SWL

MAY 2016

PROJECT ID: 3934-00-74

WITH: N/A

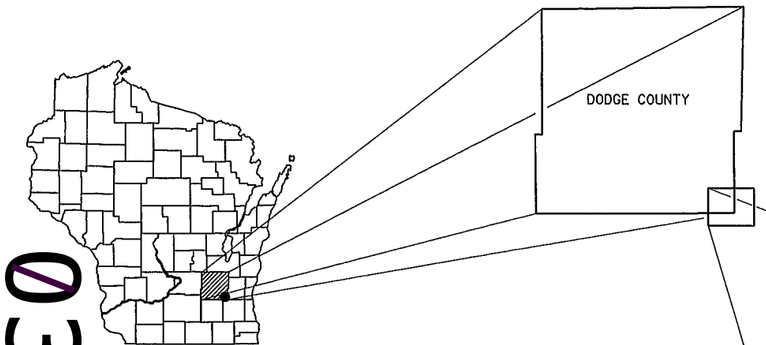
ORDER OF SHEETS

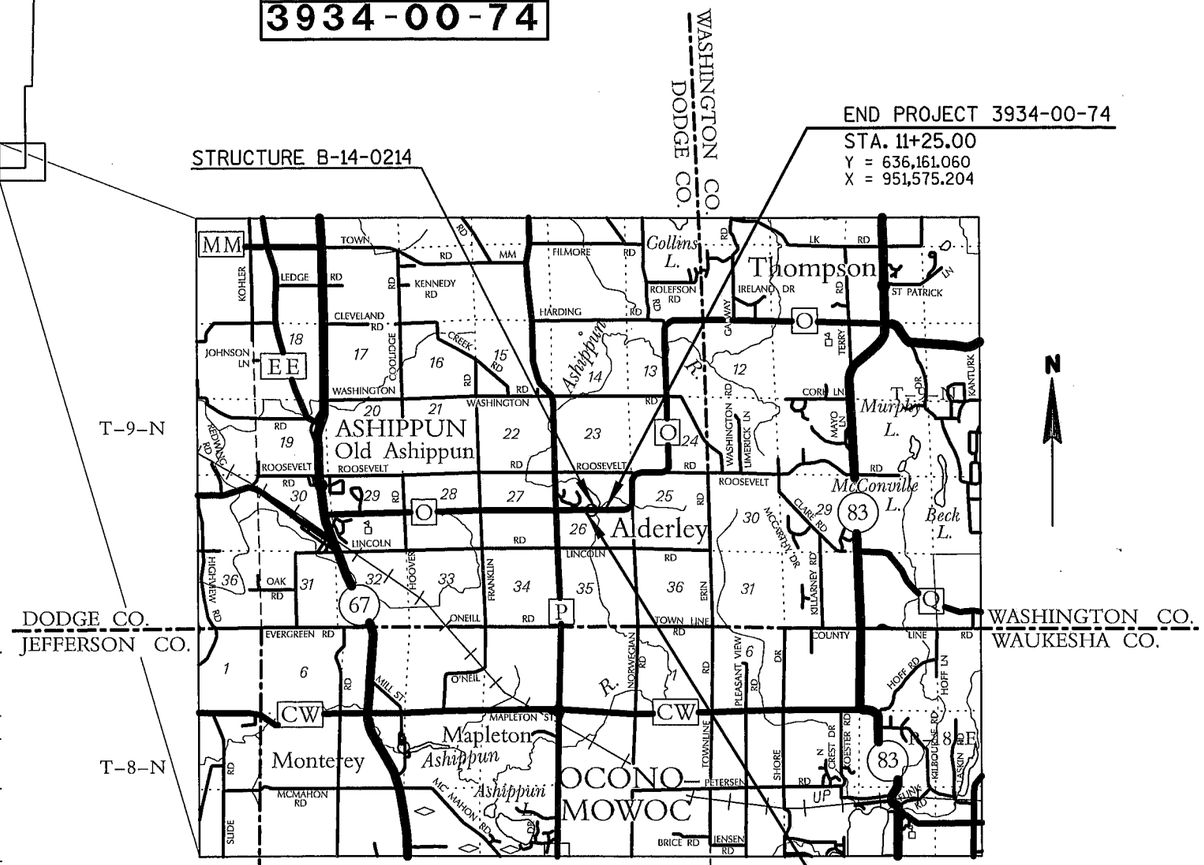
TOTAL SHEETS = 50

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
STH 67 - STH 83
(ASHIPPUN RIVER BRIDGE B-14-0214)
CTH O
DODGE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3934-00-74		

STATE PROJECT NUMBER
3934-00-74





TOTAL NET LENGTH OF CENTERLINE = 0.047 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DODGE COUNTY, HORIZONTAL DATUM NAD83 (2011).

ACCEPTED FOR
County of Dodge
1-6-2016 (Date)
County Highway Commissioner

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
WISCONSIN
MATTHEW R. BARR
E-26188
MADISON
WI
PROFESSIONAL ENGINEER
1/5/16 (Date)
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Management Consultant	KJohnson Engineers, Inc.

APPROVED FOR THE DEPARTMENT
DATE: 1/27/16
(Management Consultant Signature)

E

COUNTY: DODGE

03

DESIGN DESIGNATION

A.A.D.T. (2016)	=	820
A.A.D.T. (2036)	=	910
D.H.V.	=	5.8
D.D.	=	60/40
T.	=	6.9%
DESIGN SPEED	=	35 mph
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- 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 & HIGH VOLTAGE (CAUTION / 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
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

GENERAL NOTES

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

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

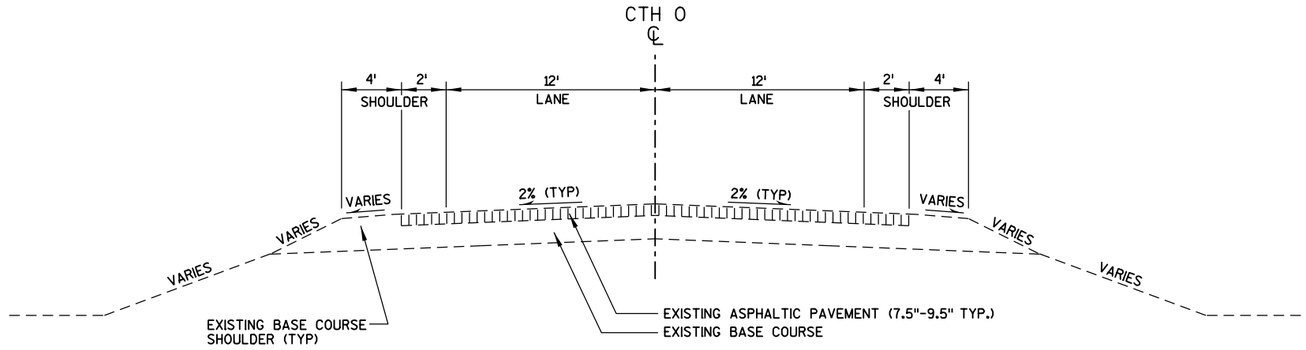
SEED MIXTURES NO. 20 AND TEMPORARY SHALL BE USED IN THE PROJECT, AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

WETLANDS ARE PRESENT AT THE LOCATIONS SHOWN IN THE PLANS. DO NOT OPERATE MACHINERY OUTSIDE OF THE SLOPE INTERCEPTS IN THESE LOCATIONS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DODGE COUNTY, HORIZONTAL DATUM NAD83 (2011).

HMA LAYERS:
- UPPER: 1 ¾" (4 LT 58-28 S)
- LOWER: 2 ¼" (3 LT 58-28 S)



TYPICAL EXISTING SECTION

STANDARD ABBREVIATIONS

A.	ANNUAL	P.C.	POINT OF CURVATURE
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	P.I.	POINT OF INTERSECTION
AC.	ACRES	P.K.	PARKER-KALON
B.M.	BENCH MARK	P.L.	PROPERTY LINE
℄	CENTERLINE	P.P.	POWER POLE
CONC.	CONCRETE	P.T.	POINT OF TANGENCY
COR.	CORNER	R	RADIUS
CULV.	CULVERT	ℝ	REFERENCE LINE
D.H.V.	DESIGN HOURLY VOLUME	RT.	RIGHT
EL.	ELEVATION	SEC.	SECTION
H.	HOUSE	STA.	STATION
I.P.	IRON PIPE	TYP.	TYPICAL
LT.	LEFT	X	EAST COORDINATE
MON.	MONUMENT	Y	NORTH COORDINATE

CONTACTS

DODGE COUNTY PUBLIC WORKS

PETE THOMPSON
ASST. COMMISSIONER
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211E. CENTER STREET
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P: (920) 386-3650
F: (920) 386-3525
E: PTHOMPSON@CO.DODGE.WI.US

TOWN OF ASHIPPUN

DAN VANDERMOLEN
HIGHWAY SUPERVISOR
PO BOX 206
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E: HIGHWAY@TOWNOFASHIPPUN.ORG

DESIGNER

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES

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DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
P: (608) 275-3301
E: ERIC.HEGGELUND@WISCONSIN.GOV

UTILITIES

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MILWAUKEE, WI 53212
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C: (414) 239-4106
E: STEVEN.STORM@TWCABLE.COM

FRONTIER COMMUNICATION
RYAN OSNESS
100 COMMUNICATIONS DRIVE
SUN PRAIRIE, WI 53590
P: (608) 837-7455
E: RYAN.D.OSNESS@FTR.COM

TOWN OF ASHIPPUN FIRE DEPARTMENT
DEONNE ESKE - FIRE CHIEF
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E: DESKE@WI.RR.COM

WE ENERGIES - ELECTRIC
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245 SAND DRIVE
WEST BEND, WI 53095
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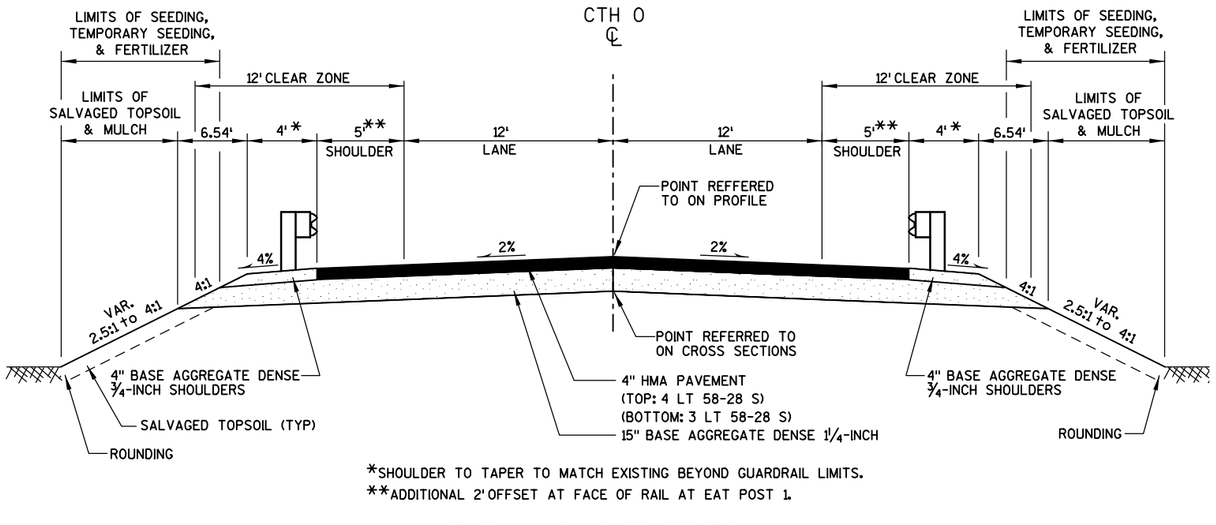
E: BRYAN.STOEHR@WE-ENERGIES.COM

WE ENERGIES - GAS
NICK ERNSTER
500 SOUTH 116TH ST
WEST ALLIS, WI 53214
P: (414) 944-5574
C: (414) 640-4271
E: NICHOLAS.ERNSTER@WE-ENERGIES.COM

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

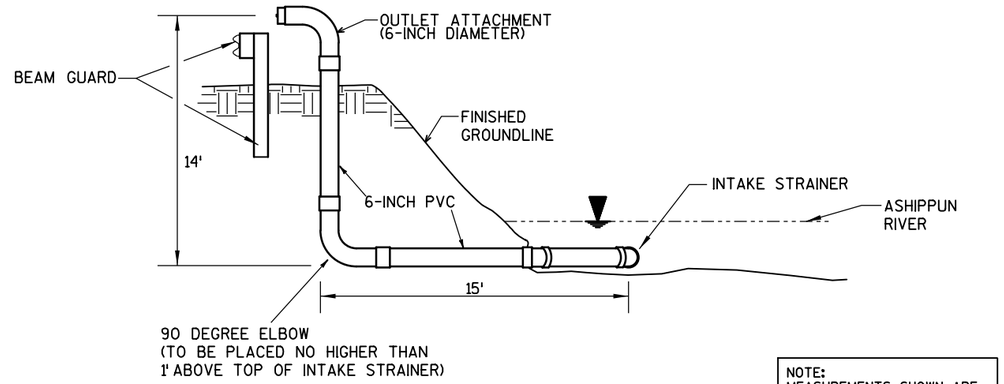
** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	GENERAL NOTES & EXISTING TYPICAL SECTION	SHEET 2	E



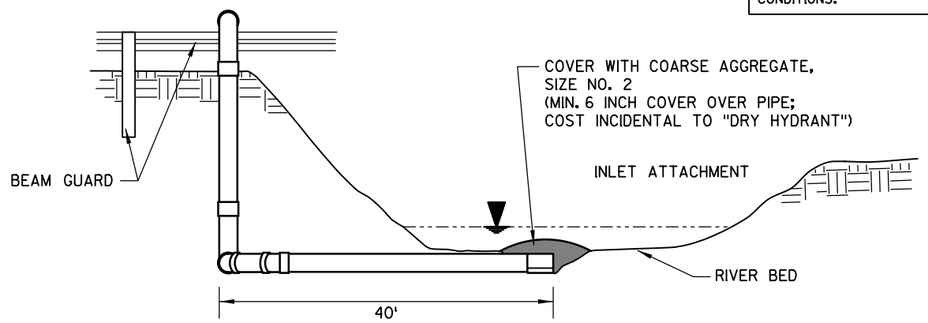
*SHOULDER TO TAPER TO MATCH EXISTING BEYOND GUARDRAIL LIMITS.
**ADDITIONAL 2' OFFSET AT FACE OF RAIL AT EAT POST 1.

TYPICAL FINISHED SECTION

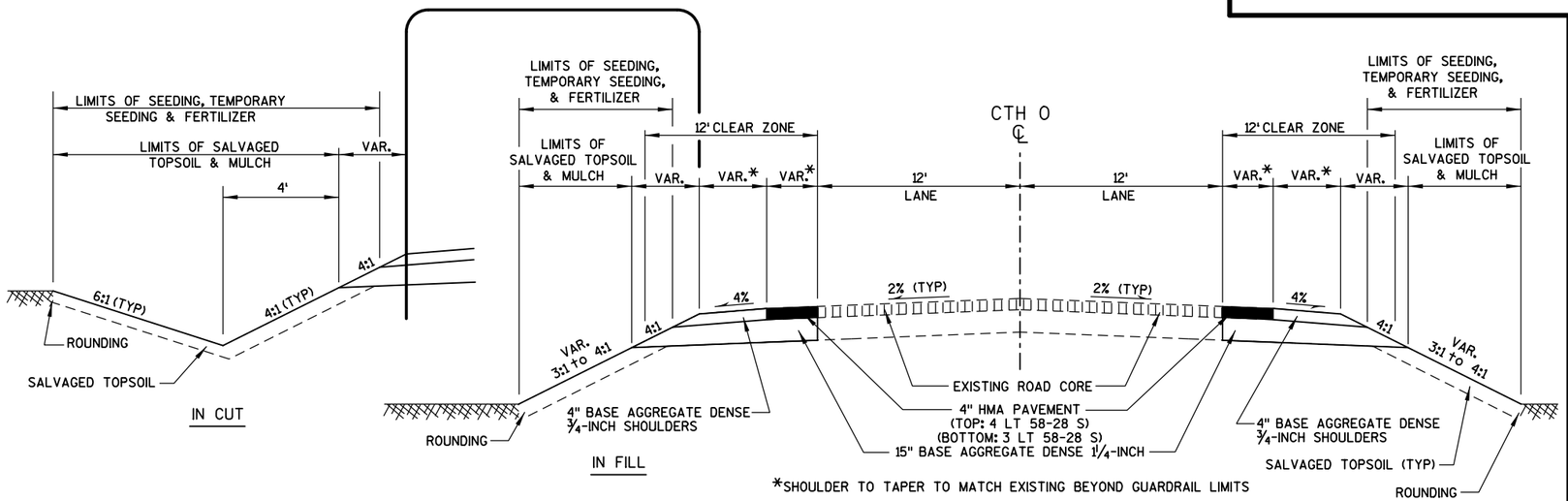


SECTION A-A

NOTE:
MEASUREMENTS SHOWN ARE APPROXIMATE. FIT TO FIELD CONDITIONS.

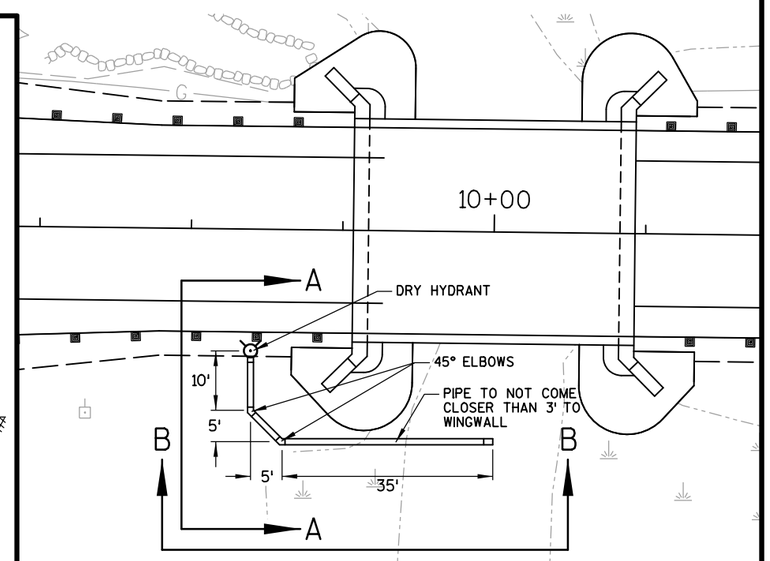


SECTION B-B



*SHOULDER TO TAPER TO MATCH EXISTING BEYOND GUARDRAIL LIMITS

TYPICAL FINISHED SECTION SHOULDER WIDENING



DRY HYDRANT DETAIL

(STA. 9+60, RT)

PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	PROPOSED TYPICAL SECTION & CONSTRUCTION DETAIL	SHEET 3	E

DATE 02MAR16 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3934-00-74 QUANTITY
0010	201.0220	Grubbing	ID	18.000	18.000
0020	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0030	205.0100	Excavation Common **P**	CY	592.000	592.000
0040	206.1000	Excavation for Structures Bridges (structure) 01. B-14-214	LS	1.000	1.000
0050	210.0100	Backfill Structure	CY	220.000	220.000
0060	213.0100	Finishing Roadway (project) 01. 3934-00-74	EACH	1.000	1.000
0070	305.0110	Base Aggregate Dense 3/4-Inch	TON	99.000	99.000
0080	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,307.000	1,307.000
0090	455.0605	Tack Coat	GAL	63.000	63.000
0100	460.2000	Incentive Density HMA Pavement	DOL	130.000	130.000
0110	460.5223	HMA Pavement 3 LT 58-28 S	TON	115.000	115.000
0120	460.5224	HMA Pavement 4 LT 58-28 S	TON	88.000	88.000
0130	502.0100	Concrete Masonry Bridges	CY	200.000	200.000
0140	502.3200	Protective Surface Treatment	SY	176.000	176.000
0150	502.3210	Pigmented Surface Sealer	SY	38.000	38.000
0160	505.0400	Bar Steel Reinforcement HS Structures	LB	5,220.000	5,220.000
0170	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	25,620.000	25,620.000
0180	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0190	550.0500	Pile Points	EACH	12.000	12.000
0200	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	240.000	240.000
0210	606.0300	Riprap Heavy	CY	120.000	120.000
0220	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0230	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0240	614.0920	Salvaged Rail	LF	158.000	158.000
0250	614.0925	Salvaged Guardrail End Treatments	EACH	4.000	4.000
0260	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0270	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0280	619.1000	Mobilization	EACH	1.000	1.000
0290	624.0100	Water	MGAL	21.000	21.000
0300	625.0500	Salvaged Topsoil **P**	SY	645.000	645.000
0310	627.0200	Mulching **P**	SY	645.000	645.000
0320	628.1504	Silt Fence	LF	790.000	790.000
0330	628.1520	Silt Fence Maintenance	LF	790.000	790.000
0340	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0350	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0360	628.2008	Erosion Mat Urban Class I Type B	SY	1,080.000	1,080.000
0370	628.6005	Turbidity Barriers	SY	150.000	150.000
0380	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0390	629.0210	Fertilizer Type B **P**	CWT	1.300	1.300
0400	630.0120	Seeding Mixture No. 20 **P**	LB	28.000	28.000
0410	630.0200	Seeding Temporary **P**	LB	28.000	28.000
0420	630.0300	Seeding Borrow Pit	LB	10.000	10.000
0430	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0440	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0450	638.2602	Removing Signs Type II	EACH	10.000	10.000
0460	638.3000	Removing Small Sign Supports	EACH	9.000	9.000
0470	642.5001	Field Office Type B	EACH	1.000	1.000
0480	643.0100	Traffic Control (project) 01. 3934-00-74	EACH	1.000	1.000
0490	645.0120	Geotextile Fabric Type HR	SY	220.000	220.000
0500	650.4500	Construction Staking Subgrade	LF	335.000	335.000

3

DATE 02MAR16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3934-00-74 QUANTITY
0510	650.5000	Construction Staking Base	LF	335.000	335.000
0520	650.6500	Construction Staking Structure Layout (structure) 01. B-14-214	LS	1.000	1.000
0530	650.9910	Construction Staking Supplemental Control (project) 01. 3934-00-74	LS	1.000	1.000
0540	650.9920	Construction Staking Slope Stakes	LF	335.000	335.000
0550	690.0150	Sawing Asphalt	LF	310.000	310.000
0560	715.0502	Incentive Strength Concrete Structures	DOL	1,200.000	1,200.000
0570	SPV.0105	Special 01. DRY HYDRANT	LS	1.000	1.000

CTH O EARTHWORK SUMMARY

From/To Station	Location	Common Excavation* (1) (item # 205.0100) Cut	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
8+09 - 11+86	CTH O	592	197	256	336	336		

1) Common Excavation 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.
*PAY PLAN QUANTITY

REMOVING SIGNS & SUPPORTS

STATION	O/S	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	NOTES
9+75	LT & RT	2	2	EXISTING TIGER STRIPE MARKERS
9+75	RT	1	1	LOITERING OR FISHING FROM BRIDGE PROHIBITED
9+75	RT	1	1	FIRE DEPT NO PARKING PUMP SITE
10+25	LT & RT	2	2	EXISTING TIGER STRIPE MARKERS
10+25	LT	2	1	30 MPH SPEED LIMIT & ALDERLEY SIGN
10+25	LT	1	1	LOITERING OR FISHING FROM BRIDGE PROHIBITED
11+00	RT	1	1	55 MPH SPEED LIMIT
TOTALS		10	9	

GRUBBING

STATION	OFFSET	LOCATION	201.0220 ID
9+15	32.5'	LT	18
TOTALS			18

GUARDRAIL

STA	TO	STA	LOCATION	614.0920 SALVAGED RAIL LF	614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
8+09		9+78	LT & RT	79	2	78.8	2
10+22		11+86	LT & RT	79	2	78.8	2
TOTALS				158	4	157.6	4

PAVING AND BASE QUANTITIES

STA	TO	STA	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	455.0605 TACK COAT GAL	460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	624.0100 WATER MGAL
8+09		9+78	48	628	30	62	55	42	10.1
10+22		11+86	46	617	30	61	54	42	9.9
UNDISTRIBUTED			5	62	3	7	6	4	1.0
TOTALS			99	1,307	63	130	115	88	21.0

FINISHING ROADWAY (ID 3934-00-74)

LOCATION	213.0100.01 EACH
MAINLINE	1
TOTAL	1

MOBILIZATION

CATEGORY	619.1000 EACH
0010	0.3
0020	0.7
TOTAL	1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

EROSION CONTROL ITEMS

STA	TO	STA	LOCATION	625.0500 SALVAGED* TOPSOIL SY	627.0200 MULCHING* SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER* TYPE B CWT	630.0120 SEEDING* MIXTURE NO. 20 LB	630.0200 SEEDING* TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
8+09		9+78	RT	155	155	180	180	260	0.3	7	7	2
8+09		9+78	LT	105	105	180	180	200	0.2	5	5	2
10+22		11+86	RT	215	215	180	180	315	0.4	8	8	3
10+22		11+86	LT	110	110	180	180	205	0.3	5	5	2
UNDISTRIBUTED				60	60	70	70	100	0.1	3	3	1
TOTALS				645	645	790	790	1,080	1.3	28	28	10

* PAY PLAN QUANTITY

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
ID 3934-00-74	2	2
TOTALS	2	2

TURBIDITY BARRIERS

LOCATION	628.6005 SY
NORTH ABUT	70
SOUTH ABUT	65
UNDISTRIBUTED	15
TOTAL	150

TEMPORARY DITCH CHECKS

LOCATION	OFFSET	628.7504 LF
NORTH ABUT	LT	12.5
NORTH ABUT	RT	12.5
SOUTH ABUT	LT	12.5
SOUTH ABUT	RT	12.5
TOTAL		50

OBJECT MARKERS

STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	SIGNAGE TYPE
9+75	LT	1	3	W5-52L
9+75	RT	1	3	W5-52R
10+25	LT	1	3	W5-52R
10+25	RT	1	3	W5-52L
TOTALS		4	12	

FIELD OFFICE TYPE B

CATEGORY	642.5001 EACH
0010	0.3
0020	0.7
TOTAL	1

TRAFFIC CONTROL (ID 3934-00-74)

	643.0100.01 EACH
PROJECT 6208-00-75	1
TOTAL	1

STAKING ITEMS

CATEGORY	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-14-0214) LS	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (3934-00-74) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+09 - 11+86	335	335	--	1	335
0020	B-14-0214	--	--	1	--	--
TOTALS		335	335	1	1	335

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
8+09 - 8+75	LT & RT	160
11+25 - 11+86	LT & RT	150
TOTAL		310

DRY HYDRANT

CATEGORY	SPV.0105.01 LS
0030	1
TOTAL	1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

CATEGORY 0030 INCLUDES NON-PARTICIPATING WORK

BENCH MARKS

NO.	STATION	DESCRIPTION	OFFSET	ELEV.
10	7+73	RR SPIKE IN POWER POLE	20' RT.	935.08
11	10+11	CHISLED 'X' ON BRIDGE	15' RT.	924.79
12	11+67	RR SPIKE IN POWER POLE	48' RT.	925.16

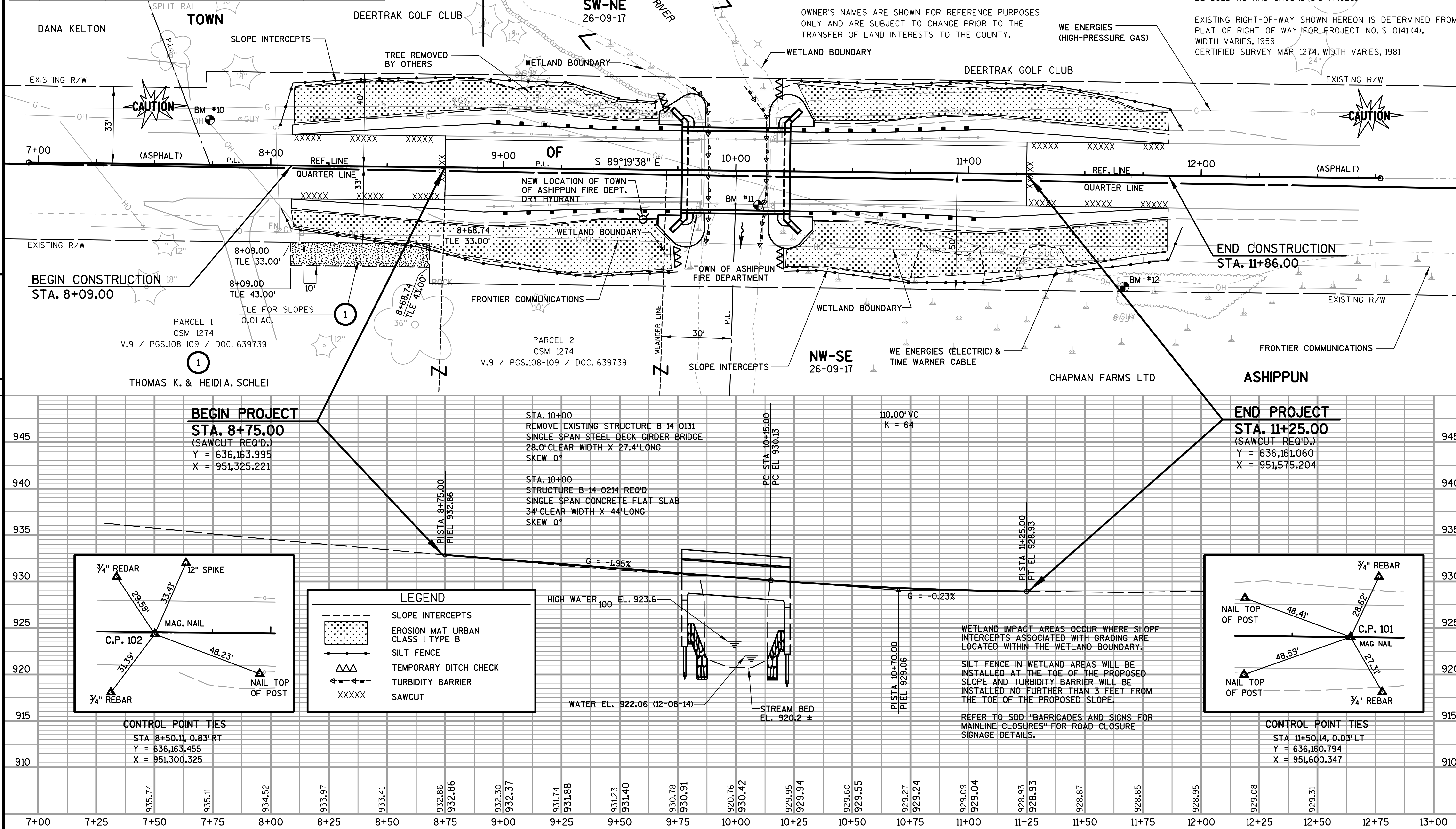
SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	TLE ACRES
1	THOMAS K. & HEIDI A. SCHLEI	TLE	0.01

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DODGE COUNTY, NAD83 (2011) ADJUSTMENT IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS AND GROUND DISTANCES.

EXISTING RIGHT-OF-WAY SHOWN HEREON IS DETERMINED FROM:
PLAT OF RIGHT OF WAY FOR PROJECT NO. S 0141 (4), WIDTH VARIES, 1959
CERTIFIED SURVEY MAP 1274, WIDTH VARIES, 1981

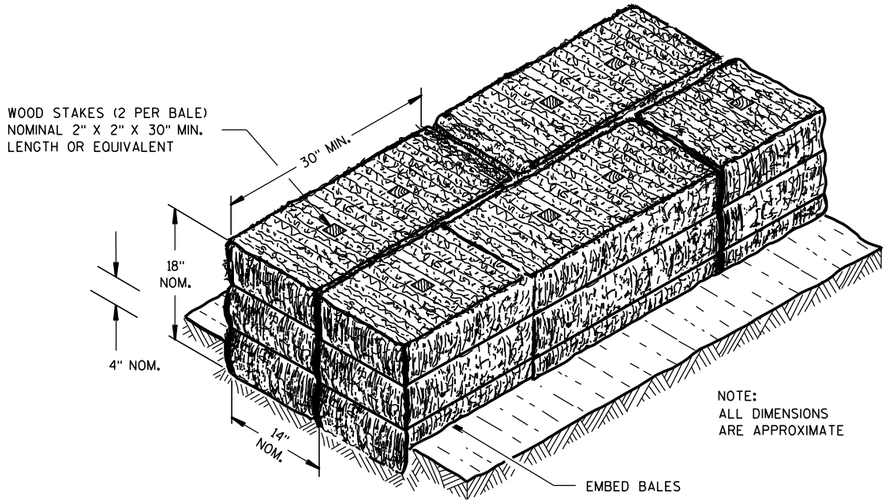


PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	PLAN & PROFILE	SCALE, FEET 0 20 40	SHEET 8	E

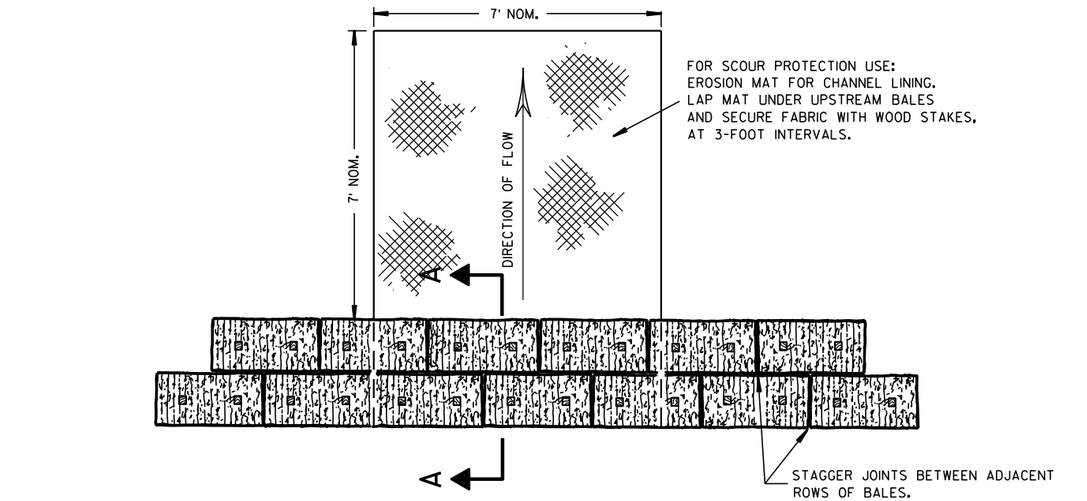
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES

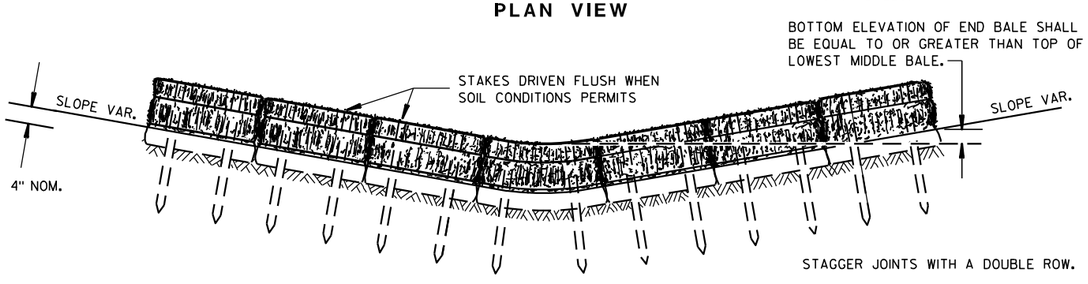
6



SECTION A-A



PLAN VIEW



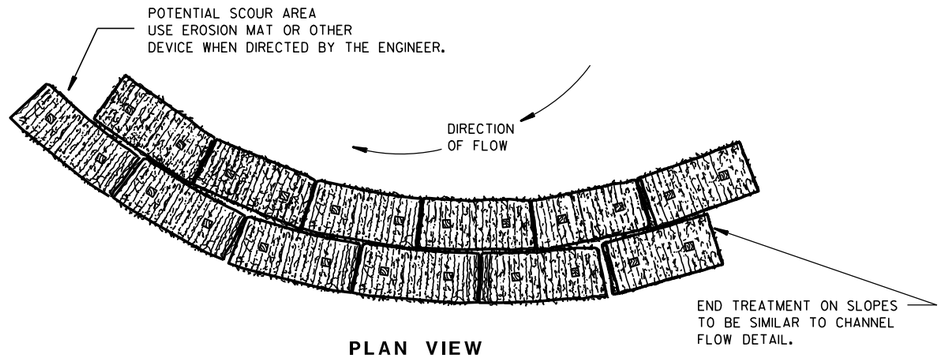
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

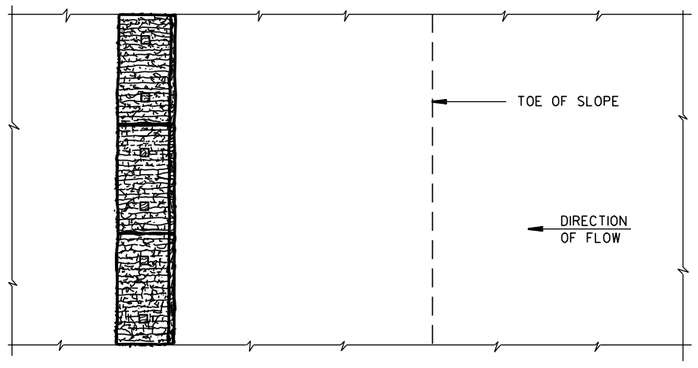
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

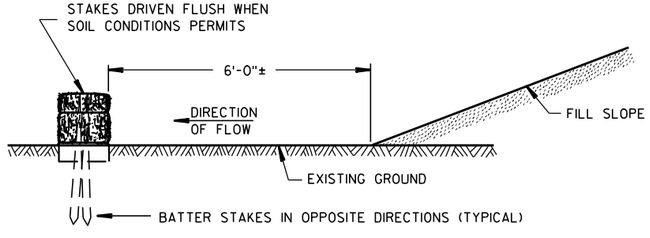


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 8-3

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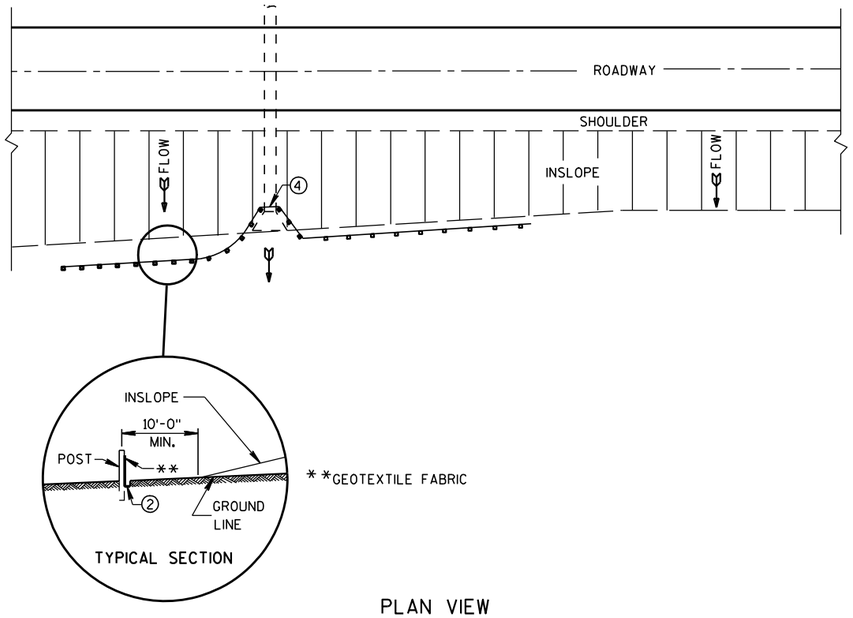
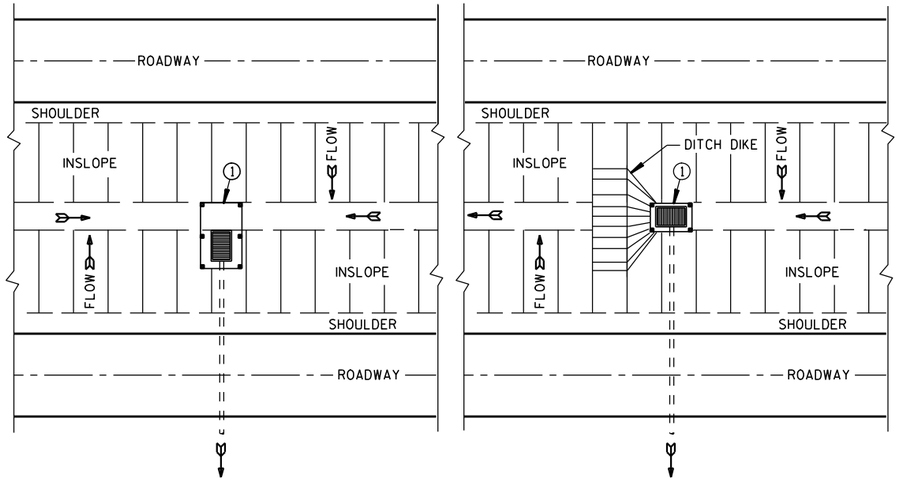
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

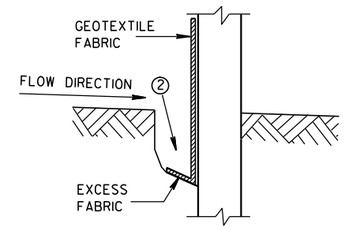
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

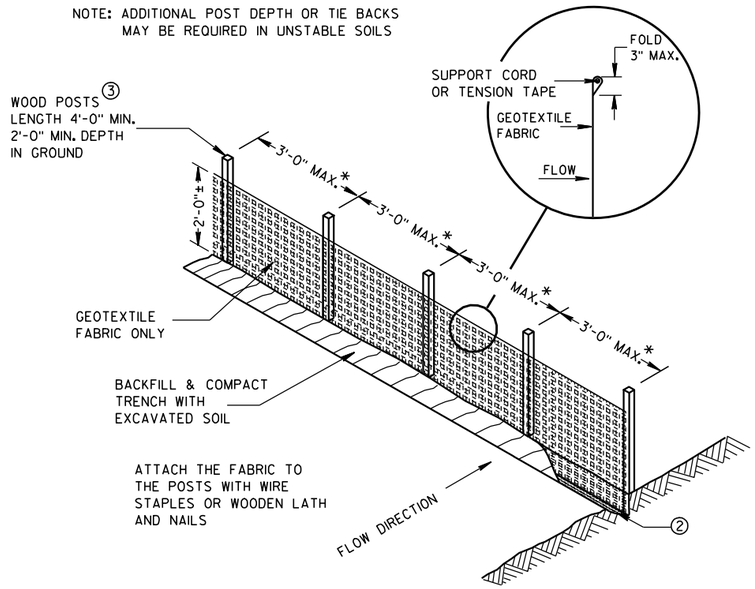
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

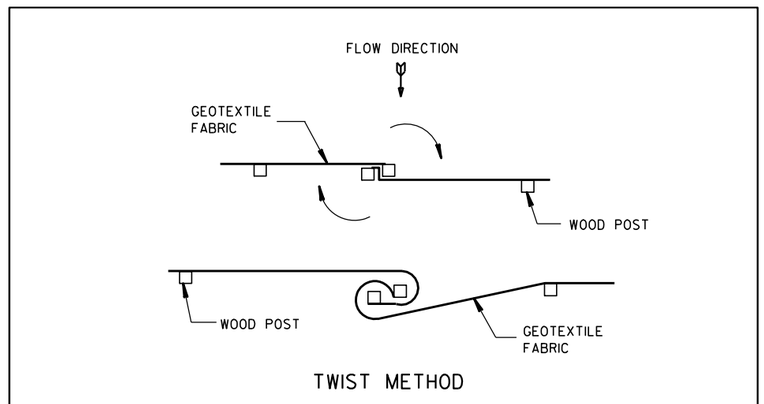
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



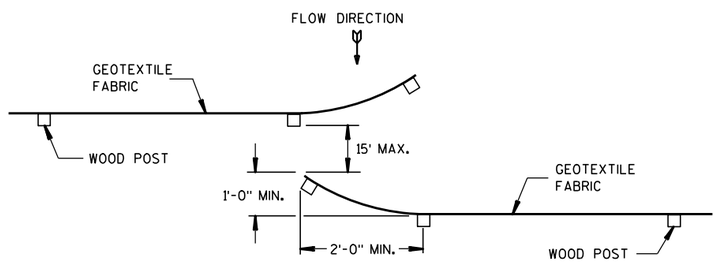
TRENCH DETAIL



SILT FENCE

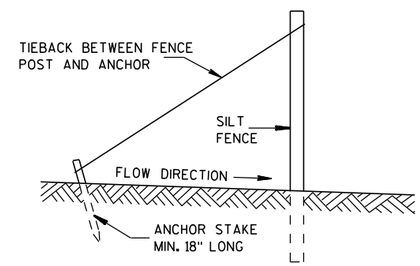


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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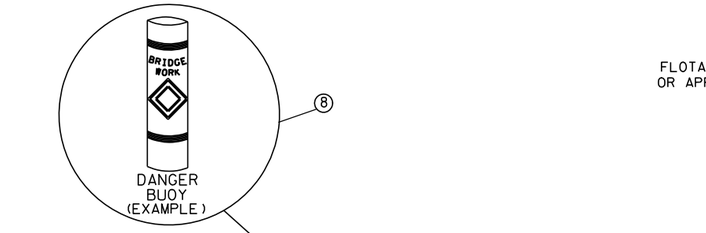
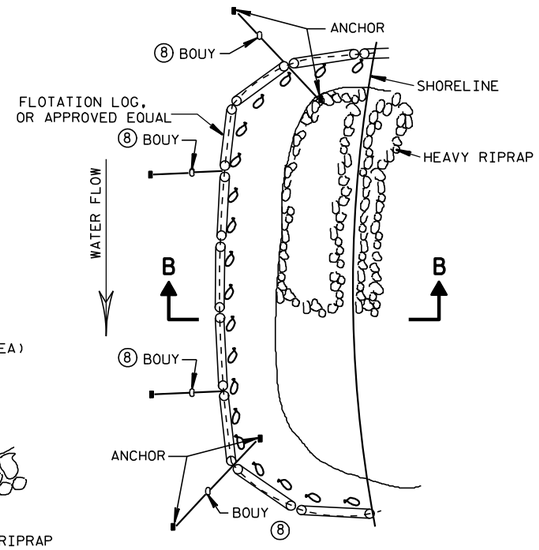
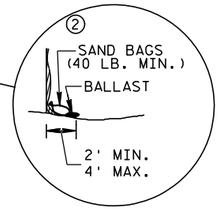
S.D.D. 8 E 9-6

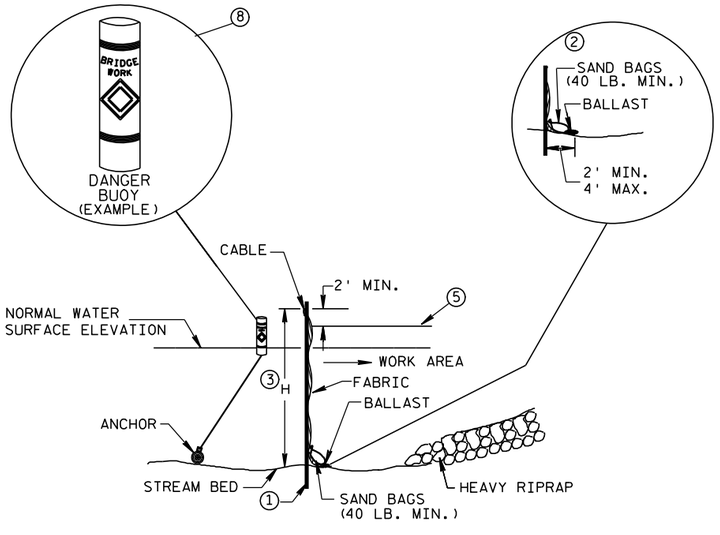


SECTION B-B

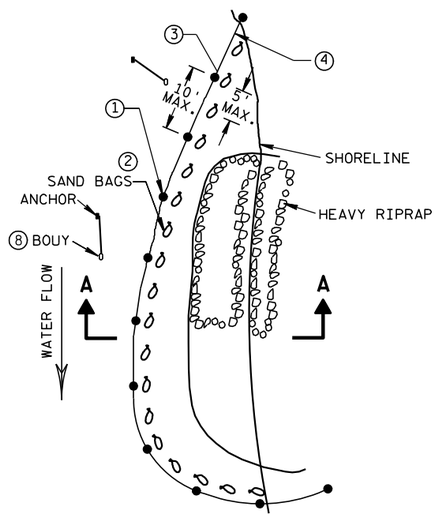




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

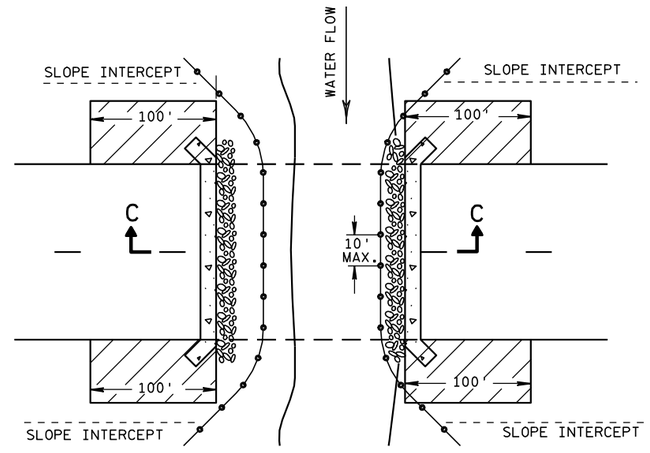
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

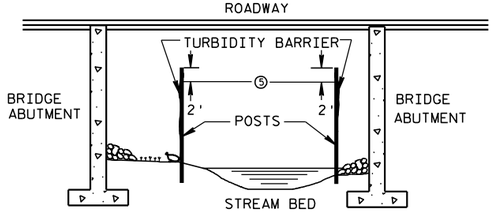
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

6

S.D.D. 8 E 11-2

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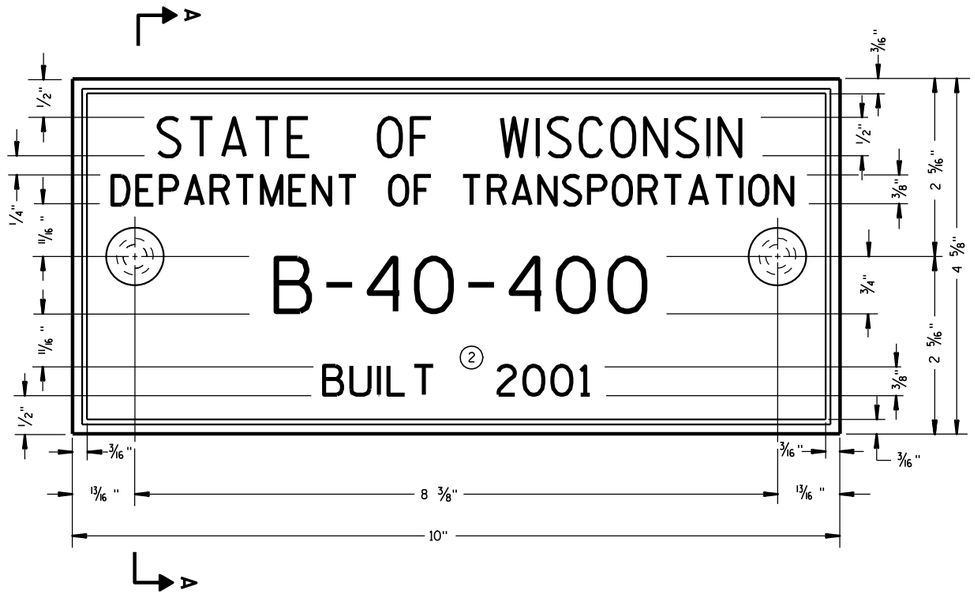
S.D.D. 8 E 11-2



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

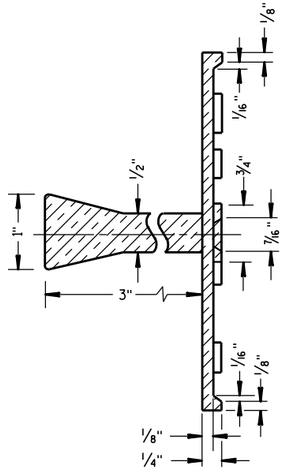
GENERAL NOTES

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.

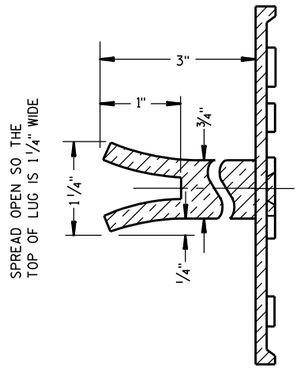
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

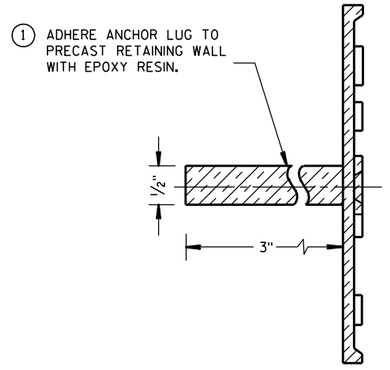
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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 DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

GENERAL NOTES

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

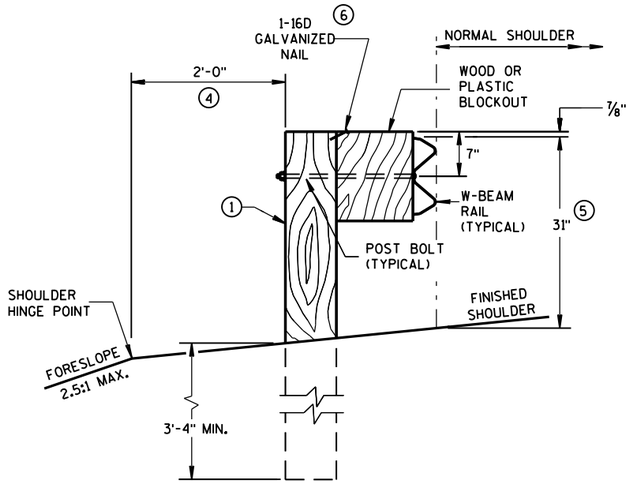
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

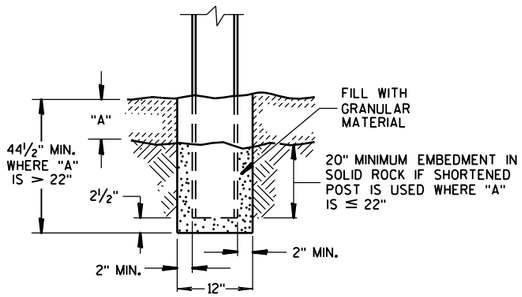
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



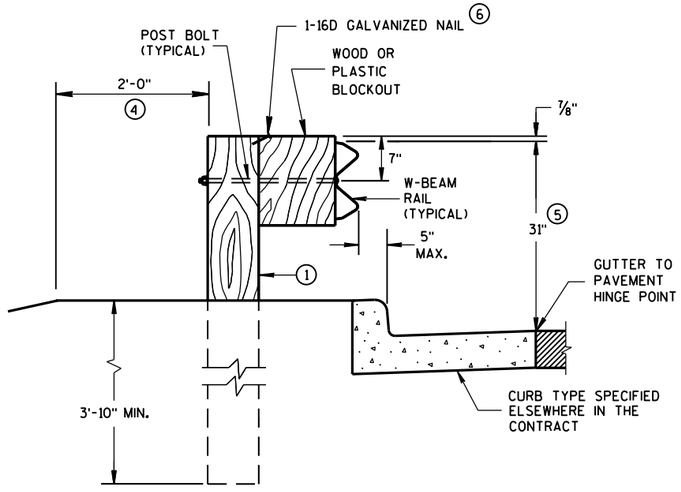
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



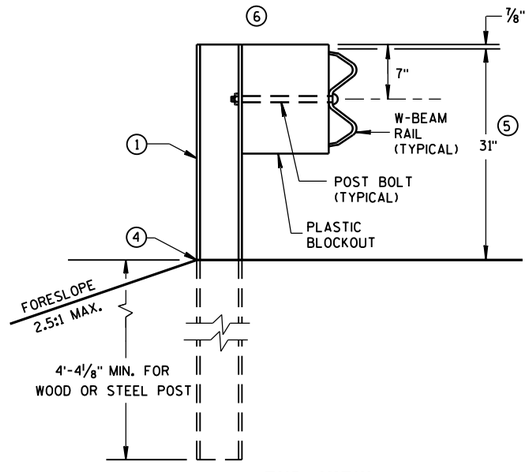
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



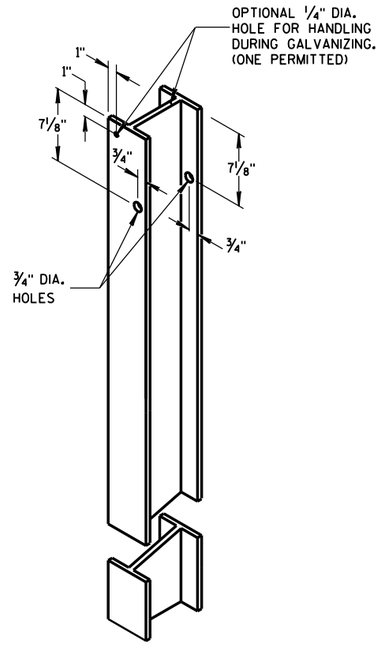
END VIEW

LOCATED ALONG A CURBED ROADWAY

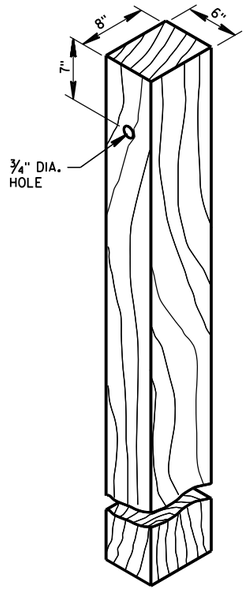


END VIEW

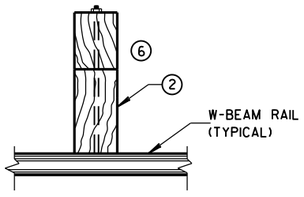
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



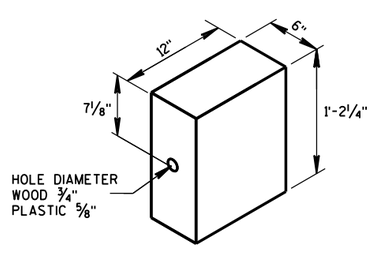
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



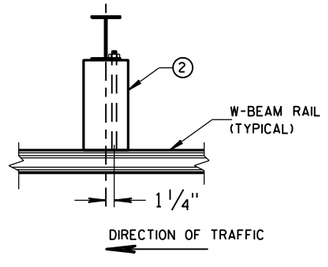
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

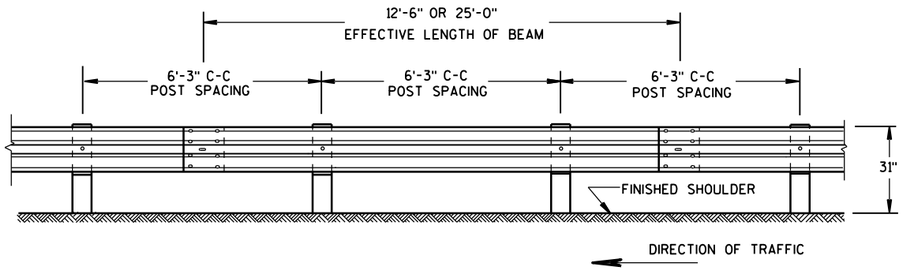


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

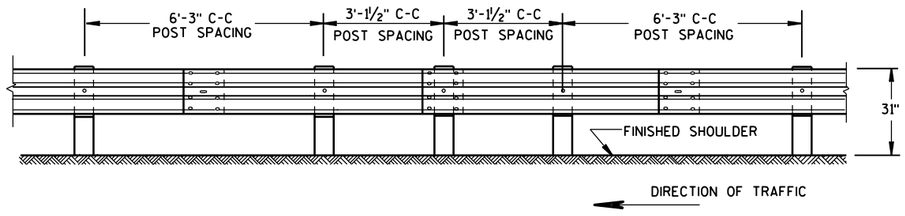
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-3a



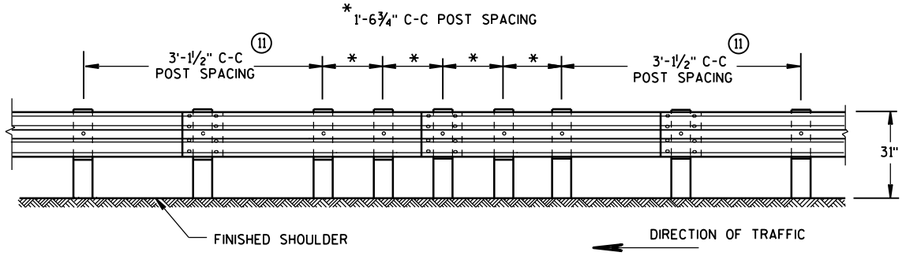
FRONT VIEW

POST SPACING STANDARD INSTALLATION



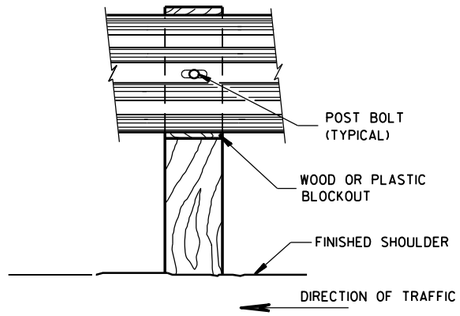
FRONT VIEW

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

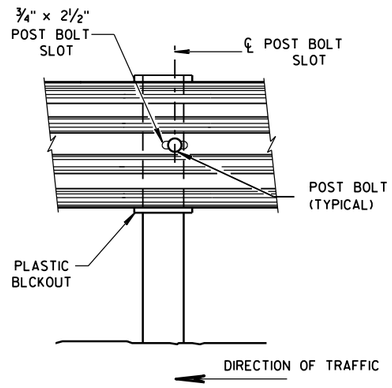


FRONT VIEW

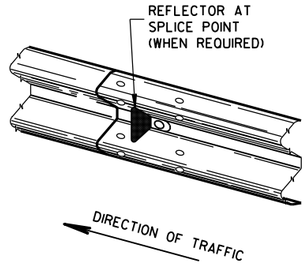
QUARTER POST SPACING (QS)

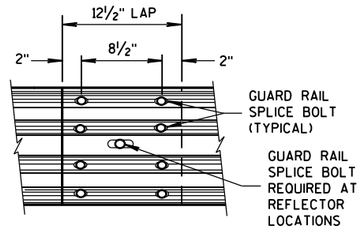


FRONT VIEW AT WOOD POST



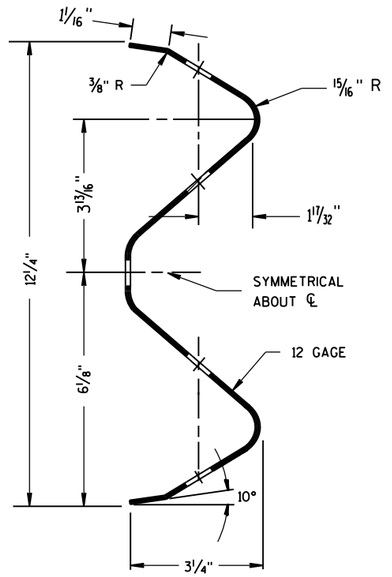
FRONT VIEW AT STEEL POST



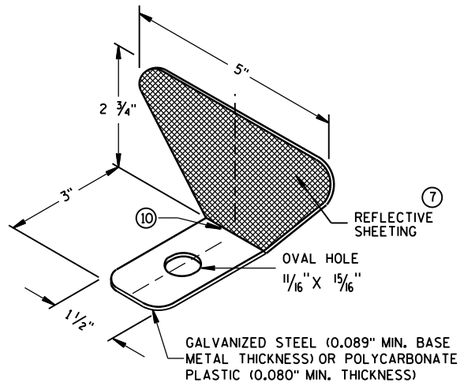


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

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

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

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

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

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

POST BOLTS ARE A 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.

REFLECTOR SPACING ⑧

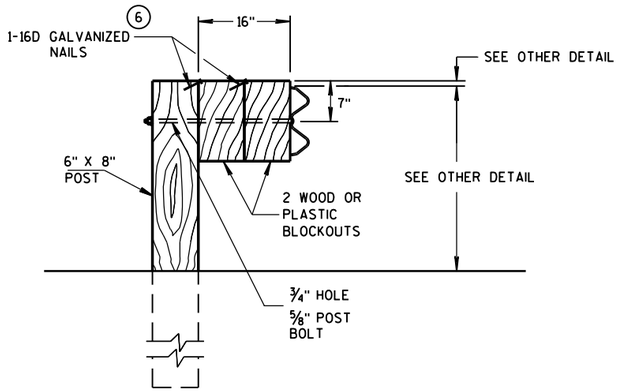
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

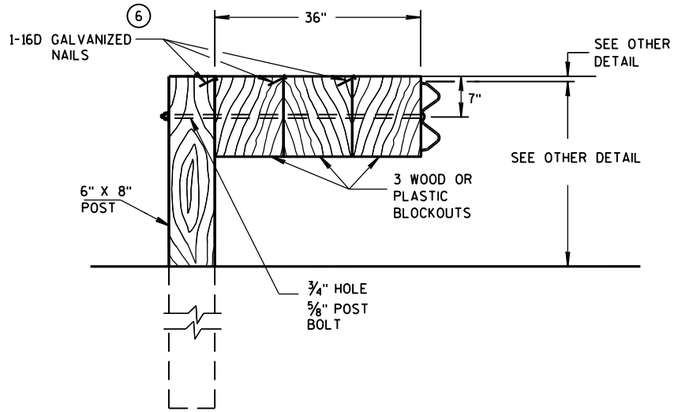
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

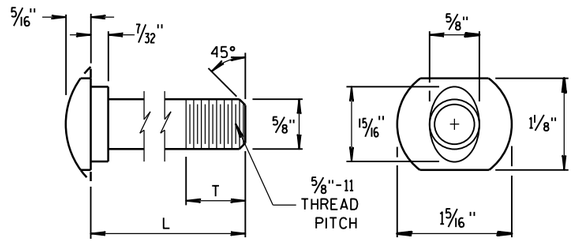


DETAIL FOR 36" BLOCKOUT DEPTH

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

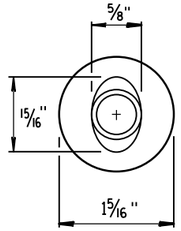
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

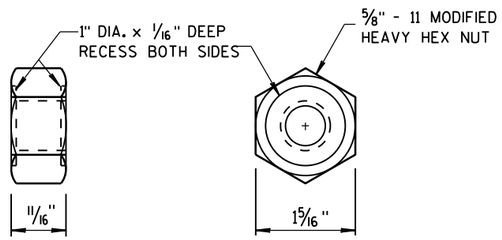


POST BOLT TABLE

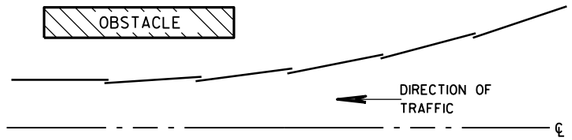
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

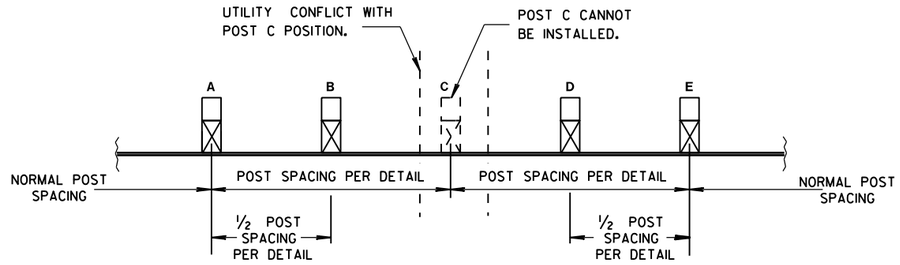


POST BOLT AND RECESS NUT

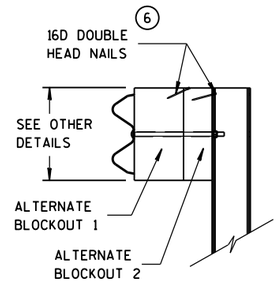


PLAN VIEW

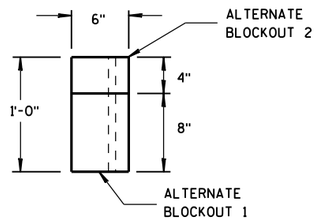
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 14 B 42-3c

GENERAL NOTES

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

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

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

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

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

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

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

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

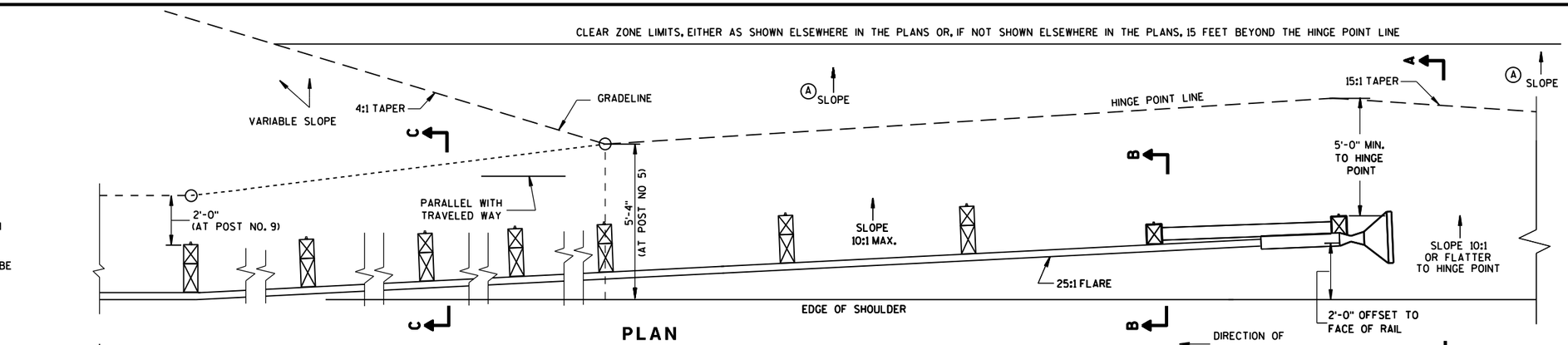
SEE SDD 14B42 FOR MORE INFORMATION.

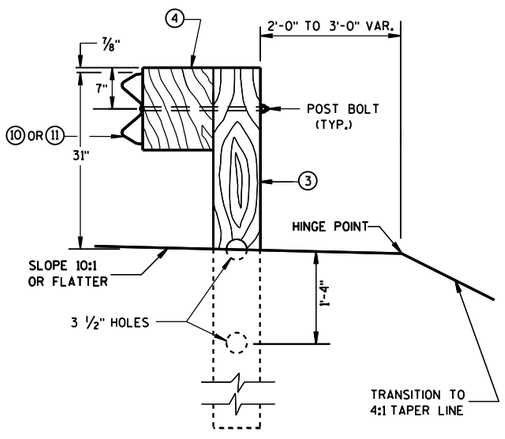
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

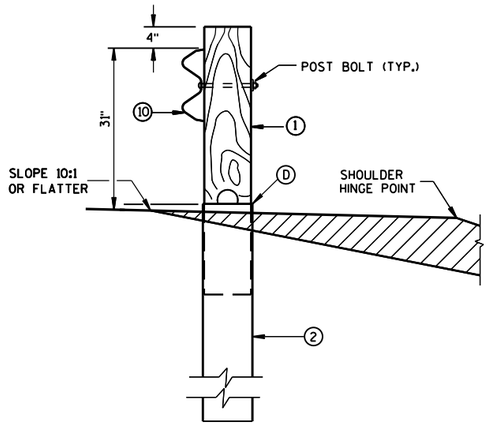
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

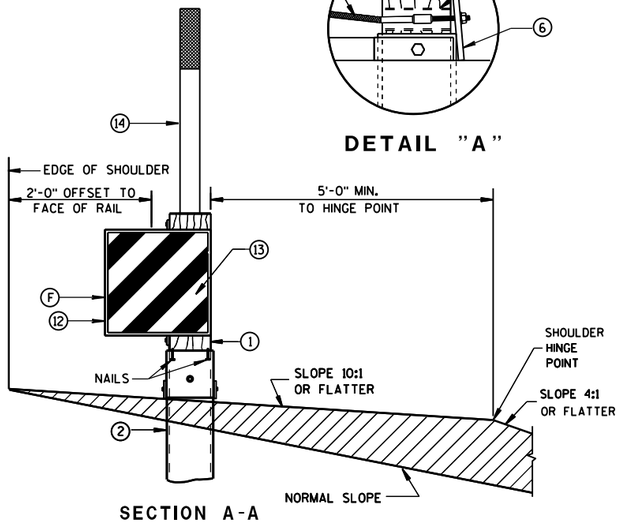




SECTION C-C
TYPICAL AT POST NOS. 3-9

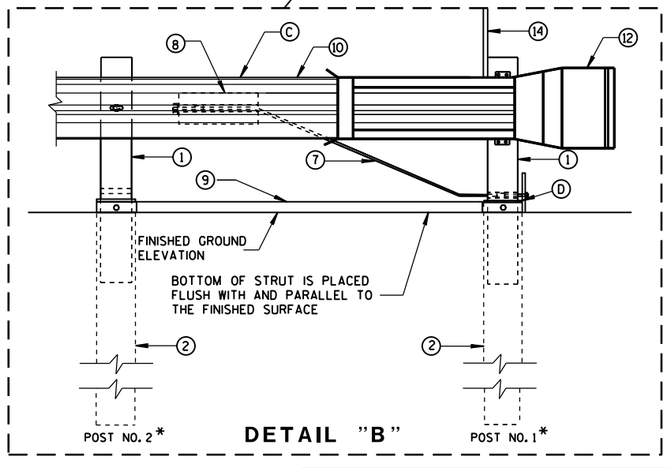


SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

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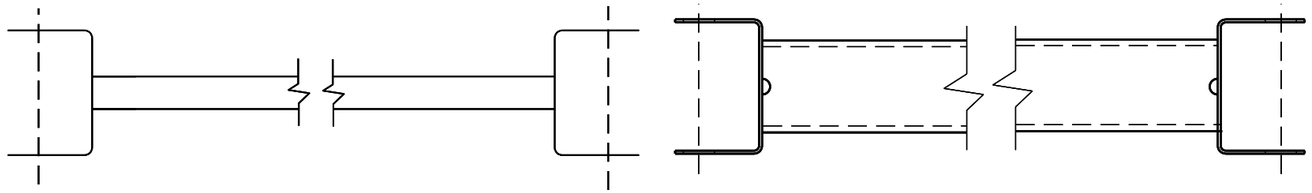
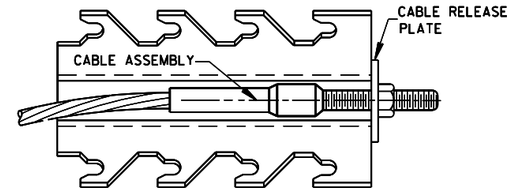


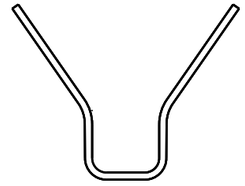
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

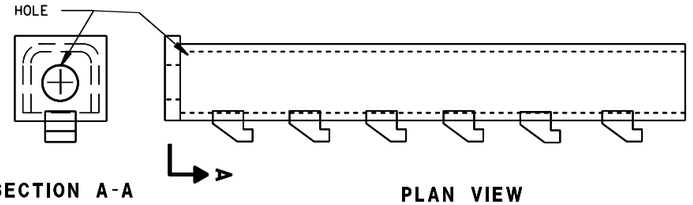
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR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



FRONT VIEW



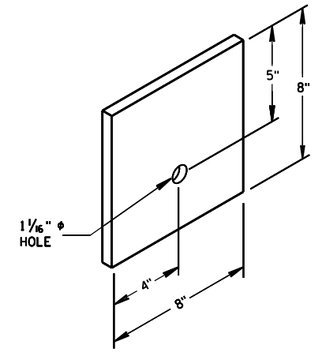
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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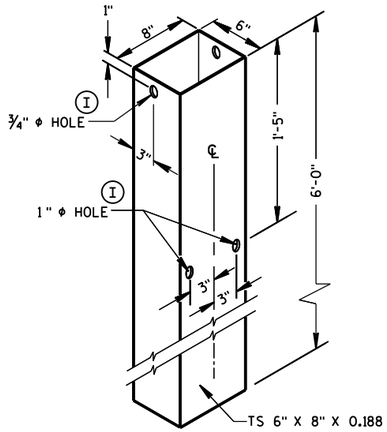
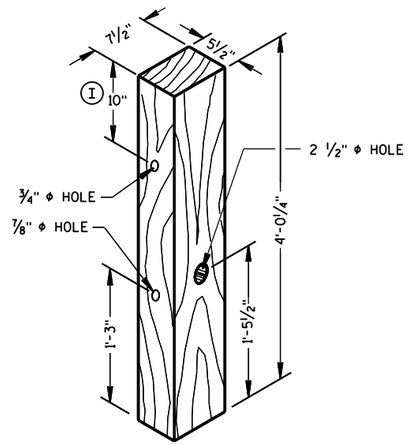
S.D.D. 14 B 44-2b

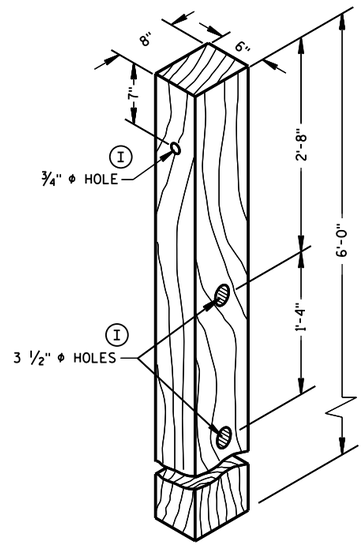


FOUNDATION TUBE (2)



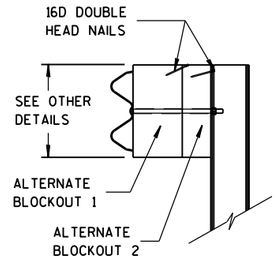
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

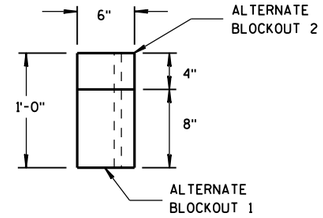


POSTS NUMBER 3-9

WOOD CRT POST (3)

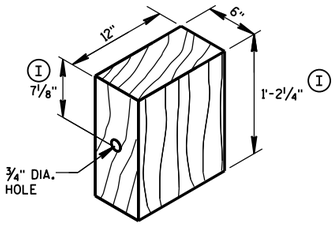


SIDE VIEW



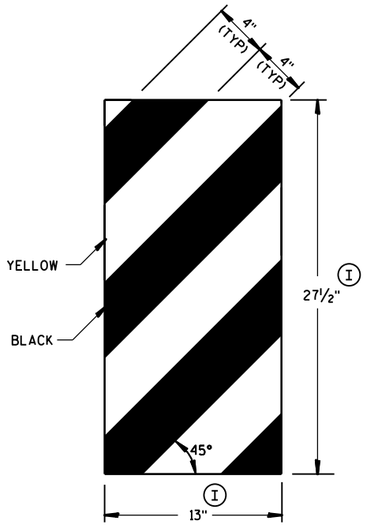
TOP VIEW

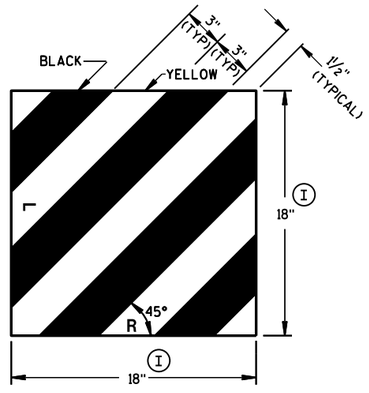
ALTERNATE WOOD BLOCKOUT DETAIL



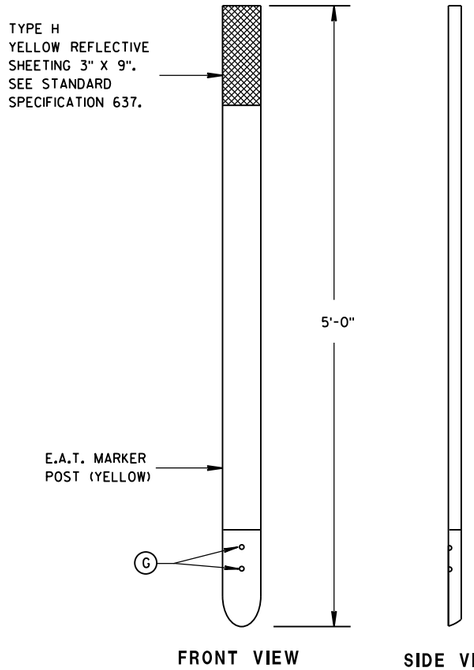
WOOD BLOCKOUT (4)

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





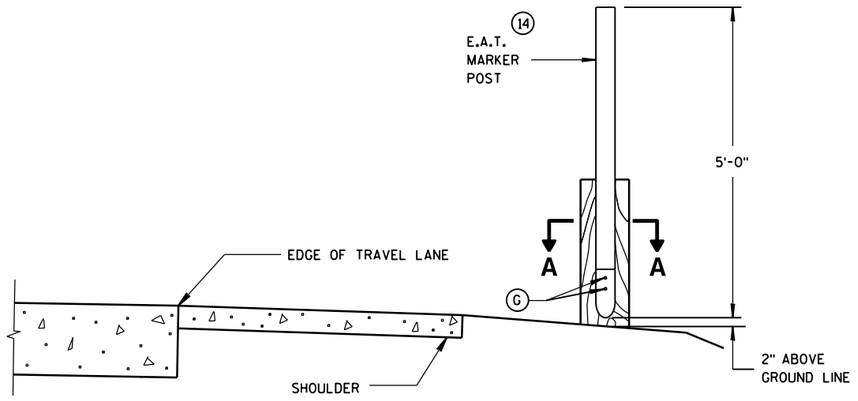
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

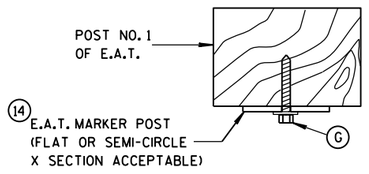
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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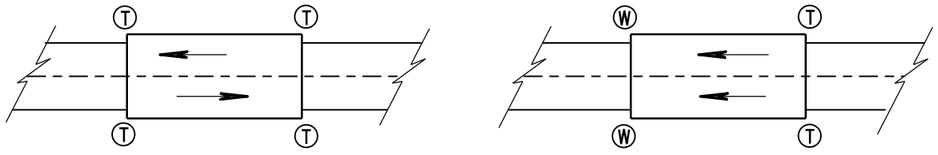
S.D.D. 14 B 44-2c



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

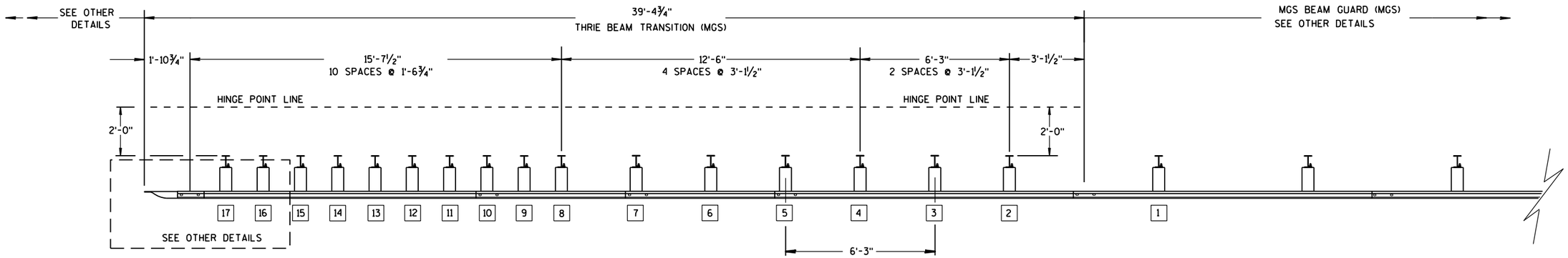
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

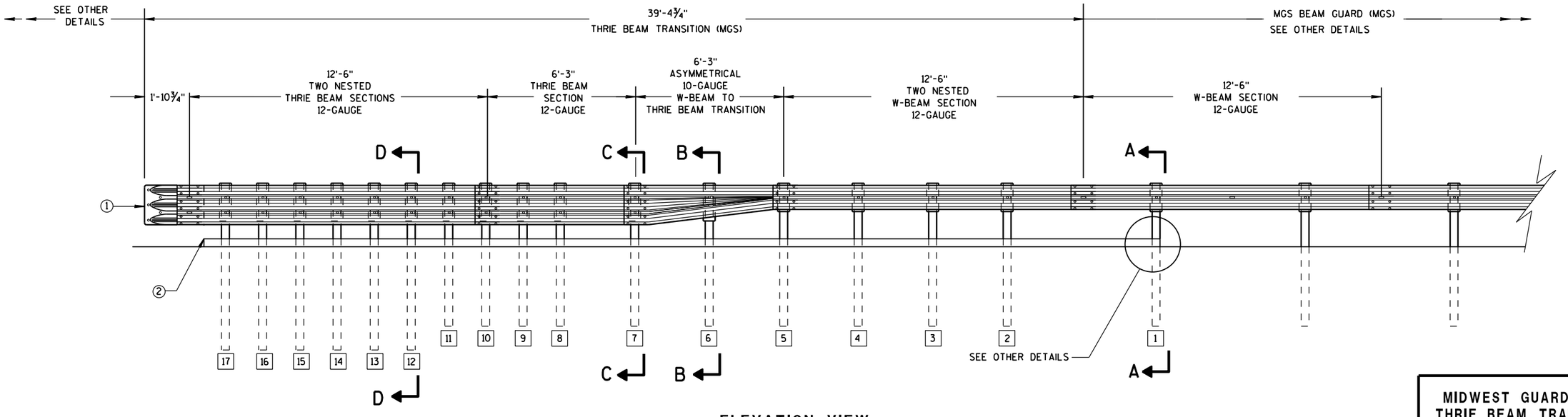
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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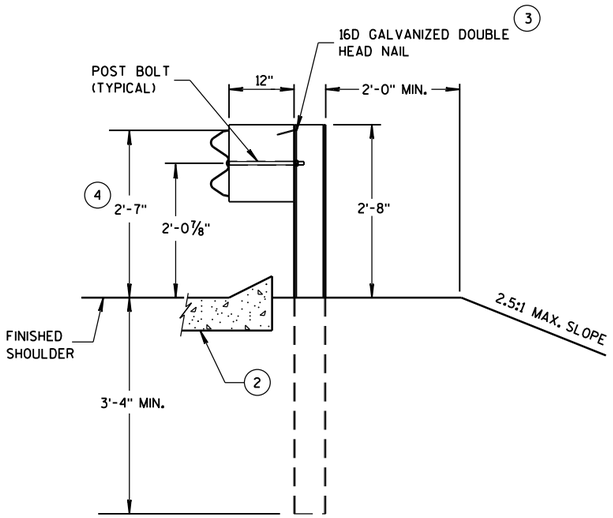
S.D.D. 14 B 45-4a

GENERAL NOTES

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

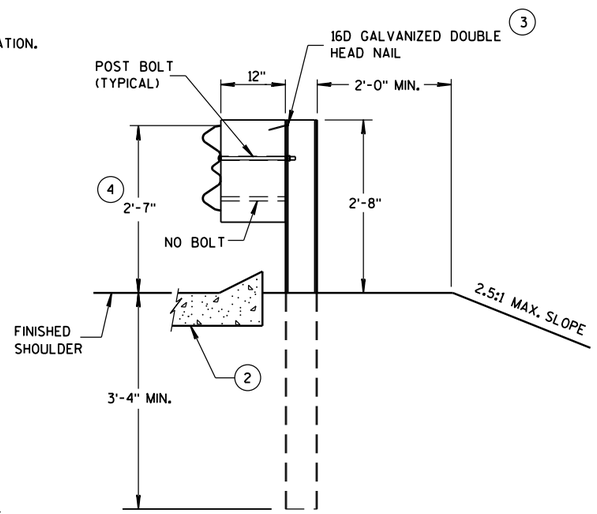
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



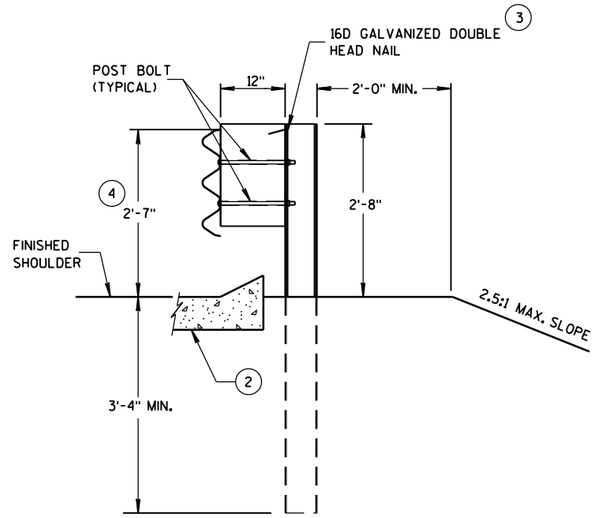
SECTION A-A

POSTS 1-5



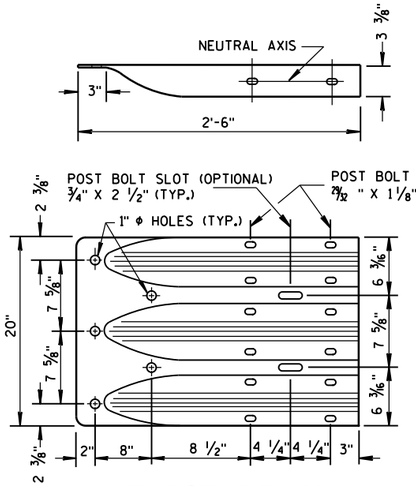
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

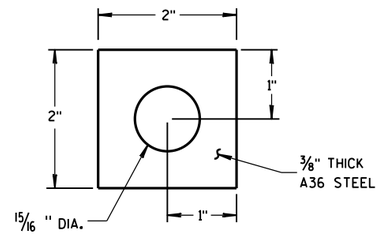
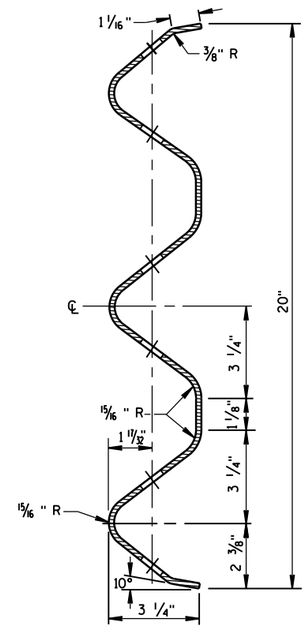
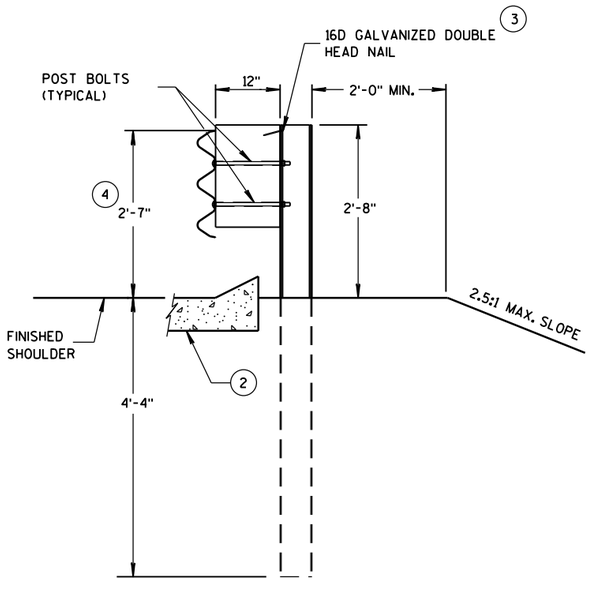


PLATE WASHER DETAIL

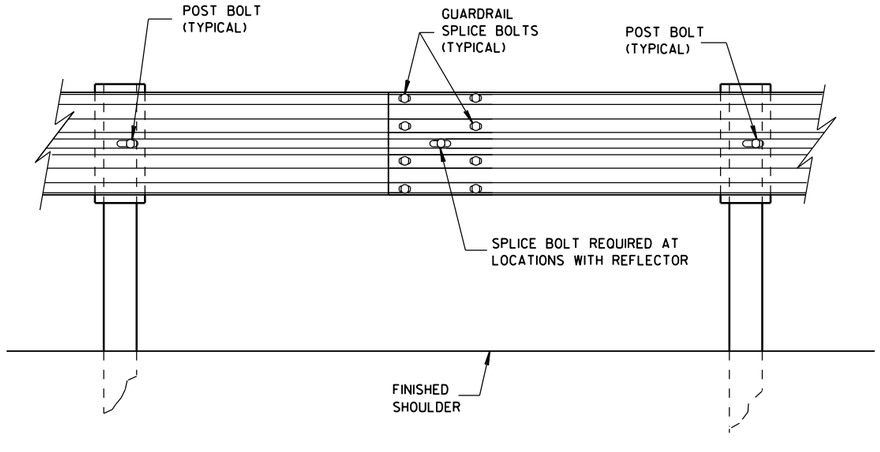


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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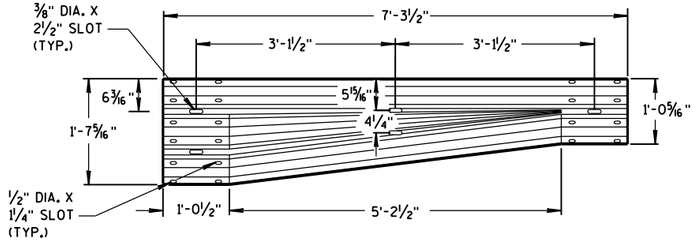
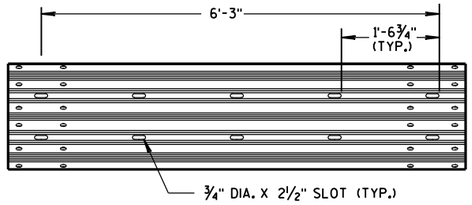
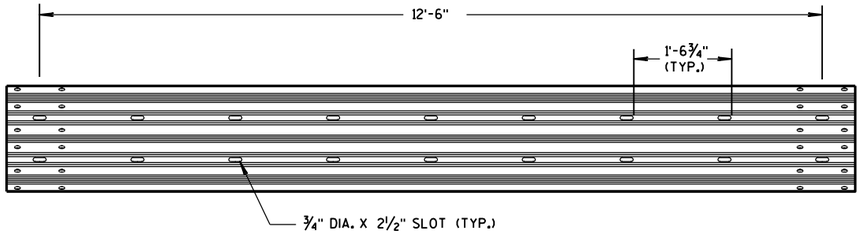
S.D.D. 14 B 45-4b



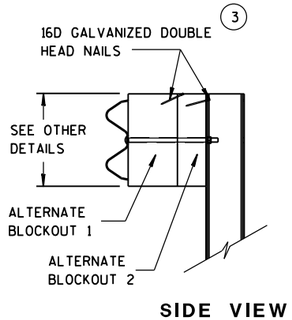
W-BEAM TO THRIE BEAM TRANSITION SECTION



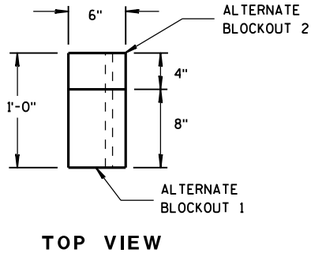
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

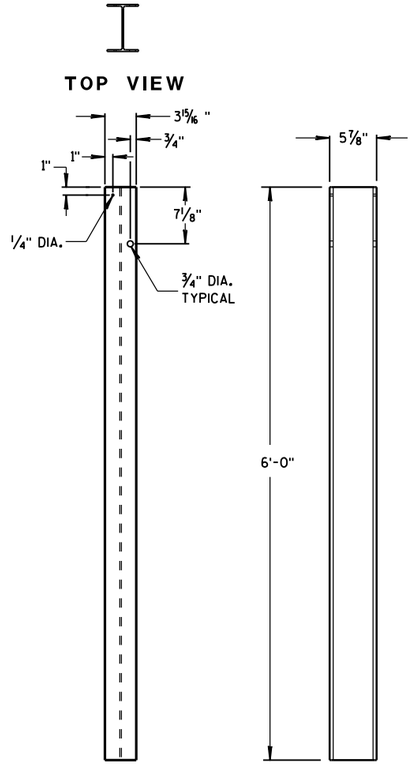


SIDE VIEW

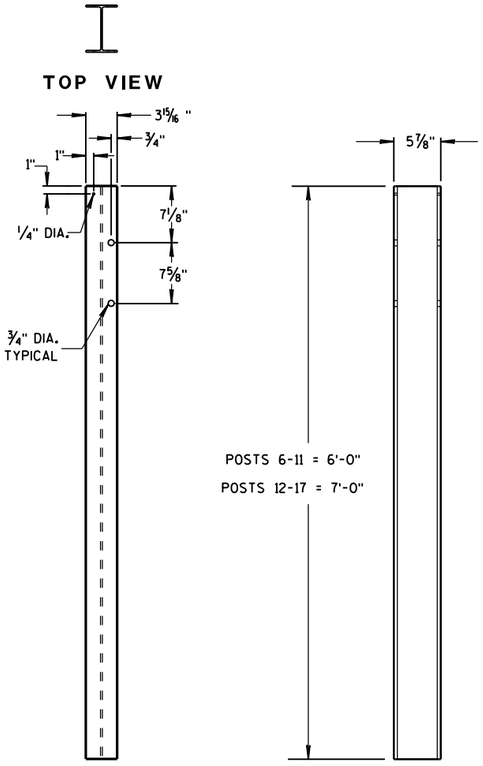


TOP VIEW

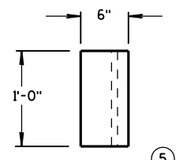
ALTERNATE WOOD BLOCKOUT DETAIL



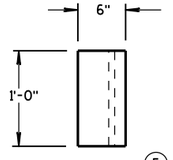
STEEL POSTS 1-5



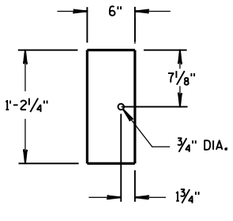
STEEL POSTS 6-17



TOP VIEW (5)

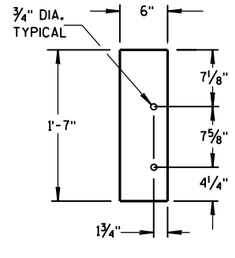


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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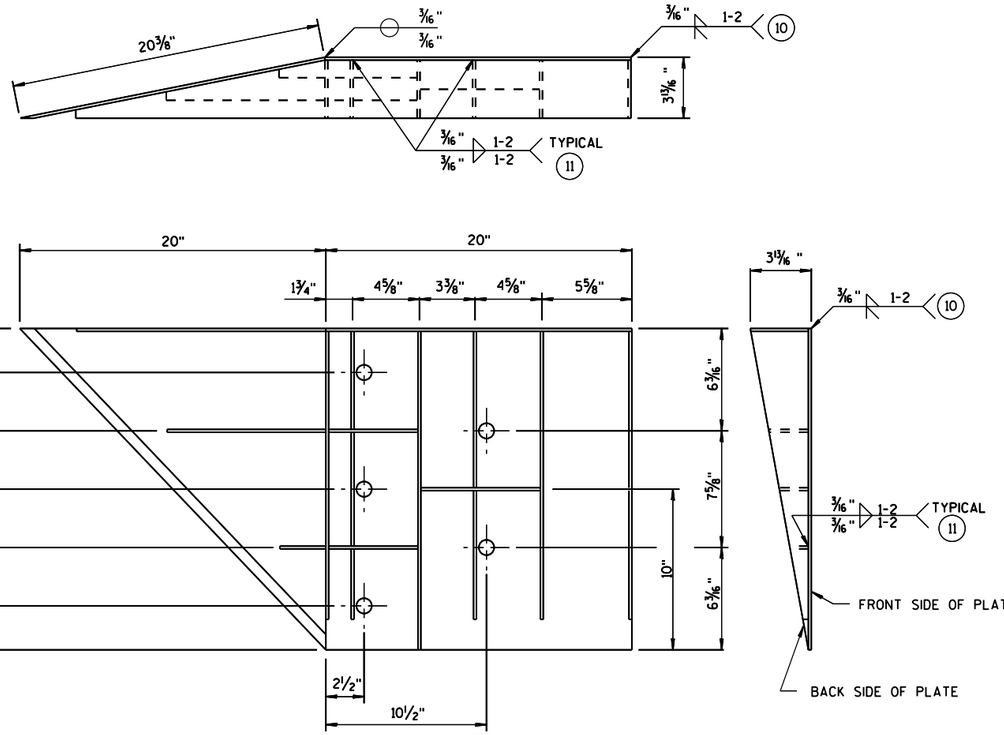
S.D.D. 14 B 45-4c



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

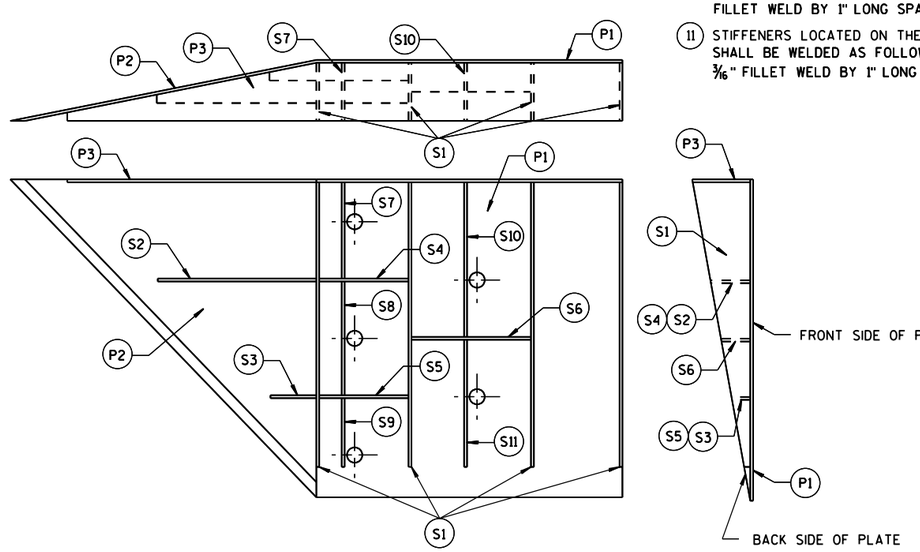


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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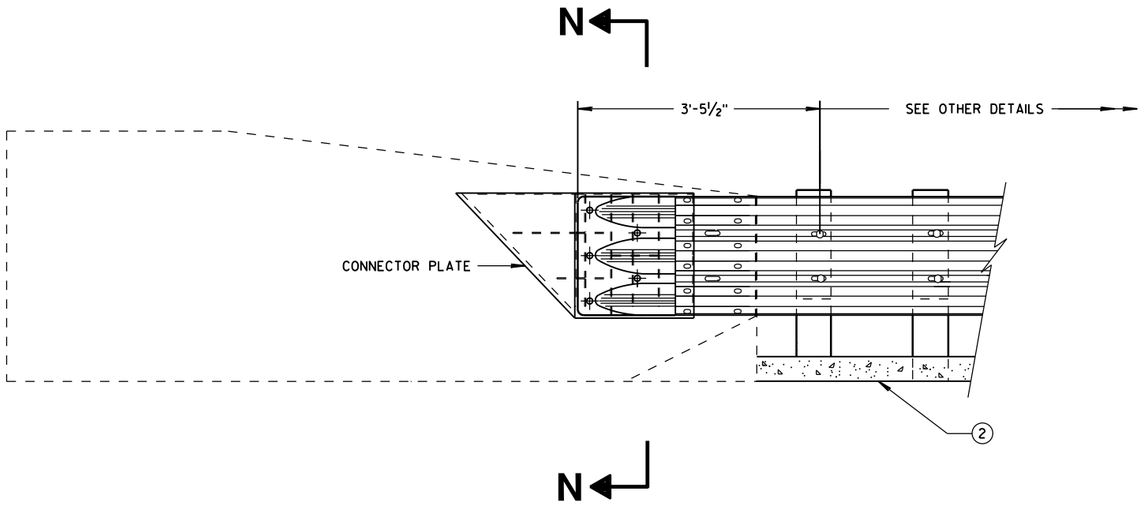
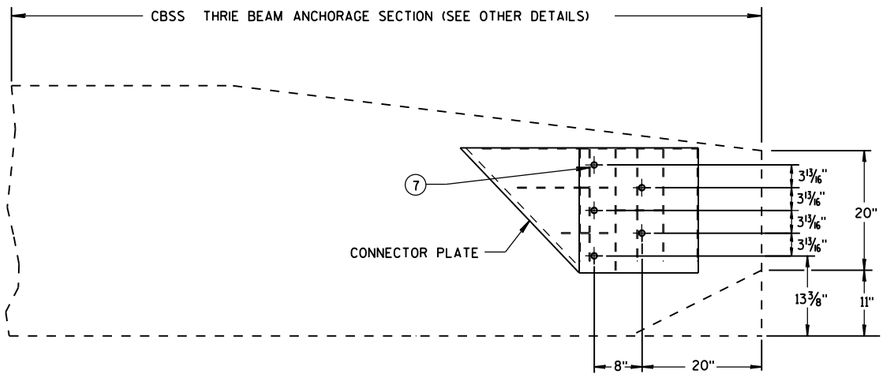
S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



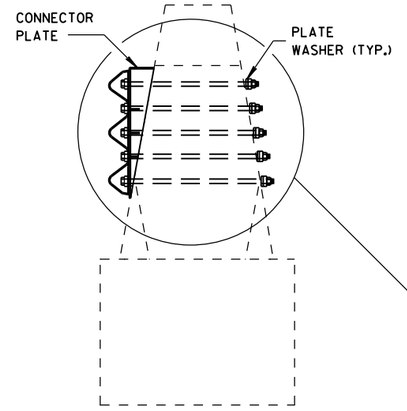
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

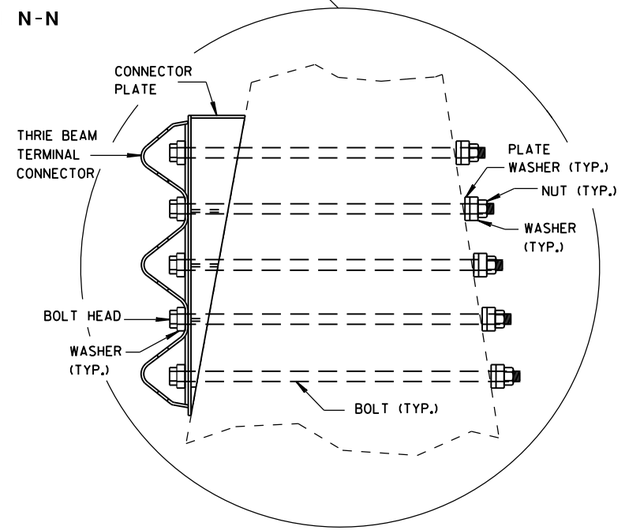
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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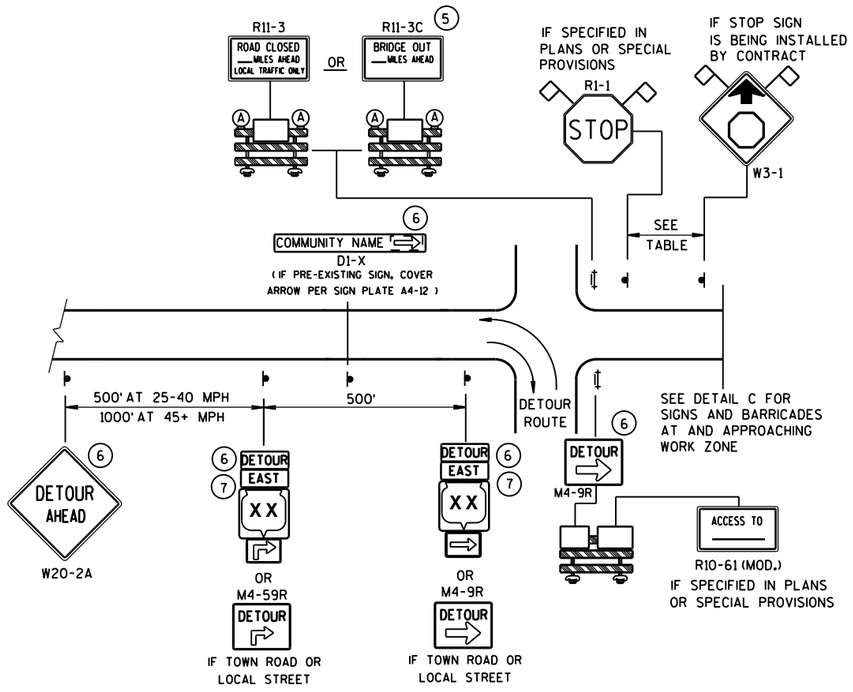
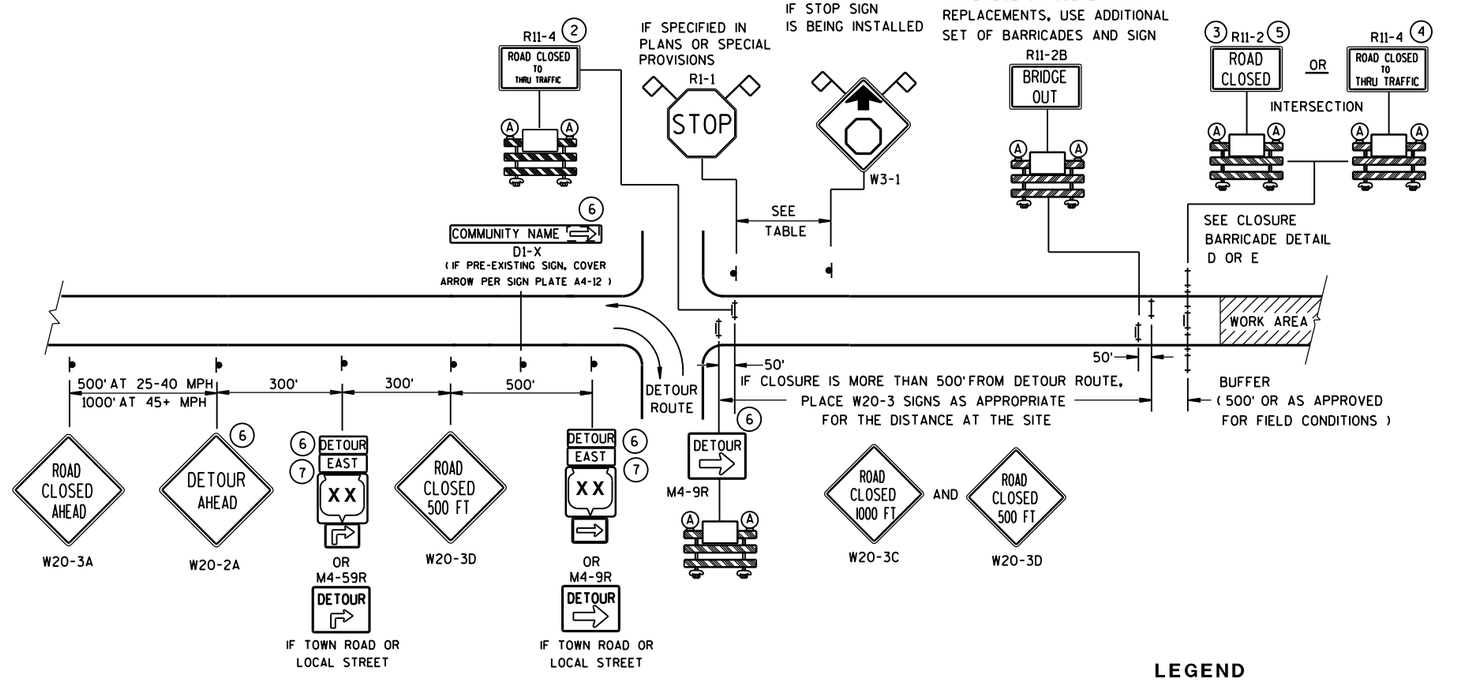


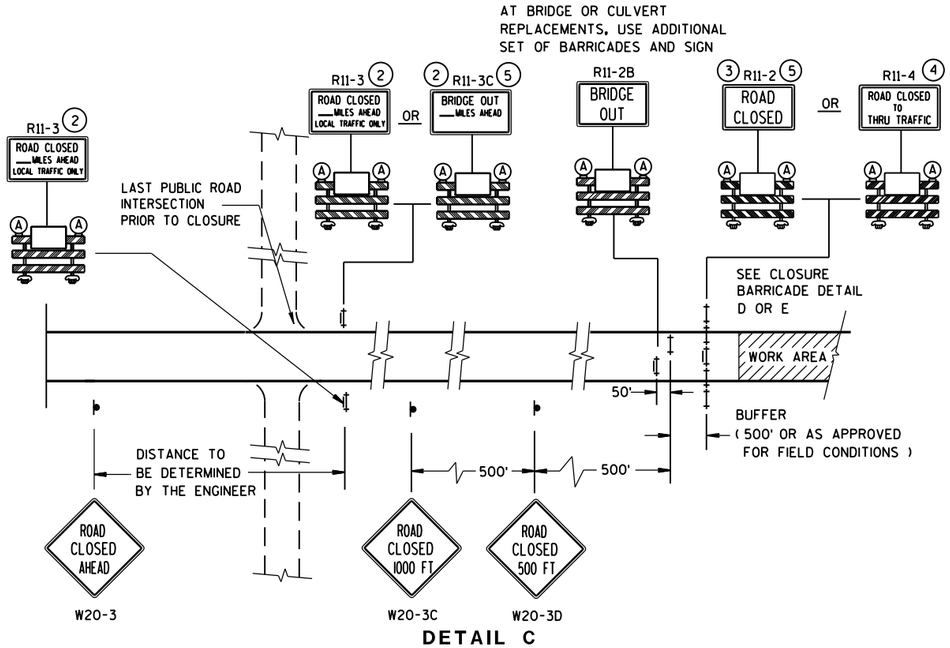
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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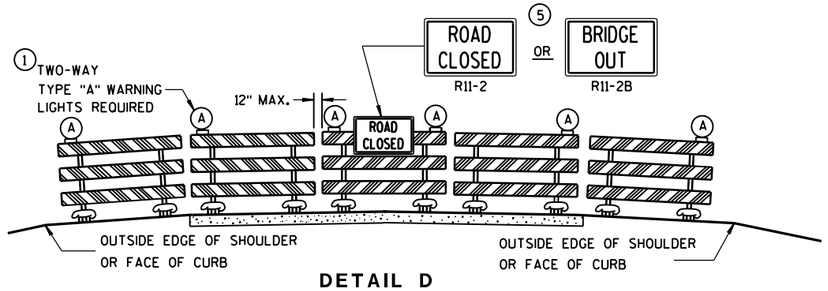
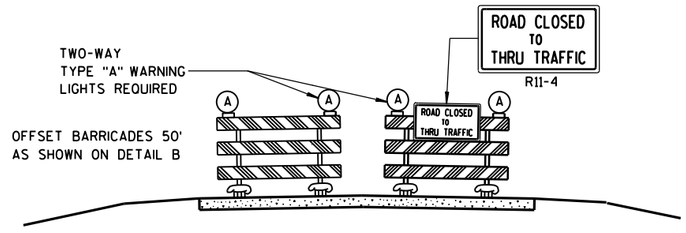
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

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

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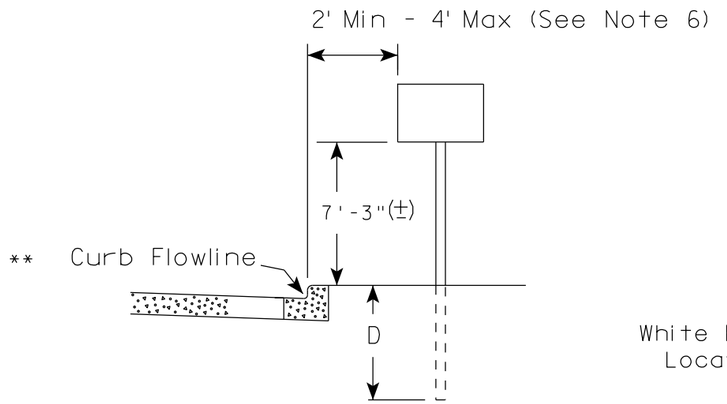
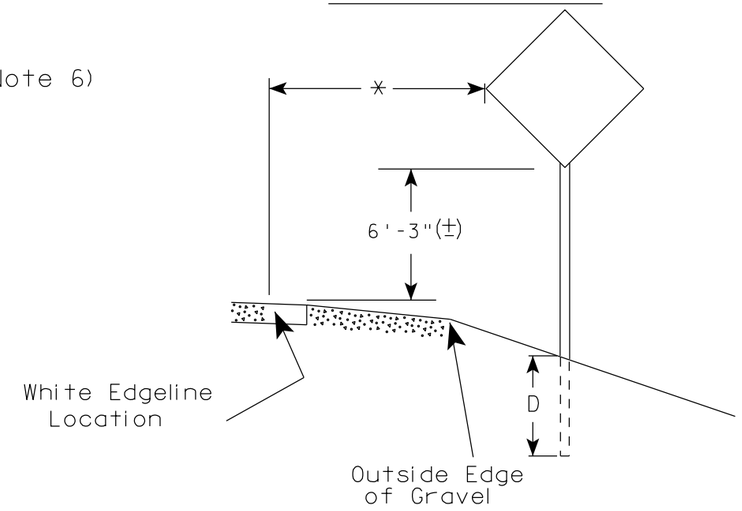
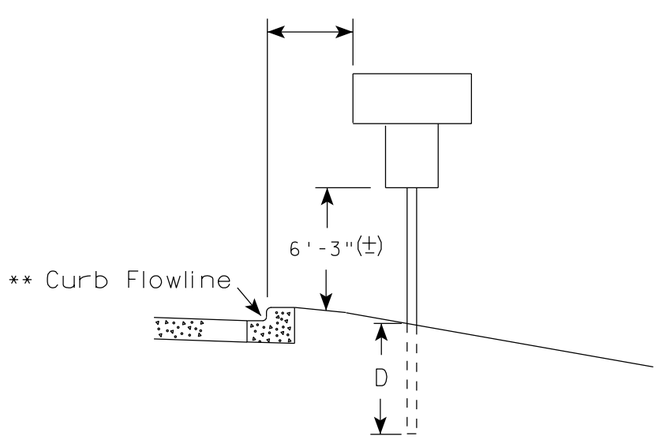
S.D.D. 15 C 2-6b

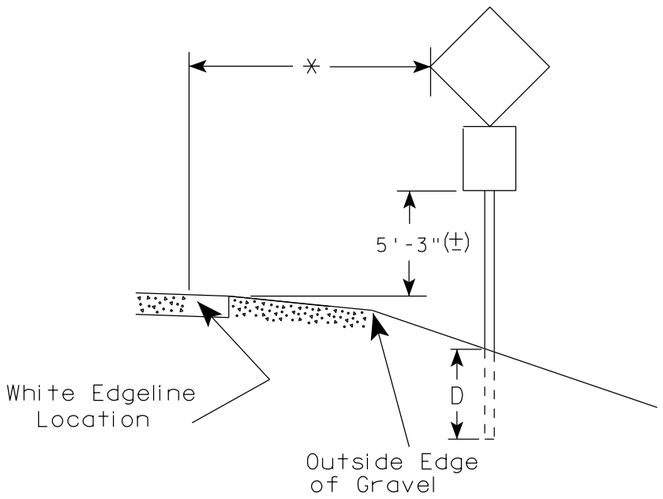
URBAN AREA



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 barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) 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" (±).

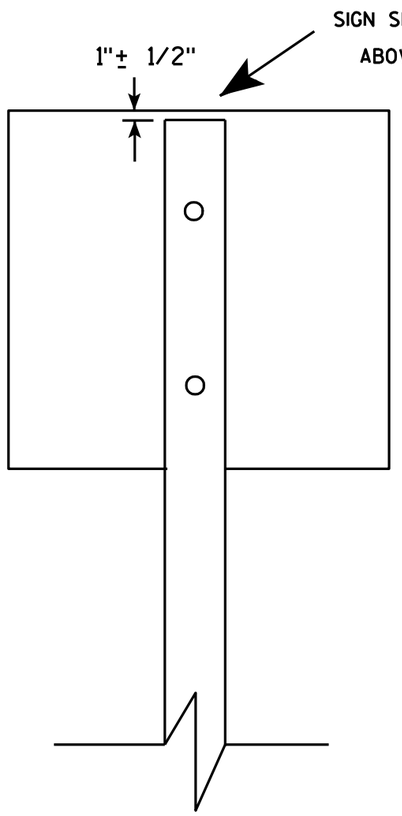
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

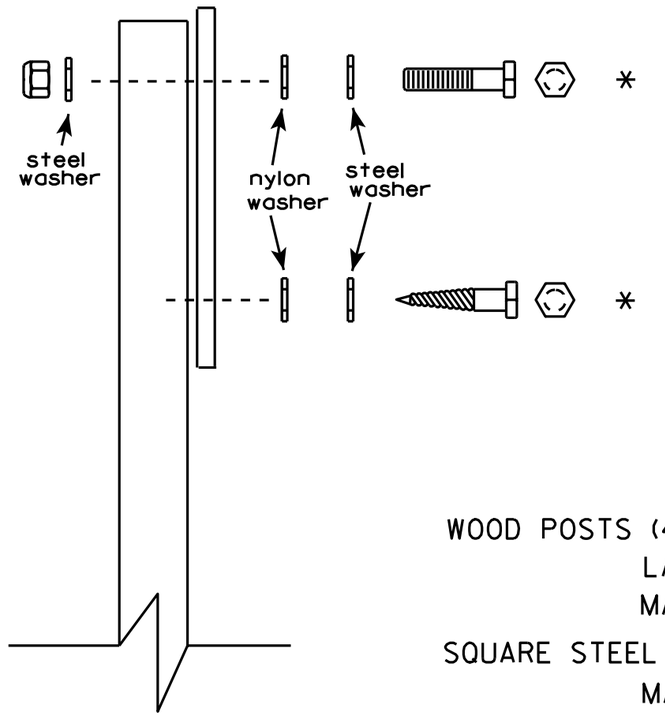
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





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

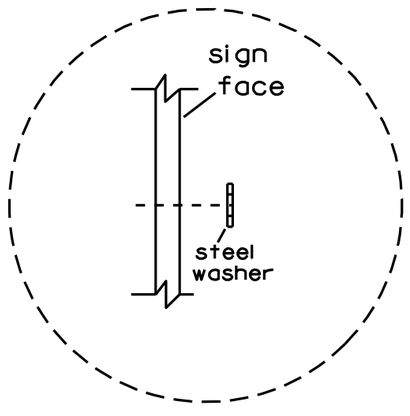
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
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 for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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

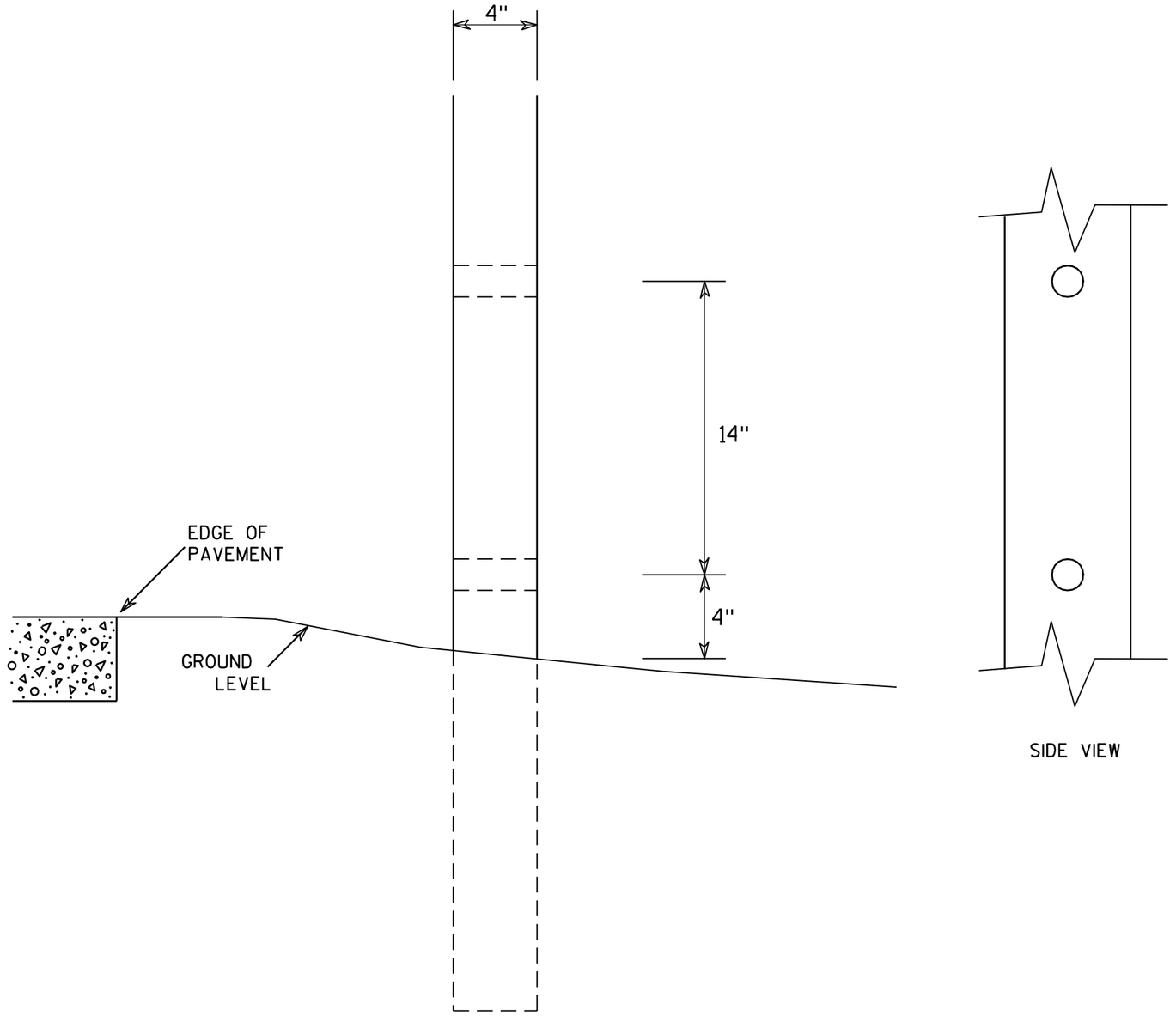
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 28 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.

7

7

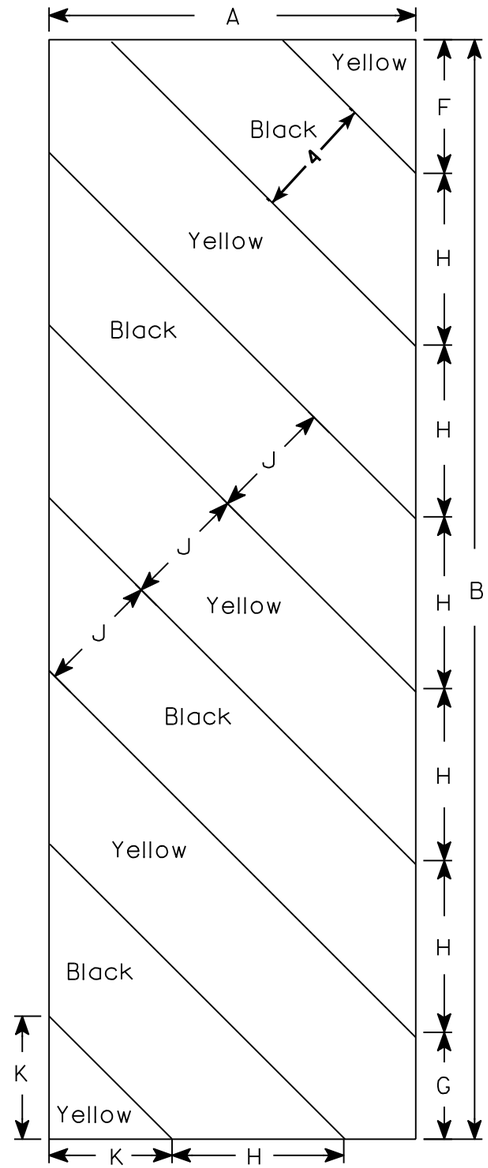
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

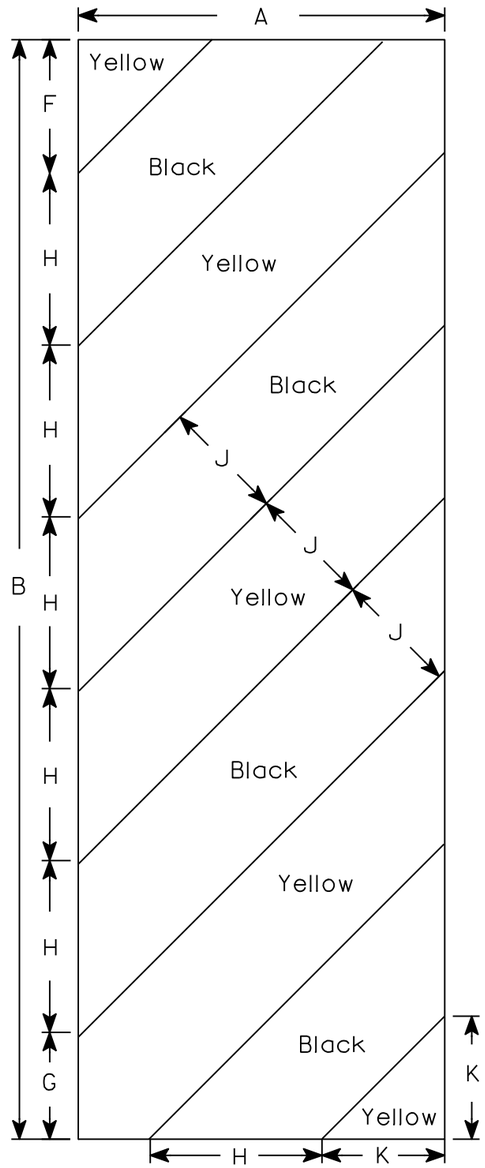
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 29	E



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

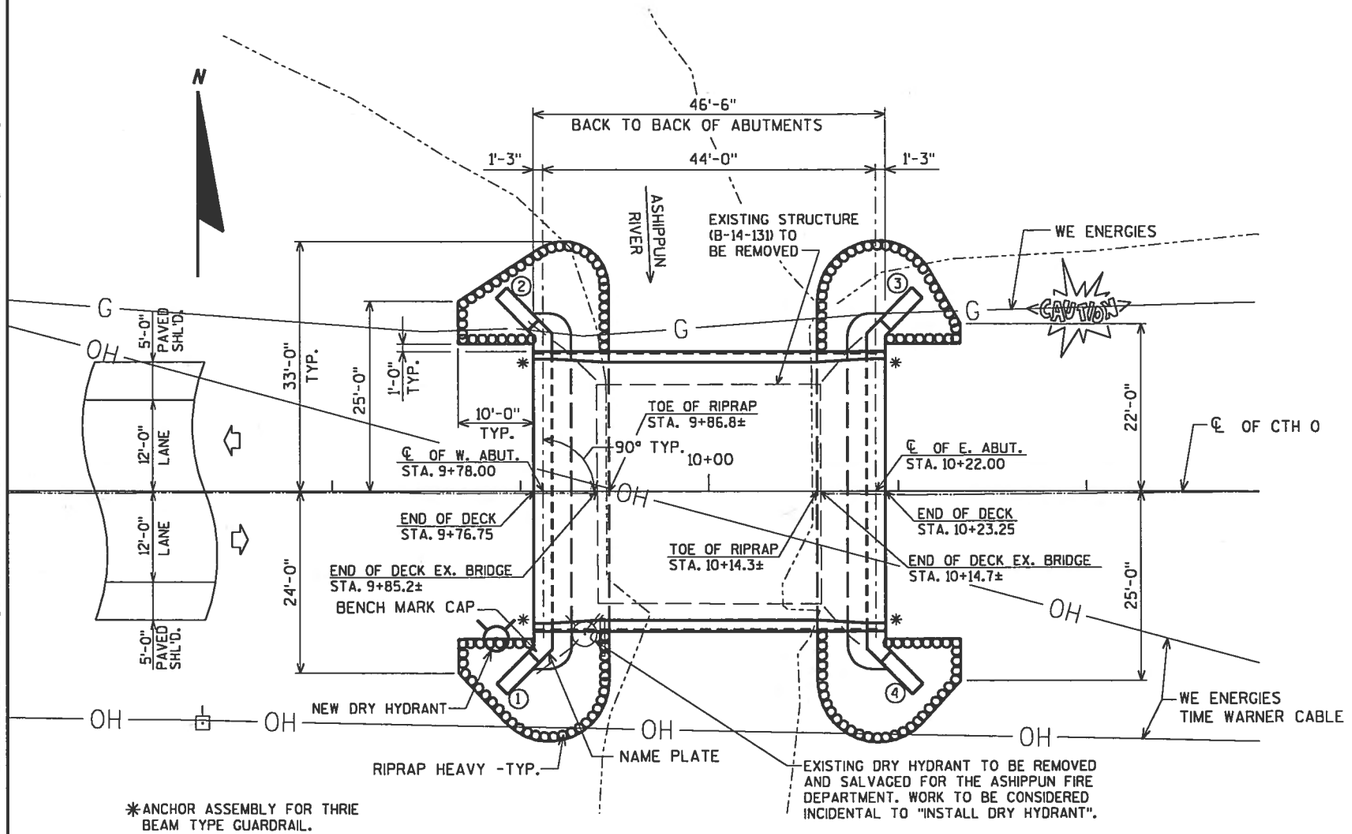
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 30 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

STATE PROJECT NUMBER

3934-00-74

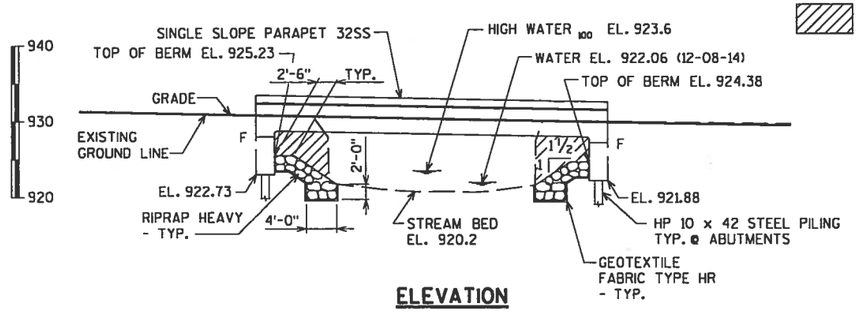


✱ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

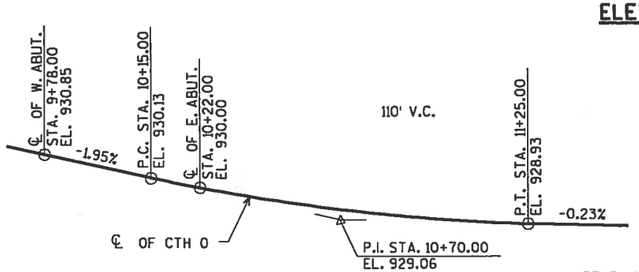
○ DENOTES WING NUMBER

PLAN

SINGLE SPAN CONCRETE FLAT SLAB



ELEVATION



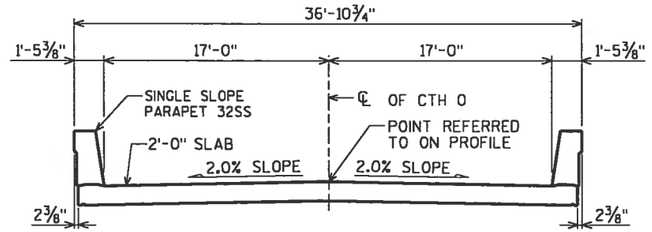
PROFILE GRADE LINE

(CTH O)

BENCH MARK:

CHIS. "X" ON CONC. REPAIR IN SE COR. OF BRIDGE STA. 10+11, 15' RT. EL. 924.79

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-14-0214".



CROSS SECTION THRU ROADWAY

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.21
OPERATING RATING FACTOR: 1.57
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) ____ fy = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD

DRAINAGE AREA = 23.1 sq. mi.
WATERWAY AREA = 64 sq. ft.
V = 5.9 f.p.s.
Q_{100} = 380 c.f.s.
HIGH WATER$_{100}$ EL. 923.6
HIGH WATER$_{2}$ EL. 922.8
RDWY. OVERFLOW = N/A
SCOUR CRITICAL CODE = 8

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 20'-0" AT EACH ABUTMENT.

‡ 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.

LIST OF DRAWINGS

TRAFFIC DATA:

A.D.T. = 820 (2016)
A.D.T. = 910 (2036)
R.D.S. = 35 M.P.H.

WISCONSIN
CHRISTOPHER B. McMAHON
E-29454
EAU CLAIRE
PROFESSIONAL ENGINEER
2/24/16

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

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/25/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-14-214

CTH O OVER THE ASHIPPUN RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
DODGE	ASHIPPUN

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	CJM	JCK	CBM

GENERAL PLAN

SHEET 1 OF 11

31

I.D.

DATE:

$PRFNAME$
LI:±41-0695.20 - Dodge Co, CTH O over Ashippun River±BRIDGE±41069520.gpFINAL.dgn

DATE: 10/28/15
DATE:
DATE: 10/29/15

CHECKED BY: CBM
BACK CHECKED BY:
CORRECTED BY: JCK

8

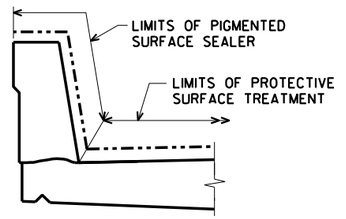
8

2/24/2016

PENTABLE:BReau_shd_util.tbl

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-14-0214	LS	-----	-----	-----	1
210.0100	BACKFILL STRUCTURE	CY	110	110	-----	220
502.0100	CONCRETE MASONRY BRIDGES	CY	29	29	142	200
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	176	176
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	38	38
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,610	2,610	-----	5,220
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	810	810	24,000	25,620
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-----	20
550.0500	PILE POINTS	EACH	6	6	-----	12
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	120	120	-----	240
606.0300	RIPRAP HEAVY	CY	60	60	-----	120
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	-----	150
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-----	-----	4	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	110	110	-----	220
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL

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 TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

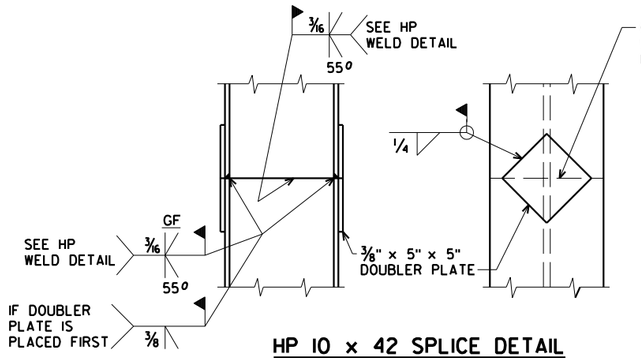
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

THE EXISTING STRUCTURE, B-14-131, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE, 29.5 FT. LONG WITH A 28.0 FT. CLEAR ROADWAY WIDTH.

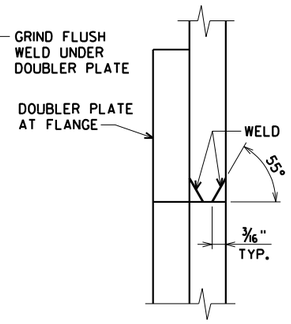
AT BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

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

THE QUANTITY OF BACKFILL STRUCTURE, BID ITEM 210.0100, IS CALCULATED BASED ON APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.



HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

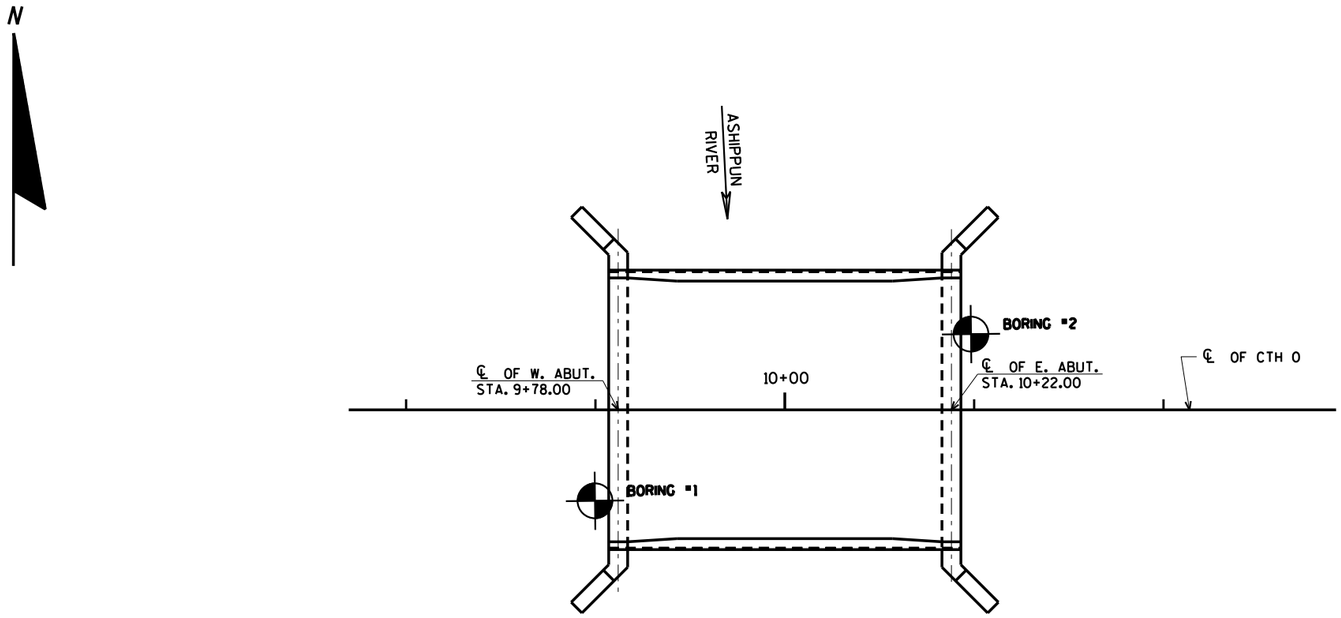
STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

QUANTITIES AND NOTES

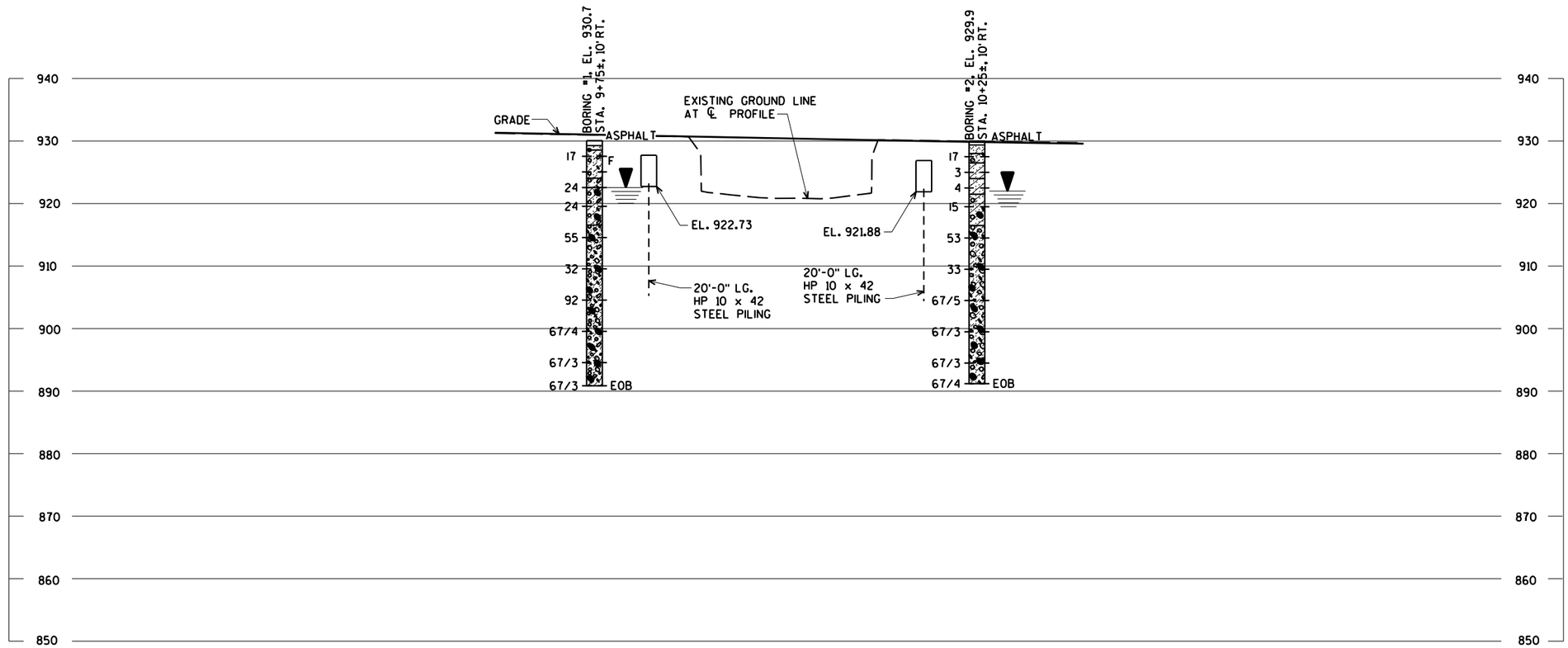
SHEET 2 OF 11
32

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



BORINGS TAKEN BY:
NUMMELIN TESTING SERVICES, INC.
WAUNAKEE, WI
APRIL 8, 2015

GEOTECHNICAL REPORT BY:
NUMMELIN TESTING SERVICES, INC.
WAUNAKEE, WI
APRIL 9, 2015



STATE PROJECT NUMBER

3934-00-74

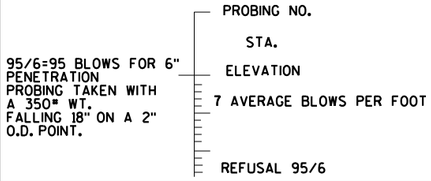
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

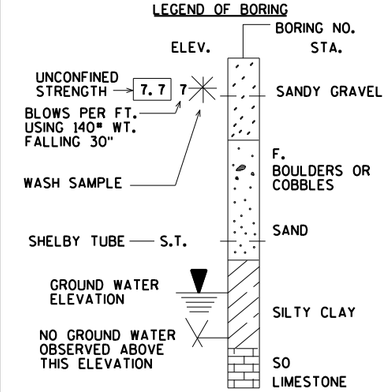
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-0214

DRAWN BY JCK | PLANS CK'D. AEB

SUBSURFACE EXPLORATION

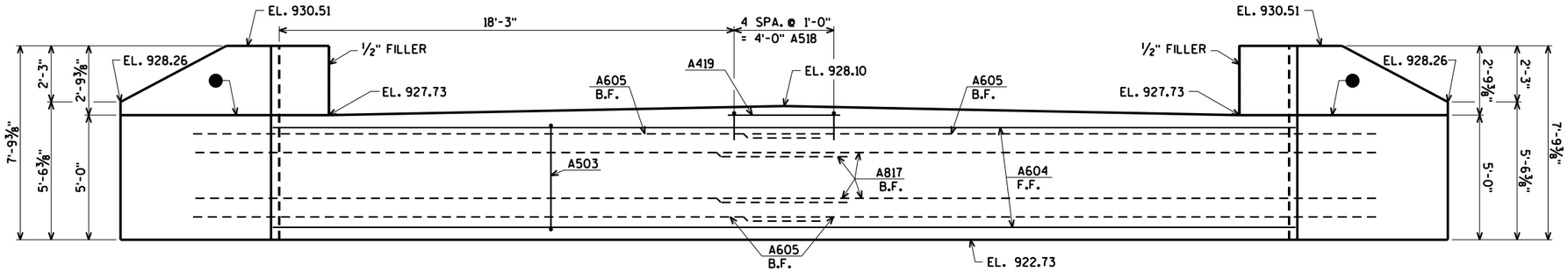
SHEET 3 OF 11
33

8

8

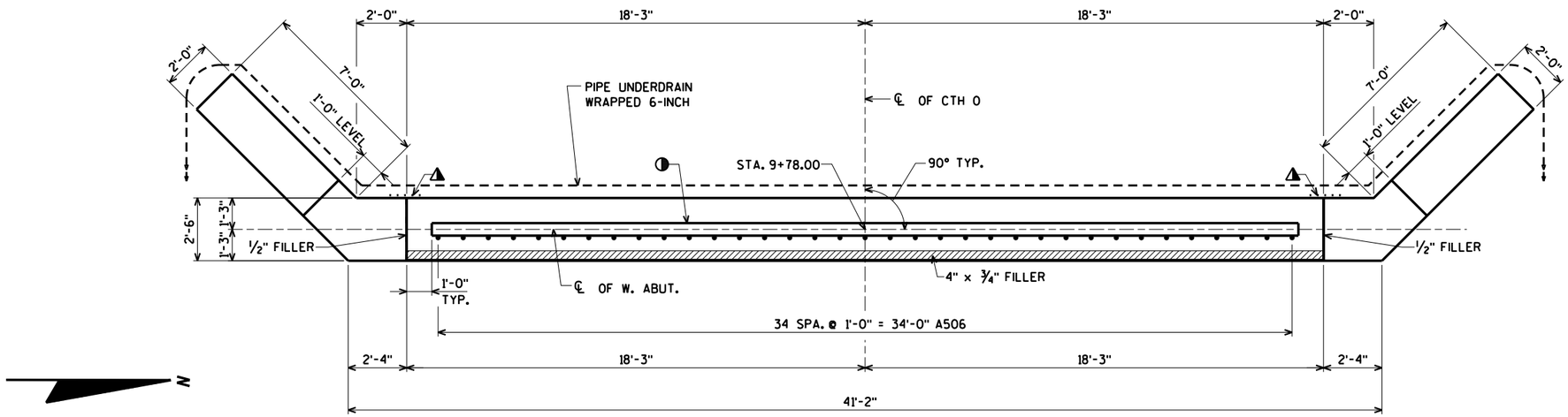
STATE PROJECT NUMBER

3934-00-74

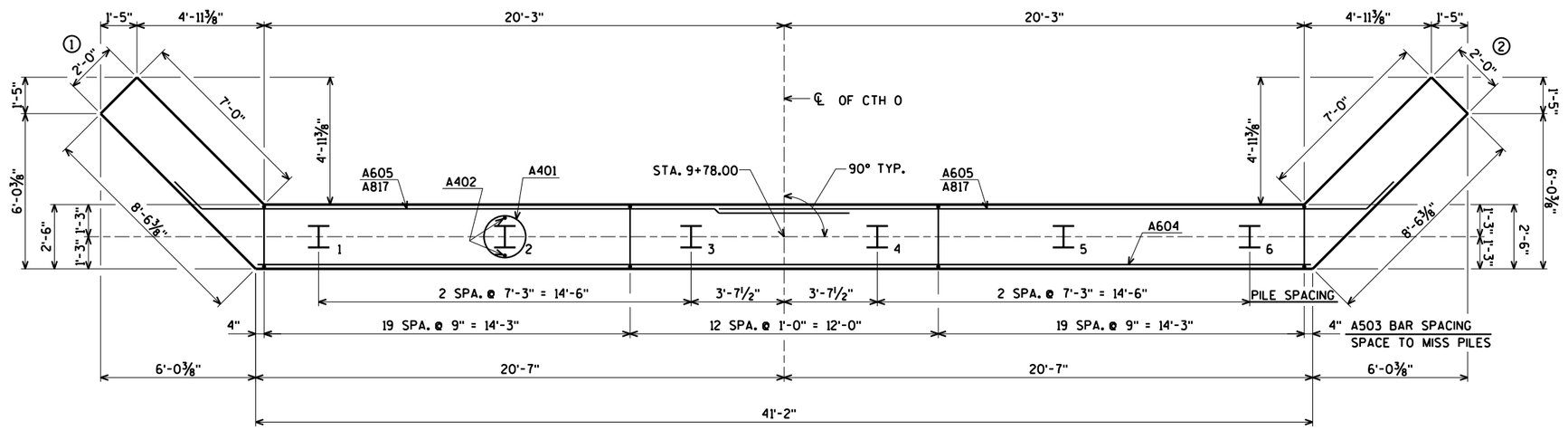


ELEVATION
(LOOKING WEST)

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.)



PLAN



PILE LAYOUT

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

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

⚠ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

WEST ABUTMENT

SHEET 4 OF 11
34

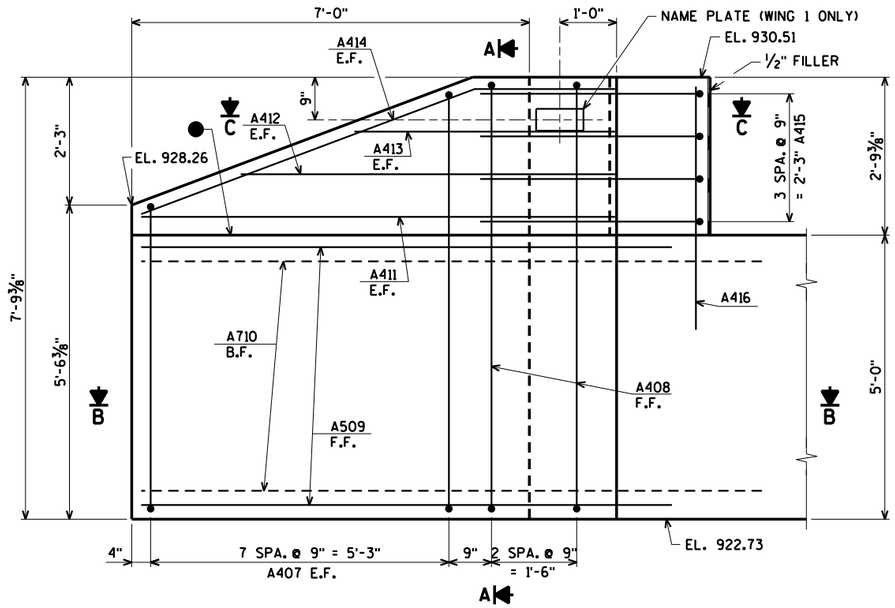
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8

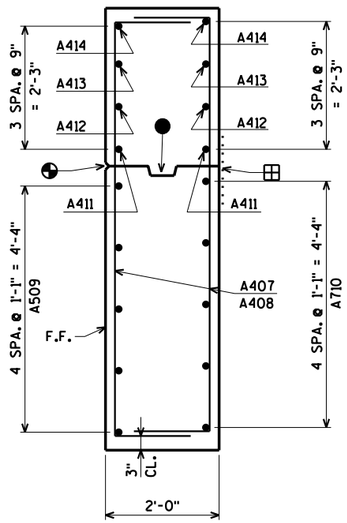
STATE PROJECT NUMBER

3934-00-74

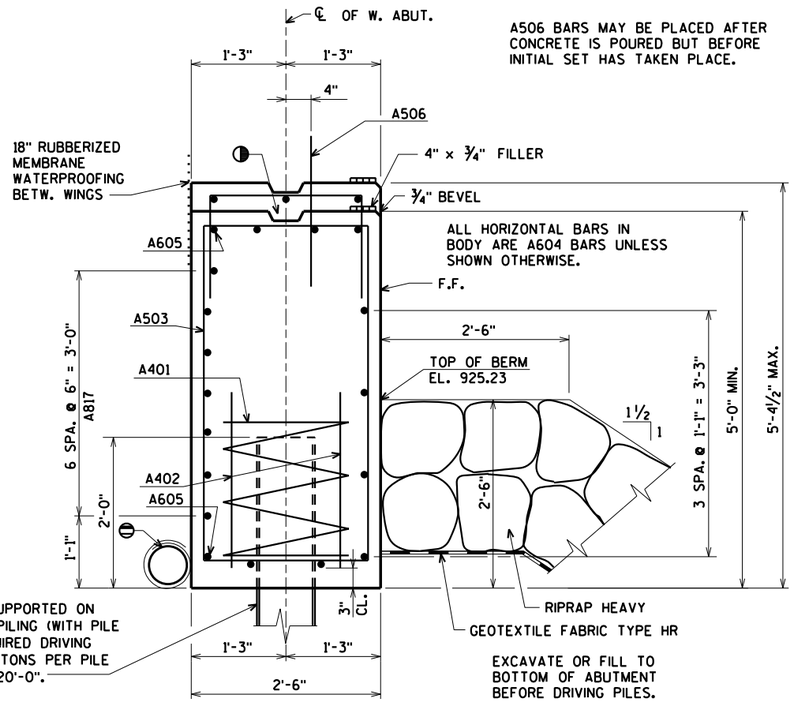


ELEVATION - WING 1

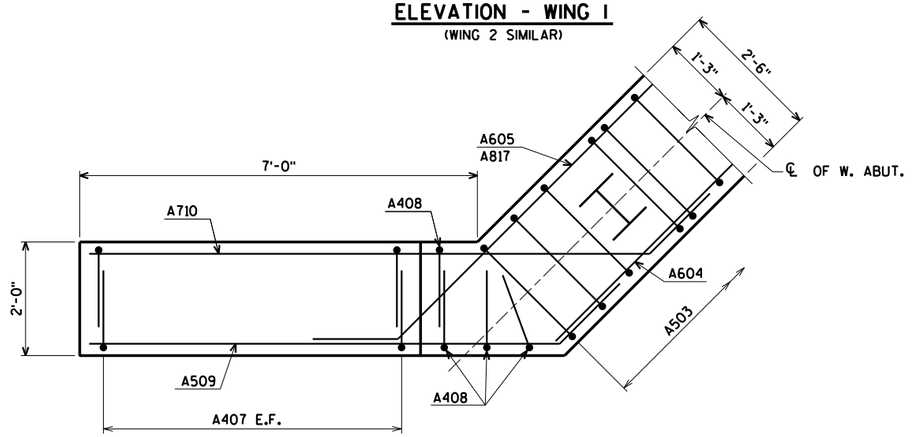
(WING 2 SIMILAR)



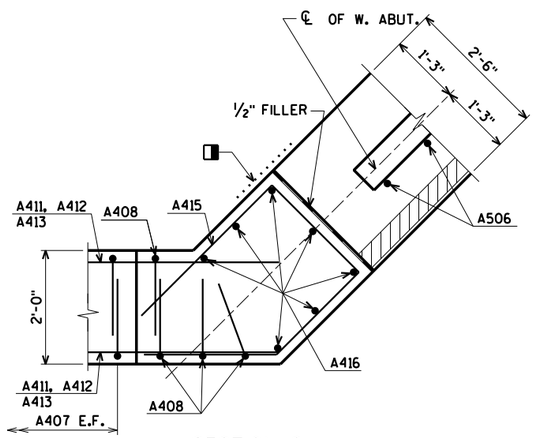
SECTION A



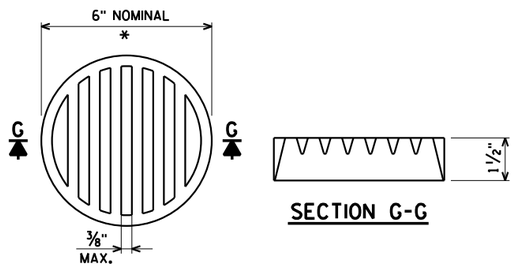
TYPICAL SECTION THRU BODY



SECTION B



SECTION C



SECTION G-G

ROD ENT SHIELD DETAIL

* 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 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 SCREEN 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 SHEET METAL SCREWS.

RODENT SHIELD DETAIL

- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. 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.
- ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
- 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

WEST ABUTMENT WING DETAILS

SHEET 5 OF 11
35

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3433 Oakwood Hills Parkway
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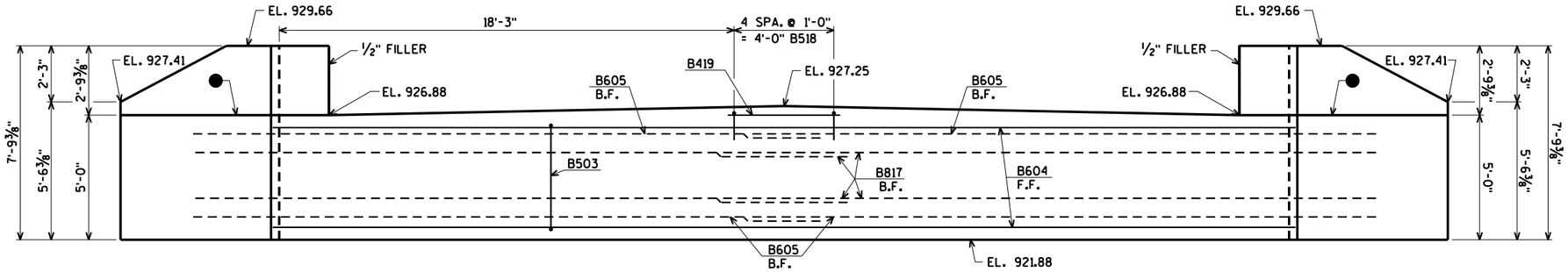
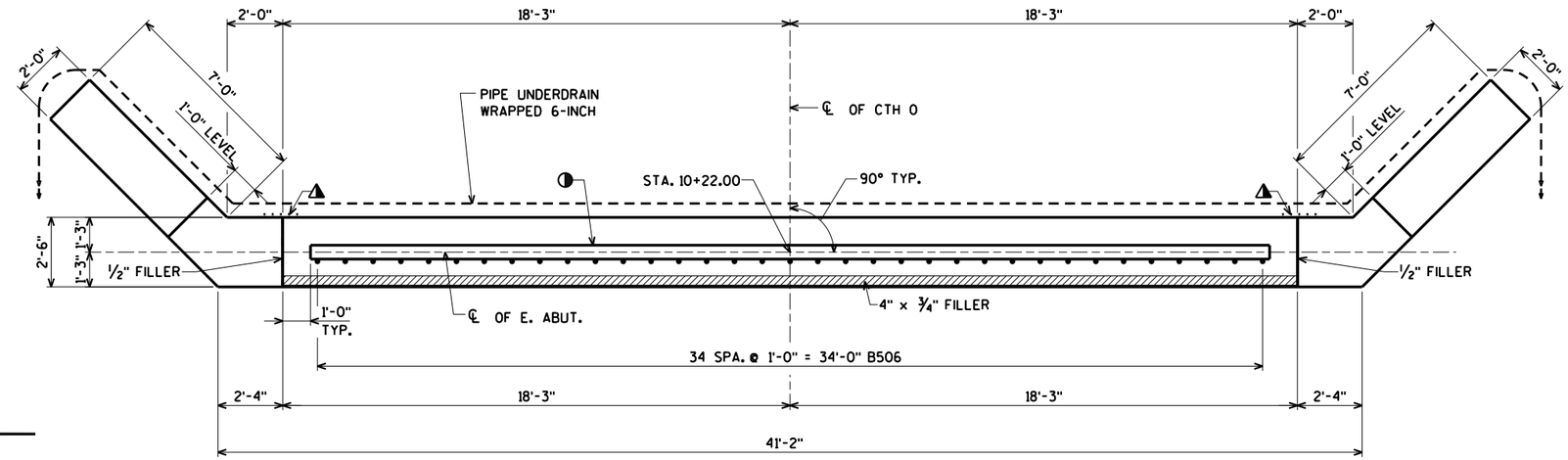
STATE PROJECT NUMBER

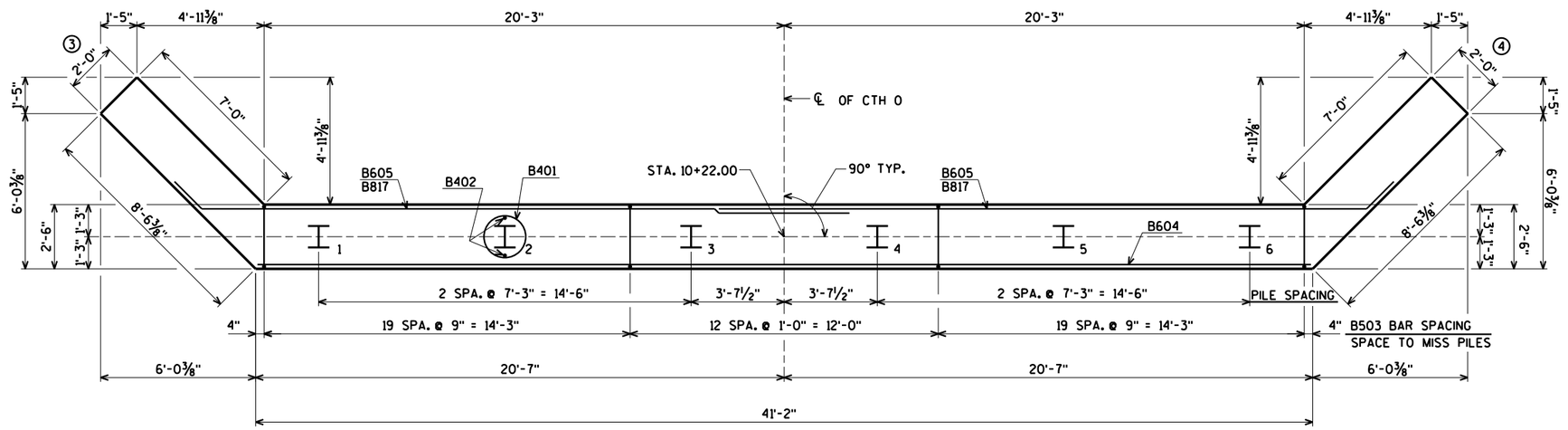
3934-00-74



ELEVATION
(LOOKING EAST)



PLAN



PILE LAYOUT

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.)

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

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

⚠ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

EAST ABUTMENT

SHEET 6 OF 11
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STATE PROJECT NUMBER

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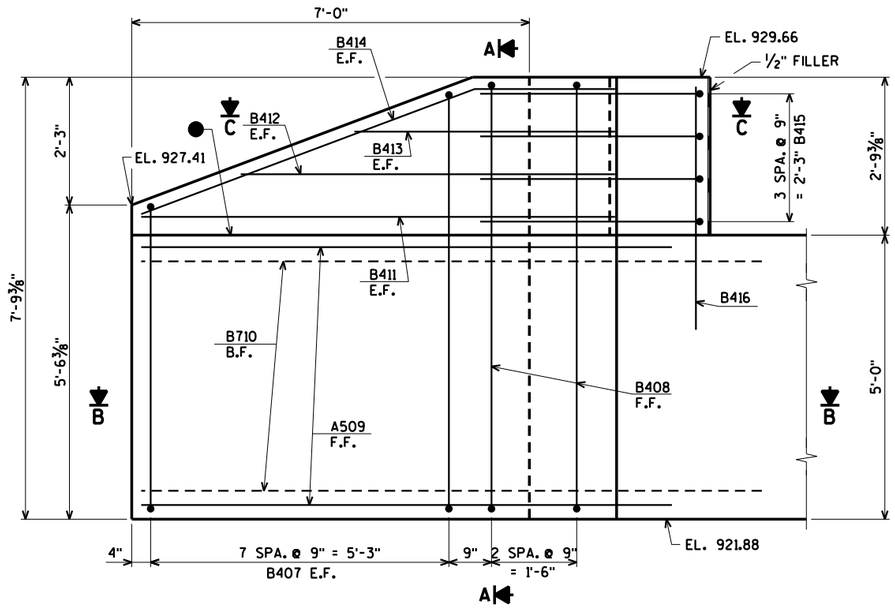
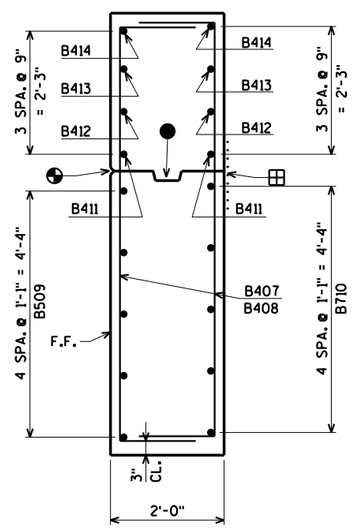
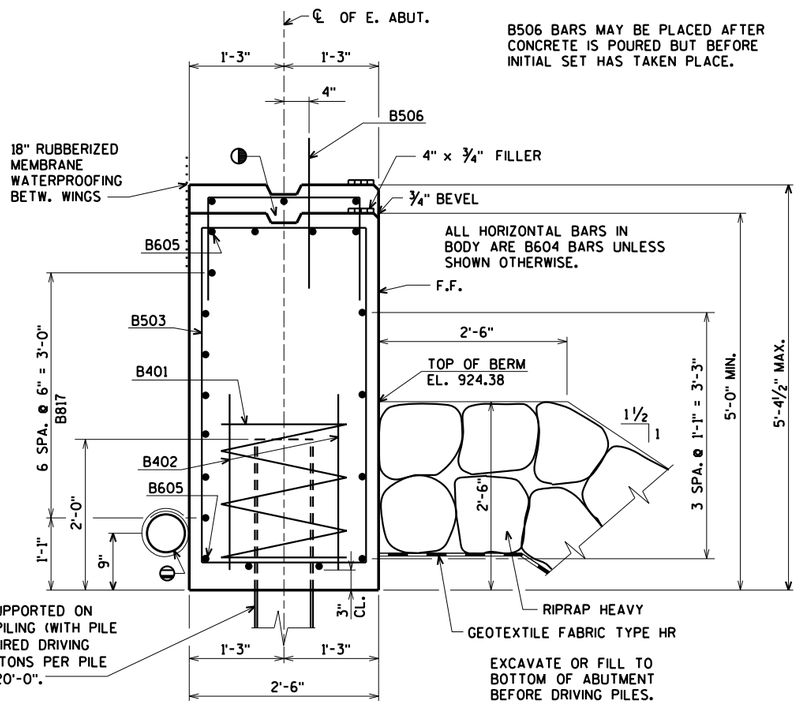


ELEVATION - WING 3

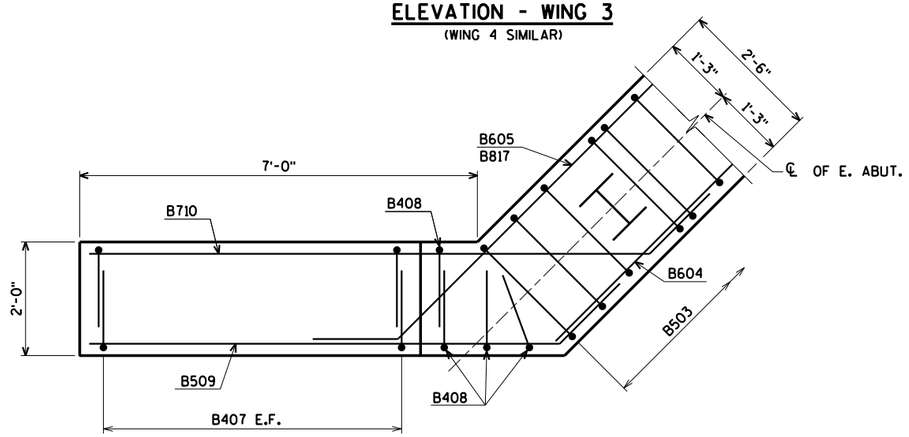
(WING 4 SIMILAR)



SECTION A



TYPICAL SECTION THRU BODY



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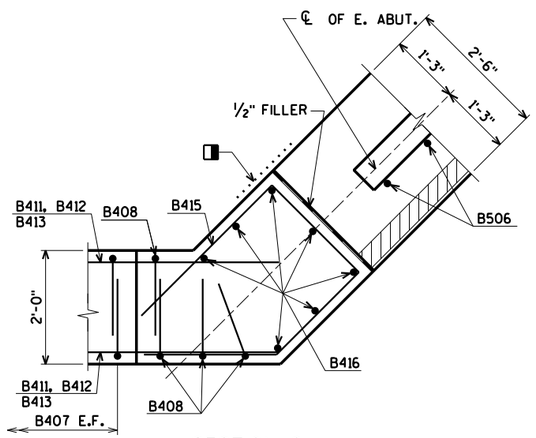

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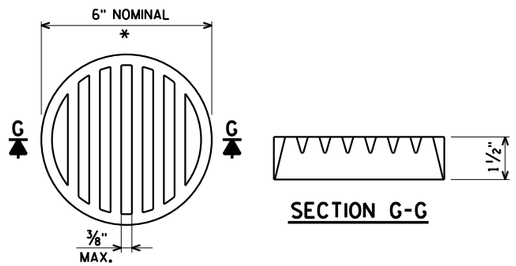

SECTION G-G

RODENT SHIELD DETAIL

* 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 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 SCREEN 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 SHEET METAL SCREWS.

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

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

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. 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.

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

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

EAST ABUTMENT WING DETAILS

SHEET 7 OF 11
37

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STATE PROJECT NUMBER

3934-00-74

BILL OF BARS - WEST ABUTMENT

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,610# UNCOATED 810# COATED LOCATION
A401		6	28-0	X			BODY @ PILES
A402		12	2-3				BODY @ PILES
A503		51	13-10	X			BODY VERT.
A604		9	41-0				BODY HORIZ. F.F.
A605		4	25-8	X			BODY HORIZ. B.F.
A506	X	35	2-0				BODY DOWELS
A407	X	32	8-8	X		⊗	WINGS 1 & 2 VERT. E.F.
A408	X	8	9-10	X			WINGS 1 & 2 VERT. E.F.
A509	X	10	9-9	X			WINGS 1 & 2 HORIZ. F.F.
A710	X	10	11-4	X			WINGS 1 & 2 HORIZ. B.F.
A411	X	4	8-4				WINGS 1 & 2 HORIZ. E.F.
A412	X	4	6-7				WINGS 1 & 2 HORIZ. E.F.
A413	X	4	4-7				WINGS 1 & 2 HORIZ. E.F.
A414	X	4	8-8	X			WINGS 1 & 2 DIAG. E.F.
A415	X	8	8-5	X			WINGS 1 & 2 HORIZ.
A416	X	14	4-3				WINGS 1 & 2 VERT.
A817		14	26-11	X			BODY HORIZ. B.F.
A518		5	4-9	X			BODY VERT. TOP
A419		3	4-6				BODY HORIZ. TOP

BILL OF BARS - EAST ABUTMENT

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,610# UNCOATED 810# COATED LOCATION
B401		6	28-0	X			BODY @ PILES
B402		12	2-3				BODY @ PILES
B503		51	13-10	X			BODY VERT.
B604		9	41-0				BODY HORIZ. F.F.
B605		4	25-8	X			BODY HORIZ. B.F.
B506	X	35	2-0				BODY DOWELS
B407	X	32	8-8	X		⊗	WINGS 3 & 4 VERT. E.F.
B408	X	8	9-10	X			WINGS 3 & 4 VERT. E.F.
B509	X	10	9-9	X			WINGS 3 & 4 HORIZ. F.F.
B710	X	10	11-4	X			WINGS 3 & 4 HORIZ. B.F.
B411	X	4	8-4				WINGS 3 & 4 HORIZ. E.F.
B412	X	4	6-7				WINGS 3 & 4 HORIZ. E.F.
B413	X	4	4-7				WINGS 3 & 4 HORIZ. E.F.
B414	X	4	8-8	X			WINGS 3 & 4 DIAG. E.F.
B415	X	8	8-5	X			WINGS 3 & 4 HORIZ.
B416	X	14	4-3				WINGS 3 & 4 VERT.
B817		14	26-11	X			BODY HORIZ. B.F.
B518		5	4-9	X			BODY VERT. TOP
B419		3	4-6				BODY HORIZ. TOP

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.

B.F. DENOTES BACK FACE

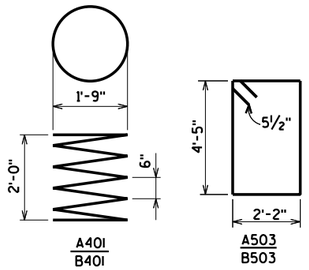
E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

BAR SERIES TABLE

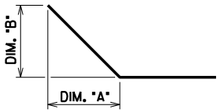
BAR MARK	NO REQ'D.	LENGTH
A407	4 SERIES OF 8	7'-8" TO 9'-8"
B407	4 SERIES OF 8	7'-8" TO 9'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

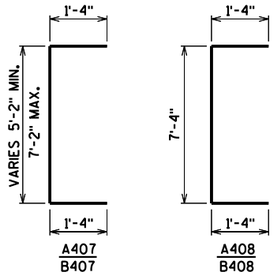


A401
B401

A503
B503

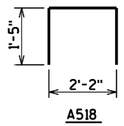


BAR NO.	DIM. "A"	DIM. "B"
A605	1'-0¾"	1'-0¾"
A509	1'-0¾"	1'-0¾"
A710	1'-0¾"	1'-0¾"
A414	5'-10"	2'-3"
A817	1'-0¾"	1'-0¾"
B605	1'-0¾"	1'-0¾"
B509	1'-0¾"	1'-0¾"
B710	1'-0¾"	1'-0¾"
B414	5'-10"	2'-3"
B817	1'-0¾"	1'-0¾"

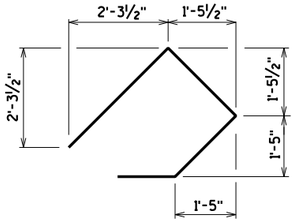


A407
B407

A408
B408



A518
B518



A415
B415

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

ABUTMENT
BILL OF BARS

SHEET 8 OF 11
38

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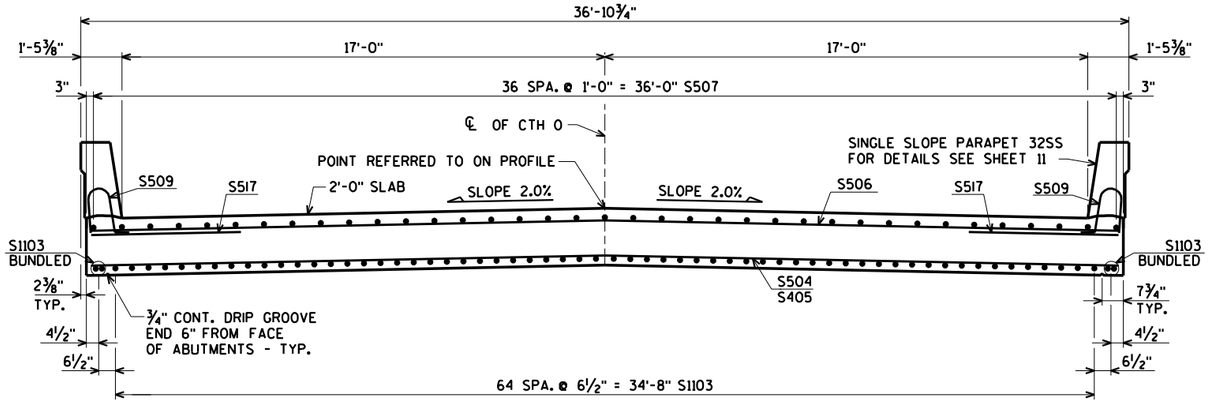
(LOOKING EAST)

STATE PROJECT NUMBER

3934-00-74



CROSS SECTION THRU ROADWAY

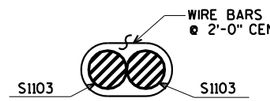
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

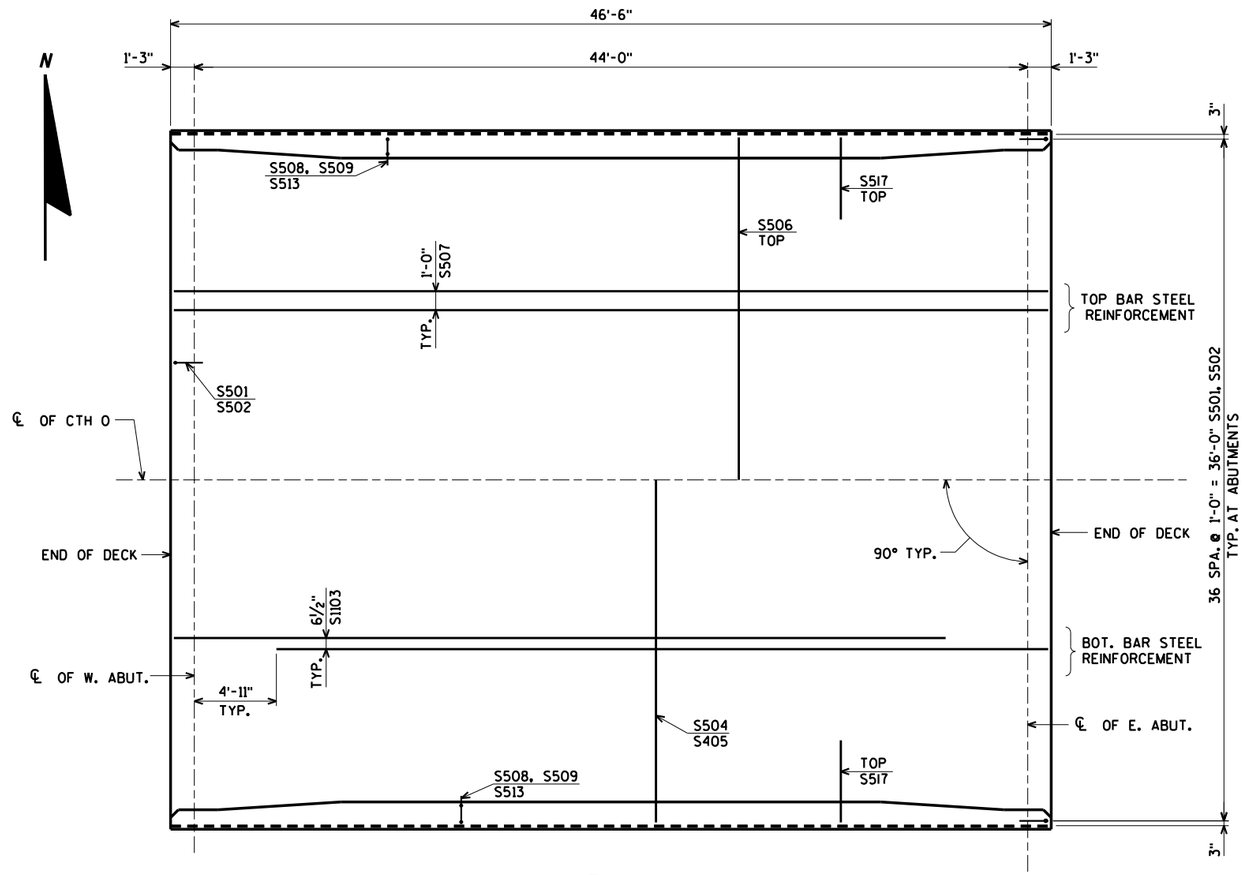
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	24,000# COATED LOCATION
S501	X	74	6-9	X		SLAB @ ABUT.
S502	X	74	3-9	X		SLAB @ ABUT.
S1103	X	69	40-2		X	SLAB LONG. BOT.
S504	X	38	36-2			SLAB TRANS. BOT.
S405	X	30	36-2			SLAB TRANS. BOT.
S506	X	47	36-2			SLAB TRANS. TOP
S507	X	37	46-2			SLAB LONG. TOP
S508	X	68	4-4	X		SLAB @ PARAPET VERT.
S509	X	88	4-5	X		SLAB @ PARAPET VERT.
S510	X	88	5-0	X		PARAPET VERT.
S511	X	20	10-10			PARAPET HORIZ.
S512	X	4	11-0	X		PARAPET HORIZ.
S513	X	48	2-9	X		SLAB @ PARAPET VERT.
S514	X	44	4-9	X		PARAPET VERT.
S515	X	24	4-10	X		PARAPET VERT.
S516	X	12	28-0			PARAPET HORIZ.
S517	X	92	5-0			SLAB TRANS. TOP @ EDGES

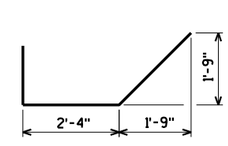
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



BUNDLING DETAIL



PLAN



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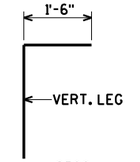

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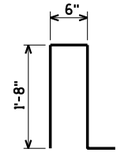

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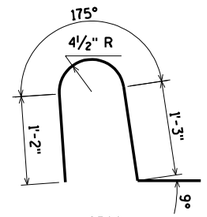

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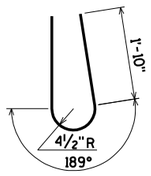

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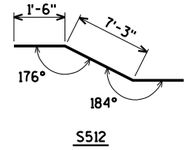

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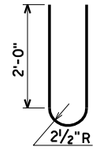

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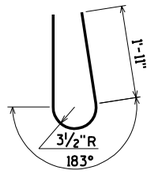

S515

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 9 OF 11
39

ORIGINAL PLANS PREPARED BY
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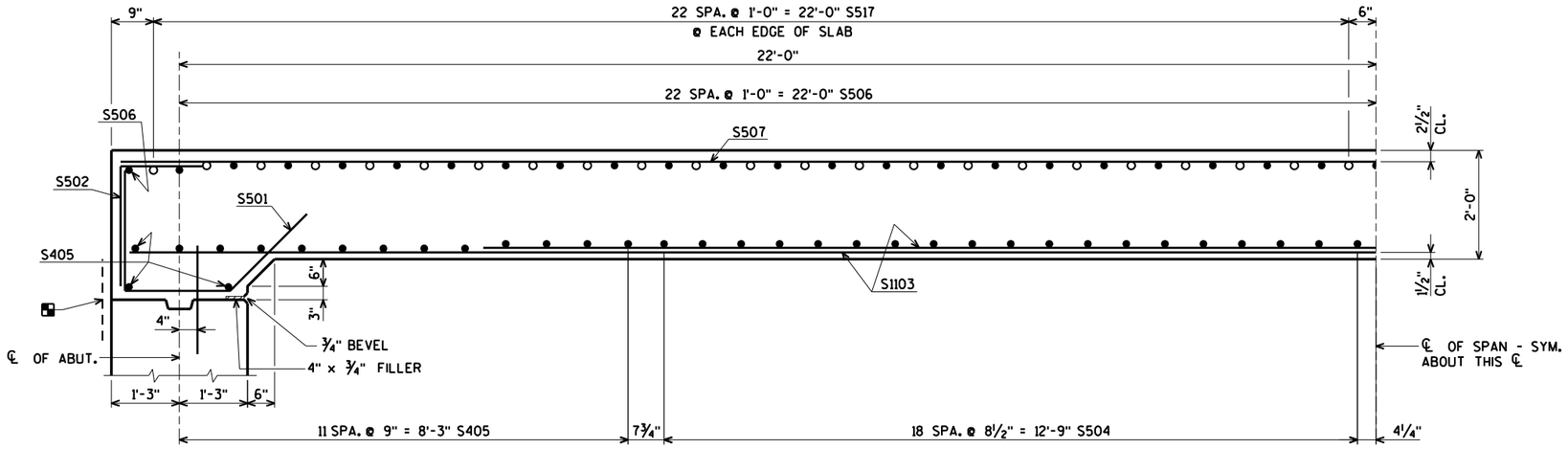
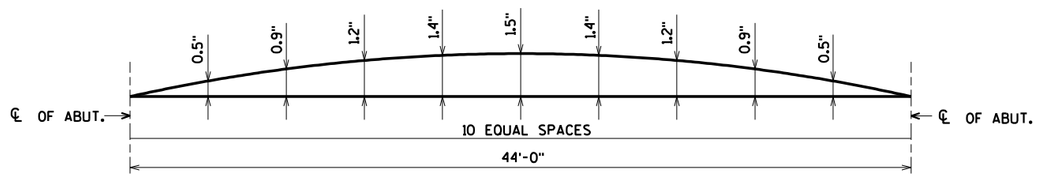


PART LONGITUDINAL SECTION

■ 18" RUBBERIZED MEMBRANE WATERPROOFING



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄.

TOP OF DECK ELEVATIONS

LOCATION	℄ OF W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF E. ABUT.
⊖ N. EDGE OF SLAB	930.51	930.42	930.34	930.25	930.17	930.08	930.00	929.91	929.83	929.74	929.66
℄ OF STRUCTURE	930.85	930.76	930.68	930.59	930.51	930.42	930.34	930.25	930.17	930.08	930.00
⊖ S. EDGE OF SLAB	930.51	930.42	930.34	930.25	930.17	930.08	930.00	929.91	929.83	929.74	929.66

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

⊖ NOTE: TOP OF DECK IS LEVEL UNDER PARAPET.

NO.	DATE	REVISION	BY

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SUPERSTRUCTURE DETAILS

SHEET 10 OF 11
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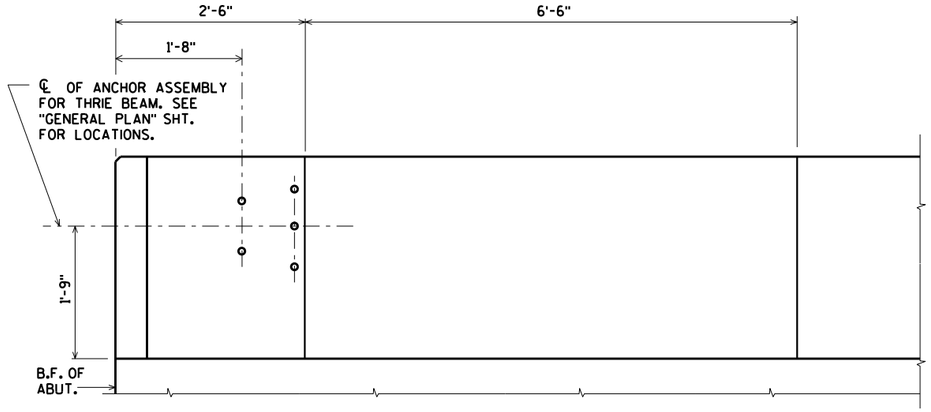
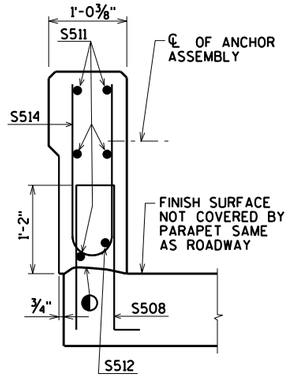
8

STATE PROJECT NUMBER

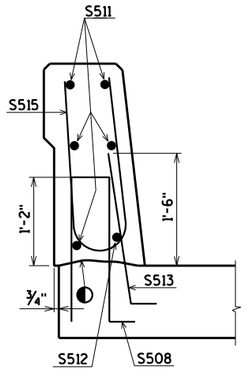
3934-00-74



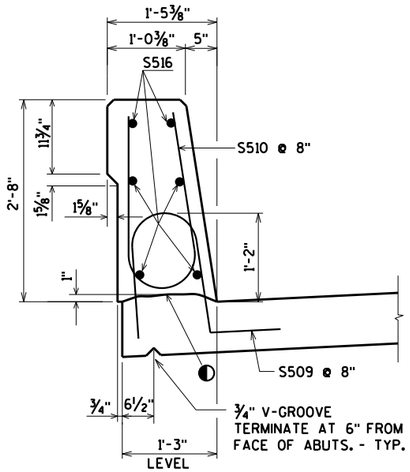
INSIDE ELEVATION



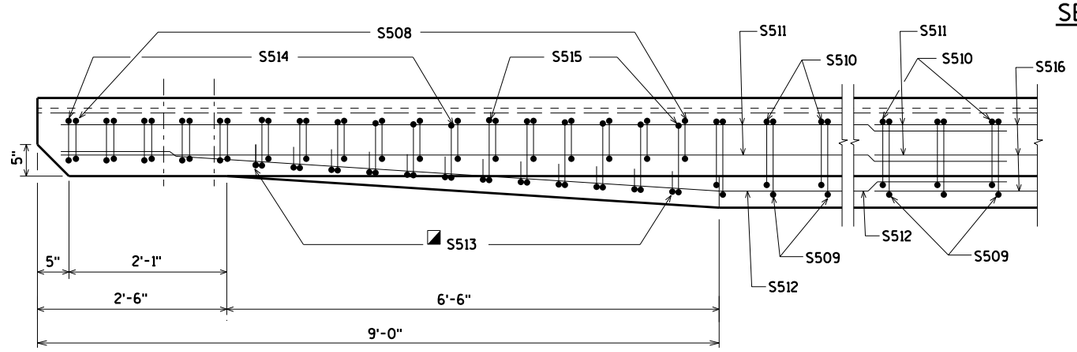
SECTION A



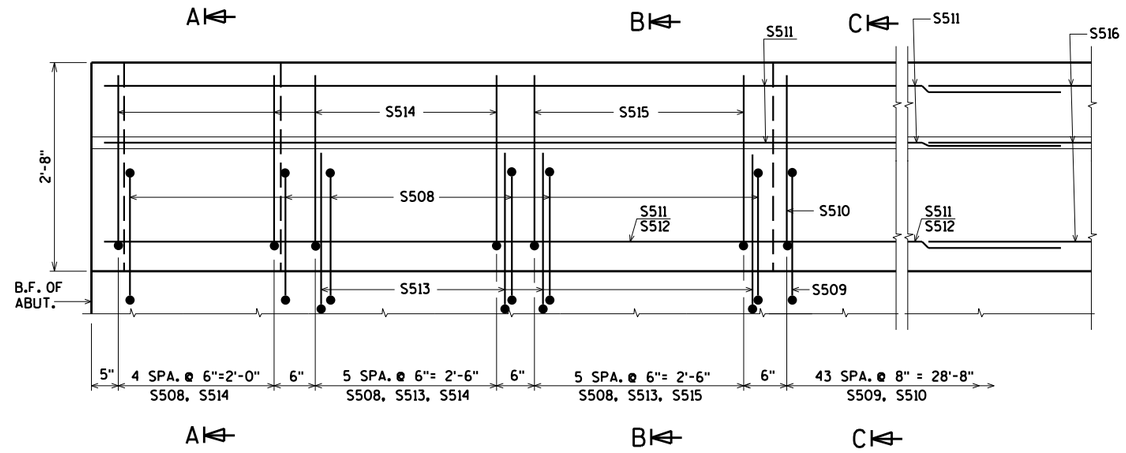
SECTION B



SECTION THRU PARAPET ON BRIDGE
SECTION C



PLAN



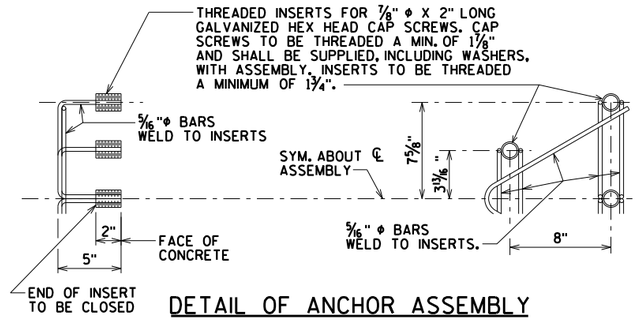
OUTSIDE ELEVATION

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ USE CARE TO PLACE S513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

LAP LONG. BARS A MIN. OF 1'-9"

B.F. DENOTES BACK FACE



DETAIL OF ANCHOR ASSEMBLY

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-14-214

DRAWN BY JCK | PLANS CK'D. AEB

SINGLE SLOPE PARAPET 32SS

SHEET 11 OF 11
41

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

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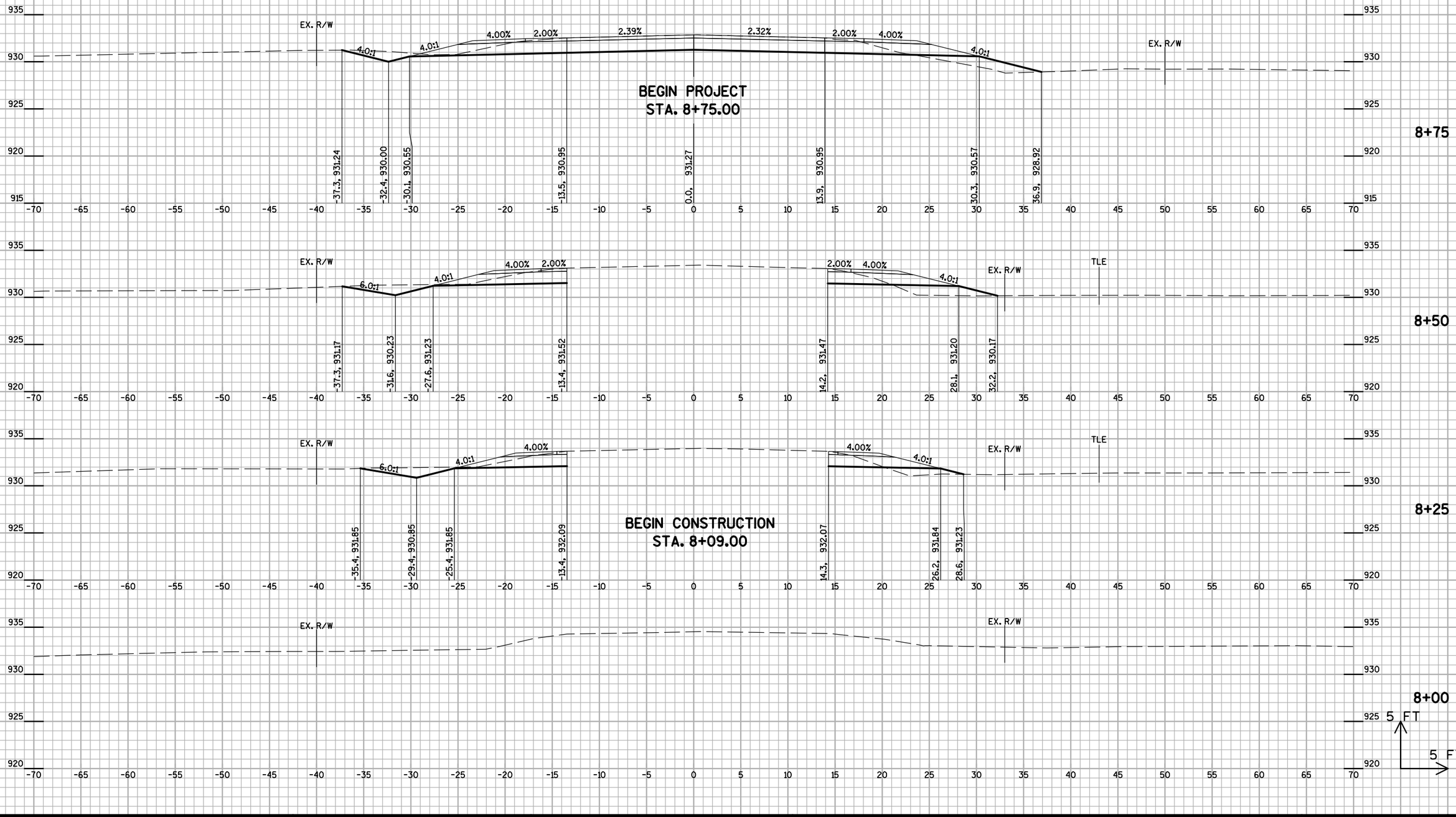
CTH O COMPUTER EARTHWORK

Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut	Expanded Fill	
						1.00	1.30	
				Note 1	Note 2	Note 1		Note 3
8+09	--	0	0					
8+25	16	24.9	4.2	7	1	7	2	6
8+50	25	27.3	8.0	24	6	32	9	23
8+75	25	66.7	8.9	44	8	75	19	56
9+00	25	65.9	13.4	61	10	137	33	104
9+25	25	57.7	22.5	57	17	194	54	139
9+50	25	53.3	33.5	51	26	245	88	157
9+75	25	51.5	35.8	49	32	294	130	164
9+78	3	51.5	35.8	6	4	299	135	164
NEW BRIDGE	--	--	--	--	--	--	--	--
10+22	--	59.2	45.6	--	--	--	--	--
10+35	13	59.2	45.6	29	22	328	163	164
10+50	15	64.3	26.2	34	20	362	189	173
10+75	25	71.1	15.8	63	19	425	215	210
11+00	25	78.1	4.7	69	10	494	227	267
11+25	25	29.7	6.8	50	5	544	234	310
11+50	25	23.7	7.9	25	7	569	243	326
11+75	25	19.0	9.5	20	8	588	253	335
11+86	11	0	0	4	2	592	256	336
				592	197			

Note 1 - Cut	Cut includes existing asphalt pavement. Assumed to be reused as fill outside the 1:1 road core.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)

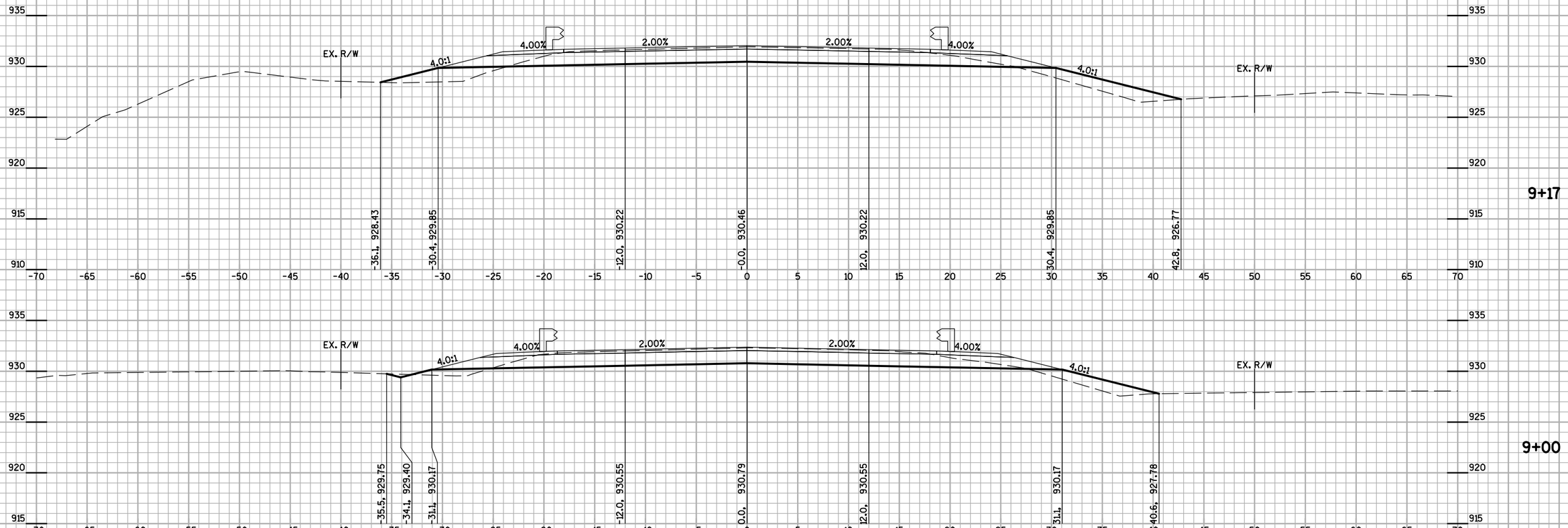


PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : N:\410695.20\DGN\3934-00-04_090201_xs.dgn PLOT DATE : 1/11/2016 PLOT BY : wintersa PLOT NAME : PLOT SCALE : 1:10

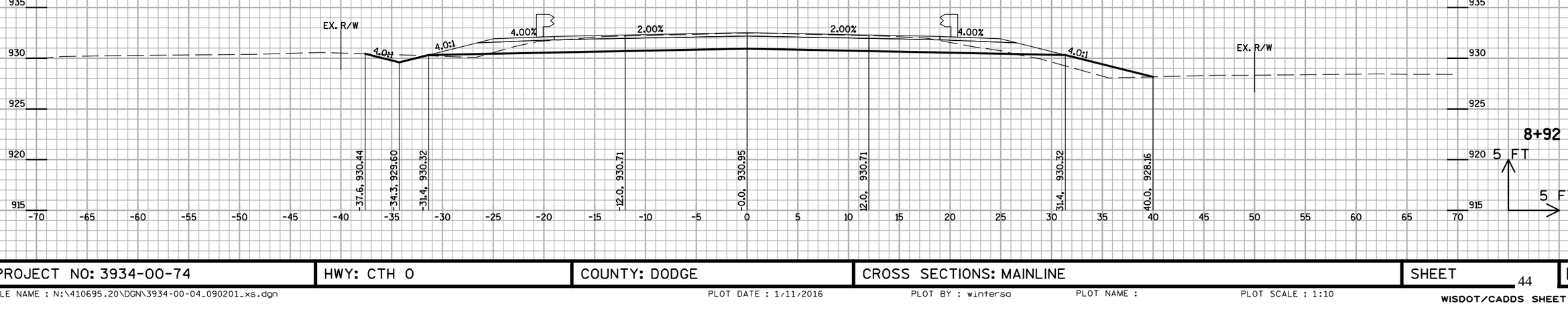
WISDOT/CADDS SHEET 21

STA. 8+92 TO 9+17



9+17

9+00



8+92

5 FT

5 FT

9

9

PROJECT NO: 3934-00-74	HWY: CTH 0	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET 44	E

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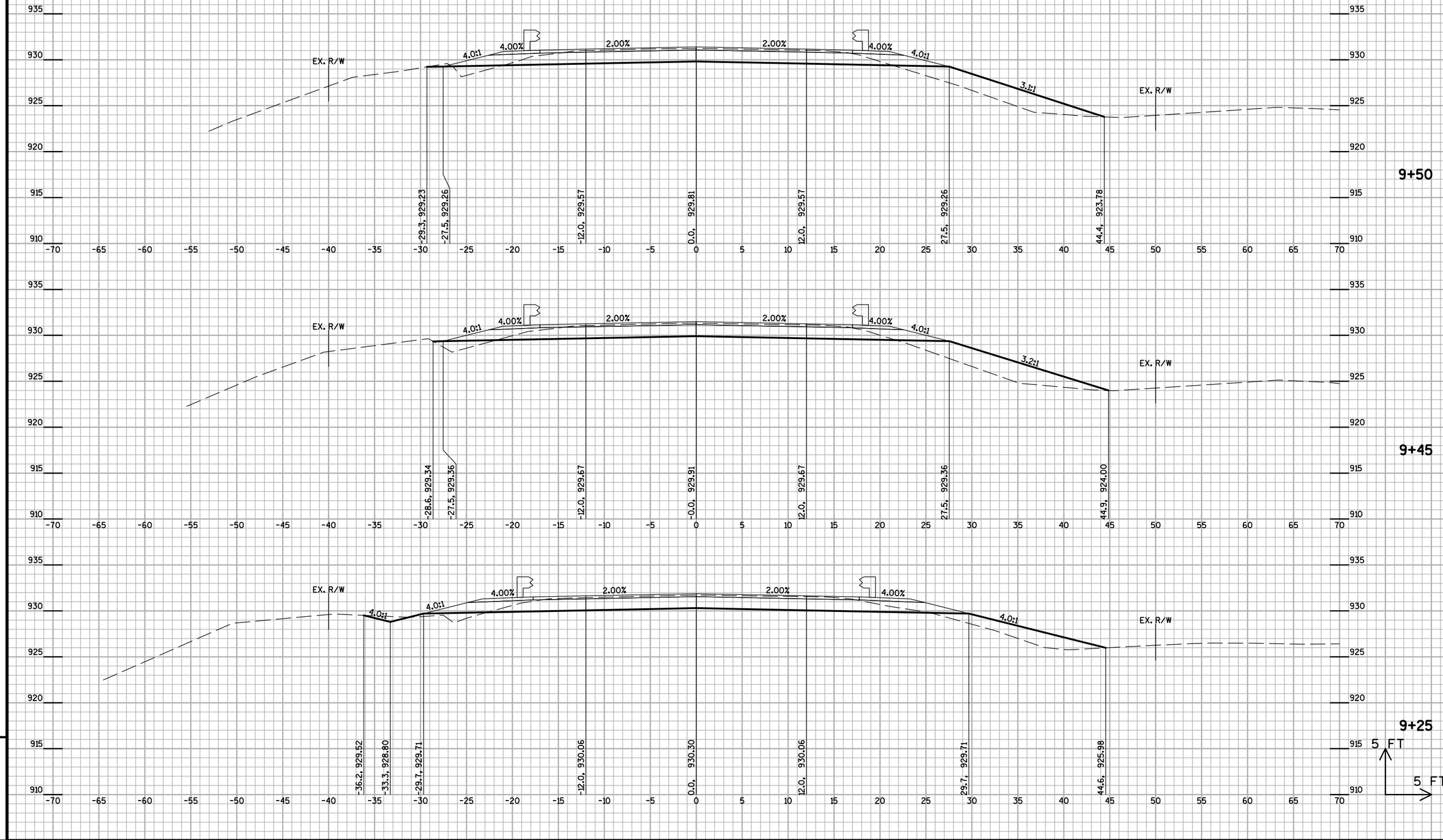
WISDOT/CADDS SHEET 21

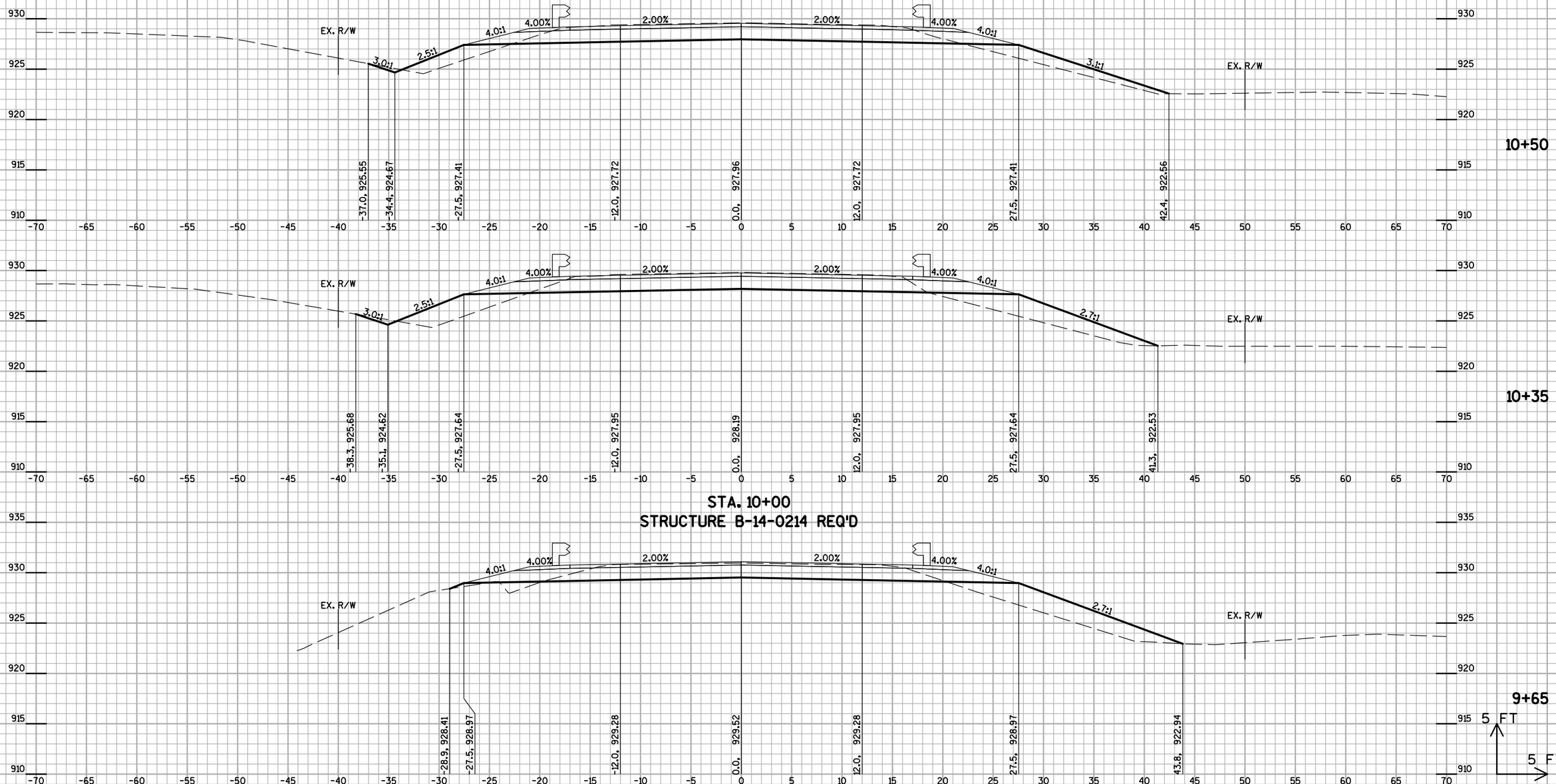
STA. 9+25 TO 9+50



9 9

PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET 45	E

STA. 9+65 TO 10+50



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PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET 46	E

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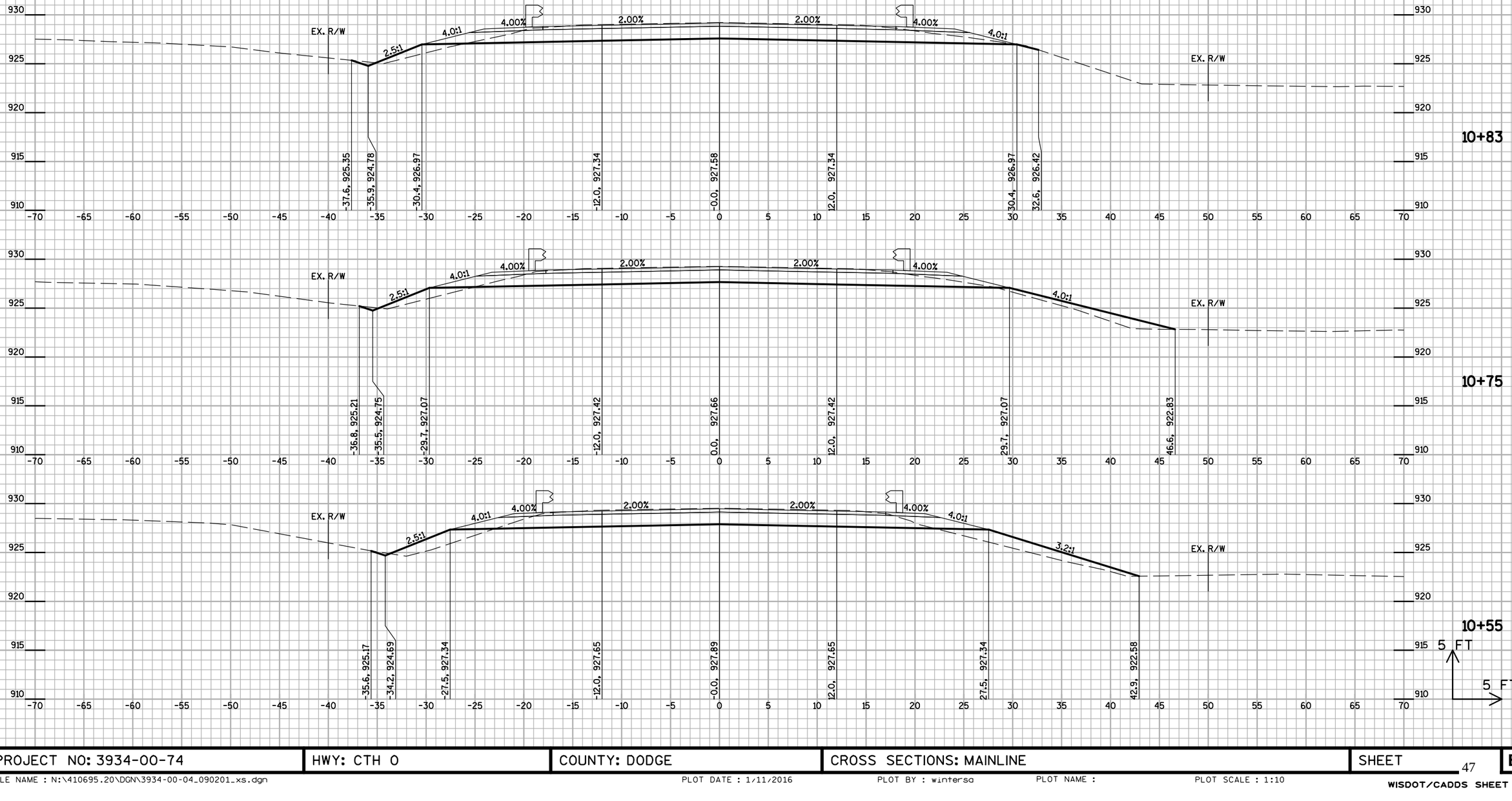
WISDOT/CADDS SHEET 21

STA. 10+55 TO 10+83



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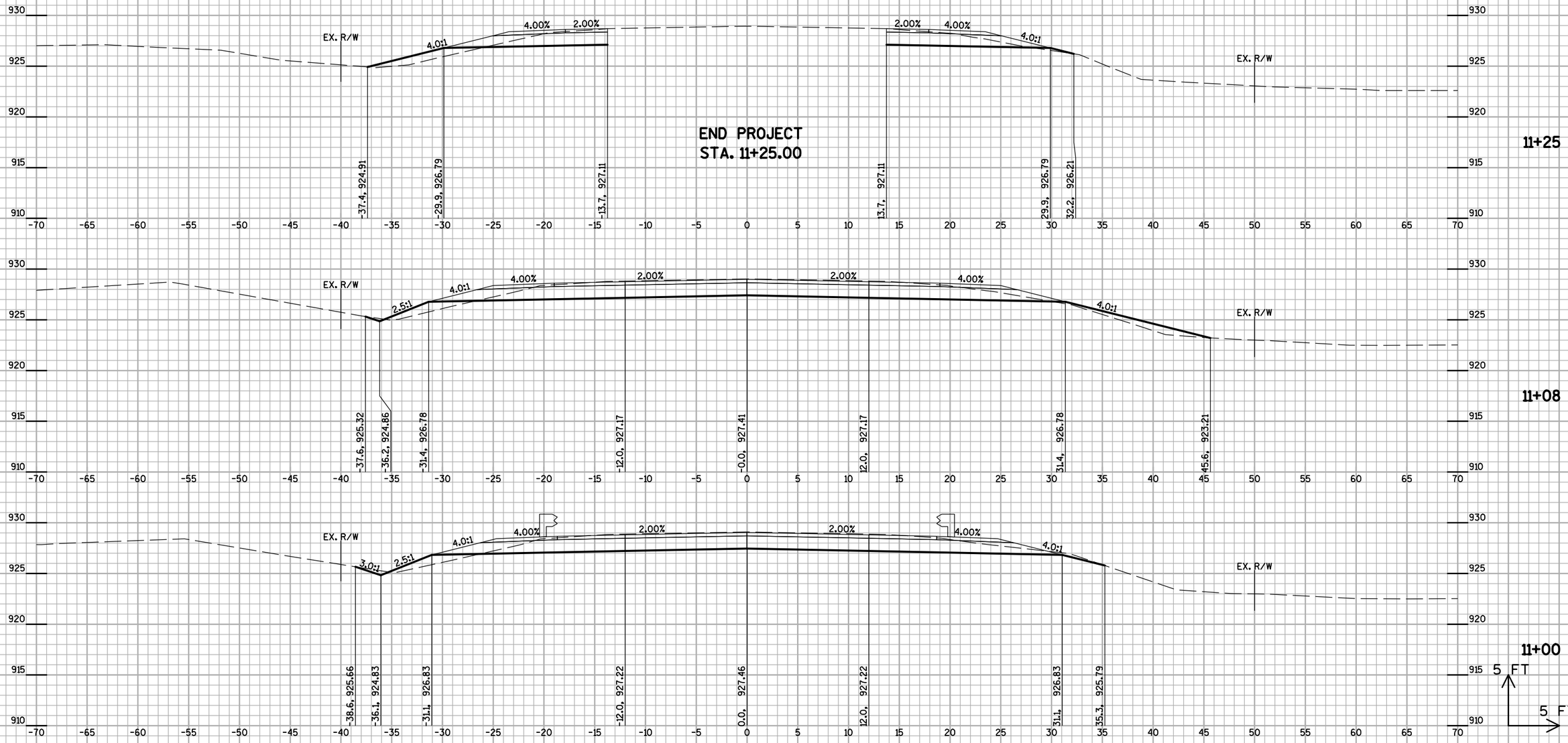
PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET 47	E

FILE NAME : N:\410695.20\DGN\3934-00-04_090201_xs.dgn PLOT DATE : 1/11/2016 PLOT BY : wintersa PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+00 TO 11+25



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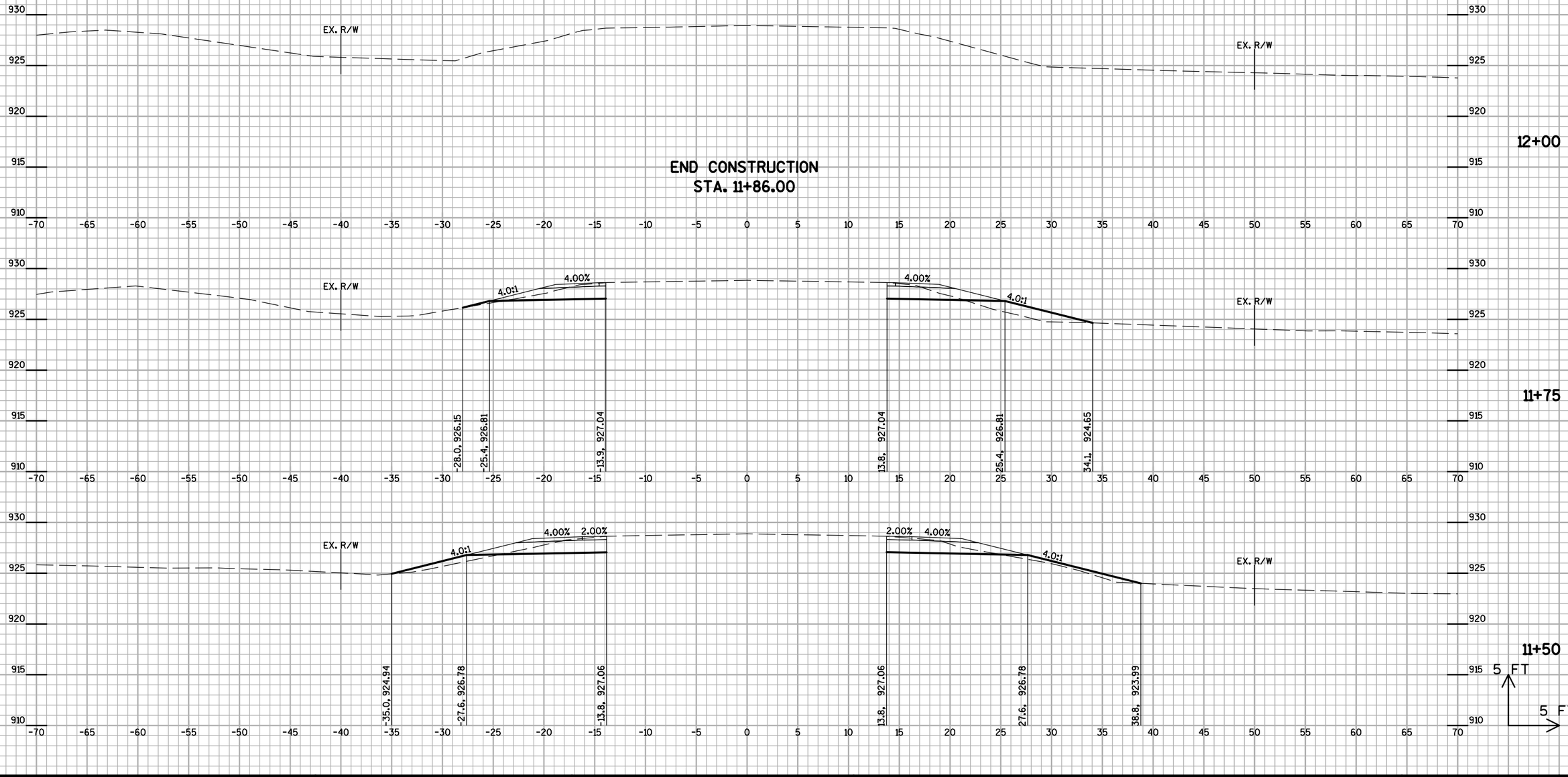
PROJECT NO: 3934-00-74	HWY: CTH O	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET 48	E

9

FILE NAME : N:\410695.20\DGN\3934-00-04_090201_xs.dgn PLOT DATE : 1/11/2016 PLOT BY : wintersa PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+50 TO 12+00



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PROJECT NO: 3934-00-74	HWY: CTH 0	COUNTY: DODGE	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : N:\410695.20\DGN\3934-00-04_090201_xs.dgn PLOT DATE : 1/11/2016 PLOT BY : wintersa PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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