SUP

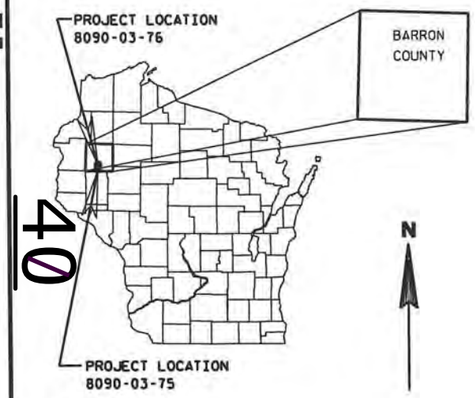
JUNE 2017

PROJECT ID: 8090-03-75
WITH: 8090-03-76

COUNTY: BARRON

ORDER OF SHEETS

TOTAL SHEETS = 114



40

DESIGN DESIGNATION

A.D.T.	(2017)	=	2,400
A.D.T.	(2037)	=	2,800
D.H.V.		=	---
D.		=	62/38
T.		=	17.8%
DESIGN SPEED		=	55 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- HIGH VOLTAGE (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (955.36)
- CULVERT (Profile View)

UTILITIES

- OVERHEAD ELECTRIC (OH)
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

RIDGELAND - BARRON

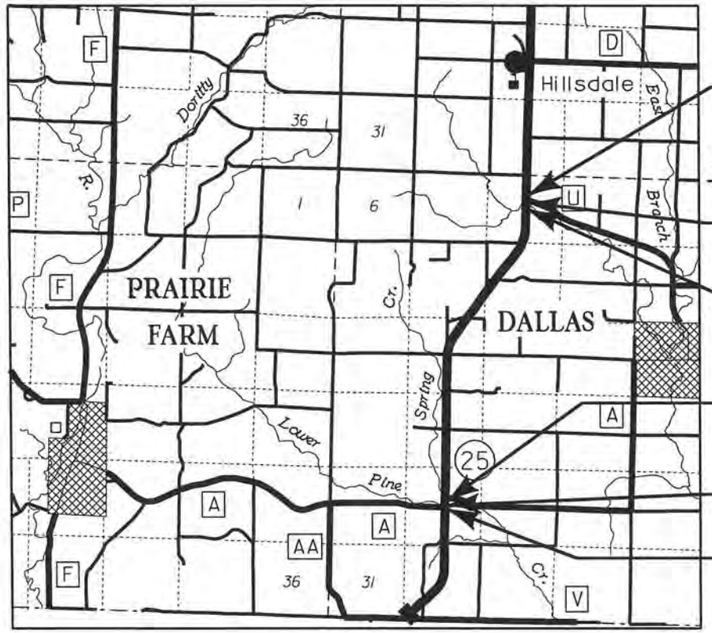
LOWER PINE CREEK BRIDGE B-03-0070
STH 25
BARRON COUNTY

STATE PROJECT NUMBER
8090-03-75

UPPER PINE CREEK BRIDGE B-03-0069
STH 25
BARRON COUNTY

STATE PROJECT NUMBER
8090-03-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8090-03-75	WISC 2017365	1
8090-03-76		



LAYOUT
SCALE 0 1 MI.

END PROJECT 8090-03-76
STA. 477+86
Y = 56600.32
X = 303088.19

T-33-N
T-32-N

STRUCTURE B-3-69

BEGIN PROJECT 8090-03-76
STA. 475+38
Y = 56352.34
X = 303084.99

END PROJECT 8090-03-75
STA. 250+60
Y = 35487.06
X = 297708.19

STRUCTURE B-3-70

BEGIN PROJECT 8090-03-75
STA. 248+22
Y = 35249.07
X = 297710.50

TOTAL NET LENGTH OF CENTERLINE = 0.045 MI. (8090-03-75)
TOTAL NET LENGTH OF CENTERLINE = 0.047 MI. (8090-03-76)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BARRON COUNTY.

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

WISCONSIN PROFESSIONAL ENGINEER
CHRISTOPHER B. MCMAHON
E-29454
EAU CLAIRE WI

DATE 1/20/17

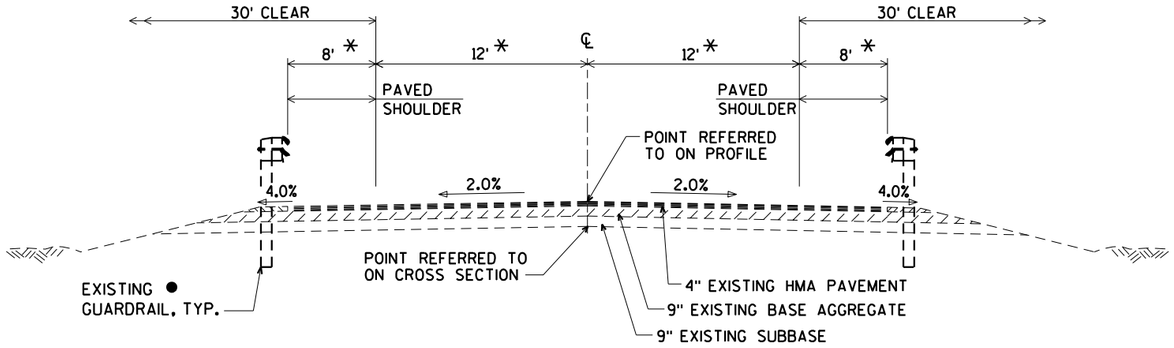
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	BETH CUNNINGHAM, PE
Regional Engineer	Tou Yang, PE
Regional Supervisor	ANDREW STENSLAND, PE

APPROVED FOR THE DEPARTMENT
DATE: 1/24/17 (Signature)

E



TYPICAL EXISTING SECTION
(STH 25)

* HMA PAVEMENT 4 LT 58-34 S SHALL BE PLACED 40 FEET WIDE AT THE ENDS OF THE APPROACH SLAB AND CONCRETE SURFACE DRAINS, AND FOLLOW THE FACE OF EXISTING GUARDRAIL, AND TIE INTO EXISTING AT THE BEGIN/END PROJECT.

● EXISTING GUARDRAIL TO BE REPLACED.

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

EXCAVATION FOR STRUCTURES SHALL INCLUDE FURNISHING, PLACEMENT AND COMPACTION OF ANY FILL MATERIAL REQUIRED TO PROVIDE A SUITABLE FOUNDATION FOR SUBSTRUCTURE UNITS.

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.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

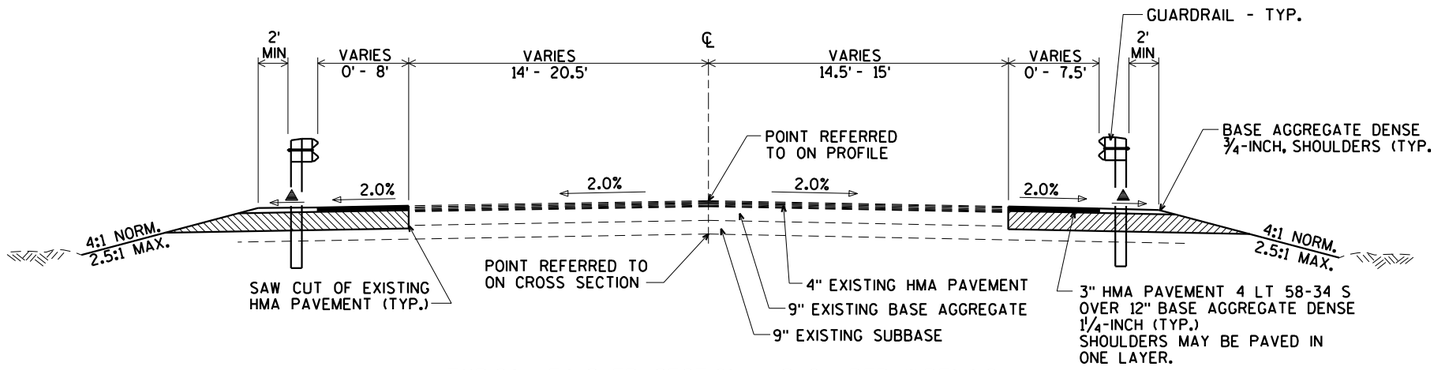
SALVAGE TOPSOIL SHALL BE PLACED ON THE SLOPES, TO THE POINT OF INTERCEPT WITH THE ORIGINAL GROUND SHOWN ON THE CROSS SECTIONS.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD 88).

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPT.

THE LOCATION AND WIDTH OF THE EXISTING RIGHT OF WAY WAS DETERMINED BY THE MUNICIPALITY FOR THIS PROJECT. AYRES ASSOCIATES DOES NOT WARRANT IT'S ACCURACY.



TYPICAL FINISHED SECTION - SHOULDER WIDENING
▲4.0%

UTILITIES

XCEL ENERGY
2911 SOUTH PIONEER AVENUE
RICE LAKE, WI 54868
ATTN: STACEY HAUGEN
715-236-5721
715-579-9710 (CELL)
stacey.raether@xcelenergy.com

MOSAIC TELECOM
401 S. 1st ST.
P.O. BOX 664
CAMERON, WI 54822
ATTN: DENNIS RUSSETT
715-458-5378
715-458-5518 (cell)
ctcdennis@mosaictelecom.com

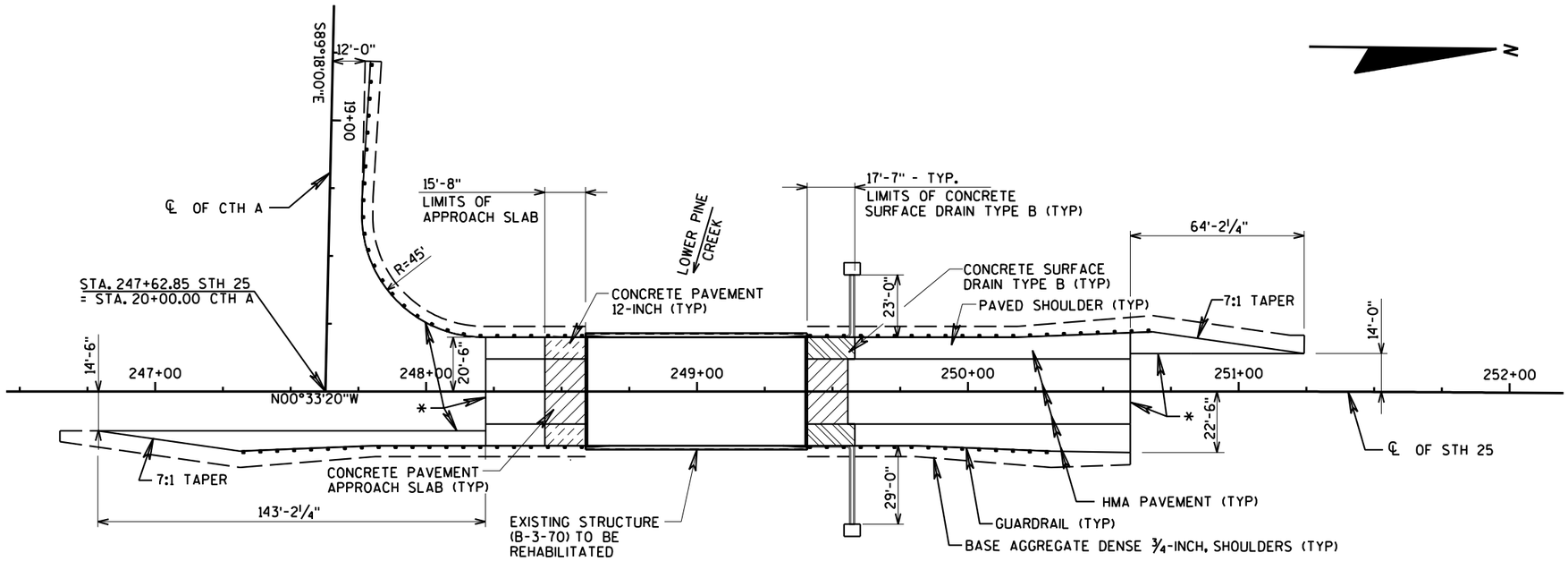
WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:
AMY CRONK
810 W. MAPLE STREET
SPOONER, WI 54801
715-635-4229
amy.cronk@wisconsin.gov

DESIGNER
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: CHRISTOPHER B. McMAHON
715-834-3161
mcmahonc@AyresAssociates.com

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

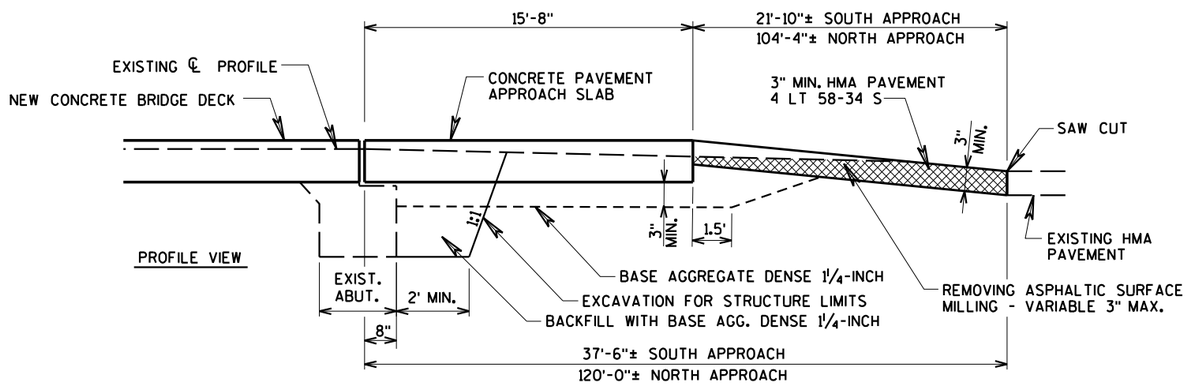
PROJECT NO: 8090-03-75/76	HWY: STH 25	COUNTY: BARRON	TYPICAL SECTIONS & NOTES	SHEET 2

2



APPROACH SLAB DETAIL

*SAW CUT REQ'D.

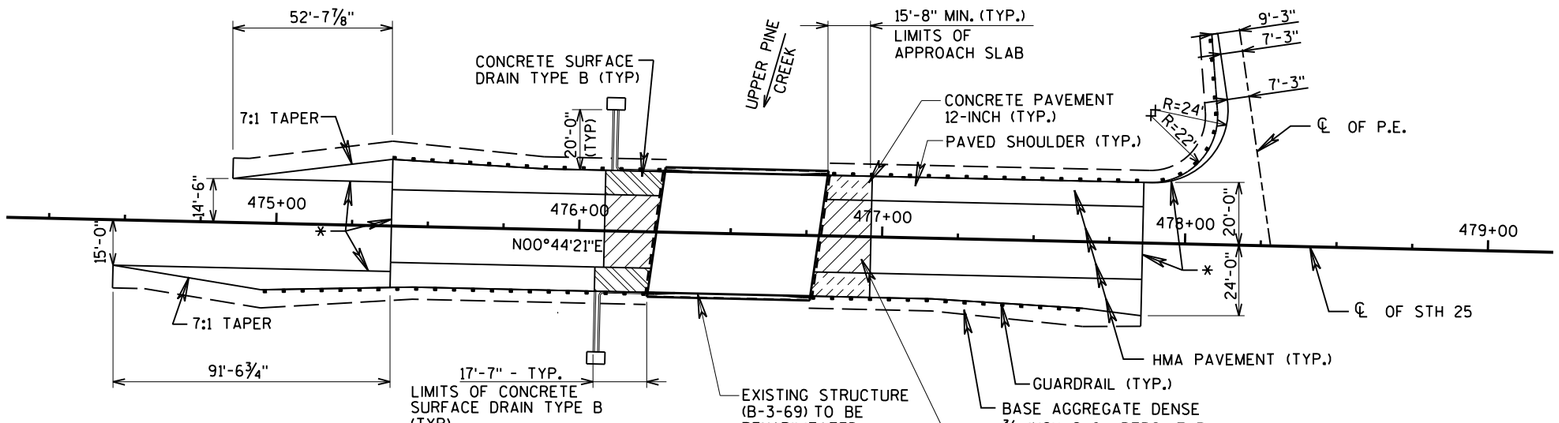


APPROACH REPLACEMENT DETAIL

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	APPROACH DETAILS - B-3-70	SHEET

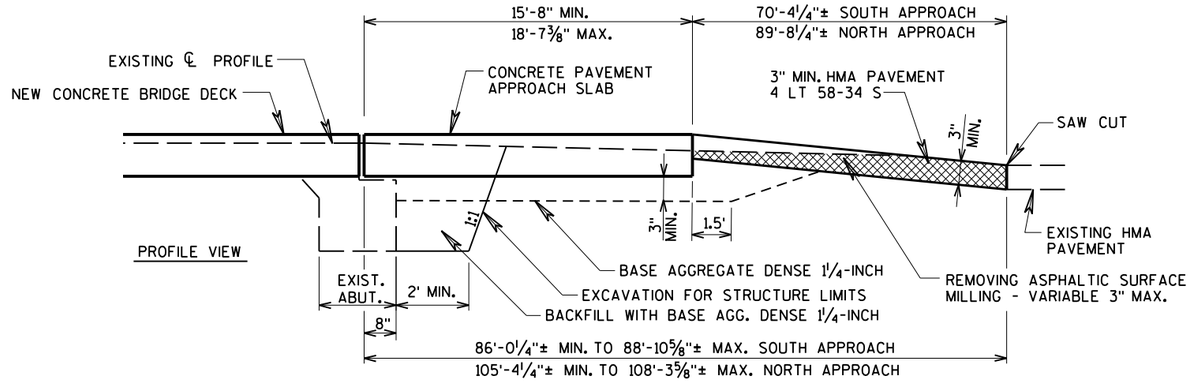
U:\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Roadway\421015 appr.dgn 4/21/2017 $PLOT NA PENTABLE:BReau_shd_util.tbl BRIDGE WISDOT/CADDS SHEET 42

2



APPROACH SLAB DETAIL

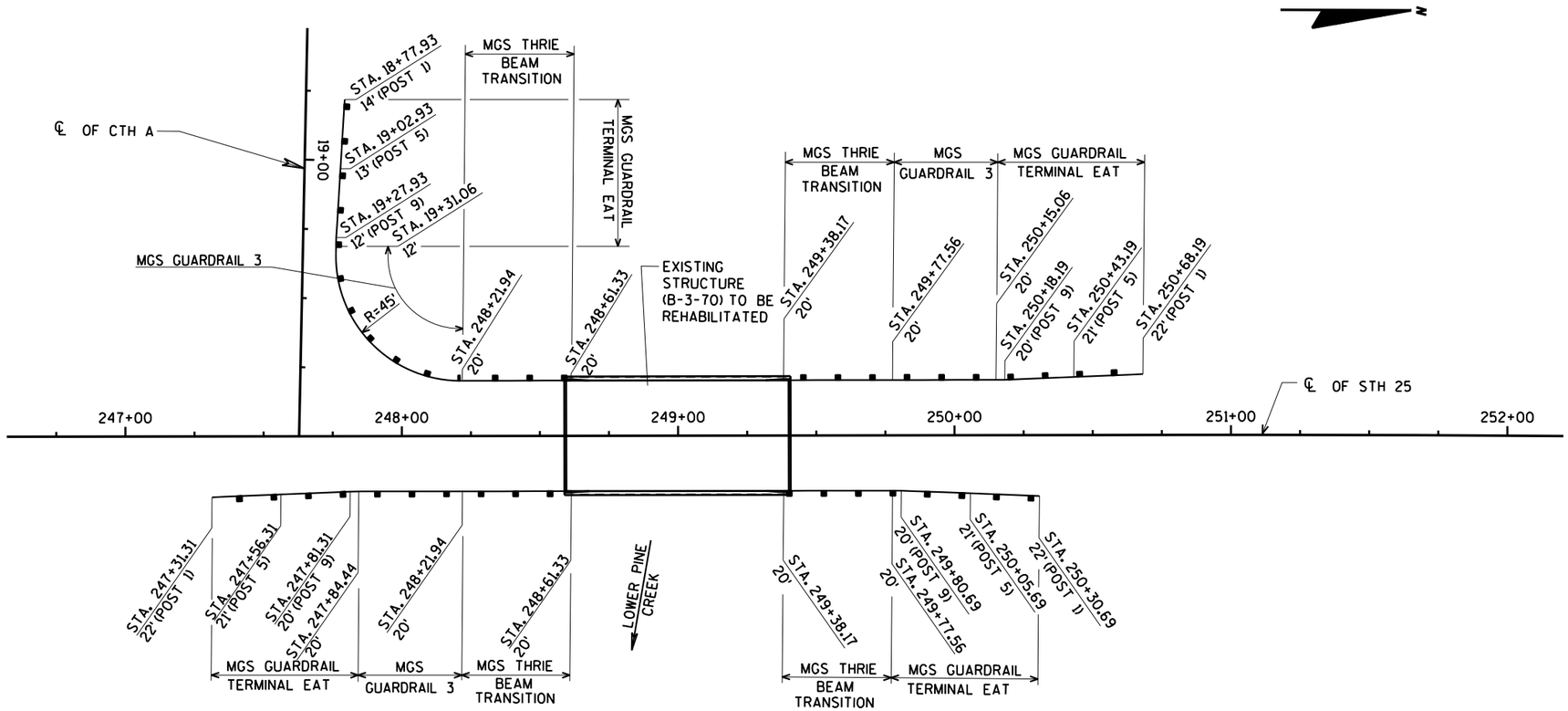
*SAW CUT REQ'D.



APPROACH REPLACEMENT DETAIL

PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	APPROACH DETAILS - B-3-69	SHEET 4

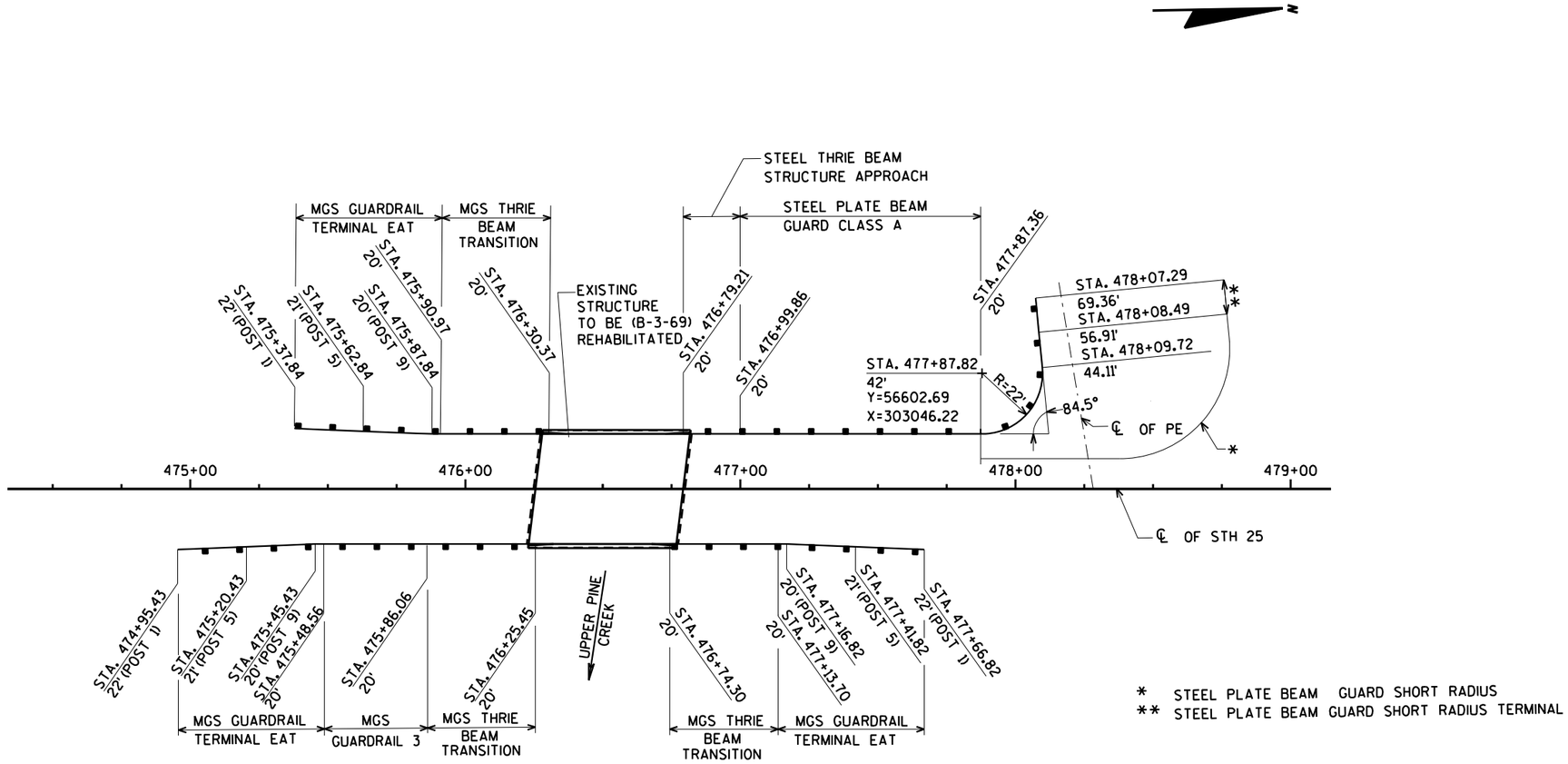
2



GUARDRAIL LAYOUT

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	GUARDRAIL LAYOUT - B-3-70	SHEET 5	E

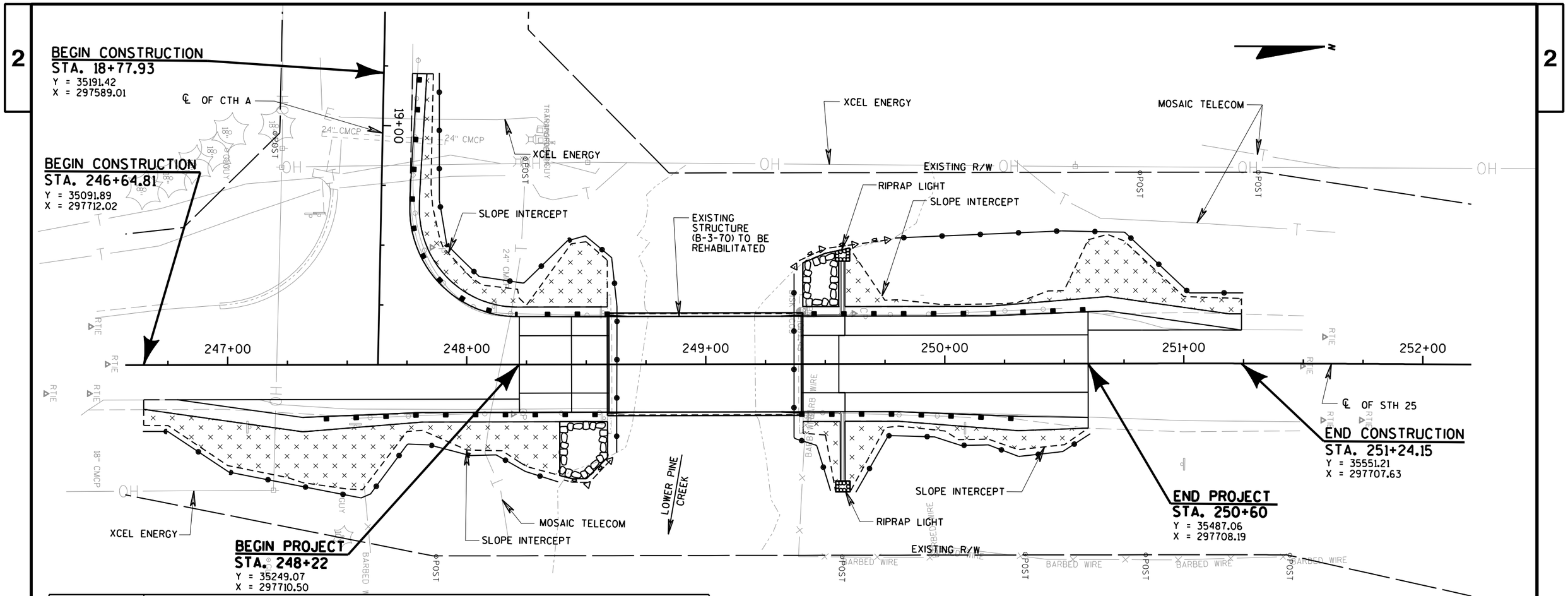
2



* STEEL PLATE BEAM GUARD SHORT RADIUS
** STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GUARDRAIL LAYOUT

PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	GUARDRAIL LAYOUT - B-3-69	SHEET 6	E



	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											

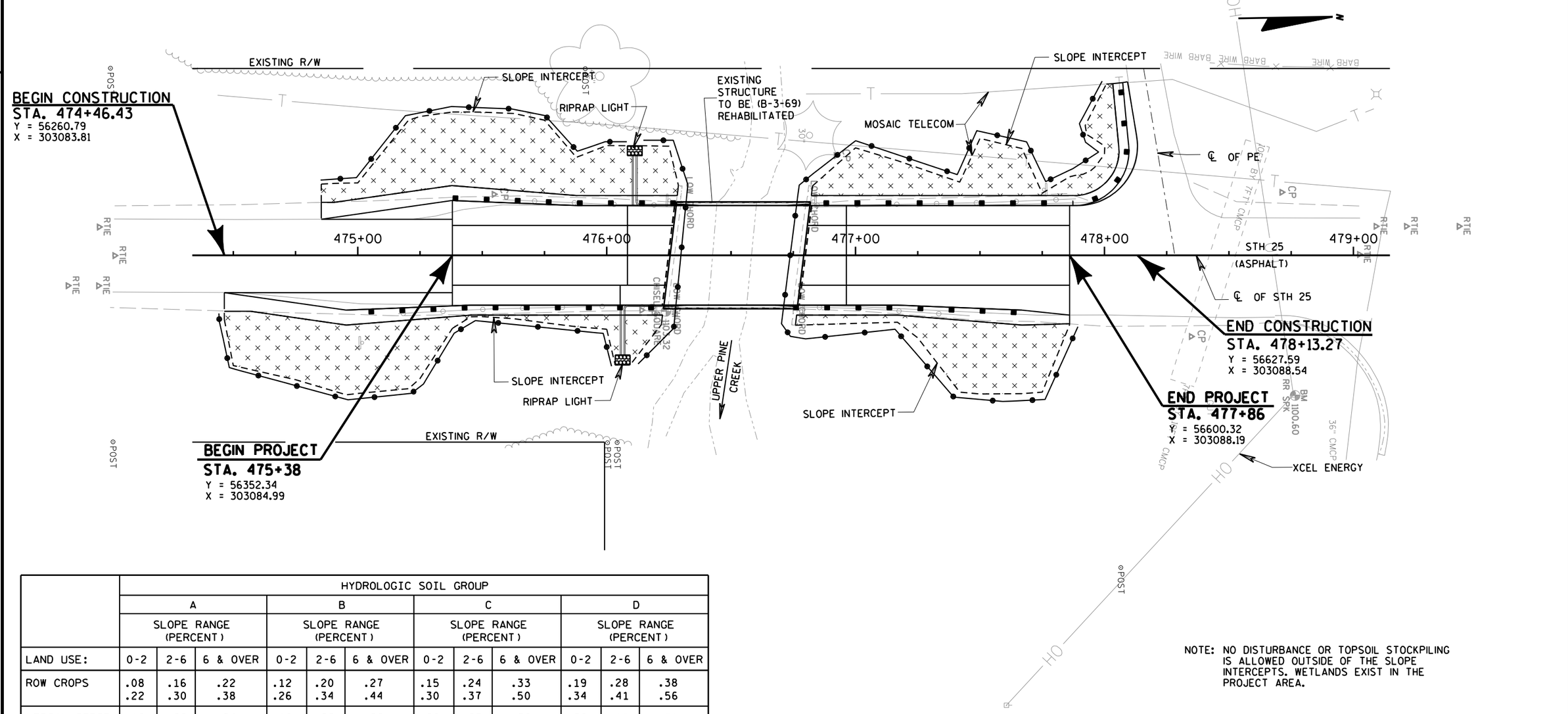
NOTE: NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

LEGEND

- EROSION MAT CLASS II TYPE C
- SILT FENCE
- TURBIDITY BARRIER
- RIPRAP HEAVY

TOTAL PROJECT AREA = 1.448 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.404 ACRES

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	EROSION CONTROL - B-3-70	SCALE, FEET 0 20 40	SHEET 7	E



	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											

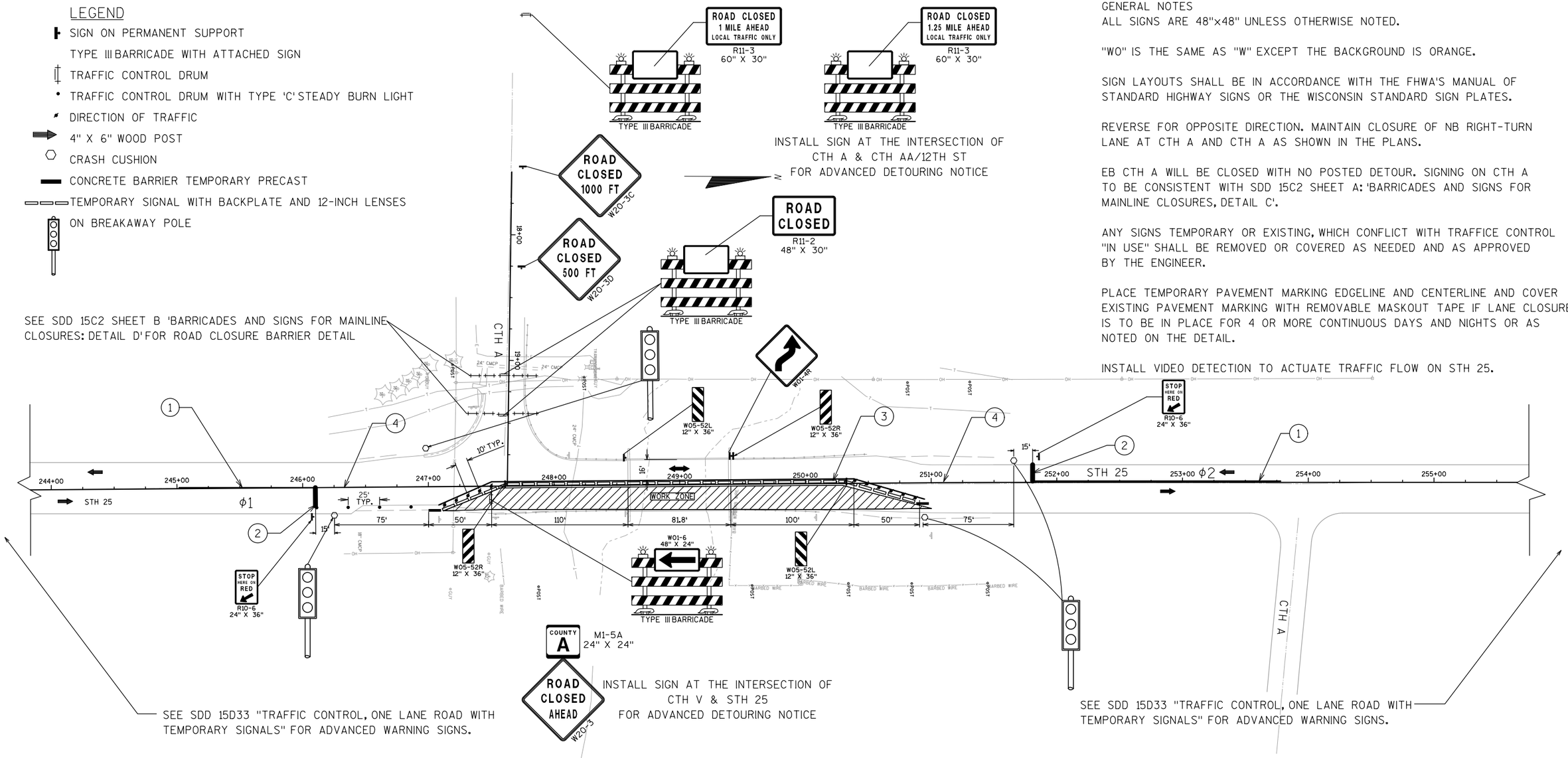
TOTAL PROJECT AREA = 1.379 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.472 ACRES

PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	EROSION CONTROL - B-3-69	SHEET 8	E

2

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE 'C' STEADY BURN LIGHT
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- CRASH CUSHION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE



GENERAL NOTES
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

REVERSE FOR OPPOSITE DIRECTION. MAINTAIN CLOSURE OF NB RIGHT-TURN LANE AT CTH A AND CTH A AS SHOWN IN THE PLANS.

EB CTH A WILL BE CLOSED WITH NO POSTED DETOUR. SIGNING ON CTH A TO BE CONSISTENT WITH SDD 15C2 SHEET A: 'BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C'.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND COVER EXISTING PAVEMENT MARKING WITH REMOVABLE MASKOUT TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON THE DETAIL.

INSTALL VIDEO DETECTION TO ACTUATE TRAFFIC FLOW ON STH 25.

PAVEMENT MARKING NOTES

1. 700' TEMPORARY PAVEMENT MARKING, 4-INCH, REMOVABLE TAPE, YELLOW CENTERLINE
2. TEMPORARY PAVEMENT MARKING STOP LINE, 24-INCH, REMOVABLE TAPE
3. TEMPORARY PAVEMENT MARKING 4-INCH, REMOVABLE TAPE WHITE EDGELINE
4. TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH

TEMPORARY SIGNAL TIMINGS*

PHASE	MIN. GREEN	YELLOW	ALL-RED
φ1	7	3	15
φ2	7	3	15

*TRAFFIC SIGNAL TIMINGS ACTUATED BASED ON VIDEO DETECTION SYSTEM IN PLACE

2

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE 'C' STEADY BURN LIGHT
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- CRASH CUSHION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

GENERAL NOTES

PROPERTY OWNER AT 556 14½ NOTIFIED THAT LEAVING PROPERTY WILL BE DONE IN SEQUENCE WITH TEMPORARY SIGNALS PROJECT LEADER TO NOTIFY OWNER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

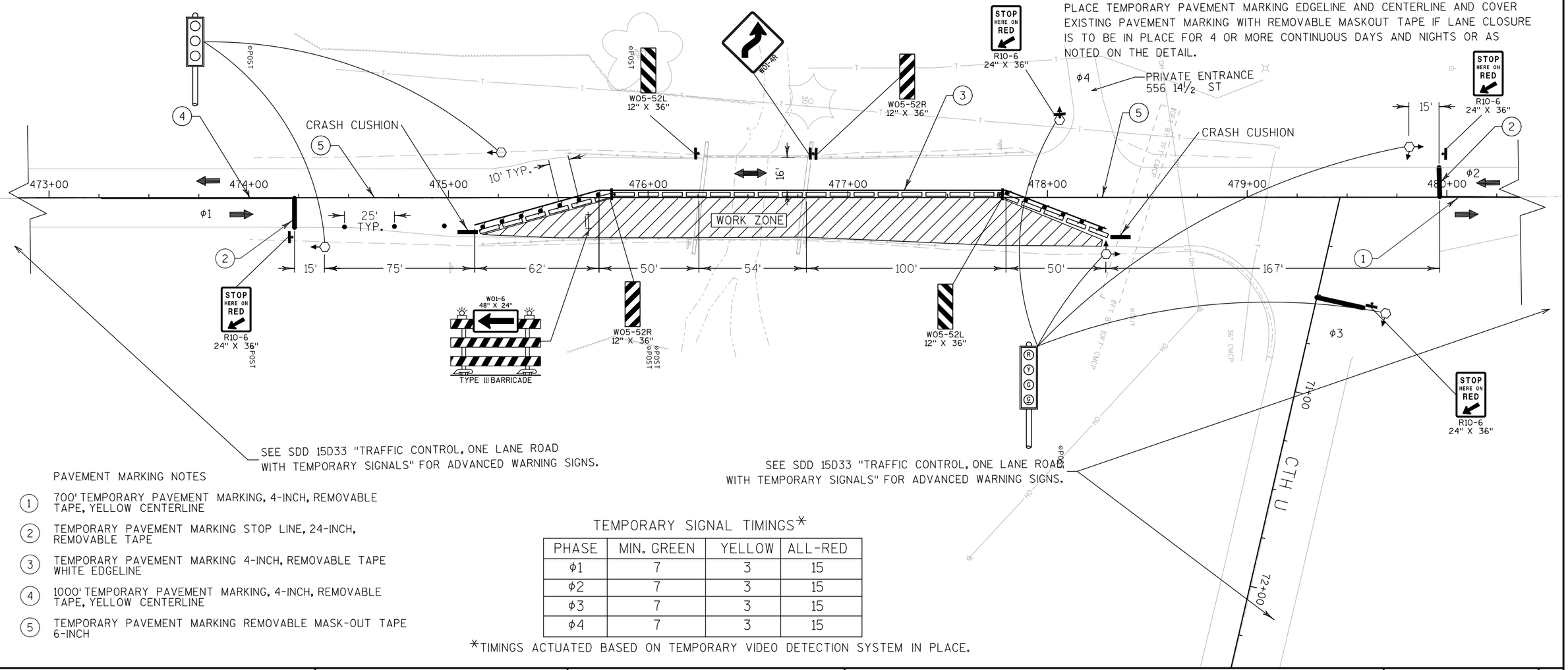
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

REVERSE FOR OPPOSITE DIRECTION.

INSTALL VIDEO DETECTION FOR ALL APPROACHES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND COVER EXISTING PAVEMENT MARKING WITH REMOVABLE MASKOUT TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON THE DETAIL.



SEE SDD 15D33 "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGNS.

PAVEMENT MARKING NOTES

1. 700' TEMPORARY PAVEMENT MARKING, 4-INCH, REMOVABLE TAPE, YELLOW CENTERLINE
2. TEMPORARY PAVEMENT MARKING STOP LINE, 24-INCH, REMOVABLE TAPE
3. TEMPORARY PAVEMENT MARKING 4-INCH, REMOVABLE TAPE WHITE EDGELINE
4. 1000' TEMPORARY PAVEMENT MARKING, 4-INCH, REMOVABLE TAPE, YELLOW CENTERLINE
5. TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH

TEMPORARY SIGNAL TIMINGS*

PHASE	MIN. GREEN	YELLOW	ALL-RED
φ1	7	3	15
φ2	7	3	15
φ3	7	3	15
φ4	7	3	15

*TIMINGS ACTUATED BASED ON TEMPORARY VIDEO DETECTION SYSTEM IN PLACE.

					8090-03-75	8090-03-76
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**
0010	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-3-70	LS	1.000	1.000	
0020	203.0210.S	Abatement of Asbestos Containing Material (structure) 02. B-3-69	LS	1.000		1.000
0030	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 01. 248+95.75	LS	1.000	1.000	
0040	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 02. 476+52.33	LS	1.000		1.000
0050	204.0120	Removing Asphaltic Surface Milling	SY	1,590.000	715.000	875.000
0060	204.0165	Removing Guardrail	LF	809.000	458.000	351.000
0070	205.0100	Excavation Common	CY	440.000	288.000	152.000
0080	206.1000	Excavation for Structures Bridges (structure) 01. B-3-70	LS	1.000	1.000	
0090	206.1000	Excavation for Structures Bridges (structure) 02. B-3-69	LS	1.000		1.000
0100	208.0100	Borrow	CY	135.000		135.000
0110	213.0100	Finishing Roadway (project) 01. 8090-03-75	EACH	1.000	1.000	
0120	213.0100	Finishing Roadway (project) 02. 8090-03-76	EACH	1.000		1.000
0130	305.0110	Base Aggregate Dense 3/4-Inch	TON	105.000	50.000	55.000
0140	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	705.000	390.000	315.000
0150	415.0120	Concrete Pavement 12-Inch	SY	59.000	28.000	31.000
0160	415.0410	Concrete Pavement Approach Slab	SY	176.000	84.000	92.000
0170	416.1010	Concrete Surface Drains	CY	20.000	10.000	10.000
0180	455.0605	Tack Coat	GAL	91.000	41.000	50.000
0190	460.5244	HMA Pavement 4 LT 58-34 S	TON	260.000	120.000	140.000
0200	502.0100	Concrete Masonry Bridges	CY	184.000	111.000	73.000
0210	502.3200	Protective Surface Treatment	SY	480.000	240.000	240.000
0220	502.3210	Pigmented Surface Sealer	SY	90.000	45.000	45.000
0230	502.4205	Adhesive Anchors No. 5 Bar	EACH	240.000	120.000	120.000
0240	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	43,300.000	25,880.000	17,420.000
0250	505.0905	Bar Couplers No. 5	EACH	494.000	297.000	197.000
0260	506.4000	Steel Diaphragms (structure) 01. B-3-70	EACH	5.000	5.000	
0270	506.4000	Steel Diaphragms (structure) 02. B-3-69	EACH	5.000		5.000
0280	509.1500	Concrete Surface Repair	SF	80.000	60.000	20.000
0290	516.0500	Rubberized Membrane Waterproofing	SY	30.000	14.000	16.000
0300	603.8000	Concrete Barrier Temporary Precast Delivered	LF	710.000	385.000	325.000
0310	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,420.000	770.000	650.000
0320	606.0100	Riprap Light	CY	4.000	2.000	2.000
0330	606.0300	Riprap Heavy	CY	65.000	65.000	
0340	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	8.000	4.000	4.000
0350	614.0200	Steel Thrie Beam Structure Approach	LF	21.000		21.000
0360	614.0305	Steel Plate Beam Guard Class A	LF	87.500		87.500
0370	614.0345	Steel Plate Beam Guard Short Radius	LF	50.000		50.000

					8090-03-75	8090-03-76
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**
0380	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000		1.000
0390	614.0905	Crash Cushions Temporary	EACH	4.000	2.000	2.000
0400	614.2300	MGS Guardrail 3	LF	187.500	150.000	37.500
0410	614.2500	MGS Thrie Beam Transition	LF	280.000	160.000	120.000
0420	614.2610	MGS Guardrail Terminal EAT	EACH	7.000	4.000	3.000
0430	619.1000	Mobilization	EACH	1.000	0.500	0.500
0440	624.0100	Water	MGAL	15.000	8.000	7.000
0450	625.0500	Salvaged Topsoil	SY	1,385.000	505.000	880.000
0460	627.0200	Mulching	SY	685.000	355.000	330.000
0470	628.1504	Silt Fence	LF	2,050.000	1,015.000	1,035.000
0480	628.1520	Silt Fence Maintenance	LF	6,150.000	3,045.000	3,105.000
0490	628.1905	Mobilizations Erosion Control	EACH	2.000	1.000	1.000
0500	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	1.000	1.000
0510	628.2027	Erosion Mat Class II Type C	SY	2,235.000	910.000	1,325.000
0520	628.6005	Turbidity Barriers	SY	80.000	80.000	
0530	628.7504	Temporary Ditch Checks	LF	100.000	50.000	50.000
0540	629.0210	Fertilizer Type B	CWT	1.900	0.900	1.000
0550	630.0120	Seeding Mixture No. 20	LB	80.000	35.000	45.000
0560	630.0200	Seeding Temporary	LB	20.000	10.000	10.000
0570	642.5001	Field Office Type B	EACH	1.000	0.500	0.500
0580	643.0100	Traffic Control (project) 01. 8090-03-75	EACH	1.000	1.000	
0590	643.0100	Traffic Control (project) 02. 8090-03-76	EACH	1.000		1.000
0600	643.0300	Traffic Control Drums	DAY	1,333.000	645.000	688.000
0610	643.0420	Traffic Control Barricades Type III	DAY	602.000	559.000	43.000
0620	643.0705	Traffic Control Warning Lights Type A	DAY	860.000	774.000	86.000
0630	643.0715	Traffic Control Warning Lights Type C	DAY	946.000	430.000	516.000
0640	643.0900	Traffic Control Signs	DAY	2,537.000	1,290.000	1,247.000
0650	643.0910	Traffic Control Covering Signs Type I	EACH	2.000	2.000	
0660	645.0120	Geotextile Type HR	SY	130.000	130.000	
0670	645.0130	Geotextile Type R	SY	24.000	12.000	12.000
0680	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,774.000	746.000	1,028.000
0690	646.0600	Removing Pavement Markings	LF	60.000	30.000	30.000
0700	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	5,050.000	2,700.000	2,350.000
0710	649.0506	Temporary Pavement Marking Removable Mask-Out Tape 6-Inch	LF	1,175.000	575.000	600.000
0720	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	60.000	24.000	36.000
0730	650.4500	Construction Staking Subgrade	LF	523.000	156.000	367.000
0740	650.5000	Construction Staking Base	LF	523.000	156.000	367.000
0750	650.6500	Construction Staking Structure Layout (structure) 01. B-	LS	1.000	1.000	

					8090-03-75	8090-03-76
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**
		3-70				
0760	650.6500	Construction Staking Structure Layout (structure) 02. B-3-69	LS	1.000		1.000
0770	650.8000	Construction Staking Resurfacing Reference	LF	486.000	238.000	248.000
0780	650.9910	Construction Staking Supplemental Control (project) 01. 8090-03-75	LS	1.000	1.000	
0790	650.9910	Construction Staking Supplemental Control (project) 02. 8090-03-76	LS	1.000		1.000
0800	650.9920	Construction Staking Slope Stakes	LF	523.000	156.000	367.000
0810	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-3-70	LS	1.000	1.000	
0820	661.0100	Temporary Traffic Signals for Bridges (structure) 02. B-3-69	LS	1.000		1.000
0830	690.0150	Sawing Asphalt	LF	705.000	422.000	283.000
0840	715.0502	Incentive Strength Concrete Structures	DOL	1,104.000	666.000	438.000

204.0120 REMOVING ASPHALTIC SURFACE MILLING (CATEGORY 0010)

PROJECT ID	LOCATION	SY
8090-03-75	Sta. 248+22 to Sta. 248+59	165
	Sta. 249+41 to Sta. 250+60	550
SUBTOTAL		715
8090-03-76	Sta. 475+38 to Sta. 476+25	390
	Sta. 476+77 to Sta. 477+86	485
SUBTOTAL		875
TOTAL		1,590

204.0165 REMOVING GUARDRAIL (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-75	Sta. 247+51 to Sta. 248+59	RT	108
	Sta. 18+78 CTH A to Sta. 248+58 STH 25	LT	170
	Sta. 249+41 to Sta. 250+49	LT	109
	Sta. 249+41 to Sta. 250+12	RT	71
SUBTOTAL			458
8090-03-76	Sta. 475+58 to Sta. 476+27	LT	69
	Sta. 475+16 to Sta. 476+22	RT	106
	Sta. 476+81 to Sta. 477+89	LT	107
	Sta. 476+78 to Sta. 477+46	RT	69
SUBTOTAL			351
TOTAL			809

205.0100 EXCAVATION COMMON (CATEGORY 0010)

PROJECT ID	STATION TO STATION	ROAD	CY
8090-03-75	Sta. 246+65 to Sta. 251+24	STH 25	263
	Sta. 18+78 to Sta. 19+75	CTH A	25
SUBTOTAL			288
8090-03-76	Sta. 474+46 to Sta. 478+00	STH 25	152
TOTAL			440

208.0100 BORROW (CATEGORY 0010)

PROJECT ID	STATION TO STATION	ROAD	CY
8090-03-76	Sta. 474+46 to Sta. 478+00	STH 25	135
TOTAL			135

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT ID 8090-03-75	1
PROJECT ID 8090-03-76	1

305.0110 BASE AGGREGATE DENSE 3/4-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	ROAD	TON
8090-03-75	Sta. 246+65 to Sta. 250+60	RT	STH 25	25
	Sta. 248+00 to Sta. 251+24	LT	STH 25	20
	Sta. 18+78 to Sta. 19+75	LT	CTH A	5
SUBTOTAL				50
8090-03-76	Sta. 474+46 to Sta. 477+86	RT	STH 25	25
	Sta. 474+85 to Sta. 478+00	LT	STH 25	30
SUBTOTAL				55
TOTAL				105

305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	ROAD	TON
8090-03-75	Sta. 246+65 to Sta. 250+60	RT	STH 25	200
	Sta. 248+00 to Sta. 251+24	LT	STH 25	135
	Sta. 18+78 to Sta. 19+75	LT	CTH A	55
SUBTOTAL				390
8090-03-76	Sta. 474+46 to Sta. 477+86	RT	STH 25	145
	Sta. 474+85 to Sta. 478+00	LT	STH 25	170
SUBTOTAL				315
TOTAL				705

415.0120 CONCRETE PAVEMENT 12-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
8090-03-75	Sta. 248+43 to Sta. 248+60	LT	14
	Sta. 248+43 to Sta. 248+60	RT	14
SUBTOTAL			28
8090-03-76	Sta. 476+80 to Sta. 476+96	LT	14
	Sta. 476+76 to Sta. 476+96	RT	17
SUBTOTAL			31
TOTAL			59

415.0410 CONCRETE PAVEMENT APPROACH SLAB (CATEGORY 0010)

PROJECT ID	STATION TO STATION	SY
8090-03-75	Sta. 248+43 to Sta. 248+59	42
	Sta. 248+40 to Sta. 249+57	42
SUBTOTAL		84
8090-03-76	Sta. 476+08 to Sta. 476+25	46
	Sta. 476+79 to Sta. 476+96	46
SUBTOTAL		92
TOTAL		176

416.1010 CONCRETE SURFACE DRAINS (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	CY
8090-03-75	Sta. 249+41 to Sta. 249+58	LT	5
	Sta. 249+41 to Sta. 249+58	RT	5
SUBTOTAL			10
8090-03-76	Sta. 476+08 to Sta. 476+28	LT	5
	Sta. 476+05 to Sta. 476+24	RT	5
SUBTOTAL			10
TOTAL			20

455.0605 TACK COAT (CATEGORY 0010)

PROJECT ID	STATION TO STATION	GAL
8090-03-75	Sta. 248+22 to Sta. 248+44	7
	Sta. 249+56 to Sta. 250+60	34
SUBTOTAL		41
8090-03-76	Sta. 475+38 to Sta. 476+08	22
	Sta. 476+96 to Sta. 477+86	28
SUBTOTAL		50
TOTAL		91

460.5244 HMA PAVEMENT 4 LT 58-34 S(CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	TON
8090-03-75	Sta. 246+64 to Sta. 248+22	RT	14
	Sta. 248+22 to Sta. 248+44	LT	5
	Sta. 248+22 to Sta. 248+44	RT	4
	Sta. 248+22 to Sta. 248+44	-	10
	Sta. 249+58 to Sta. 250+60	LT	16
	Sta. 249+58 to Sta. 250+60	RT	18
	Sta. 249+56 to Sta. 250+60	-	47
	Sta. 250+60 to Sta. 251+24	LT	6
SUBTOTAL			120
8090-03-76	Sta. 474+46 to Sta. 475+38	RT	8
	Sta. 474+85 to Sta. 475+38	LT	5
	Sta. 475+38 to Sta. 476+05	RT	10
	Sta. 475+38 to Sta. 476+08	LT	12
	Sta. 475+38 to Sta. 476+08	-	32
	Sta. 476+96 to Sta. 477+86	LT	15
	Sta. 476+96 to Sta. 477+86	-	40
	Sta. 476+96 to Sta. 477+86	RT	15
	Sta. 477+86 to Sta. 478+13	LT	3
SUBTOTAL			140
TOTALS			260

606.0100 RIPRAP LIGHT (CATEGORY 0010)

PROJECT ID	STATION	LOCATION	CY
8090-03-75	Sta. 249+57	LT	1
	Sta. 249+57	RT	1
SUBTOTAL			2
8090-03-76	Sta. 476+11	LT	1
	Sta. 476+06	RT	1
SUBTOTAL			2
TOTAL			4

606.0300 RIPRAP HEAVY (CATEGORY 0010)

PROJECT ID	STATION	LOCATION	CY
8090-03-75	Sta. 248+39 to Sta. 248+59	RT	35
	Sta. 249+41 to Sta. 249+56	LT	30
TOTAL			65

614.0200 STEEL THRIE BEAM STRUCTURE APPOACH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-76	Sta. 476+79.21 to Sta. 476+99.86	LT	21
TOTAL			21

614.0305 STEEL PLATE BEAM GUARD CLASS A (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-76	Sta. 476+99.86 to Sta. 477+87.36	LT	87.5
TOTAL			87.5

614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-76	Sta. 477+87.36 to Sta. 478+09.72	LT	37.5
	Sta. 478+08.49 to Sta. 478+09.72	LT	12.5
TOTAL			50

3

614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	EACH
8090-03-76	Sta. 478+07.29 to Sta. 478+08.49	LT	1
TOTAL			1

614.2300 MGS GUARDRAIL 3 (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-75	Sta. 19+31.06 CTH A RT to Sta. 248+21.94 STH 25 LT	--	75
	Sta. 247+84.44 to Sta. 248+21.94	RT	37.5
	Sta. 249+77.56 to Sta. 250+15.06	LT	37.5
SUBTOTAL			150
8090-03-76	Sta. 475+48.56 to Sta. 475+86.06	RT	37.5
TOTAL			187.5

614.2500 MGS THRIE BEAM TRANSITION (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
8090-03-75	Sta. 248+21.94 to Sta. 248+61.33	LT	40
	Sta. 248+21.94 to Sta. 248+61.33	RT	40
	Sta. 249+38.17 to Sta. 249+77.56	LT	40
	Sta. 249+38.17 to Sta. 249+77.56	RT	40
SUBTOTAL			160
8090-03-76	Sta. 475+86.06 to Sta. 476+25.45	RT	40
	Sta. 475+90.97 to Sta. 476+30.37	LT	40
	Sta. 476+74.30 to Sta. 477+13.70	LT	40
SUBTOTAL			120
TOTAL			280

614.2610 MGS GUARDRAIL TERMINAL EAT (CATEGORY 0010)

PROJECT ID	STATION TO STATION	ROAD	LOCATION	EACH
8090-03-75	Sta. 18+77.93 to Sta. 19+31.06	CTH A	RT	1
	Sta. 247+31.31 to Sta. 247+84.44	STH 25	RT	1
	Sta. 250+15.06 to Sta. 250+68.19	STH 25	LT	1
	Sta. 249+77.56 to Sta. 250+30.69	STH 25	RT	1
SUBTOTAL				4
8090-03-76	Sta. 475+37.84 to Sta. 475+90.37	STH 25	LT	1
	Sta. 474+95.43 to Sta. 475+48.56	STH 25	RT	1
	Sta. 477+13.70 to Sta. 477+66.82	STH 25	RT	1
SUBTOTAL				3
TOTAL				7

619.1000 MOBILIZATION (CATEGORY 0010)

PROJECT ID	EACH
8090-03-75	0.5
8090-03-76	0.5
TOTAL	1

614.0100 WATER (CATEGORY 0010)

PROJECT ID		MGAL
8090-03-75	COMPACTION	7
	DUST CONTROL	1
SUBTOTAL		8
8090-03-76	COMPACTION	6
	DUST CONTROL	1
SUBTOTAL		7
TOTAL		15

SALVAGED TOPSOIL, MULCHING, FERTILIZER, & SEED (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING NO. 20 LB	630.0200 SEEDING TEMPORARY LB
8090-03-75	Sta. 246+65 to Sta. 251+24	STH 25	480	210	0.6	25	6
	Sta. 18+78 to Sta. 19+75	CTH A	25	75	0.1	2	2
	Undistributed	STH 25	--	70	0.2	8	2
SUBTOTALS			505	355	0.9	35	10
8090-03-76	Sta. 474+46 to Sta. 478+00	STH 25	880	265	0.8	36	7
	Undistributed	STH 25	--	65	0.2	9	3
SUBTOTALS			880	330	1	45	10
TOTALS			1,385	685	1.9	80	20

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

PROJECT ID	STATION TO STATION	ROAD	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
8090-03-75	Sta. 18+78 to Sta. 19+66	CTH A	RT	108	324
	Sta. 246+65 to Sta. 248+25	STH 25	RT	175	525
	Sta. 248+22 to Sta. 248+61	STH 25	LT	134	402
	Sta. 248+25 to Sta. 248+40	STH 25	RT	16	48
	Sta. 249+37 to Sta. 249+52	STH 25	-	100	300
	Sta. 249+79 to Sta. 251+26	STH 25	LT	157	471
	Sta. 249+61 to Sta. 250+60	STH 25	RT	120	360
	Undistributed		-	205	615
SUBTOTALS				1,015	3,045
8090-03-76	Sta. 474+46 to Sta. 476+02	STH 25	RT	205	615
	Sta. 474+87 to Sta. 476+08	STH 25	LT	145	435
	Sta. 476+10 to Sta. 476+31	STH 25	-	110	330
	Sta. 476+73 to Sta. 477+13	STH 25	-	120	360
	Sta. 477+13 to Sta. 478+00	STH 25	LT	120	360
	Sta. 476+96 to Sta. 477+86	STH 25	RT	125	375
	Undistributed		-	210	630
SUBTOTALS				1,035	3,105
TOTALS				2,050	6,150

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT ID 8090-03-75	1	1
PROJECT ID 8090-03-76	1	1
TOTALS	2	2

628.2027 EROSION MAT CLASS II TYPE C (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
8090-03-75	Sta. 246+65 to Sta. 248+39	RT	310
	Sta. 247+80 to Sta. 248+59	LT	150
	Sta. 249+58 to Sta. 251+24	LT	165
	Sta. 249+40 to Sta. 250+60	RT	100
	Undistributed	-	185
SUBTOTAL			910
8090-03-76	Sta. 474+46 to Sta. 476+22	RT	305
	Sta. 474+85 to Sta. 476+29	LT	365
	Sta. 476+75 to Sta. 477+86	RT	185
	Sta. 476+82 to Sta. 478+06	LT	205
	Undistributed	-	265
SUBTOTAL			1,325
TOTAL			2,235

628.6005 TURBIDITY BARRIERS (CATAGORY 0010)

PROJECT ID	STATION TO STATION	ROAD	LOCATION	SY
8090-03-75	Sta. 248+40 to Sta. 248+63	STH 25	RT	25
	Sta. 249+37 to Sta. 249+79	STH 25	LT	40
	Undistributed		-	15
TOTALS				80

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

PROJECT ID	STATION	LF
8090-03-75	Undistributed	50
8090-03-76	Undistributed	50
TOTAL		100

645.0120 GEOTEXTILE TYPE HR (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
8090-03-75	Sta. 248+39 to Sta. 248+59	RT	75
	Sta. 249+41 to Sta. 249+56	LT	55
TOTAL			130

645.0130 GEOTEXTILE TYPE R (CATEGORY 0010)

PROJECT ID	STATION	LOCATION	SY
8090-03-75	Sta. 249+57	LT	6
	Sta. 249+57	RT	6
SUBTOTAL			12
8090-03-76	Sta. 476+11	LT	6
	Sta. 476+06	RT	6
SUBTOTAL			12
TOTAL			24

646.0106 PAVEMENT MARKING EPOXY 4-INCH (CATEGORY 0010)

PROJECT	STATION		LF
8090-03-75	Sta. 248+22 to Sta 250+60	SINGLE YELLOW STRIPED CENTERLINE	60
	Sta. 248+22 to Sta 250+60, RT	WHITE EDGELINE	238
	Sta. 248+22 to Sta 250+60, LT	WHITE EDGELINE	238
SUBTOTAL			536
8090-03-76	Sta. 475+38 to Sta 477+86	SINGLE YELLOW STRIPED CENTERLINE	62
	Sta. 475+38 to Sta 477+86, RT	WHITE EDGELINE	248
	Sta. 475+38 to Sta 477+86, LT	WHITE EDGELINE	248
SUBTOTAL			558
TOTAL			1,094

CONSTRUCTION STAKING

PROJECT ID	CATEGORY	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTARY CONTROL LS	650.9920 SLOPE STAKING LF
8090-03-75	0010	STH 25	156	156	---	1	156
	0020	B-3-70	---	---	1	---	---
SUBTOTALS			156	156	1	1	156
8090-03-76	0010	STH 25	367	367	---	1	367
	0020	B-3-69	---	---	1	---	---
SUBTOTALS			367	367	1	1	367
TOTALS			523	523	2	2	523

650.8000 RESURFACING REFERENCE (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LF
8090-03-75	Sta. 248+22 to Sta. 250+60	238
8090-03-76	Sta. 475+38 to Sta. 477+86	248
TOTAL		486

690.0150 SAWING ASPHALT (CATEGORY 0010)

PROJECT ID	STATION	LOCATION	LF
8090-03-75	Sta. 248+22	-	39
	Sta. 250+60	-	44
	Sta. 246+79 to Sta.248+22	LT	145
	Sta. 247+76 to Sta. 248+22	RT	128
	Sta. 250+60 to Sta. 251+24	LT	66
SUBTOTAL			422
8090-03-76	Sta. 474+46 to Sta. 475+38	RT	92
	Sta. 474+85 to Sta. 475+38	LT	53
	Sta. 475+38	-	30
	Sta 477+86	-	44
	Sta. 477+88 to Sta. 478+13	RT	64
SUBTOTAL			283
TOTAL			705

CONCRETE BARRIER TEMPORARY PRECAST ITEMS (CATEGORY 0010)

PROJECT ID	STAGE	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EA	COMMENT
8090-03-75	1	385	385	2	ANCHOR CONCRETE BARRIER PER DETAIL
	2	---	385	--	ANCHOR CONCRETE BARRIER PER DETAIL
SUBTOTAL		385	770	2	
8090-03-76	1	325	325	2	ANCHOR CONCRETE BARRIER PER DETAIL
	2	---	325	--	ANCHOR CONCRETE BARRIER PER DETAIL
SUBTOTAL		325	650	2	
TOTAL		**710**	**1420**	**4**	

TRAFFIC CONTROL (CATEGORY 0010)

PROJECT NO.	643.0100 (PROJECT) EA
8090-03-75	1
8090-03-76	1

FIELD OFFICE (CATEGORY 0010)

PROJECT NO.	642.5001 (TYPE B) EA
8090-03-75	0.5
8090-03-76	0.5

TRAFFIC CONTROL ITEMS (CATEGORY 0010)

PROJECT NO.	STAGE	DURATION DAYS	643.0300 DRUMS NO.	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO.	643.0715 WARNING LIGHTS TYPE C DAYS	643.0900 SIGNS NO.	643.0900 SIGNS DAYS	643.0910 COVERING SIGNS TYPE I EACH	643.0910 COVERING SIGNS TYPE I CYCLES
8090-03-75	1	22	15	330	13	286	18	396	10	220	30	660	2	1
	2	21	15	315	13	273	18	378	10	210	30	630	--	--
SUBTOTAL				645		559		774		430		1290	2	1
8090-03-76	1	22	16	352	1	22	2	44	12	264	29	638	--	--
	2	21	16	336	1	21	2	42	12	252	29	609	--	--
SUBTOTAL				688		43		86		516		1247	0	--
TOTAL				**1333**		**602**		**860**		**946**		**2537**	**2**	**1**

3

REMOVING PAVEMENT MARKINGS

	646.0600
PROJECT ID	LF
8090-03-75	30
8090-03-76	30
TOTAL	**60**

PAVEMENT MARKING (CATEGORY 0010)

	646.0106 PAVEMENT MARKING EPOXY 4-INCH	
	(YELLOW)	WHITE
PROJECT ID	LF	LF
8090-03-75	100	110
8090-03-76	100	370
TOTAL	**680**	

TEMPORARY PAVEMENT MARKING (CATEGORY 0010)

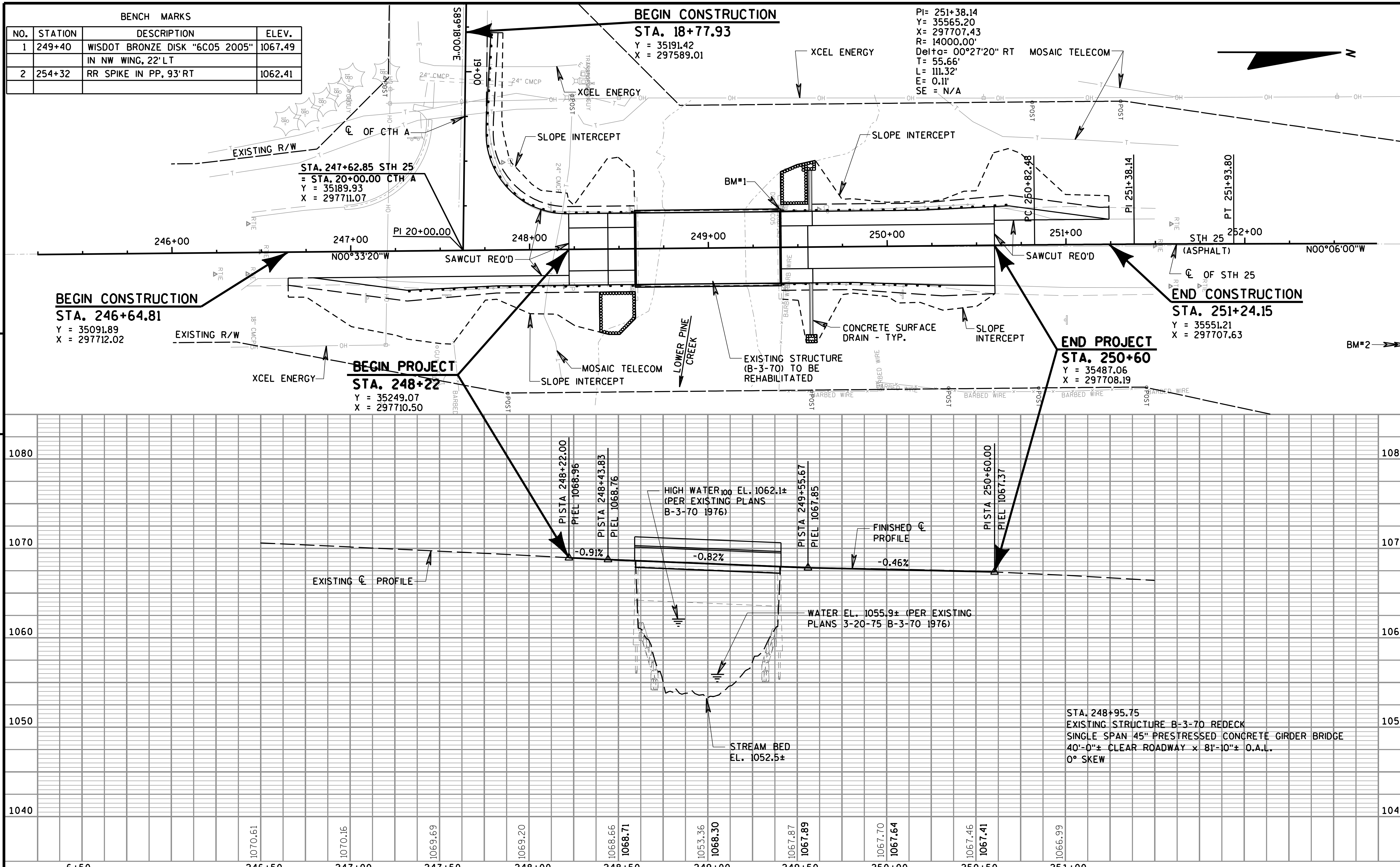
		649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH		649.0506 TEMPORARY PAVEMENT MARKING REMOVABLE MASK-OUT TAPE 6-INCH	649.1400 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH
		(YELLOW)	WHITE		(WHITE)
PROJECT ID	STAGE	LF	LF	LF	LF
8090-03-75	1	1400	650	575	24
	2	--	650	--	--
SUBTOTAL		1400	1300	575	24
8090-03-76	1	1700	325	600	36
	2	--	325	--	--
SUBTOTAL		1700	650	600	36
TOTAL		**5050**		**1175**	**60**

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES

		661.0100.01	661.0100.02
STRUCTURE NO.	PROJECT NO.	LS	LS
01. B-03-70	8090-03-75	1	--
02. B-03-69	8090-03-76	--	1

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	249+40	WISDOT BRONZE DISK "6C05 2005"	1067.49
		IN NW WING, 22' LT	
2	254+32	RR SPIKE IN PP, 93' RT	1062.41



BEGIN CONSTRUCTION
STA. 18+77.93
Y = 35191.42
X = 297589.01
PI= 251+38.14
Y= 35565.20
X= 297707.43
R= 14000.00'
Delta= 00°27'20" RT
T= 55.66'
L= 111.32'
E= 0.11'
SE = N/A
XCEL ENERGY
MOSAIC TELECOM
N
S89°18'00"E
19+00
24" CMCP
XCEL ENERGY
℄ OF CTH A
EXISTING R/W
SLOPE INTERCEPT
STA. 247+62.85 STH 25
= STA. 20+00.00 CTH A
Y = 35189.93
X = 297711.07
BM#1
PC 250+82.48
PI 251+38.14
PT 251+93.80
PI 20+00.00
246+00
247+00
248+00
249+00
250+00
251+00
252+00
STH 25
(ASPHALT)
N00°33'20"W
N00°06'00"W
SAWCUT REQ'D
℄ OF STH 25
BEGIN CONSTRUCTION
STA. 246+64.81
Y = 35091.89
X = 297712.02
END CONSTRUCTION
STA. 251+24.15
Y = 35551.21
X = 297707.63
EXISTING R/W
CONCRETE SURFACE DRAIN - TYP.
SLOPE INTERCEPT
END PROJECT
STA. 250+60
Y = 35487.06
X = 297708.19
BM#2
LOWER PINE CREEK
EXISTING STRUCTURE (B-3-70) TO BE REHABILITATED
MOSAIC TELECOM
XCEL ENERGY
BEGIN PROJECT
STA. 248+22
Y = 35249.07
X = 297710.50
BARBED WIRE
POST
5
1080
1070
1060
1050
1040
PI STA 248+22.00
PI EL 1068.96
PI STA 248+43.83
PI EL 1068.76
PI STA 249+55.67
PI EL 1067.85
PI STA 250+60.00
PI EL 1067.37
HIGH WATER100 EL. 1062.1± (PER EXISTING PLANS B-3-70 1976)
FINISHED ℄ PROFILE
-0.91%
-0.82%
-0.46%
EXISTING ℄ PROFILE
WATER EL. 1055.9± (PER EXISTING PLANS 3-20-75 B-3-70 1976)
STREAM BED EL. 1052.5±
STA. 248+95.75
EXISTING STRUCTURE B-3-70 REDECK
SINGLE SPAN 45" PRESTRESSED CONCRETE GIRDER BRIDGE
40'-0"± CLEAR ROADWAY x 81'-10"± O.A.L.
0° SKEW
1070.61
1070.16
1069.69
1069.20
1068.66
1068.71
1053.36
1068.30
1067.87
1067.89
1067.70
1067.64
1067.46
1067.41
1066.99
6+50
246+50
247+00
247+50
248+00
248+50
249+00
249+50
250+00
250+50
251+00

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	PLAN AND PROFILE - B-3-70	SCALE, FEET 0 25 50	SHEET 21	E

U:\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Roadway\421015 pp.dgn 4/21/2017 PENTABLE:BReau_shd_util.tbl BRIDGE 1:49.9999

WISDOT/CADDS SHEET 40

EXISTING R/W

SLOPE INTERCEPT

EXISTING STRUCTURE (B-3-69) TO BE REHABILITATED

MOSAIC TELECOM

SLOPE INTERCEPT

℄ OF PE

℄ OF STH 25

CONCRETE SURFACE DRAIN - TYP.

473+00 STH 25 (ASPHALT) 474+00 475+00 476+00 477+00 478+00 479+00 480+00

SAWCUT REQ'D

N00°44'21"E

SAWCUT REQ'D

STH 25 (ASPHALT)

℄ OF STH 25

PI 70+00.00

BM#1

BEGIN CONSTRUCTION
STA. 474+46.43
Y = 56260.79
X = 303083.81

SLOPE INTERCEPT

SLOPE INTERCEPT

END CONSTRUCTION
STA. 478+13.27
Y = 56627.59
X = 303088.54

BM#2

℄ OF CTH U

EXISTING R/W

BEGIN PROJECT
STA. 475+38
Y = 56352.34
X = 303084.99

UPPER PINE CREEK

END PROJECT
STA. 477+86
Y = 56600.32
X = 303088.19

XCEL ENERGY

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	476+24	CHISLED SQUARE IN TOP OF SE WING, 22' RT	1103.32
2	478+77	RR SPIKE IN PP, 56' RT	1100.60

HIGH WATER 100 EL. 1098.0±
(PER EXISTING PLANS - B-3-69 1976)

PI STA 475+38.00
PI EL 1103.57

PI STA 476+08.35
PI EL 1103.90

PI STA 476+95.32
PI EL 1104.46

PI STA 477+86.00
PI EL 1105.15

FINISHED ℄ PROFILE

+0.47%

+0.64%

+0.77%

EXISTING ℄ PROFILE

WATER EL. 1091.4± (PER EXISTING PLANS
3-13-75 - B-3-69 1976)

STREAM BED
EL. 1088.7±

STA. 476+52.33
EXISTING STRUCTURE B-3-69 REDECK
SINGLE SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE
40'-0"± CLEAR ROADWAY x 53'-10¼" ± O.A.L.
7° SKEW

1120 1110 1100 1090 1080

1103.27 1103.47 1103.59 **1103.62** 1103.76 **1103.86** 1088.90 **1104.17** 1104.30 **1104.49** 1104.82 **1104.88** 1105.28 1105.78 1106.36

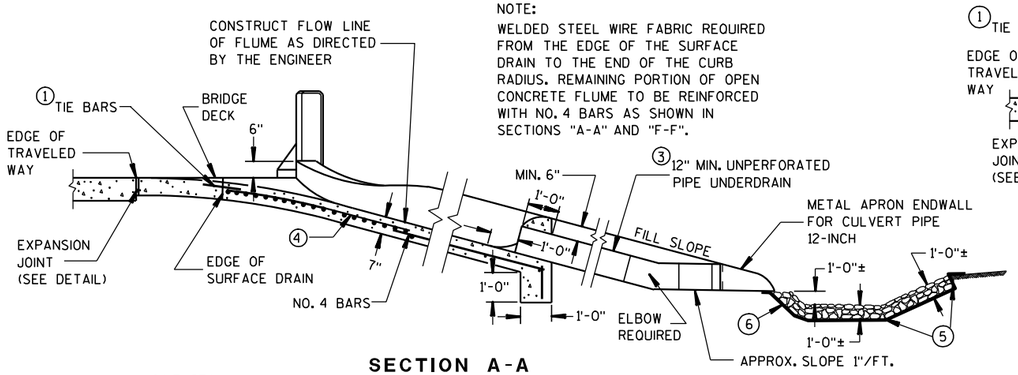
474+50 475+00 475+50 476+00 476+50 477+00 477+50 478+00 478+50 479+00

PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	PLAN AND PROFILE - B-3-69	SCALE, FEET 0 25 50	SHEET 22	E

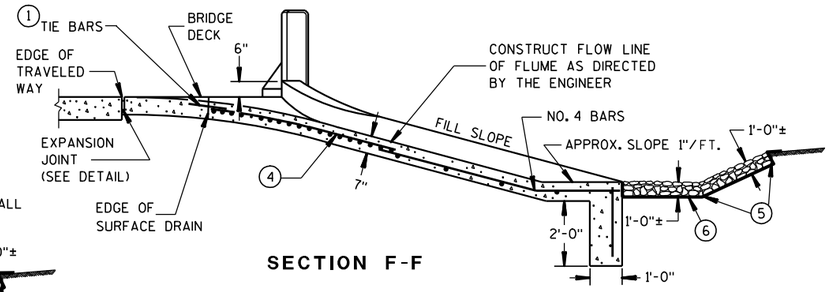
Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
09G02-04A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-09A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
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)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-04	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

6



SECTION A-A



SECTION F-F

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

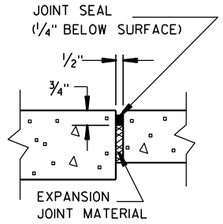
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

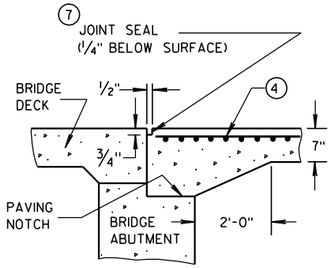
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

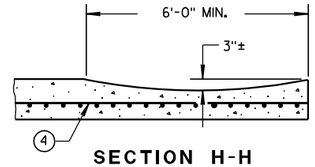
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



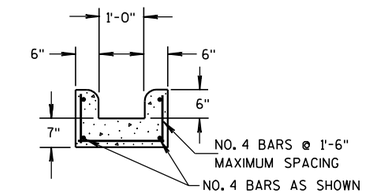
EXPANSION JOINT DETAIL



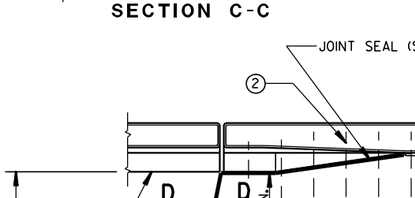
SECTION D-D



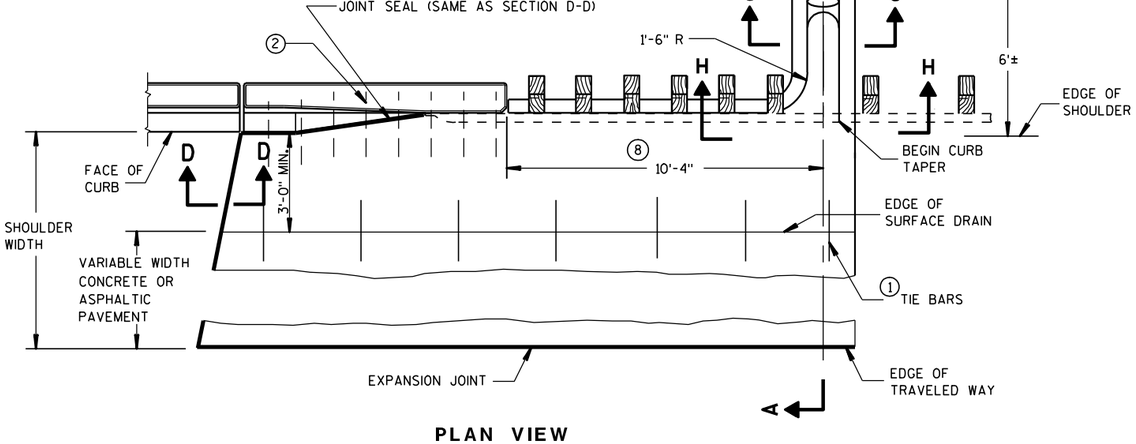
SECTION H-H



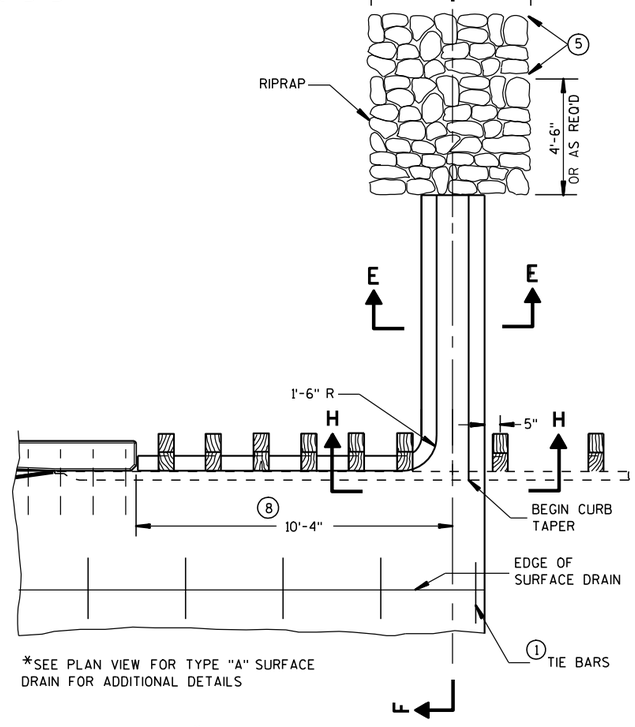
SECTION E-E



SECTION C-C

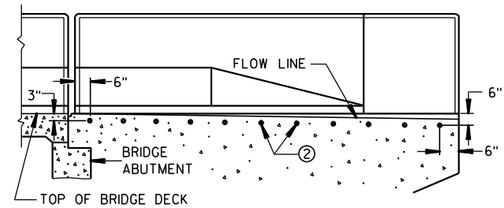


PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"



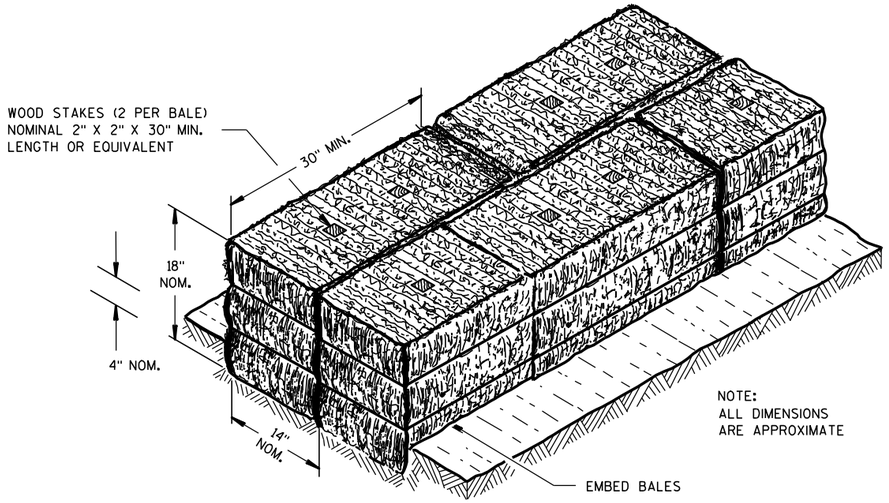
LOCATION OF
TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

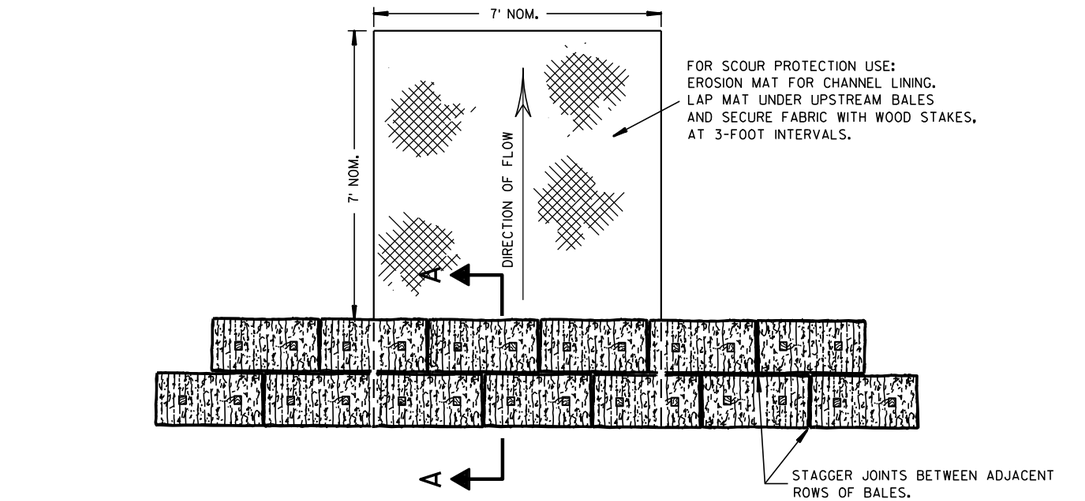
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

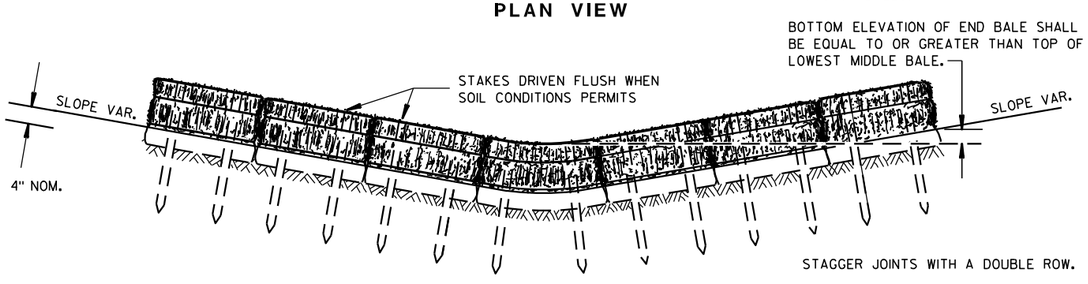
6
S.D.D. 8 D 2-6



SECTION A-A



PLAN VIEW



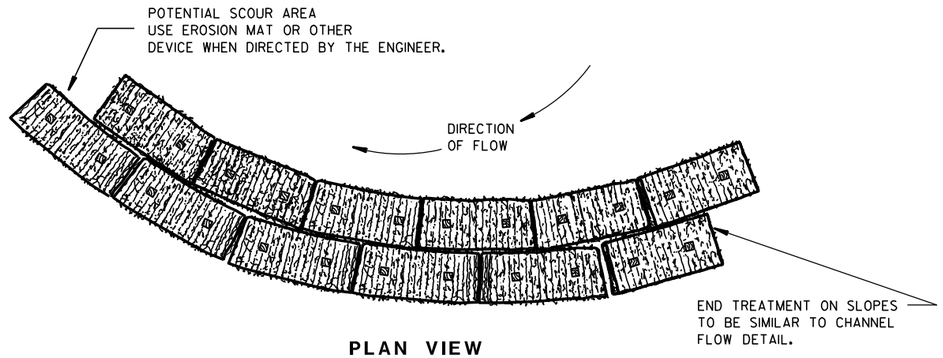
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

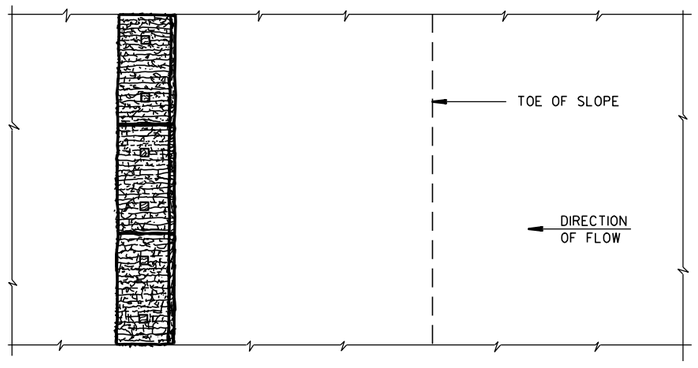
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

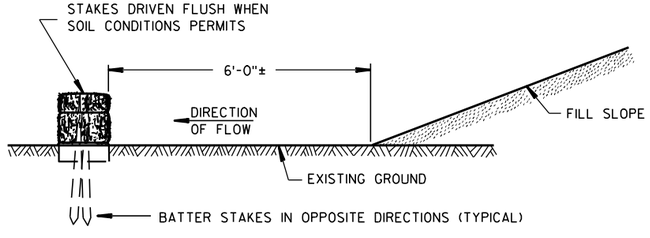


PLAN VIEW

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

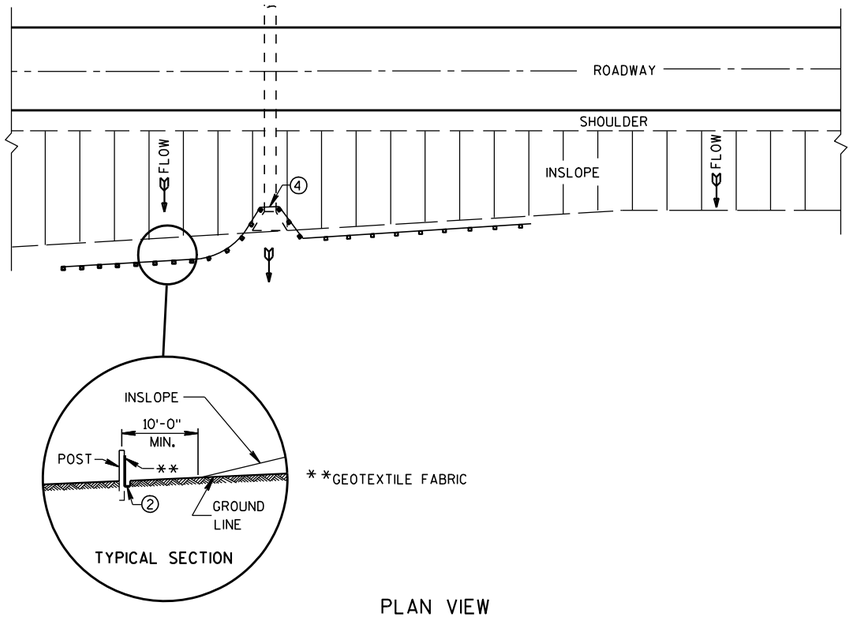
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

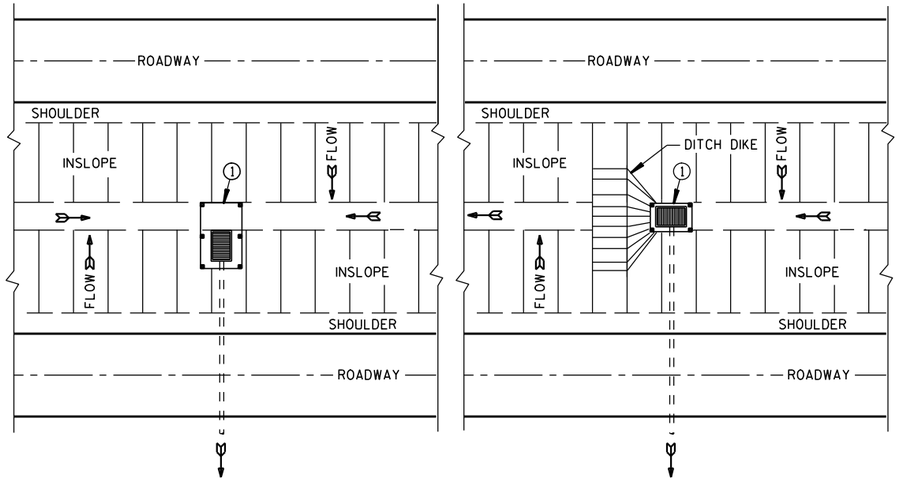
6

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.

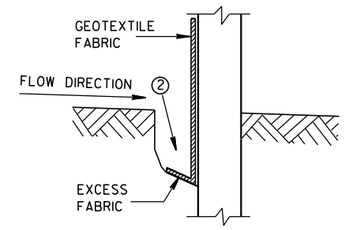
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

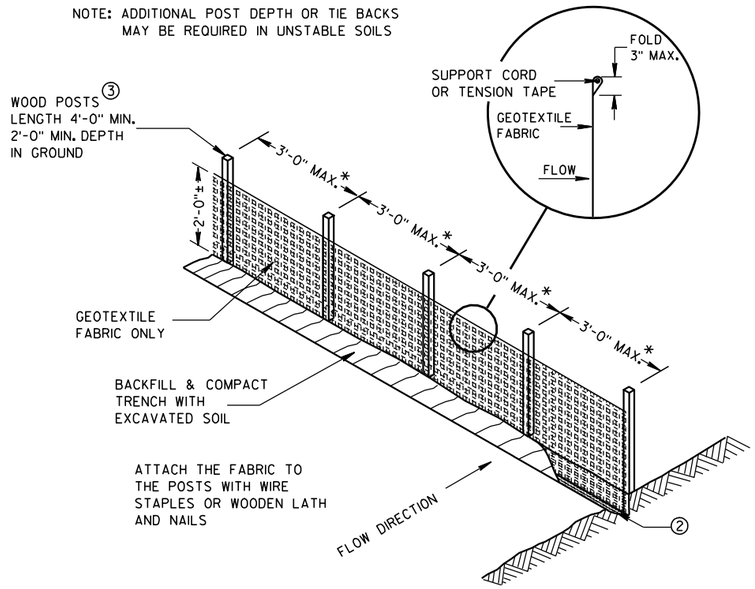
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

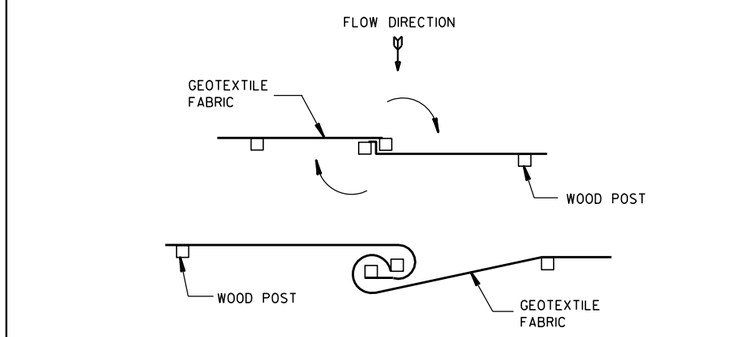
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



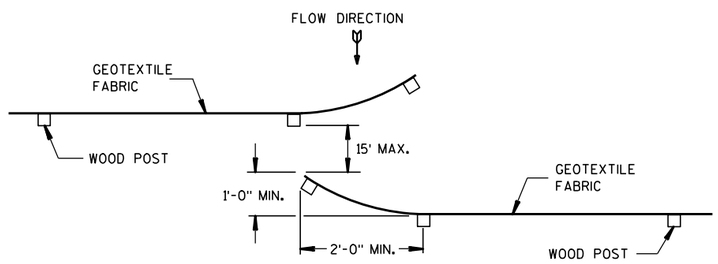
TRENCH DETAIL



SILT FENCE

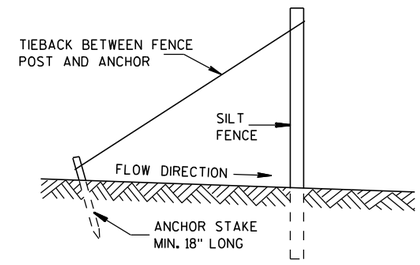


TWIST METHOD



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

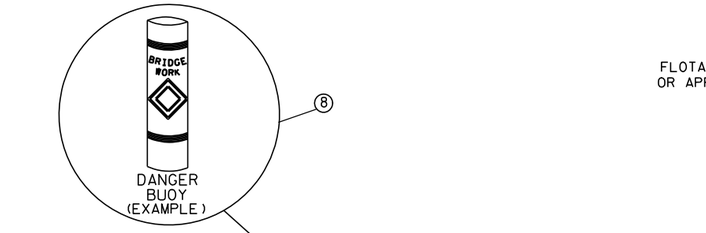
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

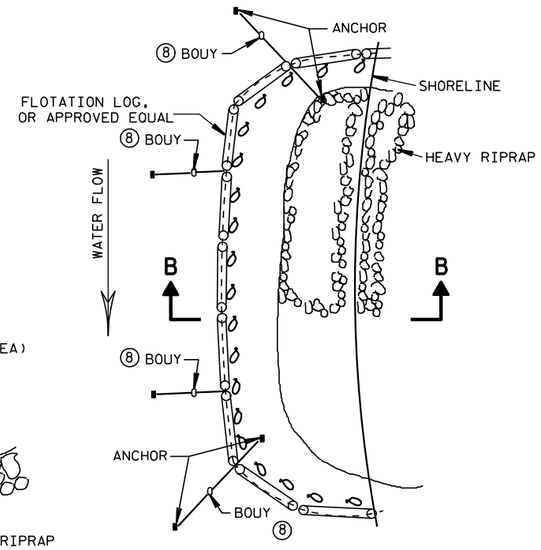
S.D.D. 8 E 9-6

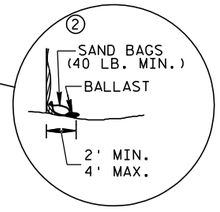
6

S.D.D. 8 E 9-6

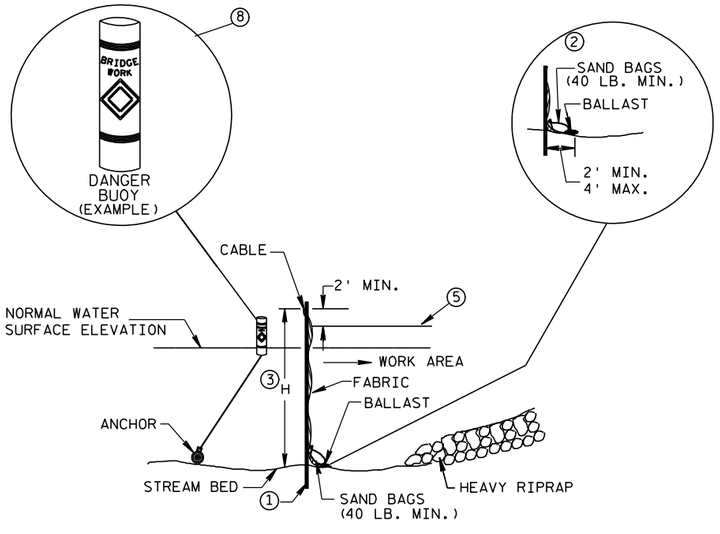


SECTION B-B

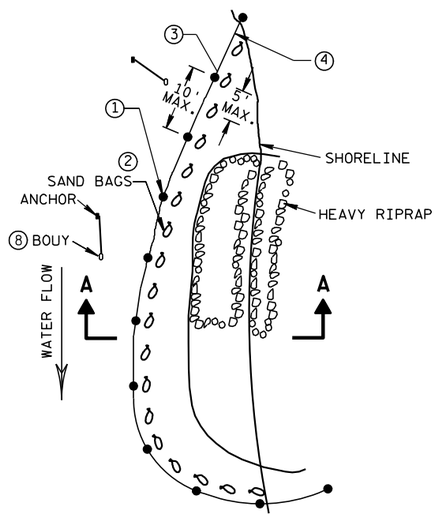




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

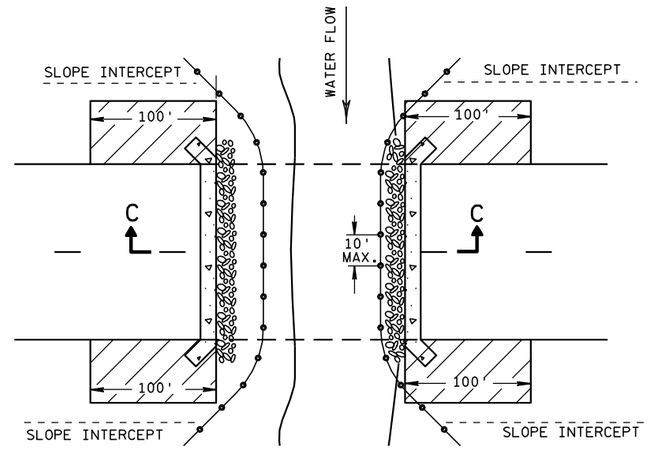
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

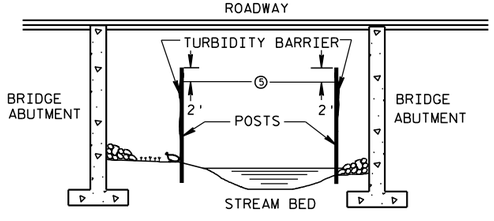
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

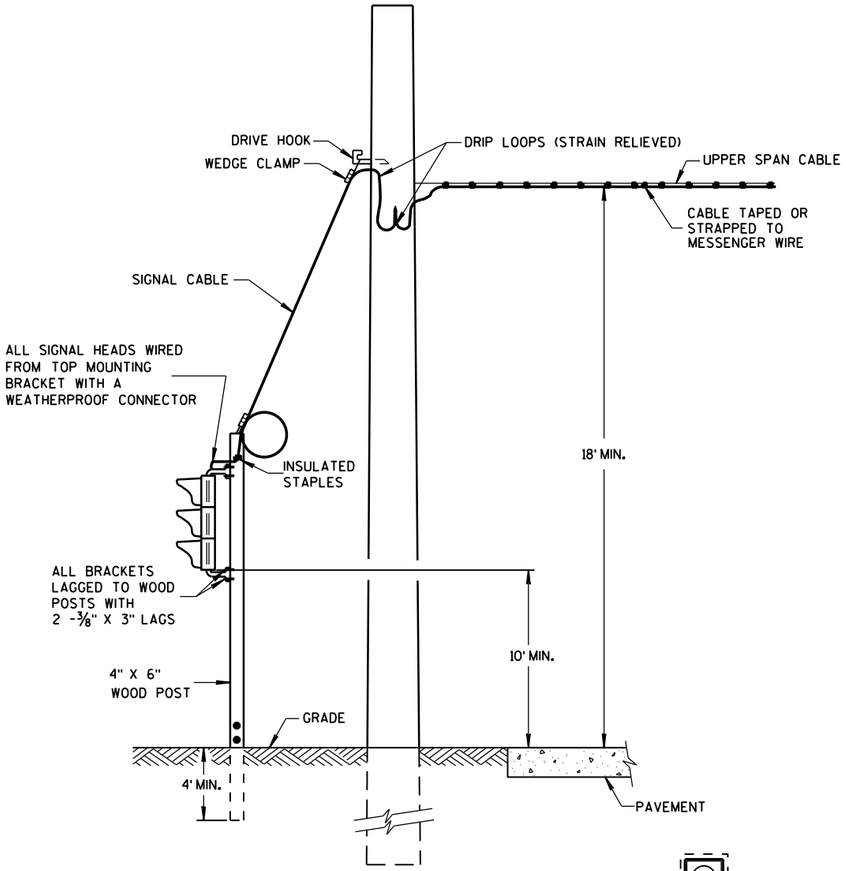
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

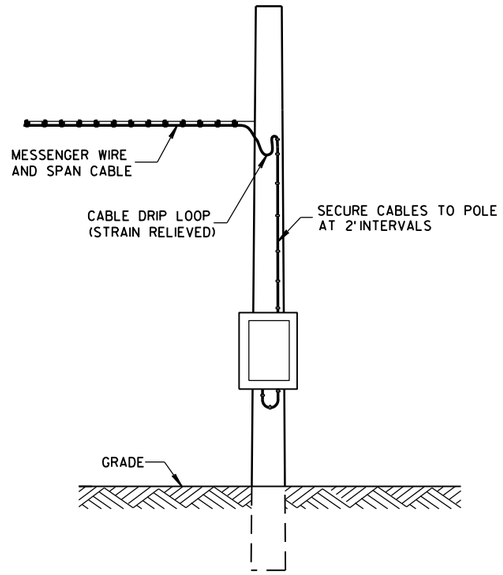
S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

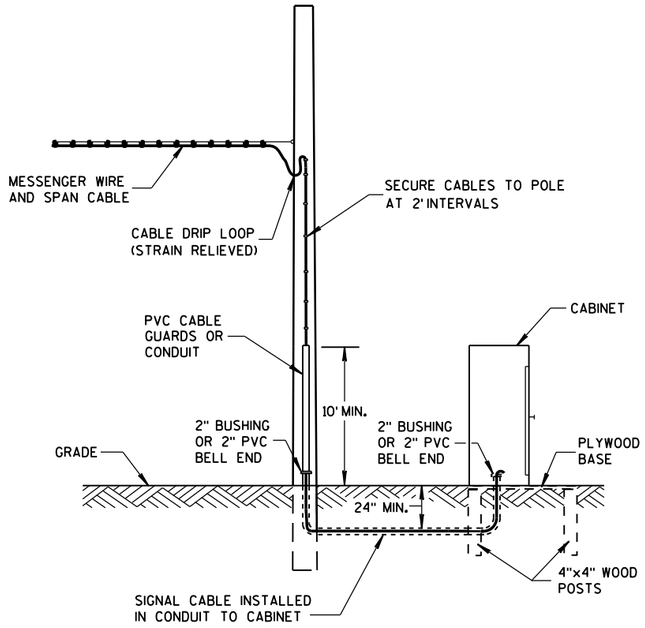
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

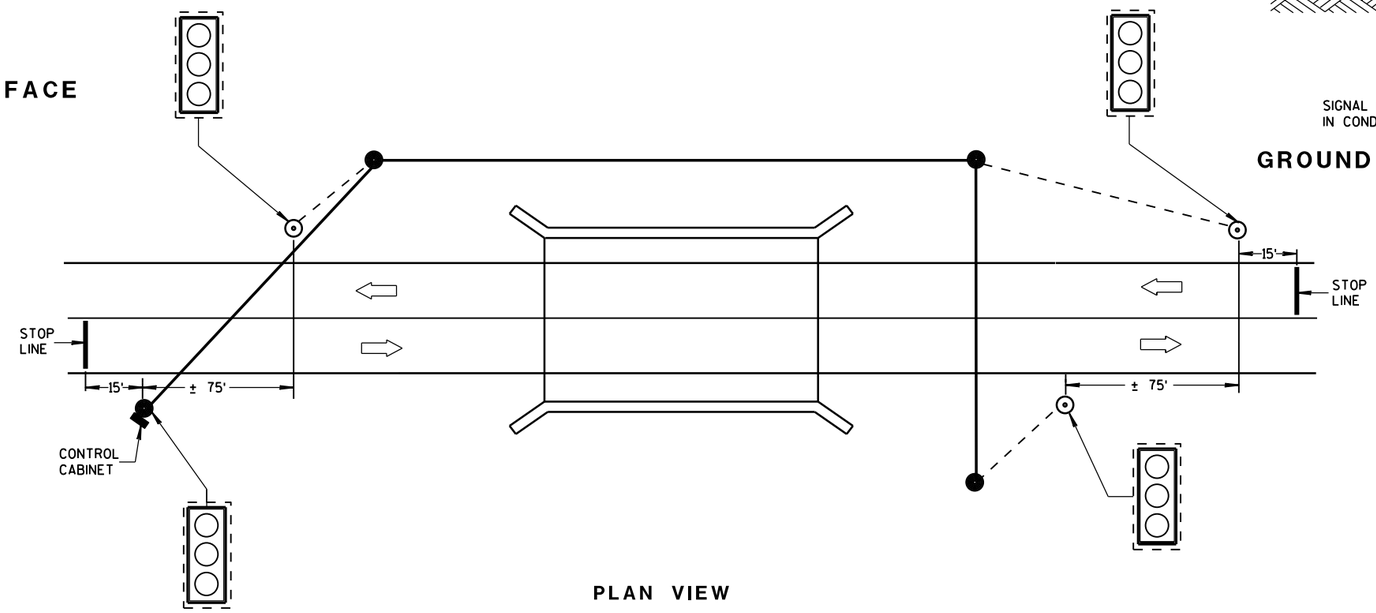
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.



PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE (3-12")
- DIRECTION OF TRAFFIC

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 (DATE)
/S/ Ahmet Demirbilek (STATE ELECTRICAL)
FHWA

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S.D.D. 9 G 2-4a

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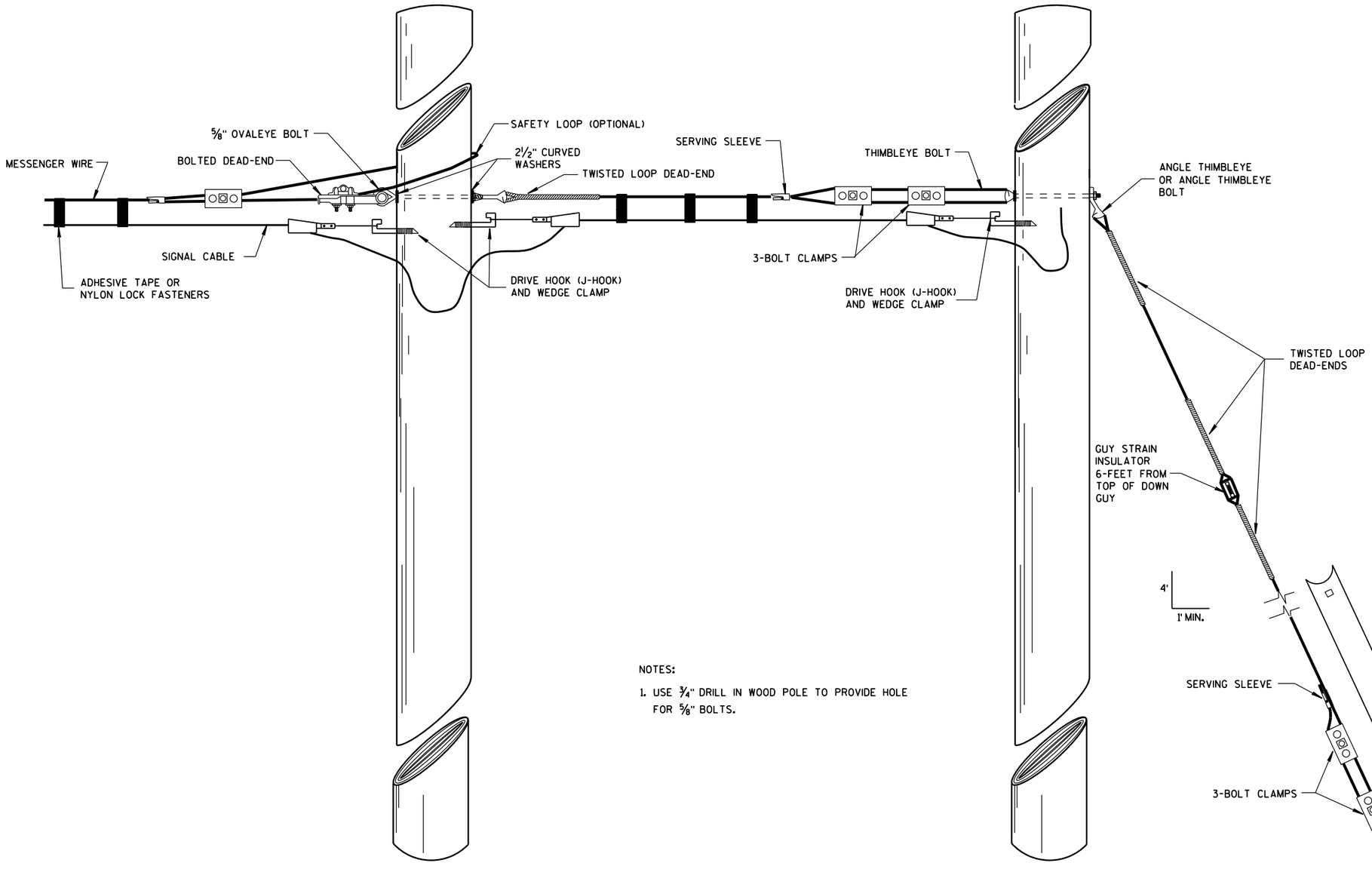
S.D.D. 9 G 2-4a



SPAN WIRE POLE

GUY POLE

NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

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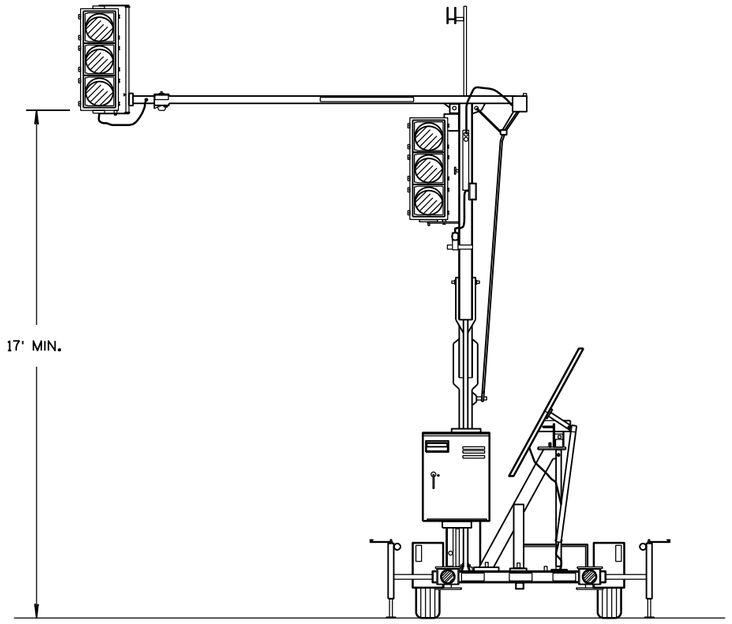
S.D.D. 9 G 2-4b

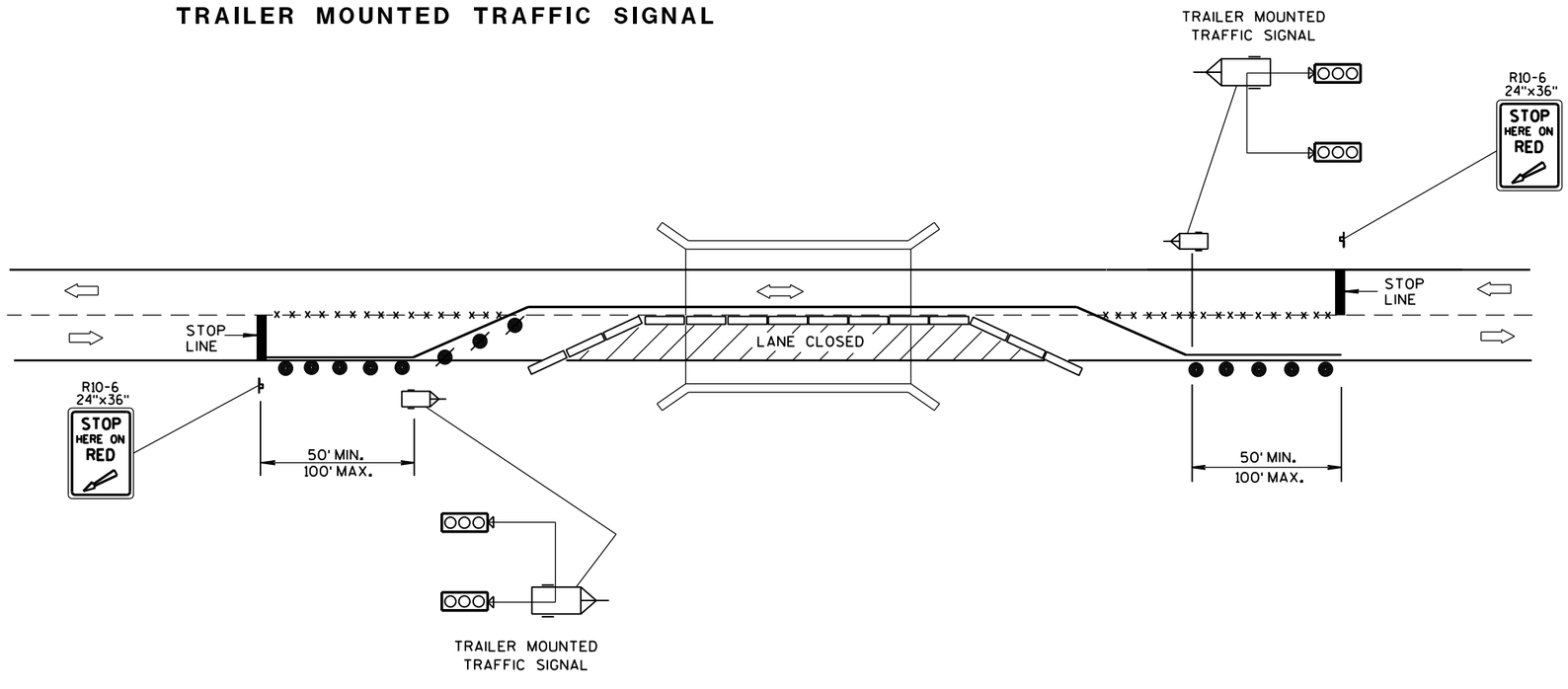


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

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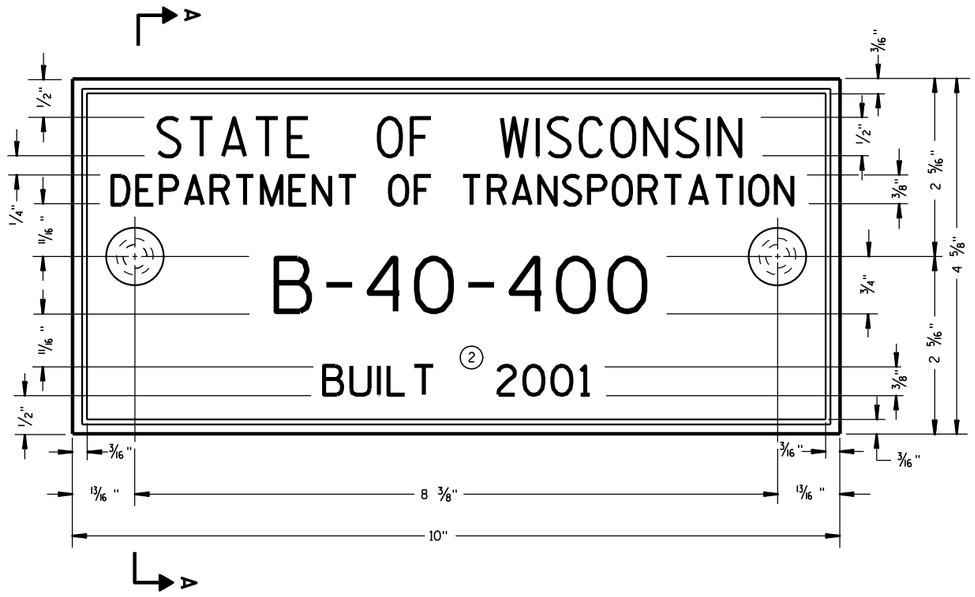
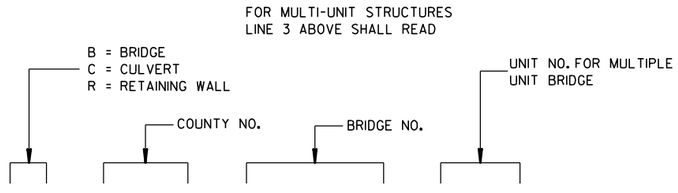
S.D.D. 9 G 2-4c



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

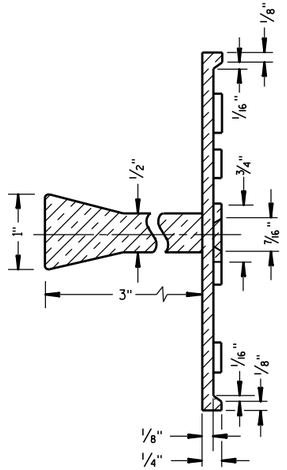
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

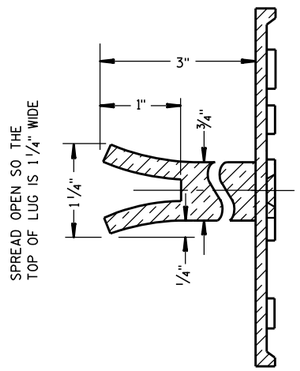
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

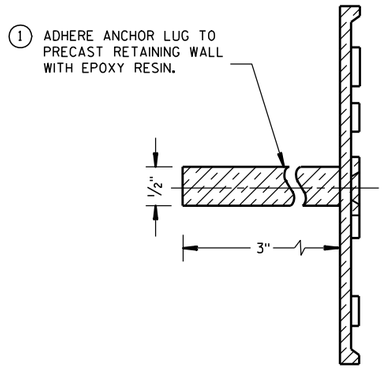
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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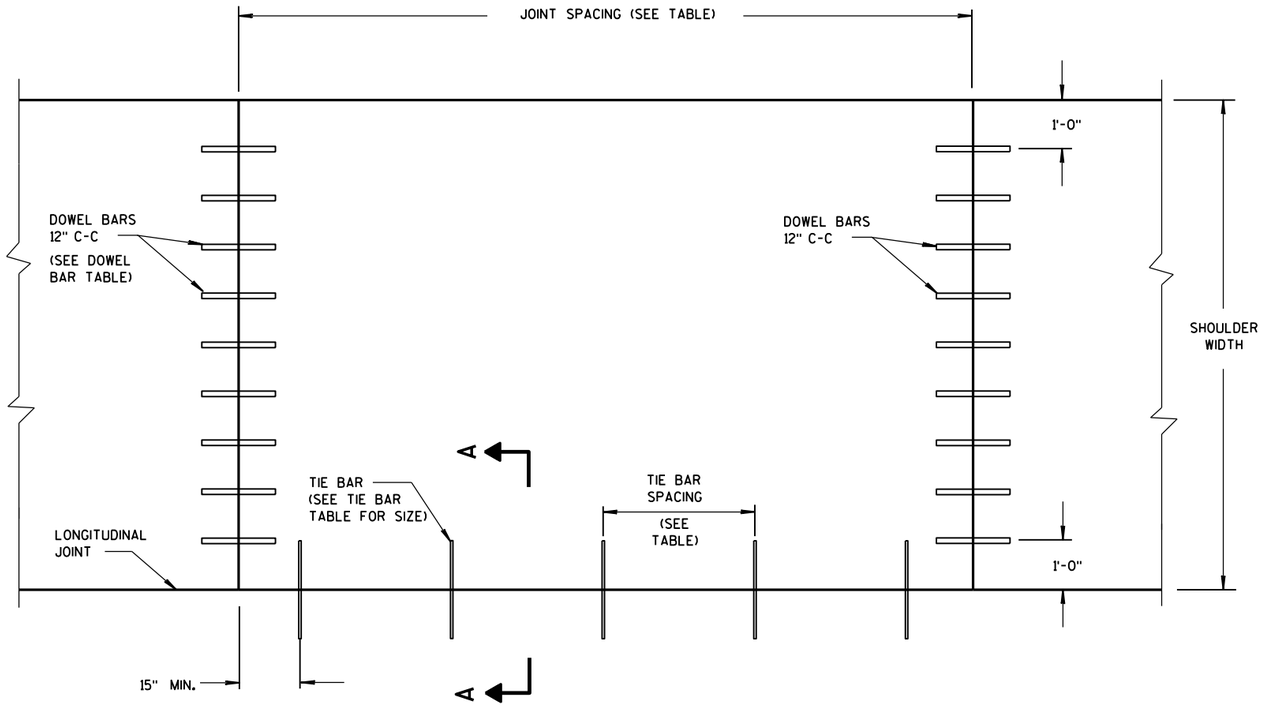
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

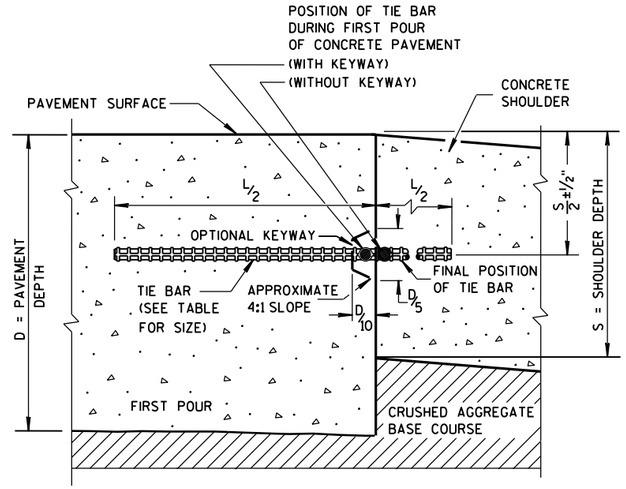
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 A 3-6

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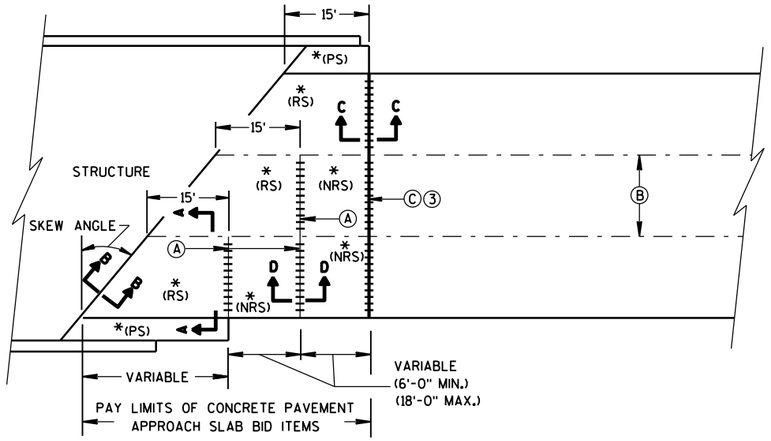
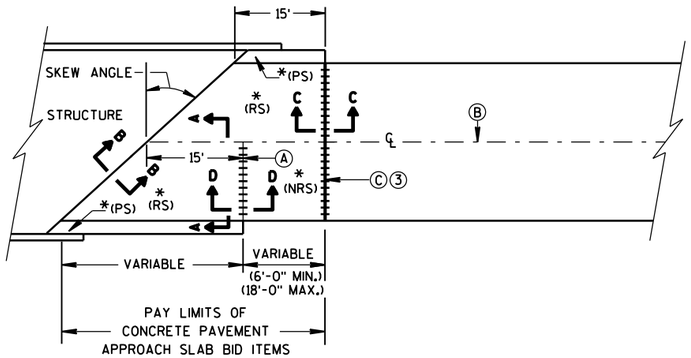
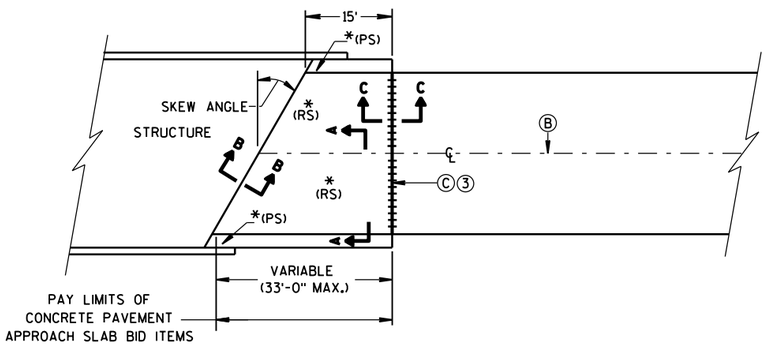
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



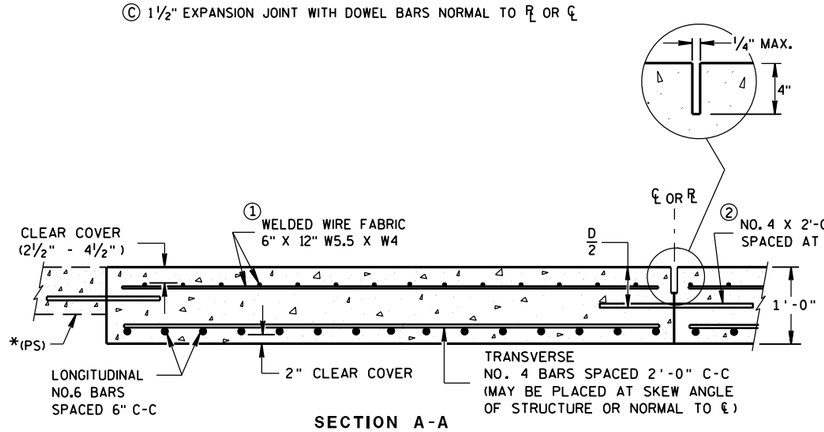
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

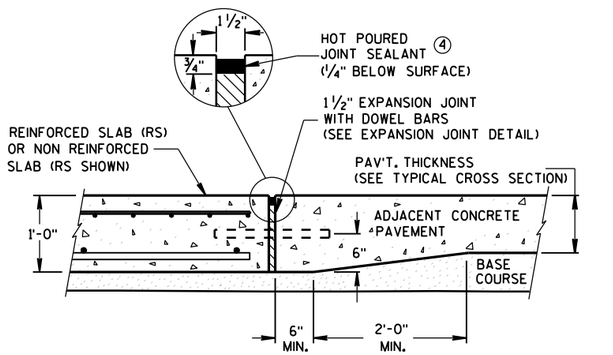
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

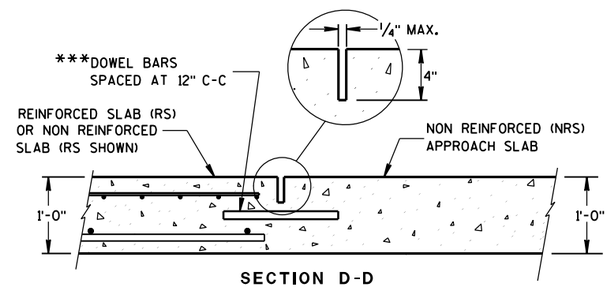
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

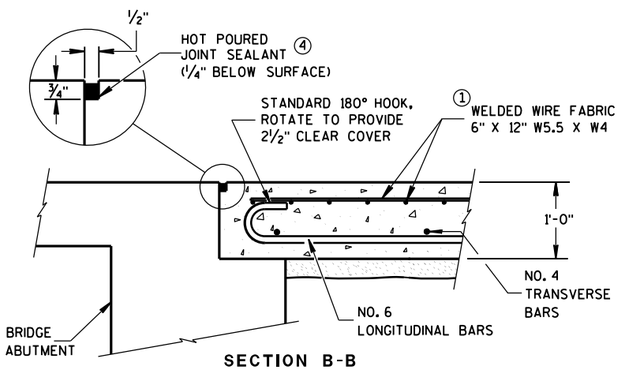
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

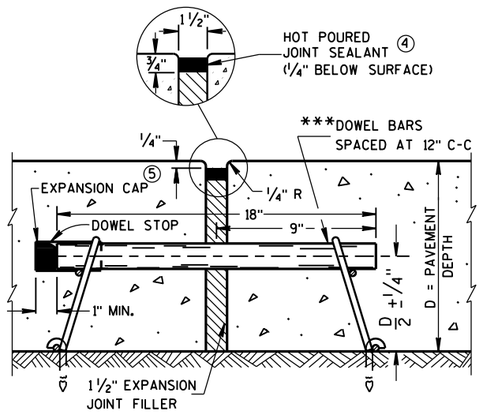
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPE
FHWA

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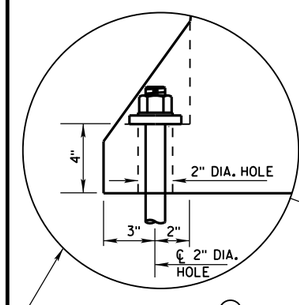
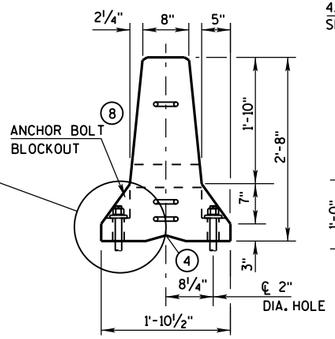
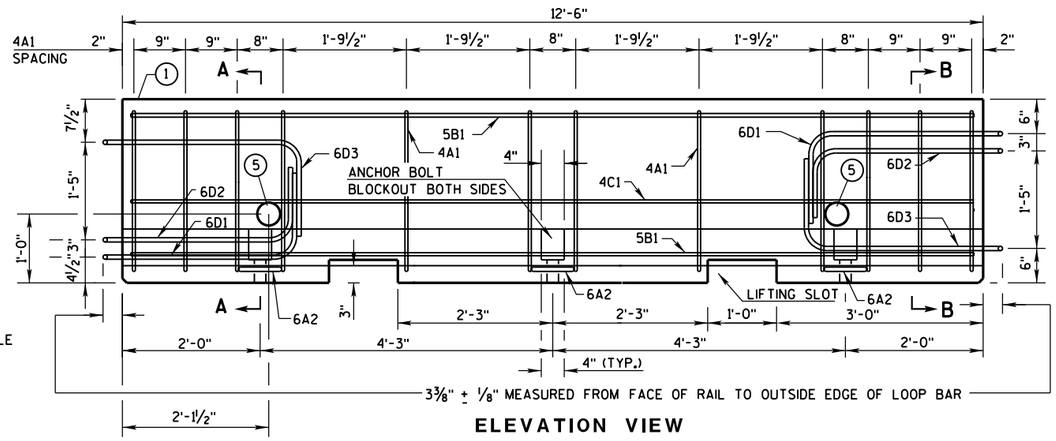
S.D.D. 13 B 2-8a

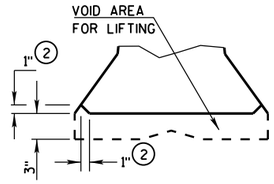




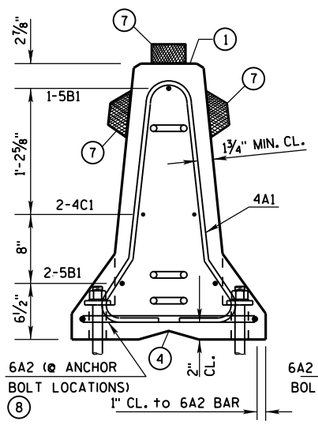
END VIEW



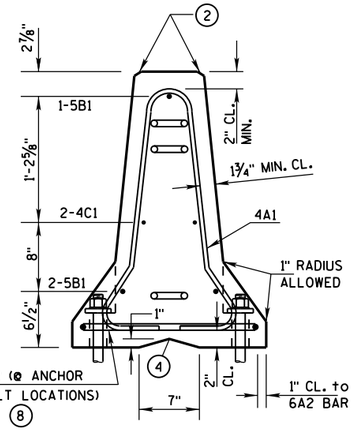
ELEVATION VIEW



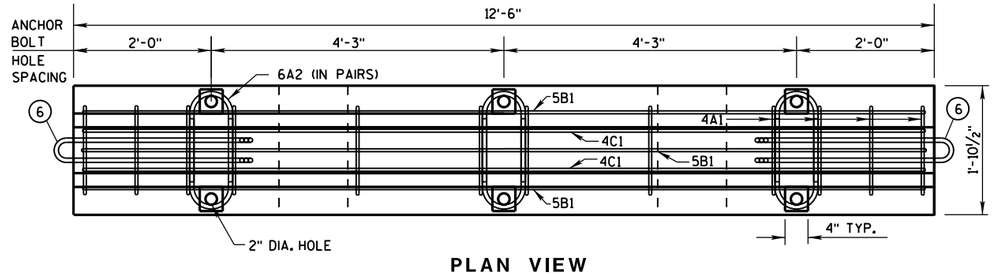
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

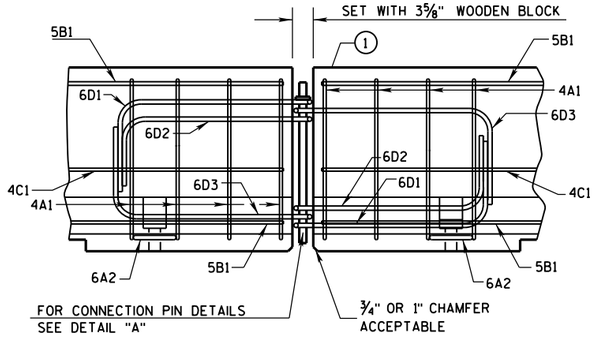


SECTION B-B
(STIRRUP PLACEMENT)

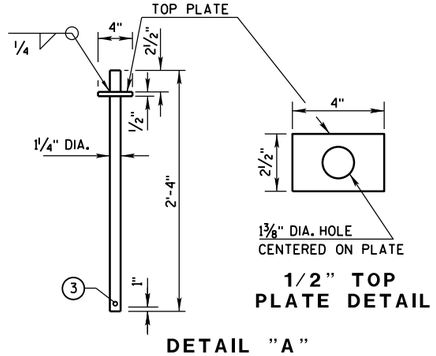


PLAN VIEW

DETAILS OF BARRIER SECTION

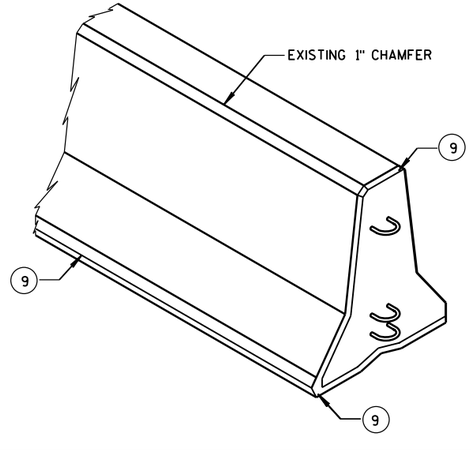


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

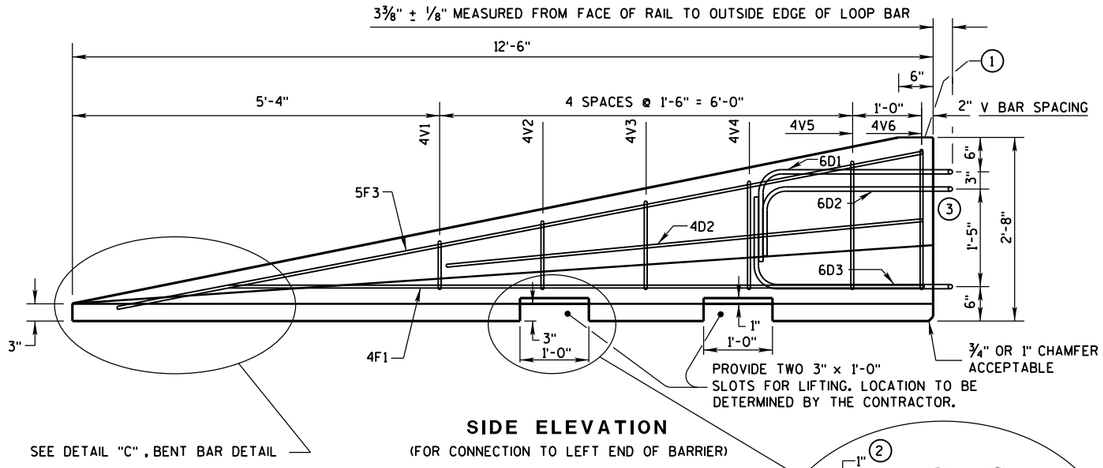
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

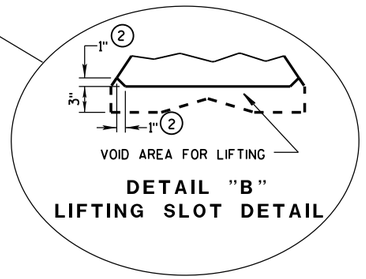
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

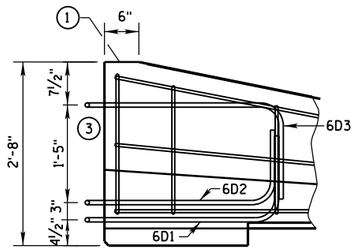
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



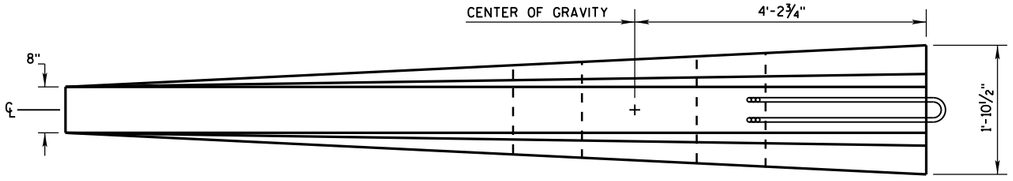
DETAIL "B"
LIFTING SLOT DETAIL



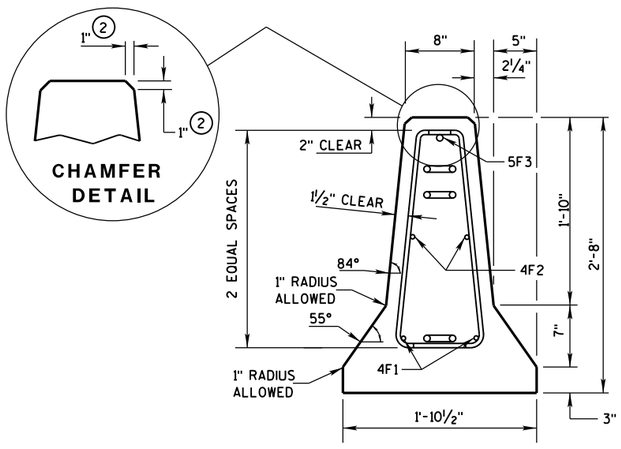
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

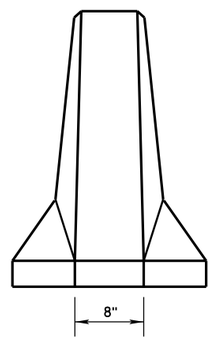
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



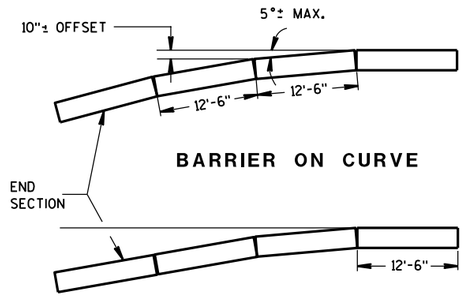
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

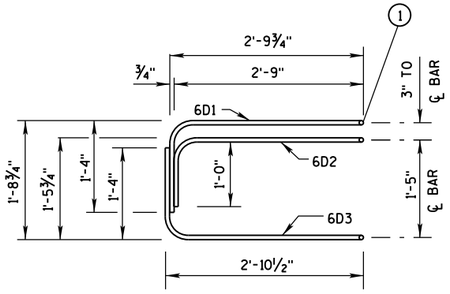
6

S.D.D. 14 B 7-14b

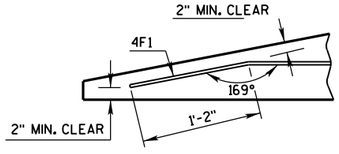
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

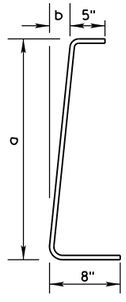
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

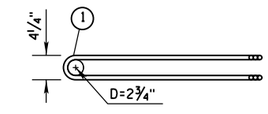
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

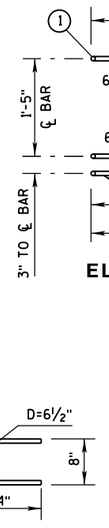
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

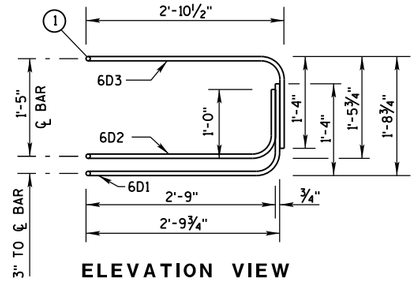
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



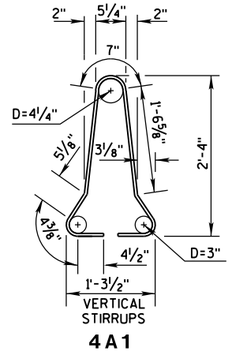
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



4A1

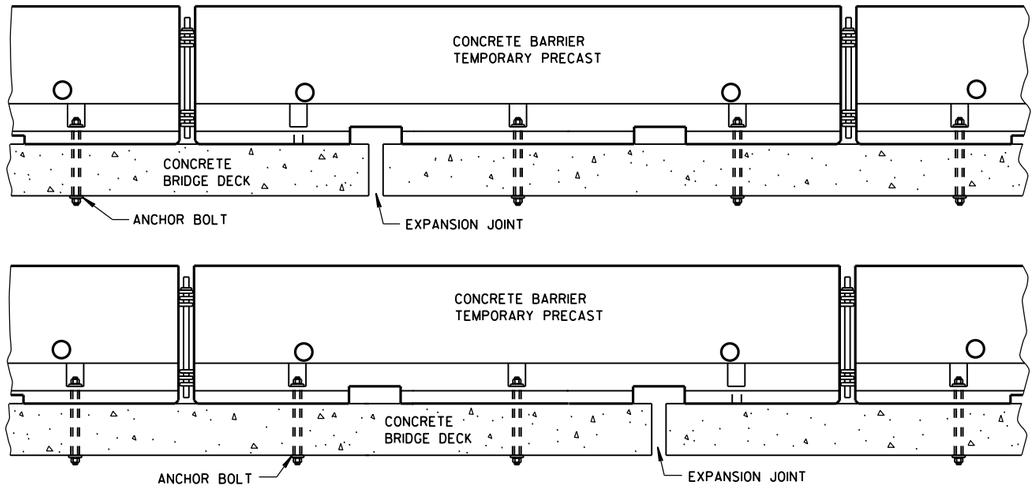
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

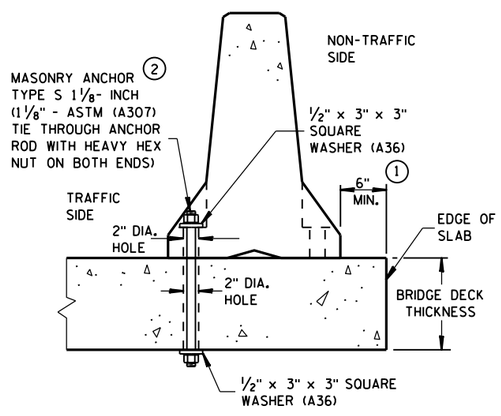
6

S.D.D. 14 B 7-14c



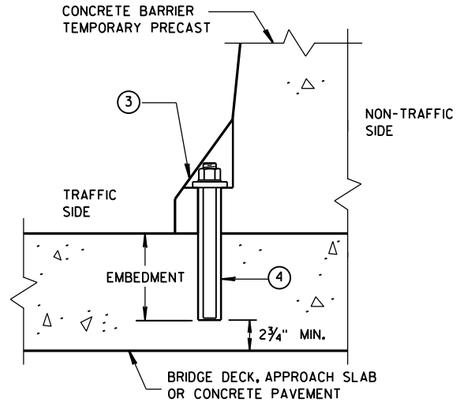
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

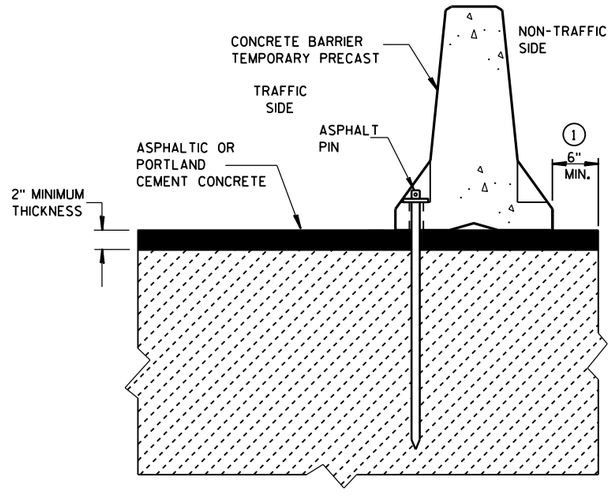
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

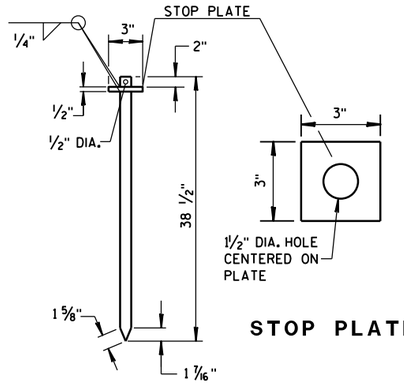
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



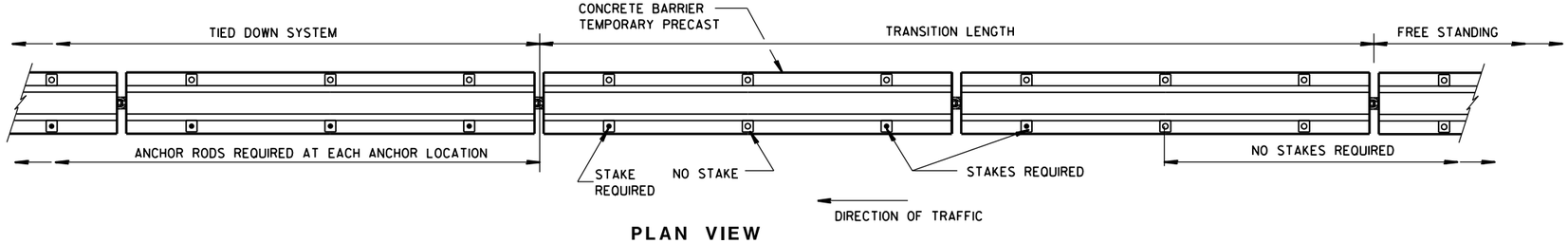


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

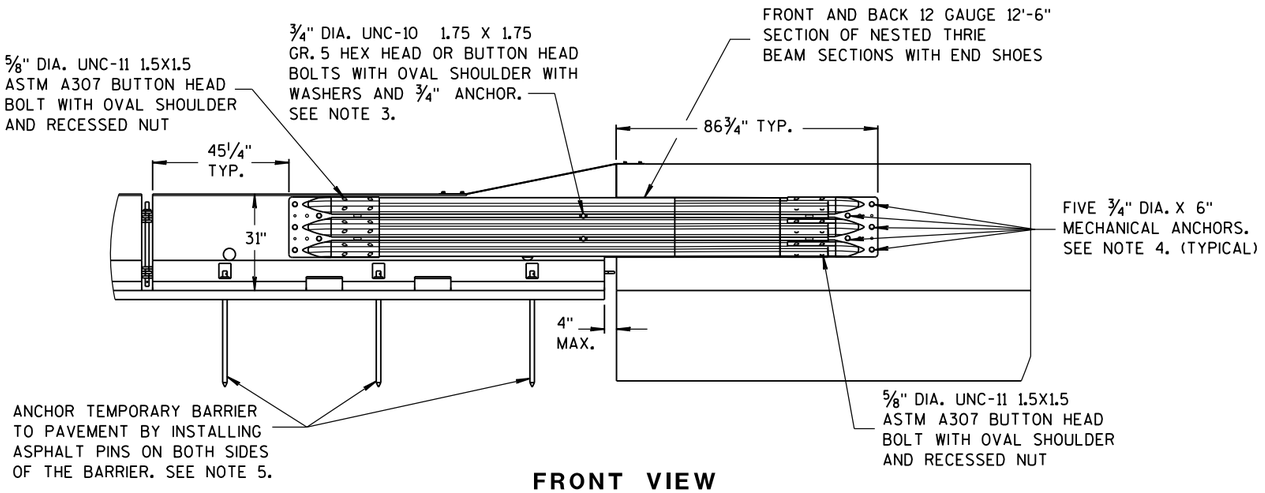
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

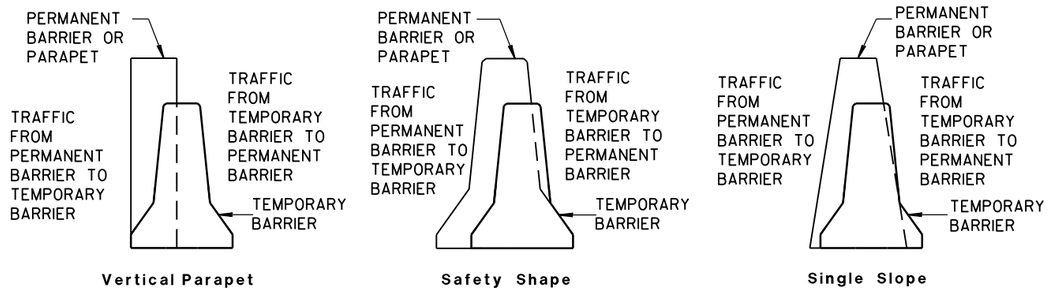
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



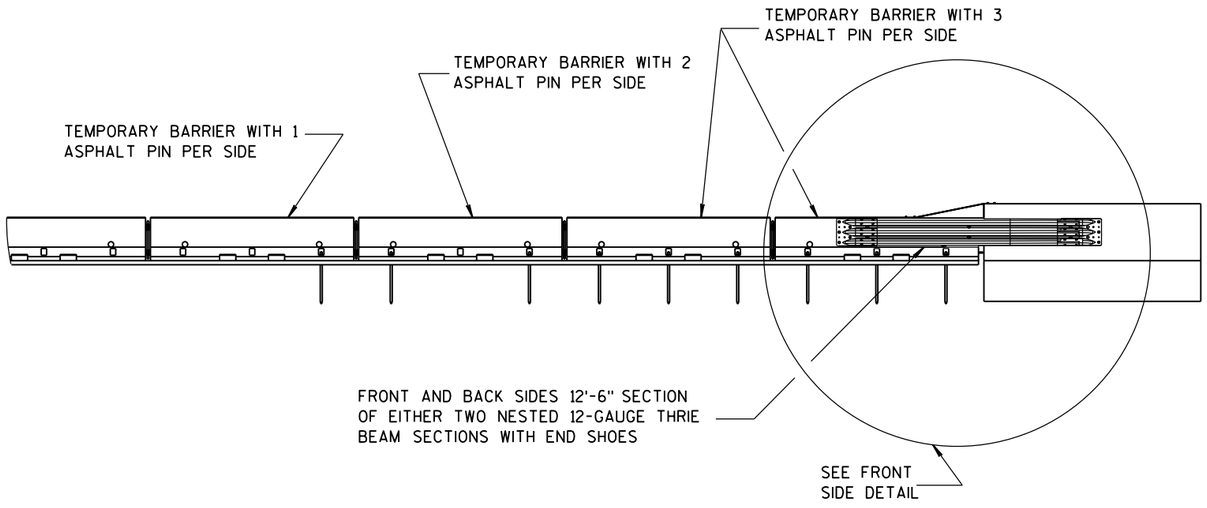
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

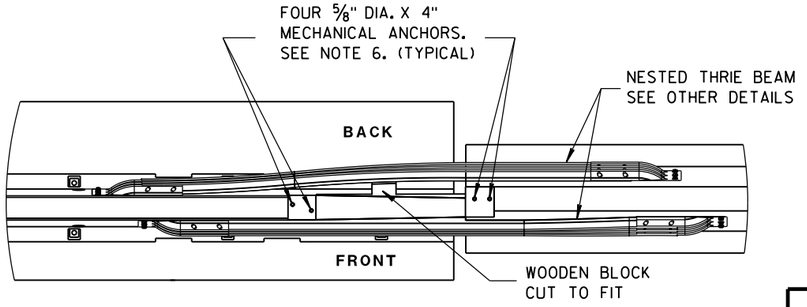
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW



FRONT VIEW



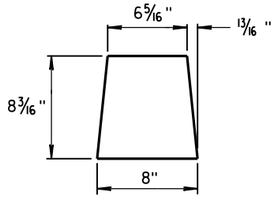
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

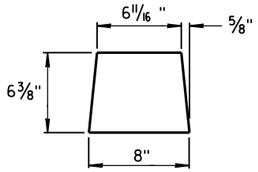
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

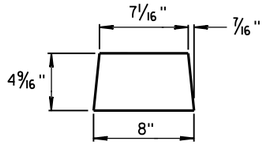
6
S.D.D. 14 B 7-14e



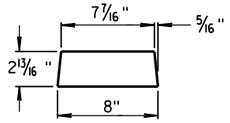
GUSSET 1



GUSSET 2

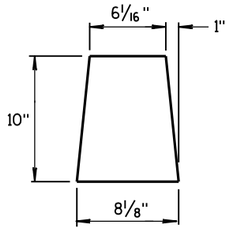


GUSSET 3

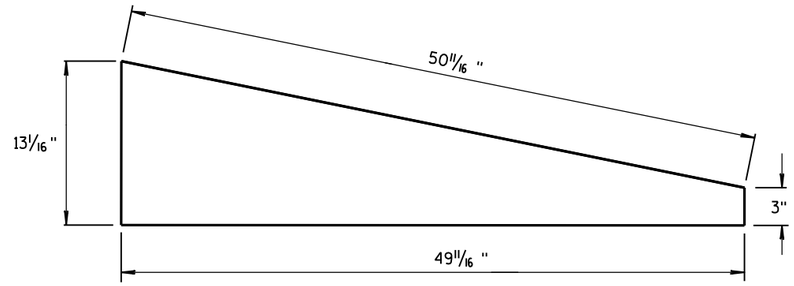


GUSSET 4

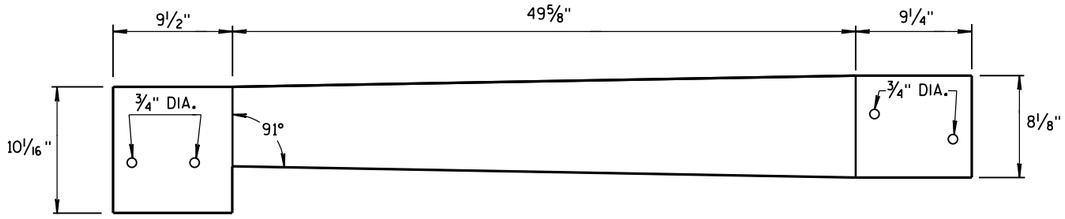
GUSSETS

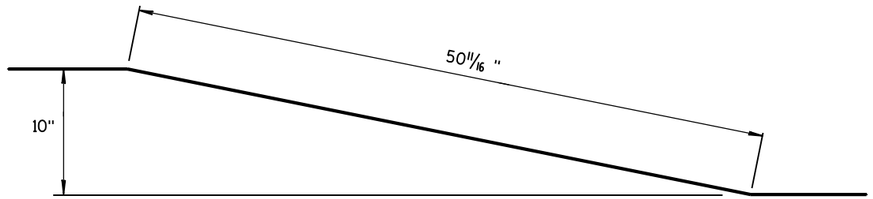


END PLATE



SIDE PLATE

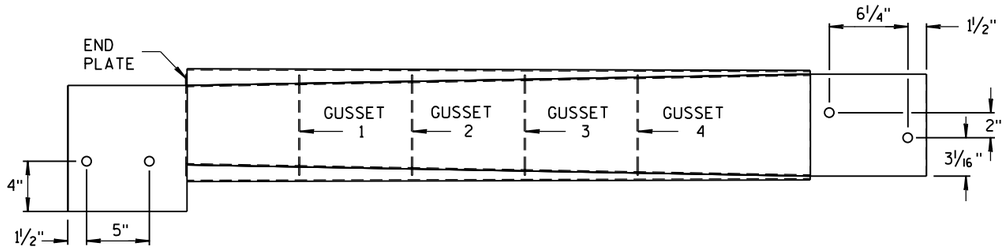


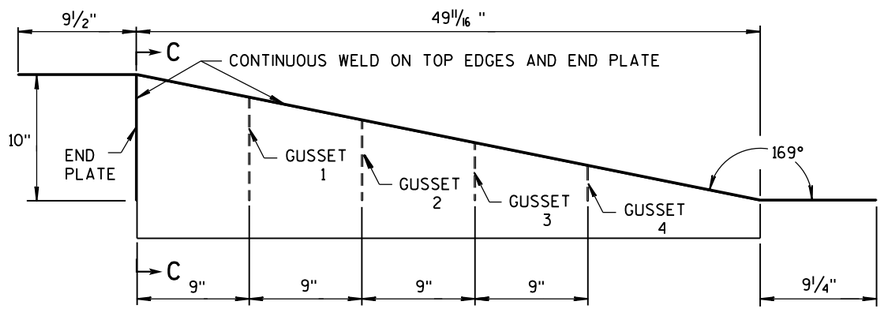


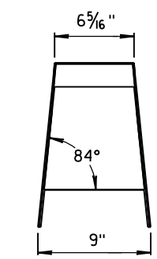
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

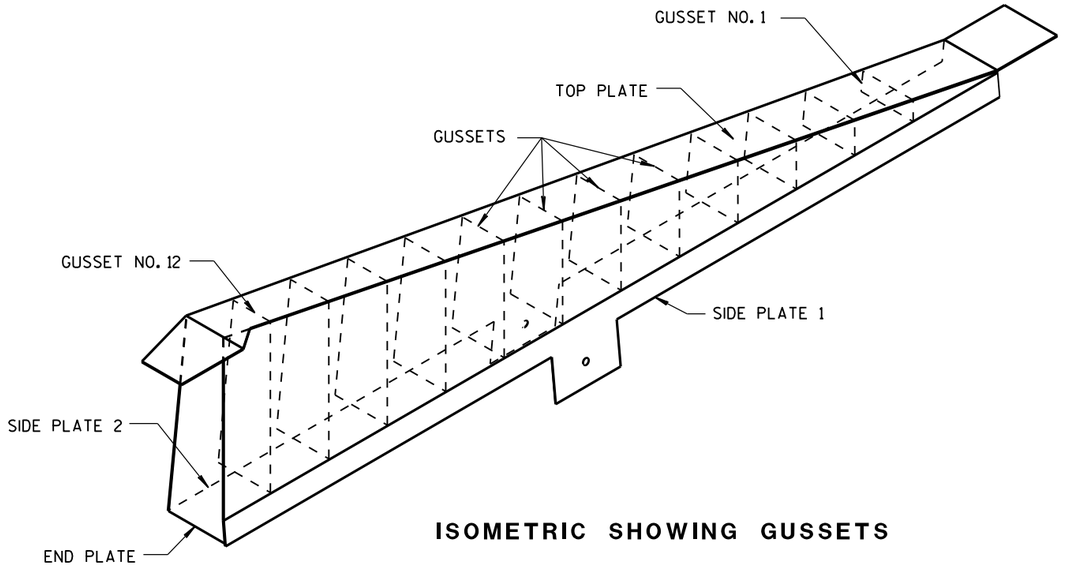
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

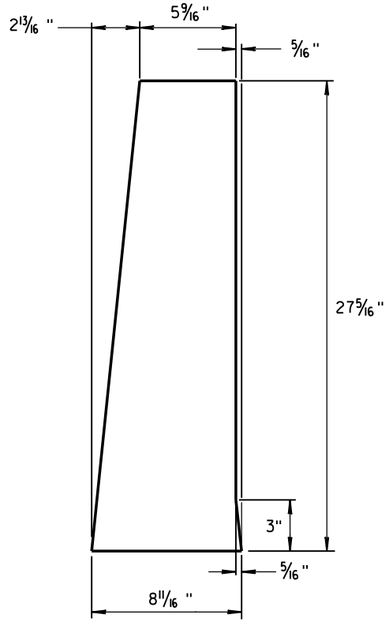
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

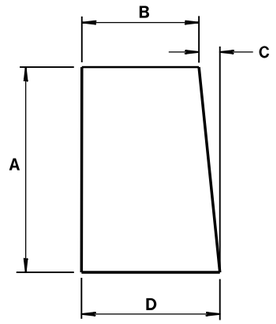


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



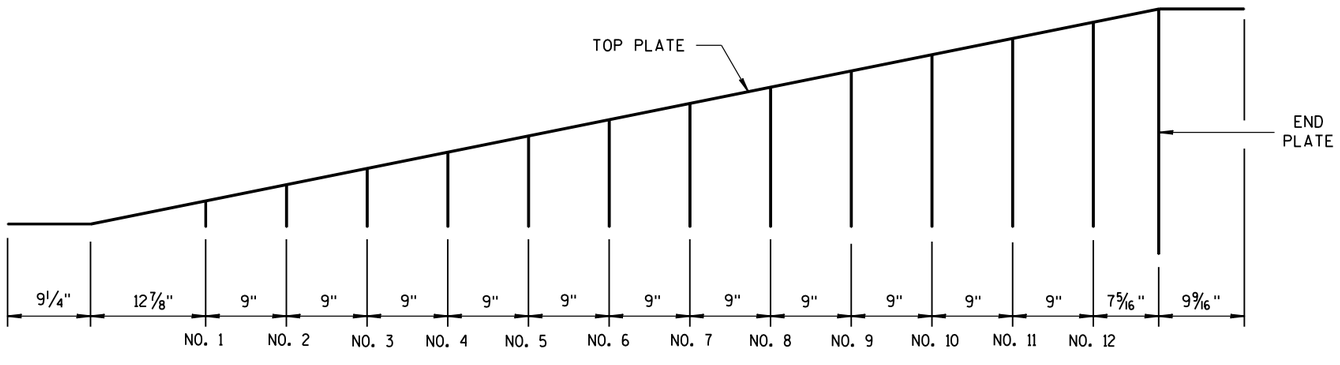
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

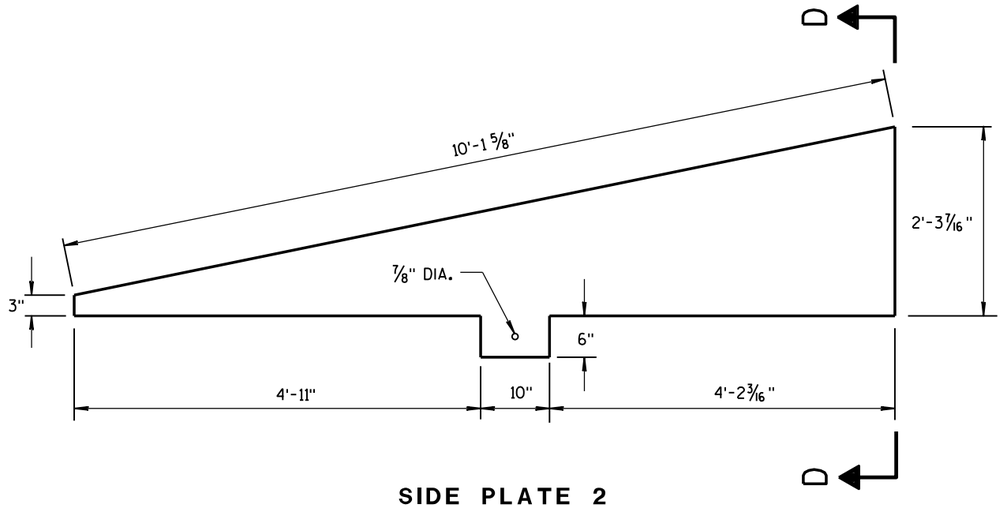
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

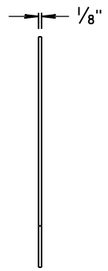
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

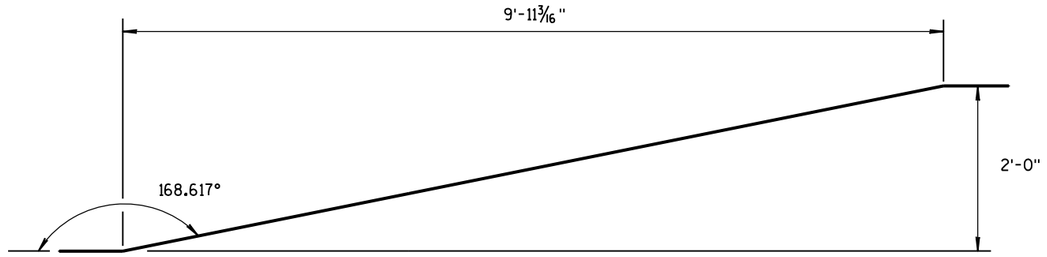
S.D.D. 14 B 7-14g



SIDE PLATE 2

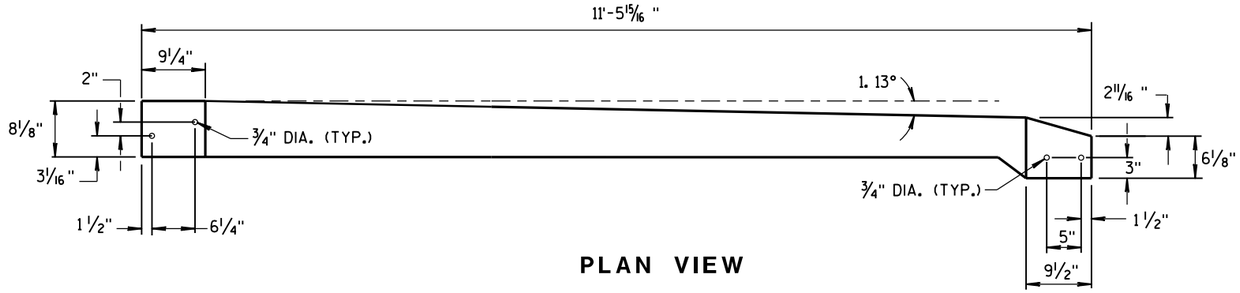


END VIEW



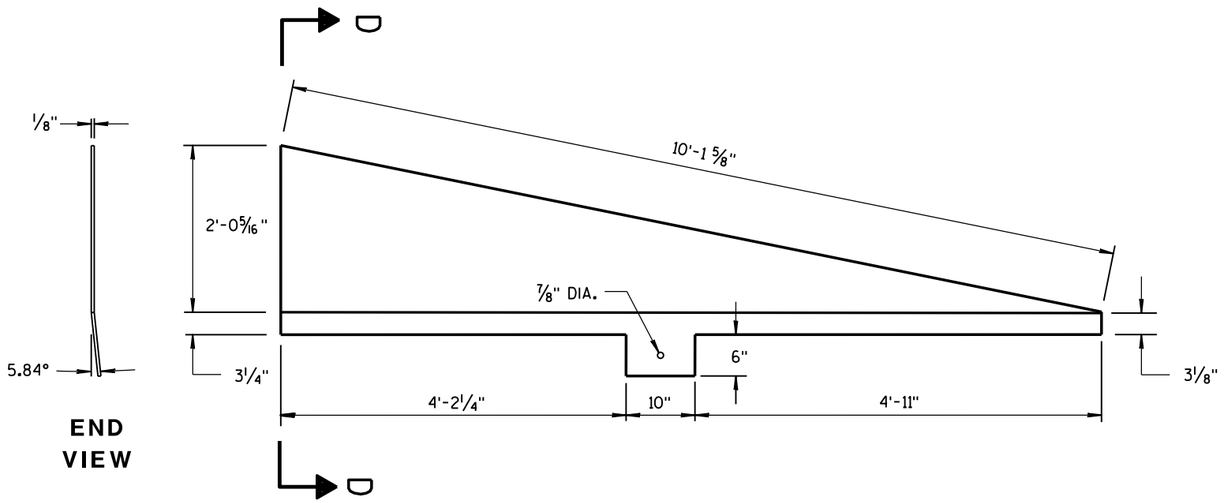
SIDE VIEW

TOP PLATE



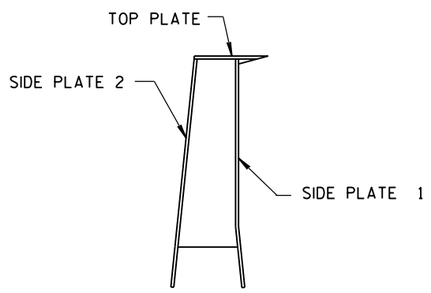
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 7-14h

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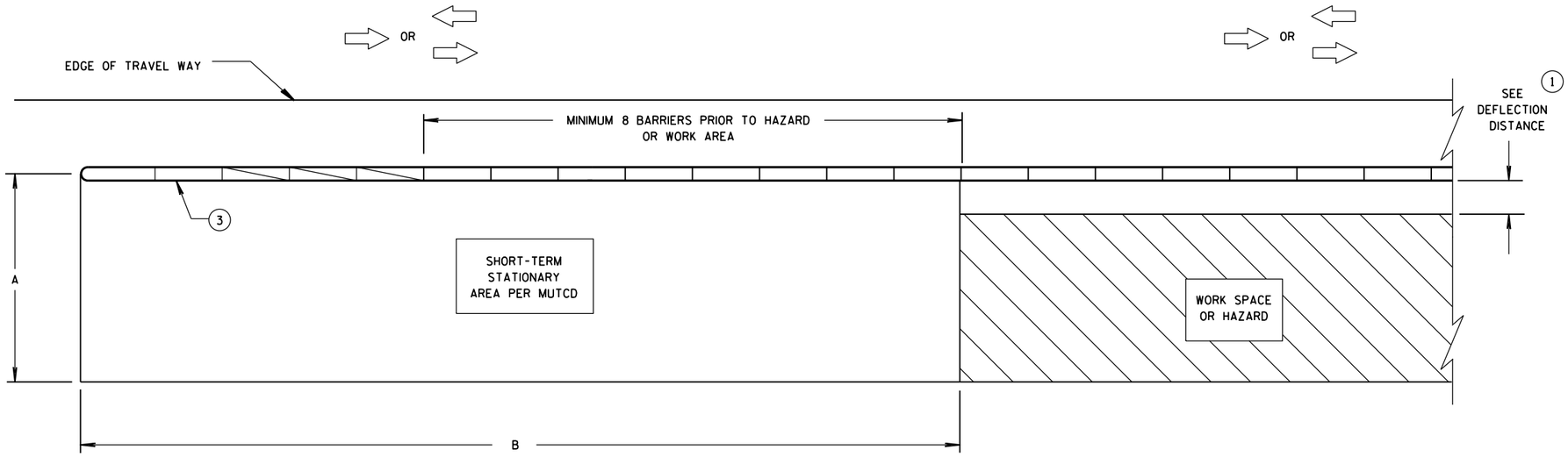
S.D.D. 14 B 7-14h



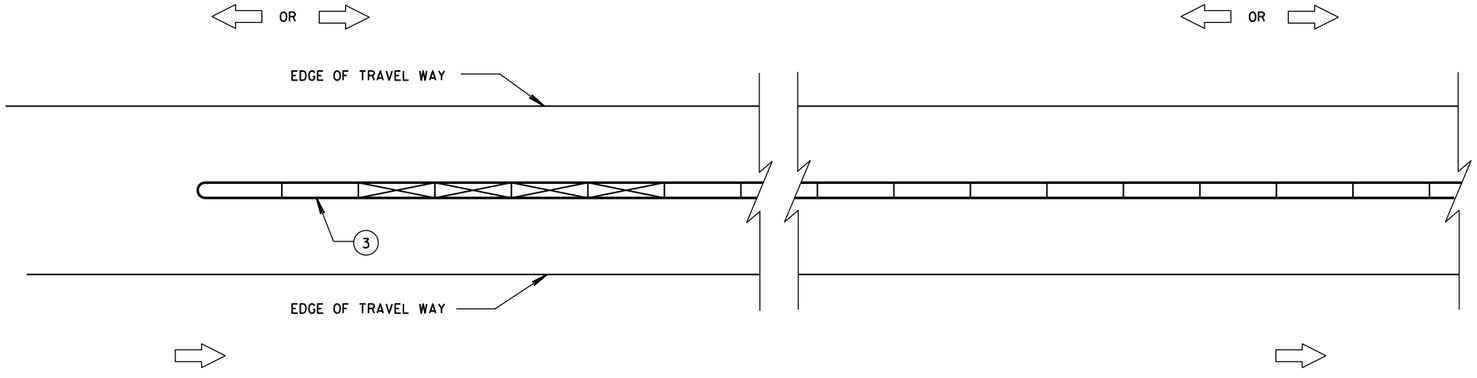
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

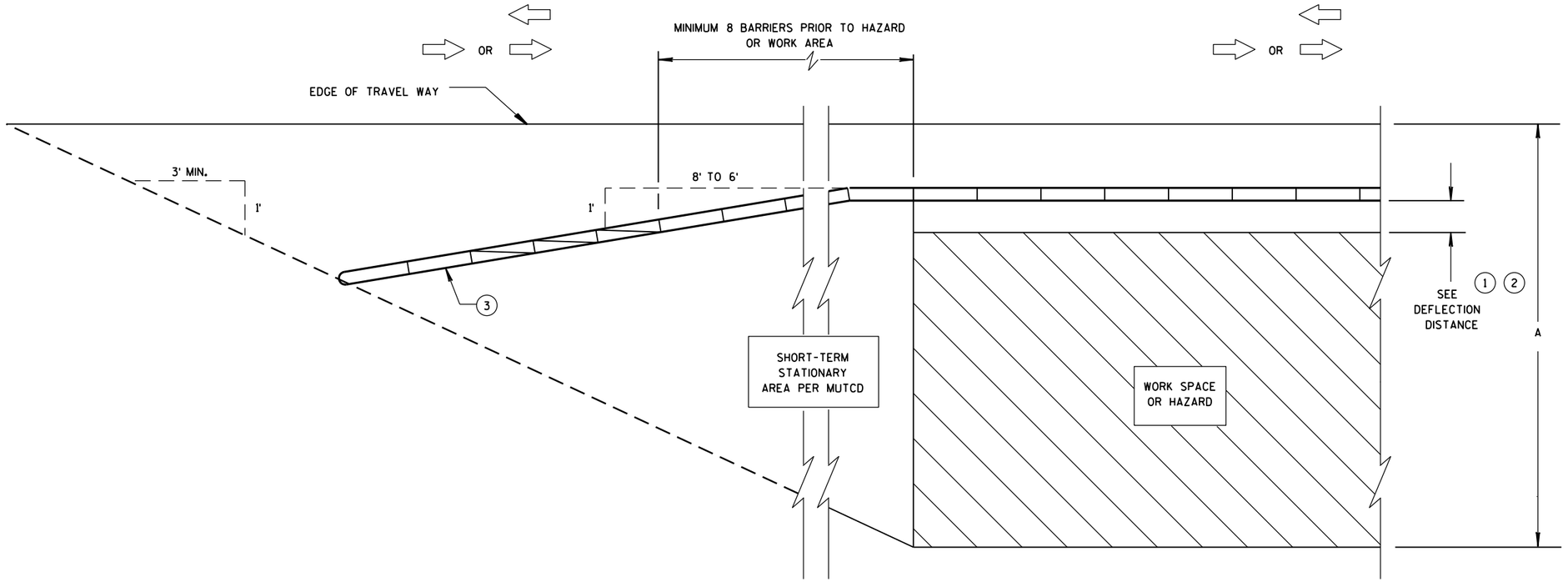
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

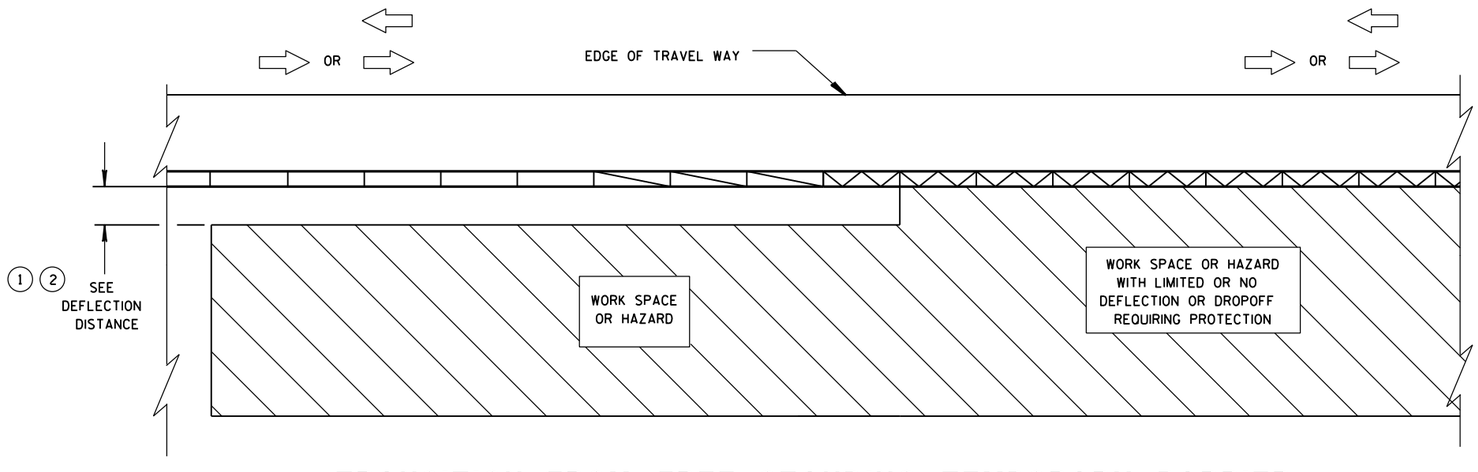
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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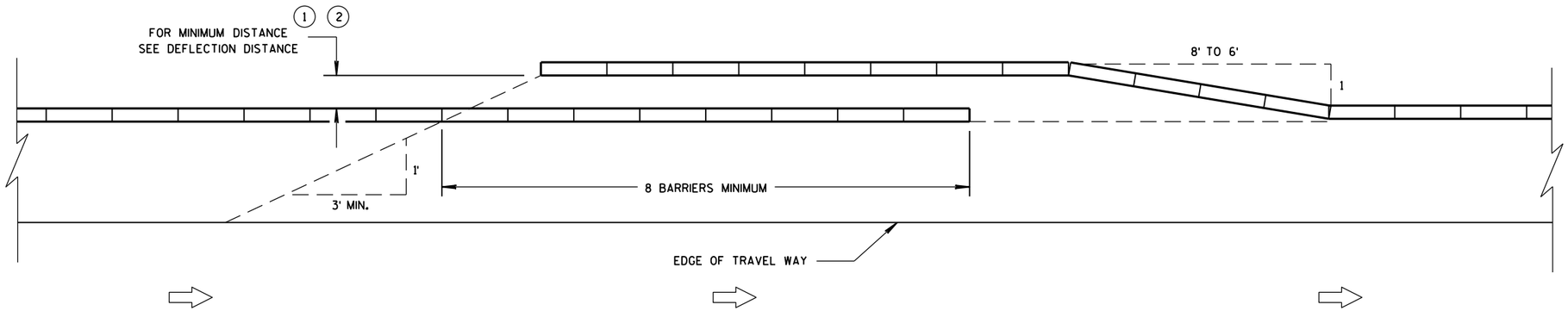
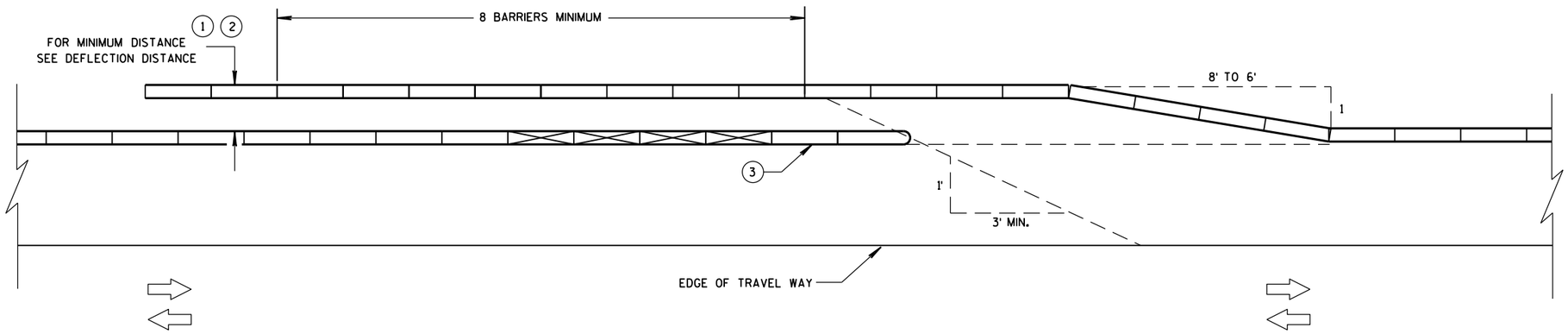
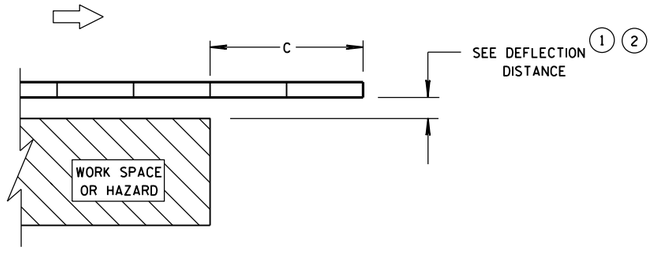
S.D.D. 14 B 8-2b



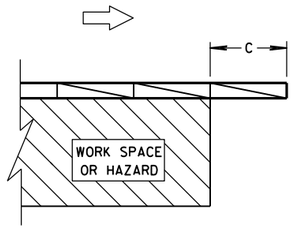
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

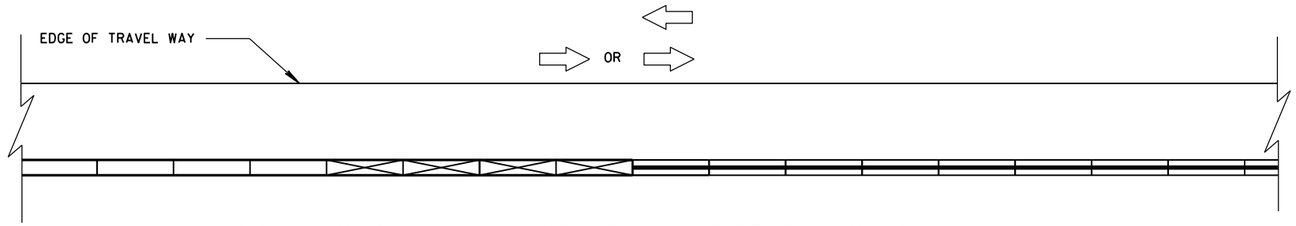
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

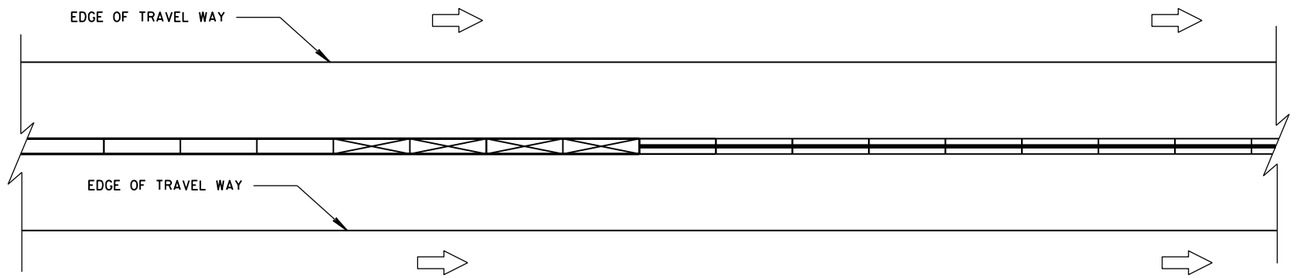
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

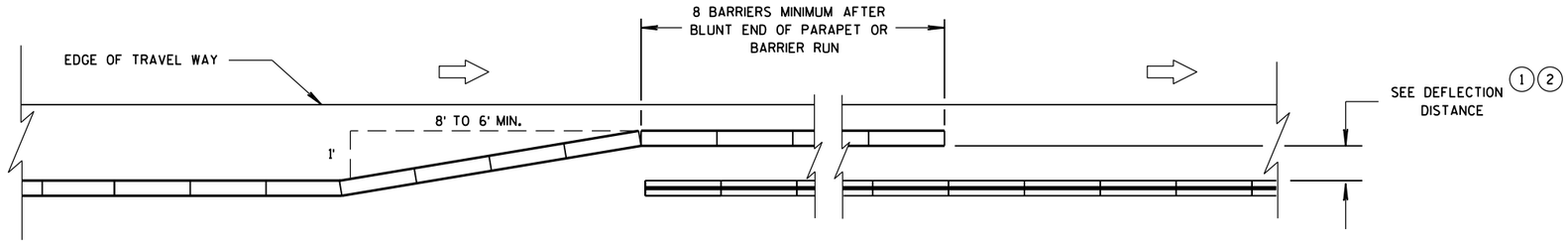
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

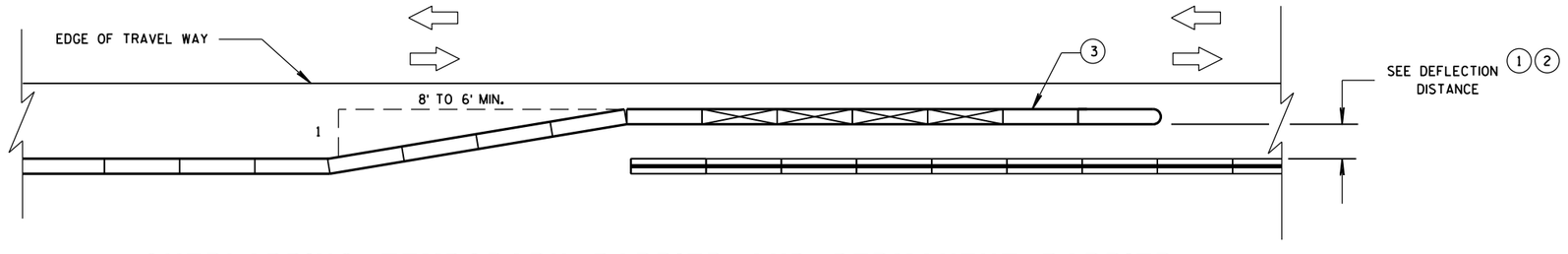
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

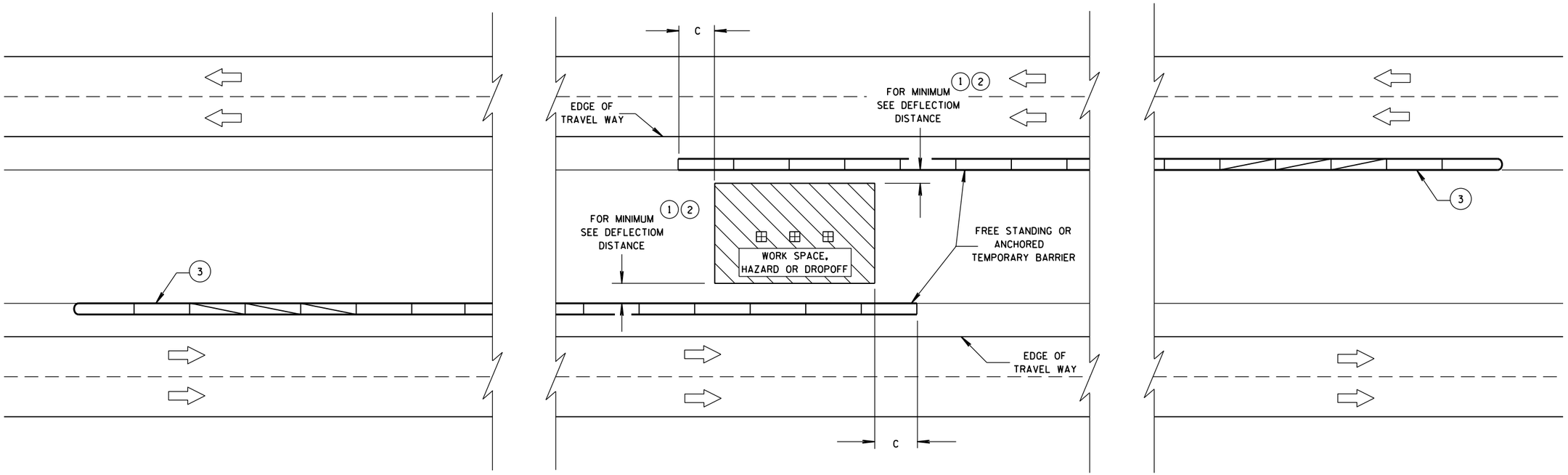
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINNER
FHWA

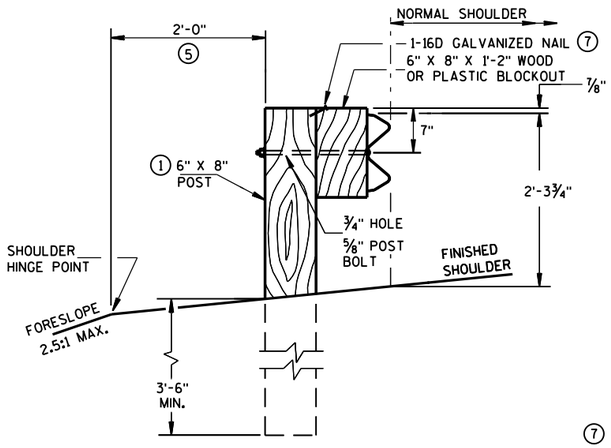
6

S.D.D. 14 B 8-2e

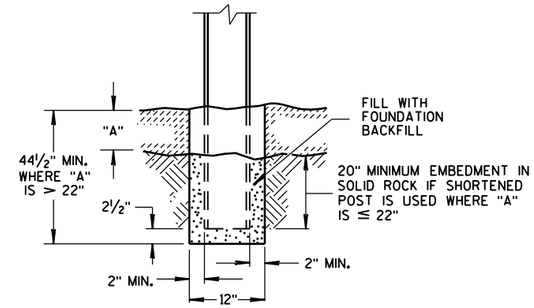
GENERAL NOTES

1. W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.
   DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
5. IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.
7. WHEN USING STEEL POSTS 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.

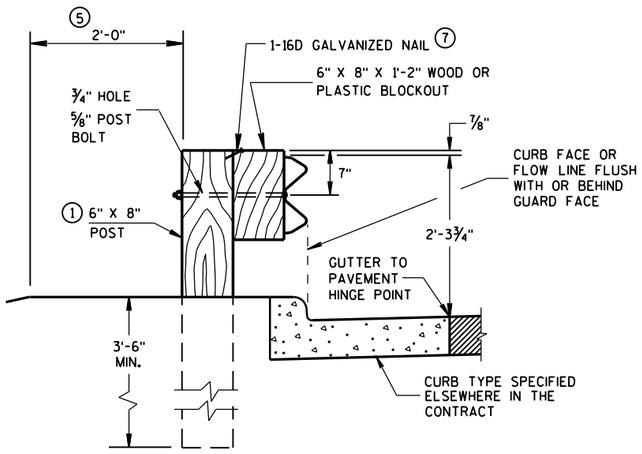
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



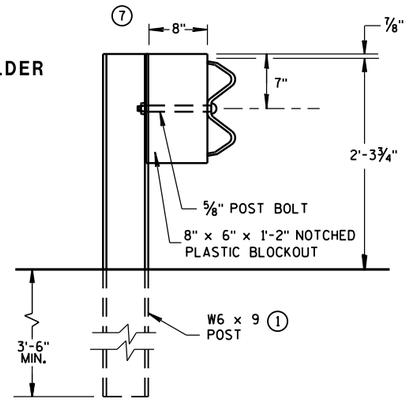
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



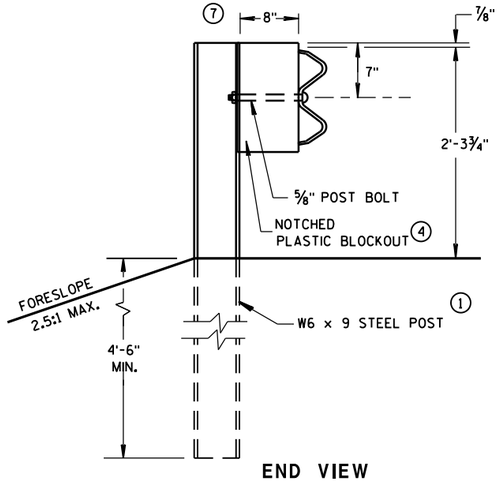
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



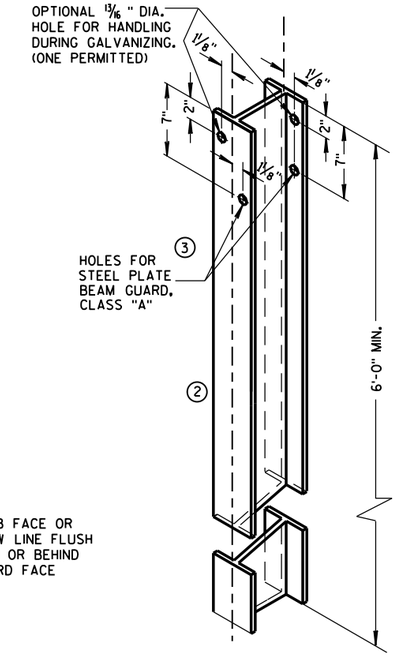
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION

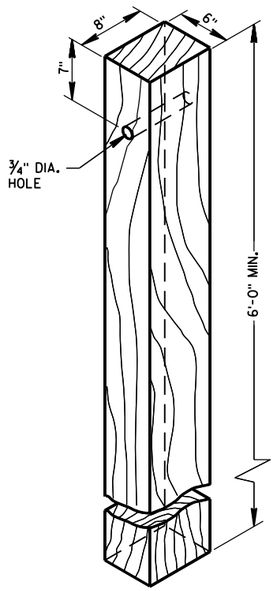


END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

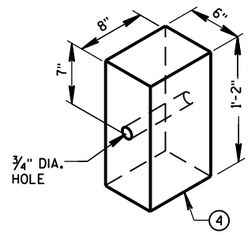


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①

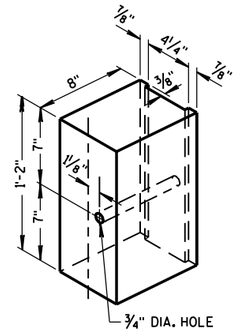
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



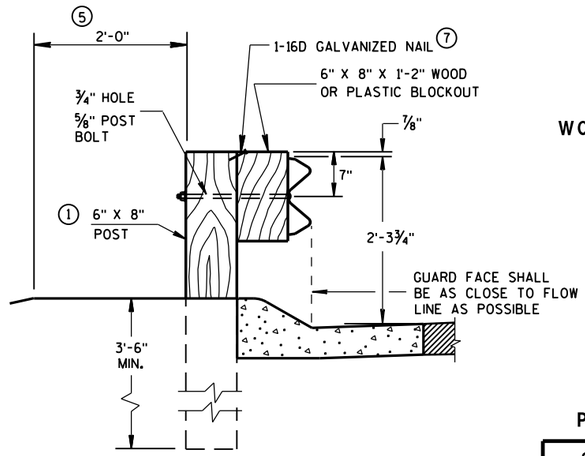
WOOD POST
(6"X8") NOMINAL



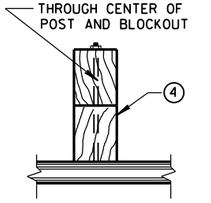
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



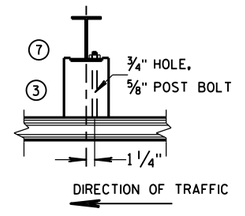
TYPICAL NOTCHED ①
PLASTIC BLOCKOUT
FOR STEEL POSTS



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



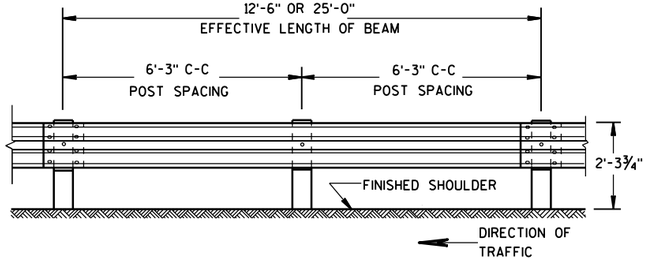
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

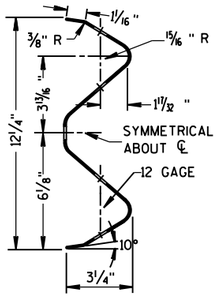
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 15-9a

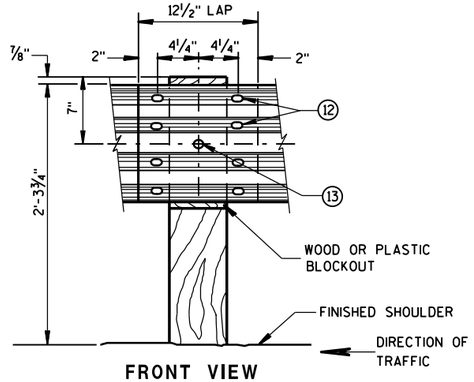


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) 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.

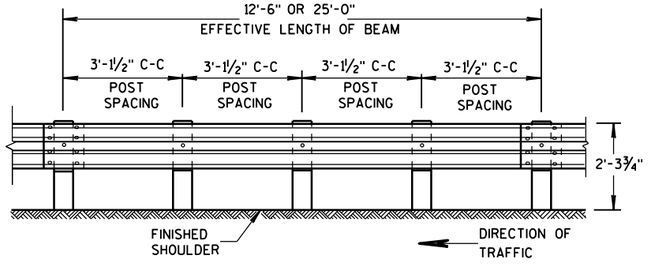
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

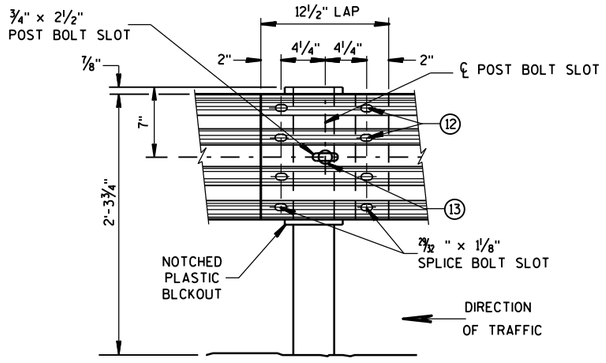
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

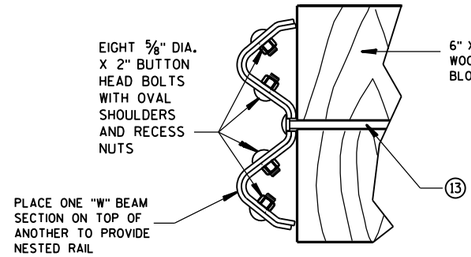
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

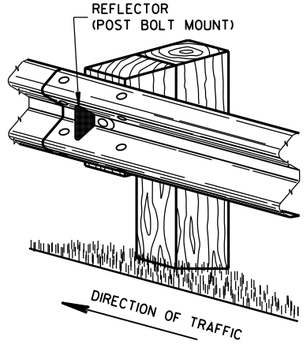


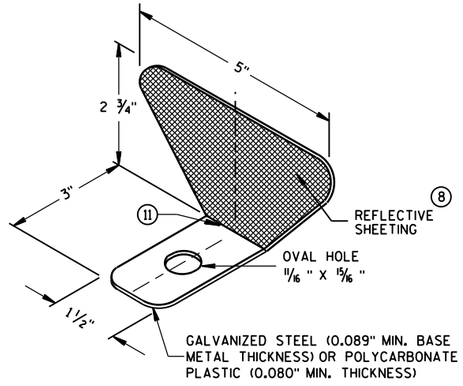
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (10)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 (11)	3
	> 200'	100' C-C	2	





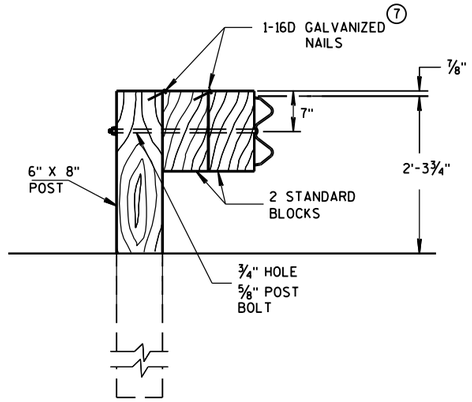
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

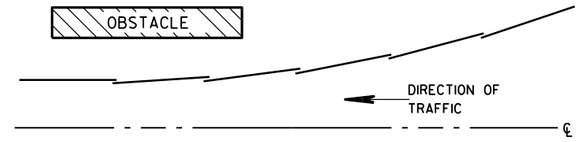
6

S.D.D. 14 B 15-9b

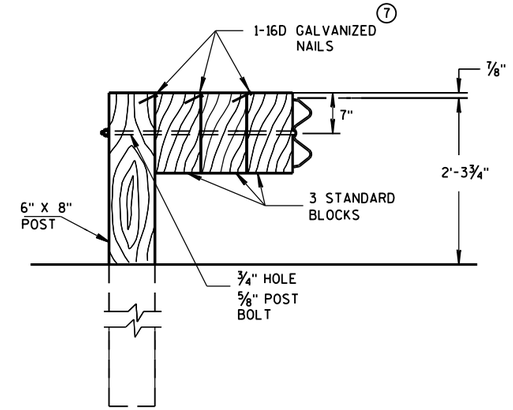


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

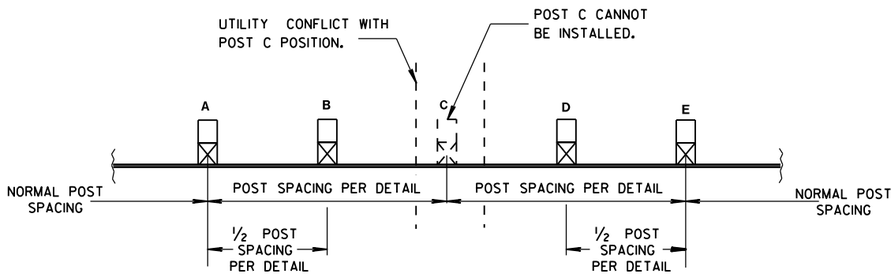


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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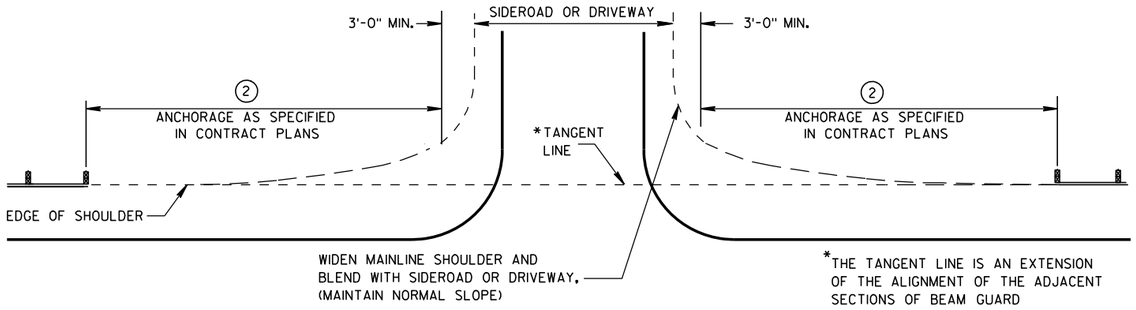
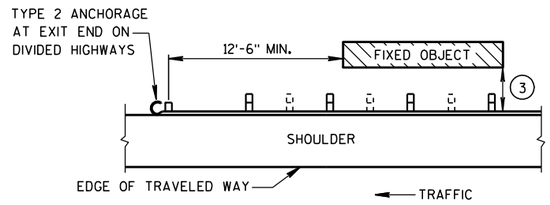
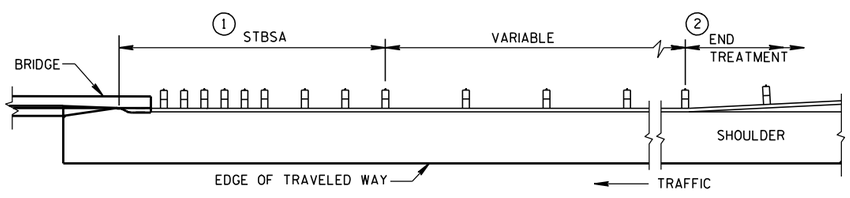
S.D.D. 14 B 15-9c



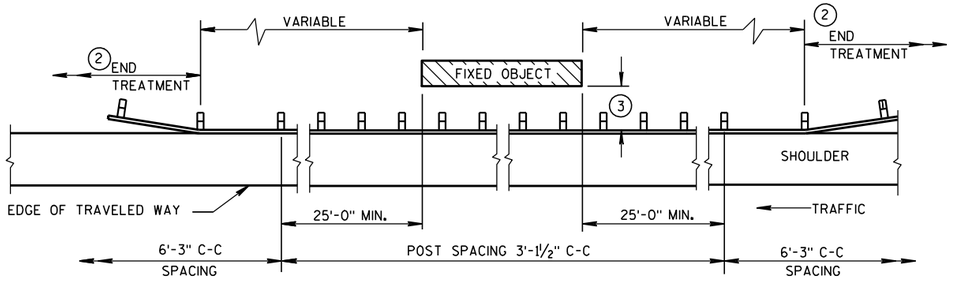
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

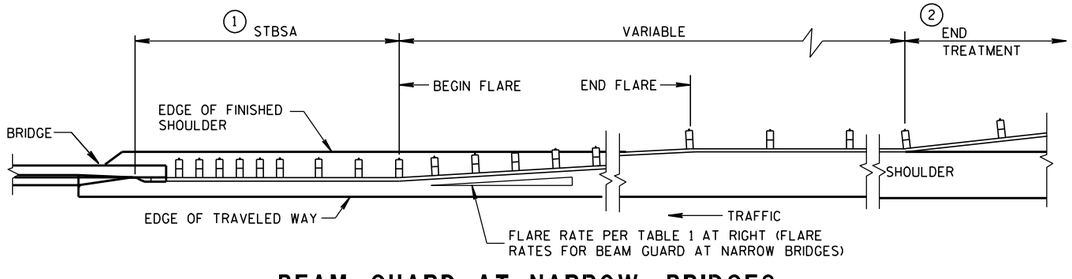


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

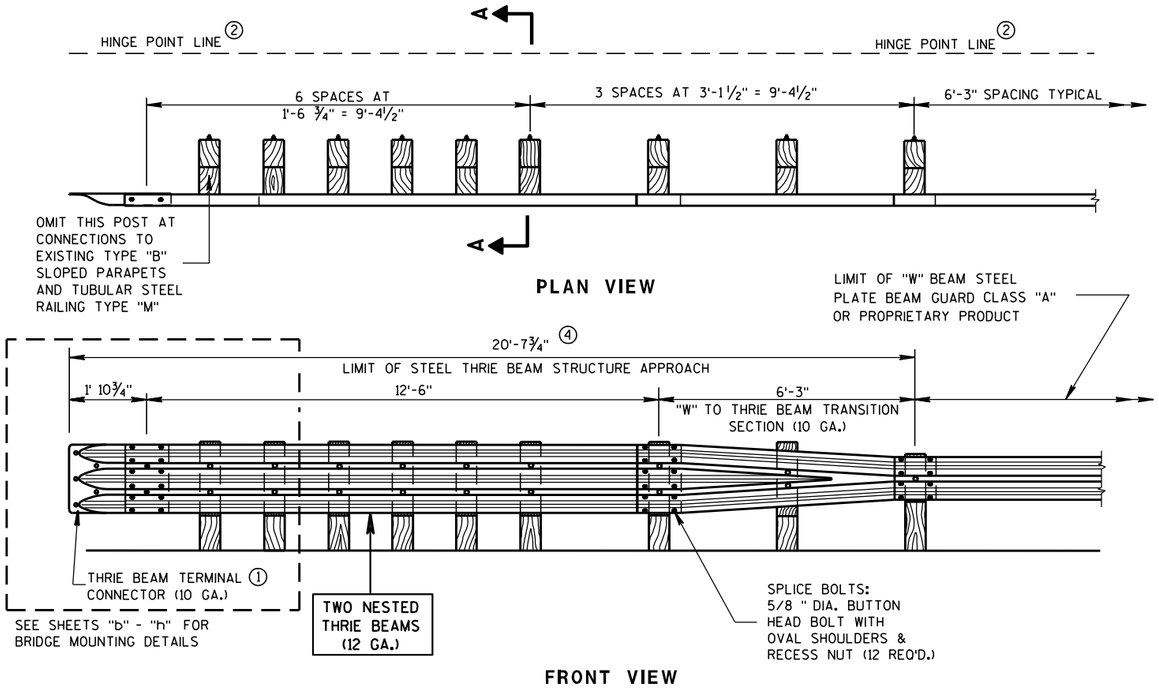
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



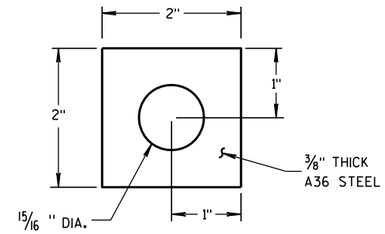


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

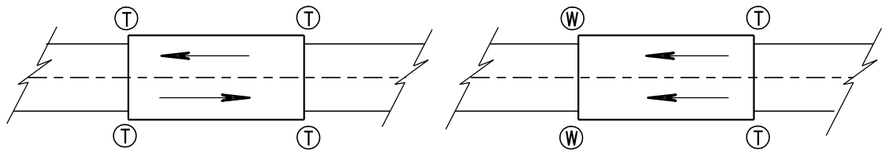
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



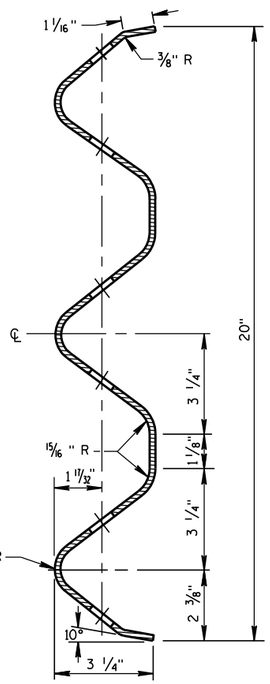
TWO WAY TRAFFIC

ONE WAY TRAFFIC

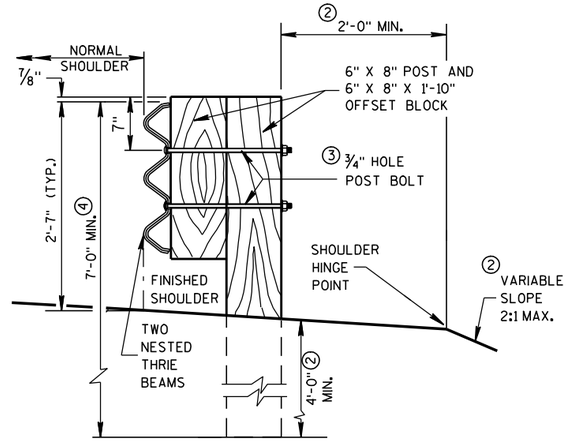
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

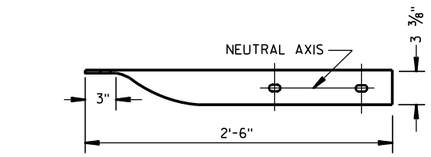
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

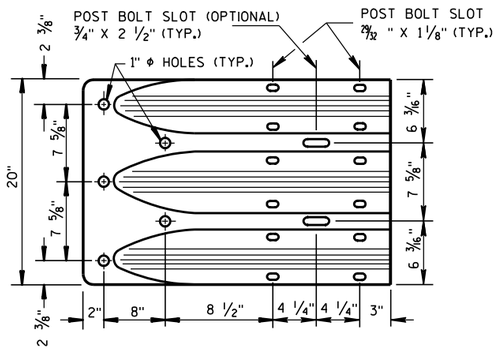


SECTION THRU THRIE BEAM RAIL ELEMENT

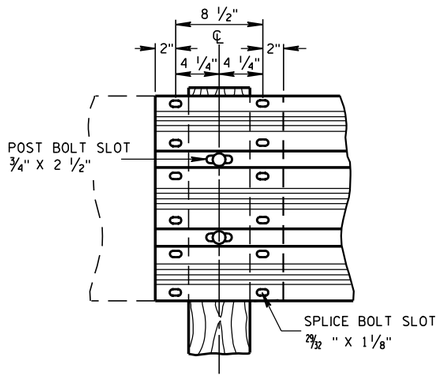


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

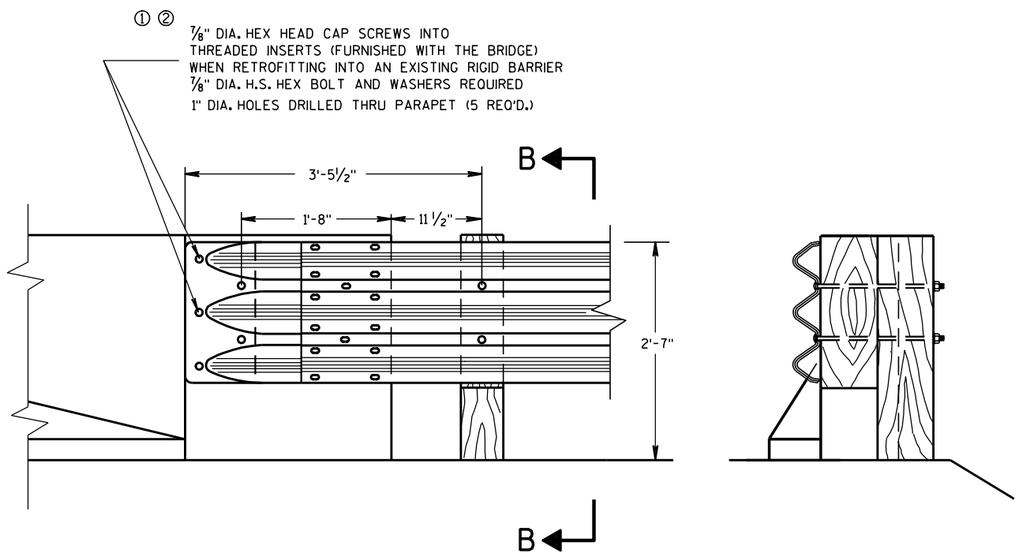
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

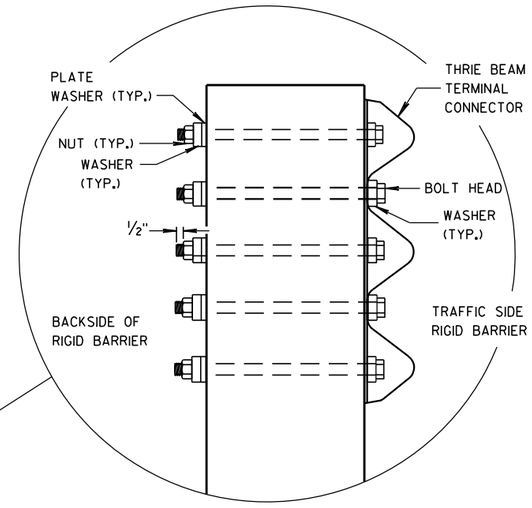
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

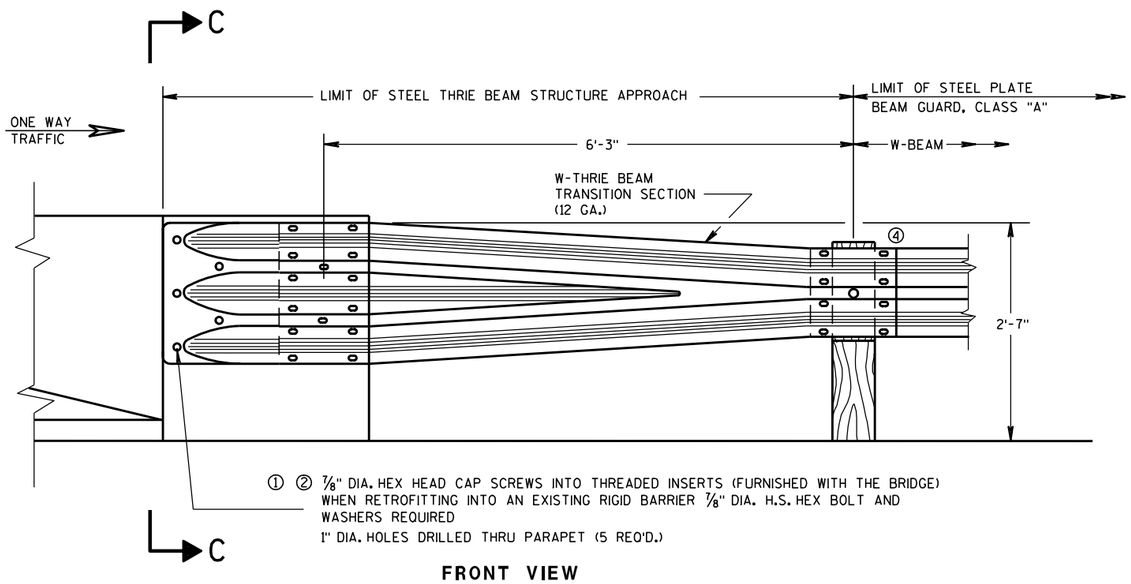
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



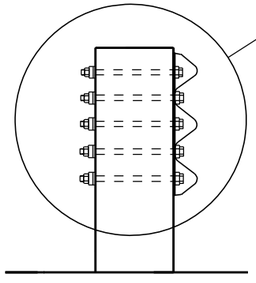


① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS [52 ENGINEER

6

S.D.D. 14 B 20-11b

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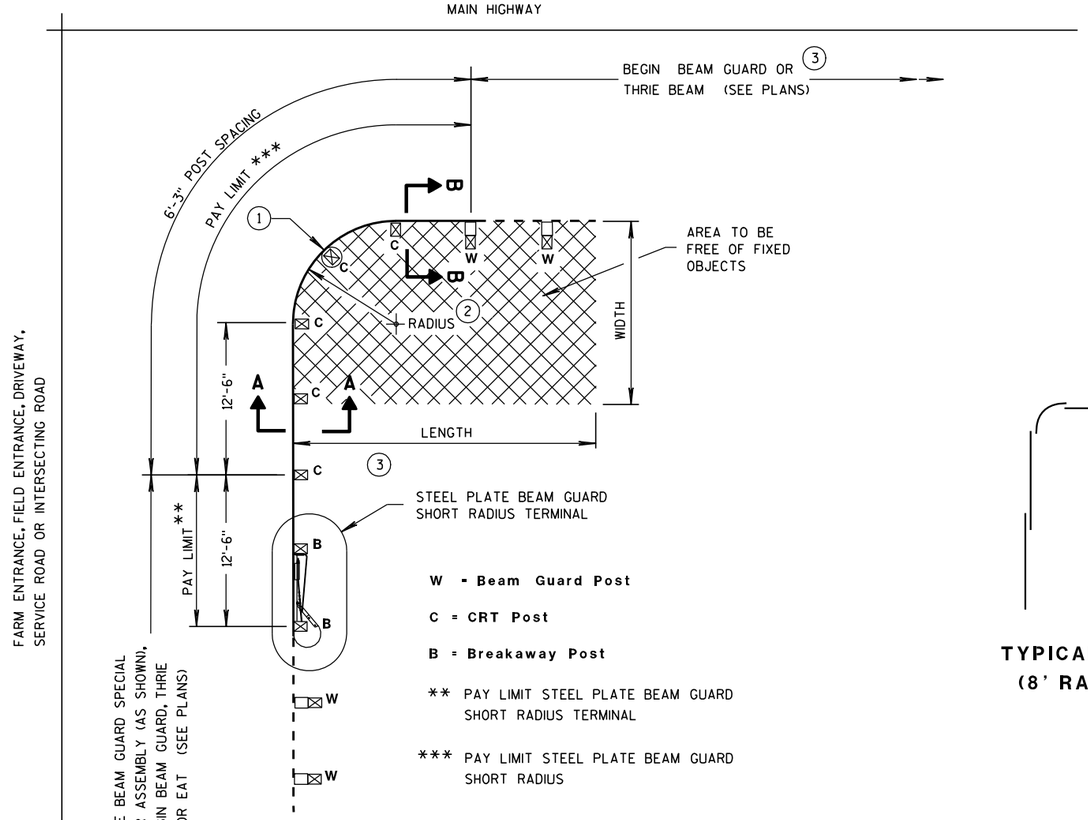
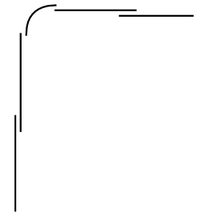
S.D.D. 14 B 20-11b



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

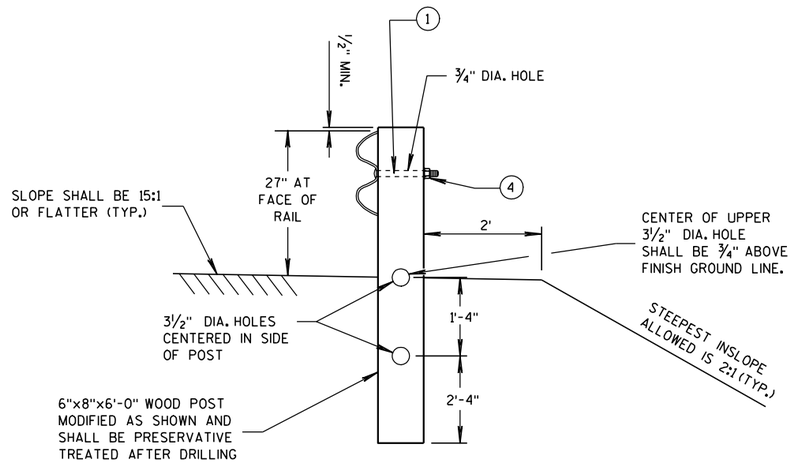
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

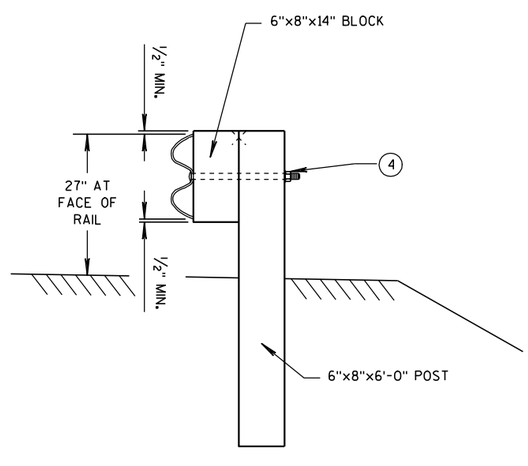
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)

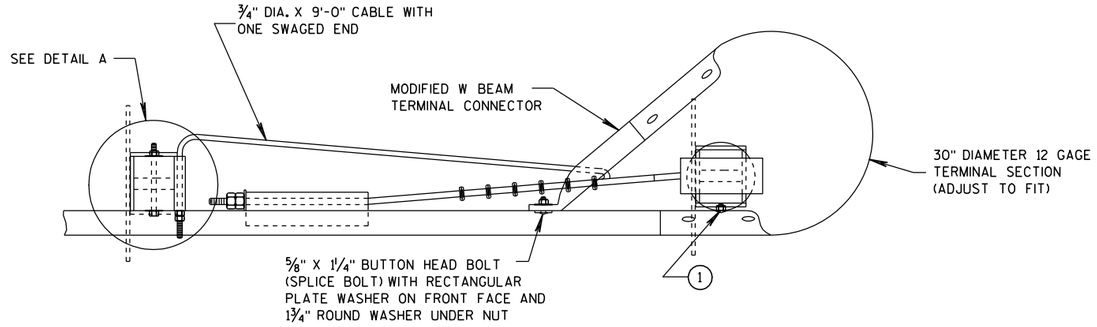


SECTION B-B
(BEAM GUARD POST)

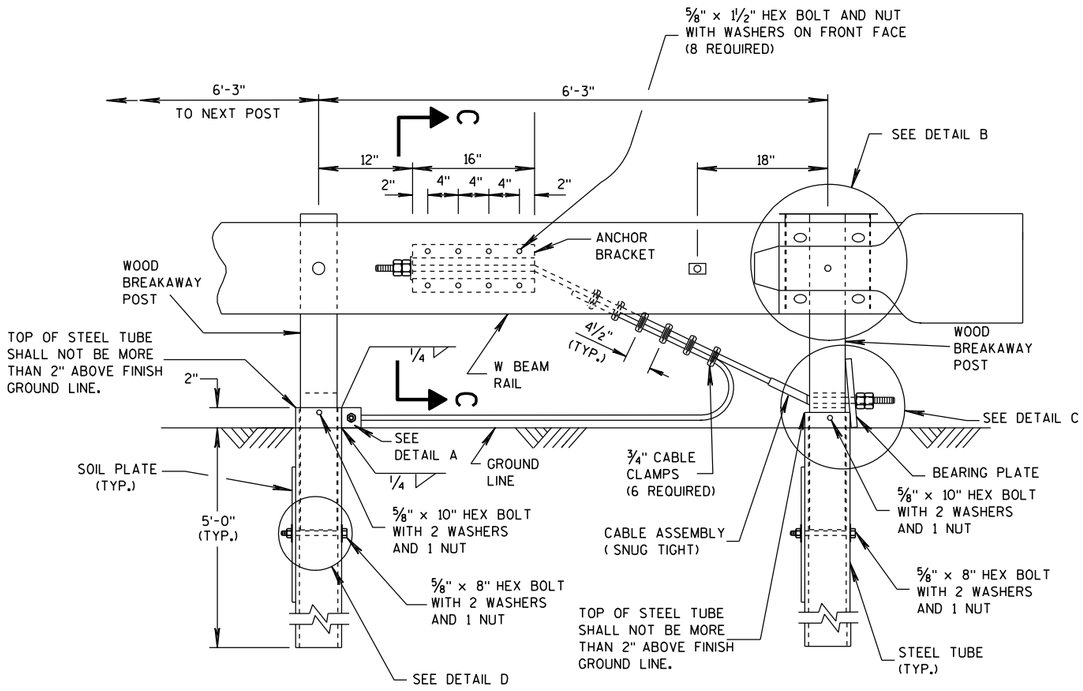
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 27-1a



PLAN VIEW



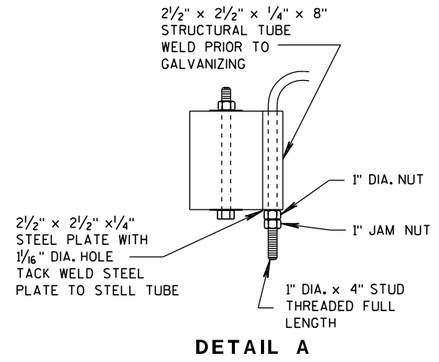
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

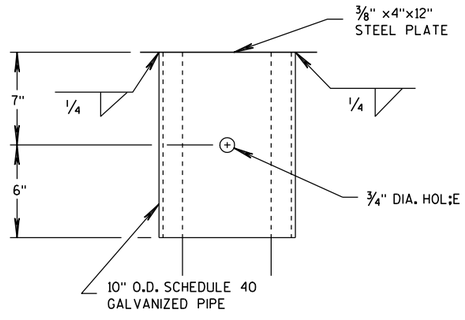
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



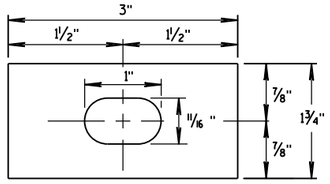
DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

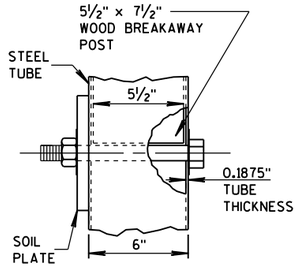
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

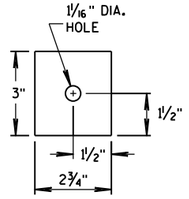
6
S.D.D. 14 B 27-1b



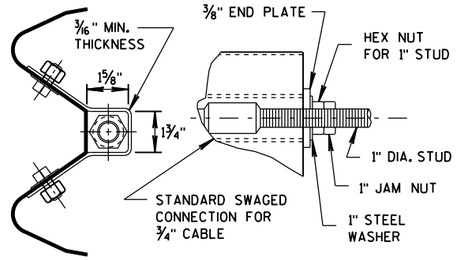
RECTANGULAR PLATE WASHER



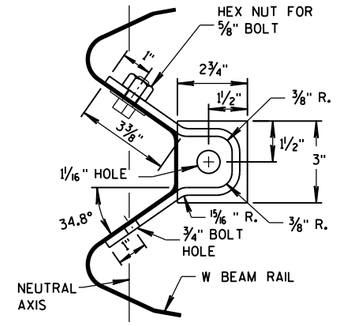
DETAIL D



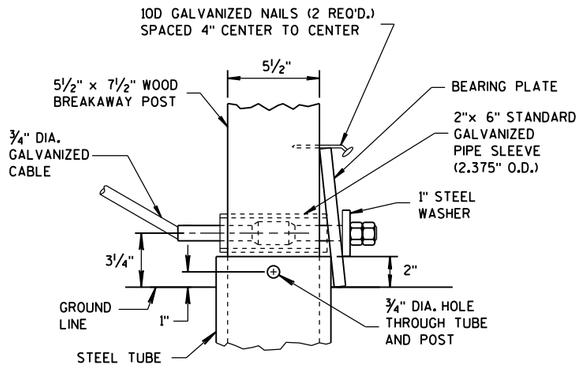
END PLATE



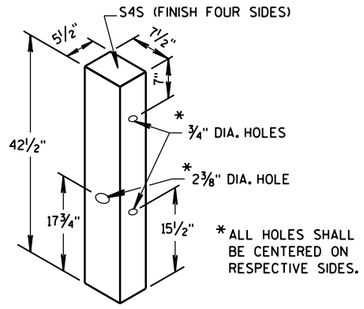
SECTION C-C
(END PLATE REMOVED)



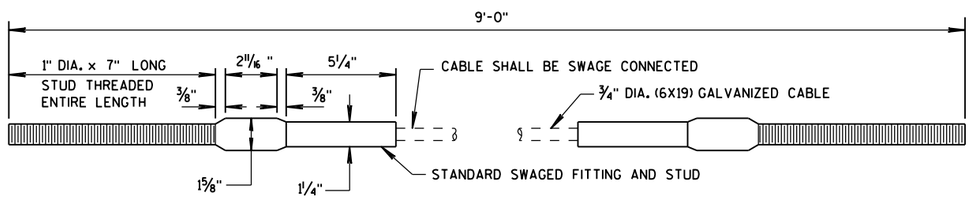
ANCHOR BRACKET



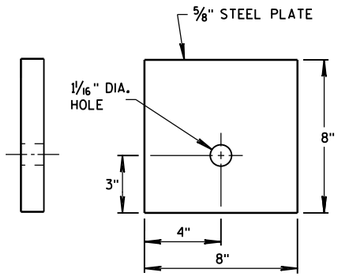
DETAIL C



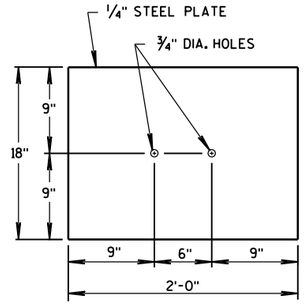
WOOD BREAKAWAY POST



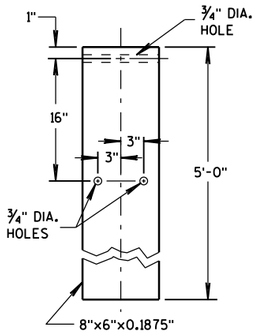
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 27-1c

6

S.D.D. 14 B 27-1c

(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.

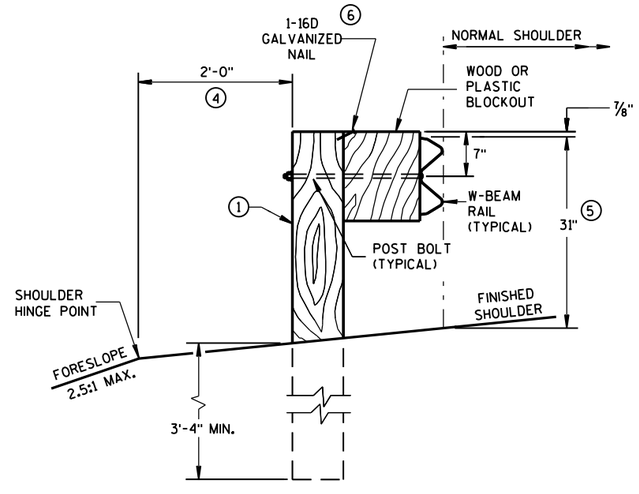
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

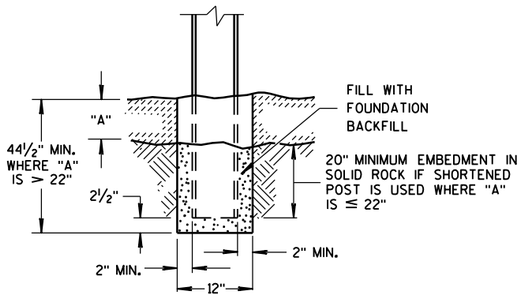
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



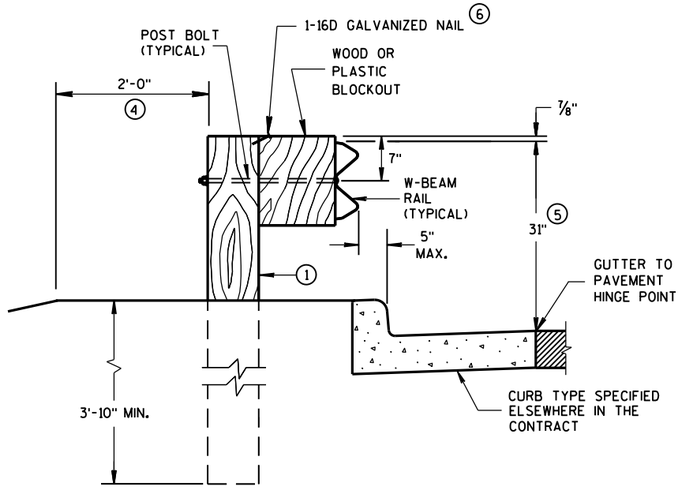
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



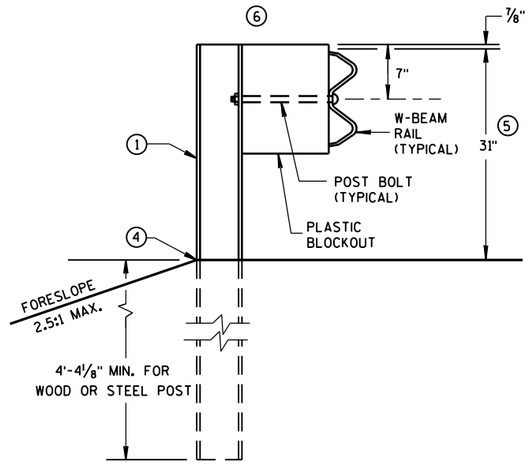
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



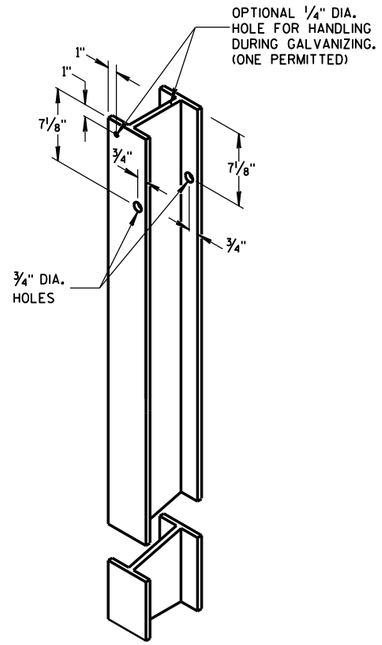
END VIEW

LOCATED ALONG A CURBED ROADWAY

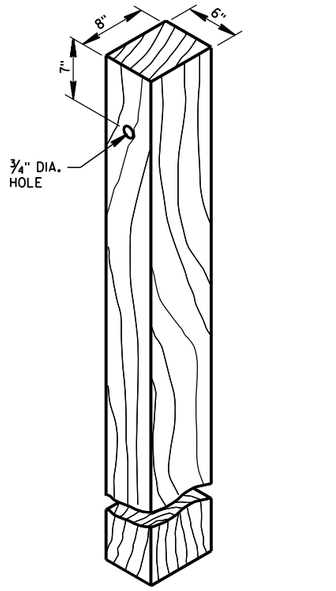


END VIEW

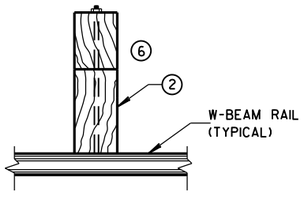
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



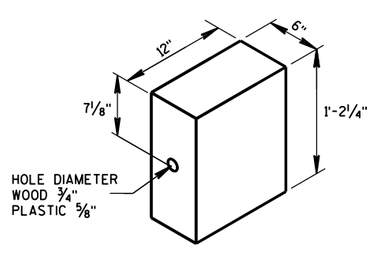
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



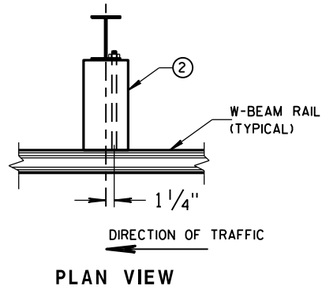
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)



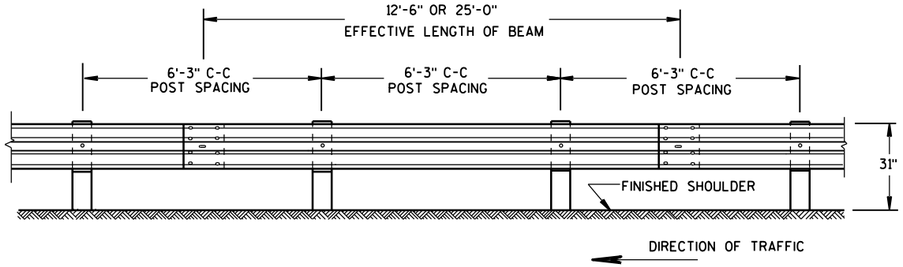
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

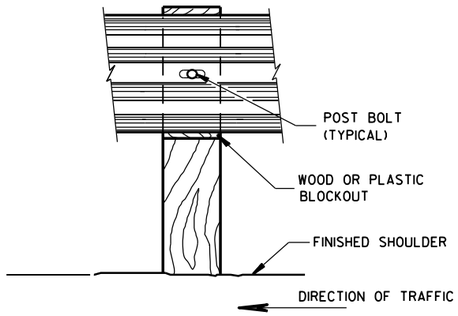
6

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.

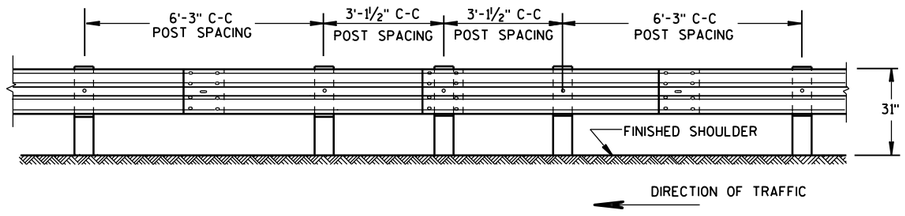
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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.

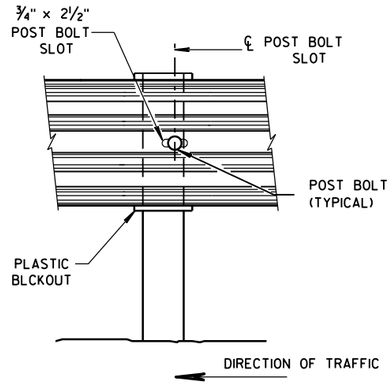
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

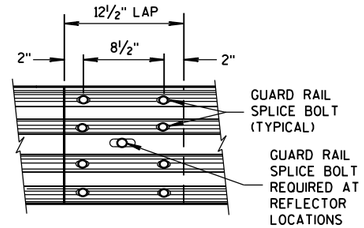


FRONT VIEW

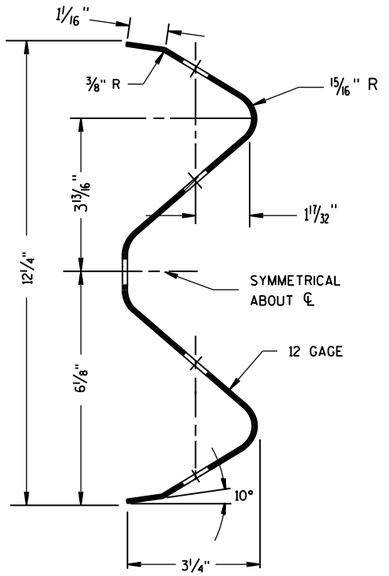
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



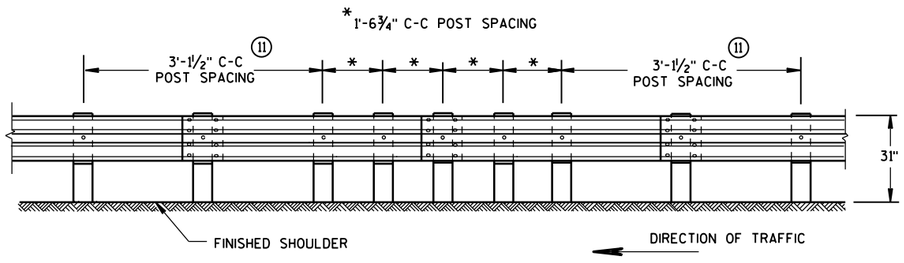
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

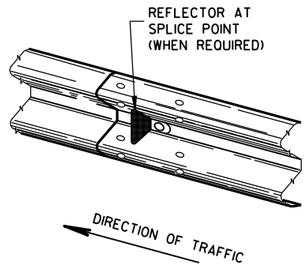


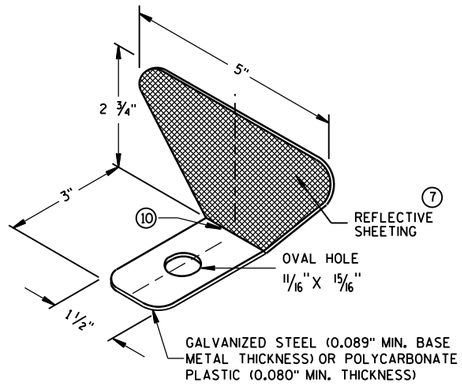
SECTION THRU W-BEAM RAIL



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'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 9	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 10	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

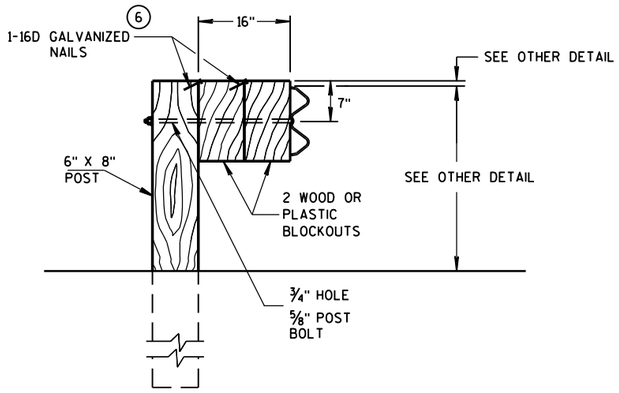
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO 57

6

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

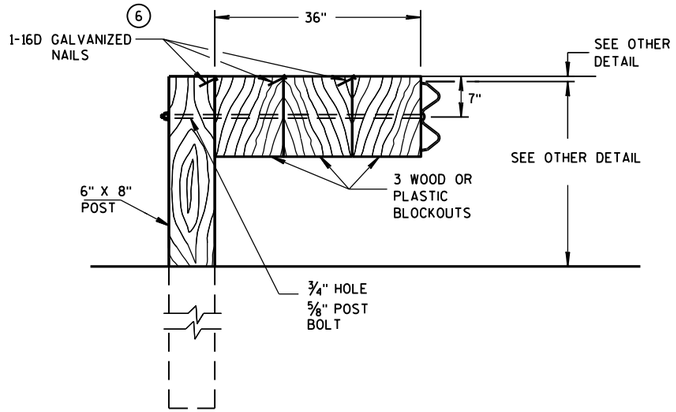
6

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.

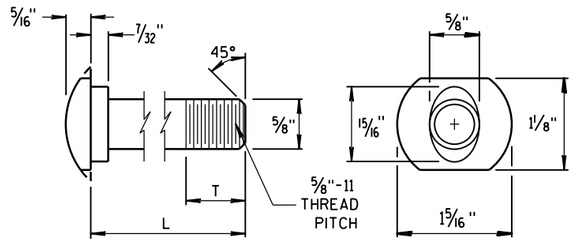


DETAIL FOR 36" BLOCKOUT DEPTH

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.

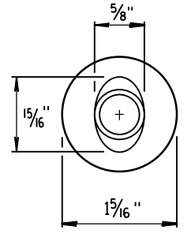
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

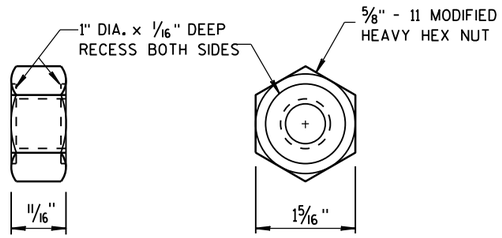


POST BOLT TABLE

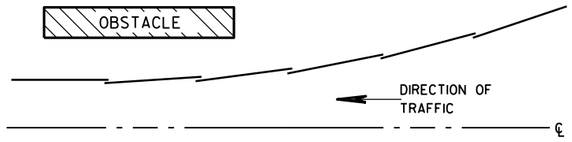
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

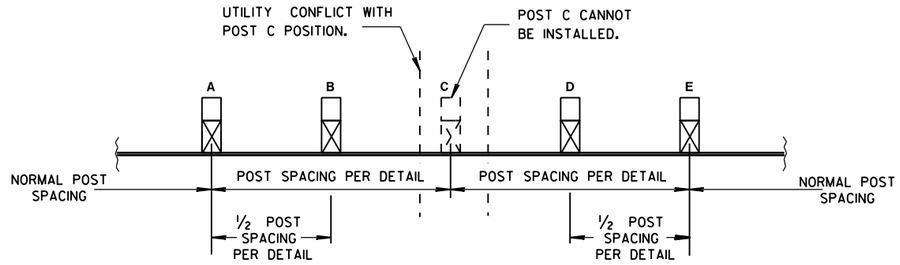


POST BOLT, SPLICE BOLT AND RECESS NUT

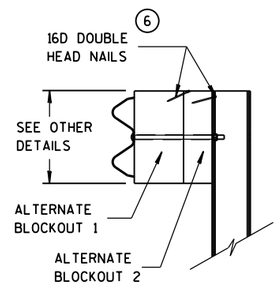


PLAN VIEW

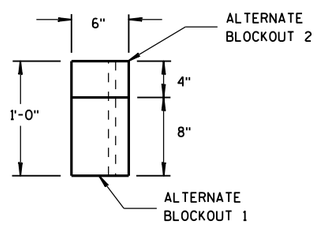
BEAM LAPPING DETAIL



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

(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.

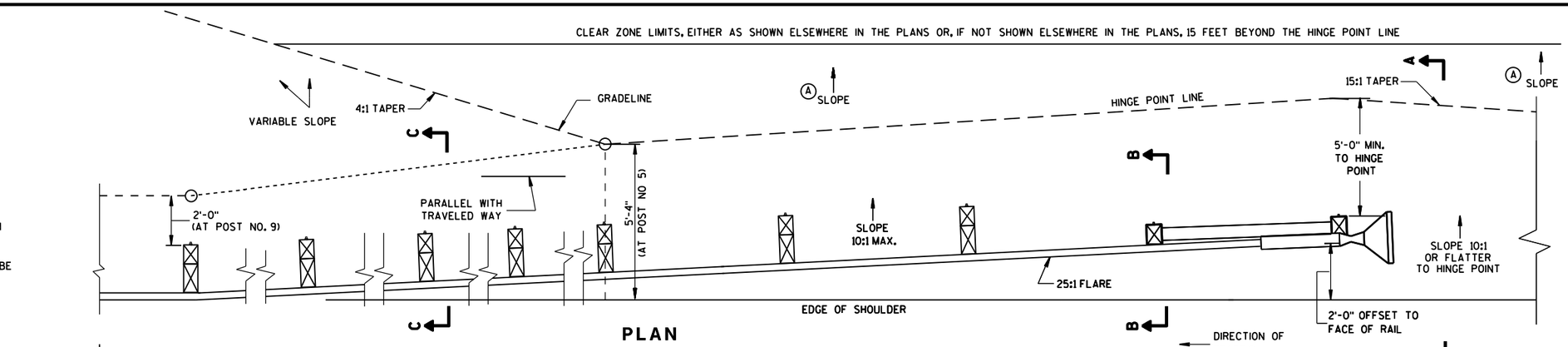
SEE SDD 14B42 FOR MORE INFORMATION.

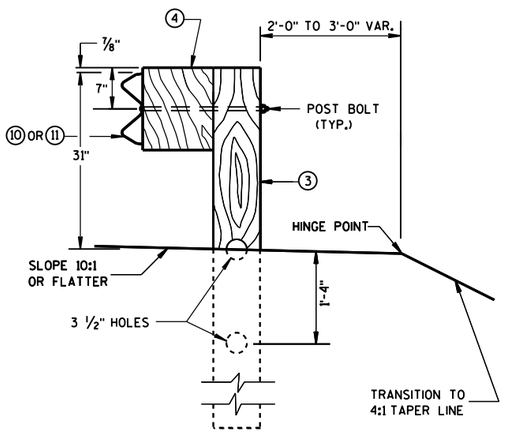
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

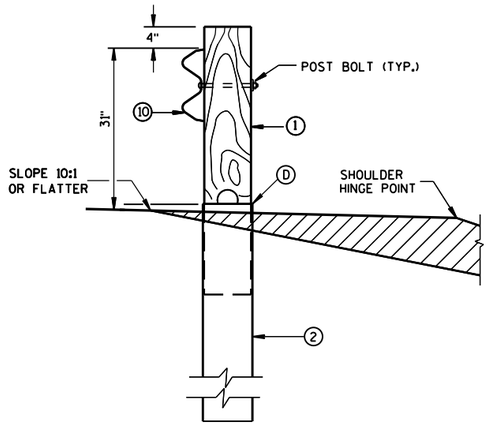
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

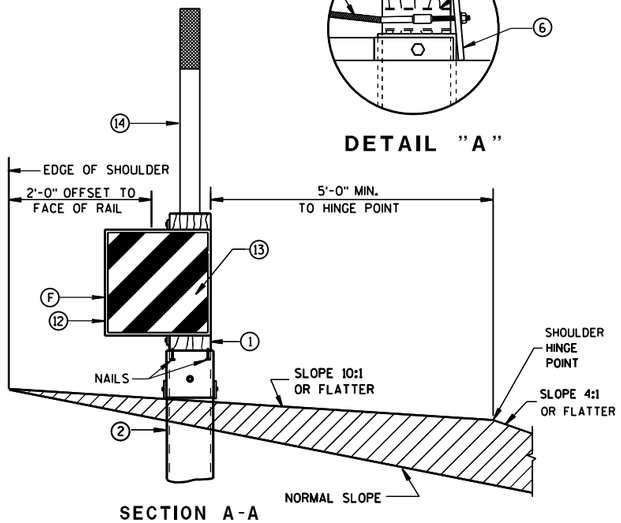




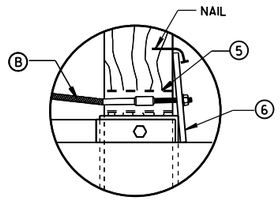
SECTION C-C
TYPICAL AT POST NOS. 3-9



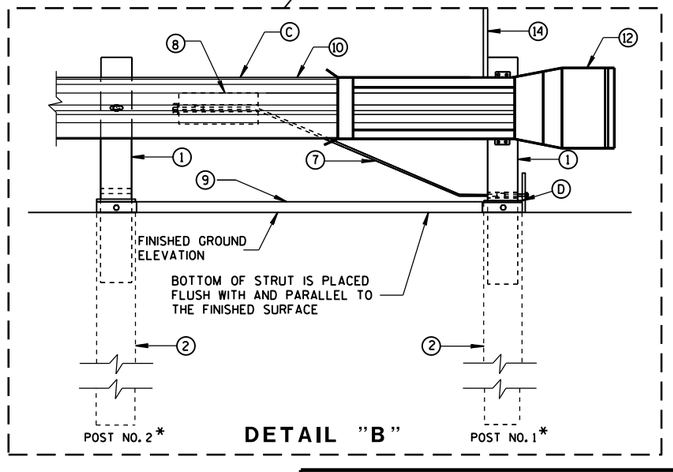
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



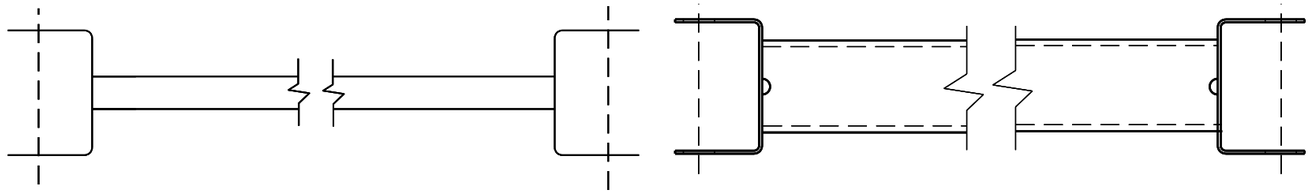
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

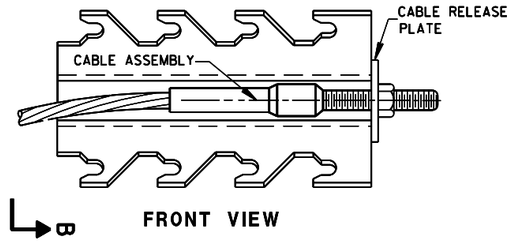
S.D.D. 14 B 44-2a



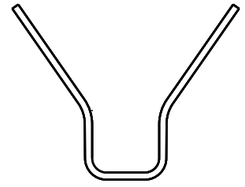
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

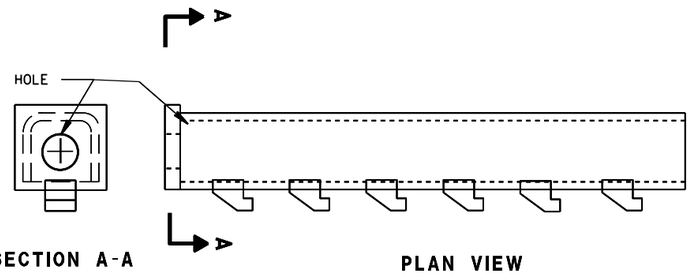
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)



FRONT VIEW



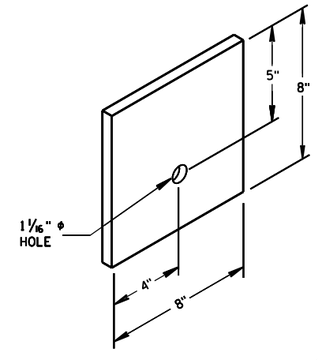
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



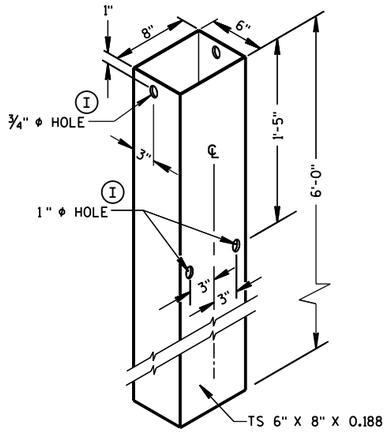
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

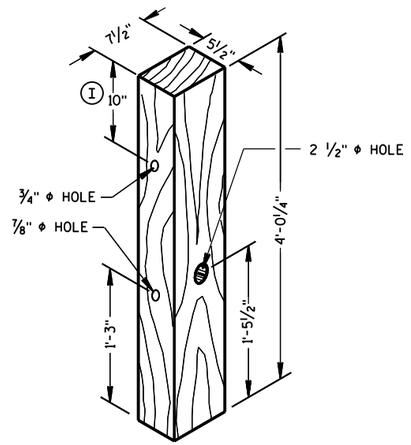
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

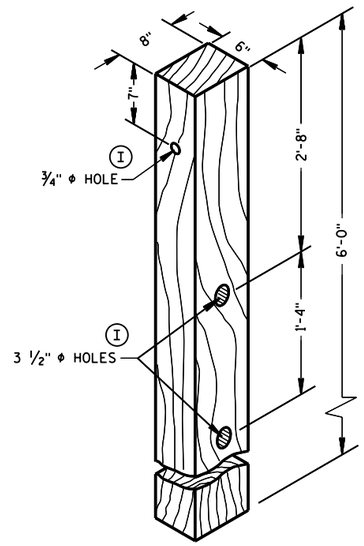


FOUNDATION TUBE (2)



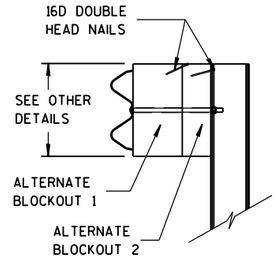
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

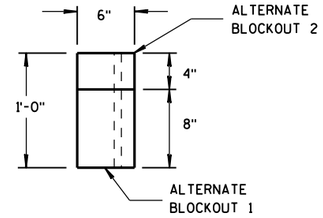


POSTS NUMBER 3-9

WOOD CRT POST (3)

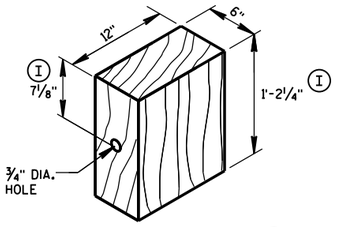


SIDE VIEW



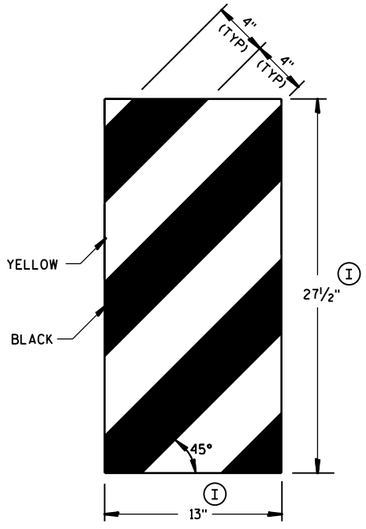
TOP VIEW

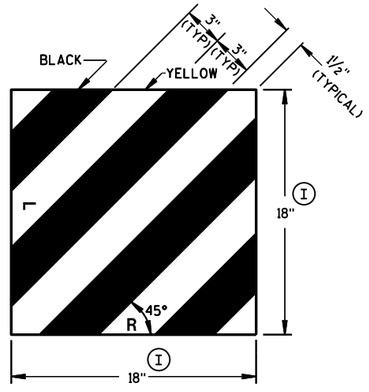
ALTERNATE WOOD BLOCKOUT DETAIL



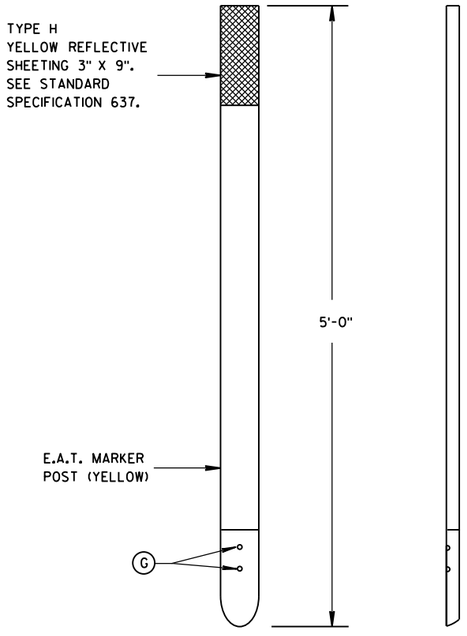
WOOD BLOCKOUT (4)

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





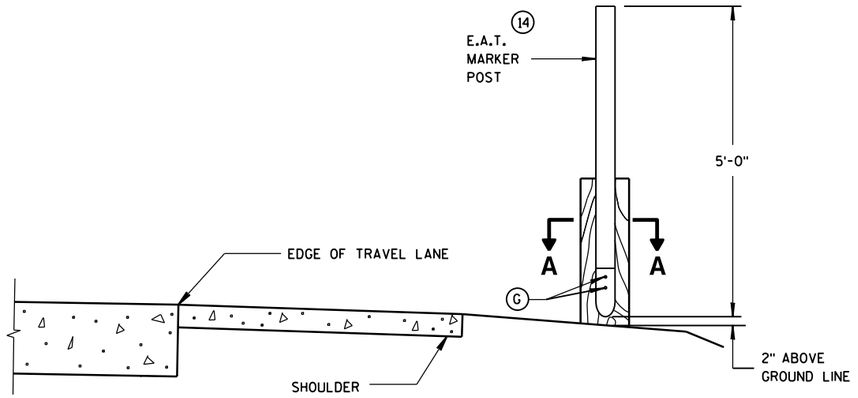
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

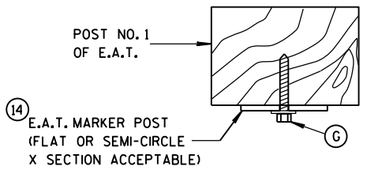
SIDE VIEW

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

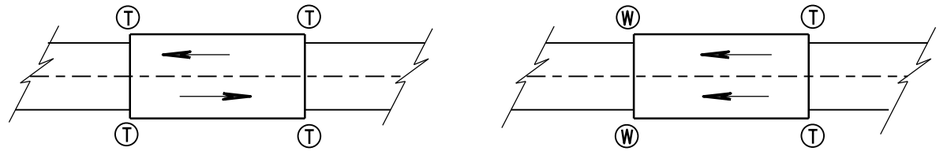
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

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



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

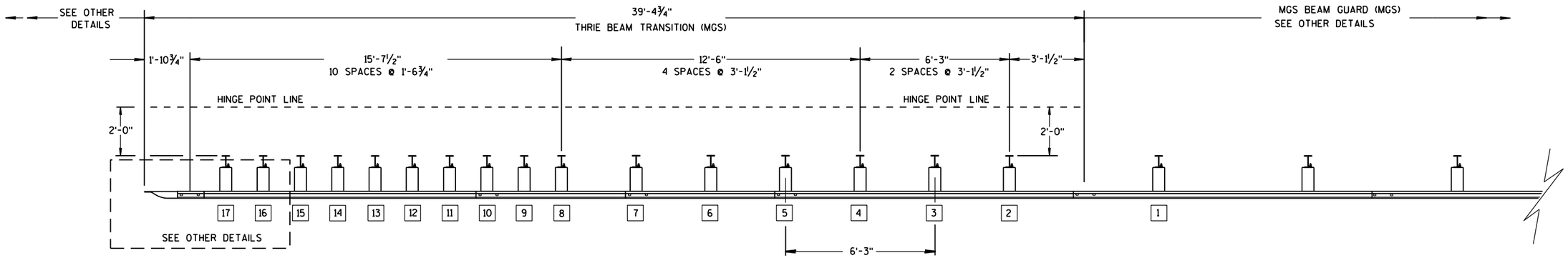
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

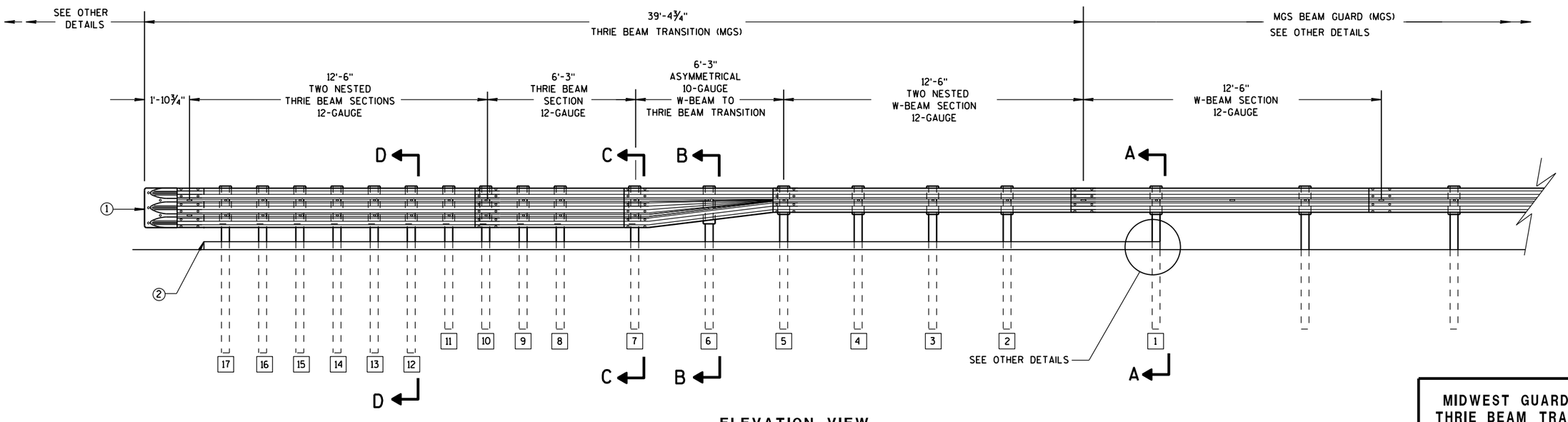
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4a

6

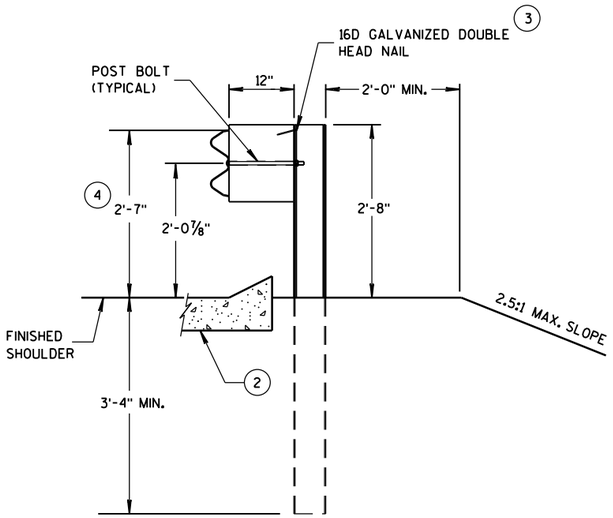
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

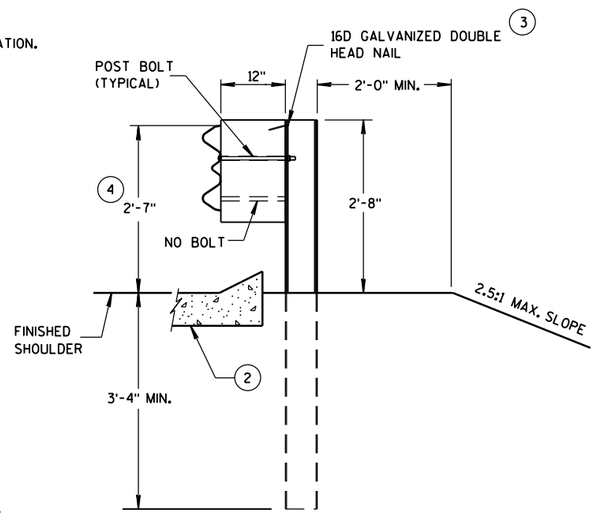
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



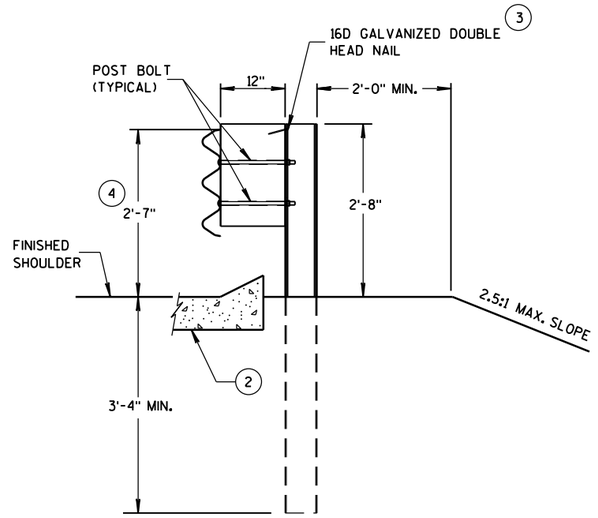
SECTION A-A

POSTS 1-5



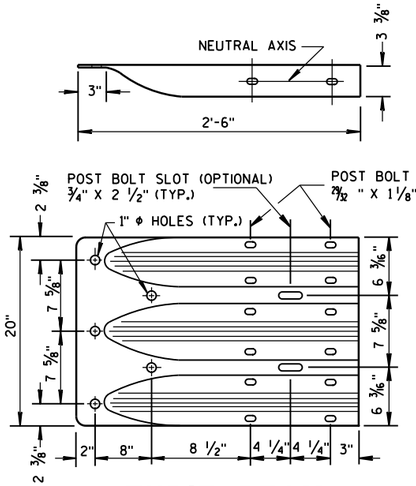
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

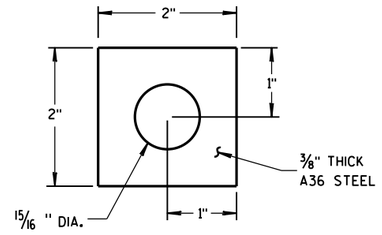
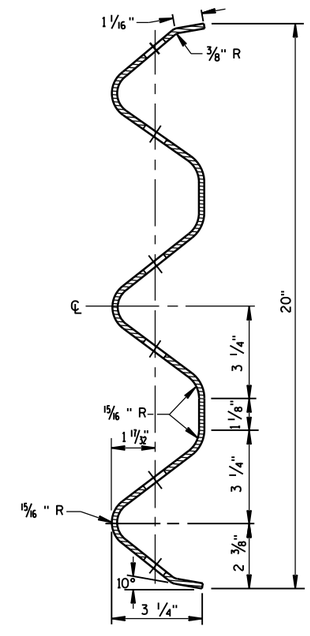
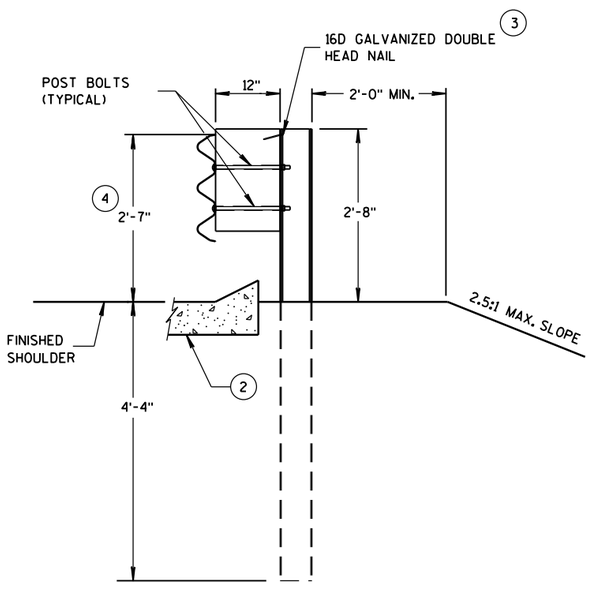


PLATE WASHER DETAIL

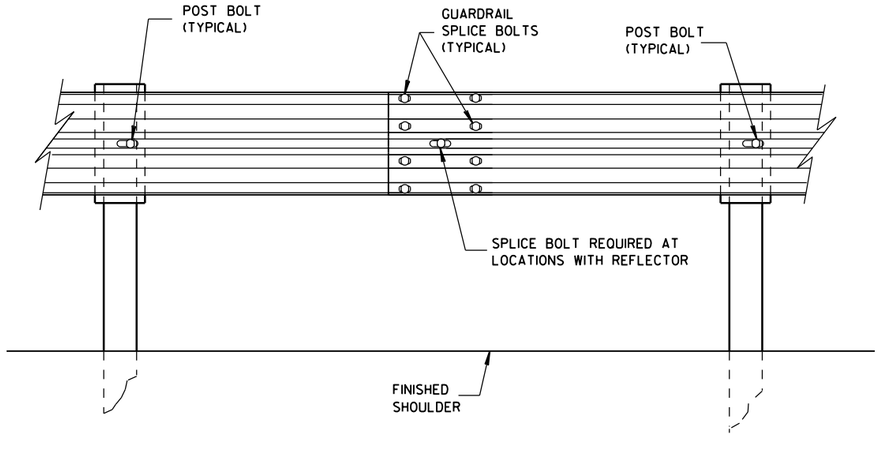


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



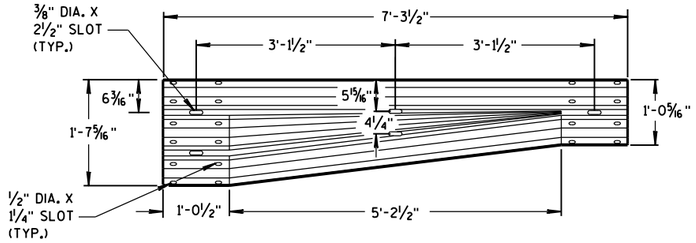
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

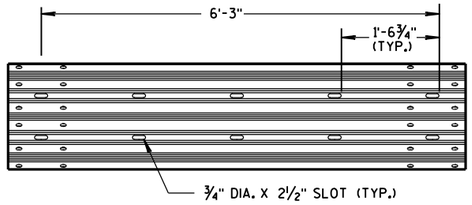
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

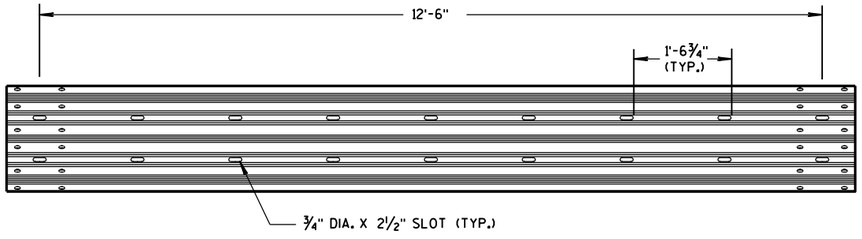
S.D.D. 14 B 45-4b



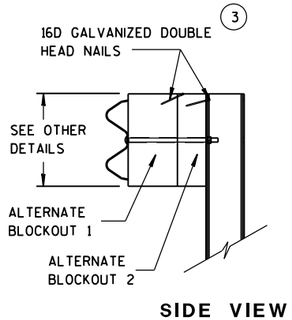
W-BEAM TO THRIE BEAM TRANSITION SECTION



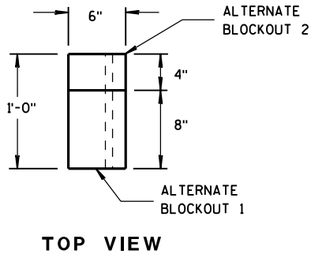
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

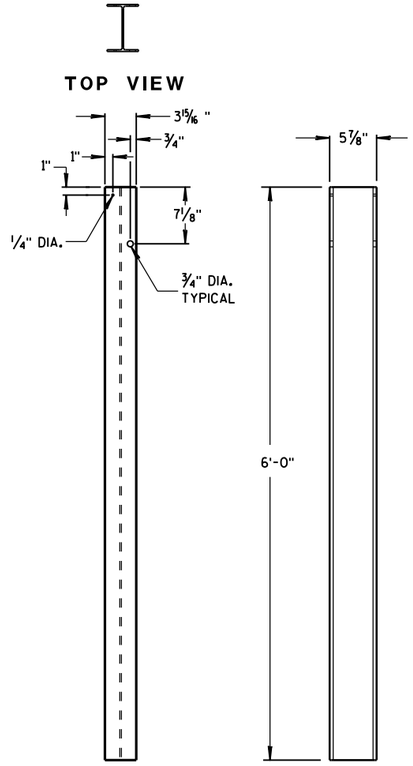


SIDE VIEW

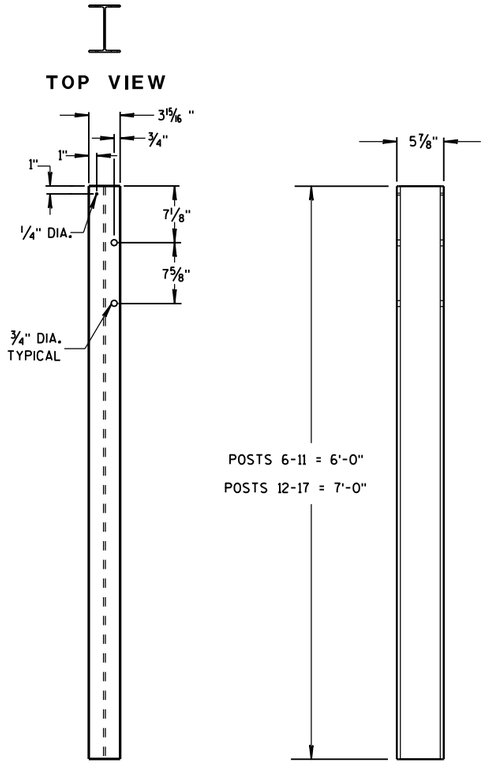


TOP VIEW

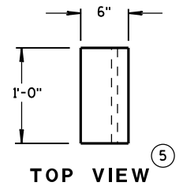
ALTERNATE WOOD BLOCKOUT DETAIL



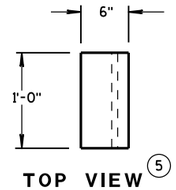
STEEL POSTS 1-5



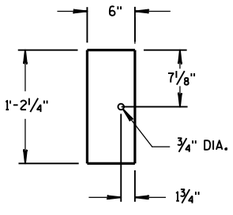
STEEL POSTS 6-17



TOP VIEW (5)

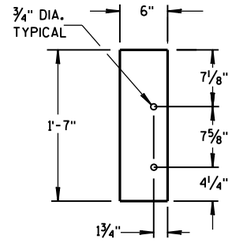


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS 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.

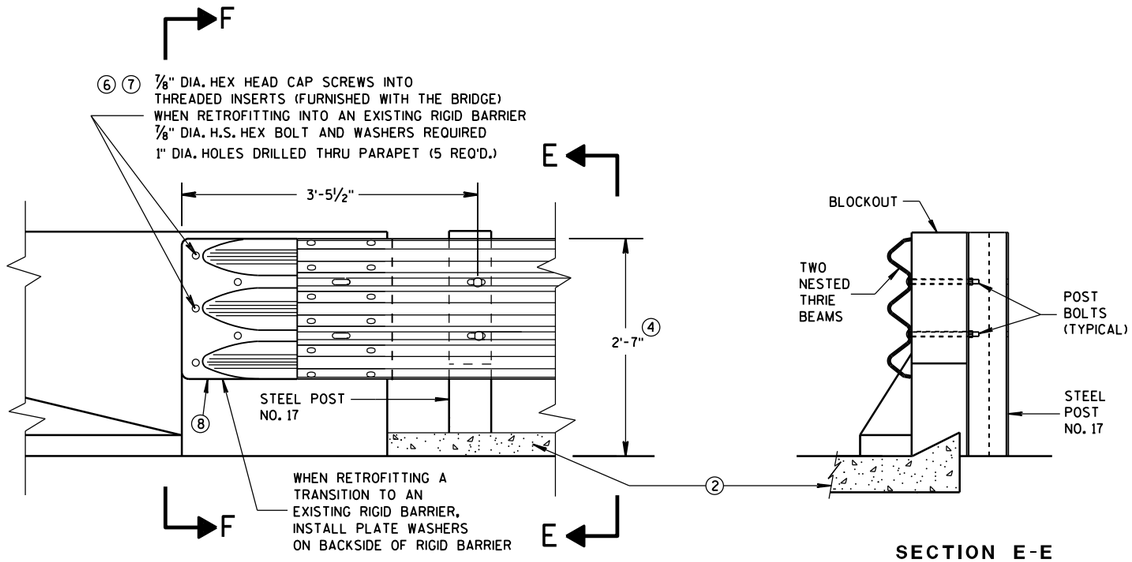
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

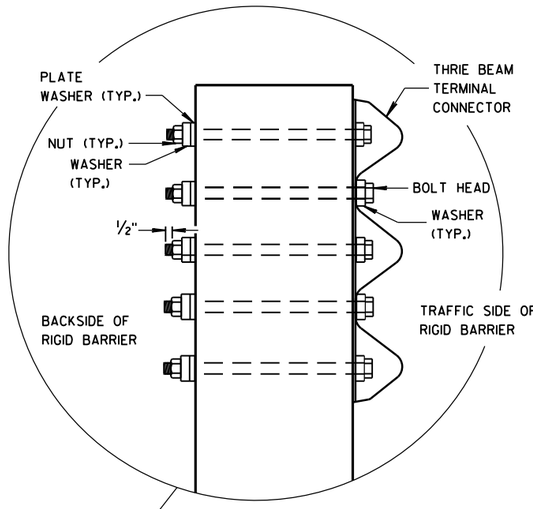
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

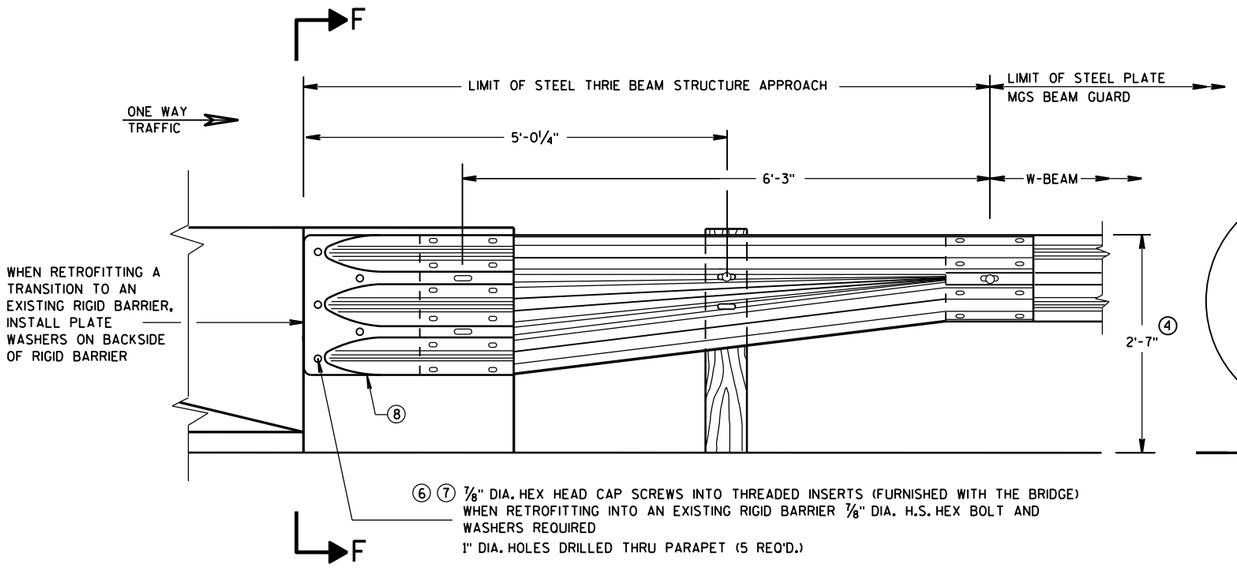
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

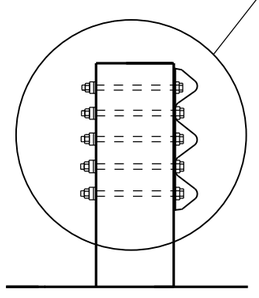
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

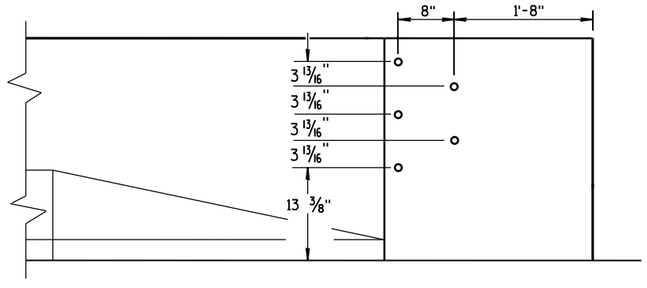




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

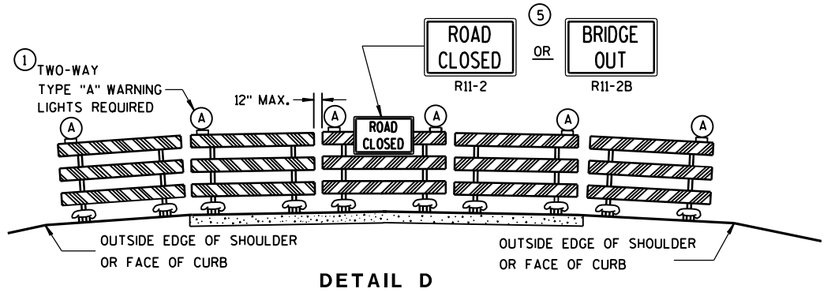
W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

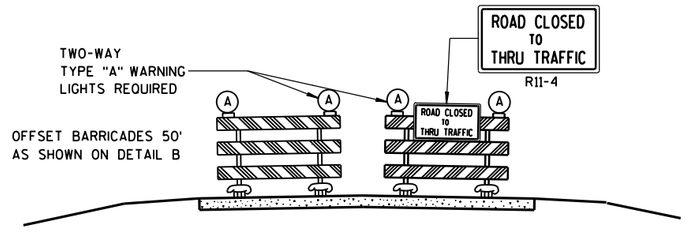
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

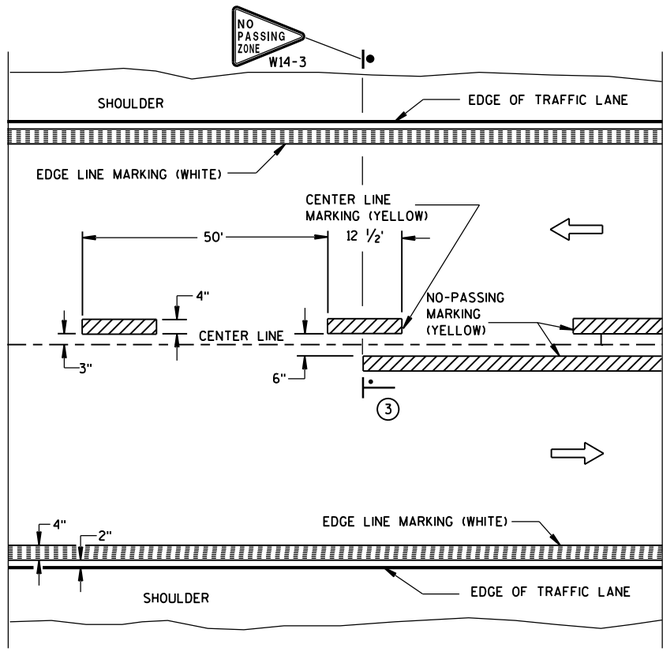
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

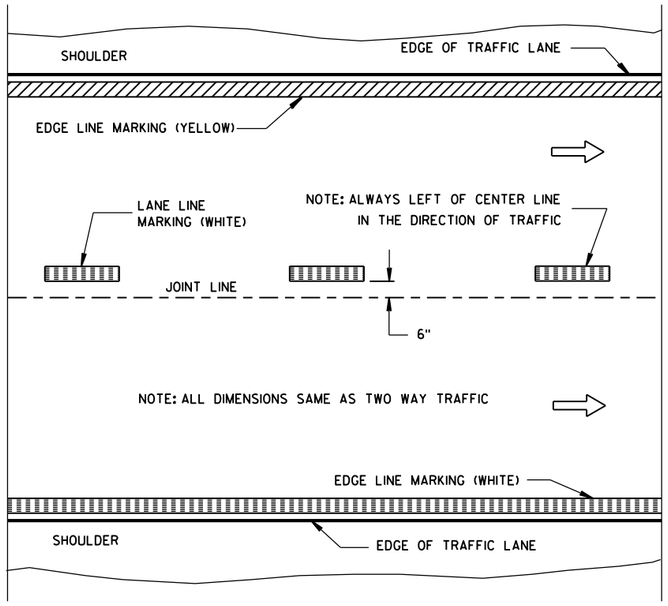
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA — FIC

6

S.D.D. 15 C 2-6b

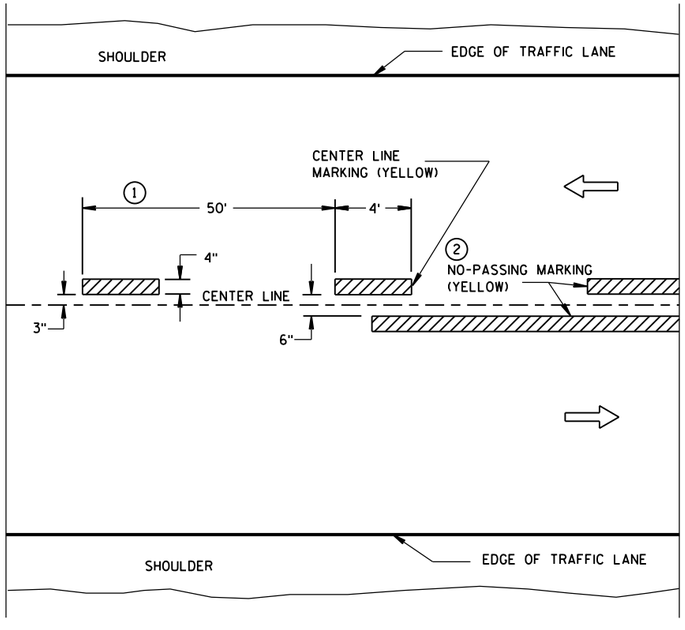


TWO WAY TRAFFIC

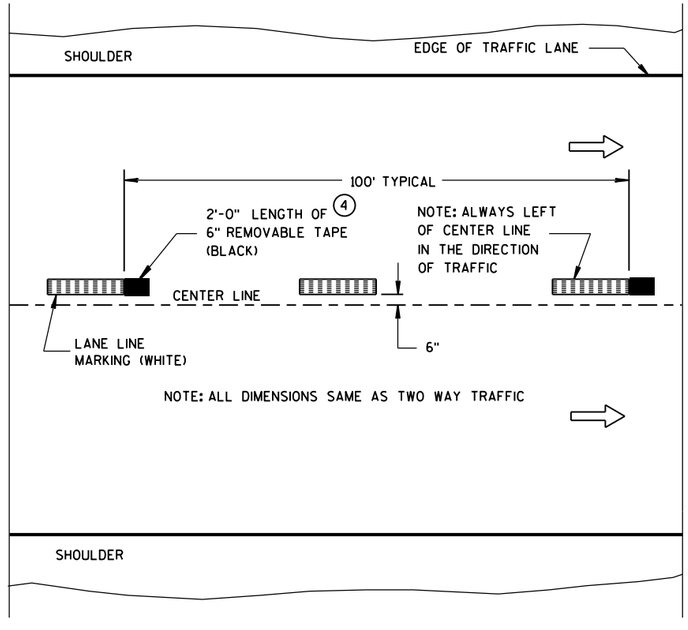


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

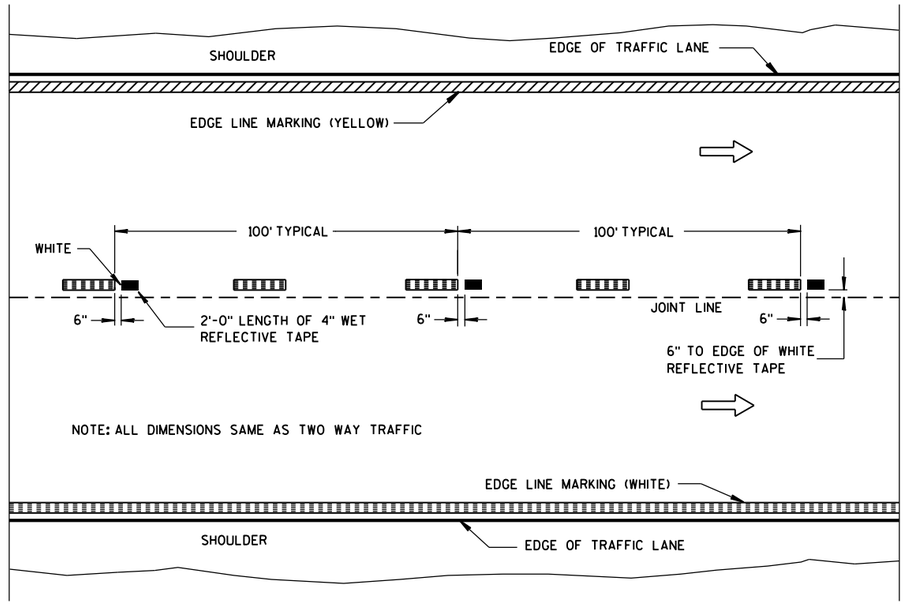
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

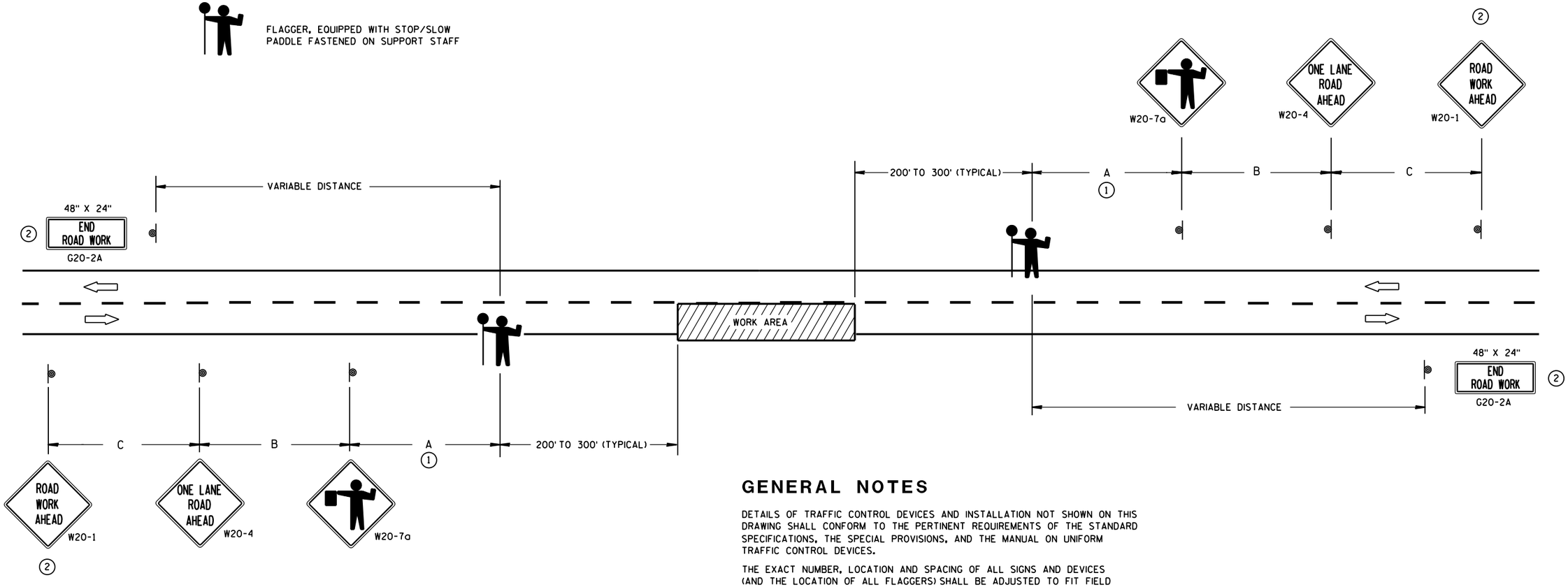
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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

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

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
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

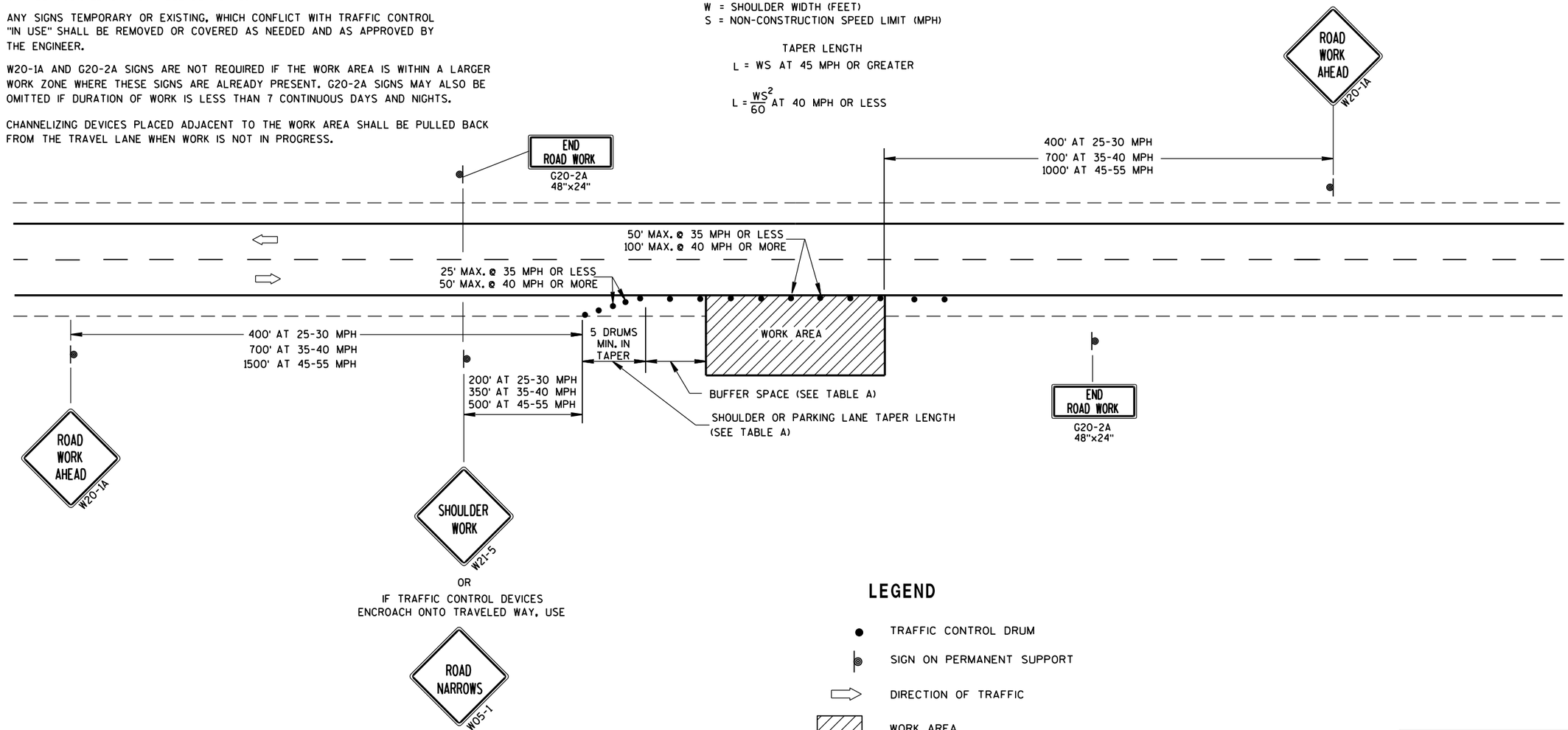
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

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] FIC

FHWA

6

S.D.D. 15 D 28-3

6

S.D.D. 15 D 28-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

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.

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

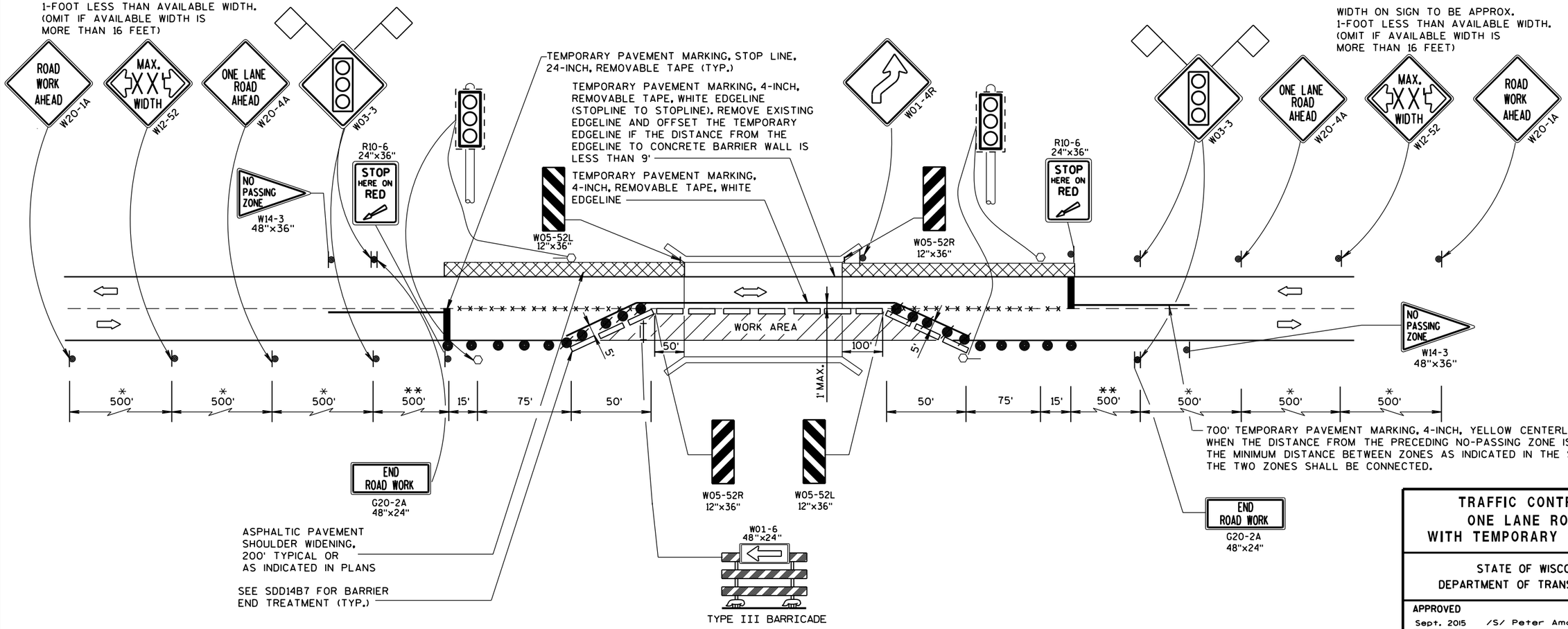
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

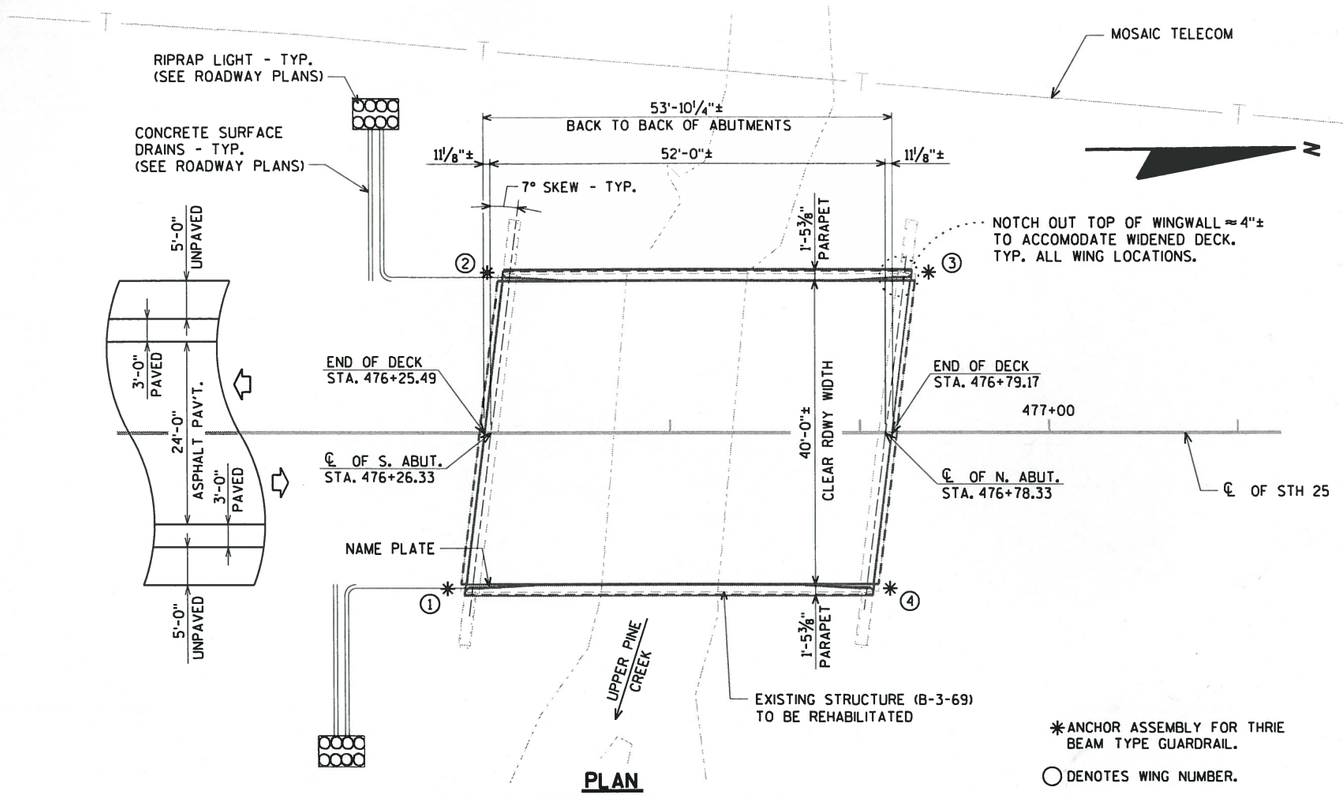
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

S.D.D. 15 D 33-4

STATE PROJECT NUMBER

8090-03-76

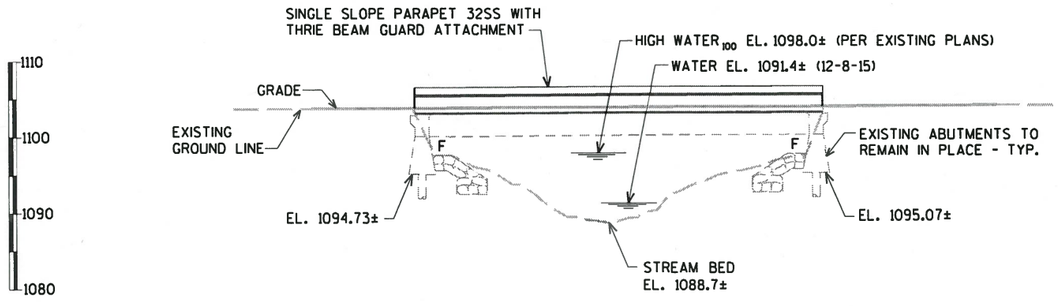


PLAN

SINGLE-SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE
(REDECK)

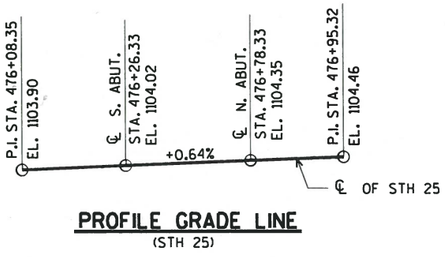
✱ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.



ELEVATION

(NORMAL TO ℄ OF CREEK)



PROFILE GRADE LINE

(STH 25)

BENCH MARK:
CHIS. SQ. IN TOP OF SE WING
STA. 476+24, 22' RT.
EL. 1103.32

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-19
OPERATING RATING: HS-26
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20#/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES ——— f'c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ——— fy = 60,000 p.s.i.

TRAFFIC DATA:

A.D.T. = 2,400 (2017)
A.D.T. = 2,800 (2037)
R.D.S. = 55 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL PLANS.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW DECK.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE INSIDE FACES AND TOP SURFACES OF THE PARAPETS PER MANUFACTURERS RECOMMENDATIONS.

THE CONCRETE APPROACH SLABS AT THE ABUTMENTS WILL HAVE A THICKNESS OF 1'-0".

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1976.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

FOR TYPICAL SECTIONS
SEE SHEET 2

LIST OF DRAWINGS

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/17/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-3-69

STH 25 OVER UPPER PINE CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
BARRON	DALLAS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS/JWZ	CBM

GENERAL PLAN

SHEET 71 OF 8

DATE:
DATE:
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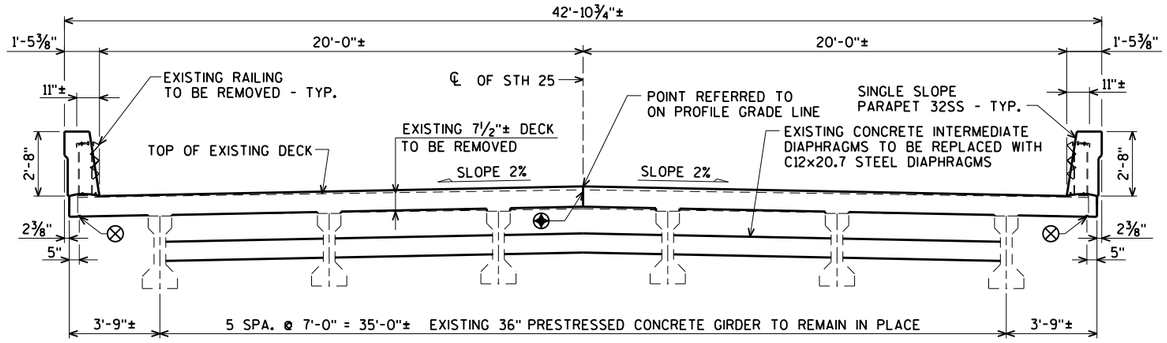
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

Ayres_pdf.pltcfg
42-1016 gp.dgn

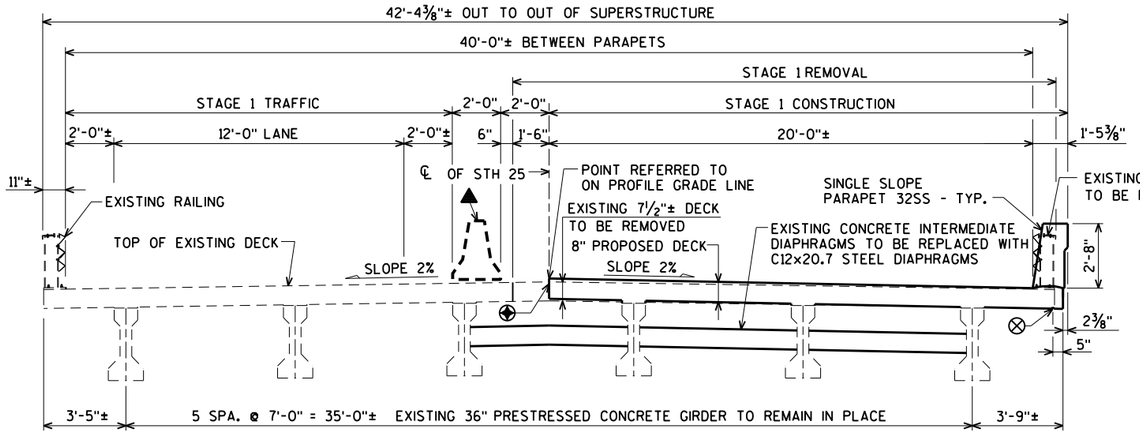
11/30/2016

8

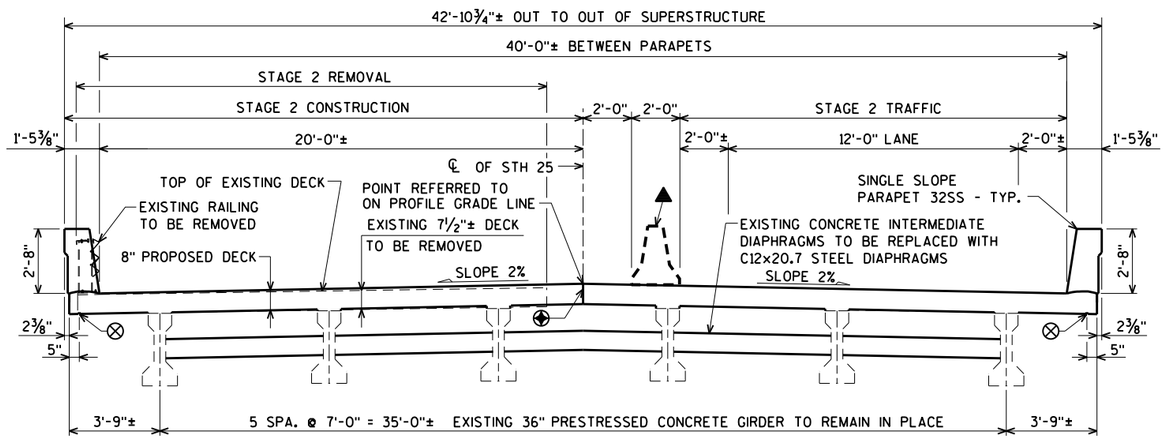
8



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



CROSS SECTION THRU ROADWAY
STAGE 1 TRAFFIC
(LOOKING NORTH)

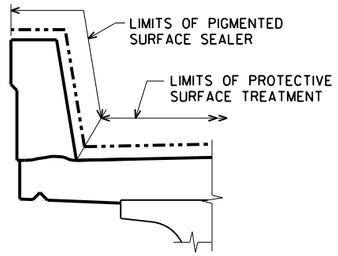


CROSS SECTION THRU ROADWAY
STAGE 2 TRAFFIC
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-3-69	LS	1
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM 476+52.33	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-3-69	LS	1
502.0100	CONCRETE MASONRY BRIDGES	CY	73
502.3200	PROTECTIVE SURFACE TREATMENT	SY	240
502.3210	PIGMENTED SURFACE SEALER	SY	45
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	120
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	17,420
505.0905	BAR COUPLERS NO. 5	EACH	197
506.4000	STEEL DIAPHRAGMS B-3-69	EACH	5
◑ 509.1500	CONCRETE SURFACE REPAIR	SF	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4
	NON-BID ITEMS		
	FILLER	SIZE	½"

◑ UNDISTRIBUTED FOR ABUTMENTS AND DIAPHRAGMS AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL

▲ TEMPORARY CONCRETE BARRIER. SEE ROADWAY PLANS FOR DETAILS.

⊕ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

⊗ ¾" V - GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

DRAWN BY CLS | PLANS CK'D. AEB

TYPICAL SECTIONS AND QUANTITIES

SHEET 2 OF 8
72

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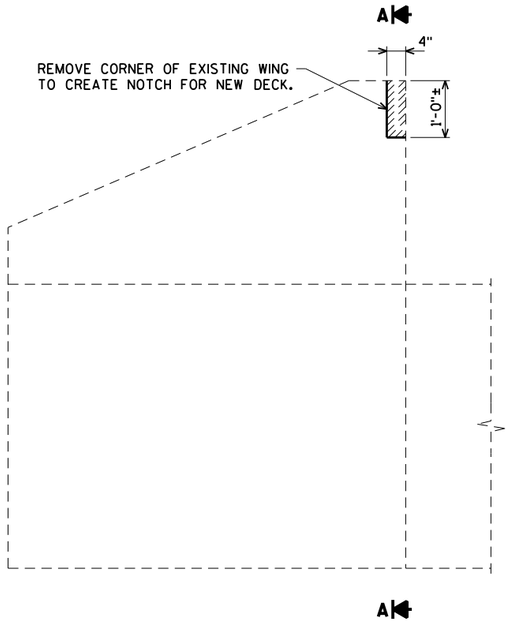
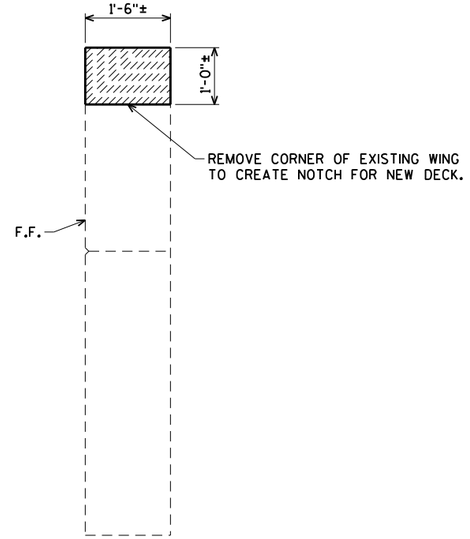


ELEVATION - WING 1
(OTHER WINGS SIMILAR)



SECTION A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

DRAWN BY JWZ | PLANS CK'D. AEB

ABUTMENT DETAILS

SHEET 3 OF 8
73

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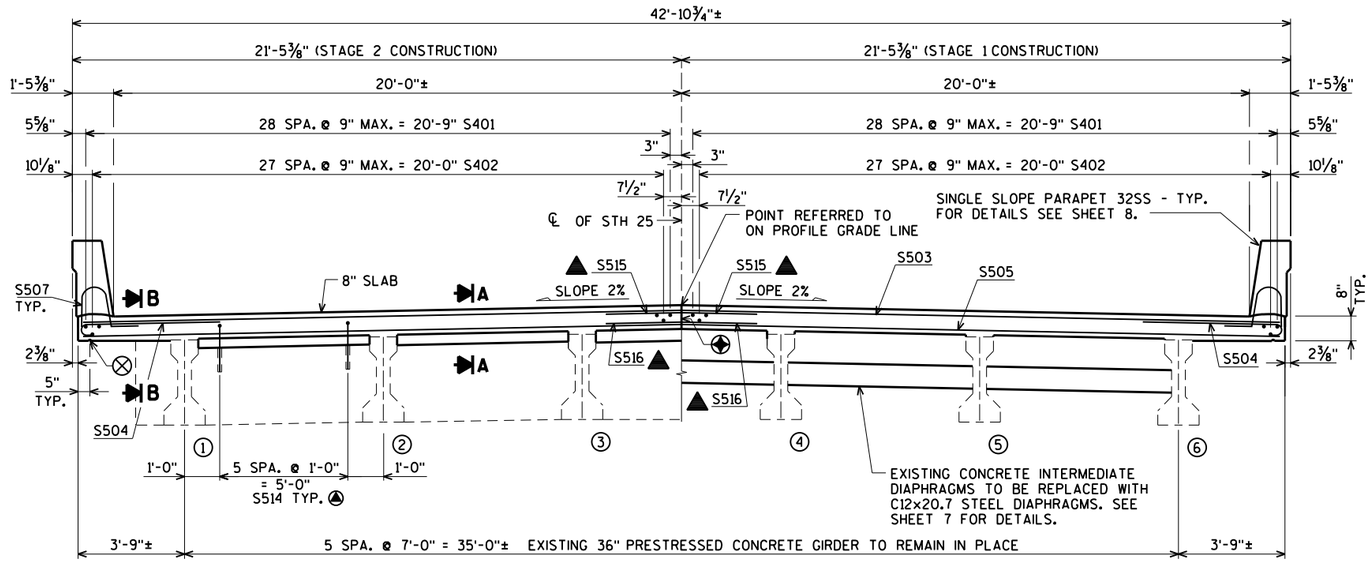
STATE PROJECT NUMBER
8090-03-76



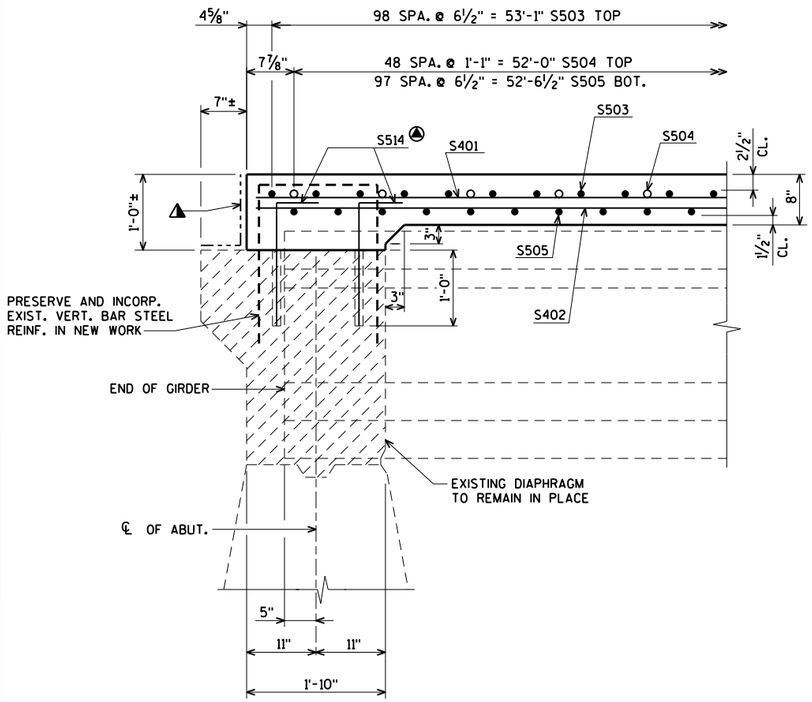
AT ABUTMENT

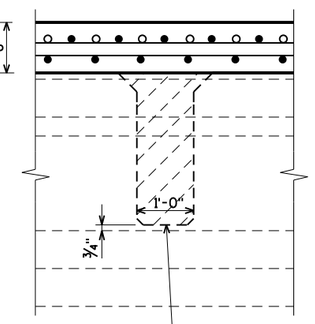
IN SPAN

TYPICAL SECTION THRU BRIDGE

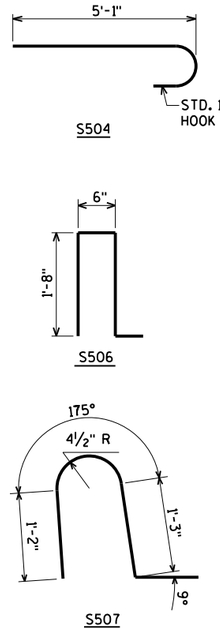
(LOOKING NORTH)

- ▲ ADHESIVE ANCHORS NO. 5 BAR
- ◭ RUBBERIZED MEMBRANE WATERPROOFING
- ⊕ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC. SEE SHEET 6 FOR DETAILS.
- ⊗ ¾" V - GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.





PART LONGITUDINAL SECTION

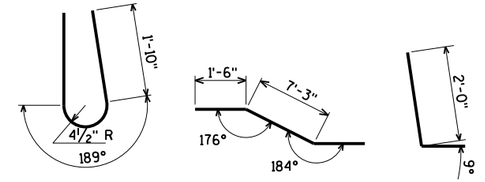


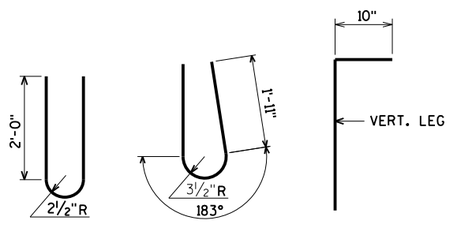
BILL OF BARS

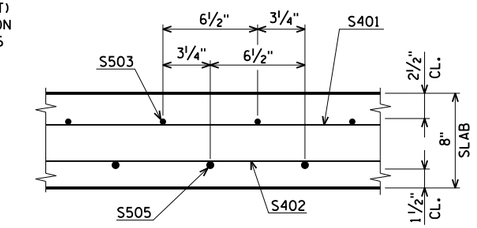
BAR. NO.	COATED BAR	NO. REQ'D. (STAGE 1)	NO. REQ'D. (STAGE 2)	LENGTH	BENT BAR	BUNDLED BAR	SERIES	8.710# COATED (STAGE 1) 8.710# COATED (STAGE 2) LOCATION
S401	X	58	58	27-8				SLAB LONG. TOP
S402	X	56	56	27-8				SLAB LONG. BOT.
S503	X	99	99	21-1				SLAB TRANS. TOP
S504	X	49	49	5-8	X			SLAB TRANS. TOP AT SLAB EDGE
S505	X	98	98	21-1				SLAB TRANS. BOT.
S506	X	34	34	4-4	X			SLAB AT PARAPET VERT.
S507	X	56	56	4-5	X			SLAB AT PARAPET VERT.
S508	X	56	56	5-0	X			PARAPET VERT.
S509	X	5	5	53-6				PARAPET HORIZ.
S510	X	2	2	27-8	X			PARAPET HORIZ.
S511	X	24	24	2-9	X			PARAPET VERT.
S512	X	22	22	4-9	X			PARAPET VERT.
S513	X	12	12	4-10	X			PARAPET VERT.
S514	X	60	60	2-6	X			DOWEL BAR AT ABUT.
▲ S515	X	99	99	2-8				DOWEL BAR SPLICER AT LONG. JNT. TOP
▲ S516	X	98	98	2-8				DOWEL BAR SPLICER AT LONG. JNT. BOT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

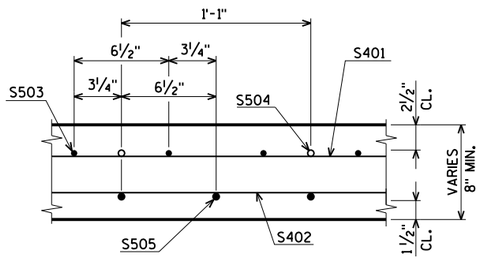
▲ BARS WITH COUPLER - SEE SHEET 6 FOR DETAILS.







SECTION A



SECTION B

NOTE:
DAMAGE TO THE EXISTING GIRDERS CAUSED DURING DECK REMOVAL OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

DRAWN BY JWZ | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 4 OF 8
74

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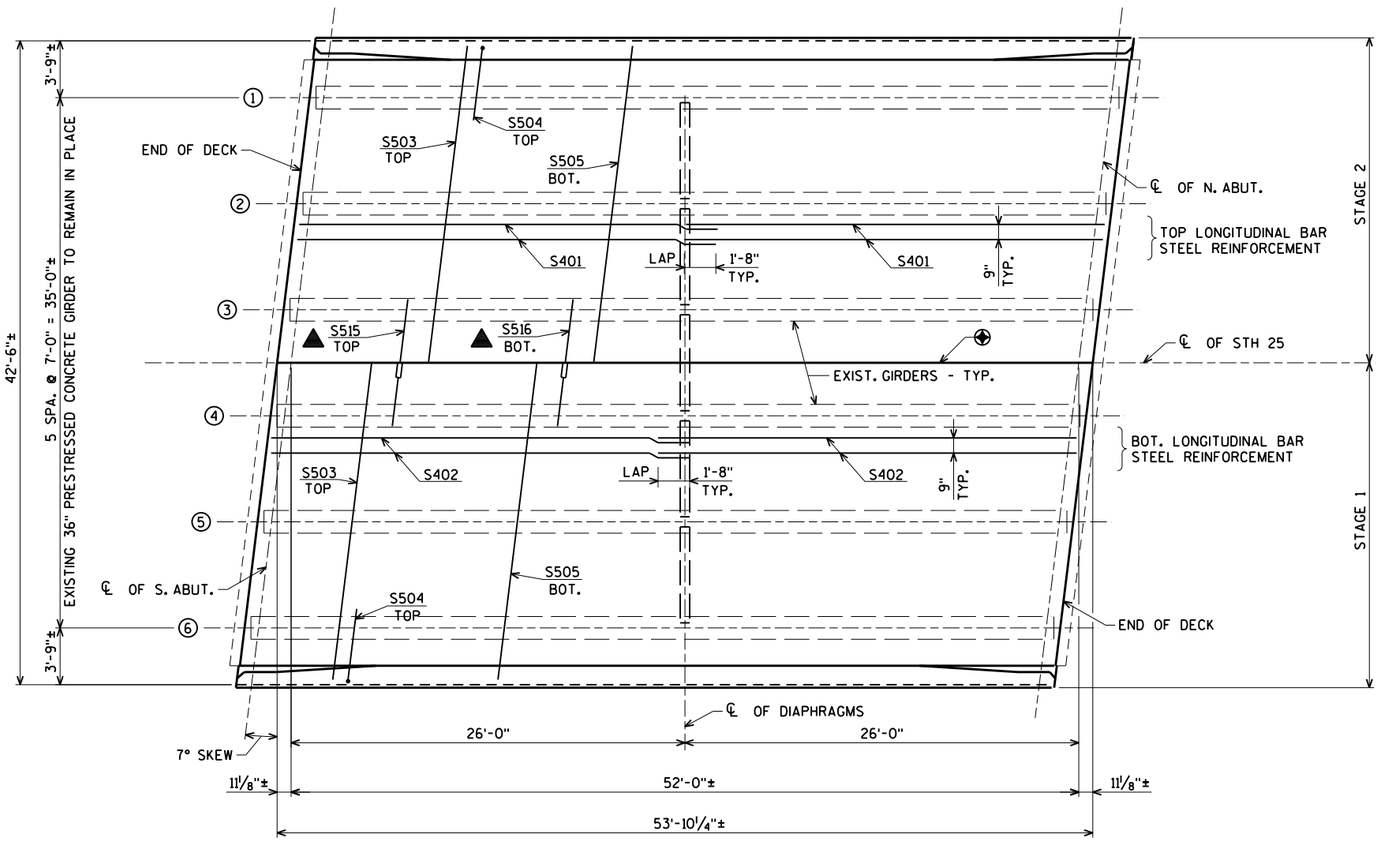
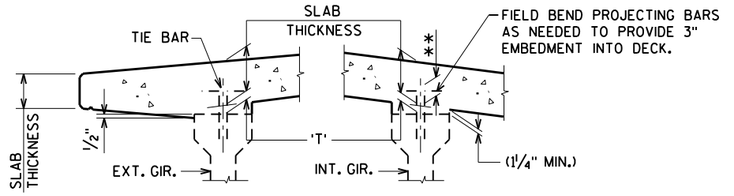


PLAN

◈ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC. SEE SHEET 6 FOR DETAILS.

▲ BARS WITH COUPLER - SEE SHEET 6 FOR DETAILS.



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EDGE OF DECK	1103.63	1103.67	1103.70	1103.73	1103.77	1103.80	1103.83	1103.87	1103.90	1103.93	1103.97
GIRDER 1	1103.68	1103.71	1103.75	1103.78	1103.81	1103.85	1103.88	1103.91	1103.95	1103.98	1104.01
GIRDER 2	1103.81	1103.85	1103.88	1103.91	1103.95	1103.98	1104.01	1104.05	1104.08	1104.12	1104.15
GIRDER 3	1103.95	1103.98	1104.02	1104.05	1104.08	1104.12	1104.15	1104.18	1104.22	1104.25	1104.28
℄ ROAD	1104.02	1104.05	1104.08	1104.12	1104.15	1104.18	1104.22	1104.25	1104.28	1104.32	1104.35
GIRDER 4	1103.94	1103.98	1104.01	1104.04	1104.08	1104.11	1104.14	1104.18	1104.21	1104.24	1104.28
GIRDER 5	1103.80	1103.83	1103.86	1103.90	1103.93	1103.96	1104.00	1104.03	1104.07	1104.10	1104.13
GIRDER 6	1103.65	1103.69	1103.72	1103.75	1103.79	1103.82	1103.85	1103.89	1103.92	1103.95	1103.99
E. EDGE OF DECK	1103.60	1103.63	1103.67	1103.70	1103.73	1103.77	1103.80	1103.83	1103.87	1103.90	1103.93

DEAD LOAD DEFLECTIONS

UNITS ARE INCHES	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.
SPAN 1	0.1	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

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SUPERSTRUCTURE DETAILS

SHEET 5 OF 8
75

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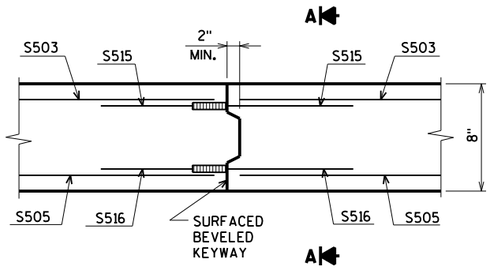
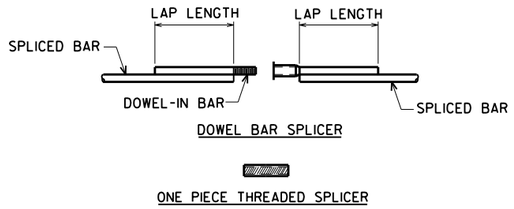


LONGITUDINAL CONST. JOINT AND BAR COUPLER DETAIL



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

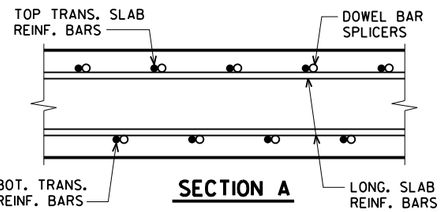
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

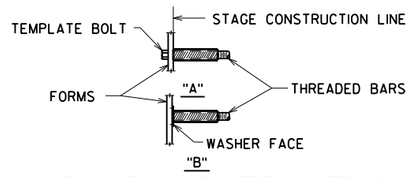
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



SECTION A



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

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BAR COUPLER DETAILS

SHEET 6 OF 8
76

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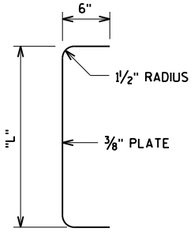
8

8

STATE PROJECT NUMBER
8090-03-76

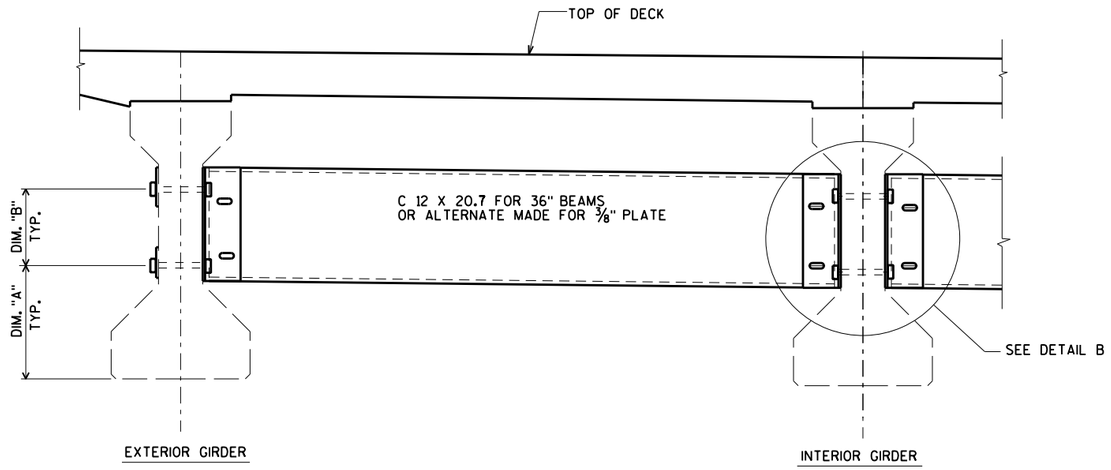
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
36"	1'-2 7/8"	9 7/8"	1'-1 1/2"	3 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

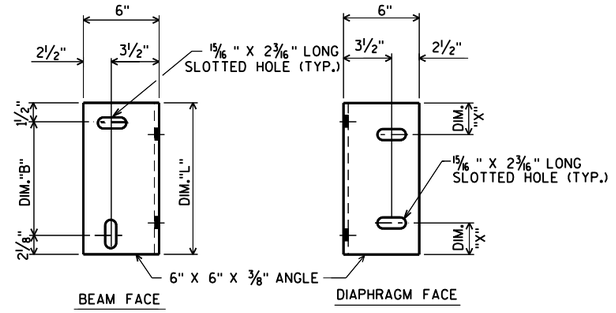
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-69", EACH.

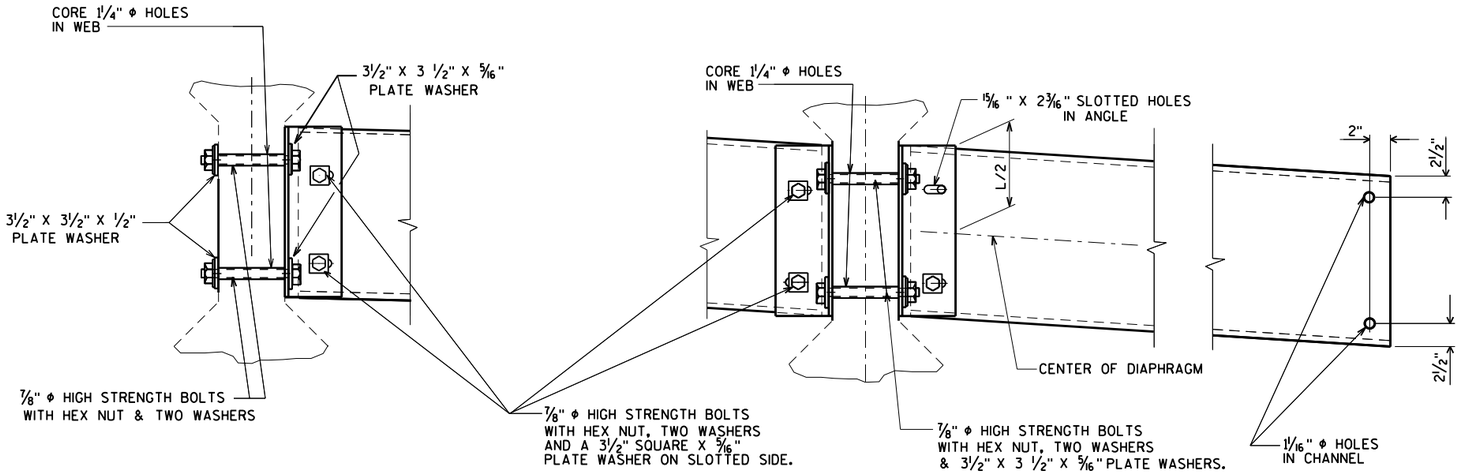
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

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INTERM. STEEL DIAPH. DETAILS

SHEET 7 OF 8
77

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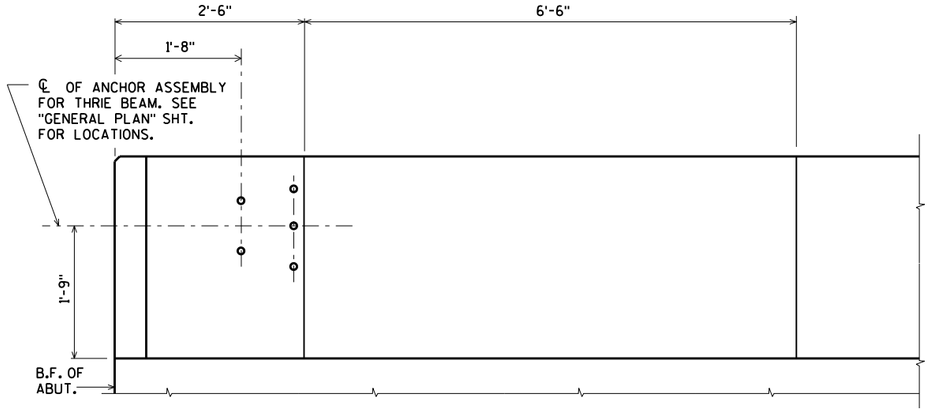
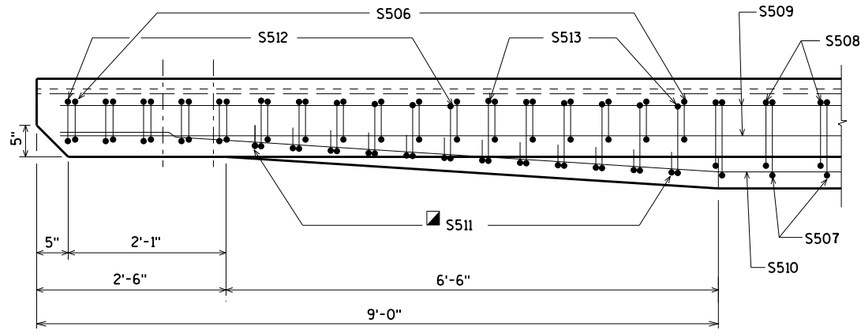
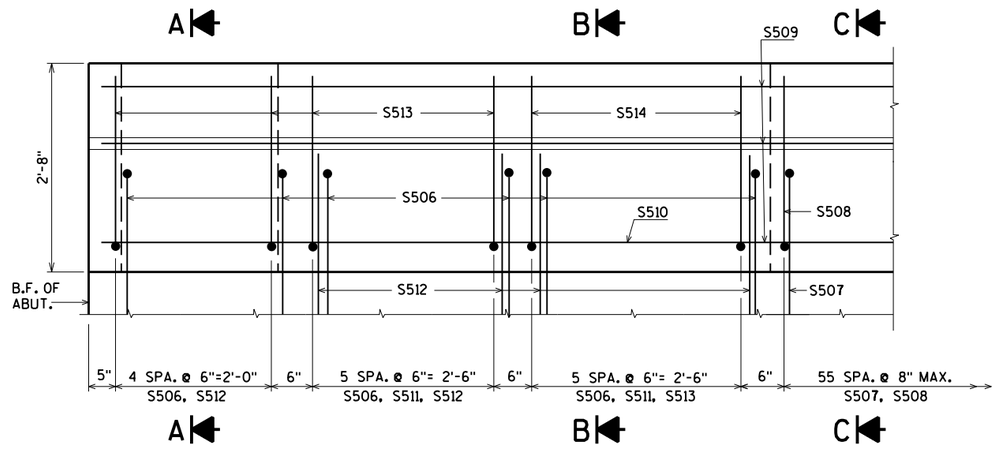


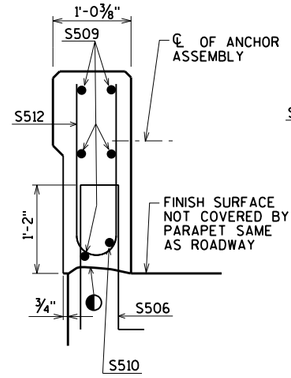
INSIDE ELEVATION



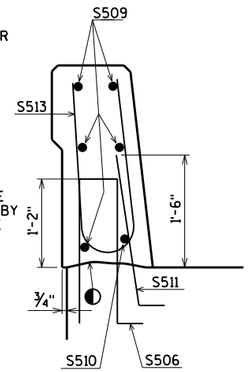
PLAN



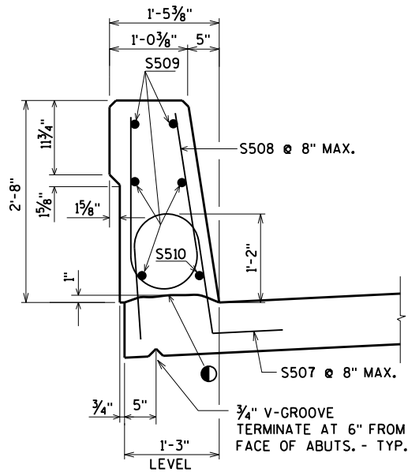
OUTSIDE ELEVATION



SECTION A



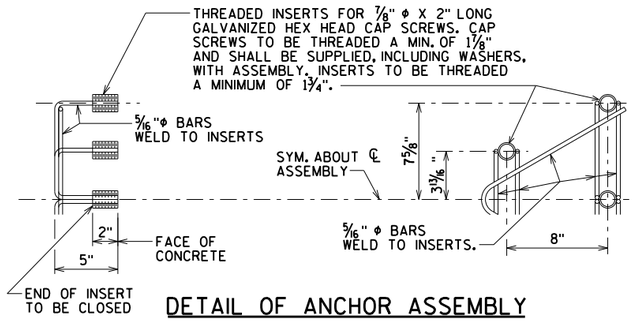
SECTION B



SECTION THRU PARAPET ON BRIDGE
SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ S511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-69

DRAWN BY JWZ | PLANS CK'D. AEB

SINGLE SLOPE PARAPET 32SS

SHEET 8 OF 8
78

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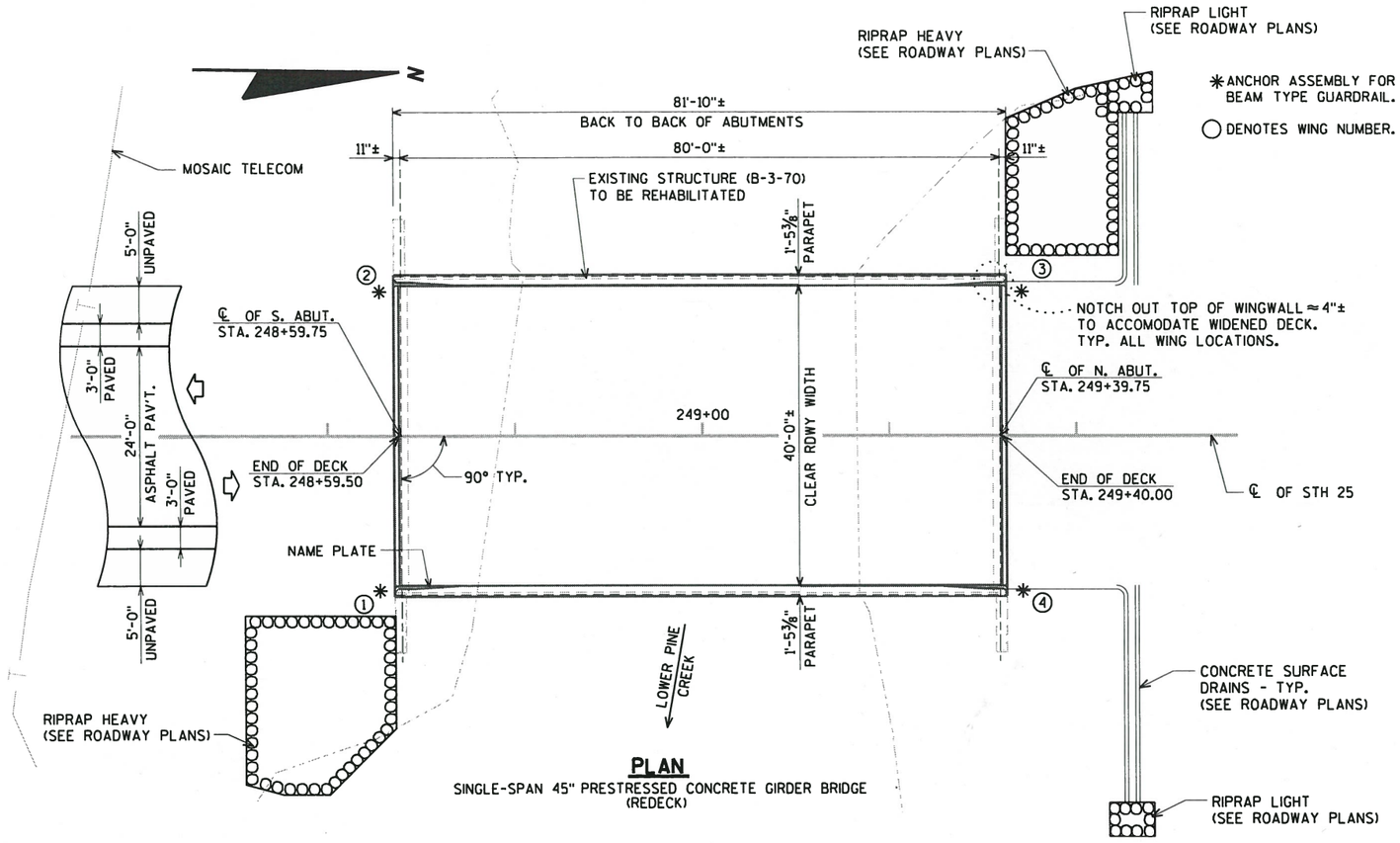
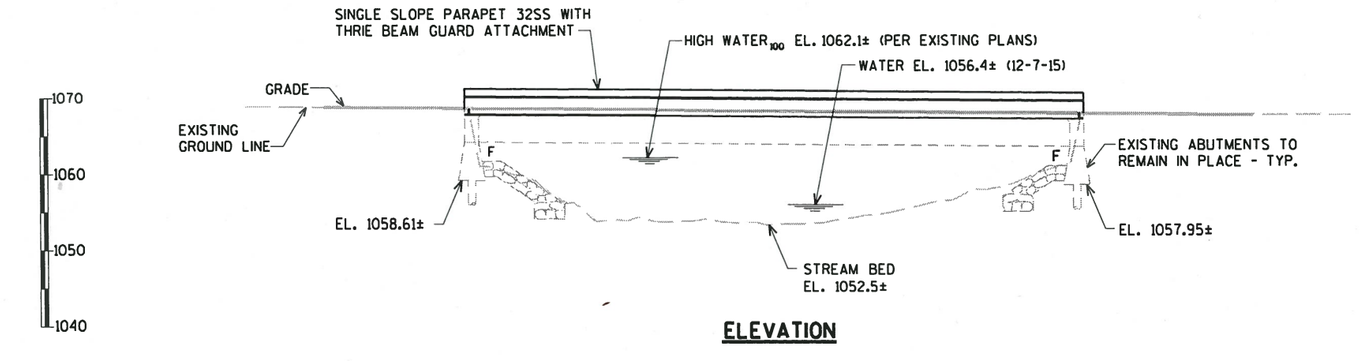
STATE PROJECT NUMBER

8090-03-75

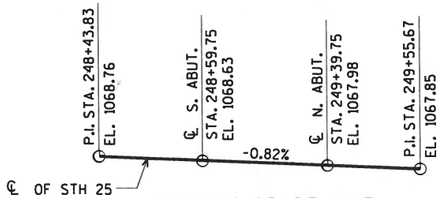


PLAN

SINGLE-SPAN 45" PRESTRESSED CONCRETE GIRDER BRIDGE
(REDECK)



ELEVATION



PROFILE GRADE LINE

(STH 25)

BENCH MARK:
WISDOT BRONZE DISK "6C05 2005" IN NW WING
STA. 249+40, 22'LT.
EL. 1067.49

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-25
OPERATING RATING: HS-32
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20#/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES ____ f'_c = 4,000 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ____ f_y = 60,000 p.s.i.

TRAFFIC DATA:

A.D.T. = 2,400 (2017)
A.D.T. = 2,800 (2037)
R.D.S. = 55 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL PLANS.

THE FIRST DIGIT OF A THREE DIGIT BAR NO. OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW DECK.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE INSIDE FACES AND TOP SURFACES OF THE PARAPETS PER MANUFACTURERS RECOMMENDATIONS.

THE CONCRETE APPROACH SLABS AT THE ABUTMENTS WILL HAVE A THICKNESS OF 1'-0".

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1976.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

LIST OF DRAWINGS

FOR TYPICAL SECTIONS SEE SHEET 2

WISCONSIN
CHRISTOPHER B. McMAHON
E-29454
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

11/30/16

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/17/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-3-70

STH 25 OVER LOWER PINE CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
BARRON	DALLAS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CKJ	CLS/JWZ	CBM

GENERAL PLAN

SHEET 79 OF 8

DATE:
DATE:
DATE:

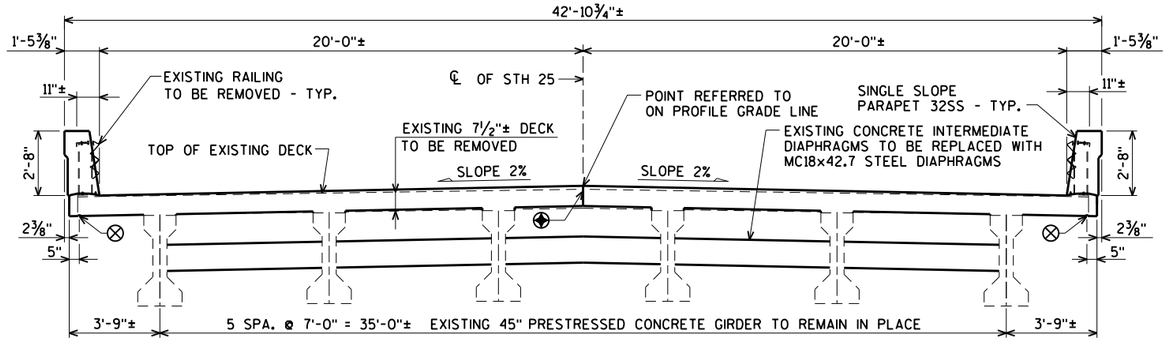
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

Ayres_pdf.pltcfg
42-1015 gp.dgn

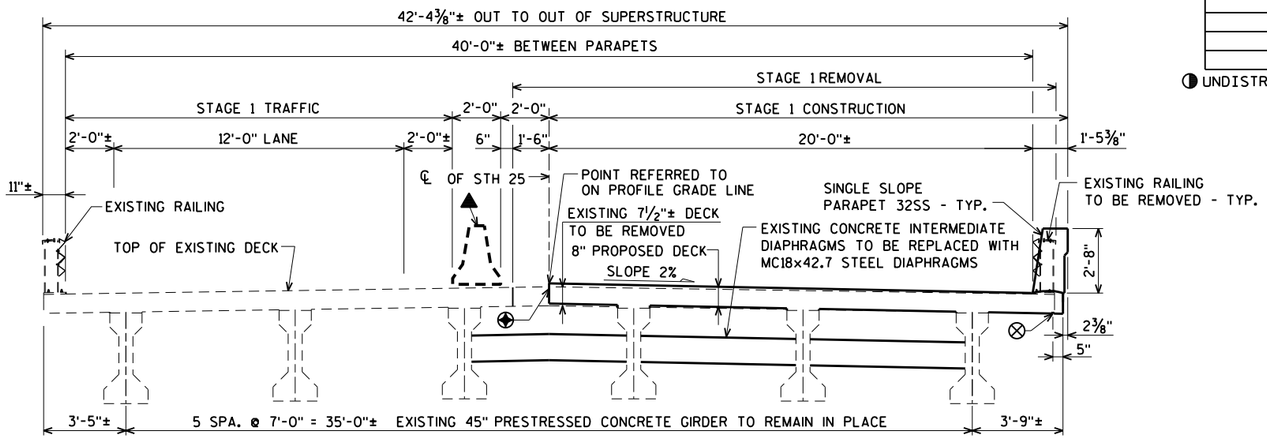
8

8

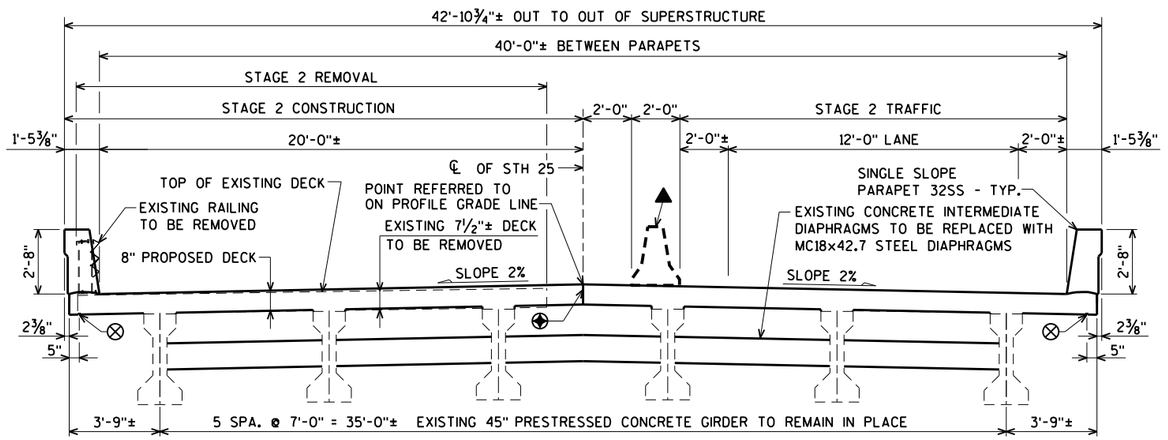
STATE PROJECT NUMBER
8090-03-75



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



CROSS SECTION THRU ROADWAY
STAGE 1 TRAFFIC
(LOOKING NORTH)

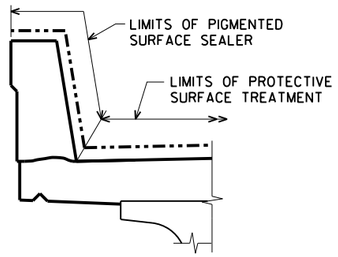


CROSS SECTION THRU ROADWAY
STAGE 2 TRAFFIC
(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-3-70	LS	1
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM 248+95.75	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-3-70	LS	1
502.0100	CONCRETE MASONRY BRIDGES	CY	111
502.3200	PROTECTIVE SURFACE TREATMENT	SY	240
502.3210	PIGMENTED SURFACE SEALER	SY	45
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	120
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	25,880
505.0905	BAR COUPLERS NO. 5	EACH	297
506.4000	STEEL DIAPHRAGMS B-3-70	EACH	5
◑ 509.1500	CONCRETE SURFACE REPAIR	SF	60
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4
	NON-BID ITEMS		
	FILLER	SIZE	½"

◑ UNDISTRIBUTED FOR ABUTMENTS AND DIAPHRAGMS AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL

▲ TEMPORARY CONCRETE BARRIER. SEE ROADWAY PLANS FOR DETAILS.

⊕ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC.

⊗ ¾" V - GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.

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STRUCTURE B-3-70

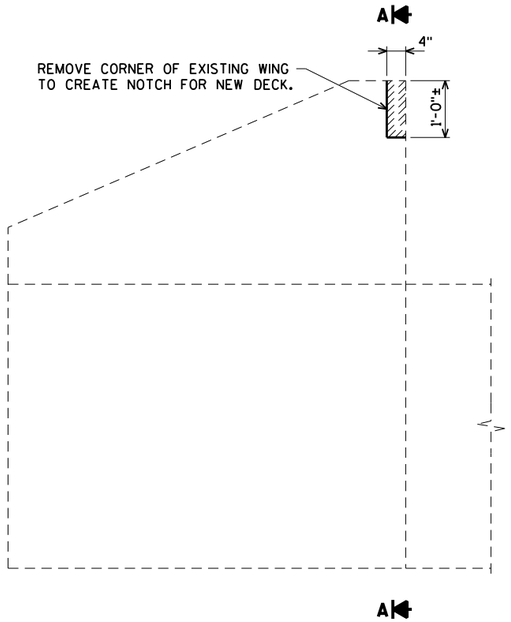
DRAWN BY CLS | PLANS CK'D. AEB

TYPICAL SECTIONS AND QUANTITIES

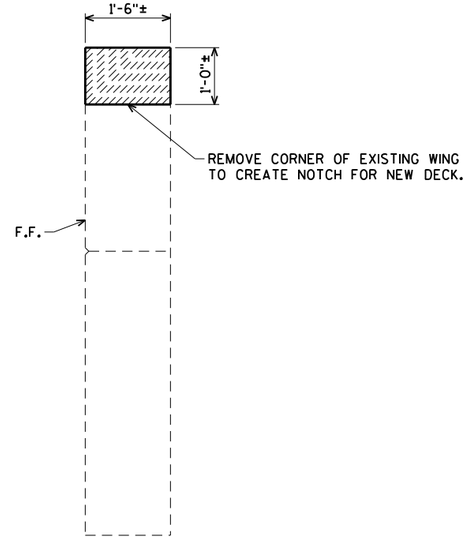
SHEET 2 OF 8
80

8

8



ELEVATION - WING 1
(OTHER WINGS SIMILAR)



SECTION A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

ABUTMENT DETAILS

SHEET 3 OF 8
81

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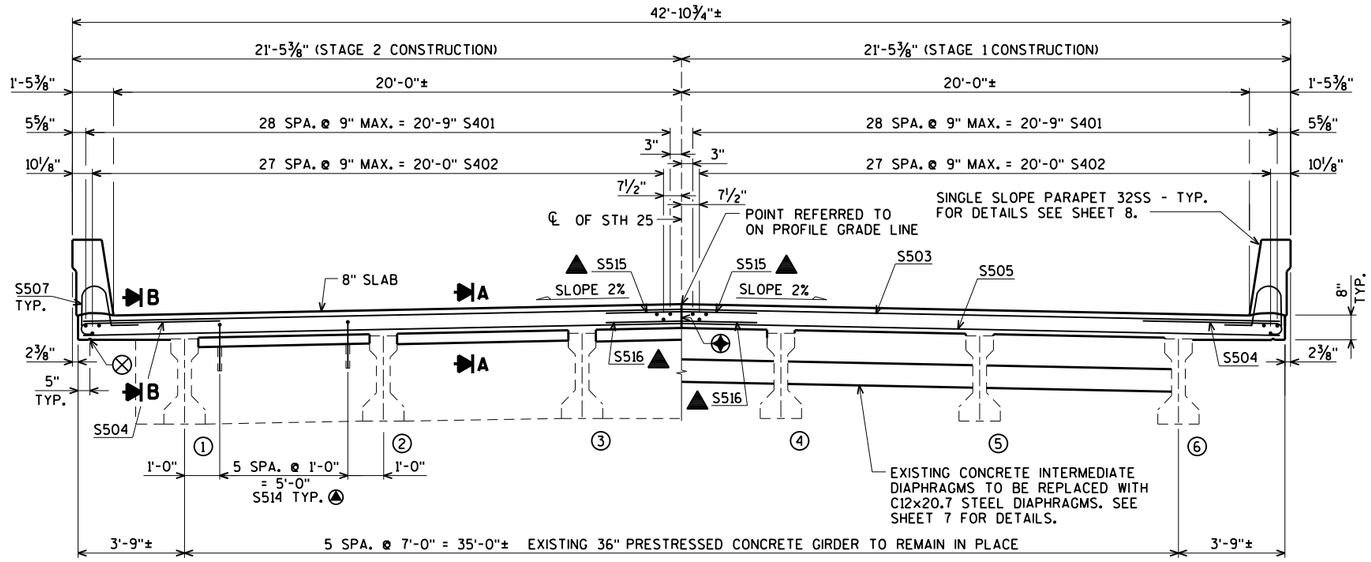
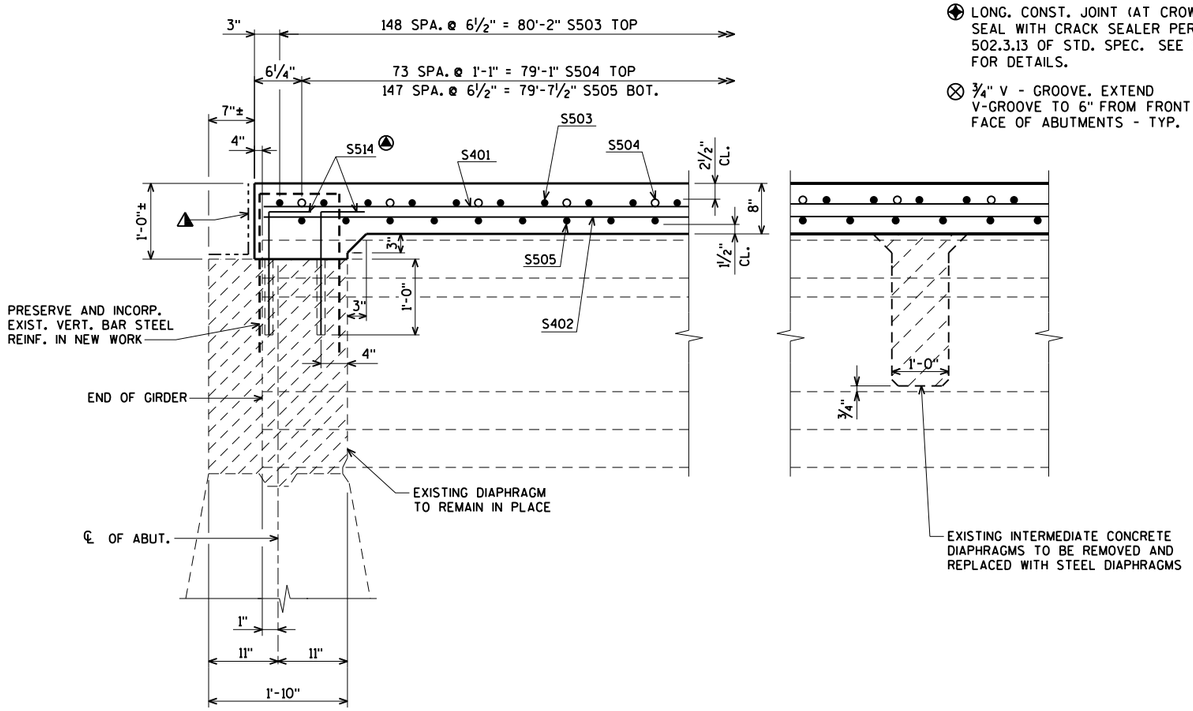


AT ABUTMENT

IN SPAN

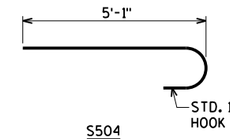
TYPICAL SECTION THRU BRIDGE

(LOOKING NORTH)

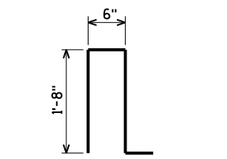


PART LONGITUDINAL SECTION

- ▲ ADHESIVE ANCHORS NO. 5 BAR
- ◭ RUBBERIZED MEMBRANE WATERPROOFING
- ⊕ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC. SEE SHEET 6 FOR DETAILS.
- ⊗ ¾" V - GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.



S504



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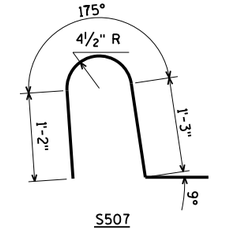

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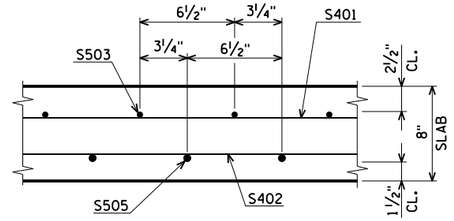
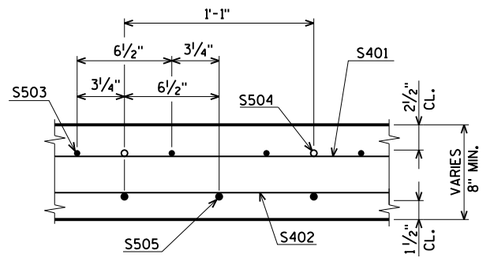


SECTION A



SECTION B

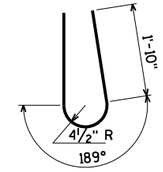
NOTE:
DAMAGE TO THE EXISTING GIRDERS CAUSED DURING DECK REMOVAL OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D. (STAGE 1)	NO. REQ'D. (STAGE 2)	LENGTH	BENT BAR	BUNDLED BAR SERIES	12,940* COATED (STAGE 1) 12,940* COATED (STAGE 2) LOCATION
S401	X	58	58	41-0			SLAB LONG. TOP
S402	X	56	56	41-0			SLAB LONG. BOT.
S503	X	149	149	21-1			SLAB TRANS. TOP
S504	X	74	74	5-8	X		SLAB TRANS. TOP AT SLAB EDGE
S505	X	148	148	21-1			SLAB TRANS. BOT.
S506	X	34	34	4-4	X		SLAB AT PARAPET VERT.
S507	X	97	97	4-5	X		SLAB AT PARAPET VERT.
S508	X	97	97	5-0	X		PARAPET VERT.
S509	X	10	10	41-6			PARAPET HORIZ.
S510	X	2	2	41-5	X		PARAPET HORIZ.
S511	X	24	24	2-9	X		PARAPET VERT.
S512	X	22	22	4-9	X		PARAPET VERT.
S513	X	12	12	4-10	X		PARAPET VERT.
S514	X	60	60	2-6	X		DOWEL BAR AT ABUT.
▲ S515	X	149	149	2-8			DOWEL BAR SPLICER AT LONG. JNT. TOP
▲ S516	X	148	148	2-8			DOWEL BAR SPLICER AT LONG. JNT. BOT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

▲ BARS WITH COUPLER - SEE SHEET 6 FOR DETAILS.



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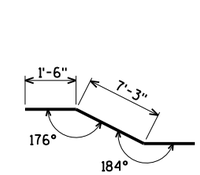

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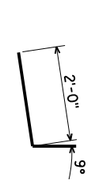

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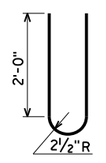

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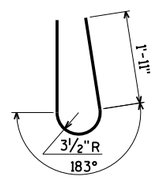

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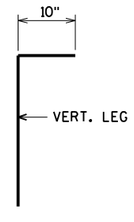

S514

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 4 OF 8
82

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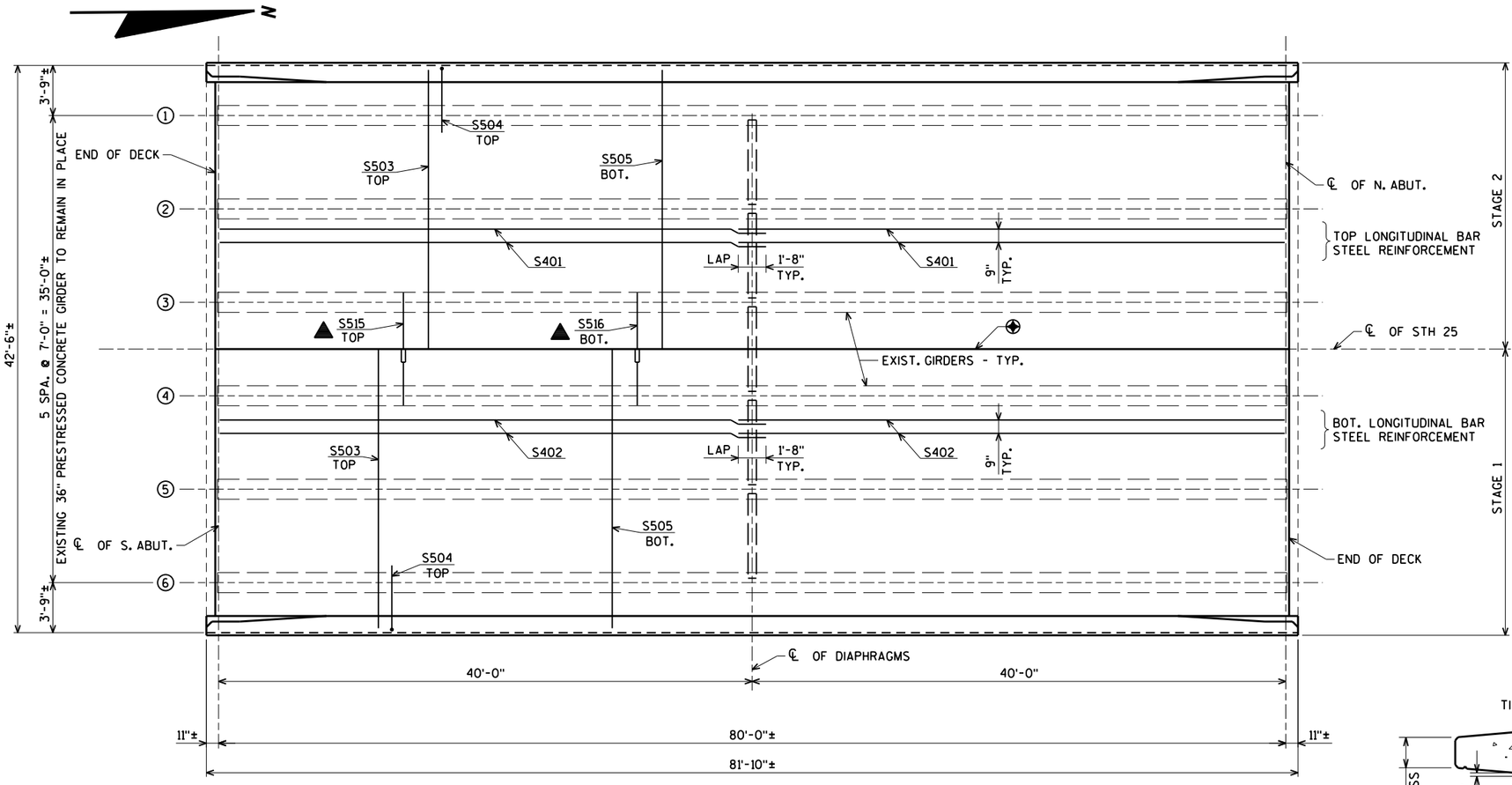


PLAN

◈ LONG. CONST. JOINT (AT CROWN POINT) SEAL WITH CRACK SEALER PER SECTION 502.3.13 OF STD. SPEC. SEE SHEET 6 FOR DETAILS.

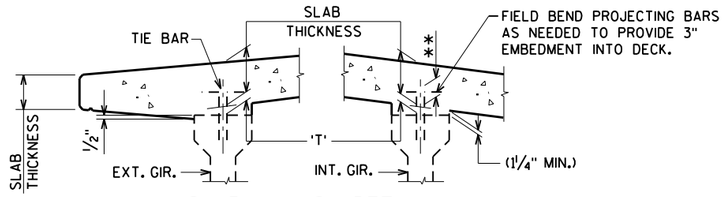
▲ BARS WITH COUPLER - SEE SHEET 6 FOR DETAILS.

TOP OF DECK ELEVATIONS

	℄ OF BRG. S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. N. ABUT.
W. EDGE OF DECK	1068.23	1068.17	1068.10	1068.04	1067.97	1067.91	1067.84	1067.77	1067.71	1067.64	1067.58
GIRDER 1	1068.28	1068.22	1068.15	1068.09	1068.02	1067.96	1067.89	1067.82	1067.76	1067.69	1067.63
GIRDER 2	1068.42	1068.36	1068.29	1068.23	1068.16	1068.10	1068.03	1067.96	1067.90	1067.83	1067.77
GIRDER 3	1068.56	1068.50	1068.43	1068.37	1068.30	1068.24	1068.17	1068.10	1068.04	1067.97	1067.91
℄ ROAD	1068.63	1068.57	1068.50	1068.44	1068.37	1068.31	1068.24	1068.17	1068.11	1068.04	1067.98
GIRDER 4	1068.56	1068.50	1068.43	1068.37	1068.30	1068.24	1068.17	1068.10	1068.04	1067.97	1067.91
GIRDER 5	1068.42	1068.36	1068.29	1068.23	1068.16	1068.10	1068.03	1067.96	1067.90	1067.83	1067.77
GIRDER 6	1068.28	1068.22	1068.15	1068.09	1068.02	1067.96	1067.89	1067.82	1067.76	1067.69	1067.63
E. EDGE OF DECK	1068.23	1068.17	1068.10	1068.04	1067.97	1067.91	1067.84	1067.77	1067.71	1067.64	1067.58

DEAD LOAD DEFLECTIONS

UNITS ARE INCHES	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.
SPAN 1	0.3	0.6	0.9	1.1	1.1	1.1	0.9	0.6	0.3



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT ⅒ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

SUPERSTRUCTURE DETAILS

SHEET 5 OF 8
83

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8

$PRFNAME$
U:\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Structures\42-1015 sup.dgn

11/29/2016

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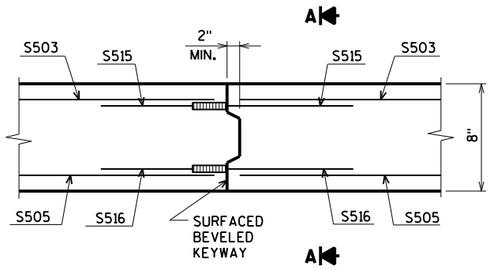
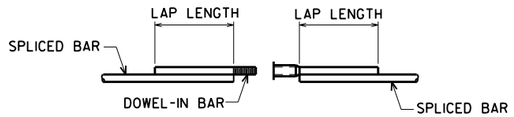


LONGITUDINAL CONST. JOINT AND BAR COUPLER DETAIL



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

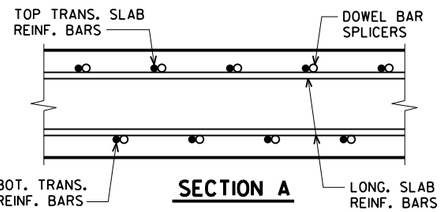
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

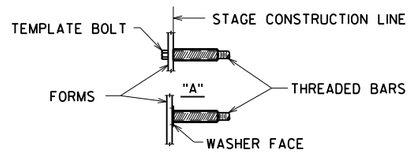
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



SECTION A



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

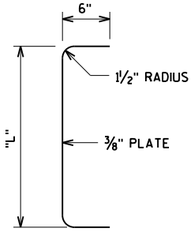
BAR COUPLER DETAILS

SHEET 6 OF 8
84

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

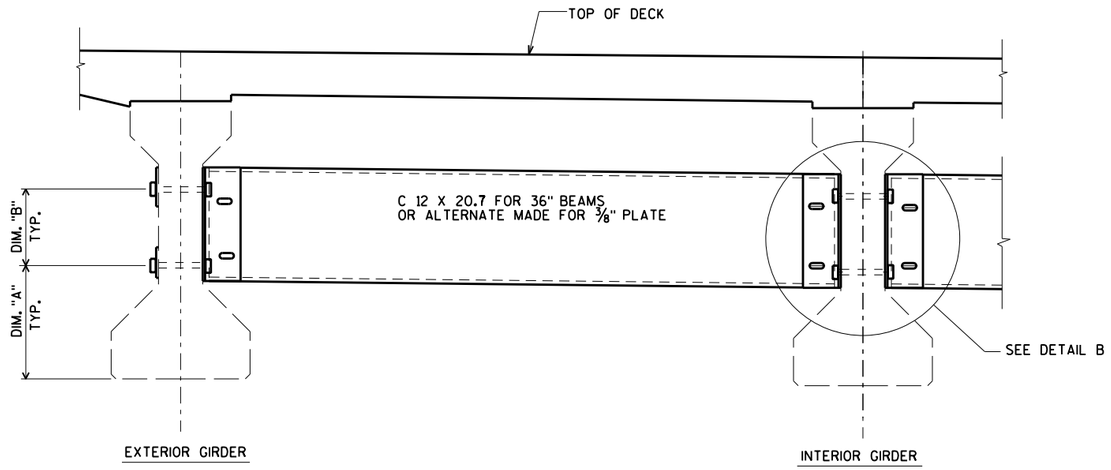
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
36"	1'-2 7/8"	9 7/8"	1'-1 1/2"	3 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

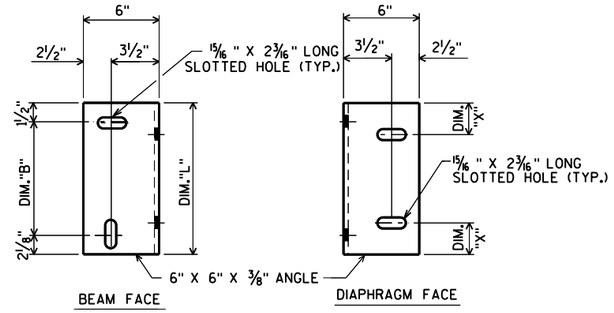
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-3-70", EACH.

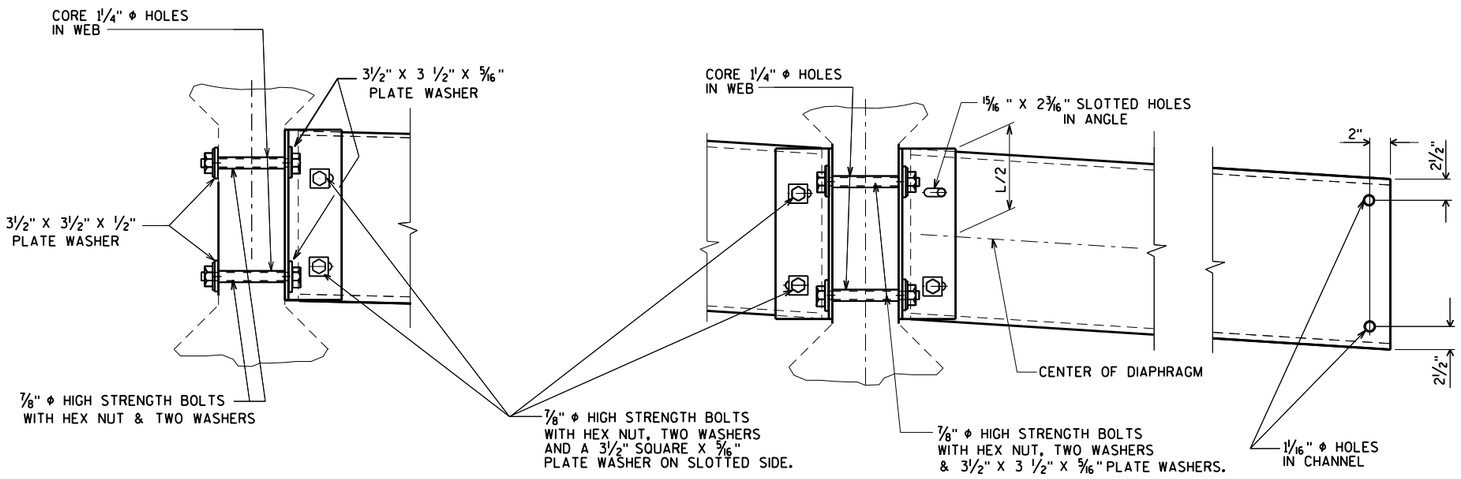
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

INTERM. STEEL DIAPH. DETAILS

SHEET 7 OF 8
85

ORIGINAL PLANS PREPARED BY
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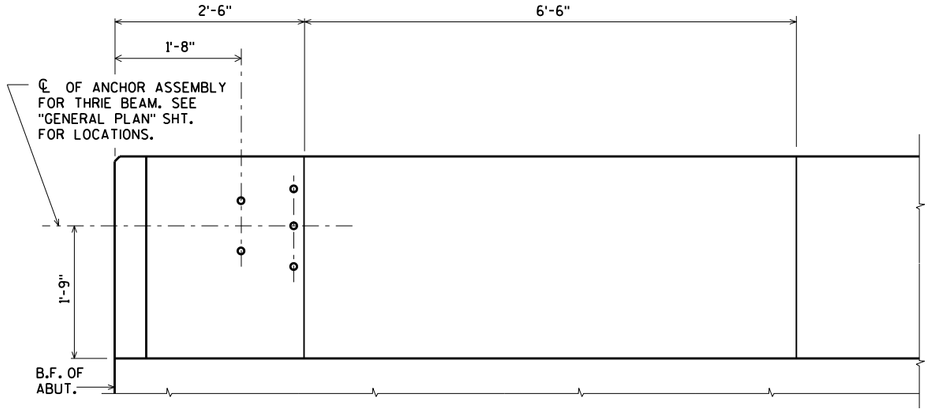
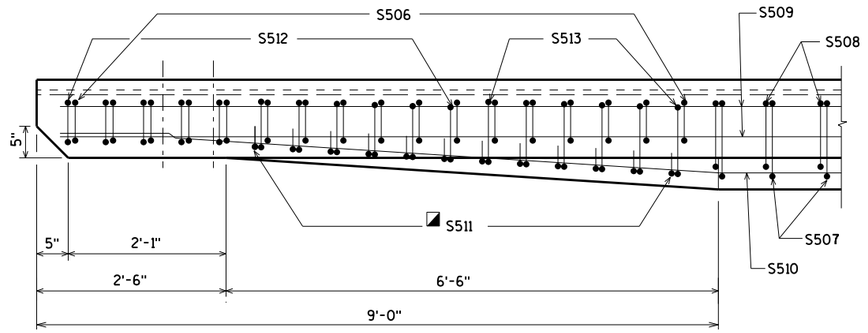
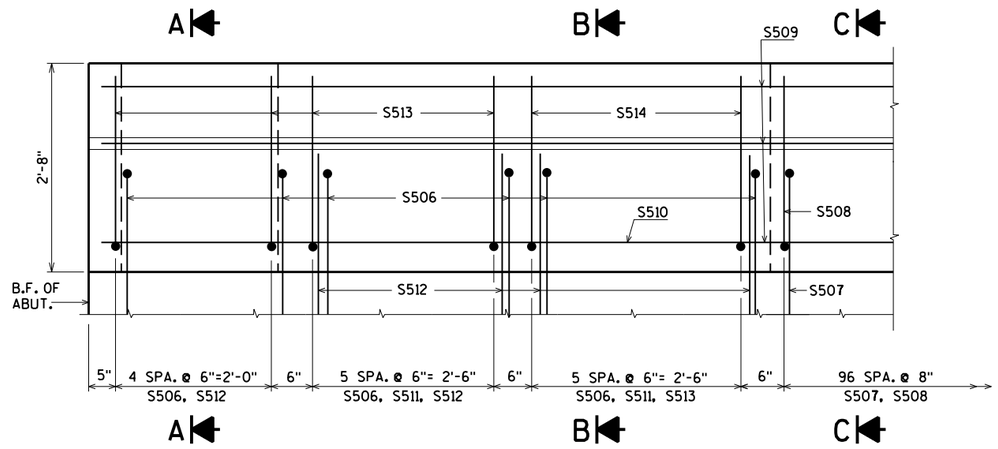


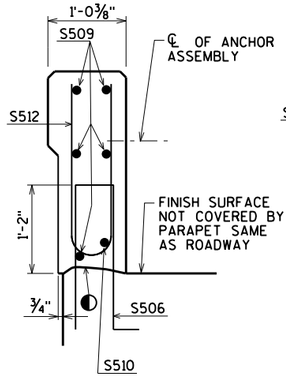
INSIDE ELEVATION



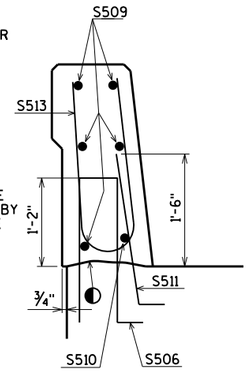
PLAN



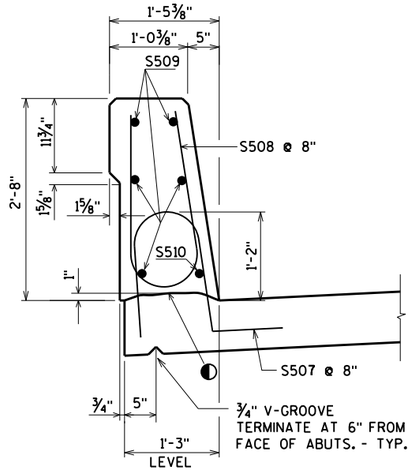
OUTSIDE ELEVATION



SECTION A



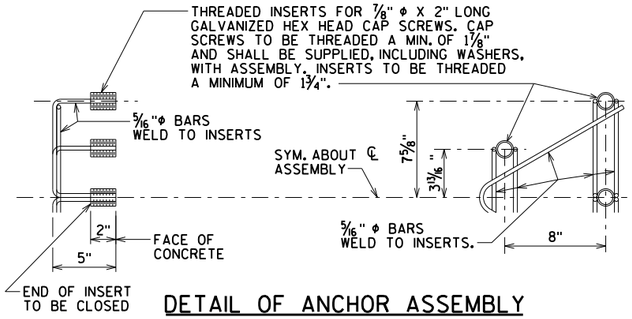
SECTION B



SECTION THRU PARAPET ON BRIDGE
SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ S511 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-3-70

DRAWN BY JWZ | PLANS CK'D. AEB

SINGLE SLOPE PARAPET 32SS

SHEET 8 OF 8
86

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
www.AyresAssociates.com

EARTHWORK SUMMARY (CATEGORY 0010)

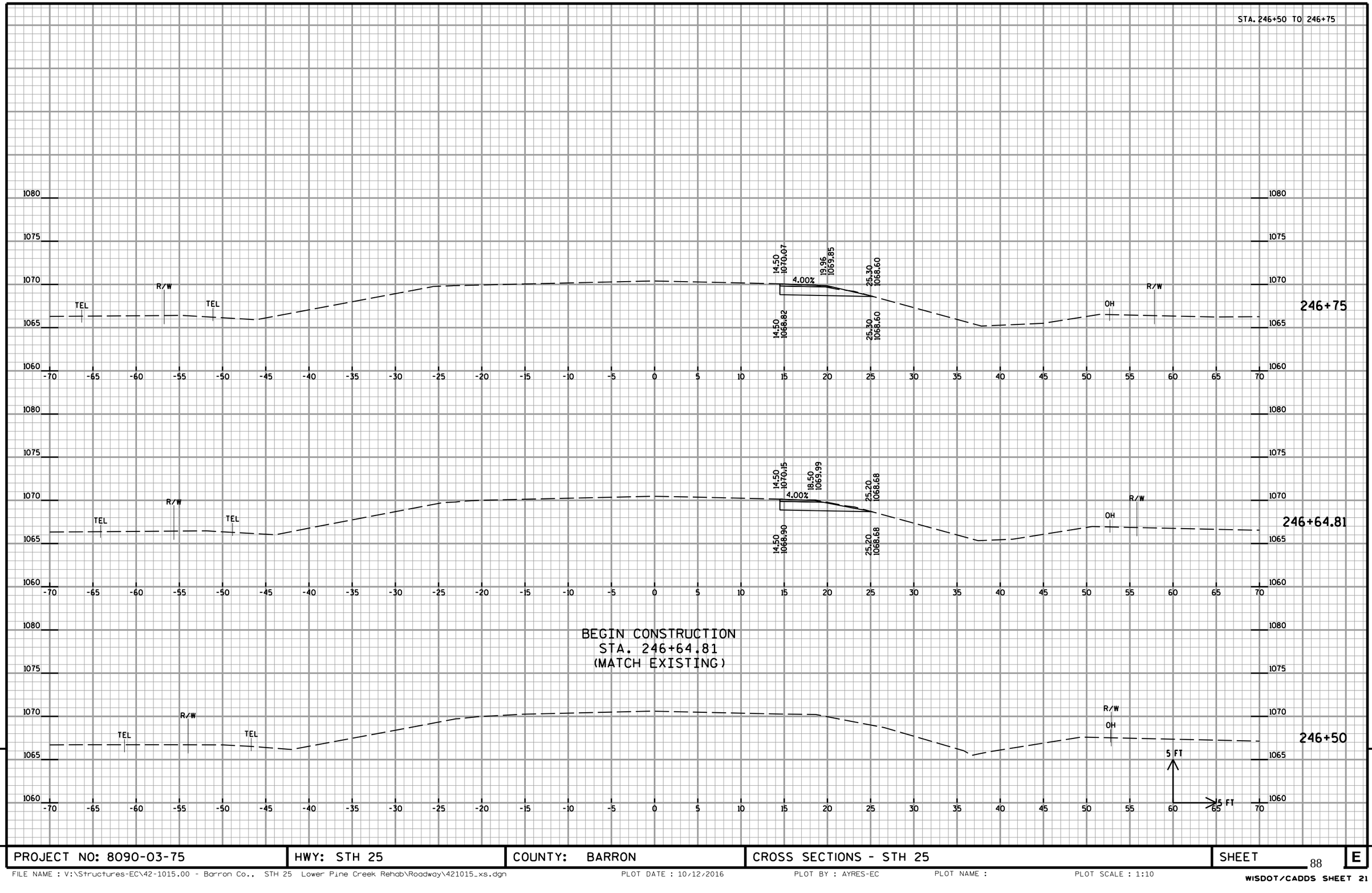
		AREA			INCREMENTAL VOLUME			CUMULATIVE VOLUME		
DIVISION	STATION	CUT SF	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1	246+65	10	0	0	4	0	0	4	0	4
STH 25	246+75	9	0	0	9	0	5	13	7	7
	247+00	9	0	12	11	0	13	24	23	1
	247+25	14	0	18	3	0	4	27	29	-2
	247+31	15	0	20	11	0	14	38	47	-9
	247+50	17	0	21	4	0	5	42	53	-11
	247+56	16	0	24	11	0	8	53	64	-11
	247+75	14	0	0	3	0	0	56	64	-8
	247+81	14	0	0	9	0	1	65	65	0
	248+00	11	0	2	15	0	8	80	75	5
	248+22	26	0	16	2	0	2	82	78	4
	248+25	11	0	19	30	0	28	112	114	-2
	248+50	54	0	42	19	0	15	131	134	-3
	248+60	54	0	42						
	STRUCTURE B-3-70									
	249+40	55	0	1	20	0	0	151	134	17
	249+50	55	0	1	31	0	0	182	134	48
	249+75	12	0	0	3	0	0	185	134	51
	249+81	13	0	0	10	0	0	195	134	61
	250+00	15	0	0	3	0	0	198	134	64
	250+06	14	0	0	7	0	0	205	134	71
	250+18	14	0	0	4	0	0	209	134	75
	250+25	14	0	0	3	0	0	212	134	78
	250+31	14	0	0	6	0	0	218	134	84
	250+43	14	0	0	3	0	0	221	134	87
	250+50	13	0	0	7	0	2	228	137	92
	250+60	27	0	10	7	0	4	235	142	93
	250+68	17	0	14	4	0	3	239	146	93
	250+75	16	0	11	13	0	5	252	152	100
	251+00	13	0	0	11	0	0	263	152	111
	251+24	12	0	0						
2	18+78	8	0	0	6	0	0	269	152	117
CTH A	19+00	8	0	0	1	0	0	270	152	118
	19+03	8	0	0	6	0	0	276	152	124
	19+25	8	0	0	1	0	0	277	152	125
	19+28	8	0	0	7	0	0	284	152	132
	19+50	9	0	0	4	0	0	288	152	136
	19+75	0	0	0						
TOTALS					288		117			

205.0100 EXCAVATION COMMON = 288

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

STA. 246+50 TO 246+75



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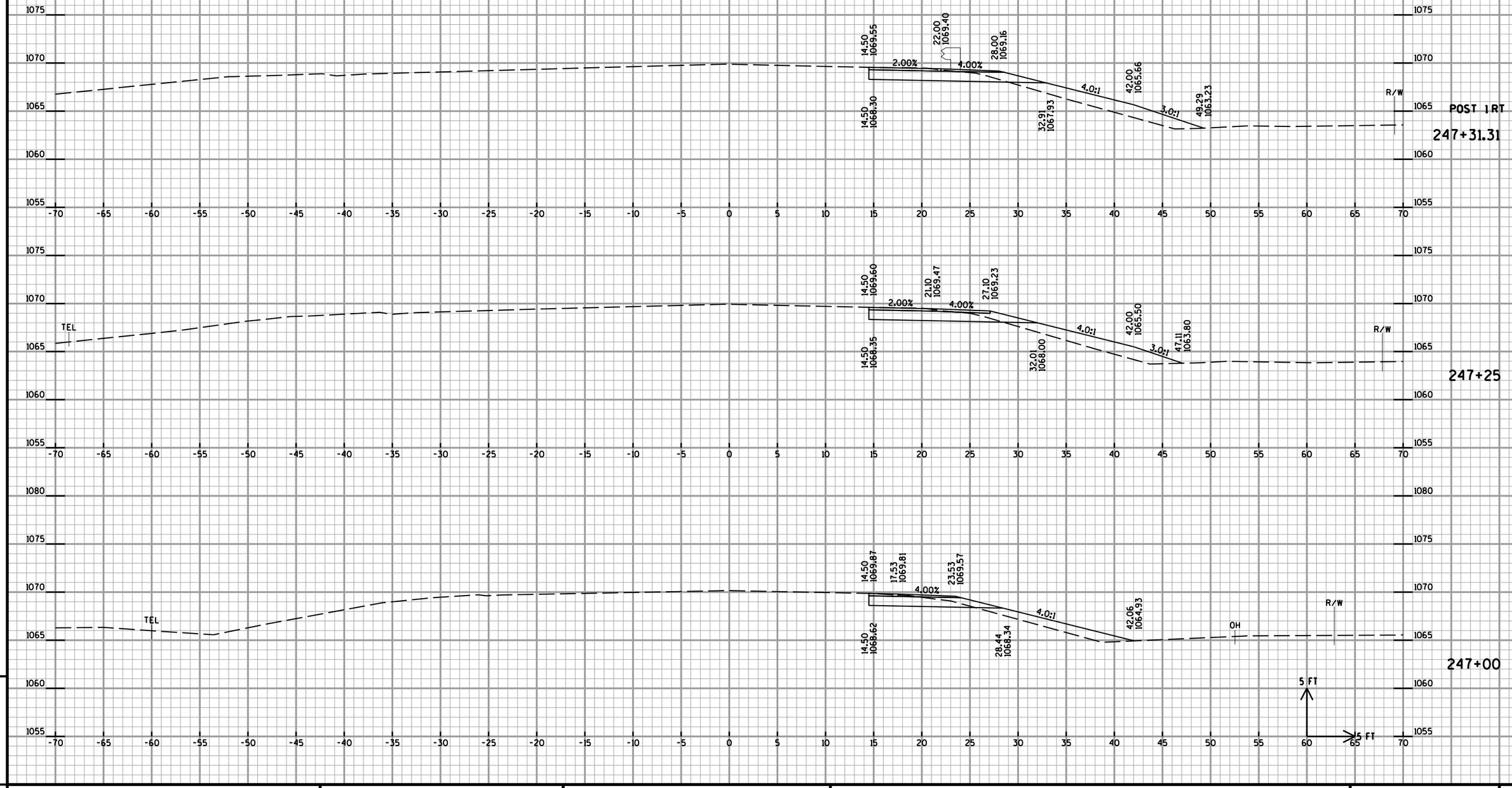
PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Roadway\421015_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 247+00 TO 247+31.31



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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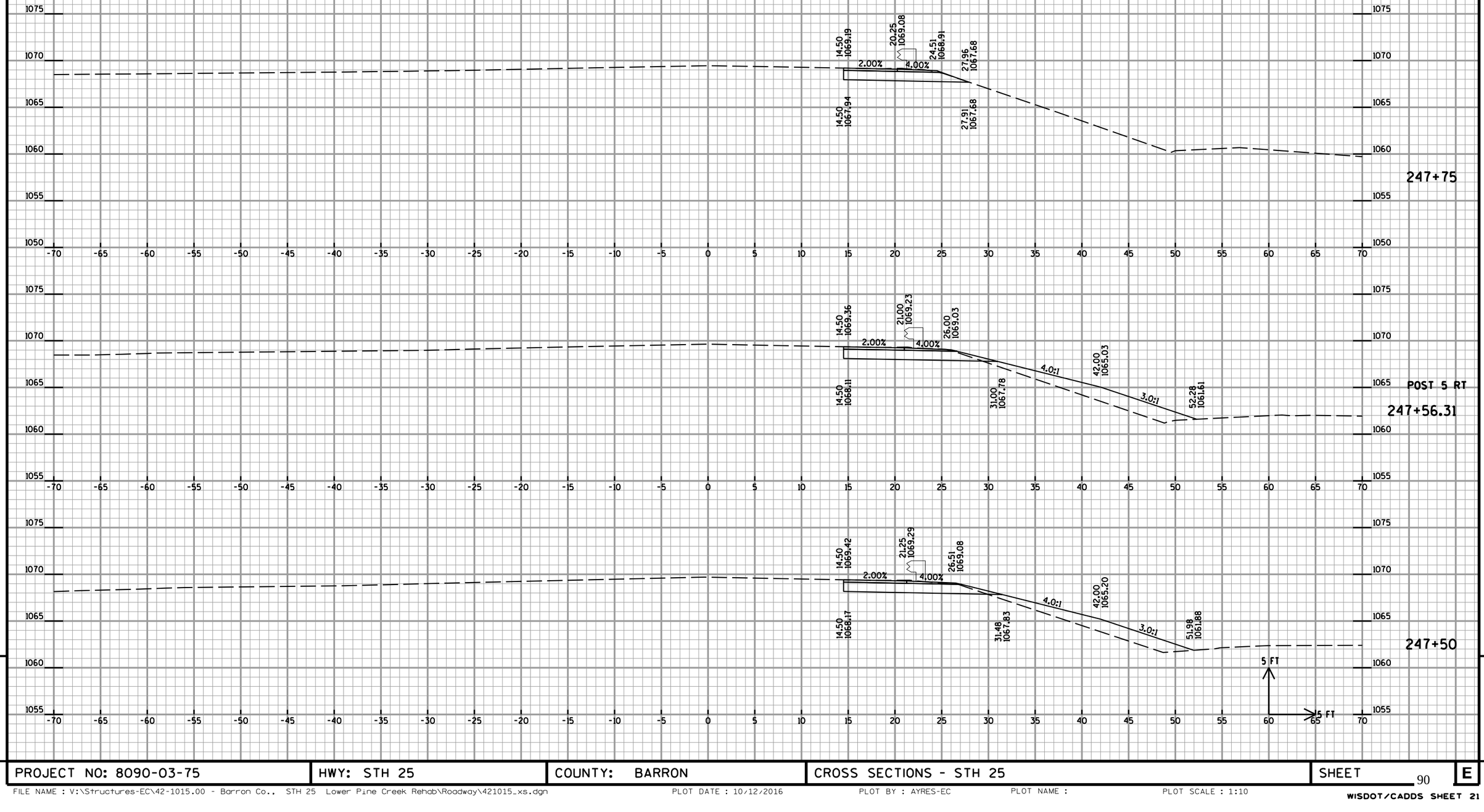
WISDOT/CADDS SHEET 21

STA. 247+50 TO 247+75



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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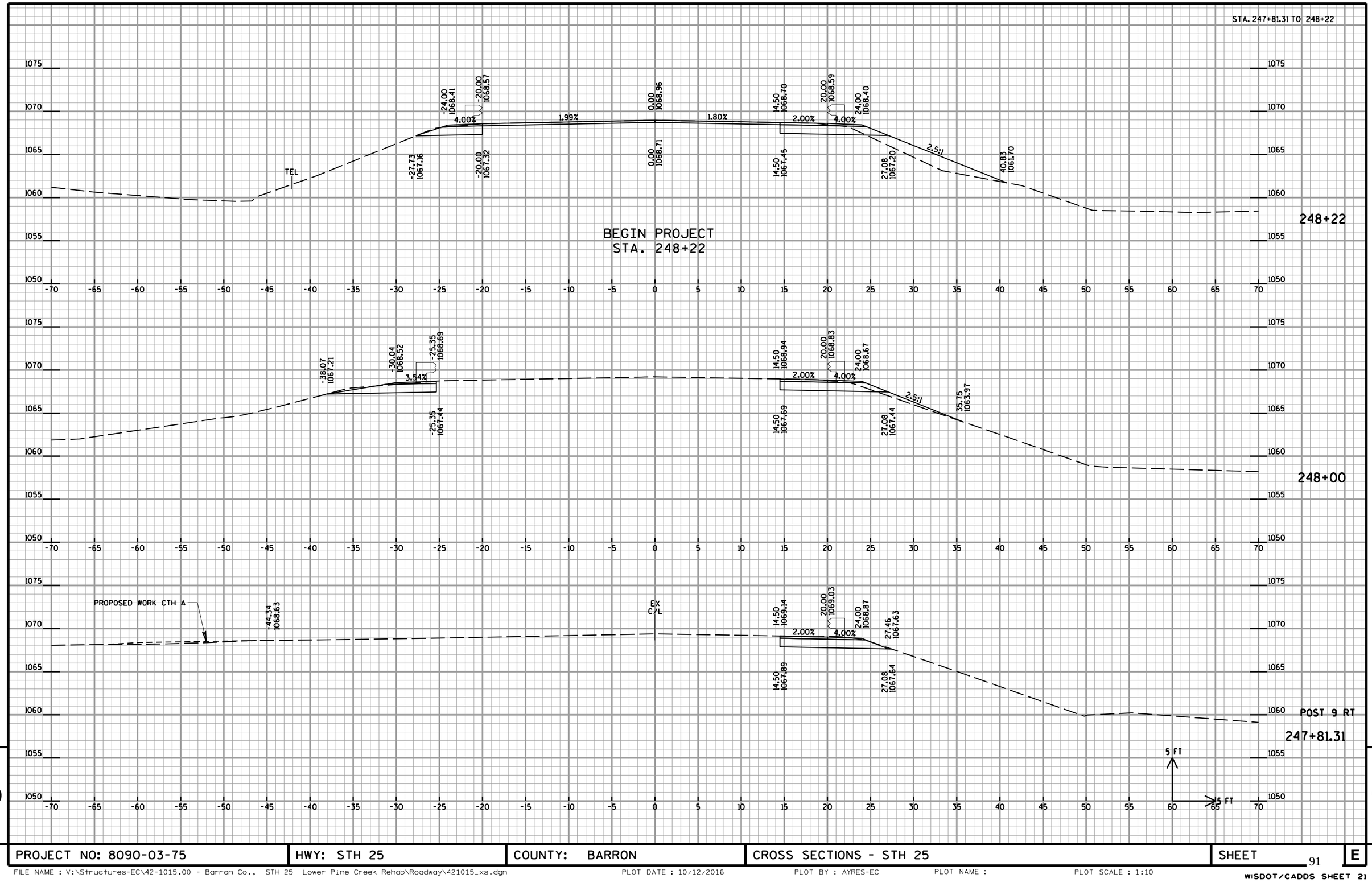
WISDOT/CADDS SHEET 21

STA. 247+81.31 TO 248+22



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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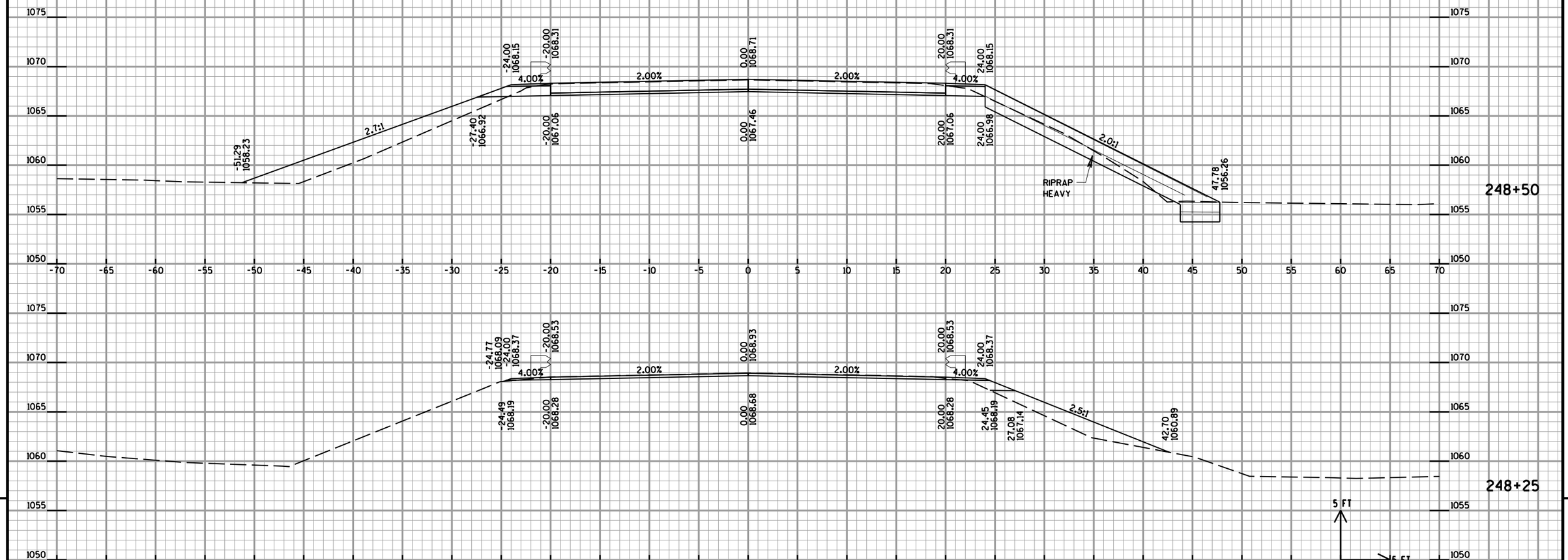
WISDOT/CADDS SHEET 21

STA. 248+25 TO 248+50

STRUCTURE REHABILITATION B-3-70



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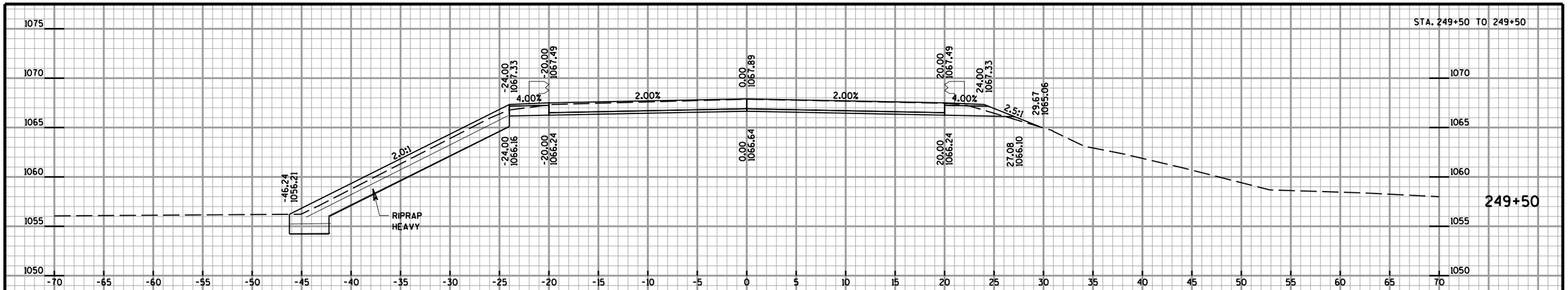
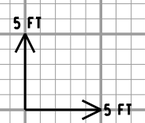
WISDOT/CADDS SHEET 21

STA. 249+50 TO 249+50



STRUCTURE REHABILITATION B-3-70



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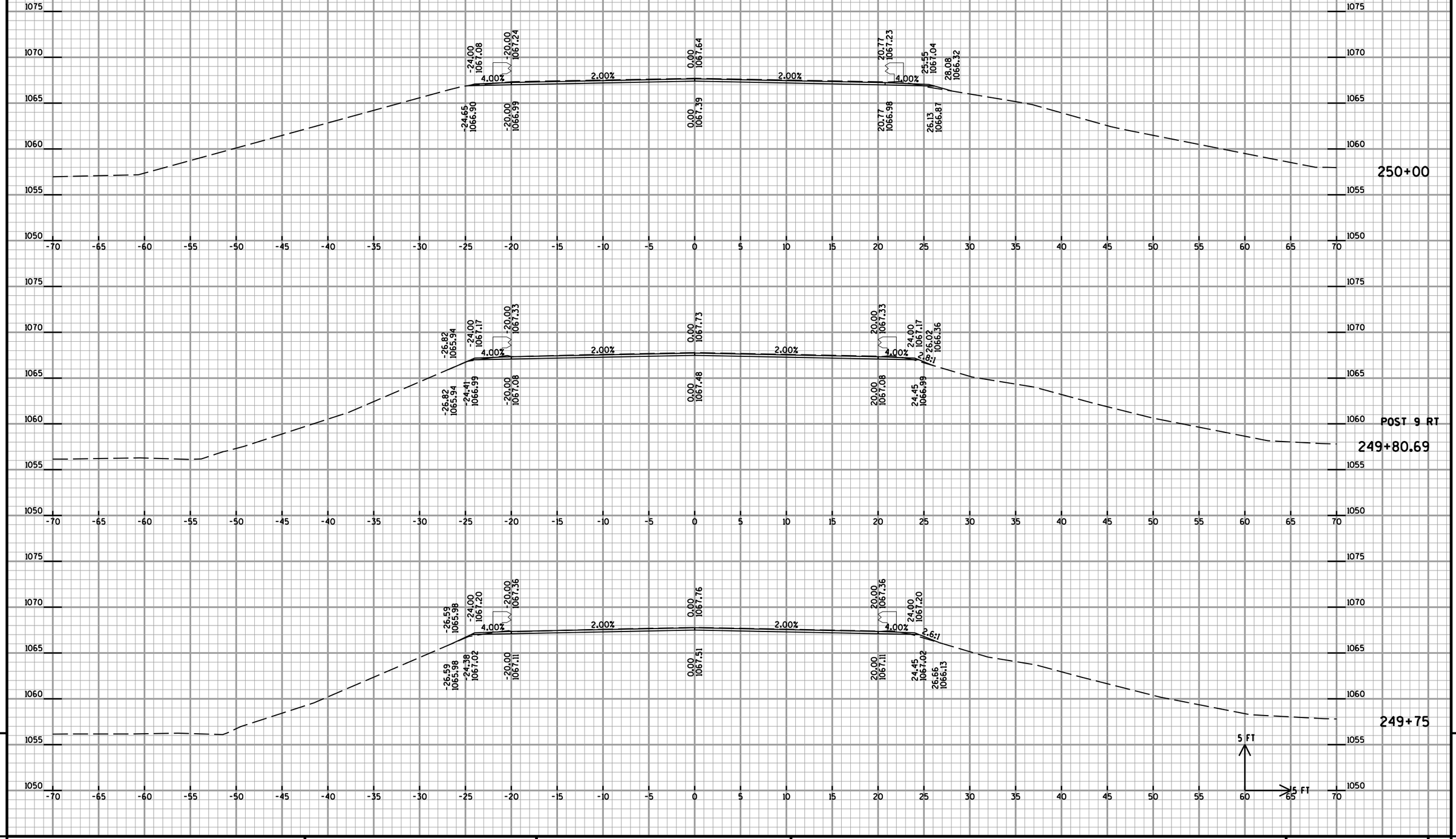
WISDOT/CADDS SHEET 21

STA. 249+75 TO 250+00



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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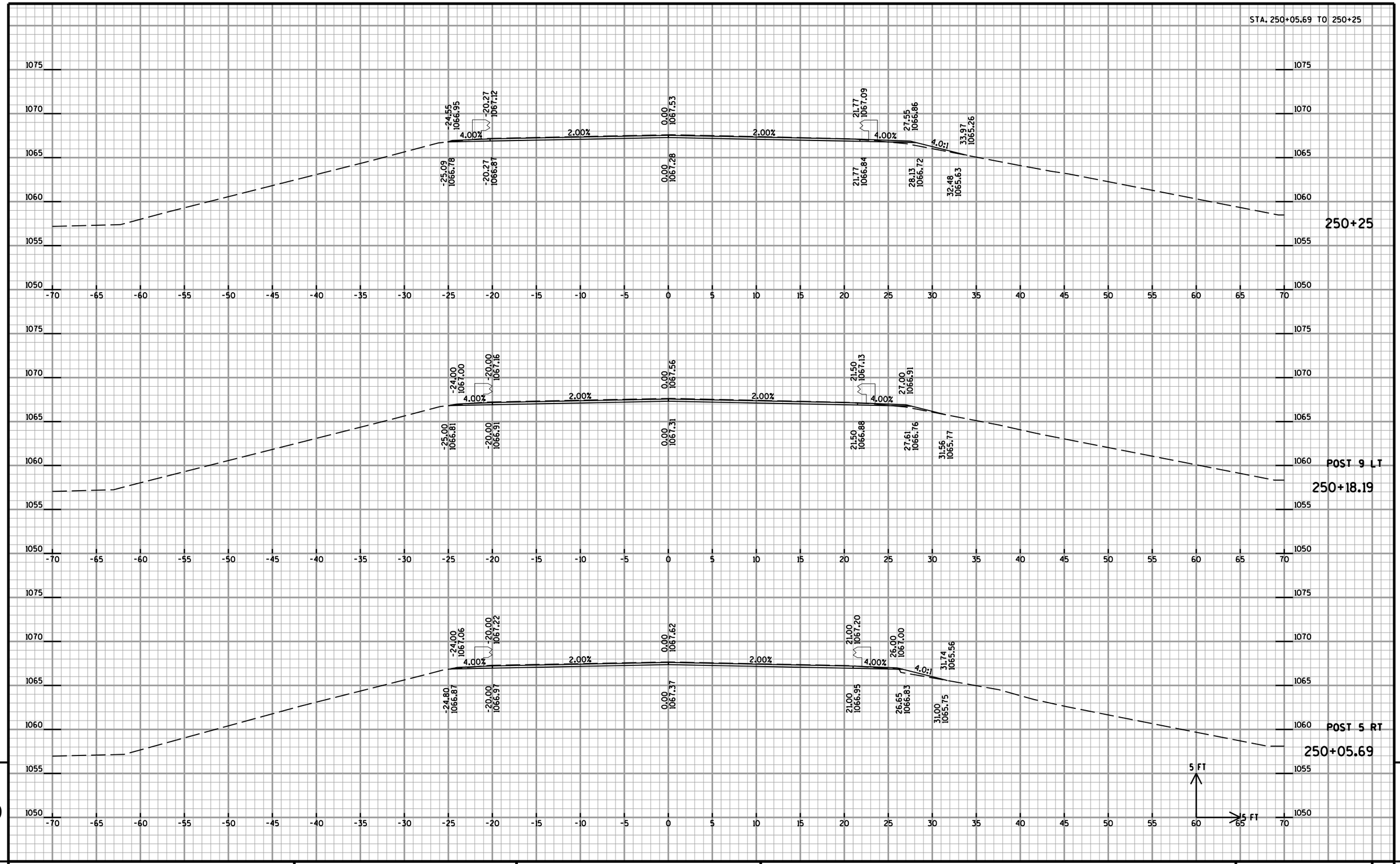
WISDOT/CADDS SHEET 21

STA. 250+05.69 TO 250+25



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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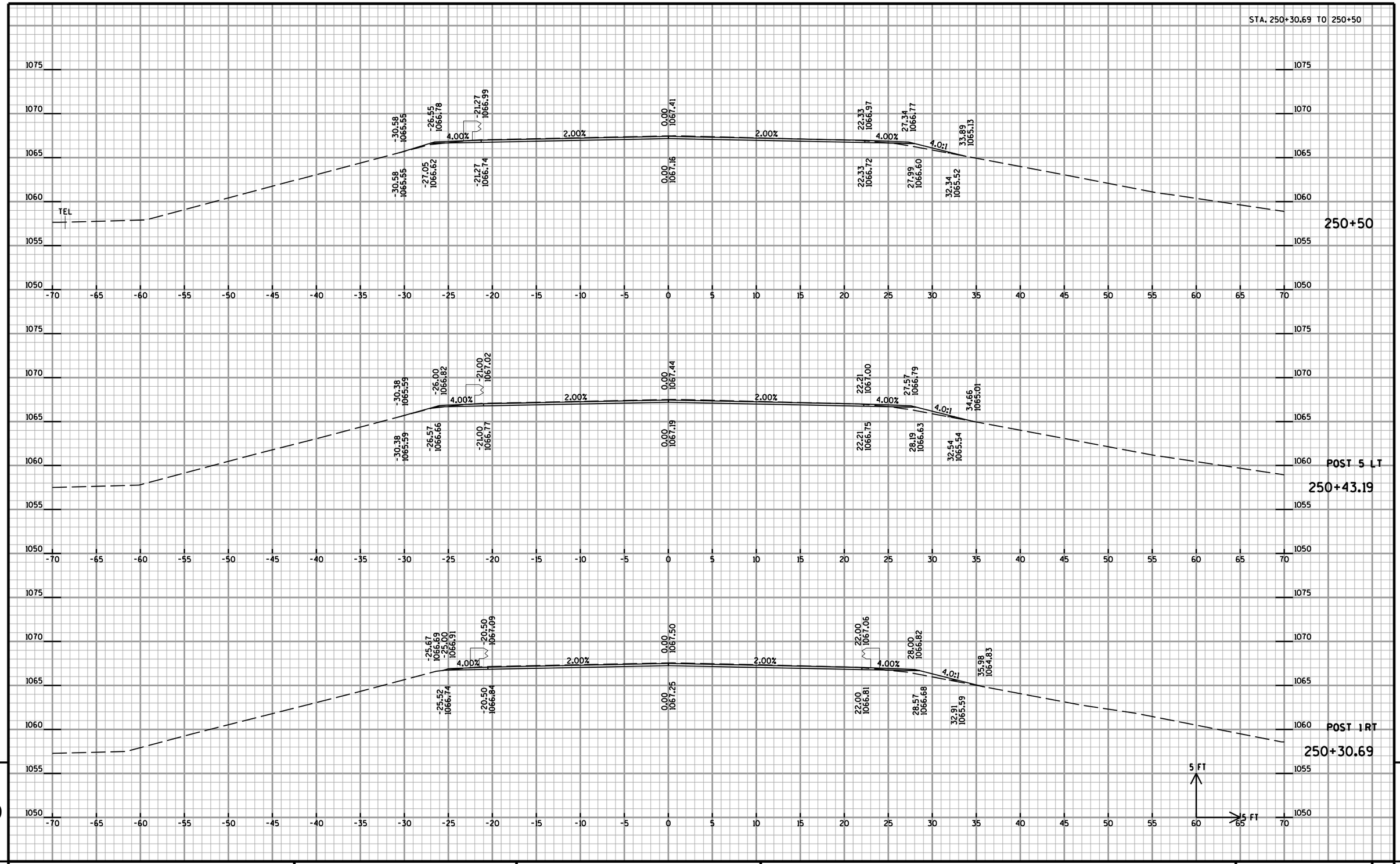
WISDOT/CADDS SHEET 21

STA. 250+30.69 TO 250+50



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PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

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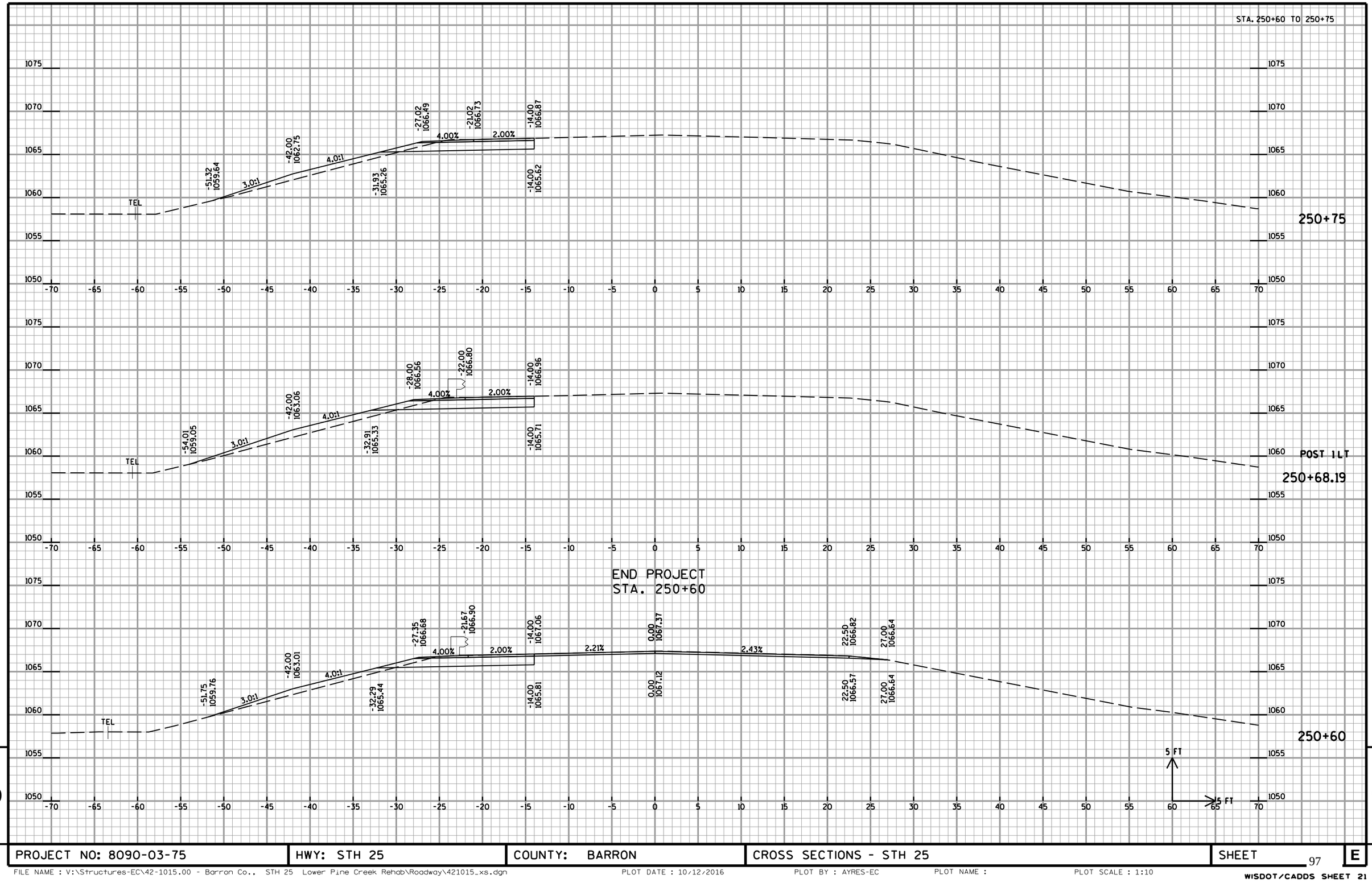
WISDOT/CADDS SHEET 21

STA. 250+60 TO 250+75



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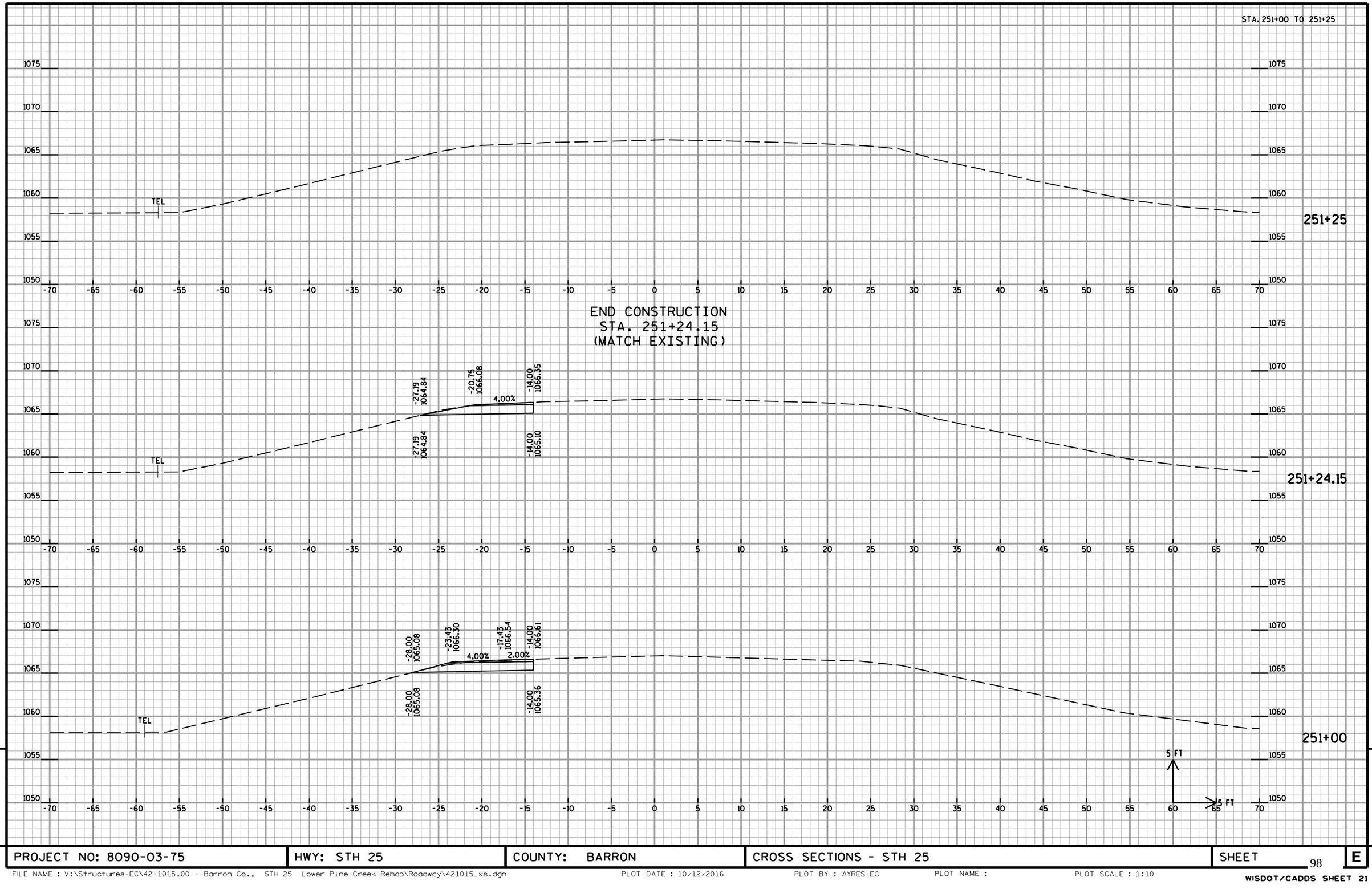
WISDOT/CADDS SHEET 21

STA. 251+00 TO 251+25



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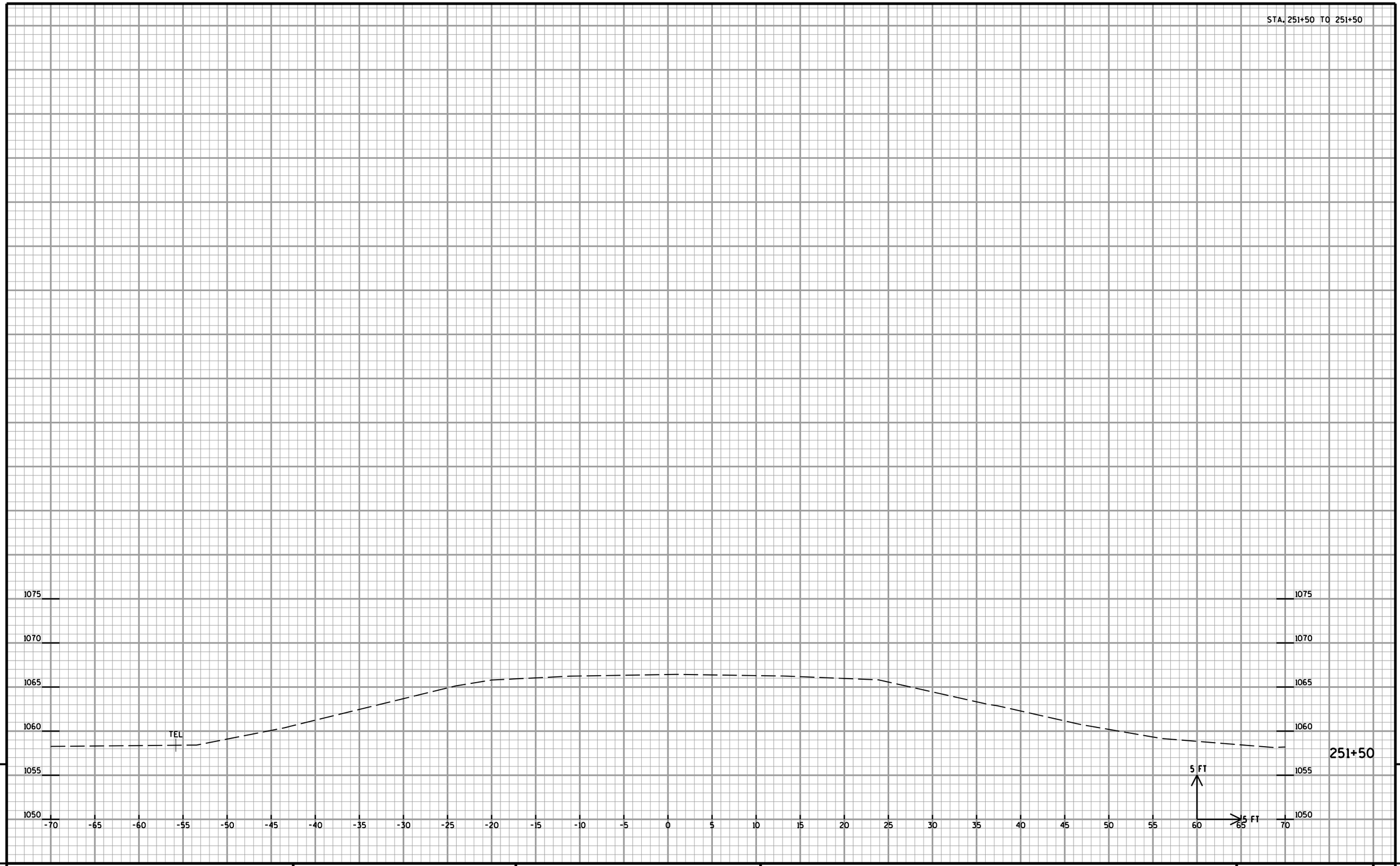
WISDOT/CADDS SHEET 21

STA. 251+50 TO 251+50



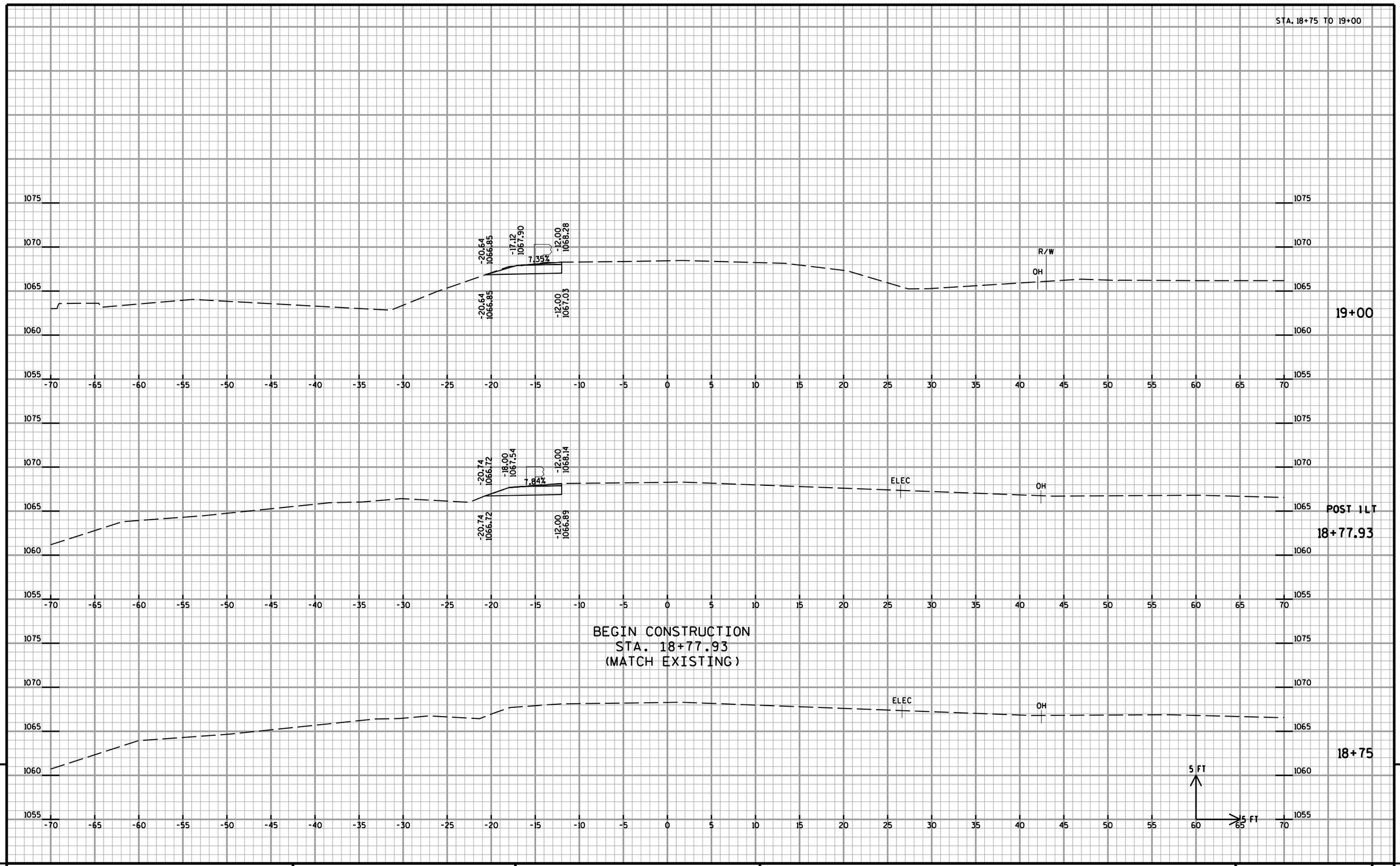
9 9

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Roadway\421015_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

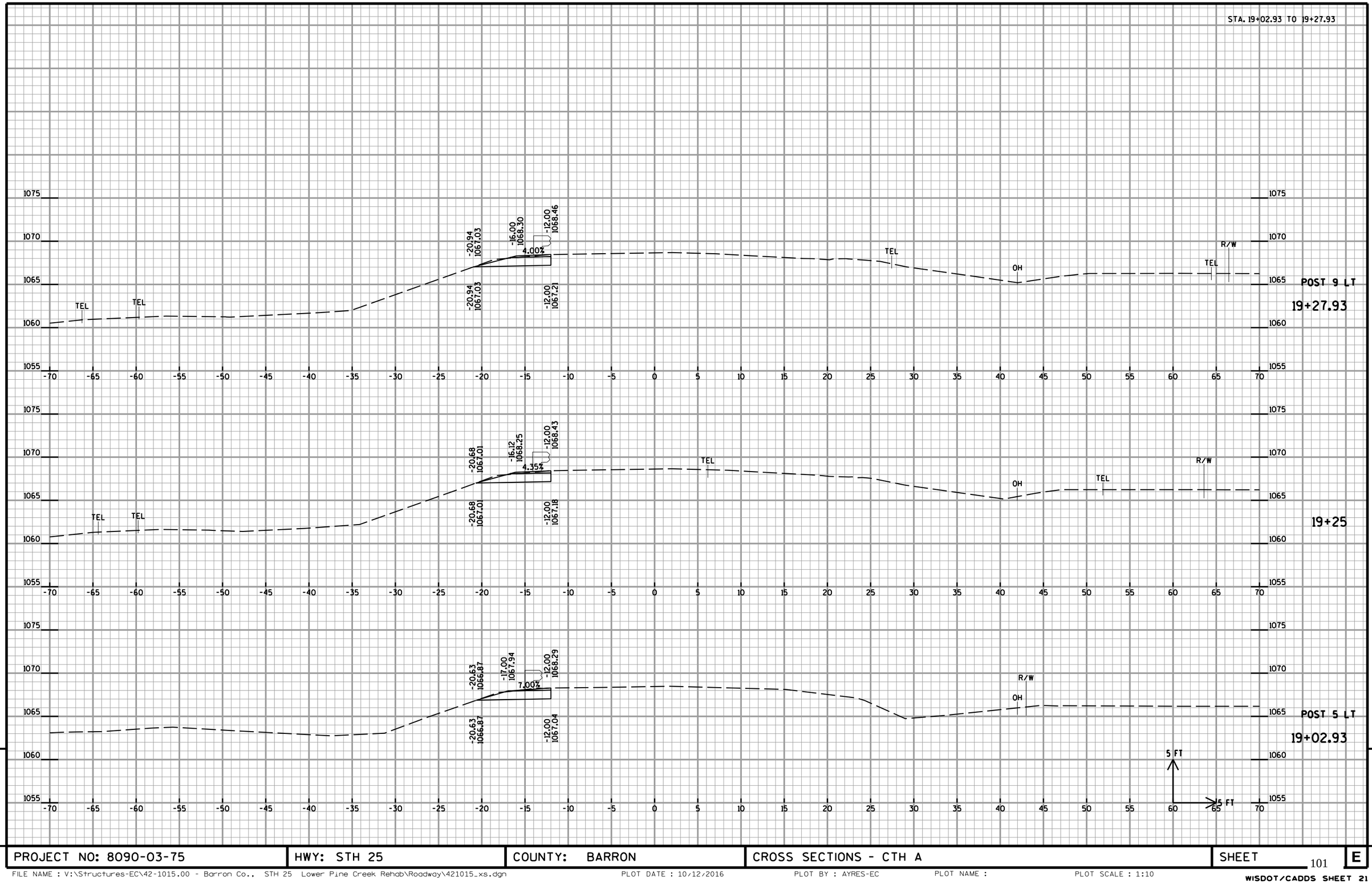
WISDOT/CADDS SHEET 21

STA. 18+75 TO 19+00



PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - CTH A	SHEET 100	E

STA. 19+02.93 TO 19+27.93



9

9

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - CTH A	SHEET 101	E

STA. 19+50 TO 20+00

20+00

TEL

OH

19+75

PROPOSED WORK STH 25

-39.05
1068.68

TEL

OH

-26.12
1067.18

5.3:1

-19.38
1068.45

3.54%

-15.04
1068.61

-26.12
1067.18

-15.04
1067.36

OH

19+50

TEL

5 FT

5 FT

9

9

PROJECT NO: 8090-03-75	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - CTH A	SHEET	E

FILE NAME : V:\Structures-EC\42-1015.00 - Barron Co., STH 25 Lower Pine Creek Rehab\Roadway\421015_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

EARTHWORK SUMMARY (CATEGORY 0010)

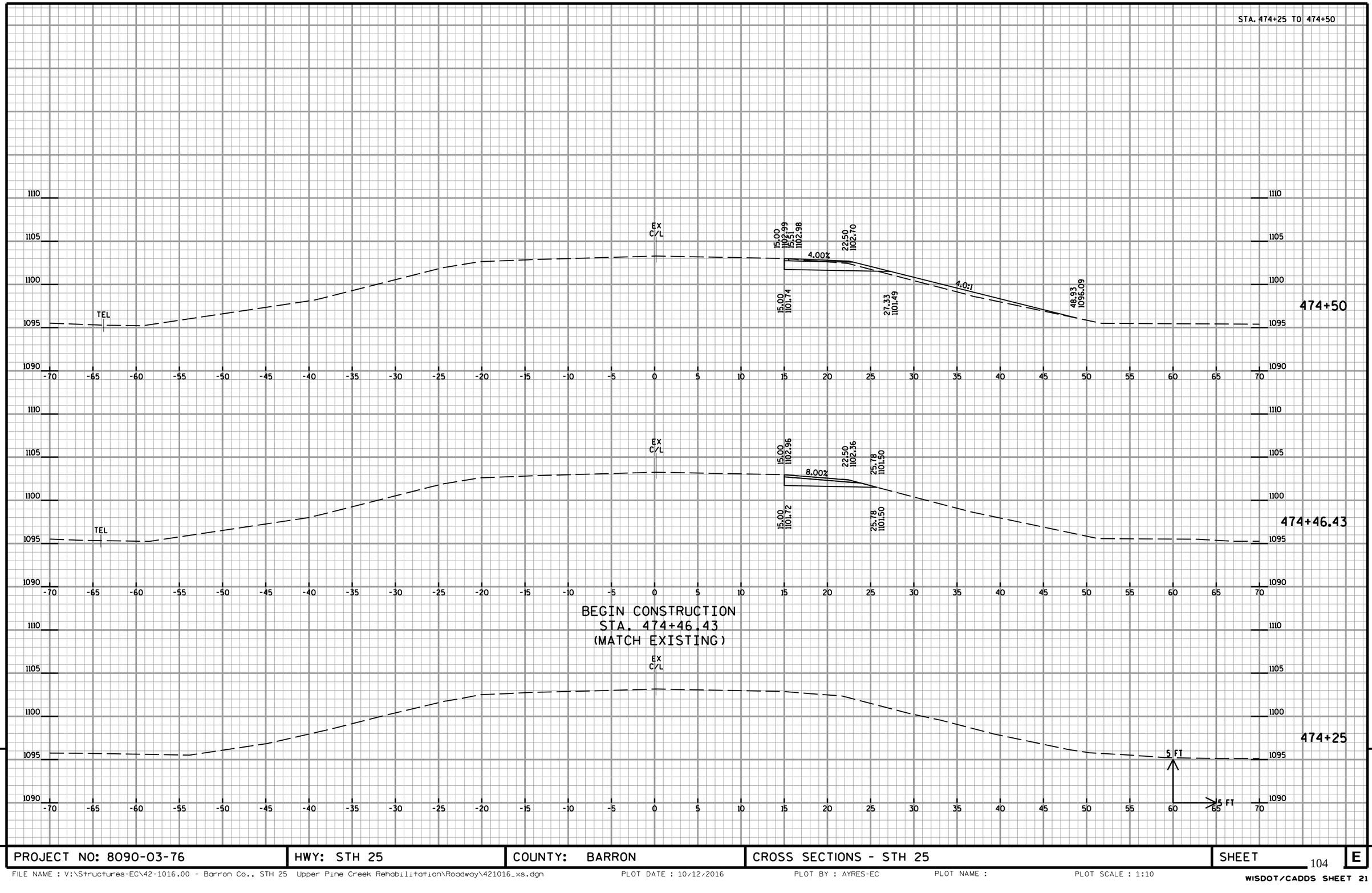
		AREA			INCREMENTAL VOLUME			CUMULATIVE VOLUME		
DIVISION	STATION	CUT SF	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1	474+46	9	0	0	1	0	0	1	0	1
STH 25	474+50	9	0	7	10	0	11	11	14	-3
	474+75	12	0	17	7	0	8	18	25	-7
	474+85	26	0	23	10	0	10	28	38	-10
	474+95	28	0	30	5	0	5	33	44	-11
	475+00	29	0	28	22	0	23	55	74	-19
	475+20	29	0	34	5	0	6	60	82	-22
	475+25	29	0	31	15	0	18	75	105	-30
	475+38	35	0	44	6	0	13	81	122	-41
	475+45	12	0	48	2	0	8	83	133	-50
	475+50	12	0	51	5	0	22	88	161	-73
	475+63	10	0	40	4	0	13	92	178	-86
	475+75	8	0	17	4	0	6	96	186	-90
	475+88	7	0	6	3	0	4	99	191	-92
	476+00	6	0	12	13	0	14	112	209	-97
	476+25	22	0	18	0	0	0	112	209	-97
	476+25	22	0	18						
	STRUCTURE B-3-69									
	476+79	4	0	11	4	0	9	116	221	-105
	477+00	6	0	11	4	0	5	120	228	-108
	477+17	6	0	5	2	0	1	122	229	-107
	477+25	7	0	3	5	0	8	127	239	-112
	477+42	8	0	22	2	0	8	129	250	-121
	477+50	8	0	31	5	0	18	134	273	-139
	477+67	8	0	26	2	0	7	136	282	-146
	477+75	8	0	20	6	0	4	142	287	-145
	477+86	22	0	0	10	0	0	152	287	-135
	478+00	16	0	0						
TOTALS					152		221			

205.0100 EXCAVATION COMMON = 152 **208.0100 BORROW = 135**

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

STA. 474+25 TO 474+50

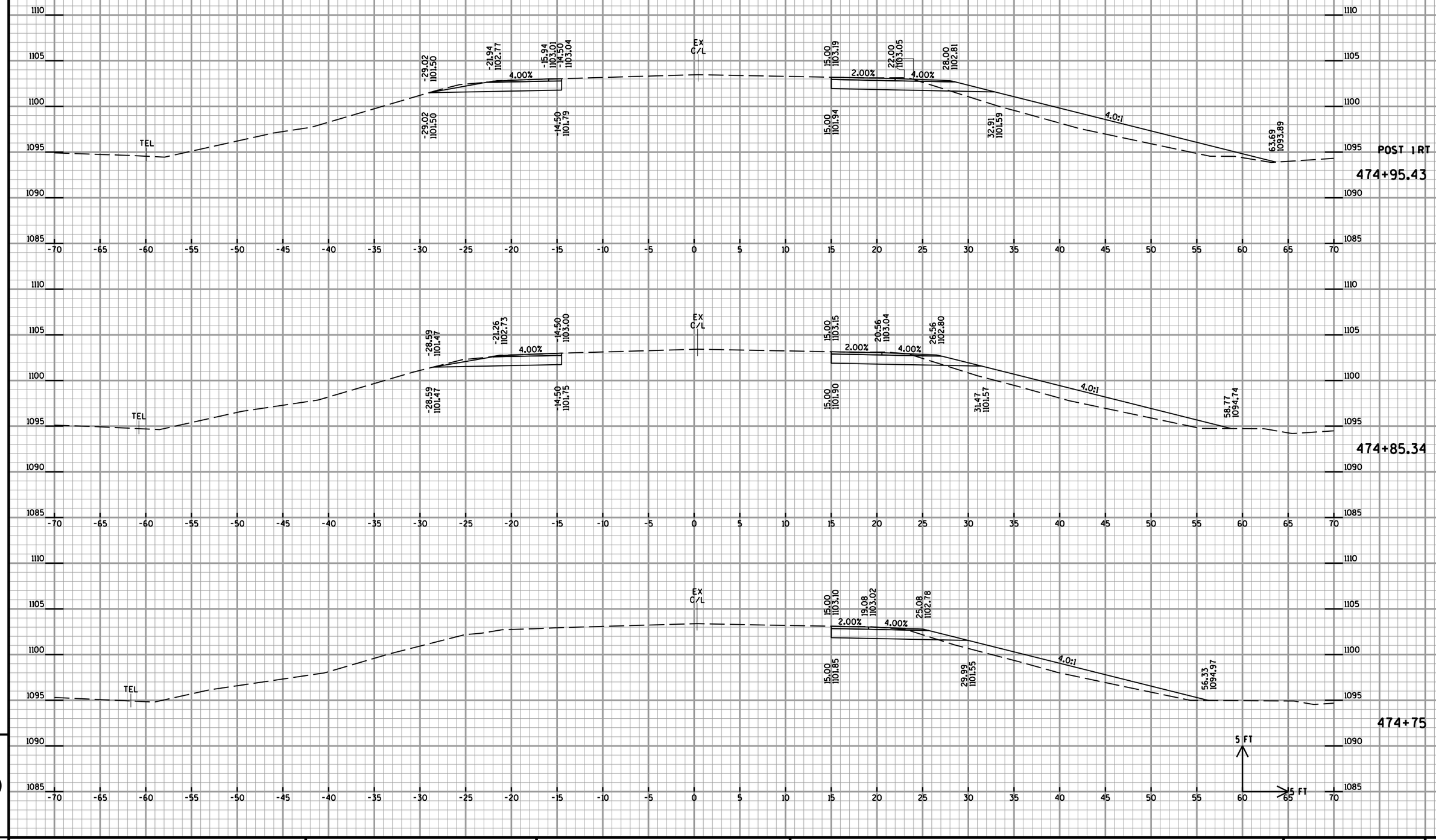


PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

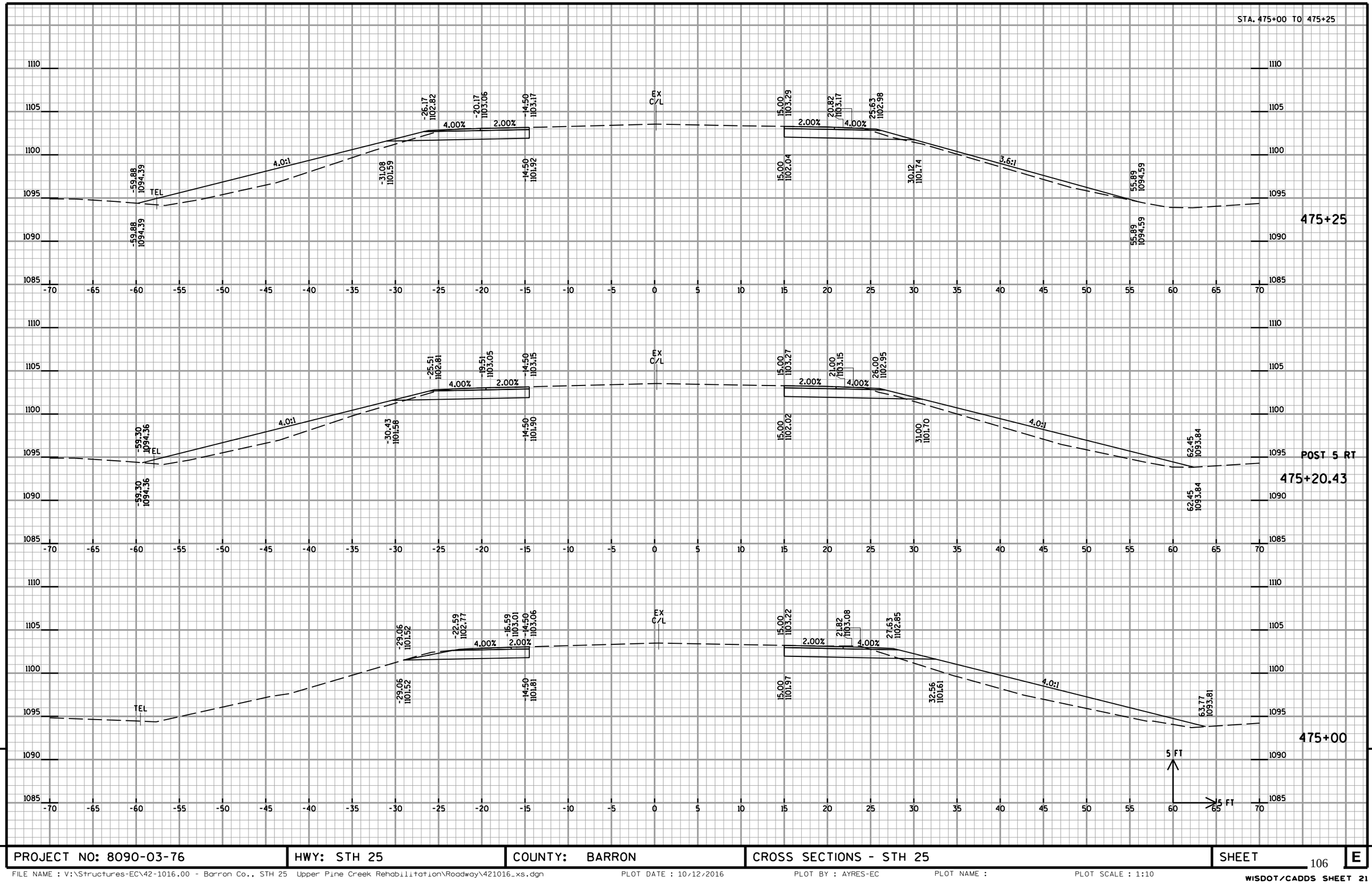
WISDOT/CADDS SHEET 21

STA. 474+75 TO 474+95



PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

STA. 475+00 TO 475+25



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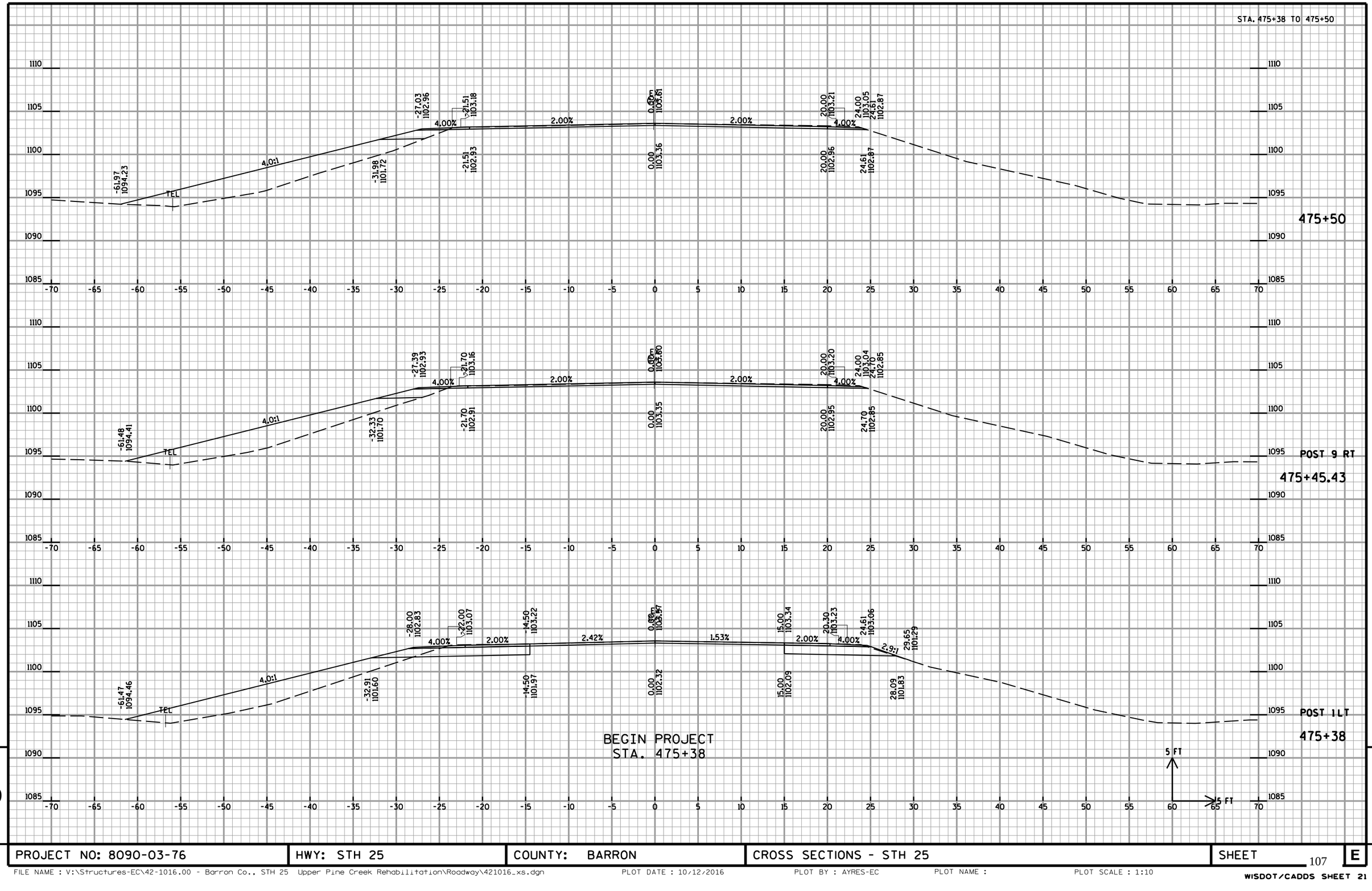
PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 475+38 TO 475+50

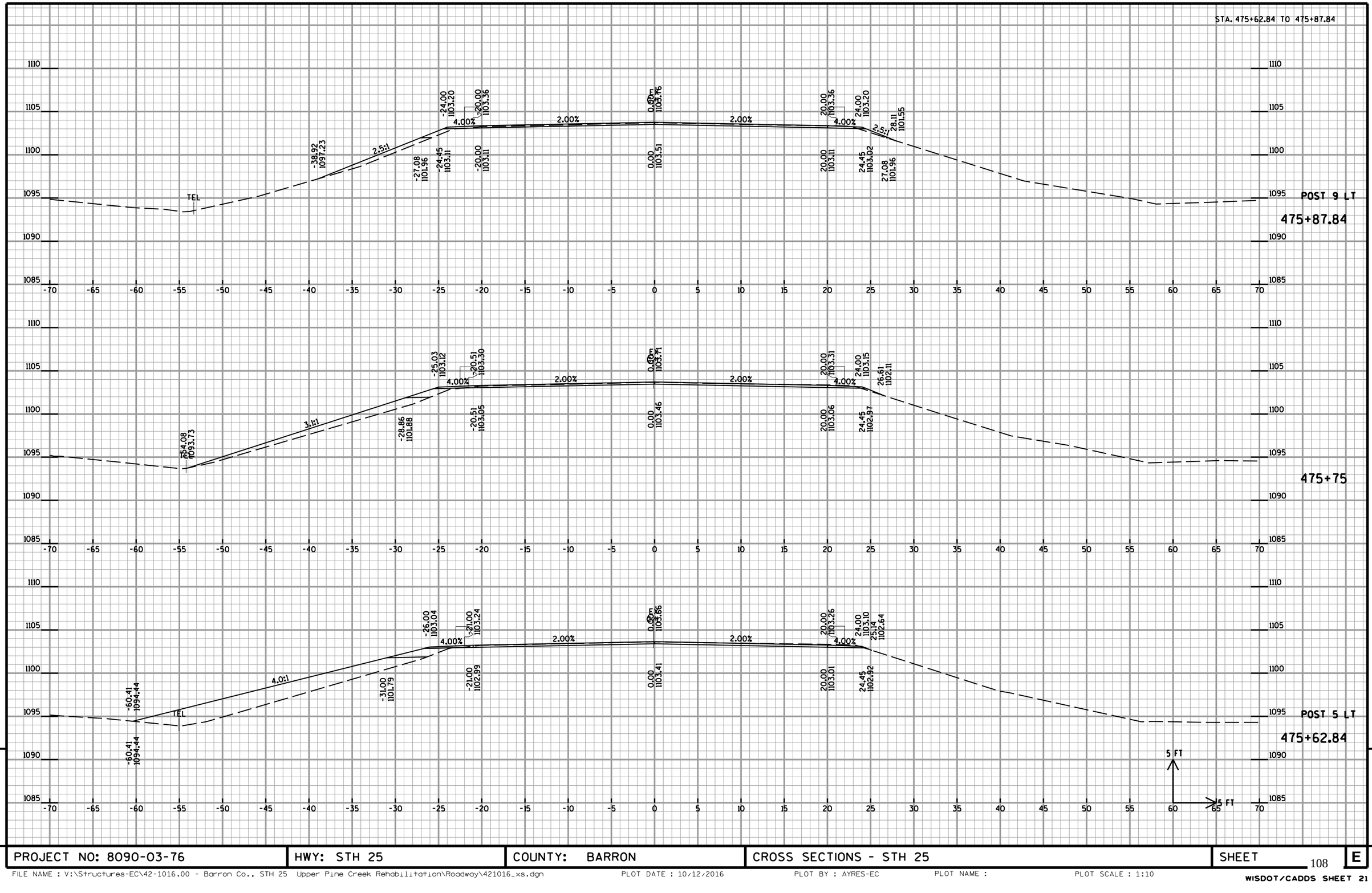


PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 475+62.84 TO 475+87.84



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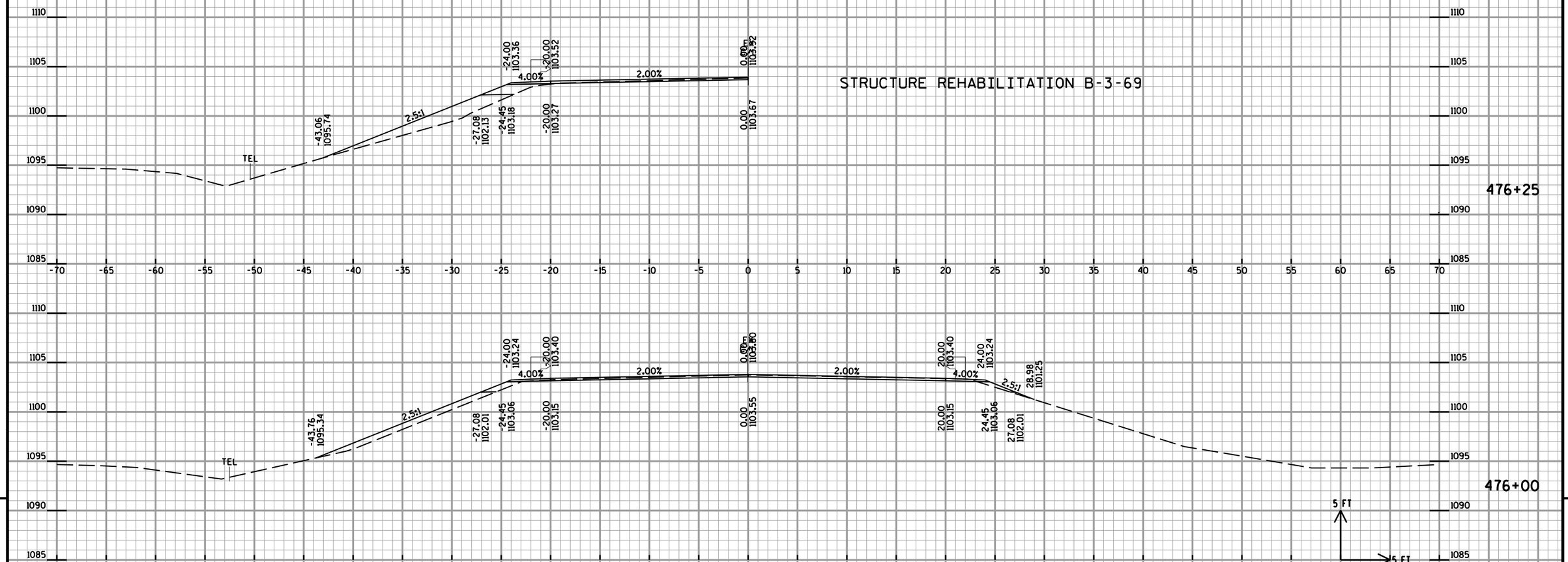
PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 476+00 TO 476+25

STRUCTURE REHABILITATION B-3-69

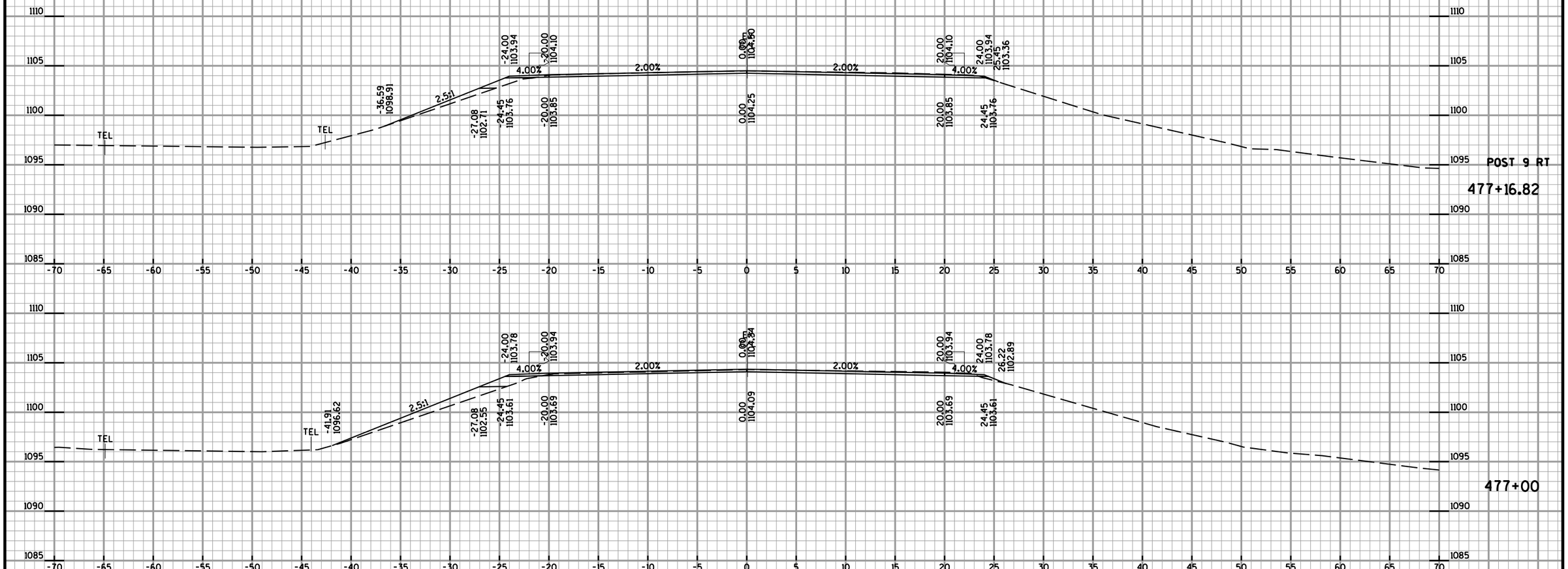


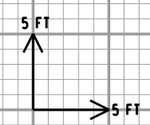
PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 476+75 TO 477+16.82





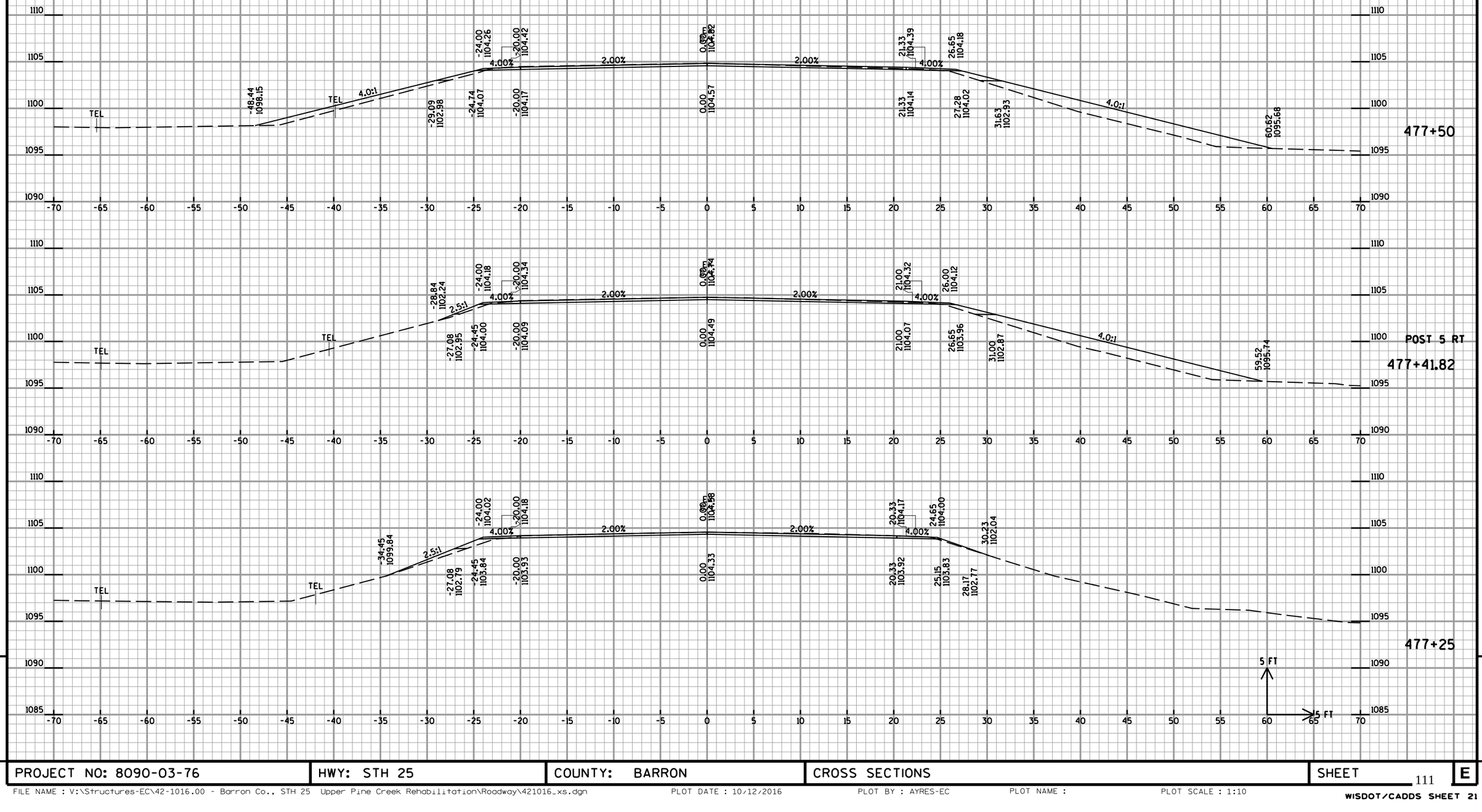
9 9

PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 477+25 TO 477+50



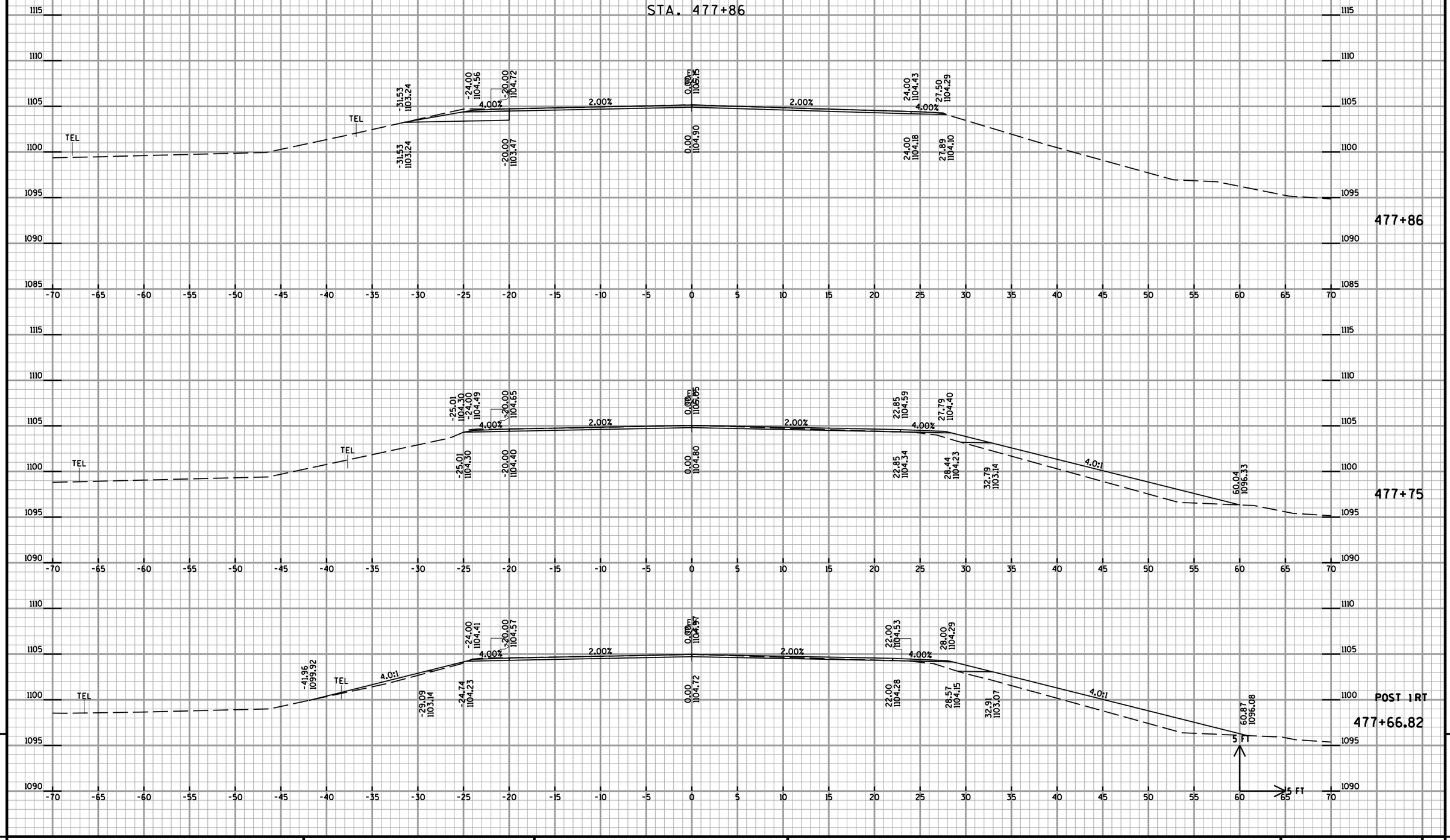
PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 477+66.82 TO 477+86

END PROJECT
STA. 477+86

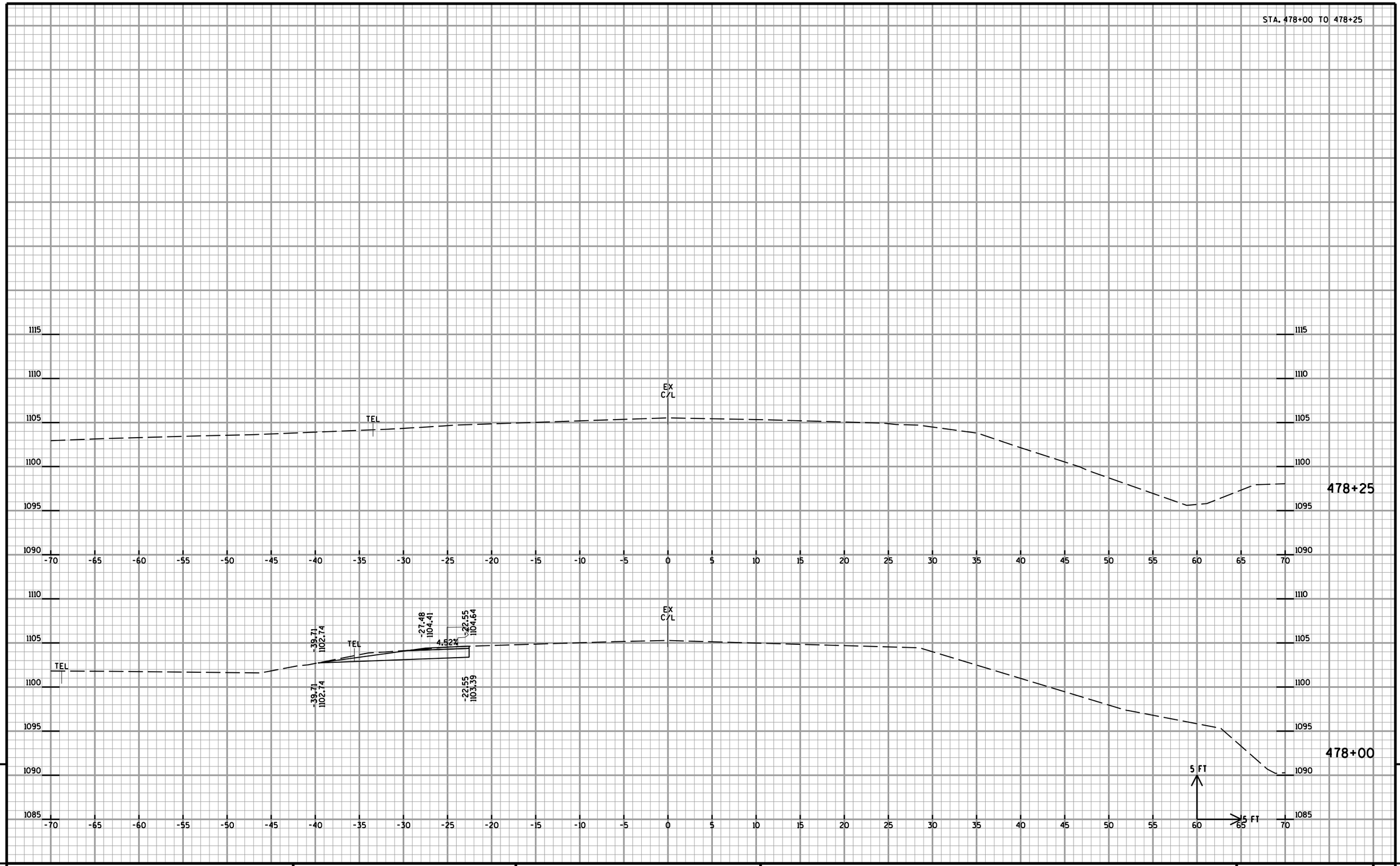


PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 478+00 TO 478+25



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PROJECT NO: 8090-03-76	HWY: STH 25	COUNTY: BARRON	CROSS SECTIONS - STH 25	SHEET	E

FILE NAME : V:\Structures-EC\42-1016.00 - Barron Co., STH 25 Upper Pine Creek Rehabilitation\Roadway\421016_xs.dgn PLOT DATE : 10/12/2016 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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