SUP

MARCH 2021

PROJECT ID: 8405-00-71
WITH: N/A

COUNTY: POLK

29

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8405-00-71	WISC 2021241	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T CLEAR LAKE, 30TH STREET

WILLOW RIVER BRIDGE B480055

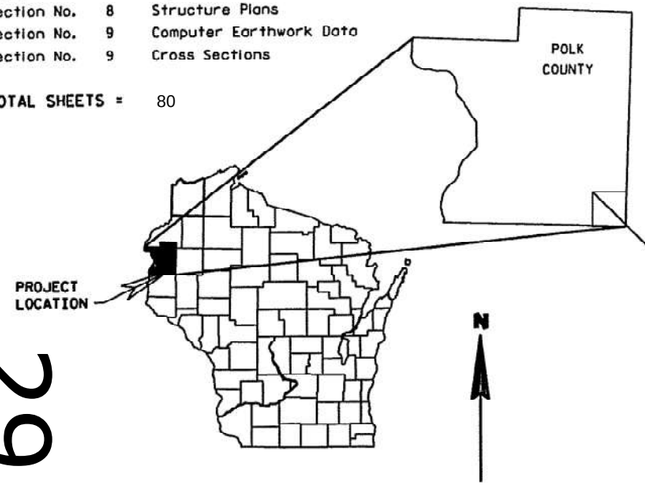
LOC STR

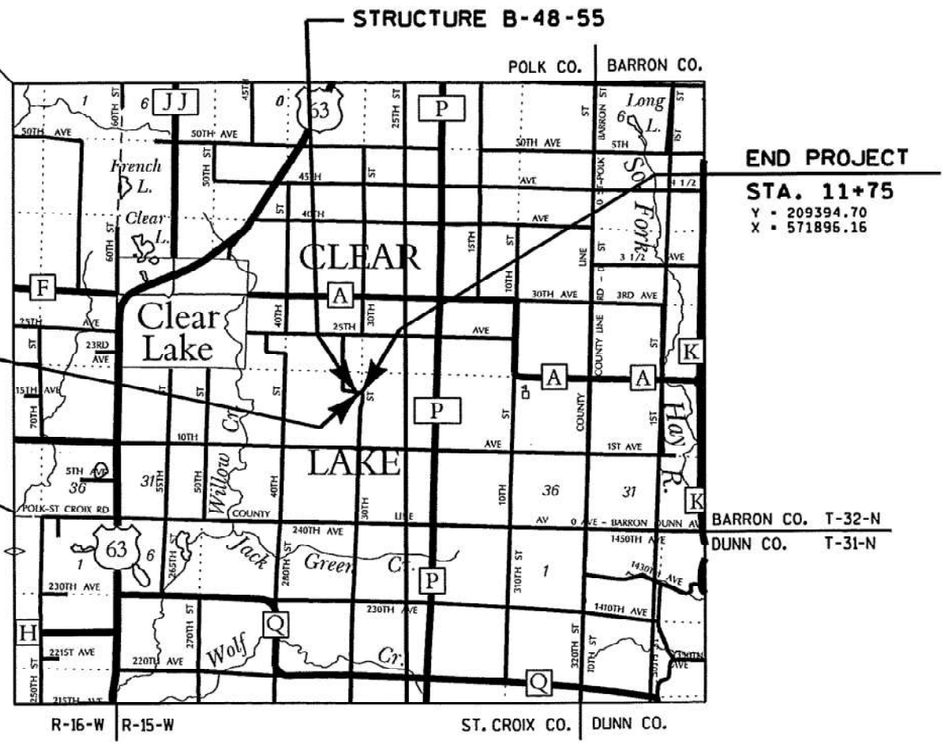
POLK COUNTY

STATE PROJECT NUMBER
8405-00-71

ORDER OF SHEETS

TOTAL SHEETS = 80





LAYOUT
SCALE 0 1 MI.

DESIGN DESIGNATION

A.A.D.T. (2021)	=	<100
A.A.D.T. (2041)	=	<100
D.H.V.	=	10
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	<25 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE (PL + 5β.)
- 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 (95.36)
- CULVERT (Profile View)

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

TOTAL NET LENGTH OF CENTERLINE = 0.085 MI.

SURVEY PERFORMED IN 2019.
COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), POLK COUNTY.

ACCEPTED FOR
County of Polk
10/28/20 Date
Highway Commissioner

ORIGINAL PLANS PREPARED BY

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

WISCONSIN DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER

DATE 10/16/2020

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
PROJECT MANAGER	MATT VAN NATTA, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	ANDREW STENSLAND, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/29/2020 Digitally signed by Matthew Van Natta Location: WisDOT NWR-Superior (Signature)

E

2

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.

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.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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 INTERCEPTS.

UTILITIES

CLEAR LAKE TELEPHONE COMMUNICATIONS
316 3RD AVE
CLEAR LAKE, WI 54005
ATTN: BRETT ANDERSON
715-263-2755
715-641-2292 (cell)
brett.anderson@cltcomm.net

XCEL ENERGY
ELECTRIC
801 KELLER AVENUE
AMERY, WI 54001
ATTN: JAKE MILLER
715-268-3227
715-441-7120 (cell)
Jake.I.Miller@xcelenergy.com

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

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:

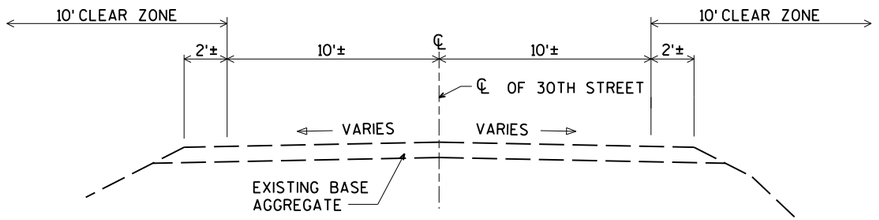
AMY CRONK
810 W MAPLE STREET
SPOONER, WI 54801
715-635-4229
715-320-3976
amy.cronk@wisconsin.gov

DESIGNER

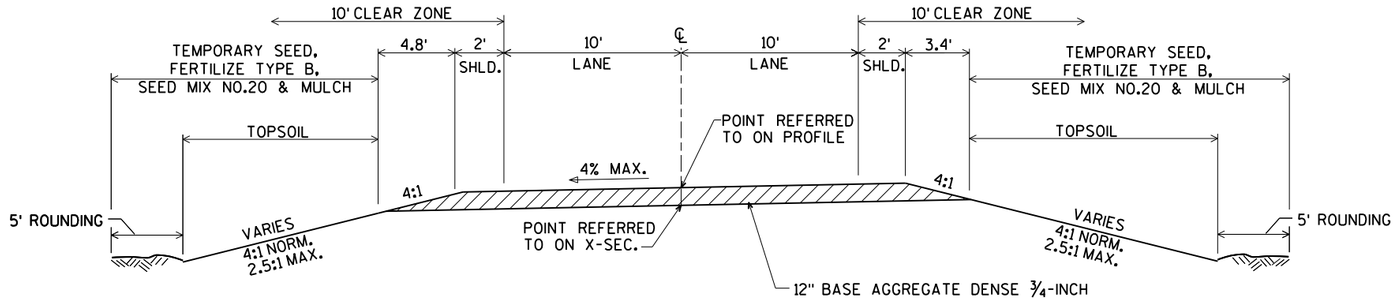
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

COUNTY CONTACT:

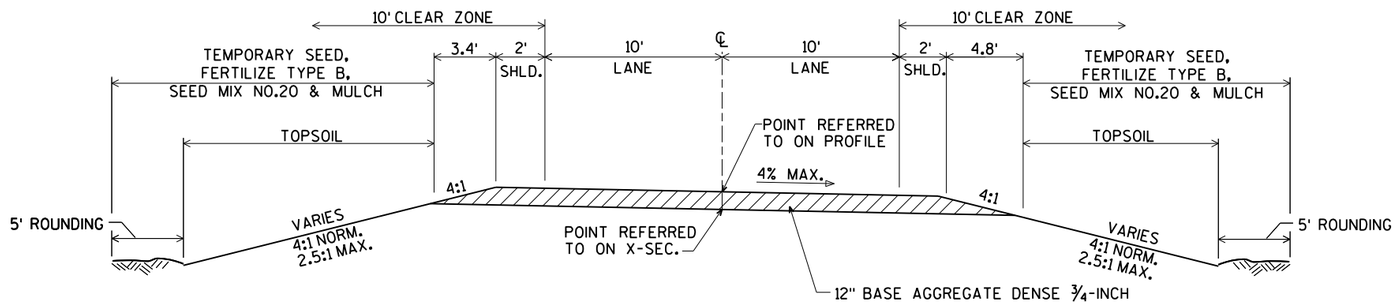
POLK COUNTY, HIGHWAY DEPARTMENT
900 PHEASANT LANE
BALSAM LAKE, WI 54810
ATTN: EMIL "MOE" NORBY
715-485-8723
emil.norby@co.polk.wi.us



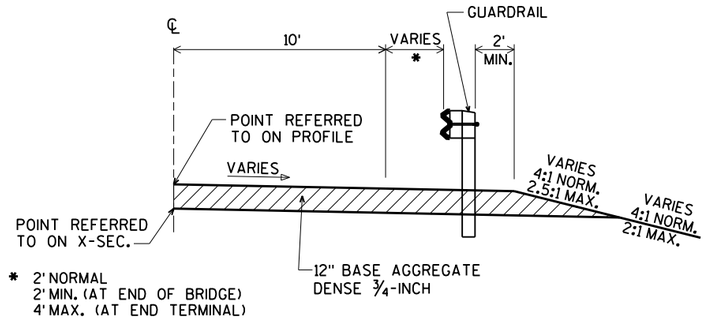
EXISTING TYPICAL SECTION
STA. 7+25 - STA. 11+75



FINISHED TYPICAL SECTION
STA. 7+25 - STA. 9+65



FINISHED TYPICAL SECTION
STA. 10+35 - STA. 11+75



TYPICAL FINISHED HALF SECTION WITH GUARDRAIL

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	TYPICAL SECTIONS	SHEET 3	E

2

CURVE DATA

P.I. STA. 8+44.77
Δ=20° 39' 27" LT.
D=22° 55' 06"
R=250.00'
T=45.56'
L=90.14'
E=4.12'
P.C. STA. 7+99.21
P.T. STA. 8+89.34

CURVE DATA

P.I. STA. 9+35.06
Δ=29° 10' 41" LT.
D=47° 44' 47"
R=120.00'
T=31.23'
L=61.11'
E=4.00'
P.C. STA. 9+03.83
P.T. STA. 9+64.94

CURVE DATA

P.I. STA. 11+17.97
Δ=64° 30' 07" RT.
D=45° 50' 12"
R=125.00'
T=78.87'
L=140.72'
E=22.80'
P.C. STA. 10+39.10
P.T. STA. 11+79.82

N

P16+28.46
Y=209429.29
X=571381.55

7+00

S68°45'40"E

RTE .25' RB

CP "1 (120'D' SPIKE)
STA. 7+23.7±, 19.0' RT.
Y=209377.12
X=571463.41

BEGIN PROJECT
STA. 7+25
Y=209394.32
X=571471.53

PC7+99.21
Y=209347.44
X=571540.70

8+00

PB8+44.17
Y=209350.35
X=571568.16

BM #2
(120'D' SPIKE
IN PPOL)
STA. 9+01.7±, 24.7' LT.
Y=209375.06
X=571641.28

P8+89.34
Y=209350.47
X=571628.73

BM #1
(PK NAIL IN
WINGWALL)
STA. 9+81.3±, 10.5' LT
Y=209381.97
X=571711.19

CP #2 (BERNSTEN NAIL)
STA. 9+99.4±, 7.8' LT.
Y=209388.29
X=571728.39

PT9+64.94
Y=209364.95
X=571701.87

STRUCTURE
B-48-55

PC9+03.83
Y=209350.32
X=571643.21

9+00

S89°25'08"E

PC10+39.10
Y=209400.45
X=571766.98

10+00

N61°24'12"E

30TH STREET
(GRAVEL)

11+00

PI11+17.97
Y=209438.20
X=571836.23

PE

CP #4 (120'D' SPIKE)
STA. 11+29.4±, 28.6' LT.
Y=209440.48
X=571860.77

℄ OF 30TH STREET

CP #3 (120'D' SPIKE)
STA. 8+93.4±, 16.7' RT.
Y=209333.71
X=571632.66

P9+35.06
Y=209350.00
X=571674.45

CP #5 (BERNSTEN NAIL)
STA. 10+01.0±, 7.9' RT.
Y=209375.29
X=571737.27

EXISTING STRUCTURE
(P-48-72) TO BE REMOVED

WILLOW
RIVER

P11+79.82
Y=209391.95
X=571900.12

S54°05'41"E

12+00

PC12+14.58
Y=209371.56
X=571928.27

END PROJECT
STA. 11+75
Y=209394.70
X=571896.16

ALIGNMENT CONTROLS

N

7+00

0.25" REBAR
Y=209406.43
X=571475.65

0.25" REBAR
Y=209387.85
X=571453.08

14.90'

31.76'

18.35'

℄ OF 30TH STREET

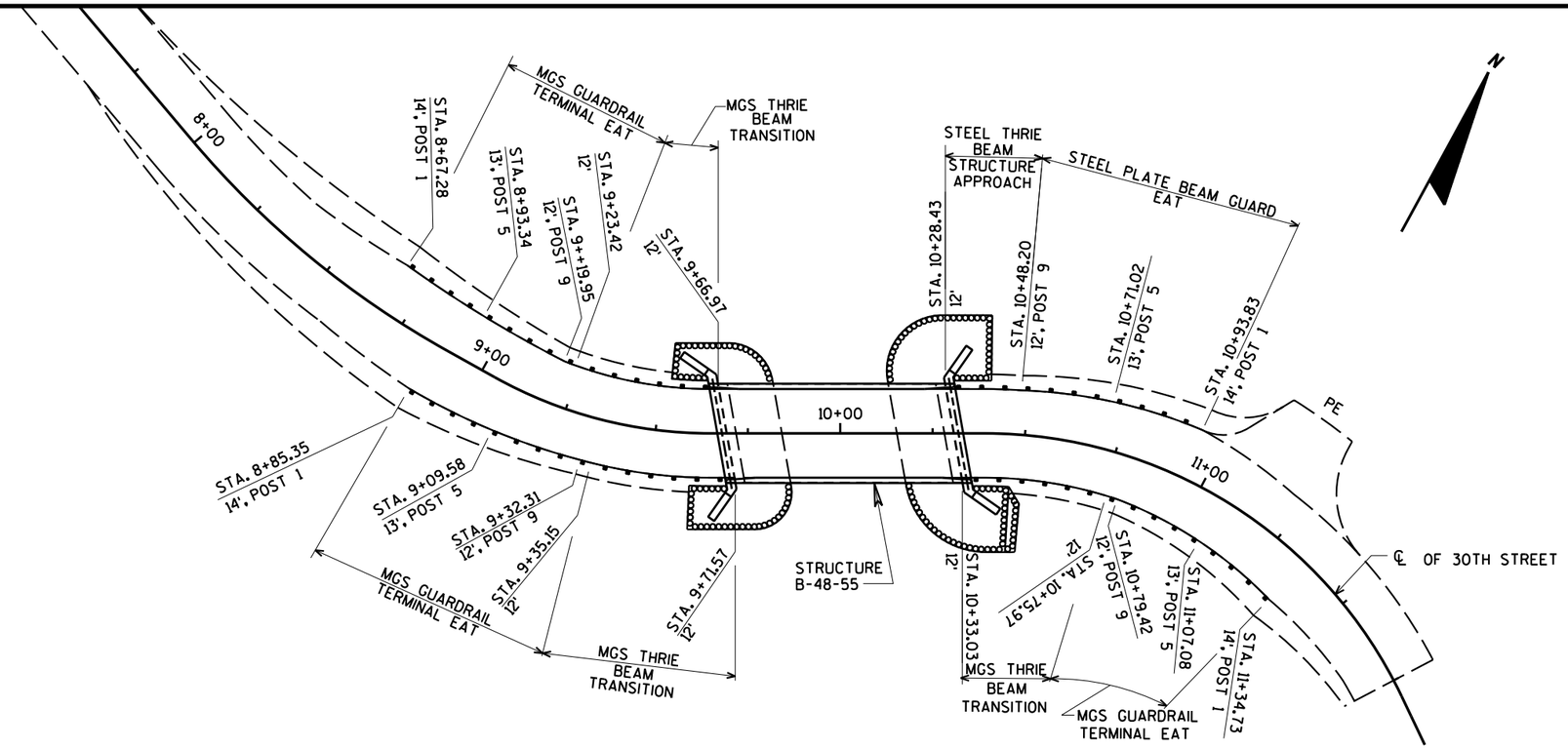
CP #1 (120'D' SPIKE)

0.25" REBAR
Y=209375.72
X=571481.71

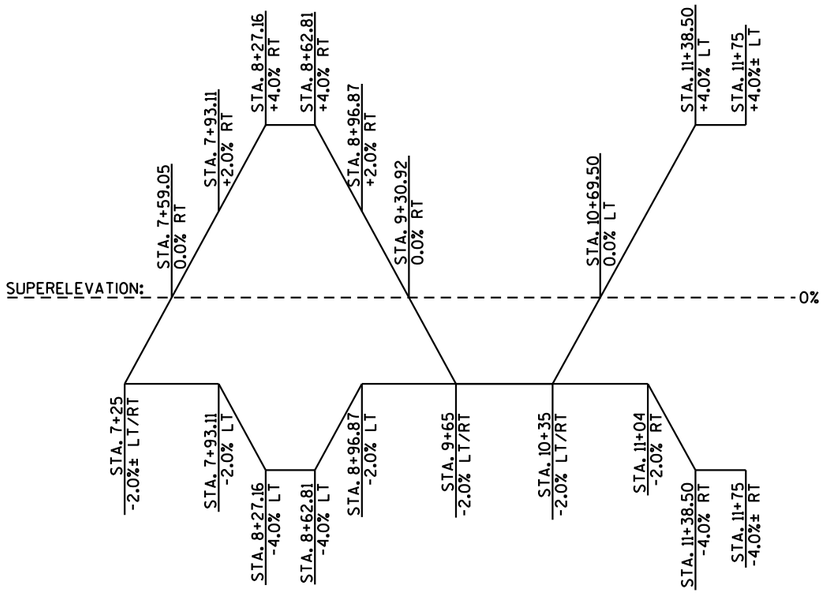
CP #1 (120'D' SPIKE)
STA. 7+14.9±, 19.0' RT.
Y=209377.12
X=571463.41

CONTROL POINT TIES

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	ALIGNMENT CONTROLS	SCALE, FEET 0 25 50	SHEET	E

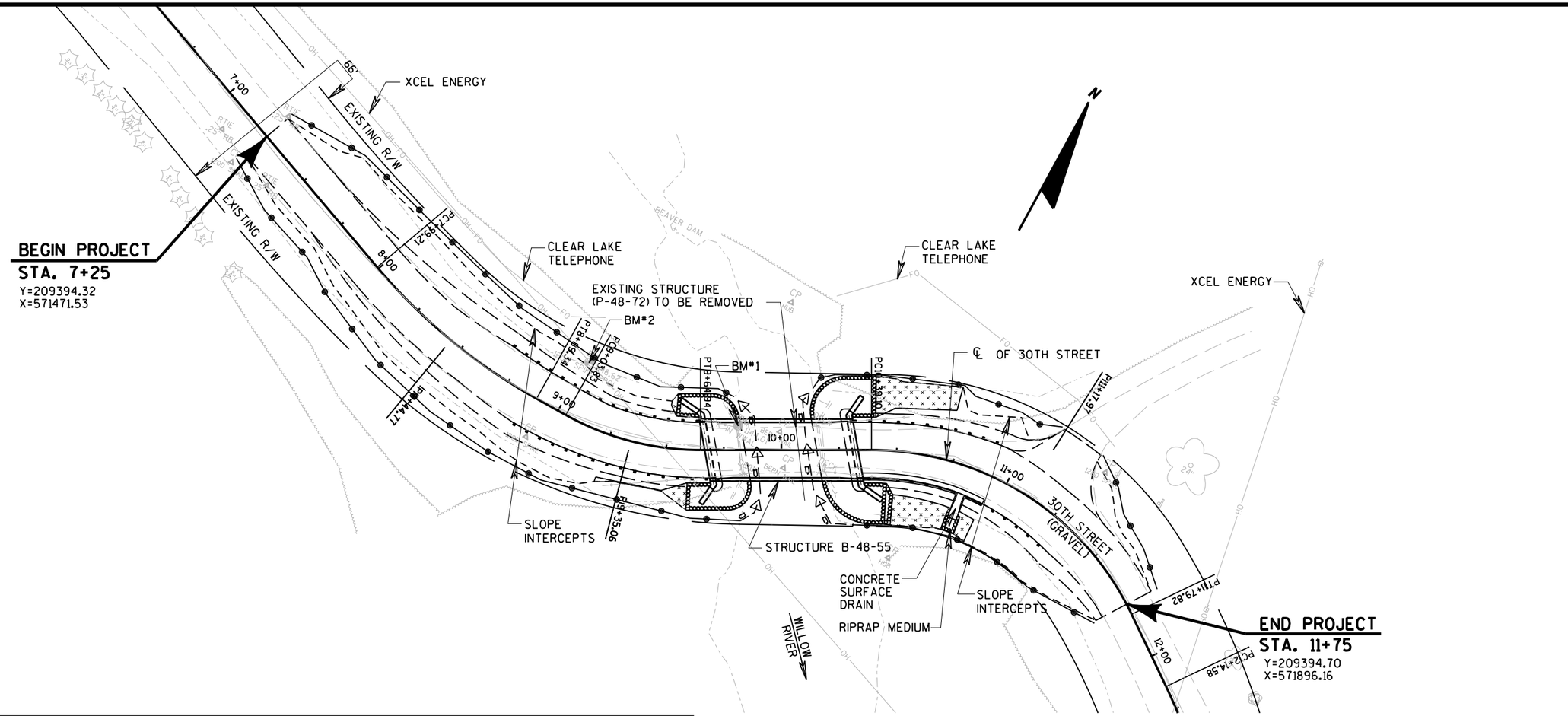


GUARDRAIL LAYOUT



SUPERELEVATION DIAGRAM

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	GUARDRAIL LAYOUT AND SUPERELEVATION DIAGRAM	SHEET 5	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 = 0.75 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.46 ACRES

HIGH WATER $_2$ EL. 1134.59

LEGEND

- EROSION MAT CLASS II TYPE C
- TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIER

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	EROSION CONTROL	SCALE, FEET 0 25 50	SHEET 6	E

8405-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0008	204.0165	Removing Guardrail	LF	166.000	166.000
0010	205.0100	Excavation Common	CY	291.000	291.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-48-55	LS	1.000	1.000
0014	208.0100	Borrow	CY	13.000	13.000
0016	210.1500	Backfill Structure Type A	TON	430.000	430.000
0018	213.0100	Finishing Roadway (project) 01. 8405-00-71	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,150.000	1,150.000
0022	416.1010	Concrete Surface Drains	CY	2.000	2.000
0024	502.0100	Concrete Masonry Bridges	CY	141.000	141.000
0026	502.3200	Protective Surface Treatment	SY	180.000	180.000
0028	502.3210	Pigmented Surface Sealer	SY	65.000	65.000
0030	503.0136	Prestressed Girder Type I 36-Inch	LF	260.000	260.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,060.000	4,060.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,810.000	18,810.000
0036	506.0105	Structural Steel Carbon	LB	480.000	480.000
0038	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0040	506.4000	Steel Diaphragms (structure) 01. B-48-0055	EACH	3.000	3.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0044	550.0020	Pre-Boring Rock or Consolidated Materials	LF	140.000	140.000
0046	550.0500	Pile Points	EACH	14.000	14.000
0048	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	420.000	420.000
0050	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	54.000	54.000
0052	606.0200	Riprap Medium	CY	5.000	5.000
0054	606.0300	Riprap Heavy	CY	215.000	215.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0058	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0060	614.0200	Steel Thrie Beam Structure Approach	LF	21.000	21.000
0062	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0064	614.2500	MGS Thrie Beam Transition	LF	120.000	120.000
0066	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0068	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8405-00-71	EACH	1.000	1.000
0070	619.1000	Mobilization	EACH	1.000	1.000
0072	624.0100	Water	MGAL	25.000	25.000
0074	625.0100	Topsoil	SY	370.000	370.000

8405-00-71

Line	Item	Item Description	Unit	Total	Qty
0076	627.0200	Mulching	SY	620.000	620.000
0078	628.1504	Silt Fence	LF	1,040.000	1,040.000
0080	628.1520	Silt Fence Maintenance	LF	2,600.000	2,600.000
0082	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0086	628.2027	Erosion Mat Class II Type C	SY	150.000	150.000
0088	628.6005	Turbidity Barriers	SY	215.000	215.000
0090	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0092	629.0210	Fertilizer Type B	CWT	0.700	0.700
0094	630.0120	Seeding Mixture No. 20	LB	25.000	25.000
0096	630.0200	Seeding Temporary	LB	25.000	25.000
0098	630.0500	Seed Water	MGAL	20.000	20.000
0100	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	5.000	5.000
0102	637.2230	Signs Type II Reflective F	SF	20.000	20.000
0104	638.2602	Removing Signs Type II	EACH	5.000	5.000
0106	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0108	642.5001	Field Office Type B	EACH	1.000	1.000
0110	643.0420	Traffic Control Barricades Type III	DAY	1,260.000	1,260.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	1,960.000	1,960.000
0114	643.0900	Traffic Control Signs	DAY	980.000	980.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0120	645.0120	Geotextile Type HR	SY	395.000	395.000
0122	650.4500	Construction Staking Subgrade	LF	385.000	385.000
0124	650.6500	Construction Staking Structure Layout (structure) 01. B-48-0055	LS	1.000	1.000
0126	650.9910	Construction Staking Supplemental Control (project) 01. 8405-00-71	LS	1.000	1.000
0128	650.9920	Construction Staking Slope Stakes	LF	385.000	385.000
0130	715.0502	Incentive Strength Concrete Structures	DOL	846.000	846.000
0132	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0134	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

30TH STREET EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) (item # 205.0100) Cut	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
7+25 - 11+75	30TH ST	291	0	131	170	121	135	13	

1) Excavation Common is the Cut. Item number 205.0100.
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
4) All quantities shown in CY.
5) Existing existing salvaged/unuseable asphalt pavement.

CLEARING AND GRUBBING

STATION	TO	STATION	OFFSET	201.0105 CLEARING STA	201.0205 GRUBBING STA
7+25	-	11+75	LT & RT	2	2
TOTALS				2	2

FINISHING ROADWAY
(ID 8405-00-71)

LOCATION	213.0100.01 EACH
30TH STREET	1
TOTAL	1

BASE QUANTITIES

STA	TO	STA	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON
7+25	--	9+16.73	30TH ST	530
9+16.73	--	9+66.73	30TH ST	135
10+33.27	--	10+83.27	30TH ST	140
10+83.27	--	11+75	30TH ST	290
UNDISTRIBUTED				55
TOTALS				1,150
CATEGORY 0010				600
CATEGORY 0030				550

CONCRETE SURFACE DRAIN FLUME TYPE AT STRUCTURE

STA	LOC	416.1010 CONCRETE SURFACE DRAINS CY	601.0584 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBT LF	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
10+83	RT	2	54	5	10
TOTALS		2	54	5	10

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

GUARDRAIL

STA	TO	STA	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
8+67.28	--	9+23.42	LT	--	--	--	--	1
8+85.35	--	9+35.15	RT	--	--	--	--	1
9+23.42	--	9+66.97	LT	--	--	--	40	--
9+35.15	--	9+71.57	RT	--	--	--	40	--
9+28	--	9+83	RT	61	--	--	--	--
9+49	--	9+81	LT	34	--	--	--	--
10+17	--	10+54	LT	39	--	--	--	--
10+19	--	10+53	RT	32	--	--	--	--
10+28.43	--	10+48.2	LT	--	21	--	--	--
10+33.03	--	10+75.97	RT	--	--	--	40	--
10+48.2	--	10+93.83	LT	--	--	1	--	--
10+75.97	--	11+34.73	RT	--	--	--	--	1
TOTALS				166	21	1	120	3

MAINTENANCE AND REPAIR OF HAUL ROADS ID 8405-00-71

CATEGORY	618.0100.01 EACH
0030	1
TOTAL	1

MOBILIZATION

CATEGORY	619.1000 EACH
0010	0.3
0020	0.7
TOTAL	1

WATER

PURPOSE	624.0100 WATER MGAL
COMPACTION	17
DUST CONTROL	8
TOTAL	25

EROSION CONTROL ITEMS

STA	TO	STA	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
7+25	--	9+66.73	RT	65	205	290	725	10	0.2	6	6	5
7+25	--	9+66.73	LT	85	210	235	588	5	0.2	6	6	5
10+33.27	--	11+75	RT	75	90	120	300	50	0.1	4	4	3
10+33.27	--	11+75	LT	70	115	185	462	55	0.1	5	5	4
UNDISTRIBUTED				75	--	210	525	30	0.1	4	4	3
TOTALS				370	620	1,040	2,600	150	0.7	25	25	20

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ID 8405-00-71	4	4
TOTALS	4	4

TURBIDITY BARRIERS

LOCATION	628.6005 SY
WEST ABUTMENT	80
EAST ABUTMENT	90
UNDISTRIBUTED	45
TOTAL	215

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 LF
7+25 - 11+75	UNDISTRIBUTED	50
	TOTAL	50

SIGNAGE

STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	SIGNAGE TYPE
9+63	LT	1	3	--	--	W5-52L
9+68	RT	1	3	--	--	W5-52R
9+79	LT	--	--	1	1	W5-52L
9+82	RT	--	--	1	1	W5-52R
10+17	LT	--	--	1	1	W5-52R
10+20	RT	--	--	1	1	W5-52L
10+32	LT	1	3	--	--	W5-52R
10+37	RT	1	3	--	--	W5-52L
11+33	LT	1	8	1	1	W1-6R
TOTALS		5	20	5	5	

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS NO.	643.0900 SIGNS DAY
PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"	70	18	1,260	28	1,960	14	980
TOTALS			1,260		1,960		980

TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL

FIELD OFFICE TYPE B

CATEGORY	642.5001 EACH
0010	0.3
0020	0.7
TOTAL	1

STAKING ITEMS

CATEGORY	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	7+25 - 11+75	385	385
TOTALS		385	385

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	9+81.3	PK NAIL IN WINGWALL, 10.5' LT	1144.01
2	9+01.7	120 'D' SPIKE IN POWER POLE, 24.7' LT	1146.62

NOTE:
FOR ALIGNMENT CONTROL POINTS, BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.

FOR GUARDRAIL LAYOUT AND SUPERELEVATION DIAGRAM SEE "GUARDRAIL LAYOUT AND SUPERELEVATION DIAGRAM" SHEET

XCEL ENERGY
CLEAR LAKE TELEPHONE
66'
EXISTING R/W
30th STREET (GRAVEL)
℄ OF 30th STREET
STRUCTURE B-48-55
SLOPE INTERCEPTS
BM#1
BM#2
CONCRETE SURFACE DRAIN
RIPRAP MEDIUM
EXISTING STRUCTURE P-48-72 TO BE REMOVED
WILLOW RIVER
BEAVER DAM
N

BEGIN PROJECT
STA. 7+25
Y=209394.32
X=571471.53

END PROJECT
STA. 11+75
Y=209394.70
X=571896.16

EARTHWORK SUMMARY
STA. 10+33.27 TO STA. 11+75.00
EXC. COMMON 108 C.Y.
FILL 93 C.Y.
SHR. = 30%
BORROW 13 C.Y.

EARTHWORK SUMMARY
STA. 7+25.00 TO STA. 9+66.73
EXC. COMMON 183 C.Y.
FILL 37 C.Y.
SHR. = 30%
WASTE 135 C.Y.

REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00
STRUCTURE P-48-72
SINGLE SPAN STEEL DECK GIRDER BRIDGE
19.7' CLEAR RDWY. x 36.8' O.A.L.
5° SKEW

STA. 10+00
STRUCTURE B-48-55 REQ'D.
SINGLE SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE
24'-0" CLEAR ROADWAY x 66'-6½" O.A.L.
10° SKEW RHF

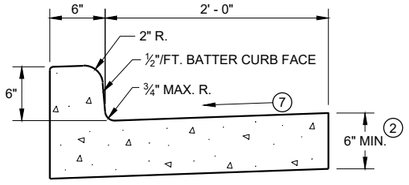
EXISTING ℄ PROFILE
FINISHED ℄ PROFILE
PI STA 7+25.00 PI EL 1156.26
-5.60%
PC STA 8+37.50 PC EL 1149.95
95.00' VC K = 26.91
PI STA 8+85.00 PI EL 1147.29
PT STA 9+32.50 PT EL 1146.31
-2.07%
PC STA 9+45.00 PC EL 1146.05
90.00' VC K = 49.55
PI STA 9+90.00 PI EL 1145.11
HIGH WATER$_{100}$ EL. 1140.48
WATER EL. 1132.35 (8-6-19)
STREAM BED EL. 1127.6±
PT STA 10+35.00 PT EL 1145.00
-0.26%
PC STA 10+52.50 PC EL 1144.95
95.00' VC K = 37.22
PI STA 11+00.00 PI EL 1144.83
PT STA 11+47.50 PT EL 1145.92
+2.30%
PI STA 11+75.00 PI EL 1146.55
EXISTING ELEVATION
PROPOSED ELEVATION

	1158.19		1157.16		1154.90	1154.86	1151.97	1152.05	1149.09	1149.28	1146.98	1147.18	1145.68	1145.95	1128.49	1145.21	1144.74	1144.96	1144.84	1145.13	1145.77	1145.98	1147.17	1148.18	1148.73	1149.01
6+50		7+00		7+50		8+00		8+50		9+00		9+50		10+00		10+50		11+00		11+50		12+00		12+50		13+00		13+50

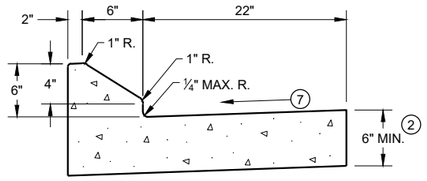
PROJECT NO: 8405-00-71	HWY: 30th STREET	COUNTY: POLK	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 12	E

Standard Detail Drawing List

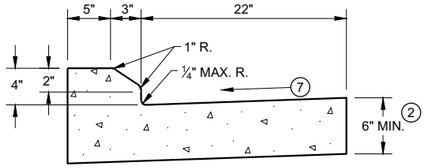
08D01-21A	CONCRETE CURB & GUTTER
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



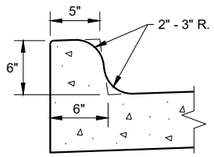
TYPES A[1] & D



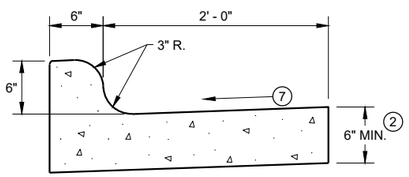
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

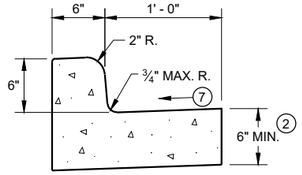


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



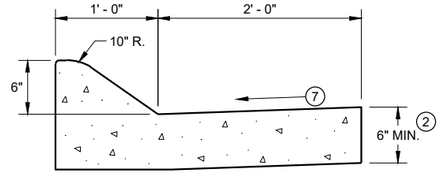
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"

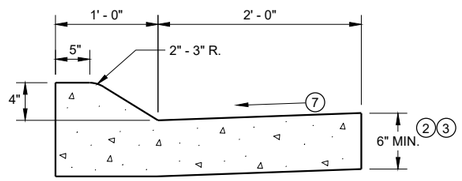


TYPES A[1] & D

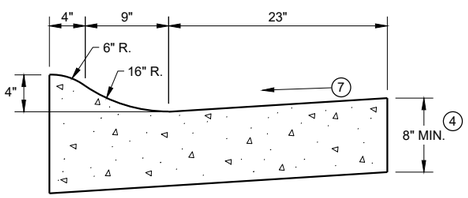
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D



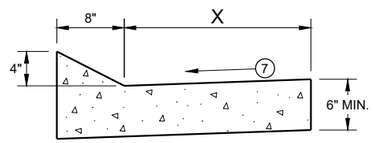
4" SLOPED CURB TYPES A[1] & D



4" SLOPED CURB TYPES R[1] & T[5]

CONCRETE CURB AND GUTTER 36"

TBT & TBTT	X
30"	22"
36"	28"

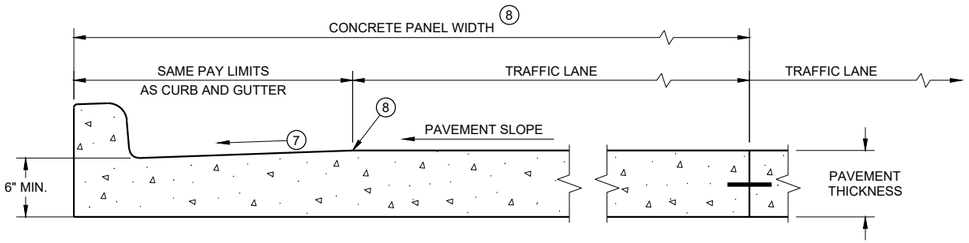


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

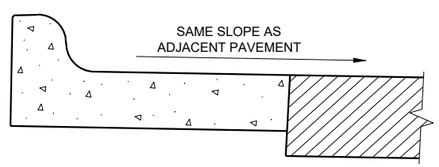
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER[6]
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 21a

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

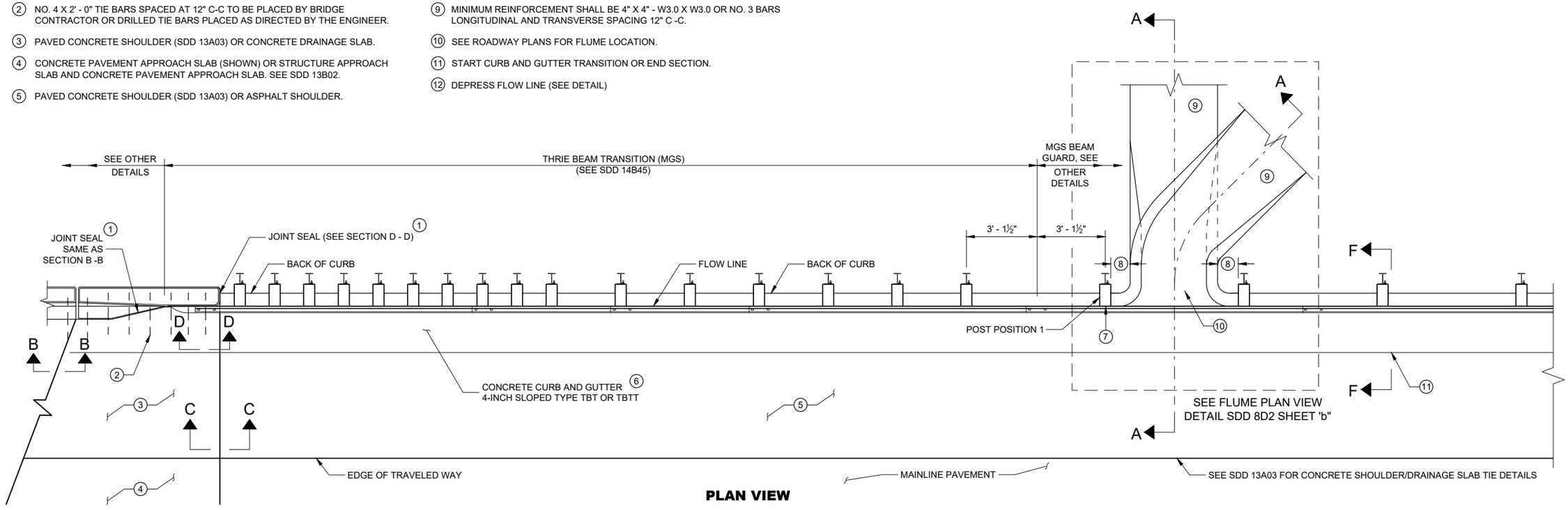
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

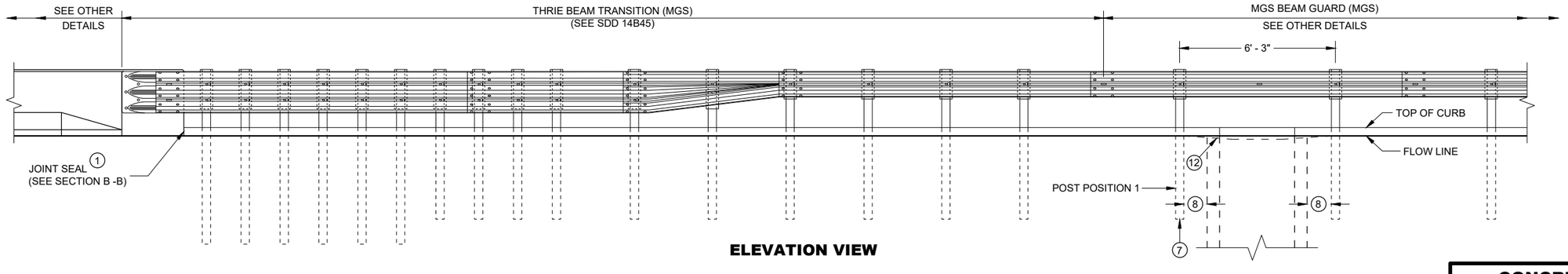
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



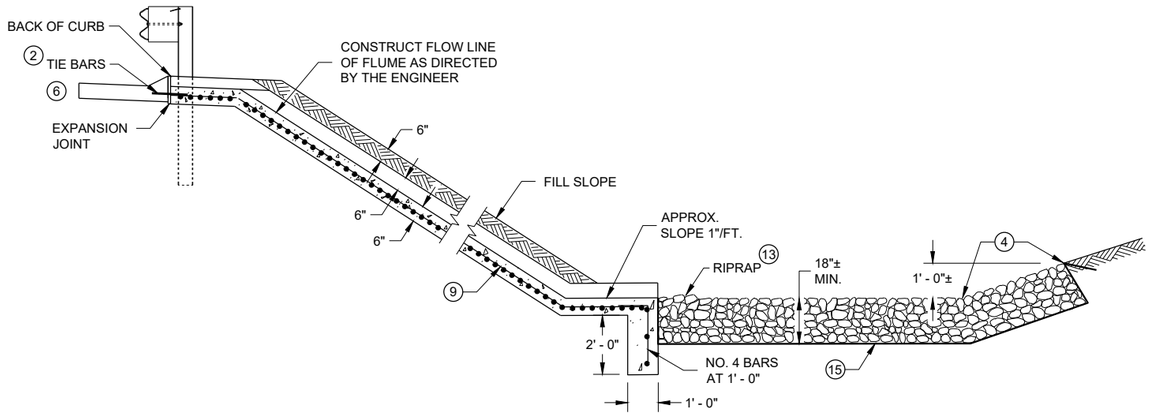
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

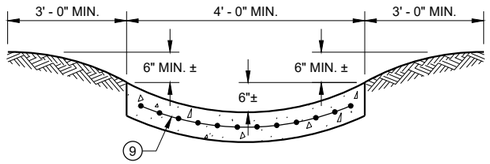
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

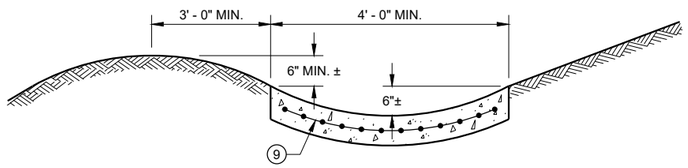
SDD 08D02 - 07a



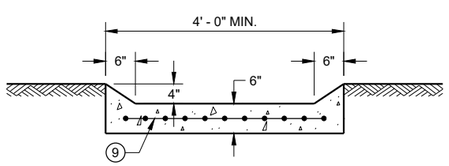
SECTION A - A



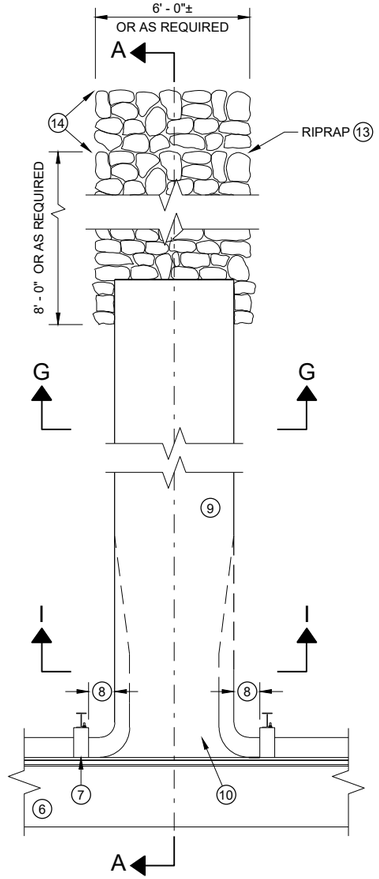
SECTION G - G



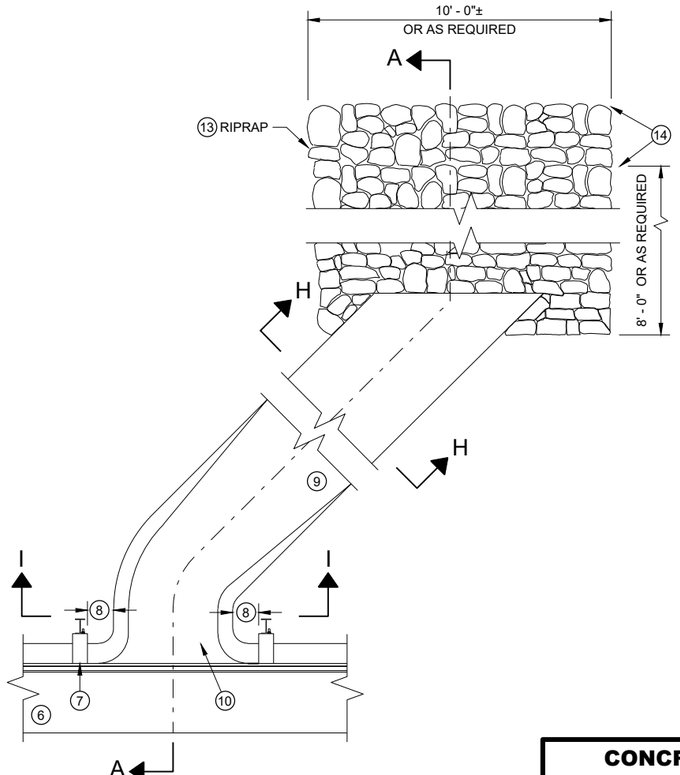
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

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. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE FABRIC TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

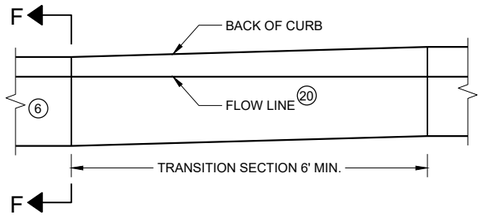
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

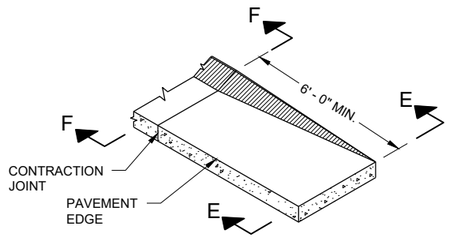
SDD 08D02 - 07b

6

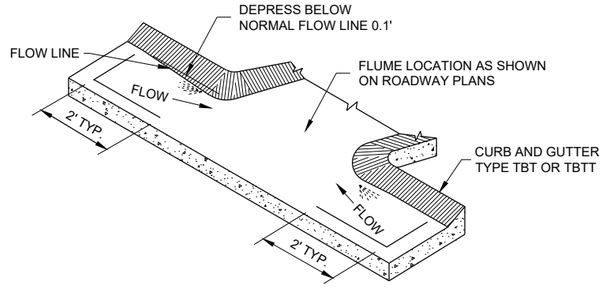
SDD 08D02 - 07b



CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE FABRIC TYPE HR.

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

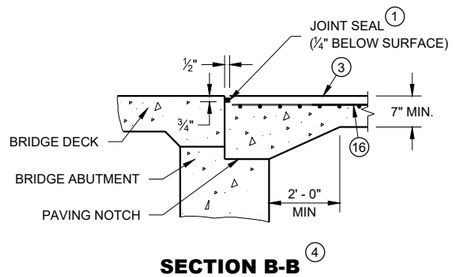
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

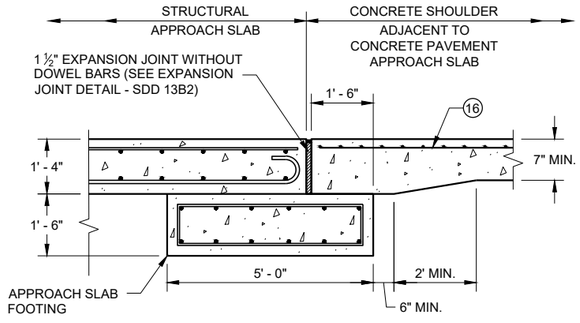
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

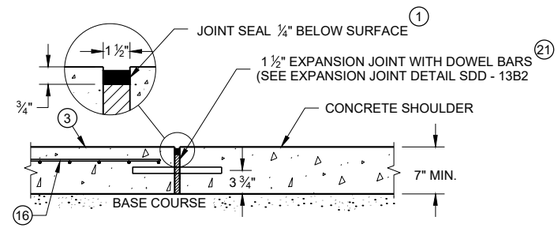
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



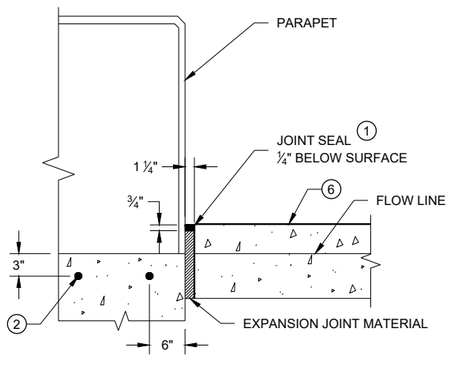
SECTION B-B (4)



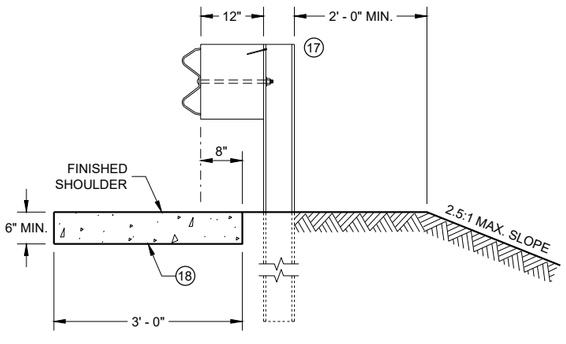
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



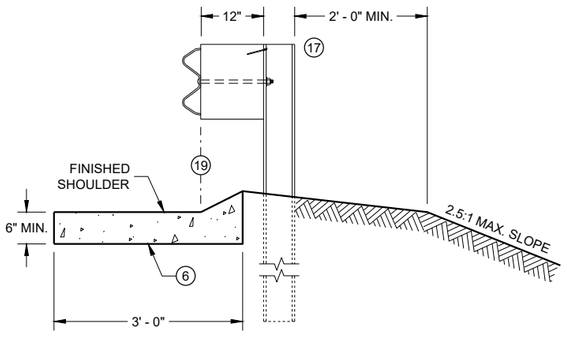
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

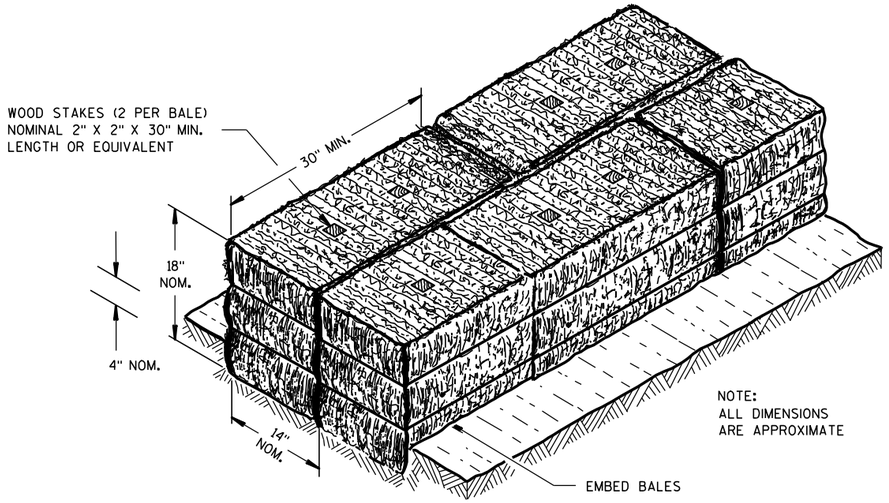
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

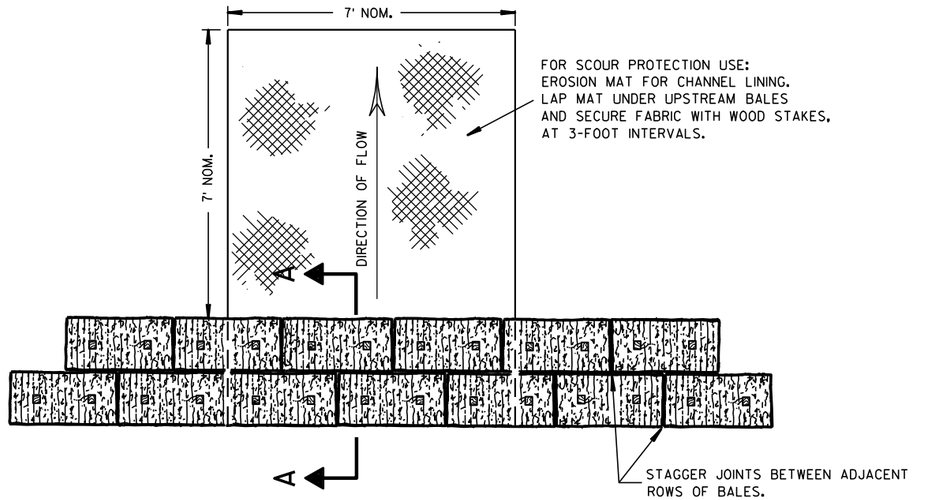
FHWA

SDD 08D02 - 07c

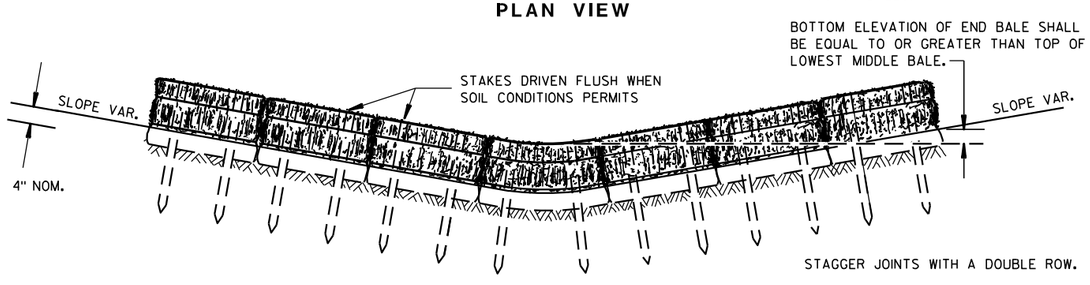
SDD 08D02 - 07c



SECTION A-A



PLAN VIEW



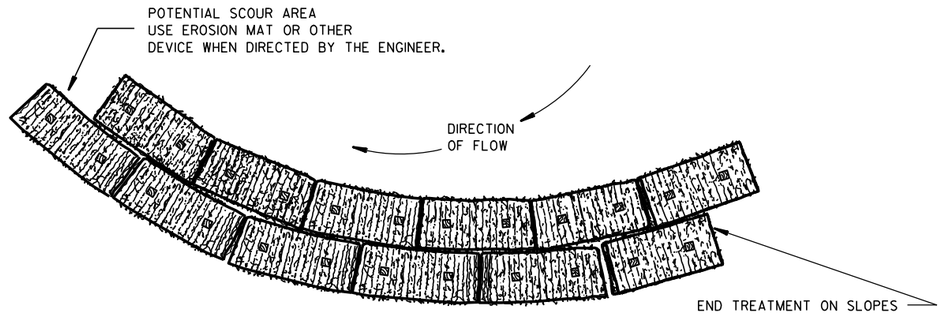
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

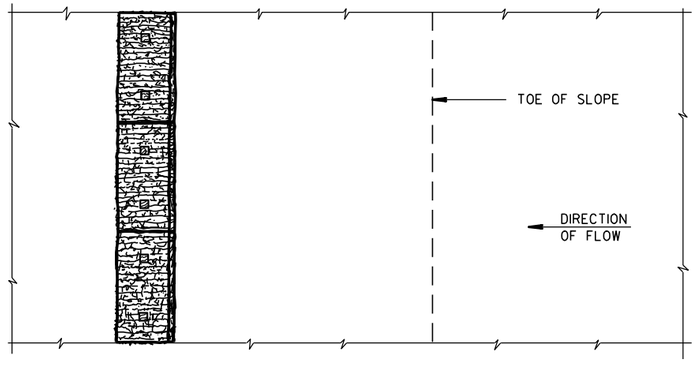
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

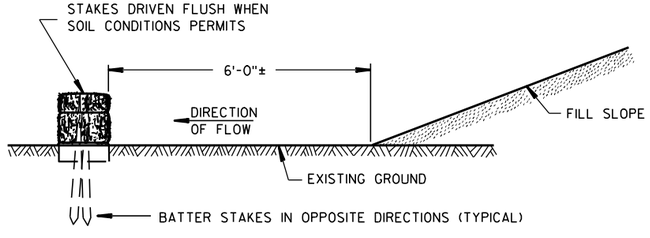


PLAN VIEW

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

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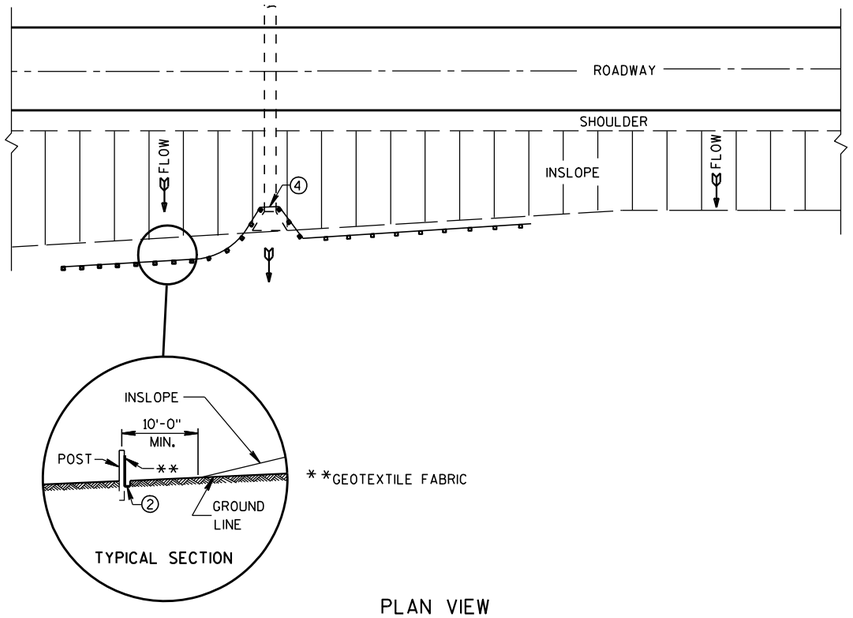
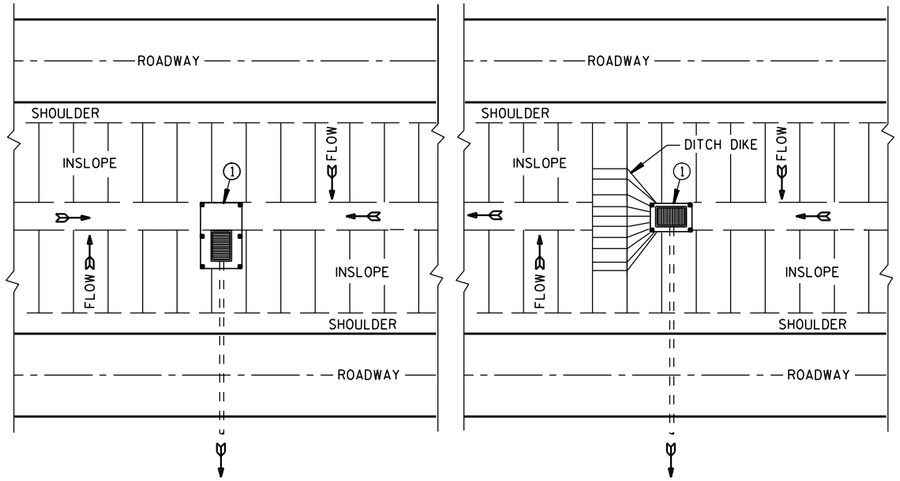


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



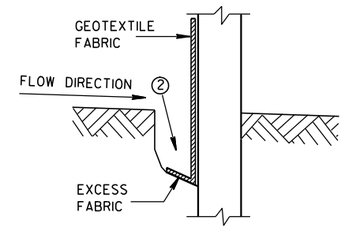
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

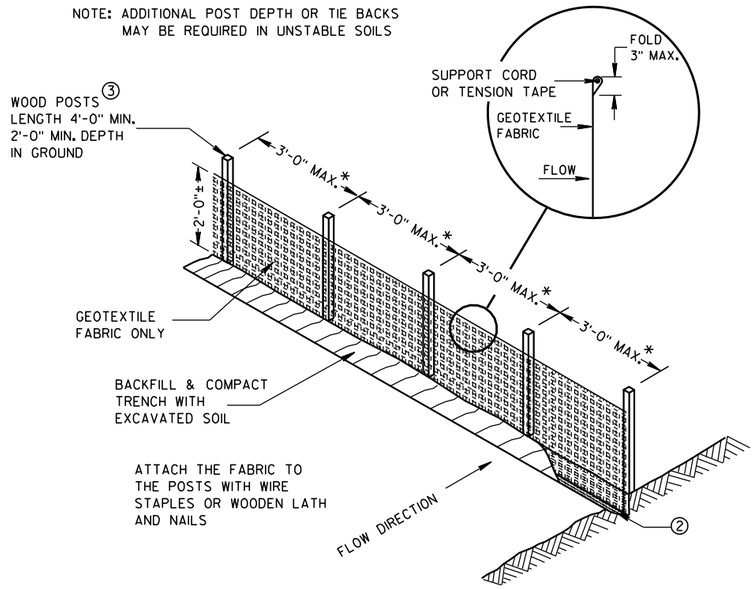
GENERAL NOTES

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

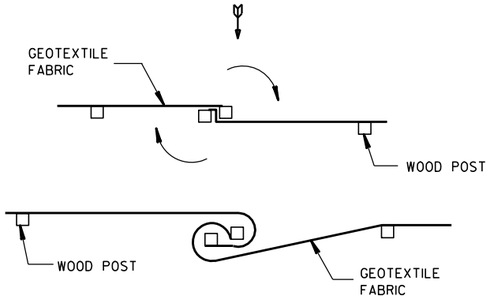
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



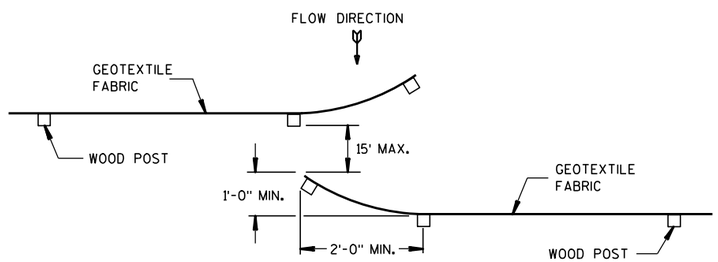
TRENCH DETAIL



SILT FENCE

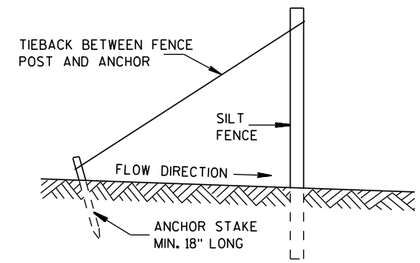


TWIST METHOD



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	

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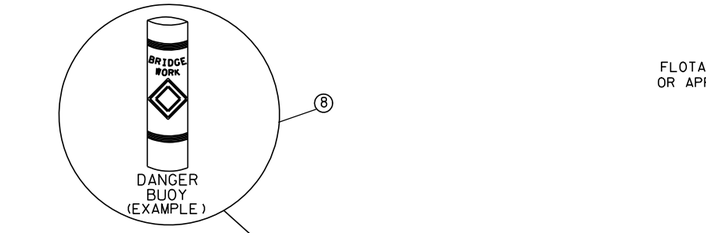
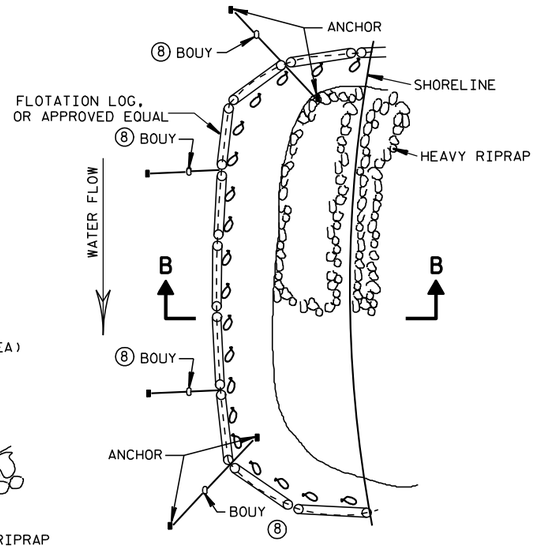
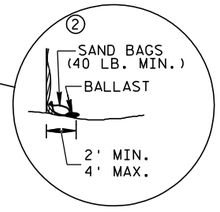
S.D.D. 8 E 9-6

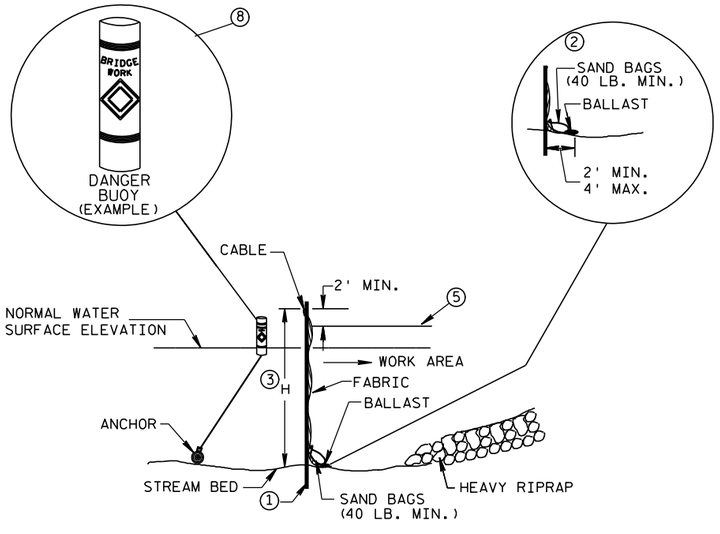


SECTION B-B

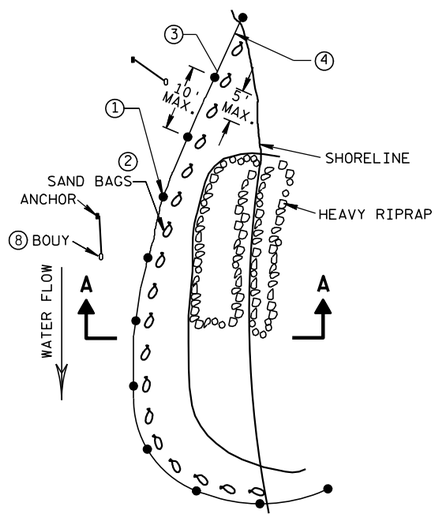




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

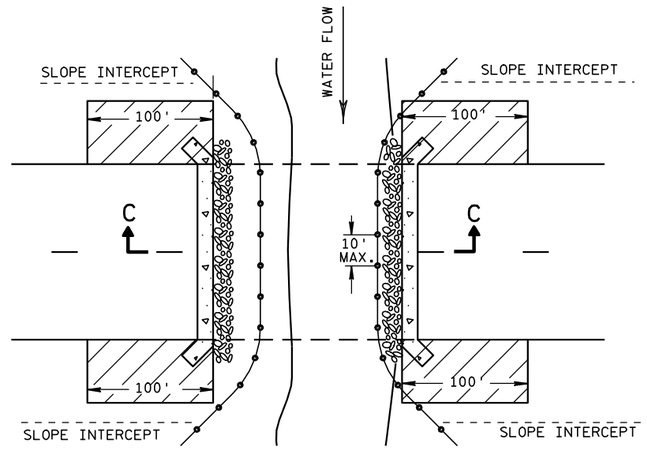
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

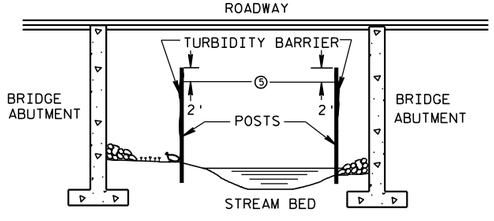
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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



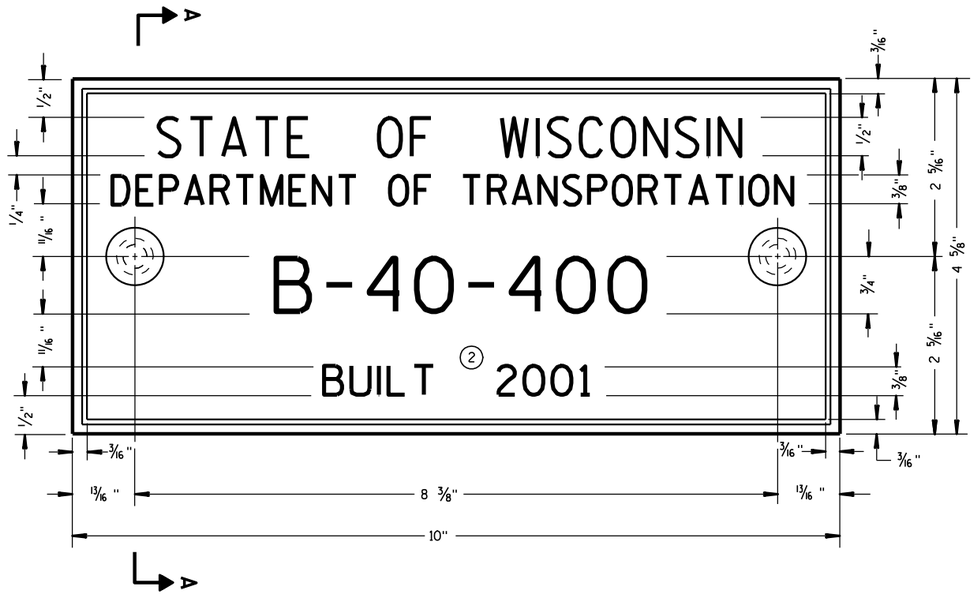
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

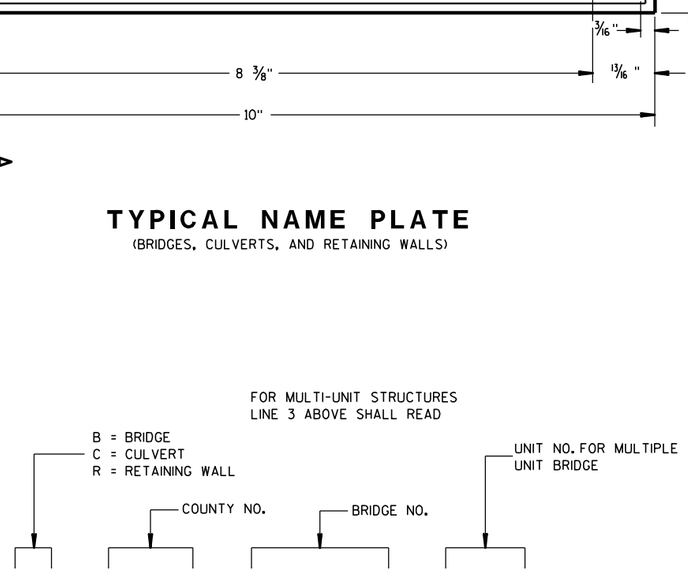
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

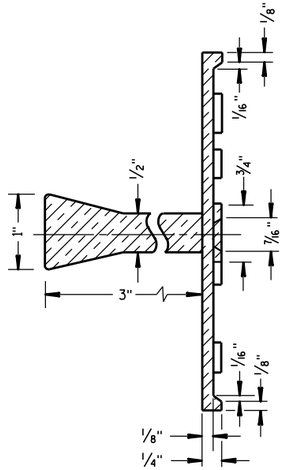
GENERAL NOTES

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.

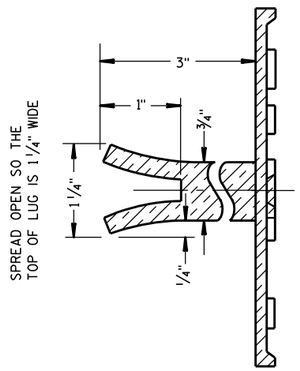
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

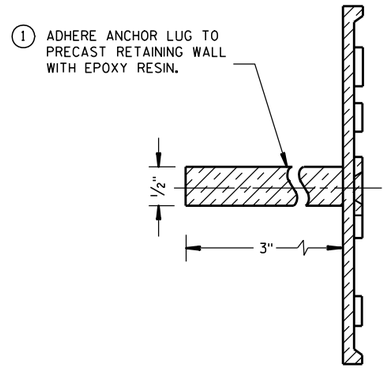
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

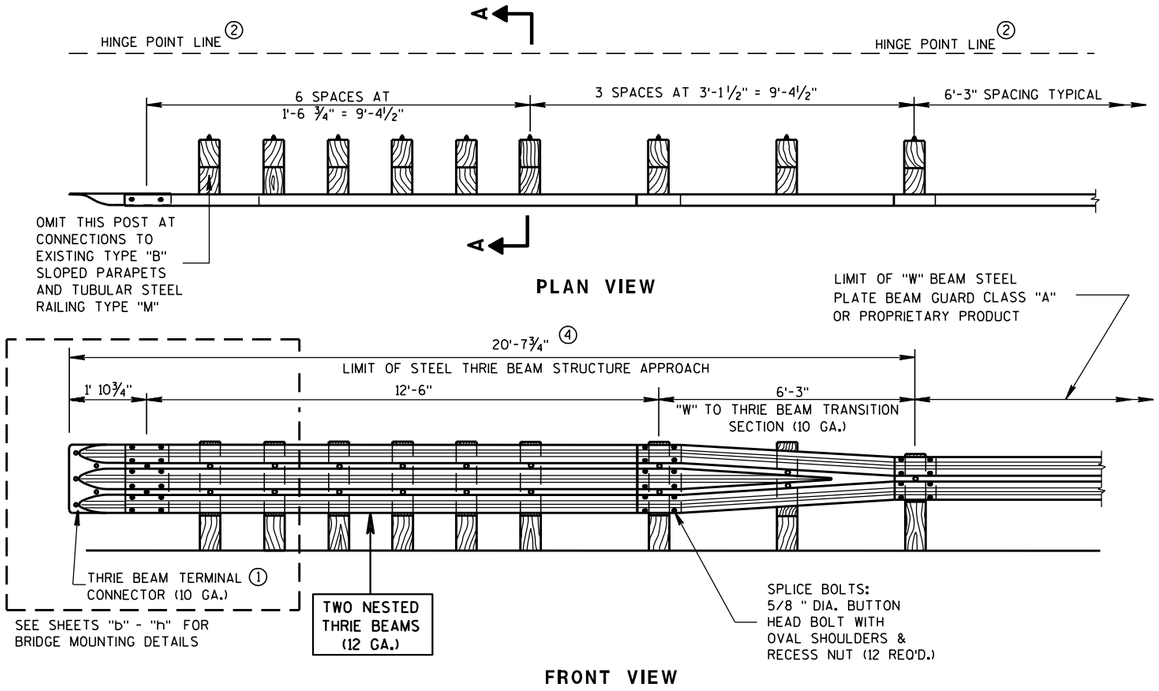
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 12 A 3-10



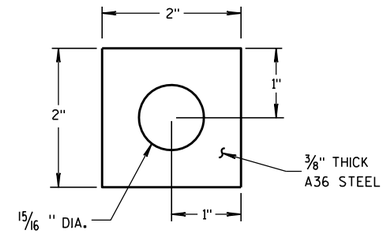


PLATE WASHER DETAIL

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.

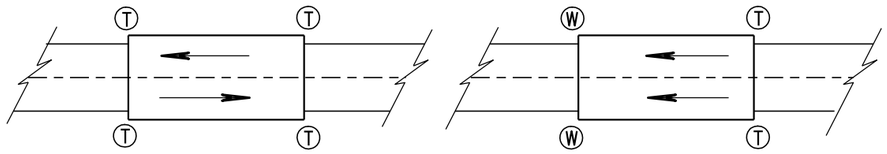
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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.



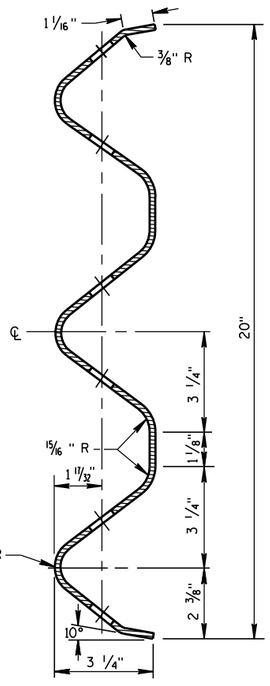
TWO WAY TRAFFIC

ONE WAY TRAFFIC

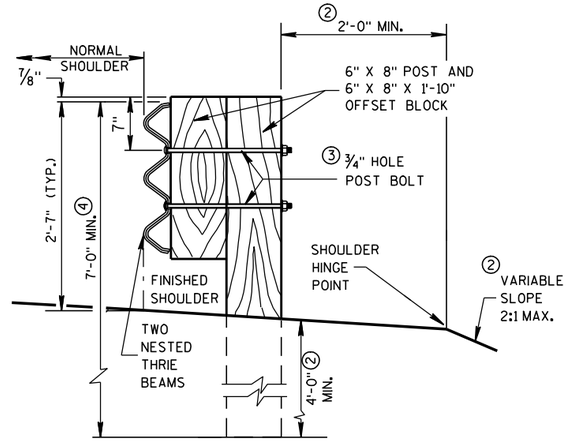
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

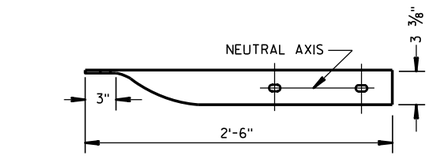
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

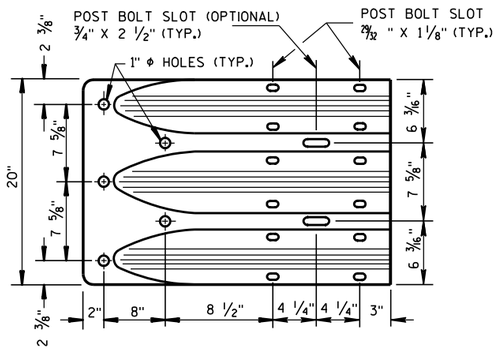


SECTION THRU THRIE BEAM RAIL ELEMENT

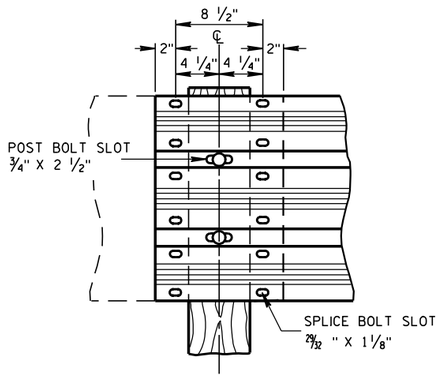


SECTION A-A





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 122
ENGINEER

FHWA

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

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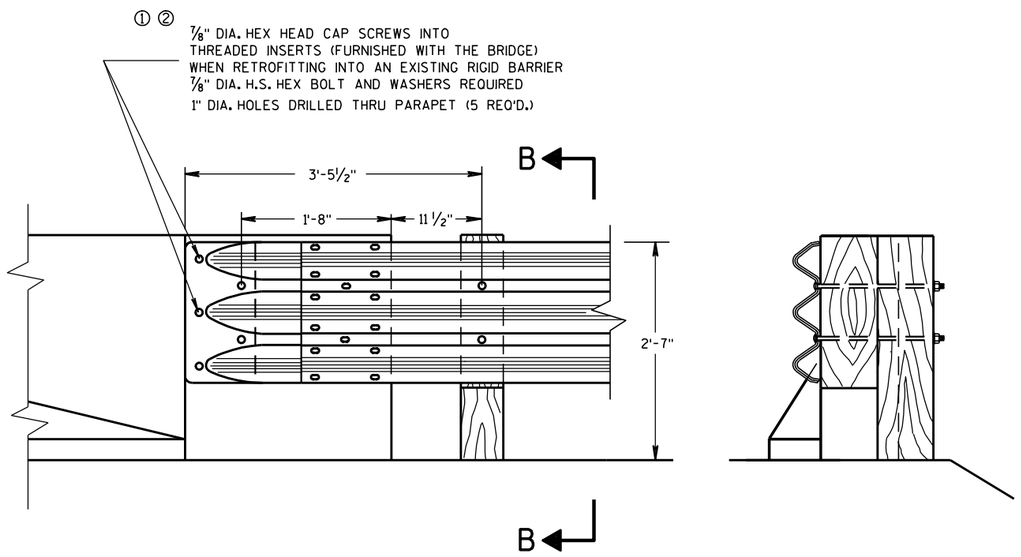
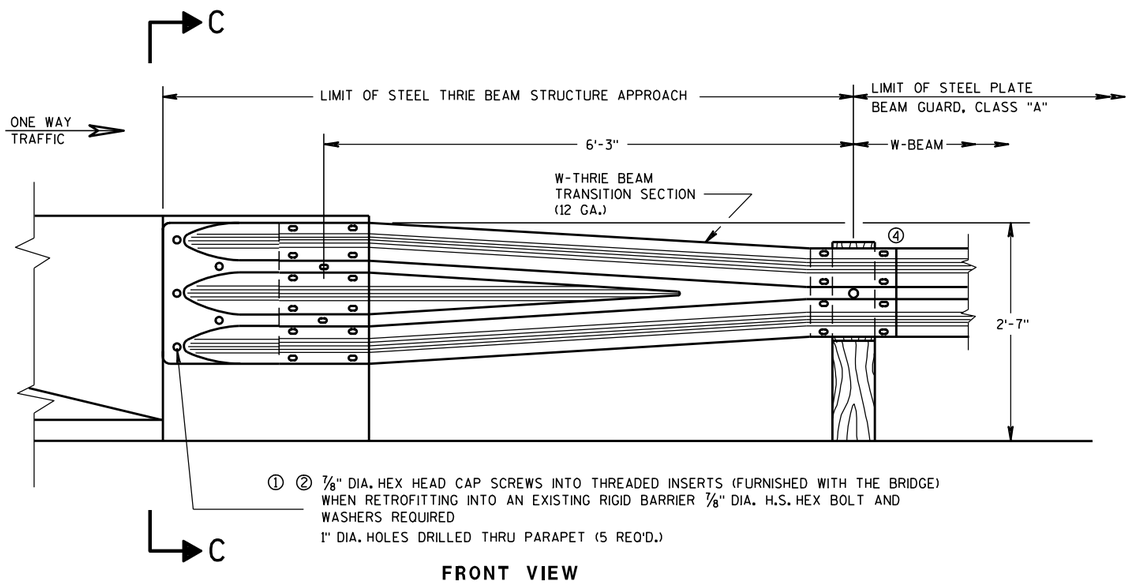
S.D.D. 14 B 20-11a



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



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)

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.

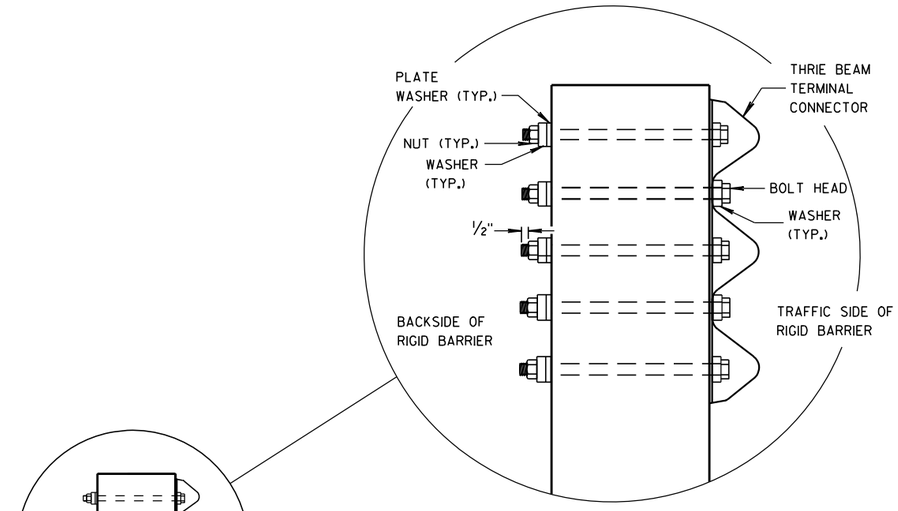
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

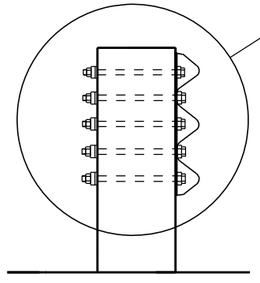
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.





SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(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.

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

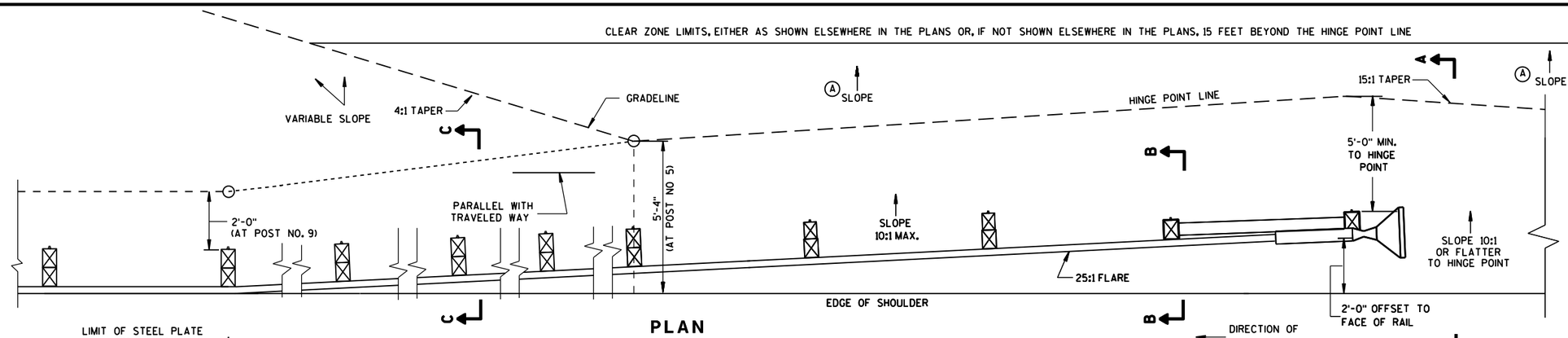
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

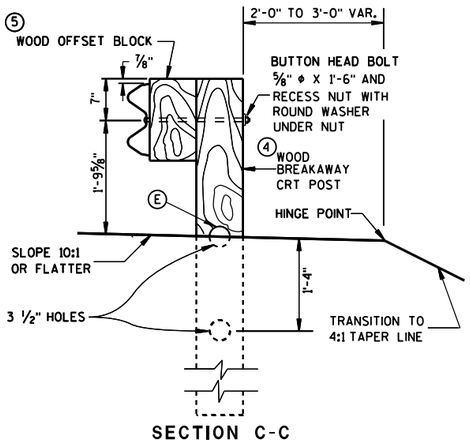
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

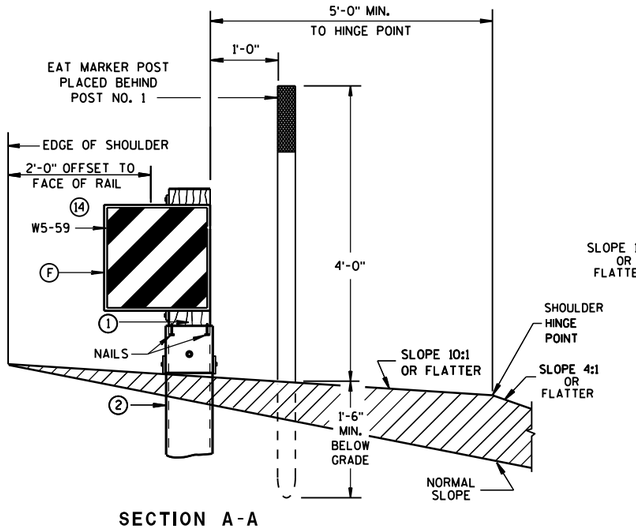
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

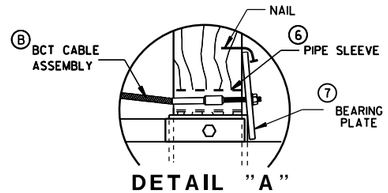
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

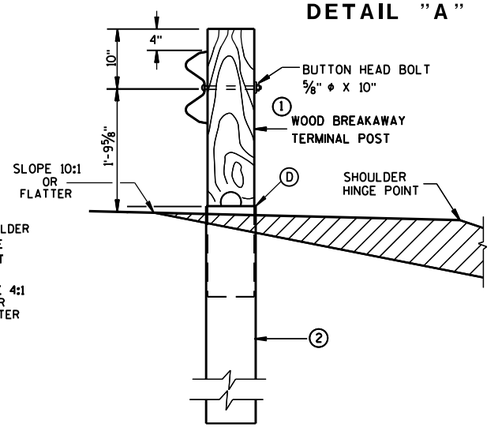
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

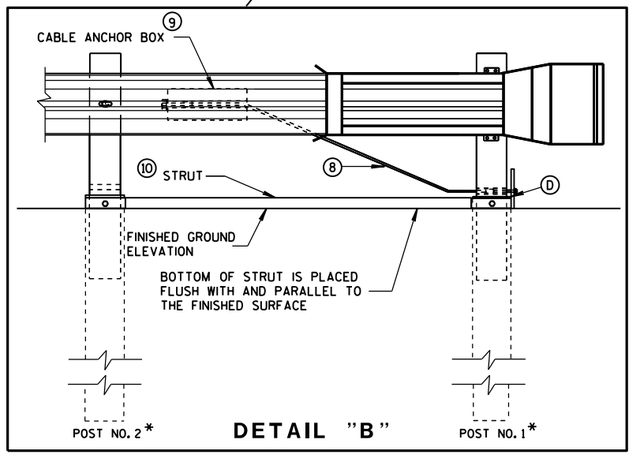










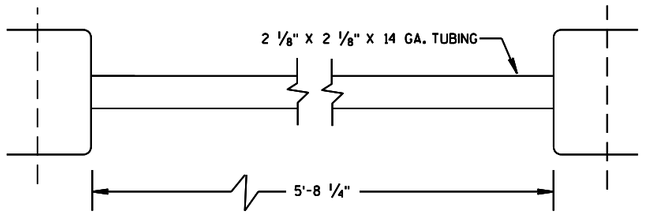


STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

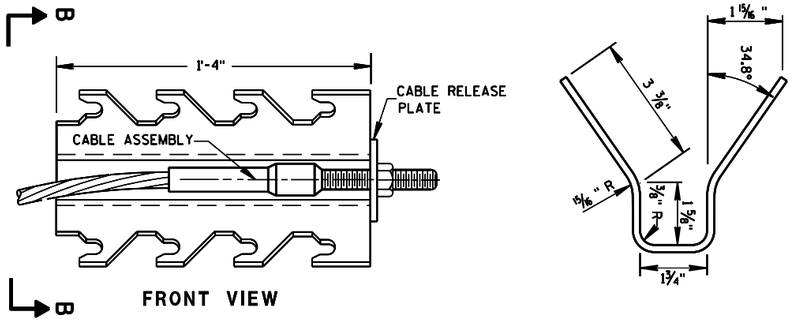
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

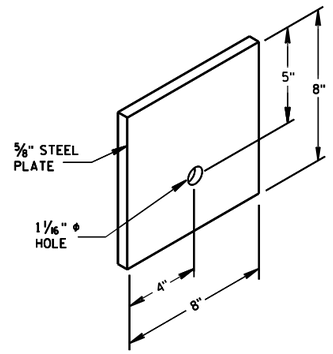
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

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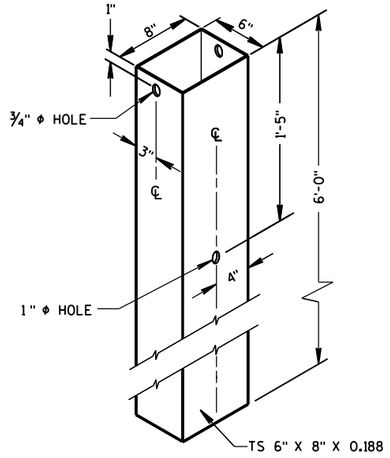
S.D.D. 14 B 24-9b

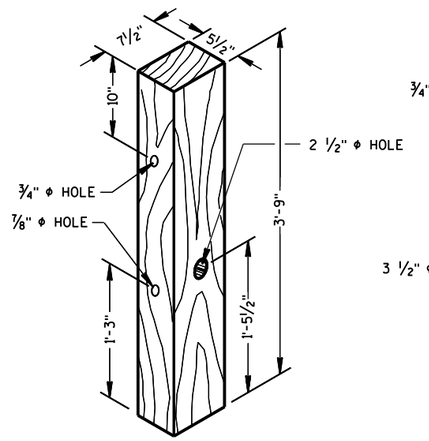
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

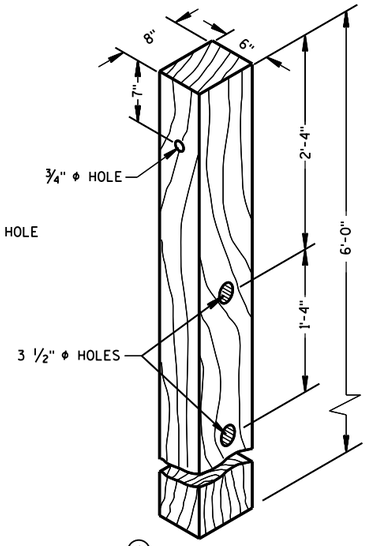
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

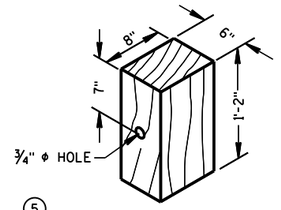


④ CRT POST
(POSTS NO'S 5-8

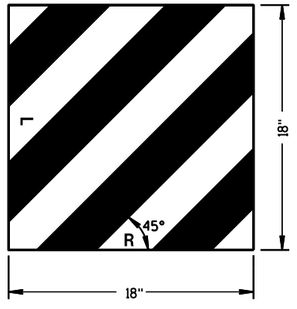
WOOD BREAKAWAY POSTS

GENERAL NOTES

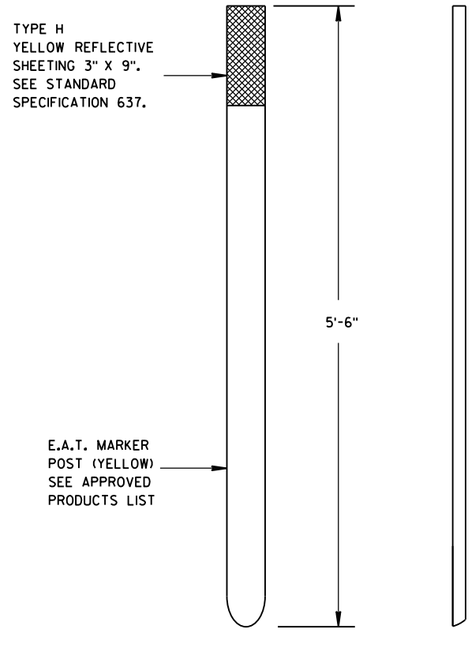
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV...

ENT

6

S.D.D. 14 B 24-9c

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S.D.D. 14 B 24-9c

(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.

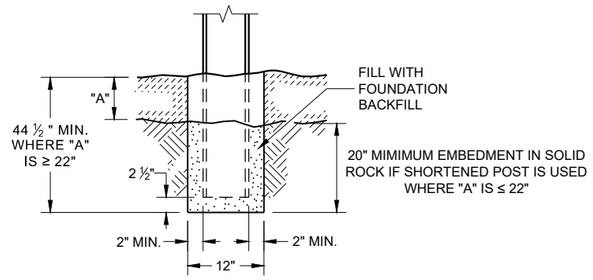
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

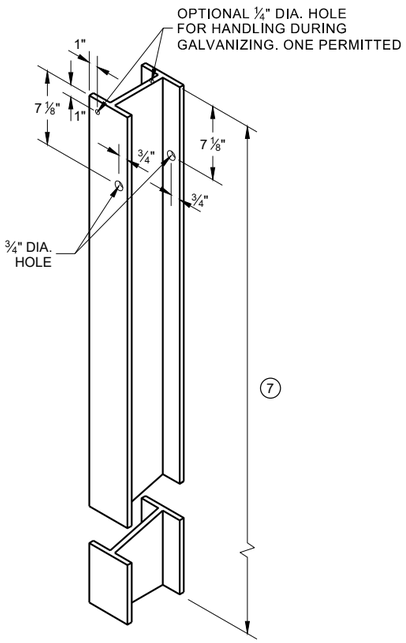
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

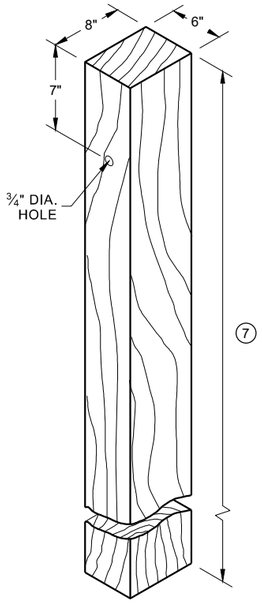
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



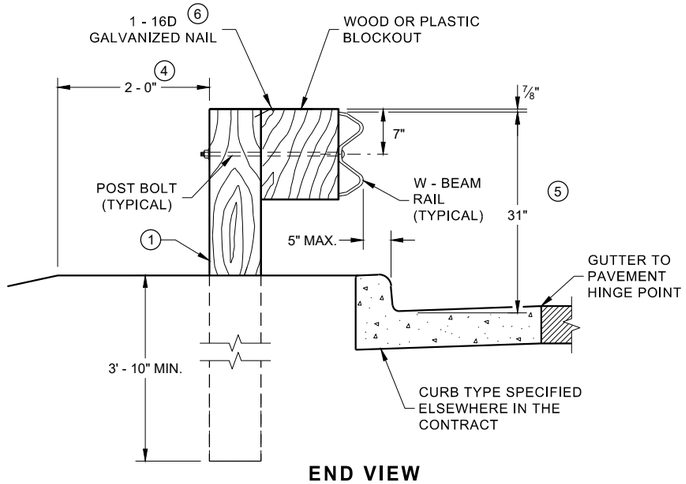
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



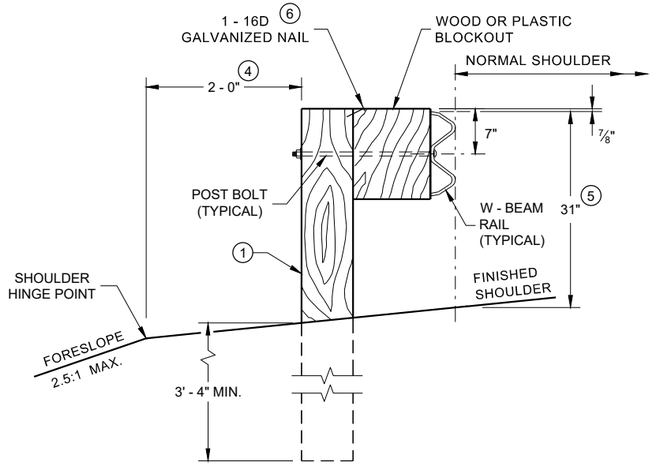
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



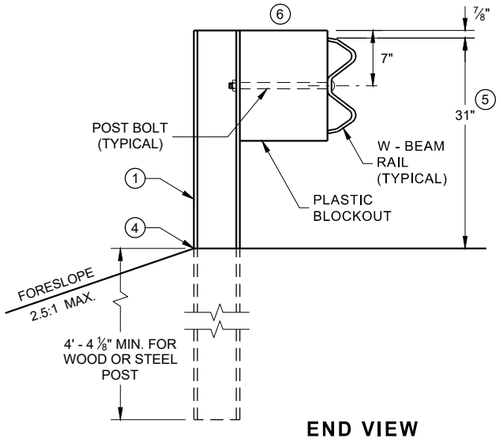
WOOD POST (6" X 8") NOMINAL (1)



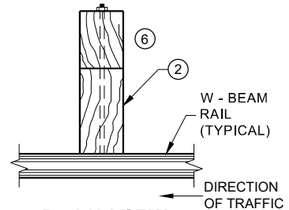
END VIEW
LOCATED ALONG A CURBED ROADWAY



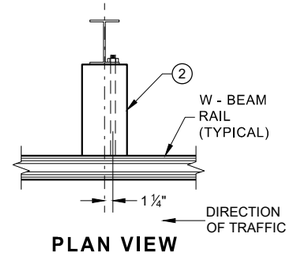
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



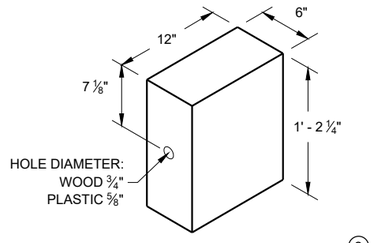
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 06a

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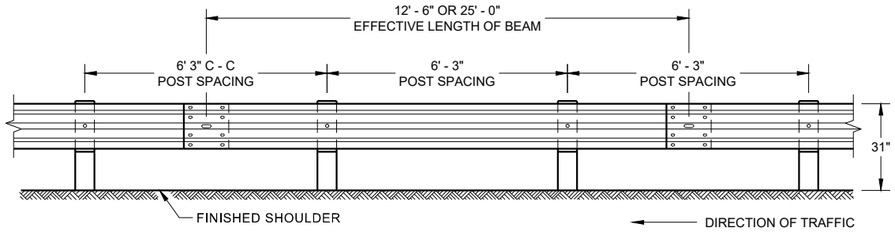
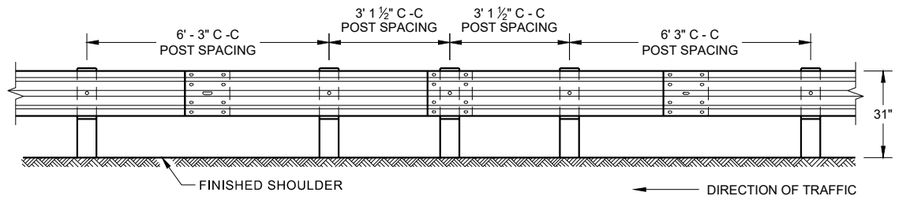
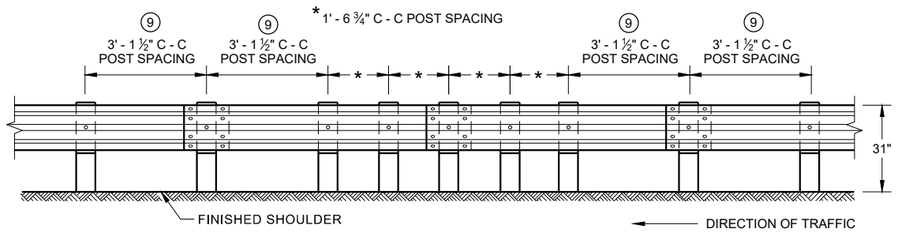
SDD 14B42 - 06a



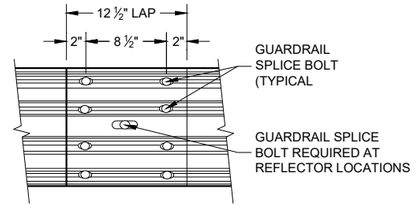
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

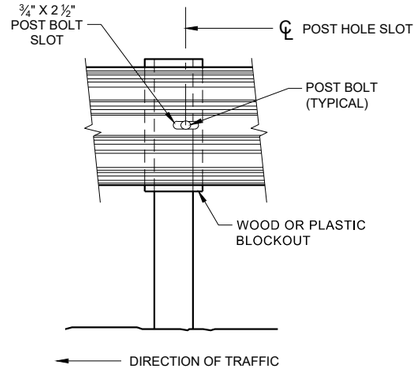
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

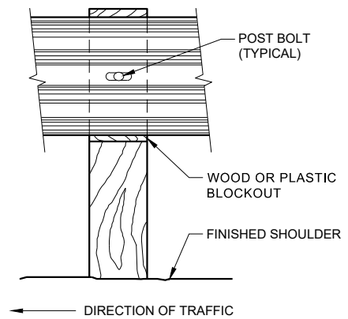
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

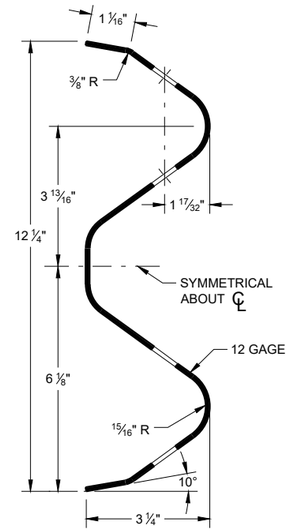
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



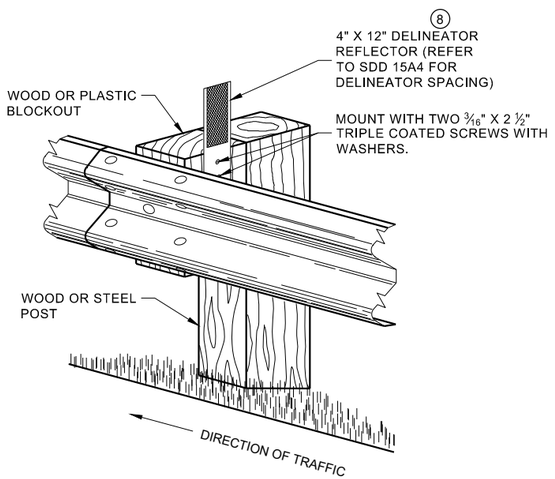
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



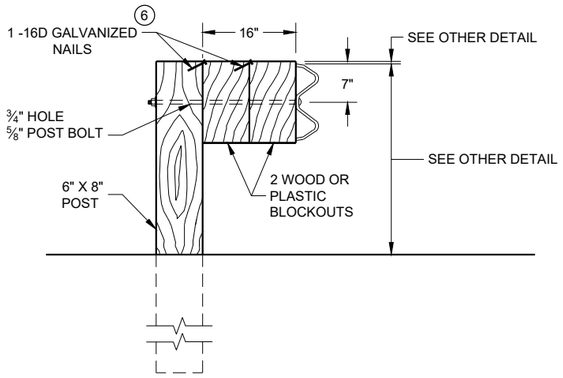
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 06b

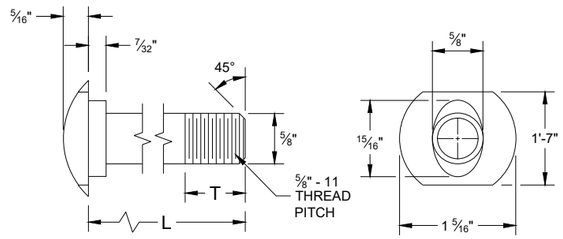


DETAIL FOR 16" BLOCKOUT DEPTH

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.

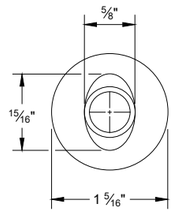
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

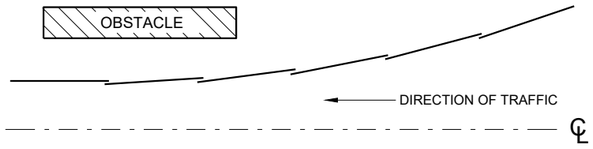


POST BOLT TABLE

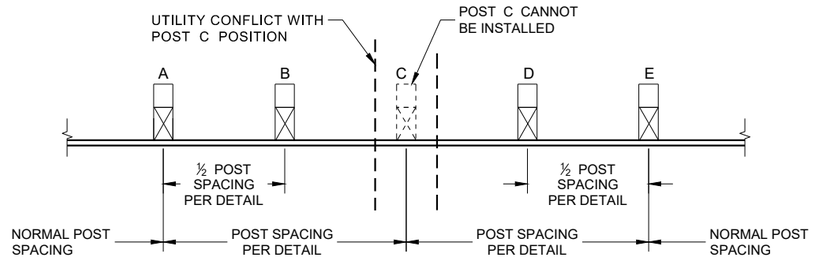
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



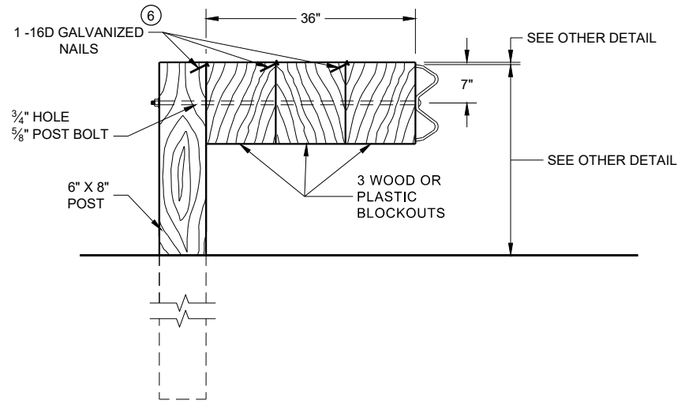
ALTERNATE BOLT HEAD



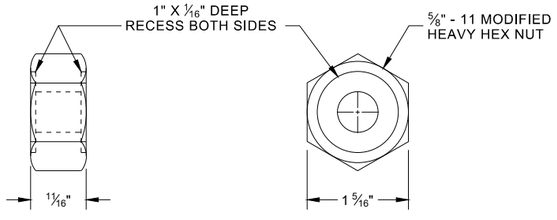
PLAN VIEW
BEAM LAPPING DETAIL



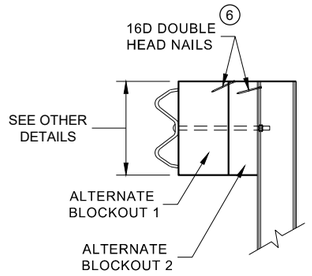
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



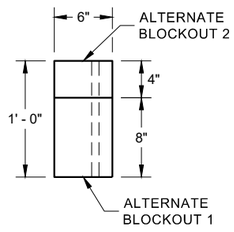
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

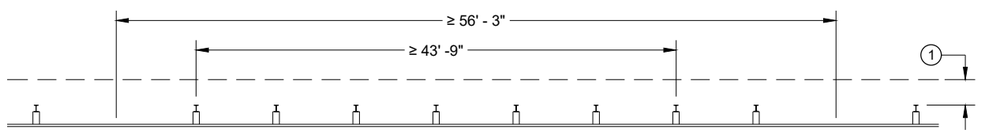
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD 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.

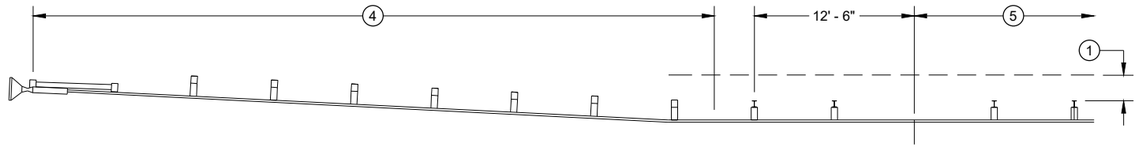
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

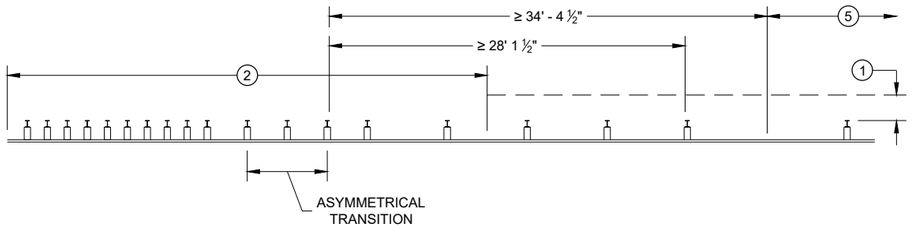
SDD 14B42 - 06c



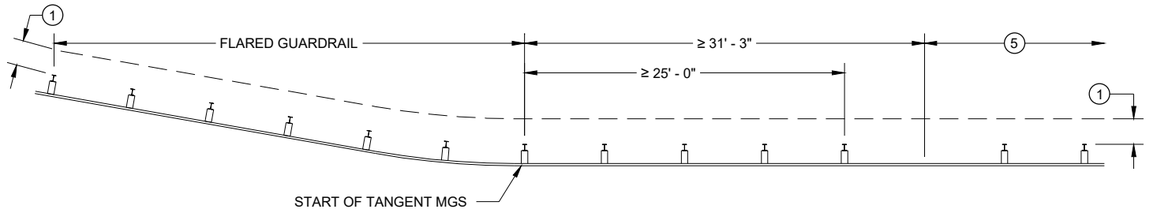
MISSING POST IN NORMAL BEAM GUARD RUN



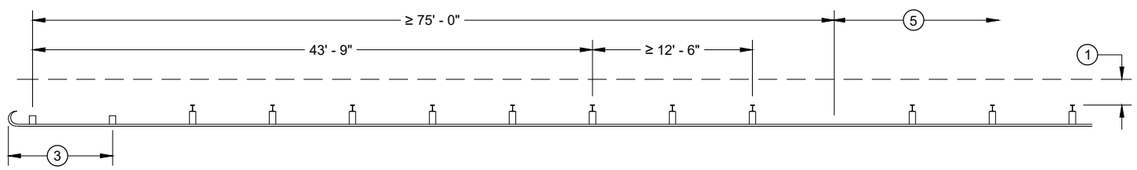
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



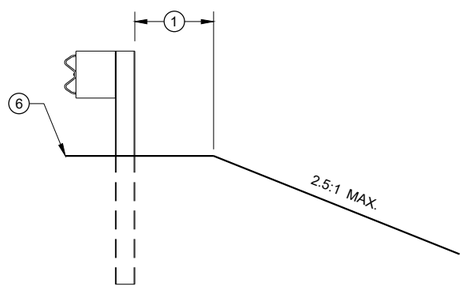
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

SDD 14B42 - 06d

SDD 14B42 - 06d

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

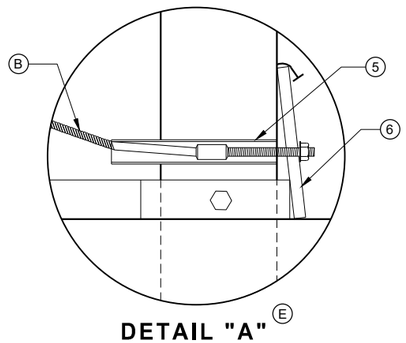
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

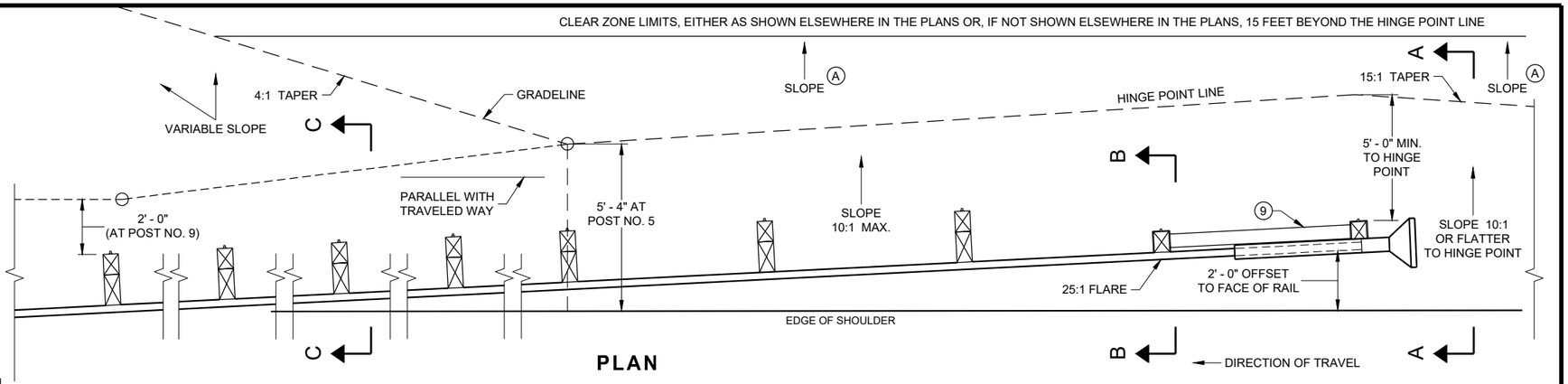
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

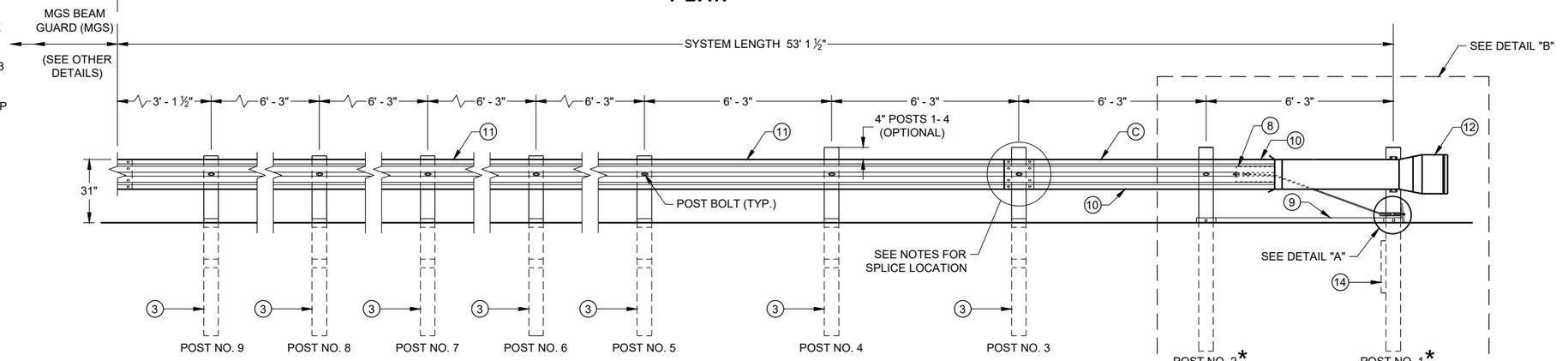
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



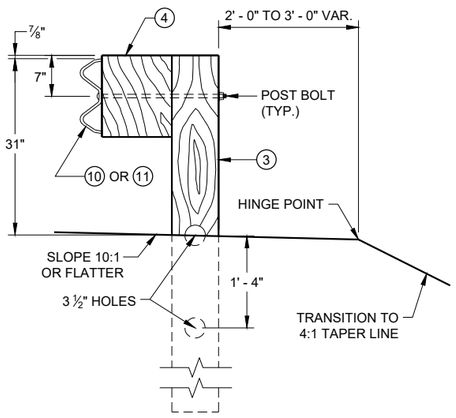
DETAIL "A" (E)



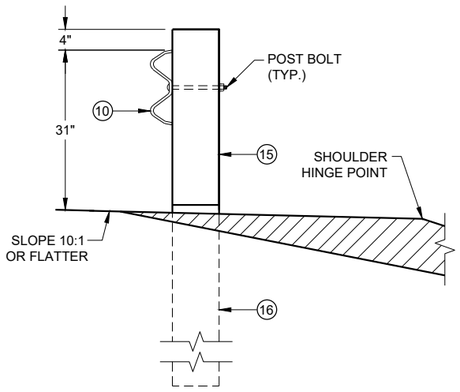
PLAN



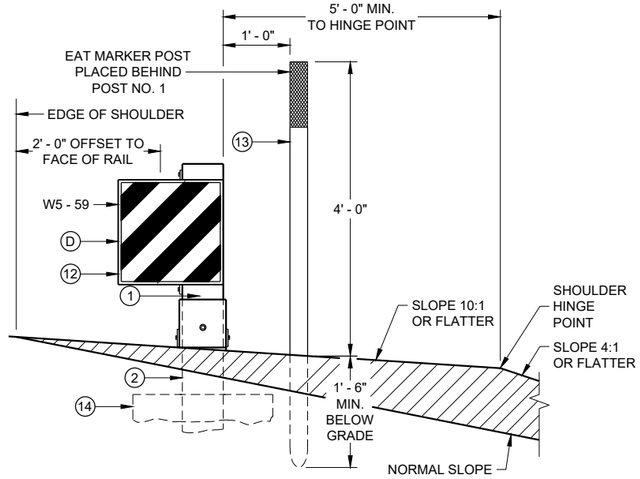
ELEVATION



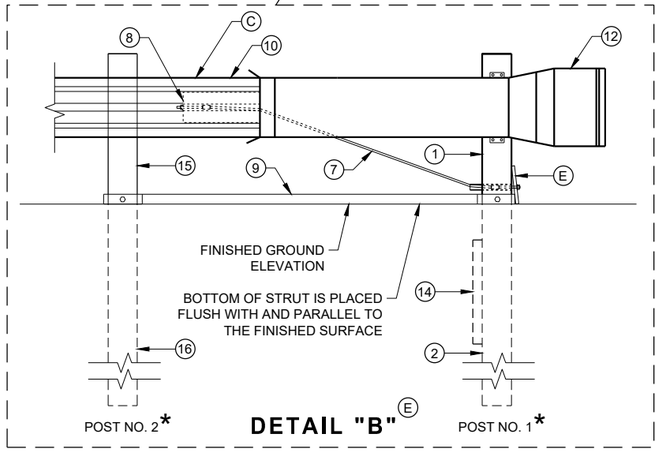
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



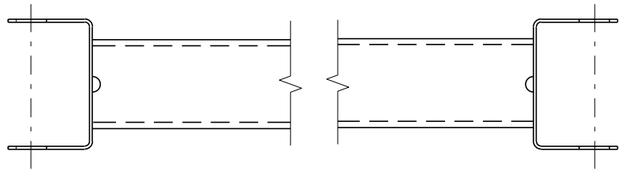
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

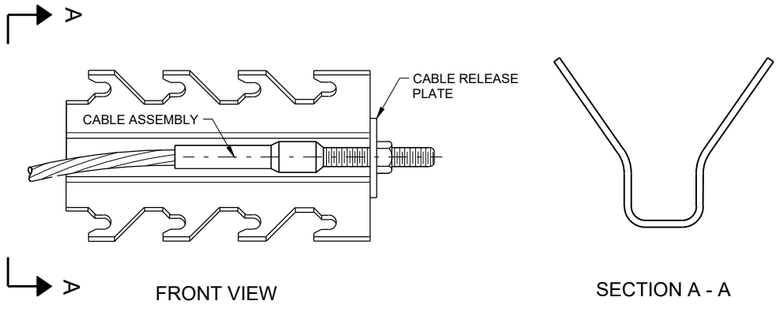
SDD 14B44 - 04a



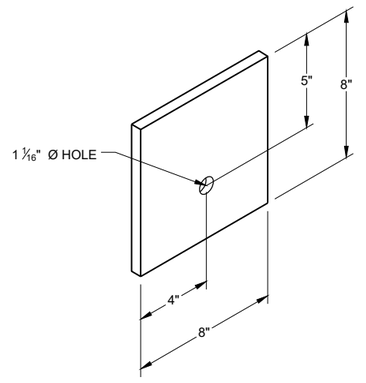
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

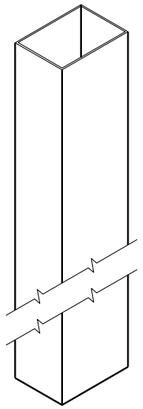
6

SDD 14B44 - 04b

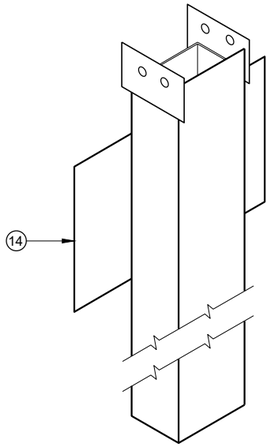
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

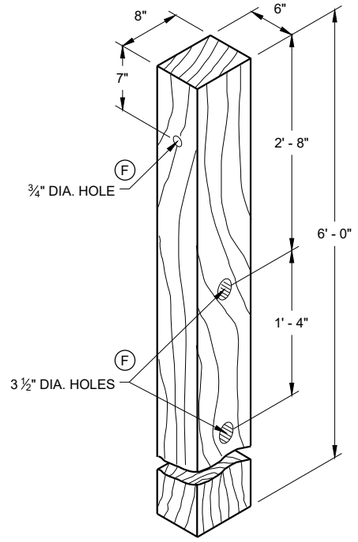
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



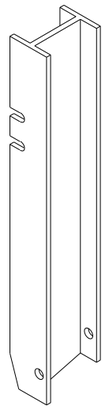
UPPER POST NO. 1 (1) (E)



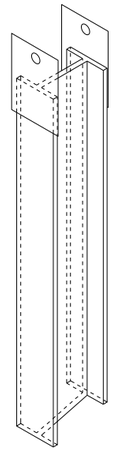
LOWER POST NO. 1 (2) (E)



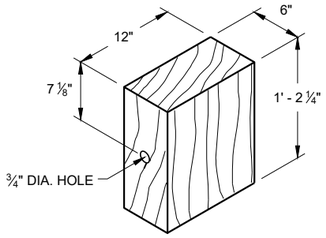
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



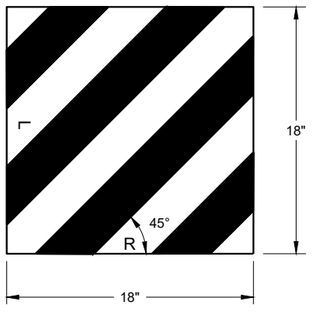
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

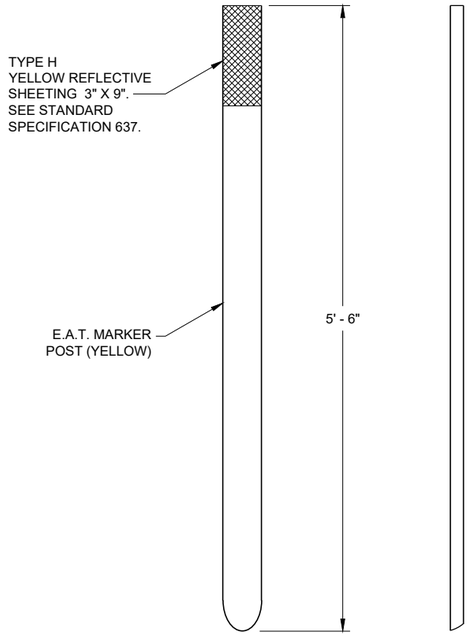


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



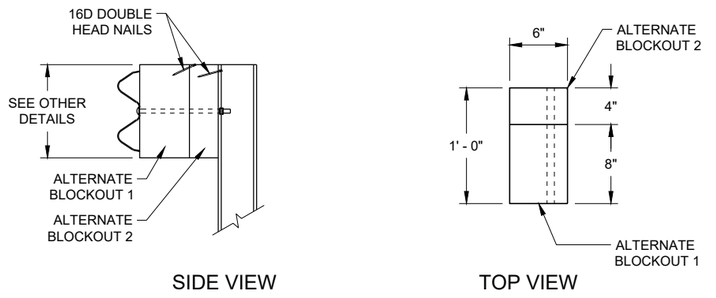
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

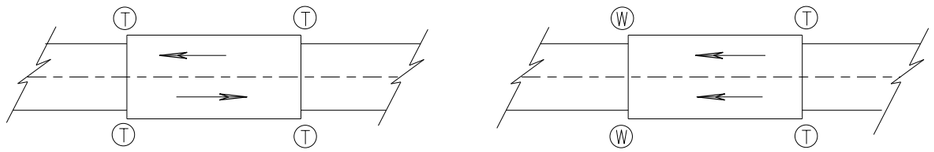
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



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

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.

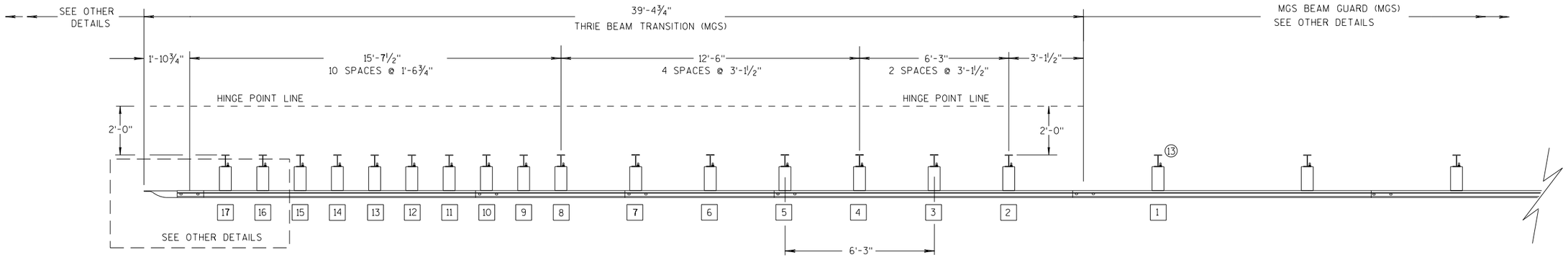
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

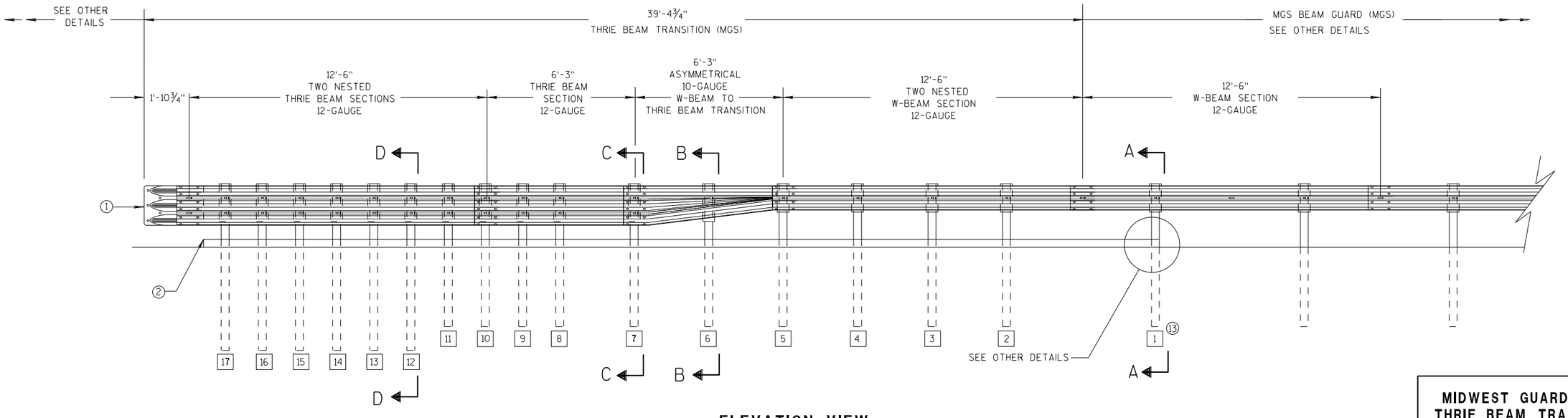
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



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 45-5a

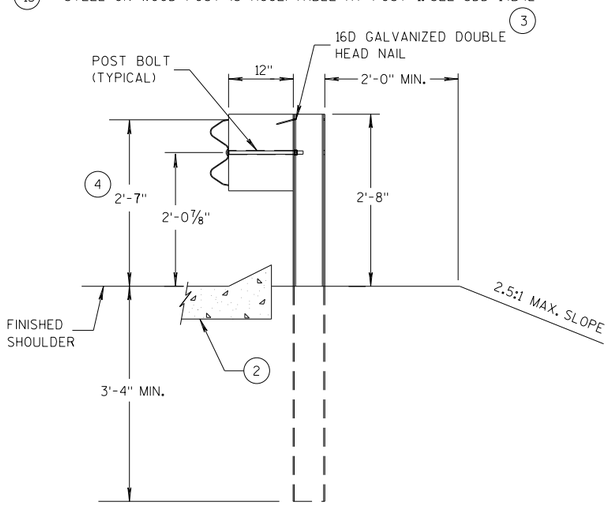
GENERAL NOTES

(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.

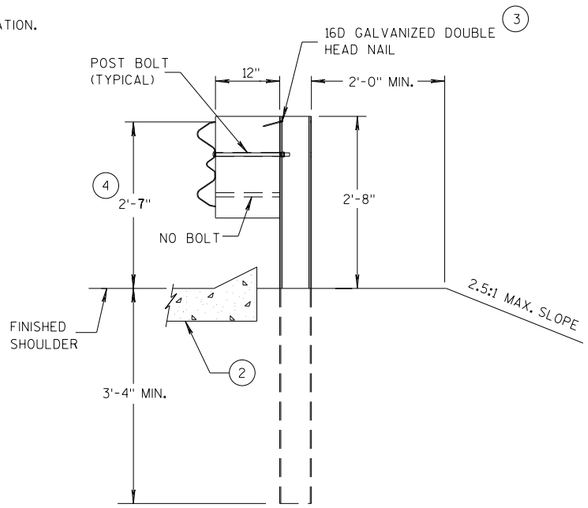
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



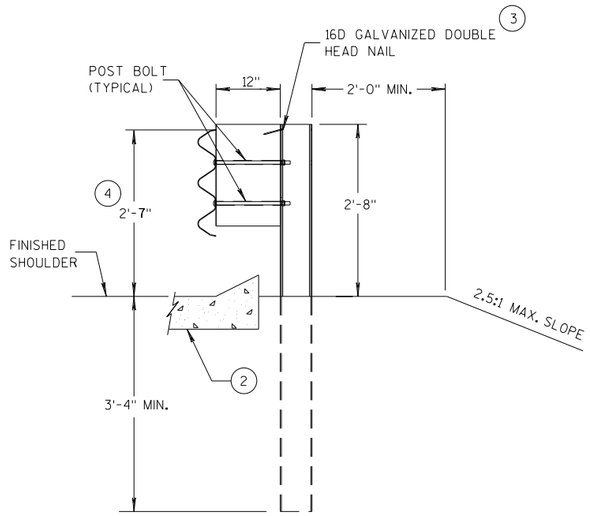
SECTION A-A (13)

POSTS 1-5



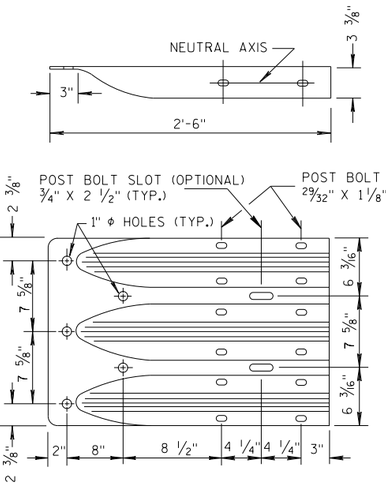
SECTION B-B

POST 6

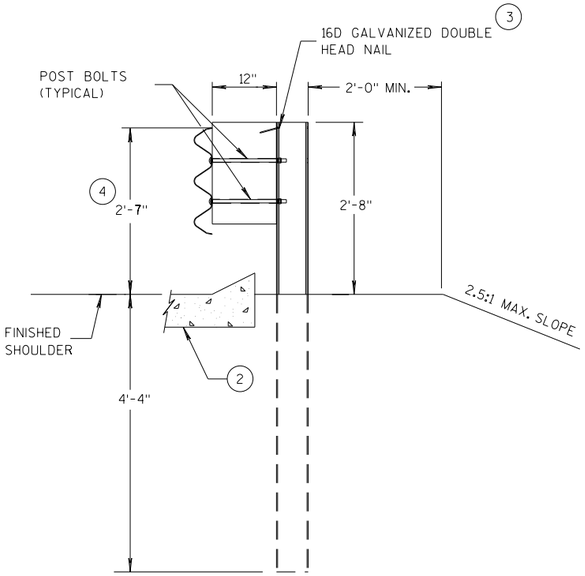


SECTION C-C

POSTS 7-11

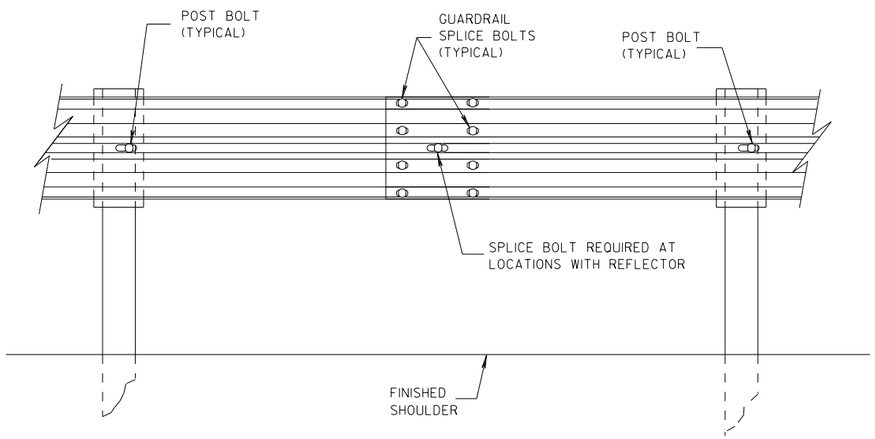


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

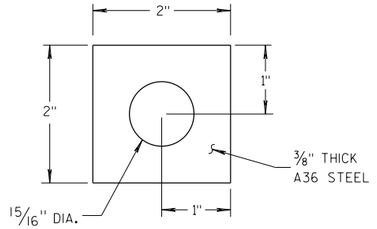
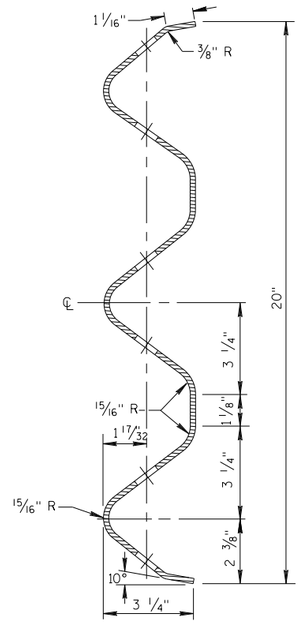


PLATE WASHER DETAIL



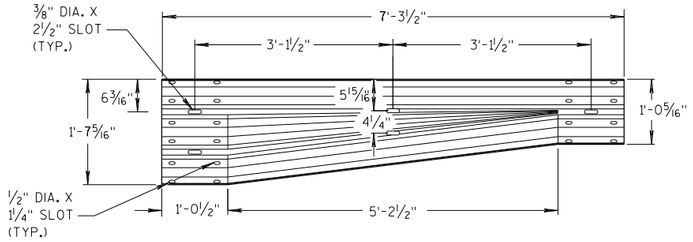
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

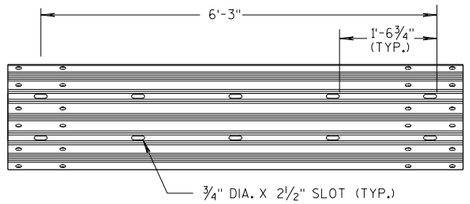
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

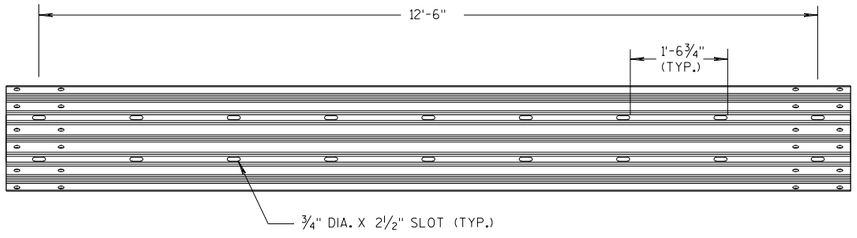
S.D.D. 14 B 45-5b



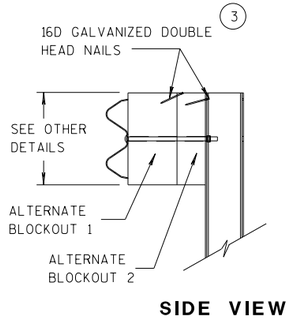
W-BEAM TO THRIE BEAM TRANSITION SECTION



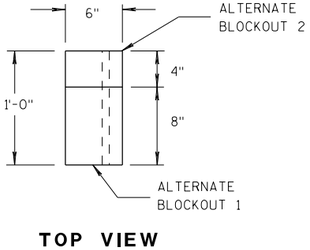
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

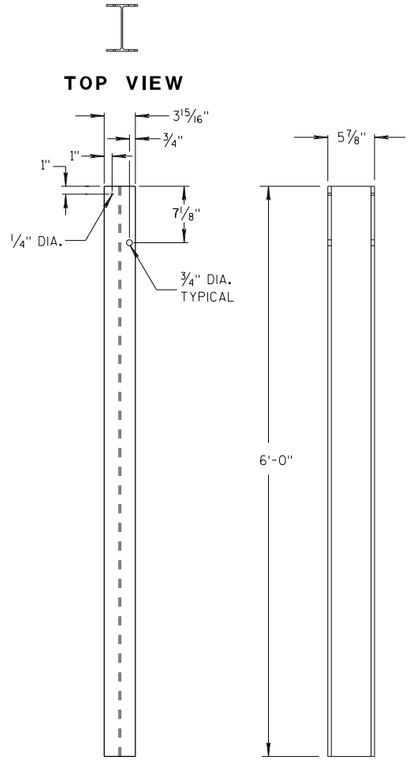


SIDE VIEW



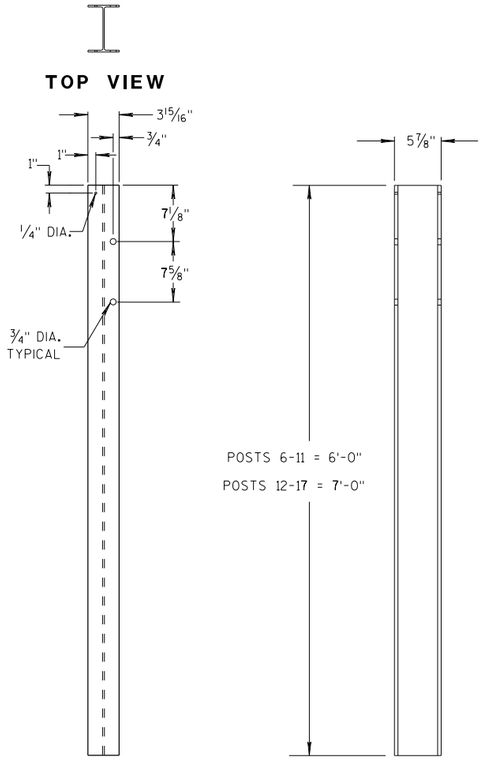
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



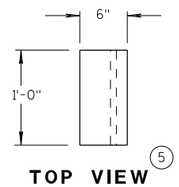
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

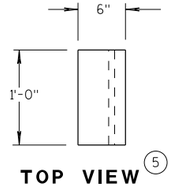


FRONT VIEW SIDE VIEW

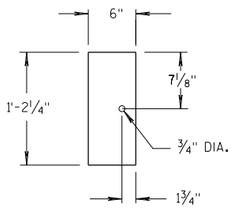
STEEL POSTS 6-17



TOP VIEW (5)

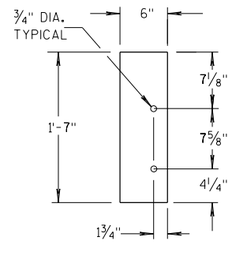


TOP VIEW (5)



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.

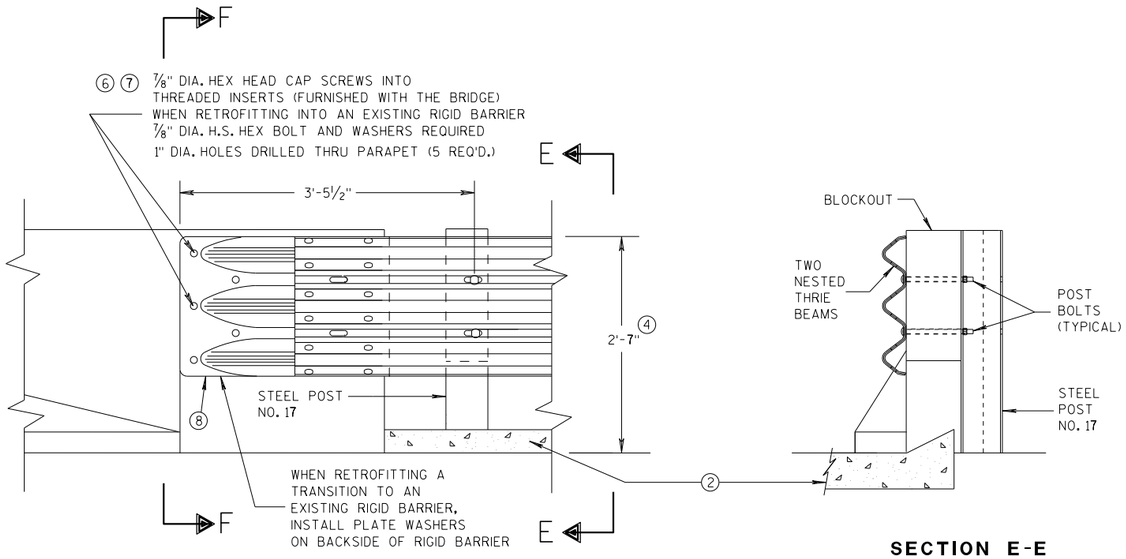
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6
S.D.D. 14 B 45-5c



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.

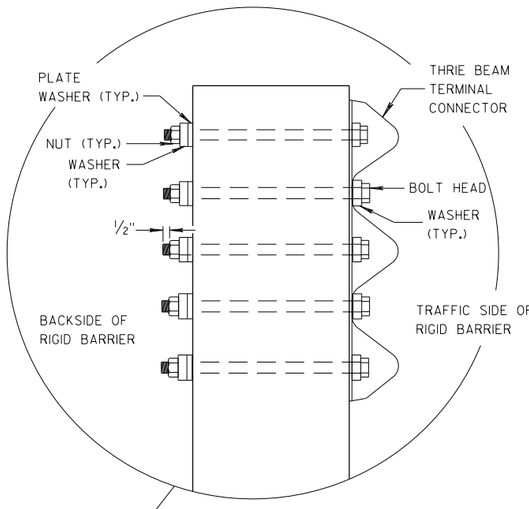
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

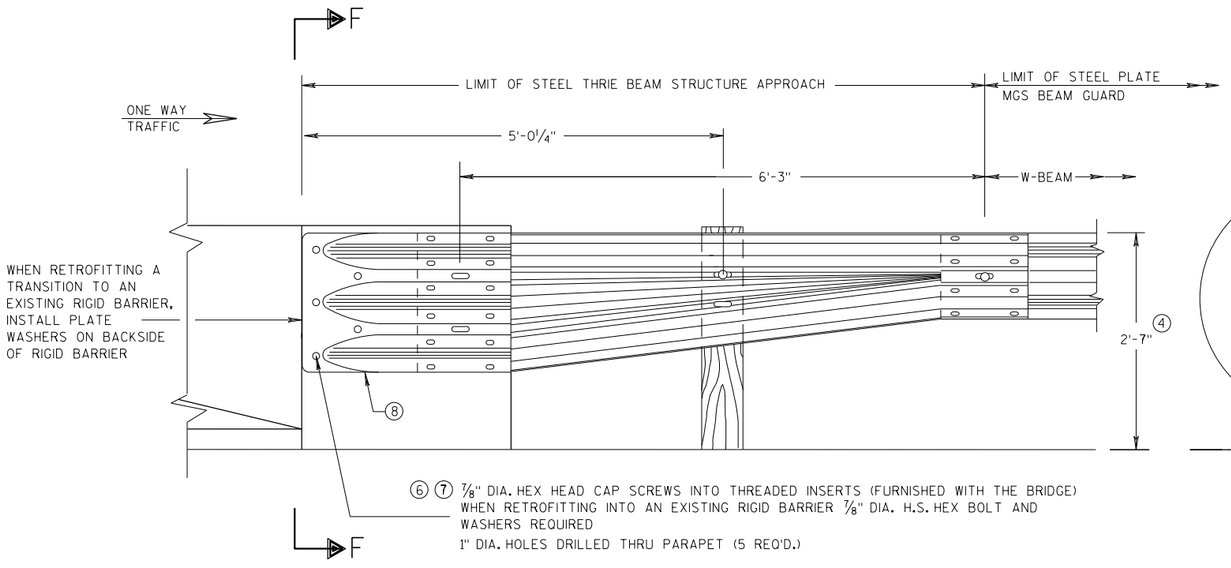
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

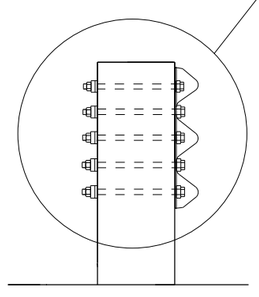
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" 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".

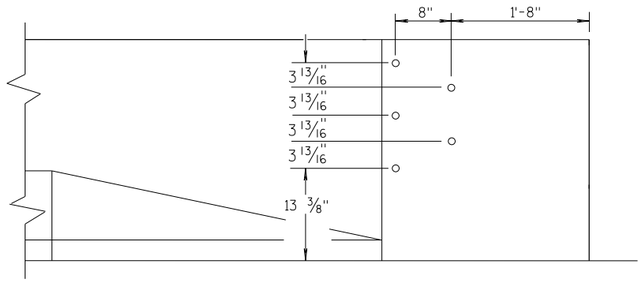




FRONT VIEW



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
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

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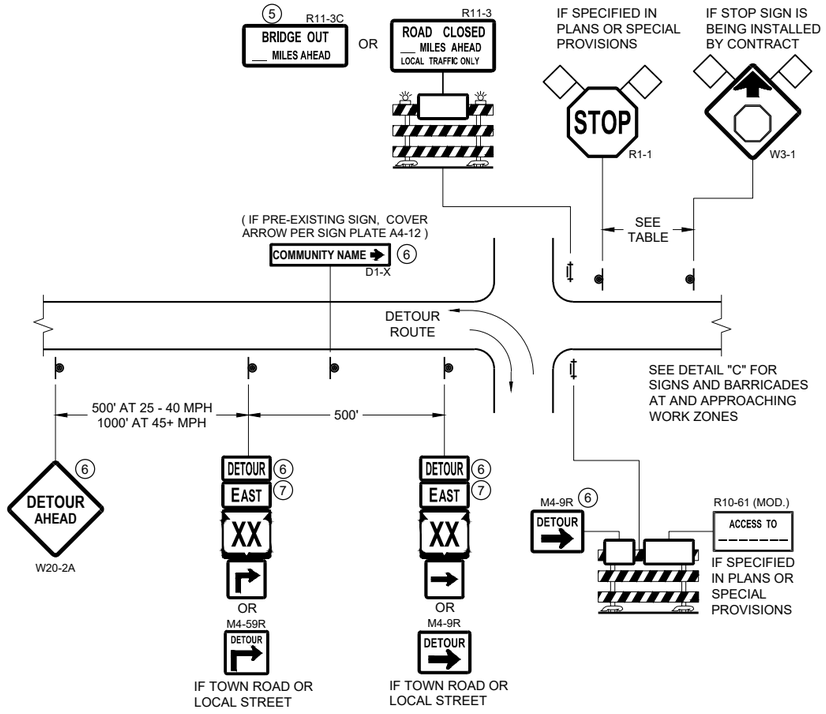
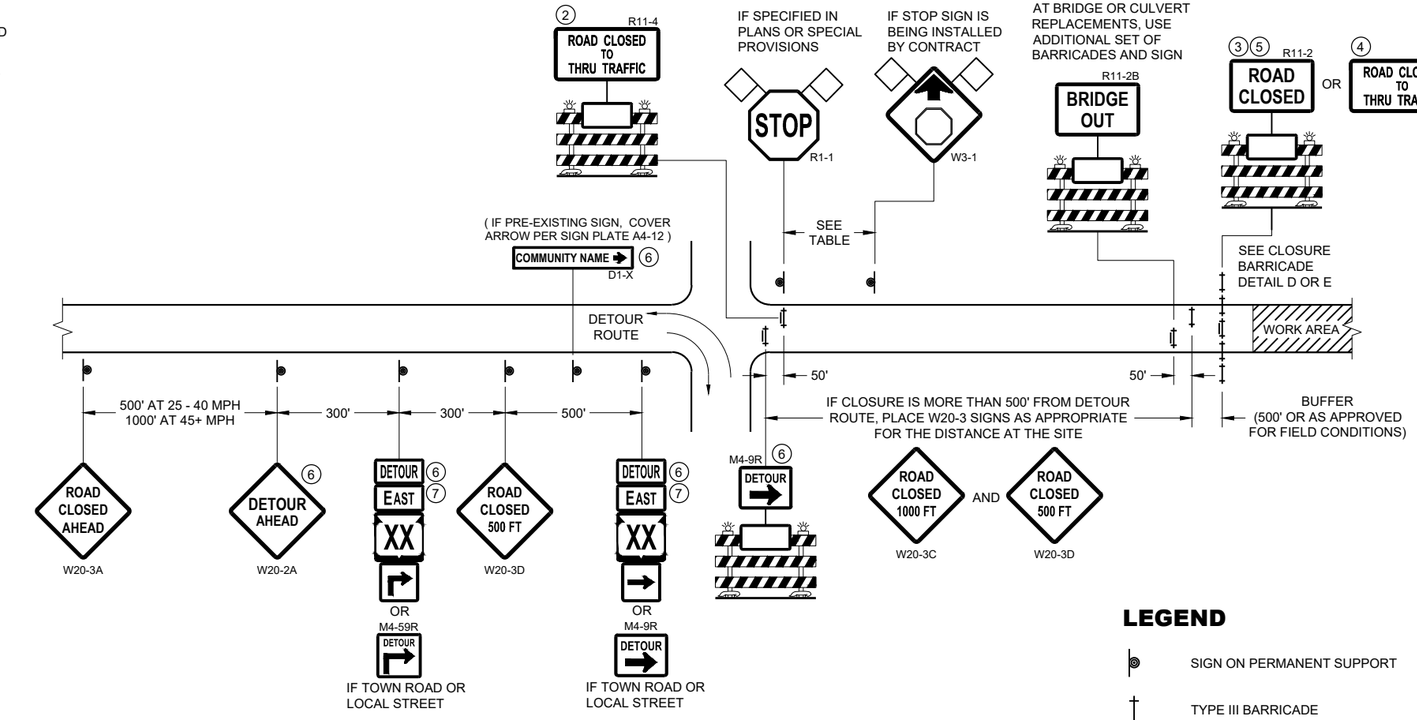
S.D.D. 14 B 45-5d



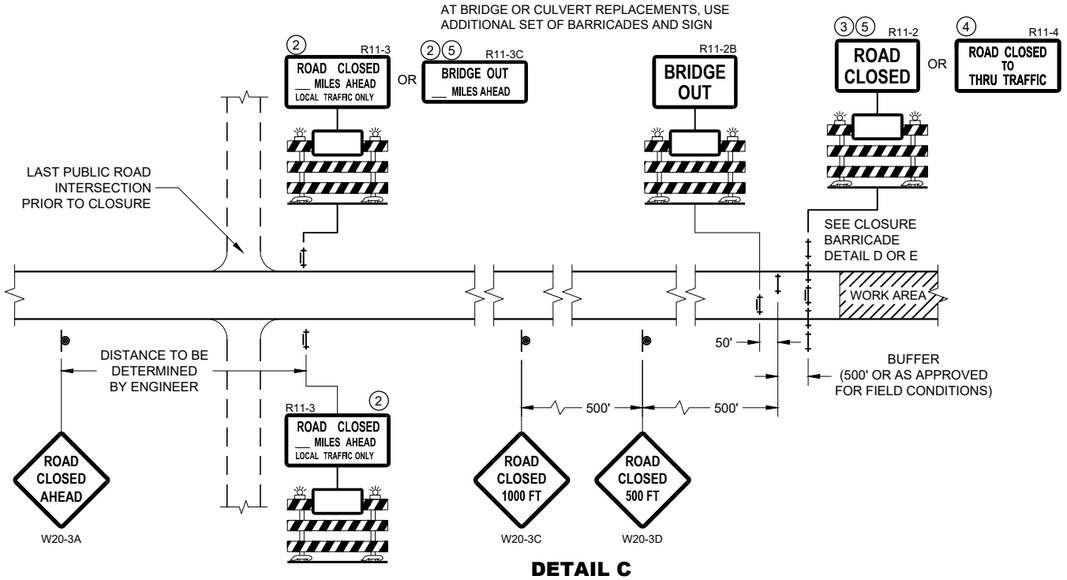
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

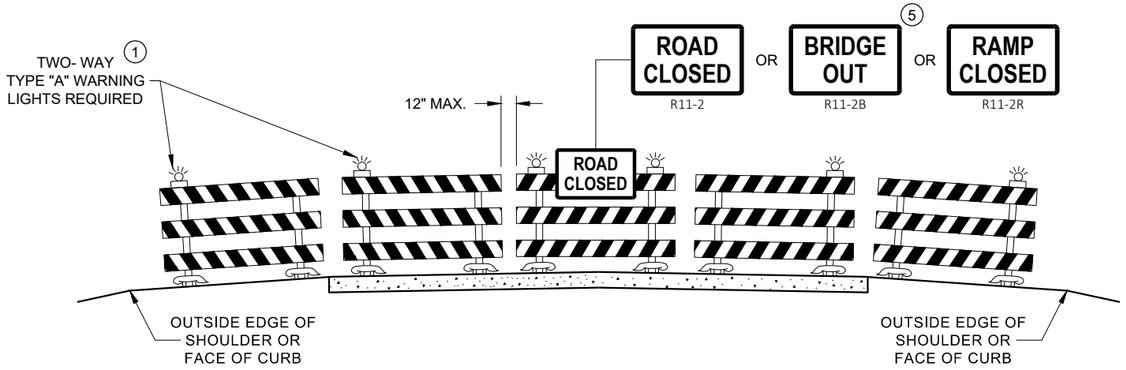
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

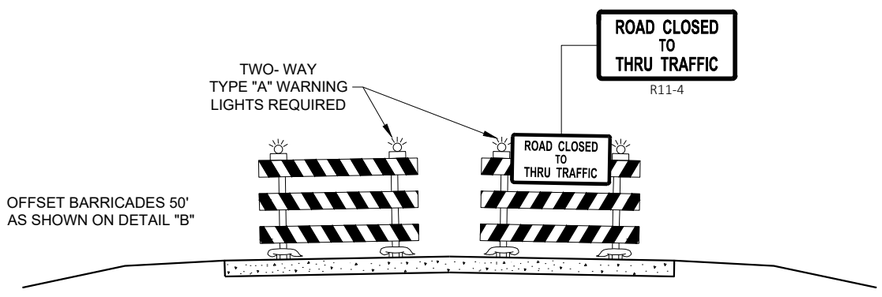
6

SDD 15C02 - 08a

SDD 15C02 - 08a



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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

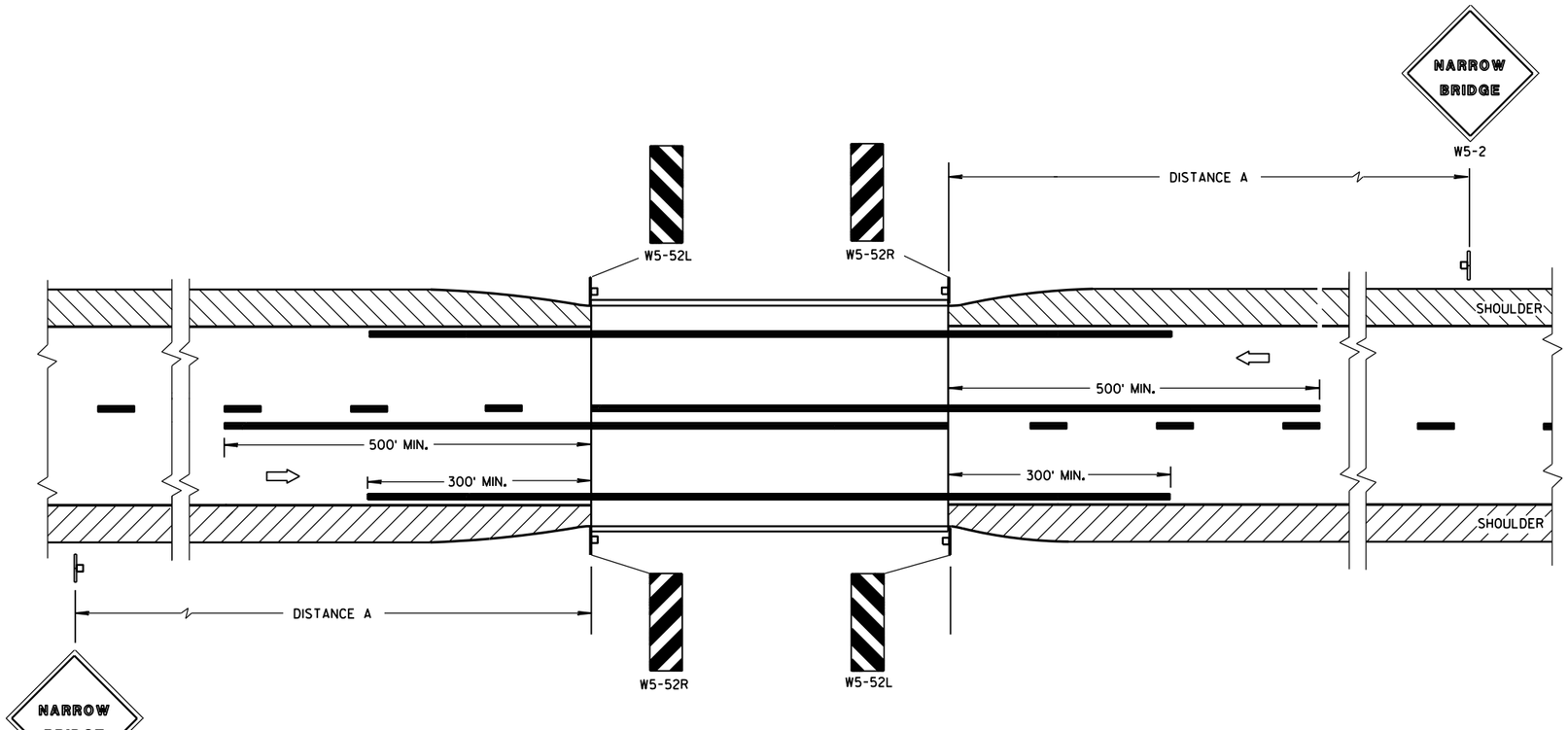
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

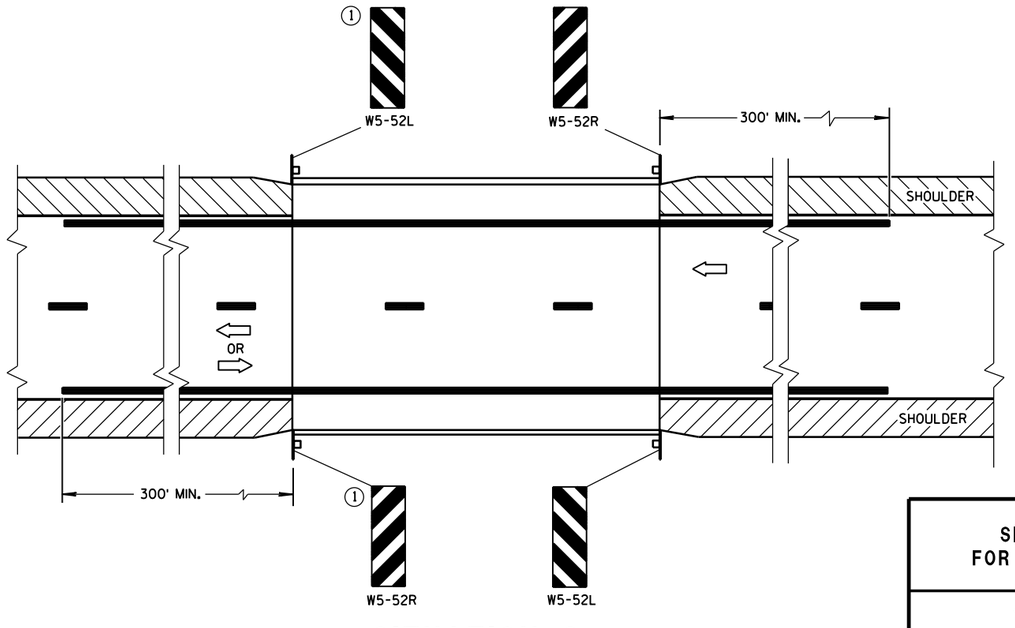
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

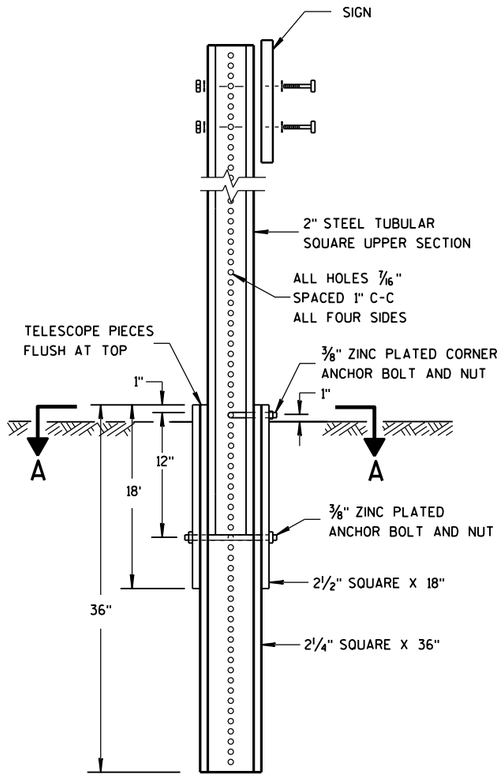
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

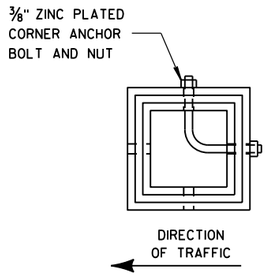
S.D.D. 15 C 6-9

6

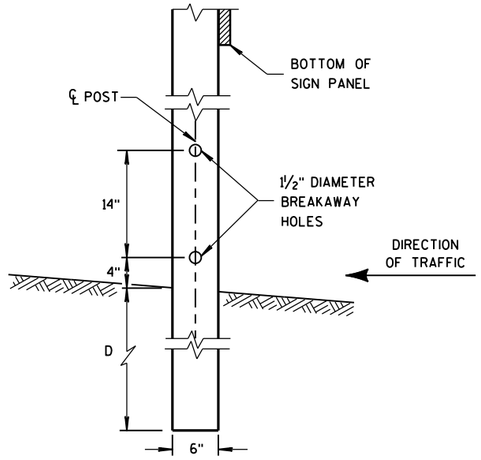
S.D.D. 15 C 6-9



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



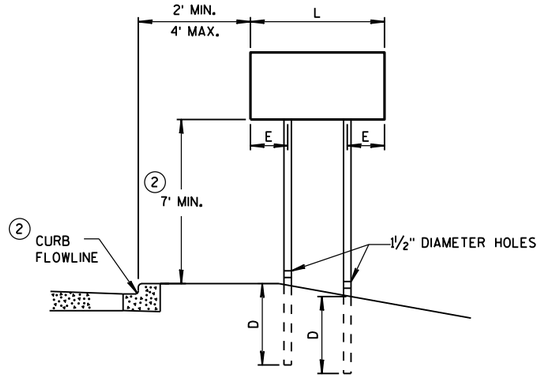
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

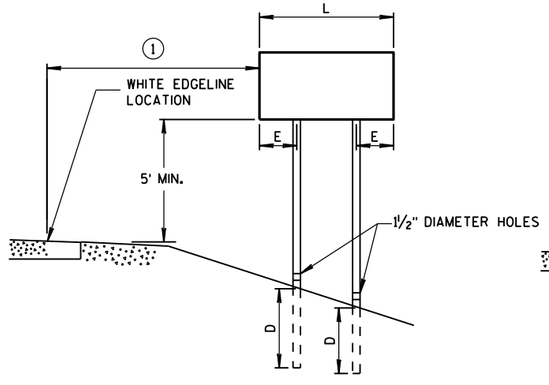
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

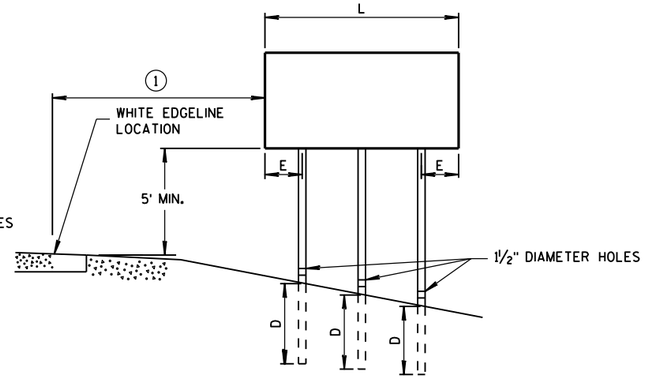
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

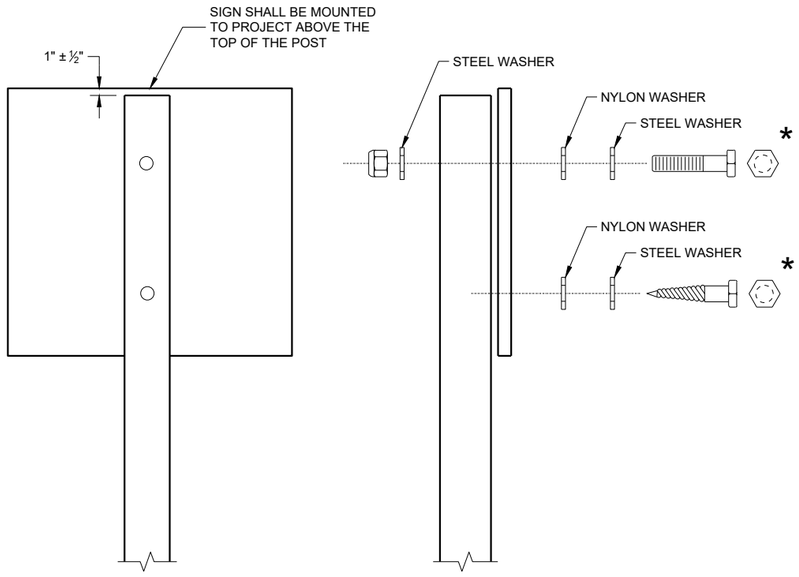
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 D 38-2a



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

SDD 15D38 - 02b

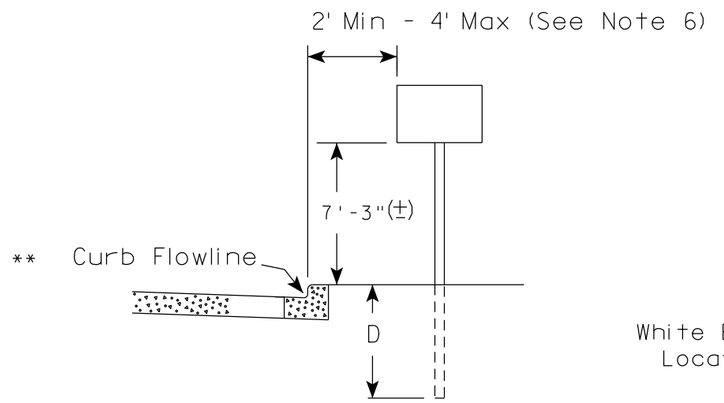
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

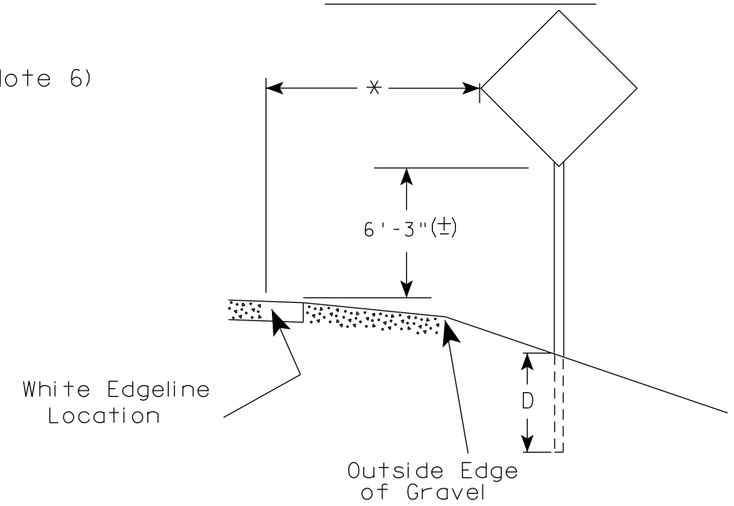
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

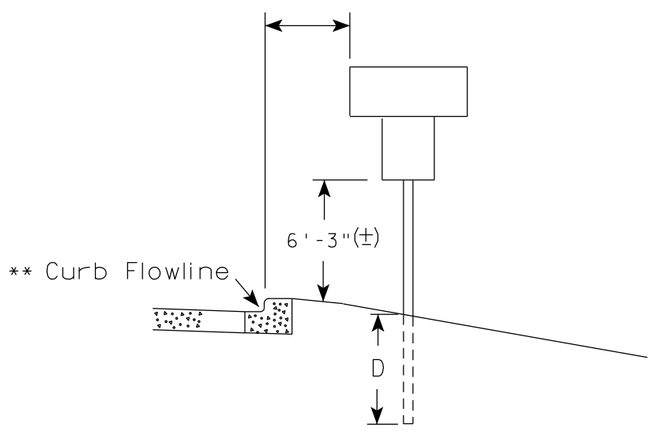
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

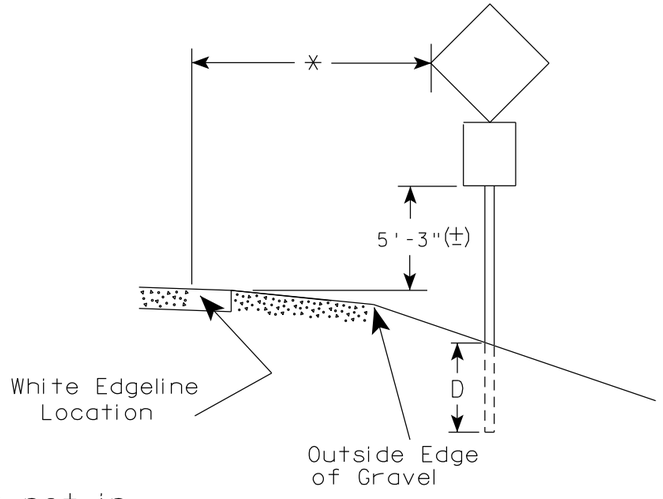
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

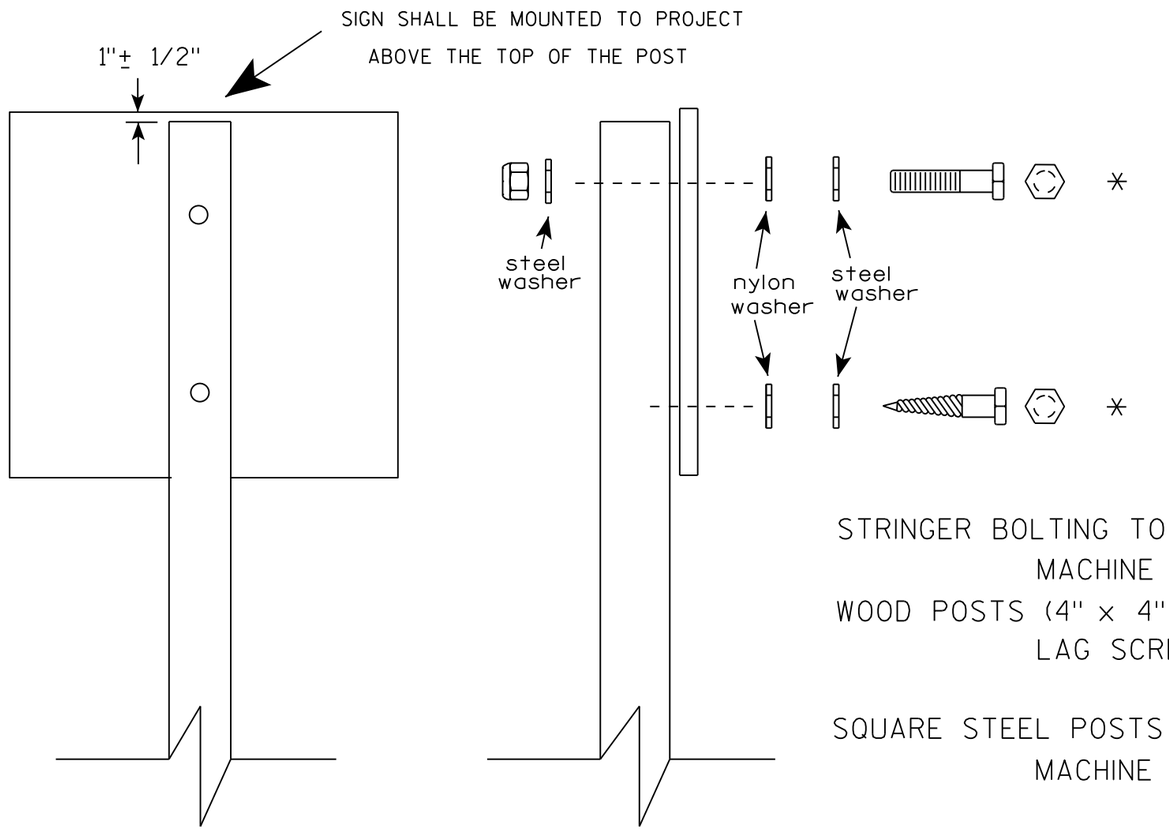
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK		SHEET NO: 43	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

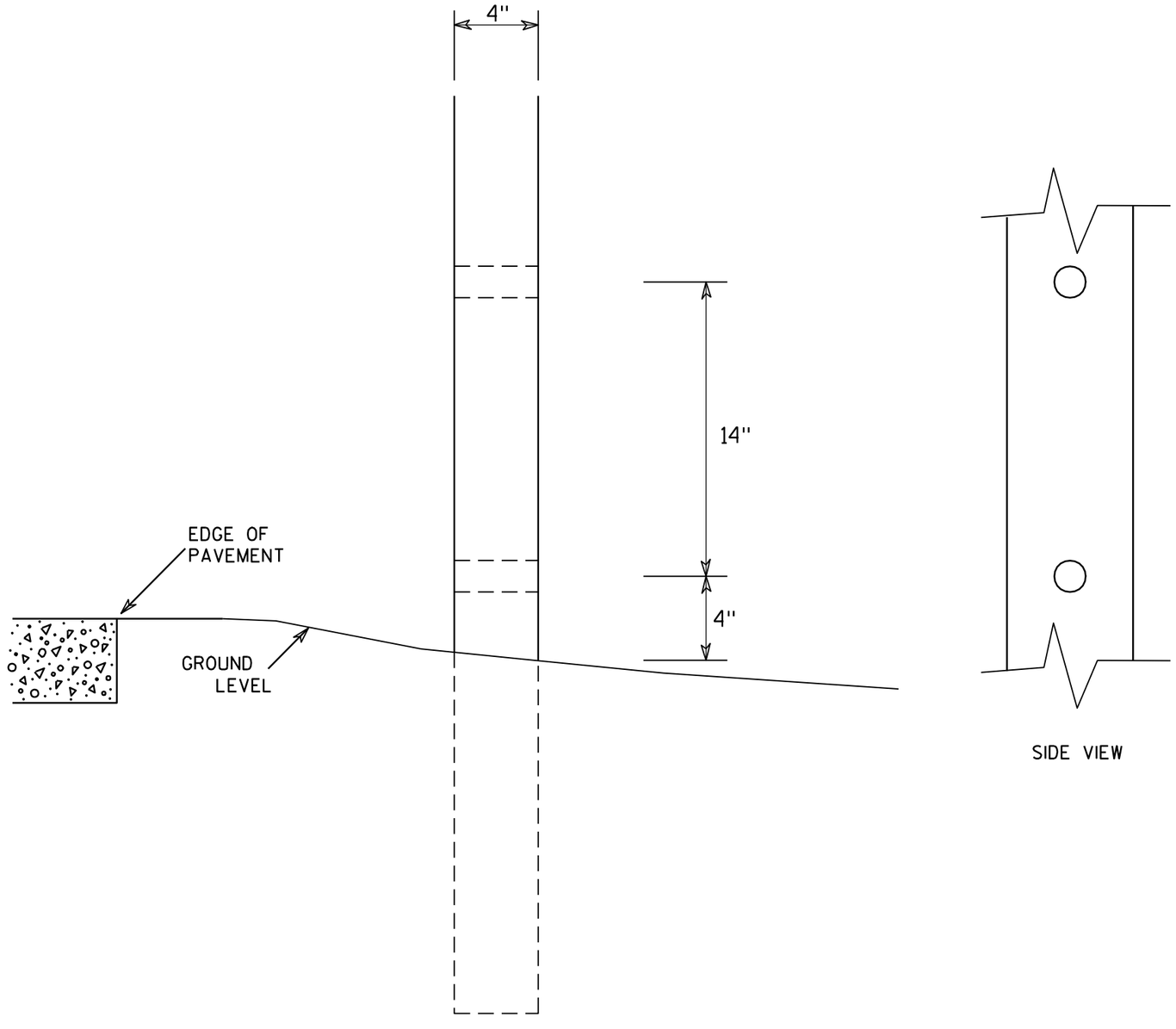
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

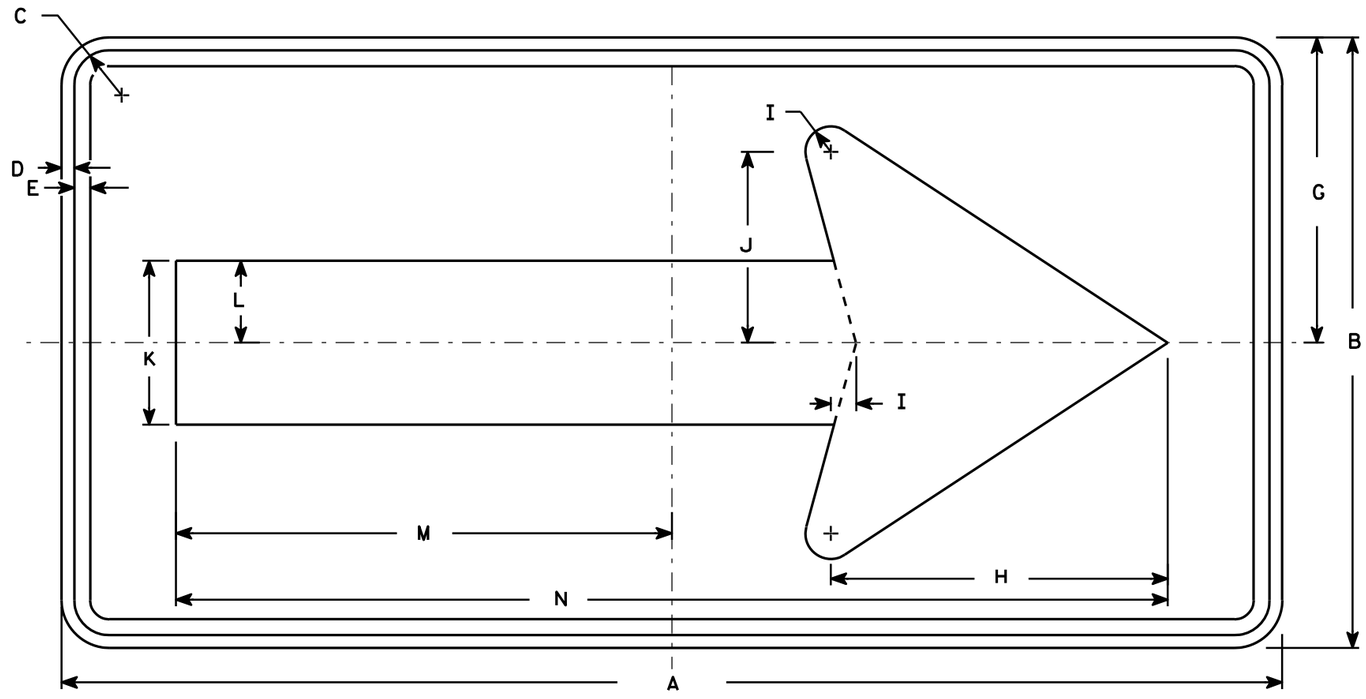
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK		SHEET NO: 45	E



W1-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

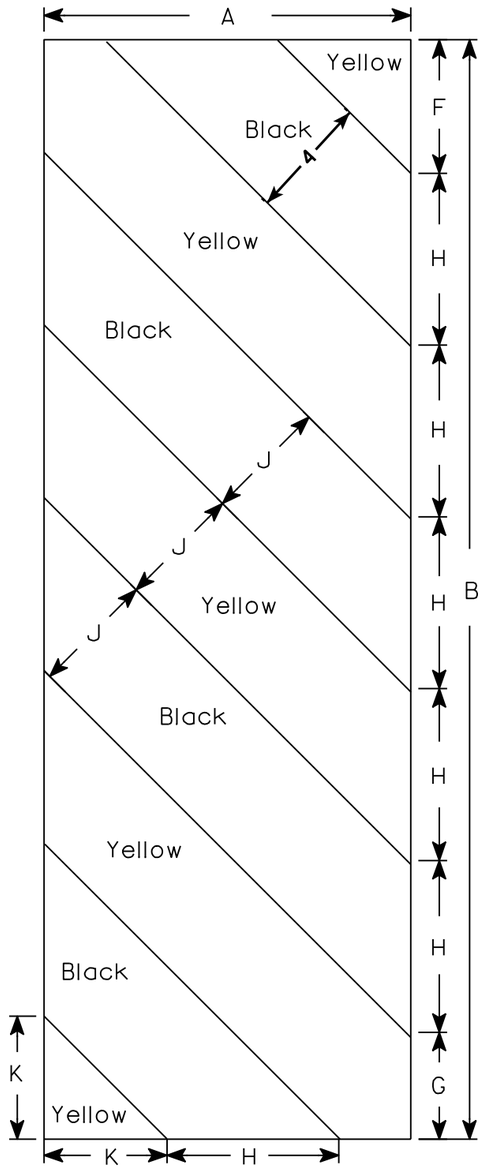
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

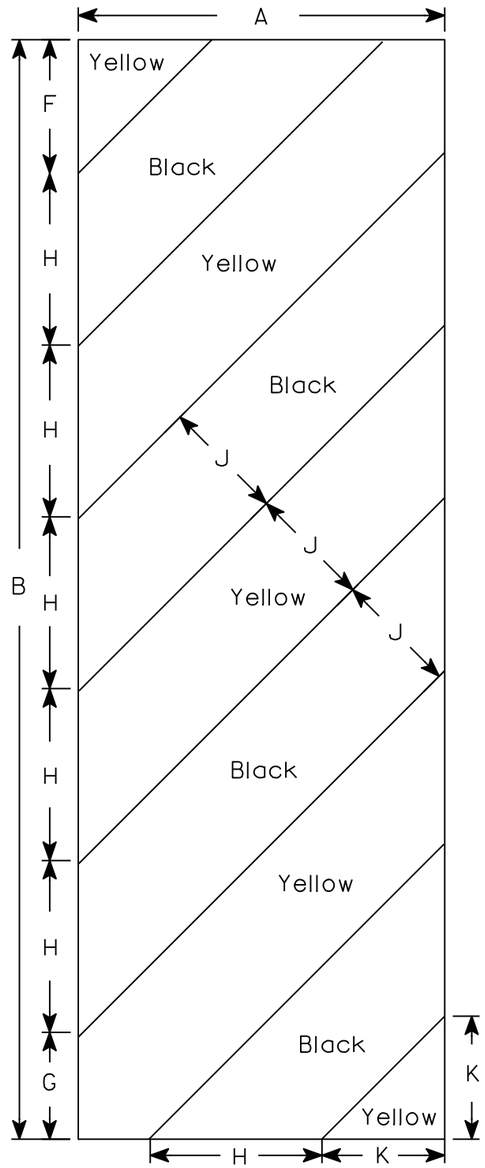
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: 8405-00-71 | HWY: 30TH STREET | COUNTY: POLK | SHEET NO: 46



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

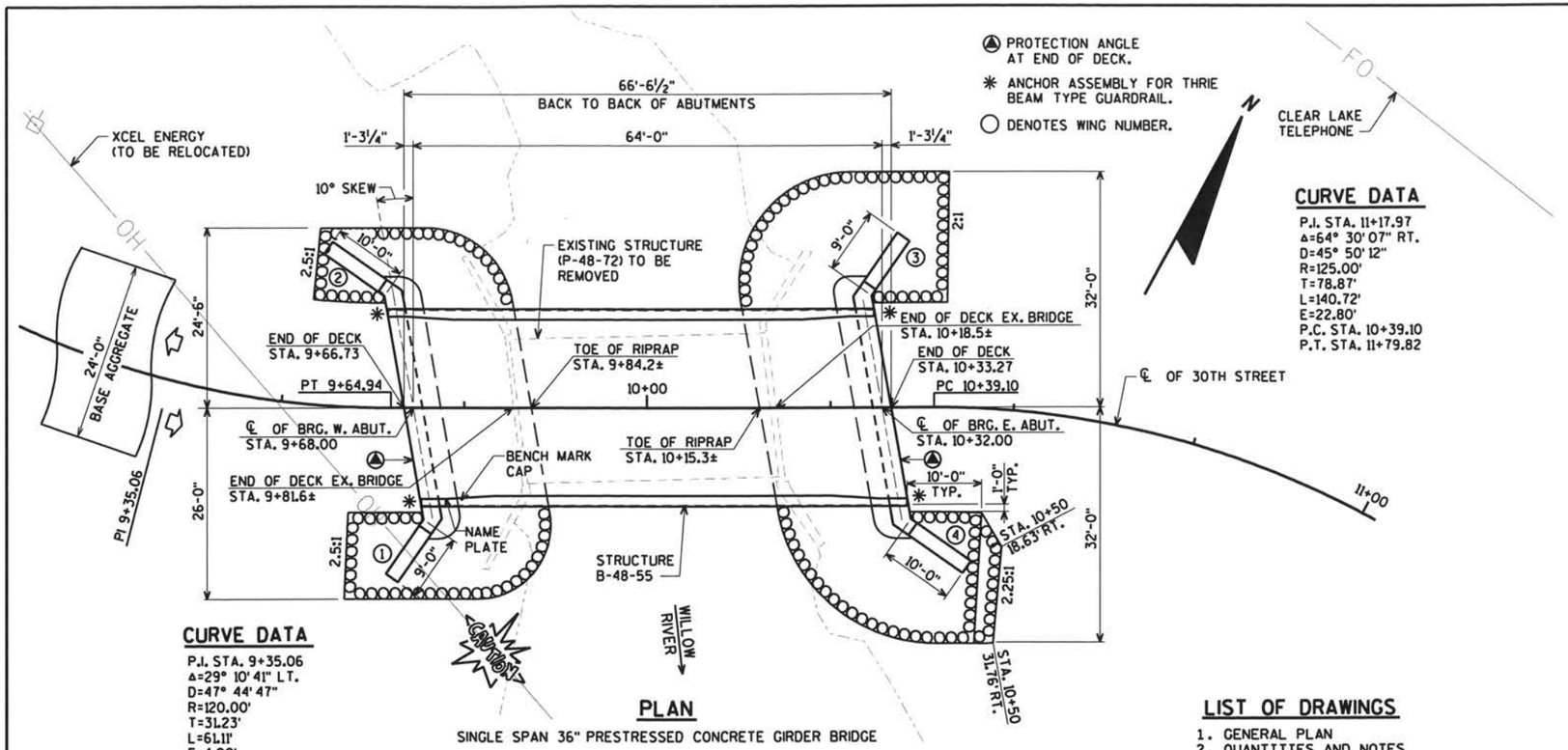
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: 8405-00-71 | HWY: 30TH STREET | COUNTY: POLK | SHEET NO: 47 | E

STATE PROJECT NUMBER

8405-00-71



PLAN

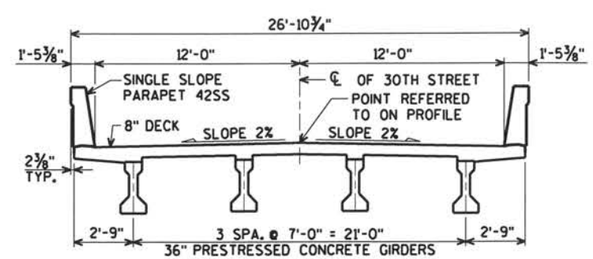
SINGLE SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE

CURVE DATA

P.I. STA. 9+35.06
Δ=29° 10' 41" LT.
D=47° 44' 47"
R=120.00'
T=31.23'
L=61.11'
E=4.00'
P.C. STA. 9+03.83
P.T. STA. 9+64.94

CURVE DATA

P.I. STA. 11+17.97
Δ=64° 30' 07" RT.
D=45° 50' 12"
R=125.00'
T=78.87'
L=140.72'
E=22.80'
P.C. STA. 10+39.10
P.T. STA. 11+79.82



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.18
OPERATING RATING FACTOR: 1.74
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY	SUPERSTRUCTURE f'_c	= 4,000 p.s.i.
	ALL OTHER f'_c	= 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)	f_y	= 60,000 p.s.i.
36" PRESTRESSED GIRDER CONCRETE MASONRY	f'_c	= 8,000 p.s.i.
STRANDS - 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF		= 270,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY	2 YEAR FREQUENCY
Q_{100} = 2,370 c.f.s.	Q_2 = 530 c.f.s.
VEL. = 7.9 f.p.s.	VEL. = 7.7 f.p.s.
HW_{100} = EL. 1138.88	HW_2 = EL. 1134.59

WATERWAY AREA = 298 sq. ft.
DRAINAGE AREA = 10.1 sq. mi.
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

FOUNDATION DATA:

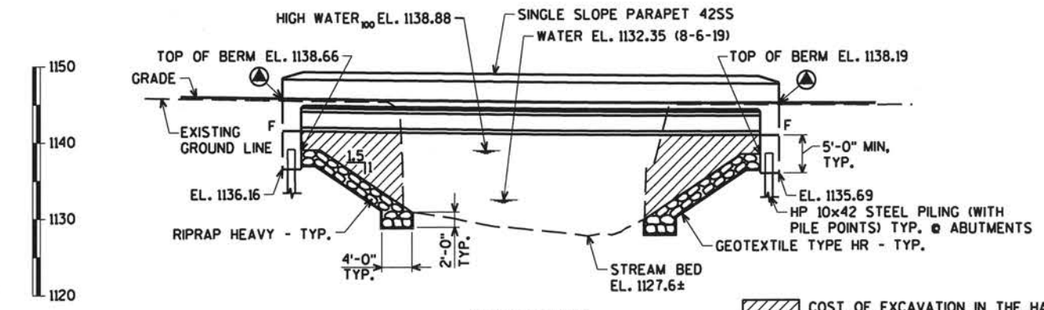
ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 30'-0". PRE-BORE PILES 10'-0" PRIOR TO DRIVING.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.A.D.T. = <100 (2021)
A.A.D.T. = <100 (2041)
R.D.S. = <25 M.P.H.

LIST OF DRAWINGS

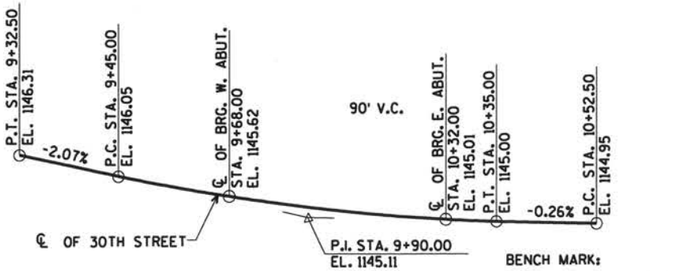


ELEVATION

(NORMAL TO ℄ OF WILLOW RIVER)

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-48-55".

REMOVE EXISTING SUBSTRUCTURE FOOTINGS AS NEEDED. COST CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE ITEM". TYPICAL AT ALL SUBSTRUCTURES.



PROFILE GRADE LINE

(30TH STREET)

BENCH MARK:
PK NAIL IN WINGWALL
STA. 9+81.3±, 10.5' LT.
EL. 1144.01

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER

8/31/2020

BRIDGE OFFICE CONTACT:
AARON BONK
(608)-261-0261

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/30/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-48-55

30TH STREET OVER WILLOW RIVER

COUNTY POLK | TOWN/~~CITY/VILLAGE~~ CLEAR LAKE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ZSS	AEB	ZSS/CLP	JNS

GENERAL PLAN

SHEET 1 OF 18
48

DATE:

8/31/2020
PENTABLE:BReau_shd_util.tbl

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

8

I:\42\42-1182.00 - Polk Co Tp Clear Lake 30th Street over Willow River\Structure\Final\421182_gp.dgn

STATE PROJECT NUMBER

8405-00-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-48-55	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	215	215	-----	430
502.0100	CONCRETE MASONRY BRIDGES	CY	29	29	83	141
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	180	180
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	65	65
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	-----	-----	260	260
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,030	2,030	-----	4,060
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,590	1,580	15,640	18,810
506.0105	STRUCTURAL STEEL CARBON	LB	-----	-----	480	480
506.2605	BEARING PADS ELASOMERIC NON-LAMINATED	EACH	-----	-----	8	8
506.4000	STEEL DIAPHRAGMS B-48-55	EACH	-----	-----	3	3
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	-----	12
550.0020	PRE-BORING ROCK ON OTHER CONSOLIDATED MATERIALS	LF	70	70	-----	140
550.0500	PILE POINTS	EACH	7	7	-----	14
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	210	210	-----	420
606.0300	RIPRAP HEAVY	CY	90	125	-----	215
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	-----	150
614.0150	ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD	EACH	-----	-----	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	50	-----	100
645.0120	GEOTEXTILE TYPE HR	SY	160	225	-----	385
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"
	NAME PLATE					

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-48-55" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STRUCTURE, P-48-72, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE, 36.8 FT. LONG WITH A 19.7 FT. CLEAR ROADWAY WIDTH.

AT BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

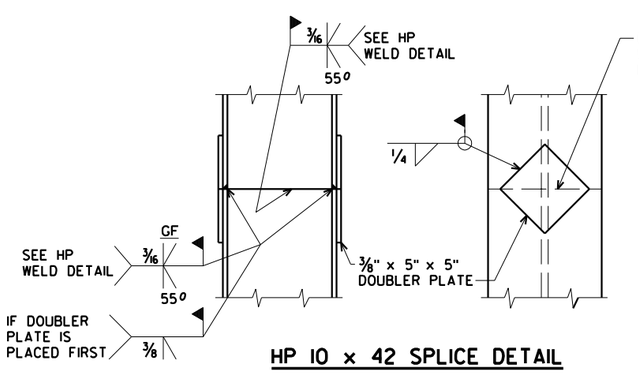
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

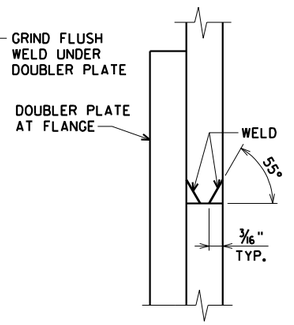
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. REMOVE EXISTING SUSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE" BID ITEM.

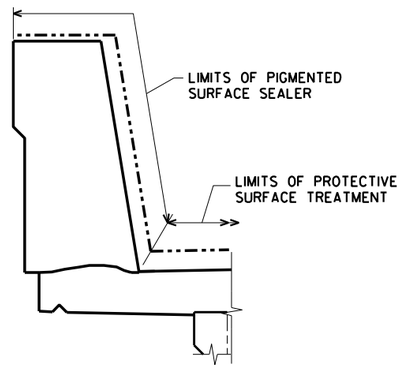


HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY ZSS | PLANS CK'D. CJM

ORIGINAL PLANS PREPARED BY

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

QUANTITIES AND NOTES

SHEET 2 OF 18

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8/31/2020
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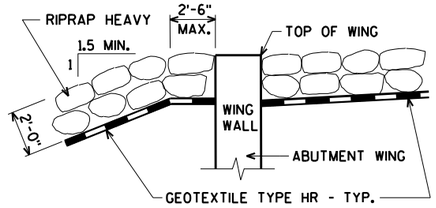
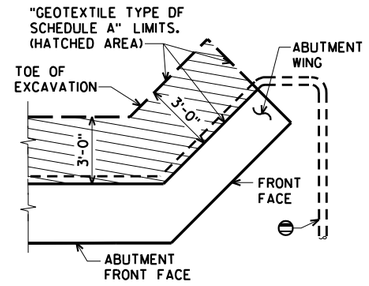
I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 ty qn.dgn

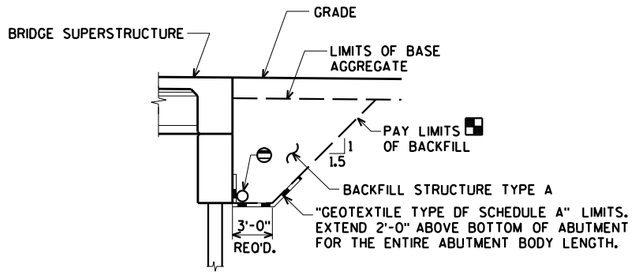
NOTE: PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET



TYPICAL FILL SECTION AT WING TIPS



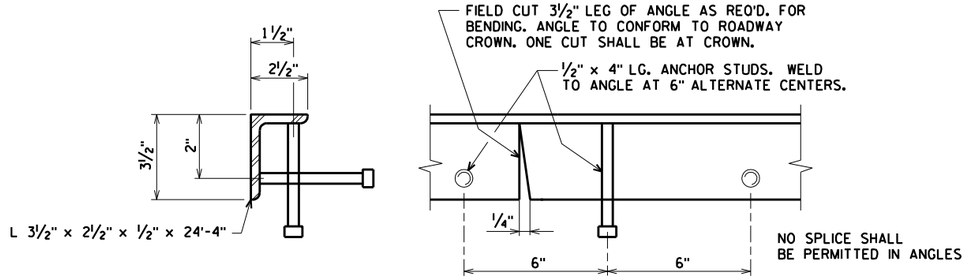
BACKFILL STRUCTURE LIMITS ABUTMENT PLAN WITH WING



BACKFILL STRUCTURE LIMITS

▪ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7.



⚠ PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)

SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

STRUCTURE DETAILS

SHEET 3 OF 18
50

ORIGINAL PLANS PREPARED BY
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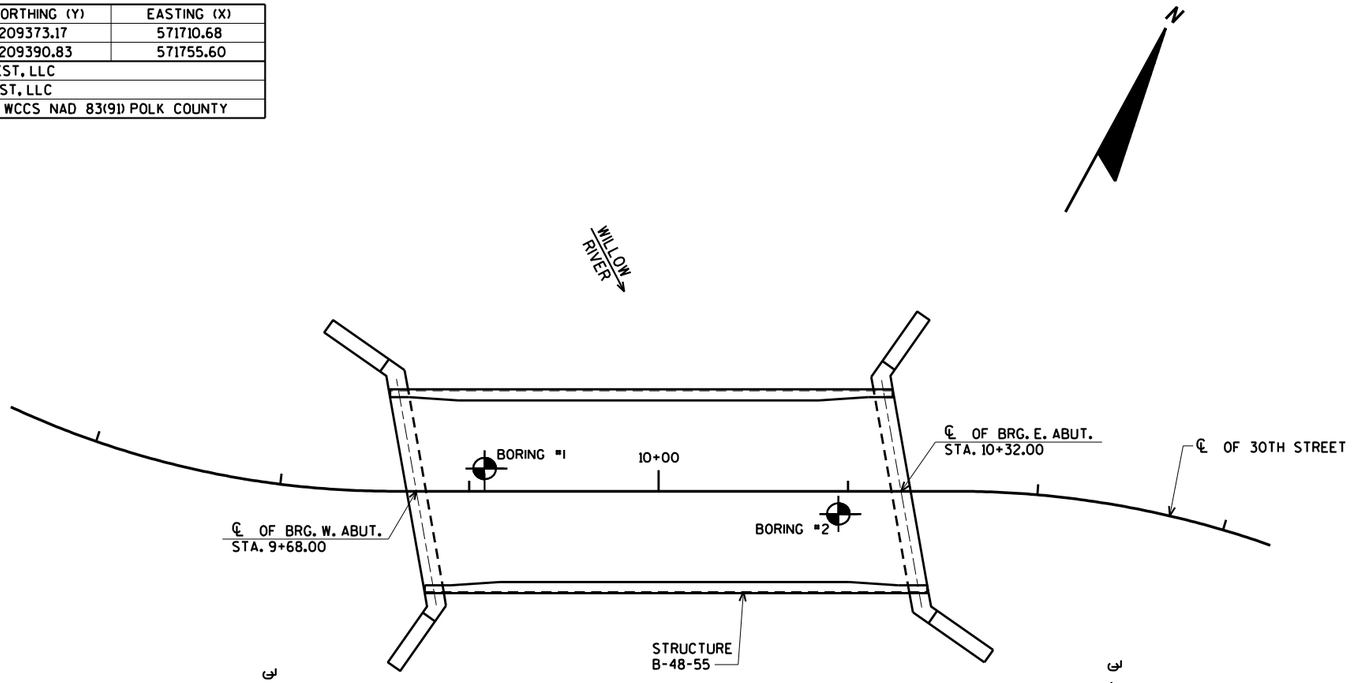
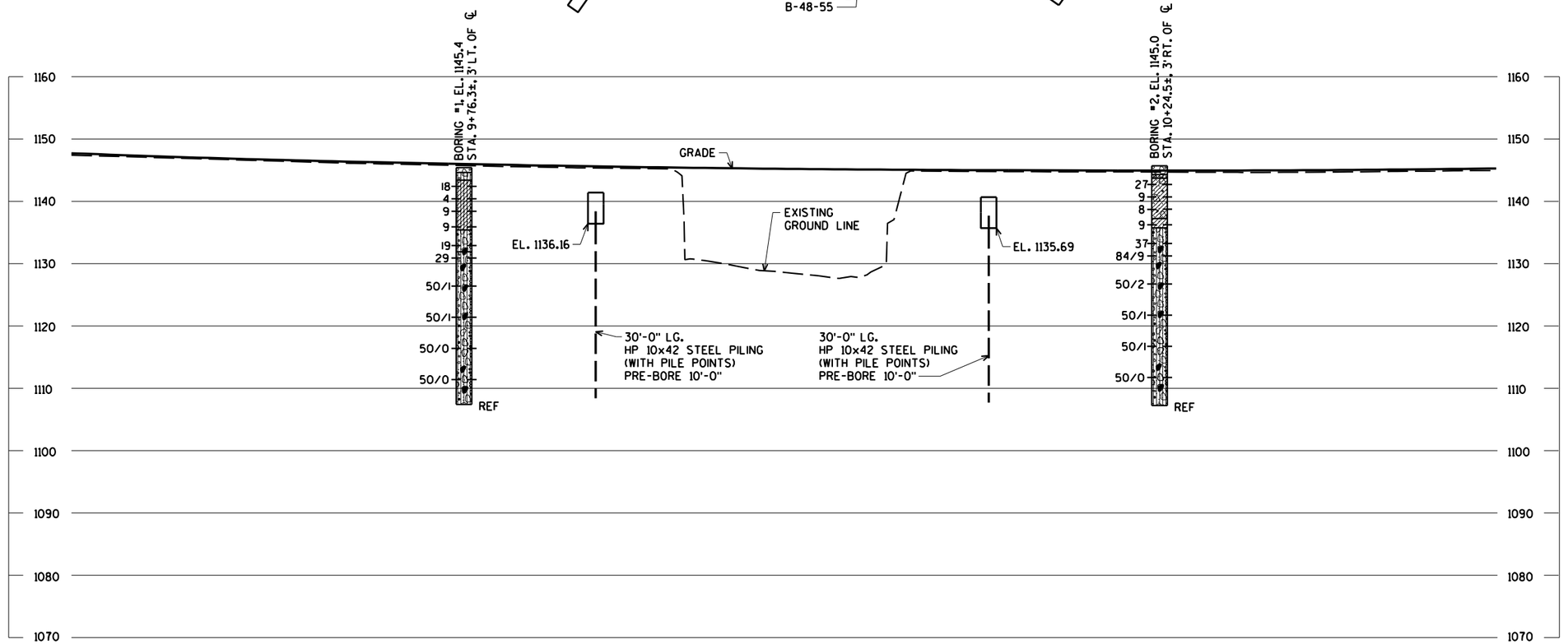
8/26/2020
PENTABLE:BReau_shd_utl1.tbl

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	DECEMBER 18, 2019	209373.17	571710.68
2	DECEMBER 18, 2019	209390.83	571755.60
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) POLK COUNTY			





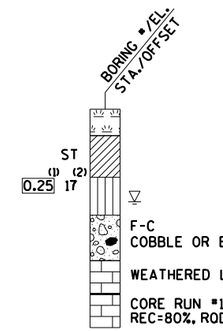
STATE PROJECT NUMBER

8405-00-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

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SUBSURFACE EXPLORATION

SHEET 4 OF 18
51

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STATE PROJECT NUMBER

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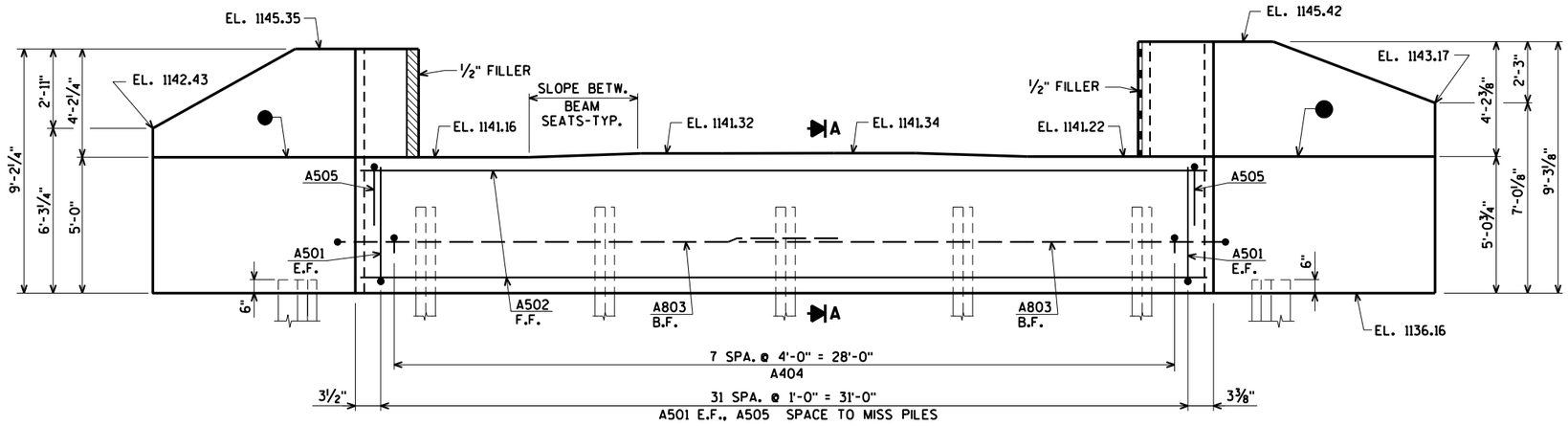
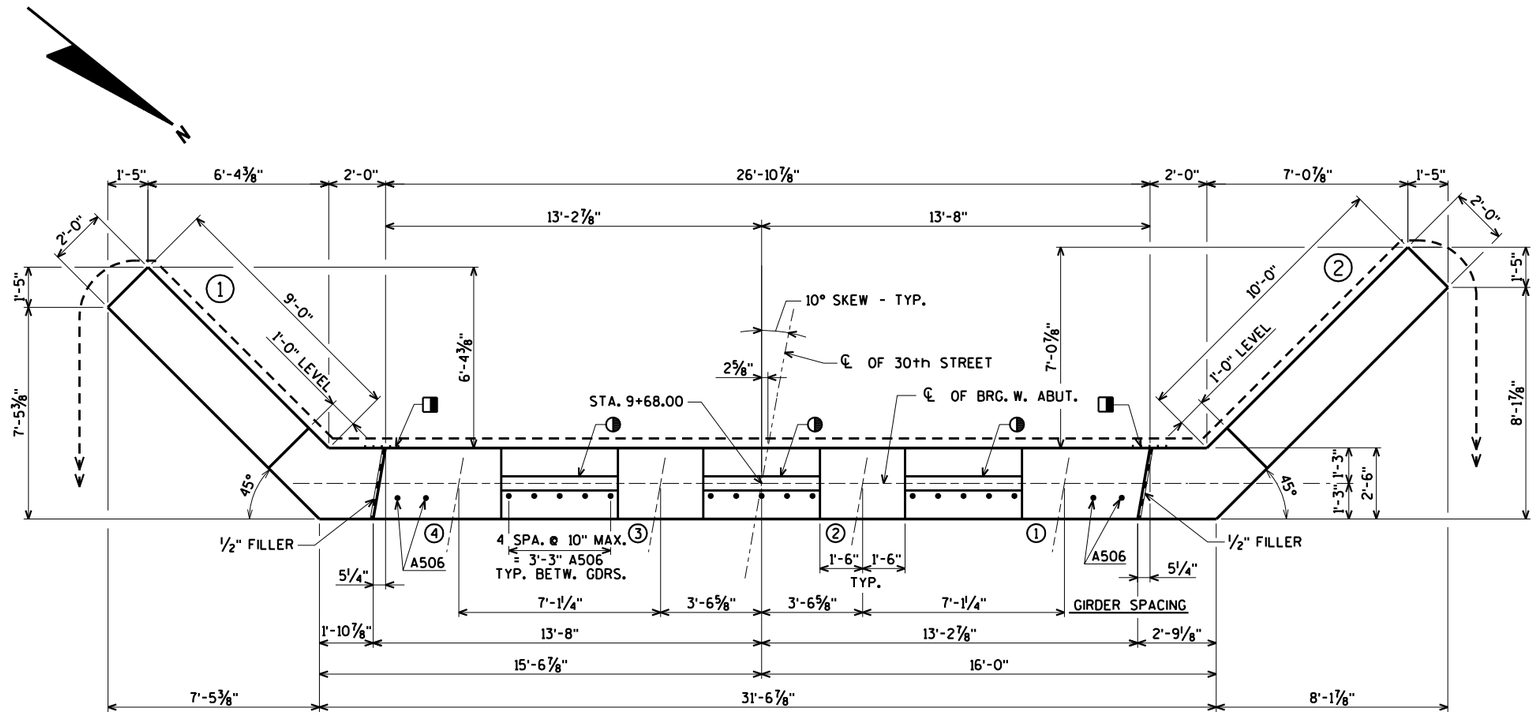
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



ELEVATION
(LOOKING WEST)



PLAN

FOR SECTION A SEE SHEET 8

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING FROM BRIDGE SEAT TO TOP OF WING.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 2.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

WEST ABUTMENT

SHEET 5 OF 18
52

ORIGINAL PLANS PREPARED BY
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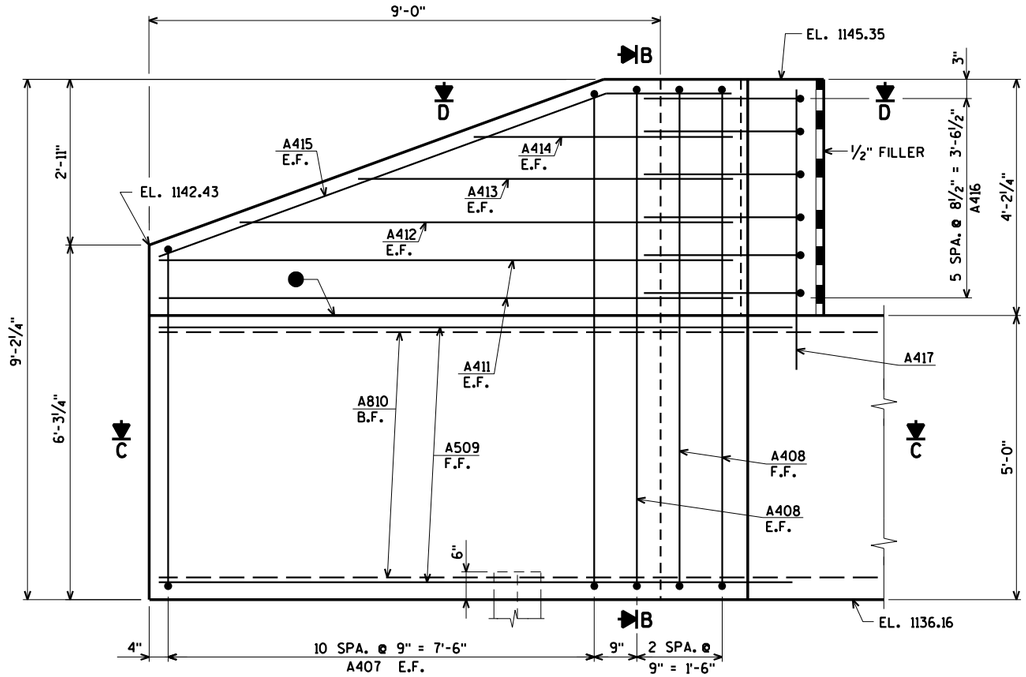
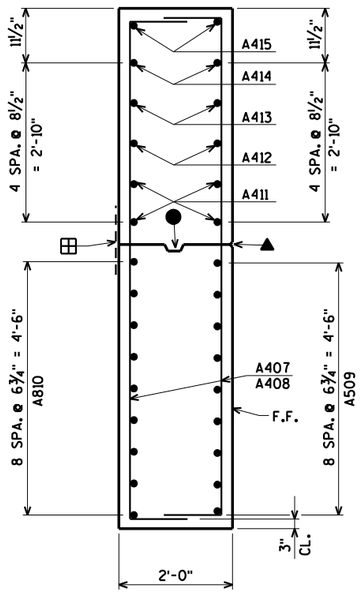
STATE PROJECT NUMBER

8405-00-71



ELEVATION - WING 1



SECTION B

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES" IF CONST. JOINT IS USED).

△ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

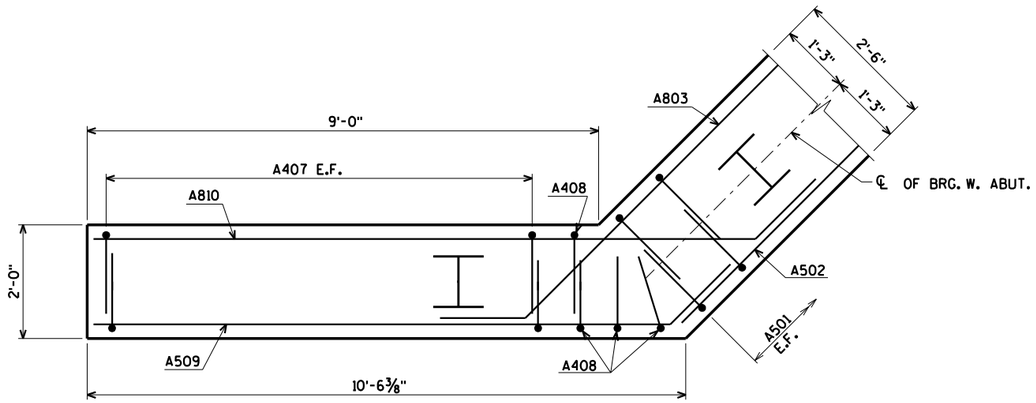
⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

FOR PILE SPLICE DETAIL SEE SHEET 2.

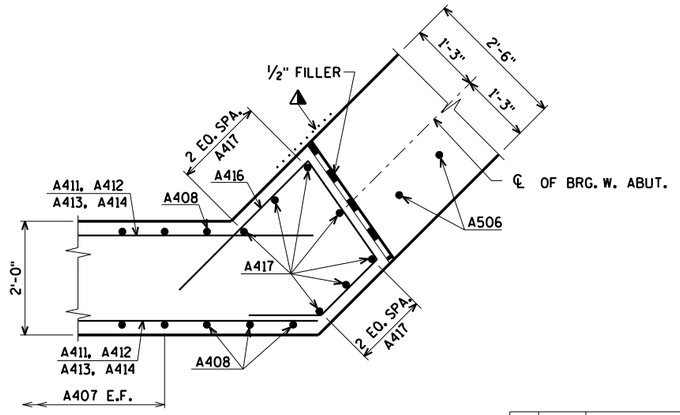
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

E.F. DENOTES EACH FACE



SECTION C



SECTION D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

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WEST ABUTMENT WING 1 DETAILS

SHEET 6 OF 18
53

ORIGINAL PLANS PREPARED BY
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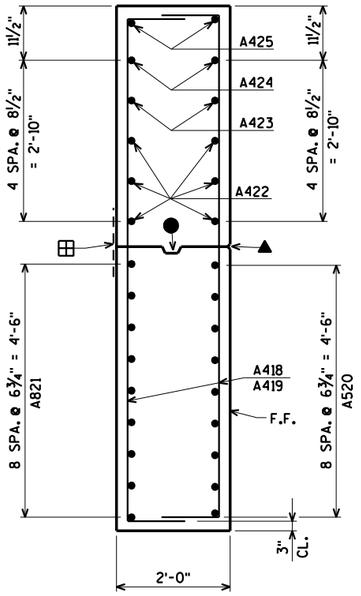
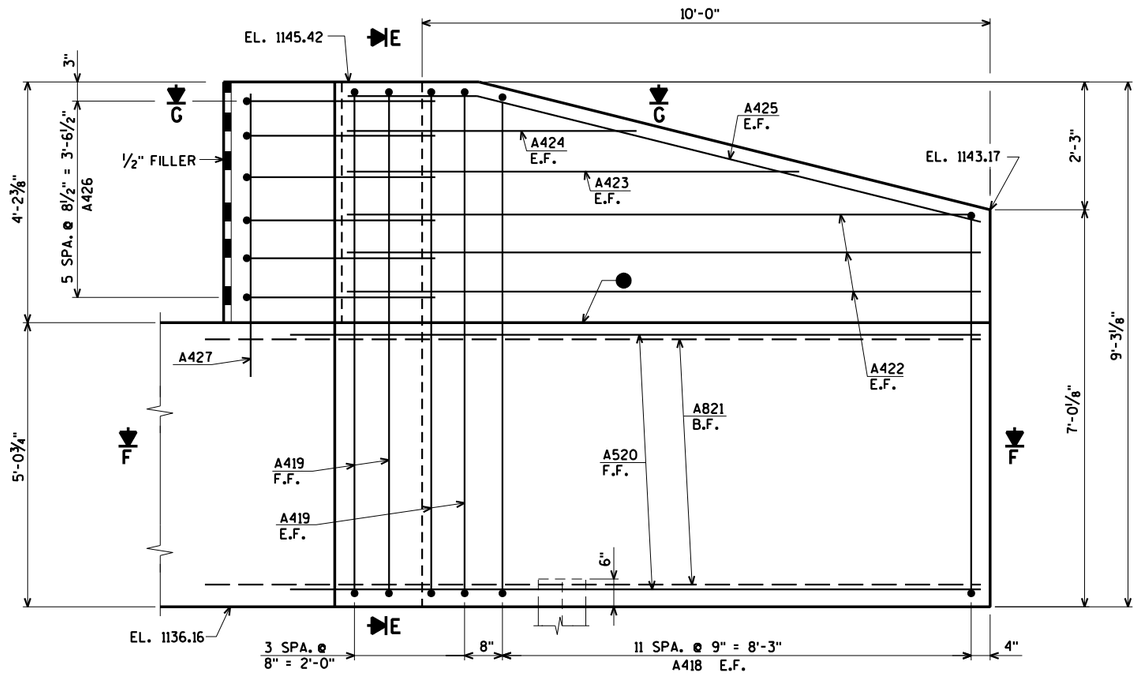
STATE PROJECT NUMBER

8405-00-71



SECTION E



ELEVATION - WING 2

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES" IF CONST. JOINT IS USED).

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

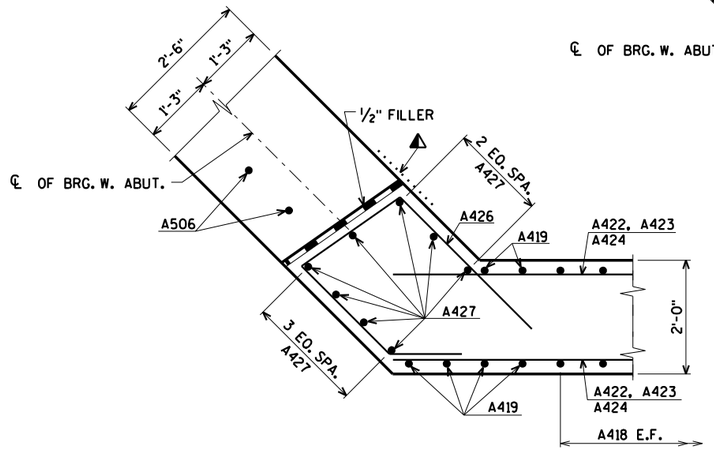
⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

FOR PILE SPLICE DETAIL SEE SHEET 2.

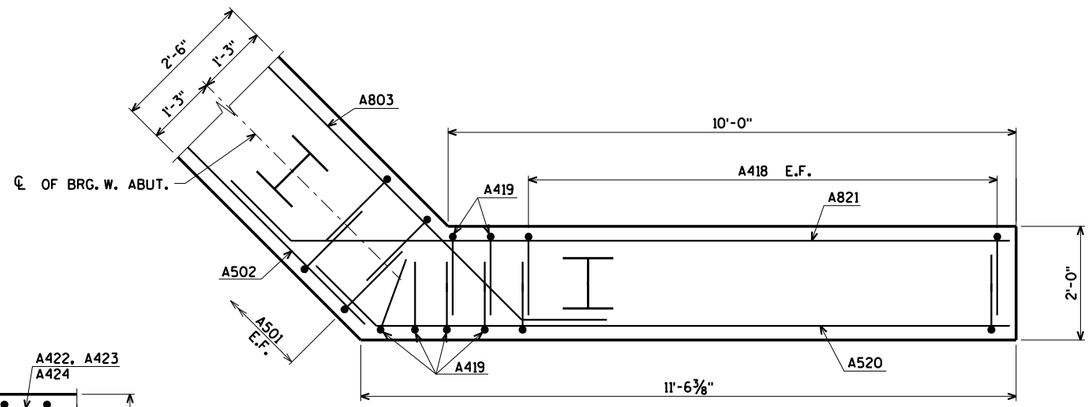
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

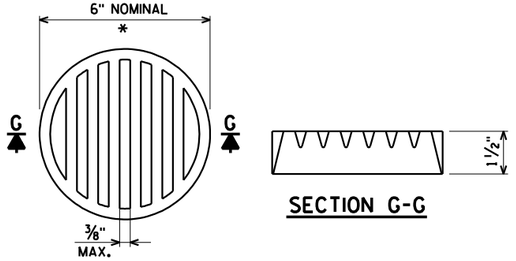
E.F. DENOTES EACH FACE



SECTION G



SECTION F



SECTION G-G

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

WEST ABUTMENT WING 2 DETAILS

SHEET 7 OF 18
54

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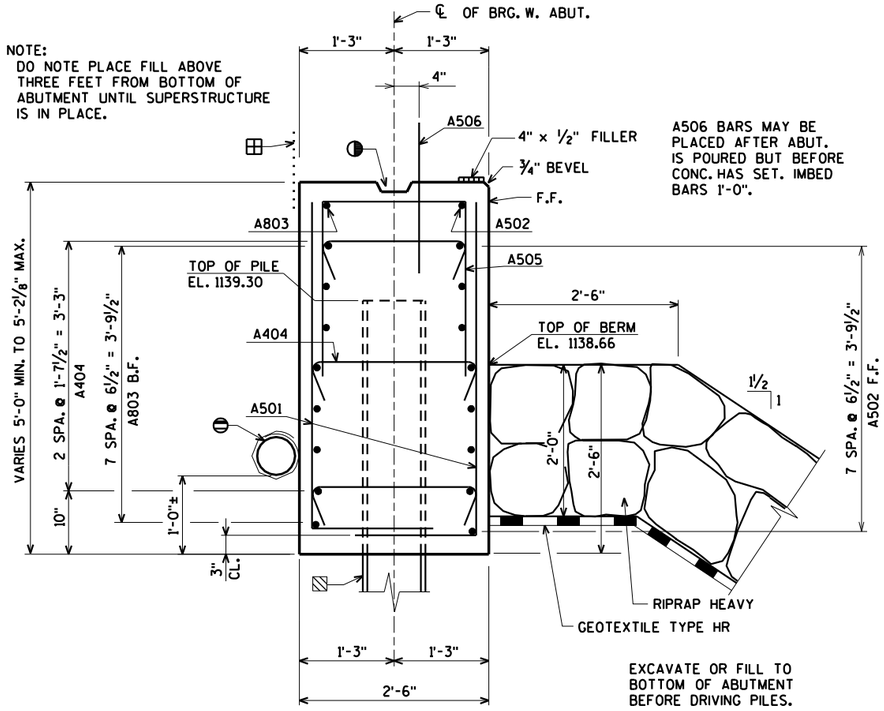
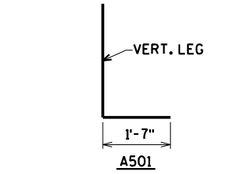


A506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

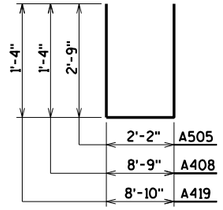
EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

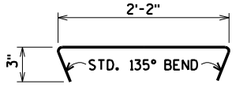
SECTION A

▨ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE. ESTIMATED LENGTH 30'-0". PRE-BORE PILES 10'-0" PRIOR TO DRIVING.



A501





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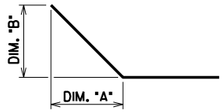
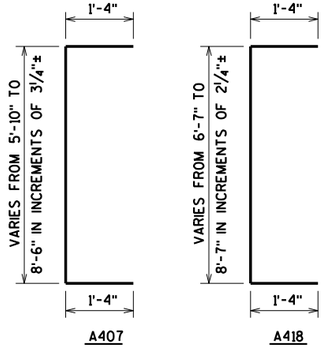
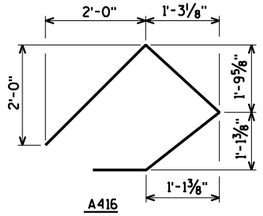


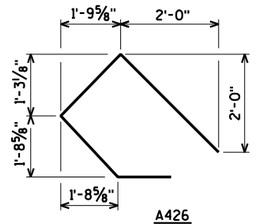
BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A509	1'-0¾"	1'-0¾"
A810	1'-0¾"	1'-0¾"
A415	7'-10"	2'-11"
A520	1'-0¾"	1'-0¾"
A821	1'-0¾"	1'-0¾"
A425	8'-10"	2'-3"



A407 A418



A416



A426

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2.030" UNCOATED 1.590" COATED LOCATION
A501		64	5-11	X		BODY VERT. E.F.
A502		9	31-5			BODY HORIZ. F.F.
A803		18	21-10	X		BODY HORIZ. B.F.
A404		24	2-11	X		BODY TIES
A505		32	7-5	X		BODY VERT. TOP
A506	X	19	2-0			BODY DOWELS
A407	X	22	9-8	X	⊗	WING 1 VERT. E.F.
A408	X	4	11-3	X		WING 1 VERT. E.F.
A509	X	9	11-9	X		WING 1 HORIZ. F.F.
A810	X	9	13-6	X		WING 1 HORIZ. B.F.
A411	X	4	10-2			WING 1 HORIZ. E.F.
A412	X	2	8-5			WING 1 HORIZ. E.F.
A413	X	2	6-6			WING 1 HORIZ. E.F.
A414	X	2	4-7			WING 1 HORIZ. E.F.
A415	X	2	10-7	X		WING 1 DIAG. E.F.
A416	X	6	7-5	X		WING 1 HORIZ.
A417	X	7	5-7			WING 1 VERT.
A418	X	24	10-1	X	⊗	WING 2 VERT. E.F.
A419	X	6	11-4	X		WING 2 VERT. E.F.
A520	X	9	12-8	X		WING 2 HORIZ. F.F.
A821	X	9	14-6	X		WING 2 HORIZ. B.F.
A422	X	6	11-2			WING 2 HORIZ. E.F.
A423	X	2	8-4			WING 2 HORIZ. E.F.
A424	X	2	5-6			WING 2 HORIZ. E.F.
A425	X	2	11-5	X		WING 2 DIAG. E.F.
A426	X	6	8-3	X		WING 2 HORIZ.
A427	X	8	5-7			WING 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A407	2 SERIES OF 11	8'-4" TO 11'-0"
A418	2 SERIES OF 12	9'-1" TO 11'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING BETWEEN WINGS.

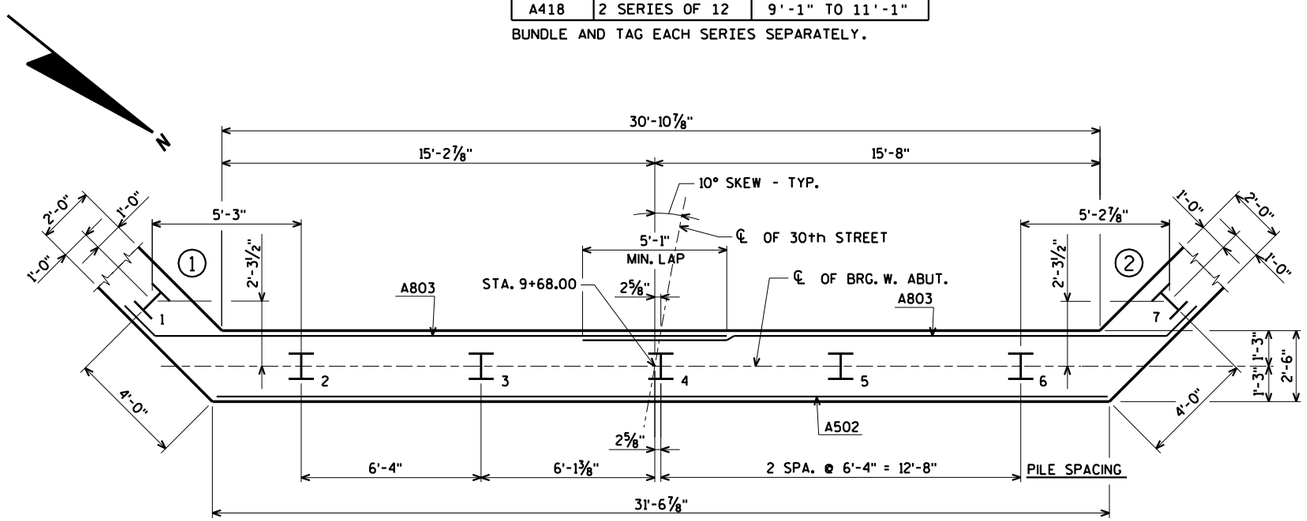
FOR PILE SPLICE DETAIL SEE SHEET 2.

FOR LOCATION OF SECTION A SEE SHEET 5.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE



PILE LAYOUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

WEST ABUTMENT DETAILS AND BILL OF BARS

SHEET 8 OF 18
55

ORIGINAL PLANS PREPARED BY
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3433 Oakwood Hills Parkway
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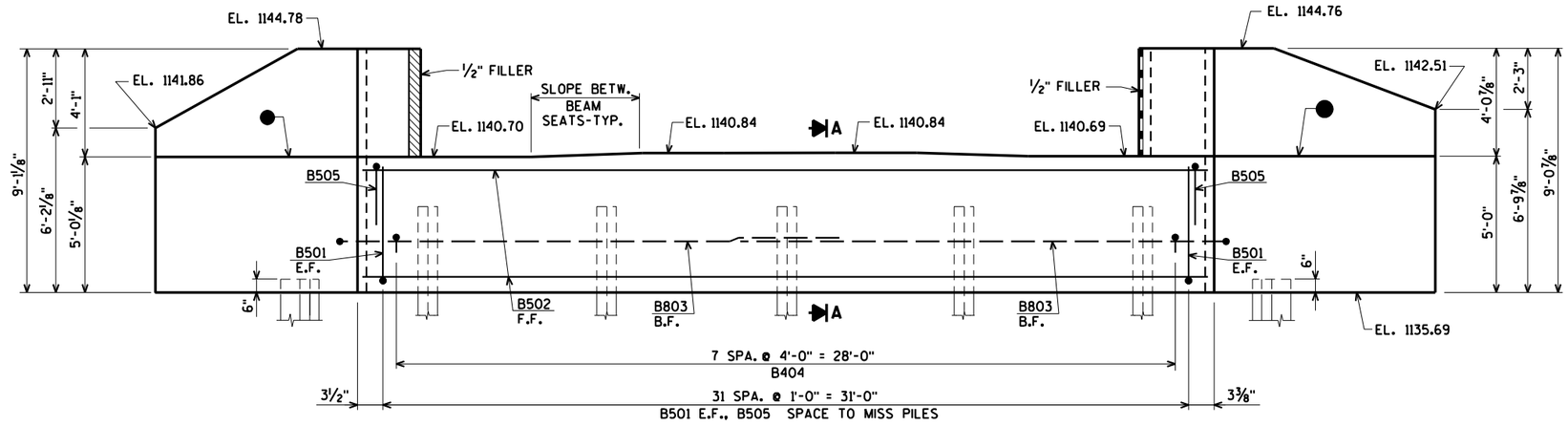
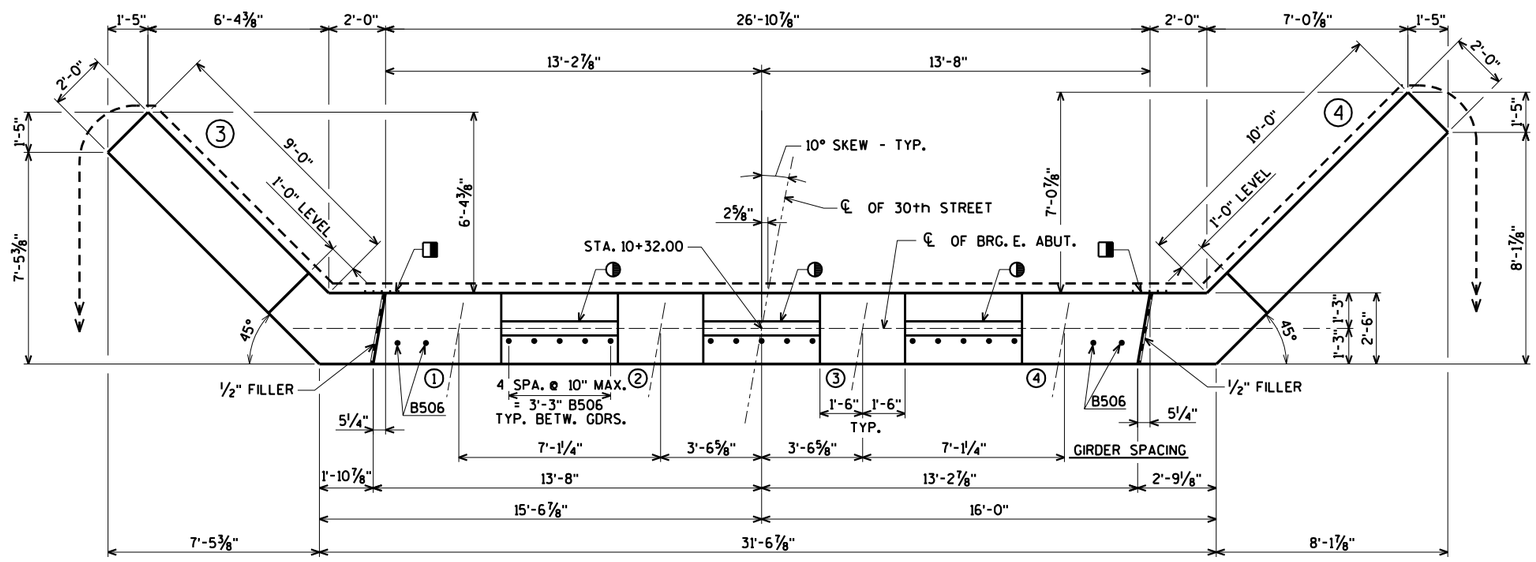
STATE PROJECT NUMBER

8405-00-71

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



ELEVATION
(LOOKING EAST)



PLAN

FOR SECTION A SEE SHEET 12

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES" IF CONST. JOINT IS USED).

◨ 18" RUBBERIZED MEMBRANE WATERPROOFING FROM BRIDGE SEAT TO TOP OF WING.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 2.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

EAST ABUTMENT

SHEET 9 OF 18
56

ORIGINAL PLANS PREPARED BY
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8/26/2020
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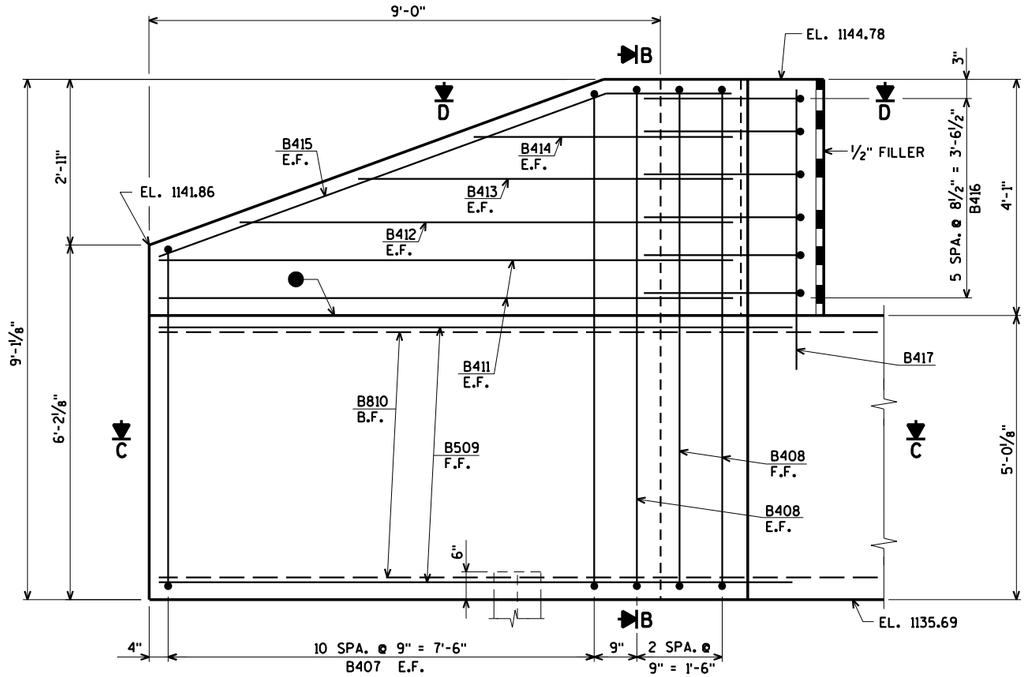
8

8

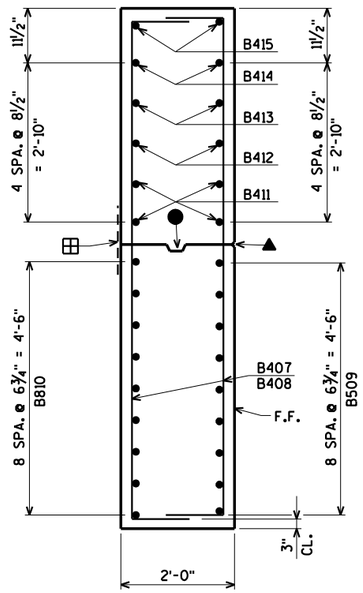
I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 ea.dgn

STATE PROJECT NUMBER

8405-00-71



ELEVATION - WING 3



SECTION B

▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES" IF CONST. JOINT IS USED).

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

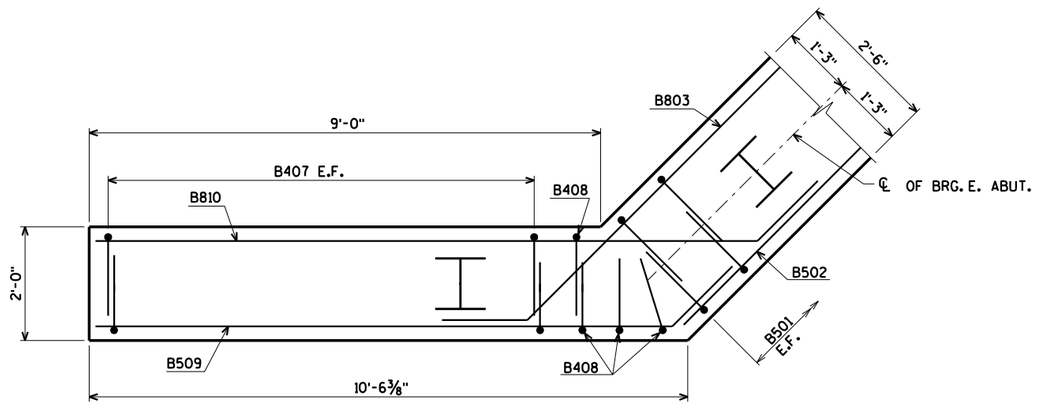
⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

FOR PILE SPLICE DETAIL SEE SHEET 2.

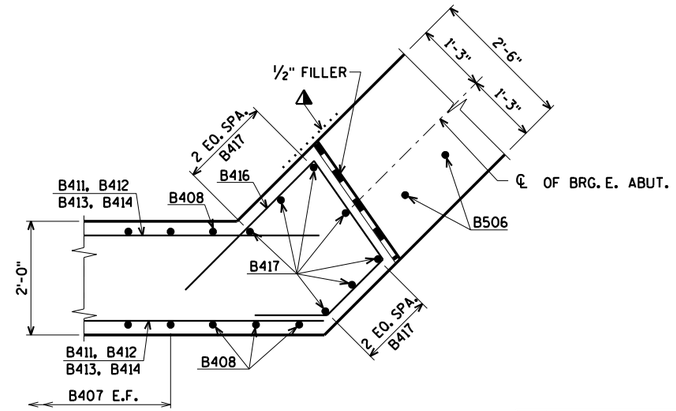
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

E.F. DENOTES EACH FACE



SECTION C



SECTION D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

EAST ABUTMENT WING 3 DETAILS

SHEET 10 OF 18
57

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
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8

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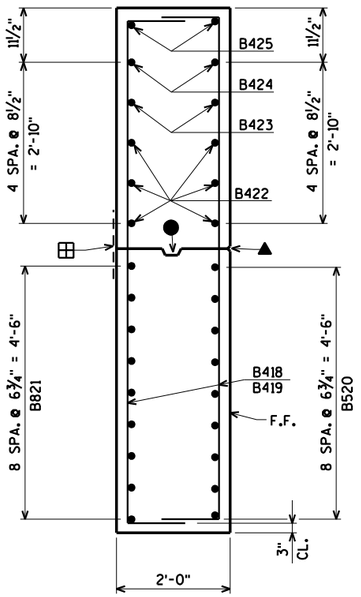
8/26/2020
PENTABLE:BReau_shd_util.tbl

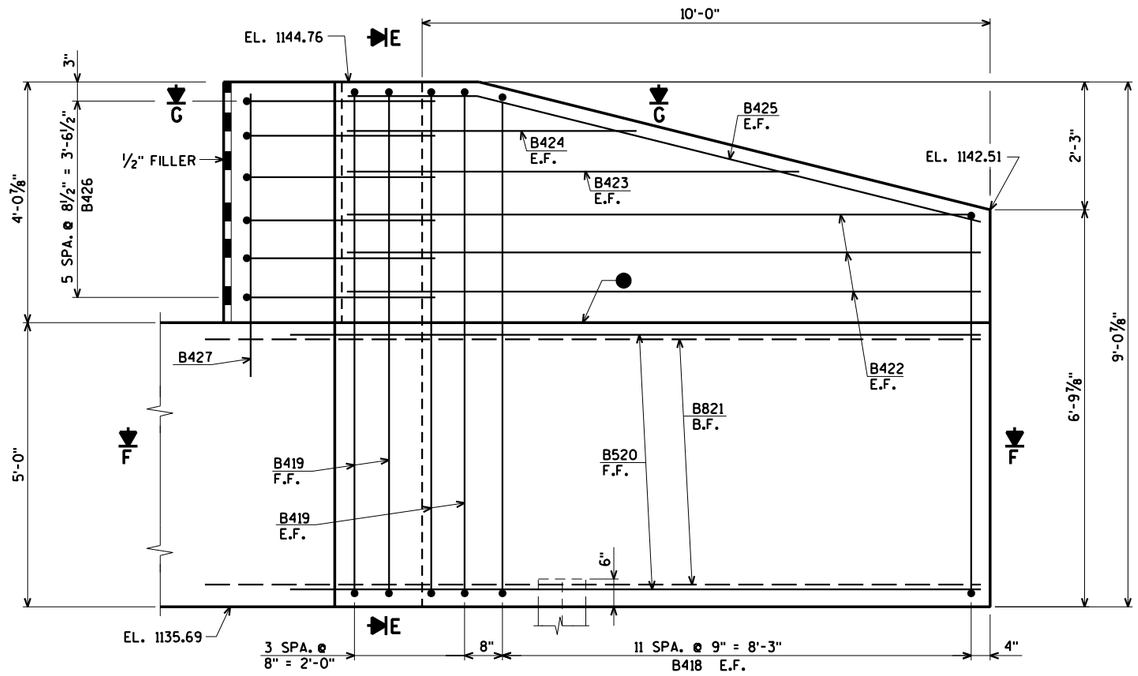
I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 ea.dgn

STATE PROJECT NUMBER

8405-00-71



SECTION E



ELEVATION - WING 4

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F. (RUBBERIZED MEMBRANE WATERPROOFING INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES" IF CONST. JOINT IS USED).

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

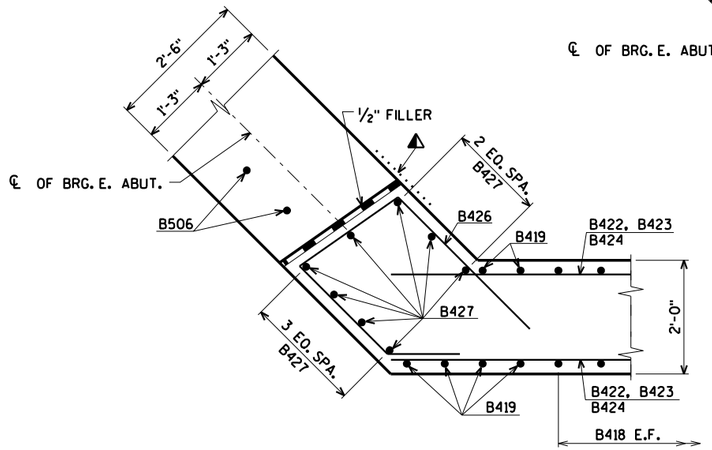
⊞ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MANSONRY BRIDGES")

FOR PILE SPLICE DETAIL SEE SHEET 2.

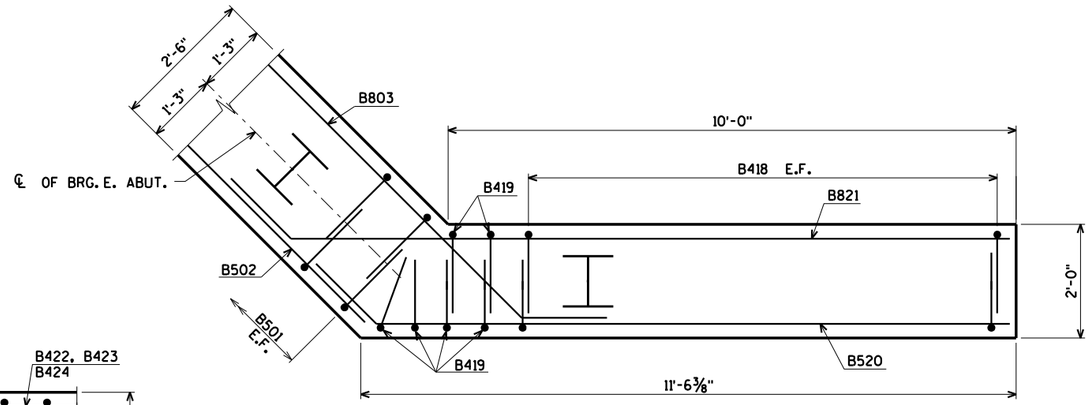
F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

E.F. DENOTES EACH FACE



SECTION G



SECTION F

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

EAST ABUTMENT
WING 4
DETAILS

SHEET 11 OF 18
58

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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8/26/2020
PENTABLE:BReau_shd_utl1.tbl

I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 ea.dgn

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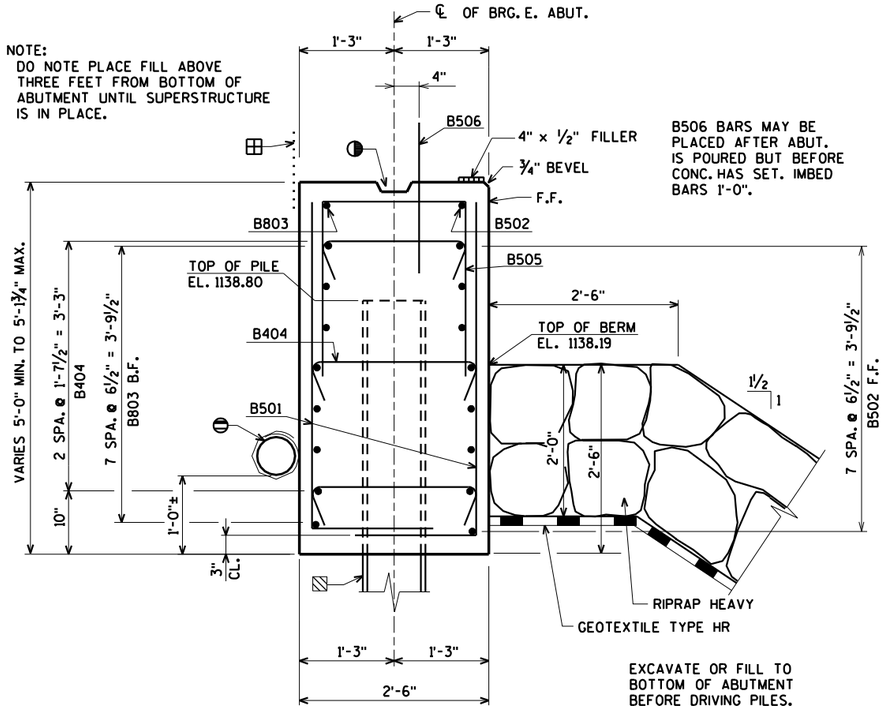
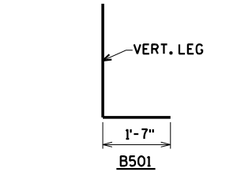


B506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

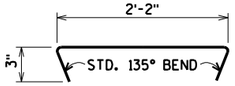
EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

SECTION A

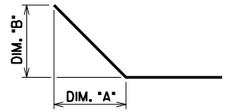
▨ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE. ESTIMATED LENGTH 30'-0". PRE-BORE PILES 10'-0" PRIOR TO DRIVING.



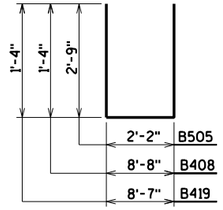
B501

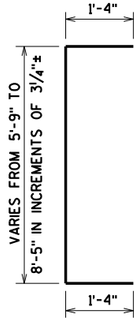


B404



BAR NO.	DIM. "A"	DIM. "B"
B803	1'-0¾"	1'-0¾"
B509	1'-0¾"	1'-0¾"
B810	1'-0¾"	1'-0¾"
B415	7'-10"	2'-11"
B520	1'-0¾"	1'-0¾"
B821	1'-0¾"	1'-0¾"
B425	8'-10"	2'-3"





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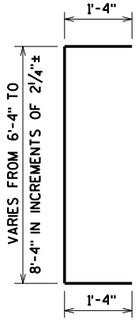

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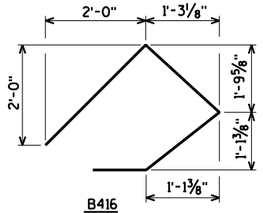

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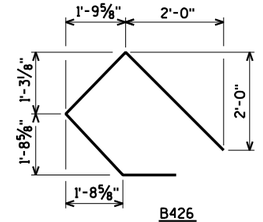
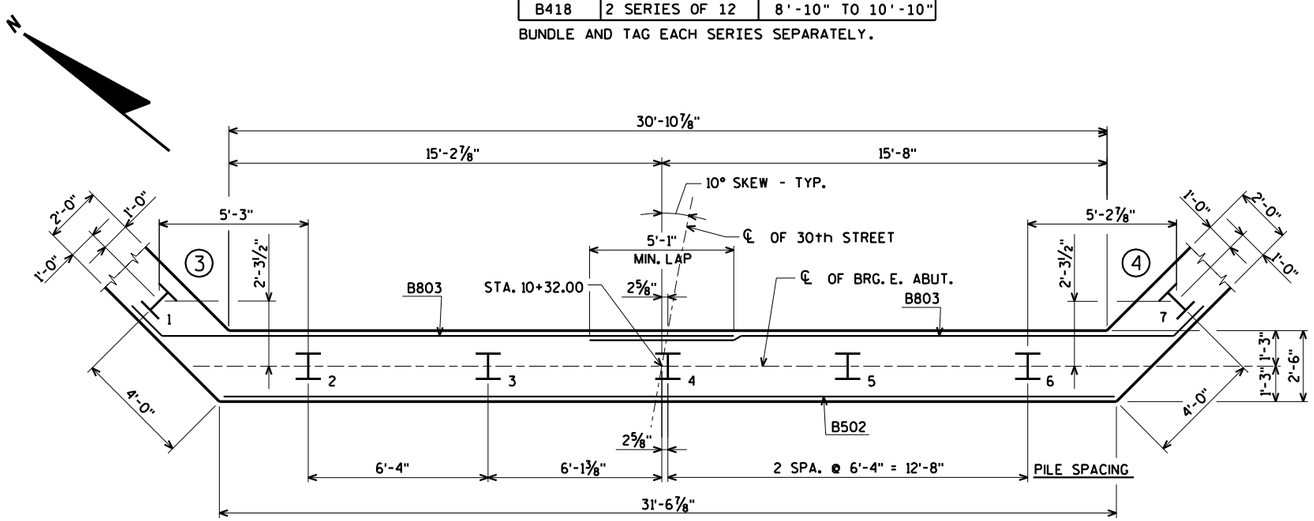


B426

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
B407	2 SERIES OF 11	8'-3" TO 10'-11"
B418	2 SERIES OF 12	8'-10" TO 10'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY.



PILE LAYOUT

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,030# UNCOATED 1,580# COATED LOCATION
B501		64	5-11	X		BODY VERT. E.F.
B502		9	31-5			BODY HORIZ. F.F.
B803		18	21-10	X		BODY HORIZ. B.F.
B404		24	2-11	X		BODY TIES
B505		32	7-5	X		BODY VERT. TOP
B506	X	19	2-0			BODY DOWELS
B407	X	22	9-7	X	⊗	WING 3 VERT. E.F.
B408	X	4	11-2	X		WING 3 VERT. E.F.
B509	X	9	11-9	X		WING 3 HORIZ. F.F.
B810	X	9	13-6	X		WING 3 HORIZ. B.F.
B411	X	4	10-2			WING 3 HORIZ. E.F.
B412	X	2	8-5			WING 3 HORIZ. E.F.
B413	X	2	6-6			WING 3 HORIZ. E.F.
B414	X	2	4-7			WING 3 HORIZ. E.F.
B415	X	2	10-7	X		WING 3 DIAG. E.F.
B416	X	6	7-5	X		WING 3 HORIZ.
B417	X	7	5-6			WING 3 VERT.
B418	X	24	9-10	X	⊗	WING 4 VERT. E.F.
B419	X	6	11-1	X		WING 4 VERT. E.F.
B520	X	9	12-8	X		WING 4 HORIZ. F.F.
B821	X	9	14-6	X		WING 4 HORIZ. B.F.
B422	X	6	11-2			WING 4 HORIZ. E.F.
B423	X	2	8-4			WING 4 HORIZ. E.F.
B424	X	2	5-6			WING 4 HORIZ. E.F.
B425	X	2	11-5	X		WING 4 DIAG. E.F.
B426	X	6	8-3	X		WING 4 HORIZ.
B427	X	8	5-5			WING 4 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 7.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING BETWEEN WINGS.

FOR PILE SPLICE DETAIL SEE SHEET 2.

FOR LOCATION OF SECTION A SEE SHEET 9.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

EAST ABUTMENT DETAILS AND BILL OF BARS

SHEET 12 OF 18
59

ORIGINAL PLANS PREPARED BY
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Eau Claire, WI 54701
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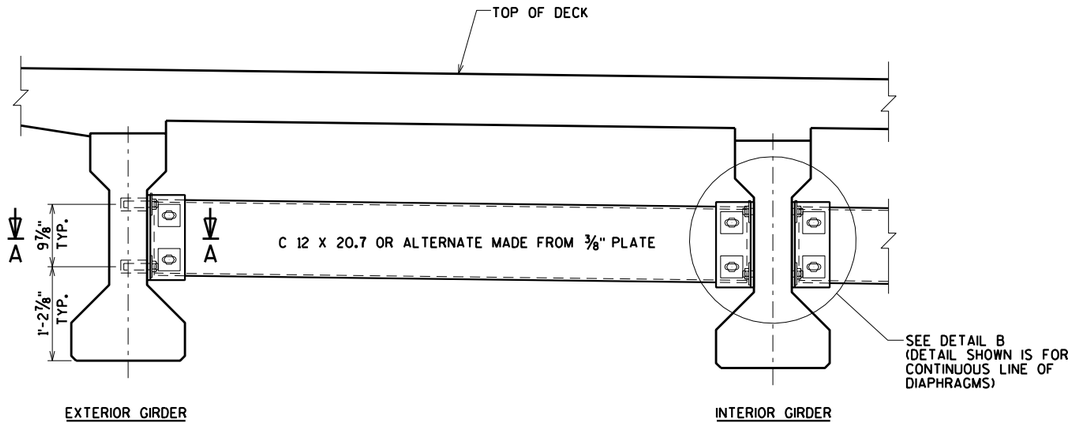
STATE PROJECT NUMBER

8405-00-71



PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

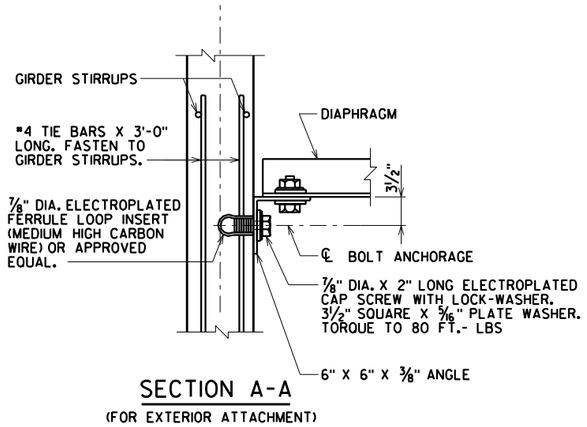
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-48-55", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

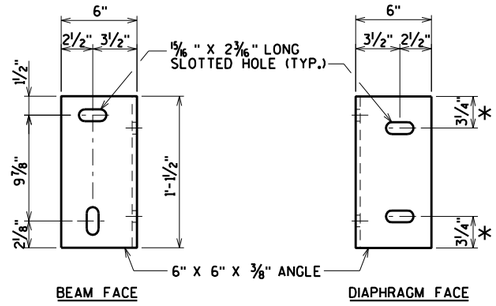
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



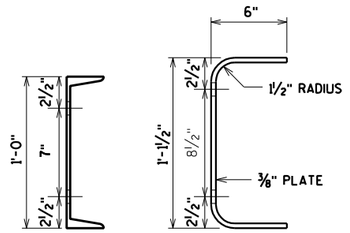
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

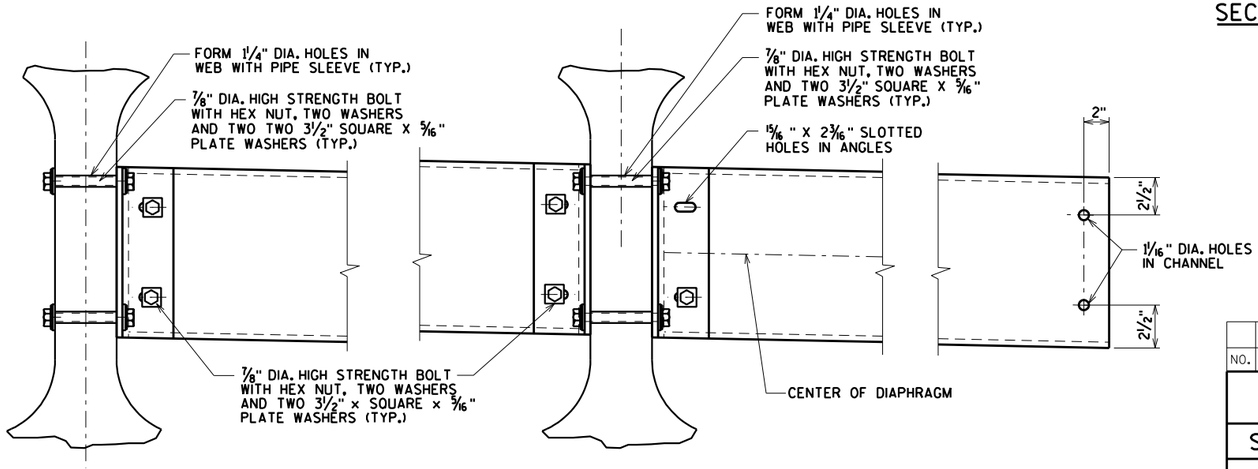


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

DRAWN BY CLP | PLANS CK'D. CJM

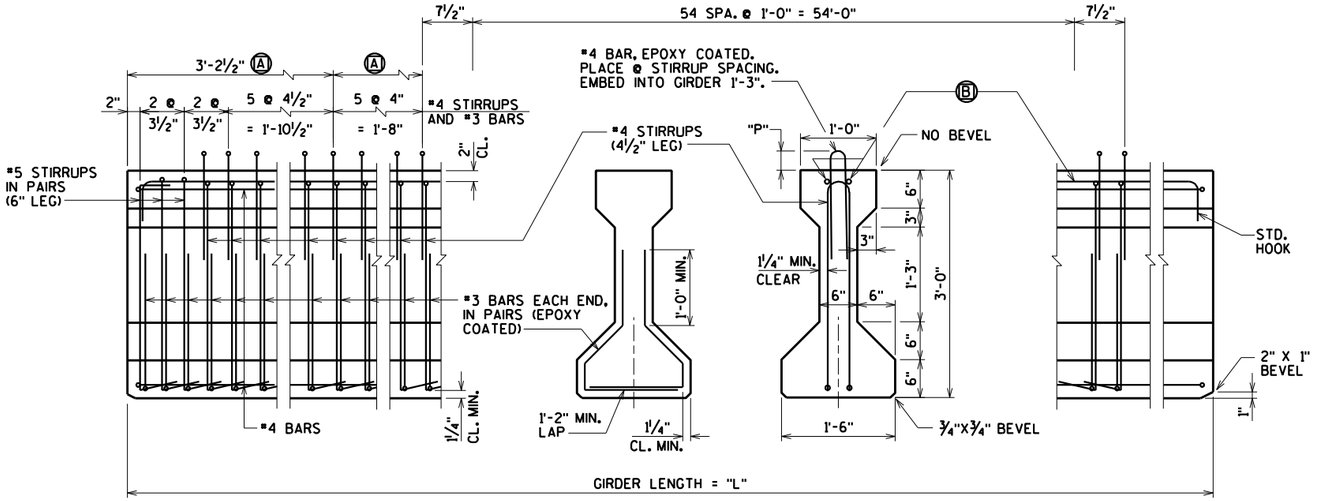
STEEL DIAPHRAGM

SHEET 13 OF 18
60

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

STATE PROJECT NUMBER

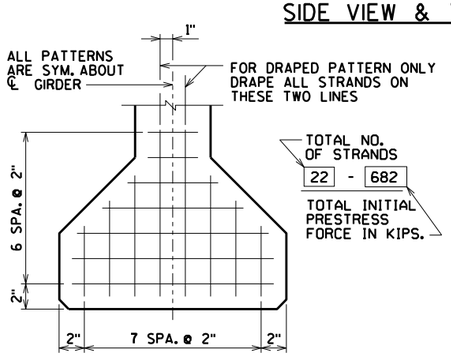
8405-00-71



SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4", STD. HOOK AT ENDS



TYP. STRAND PATTERN

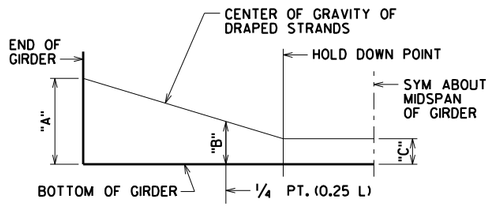
DRAPED PATTERN

0.5" DIA. STRANDS

UNDRAPED PATTERN

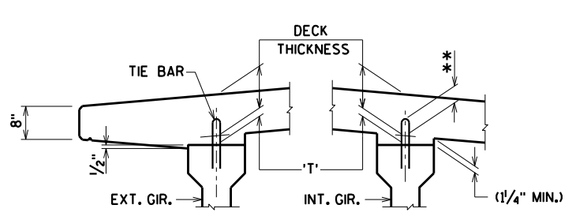
0.5" DIA. STRANDS

TOP VIEW OF GIRDER ENDS



DRAPED STRAND PROFILE

DEAD LOAD DEFLECTION DIAGRAM



DECK 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 DECK 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
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	2.2

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. ~~FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.~~

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING APPROVAL.

PRESTRESSING STRANDS SHALL BE (0.5" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BEND EACH END OF #4 STIRRUPS 4½" AND #5 STIRRUPS 6".

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	("A"	"B" MIN.	"B" MAX.	"C")	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 & 4	65'-0"	0.3	0.5	0.7	0.8	0.9	0.8	0.7	0.5	0.3	8,000	8	6	8	0.50	22	6,400	32	11	14	4		
1	2 & 3	65'-0"	0.3	0.6	0.8	0.9	1.0	0.9	0.8	0.6	0.3	8,000	8	6	8	0.50	22	6,400	32	11	14	4		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

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36" PRESTRESSED GIRDER DETAILS

SHEET 14 OF 18
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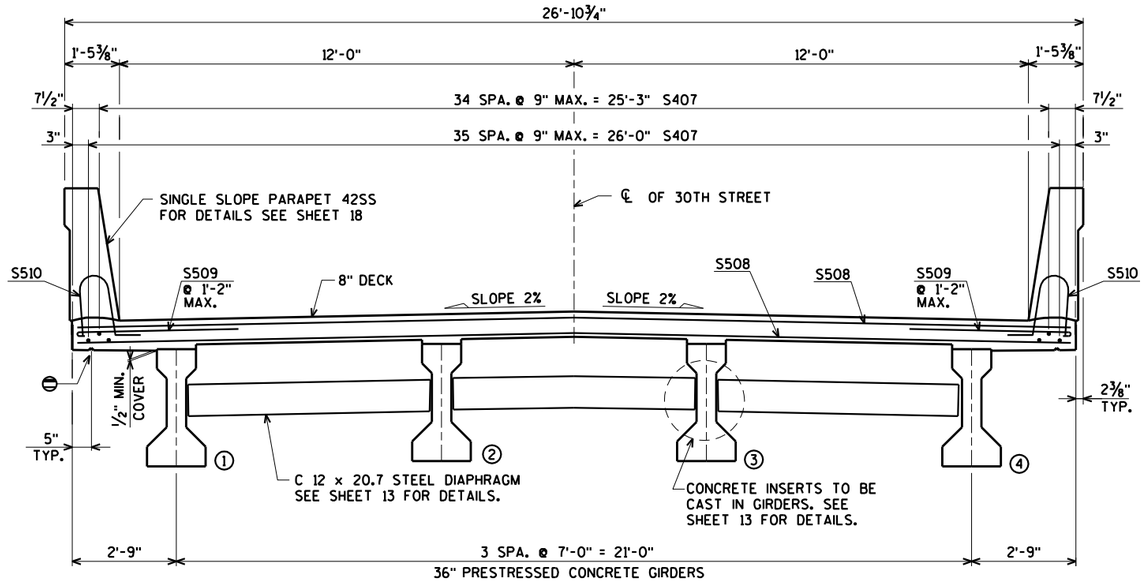
STATE PROJECT NUMBER

8405-00-71



TYPICAL SECTION THRU BRIDGE

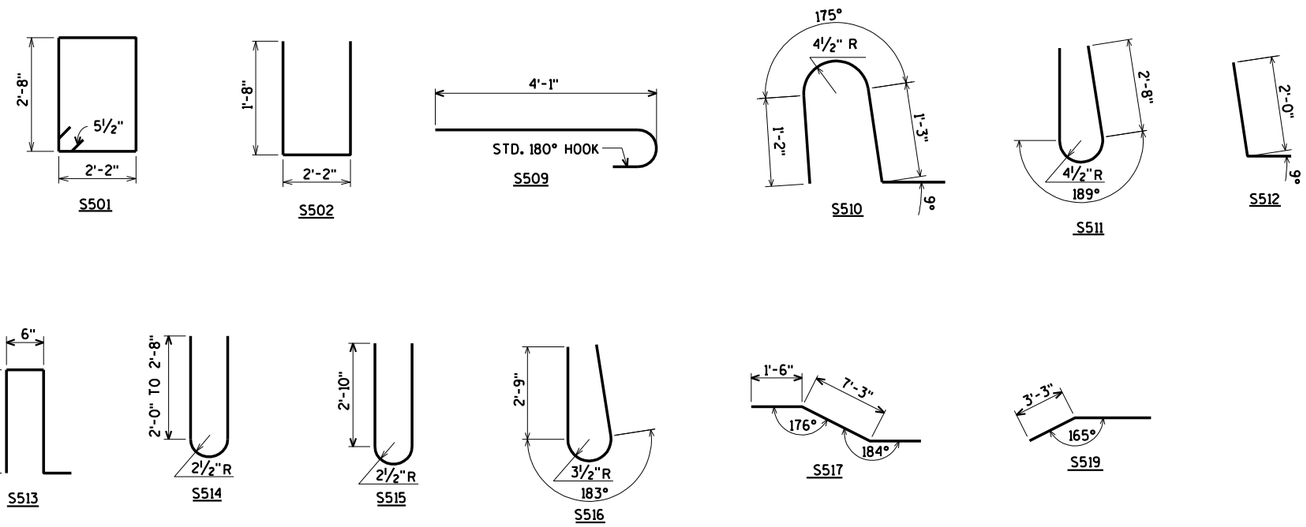
(LOOKING EAST)

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	15,640# COATED LOCATION
S501	X	60	10-4	X		DIAPH. @ ABUT. VERT.
S502	X	60	5-3	X		DIAPH. @ ABUT. VERT.
S603	X	12	26-7			DIAPH. @ ABUT. HORIZ.
S604	X	48	4-0			DIAPH. @ ABUT. HORIZ. BETW. GDRS.
S605	X	4	1-8			DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S606	X	12	1-11			DIAPH. @ ABUT. HORIZ. @ EXT. GDRS.
S407	X	142	34-0			DECK LONG.
S508	X	227	26-7			DECK TRANS.
S509	X	116	4-8	X		DECK TRANS. TOP @ EDGE
S510	X	148	4-5	X		DECK @ PARAPET VERT.
S511	X	148	6-8	X		PARAPET VERT.
S512	X	44	2-9	X		DECK @ PARAPET VERT.
S513	X	68	4-4	X		DECK @ PARAPET VERT.
S514	X	24	5-5	X	⊗	DECK @ PARAPET VERT.
S515	X	20	6-5	X		DECK @ PARAPET VERT.
S516	X	24	6-6	X		DECK @ PARAPET VERT.
S517	X	4	11-2	X		PARAPET HORIZ. @ ENDS OF DECK
S518	X	20	11-5			PARAPET HORIZ. @ ENDS OF DECK
S519	X	8	11-3	X		PARAPET HORIZ. @ ENDS OF DECK
S520	X	16	48-7			PARAPET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
S514	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

⊖ ¾" V - GROOVE. EXTEND V - GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGMS - TYP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

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SUPERSTRUCTURE

SHEET 15 OF 18
62

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

8/26/2020
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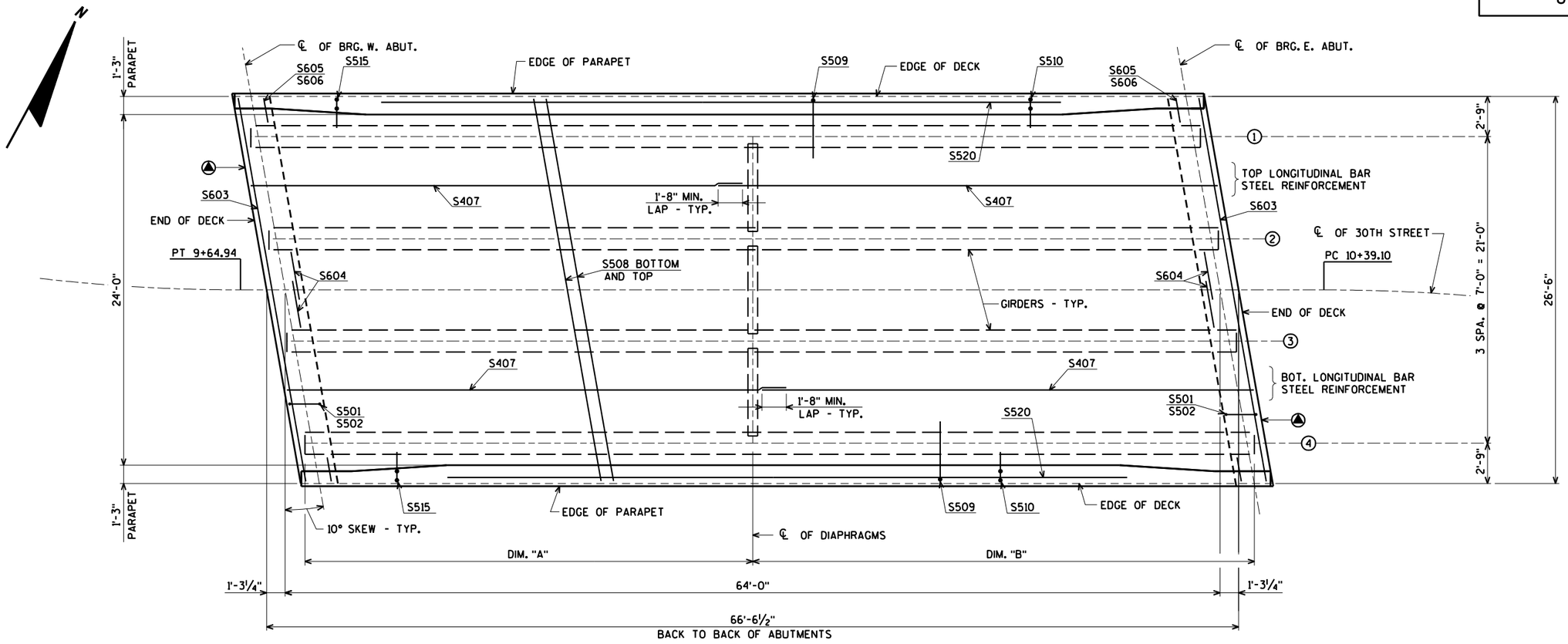
I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 sup.dgn

STATE PROJECT NUMBER

8405-00-71



PLAN

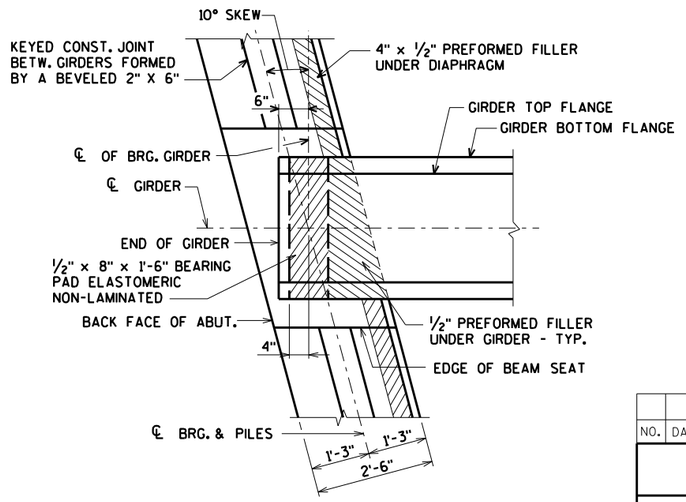
▲ PROTECTION ANGLE - FOR DETAIL SEE SHEET 3

TOP OF DECK ELEVATIONS

	℄ OF BRG. W. 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. E. ABUT.
N. FLOWLINE	1145.42	1145.32	1145.22	1145.14	1145.06	1044.99	1044.93	1044.88	1044.84	1044.80	1044.78
GIRDER 1	1145.44	1145.34	1145.25	1145.16	1145.09	1145.02	1144.96	1144.91	1144.87	1144.83	1144.80
GIRDER 2	1145.56	1145.46	1145.37	1145.29	1145.21	1145.15	1145.09	1145.04	1145.00	1144.96	1144.94
℄ OF 30TH ST.	1145.62	1145.52	1145.43	1145.35	1145.28	1145.21	1145.15	1145.10	1145.06	1145.03	1145.01
GIRDER 3	1145.54	1145.45	1145.36	1145.27	1145.20	1145.14	1145.08	1145.03	1144.99	1144.96	1144.94
GIRDER 4	1145.38	1145.29	1145.20	1145.12	1145.05	1144.98	1144.93	1144.88	1144.84	1144.81	1144.79
S. FLOWLINE	1145.35	1145.25	1145.17	1145.09	1145.01	1044.95	1044.90	1044.85	1044.81	1044.78	1044.76

TABLE OF DIAPHRAGM DIMENSIONS

GIRDER	DIM. 'A'	DIM. 'B'
1	34'-4¼"	30'-7¾"
2	33'-1⅜"	31'-10⅝"
3	31'-10⅝"	33'-1⅜"
4	30'-7¾"	34'-4¼"



BEARING PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-48-55

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SUPERSTRUCTURE PLAN

SHEET 16 OF 18
63

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I:±42±42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River±Structure±Final±421182 sup.dgn

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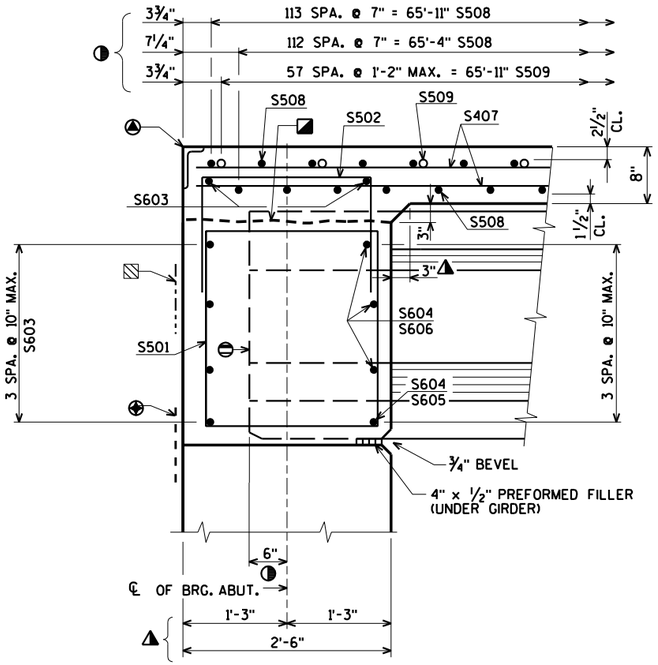
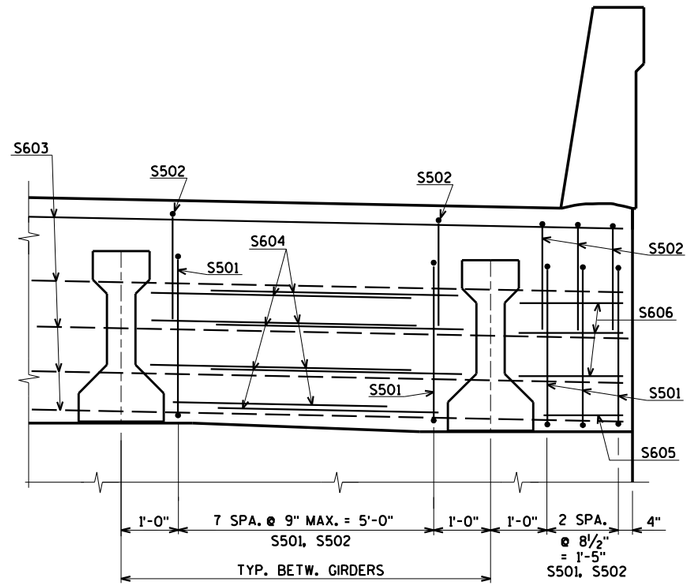


PART LONGITUDINAL SECTION



PART ELEVATION AT ABUTMENT

PROTECTION ANGLE - FOR DETAIL SEE SHEET 3

18" RUBBERIZED MEMBRANE WATERPROOFING

DIMENSIONS MEASURED ALONG ℄ OF GIRDER.

DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"

END OF GIRDER

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STRUCTURE B-48-55

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SUPERSTRUCTURE DETAILS

SHEET 17 OF 18
64

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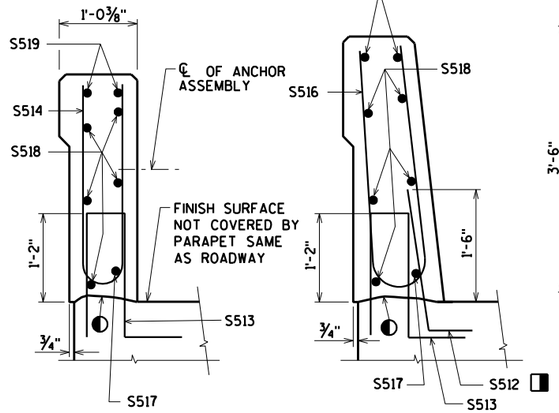
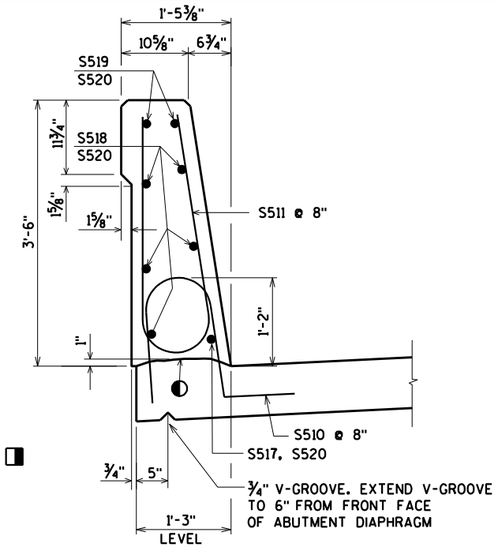
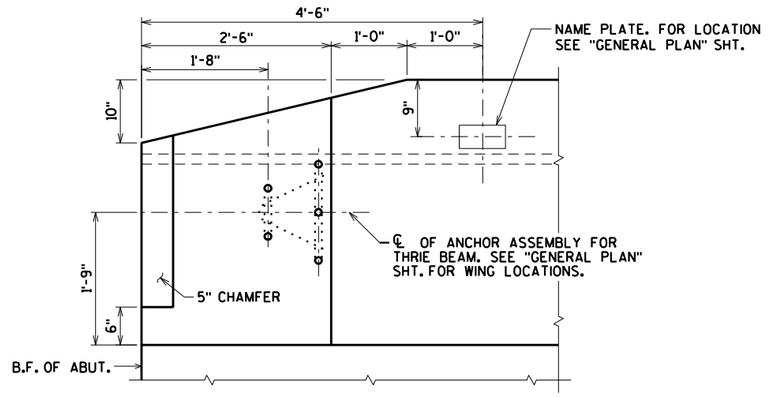


SECTION A

SECTION B

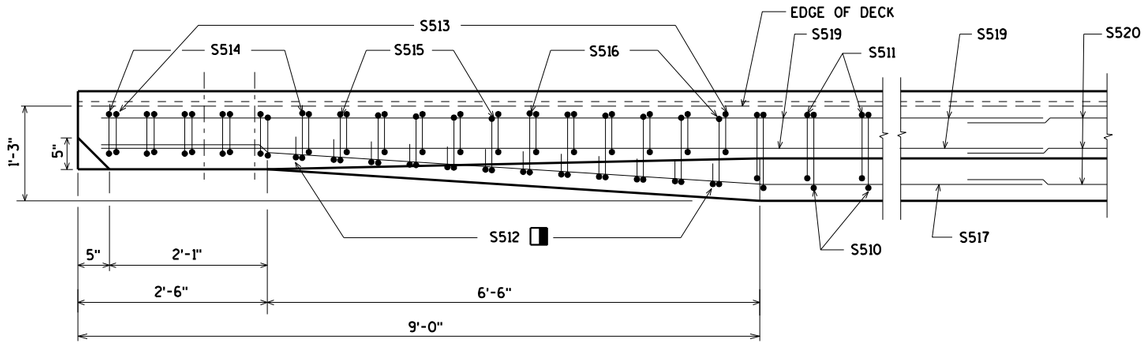


SECTION C



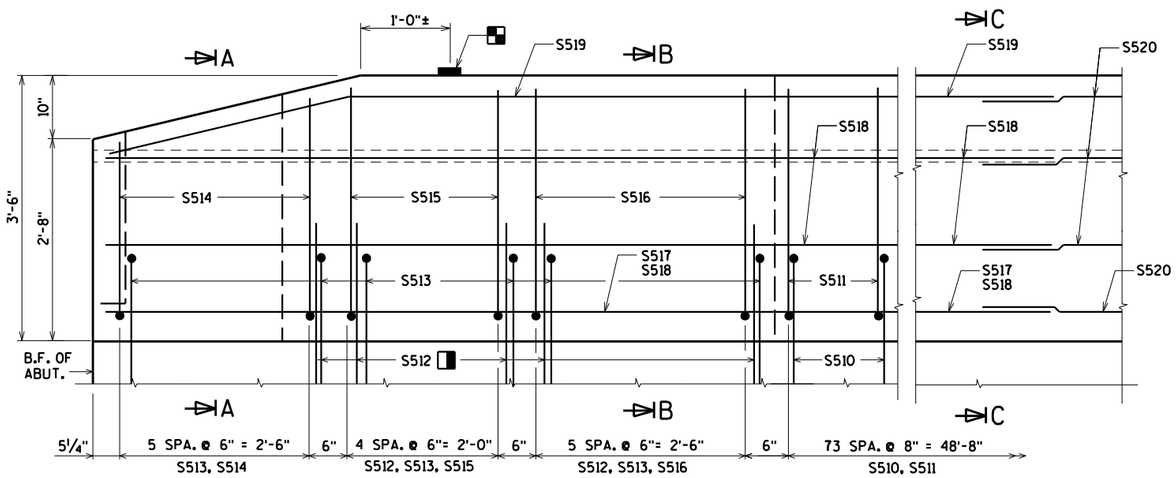
PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



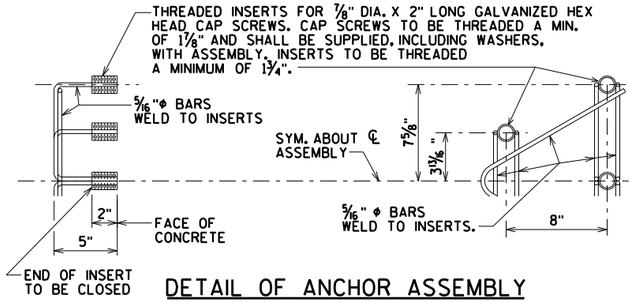
PLAN

(WINGS 2 & 4 SHOWN, WINGS 1 & 3 SIMILAR)



INSIDE ELEVATION

(WINGS 2 & 4 SHOWN, WINGS 1 & 3 SIMILAR)



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.

■ BENCH MARK CAP - LOCATION AS SHOWN ON GENERAL PLAN SHEET

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◨ S512 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S515 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

LAP LONG. BARS A MIN. OF 2'-7".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-48-55

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SINGLE SLOPE PARAPET 42SS

SHEET 18 OF 18
65

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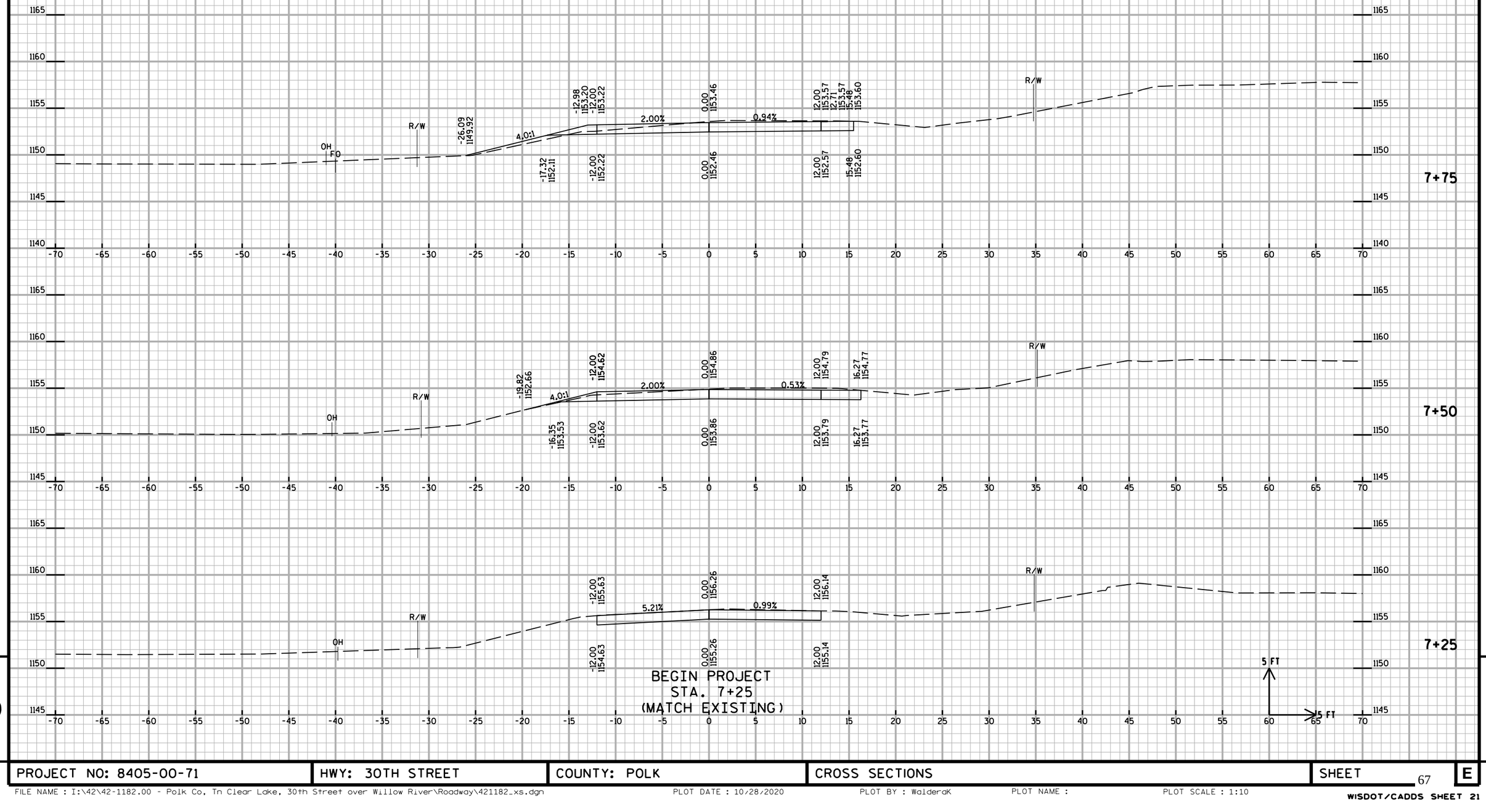
30TH STREET COMPUTER EARTHWORK

		Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
					Salvaged /				Expanded	
Station	Distance	Cut	Unuseable Pavement Material	Fill	Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	Mass Ordinate
					Note 1	Note 4	Note 2	Note 5		Note 3
7+25	--	24.8	0.0	0.0						
7+50	25.00	30.7	0.0	0.2	26	0	0	26	0	26
7+75	25.00	26.8	0.0	2.8	27	0	1	52	2	50
8+00	25.00	20.3	0.0	6.8	22	0	4	74	8	66
8+25	25.00	12.3	0.0	11.2	15	0	8	89	19	71
8+50	25.00	16.2	0.0	7.1	13	0	9	102	30	73
8+67.28	17.28	16.8	0.0	5.2	11	0	4	113	35	78
8+75	7.72	15.6	0.0	4.6	5	0	1	118	37	81
8+85.35	10.35	14.4	0.0	5.9	6	0	2	123	39	84
8+93.34	7.99	16.6	0.0	5.8	5	0	2	128	42	86
9+00	6.66	18.5	0.0	5.0	4	0	1	132	43	89
9+09.58	9.58	20.9	0.0	4.5	7	0	2	139	45	94
9+16.73	7.15	21.8	0.0	1.9	6	0	1	145	47	98
9+16.73		21.8	0.0	1.9						
9+19.95	3.22	21.8	0.0	1.9	3	0	0	148	47	101
9+25	5.05	21.7	0.0	0.7	4	0	0	152	47	104
9+32.31	7.31	21.2	0.0	0.0	6	0	0	157	47	110
9+50	17.69	19.7	0.0	0.8	13	0	0	171	48	123
9+66.73	16.73	19.7	0.0	0.8	12	0	1	183	48	135
STRUCTURE B-48-55										
10+33.27	--	18.5	0.0	18.7						
10+48.2	14.93	18.5	0.0	18.7	10	0	10	193	62	-3
10+50	1.80	18.8	0.0	21.5	1	0	1	195	63	-4
10+71.02	21.02	20.6	0.0	31.6	15	0	21	210	90	-15
10+75	3.98	20.8	0.0	27.7	3	0	4	213	96	-18
10+79.42	4.42	21.7	0.0	18.5	3	0	4	216	101	-19
10+83.27	3.85	21.7	0.0	18.5	3	0	3	219	104	-20
10+83.27		21.7	0.0	18.5						
10+93.83	10.56	24.7	0.0	28.1	9	0	9	229	116	-22
11+00	6.17	19.3	0.0	28.0	5	0	6	234	125	-26
11+07.08	7.08	20.5	0.0	27.2	5	0	7	239	134	-30
11+25	17.92	17.5	0.0	16.9	13	0	15	251	153	-36
11+34.73	9.73	20.1	0.0	12.1	7	0	5	258	160	-36
11+50	15.27	18.1	0.0	6.0	11	0	5	269	166	-32
11+75	25.00	30.0	0.0	0.0	22	0	3	291	170	-13
					291	0	131			

Note 1 - Cut	Cut includes existing asphalt pavement.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)
Note 4 - Salvaged / Unuseable Pavement Material	Existing asphalt pavement to be removed from Cut.
Note 5 - Cut	Cut reduced by salvaged/unuseable asphaltic pavement

STA. 7+25 TO 7+75



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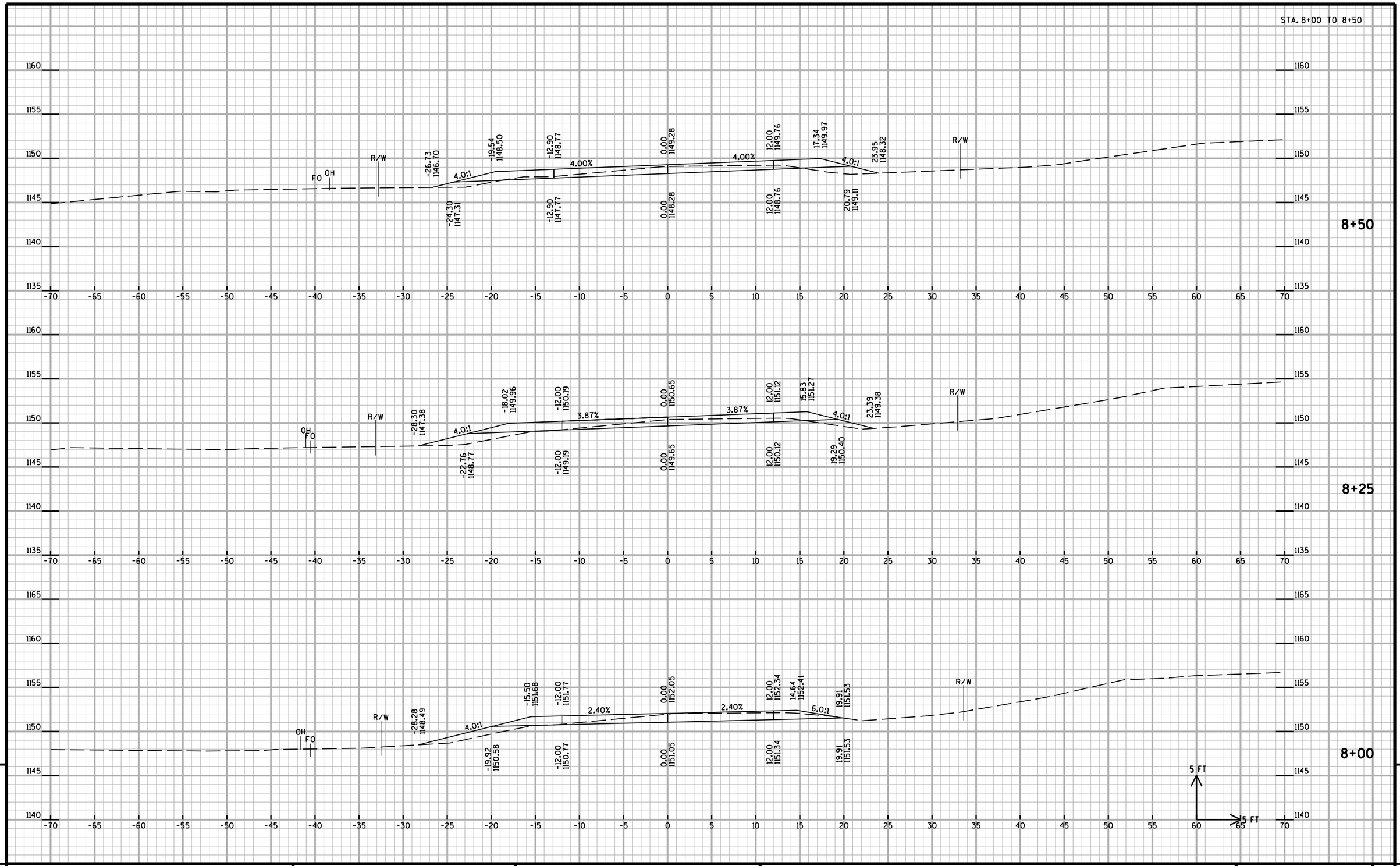
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+00 TO 8+50

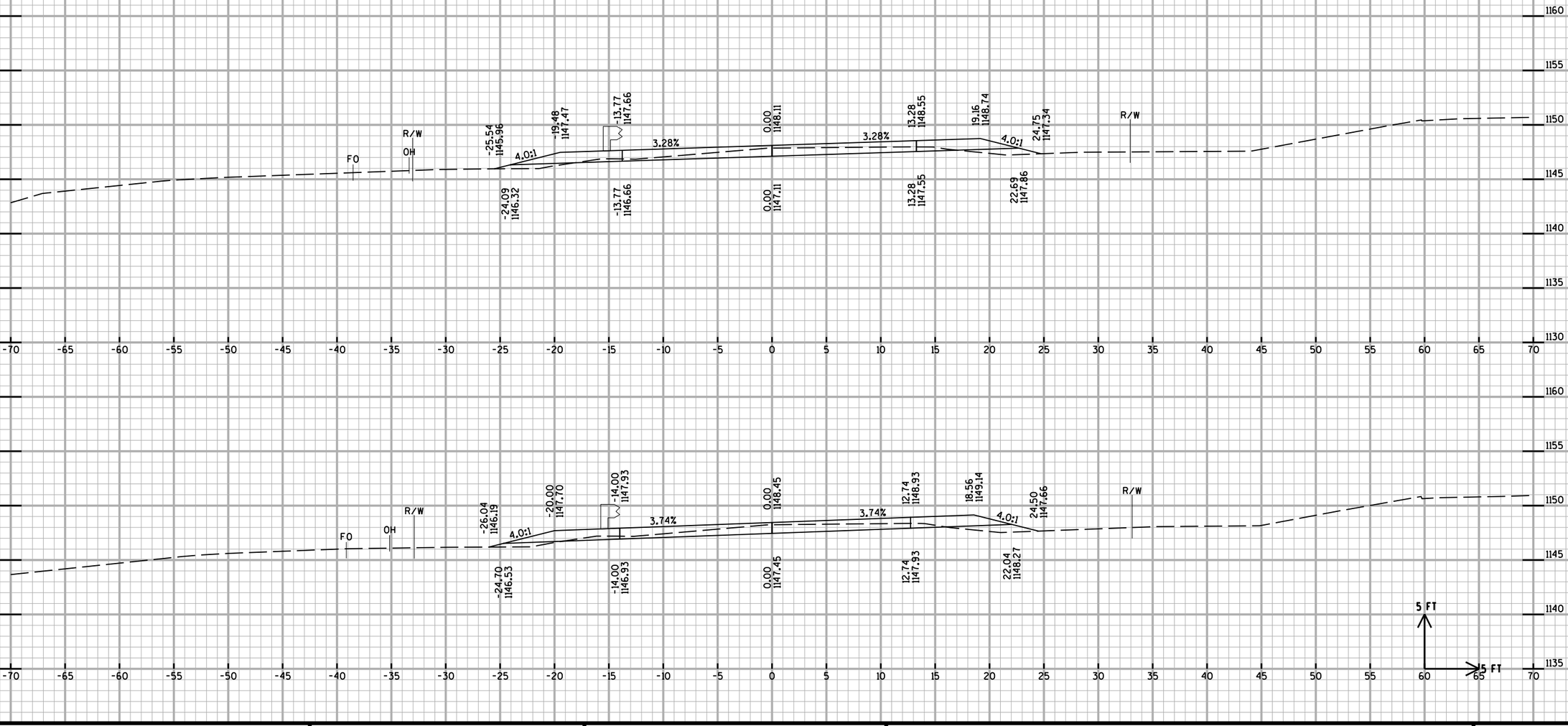


PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+67.28 TO 8+75



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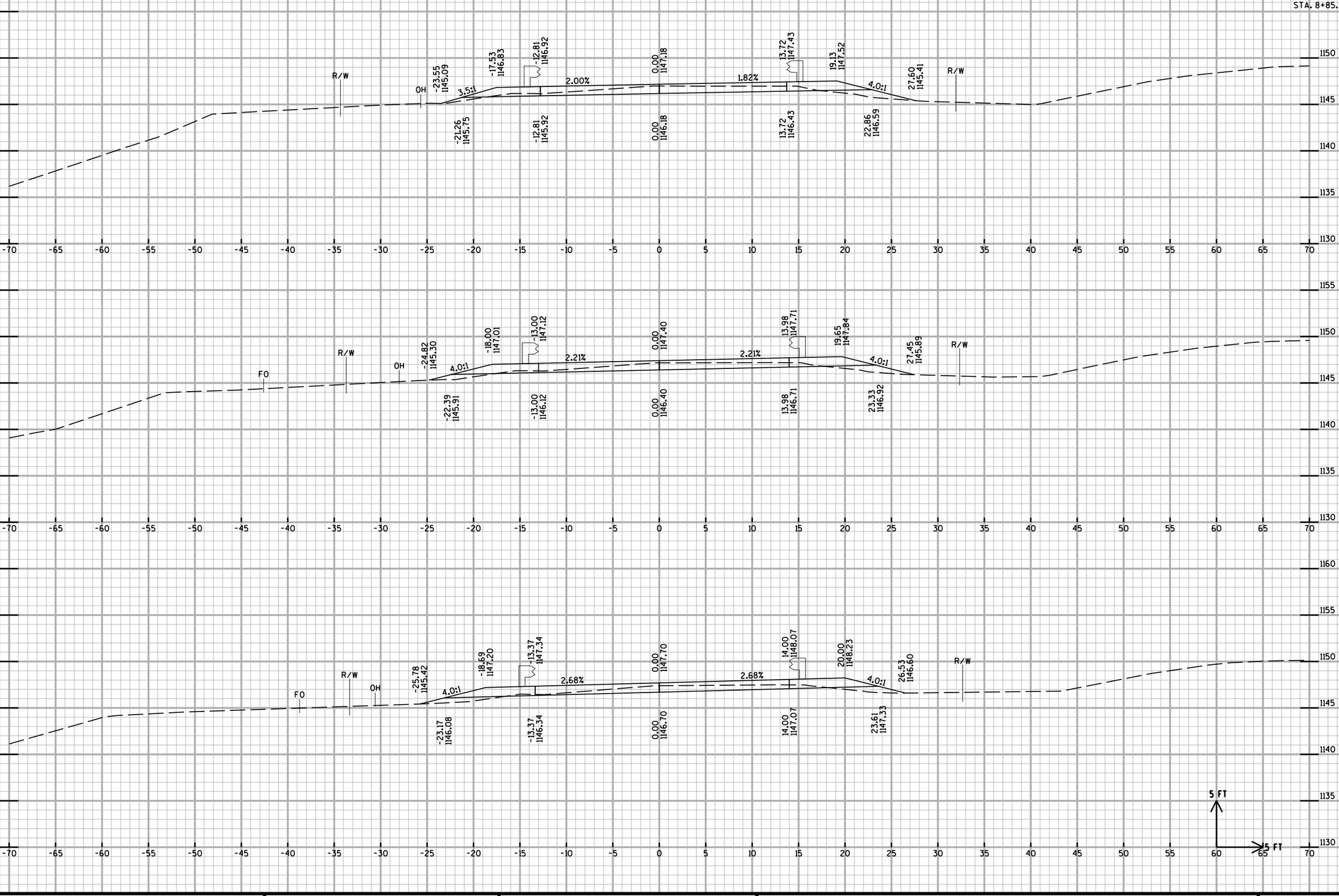
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+85.35 TO 9+00



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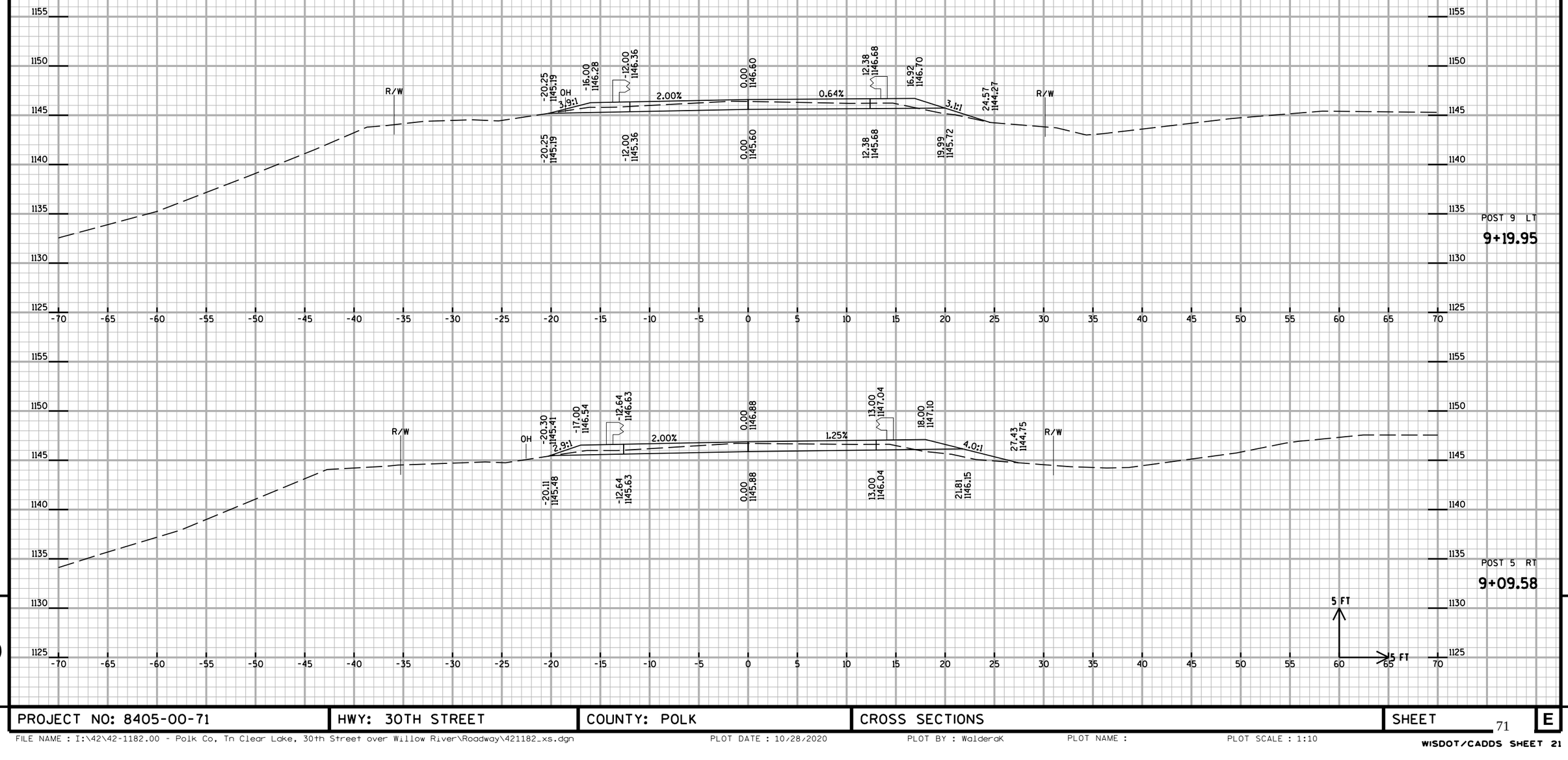
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 9+09.58 TO 9+19.95



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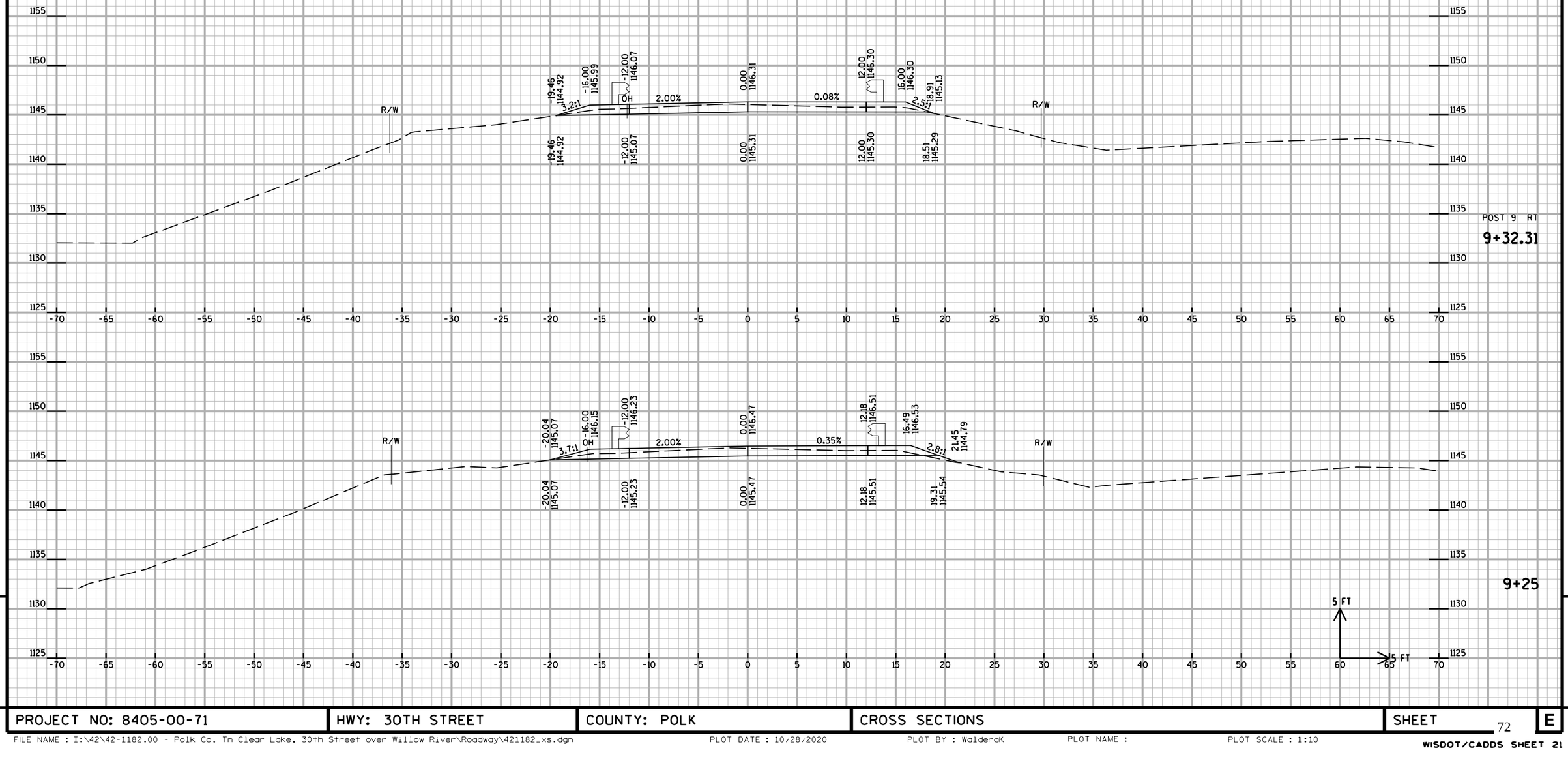
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 9+25 TO 9+32.31



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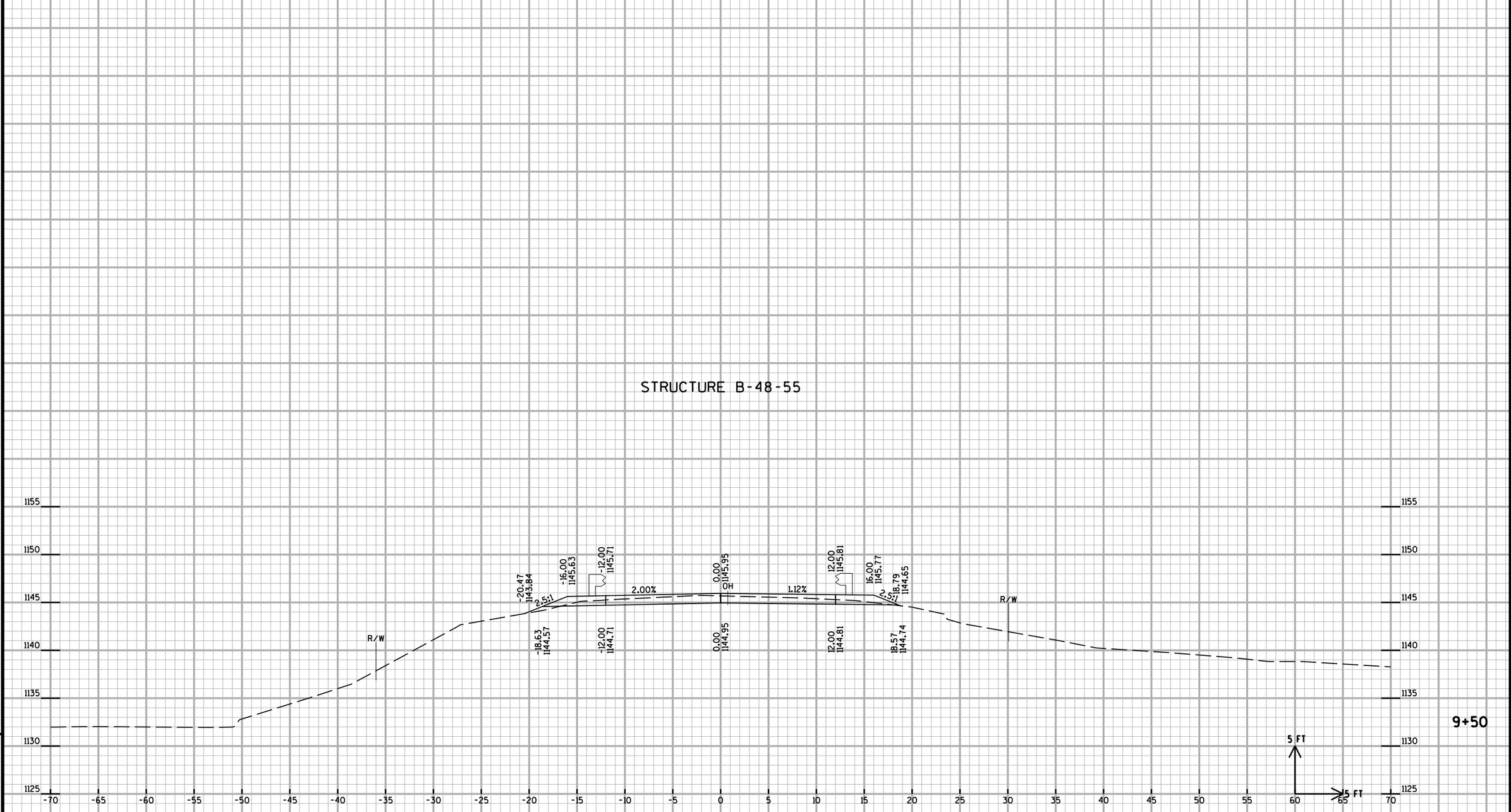
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 9+50 TO 9+50

STRUCTURE B-48-55



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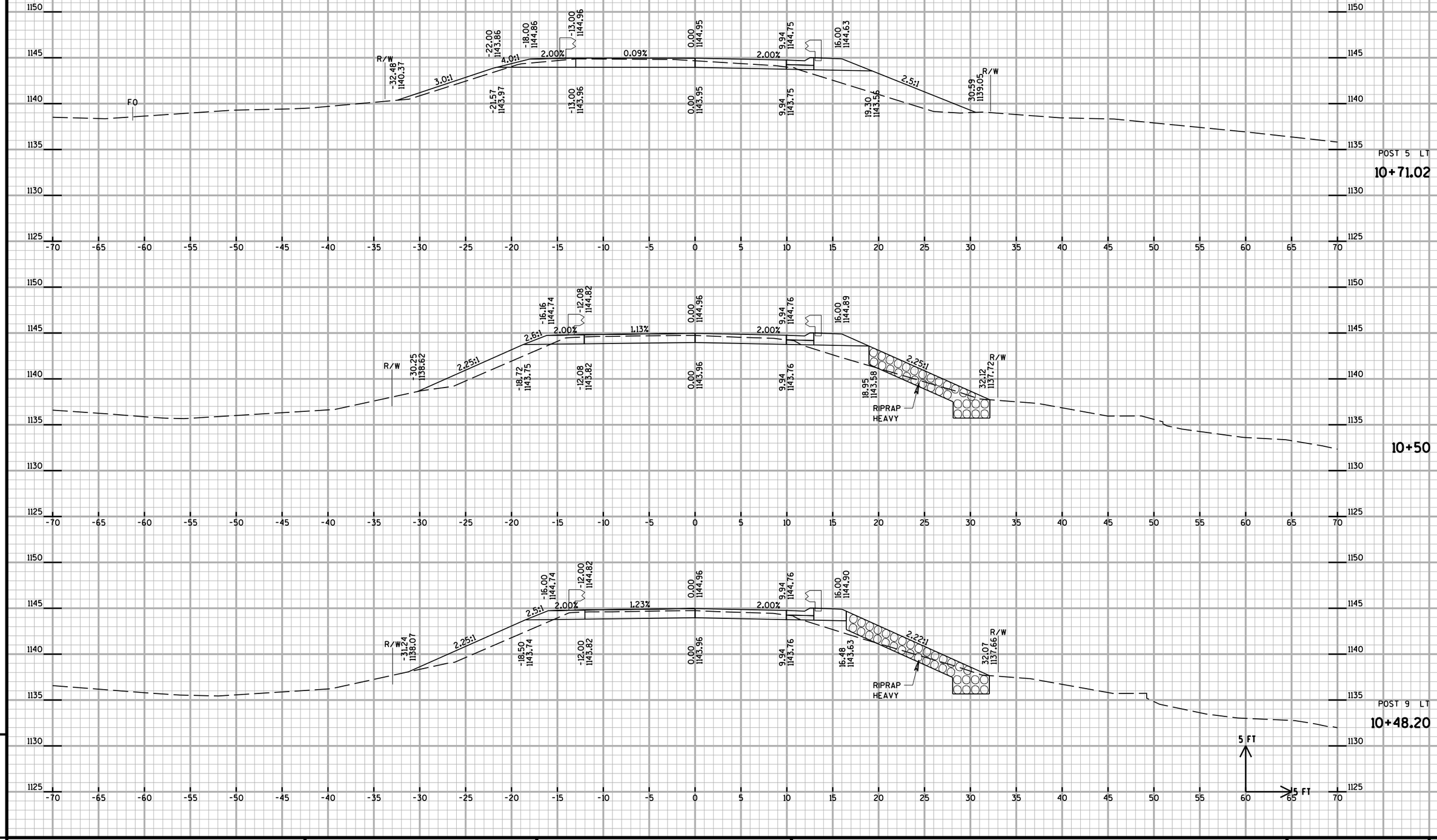
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+48.20 TO 10+71.02



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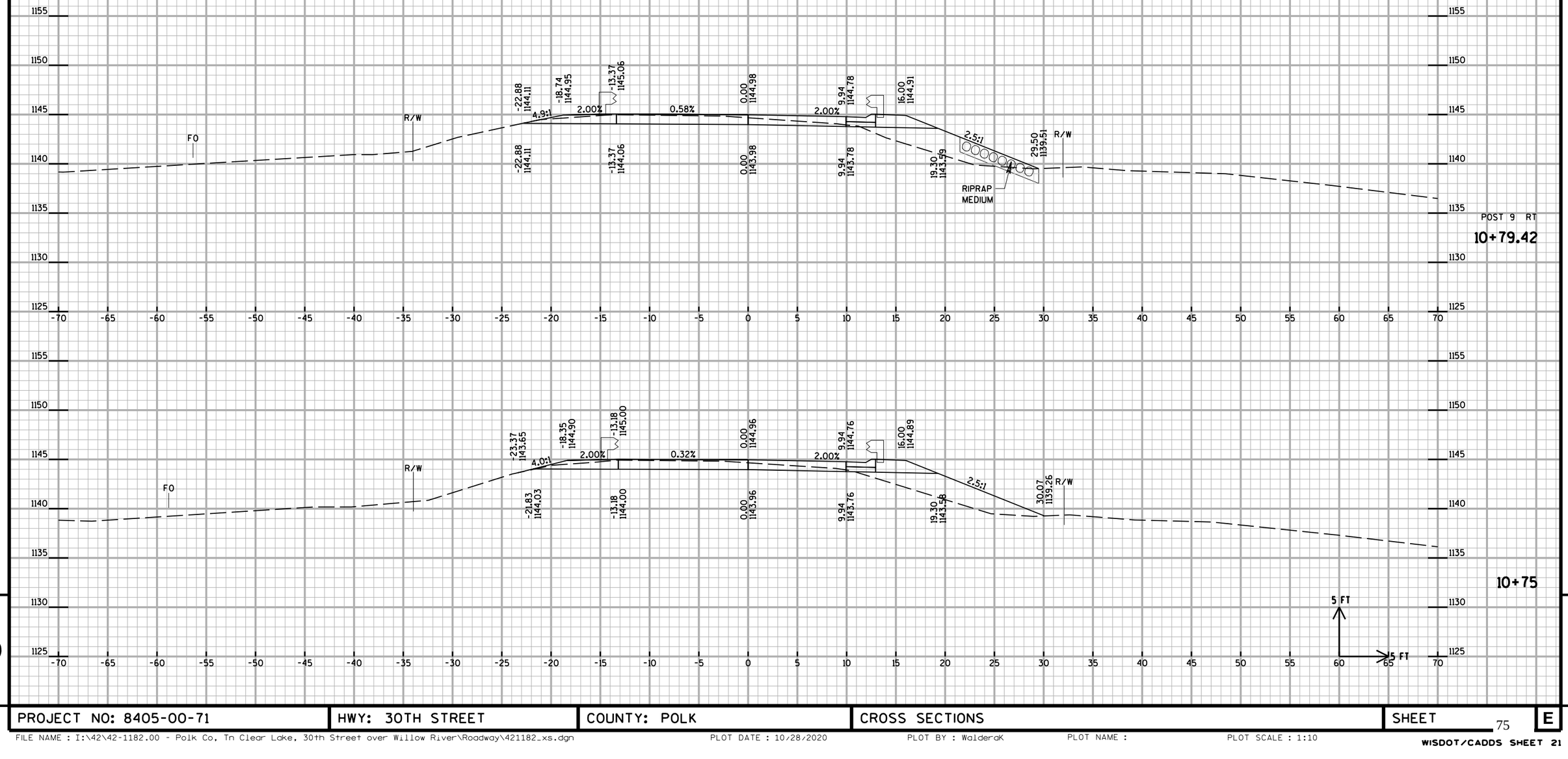
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+75 TO 10+79.42



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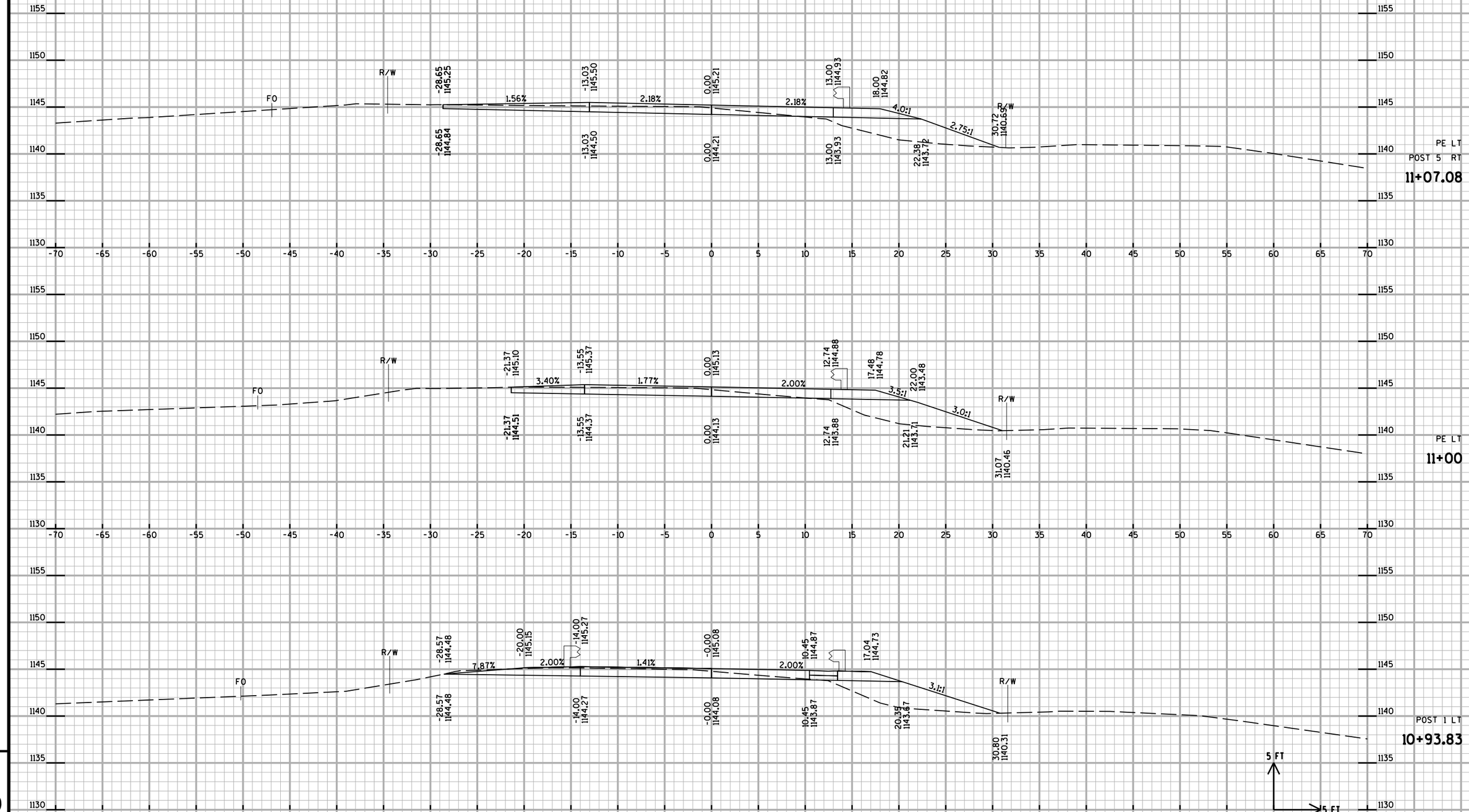
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+93.83 TO 11+07.08

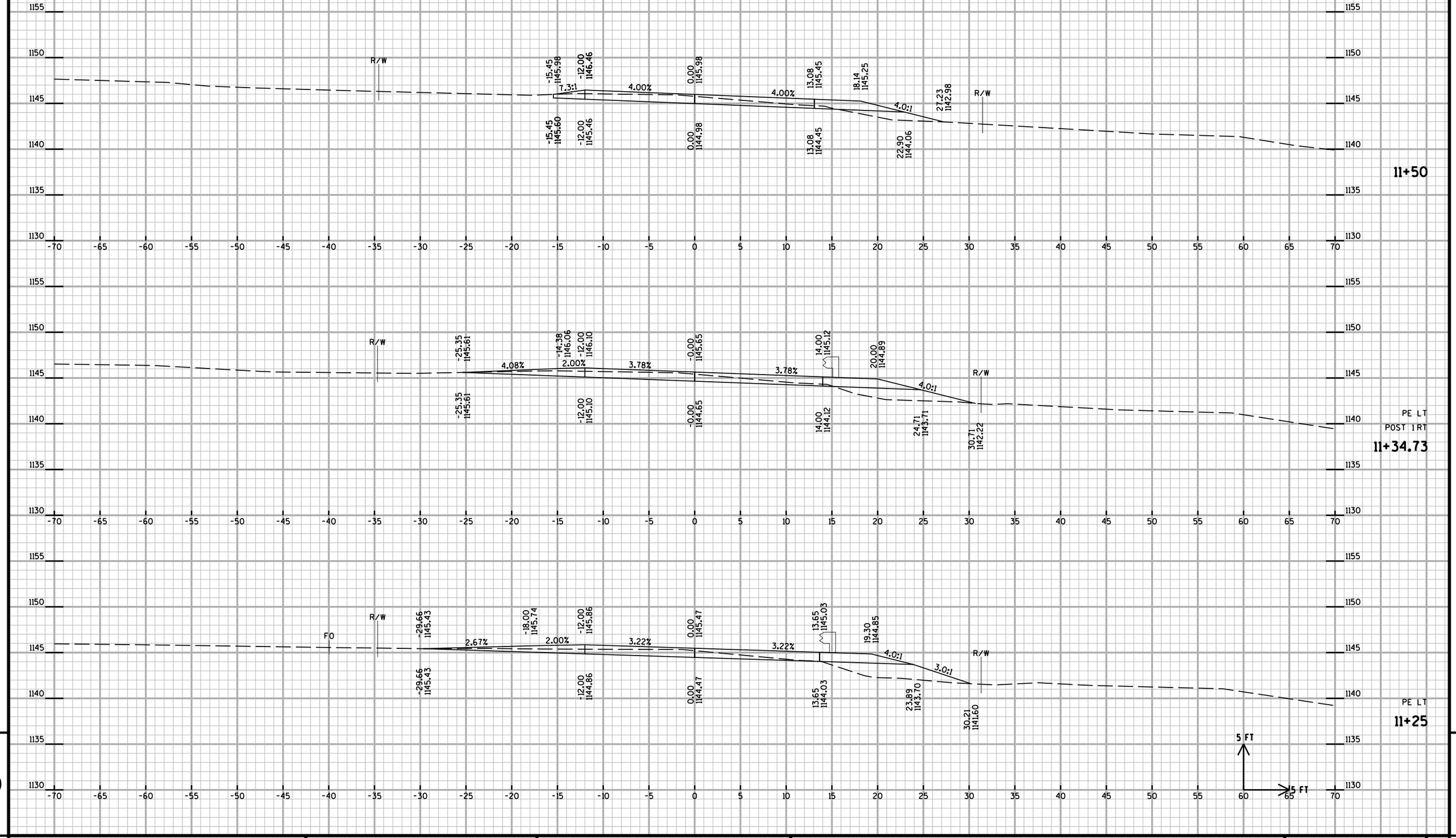


PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+25 TO 11+50



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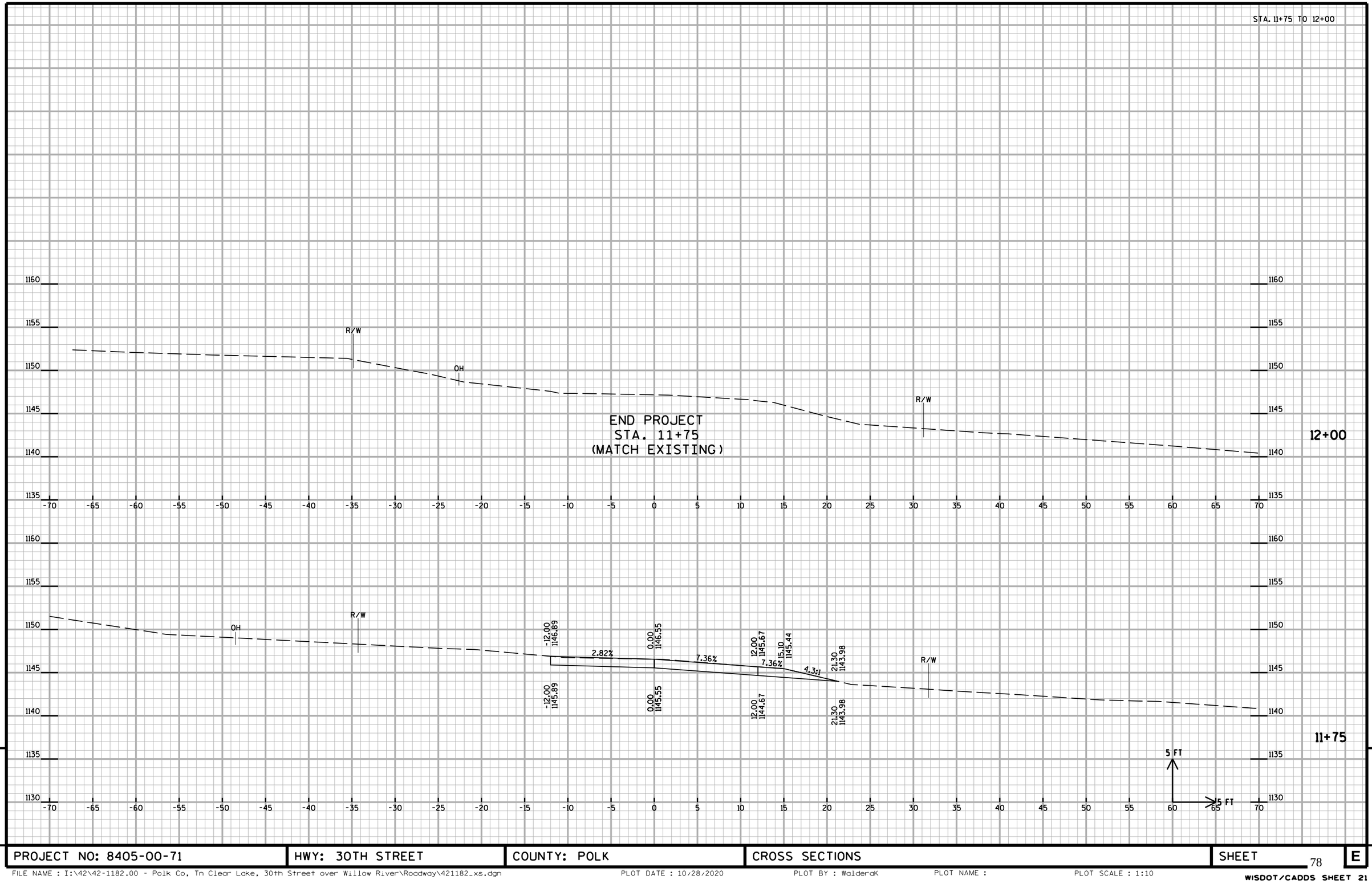
PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET 77	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+75 TO 12+00



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PROJECT NO: 8405-00-71	HWY: 30TH STREET	COUNTY: POLK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\42\42-1182.00 - Polk Co, Tn Clear Lake, 30th Street over Willow River\Roadway\421182_xs.dgn PLOT DATE : 10/28/2020 PLOT BY : WalderaK PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

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