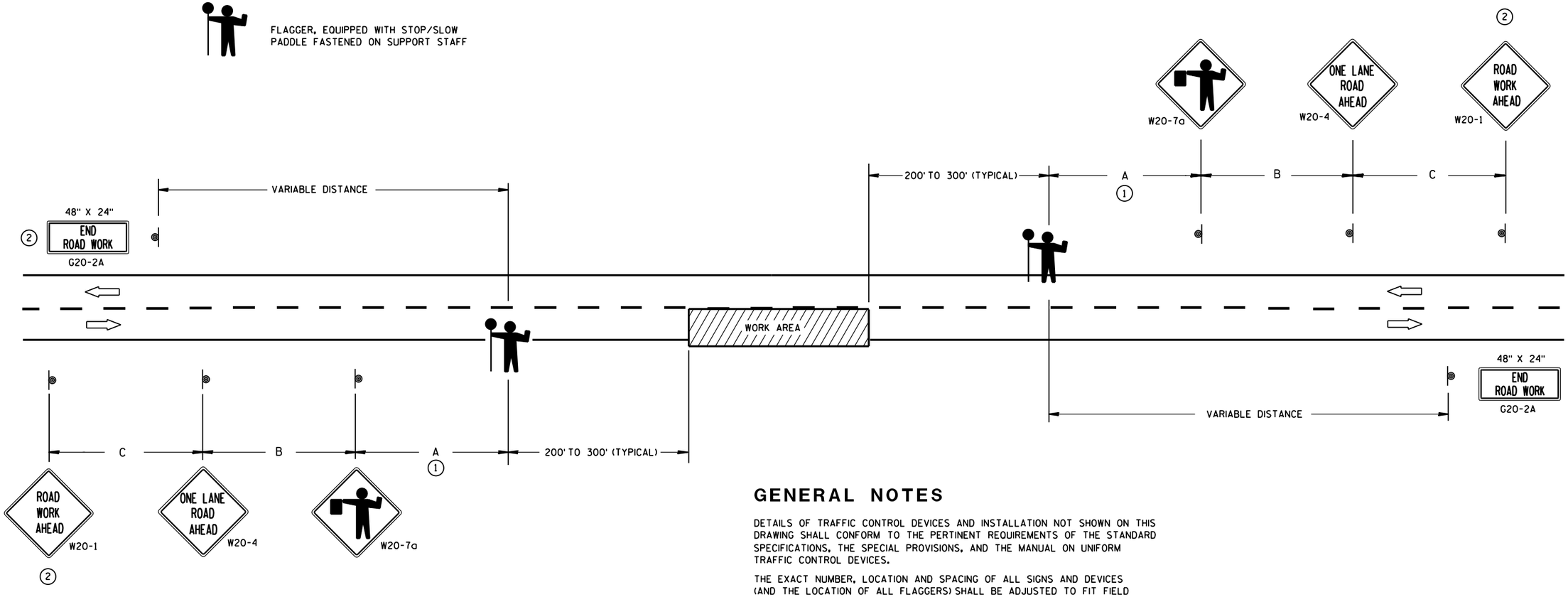
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

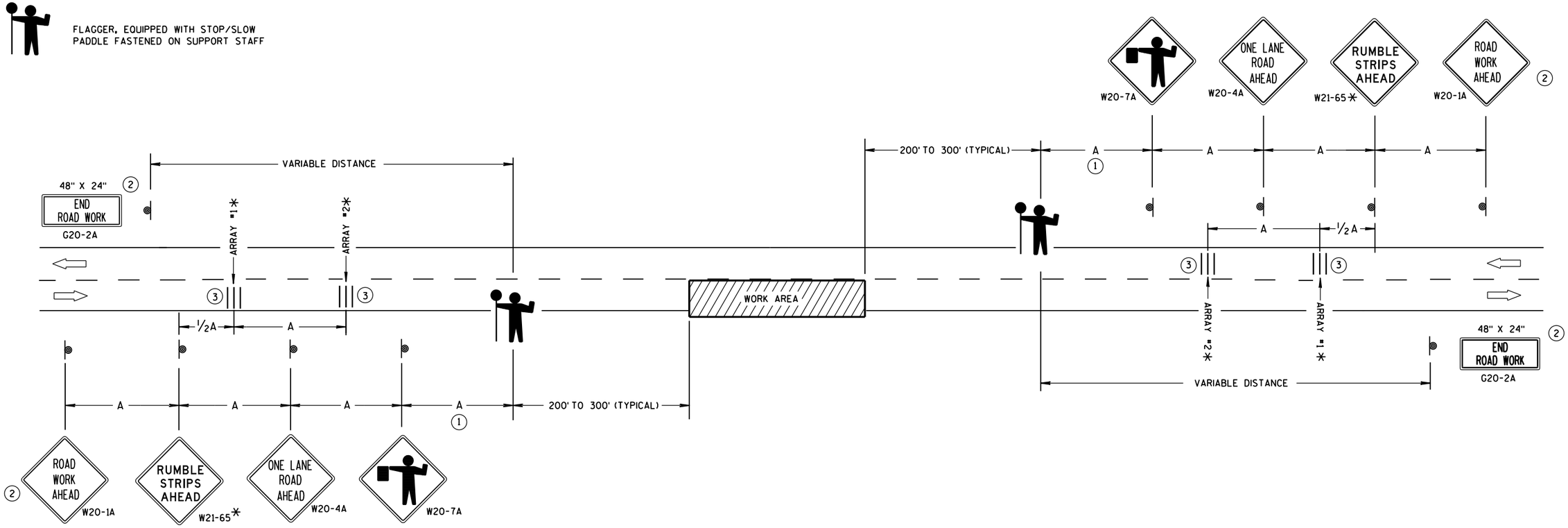
LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

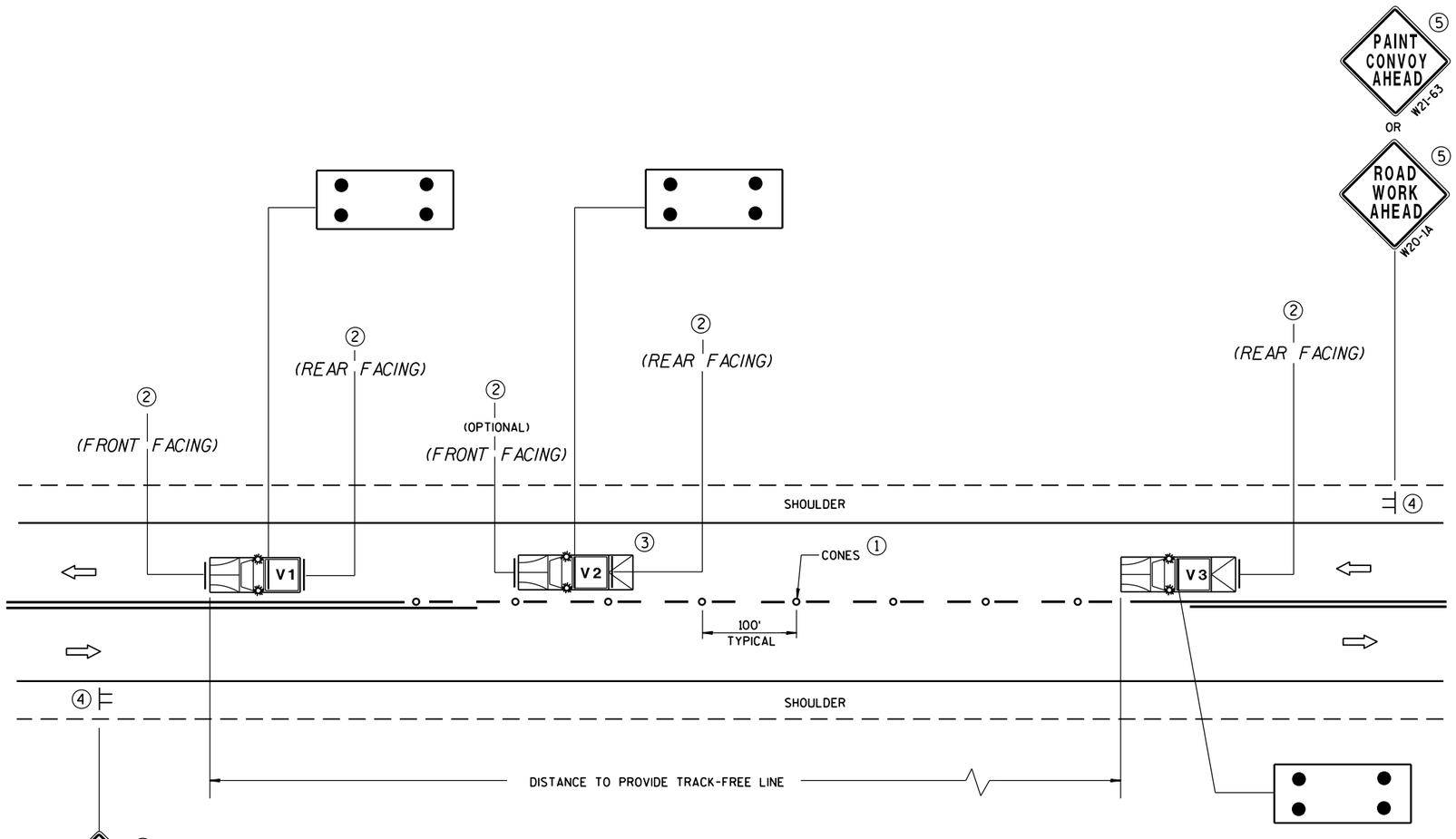
(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Andrew Heldtke
DATE — WORK ZONE ENG
FHWA

6
S.D.D. 15 C 12-5



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZON SAFETY ENGINE
FHWA

6

S.D.D. 15 C 19-4a

6

S.D.D. 15 C 19-4a

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

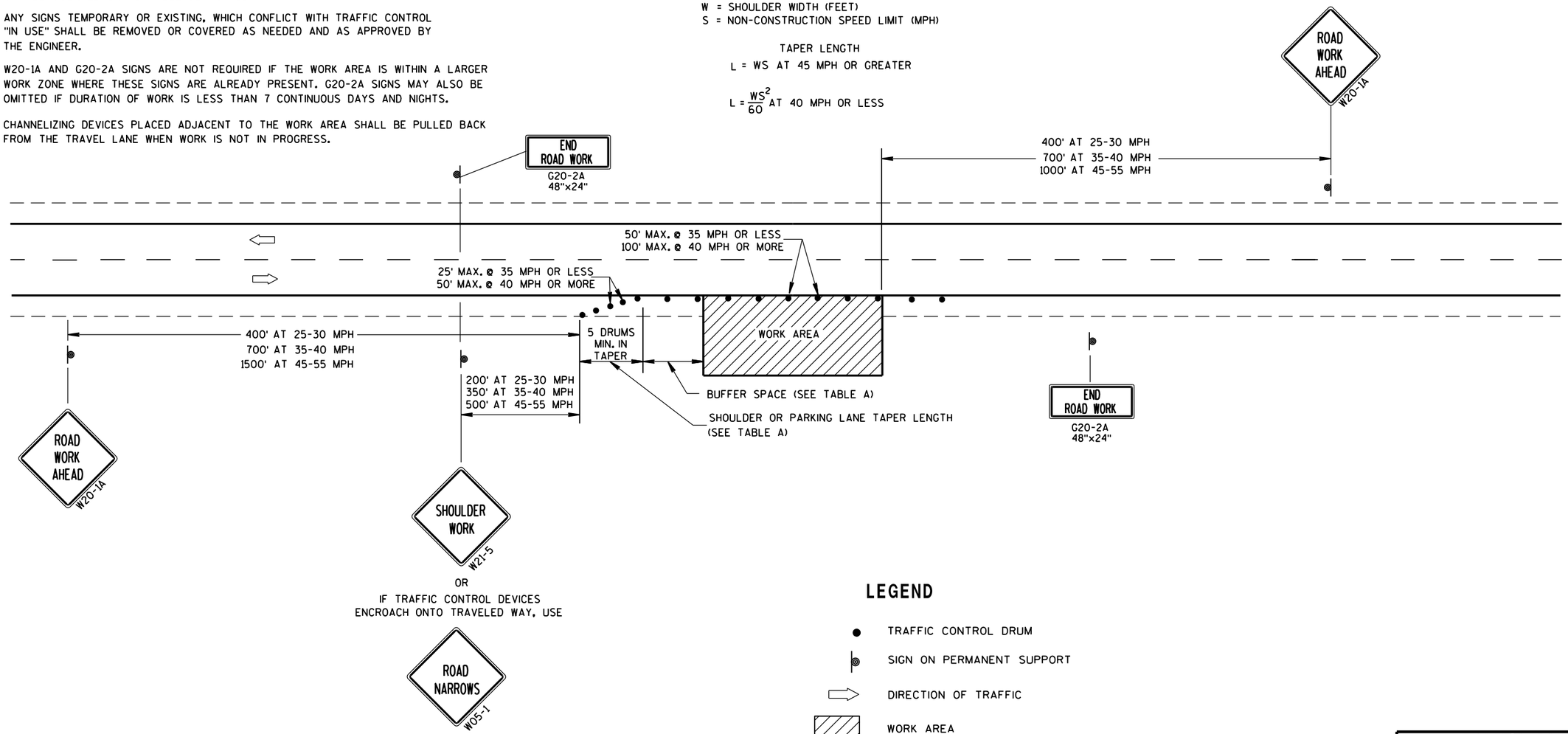
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

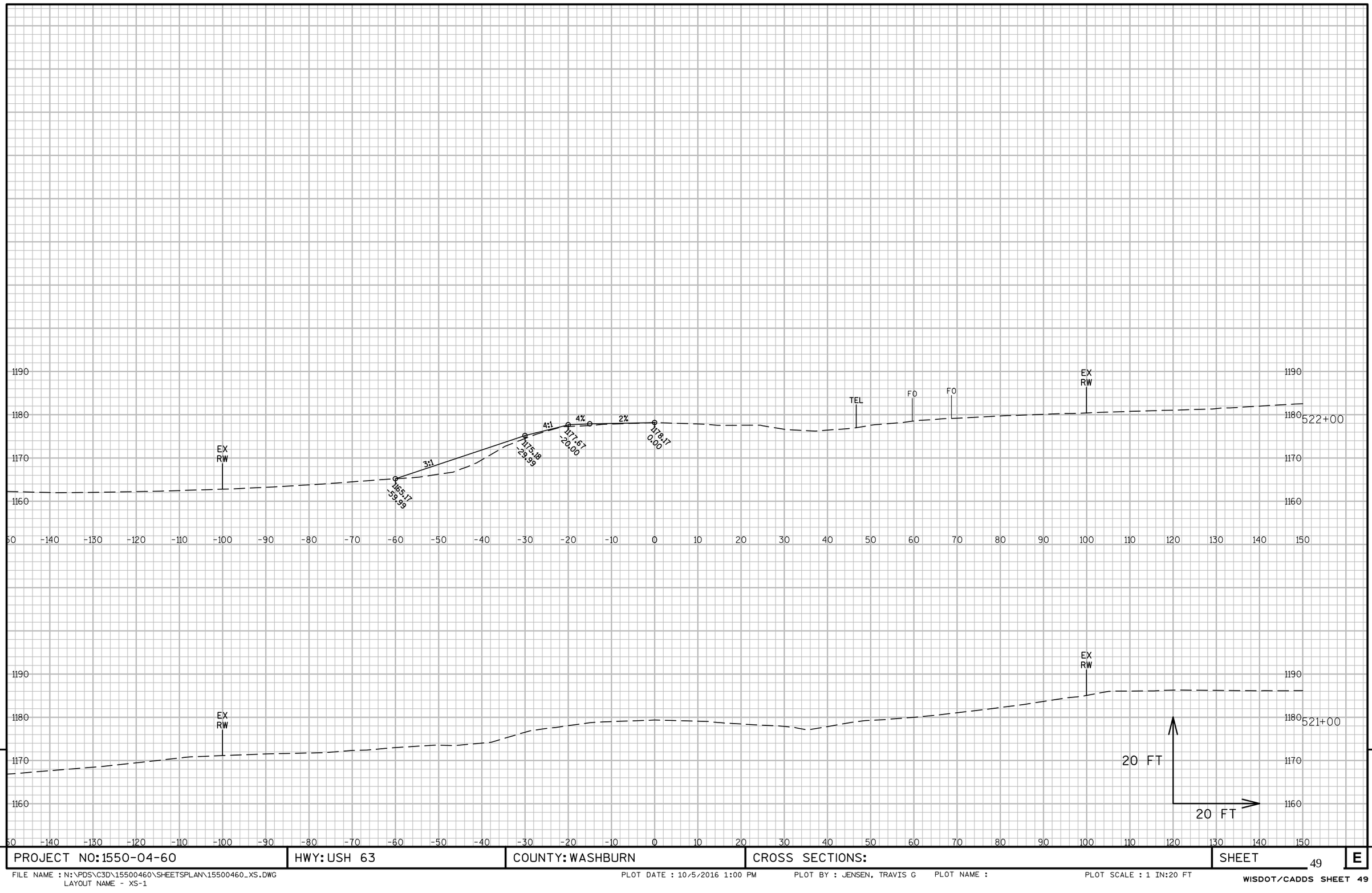
FHWA

6

S.D.D. 15 D 28-3

6

S.D.D. 15 D 28-3



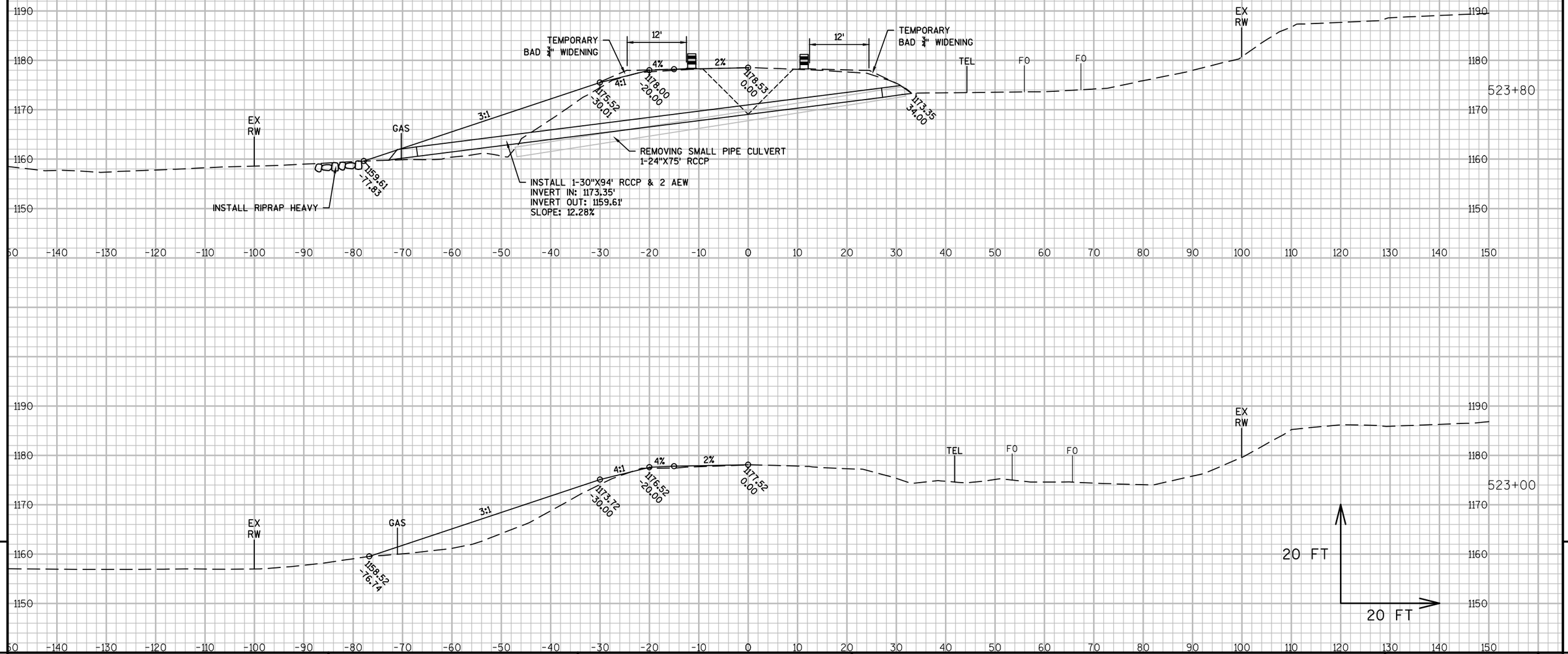
9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 49	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-1

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



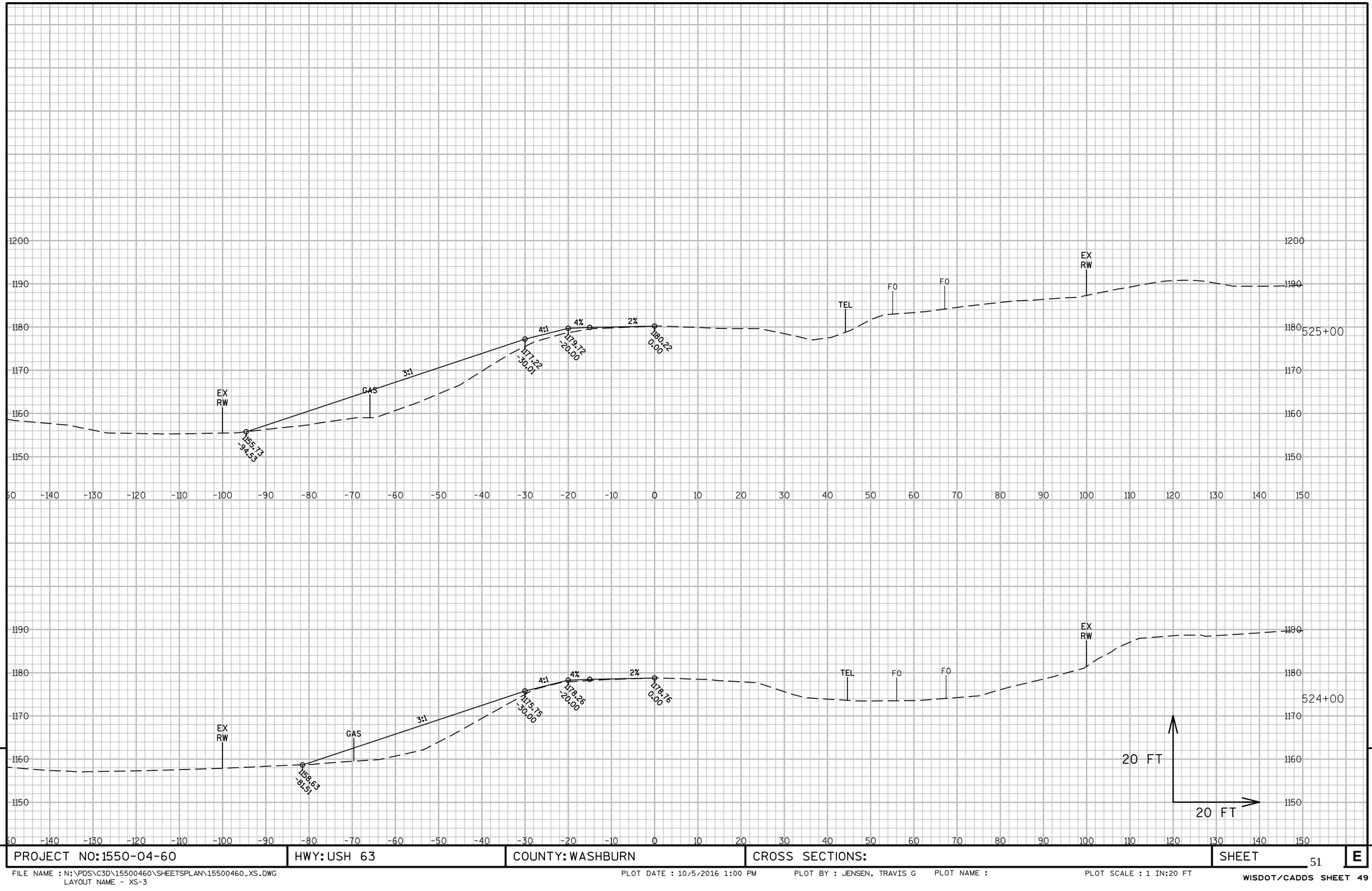
9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 50	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-2

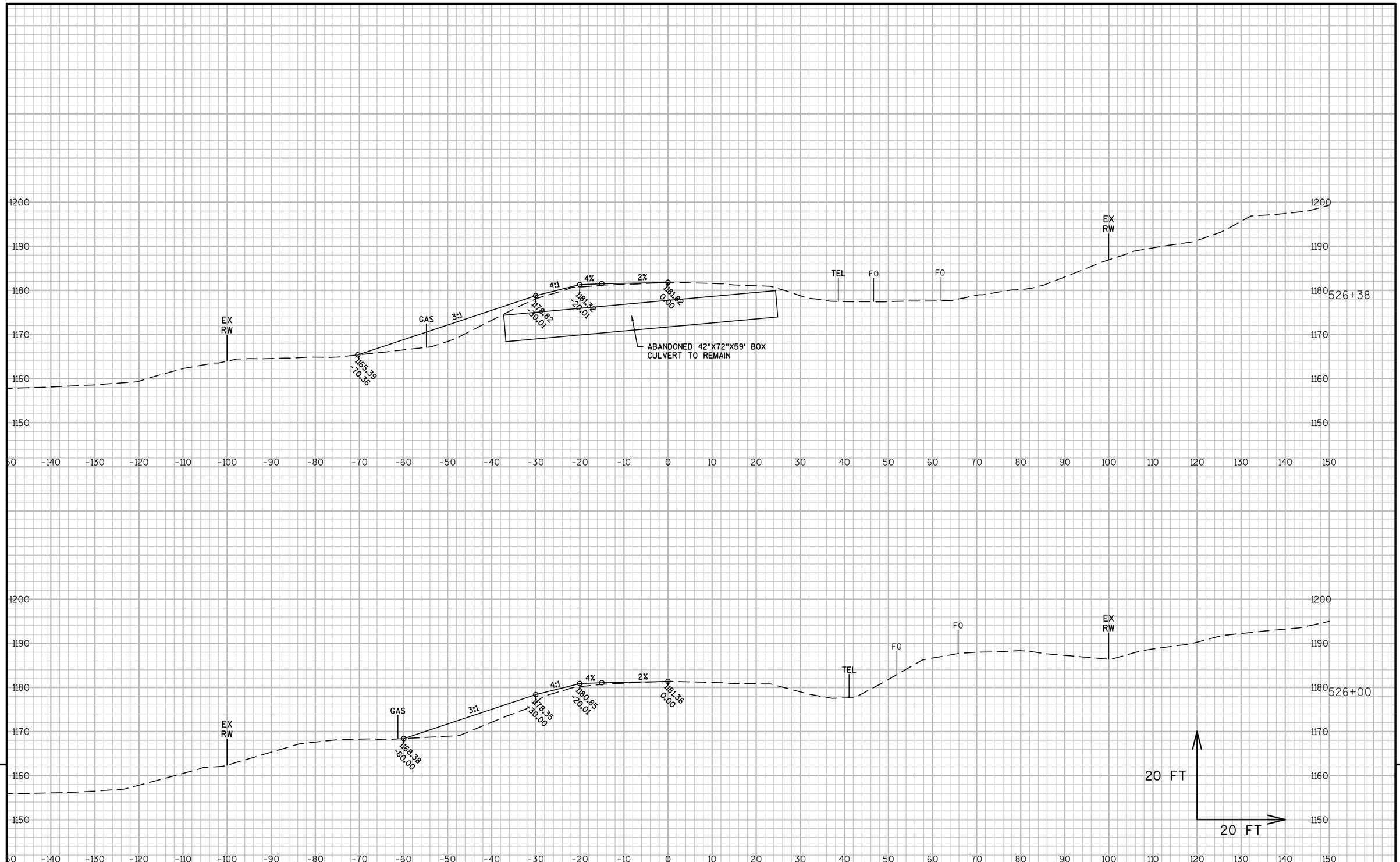
PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 51	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-3

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



9 9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 52	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-4

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

GUARD RAIL TAPER POINT LT

EX RW

EX RW

555+83

GUARD RAIL TAPER POINT RT

EX RW

EX RW

555+46

END INSLOPE FILL LT

EX RW

GAS

TEL

FO

FO

EX RW

527+00

20 FT

20 FT

9

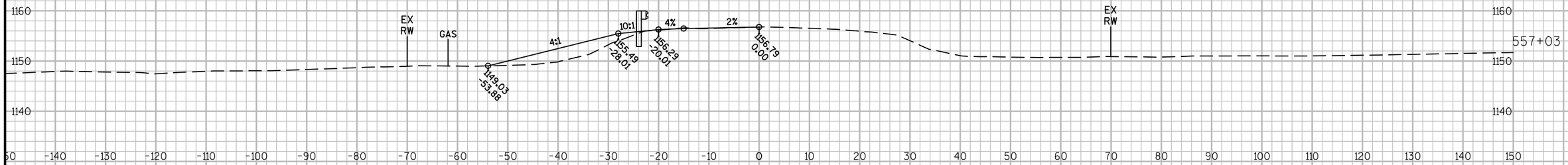
9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 53	E

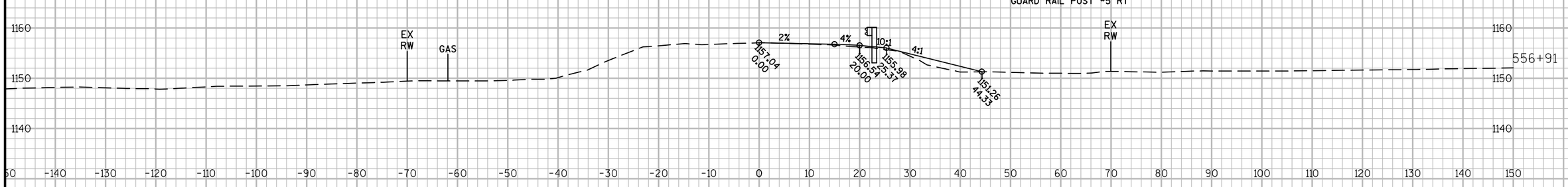
FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-5

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

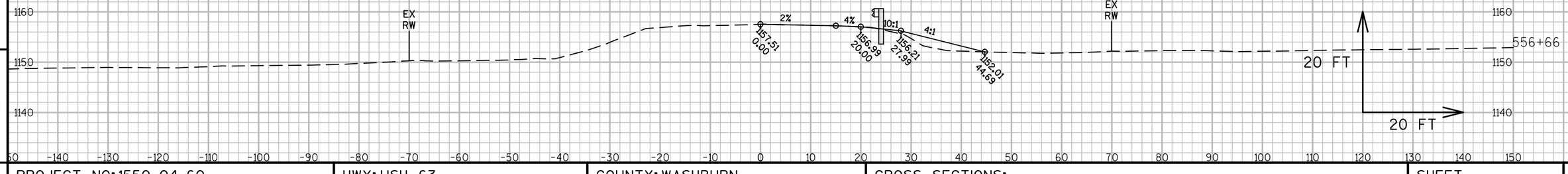
GUARD RAIL POST #1 LT



GUARD RAIL POST #5 RT



GUARD RAIL POST #1 RT

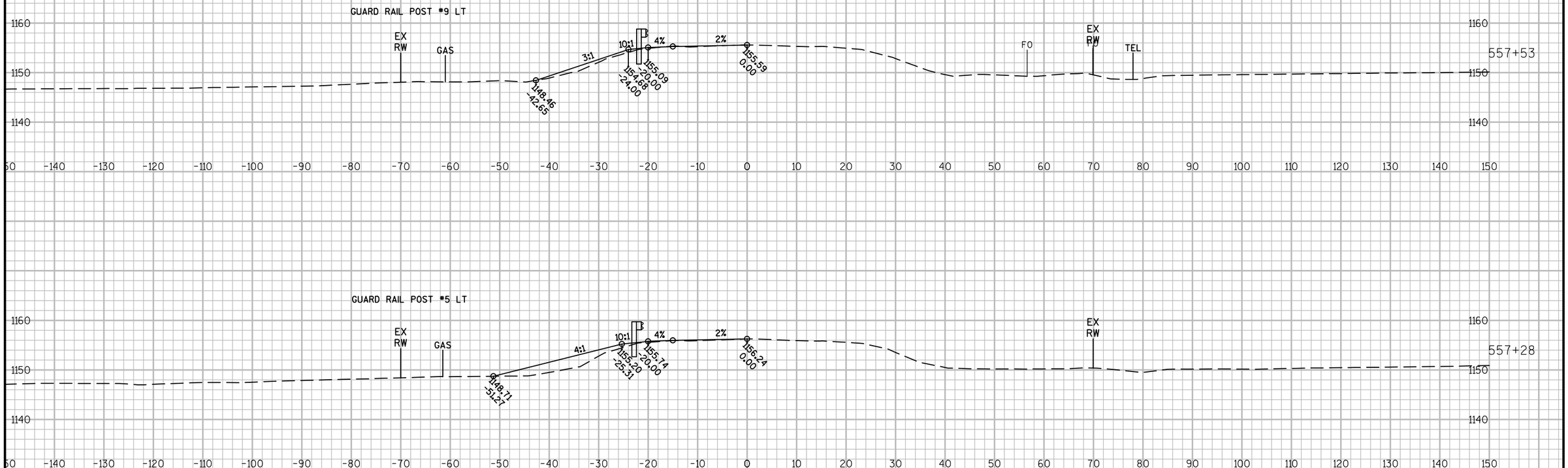


9 9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 54	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-6

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

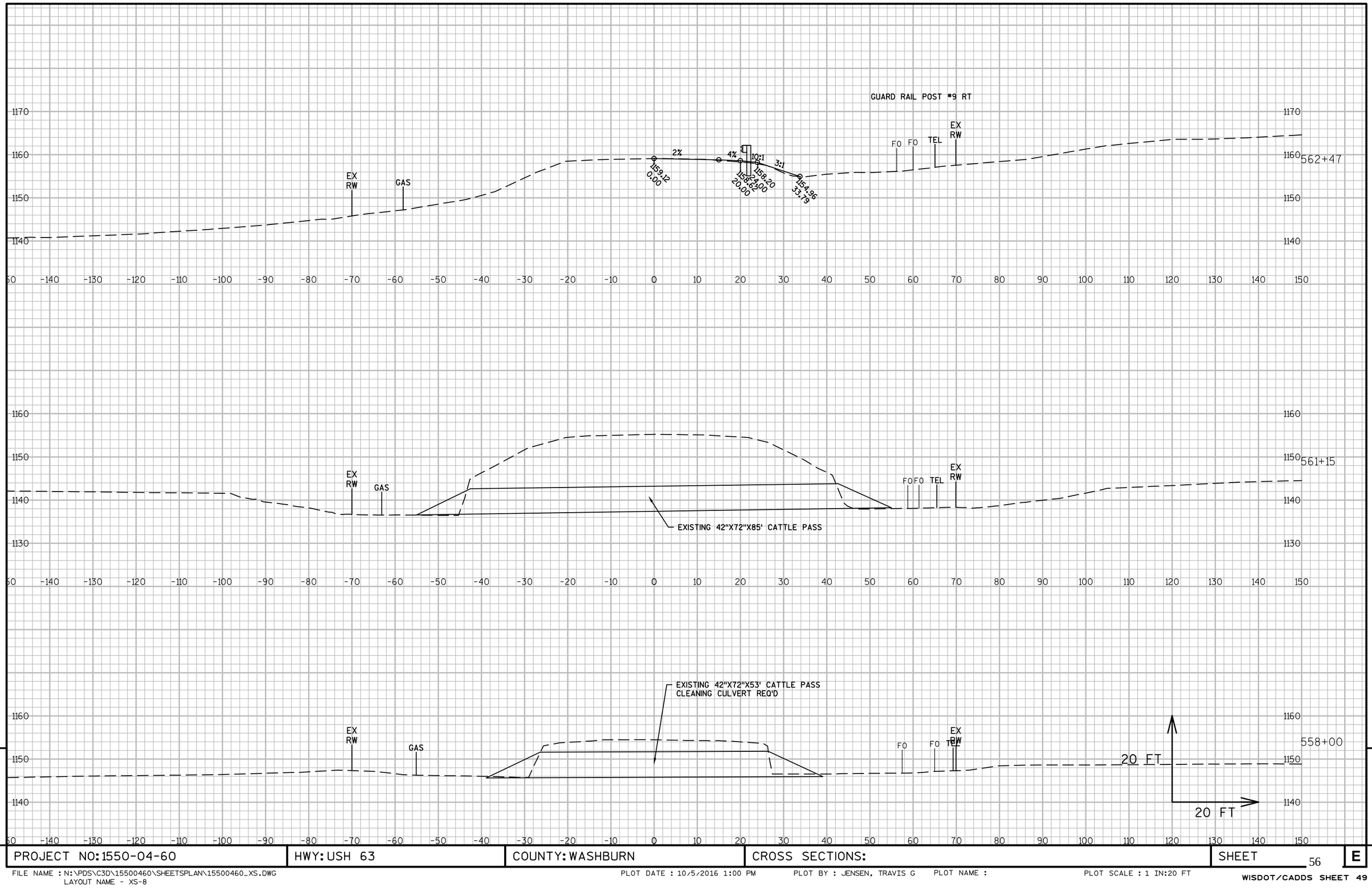


PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 55	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-7

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 56	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-8

PLOT DATE : 10/5/2016 1:00 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

GUARD RAIL POST *9 LT

EX RW

3:1 10:1 4% 2%

160.34 -30.40

162.45 -24.00

162.87 -20.00

163.37 0.00

EX RW

563+59

GUARD RAIL POST *1 RT

EX RW

EX RW

2% 4% 10:1 3:1

161.00 0.00

160.50 20.00

159.30 25.18

159.70 26.00

562+97

GUARD RAIL POST *5 RT

EX RW

EX RW

2% 4% 10:1 3:1

160.12 0.00

159.62 20.00

159.09 25.31

158.33 27.59

562+72

20 FT

20 FT

9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 57	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-9

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

GUARD RAIL TAPER POINT RT

EX RW

564+17

GUARD RAIL POST #1 LT

EX RW

4:1 10:1 4% 2%

@162.64 -32.55

@163.80 -27.91

@163.59 -20.00

@165.09 0.00

564+09

GUARD RAIL POST #5 LT

EX RW

4:1 10:1 4% 2%

@161.45 -32.62

@163.25 -25.31

@163.79 -20.00

@164.29 0.00

563+84

20 FT

20 FT

1180 1170 1160 1150

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

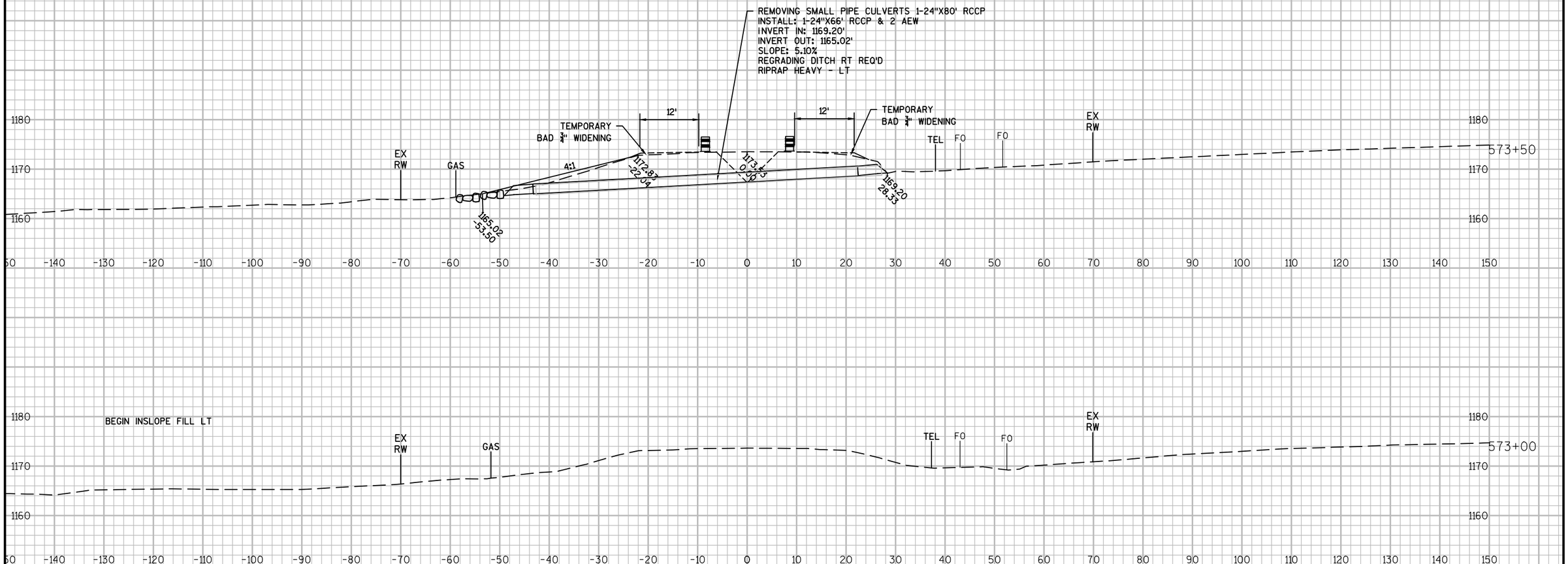
9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 58	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-10

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



9

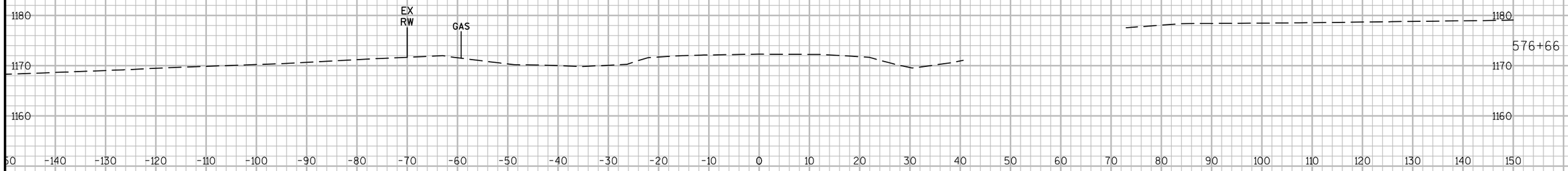
9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 59	E

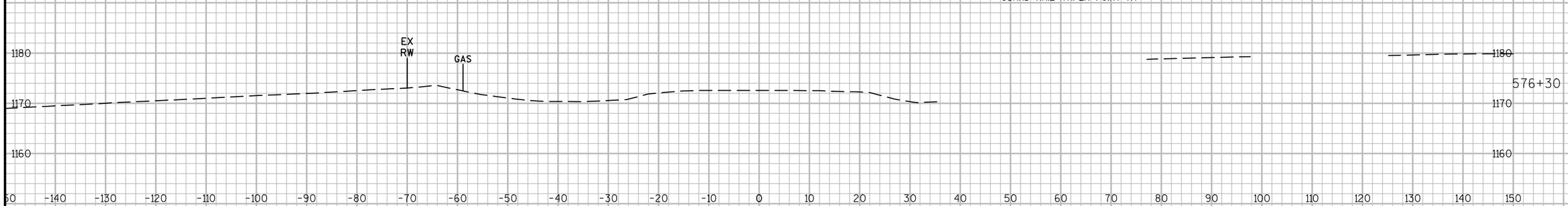
FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-11

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

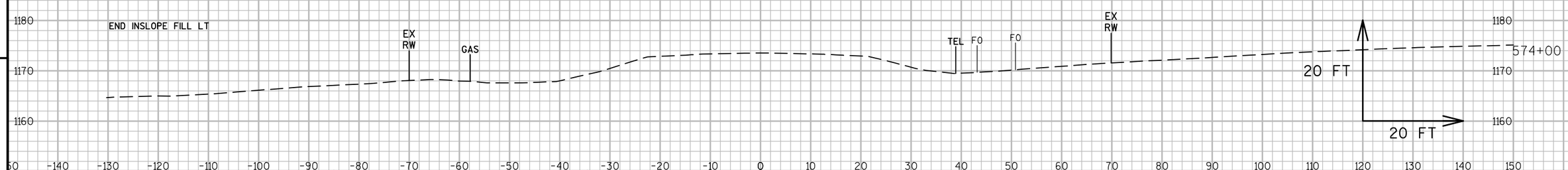
GUARD RAIL TAPER POINT LT



GUARD RAIL TAPER POINT RT



END INSLOPE FILL LT



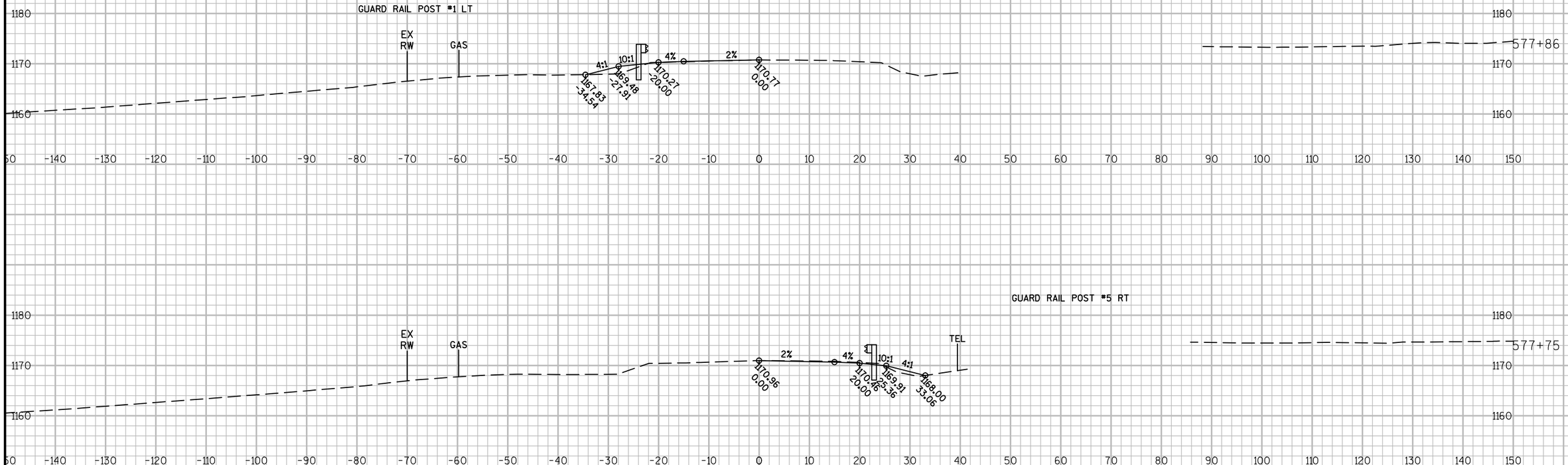
9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 60	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-12

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



9

9

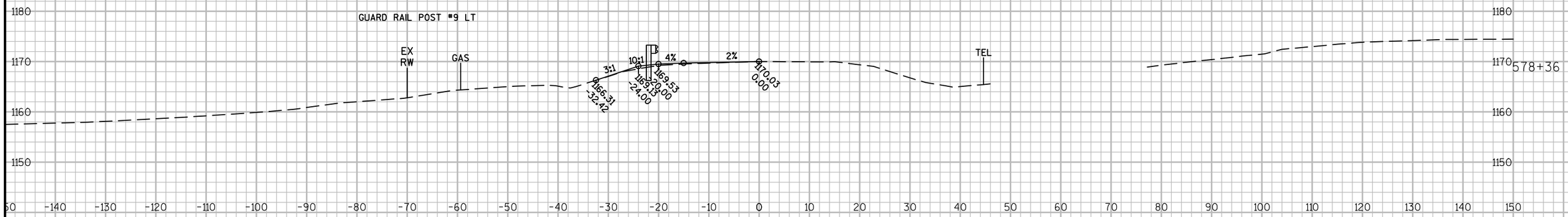
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 61	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-13

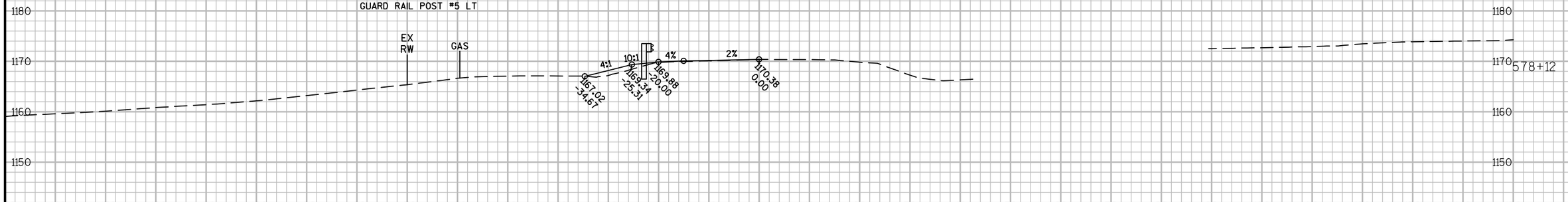
PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

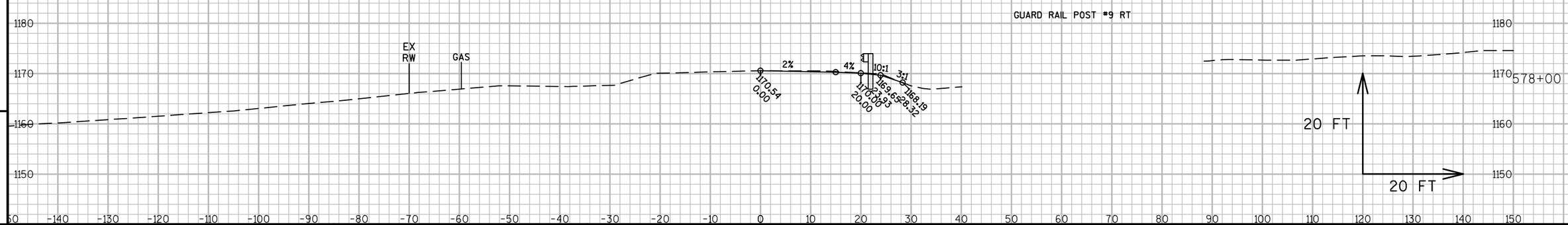
GUARD RAIL POST #9 LT



GUARD RAIL POST #5 LT



GUARD RAIL POST #9 RT



9

9

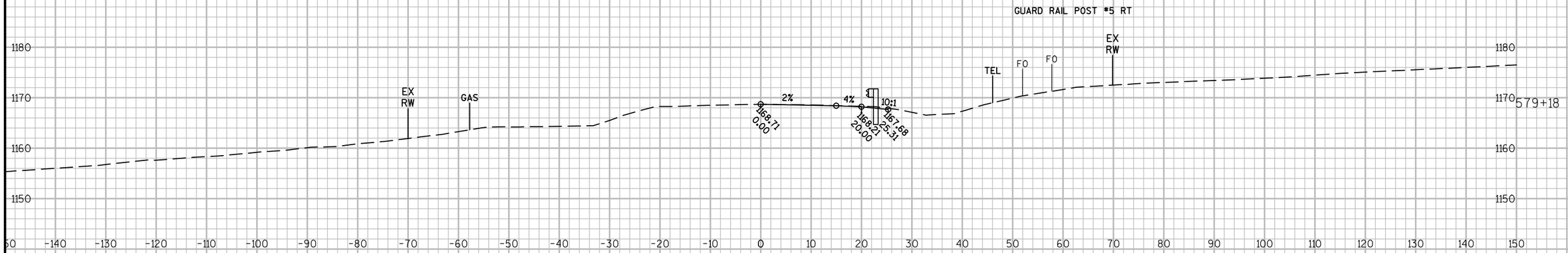
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 62	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-14

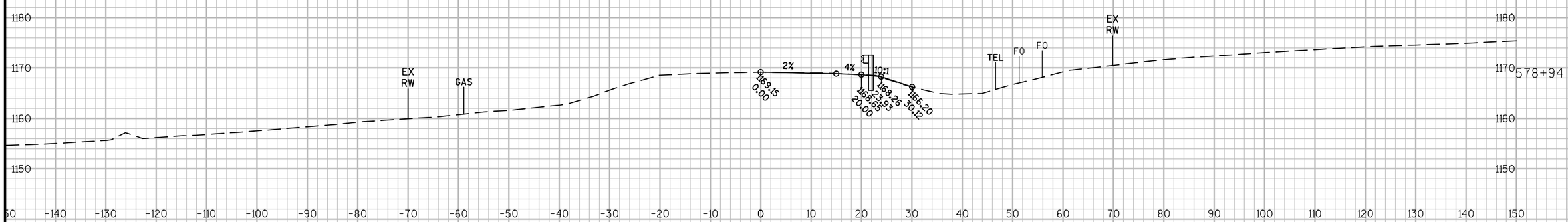
PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

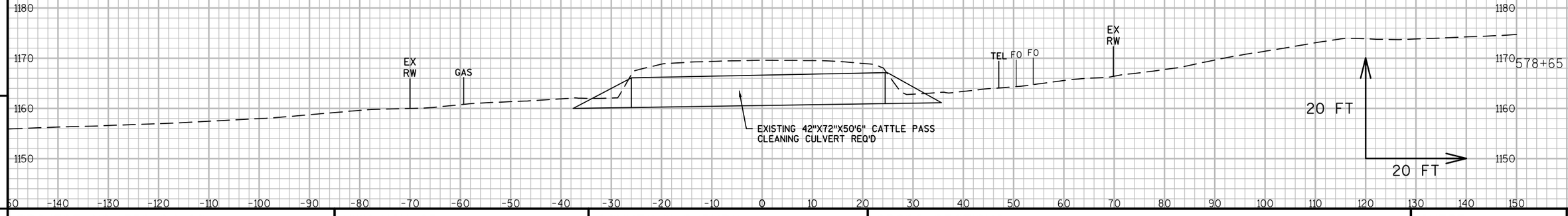
WISDOT/CADDS SHEET 49

GUARD RAIL POST *5 RT



GUARD RAIL POST *9 RT





9

9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 63	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-15

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

GUARD RAIL POST #5 LT

EX RW GAS TEL FO FO EX RW

4:1 10:1 4% 2%

165.49 -32.00 | 166.14 -25.34 | 167.67 -20.00 | 168.17 0.00

579+55

GUARD RAIL POST #1 RT

EX RW GAS TEL FO FO EX RW

2% 4% 10:1 4:1

168.34 0.00 | 167.91 20.00 | 167.04 28.00

579+44

GUARD RAIL POST #9 LT

EX RW GAS TEL FO FO EX RW

4:1 10:1 4% 2%

166.30 -21.92 | 166.80 -24.00 | 168.01 -20.00 | 168.51 -0.03

579+30

1180 1170 1160 1150

-150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

20 FT

20 FT

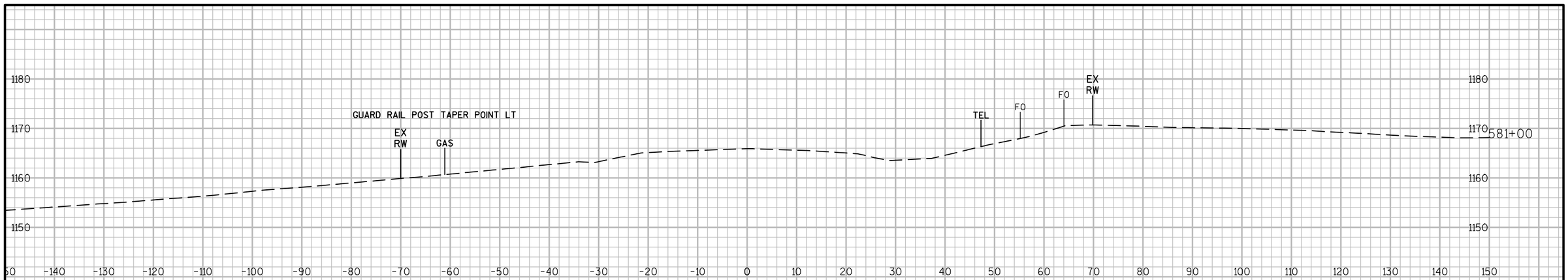
9

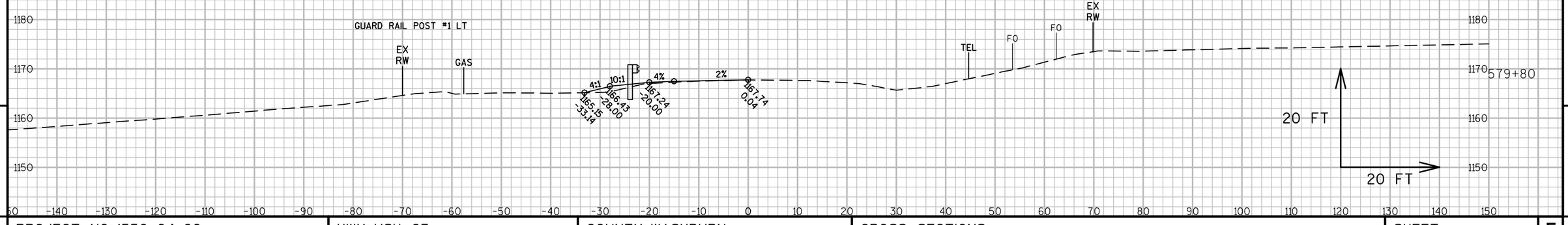
9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 64	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-16

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT





9

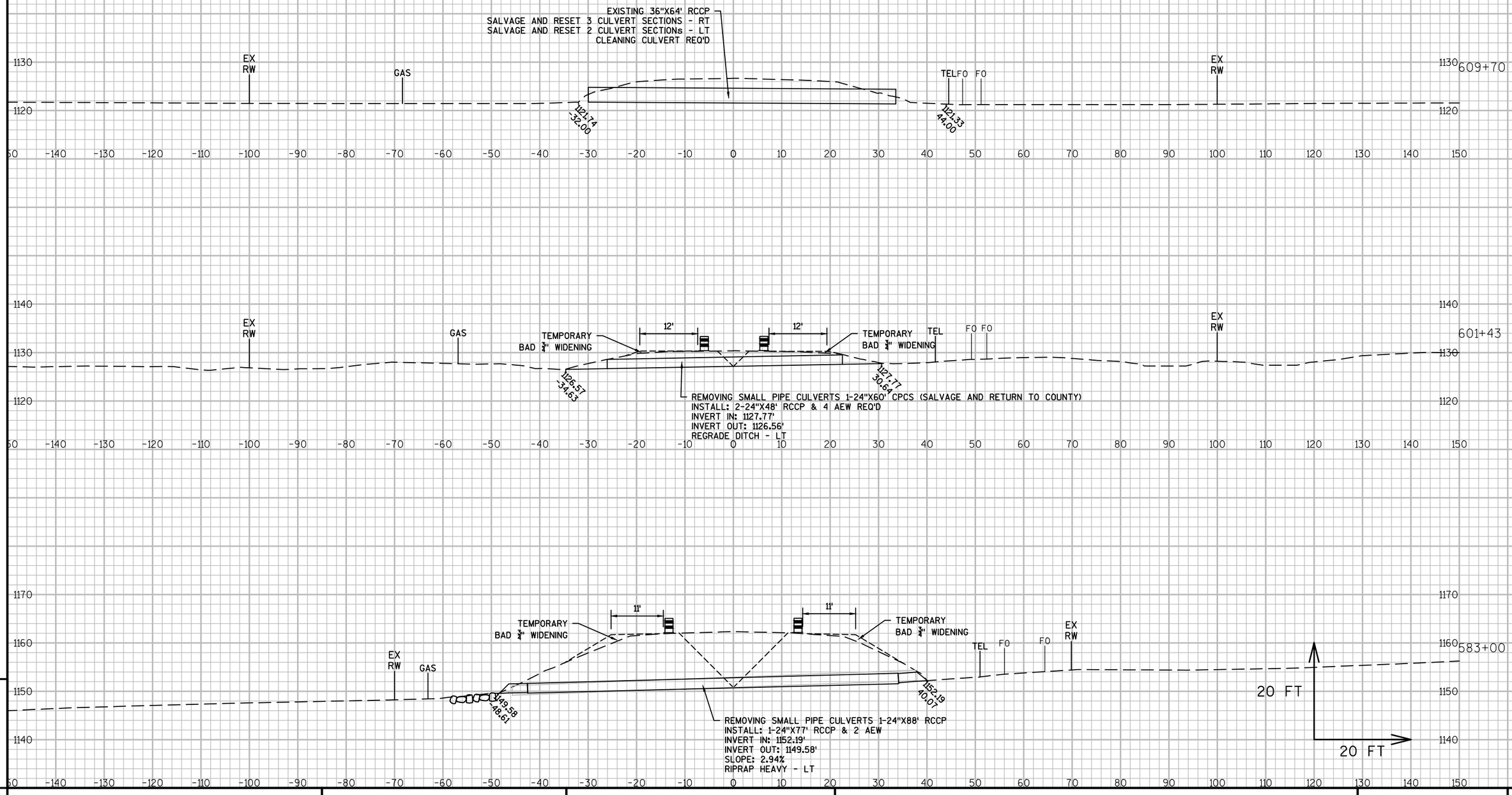
9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 65	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-17

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



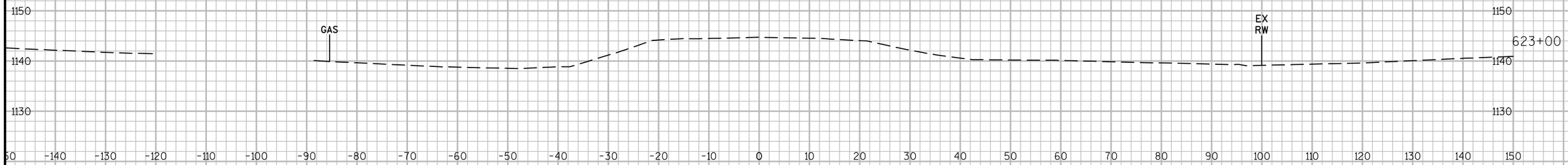
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 66	E

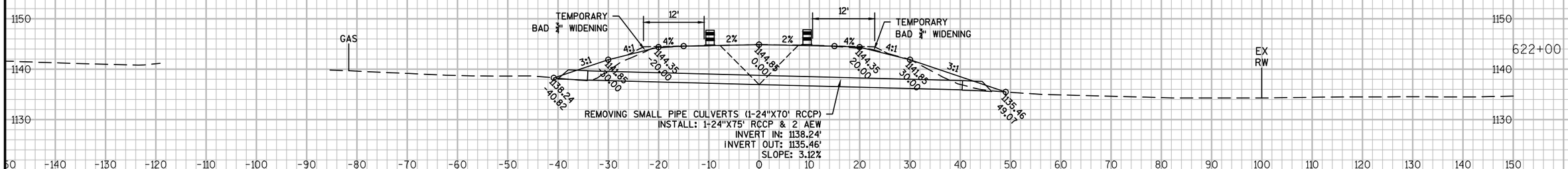
FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-18

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

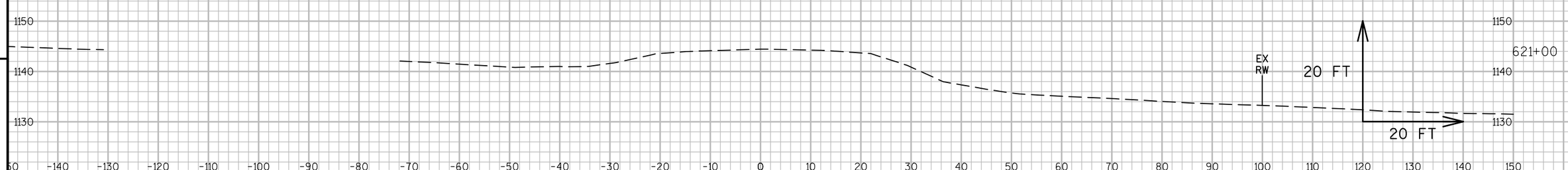
WISDOT/CADDS SHEET 49

END INSLOPE FILL LT & RT





BEGIN INSLOPE FILL LT & RT



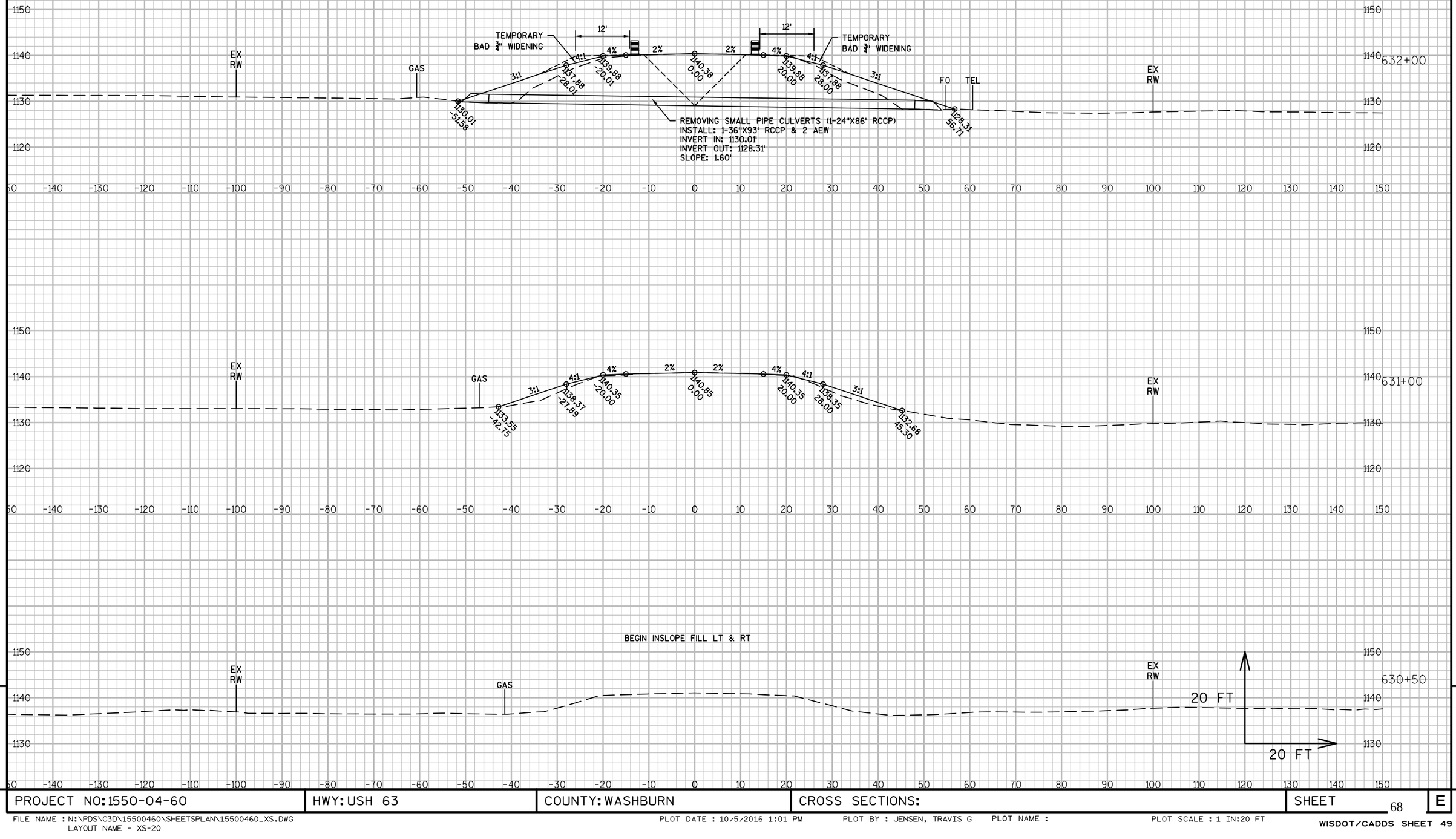
9 9

PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 67	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-19

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

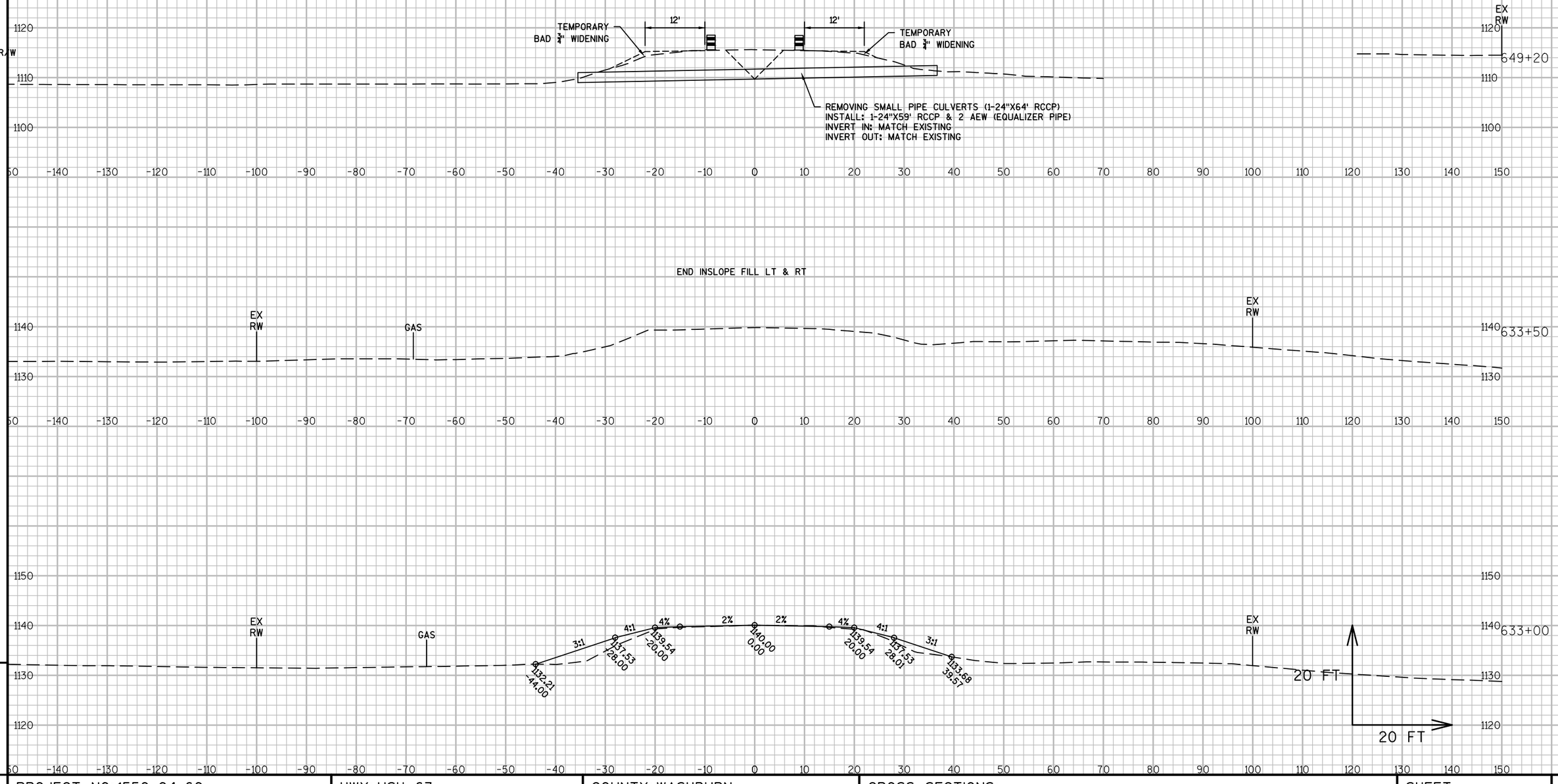


PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 68	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-20

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

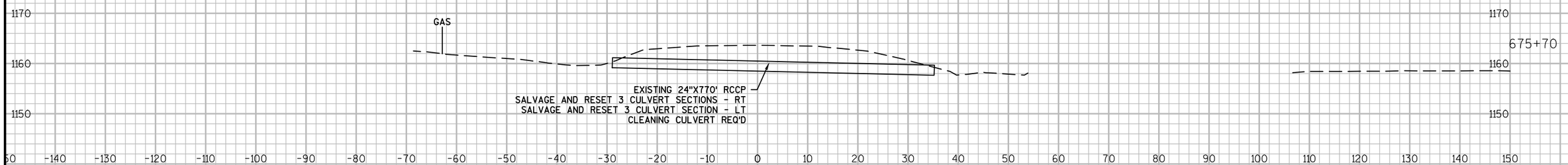
WISDOT/CADDS SHEET 49

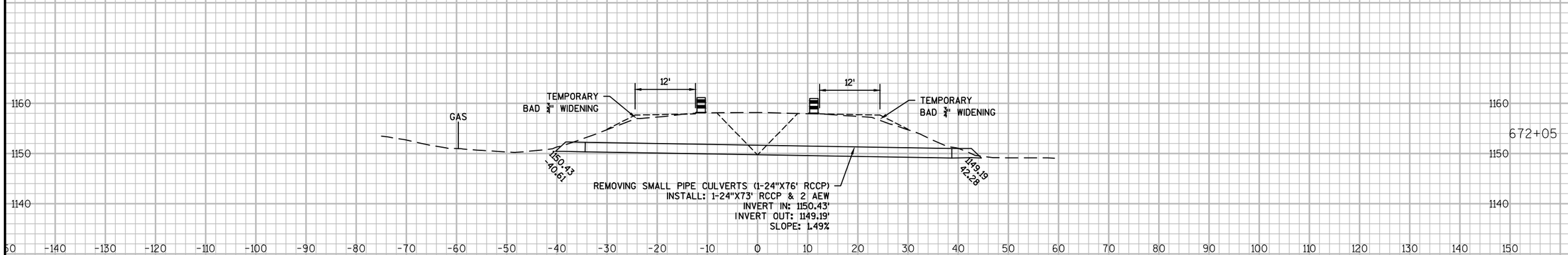


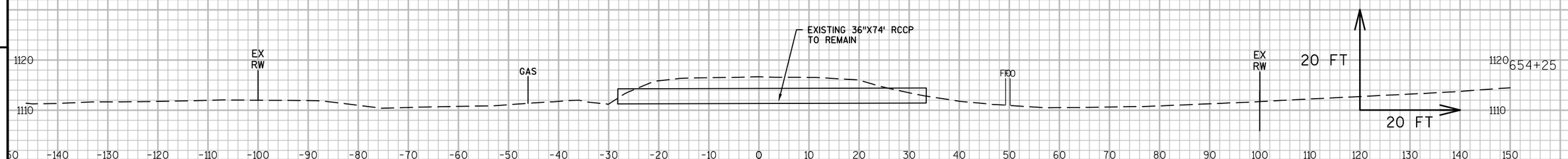
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 69	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-21

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT







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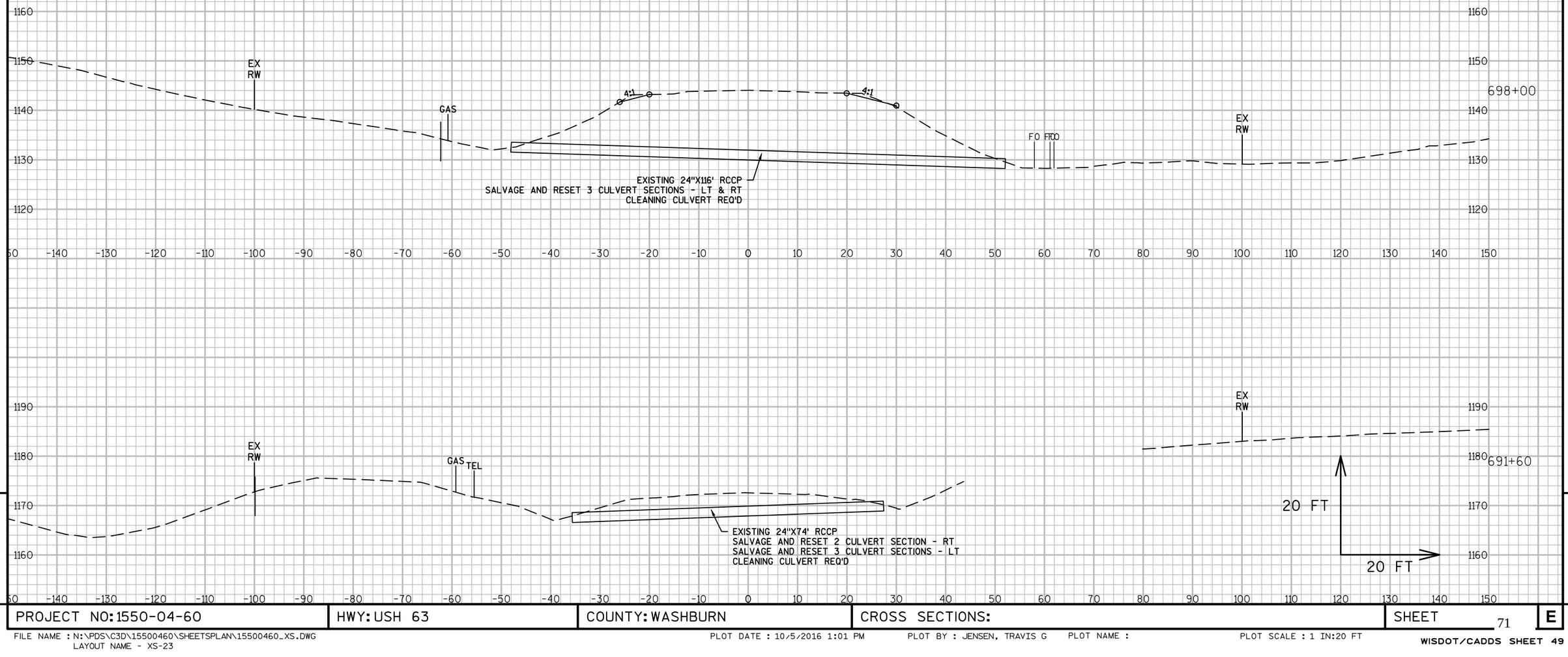
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 70	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-22

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



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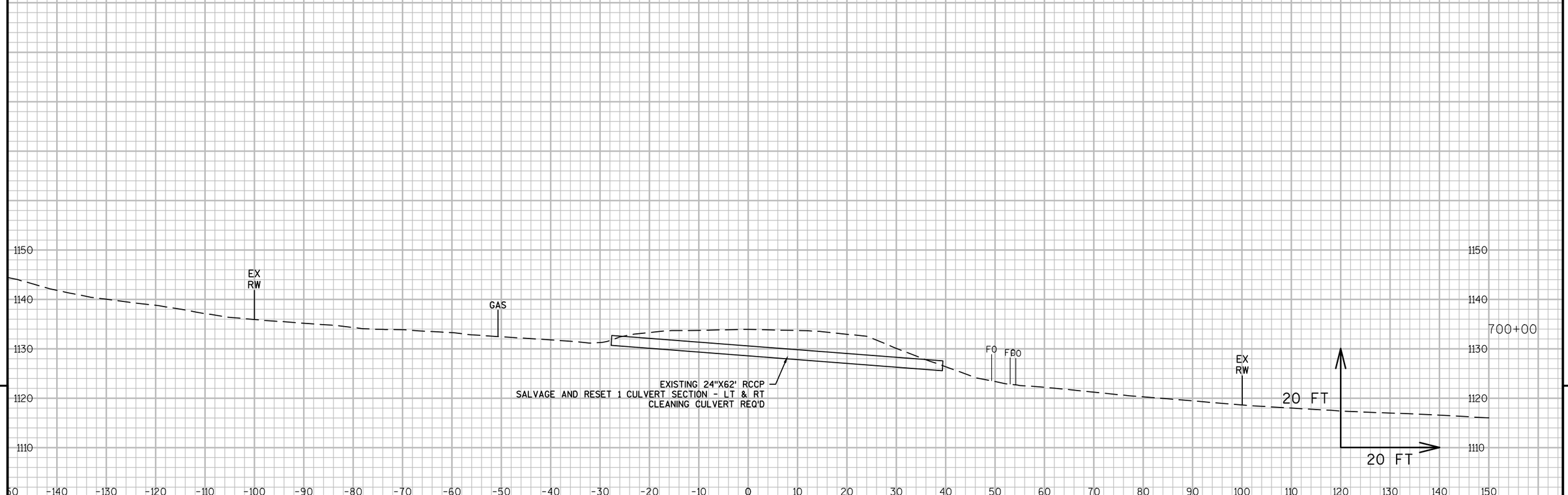
PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 71	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-23

PLOT DATE : 10/5/2016 1:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT



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PROJECT NO: 1550-04-60	HWY: USH 63	COUNTY: WASHBURN	CROSS SECTIONS:	SHEET 72	E

FILE NAME : N:\PDS\C3D\15500460\SHEETSPLAN\15500460_XS.DWG
LAYOUT NAME - XS-24

PLOT DATE : 10/5/2016 1:02 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:20 FT

Notes

Wisconsin Department of Transportation

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