LAX

JAN 2016

PROJECT ID: 1643-08-81

WITH: N/A

COUNTY: VERNON

ORDER OF SHEETS

TOTAL SHEETS = 202

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WESTBY - READSTOWN

KICKAPOO RIVER BRIDGE B-62-0045

USH 14

VERNON COUNTY

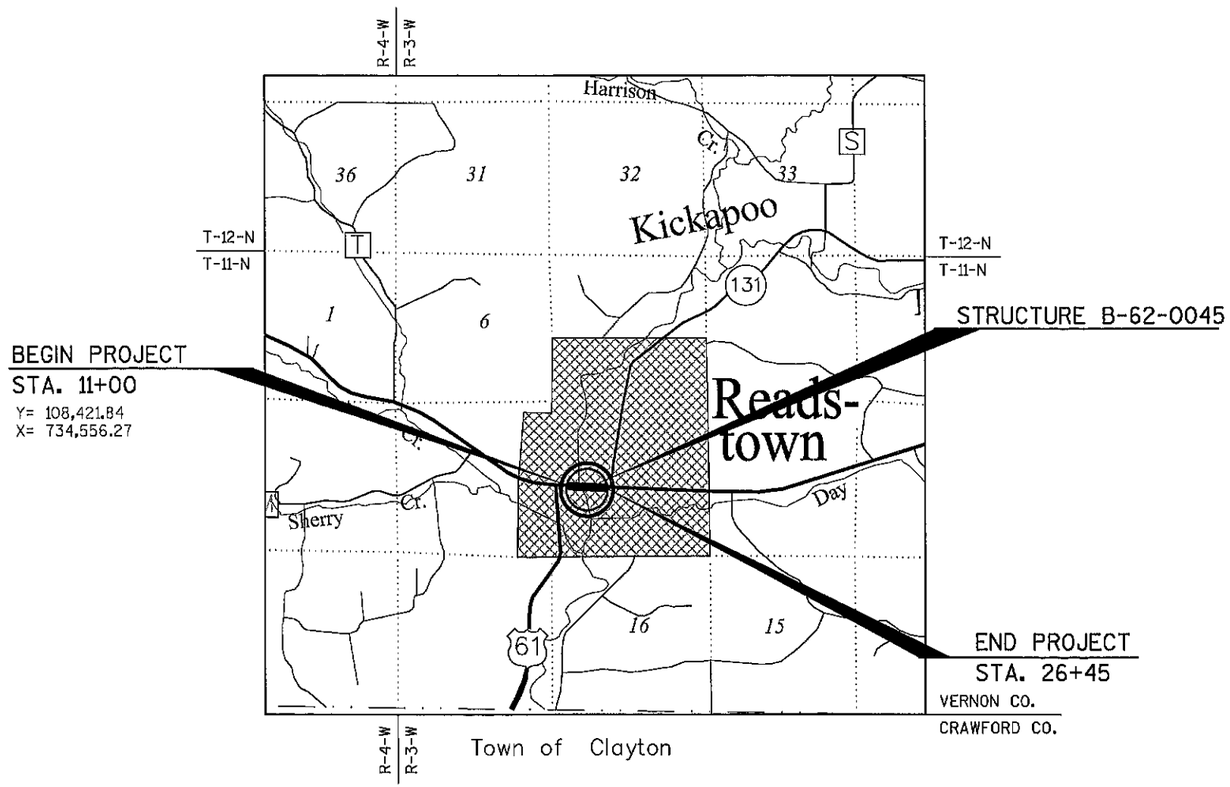
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1643-08-81	WISC 2016001	1

STATE PROJECT NUMBER
1643-08-81

03

DESIGN DESIGNATION

A.A.D.T.	2016	=	3,600
A.A.D.T.	2036	=	4,400
D.H.V.	2036	=	328
D.D.		=	60/40
T.		=	11.8%
DESIGN SPEED		=	45 M.P.H.
ESALS		=	970,000



BEGIN PROJECT
STA. 11+00
Y= 108,421.84
X= 734,556.27

STRUCTURE B-62-0045

END PROJECT
STA. 26+45
VERNON CO.
CRAWFORD CO.

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.293 MI.

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

"ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)."

CONVENTIONAL SYMBOLS

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

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc.
Engineers - Surveyors - Architects

WISCONSIN
ELLERY A. SCHAFFER
E-41742-6
SPRING GREEN, WI
PROFESSIONAL ENGINEER

7/17/15

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: JEWELL ASSOCIATES ENGINEERS, INC.
Designer: WISCONSIN DEPT. OF TRANSPORTATION/ JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager: ELLERY A. SCHAFFER, P.E.
Regional Examiner: TIMOTHY MAEDKE, P.E.
Regional Supervisor: REINY YAHNKE, P.E.
C.O. Examiner:

APPROVED FOR THE DEPARTMENT
DATE: 7/20/15
(Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	SALV	Salvaged
AC	Acre	IP	Iron Pipe or Pin	SAN S	Sanitary Sewer
AGG	Aggregate	IRS	Iron Rod Set	SEC	Section
AH	Ahead	JT	Joint	SHLDR	Shoulder
<	Angle	JCT	Junction	SHR	Shrinkage
ASPH	Asphaltic	LHF	Left–Hand Forward	SW	Sidewalk
AVG	Average	L	Length of Curve	S	South
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	SQ	Square
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BK	Back	MH	Manhole	SY or SQ YD	Square Yard
BF	Back Face	MB	Mailbox	STD	Standard
BM	Bench Mark	ML or M/L	Match Line	SDD	Standard Detail Drawings
BR	Bridge	N	North	STH	State Trunk Highways
C or C/L	Center Line	Y	North Grid Coordinate	STA	Station
CC	Center to Center	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek			SE	Superelevation
CR	Crushed	PT	Point	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PC	Point of Curvature	SV	Septic Vent
CP	Culvert Pipe	PI	Point of Intersection	T	Tangent
C & G	Curb and Gutter	PRC	Point of Reverse Curvature	TEL	Telephone
D	Degree of Curve	PT	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	POC	Point On Curve	TI	Temporary Interest
DIA	Diameter	POT	Point on Tangent	TLE	Temporary Limited Easement
E	East	PVC	Polyvinyl Chloride		
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)	LB	Pound	T or TN	Town
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PE	Private Entrance	TL or T/L	Transit Line
		R	Radius	T	Trucks (percent of)
EBS	Excavation Below Subgrade	RR	Railroad	TYP	Typical
FF	Face to Face	R	Range	UNCL	Unclassified
FE	Field Entrance	RL or R/L	Reference Line	UG	Underground Cable
F	Fill	RP	Reference Point	USH	United States Highway
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	VAR	Variable
FL or F/L	Flow Line			V	Velocity or Design Speed
FT	Foot	REQ'D	Required	VERT	Vertical
FTG	Footing	RES	Residence or Residential	VC	Vertical Curve
GN	Grid North	RW	Retaining Wall	VOL	Volume
HT	Height	RT	Right	WM	Water Main
CWT	Hundredweight	RHF	Right–Hand Forward	WV	Water Valve
HYD	Hydrant	R/W	Right–of–Way	W	West
INL	Inlet	R	River	WB	Westbound
ID	Inside Diameter	RD	Road	YD	Yard
		RDWY	Roadway		

FOR INFORMATION ONLY

BORING LOG

BORING NO.	1	2	3	4	5	6
STATION/OFFSET	12+00/9' RT.	13+00/9' LT.	14+00/6' RT.	22+35/6' LT.	23+40/6' RT.	24+40/9' LT.
PROFILE (IN DESCENDING ORDER)	5"ASPHALTIC SURFACE 6" FILL SAND 9" CONCRETE PAVEMENT 16" SAND MATERIAL 24" SILT MATERIAL	4" ASPHALTIC SURFACE 4" FILL SAND 8" CONCRETE PAVEMENT 44" WEATHERED SANDSTONE BEDROCK	5"ASPHALTIC SURFACE 4" FILL SAND 8" CONCRETE PAVEMENT 43" SAND MATERIAL/ WEATHERED SANDSTONE BEDROCK	5" ASPHALTIC SURFACE 8" CONCRETE PAVEMENT 6" BASE AGGREGATE DENSE 41" SAND MATERIAL	5"ASPHALTIC SURFACE 8" CONCRETE PAVEMENT 6" BASE AGGREGATE DENSE 41" SAND MATERIAL	6"ASPHALTIC SURFACE 8" CONCRETE PAVEMENT 6" BASE AGGREGATE DENSE 40" SAND MATERIAL
	BORING TERMINATED @ 60"	BORING TERMINATED @ 60"	BORING TERMINATED @ 60"	BORING TERMINATED @ 60"	BORING TERMINATED @ 60"	BORING TERMINATED @ 60"

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS SHOWN WITHIN THE RIGHT–OF–WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20 OR 40) AND MULCHED OR EROSION MATTED AS DIRECTED BY THE ENGINEER IN THE FIELD. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEED MIX NO 60.

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

SILT FENCE, TEMPORARY DITCH CHECKS, CULVERT PIPE CHECKS, AND TURBIDITY BARRIER ITEMS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

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

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 30%.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLAN MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT BEYOND THE SLOPE INTERCEPTS FROM STA. 16+50 – STA. 26+45 LT. AND RT.

HMA PAVEMENT TYPE E–1 QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

5–INCHES OF HMA PAVEMENT TYPE E–1 SHALL BE CONSTRUCTED WITH A 3–INCH LOWER LAYER AND 2–INCH UPPER LAYER. THE NOMINAL SIZE OF AGGREGATE USED FOR THE LOWER LAYER SHALL BE 12.5 MM.

4–INCHES OF HMA PAVEMENT TYPE E–1 SHALL BE CONSTRUCTED WITH A 2 1/4–INCH LOWER LAYER AND 1 3/4–INCH UPPER LAYER. THE NOMINAL SIZE OF AGGREGATE USED FOR THE LOWER LAYER SHALL BE 12.5 MM.

USE ASPHALTIC MATERIAL PG 64–28 WITH HMA PAVEMENT TYPE E–1.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA PAVEMENT TYPE E–1 LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE, OR PARKING LANE.

CONSTRUCT VERTICAL LONGITUDINAL JOINTS FOR ALL MAINLINE PAVING IF THE PAVEMENT THICKNESS CONFORMS TO THE MINIMUMS SPECIFIED IN 460.3.2, UNLESS THE ENGINEER DIRECTS OR ALLOWS AN ALTERNATE JOINT. THE USE OF NOTCHED WEDGE LONGITUDINAL JOINTS WILL NOT BE PERMITTED UNLESS DIRECTED BY THE ENGINEER.

THE LOCATION OF PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

CURB & GUTTER ELEVATIONS ARE GIVEN TO THE FLANGE LINE UNLESS OTHERWISE NOTED.

THE EXACT LOCATION OF COMMERCIAL, PRIVATE, AND FIELD ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

MULCH/EROSION MAT ALL MAINLINE SLOPES AS DIRECTED BY ENGINEER IN THE FIELD.

REMOVE AND RELOCATE FIELD ENTRANCE (STA. 22+18, RT.) AT A LOCATION DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC/CONCRETE SURFACES WHERE AN ABUTTING ASPHALTIC/CONCRETE SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

ALL RADII DIMENSIONS ON THE PLAN FOR CURB AND GUTTER ARE TO THE FLANGE OF THE CURB AND GUTTER.

EXISTING DRIVEWAYS SHALL BE RESTORED IN KIND AND THEIR LOCATION VERIFIED BY THE ENGINEER IN THE FIELD.

EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADII POINTS IN THE CURB AND GUTTER.

STORM SEWER ELEVATIONS, LENGTHS, AND LOCATIONS AS SHOWN ON THE PLANS AND CROSS SECTIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

CURVE DATA IS BASED ON THE ARC DEFINITION.

ACCURACY OF INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

ROCK EXCAVATION MAY BE REQUIRED FOR AREAS OF LIGHT BASE EXCAVATION.

CONTACTS

WISDOT:
WISCONSIN DEPARTMENT OF TRANSPORTATION
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
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EMAIL: Timothy.Maedke@dot.wi.gov

DESIGN CONSULTANT:
JEWELL ASSOCIATES ENGINEERS, INC.
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SPRING GREEN, WI 53588
ATTN: Ellery Schaffer, P.E.
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CELL: (608) 341–8194
EMAIL: Ellery.Schaffer@JewellAssoc.com

VILLAGE OF READSTOWN:
VILLAGE OF READSTOWN
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FAX: (608) 629–5699
EMAIL: clerk@vi.readstown.wi.gov

DNR LIAISON:
STATE OF WISCONSIN
DNR SERVICE CENTER
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LACROSSE, WI 54601
ATTN: KAREN KALVELAGE
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FAX: (608) 785–9000
EMAIL: Karen.Kalvelage@wisconsin.gov

UTILITIES

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VERNON COMMUNICATIONS COOPERATIVE
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WESTBY, WI 54667
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CELL: (608) 632–0615
EMAIL: ttunks@vernoncom.coop

ELECTRIC
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110 SAUGSTAD ROAD
WESTBY, WI 54667
PH: (608) 634–3121
CELL: (608) 632–3419
EMAIL: mtewalt@vernonelectric.org

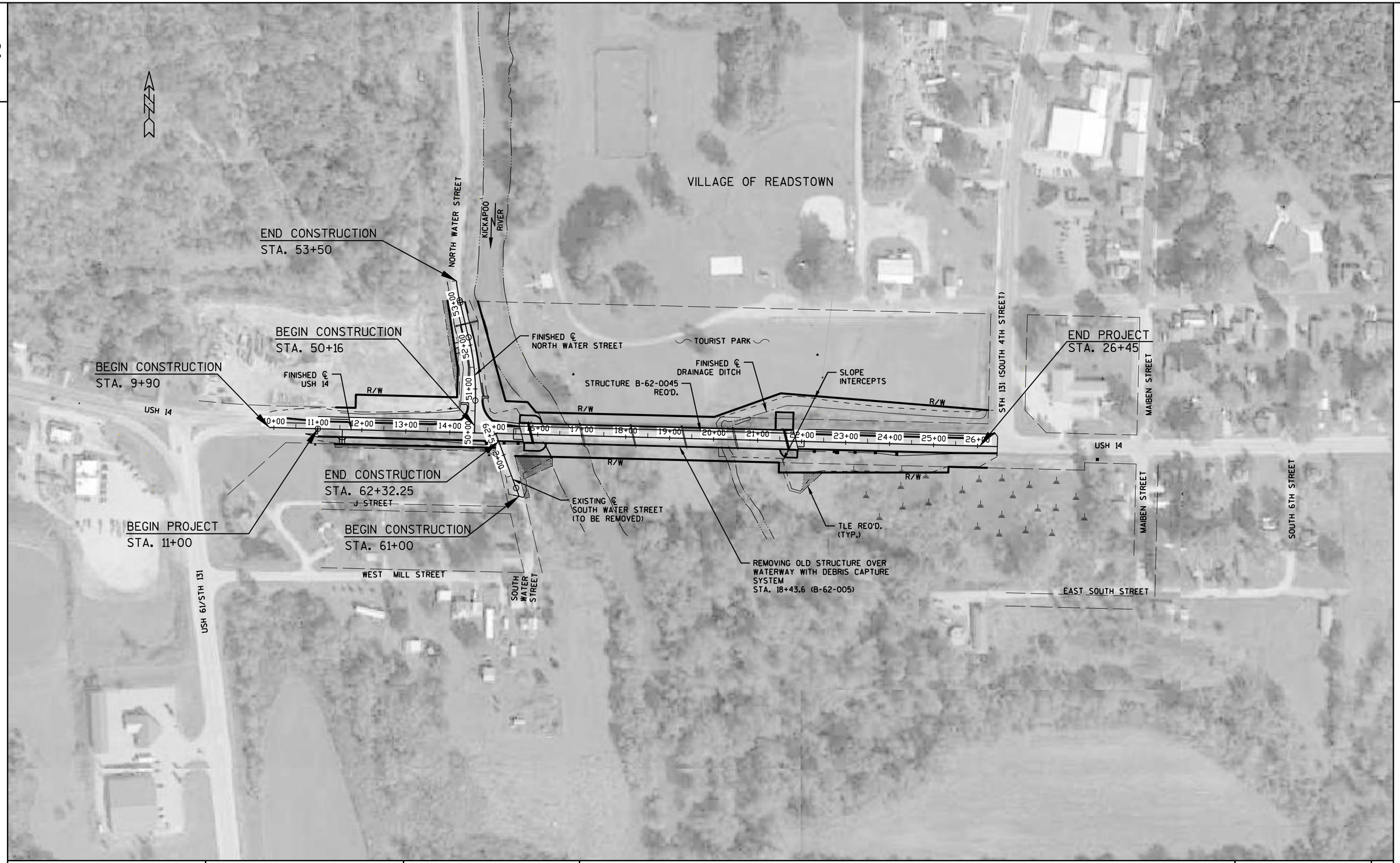
COMMUNICATION LINE
MEDIACOM LLC WISCONSIN
ATTN: TIM ORCUTT
3033 ASBURY ROAD
DUBUQUE, IA 52001
PH: (515) 249–5848
CELL: (515) 249–5848
EMAIL: torcutt@mediacomcc.com

SANITARY SEWER
VILLAGE OF READSTOWN SANITARY SEWER
ATTN: SHAWNA KOCH
116 N. 4TH STREET
PO BOX 247
READSTOWN, WI 54652
PH: (608) 629–5627
FAX: (608) 629–5699
EMAIL: clerk@vi.readstown.wi.gov

GAS
MADISON GAS & ELECTRIC COMPANY
ATTN: STEVE BEVERSDORF
133 S. BLAIR STREET
MADISON, WI 53788
PH: (608) 252–1552
CELL: (608) 444–9620
EMAIL: sbeversdorf@mge.com

ORDER OF SECTION 2 SHEETS:

2



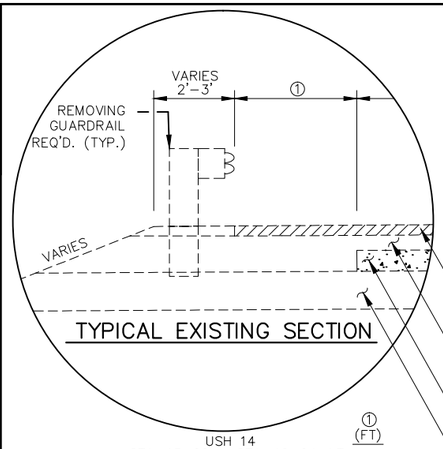
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\PROJECT OVERVIEW.DWG
LAYOUT : OVERVIEW

PLOT DATE : 7/21/2015
PLOT TIME : 8:17:41 AM

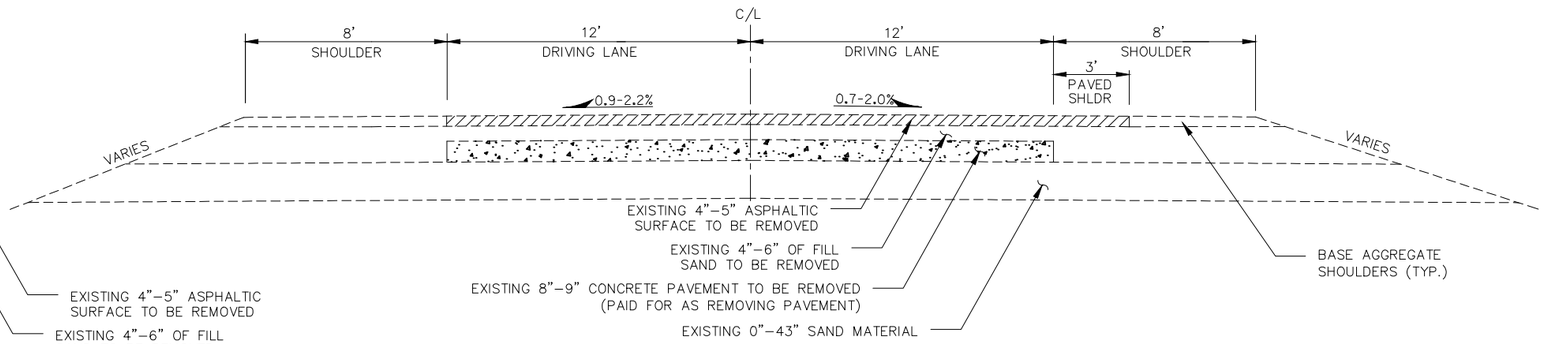
PLOT BY : STRINE, THERESA

PLOT SCALE : 1" = 1'



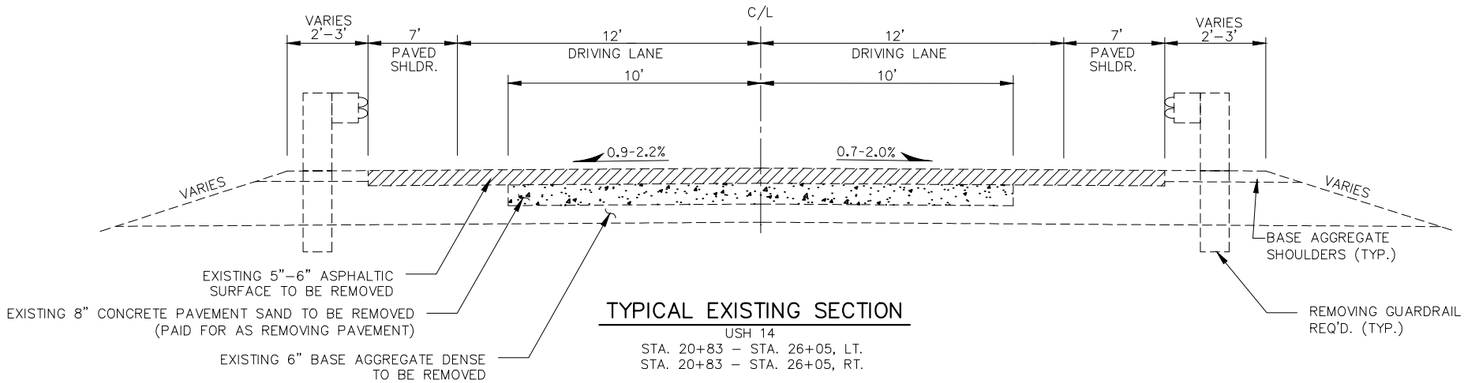
USH 14
STA. 15+09 – STA. 16+04, LT.
STA. 15+34 – STA. 16+04, RT.

① (FT)
4
5



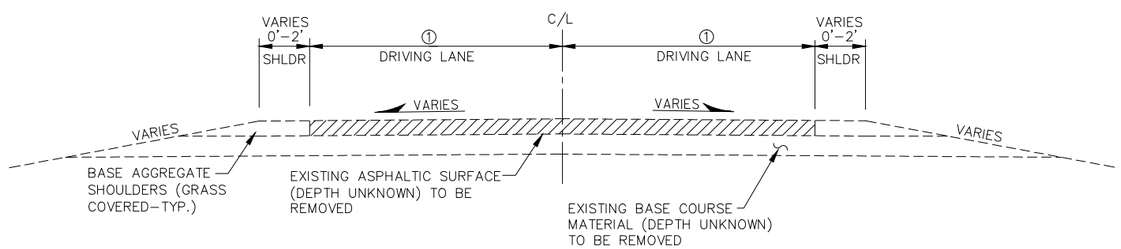
TYPICAL EXISTING SECTION

USH 14
STA. 11+00 – STA. 15+09, LT.
STA. 11+00 – STA. 15+34, RT.



TYPICAL EXISTING SECTION

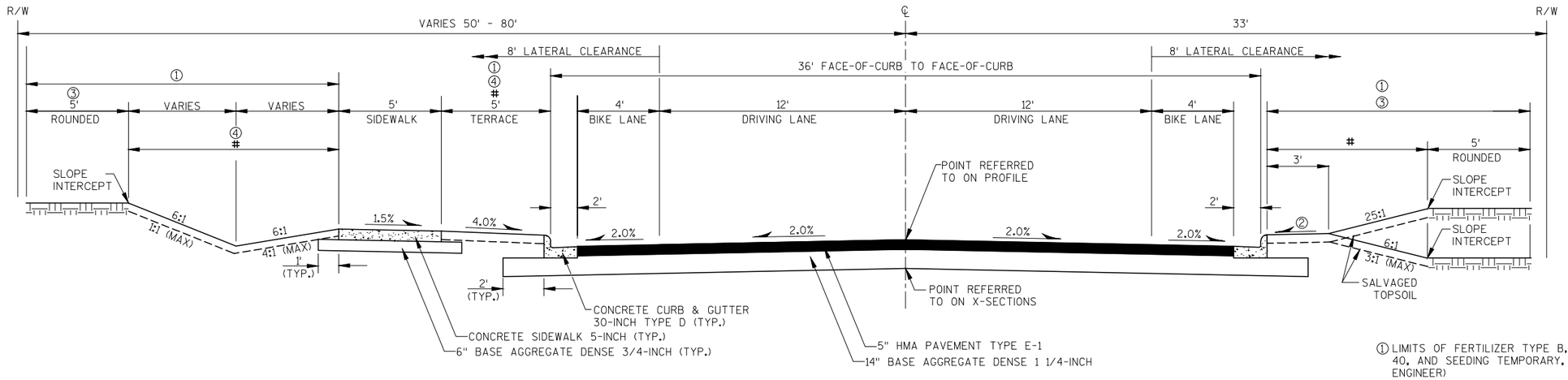
USH 14
STA. 20+83 – STA. 26+05, LT.
STA. 20+83 – STA. 26+05, RT.



TYPICAL EXISTING SECTION

SIDEROAD	① (FT)
NORTH WATER STREET	10
SOUTH WATER STREET	10

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TYPICAL EXISTING SECTION	SHEET 4	E



TYPICAL FINISHED SECTION

USH 14
STA. 11+00 - STA. 14+77, RT.
STA. 11+00 - STA. 14+56, LT.
STA. 24+20 - STA. 26+45, RT.

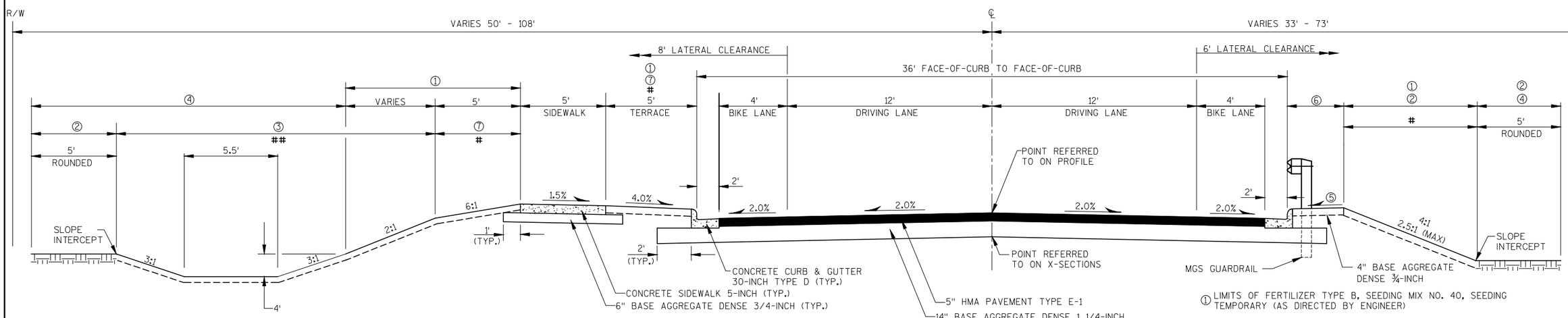
① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, AND SEEDING TEMPORARY, (AS DIRECTED BY ENGINEER)

② VARIES 4% - 10%

③ LIMITS OF MULCHING (AS DIRECTED BY ENGINEER)

④ LIMITS OF EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY ENGINEER)

LIMITS OF TOPSOIL (AS DIRECTED BY ENGINEER)



TYPICAL FINISHED SECTION

USH 14
STA. 14+77 - STA. 15+85, RT.
STA. 21+66 - STA. 26+45, LT.
STA. 21+66 - STA. 24+20, RT.

① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

② LIMITS OF MULCHING (AS DIRECTED BY ENGINEER)

③ LIMITS OF EROSION MAT CLASS I TYPE B (AS DIRECTED BY ENGINEER)

④ LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 60, SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

⑤ VARIES 4% - 10%

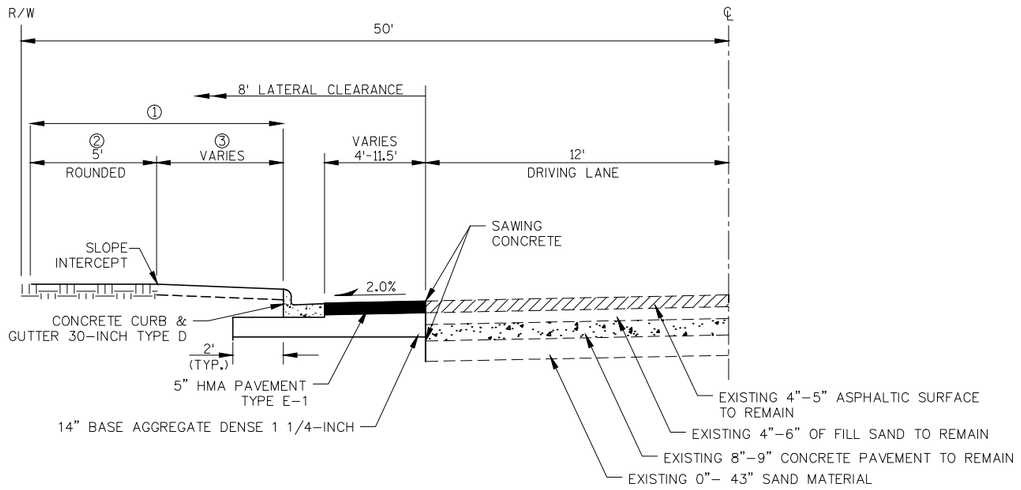
⑥ VARIES 3.75'-8.75'

⑦ LIMITS OF EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY ENGINEER)

LIMITS OF TOPSOIL (AS DIRECTED BY ENGINEER)

LIMITS OF SALVAGED TOPSOIL (AS DIRECTED BY ENGINEER)

PROJECT NO:1643-08-81	HWY: USH 14	COUNTY: VERNON	TYPICAL FINISHED SECTION	SHEET 5	E



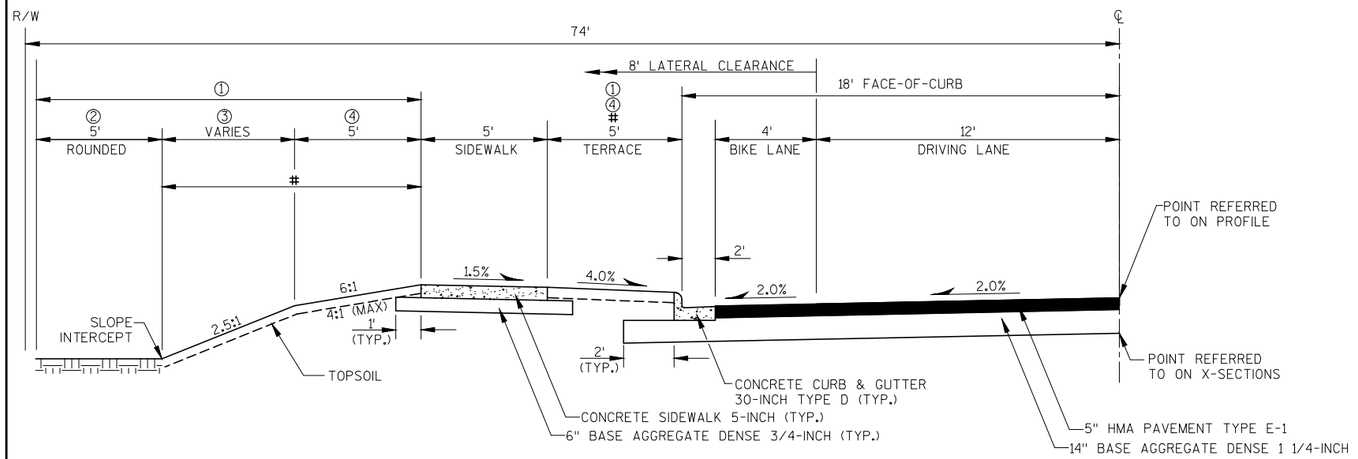
TYPICAL FINISHED HALF SECTION

USH 14
STA. 9+90 - STA. 11+00, LT.

① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, AND SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

② LIMITS OF MULCHING (AS DIRECTED BY ENGINEER)

③ LIMITS OF TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY ENGINEER)



TYPICAL FINISHED HALF SECTION

USH 14
STA. 14+56 - STA. 15+85, LT.

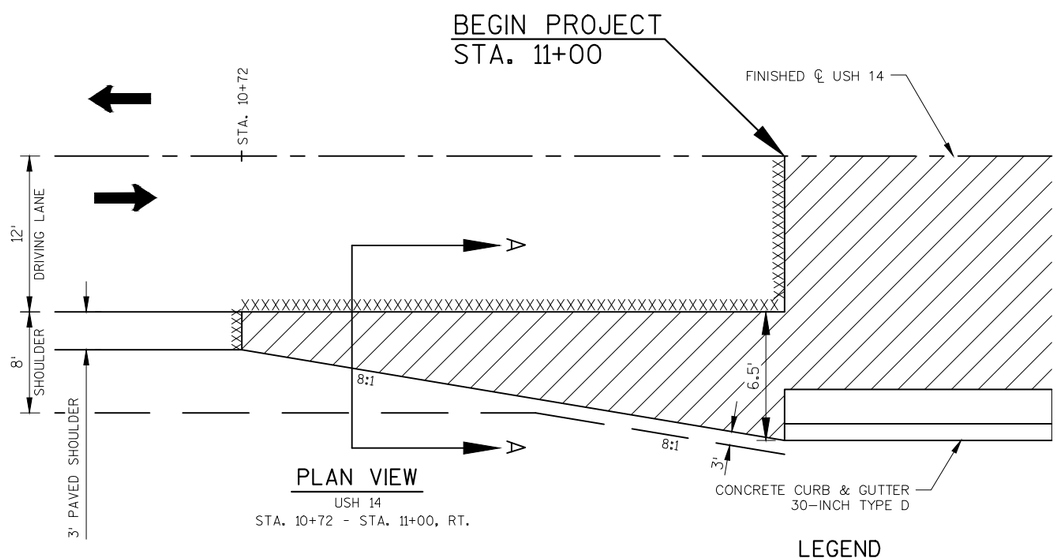
① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, AND SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

② LIMITS OF MULCHING (AS DIRECTED BY ENGINEER)

③ LIMITS OF EROSION MAT CLASS I TYPE B (AS DIRECTED BY ENGINEER)

④ LIMITS OF EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY ENGINEER)

LIMITS OF TOPSOIL (AS DIRECTED BY ENGINEER)



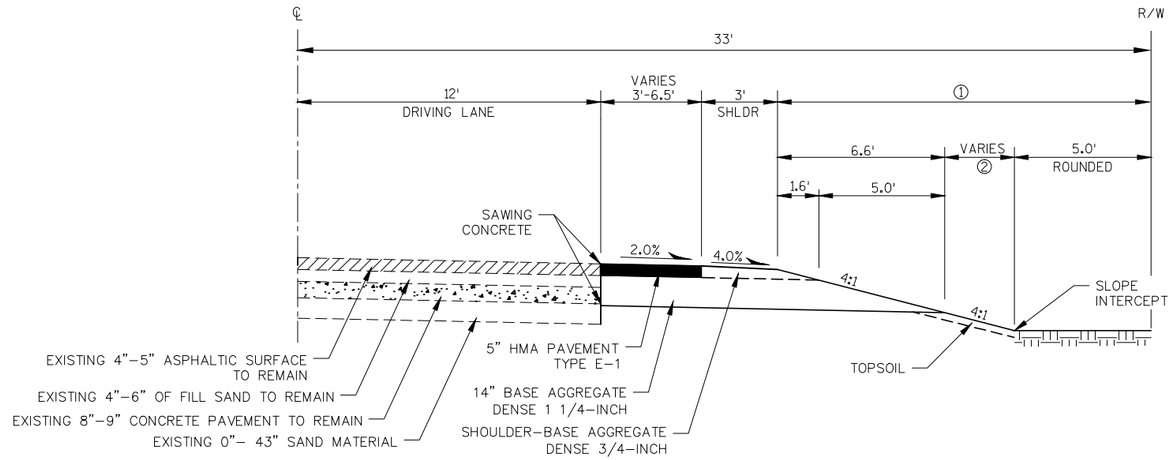
PLAN VIEW

USH 14
STA. 10+72 - STA. 11+00, RT.

LEGEND

LIMITS OF HMA PAVEMENT TYPE E-1 REQ'D.

XXXXXXXXXX SAWING ASPHALT/SAWING CONCRETE REQ'D.



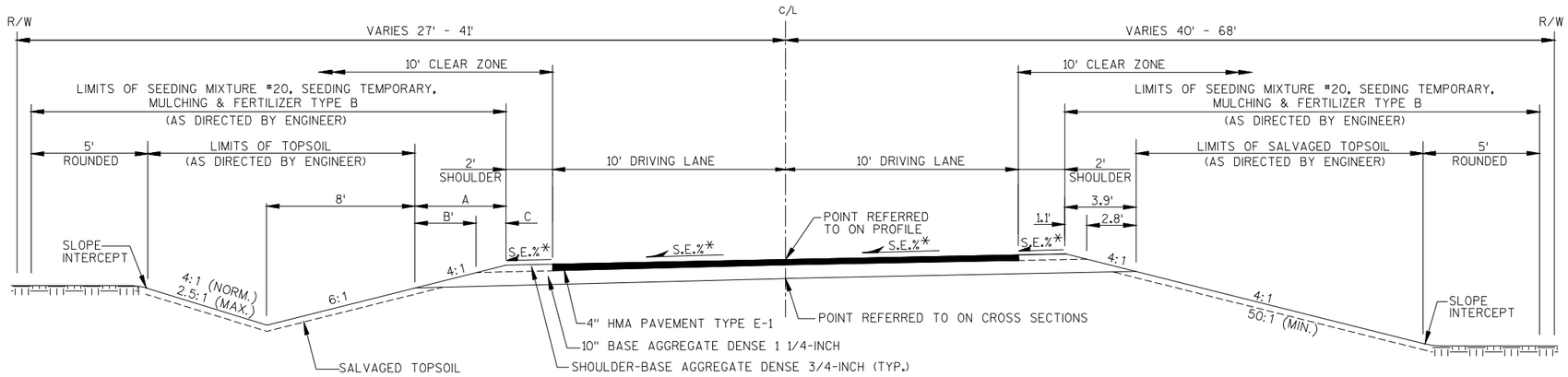
SECTION A-A

① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, SEEDING TEMPORARY, AND MULCHING (AS DIRECTED BY ENGINEER)

② LIMITS OF TOPSOIL (AS DIRECTED BY ENGINEER)

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TYPICAL FINISHED SECTION	SHEET 6	E

2



CUT

TYPICAL FINISHED SUPERELEVATED SECTION

NORTH WATER STREET

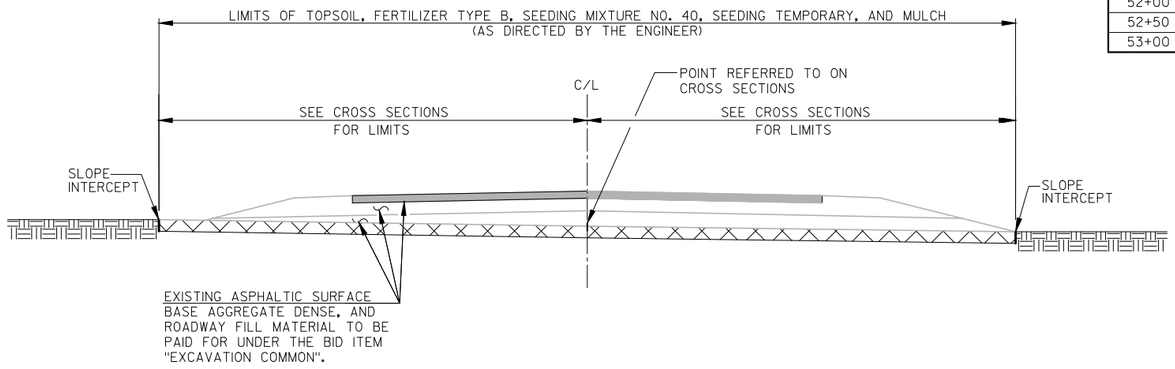
FILL

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.

* SEE SUPERELEVATION TABLE

SUPERELEVATION TABLE

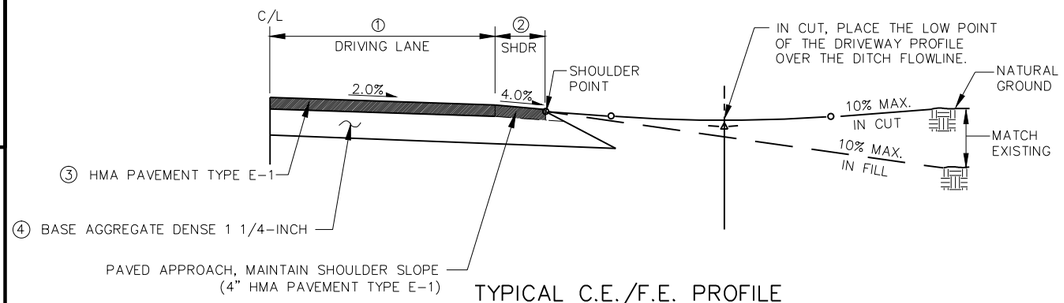
STATION	LEFT	RIGHT	"A" (FT.)	"B" (FT.)	"C" (FT.)
50+16	0.5	2.0	-	-	-
50+50	2.2	2.2	-	-	-
51+00	4.7	4.7	5.7	4.1	1.6
51+50	4.7	4.7	5.7	4.1	1.6
51+79	4.7	4.7	5.7	4.1	1.6
52+00	3.5	3.5	5.6	4.0	1.6
52+50	2.0	0.8	4.9	3.3	1.6
53+00	MATCH EXISTING	MATCH EXISTING	4.9	3.3	1.6



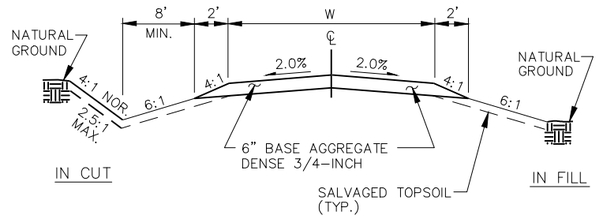
TYPICAL FINISHED SECTION - SOUTH WATER STREET REMOVAL

(STA. 61+00 - STA. 62+32.25)

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TYPICAL FINISHED SECTION	SHEET 7	E



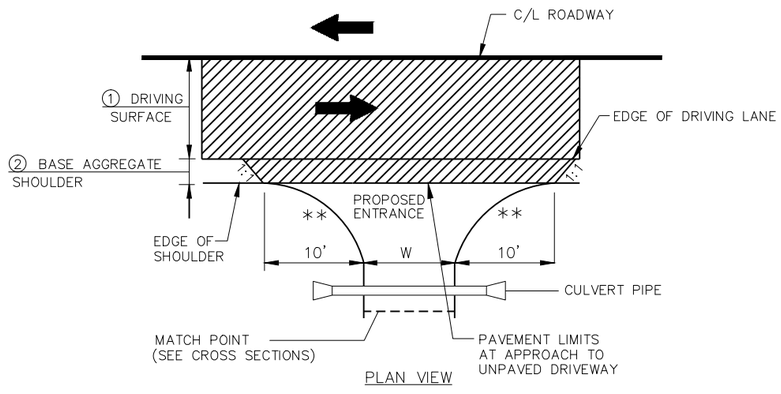
TYPICAL C.E./F.E. PROFILE



TYPICAL CROSS-SECTION FOR C.E./F.E.

STATION	LOCATION	① (FT)	② (FT)	③ (INCHES)	④ (INCHES)	W (FT)
52+00	NORTH WATER STREET, LT.	10	2	4	10	24
*	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	16

*NOTE: REMOVE AND RELOCATE F.E. (STA. 22+18, RT.) TO A LOCATION DETERMINED BY THE ENGINEER IN THE FIELD



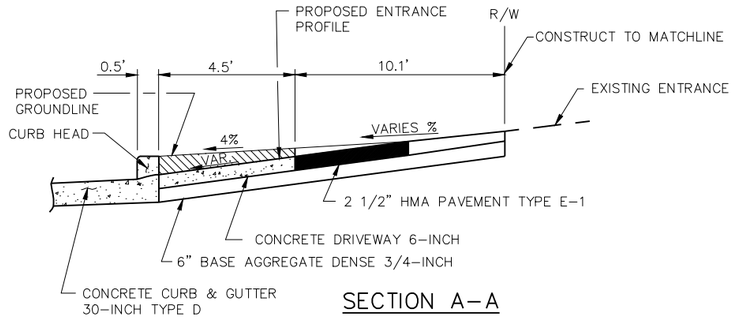
PLAN VIEW

APPROACH AT C.E./F.E.

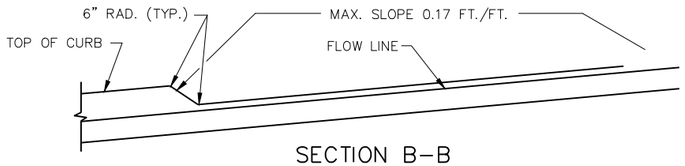
TYPICAL COMMERCIAL/FIELD ENTRANCE (C.E./F.E.) DETAILS

▨ LIMITS OF HMA PAVEMENT TYPE E-1

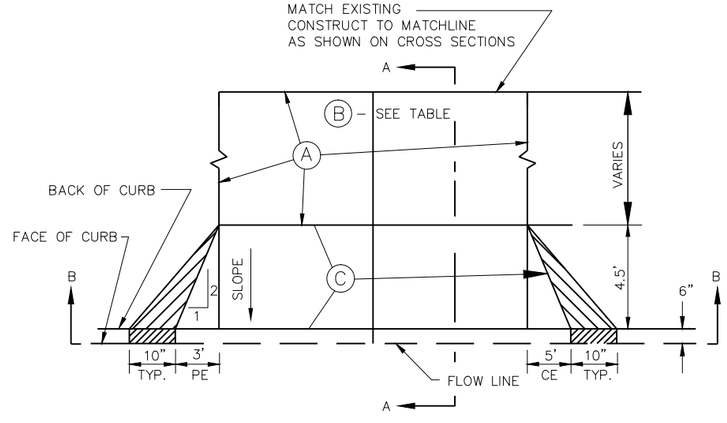
** RADIUS = 10'



SECTION A-A



SECTION B-B



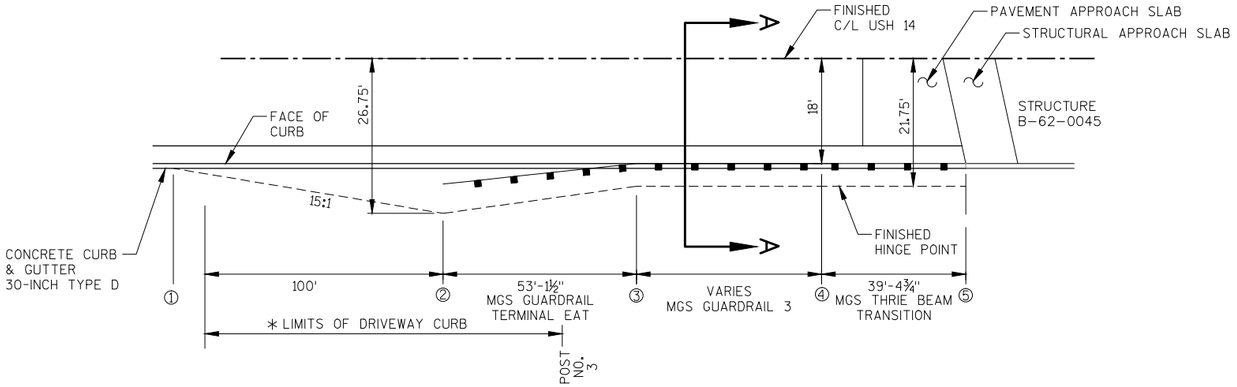
DRIVEWAY DETAIL (URBAN-WITHOUT SIDEWALK)

(WHERE REQ'D.)

ENTRANCE DATA TABLE

STATION	LOCATION	TYPE	"A" PAVEMENT STRUCTURE	"B" WIDTH	MATCH EXISTING AT
11+55	USH 14, RT.	P.E.	2 ½" HMA PAVEMENT TYPE E-1 OVER 6" BAD 3/4-INCH	12.0'	33.2'

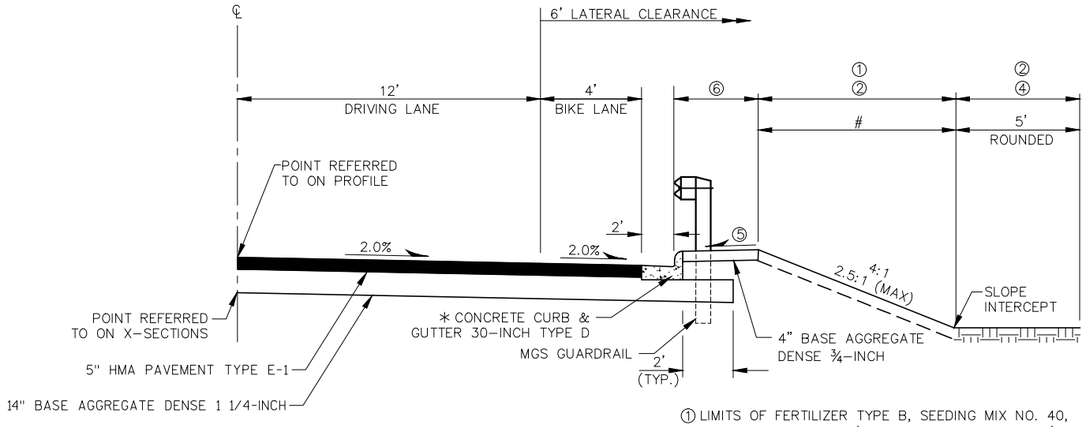
	EXISTING	PROPOSED
Ⓐ	BASE AGGREGATE DENSE 3/4-INCH	2 1/2" HMA PAVEMENT E-1 OVER 6" BASE AGGREGATE DENSE 3/4-INCH
	ASPHALT	2 1/2" HMA PAVEMENT TYPE E-1 OVER 6" BASE AGGREGATE DENSE 3/4-INCH
Ⓑ	SEE TABLE ABOVE	
Ⓒ	EXISTING	PROPOSED
	ALL TYPES	CONCRETE DRIVEWAY 6-INCH OVER 6" BASE AGGREGATE DENSE 3/4-INCH



BEAMGUARD LAYOUT TABLE

QUADRANT	LOCATION	STATION ①	②	③	④	⑤
SOUTHWEST	MAINLINE, RT.	13+46	14+77	-	15+30	15+68
SOUTHEAST	MAINLINE, RT.	25+52	24+20	23+67	22+30	21+93

*NOTE: INSTALL DRIVE CURB FROM POST 3 OF MGS GUARDRAIL TERMINAL EAT TO 100 FEET OUT IN ADVANCE OF THE GUARDRAIL EXTRUDER HEAD



① LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 40, SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

② LIMITS OF MULCH

③ LIMITS OF EROSION MAT CLASS I TYPE B

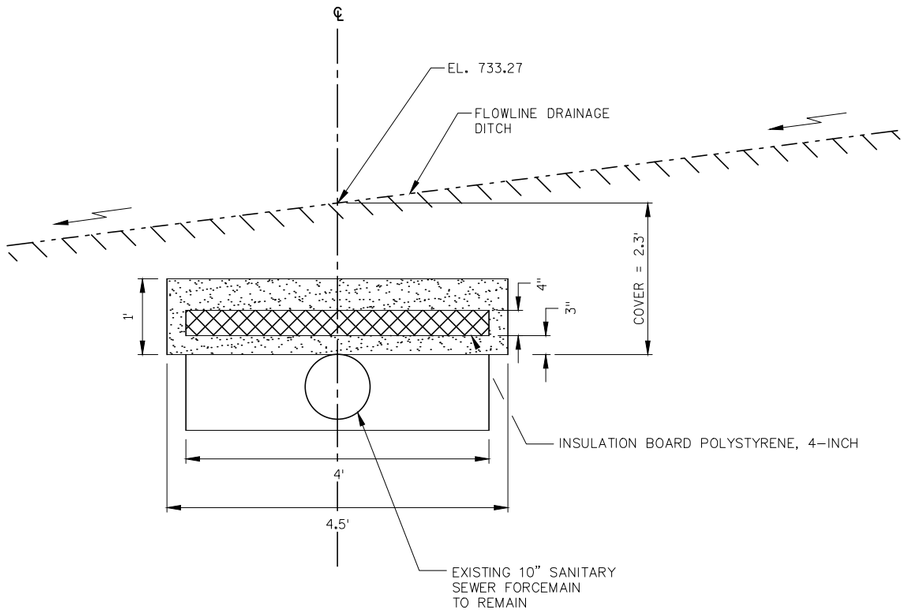
④ LIMITS OF FERTILIZER TYPE B, SEEDING MIX NO. 60, SEEDING TEMPORARY (AS DIRECTED BY ENGINEER)

⑤ VARIES 4% – 10%

⑥ VARIES 3.75'–8.75'

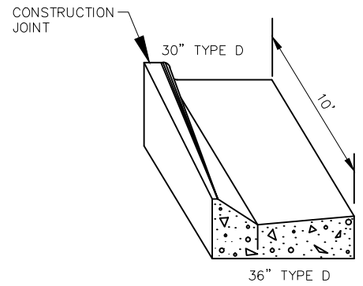
LIMITS OF TOPSOIL (AS DIRECTED BY ENGINEER)

SECTION A–A



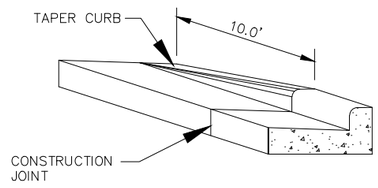
INSULATION BOARD POLYSTYRENE, 4–INCH DETAILS

(STA. 25+19, LT.)



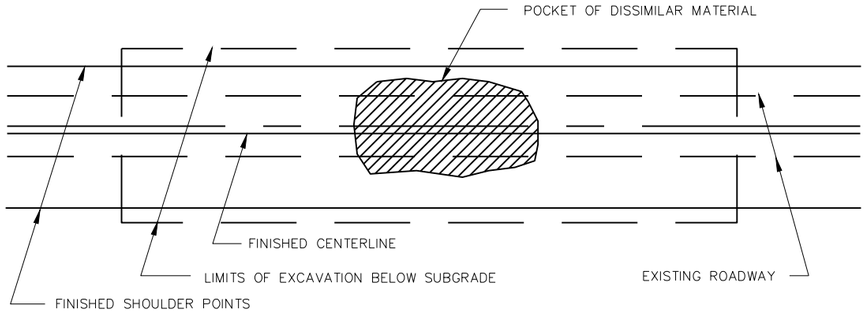
CURB & GUTTER TRANSITION DETAIL

PAID FOR AS CONCRETE CURB & GUTTER 36–INCH TYPE D

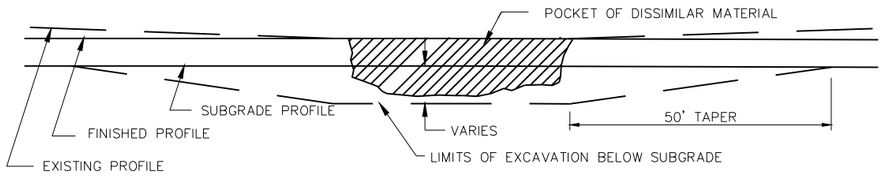


DETAIL OF CURB & GUTTER TERMINI

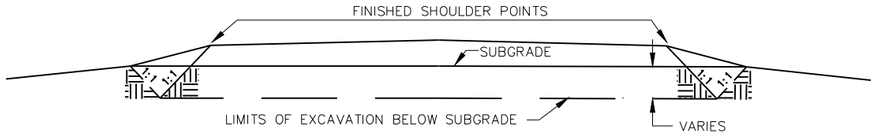
FILE NAME : S:±Projects±W11499 USH 14 Readstown Bridge±CADD Files±Roadway±Details±Construction Details 1.dwg
PLOT DATE : 7/22/2015
PLOT TIME : 11:13:27 AM
PLOT BY : GABBEY, MICHAELIS
PLOT SCALE : 1" = 1'



PLAN VIEW



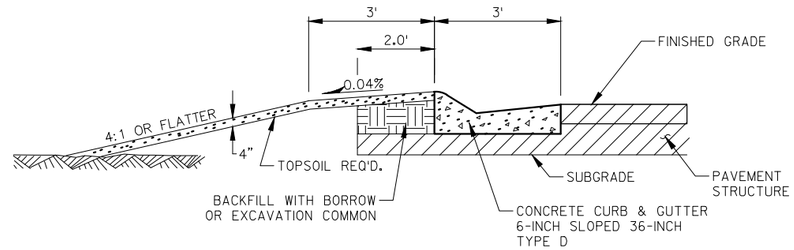
PROFILE VIEW



CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

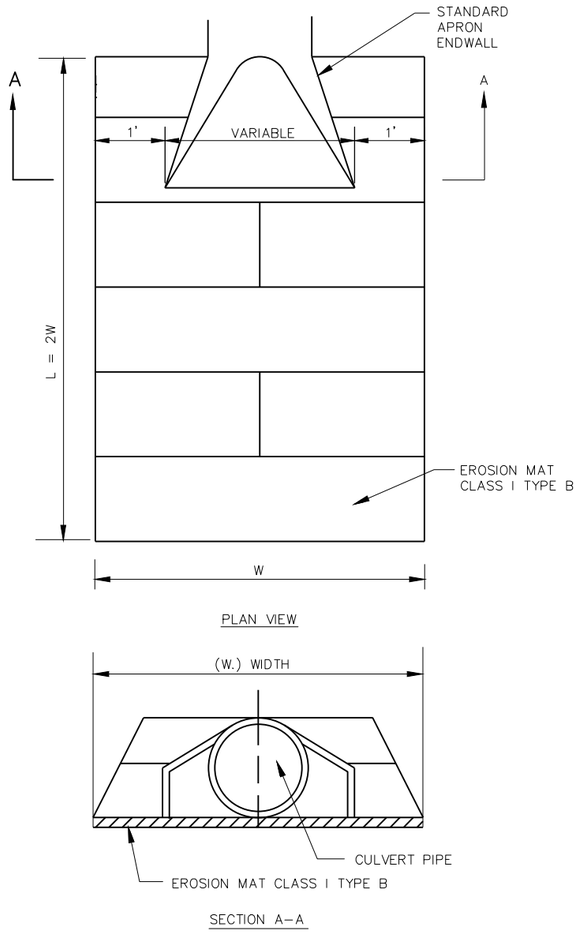
EXCAVATION BELOW SUBGRADE (E.B.S.)



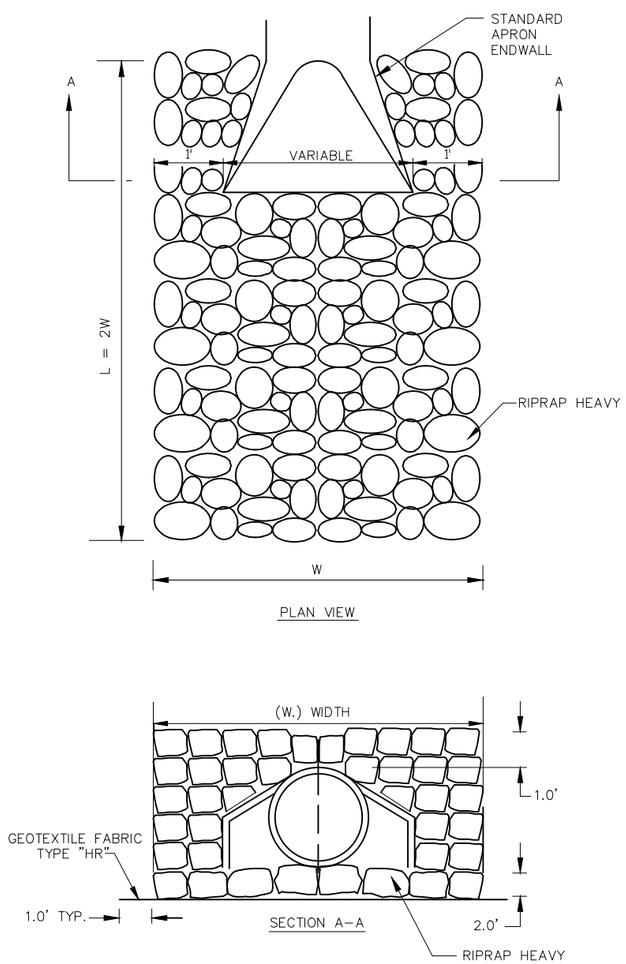
BERM DETAIL BEHIND 36'' MOUNTABLE CURB & GUTTER

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

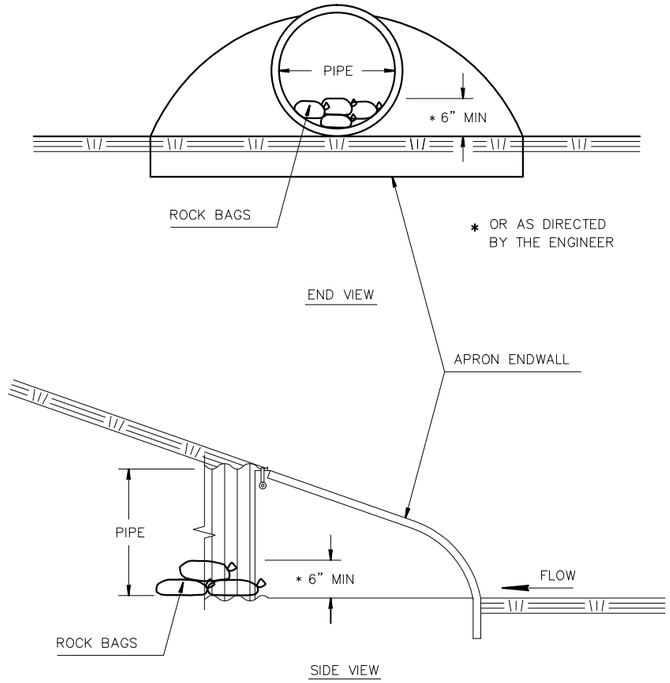
TOTAL PROJECT AREA= 5.44 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.03 ACRES



EROSION MAT CLASS I TYPE B DISCHARGE APRON

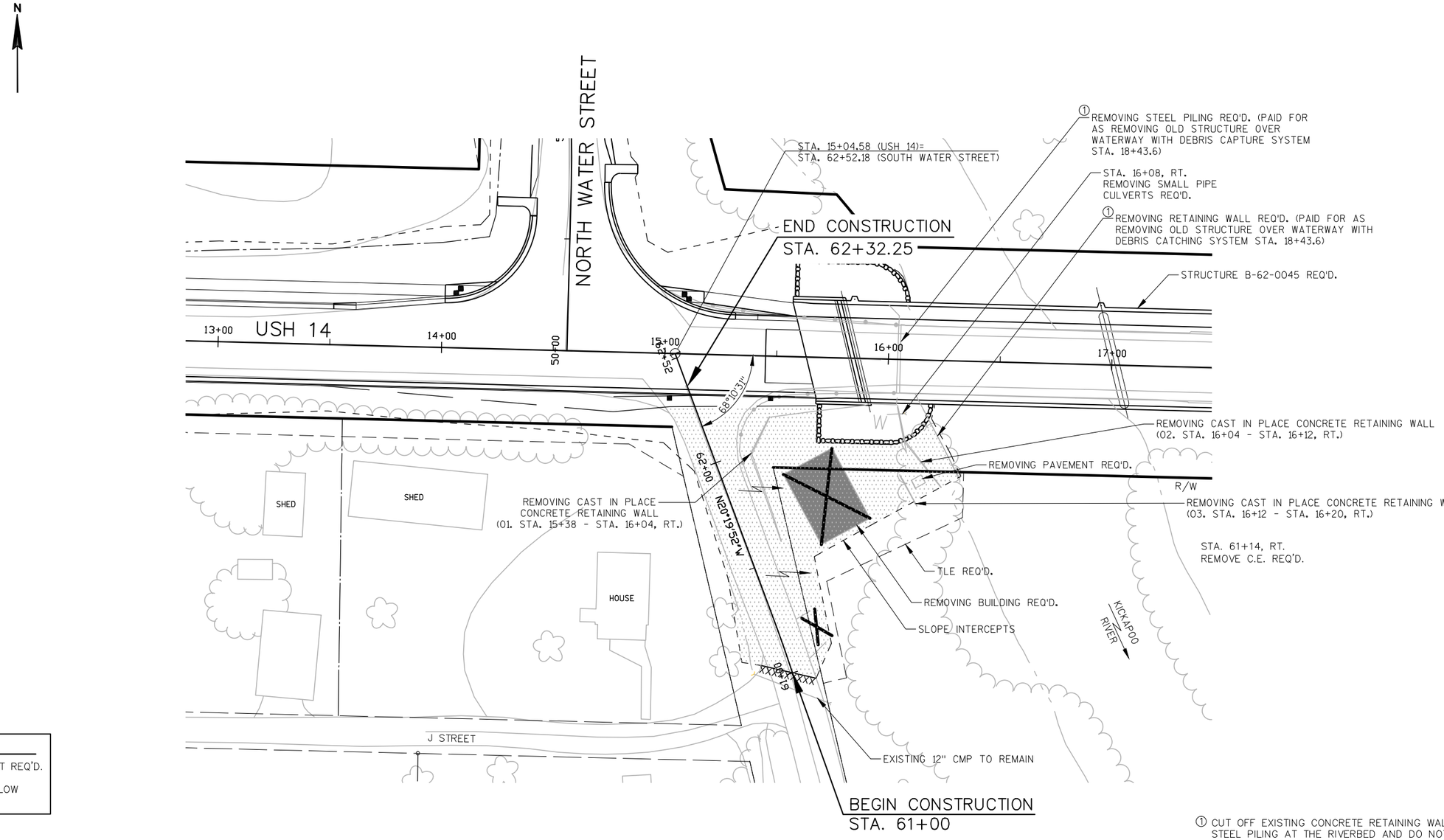


RIPRAP HEAVY DISCHARGE APRON



CULVERT PIPE CHECKS

2



LEGEND

XXXXXXXXX SAWING ASPHALT REQ'D.

DIRECTION OF FLOW

① CUT OFF EXISTING CONCRETE RETAINING WALL/EXISTING STEEL PILING AT THE RIVERBED AND DO NOT EXCAVATE IT OUT TO AVOID UNNECESSARY TURBIDITY AND SEDIMENT RELEASE INTO THE KICKAPOO RIVER.

LIMITS OF SEEDING MIXTURE NO. 40, SEEDING TEMPORARY, FERTILIZER TYPE B, MULCHING, AND TOPSOIL (AS DIRECTED BY ENGINEER).

SOUTH WATER STREET REMOVAL DETAIL

(STA. 61+00 – STA. 62+32.25)

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CONSTRUCTION DETAILS	SHEET --- 12	E

2

LEGEND

- CURB RAMP DETECTABLE WARNING FIELD YELLOW-TYPE 4B1
- FLOW ARROW
- TRAFFIC DIRECTION

N

R/W

TLE REQ'D.

SLOPE INTERCEPTS

2'

STA. 51+43
10.0' LT.

10:1

3'

NORTH WATER STREET

51+00

STA. 51+43
10.0' RT.

FINISHED ℄ NORTH WATER STREET

10:1

3'

10'
(TYP.)

R/W

KICKAPOO RIVER

STA. 15+31.13
76.0' LT.

STA. 50+75.67
75.0' RT.
Y = 108,486.58
X = 734,989.25

R/W

15'

748.22

ASPHALTIC FLUME REQ'D.

CONCRETE CURB & GUTTER
6-INCH SLOPED
36-INCH TYPE D (TYP.)

R60'-0"

STA. 14+01.14
60.0' LT.

STA. 50+60.00
55.0' LT.

Y = 108,473.97
X = 734,858.88

R40'-0"

15'

747.81

DRAINAGE DITCH
FLOWLINE

CONCRETE SIDEWALK
5-INCH (TYP.)

CONCRETE CURB & GUTTER
36-INCH TYPE D (TYP.)

CONCRETE CURB & GUTTER 6 INCH
SLOPED 36-INCH TYPE D (TYP.)

℄ STA. 14+56.14 (USH 14) =
℄ STA. 50+00.00 (NORTH WATER STREET)
INTERSECTION TYPE D (MOD.) REQ'D.

10'
SEE CURB
& GUTTER
TRANSITION
DETAIL

5'

5'

10:1

748.47

N01°29'36"E

STA. 15+17
28.0' LT.

STA. 15+17
23.0' LT.

STA. 15+57
24.0' LT.

STA. 15+58
18.0' LT.

CONCRETE CURB & GUTTER 6 INCH
SLOPED 36-INCH TYPE D (TYP.)

749.54

10'
SEE CURB
& GUTTER
TRANSITION
DETAIL

10:1

STRUCTURE B-62-0045
REQ'D.

748.65

748.90

748.95

749.13

750.86

751.21

16'

16'

20'

16'

16'

USH 14

13+00

S88°30'23"E

14+00

15+00

90°0'0"

FINISHED ℄ USH 14

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	INTERSECTION DETAIL	SHEET 13	E

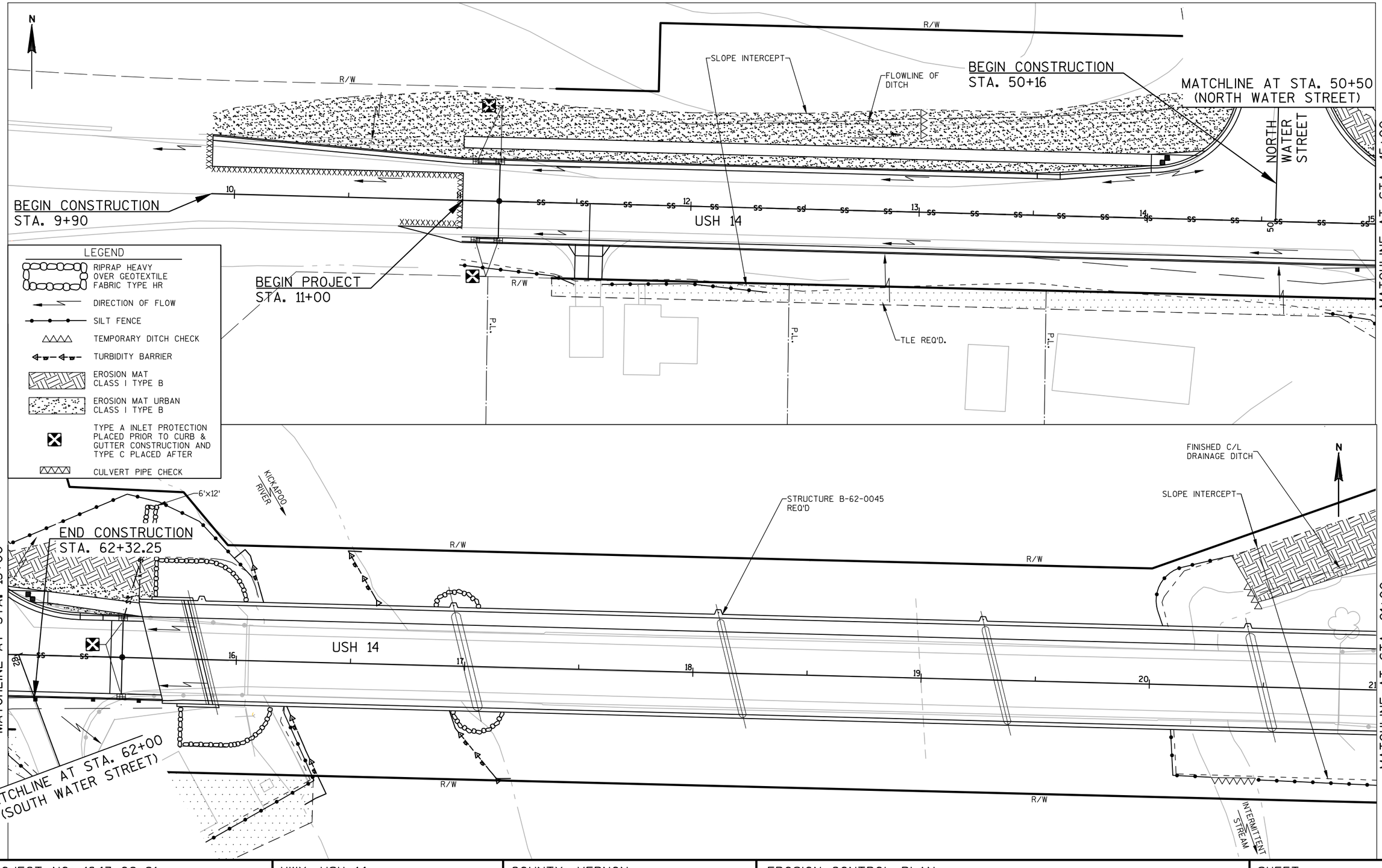
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\NORTH WATER STREET INTERSECTION DETAIL.DWG
LAYOUT : SHEET1

PLOT DATE : 7/21/2015
PLOT TIME : 9:29:19 AM

PLOT BY : STRINE, THERESA

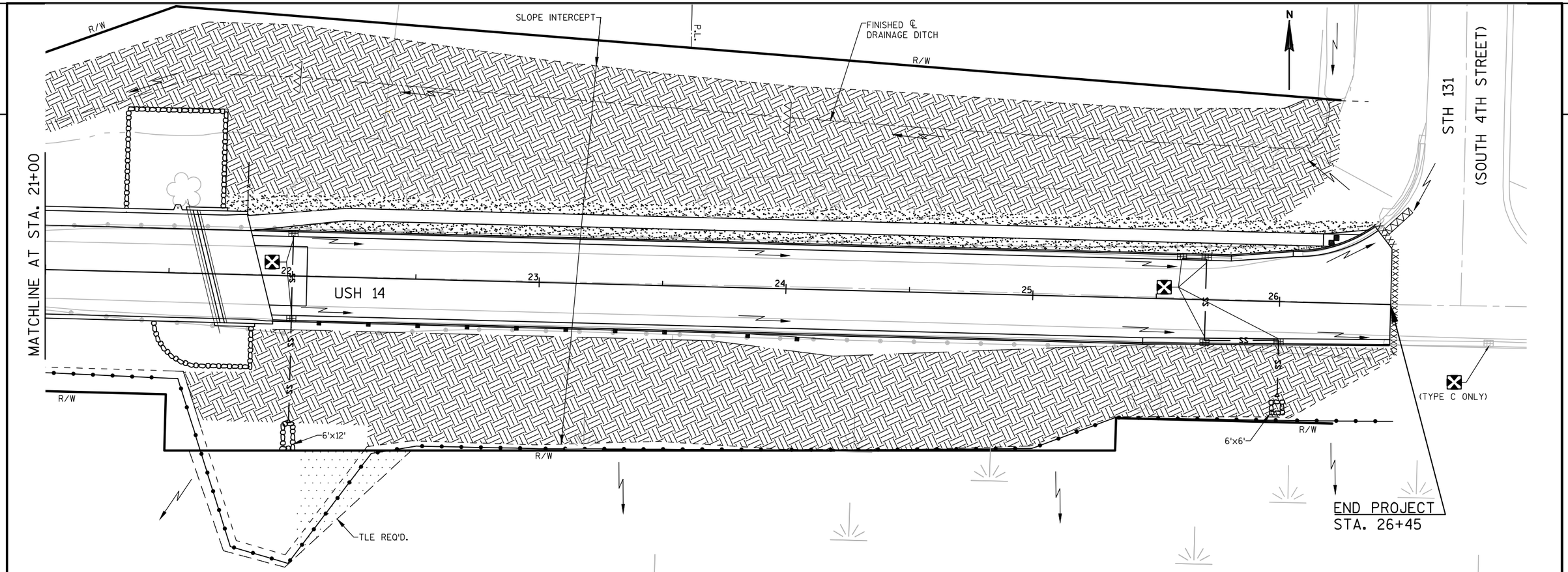
PLOT SCALE : 1" = 1'

2



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	EROSION CONTROL PLAN	SHEET -- 14	E

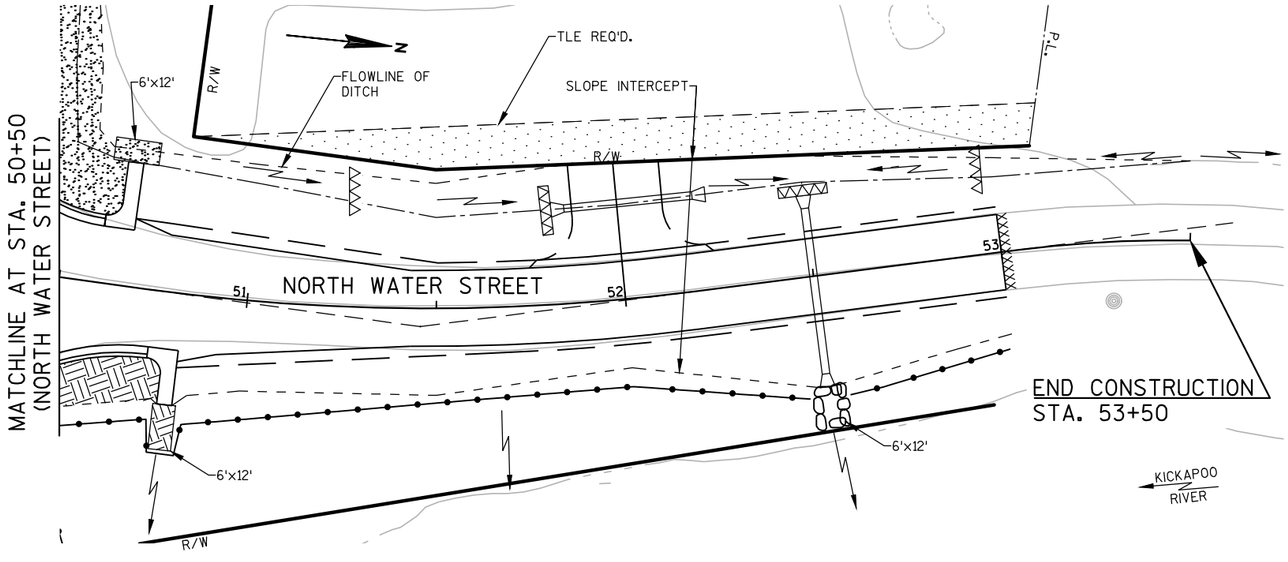
S:\Projects\W11499 USH 14 Readstown Bridge\CADD Files\Roadway\Erosion Control Plan.dwg

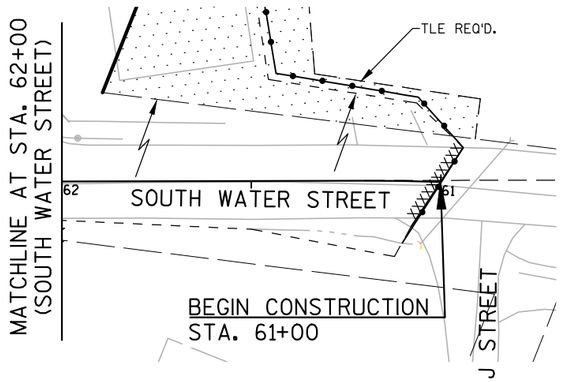


2

LEGEND

- RIPRAP HEAVY OVER GEOTEXTILE FABRIC TYPE HR
- DIRECTION OF FLOW
- SILT FENCE
- TEMPORARY DITCH CHECK
- TURBIDITY BARRIER
- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE B
- TYPE A INLET PROTECTION PLACED PRIOR TO CURB & GUTTER CONSTRUCTION AND TYPE C PLACED AFTER
- CULVERT PIPE CHECK





PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	EROSION CONTROL PLAN	SHEET 15	E

MICHAEL S. LEPKE

WISCONSIN DEPARTMENT OF TRANSPORTATION

MADISON GAS & ELECTRIC CO.

SLOPE INTERCEPTS

R/W

MH 3.0
STA:14+00.00 OFF:0.00
RIM:749.52

CAUTION

VERNON COMMUNICATIONS COOPERATIVE

MEDIACOM LLC WISCONSIN

VERNON ELECTRIC COOPERATIVE/ MEDIACOM LLC WISCONSIN

FINISHED ℄ USH 14

FINISHED ℄ NORTH WATER STREET

PC STA = 50+79.01

OUT 2.3
STA:15+60.00 OFF:-54.00LT
OUTLET EL. 741.82

INL 2.2
STA:15+50.00 OFF:-16.52LT
RIM:751.18

MH 2.0
STA:15+50.00 OFF:0.00
RIM:751.53

INL 1.1
STA:11+06.00 OFF:-16.52LT
RIM:747.66

INL 1.2
STA:11+16.00 OFF:-16.52LT
RIM:747.71

MH 1.0
STA:11+16.00 OFF:0.00
RIM:748.06

P-1 P-2 P-3 P-4 P-5 P-6 P-7 P-8 P-15

10+00 (ASPHALT) 11+00 12+00 13+00 14+00 15+00

50+00

VERNON COMMUNICATIONS COOPERATIVE

EXISTING ℄ USH 14

PI STA = 10+99.99

INL 1.4
STA:11+16.00 OFF:16.52RT
RIM:747.71

INL 2.1
STA:15+50.00 OFF:16.52RT
RIM:751.18

MATCHLINE STA. 15+75

BEGIN CONSTRUCTION
STA. 9+90

BEGIN PROJECT
STA. 11+00

INL 1.3
STA:11+06.00 OFF:16.52RT
RIM:747.66

GARAGE

HOUSE

SHED

SHED

MADISON GAS & ELECTRIC CO.

CAUTION

62+00

FINISHED ℄ SOUTH WATER STREET (TO BE REMOVED)

P.L.

MICHAEL S. LEPKE

WAYNE C. NELSON

VERA J. NELSON TRUST

HOUSE

754 752 750 748 746 744 742 740

FINISHED ℄ PROFILE USH 14

+0.50%

+2.00%

K = 136.39'
L = 205.00'

PI STA 14+63.00
EL 749.78

VPT STA = 15+65.50
EL = 751.83

MH 1.0
P-2: 744.43
P-5: 744.33
P-3: 744.43

EXISTING ℄ PROFILE USH 14

MH 3.0
P-5: 743.74
P-15: 743.64

MH 2.0
P-15: 743.26
P-6: 746.98
P-7: 743.16

MATCH EXISTING STA. 11+00 EL. = 747.98

P-5 284' of 24" RCCP @ -0.21%

VPC STA = 13+60.50
EL = 749.27

P-15 150' of 24" RCCP @ -0.26%

EXISTING ℄ ELEVATION

FINISHED ℄ ELEVATION

CAUTION

EXISTING 6" GAS MAIN TO REMAIN
TOP OF PIPE EL. = 742.81

TOP OF WEATHERED SANDSTONE BEDROCK

747.60 747.75 747.84 747.89 747.98 747.98 747.97 748.08 747.99 748.17 748.03 748.27 747.95 748.37 747.91 748.47 747.89 748.57 747.86 748.67 747.79 748.77 747.74 748.87 747.72 748.97 747.71 749.07 747.63 749.17 747.53 749.27 747.45 749.38 747.38 749.52 747.35 749.70 747.35 749.90 747.33 750.13 747.27 750.39 747.22 750.68 747.12 751.00 747.05 751.34 747.01 751.72 746.98 752.12

10+20 10+40 10+60 10+80 11+00 11+20 11+40 11+60 11+80 12+00 12+20 12+40 12+60 12+80 13+00 13+20 13+40 13+60 13+80 14+00 14+20 14+40 14+60 14+80 15+00 15+20 15+40 15+60 15+80

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	STORM SEWER PLAN	SHEET 16	E

S:\Projects\W11499 USH 14 Readstown Bridge\Design Files\Storm Sewer\W11499 Storm Sewer Pipe Network.dwg

2

MICHAEL S. LEPKE

WISCONSIN DEPARTMENT OF TRANSPORTATION

SLOPE INTERCEPTS

R/W

MADISON GAS & ELECTRIC CO.

CAUTION

MH 3.0
STA:14+00.00 OFF:0.00
RIM:749.52

VERNON COMMUNICATIONS COOPERATIVE

MEDIACOM LLC WISCONSIN

VERNON ELECTRIC COOPERATIVE/ MEDIACOM LLC WISCONSIN

FINISHED ℄ USH 14

FINISHED ℄ NORTH WATER STREET

PC STA = 50+79.01

OUT 2.3
STA:15+60.00 OFF:-54.00LT
OUTLET EL. 741.82

INL 2.2
STA:15+50.00 OFF:-16.52LT
RIM:751.18

MH 2.0
STA:15+50.00 OFF:0.00
RIM:751.53

INL 1.1
STA:11+06.00 OFF:-16.52LT
RIM:747.66

INL 1.2
STA:11+16.00 OFF:-16.52LT
RIM:747.71

MH 1.0
STA:11+16.00 OFF:0.00
RIM:748.06

P-1 P-2 P-3 P-4 P-5 P-6 P-7 P-8 P-15

10+00 (ASPHALT) 11+00 12+00 13+00 14+00 15+00

VERNON COMMUNICATIONS COOPERATIVE

EXISTING ℄ USH 14

PI STA = 10+99.99

INL 1.4
STA:11+16.00 OFF:16.52RT
RIM:747.71

INL 2.1
STA:15+50.00 OFF:16.52RT
RIM:751.18

MATCHLINE STA. 15+75

BEGIN CONSTRUCTION
STA. 9+90

BEGIN PROJECT
STA. 11+00

INL 1.3
STA:11+06.00 OFF:16.52RT
RIM:747.66

GARAGE

HOUSE

SHED

SHED

HOUSE

MADISON GAS & ELECTRIC CO.

CAUTION

FINISHED ℄ SOUTH WATER STREET (TO BE REMOVED)

62+00

P.L.

MICHAEL S. LEPKE

WAYNE C. NELSON

VERA J. NELSON TRUST

754
752
750
748
746
744
742
740

MH 1.0
P-2: 744.43
P-5: 744.33
P-3: 744.43

INL 1.4
P-1: 744.74
P-2: 744.64

INL 1.2
P-3: 744.64
P-4: 744.74

INL 1.3
P-1: 744.81

INL 1.1
P-4: 744.81

P-1 P-2 P-3 P-4

10' of 12" RCCP @ -1.0%
17' of 12" RCCP @ -1.38%
17' of 12" RCCP @ -1.38%
10' of 12" RCCP @ -1.0%

INL 2.1
P-6: 747.18

P-6

17' of 12" RCCP @ -1.38%

MH 2.0
P-15: 743.26
P-6: 746.98
P-7: 743.16

INL 2.2
P-7: 742.95
P-8: 742.85

P-7 P-8

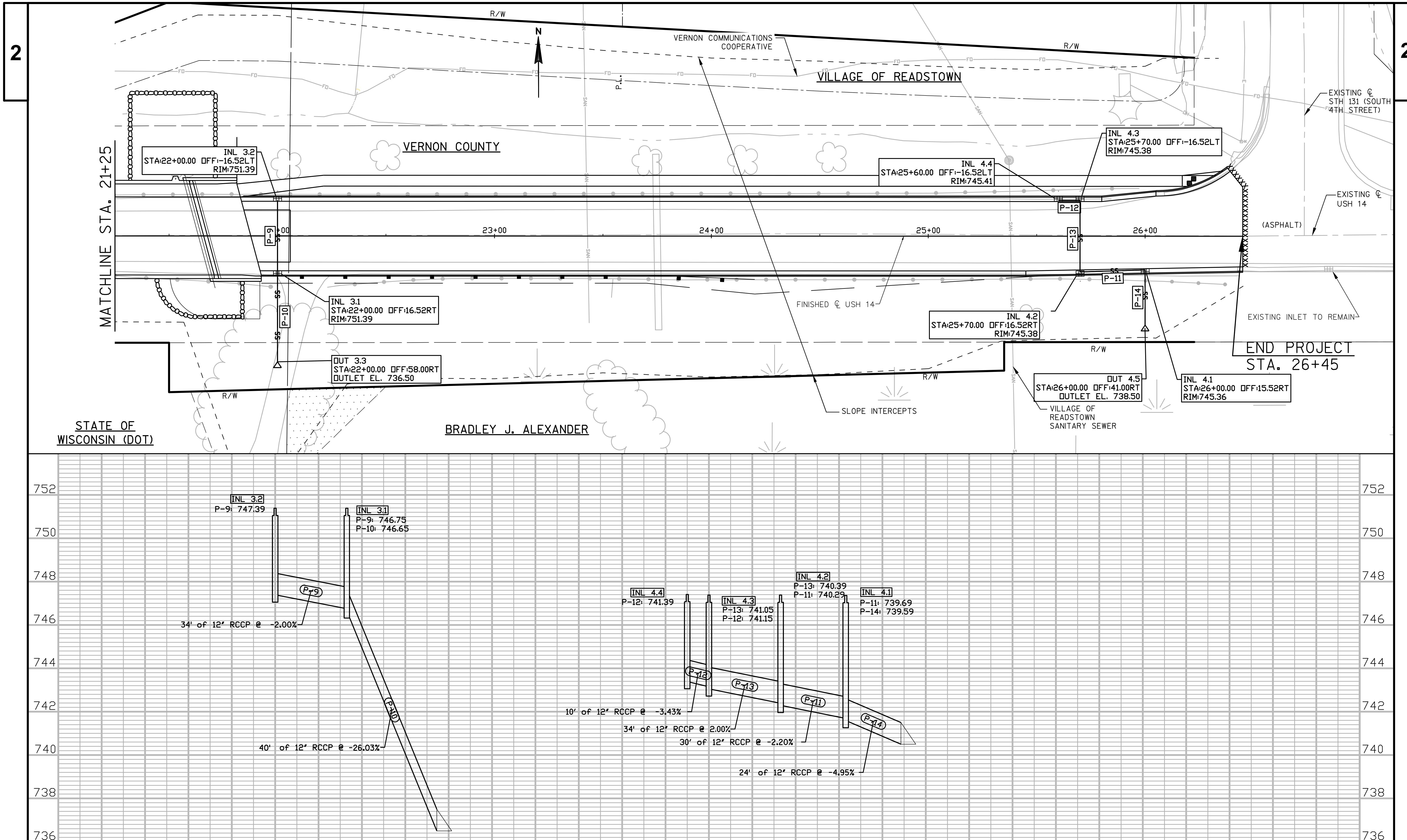
TOP OF WEATHERED SANDSTONE BEDROCK

17' of 24" RCCP @ -1.38%

36' of 24" RCCP @ -2.94%

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	STORM SEWER PLAN	SHEET 17	E

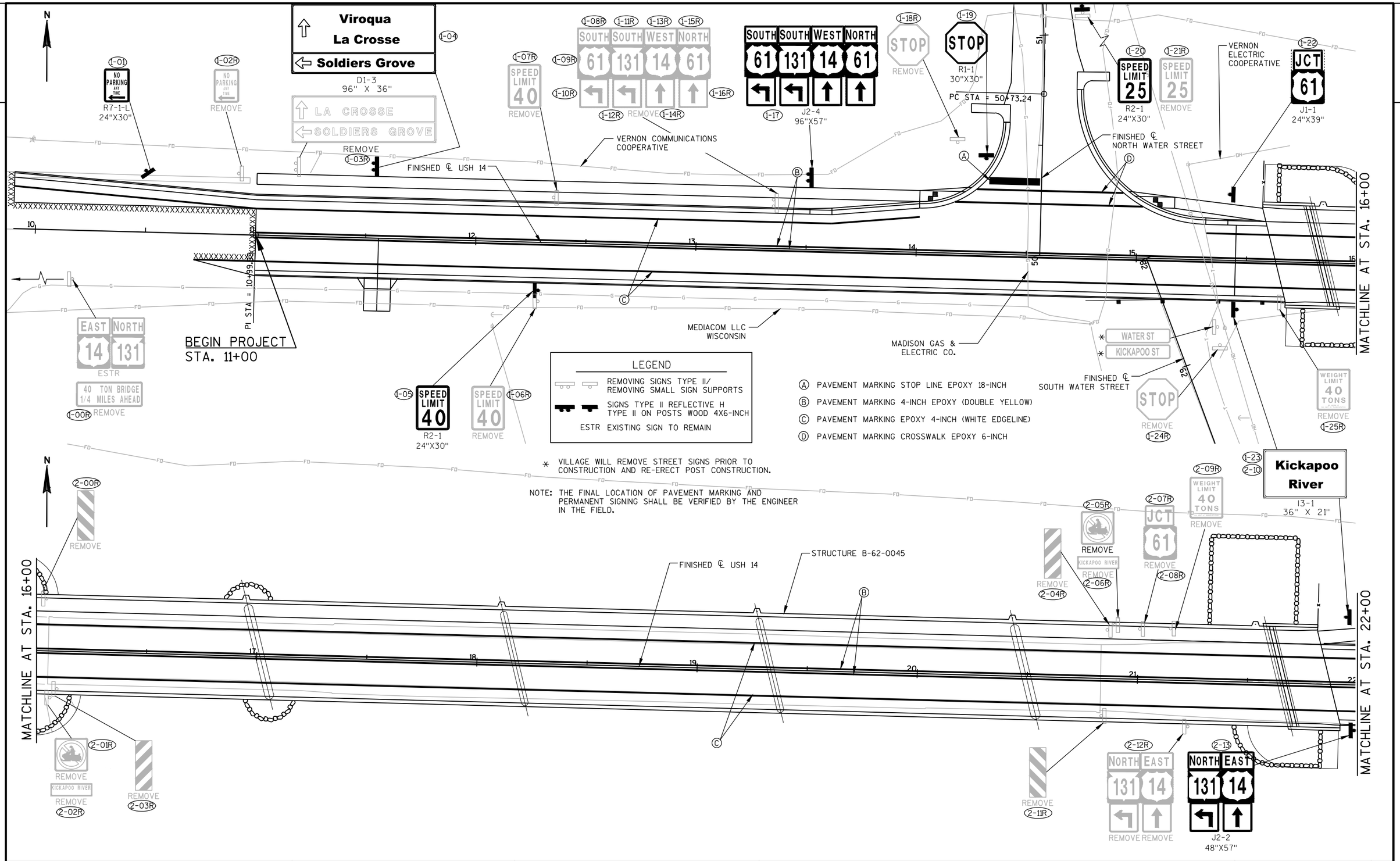
S:\Projects\W11499 USH 14 Readstown Bridge\Design Files\Storm Sewer\W11499 Storm Sewer Pipe Network.dwg



R/W
VERNON COMMUNICATIONS COOPERATIVE
VILLAGE OF READSTOWN
EXISTING ℄ STH 131 (SOUTH 4TH STREET)
VERNON COUNTY
MATCHLINE STA. 21+25
INL 3.2 STA:22+00.00 OFF:-16.52LT RIM:751.39
INL 4.3 STA:25+70.00 OFF:-16.52LT RIM:745.38
INL 4.4 STA:25+60.00 OFF:-16.52LT RIM:745.41
EXISTING ℄ USH 14
(ASPHALT)
23+00
24+00
25+00
26+00
P-9
P-10
P-11
P-12
P-13
P-14
INL 3.1 STA:22+00.00 OFF:16.52RT RIM:751.39
FINISHED ℄ USH 14
INL 4.2 STA:25+70.00 OFF:16.52RT RIM:745.38
EXISTING INLET TO REMAIN
END PROJECT STA. 26+45
OUT 3.3 STA:22+00.00 OFF:58.00RT OUTLET EL. 736.50
OUT 4.5 STA:26+00.00 OFF:41.00RT OUTLET EL. 738.50
INL 4.1 STA:26+00.00 OFF:15.52RT RIM:745.36
SLOPE INTERCEPTS
VILLAGE OF READSTOWN SANITARY SEWER
STATE OF WISCONSIN (DOT)
BRADLEY J. ALEXANDER
752
750
748
746
744
742
740
738
736
INL 3.2 P-9: 747.39
INL 3.1 P-9: 746.75 P-10: 746.65
34' of 12" RCCP @ -2.00%
40' of 12" RCCP @ -26.03%
INL 4.4 P-12: 741.39
INL 4.3 P-13: 741.05 P-12: 741.15
INL 4.2 P-13: 740.39 P-11: 740.29
INL 4.1 P-11: 739.69 P-14: 739.59
10' of 12" RCCP @ -3.43%
34' of 12" RCCP @ 2.00%
30' of 12" RCCP @ -2.20%
24' of 12" RCCP @ -4.95%

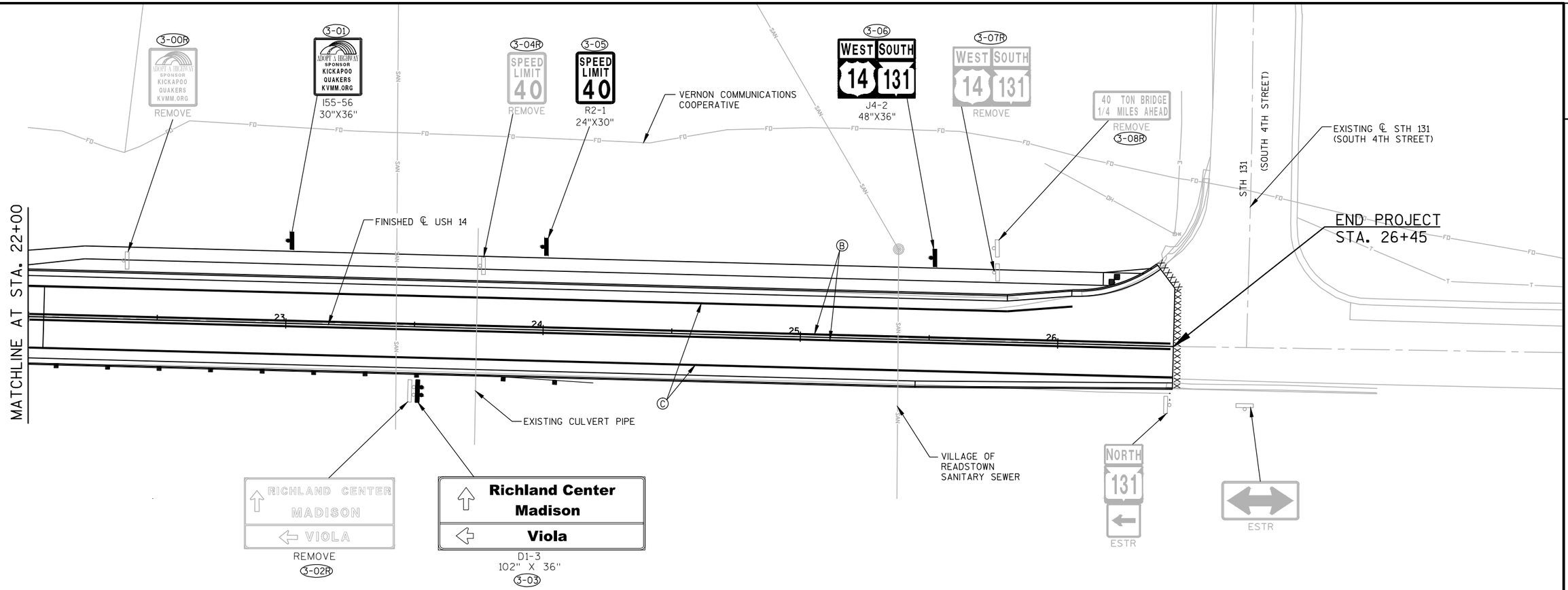
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	STORM SEWER PLAN	SHEET 18	E

S:\Projects\W11499 USH 14 Readstown Bridge\Design Files\Storm Sewer\W11499 Storm Sewer Pipe Network.dwg



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET -- 19	E

S:\Projects\W11499 USH 14 Readstown Bridge\CADD Files\Roadway\Pavement and Sign Marking.dwg



LEGEND

REMOVING SIGNS TYPE II/
REMOVING SMALL SIGN SUPPORTS

SIGNS TYPE II REFLECTIVE H
TYPE II ON POSTS WOOD 4X6-INCH

ESTR EXISTING SIGN TO REMAIN

Ⓐ PAVEMENT MARKING STOP LINE EPOXY 18-INCH

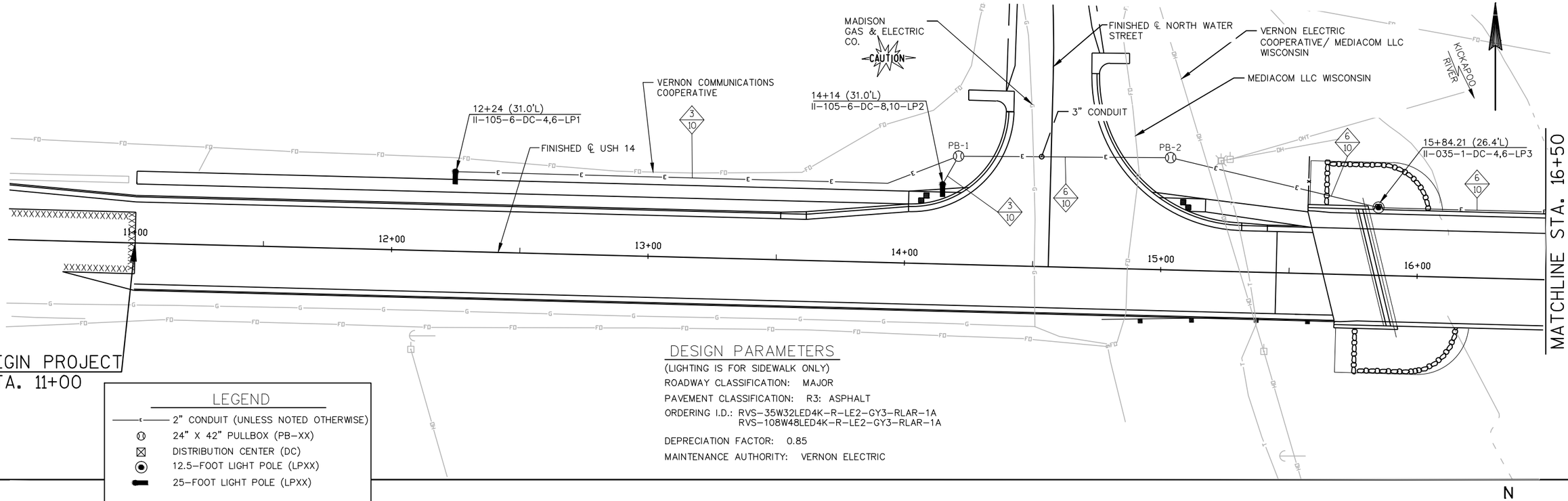
Ⓑ PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)

Ⓒ PAVEMENT MARKING EPOXY 4-INCH (WHITE EDGELINE)

Ⓓ PAVEMENT MARKING CROSSWALK EPOXY 6-INCH

* VILLAGE WILL REMOVE STREET SIGNS PRIOR TO CONSTRUCTION AND RE-ERECT POST CONSTRUCTION.

NOTE: THE FINAL LOCATION OF PAVEMENT MARKING AND PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.



LEGEND

- 2" CONDUIT (UNLESS NOTED OTHERWISE)
- 24" X 42" PULLBOX (PB-XX)
- DISTRIBUTION CENTER (DC)
- 12.5-FOOT LIGHT POLE (LPXX)
- 25-FOOT LIGHT POLE (LPXX)
- CONDUCTOR SYMBOL (2 / 10): TOP NUMBER = NO. OF CONDUCTORS; BOTTOM NUMBER = CONDUCTOR SIZE FOR COPPER CONDUCTORS IN AWG

DESIGN PARAMETERS

(LIGHTING IS FOR SIDEWALK ONLY)

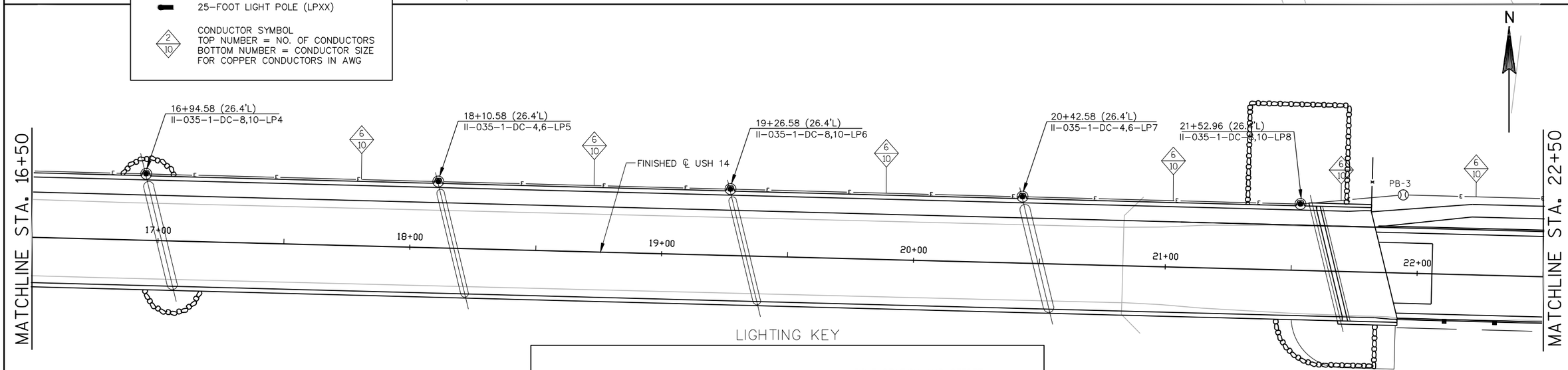
ROADWAY CLASSIFICATION: MAJOR

PAVEMENT CLASSIFICATION: R3: ASPHALT

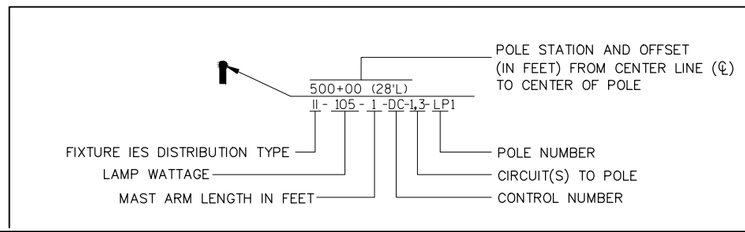
ORDERING I.D.: RVS-35W32LED4K-R-LE2-GY3-RLAR-1A
RVS-108W48LED4K-R-LE2-GY3-RLAR-1A

DEPRECIATION FACTOR: 0.85

MAINTENANCE AUTHORITY: VERNON ELECTRIC

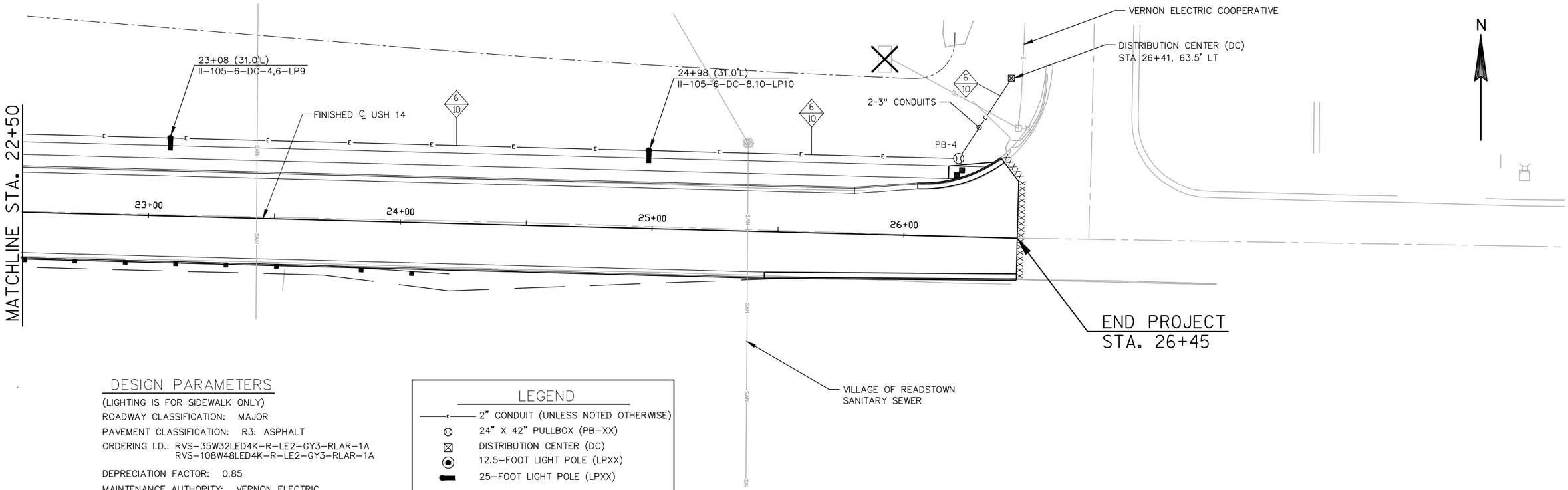


LIGHTING KEY



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	LIGHTING PLAN	SHEET 21	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\LIGHTING PLAN.DWG
LAYOUT : LIGHTING LAYOUT 1
PLOT DATE : 7/29/2015
PLOT TIME : 1:38:05 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'



DESIGN PARAMETERS

(LIGHTING IS FOR SIDEWALK ONLY)

ROADWAY CLASSIFICATION: MAJOR

PAVEMENT CLASSIFICATION: R3: ASPHALT

ORDERING I.D.: RVS-35W32LED4K-R-LE2-GY3-RLAR-1A
RVS-108W48LED4K-R-LE2-GY3-RLAR-1A

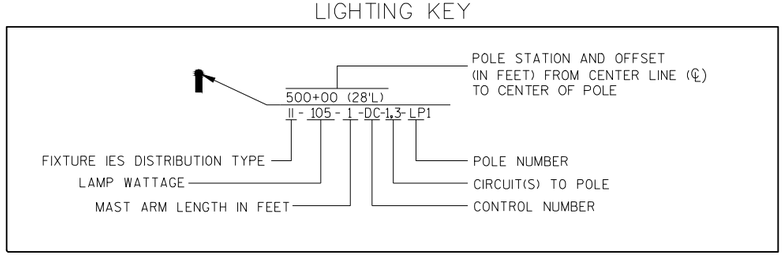
DEPRECIATION FACTOR: 0.85

MAINTENANCE AUTHORITY: VERNON ELECTRIC

LEGEND

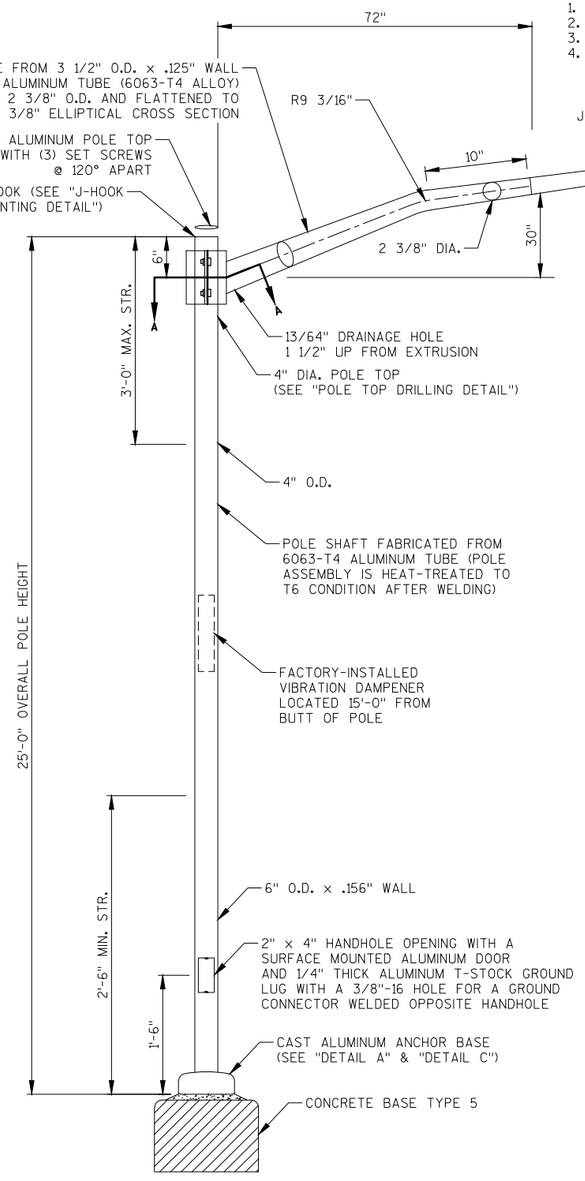
- 2" CONDUIT (UNLESS NOTED OTHERWISE)
- 24" X 42" PULLBOX (PB-XX)
- DISTRIBUTION CENTER (DC)
- 12.5-FOOT LIGHT POLE (LPXX)
- 25-FOOT LIGHT POLE (LPXX)
- CONDUCTOR SYMBOL (2 / 10)
  TOP NUMBER = NO. OF CONDUCTORS
  BOTTOM NUMBER = CONDUCTOR SIZE
  FOR COPPER CONDUCTORS IN AWG

LIGHTING KEY



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	LIGHTING PLAN	SHEET 22	E

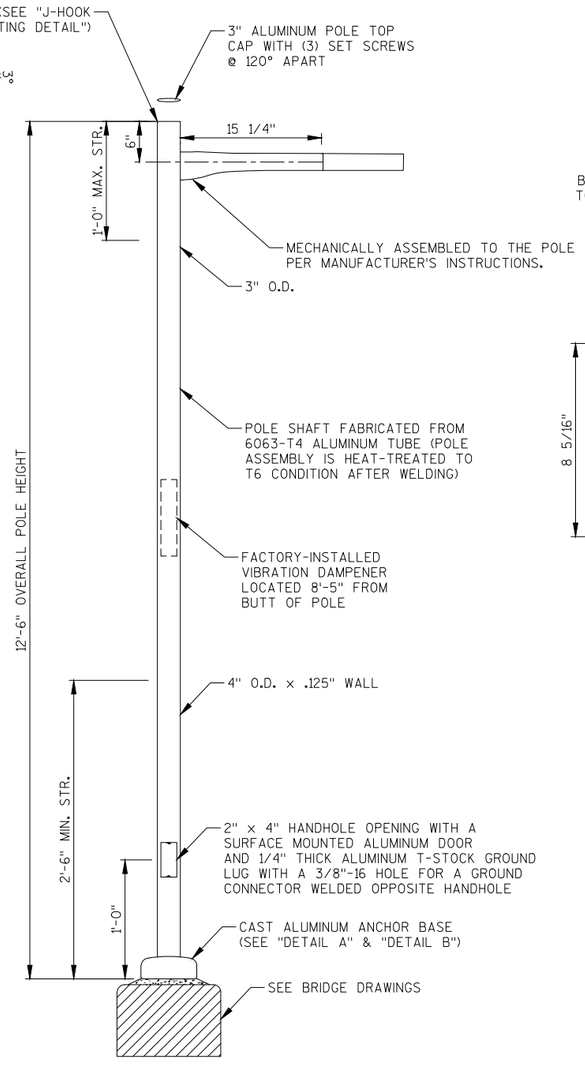
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\LIGHTING PLAN.DWG
LAYOUT : LIGHTING LAYOUT 2
PLOT DATE : 6/11/2015
PLOT TIME : 8:49:49 AM
PLOT BY : HANOLD, ROBERT
PLOT SCALE : 1" = 1'



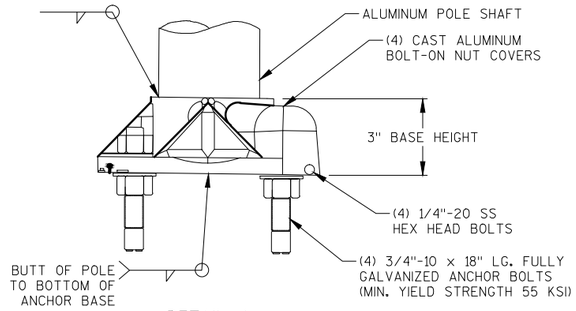
1 - **25'-0" LIGHT POLE DETAIL**
LP1, LP2, LP9, AND LP10 SCALE : NTS

TIGHTENING SEQUENCE FOR 1/2" DIA. STAINLESS STEEL BOLTS:
1. TIGHTEN WITH HAND
2. APPLY 31.50 FT. LBS
3. APPLY 40.00 FT. LBS
4. APPLY 42.00 FT. LBS

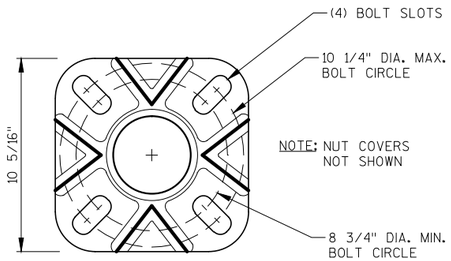
NOTES:
1. WELDING WIRE (ER4043).
2. MAST ARM HEAT TREATED AFTER FABRICATION TO T6 CONDITION.
3. ALL HARDWARE IS 300 SERIES STAINLESS STEEL.
4. ALL HARDWARE TO BE COATED WITH ANTI-SEIZE COMPOUND BY CONTRACTOR IF REQUIRED.



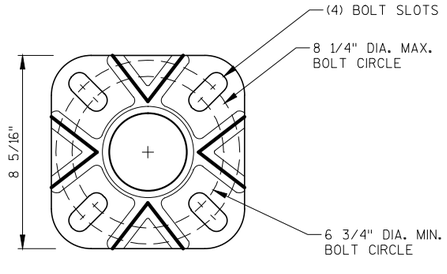
2 - **12'-6" LIGHT POLE DETAIL**
LP3 THROUGH LP8 SCALE : NTS



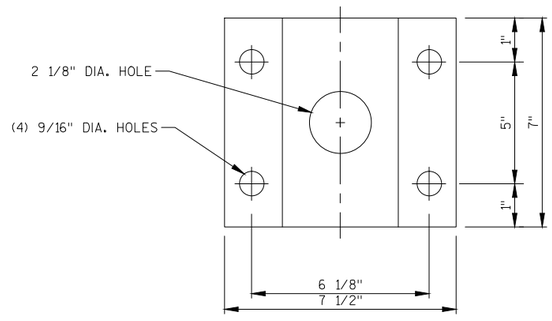
DETAIL A



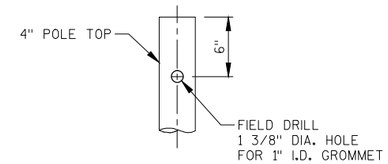
DETAIL C



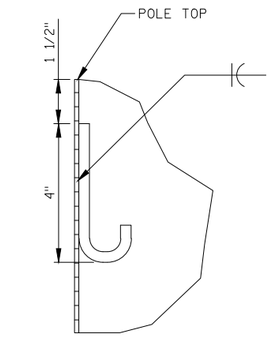
DETAIL B



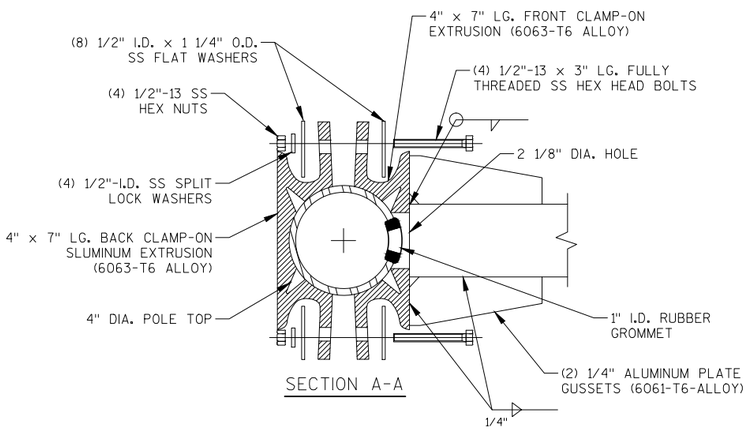
FRONT CLAMP DETAIL



POLE TOP DRILLING DETAIL



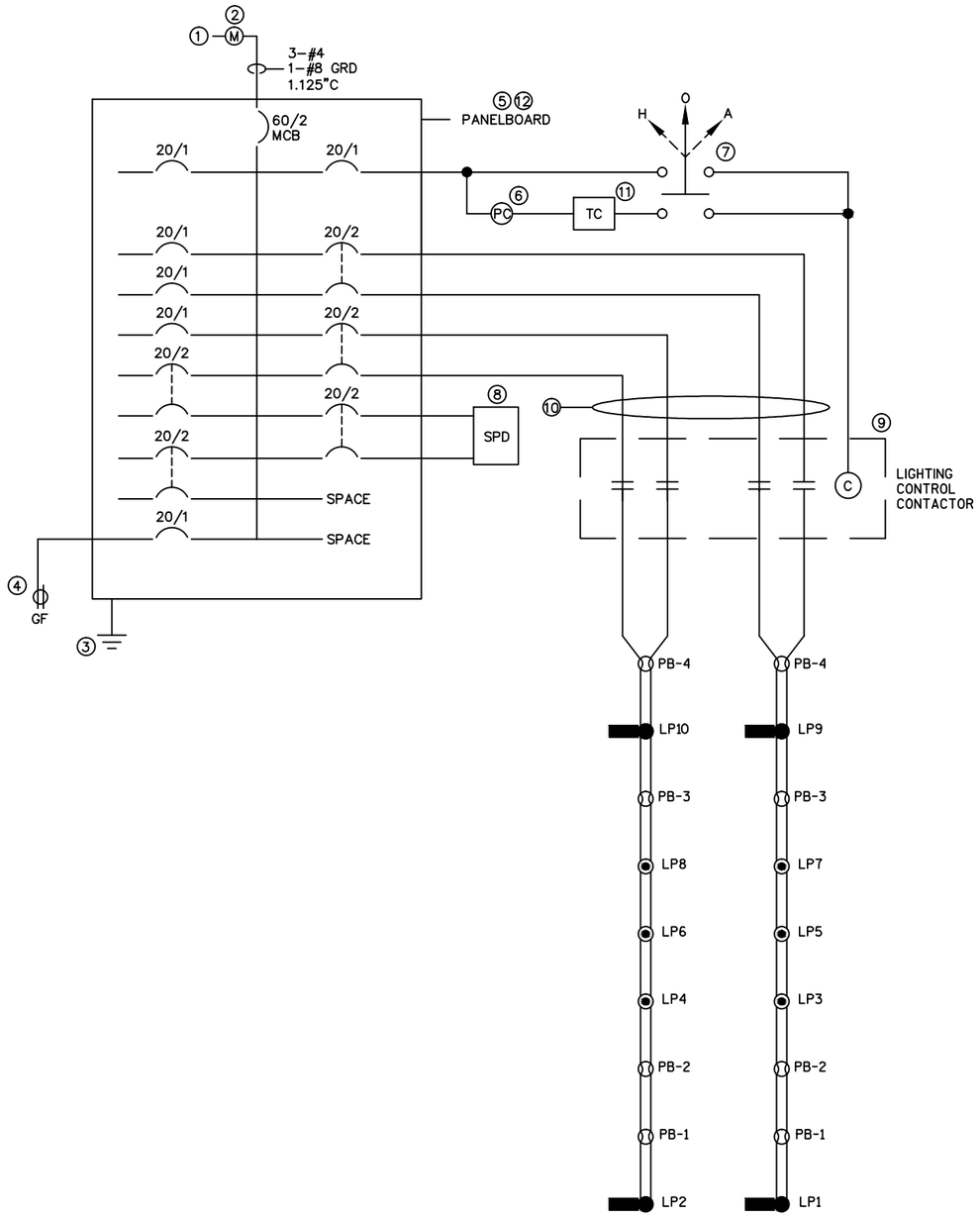
J-HOOK MOUNTING DETAIL



SECTION A-A

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	LIGHTING PLAN	SHEET 23	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\LIGHTING PLAN.DWG
LAYOUT : LIGHTING DETAILS
PLOT DATE : 7/22/2015
PLOT TIME : 11:33:51 AM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'



LIGHTING CONTROLLER CABINET ONE–LINE DIAGRAM (TYP.)

NO SCALE

LIGHTING CONTROLLER ONE–LINE DIAGRAM NOTES

(1) ELECTRICAL CONTRACTOR SHALL ARRANGE FOR A 60A, 1 PHASE, 120/240V, UNDERGROUND SERVICE FROM THE UTILITY. ANY UTILITY COSTS ASSOCIATED WITH THE UNDERGROUND SERVICES SHALL BE BORNE BY THE OWNER.

(2) PROVIDE A METERING PEDESTAL PER UTILITY REQUIREMENTS. SEE CABINET SERVICE INSTALLATION DETAIL S.D.D. 9 D 1–5.

(3) GROUND SERVICE PER CODE AND UTILITY SERVICE RULES TO MINIMUM TWO DRIVEN GROUND RODS. SEE CABINET SERVICE INSTALLATION DETAIL S.D.D. 9 D 1–5.

(4) PROVIDE A 20A GFCI RECEPTACLE IN A NEMA 1 ENCLOSURE IN THE CONTROL CABINET.

(5) PROVIDE A 100A, 1 PHASE, 120/240V, 3 WIRE PANELBOARD EQUAL TO SQUARE D NQOD, WITH A MINIMUM OF 18 BRANCH CIRCUIT POSITIONS IN A NEMA 1 ENCLOSURE. THE PANELBOARD SHALL HAVE A COPPER BUS, A 2–POLE/60A MAIN BREAKER, AND BOLT–IN BRANCH BREAKERS. THE PANELBOARD SHALL INCLUDE A COPPER GROUND AND A NEUTRAL TERMINAL STRIP AND BE U.L. SERVICE ENTRANCE RATED. PROVIDE METAL CIRCUIT DIRECTORY HOLDER AND TYPED CIRCUIT DIRECTORY.

(6) PROVIDE A PHOTOCELL IN THE CONTROLLER CABINET. THE PHOTOCELL SHALL BE RATED 120V, 1500 WATTS (MINIMUM), AND SHALL BE THE THERMAL TYPE WITH TIME DELAY. THE PHOTOCELL SHALL TURN THE LIGHTS ON BETWEEN 1 TO 5 FOOT CANDLES OF DAYLIGHT AND TURN THEM OFF AT APPROXIMATELY 15 FOOT CANDLES OF DAYLIGHT. PROVIDE BUTTON TYPE PHOTOCELL EQUAL TO INTERMATIC K4021C.

(7) PROVIDE A 3 POSITION "HAND, OFF, AUTO" SWITCH IN A NEMA 1 ENCLOSURE TO BYPASS THE PHOTOCELL AND TIME CLOCK. MOUNT SWITCH IN THE LIGHTING CONTROL CABINET AND LABEL "LIGHTING PHOTOCELL BYPASS".

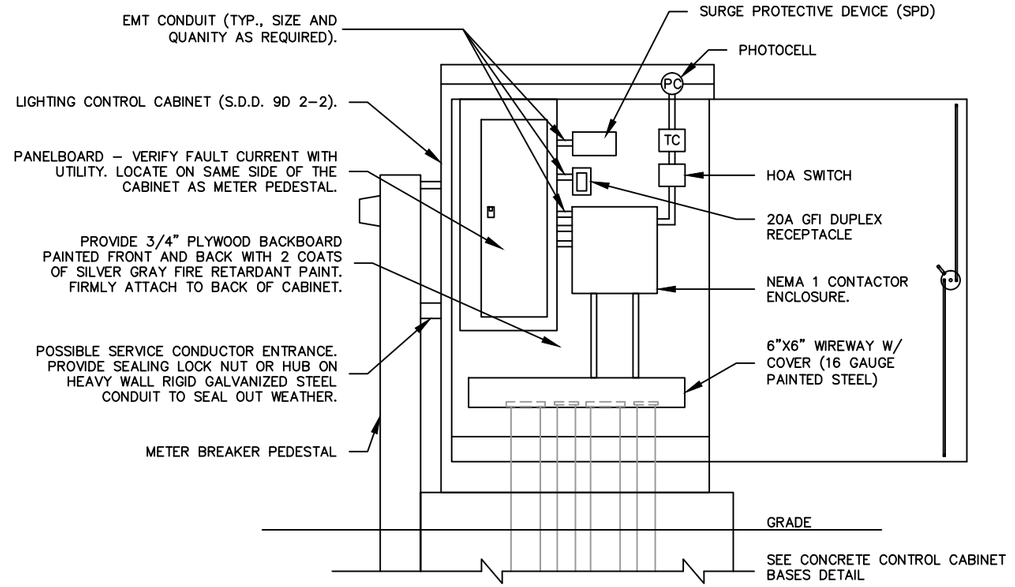
(8) PROVIDE SURGE PROTECTIVE DEVICE (SPD) RATED FOR LINE–TO–LINE, LINE–TO–NEUTRAL, AND NEUTRAL–TO–GROUND SUPPRESSION MODES AND WITH A MANUFACTURER'S RATED WITHSTAND CAPABILITY OF 80K AMPS OR GREATER. SURGE PROTECTIVE DEVICE (SPD) SHALL BE EQUAL TO A LEVITON MODEL 32120–001. INSTALL PER MANUFACTURER'S INSTRUCTIONS. VERIFY BREAKER REQUIREMENTS WITH SELECTED MANUFACTURER'S INSTALLATION INSTRUCTIONS.

(9) PROVIDE 4–POLE LIGHTING CONTACTOR EQUAL TO GE CR360L SERIES FOR CONTROL OF THE LUMINAIRES. MOUNT CONTACTOR IN A NEMA 1 ENCLOSURE WITHIN LIGHTING CONTROL CABINET. THE RELAY CONTACTS SHALL BE RATED MINIMUM 30A, 250 VOLTS, HEAVY DUTY TYPE, AND RATED FOR BALLAST TYPE LOADS. THE RELAYS SHALL BE ELECTRICALLY OPERATED. THE RELAY COIL SHALL BE OPERATED BY 120 VOLTS. CONTROL SHALL BE WIRED THROUGH PHOTOCELL, TIME CLOCK, AND HOA SELECTOR SWITCH.

(10) THE SIZE OF THE CONDUCTORS FROM THE CIRCUIT BREAKER TO THE CONTACTOR SHALL MATCH THE SIZE OF THE CONDUCTORS FROM THE CONTACTOR TO THE LIGHT POLE AS SHOWN ON THE PLAN.

(11) PROVIDE AN ASTRONOMIC TIME CLOCK WITH SPRING CARRYOVER, EQUAL TO INTERMATIC ET8015C.

(12) PROVIDE A MINIMUM OF FOUR SPARE 1P–20A BREAKERS, AND TWO SPARE 2P–20A BREAKERS.



DISTRIBUTION CENTER DETAIL

NO SCALE

USH 14/STH 131 DETOUR

SEE DETAIL E

SEE DETAIL D

SEE DETAIL F

SEE DETAIL G

SEE DETAIL H

SEE DETAIL C

SEE DETAIL A

SEE DETAIL B

PROJECT LOCATION

MESSAGE BOARD PRE-WARNING MESSAGES

DETAIL	ROADWAY CONDITION/ CONSTRUCTION	PRIOR TO CONSTRUCTION 2016 PHASE 1 (2 SEC.)	PRIOR TO CONSTRUCTION 2016 PHASE 2 (2 SEC.)
A	GENERAL	NO MESSAGE BOARD USED	NO MESSAGE BOARD USED
B	PRE-WARNING	USH 14 WORK STARTS	"DATE"
C	GENERAL	NO MESSAGE BOARD USED	NO MESSAGE BOARD USED
D	PRE-WARNING	STH 131 WORK STARTS	"DATE"
E	PRE-WARNING	USH 14 WORK STARTS	"DATE"
F	GENERAL	NO MESSAGE BOARD USED	NO MESSAGE BOARD USED
G	PRE-WARNING	USH 14 / STH 131 WORK STARTS	"DATE"
H	PRE-WARNING	STH 131 WORK STARTS	"DATE"

LEGEND

WORK ZONE

DETOUR ROUTE

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TRAFFIC CONTROL DETOUR PLAN OVERVIEW	SHEET E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\USH 14 DETOUR OVERVIEW.DWG PLOT DATE : 7/27/2015 7:41 AM PLOT BY : STRINE, THERESA PLOT SCALE : ********

WISDOT/CADDS SHEET 42

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

(A) M1-4 24"X24"

(B) M06-1 21"X21"

(C) M06-1 21"X21"

(D) M06-1 21"X21"

(E) M05-1L 21"X21"

(F) M05-1R 21"X21"

(G) END DETOUR M04-8A 24"X18"

(H) DETOUR M04-8 24"X12"

(I) DETOUR AHEAD W20-2-A

(J) BRIDGE OUT XX MILES AHEAD R11-3-C 60"X24"

(K) DETOUR M04-9R 30"X24"

(L) DETOUR M04-9L 30"X24"

(M) EAST M3-2 24"X12"

(N) WEST M3-4 24"X12"

(O) M06-6 21"X21"

(P) 131 M1-6 24"X24"

(Q) NORTH M3-1 24"X12"

(R) SOUTH M3-3 24"X12"

(S) NO ACCESS ---------- R10-61 (MOD.)

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A

CHANGEABLE PORTABLE MESSAGE BOARD (MB)

*	SIGN READS "BRIDGE OUT 24 MILES AHEAD"
**	SIGN READS "BRIDGE OUT 23 MILES AHEAD"
***	SIGN READS "BRIDGE OUT 11 MILES AHEAD"
****	SIGN READS "BRIDGE OUT 8 MILES AHEAD"
*****	SIGN READS "BRIDGE OUT 7 MILES AHEAD"
******	SIGN READS "BRIDGE OUT 4 MILES AHEAD"
*	SIGN READS "NO ACCESS TO STH 131 SOUTH"
**	SIGN READS "NO ACCESS TO USH 14 WEST"
***	SIGN READS "NO ACCESS TO STH 131 NORTH"
****	SIGN READS "NO ACCESS TO USH 14 EAST"

GENERAL NOTES:

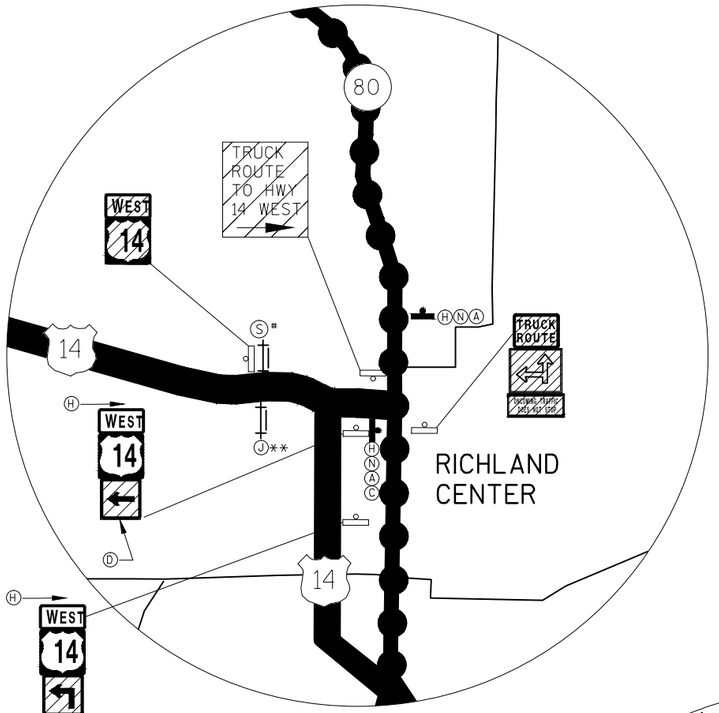
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

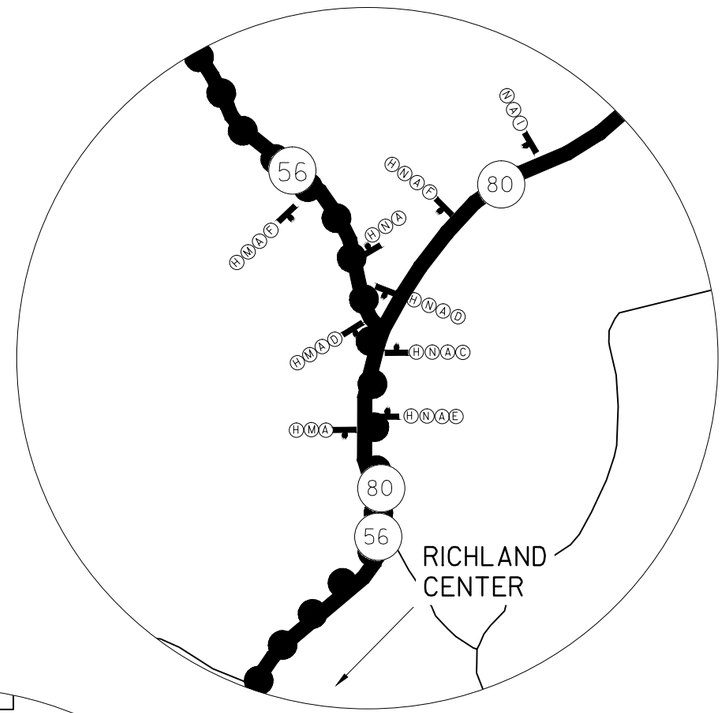
"WO" AND "MO" SERIES SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

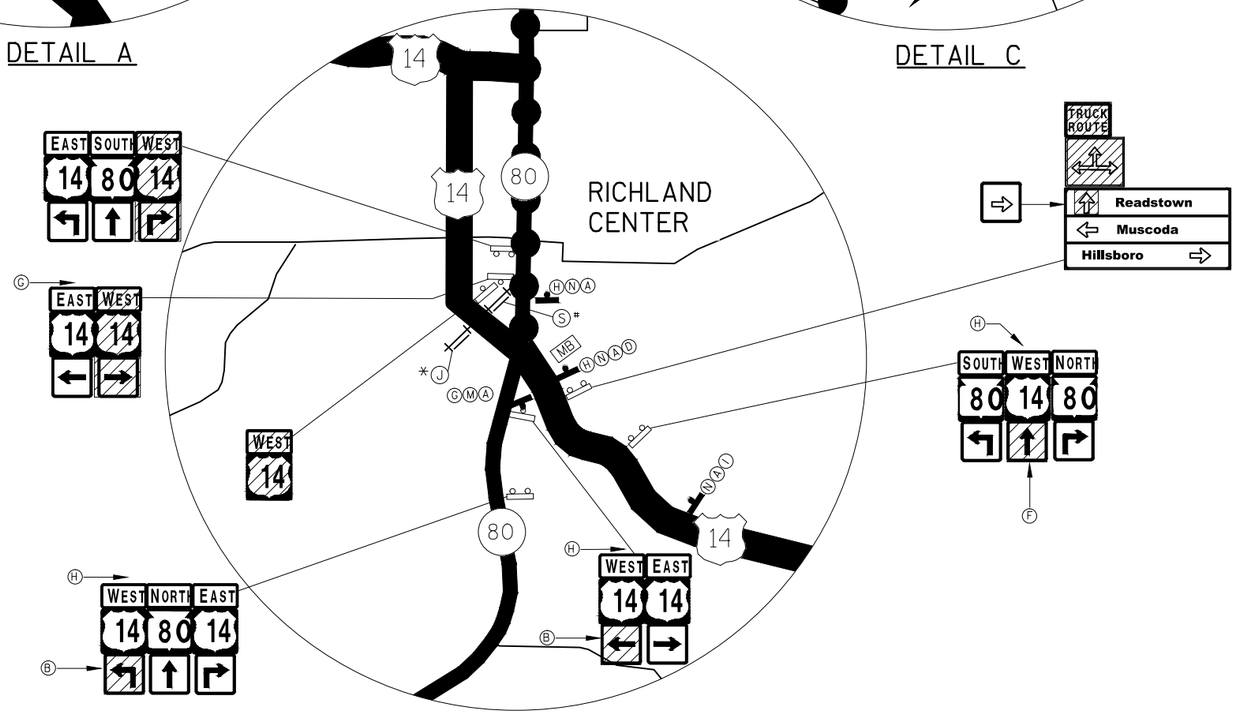
THE EXACT LOCATION OF CHANGEABLE PORTABLE MESSAGE BOARD SHALL BE DETERMINED IN FIELD AND APPROVED BY THE ENGINEER.



DETAIL A



DETAIL C



DETAIL B

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	DETOUR ROUTE DETAILS	SHEET 26	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\USH 14 DETOUR DETAILS.DWG
LAYOUT : RICHLAND CENTER

PLOT DATE : 7/27/2015
PLOT TIME : 4:17:22 PM

PLOT BY : STRINE, THERESA

PLOT SCALE : 1" = 1'

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

(A) M1-4 24"X24"

(B) M06-1 21"X21"

(C) M06-1 21"X21"

(D) M06-1 21"X21"

(E) M05-1L 21"X21"

(F) M05-1R 21"X21"

(G) M04-8A 24"X18"

(H) M04-8 24"X12"

(I) W20-2-A

(J) R11-3-C 60"X24"

(K) M04-9R 30"X24"

(L) M04-9L 30"X24"

(M) M3-2 24"X12"

(N) M3-4 24"X12"

(O) M06-6 21"X21"

(P) M1-6 24"X24"

(Q) M3-1 24"X12"

(R) M3-3 24"X12"

(S) R10-61 (MOD.)

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A

CHANGEABLE PORTABLE MESSAGE BOARD (MB)

*	SIGN READS "BRIDGE OUT 24 MILES AHEAD"
**	SIGN READS "BRIDGE OUT 23 MILES AHEAD"
***	SIGN READS "BRIDGE OUT 11 MILES AHEAD"
****	SIGN READS "BRIDGE OUT 8 MILES AHEAD"
*****	SIGN READS "BRIDGE OUT 7 MILES AHEAD"
******	SIGN READS "BRIDGE OUT 4 MILES AHEAD"
*	SIGN READS "NO ACCESS TO STH 131 SOUTH"
**	SIGN READS "NO ACCESS TO USH 14 WEST"
***	SIGN READS "NO ACCESS TO STH 131 NORTH"
****	SIGN READS "NO ACCESS TO USH 14 EAST"

GENERAL NOTES:

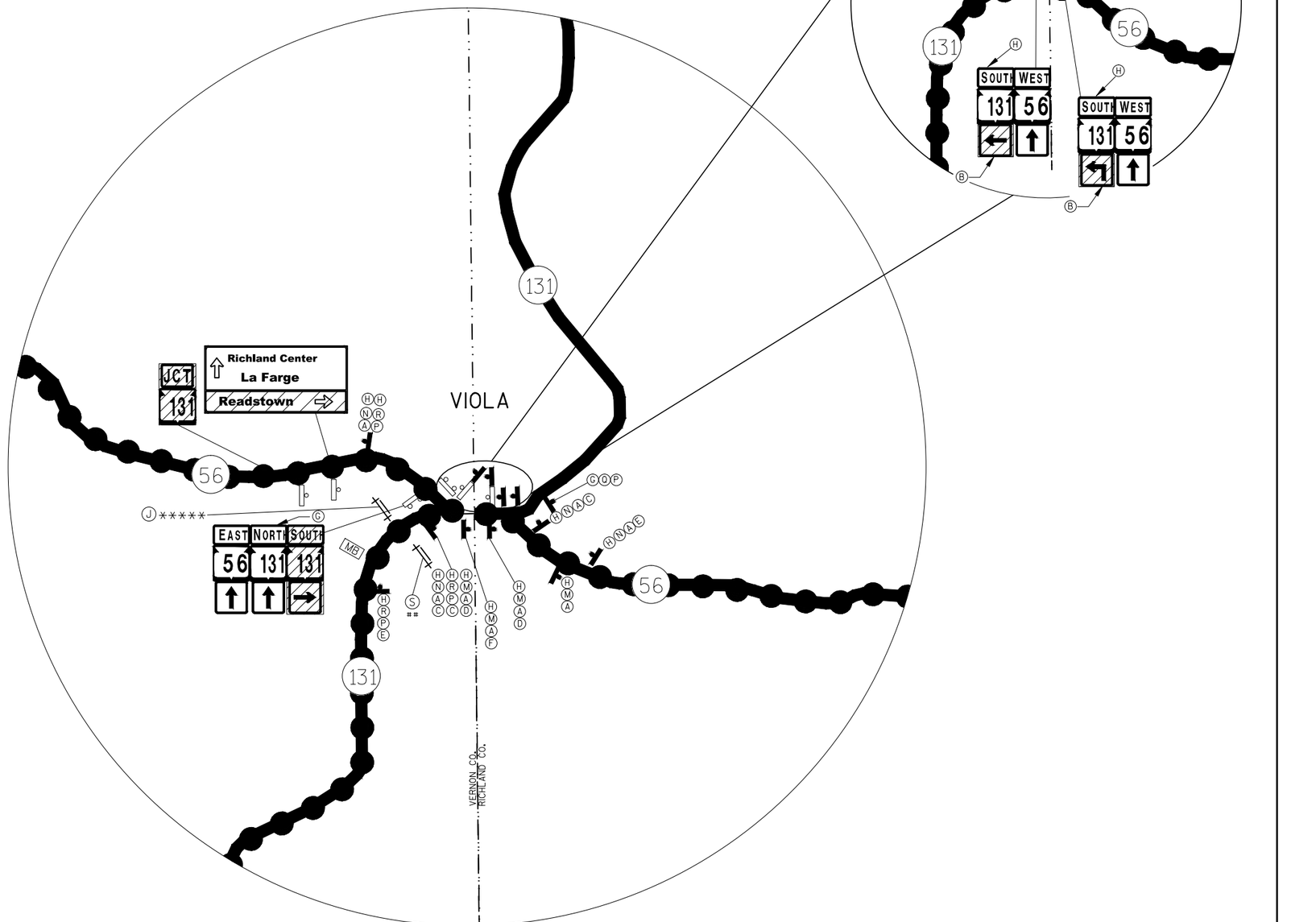
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

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

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

THE EXACT LOCATION OF CHANGEABLE PORTABLE MESSAGE BOARD SHALL BE DETERMINED IN FIELD AND APPROVED BY THE ENGINEER.



DETAIL D

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	DETOUR ROUTE DETAILS	SHEET 27	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\USH 14 DETOUR DETAILS.DWG
LAYOUT : DETAILS

PLOT DATE : 7/27/2015
PLOT TIME : 4:18:06 PM

PLOT BY : STRINE, THERESA

PLOT SCALE : 1" = 1'

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

(A) M1-4 24"X24"

(B) M06-1 21"X21"

(C) M06-1 21"X21"

(D) M06-1 21"X21"

(E) M05-1L 21"X21"

(F) M05-1R 21"X21"

(G) M04-8A 24"X18"

(H) M04-8 24"X12"

(I) W20-2-A

(J) R11-3-C 60"X24"

(K) M04-9R 30"X24"

(L) M04-9L 30"X24"

(M) M3-2 24"X12"

(N) M3-4 24"X12"

(O) M06-6 21"X21"

(P) M1-6 24"X24"

(Q) M3-1 24"X12"

(R) M3-3 24"X12"

(S) R10-61 (MOD.)

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A

CHANGEABLE PORTABLE MESSAGE BOARD [MB]

*	SIGN READS "BRIDGE OUT 24 MILES AHEAD"
**	SIGN READS "BRIDGE OUT 23 MILES AHEAD"
***	SIGN READS "BRIDGE OUT 11 MILES AHEAD"
****	SIGN READS "BRIDGE OUT 8 MILES AHEAD"
*****	SIGN READS "BRIDGE OUT 7 MILES AHEAD"
******	SIGN READS "BRIDGE OUT 4 MILES AHEAD"
*	SIGN READS "NO ACCESS TO STH 131 SOUTH"
**	SIGN READS "NO ACCESS TO USH 14 WEST"
***	SIGN READS "NO ACCESS TO STH 131 NORTH"
****	SIGN READS "NO ACCESS TO USH 14 EAST"

GENERAL NOTES:

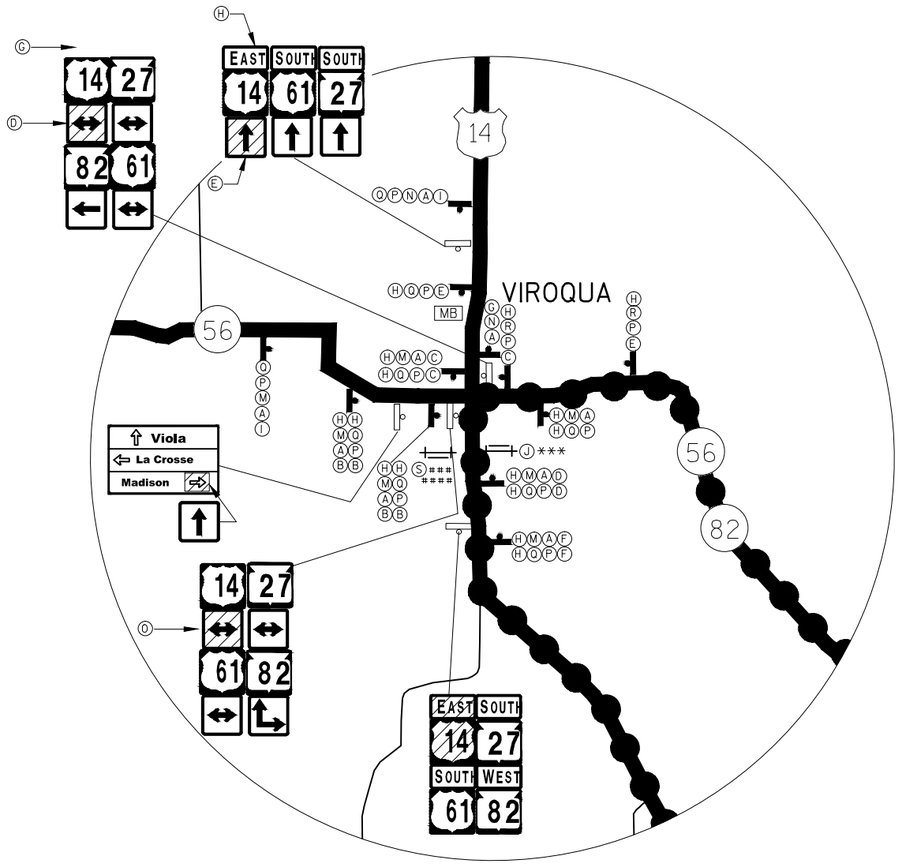
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

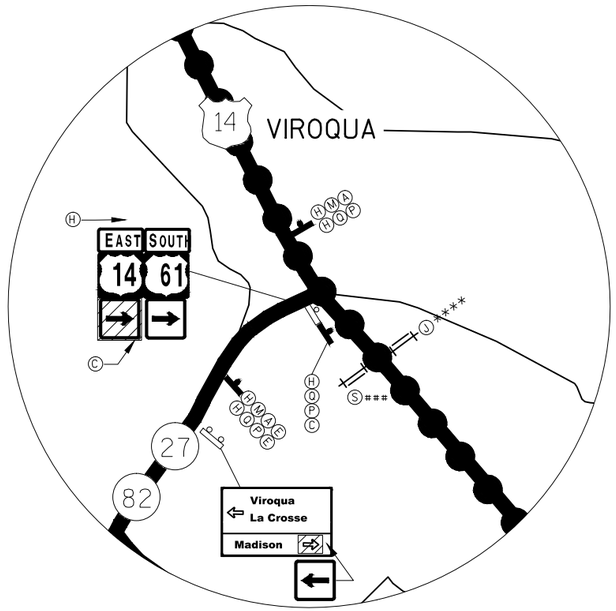
"WO" AND "MO" SERIES SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

THE EXACT LOCATION OF CHANGEABLE PORTABLE MESSAGE BOARD SHALL BE DETERMINED IN FIELD AND APPROVED BY THE ENGINEER.



DETAIL E



DETAIL F

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	DETOUR ROUTE DETAILS	SHEET 28	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\USH 14 DETOUR DETAILS.DWG
LAYOUT : DETAILS

PLOT DATE : 7/27/2015
PLOT TIME : 4:19:25 PM

PLOT BY : STRINE, THERESA

PLOT SCALE : 1" = 1'

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

(A) 14 — M1-4 24"X24"

(B) M06-1 21"X21"

(C) M06-1 21"X21"

(D) M06-1 21"X21"

(E) M05-1L 21"X21"

(F) M05-1R 21"X21"

(G) END DETOUR — M04-8A 24"X18"

(H) DETOUR — M04-8 24"X12"

(I) DETOUR AHEAD — W20-2-A

(J) BRIDGE OUT XX MILES AHEAD — R11-3-C 60"X24"

(K) DETOUR — M04-9R 30"X24"

(L) DETOUR — M04-9L 30"X24"

(M) EAST — M3-2 24"X12"

(N) WEST — M3-4 24"X12"

(O) M06-6 21"X21"

(P) 131 — M1-6 24"X24"

(Q) NORTH — M3-1 24"X12"

(R) SOUTH — M3-3 24"X12"

(S) NO ACCESS ---------- — R10-61 (MOD.)

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A

CHANGEABLE PORTABLE MESSAGE BOARD — MB

*	SIGN READS "BRIDGE OUT 24 MILES AHEAD"
**	SIGN READS "BRIDGE OUT 23 MILES AHEAD"
***	SIGN READS "BRIDGE OUT 11 MILES AHEAD"
****	SIGN READS "BRIDGE OUT 8 MILES AHEAD"
*****	SIGN READS "BRIDGE OUT 7 MILES AHEAD"
******	SIGN READS "BRIDGE OUT 4 MILES AHEAD"
*	SIGN READS "NO ACCESS TO STH 131 SOUTH"
**	SIGN READS "NO ACCESS TO USH 14 WEST"
***	SIGN READS "NO ACCESS TO STH 131 NORTH"
****	SIGN READS "NO ACCESS TO USH 14 EAST"

GENERAL NOTES:

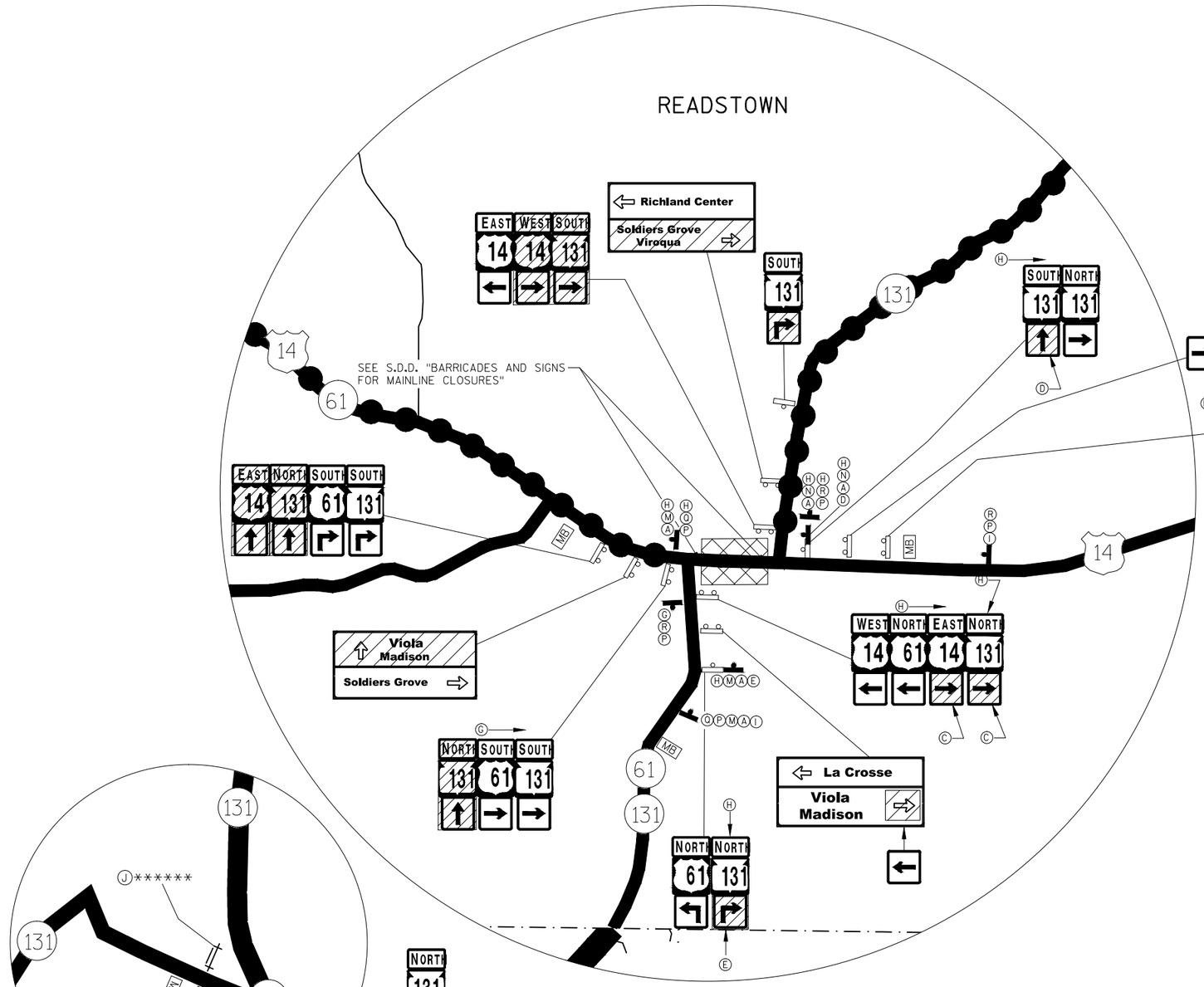
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

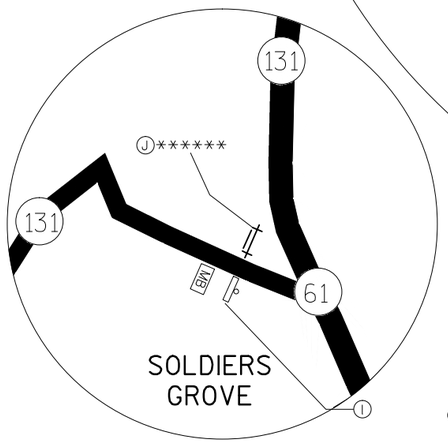
"WO" AND "MO" SERIES SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

THE EXACT LOCATION OF CHANGEABLE PORTABLE MESSAGE BOARD SHALL BE DETERMINED IN FIELD AND APPROVED BY THE ENGINEER.



DETAIL G



DETAIL H

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	DETOUR ROUTE DETAILS	SHEET 29	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\USH 14 DETOUR DETAILS.DWG
LAYOUT : DETAILS
PLOT DATE : 7/27/2015
PLOT TIME : 4:20:27 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

2

LEGEND

- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- STAGE 1 MAINLINE WORK ZONE
- DIRECTION OF TRAFFIC

NOTE: WORK ON NORTH WATER STREET (STA. 50+16 TO STA. 53+50) WILL BE COMPLETED DURING STAGE 1.

N

ROAD WORK AHEAD W20-1-A

500'

53+00

10' (TYP.)

END CONSTRUCTION
STA. 53+50

FINISHED ℄ NORTH WATER STREET

52+00

R11-4 60"X30" ROAD CLOSED TO THRU TRAFFIC

TYPE III BARRICADE TYPE III BARRICADE TYPE III BARRICADE TYPE III BARRICADE

BEGIN CONSTRUCTION
STA. 9+90

BEGIN PROJECT
STA. 11+00

STOP R1-1 30"X30"

51+00

FINISHED ℄ USH 14

25' (TYP.)

STOP R1-1 30"X30"

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00

R11-2-B 48"X30" BRIDGE OUT

TYPE III BARRICADE TYPE III BARRICADE TYPE III BARRICADE TYPE III BARRICADE

GARAGE HOUSE HOUSE

600'

SOUTH WATER STREET

BEGIN CONSTRUCTION
STA. 61+00

700+00

J STREET

ROAD WORK AHEAD W20-1-A

J STREET

USH 61/STH 131

WEST MILL STREET

DETAIL AT
USH 61/STH 131
& WEST MILL STREET
INTERSECTION

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TRAFFIC CONTROL - LOCAL DETOUR (STAGE 1)	SHEET 30	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\TRAFFIC CONTROL STAGE11.DWG
LAYOUT : STAGE11
PLOT DATE : 7/27/2015
PLOT TIME : 8:22:04 AM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

2

LEGEND

- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- STAGE 2 WORK ZONE
- DIRECTION OF TRAFFIC

N

ROAD WORK AHEAD
W20-1-A
500'

END CONSTRUCTION
STA. 53+50

53+00
10' (TYP.)

FINISHED ℄ NORTH WATER STREET

52+00

STOP
R1-1
30"X30"

STOP
R1-1
30"X30"

51+00

25' (TYP.)

R11-4
60"X30"
ROAD CLOSED TO THRU TRAFFIC

TYPE III BARRICADE
TYPE III BARRICADE
TYPE III BARRICADE
TYPE III BARRICADE

BEGIN CONSTRUCTION
STA. 9+90

BEGIN PROJECT
STA. 11+00

FINISHED ℄ USH 14

10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+

R11-2-B
48"X30"
BRIDGE OUT

TYPE III BARRICADE
TYPE III BARRICADE
TYPE III BARRICADE
TYPE III BARRICADE

STH 131/USH 61

BEGIN CONSTRUCTION
STA. 61+00

60+25

SOUTH WATER STREET

61+00

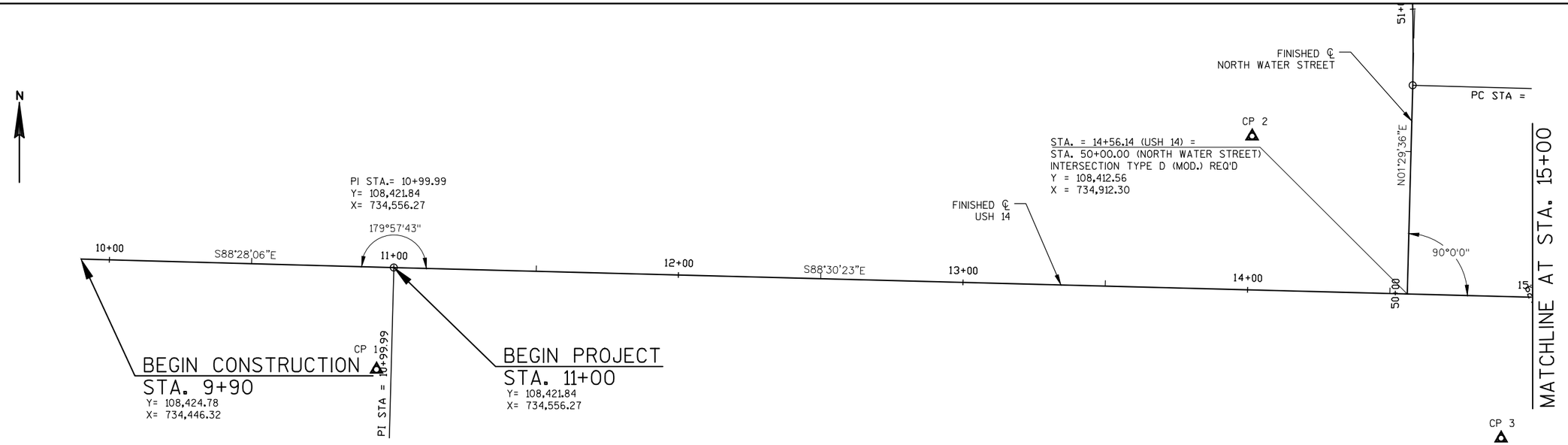
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	TRAFFIC CONTROL - LOCAL DETOUR (STAGE 2)	SHEET 31	E

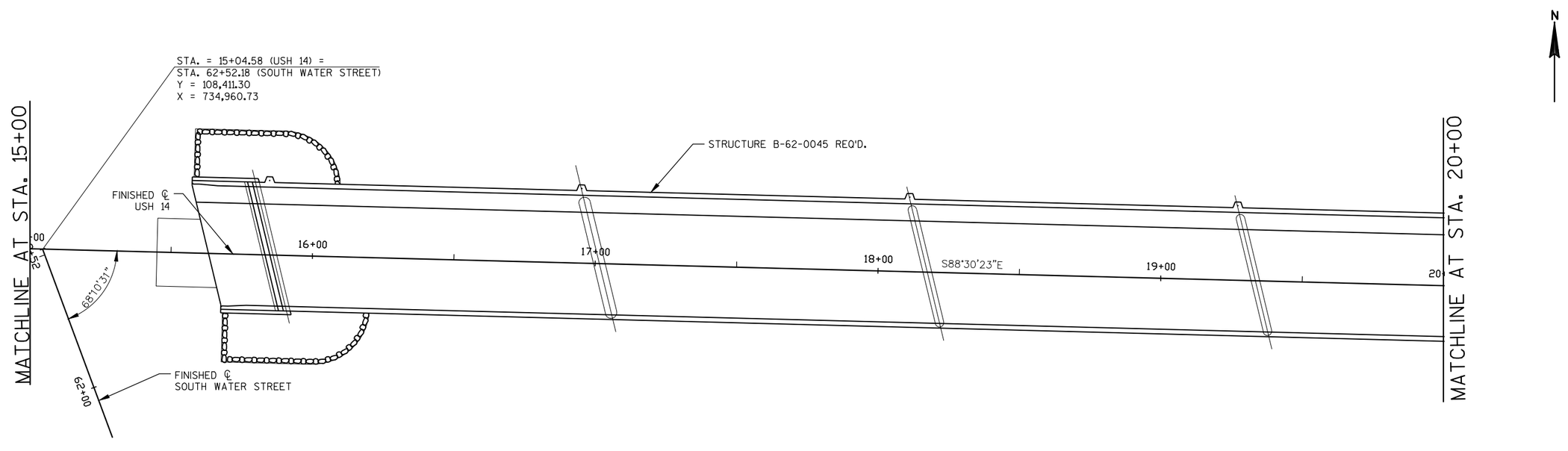
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\TRAFFIC CONTROL STAGE12.DWG
LAYOUT : STAGE12

PLOT DATE : 7/27/2015
PLOT TIME : 8:52:10 AM

PLOT BY : STRINE, THERESA

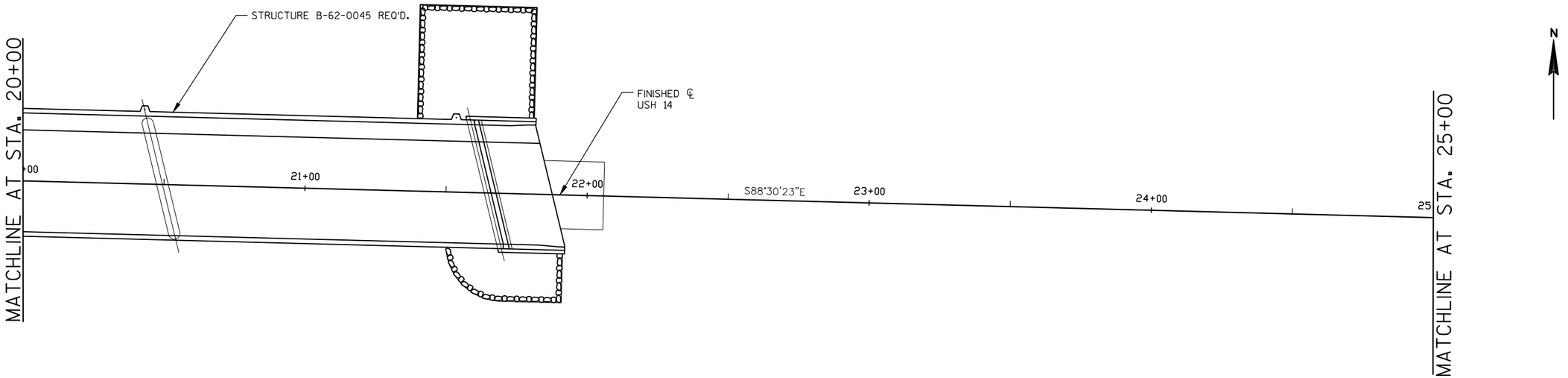
PLOT SCALE : 1" = 1'



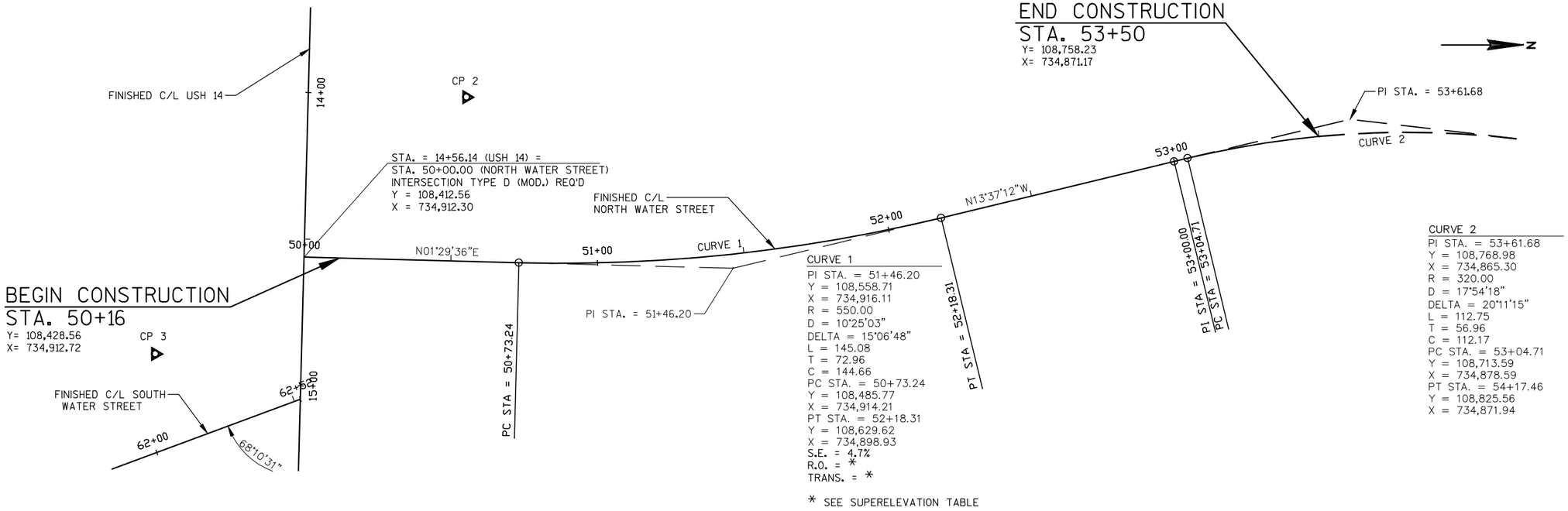


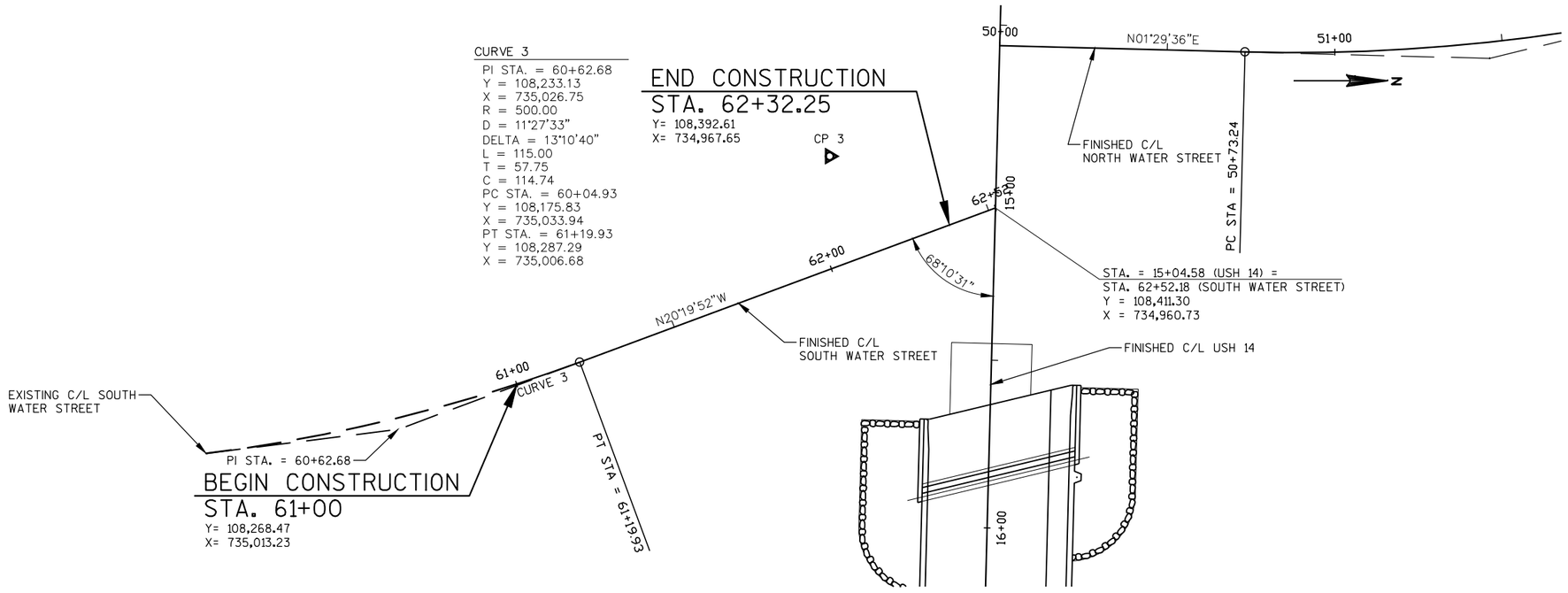
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	ALIGNMENT LAYOUT DETAILS	SHEET 32	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\DETAILS\ALIGNMENT LAYOUT DETAILS.DWG
PLOT DATE : 6/10/2015
PLOT TIME : 1:55:02 PM
PLOT BY : HANOLD, ROBERT
PLOT SCALE : 1" = 1'



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	ALIGNMENT LAYOUT DETAILS	SHEET 33	E





PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	ALIGNMENT LAYOUT DETAILS	SHEET 34	E

2

USH 14/131 MAINLINE STATION LAYOUT

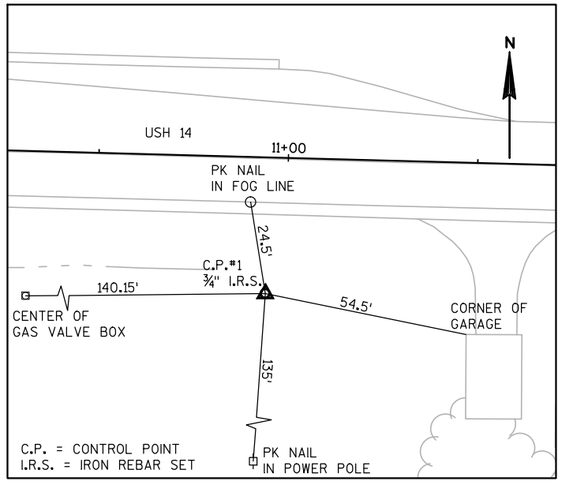
Station	Northing	Easting	Remarks
9+90	108424.78'	734446.32'	Begin Construction
10+00	108424.52'	734456.32'	-
10+50	108,423.18'	734,506.30'	-
11+00	108,421.84'	734,556.27'	Begin Project
11+50	108,420.54'	734,606.27'	-
12+00	108,419.24'	734,656.25'	-
12+50	108,417.93'	734,706.23'	-
13+00	108,416.63'	734,756.22'	-
13+50	108,415.33'	734,806.20'	-
14+00	108,414.02'	734,856.18'	-
14+50	108,412.72'	734,906.16'	-
15+00	108,411.42'	734,956.15'	-
15+50	108,410.11'	735,006.13'	-
15+84.96	108409.20'	735041.08'	End of Deck
16+00	108,408.81'	735,056.11'	-
16+50	108,407.51'	735,106.10'	-
17+00	108,406.20'	735,156.08'	-
17+50	108,404.90'	735,206.06'	-
18+00	108,403.60'	735,256.05'	-
18+50	108,402.30'	735,306.03'	-
19+00	108,400.99'	735,356.01'	-
19+50	108,399.69'	735,405.99'	-
20+00	108,398.39'	735,455.98'	-
20+50	108,397.08'	735,505.96'	-
21+00	108,395.78'	735,555.94'	-
21+50	108,394.48'	735,605.93'	-
21+65.95	108394.06'	735621.87'	End of Deck
22+00	108,393.17'	735,655.91'	-
22+50	108,391.87'	735,705.89'	-
23+00	108,390.57'	735,755.88'	-
23+50	108,389.26'	735,805.86'	-
24+00	108,387.96'	735,855.84'	-
24+50	108,386.66'	735,905.82'	-
25+00	108,385.35'	735,955.81'	-
25+50	108,384.05'	736,005.79'	-
26+00	108,382.75'	736,055.77'	-
26+45	108381.57'	736,100.76'	End Project

NORTH WATER STREET STATION LAYOUT

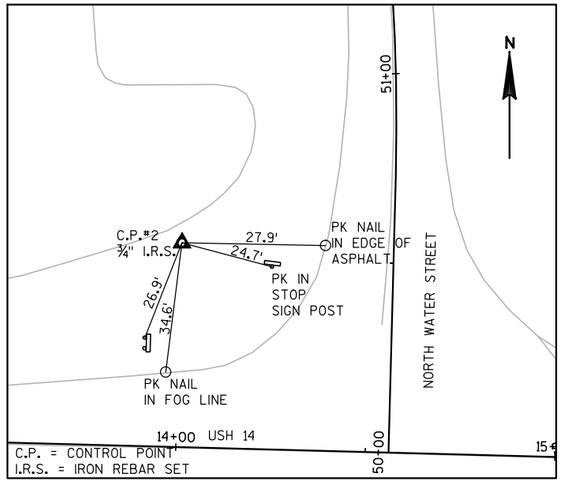
Station	Northing	Easting	Remarks
50+00	108,412.56'	734,912.30'	-
50+16	108,428.56'	734912.72'	Begin Construction
50+50	108,462.54'	734,913.60'	-
51+00	108,512.53'	734,914.26'	-
51+50	108,562.40'	734,910.86'	-
52+00	108,611.75'	734,902.94'	-
52+50	108,660.42'	734,891.47'	-
53+00	108,709.01'	734,879.69'	
53+50	108,758.23	734,871.17	End Construction

SOUTH WATER STREET STATION LAYOUT

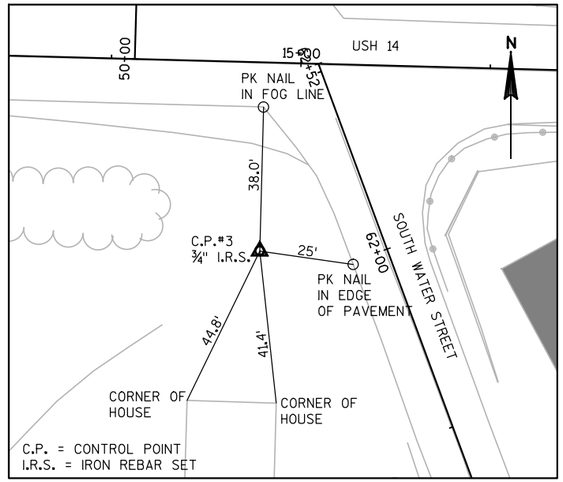
Station	Northing	Easting	Remarks
61+00	108,268.47'	735,013.23'	Begin Construction
61+50	108,315.49'	734,996.23'	-
62+00	108,362.37'	734,978.86'	-
62+32.25	108,392.61	734,967.65	End Construction
62+52.18	108,411.30	734,960.73	-



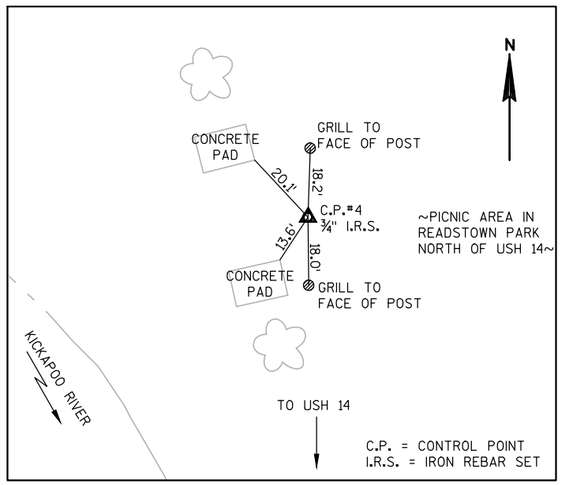
TIES TO CP#1
STA. 10+94.86, 35.94' RT
Y=108,386.06
X=734,550.18



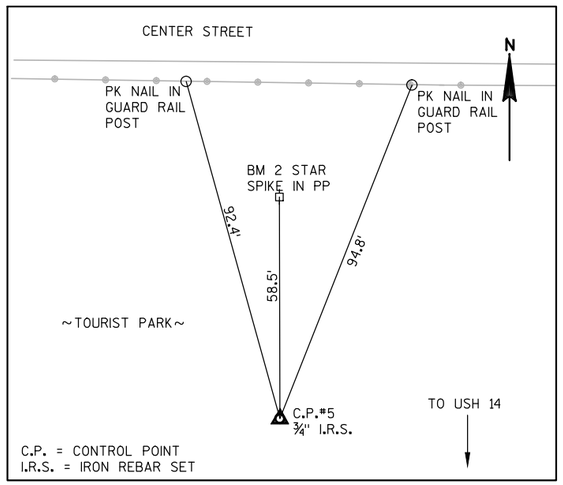
TIES TO CP#2
STA. 14+00.22, 53.90' LT
Y=108,467.90
X=734,857.80



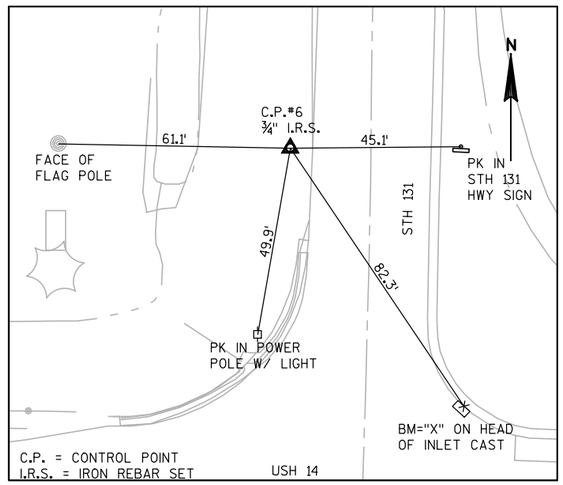
TIES TO CP#3
STA. 14+90.43, 49.79' RT
Y=108,361.89
X=734,945.28



TIES TO CP#4
STA. 16+77.23, 139.15' LT
Y=108,545.90
X=735,136.95



TIES TO CP#5
STA. 22+30.78, 197.81' LT
Y=108,590.11
X=735,691.83



TIES TO CP#6
STA. 26+51.92, 93.01' LT
Y=108,474.37
X=736,110.10

▲ CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	10+94.86	¾" IRON REBAR SET, 35.94' RT.	108,386.06	734,550.18
2	14+00.22	¾" IRON REBAR SET, 53.90' LT.	108,467.90	734,857.80
3	14+90.43	¾" IRON REBAR SET, 49.79' RT.	108,361.89	734,945.28
4	16+77.23	¾" IRON REBAR SET, 139.15' LT.	108,545.90	735,136.95
5	22+30.78	¾" IRON REBAR SET, 197.81' LT.	108,590.11	735,691.83
6	26+51.92	¾" IRON REBAR SET, 93.01' LT.	108,474.37	736,110.10

DATE 27OCT15 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	1643-08-81 QUANTITY
0010	201.0105	Clearing	STA	6.000	6.000
0020	201.0205	Grubbing	STA	6.000	6.000
0030	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0040	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 01. 18+43.6	LS	1.000	1.000
0050	204.0100	Removing Pavement	SY	2,600.000	2,600.000
0060	204.0150	Removing Curb & Gutter	LF	145.000	145.000
0070	204.0165	Removing Guardrail	LF	1,250.000	1,250.000
0080	204.0230	Removing Building (station) 01. 15+74	LS	1.000	1.000
0090	204.0270	Abandoning Culvert Pipes	EACH	1.000	1.000
0100	204.9090.S	Removing (item description) 01. Cast in Place Concrete Retaining Wall (Sta. 15+38 - Sta. 16+04, RT.)	LF	80.000	80.000
0110	204.9090.S	Removing (item description) 02. Cast in Place Concrete Retaining Wall (Sta. 16+04 - Sta. 16+12, RT.)	LF	42.000	42.000
0120	204.9090.S	Removing (item description) 03. Cast in Place Concrete Retaining Wall (Sta. 16+12 - 16+20, RT.)	LF	16.000	16.000
0130	205.0100	Excavation Common	CY	1,450.000	1,450.000
0140	205.0200	Excavation Rock	CY	260.000	260.000
0150	205.0400	Excavation Marsh	CY	1,150.000	1,150.000
0160	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	360.000	360.000
0170	206.1000	Excavation for Structures Bridges (structure) 01. B-62-45	LS	1.000	1.000
0180	206.5000	Cofferdams (structure) 01. B-62-45	LS	1.000	1.000
0190	208.0100	Borrow	CY	10,100.000	10,100.000
0200	210.0100	Backfill Structure	CY	217.000	217.000
0210	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1643-08-81	LS	1.000	1.000
0220	213.0100	Finishing Roadway (project) 01. 1643-08-81	EACH	1.000	1.000
0230	305.0110	Base Aggregate Dense 3/4-Inch	TON	410.000	410.000
0240	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,590.000	4,590.000
0250	415.0410	Concrete Pavement Approach Slab	SY	130.000	130.000
0260	416.0160	Concrete Driveway 6-Inch	SY	8.000	8.000
0270	455.0120	Asphaltic Material PG64-28	TON	65.000	65.000
0280	455.0605	Tack Coat	GAL	310.000	310.000
0290	460.1101	HMA Pavement Type E-1	TON	1,170.000	1,170.000
0300	460.4000	HMA Cold Weather Paving	TON	290.000	290.000
0310	465.0315	Asphaltic Flumes	SY	20.000	20.000
0320	502.0100	Concrete Masonry Bridges	CY	2,141.000	2,141.000
0330	502.1100	Concrete Masonry Seal	CY	101.000	101.000
0340	502.3100	Expansion Device (structure) 01. B-62-45	LS	1.000	1.000
0350	502.3200	Protective Surface Treatment	SY	2,974.000	2,974.000
0360	502.3210	Pigmented Surface Sealer	SY	645.000	645.000
0370	503.0146	Prestressed Girder Type I 45W-Inch	LF	4,052.000	4,052.000
0380	505.0400	Bar Steel Reinforcement HS Structures	LB	23,280.000	23,280.000
0390	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	314,890.000	314,890.000
0400	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,640.000	1,640.000
0410	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	28.000	28.000
0420	506.2610	Bearing Pads Elastomeric Laminated	EACH	28.000	28.000

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DATE 27OCT15 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	1643-08-81 QUANTITY
0430	506.4000	Steel Diaphragms (structure) 01. B-62-45	EACH	60.000	60.000
0440	506.6000	Bearing Assemblies Expansion (structure) 01. B-62-45	EACH	14.000	14.000
0450	514.0450	Floor Drains Type WF	EACH	4.000	4.000
0460	514.2608	Downspout 8-Inch	LF	16.000	16.000
0470	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0480	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-62-45	SF	3,435.000	3,435.000
0490	517.1050.S	Architectural Surface Treatment (structure) 01. B-62-45	SF	3,435.000	3,435.000
0500	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	1.000	1.000
0510	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0520	520.3524	Culvert Pipe Class III-B 24-Inch	LF	78.000	78.000
0530	520.7000	Cleaning Culvert Pipes	EACH	1.000	1.000
0540	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	2.000	2.000
0550	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0560	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	7,740.000	7,740.000
0570	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,740.000	1,740.000
0580	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	230.000	230.000
0590	602.0410	Concrete Sidewalk 5-Inch	SF	4,150.000	4,150.000
0600	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	36.000	36.000
0610	606.0300	Riprap Heavy	CY	747.000	747.000
0620	607.5000	Storm Sewer Rock Excavation	CY	50.000	50.000
0630	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	209.000	209.000
0640	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	203.000	203.000
0650	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	34.000	34.000
0660	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	284.000	284.000
0670	611.0420	Reconstructing Manholes	EACH	1.000	1.000
0680	611.0535	Manhole Covers Type J-Special	EACH	3.000	3.000
0690	611.0639	Inlet Covers Type H-S	EACH	12.000	12.000
0700	611.2004	Manholes 4-FT Diameter	EACH	3.000	3.000
0710	611.3230	Inlets 2x3-FT	EACH	12.000	12.000
0720	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0730	612.0902.S	Insulation Board Polystyrene (inch) 01. 4-Inch	SY	13.000	13.000
0740	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0750	614.2300	MGS Guardrail 3	LF	138.000	138.000
0760	614.2500	MGS Thrie Beam Transition	LF	80.000	80.000
0770	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0780	616.0205	Fence Chain Link 5-FT	LF	40.000	40.000
0790	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1643-08-81	EACH	1.000	1.000
0800	619.1000	Mobilization	EACH	1.000	1.000
0810	624.0100	Water	MGAL	33.000	33.000
0820	625.0100	Topsoil	SY	7,450.000	7,450.000
0830	625.0500	Salvaged Topsoil	SY	5,800.000	5,800.000
0840	627.0200	Mulching	SY	14,250.000	14,250.000

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DATE 27OCT15 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	1643-08-81 QUANTITY
0850	628.1504	Silt Fence	LF	1,950.000	1,950.000
0860	628.1520	Silt Fence Maintenance	LF	9,750.000	9,750.000
0870	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0880	628.1910	Mobilizations Emergency Erosion Control	EACH	7.000	7.000
0890	628.2004	Erosion Mat Class I Type B	SY	6,250.000	6,250.000
0900	628.2008	Erosion Mat Urban Class I Type B	SY	1,950.000	1,950.000
0910	628.6005	Turbidity Barriers	SY	400.000	400.000
0920	628.7005	Inlet Protection Type A	EACH	12.000	12.000
0930	628.7015	Inlet Protection Type C	EACH	13.000	13.000
0940	628.7504	Temporary Ditch Checks	LF	110.000	110.000
0950	628.7555	Culvert Pipe Checks	EACH	9.000	9.000
0960	629.0210	Fertilizer Type B	CWT	15.000	15.000
0970	630.0120	Seeding Mixture No. 20	LB	45.000	45.000
0980	630.0140	Seeding Mixture No. 40	LB	175.000	175.000
0990	630.0160	Seeding Mixture No. 60	LB	60.000	60.000
1000	630.0200	Seeding Temporary	LB	210.000	210.000
1010	630.0300	Seeding Borrow Pit	LB	105.000	105.000
1020	633.5100	Markers Row	EACH	23.000	23.000
1030	633.5200	Markers Culvert End	EACH	5.000	5.000
1040	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
1050	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
1060	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	8.000	8.000
1070	637.2210	Signs Type II Reflective H	SF	168.180	168.180
1080	638.2602	Removing Signs Type II	EACH	35.000	35.000
1090	638.3000	Removing Small Sign Supports	EACH	26.000	26.000
1100	642.5201	Field Office Type C	EACH	1.000	1.000
1110	643.0100	Traffic Control (project) 01. 1643-08-81	EACH	1.000	1.000
1120	643.0300	Traffic Control Drums	DAY	1,032.000	1,032.000
1130	643.0420	Traffic Control Barricades Type III	DAY	4,300.000	4,300.000
1140	643.0705	Traffic Control Warning Lights Type A	DAY	6,708.000	6,708.000
1150	643.0715	Traffic Control Warning Lights Type C	DAY	1,032.000	1,032.000
1160	643.0900	Traffic Control Signs	DAY	344.000	344.000
1170	643.0920	Traffic Control Covering Signs Type II	EACH	25.000	25.000
1180	643.1050	Traffic Control Signs PCMS	DAY	98.000	98.000
1190	643.2000	Traffic Control Detour (project) 01. 1643-08-81	EACH	1.000	1.000
1200	643.3000	Traffic Control Detour Signs	DAY	50,052.000	50,052.000
1210	645.0120	Geotextile Fabric Type HR	SY	1,235.000	1,235.000
1220	646.0106	Pavement Marking Epoxy 4-Inch	LF	6,150.000	6,150.000
1230	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	25.000	25.000
1240	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	155.000	155.000
1250	648.0100	Locating No-Passing Zones	MI	1.000	1.000
1260	650.4000	Construction Staking Storm Sewer	EACH	18.000	18.000
1270	650.4500	Construction Staking Subgrade	LF	1,360.000	1,360.000
1280	650.5000	Construction Staking Base	LF	1,360.000	1,360.000
1290	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,970.000	1,970.000
1300	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
1310	650.6500	Construction Staking Structure Layout (structure) 01. B-62-0045	LS	1.000	1.000
1320	650.8500	Construction Staking Electrical Installations (project) 01. 1643-08-81	LS	1.000	1.000
1330	650.9910	Construction Staking Supplemental Control (project) 01. 1643-08-81	LS	1.000	1.000

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DATE 27OCT15 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	1643-08-81 QUANTITY
1340	650.9920	Construction Staking Slope Stakes	LF	1,540.000	1,540.000
1350	652.0125	Conduit Rigid Metallic 2-Inch	LF	30.000	30.000
1360	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	840.000	840.000
1370	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	165.000	165.000
1380	653.0135	Pull Boxes Steel 24x36-Inch	EACH	4.000	4.000
1390	653.0222	Junction Boxes 18x12x6-Inch	EACH	6.000	6.000
1400	654.0105	Concrete Bases Type 5	EACH	4.000	4.000
1410	654.0200	Concrete Control Cabinet Bases Type 6	EACH	1.000	1.000
1420	655.0610	Electrical Wire Lighting 12 AWG	LF	822.000	822.000
1430	655.0615	Electrical Wire Lighting 10 AWG	LF	8,637.000	8,637.000
1440	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. STA. 26+41	LS	1.000	1.000
1450	657.6005.S	Anchor Assemblies Light Poles on Structures	EACH	6.000	6.000
1460	659.2130	Lighting Control Cabinets 120/240 30-Inch	EACH	1.000	1.000
1470	690.0150	Sawing Asphalt	LF	45.000	45.000
1480	690.0250	Sawing Concrete	LF	230.000	230.000
1490	SPV.0060	Special 01. Pole Type 5 - 12.5 Foot	EACH	6.000	6.000
1500	SPV.0060	Special 02. Pole Type 5 - 25 Foot	EACH	4.000	4.000
1510	SPV.0060	Special 03. Luminaire Utility LED 700 mA 36W	EACH	6.000	6.000
1520	SPV.0060	Special 04. Luminaire Utility LED B 700 mA 105W	EACH	4.000	4.000
1530	SPV.0060	Special 05. Construction Staking Curb Ramp	EACH	3.000	3.000
1540	SPV.0090	Special 01. Construction Staking Sidewalk	LF	840.000	840.000

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ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

CLEARING AND GRUBING

STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
12+75 - 14+75	MAINLINE, RT.	2	2
15+50 - 16+50	MAINLINE, RT.	1	1
17+00 - 18+00	MAINLINE, RT.	1	1
20+00 - 22+00	MAINLINE, RT.	2	2
	TOTALS =	6	6

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	DESCRIPTION	203.0100 (EACH)
16+08	MAINLINE, RT.	12" CMP; L=20'	1
22+36	MAINLINE, LT.	18" CMP; L=22'	1
		TOTAL =	2

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 (SY)
11+00 - 16+04	MAINLINE	1348
16+14	MAINLINE, RT.	2
20+83 - 26+45	MAINLINE	1250
	TOTAL =	2600

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 (LF)
9+90 - 10+97	MAINLINE, LT.	107
26+09 - 26+39	MAINLINE, LT.	35
26+43 - 26+45	MAINLINE, RT.	3
	TOTAL =	145

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 (LF)
15+10 - 16+05	MAINLINE, LT.	100
15+34 - 16+05	MAINLINE, RT.	105
20+83 - 26+00	MAINLINE, LT.	510
20+83 - 26+05	MAINLINE, RT.	535
	TOTAL =	1250

REMOVING BUILDING (STA. 15+74, RT.)

STATION	LOCATION	204.0230 (LS)
15+74	MAINLINE, RT.	1
	TOTAL =	1

PREPARE FOUNDATION FOR ASPHALTIC PAVING (01.1643-08-81)

PROJECT	LOCATION	211.0100 (LS)
9+90 - 15+63/ 50+16 - 53+00	MAINLINE NORTH WATER STREET	1
	TOTALS =	1

EXCAVATION, HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL

STATION-STATION	LOCATION	205.0501.S EXCAVATION, HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL (TON)
15+80 - 16+04	MAINLINE, RT.	360
	TOTALS =	360

REMOVING CAST IN PLACE CONCRETE RETAINING WALL

STATION - STATION	LOCATION	204.9090.S REMOVING CAST IN PLACE CONCRETE RETAINING WALL (01. STA. 15+38 - STA. 16+04, RT.) (LF)	204.9090.S REMOVING CAST IN PLACE CONCRETE RETAINING WALL (02. STA. 16+04 - STA. 16+12, RT.) (LF)	204.9090.S REMOVING CAST IN PLACE CONCRETE RETAINING WALL (03. STA. 16+12 - STA. 16+20, RT.) (LF)
15+38 - 16+04	MAINLINE, RT.	80	-	-
16+04 - 16+12	MAINLINE, RT.	-	42	-
16+12 - 16+20	MAINLINE, RT.	-	-	16
	TOTALS =	80	42	16

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	*305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)
9+90 - 15+57	MAINLINE	-	1,905
10+72 - 11+00	MAINLINE, RT.	5	-
11+00 - 14+14	MAINLINE, LT.	90	-
13+50 - 15+68	MAINLINE, RT.	25	-
15+05 - 15+57	MAINLINE, LT.	14	-
21+81 - 26+35	MAINLINE, LT.	116	-
21+81 - 26+45	MAINLINE	-	1,690
21+92 - 25+52	MAINLINE, RT.	35	-
50+20 - 53+50	NORTH WATER STREET	-	530
50+68 - 53+50	NORTH WATER STREET	40	-
-	DRIVEWAYS (P.E./C.E/F.E.)	# 60	-
-	UNDISTRIBUTED	25	125
	TOTALS =	410	4,250

* MORE LISTED ELSEWHERE
# INCLUDES QUANTITY FOR DRIVEWAY RELOCATION (F.E. - STA. 22+18, RT.)

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	(1) 205.0100 COMMON EXCAVATION CUT (2) (CY)	(3) CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (CY) (4)	AVAILABLE MATERIAL (CY) (5)	205.0400 MARSH EXCAVATION (CY) (6)	205.0200 ROCK EXCAVATION (CY) (7)	REDUCED MARSH IN FILL (CY) FACTOR 0.6 (8)	REDUCED EBS IN FILL (CY) FACTOR 0.8 (9)	EXPANDED MARSH BACKFILL (CY) FACTOR 1.5 (10)	EXPANDED EBS BACKFILL (CY) FACTOR 1.5 (11)	EXPANDED ROCK (CY) FACTOR 1.1 (12)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.3 (13)	MASS ORDINATE +/- (CY) (14)	WASTE (CY)	208.1000 BORROW (CY)
010	9+90 - 15+85 21+66 - 26+45	MAINLINE	987	-	-	987	1150	44	690	-	-	-	48	11359	13870	-12835	-	12835
020	15+85 - 16+04 20+83 - 21+66	NEW ABUTMENT - OLD ABUTMENT OLD ABUTMENT - NEW ABUTMENT	-	2500	-	2500	-	-	-	-	-	-	-	-	-	2500	-	-2500
010	50+16 - 53+50	NORTH WATER STREET	232	-	-	232	-	216	-	-	-	-	238	268	349	121	-	-121
010	61+00 - 62+32.25	SOUTH WATER STREET	131	-	-	131	-	-	-	-	-	-	-	-	-	131	-	-131
010	-	P.E., F.E., C.E.	100	-	-	100	-	-	-	-	-	-	-	90	117	-17	-	17
		TOTALS=	1,450	2,500	0	3,950	1,150	260	690	0	0	0	286	11,717	14,336	-10,100	0	10,100

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT EXCAVATION COLUMN. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) THE DEPARTMENT WILL PAY FOR MATERIAL EXCAVATED UNDER THIS SECTION AND USED IN THE EMBANKMENTS AS EXCAVATION FOR STRUCTURES BRIDGES B-62-045.
4.) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
6.) MARSH EXCAVATION - LIMITS OF MARSH EXCAVATION INCLUDE STA. 21+66 - STA. 26+45, LT. IN THE AREA OF DRAINAGE DITCH REALIGNMENT. ITEM 205.0400
7.) ROCK EXCAVATION. ITEM NUMBER 205.0200
8.) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 0.6
9.) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USEABLE IN FILLS OUTSIDE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8
10) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. MARSH BACKFILL FACTOR = 1.5. ITEM NUMBER 312.0110
11.)EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL FACTOR = 1.3. ITEM NUMBER 312.0115
12.) EXPANDED ROCK FACTOR = 1.1
13.) EXPANDED FILL FACTOR 1.30: EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.30
14.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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CONCRETE PAVEMENT APPROACH SLAB

STATION - STATION	LOCATION	415.0410 (SY)
15+45 - 15+66	MAINLINE	65
21+85 - 22+06	MAINLINE	65
	TOTALS =	130

ABANDONING CULVERT PIPES

STATION	LOCATION	DESCRIPTION	204.0270 (EACH)
23+75	MAINLINE	30" RCCP, L=84'	1
		TOTAL =	1

CLEANING CULVERT PIPES

STATION	LOCATION	520.7000 CLEANING CULVERT PIPES (EACH)
26+39	MAINLINE, LT.	1
	TOTALS =	1

CURB RAMP DETECTABLE WARNING FIELD YELLOW

STATION	LOCATION	602.0505 (SF)	REMARKS
14+07	MAINLINE, LT.	12	TYPE 4B1
15+09	MAINLINE, LT.	12	TYPE 4B1
26+21	MAINLINE, LT.	12	TYPE 4B1
	TOTALS =	36	

CONCRETE DRIVEWAY 6-INCH

STATION	LOCATION	416.0160 (SY)
11+55	MAINLINE, RT.	8
	TOTALS =	8

HMA PAVEMENT

STATION - STATION	LOCATION	455.0120 ASPHALTIC MATERIAL PG 64-28 (TON)	455.0605 TACK COAT (GAL)	460.1101 HMA PAVEMENT TYPE E-1 (TON)	460.4000 HMA COLD WEATHER PAVING (TON)
9+90 - 15+57	MAINLINE	27	123	490	122
21+81 - 26+45	MAINLINE	25	112	449	111
50+16 - 53+00	NORTH WATER ST	11	62	196	48
-	UNDISTRIBUTED	2	13	35	9
	TOTALS =	65	310	1,170	290

NOTE: HMA PAVEMENT TYPE E-1 QUANTITIES FOR DRIVEWAY (P.E.) CONSTRUCTION INCLUDED IN MAINLINE QUANTITIES.

CULVERT PIPE

STATION	LOCATION	520.3524 CULVERT PIPE CLASS III-B 24-INCH (LF)	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH (EA)	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH (EA)	650.6000 CONSTRUCTION STAKING PIPE CULVERTS (EA)
22+36	MAINLINE, LT.	-	1	-	1
52+00	NORTH WATER ST, LT.	34	-	2	1
52+50	NORTH WATER ST	44	-	2	1
	TOTAL =	78	1	4	3

MINIMUM STEEL THICKNESS = 0.064 INCHES
MINIMUM ALUMINUM THICKNESS = 0.075 INCHES

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 (SY)
50+65	NORTH WATER ST, LT.	10
50+80	NORTH WATER ST, RT.	10
	TOTALS =	20

CONCRETE SIDEWALK 5-INCH

STATION - STATION	LOCATION	602.0410 (SF)
11+00 - 15+57	MAINLINE, LT.	1884
21+81 - 26+45	MAINLINE, LT.	2266
	TOTALS =	4150

RECONSTRUCTING MANHOLE

STATION	LOCATION	*611.0420 (EACH)	EXISTING RIM ELEV.	PROPOSED RIM ELEV.
25+37	MAINLINE, LT.	1	737.00	744.35
	TOTALS =	1		

*CATEGORY 040

CONCRETE CURB & GUTTER

STATION - STATION	LOCATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D (LF)	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D (LF)	650.5500 CONSTRUCTION STAKING CURB & GUTTER (LF)
9+90 - 13+62	MAINLINE, LT.	371	-	371
13+62 - 14+41	MAINLINE, LT.	-	101	101
14+73 - 15+31	MAINLINE, LT.	-	92	92
15+31 - 15+58	MAINLINE, LT.	27	-	27
11+00 - 15+67	MAINLINE, RT.	467	-	467
21+83 - 26+05	MAINLINE, LT.	422	-	422
21+92 - 26+45	MAINLINE, RT.	453	-	453
26+05 - 26+39	MAINLINE, LT.	-	37	37
	TOTALS =	1740	230	1970

MGS GUARDRAIL

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
14+77 - 15+30	MAINLINE, RT.	-	-	1
15+30 - 15+68	MAINLINE, RT.	-	40	-
21+93 - 22+30	MAINLINE, RT.	-	40	-
22+30 - 23+67	MAINLINE, RT.	138	-	-
23+67 - 24+20	MAINLINE, RT.	-	-	1
	TOTALS =	138	80	2

RIPRAP HEAVY

STATION	LOCATION	*606.0300 RIPRAP HEAVY (CY)	*645.0120 GEOTEXTILE FABRIC TYPE HR (SY)
15+60	MAINLINE, LT.	6	18
22+00	MAINLINE, RT.	6	18
26+00	MAINLINE, RT.	3	12
52+50	MAINLINE, RT.	6	18
-	UNDISTRIBUTED	4	14
	TOTALS =	25	80

* MORE LISTED ELSEWHERE

INSULATION BOARD POLYSTYRENE, 4-INCH

STATION	LOCATION	612.0902.S INSULATION BOARD POLYSTYRENE, 4-INCH (SY)
25+19	MAINLINE, LT.	13
	TOTALS =	13

WATER

LOCATION	**624.0100 (MGAL)
PROJECT	33
TOTAL =	33

** QUANTITY FOR COMPACTION OF BID ITEM(S) 305.0110 AND 305.0120

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

FENCE CHAIN LINK 5-FT.

STATION	LOCATION	616.0205 (LF)
15+57	MAINLINE, LT.	20
21+81	MAINLINE, LT.	20
	TOTALS =	40

STORM SEWER PIPE

PIPE NUMBER	FROM STRUCTURE	TO STRUCTURE	INLET ELEVATION (FT)	DISCHARGE ELEVATION (FT)	% SLOPE	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	607.5000 STORM SEWER ROCK EXCAVATION C.Y.	REINFORCED CONCRETE PIPE CLASS III STORM 608.0312 12-INCH L.F.	REINFORCED CONCRETE PIPE CLASS III STORM 608.0324 24-INCH L.F.	REINFORCED CONCRETE PIPE CLASS IV STORM 608.0412 12-INCH L.F.	REINFORCED CONCRETE PIPE CLASS IV STORM 608.0424 24-INCH L.F.	INFORMATIONAL PURPOSES ONLY JOINT TIES (EACH)
P-1	INL 1.3	INL 1.4	744.81	744.74	1.00	-	-	0.5	10	-	-	-	-
P-2	INL 1.4	MH 1.0	744.64	744.43	1.38	-	-	1.0	-	-	17	-	-
P-3	INL 1.2	MH 1.0	744.64	744.43	1.38	-	-	1.0	-	-	17	-	-
P-4	INL 1.1	INL 1.2	744.81	744.74	1.00	-	-	0.5	10	-	-	-	-
P-5	MH 1.0	MH 3.0	744.33	743.74	0.21	-	-	15	-	-	-	284	-
P-6	INL 2.1	MH 2.0	747.18	746.98	1.38	-	-	-	17	-	-	-	-
P-7	MH 2.0	INL 2.2	743.16	742.95	1.38	-	-	4.0	-	17	-	-	-
P-8	INL 2.2	OUT 2.3	742.85	741.82	2.94	-	1	13	-	36	-	-	6
P-9	INL 3.2	INL 3.1	747.39	746.75	2.00	-	-	-	34	-	-	-	-
P-10	INL 3.1	OUT 3.3	746.65	736.50	26.03	1	-	-	40	-	-	-	6
P-11	INL 4.2	INL 4.1	740.29	739.69	2.20	-	-	-	30	-	-	-	-
P-12	INL 4.4	INL 4.3	741.39	741.15	3.43	-	-	-	10	-	-	-	-
P-13	INL 4.3	INL 4.2	741.05	740.39	2.00	-	-	-	34	-	-	-	-
P-14	INL 4.1	OUT 4.5	739.59	738.50	4.95	1	-	-	24	-	-	-	6
P-15	MH 3.0	MH 2.0	744.14	743.76	0.26	-	-	15	-	150	-	-	-
	PROJECT TOTALS					2	1	50	209	203	34	284	18

NOTES:
PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURES.
STORM SEWER ROCK EXCAVATION REQ'D FOR STORM SEWER STRUCTURES IS INCLUDED IN QUANTITY
USE CLASS B BEDDING IN AREAS OF STORM SEWER ROCK EXCAVATION

STORM SEWER STRUCTURES

STRUCTURE NUMBER	STATION	LOCATION	RIM ELEVATION (FT)	611.0535 MANHOLE COVERS TYPE J-S (EACH)	611.0639 INLET COVER TYPE H-S (EACH)	611.2004 MANHOLES 4-FT DIAM. (EACH)	611.3230 INLETS 2X3-FT (EACH)	STRUCTURE DEPTH (FT)	PIPE INVERT ELEVATION	DISCHARGE ELEVATION	650.4000 CONSTRUCTION STAKING STORM SEWER (EACH)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7015 INLET PROTECTION TYPE C (EACH)
INL 1.1	11+06.00	16.52', LT.	747.66	-	1	-	1	1.85	-	-	1	1	1
INL 1.2	11+16.00	16.52', LT.	747.71	-	1	-	1	2.07	-	-	1	1	1
INL 1.3	11+06.00	16.52', RT.	747.66	-	1	-	1	1.85	-	-	1	1	1
INL 1.4	11+16.00	16.52', RT.	747.71	-	1	-	1	2.07	-	-	1	1	1
INL 2.1	15+50.00	16.52', RT.	751.18	-	1	-	1	3.00	-	-	1	1	1
INL 2.2	15+50.00	16.52', LT.	751.18	-	1	-	1	7.33	-	-	1	1	1
INL 3.1	22+00.00	16.52', RT.	751.39	-	1	-	1	3.64	-	-	1	1	1
INL 3.2	22+00.00	16.52', LT.	751.39	-	1	-	1	3.00	-	-	1	1	1
INL 4.1	26+00.00	15.52', RT.	745.36	-	1	-	1	4.77	-	-	1	1	1
INL 4.2	25+70.00	16.52', RT.	745.38	-	1	-	1	4.09	-	-	1	1	1
INL 4.3	25+70.00	16.52', LT.	745.38	-	1	-	1	3.33	-	-	1	1	1
INL 4.4	25+60.00	16.52', LT.	745.41	-	1	-	1	3.02	-	-	1	1	1
MH 1.0	11+16.00	0.00'	748.06	1	-	1	-	2.48	-	-	1	-	-
MH 2.0	15+50.00	0.00'	751.53	1	-	1	-	7.12	-	-	1	-	-
MH 3.0	14+00.00	0.00'	749.52	1	-	1	-	4.63	-	-	1	-	-
OUT 2.3	15+60.00	54.00', LT.	-	-	-	-	-	-	741.82	741.77	1	-	-
OUT 3.3	22+00.00	58.00' RT.	-	-	-	-	-	-	736.50	736.45	1	-	-
OUT 4.5	26+00.00	37.00' RT.	-	-	-	-	-	-	738.50	738.45	1	-	-
-	26+85.00	14.00' RT.	-	-	-	-	-	-	-	-	-	-	1
PROJECT TOTALS				3	12	3	12				18	12	13

NOTES:
STATION AND OFFSET OF MANHOLE STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE.
STATION AND OFFSET OF INLET STRUCTURES ARE MEASURED TO FLANGE OF INLET.
ALL RIM ELEVATIONS ARE MEASURED TO THE FLANGE OF THE INLET.
STRUCTURE DEPTH (INLET) = RIM ELEVATION - INVERT LOWEST PIPE- 6 INCHES (RINGS) - 6 INCHES (CASTING HEIGHT).
STRUCTURE DEPTH (MANHOLE 4-FT DIAM.) = RIM ELEVATION - INVERT LOWEST PIPE- 6 INCHES (RINGS) - 9 INCHES (CASTING HEIGHT).

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 3
PLOT DATE : 10/14/2015
PLOT TIME : 2:59:54 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

3

FINISHING ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL (SY)	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0140 SEEDING MIXTURE NO. 40 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0300 SEEDING BORROW PIT (LB)
9+90 - 15+85	MAINLINE	1989	-	1,263	2	-	45	-	34	-
20+04 - 26+45	MAINLINE	2717	4,409	2,060	5	37	81	47	107	
50+16 - 53+50	NORTH WATER STREET	500	253	1,036	1	-	-	-	19	-
61+00 - 62+32.25	SOUTH WATER STREET REMOVAL	763	-	757	1	-	14	-	10	-
-	BORROW PIT	-	-	6300	4	-	-	-	-	85
-	UNDISTRIBUTED	1481	1138	2834	2	8	35	13	40	20
	TOTALS=	7,450	5,800	14,250	15	45	175	60	210	105

3

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
11+00 - 12+34	MAINLINE, RT.	125	625
14+75 - 15+15	MAINLINE, RT.	30	150
15+00 - 16+10	MAINLINE, LT.	160	800
20+00 - 20+35	MAINLINE, LT.	80	400
20+15 - 29+27	MAINLINE, RT.	735	3,675
50+50 - 53+10	NORTH WATER STREET, RT.	270	1,350
61+00 - 61+55	SOUTH WATER STREET, RT.	170	850
-	UNDISTRIBUTED	380	1,900
	TOTALS =	1,950	9,750

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
1643-08-81	8	7
TOTALS =	8	7

EROSION MAT

STATION - STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)
9+90 - 14+38	MAINLINE, LT.	-	1060
14+90 - 15+57	MAINLINE, LT.	150	45
20+34 - 26+23	MAINLINE, LT.	2984	-
21+57 - 26+45	MAINLINE, RT.	1882	-
21+81 - 26+45	MAINLINE, LT.	-	460
-	UNDISTRIBUTED	1234	385
	TOTALS =	6250	1950

TURBIDITY BARRIERS

STATION - STATION	LOCATION	628.6005 (SY)
15+99 - 16+40	MAINLINE	175
16+49 - 17+22	MAINLINE	175
-	UNDISTRIBUTED	50
	TOTALS =	400

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
13+00	MAINLINE, LT.	8
20+38	MAINLINE, RT.	20
20+46	MAINLINE, LT.	14
22+00	MAINLINE, LT.	18
24+00	MAINLINE, LT.	18
51+25	NORTH WATER STREET, LT.	8
53+00	NORTH WATER STREET, LT.	8
-	UNDISTRIBUTED	16
	TOTAL =	110

MARKERS ROW

POINT NO.	STATION	LOCATION	633.5100 (EACH)
100	11+39.77	MAINLINE, 49.88' LT.	1
101	11+84.63	MAINLINE, 49.92' LT.	1
102	11+84.60	MAINLINE, 79.92' LT.	1
103	14+14.62	MAINLINE, 80.12' LT.	1
104	51+50.00	NORTH WATER ST, 36.59' LT.	1
105	53+10.87	NORTH WATER ST, 26.85' LT.	1
106	52+93.00	NORTH WATER ST, 39.79' RT.	1
107	15+25.00	MAINLINE, 74.01' LT.	1
108	15+75.00	MAINLINE, 73.00' LT.	1
109	15+95.00	MAINLINE, 50.29' LT.	1
110	18+50.00	MAINLINE, 50.52' LT	1
111	18+50.00	MAINLINE, 49.48' RT	1
112	15+49.73	MAINLINE, 49.75' RT.	1
113	15+03.99	MAINLINE, 32.80' RT.	1
114	11+39.84	MAINLINE, 33.12' RT.	1
200	20+00.00	MAINLINE, 50.65' LT.	1
201	21+50.00	MAINLINE, 108.00' LT.	1
202	26+22.55	MAINLINE, 82.27' LT.	1
204	26+22.67	MAINLINE, 48.79' RT.	1
205	25+35.00	MAINLINE, 48.87' RT.	1
206	25+35.00	MAINLINE, 62.00' RT.	1
207	21+50.00	MAINLINE, 72.00' RT.	1
208	21+50.00	MAINLINE, 49.21' RT.	1
		TOTAL =	23

MARKERS CULVERT END

STATION	LOCATION	633.5200 (EACH)
15+60	MAINLINE, LT	1
22+00	MAINLINE, RT.	1
26+00	MAINLINE, RT.	1
52+50	NORTH WATER ST	2
	TOTAL =	5

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
26+42	MAINLINE, LT.	3
51+82	MAINLINE, LT.	3
52+50	MAINLINE, RT.	3
	TOTAL =	9

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 4
PLOT DATE : 10/13/2015
PLOT TIME : 1:13:04 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

3

PERMANENT SIGNING

SIGN NUMBER	APPROX. STATION	LOCATION	POSITION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE IN X IN	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	634.0614 POSTS WOOD 4X6-INCH 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH 18-FT (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	SIGN MOUNTED ON SAME POST AS
1-00R	9+75	Mainline	Right	R12-55	_Ton Bridge _ Miles Ahead	40-1/4	48X18	---	---	---	---	1	---	Existing J4-2 to remain
1-01	10+50	Mainline	Left	R7-1L	No Parking Any Time - Left Arrow		24X30	5.00	1	---	---	---	---	
1-02R	10+90	Mainline	Left	R7-1L	No Parking Any Time - Left Arrow		18X24	---	---	---	---	1	1	
1-03R	11+24	Mainline	Left	D1-3	Two Destinations (Arrows)	[Up Arrow] La Crosse	72X42	---	---	---	---	1	2	
						[Left Arrow] Soldiers Grove	---	---	---	---	---	---	---	
1-04	11+50	Mainline	Left	D1-3	Three Destinations (Arrows)	[Up Arrow] Viroqua	96X36	24.00	---	2	---	---	---	
						[Up Arrow] La Crosse	---	---	---	---	---	---	---	
						[Left Arrow] Soldiers Grove	---	---	---	---	---	---	---	
1-05	12+24	Mainline	Right	R2-1	Speed Limit _MPH	40	24X30	5.00	1	---	---	---	---	
1-06R	12+30	Mainline	Right	R2-1	Speed Limit _MPH	40	24X30	---	---	---	---	1	1	
1-07R	12+24	Mainline	Left	R2-1	Speed Limit _MPH	40	24X30	---	---	---	---	1	1	
1-08R	13+40	Mainline	Left	M3-3	Cardinal Direction Marker	SOUTH	24X12	---	---	---	---	1	2	
1-09R	13+40	Mainline	Left	M50-4	Route Marker Panel - (4 Faces)	61-131-14-61	96X24	---	---	---	---	1	---	1-08R
1-10R	13+40	Mainline	Left	M5-1L	Advance Turn Arrow	Left Arrow	21X21	---	---	---	---	1	---	1-08R
1-11R	13+40	Mainline	Left	M3-3	Cardinal Direction Marker	SOUTH	24X12	---	---	---	---	1	---	1-08R
1-12R	13+40	Mainline	Left	M5-1L	Advance Turn Arrow	Left Arrow	21X21	---	---	---	---	1	---	1-08R
1-13R	13+40	Mainline	Left	M3-4	Cardinal Direction Marker	WEST	24X12	---	---	---	---	1	---	1-08R
1-14R	13+40	Mainline	Left	M6-1	Directional Arrows	Up Arrow	21X21	---	---	---	---	1	---	1-08R
1-15R	13+40	Mainline	Left	M3-1	Cardinal Direction Marker	NORTH	24X12	---	---	---	---	1	---	1-08R
1-16R	13+40	Mainline	Left	M6-1	Directional Arrows	Up Arrow	21X21	---	---	---	---	1	---	1-08R
1-17	13+50	Mainline	Left	J2-4	Directional Assembly	SOUTH-SOUTH-WEST-NORTH	96X57	38.00	---	---	2	---	---	
						61-131-14-61	---	---	---	---	---	---	---	
						[Left Arrow]-[Left Arrow]-[Up Arrow]-[Up Arrow]	---	---	---	---	---	---	---	
1-18R	50+51	N. Water St.	Left	R1-1	Stop		30X30	---	---	---	---	1	1	
1-19	50+48	N. Water St.	Left	R1-1	Stop		30X30	5.18	1	---	---	---	---	
1-20	52+25	N. Water St.	Right	R2-1	Speed Limit _MPH	25	24X30	5.00	1	---	---	---	---	
1-21R	52+25	N. Water St.	Right	R2-1	Speed Limit _MPH	25	24X30	---	---	---	---	1	1	
1-22	15+48	Mainline	Left	J1-1	Junction Assembly	JCT	24X39	6.50	---	---	1	---	---	
						61	---	---	---	---	---	---	---	
1-23	15+48	Mainline	Right	I3-1	Lake or River Name	Kickapoo	36X21	5.25	---	1	---	---	---	
						River	---	---	---	---	---	---	---	
1-24R	62+03	S. Water St.	Right	R1-1	Stop		30X30	---	---	---	---	1	1	
1-25R	15+67	Mainline	Right	R12-1	Weight Limit _ Tons	40	24X30	---	---	---	---	1	1	
2-00R	16+03	Mainline	Left	W5-52L	Clearance Striper Down Right		12X36	---	---	---	---	1	1	
2-01R	16+05	Mainline	Right		No Snowmobile Crossing		24X24	---	---	---	---	1	1	
2-02R	16+05	Mainline	Right	I3-1	Lake or River Name	Kickapoo River	---	---	---	---	---	1	---	2-01R
2-03R	16+08	Mainline	Right	W5-52R	Clearance Striper Down Left		12X36	---	---	---	---	1	1	
2-04R	20+87	Mainline	Left	W5-52R	Clearance Striper Down Left		12X36	---	---	---	---	1	1	
2-05R	20+90	Mainline	Left		No Snowmobile Crossing		24X24	---	---	---	---	1	1	
2-06R	20+90	Mainline	Left	I3-1	Lake or River Name	Kickapoo River	---	---	---	---	---	1	---	2-05R
2-07R	21+02	Mainline	Left	M2-1	JCT		21X15	---	---	---	---	1	1	
2-08R	21+02	Mainline	Left	M1-4	USH Route Marker	61	24X24	---	---	---	---	1	---	2-07R
2-09R	21+16	Mainline	Left	R12-1	Weight Limit _ Tons	40	24X30	---	---	---	---	1	1	
2-10	22+00	Mainline	Left	I3-1	Lake or River Name	Kickapoo	36X21	5.25	---	1	---	---	---	
						River	---	---	---	---	---	---	---	
2-11R	20+87	Mainline	Right	W5-52L	Clearance Striper Down Right		12X36	---	---	---	---	1	1	
2-12R	21+22	Mainline	Right	J2-2	Directional Assembly	NORTH-EAST	48X57	---	---	---	---	1	1	
						131-14	---	---	---	---	---	---	---	
						[Left Arrow]-[Up Arrow]	---	---	---	---	---	---	---	
2-13	22+00	Mainline	Right	J2-2	Directional Assembly	NORTH-EAST	48X57	19.00	---	---	1	---	---	
						131-14	---	---	---	---	---	---	---	
						[Left Arrow]-[Up Arrow]	---	---	---	---	---	---	---	
						SUBTOTALS		118.18	4	4	4	30	20	

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 5
PLOT DATE : 7/27/2015
PLOT TIME : 10:59:09 AM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

PERMANENT SIGNING (CONTINUED)

SIGN NUMBER	APPROX. STATION	LOCATION	POSITION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE IN X IN	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	634.0614 POSTS WOOD 4X6-INCH 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH 18-FT (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	SIGN MOUNTED ON SAME POST AS
3-00R	22+33	Mainline	Left	I55-56	Adopt A Highway Sign	KICKAPOO	30X36	---	---	---	---	1	1	
						QUAKERS	---	---	---	---	---	---	---	
						KVMM.ORG	---	---	---	---	---	---	---	
3-01	23+00	Mainline	Left	I55-56	Adopt A Highway Sign	KICKAPOO	30X36	7.50	---	---	1	---	---	
						QUAKERS	---	---	---	---	---	---	---	
						KVMM.ORG	---	---	---	---	---	---	---	
3-02R	23+50	Mainline	Right	D1-3	Triple Destination/Arrows	[Up Arrow] Richland Center	72x42	---	---	---	---	1	2	
						[Up Arrow] Madison	---	---	---	---	---	---	---	
						[Left Arrow] Viola	---	---	---	---	---	---	---	
3-03	23+50	Mainline	Right	D1-3	Triple Destination/Arrows	[Up Arrow] Richland Center	102X36	25.50	---	---	2	---	---	
						[Up Arrow] Madison	---	---	---	---	---	---	---	
						[Left Arrow] Viola	---	---	---	---	---	---	---	
3-04R	23+71	Mainline	Left	R2-1	Speed Limit_MPH	40	24X30	---	---	---	---	1	1	
3-05	24+00	Mainline	Left	R2-1	Speed Limit_MPH	40	24X30	5.00	---	1	---	---	---	
3-06	25+50	Mainline	Left	J4-2	Reassurance Assembly	WEST-SOUTH	48X36	12.00	---	---	1	---	---	
						14-131		---	---	---	---	---	---	
3-07R	25+75	Mainline	Left	J4-2	Reassurance Assembly	WEST-SOUTH	48X36	---	---	---	---	1	1	
						14-131	---	---	---	---	---	---	---	
							---	---	---	---	---	---	---	
3-08R	25+75	Mainline	Left	R12-55	_Ton Bridge _ Miles Ahead	40-1/4	48X18	---	---	---	---	1	1	
						SUBTOTALS		50.00	0	1	4	5	6	
						TOTALS		168.18	4	5	8	35	26	

PAVEMENT MARKING

STATION - STATION	LOCATION	TYPE	PAVEMENT MARKING 646.0106 EPOXY 4-INCH (LF)	647.0566 STOP LINE EPOXY 18-INCH (LF)	647.0766 CROSSWALK EPOXY 6-INCH (LF)
9+90 - 14+01	MAINLINE, LT.	WHITE EDGELINE	411	-	-
10+72 - 26+45	MAINLINE, RT.	WHITE EDGELINE	1573	-	-
11+00 - 26+45	MAINLINE	DOUBLE YELLOW	3092	-	-
15+31 - 26+05	MAINLINE, LT.	WHITE EDGELINE	1074	-	-
50+23 - 50+29	NORTH WATER STREET	CROSSWALK	-	-	155
50+33	NORTH WATER STREET, LT.	STOP BAR	-	25	-
		TOTALS =	6,150	25	155

SAWING ASPHALT/SAWING CONCRETE

STATION - STATION	LOCATION	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
9+90 - 11+00	MAINLINE, LT.	-	125
10+72 - 11+00	MAINLINE, RT.	-	28
11+00	MAINLINE	-	25
26+45	MAINLINE	-	52
53+00	NORTH WATER STREET	20	-
61+00	SOUTH WATER STREET	25	-
	TOTALS =	45	230

LOCATING NO-PASSING ZONE

PROJECT	648.0100 (MI)	REMARKS
1643-08-81	1.00	40 MPH POSTED
TOTAL =	1.00	

CONSTRUCTION STAKING

STATION - STATION	LOCATION	CONSTRUCTION STAKING 650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	*650.6500 STRUCTURE LAYOUT (B-62-0045) (EACH)	**650.8500 ELECTRICAL INSTALLATIONS (1643-08-81) (LS)	650.9910 SUPPLEMENTAL CONTROL (1643-08-81) (LS)	650.9920 SLOPE STAKES (LF)	SPV.0060.05 CURB RAMP (EACH)	SPV.0090.01 SIDEWALK (LF)
9+90 - 15+85	MAINLINE	595	595	-	-	-	595	-	-
11+00 - 15+58	MAINLINE	-	-	-	-	-	-	-	383
14+07	MAINLINE, LT.	-	-	-	-	-	-	1	-
15+09	MAINLINE, LT.	-	-	-	-	-	-	1	-
21+66 - 26+45	MAINLINE	480	480	-	-	-	480	-	-
21+81 - 26+35	MAINLINE	-	-	-	-	-	-	-	457
26+21	MAINLINE, LT.	-	-	-	-	-	-	1	-
50+16 - 53+50	NORTH WATER STREET	285	285	-	-	-	333	-	-
61+00 - 62+32.25	SOUTH WATER STREET	-	-	-	-	-	132	-	-
-	PROJECT	-	-	1	1	1	-	-	-
	TOTALS =	1,360	1,360	1	1	1	1,540	3	840

*CATEGORY 020
** CATEGORY 030

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 6
PLOT DATE : 10/13/2015
PLOT TIME : 2:32:38 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

3

TRAFFIC CONTROL

	LOCATION	* 643.0300 DRUMS (DAYS)	* 643.0420 BARRICADES TYPE III (DAYS)	* 643.0705 WARNING LIGHTS TYPE A (DAYS)	* 643.0715 WARNING LIGHTS TYPE C (DAYS)	*643.0900 SIGNS (DAYS)	*643.0920 COVERING SIGNS TYPE II (EACH)	NO. OF CYCLES (COVER/ UNCOVER)	*643.1050 SIGNS PCMS (DAYS)	*643.3000 DETOUR SIGNS (DAYS)	COMMENT
	CITY OF RICHLAND CENTER (USH 14/STH 80) - NORTH										
DETAIL A	USH 14 (W.B.)	--	--	--	--	--	--	--	--	344	(1 EA.) MO4-8; MO5-1R
DETAIL A	USH 14 (W.B.)	--	--	--	--	--	--	--	--	344	(1 EA.) MO4-8; MO6-1R
DETAIL A	USH 14 (W.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R11-3, 23 MILES
DETAIL A	USH 14 (W.B.)	--	--	--	--	--	1	1	--	--	COVER J1-1 (WEST, 14)
DETAIL A	STH 80 (N.B.)	--	--	--	--	--	3	1	--	--	COVER TRUCK ROUTE, ARROWS, AND GUIDANCE
DETAIL A	USH 14 (W.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R10-61 (MOD.), NO ACCESS TO STH 131 SOUTH
DETAIL A	STH 80 (N.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8; M3-4; M1-4
DETAIL A	STH 80 (S.B.)	--	--	--	--	--	1	1	--	--	COVER TRUCK ROUTE TO HWY 14 WEST
DETAIL A	6TH ST (E.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO6-1L
	CITY OF RICHLAND CENTER (USH 14/STH 80) - SOUTH										
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) M3-4; M1-4; W20-2, AHEAD
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	--	--	--	344	(1 EA.) MO4-8; M05-1R
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	3	1	--	--	OVERLAY TRUCK ROUTE ARROWS AND READSTOWN DIRECTION ARROW
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO6-1R
DETAIL B	USH 14 (E.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8A; M3-4; M1-4
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	--	--	14	--	PLACE TWO WEEKS BEFORE CLOSURE
DETAIL B	USH 14 (W.B.)	--	--	--	--	--	1	1	--	--	COVER J1-1 (WEST, 14)
DETAIL B	STH 80 (N.B.)	--	--	--	--	--	--	--	--	344	(1 EA.) MO4-8; MO6-1
DETAIL B	STH 80 (N.B.)	--	--	--	--	--	--	--	--	344	(1 EA.) MO4-8; MO6-1
DETAIL B	STH 80 (S.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8A; M3-2; M1-4
DETAIL B	STH 80 (S.B.)	--	--	--	--	--	1	1	--	172	COVER PORTION OF J2-2 (WEST, 14, RIGHT ARROW)
DETAIL B	STH 80 (S.B.)	--	--	--	--	--	1	1	--	--	COVER PORTION OF J2-3 (WEST, 14, ADVANCE RIGHT ARROW)
DETAIL B	USH 14 (W.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R11-3, 24 MILES
DETAIL B	USH 14 (W.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R10-61 (MOD.), NO ACCESS TO STH 131 SOUTH
	TOWN OF ROCKBRIDGE (STH 80/STH 56)										
DETAIL C	STH 80 (S.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8; M3-2; M1-4
DETAIL C	STH 80 (N.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO5-1L
DETAIL C	STH 80 (N.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO6-1L
DETAIL C	STH 80 (S.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO6-1R
DETAIL C	STH 80 (S.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO5-1R
DETAIL C	STH 80 (S.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) M3-4; M1-4; W20-2, AHEAD
DETAIL C	STH 56 (E.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-2; M1-4; MO6-1R
DETAIL C	STH 56 (W.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8; M3-4; M1-4
DETAIL C	STH 56 (E.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-2; M1-4; MO5-1R
	VILLAGE OF VIOLA (STH 56/STH 131)										
DETAIL D	STH 131 (N.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-3; M1-6; MO5-1L
DETAIL D	STH 131 (S.B.)	--	--	--	--	--	--	--	14	--	PLACE TWO WEEKS BEFORE CLOSURE
DETAIL D	STH 131 (S.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R11-3, 7 MILES
DETAIL D	STH 131 (S.B.)	--	172	344	--	--	--	--	--	172	(1 EA.) R10-61 (MOD.), NO ACCESS TO USH 14 WEST
DETAIL D	STH 131 (N.B.)	--	--	--	--	--	--	--	--	2064	(1 EA.) MO4-8; M3-4; M1-4; MO6-1L (1 EA.) MO4-8; M3-3; M1-6; MO6-1L (1 EA.) MO4-8; M3-2; M1-4; MO6-1R
DETAIL D	STH 131 (N.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8A; M3-1; M1-6
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	1	1	--	--	COVER J1-1 (JCT, 131)
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	1	1	--	--	COVER PORTION OF D1-3 (READSTOWN, RIGHT ARROW)
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	-	-	--	1032	(1 EA.) MO4-8; M3-4; M1-4 (1 EA.) MO4-8; M3-3; M1-6
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	1	1	--	172	COVER PORTION OF J2-3 (SOUTH, 131, RIGHT ARROW); (1 EA.) MO4-8A
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	1032	(1 EA.) MO4-8; MO6-1 (1 EA.) MO4-8; M3-4; M1-4; MO6-1
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8, M3-2, M1-4, MO6-1R
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	1032	(1 EA.) MO4-8; MO6-1 (1 EA.) MO4-8; M3-4; M1-4; MO6-1
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8, M3-2, M1-4, MO6-1
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8; M3-4; M1-4
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) M3-3; M1-6; W20-2, AHEAD
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO6-1L
DETAIL D	STH 56 (E.B.)	--	--	--	--	--	--	--	--	516	(1 EA.) MO4-8; M3-2; M1-4
DETAIL D	STH 56 (W.B.)	--	--	--	--	--	--	--	--	688	(1 EA.) MO4-8; M3-4; M1-4; MO5-1L
	SUBTOTALS =	0	1032	2064	0	0	14	10	28	22876	

* MORE LISTED ELSEWHERE

3

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 7
PLOT DATE : 10/15/2015
PLOT TIME : 10:41:28 AM
PLOT BY : GABBEY, MICHAELIS
PLOT SCALE : 1" = 1'

TRAFFIC CONTROL CONT.

	LOCATION	✱643.0300 DRUMS (DAYS)	✱643.0420 BARRICADES TYPE III (DAYS)	✱643.0705 WARNING LIGHTS TYPE A (DAYS)	✱643.0715 WARNING LIGHTS TYPE C (DAYS)	✱643.0900 SIGNS (DAYS)	✱643.0920 COVERING SIGNS TYPE II (EACH)	NO. OF CYCLES (COVER/ UNCOVER)	✱643.1050 SIGNS PCMS (DAYS)	✱643.3000 DETOUR SIGNS (DAYS)	COMMENT
											CITY OF VIROQUA (USH 14/USH 61/STH 56)
DETAIL E	STH 56 (E.B.)	–	–	–	–	–	–	–	–	860	(1 EA.) M3-2; M1-4; M3-1; M1-6; W20-2, AHEAD
	STH 56 (E.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO6-1 (1 EA.) MO4-8; M3-1; M1-6; MO6-1
	STH 56 (E.B.)	–	–	–	–	–	1	1	–	–	OVERLAY MADISON DIRECTION ARROW
	STH 56 (E.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO6-1 (1 EA.) MO4-8; M3-1; M1-6; MO6-1
	STH 56 (E.B.)	–	–	–	–	–	–	–	–	172	(1 EA.) MO6-6
	STH 56 (W.B.)	–	–	–	–	–	–	–	–	344	(1 EA.) MO4-8A; MO6-1R
	STH 56 (W.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-3; M1-6; MO6-1L
	STH 56 (E.B.)	–	–	–	–	–	–	–	–	1032	(1 EA.) MO4-8; M3-2; M1-4 (1 EA.) MO4-8; M3-1; M1-6
	STH 56 (W.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-3; M1-6; MO5-1L
	USH 14/61 (N.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO5-1R (1 EA.) MO4-8; M3-1; M1-6; MO5-1R
	USH 14/61 (S.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF J13-1 (EAST, 14)
	USH 14/61 (N.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO6-1R (1 EA.) MO4-8; M3-1; M1-6; MO6-1R
	USH 14/61 (S.B.)	–	172	344	–	–	–	–	–	172	(1 EA.) R11-3, 11 MILES
	USH 14/61 (S.B.)	–	172	344	–	–	–	–	–	344	(1 EA.) R10-61 (MOD.), NO ACCESS TO USH 14 EAST; NO ACCESS TO STH 131 NORTH
	USH 14 (E.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO6-1L (1 EA.) MO4-8; M3-1; M1-6; MO6-1L
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	516	(1 EA.) MO4-8A; M3-4; M1-4
	USH 14 (E.B.)	–	–	–	–	–	–	–	14	–	PLACE TWO WEEKS BEFORE CLOSURE
	USH 14 (E.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-1; M1-6; MO5-1L
	USH 14 (E.B.)	–	–	–	–	–	–	–	–	344	(1 EA.) MO4-8; MO5-1L
	USH 14 (E.B.)	–	–	–	–	–	–	–	–	860	(1 EA.) M3-2; M1-4; M3-1; M1-6; W20-2, AHEAD
											TOWN OF FRANKLIN (USH 14/STH 27)
DETAIL F	STH 27 (N.B.)	–	–	–	–	–	1	1	–	–	OVERLAY MADISON DIRECTION ARROW
	STH 27 (N.B.)	–	–	–	–	–	–	–	–	1376	(1 EA.) MO4-8; M3-2; M1-4; MO5-1L (1 EA.) MO4-8; M3-1; M1-6; MO5-1L
	STH 27 (N.B.)	–	–	–	–	–	–	–	–	344	(1 EA.) MO4-8; MO6-1L
	STH 27 (N.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-1; M1-6; MO6-1L
	USH 14 (E.B.)	–	172	344	–	–	–	–	–	172	(1 EA.) R11-3, 8 MILES
	USH 14 (E.B.)	–	172	344	–	–	–	–	–	172	(1 EA.) R10-61 (MOD.), NO ACCESS TO STH 131 NORTH
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	1032	(1 EA.) MO4-8; M3-2; M1-4 (1 EA.) MO4-8; M3-1; M1-6
											VILLAGE OF READSTOWN (USH 14/USH 61/STH 131)
DETAIL G	USH 61/STH 131 (N.B.)	–	–	–	–	–	–	–	14	–	PLACE TWO WEEKS BEFORE CLOSURE
	USH 61/STH 131 (N.B.)	–	–	–	–	–	–	–	–	860	(1 EA.) M3-2; M1-4; M3-1; M1-6; W20-2, AHEAD
	USH 61/STH 131 (N.B.)	–	–	–	–	–	–	–	–	344	(1 EA.) MO4-8; MO5-1L
	USH 61/STH 131 (N.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-2; M1-4; MO5-1L
	USH 61/STH 131 (N.B.)	–	–	–	–	–	1	1	–	–	OVERLAY VIOLA, MADISON DIRECTION ARROW
	USH 61/STH 131 (S.B.)	–	–	–	–	–	–	–	–	516	(1 EA.) MO4-8A; M3-3; M1-6
	USH 61/STH 131 (N.B.)	–	–	–	–	–	–	–	–	688	(2 EA.) MO4-8; MO6-1L
	STH 131 (S.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF J3-3 (WEST, 14, SOUTH, 131)
	STH 131 (N.B.)	–	–	–	–	–	–	–	–	1032	(1 EA.) MO4-8; M3-4; M1-4 (1 EA.) MO4-8; M3-3; M1-6
	STH 131 (S.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF D1-3 (SOLDIERS GROVE, VIROQUA, RIGHT ARROW)
	STH 131 (S.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF J2-1 (ADVANCE RIGHT ARROW)
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	516	(1 EA.) M3-3; M1-6; W20-2, AHEAD
	USH 14 (W.B.)	–	–	–	–	–	–	–	14	–	PLACE TWO WEEKS BEFORE CLOSURE
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	688	(2 EA.) MO4-8; MO5-1R
	USH 14 (W.B.)	–	–	–	–	–	1	1	–	–	OVERLAY SOLDIERS GROVE, MADISON DIRECTION ARROW
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	344	(1 EA.) MO4-8; MO6-1R
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	688	(1 EA.) MO4-8; M3-4; M1-6; MO6-1R
	USH 14 (E.B.)	–	–	–	–	–	1	1	–	172	(1 EA.) MO4-8A; COVER PORTION OF J3-3 (NORTH, 131, UP ARROW)
	USH 14 (W.B.)	–	–	–	–	–	–	–	–	1032	(1 EA.) MO4-8; M3-2; M1-4 (1 EA.) MO4-8; M3-1; M1-6
	USH 14 (E.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF D1-3 (VIOLA, MADISON, UP ARROW)
	USH 14 (E.B.)	–	–	–	–	–	1	1	–	–	COVER PORTION OF J2-4 (EAST, 14, UP ARROW; NORTH, 131, UP ARROW)
	USH 14 (E.B.)	–	–	–	–	–	–	–	14	–	PLACE TWO WEEKS BEFORE CLOSURE
DETAIL H	STH 131 (N.B.)	–	–	–	–	–	–	–	14	–	PLACE TWO WEEKS PRIOR TO CLOSURE
	STH 131 (N.B.)	–	–	–	–	–	–	–	–	172	W20-2, AHEAD
	STH 131 (N.B.)	–	172	344	–	–	–	–	–	172	(1 EA.) R11-3, 4 MILES
	STAGE 1 LOCAL DETOUR	84	56	70	84	28	–	–	–	42	(6) BARRELS; (4) BARRICADES; (5) TYPE A LIGHTS; (6) TYPE C LIGHTS; (2) R1-1; (2) W20-1; (1) R11-2B
	STAGE 2 LOCAL DETOUR	948	632	790	948	316	–	–	–	474	(6) BARRELS; (4) BARRICADES; (5) TYPE A LIGHTS; (6) TYPE C LIGHTS; (2) R1-1; (2) W20-1; (1) R11-2B
	MAINLINE CLOSURE	–	860	1032	–	–	–	–	–	688	SEE STANDARD DETAIL, BARRICADES AND SIGNS FOR MAINLINE CLOSURES
	MAINLINE CLOSURE	–	860	1032	–	–	–	–	–	688	SEE STANDARD DETAIL, BARRICADES AND SIGNS FOR MAINLINE CLOSURES
	SUBTOTALS =	1032	3268	4644	1032	344	11	11	70	27176	
	PROJECT TOTALS =	1032	4300	6708	1032	344	25	21	98	50052	

*NOTE: MORE LISTED ELSEWHERE

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LAYOUT 7.5
PLOT DATE : 10/15/2015
PLOT TIME : 10:42:22 AM
PLOT BY : GABBEY, MICHAELIS
PLOT SCALE : 1" = 1'

NOTE: ALL LIGHTING ITEMS ARE CATEGORY 030 UNLESS OTHERWISE NOTED

GENERAL NOTES:
1. FINAL LOCATIONS OF ALL LIGHTING STRUCTURES SHALL BE DETERMINED BY OWNER IN FIELD.
2. CONTRACTOR SHALL OBTAIN 60 AMP, 1 PHASE, 120/240 VOLT UNDERGROUND SERVICE TO THE CONTROLLER FROM THE UTILITY.

LIGHTING CONTROL CABINET
659.2130
LIGHTING CONTROL CABINETS 120/240 30-INCH

STATION	OFFSET	EA	NOTES
HIGHWAY 14 - READSTOWN			
26+41	63.5' LT.	1	60A, 120/240 V SERVICE
TOTAL		**1**	

PULL BOXES
653.0135
24X36 STEEL PULL BOXES

PB NO.	STATION	OFFSET	EA	NOTES
HIGHWAY 14 - READSTOWN				
PB-1	14+20	42.1' LT	1	---
PB-2	15+03	43.7' LT	1	---
PB-3	21+94	31.0' LT	1	---
PB-4	26+21	31.0' LT	1	---
TOTAL			**4**	

JUNCTION BOXES
653.0222
18X12X6 JUNCTION BOXES

PB NO.	STATION	OFFSET	EA	NOTES
HIGHWAY 14 - READSTOWN				
JB-1	15+84.21	26.4' LT	1	---
JB-2	16+94.58	26.4' LT	1	---
JB-3	18+10.58	26.4' LT	1	---
JB-4	19+26.58	26.4' LT	1	---
JB-5	20+42.58	26.4' LT	1	---
JB-6	21+52.96	26.4' LT	1	---
TOTAL			**6**	

CONCRETE CONTROL CABINET BASE
654.0200
CONCRETE CONTROL CABINET BASE TYPE 6

STATION	OFFSET	EA	NOTES
HIGHWAY 14 - READSTOWN			
26+41	63.5' LT	1	---
TOTAL		**1**	

ELECTRIC SERVICE METER BREAKER PEDESTAL
656.0200
ELECTRIC SERVICE METER BREAKER PEDESTAL

STATION	OFFSET	EA	NOTES
HIGHWAY 14 - READSTOWN			
26+41	63.5' LT	1	---
TOTAL		**1**	

LUMINAIRES, ARMS, TENONS, AND POLES

STATION	OFFSET	ITEM	SPV.0060.01 POLE TYPE 5 - 12.5 FOOT EA	SPV.0060.02 POLE TYPE 5 - 25 FOOT EA	SPV.0060.03 LUMINAIRE UTILITY LED A 700mA 36W EA	SPV.0060.04 LUMINAIRE UTILITY LED B 700mA 105W EA	NOTES
HIGHWAY 14 - READSTOWN							
12+24	31.0 L	LP-1	---	1	---	1	---
14+14	31.0 L	LP-2	---	1	---	1	---
15+84.21	26.4 L	LP-3	1	---	1	---	---
16+94.58	26.4 L	LP-4	1	---	1	---	---
18+10.58	26.4 L	LP-5	1	---	1	---	---
19+26.58	26.4 L	LP-6	1	---	1	---	---
20+42.58	26.4 L	LP-7	1	---	1	---	---
21.52.96	26.4 L	LP-8	1	---	1	---	---
23+08	31.0 L	LP-9	---	1	---	1	---
24+98	31.0 L	LP-10	---	1	---	1	---
TOTAL			**6**	**4**	**6**	**4**	

ELECTRICAL WIRE LIGHTING

FROM	TO	WIRE LENGTH VERTICAL LENGTH	SLACK AND RISER ALLOWANCE	WIRE LENGTH LF	12 AWG 655.0610 NO.	12 AWG 655.0610 TOTAL (LF)	WIRE LENGTH HORIZONTAL LENGTH	SLACK AND RISER ALLOWANCE	TOTAL WIRE LENGTH LF	10 AWG 655.0615 NO	10 AWG 655.0615 TOTAL (LF)	NOTES
HIGHWAY 14 - READSTOWN - CIRCUIT 4,6												
DC	PB-4	0	0	0	0	0	40	10	50	3	150	---
PB-4	LP9	31	6	37	3	111	313	10	323	3	969	---
LP9	PB-3	0	0	0	0	0	114	10	124	3	372	---
PB-3	LP7	15	6	21	3	63	151	10	161	3	483	---
LP7	LP5	15	6	21	3	63	232	10	242	3	726	---
LP5	LP3	15	6	21	3	63	226	10	236	3	708	---
LP3	PB-2	0	0	0	0	0	84	10	94	3	282	---
PB-2	PB-1	0	0	0	0	0	83	10	93	3	279	---
PB-1	LP1	31	6	37	3	111	198	10	208	3	624	
HIGHWAY 14 - READSTOWN - CIRCUIT 8,10												
DC	PB-4	0	0	0	0	0	40	10	50	3	150	---
PB-4	LP10	31	6	37	3	111	123	10	133	3	399	---
LP10	PB-3	0	0	0	0	0	305	10	315	3	945	---
PB-3	LP8	15	6	21	3	63	41	10	51	3	153	---
LP8	LP6	15	6	21	3	63	226	10	236	3	708	---
LP6	LP4	15	6	21	3	63	232	10	242	3	726	---
LP4	PB-2	0	0	0	0	0	195	10	205	3	615	---
PB-2	PB-1	0	0	0	0	0	83	10	93	3	279	---
PB-1	LP2	31	6	37	3	111	13	10	23	3	69	---
TOTAL						**822**					**8,637**	

CONDUIT RIGID METALLIC, 2-INCH
652.0125

STATION - STATION	LOCATION	LF	DESCRIPTION
15+30 - 15+39	MAINLINE, LT.	9	EXPANSION JOINT
21+62 - 21+71	MAINLINE, LT.	9	EXPANSION JOINT
TOTAL		**18**	

CONDUIT RIGID NONMETALLIC SCHEDULE 40

FROM	TO	652.0225 2-INCH LF	652.0235 3-INCH LF	NOTES
HIGHWAY 14 - READSTOWN				
DC	PB-4	---	70	---
PB-4	LP10	135	---	---
LP10	LP9	200	---	---
LP9	PB-3	127	---	---
PB-3	LP8	52	---	---
LP8	LP7	120	---	---
LP7	LP6	126	---	---
LP6	LP5	126	---	---
LP5	LP4	126	---	---
LP4	LP3	126	---	---
LP3	PB-2	95	---	---
PB-2	PB-1	---	95	---
PB-1	LP2	24	---	---
PB-1	LP10	207	---	---
TOTAL		**840**	**165**	

CONCRETE POLE BASES
654.0105
CONCRETE BASES TYPE 5

STATION	OFFSET	ITEM	EA	NOTES
HIGHWAY 14 - READSTOWN				
12+24	31.0' LT	LP-1	1	---
14+14	31.0' LT	LP-2	1	---
15+84.21	26.4' LT	LP-3	---	anchor bolts and conduit only
16+94.58	26.4' LT	LP-4	---	anchor bolts and conduit only
18+10.58	26.4' LT	LP-5	---	anchor bolts and conduit only
19+26.58	26.4' LT	LP-6	---	anchor bolts and conduit only
20+42.58	26.4' LT	LP-7	---	anchor bolts and conduit only
21.52.96	26.4' LT	LP-8	---	anchor bolts and conduit only
23+08	31.0' LT	LP-9	1	---
24+98	31.0' LT	LP-10	1	---
TOTAL			**4**	

TOTAL LIGHTING QUANTITIES

DESCRIPTION		ITEM NUMBER	UNIT	QUANTITY
CONDUIT RIGID METALLIC, 2-INCH	*	652.0125	LF	30
CONDUIT RIGID NONMETALLIC SCHEDULE 40, 2-INCH	*	652.0225	LF	840
CONDUIT RIGID NONMETALLIC SCHEDULE 40, 3-INCH	*	652.0235	LF	165
24x36 STEEL PULL BOXES	*	653.0135	EA	4
18X12X6 JUNCTION BOXES	*	653.0222	EA	6
CONCRETE BASES TYPE 5	*	654.0105	EA	4
CONCRETE CONTROL CABINET BASE TYPE 6	*	654.0200	EA	1
ELECTRICAL WIRE LIGHTING 12 AWG	*	655.0610	LF	822
ELECTRICAL WIRE LIGHTING 10 AWG	*	655.0615	LF	8,637
ELECTRIC SERVICE METER BREAKER PEDESTAL	*	656.0200	LS	1
LIGHTING CONTROL CABINETS 120/240 30-INCH	*	659.2130	EA	1
POLE TYPE 5 - 12.5 FOOT	*	SPV.0060.01	EA	6
POLE TYPE 5 - 25 FOOT	*	SPV.0060.02	EA	4
LUMINAIRE UTILITY LED A 700mA 36W	*	SPV.0060.03	EA	6
LUMINAIRE UTILITY LED B 700mA 105W	*	SPV.0060.04	EA	4

*CATEGORY 030

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\MISC.QUANTITIES.DWG
LAYOUT : LIGHTING MQ 1
PLOT DATE : 10/13/2015
PLOT TIME : 2:36:18 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

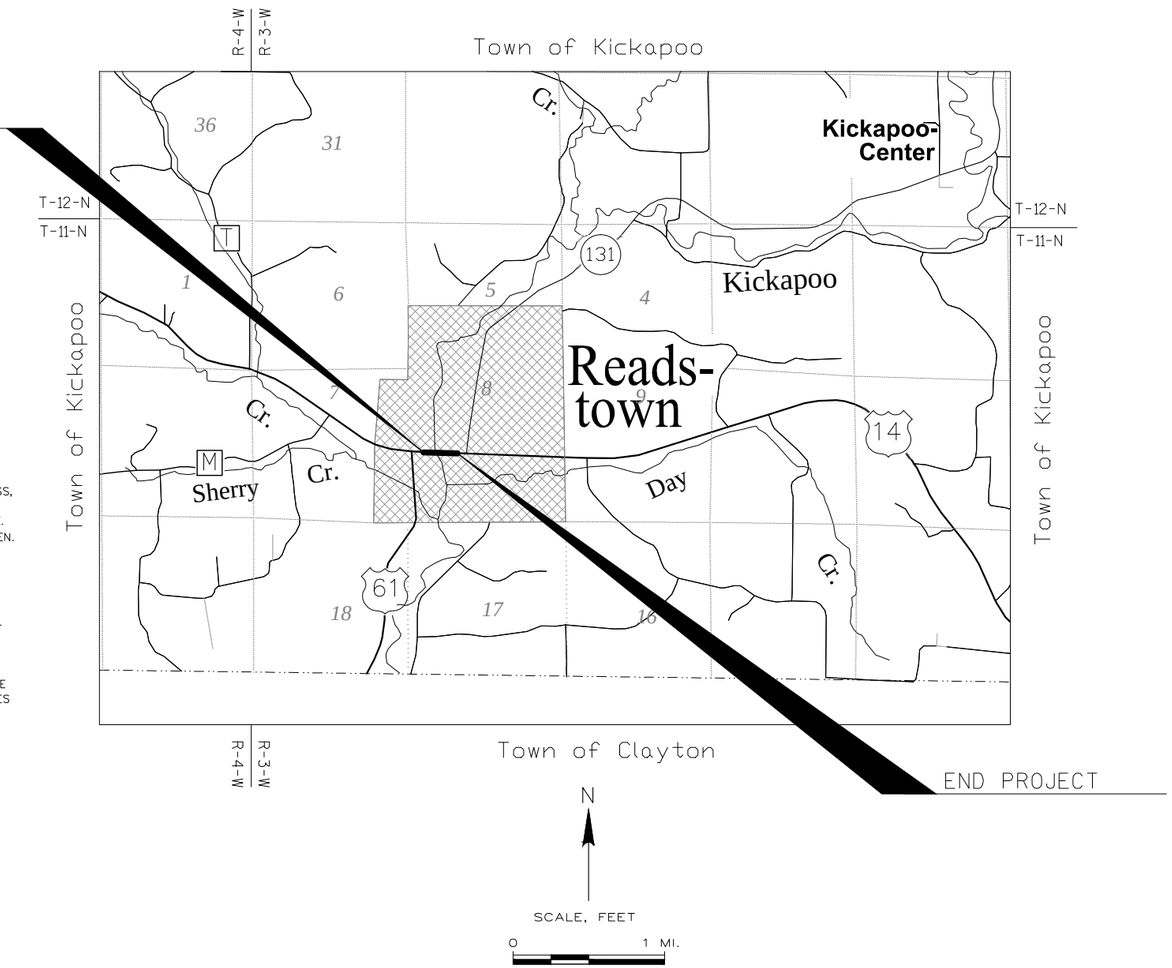
TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT NO. 1643-08-22

WESTBY - READSTOWN

(KICKAPOO RIVER BRIDGE B-62-0005)

USH 14
VERNON COUNTY



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, VERNON COUNTY, NAD 83 (2007) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 14 ESTABLISHED FROM PREVIOUS PROJECTS F08-2(15), T08-2(26), T014-1(5), 1643-08-23, 1647-05-21.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLE'S EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A **PERMANENT LIMITED EASEMENT** (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIREABLE.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	SOUTHEAST	SE
CERTIFIED SURVEY MAP	CSM	SOUTHWEST	SW
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC	**CURVE DATA**	
LIFE ESTATE	LE	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
NORTHEAST	NE	RADIUS	R
NORTHWEST	NW	DEGREE OF CURVE	D
PAGE	P.	CENTRAL ANGLE OR DELTA	DELTA
PERMANENT LIMITED EASEMENT	PLE	LENGTH OF CURVE	L
PROPERTY LINE	PL	TANGENT	TAN
RECORDED AS	(100')	POINT OF CURVATURE	PC
REFERENCE LINE	R/L	POINT OF INTERSECTION	PI
		POINT OF TANGENCY	PT

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	(1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W POINT, TO BE MONUMENTED		PROPERTY LINE	
R/W POINT, NON-MONUMENTED	°	LOT & TIE LINES	
R/W STANDARD	(SET)	SLOPE INTERCEPTS	
SIGN	ISIGN	CORPORATE LIMITS	
SECTION CORNER MONUMENT		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
SECTION CORNER SYMBOL		NO ACCESS (BY ACQUISITION)	
FEE (HATCH VARIES)		NO ACCESS (BY STATUTORY AUTHORITY)	
TEMPORARY LIMITED EASEMENT		SECTION LINE	
PERMANENT LIMITED EASEMENT		QUARTER LINE	
R/W BOUNDARY POINT	RWB20	SIXTEENTH LINE	
PARCEL NUMBER	102	EXISTING CENTERLINE	
UTILITY PARCEL NUMBER	92	PROPOSED REFERENCE LINE	
SIGN NUMBER (OFF PREMISE)	21-1	PARALLEL OFFSET	
BUILDING			
BUILDING TO BE REMOVED			

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES ELECTRIC	OH	
	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		

HIGHWAY DESIGNATIONS

COUNTY TRUNK HIGHWAY =
INTERSTATE HIGHWAY =
STATE TRUNK HIGHWAY =
UNITED STATES HIGHWAY =

APPRAISAL PLAT DATE:

TITLE

TRANSPORTATION PROJECT PLAT NO: 1643-08-22 - 4.01 AMENDMENT NO. 1
ADDS UTILITY NUMBER 202 to TRANSPORTATION PROJECT PLAT 1643-08-22 - 4.01 RECORDED AS DOCUMENT NUMBER 485318.

PART OF LOTS 6, 7, 8, 9, AND 10 OF BLOCK 3, PART OF LOT 2 OF BLOCK 2, AND PART OF LOT 1 OF BLOCK 1, ALL LOCATED IN THE ORIGINAL PLAT OF THE VILLAGE OF READSTOWN, WEST SIDE OF THE KICKAPOO RIVER, AND ALSO PART OF OUTLOT 60 AND OUTLOT 61 OF THE ASSESSOR'S PLAT OF THE VILLAGE OF READSTOWN, ALL BEING IN SECTION 8, TOWN 11 NORTH, RANGE 3 WEST, VILLAGE OF READSTOWN, VERNON COUNTY, WISCONSIN.

RELOCATION ORDER USH 14, WESTBY–READSTOWN, VERNON COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.30, AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

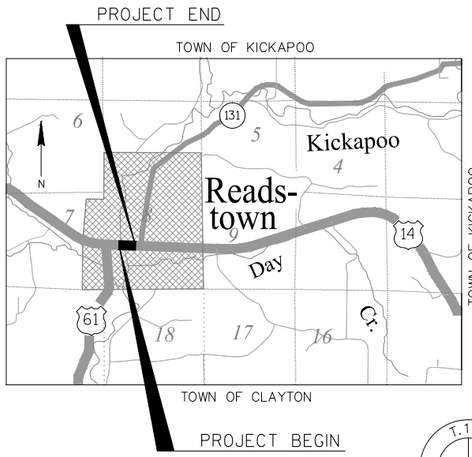
FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT 1643-08-22-4.01, RECORDED AS DOCUMENT # 485318 AND FILED IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY.

DOCUMENT # 487657
ACCEPTED FOR RECORDING IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY, WISCONSIN AT 8:30 A.M. ON JUNE 9TH, 2015 FILED IN 2CAB, 2-2

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1643-08-22-4.01
AMENDMENT NO. 1

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
202	MADISON GAS & ELECTRIC	RELEASE OF RIGHTS



SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	R/W ACRES REQUIRED EXISTING	R/W ACRES REQUIRED TOTAL	T.L.E. ACRES
1	MICHAEL S. LEPKE	FEE	0.02	--	0.02	0.05
2	MICHAEL S. LEPKE	TLE	--	--	--	0.02
3	WAYNE C. NELSON	TLE	--	--	--	0.02
4	VERA J. NELSON TRUST	TLE	--	--	--	0.03
5	VILLAGE OF READSTOWN	HE, TLE	0.04(HE)	--	0.04(HE)	0.08

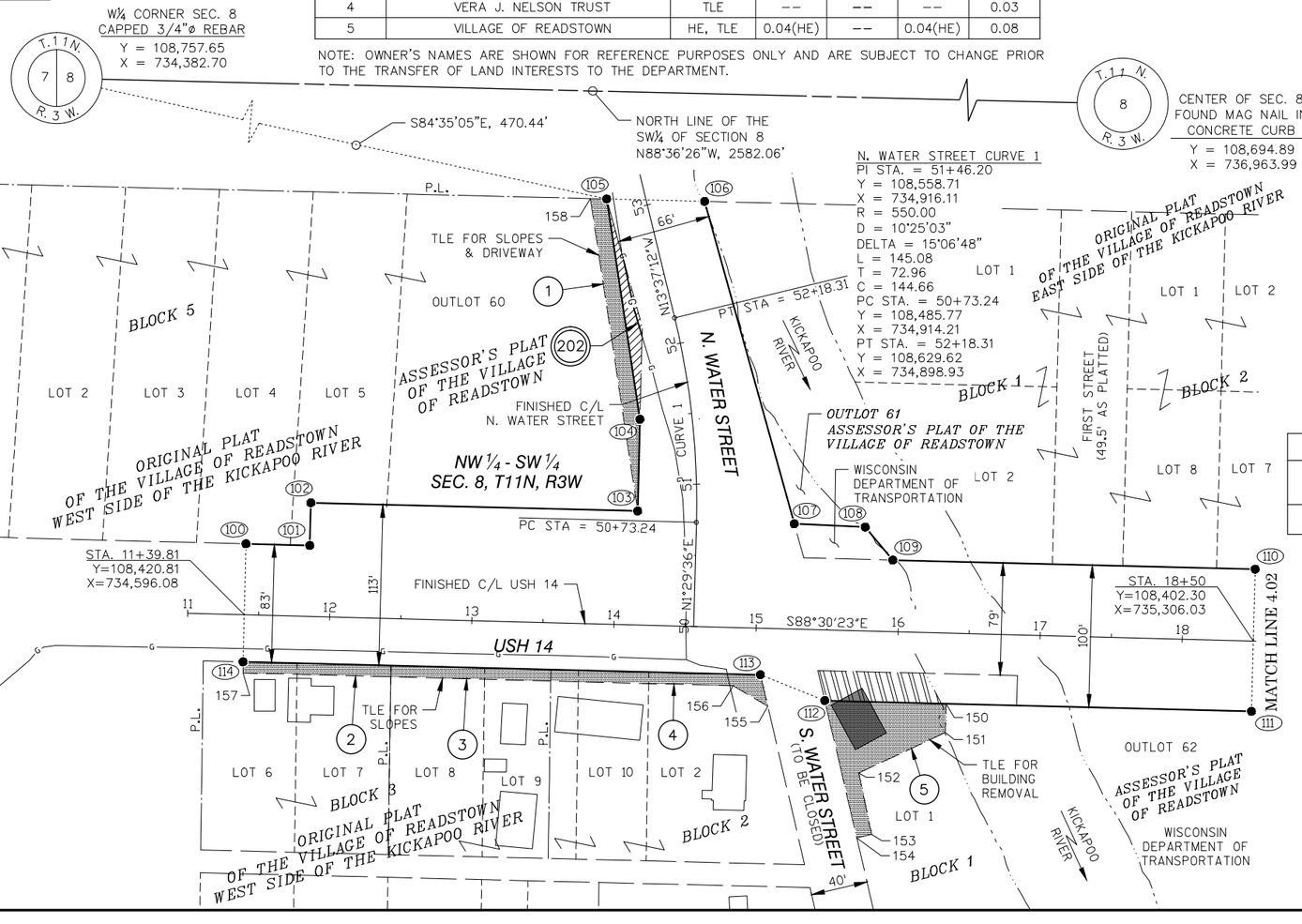
NOTE: OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

COORDINATE TABLE – R/W POINTS				
PT.#	STATION	OFFSET	Y	X
100	11+39.77	49.88 LT	108470.67	734597.34
101	11+84.63	49.92 LT	108469.54	734642.18
102	11+84.60	79.92 LT	108499.53	734642.94
103	14+14.62	80.12 LT	108493.74	734872.87
104	51+50.00	36.59 LT	108558.26	734874.50
105	53+10.87	26.85 LT	108713.25	734851.04
106	52+93.00	39.79 RT	108711.58	734920.01
107	15+25.00	74.01 LT	108484.75	734983.06
108	15+75.00	73.00 LT	108482.44	735033.02
109	15+95.00	50.29 LT	108459.22	735052.42
110	18+50.00	50.52 LT	108452.80	735307.34
111	18+50.00	49.48 RT	108352.83	735304.73
112	15+49.73	49.75 RT	108360.39	735004.56
113	15+03.99	32.80 RT	108378.53	734959.27
114	11+39.84	33.12 RT	108387.70	734595.24

COORDINATE TABLE – TLE POINTS				
PT.#	STATION	OFFSET	Y	X
150	16+35.00	49.68 RT	108358.23	735089.81
151	16+35.00	70.00 RT	108337.92	735089.28
152	15+75.00	100.00 RT	108309.50	735028.52
153	15+85.00	143.00 RT	108266.25	735037.39
154	15+74.70	145.68 RT	108263.84	735027.02
155	15+09.71	54.79 RT	108356.40	734964.43
156	14+85.00	41.00 RT	108370.82	734940.08
157	11+40.00	41.00 RT	108379.82	734595.20
158	53+13.83	37.89 LT	108713.53	734839.61

R/W COURSE TABLE		
PT. TO PT.	DIRECTION	DISTANCE
100 TO 101	S88°33'29"E	44.86'
101 TO 102	N01°26'31"E	30.00'
102 TO 103	S88°33'29"E	230.01'
103 TO 104	N01°26'31"E	64.54'
104 TO 105	N08°36'27"W	156.76'
105 TO 106	S88°36'26"E	68.99'
106 TO 107	S15°32'07"E	235.43'
107 TO 108	S87°21'15"E	50.01'
108 TO 109	S39°52'16"E	30.26'
109 TO 110	S88°33'29"E	255.00'
110 TO 111	S01°29'37"W	100.00'
111 TO 112	N88°33'29"W	300.27'
112 TO 113	N68°09'58"W	48.79'
113 TO 114	N88°33'29"W	364.14'
114 TO 100	N01°26'31"E	83.00'

EASEMENT TABLE		
OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #
MADISON GAS & ELECTRIC	NO RECORD FOUND	1



JEWELL associates engineers, inc.
Engineers - Planners - Surveyors

I, FREDERICK G. GRUBER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1643-08-22-4.01, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) Frederick G. Gruber DATE 03/27/15
(PRINTED NAME) FREDERICK G. GRUBER
(REGISTRATION NUMBER) S2282

WISCONSIN FREDERICK G. GRUBER S-2282 SPRING GREEN WIS. LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

(SIGNATURE) Cory Schlagel DATE 5/28/15
(PRINTED NAME) CORY SCHLAGEL

TRANSPORTATION PROJECT PLAT NO: 1643-08-22 - 4.01

PART OF LOTS 6, 7, 8, 9, AND 10 OF BLOCK 3, PART OF LOT 2 OF BLOCK 2, AND PART OF LOT 1 OF BLOCK 1, ALL LOCATED IN THE ORIGINAL PLAT OF THE VILLAGE OF READSTOWN, WEST SIDE OF THE KICKAPOO RIVER, AND ALSO PART OF OUTLOT 60 AND OUTLOT 61 OF THE ASSESSOR'S PLAT OF THE VILLAGE OF READSTOWN, ALL BEING IN SECTION 8, TOWN 11 NORTH, RANGE 3 WEST, VILLAGE OF READSTOWN, VERNON COUNTY, WISCONSIN.

RELOCATION ORDER USH 14, WESTBY-READSTOWN, VERNON COUNTY

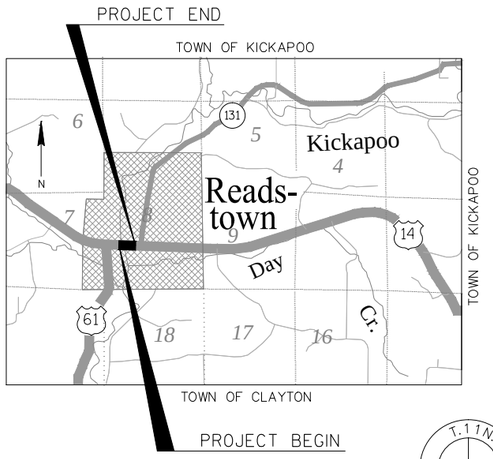
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.30, AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

DOCUMENT #485318
FILED IN 1CAB-39

ACCEPTED IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY, WISCONSIN AT 9:40 A.M. ON DECEMBER 19, 2014.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1643-08-22-4.01
SHEET 1 OF 2



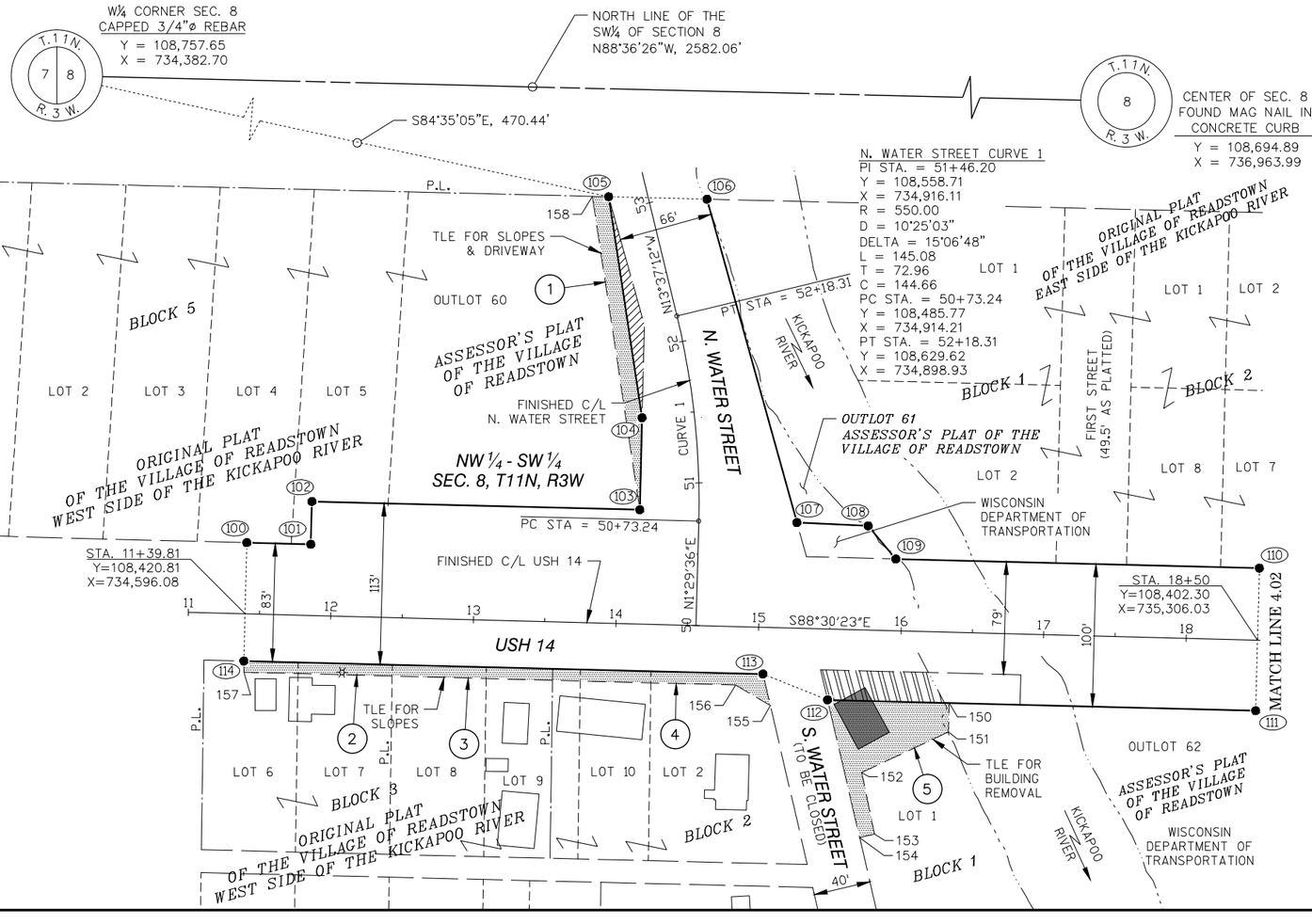
SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRES
1	MICHAEL S. LEPKE	FEE, TLE	0.02	--	0.02	0.05
2	MICHAEL S. LEPKE	TLE	--	--	--	0.02
3	WAYNE C. NELSON	TLE	--	--	--	0.02
4	VERA J. NELSON TRUST	TLE	--	--	--	0.03
5	VILLAGE OF READSTOWN	HE, TLE	0.04(HE)	--	0.04(HE)	0.08

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

COORDINATE TABLE - R/W POINTS				
PT.#	STATION	OFFSET	Y	X
100	11+39.77	49.88 LT	108470.67	734597.34
101	11+84.63	49.92 LT	108469.54	734642.18
102	11+84.60	79.92 LT	108499.53	734642.94
103	14+14.62	80.12 LT	108493.74	734872.87
104	51+50.00	36.59 LT	108558.26	734874.50
105	53+10.87	26.85 LT	108713.25	734851.04
106	52+93.00	39.79 RT	108711.58	734920.01
107	15+25.00	74.01 LT	108484.75	734983.06
108	15+75.00	73.00 LT	108482.44	735033.02
109	15+95.00	50.29 LT	108459.22	735052.42
110	18+50.00	50.52 LT	108452.80	735307.34
111	18+50.00	49.48 RT	108352.83	735304.73
112	15+49.73	49.75 RT	108360.39	735004.56
113	15+03.99	32.80 RT	108378.53	734959.27
114	11+39.84	33.12 RT	108387.70	734595.24

R/W COURSE TABLE		
PT. TO PT.	DIRECTION	DISTANCE
100 TO 101	S88°33'29"E	44.86'
101 TO 102	N01°26'31"E	30.00'
102 TO 103	S88°33'29"E	230.01'
103 TO 104	N01°26'31"E	64.54'
104 TO 105	N08°36'27"W	156.76'
105 TO 106	S88°36'26"E	68.99'
106 TO 107	S15°32'07"E	235.43'
107 TO 108	S87°21'15"E	50.01'
108 TO 109	S39°52'16"E	30.26'
109 TO 110	S88°33'29"E	255.00'
110 TO 111	S01°29'37"W	100.00'
111 TO 112	N88°33'29"W	300.27'
112 TO 113	N68°09'58"W	48.79'
113 TO 114	N88°33'29"W	364.14'
114 TO 100	N01°26'31"E	83.00'



COORDINATE TABLE - TLE POINTS				
PT.#	STATION	OFFSET	Y	X
150	16+35.00	49.68 RT	108358.23	735089.81
151	16+35.00	70.00 RT	108337.92	735089.28
152	15+75.00	100.00 RT	108309.50	735028.52
153	15+85.00	143.00 RT	108266.25	735037.39
154	15+74.70	145.68 RT	108263.84	735027.02
155	15+09.71	54.79 RT	108356.40	734964.43
156	14+85.00	41.00 RT	108370.82	734940.08
157	11+40.00	41.00 RT	108379.82	734595.20
158	53+13.83	37.89 LT	108713.53	734839.61

JEWELL associates engineers, Inc.
Engineers - Planners - Surveyors

I, FREDERICK G. GRUBER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1643-08-22-4.01, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) Frederick G. Gruber DATE 12/12/14
(PRINTED NAME) FREDERICK G. GRUBER
(REGISTRATION NUMBER) S2282

WISCONSIN FREDERICK G. GRUBER S-2282 SPRING GREEN WIS. LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

(SIGNATURE) Cory Schlagel DATE 12/15/14
(PRINTED NAME) CORY SCHLAGEL

APPRAISAL PLAT DATE:

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
201	VERNON TELEPHONE COOPERATIVE	RELEASE OF RIGHTS

TRANSPORTATION PROJECT PLAT NO: 1643-08-22 - 4.02 AMENDMENT NO. 1 ADDS UTILITY NUMBER 201 and REMOVES UTILITY NUMBER 202 from TRANSPORTATION PROJECT PLAT 1643-08-22 - 4.02 RECORDED AS DOCUMENT NUMBER 485488.

PART OF LOT 5 OF BLOCK 2, PART OF LOTS 5, 6, 7, AND 8 OF BLOCK 3, PART OF LOTS 5, 6, 7, AND 8 OF BLOCK 4, AND PART OF SECOND AND THIRD STREETS, ALL LOCATED IN THE ORIGINAL PLAT OF THE VILLAGE OF READSTOWN, EAST SIDE OF THE KICKAPOO RIVER, AND ALSO PART OF OUTLOT 80 OF THE ASSESSOR'S PLAT OF THE VILLAGE OF READSTOWN, AND PART OF THE NE¼-SW¼ OF SECTION 8, TOWN 11 NORTH, RANGE 3 WEST, VILLAGE OF READSTOWN, VERNON COUNTY, WISCONSIN.

RELOCATION ORDER USH 14, WESTBY–READSTOWN, VERNON COUNTY

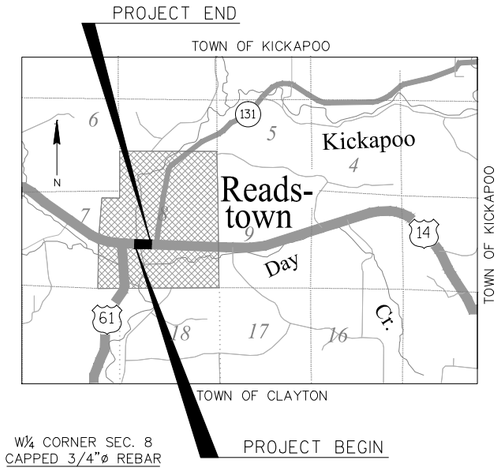
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.30, AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT 1643-08-22-4.01, RECORDED AS DOCUMENT # 485318 AND FILED IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY.

DOCUMENT # 487658
ACCEPTED FOR RECORDING IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY, WISCONSIN AT 8:30 A.M. ON JUNE 9TH, 2015 FILED IN 2CAB, 2-3

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1643-08-22-4.02
AMENDMENT NO. 1



SCHEDULE OF LANDS & INTERESTS REQUIRED

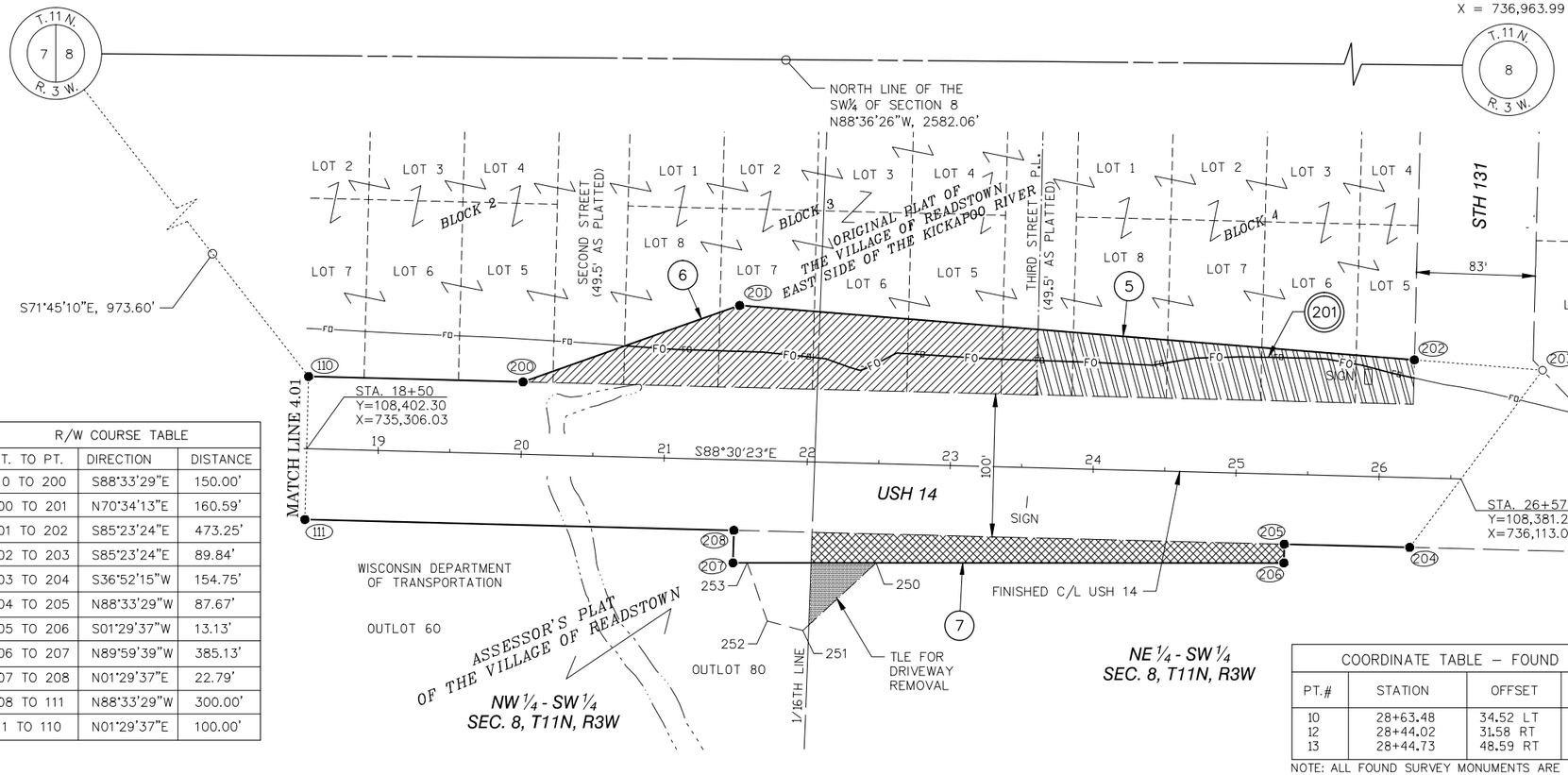
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			T.L.E. ACRES
			NEW	EXISTING	TOTAL	
5	VILLAGE OF READSTOWN	FEE	.23	--	.23	--
6	VERNON COUNTY	FEE	.35	--	.35	--
7	BRADLEY J. ALEXANDER	FEE, TLE	.13	--	.13	.02

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

EASEMENT TABLE		
OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #
VERNON TELEPHONE COOPERATIVE	NO RECORD FOUND	5 & 6

W¼ CORNER SEC. 8
CAPPED 3/4"ø REBAR
Y = 108,757.65
X = 734,382.70

CENTER OF SEC. 8
FOUND MAG NAIL IN CONCRETE CURB
Y = 108,694.89
X = 736,963.99



COORDINATE TABLE – R/W POINTS				
PT.#	STATION	OFFSET	Y	X
110	18+50.00	50.52 LT	108452.80	735307.34
111	18+50.00	49.48 RT	108352.83	735304.73
200	20+00.00	50.65 LT	108449.02	735457.30
201	21+50.00	108.00 LT	108502.44	735608.74
202	26+22.55	82.27 LT	108464.40	736080.46
203	27+12.26	77.39 LT	108457.18	736170.01
204	26+22.67	48.79 RT	108333.38	736077.16
205	25+35.00	48.87 RT	108335.59	735989.52
206	25+35.00	62.00 RT	108322.46	735989.17
207	21+50.00	72.00 RT	108322.50	735604.04
208	21+50.00	49.21 RT	108345.29	735604.64

COORDINATE TABLE – TLE POINTS				
PT.#	STATION	OFFSET	Y	X
250	22+50.00	69.44 RT	108322.46	735704.08
251	22+00.00	118.00 RT	108275.21	735652.83
252	21+75.00	112.00 RT	108281.86	735628.00
253	21+60.00	71.74 RT	108322.50	735614.05

GN

SCALE, FEET
0 50' 100'

R/W COURSE TABLE		
PT. TO PT.	DIRECTION	DISTANCE
110 TO 200	S88°33'29"E	150.00'
200 TO 201	N70°34'13"E	160.59'
201 TO 202	S85°23'24"E	473.25'
202 TO 203	S85°23'24"E	89.84'
203 TO 204	S36°52'15"W	154.75'
204 TO 205	N88°33'29"W	87.67'
205 TO 206	S01°29'37"W	13.13'
206 TO 207	N89°59'39"W	385.13'
207 TO 208	N01°29'37"E	22.79'
208 TO 111	N88°33'29"W	300.00'
111 TO 110	N01°29'37"E	100.00'

COORDINATE TABLE – FOUND SURVEY MONUMENTS				
PT.#	STATION	OFFSET	Y	X
10	28+63.48	34.52 LT	108410.39	736320.06
12	28+44.02	31.58 RT	108344.82	736298.89
13	28+44.73	48.59 RT	108327.80	736299.16

NOTE: ALL FOUND SURVEY MONUMENTS ARE 3/4" IRON REBAR AS SURVEYED BY JEWELL ASSOCIATES ENGINEERS, INC.

JEWELL associates engineers, inc.
Engineers - Planners - Surveyors

I, FREDERICK G. GRUBER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1643-08-22-4.02, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) Frederick G. Gruber DATE 03/27/15
(PRINTED NAME) FREDERICK G. GRUBER
(REGISTRATION NUMBER) S-2282

WISCONSIN FREDERICK G. GRUBER S-2282 SPRING GREEN WIS. LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

(SIGNATURE) Cory Schlagel DATE 5/28/15
(PRINTED NAME) CORY SCHLAGEL

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER (S)	INTEREST REQUIRED
202	VILLAGE OF READSTOWN	RELEASE OF RIGHTS

TRANSPORTATION PROJECT PLAT NO: 1643-08-22 – 4.02

PART OF LOT 5 OF BLOCK 2, PART OF LOTS 5, 6, 7, AND 8 OF BLOCK 3, PART OF LOTS 5, 6, 7, AND 8 OF BLOCK 4, AND PART OF SECOND AND THIRD STREETS, ALL LOCATED IN THE ORIGINAL PLAT OF THE VILLAGE OF READSTOWN, EAST SIDE OF THE KICKAPOO RIVER, AND ALSO PART OF OUTLOT 80 OF THE ASSESSOR'S PLAT OF THE VILLAGE OF READSTOWN, AND PART OF THE NE¼–SW¼ OF SECTION 8, TOWN 11 NORTH, RANGE 3 WEST, VILLAGE OF READSTOWN, VERNON COUNTY, WISCONSIN.

RELOCATION ORDER USH 14, WESTBY–READSTOWN, VERNON COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

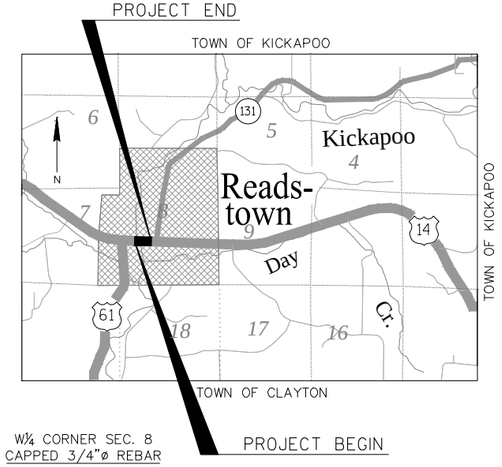
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.30, AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, SHEET 2 OF 2 OF TRANSPORTATION PROJECT PLAT 1643-08-22-4.01, RECORDED AS DOCUMENT #485318, AND FILED IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY.

DOCUMENT #485488
FILED IN 2CAB-1

ACCEPTED IN THE OFFICE OF THE REGISTER OF DEEDS IN VERNON COUNTY, WISCONSIN AT 12:45 P.M. ON JANUARY 6, 2015.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1643-08-22-4.02



SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			T.L.E. ACRES
			NEW	EXISTING	TOTAL	
5	VILLAGE OF READSTOWN	FEE	.23	--	.23	--
6	VERNON COUNTY	FEE	.35	--	.35	--
7	BRADLEY J. ALEXANDER	FEE, TLE	.13	--	.13	.02

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

COORDINATE TABLE – R/W POINTS				
PT.#	STATION	OFFSET	Y	X
110	18+50.00	50.52 LT	108452.80	735307.34
111	18+50.00	49.48 RT	108352.83	735304.73
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201	21+50.00	108.00 LT	108502.44	735608.74
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203	27+12.26	77.39 LT	108457.18	736170.01
204	26+22.67	48.79 RT	108333.38	736077.16
205	25+35.00	48.87 RT	108335.59	735989.52
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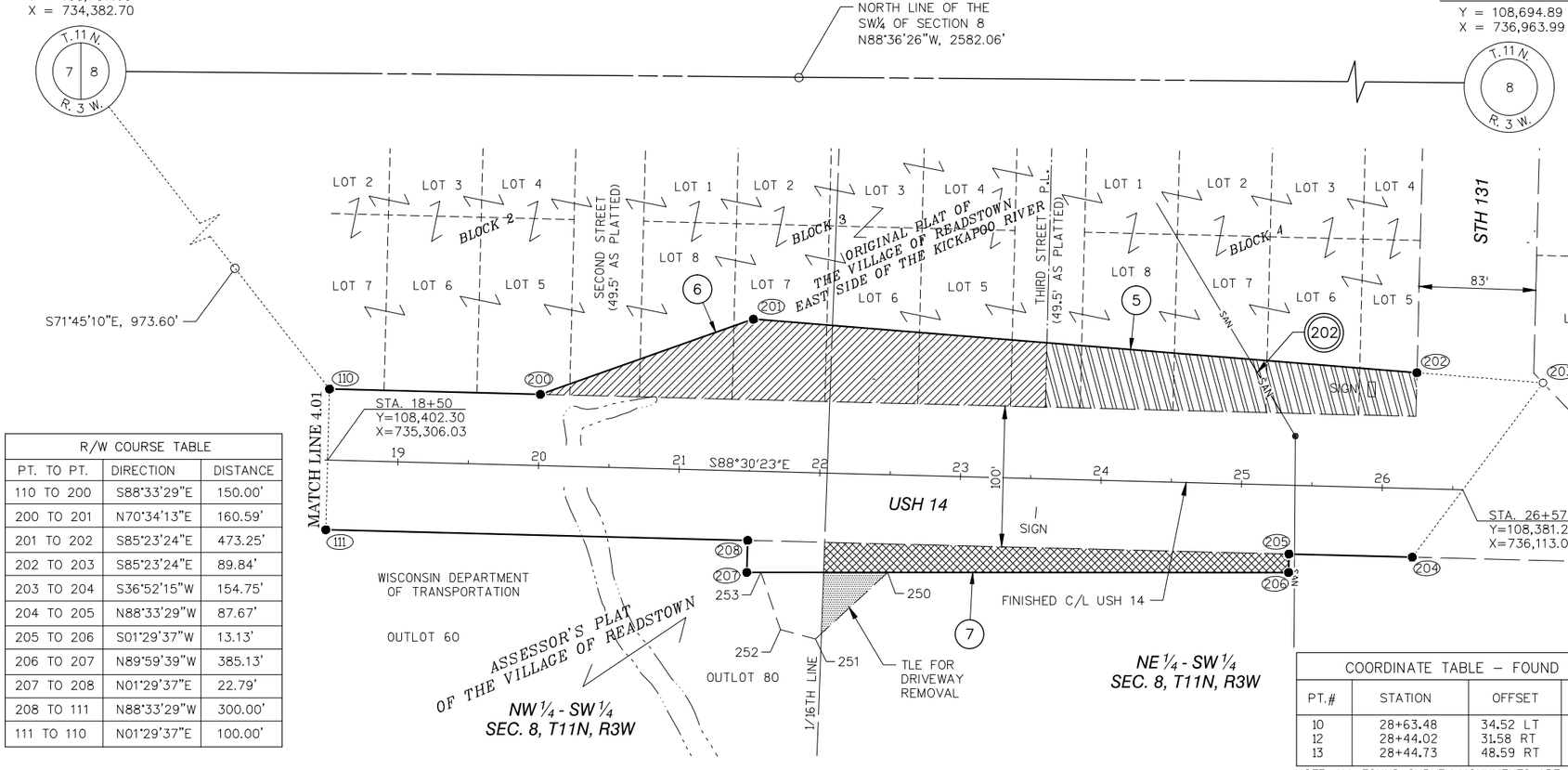
207	21+50.00	72.00 RT	108322.50	735604.04
208	21+50.00	49.21 RT	108345.29	735604.64

COORDINATE TABLE – TLE POINTS				
PT.#	STATION	OFFSET	Y	X
250	22+50.00	69.44 RT	108322.46	735704.08
251	22+00.00	118.00 RT	108275.21	735652.83
252	21+75.00	112.00 RT	108281.86	735628.00
253	21+60.00	71.74 RT	108322.50	735614.05

W¼ CORNER SEC. 8
CAPPED 3/4"ø REBAR
Y = 108,757.65
X = 734,382.70

NORTH LINE OF THE SW¼ OF SECTION 8
N88°36'26"W, 2582.06'

CENTER OF SEC. 8
FOUND MAG NAIL IN CONCRETE CURB
Y = 108,694.89
X = 736,963.99



R/W COURSE TABLE		
PT. TO PT.	DIRECTION	DISTANCE
110 TO 200	S88°33'29"E	150.00'
200 TO 201	N70°34'13"E	160.59'
201 TO 202	S85°23'24"E	473.25'
202 TO 203	S85°23'24"E	89.84'
203 TO 204	S36°52'15"W	154.75'
204 TO 205	N88°33'29"W	87.67'
205 TO 206	S01°29'37"W	13.13'
206 TO 207	N89°59'39"W	385.13'
207 TO 208	N01°29'37"E	22.79'
208 TO 111	N88°33'29"W	300.00'
111 TO 110	N01°29'37"E	100.00'

COORDINATE TABLE – FOUND SURVEY MONUMENTS				
PT.#	STATION	OFFSET	Y	X
10	28+63.48	34.52 LT	108410.39	736320.06
12	28+44.02	31.58 RT	108344.82	736298.89
13	28+44.73	48.59 RT	108327.80	736299.16

NOTE: ALL FOUND SURVEY MONUMENTS ARE 3/4" IRON REBAR AS SURVEYED BY JEWELL ASSOCIATES ENGINEERS, INC.

GN

SCALE, FEET
0 50' 100'

JEWELL associates engineers, inc.
Engineers - Planners - Surveyors

I, FREDERICK G. GRUBER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1643-08-22-4.02, AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

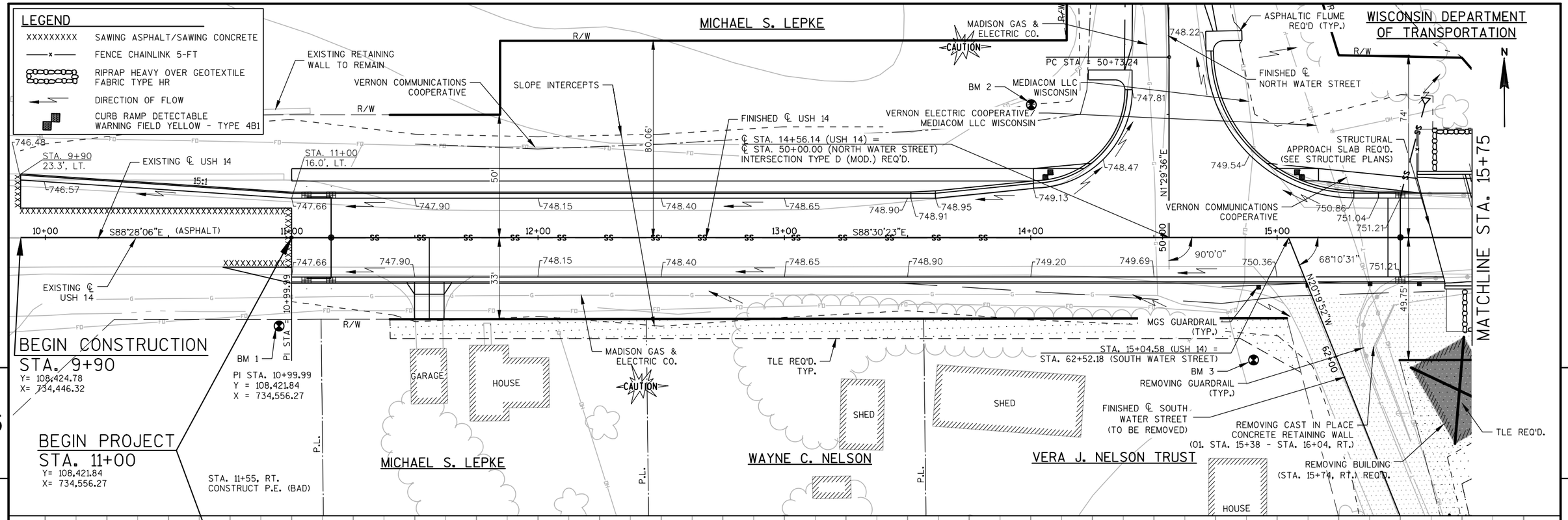
(SIGNATURE) Frederick G. Gruber DATE 12/12/14
(PRINTED NAME) FREDERICK G. GRUBER
(REGISTRATION NUMBER) S-2282

WISCONSIN FREDERICK G. GRUBER S-2282 SPRING GREEN WIS. LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

(SIGNATURE) Cory Schlagel DATE 12/22/14
(PRINTED NAME) CORY SCHLAGE

APPRAISAL PLAT DATE:



EARTHWORK SUMMARY

	* MAINLINE	** NEW ABUT-OLD ABUT OLD ABUT-NEW ABUT	NORTH WATER STREET	SOUTH WATER STREET	P.E., F.E., C.E.	TOTALS
EXCAVATION COMMON (C.Y.)	987	-	232	131	100	1,450
CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	-	2,500	-	-	-	2,500
MARSH EXCAVATION (C.Y.)	1,150	-	-	-	-	1,150
ROCK EXCAVATION (C.Y.)	44	-	216	-	-	260
FILL (C.Y.)	11,359	-	268	-	90	11,717
FILL EXPANSION (C.Y. - 30%)	13,870	-	349	-	117	14,336
BORROW (C.Y.)	12,835	-2,500	-121	-131	17	10,100

* STA. 9+90 - 15+85, STA. 21+66 - 26+45

** STA. 15+85 - 16+04, STA. 20+83 - 21+66

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+95	¾" IRON REBAR SET, 35.9' RT.	746.43
2	14+00	¾" IRON REBAR SET, 53.9' LT.	746.30
3	14+90	¾" IRON REBAR SET, 49.8' RT.	750.64
4	16+77	¾" IRON REBAR SET, 139.2' LT.	736.73
5	22+31	¾" IRON REBAR SET, 197.8' LT.	737.15
6	26+52	¾" IRON REBAR SET, 93.0' LT.	744.43

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PLAN & PROFILE: MAINLINE	SHEET 55	E

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STA. 16+08, RT.
REMOVING SMALL PIPE
CULVERTS REQ'D.

REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STA. 18+43.6 (B-62-0005), 9-SPAN STEEL TRUSS AND GIRDER BRIDGE SUPPORTED ON CONCRETE ABUTMENTS AND PILE BENT PIERS, 30.0' CLEAR ROADWAY WIDTH, 479.4' OVERALL LENGTH

VERNON COUNTY

VERNON COMMUNICATIONS COOPERATIVE

EXISTING DRAINAGE WAY TO BE REALIGNED

KICKAPOO RIVER

R/W

STRUCTURE B-62-0045 REQ'D.

EXISTING C/L OCOOCH MOUNTAIN TRAIL RIDERS SNOWMOBILE TRAIL (TO REMAIN)

① REMOVING STEEL PILING REQ'D. (PAID FOR AS REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STA. 18+43.6)

EXISTING ℄ USH 14

FINISHED ℄ USH 14

MATCHLINE STA. 15+75

MATCHLINE STA. 21+25

16+00 17+00 18+00 S88°30'23"E 19+00 20+00 21+00

50'

50'

① REMOVING RETAINING WALL REQ'D. (PAID FOR AS REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CATCHING SYSTEM STA. 18+43.6)

REMOVING CAST IN PLACE CONCRETE RETAINING WALL (02. STA. 16+04 - STA. 16+12, RT.)

REMOVING PAVEMENT REQ'D.

REMOVING CAST IN PLACE CONCRETE RETAINING WALL (03. STA. 16+12 - STA. 16+20, RT.)

① CUT OFF EXISTING CONCRETE RETAINING WALL/EXISTING STEEL PILING AT THE RIVERBED AND DO NOT EXCAVATE IT OUT TO AVOID UNNECESSARY TURBIDITY AND SEDIMENT RELEASE INTO THE KICKAPOO RIVER.

VILLAGE OF READSTOWN

REMOVING GUARDRAIL (TYP.)

SLOPE INTERCEPTS

INTERMITTENT STREAM

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+95	¾" IRON REBAR SET, 35.9' RT.	746.43
2	14+00	¾" IRON REBAR SET, 53.9' LT.	746.30
3	14+90	¾" IRON REBAR SET, 49.8' RT.	750.64
4	16+77	¾" IRON REBAR SET, 139.2' LT.	736.73
5	22+31	¾" IRON REBAR SET, 197.8' LT.	737.15
6	26+52	¾" IRON REBAR SET, 93.0' LT.	744.43

LEGEND

XXXXXXXXX SAWING ASPHALT

RIPRAP HEAVY OVER GEOTEXTILE FABRIC TYPE HR

DIRECTION OF FLOW

WISCONSIN DEPARTMENT OF TRANSPORATION

PI STA 18+83.00
EL 758.18

K = 136.48'
L = 550.00'

+2.00%

VPC STA = 16+08.00
EL = 752.68

FINISHED ℄ PROFILE USH 14

EARTHWORK SUMMARY
SEE MAINLINE PLAN AND PROFILE SHEETS (STA. 9+90 - STA. 15+75) FOR EARTHWORK QUANTITIES

HIGH WATER
EL. 745.00

EXISTING ℄ PROFILE USH 14

STA. 18+75.46
STRUCTURE B-62-045
5-SPAN 45W-INCH PRESTRESSED CONCRETE GIRDER STRUCTURE
CLEAR ROADWAY WIDTH = 36.0'
O.A.L. = 584.44' SKEW = 15° R.H.F.

EXISTING ℄ ELEVATION
FINISHED ℄ ELEVATION

HYDRAULIC DATA

STREAMBED =
OBSERVED H_2O = 728.06 (AUGUST 2012)
HIGH WATER Q_2 = 734.00
HIGH WATER Q_{100} = 745.00

758 756 754 752 750 748 746 744 742

747.03 751.53 | 746.99 752.02 | 746.95 752.52 | 746.89 753.01 | 746.86 753.46 | 746.82 753.86 | 746.79 754.21 | 746.77 754.52 | 746.62 754.78 | 746.66 755.00 | 746.50 755.17 | 746.54 755.29 | 746.48 755.37 | 746.50 755.41 | 746.48 755.40 | 746.44 755.34 | 746.34 755.23 | 746.28 755.09 | 746.23 754.89 | 746.18 754.65 | 746.14 754.36 | 746.05 754.03 | 745.95 753.65 | 745.94 753.23 | 745.86 752.76

15+50 15+75 16+00 16+25 16+50 16+75 17+00 17+25 17+50 17+75 18+00 18+25 18+50 18+75 19+00 19+25 19+50 19+75 20+00 20+25 20+50 20+75 21+00 21+25 21+50

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PLAN & PROFILE: MAINLINE	SHEET 56	E

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LEGEND

- XXXXXXXXX SAWING ASPHALT/SAWING CONCRETE
- WETLANDS
- RIPRAP HEAVY OVER GEOTEXTILE FABRIC TYPE HR
- FENCE CHAINLINK 5-FT
- CURB RAMP DETECTABLE WARNING FIELD YELLOW-TYPE 4B1
- DIRECTION OF FLOW

MATCHLINE STA. 21+25

R/W

P.L.

ABANDONED 8" SANITARY SEWER TO REMAIN

STA. 21+81 24.0' LT.

STA. 21+83 18.0' LT.

STA. 22+21 28.0' LT.

STA. 22+21 23.0' LT.

STA. 22+36, LT.
REMOVING SMALL PIPE CULVERTS (SAWCUT AND REMOVE 22 LF)
(1) APRON ENDWALL REQ'D.
NOTE: COST FOR SAWCUTTING PIPE TO BE INCLUDED IN REMOVING SMALL PIPE CULVERT BID ITEM

STRUCTURAL APPROACH SLAB (SEE STRUCTURE PLANS)

VERNON COUNTY

REMOVING GUARDRAIL (TYP.)

10:1

751.42 750.41 749.39 748.38 747.36 746.48 745.85 745.47 745.36 745.29 744.39

22+00 23+00 S88°30'23"E 24+00 25+00 26+00

751.42 750.41 749.39 748.38 747.36 746.48 745.85 745.47 745.36 745.61 745.56

*STA. 22+18, RT. REMOVE F.E.

MGS GUARDRAIL (TYP.)

STA. 23+75
(1) ABANDONING CULVERT PIPE

*NOTE: REMOVE AND RELOCATE F.E. (STA. 22+18, RT.) AT A LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

TLE REQ'D

BRADLEY J. ALEXANDER

WISCONSIN DEPARTMENT OF TRANSPORTATION

VERNON COMMUNICATIONS COOPERATIVE

STA. 25+37, LT.
RECONSTRUCTING MANHOLES REQ'D.

EXISTING DRAINAGE WAY TO BE REALIGNED

VILLAGE OF READSTOWN

INSULATION BOARD POLYSTYRENE, 4-INCH REQ'D.

FINISHED ℄ USH 14

STA. 25+80 16.0' LT.

STA. 25+05 18.5' LT.

EXISTING SIGN TO BE RELOCATED

EXISTING FLAGPOLE TO REMAIN

STA. 26+39, LT.
EXISTING 12" CMP TO REMAIN CLEANING CULVERT PIPES REQ'D.

INV.=743.51

EXISTING ℄ STH 131 (SOUTH 4TH STREET)

VERNON ELECTRIC COOPERATIVE

EXISTING ℄ USH 14

(ASPHALT)

50'

50:1

STA. 25+45 16.0' RT.

STA. 26+45 14.2' RT.

EXISTING INLET TO REMAIN

R/W

SLOPE INTERCEPTS

VILLAGE OF READSTOWN SANITARY SEWER

END PROJECT
STA. 26+45
Y= 108,381.57
X= 736,100.76

N

5

5

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+95	¾" IRON REBAR SET, 35.9' RT.	746.43
2	14+00	¾" IRON REBAR SET, 53.9' LT.	746.30
3	14+90	¾" IRON REBAR SET, 49.8' RT.	750.64
4	16+77	¾" IRON REBAR SET, 139.2' LT.	736.73
5	22+31	¾" IRON REBAR SET, 197.8' LT.	737.15
6	26+52	¾" IRON REBAR SET, 93.0' LT.	744.43

EARTHWORK SUMMARY

SEE MAINLINE PLAN AND PROFILE SHEETS (STA. 9+90 - STA. 15+75) FOR EARTHWORK QUANTITIES

754 752 750 748 746 744

FINISHED ℄ PROFILE USH 14

-2.03%

VPT STA = 21+58.00
EL = 752.60

VPC STA = 23+99.50
EL = 747.70

K = 97.17'
L = 205.00'

PI STA 25+02.00
EL 745.61

VPT STA = 26+04.50
EL = 745.70

+0.08%

STA. 26+45

MATCH EXISTING
STA. 26+45
EL. = 745.73

EXISTING ℄ PROFILE USH 14

738 737 735

MARSH PROFILE
STA. 21+66 TO STA. 26+45, LT.

EXISTING ℄ ELEVATION

FINISHED ℄ ELEVATION

EXISTING PROFILE OF MARSH

745.95 753.65 | 745.94 753.23 | 745.86 752.76 | 745.79 752.25 | 745.72 751.74 | 745.67 751.24 | 745.60 750.73 | 745.61 750.22 | 745.59 749.71 | 745.53 749.21 | 745.41 748.70 | 745.53 748.19 | 745.63 747.68 | 745.62 747.21 | 745.58 746.80 | 745.66 746.46 | 745.66 746.17 | 745.66 745.96 | 745.63 745.81 | 745.65 745.72 | 745.67 745.69 | 745.70 745.71 | 745.73 745.73 | 745.67 | 745.74

21+00 21+25 21+50 21+75 22+00 22+25 22+50 22+75 23+00 23+25 23+50 23+75 24+00 24+25 24+50 24+75 25+00 25+25 25+50 25+75 26+00 26+25 26+45 26+50 26+75 27+00

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PLAN & PROFILE: MAINLINE	SHEET 57	E

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VERNON COMMUNICATIONS COOPERATIVE

MICHAEL S. LEPKE

STA. 52+00, LT.
C.E. REQ'D (B.A.D.)
(1) CULVERT PIPE CLASS III 24-INCH
(2) APRON ENDWALLS REQ'D.
N. INV. = 741.15
S. INV. = 739.92

FINISHED ℄ USH 14

STA. 14+56.14 (USH 14) =
STA. 50+00.00 (NORTH WATER STREET)
INTERSECTION TYPE D (MOD.) REQ'D

SLOPE INTERCEPTS

EXISTING ℄ NORTH WATER STREET

BM 2

MADISON GAS & ELECTRIC CO.

TLE REQ'D

CAUTION

R/W

P.L.

SHED

SS

14+00

15+00

50+00

51+00

52+00

53+00

N1°29'36"E

N13°37'12"W

CURVE 1

CURVE 2

(ASPHALT)

MEDIACOM LLC WISCONSIN

BM 3

VERNON ELECTRIC COOPERATIVE/MEDIACOM LLC WISCONSIN

N20°19'52"W

62+00

VERNON TELEPHONE COOPERATIVE

PC STA = 50+73.24

PT STA = 52+18.31

PI STA = 53+00.00
PC STA = 53+04.71

KICKAPOO RIVER

FINISHED C/L NORTH WATER STREET

LEGEND

XXXXXXXXX	SAWING ASPHALT REQ'D.
	DIRECTION OF FLOW
	CURB RAMP DETECTABLE WARNING FIELD YELLOW - TYPE 4B1
	RIPRAP HEAVY OVER GEOTEXTILE FABRIC TYPE HR

END CONSTRUCTION
STA. 53+50
Y= 108,758.23
X= 734,871.17

CURVE 1 DATA
PI STATION = 51+46.20
Y = 108558.71
X = 734916.11
D = 10°25'03"
DELTA = 15°06'48"
T = 72.96
L = 145.08
R = 550.00
PC STATION = 50+73.24
Y = 108485.77
X = 734914.21
PT STATION = 52+18.31
Y = 108629.62
X = 734898.93
S.E. = 4.7%
R.O. = *
TRANS. = *

CURVE 2 DATA
PI STATION = 53+61.68
Y = 108768.98
X = 734865.30
D = 17°54'18"
DELTA = 20°11'15"
T = 56.96
L = 112.75
R = 320.00
PC STATION = 53+04.71
Y = 108713.59
X = 734878.59
PT STATION = 54+17.46
Y = 108825.56
X = 734871.94

* SEE SUPERELEVATION TABLE

BEGIN CONSTRUCTION
STA. 50+16
Y= 108,428.56
X= 734,912.72

STA. 50+16

STA. 53+00

-2.00%

-3.27%

K = 106.58'
L = 90.00'

PI STA = 50+16.00
EL = 749.76

VPC STA = 50+30.00
EL = 749.30

PI STA 50+75.00
EL 747.83

VPC STA = 51+25.00
EL = 745.77

FINISHED ℄ PROFILE NORTH WATER STREET

K = 40.35'
L = 100.00'

VPT STA = 51+20.00
EL = 745.98

PI STA 51+75.00
EL 743.71

VPT STA = 52+25.00
EL = 742.89

1.64%

MATCH EXISTING
STA. 53+00
ELEV.=741.66

EARTHWORK SUMMARY
SEE MAINLINE PLAN AND PROFILE SHEETS (STA. 9+90 - STA. 15+75) FOR EARTHWORK QUANTITIES

STA. 52+50
(1) CULVERT PIPE CLASS III 24-INCH
(2) APRON ENDWALLS REQ'D.
W. INV. = 739.50
E. INV. = 737.00

EXISTING ℄ ELEVATION

FINISHED ℄ ELEVATION

EXISTING ℄ PROFILE NORTH WATER STREET

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+95	¾" IRON REBAR SET, 35.9' RT.	746.43
2	14+00	¾" IRON REBAR SET, 53.9' LT.	746.30
3	14+90	¾" IRON REBAR SET, 49.8' RT.	750.64
4	16+77	¾" IRON REBAR SET, 139.2' LT.	736.73
5	22+31	¾" IRON REBAR SET, 197.8' LT.	737.15
6	26+52	¾" IRON REBAR SET, 93.0' LT.	744.43

752 750 748 746 744 742 740 738 736

747.33 750.08 | 746.70 749.47 | 746.14 748.63 | 745.68 747.73 | 745.24 746.78 | 744.83 745.77 | 744.38 744.82 | 743.89 744.02 | 743.53 743.38 | 743.05 742.89 | 742.64 742.48 | 742.28 742.07 | 741.66 741.66 | 741.12 | 740.94 | 740.78 | 740.63 | 740.45 | 740.39 | 740.22 | 740.17

49+50 49+75 50+00 50+25 50+50 50+75 51+00 51+25 51+50 51+75 52+00 52+25 52+50 52+75 53+00 53+25 53+50 53+75 54+00 54+25 54+50 54+75 55+00 55+25 55+50

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	PLAN & PROFILE: NORTH WATER STREET	SHEET 58	E

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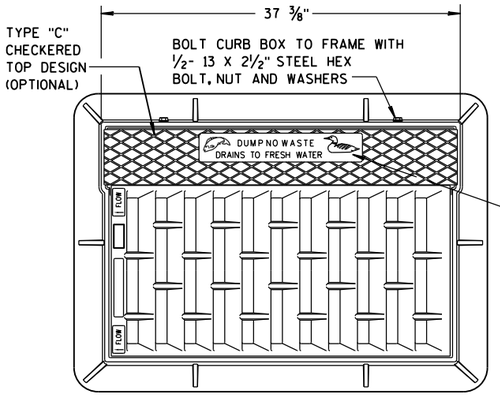
6

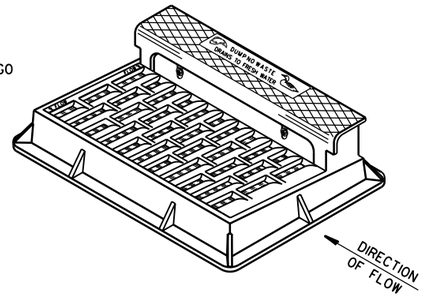
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-16A	CURB RAMPS TYPES 1 AND 1-A
08D05-16B	CURB RAMPS TYPES 2 AND 3
08D05-16C	CURB RAMPS TYPES 4A AND 4A1
08D05-16D	CURB RAMPS TYPE 4B AND 4B1
08D05-16E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09B02-09	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C05-09	CONCRETE CONTROL CABINET BASES
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH
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)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	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)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-12A	MARKER POST FOR RIGHT-OF-WAY
15A01-12B	FLEXIBLE MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING

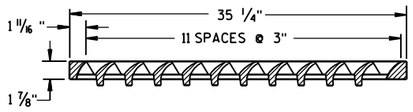
6

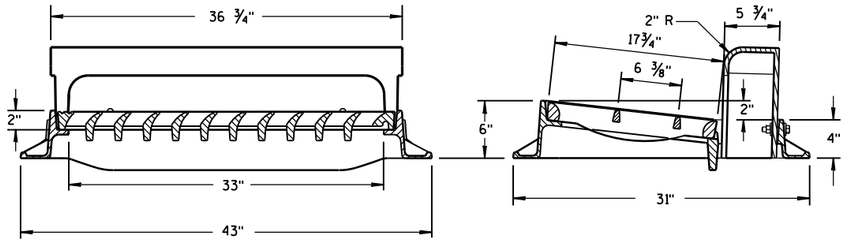


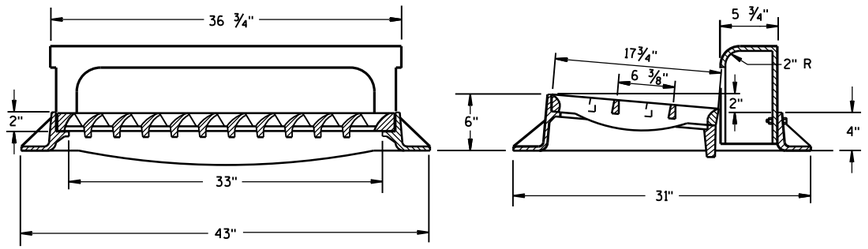
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

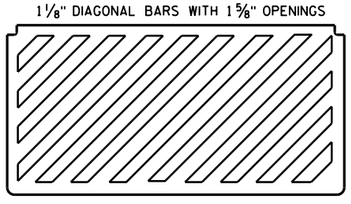






TYPE "H"

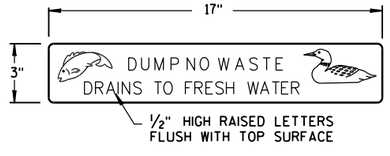
NOTE: EITHER CASTING IS ACCEPTABLE



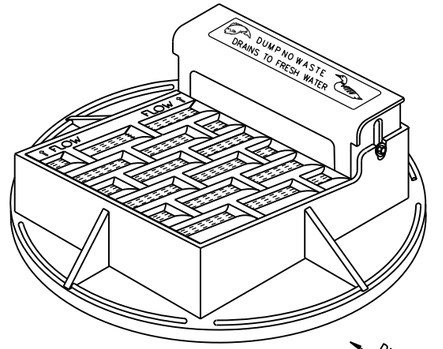
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

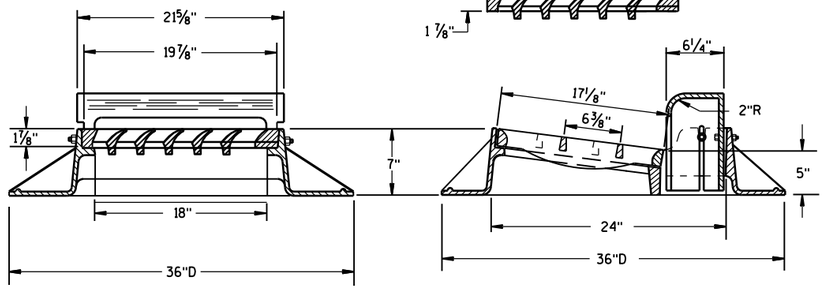


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



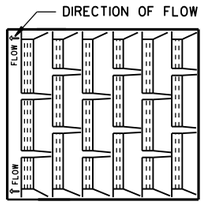
TYPE "A"

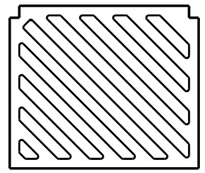
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

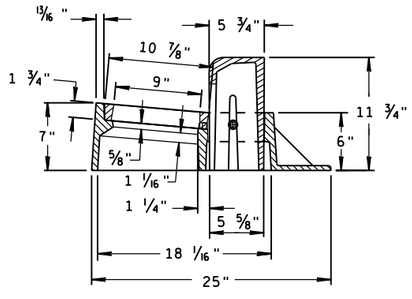


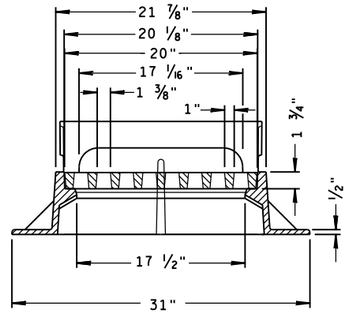


SPECIAL GRATE FOR TYPE "A" COVER

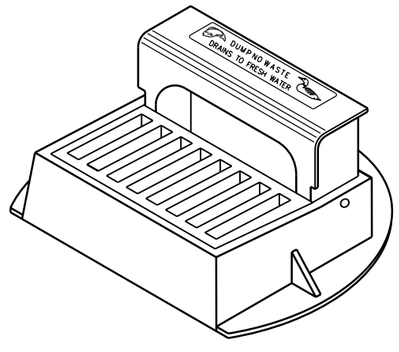
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



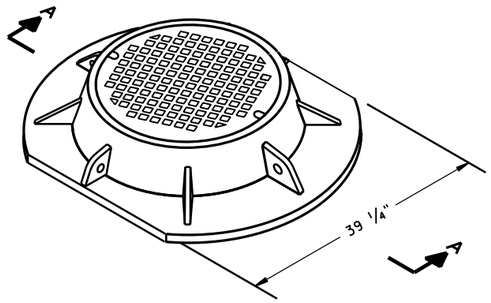
INLET COVERS TYPE A, H, A-S, H-S & Z

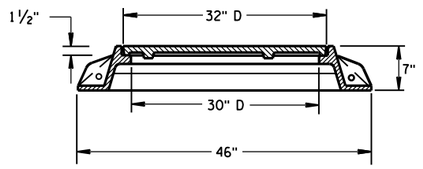
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

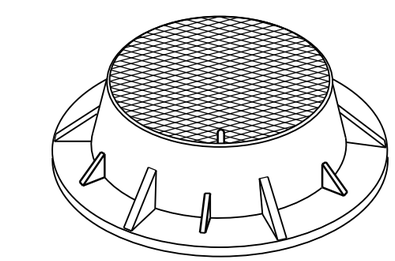
S.D.D. 8 A 5-19a

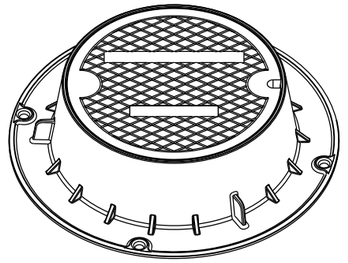
S.D.D. 8 A 5-19a

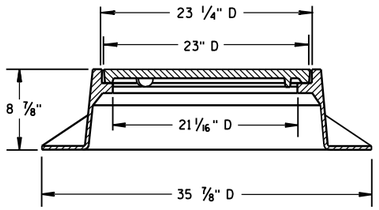


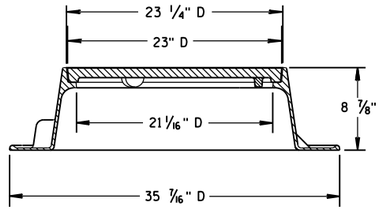


SECTION A-A
TYPE "K"









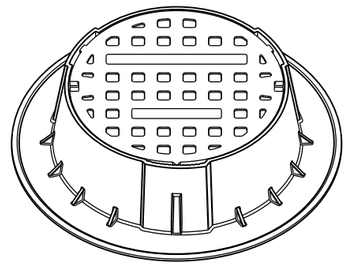
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

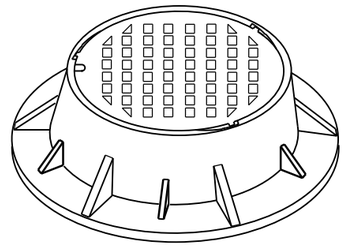
GENERAL NOTES

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.

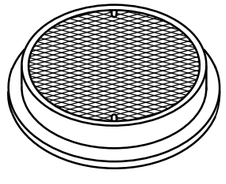
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

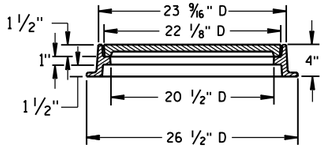
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



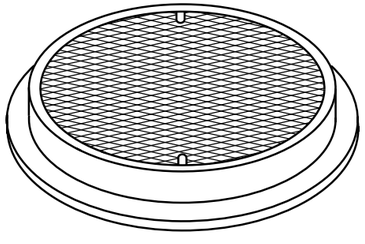


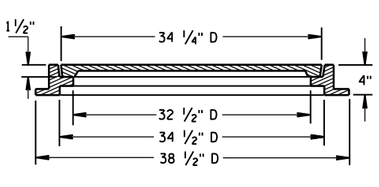
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



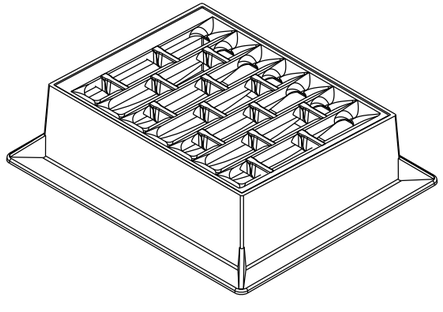


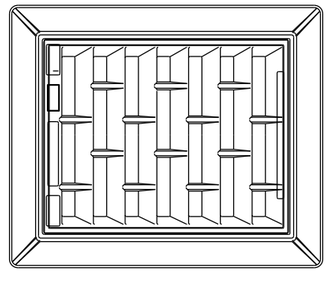
TYPE "L"

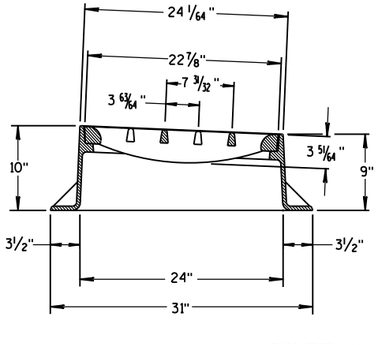


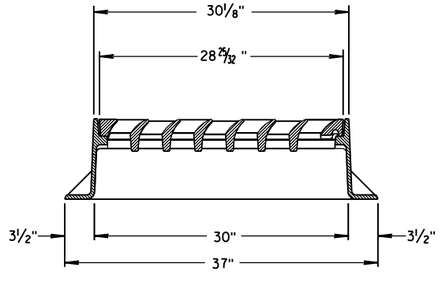


TYPE "M"









INLET COVER TYPE "BW"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

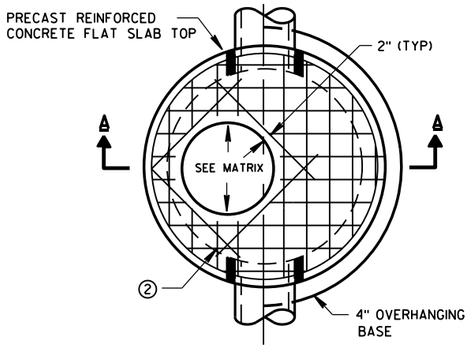
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

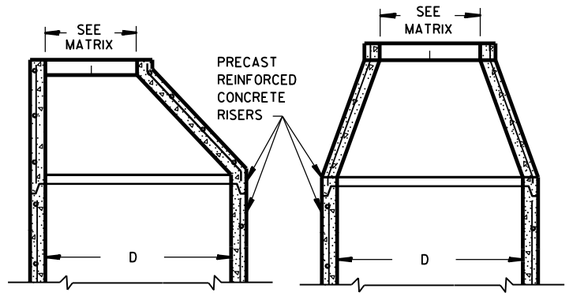
S.D.D. 8 A 5-19d

6

S.D.D. 8 A 5-19d

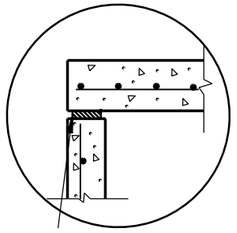


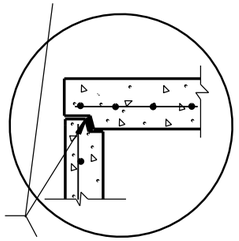
PLAN VIEW CIRCULAR OPENING

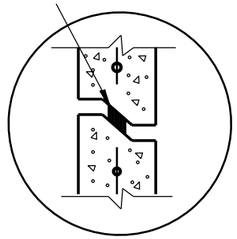


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

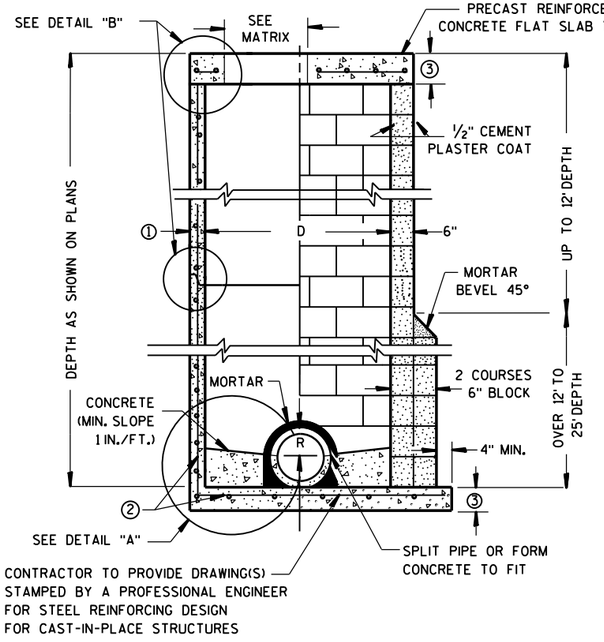
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP





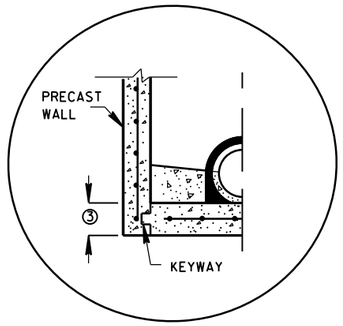


DETAIL "B"

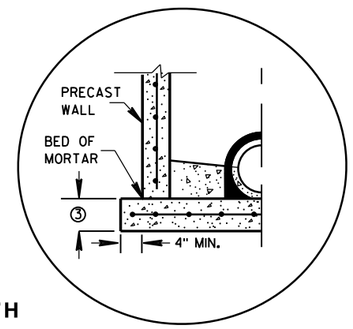


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

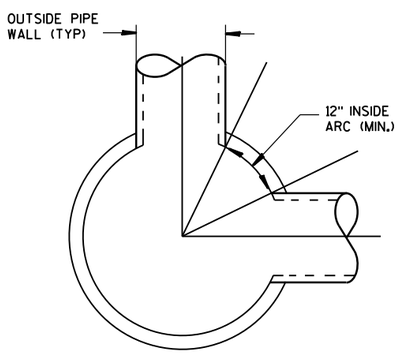


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

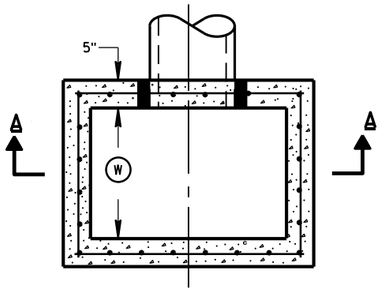
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

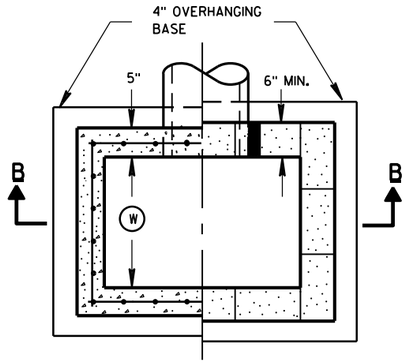
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

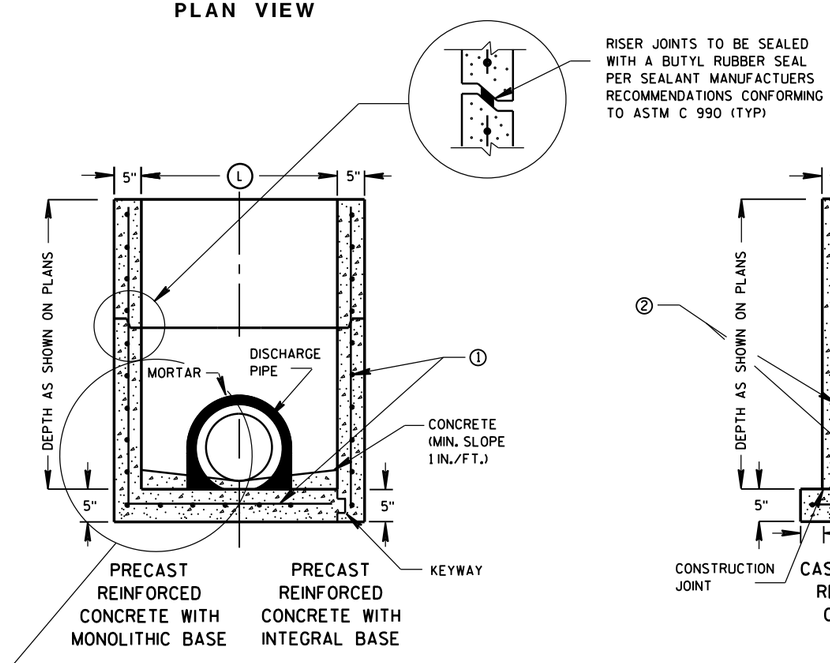
6
S.D.D. 8 B 9-1



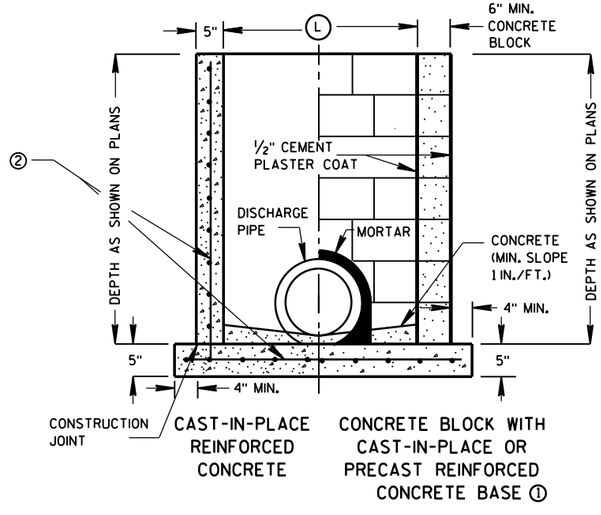
PLAN VIEW



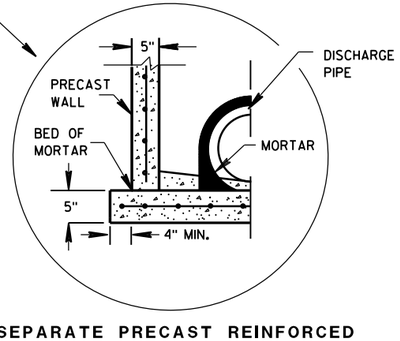
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

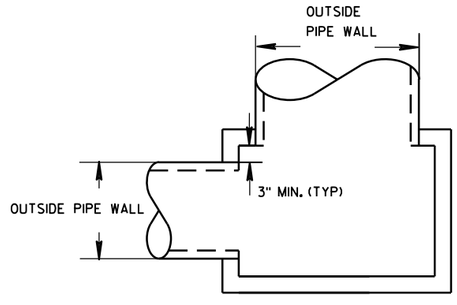
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

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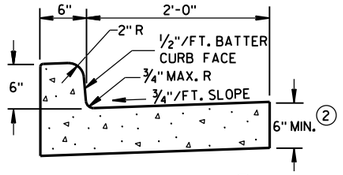
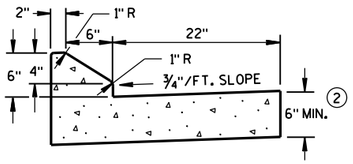
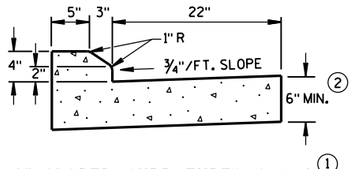
S.D.D. 8 C 7-1



TYPES A & D ①

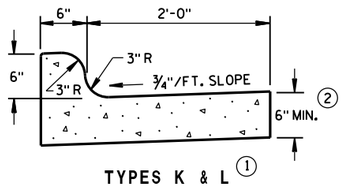


6" SLOPED CURB TYPES G & J ①

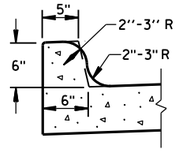


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

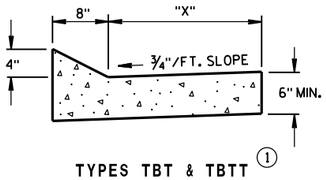


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

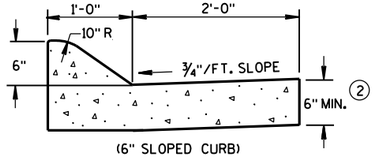
CONCRETE CURB & GUTTER 30"



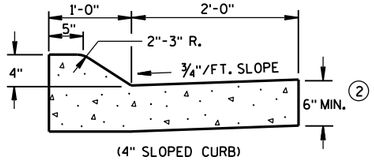
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

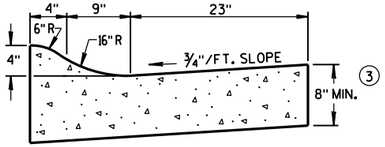


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

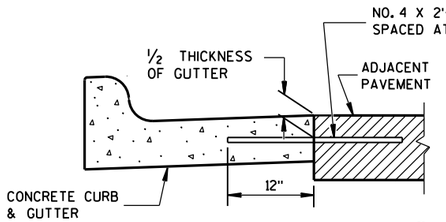
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

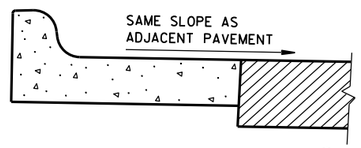
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

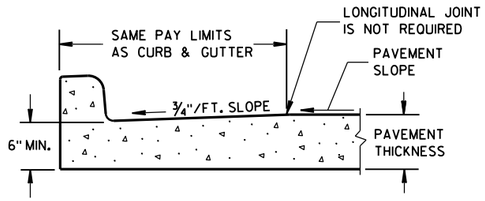
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



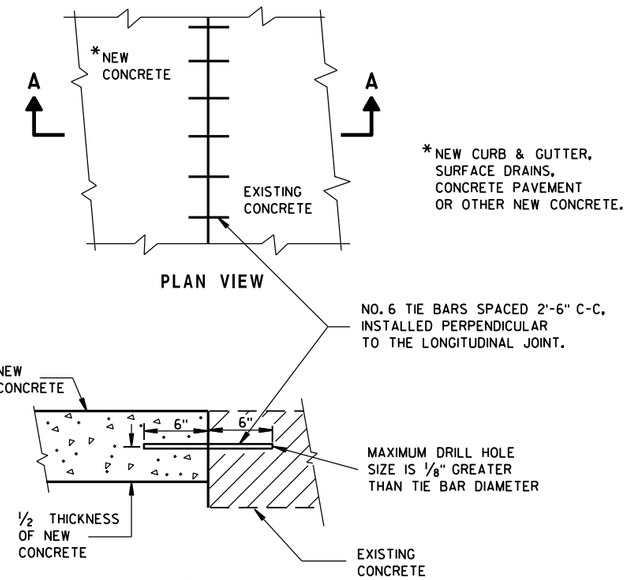
TYPICAL TIE BAR LOCATION ①



REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



PLAN VIEW

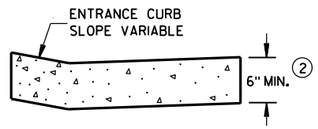
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.

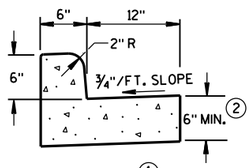
MAXIMUM DRILL HOLE SIZE IS ⅛" GREATER THAN TIE BAR DIAMETER

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

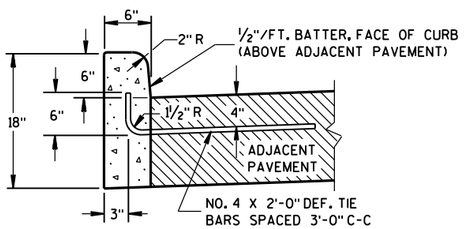


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

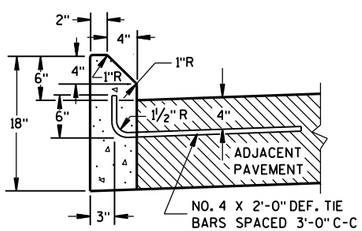


① TYPES A & D

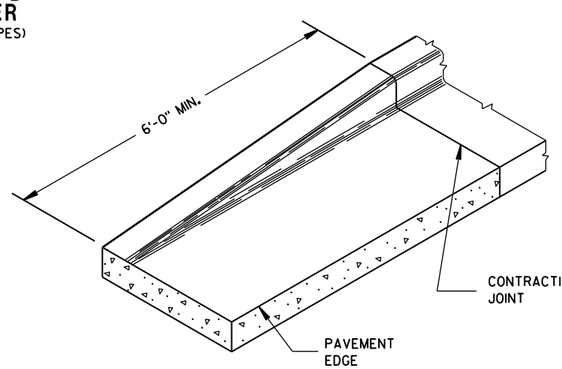
CONCRETE CURB & GUTTER 18"



① TYPES A & D



① TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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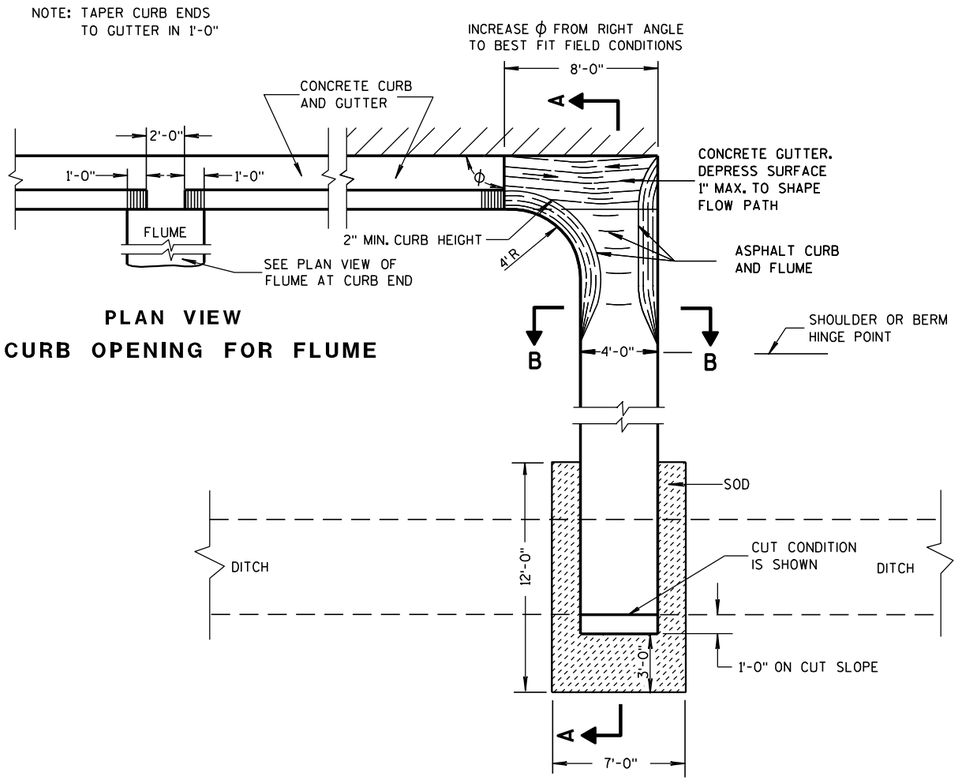
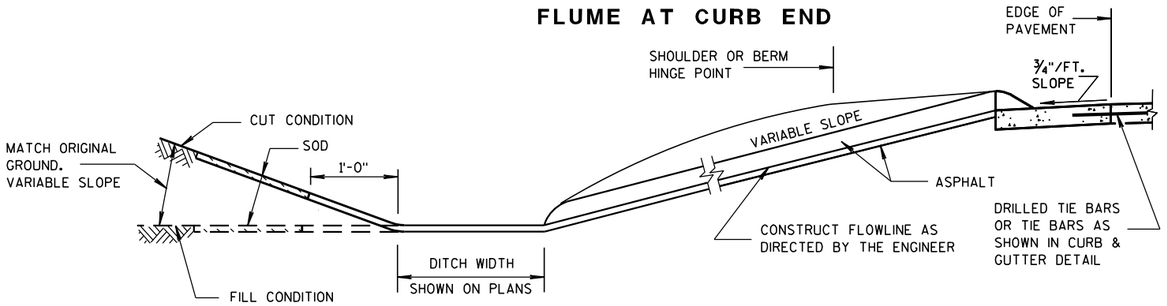
ASPHALTIC FLUME

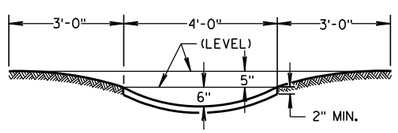


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

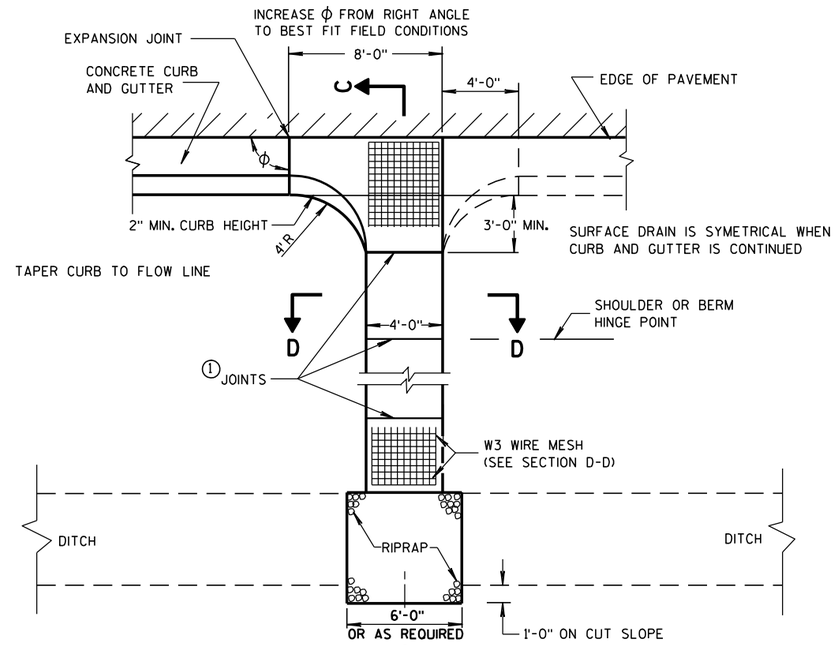
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

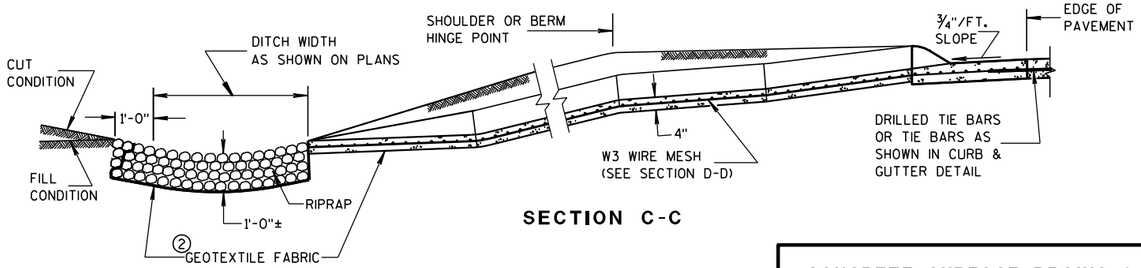
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

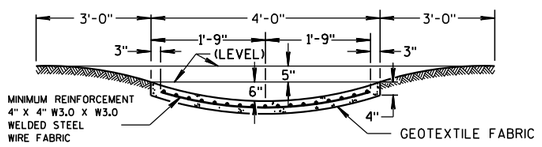
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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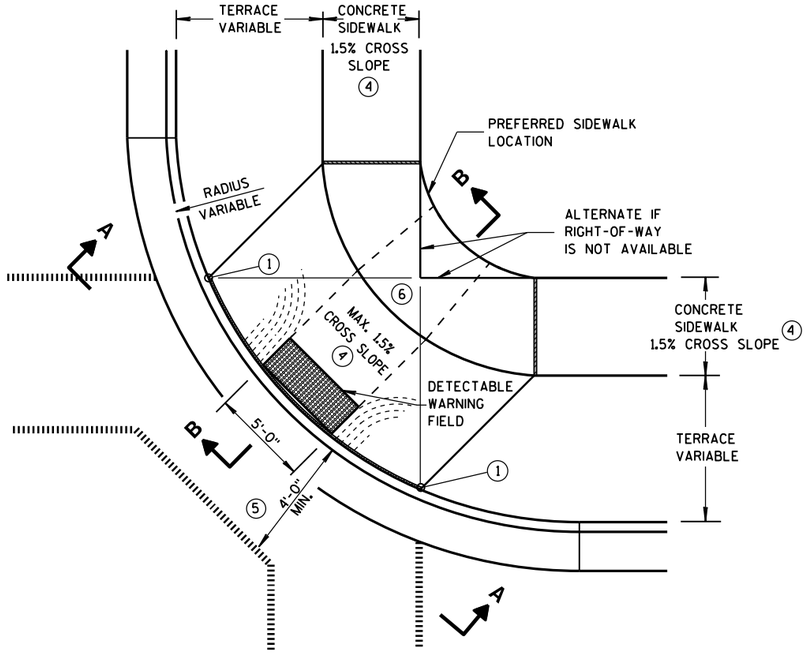
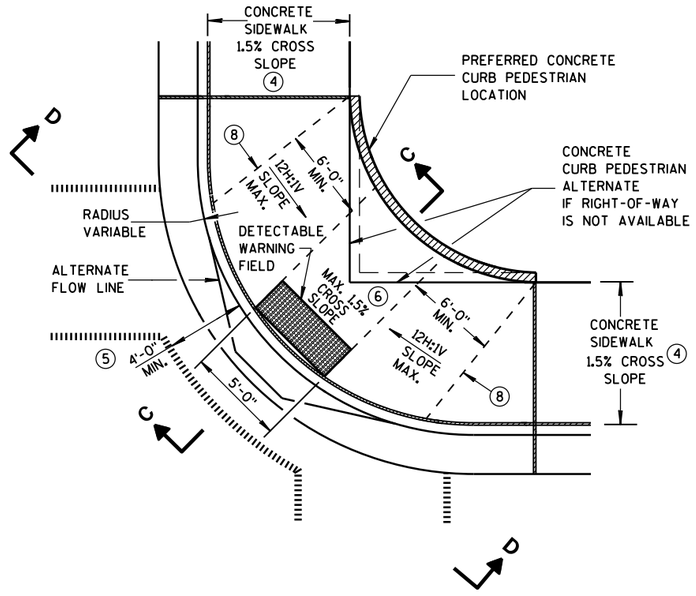


PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

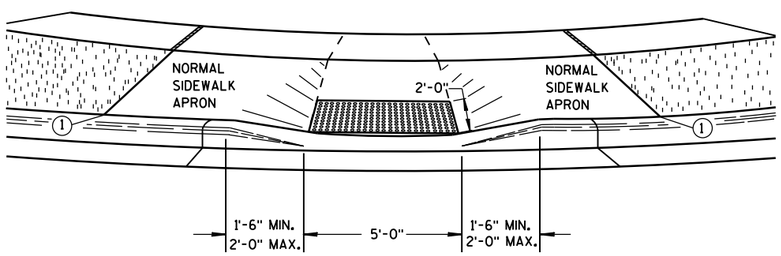
(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

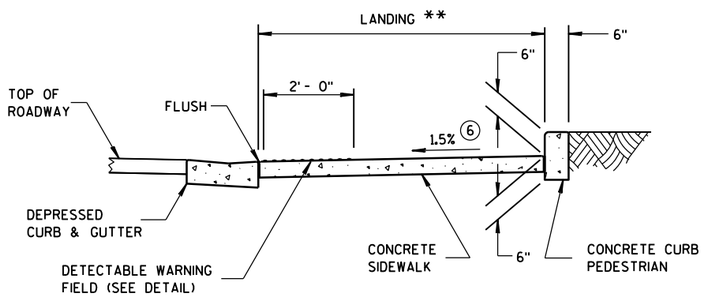
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.



VIEW A-A

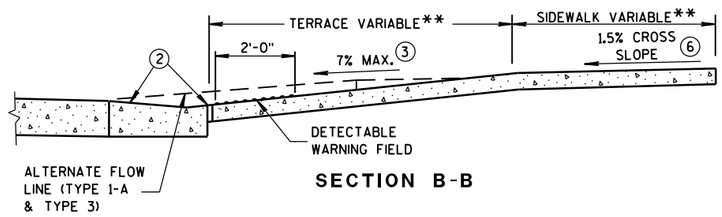
** WIDTH SHOWN ELSEWHERE IN THE PLANS



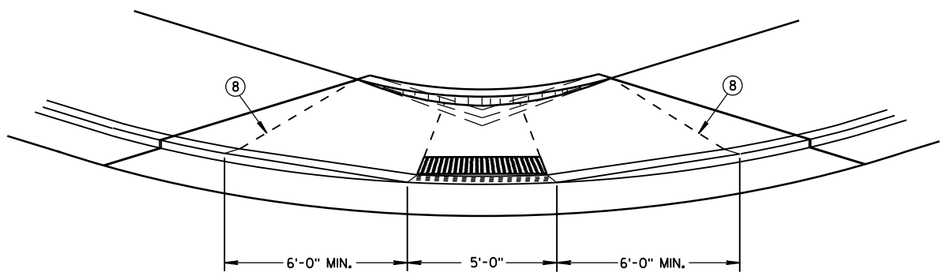
SECTION C-C

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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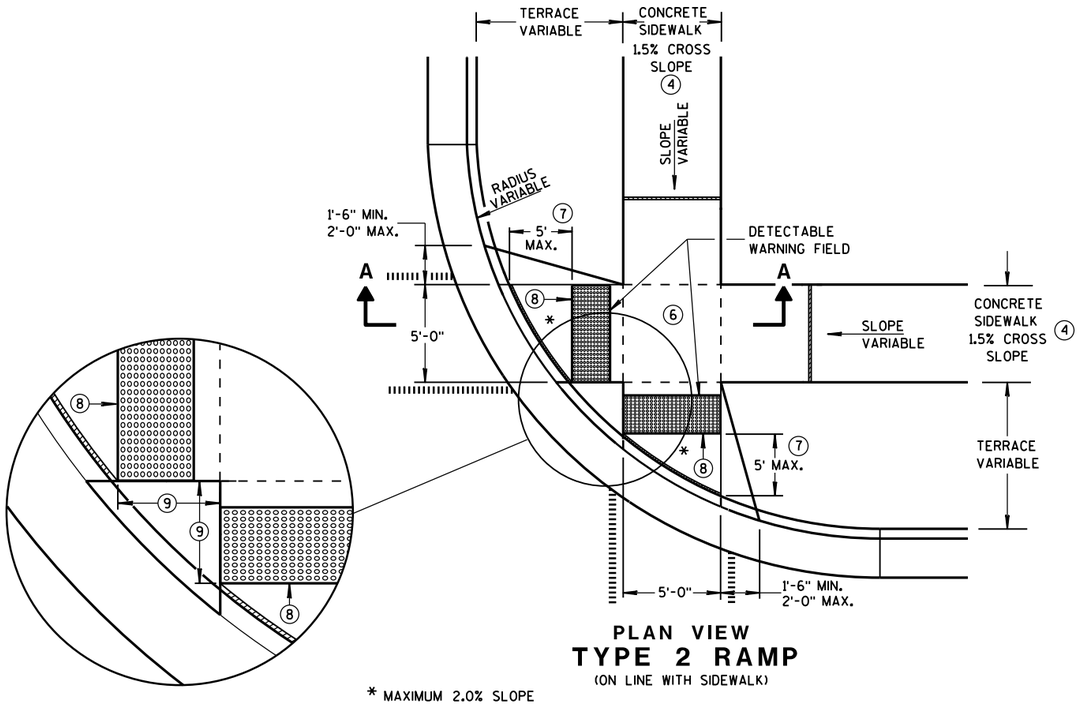
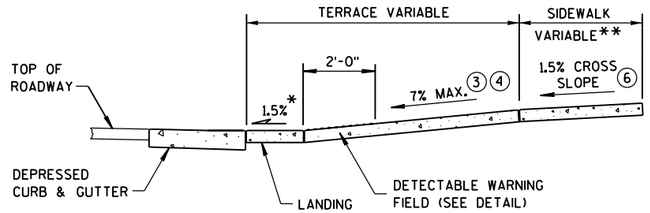


PLAN VIEW

TYPE 2 RAMP

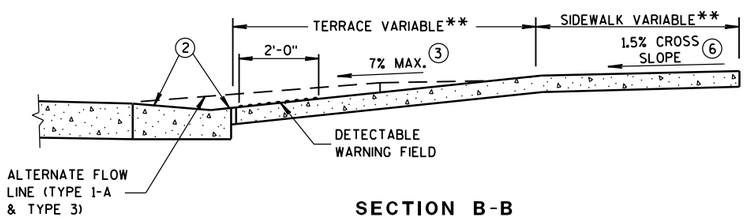
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

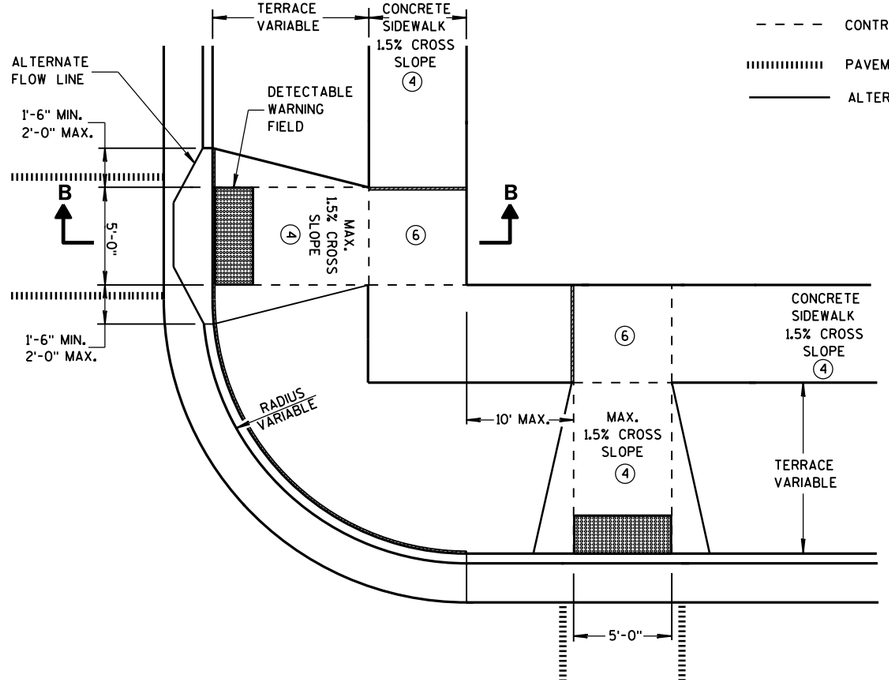
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. 2" MINIMUM CURB HEIGHT.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

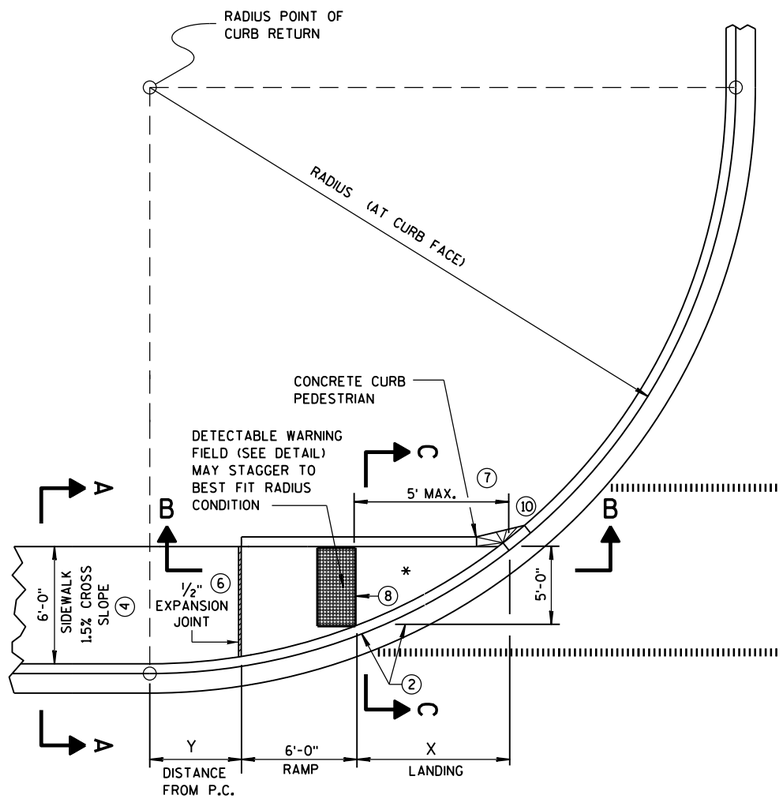
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 8 D 5-16b

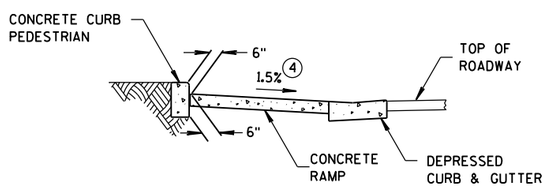


CURB RAMP TYPE 4A

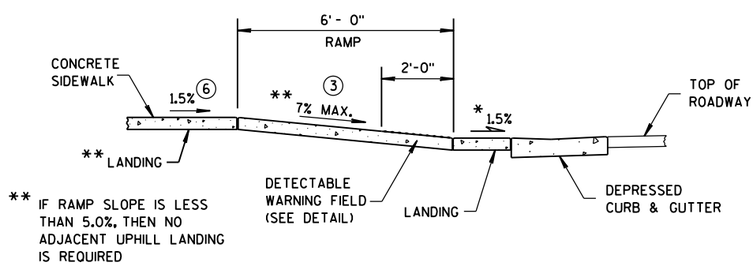
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

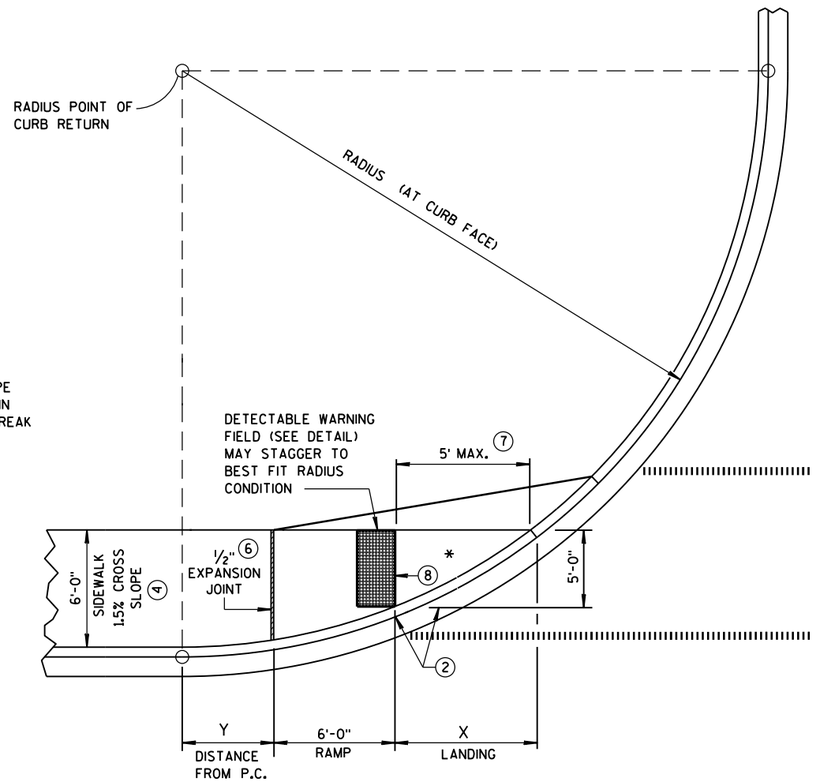
INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4A



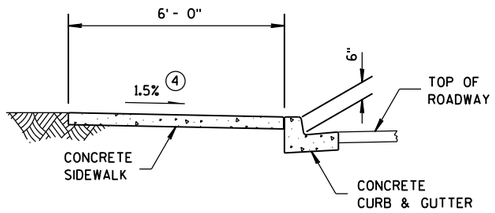
SECTION B-B FOR TYPE 4A



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

CURB RAMP TYPE 4A1

PLAN VIEW



SECTION A-A FOR TYPE 4A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

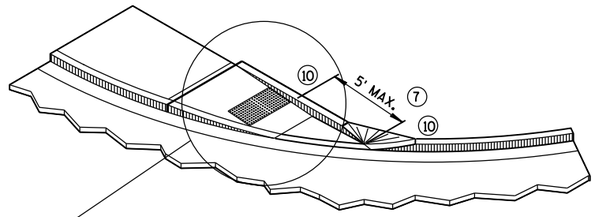
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

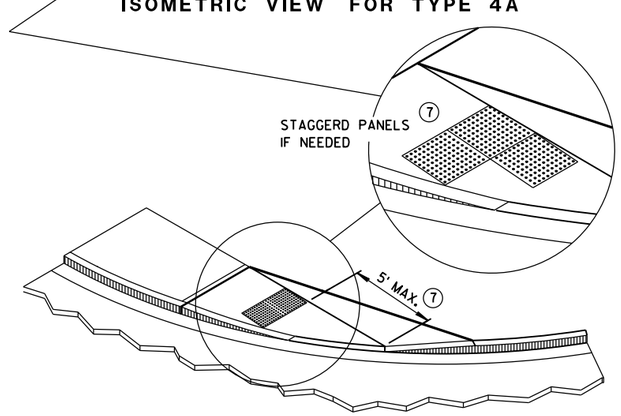
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

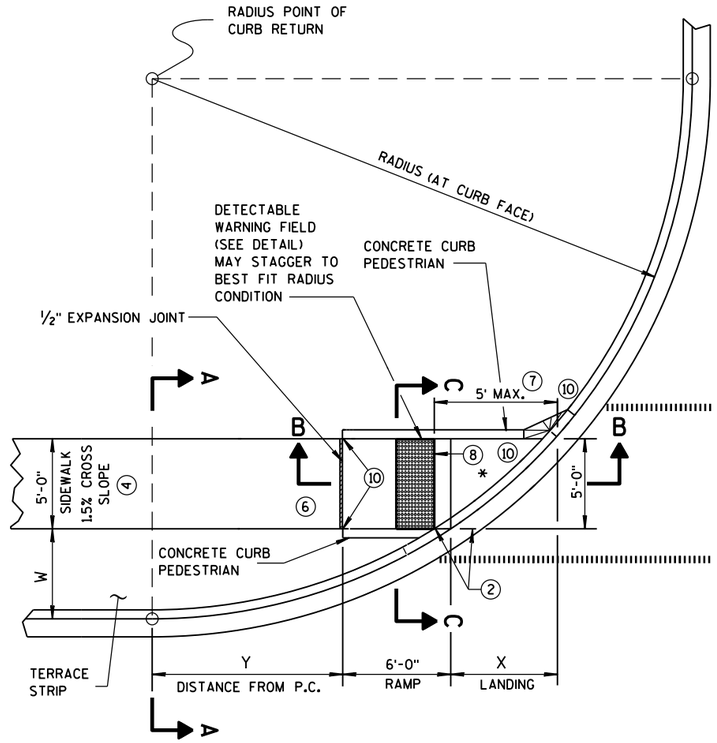
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

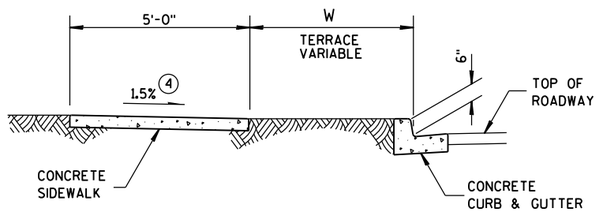
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

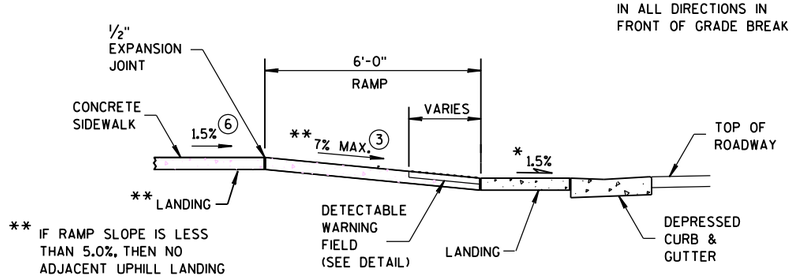
S.D.D. 8 D 5-16c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

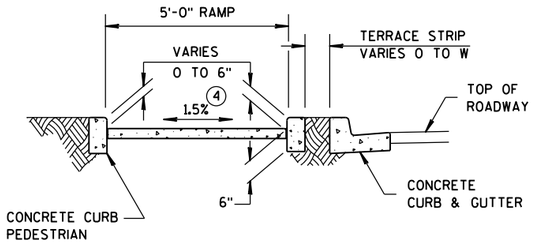
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

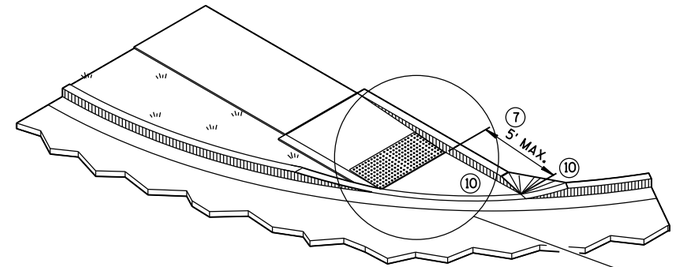
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

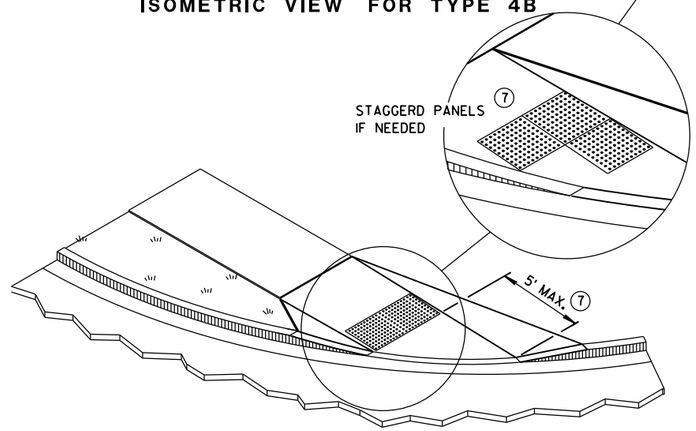
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, USE MULTIPLE DETECTABLE WARNING PANELS ACROSS THE RAMP AND STAGGER ADDITIONAL DETECTABLE WARNING PANEL(S) FORWARD TO REDUCE THIS DISTANCE.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

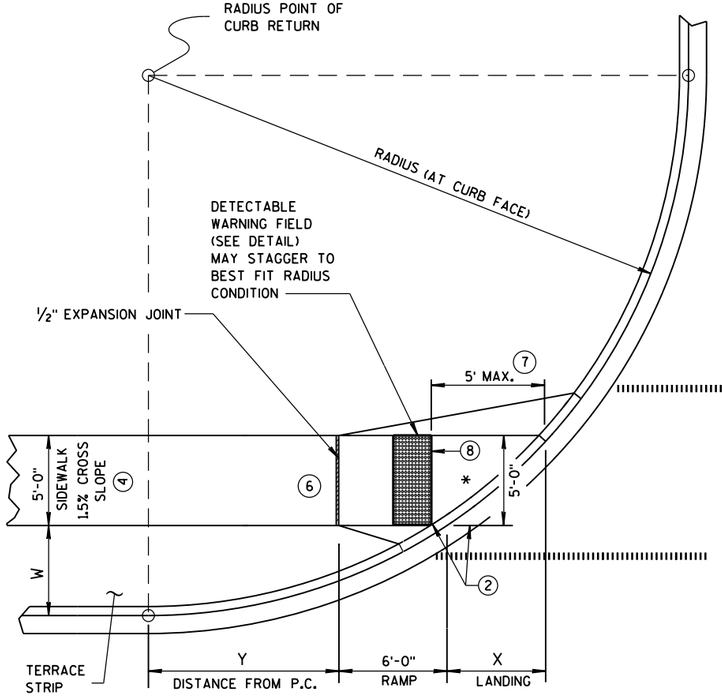
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS TYPE 4B AND 4B1

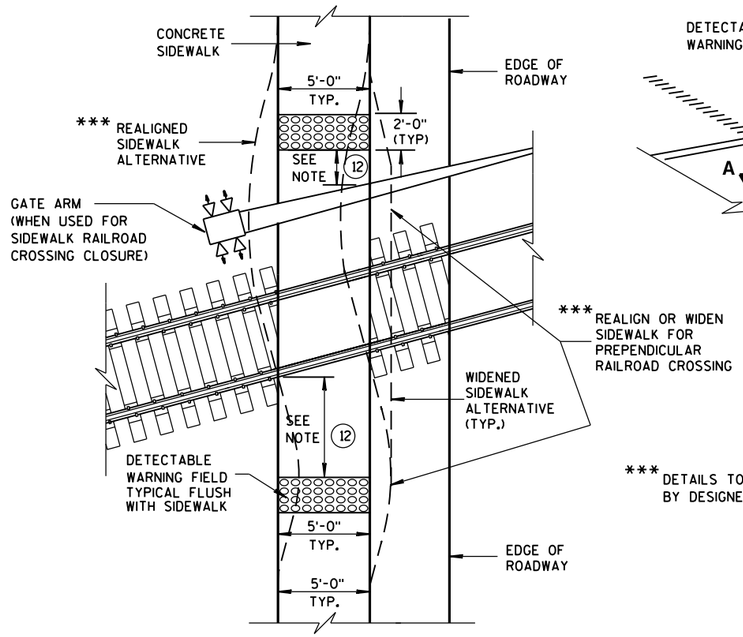
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-16d

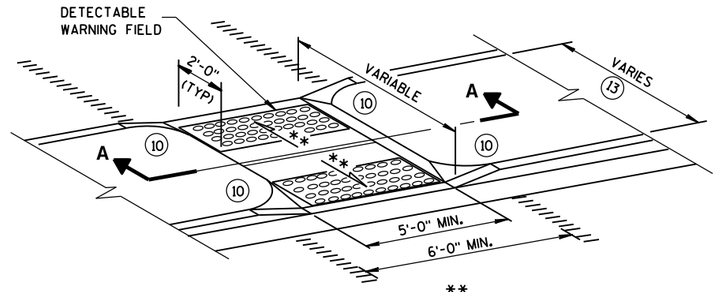
6

S.D.D. 8 D 5-16d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING

*** DETAILS TO BE DETERMINED BY DESIGNER



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

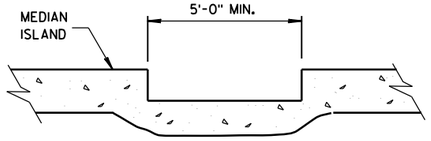
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

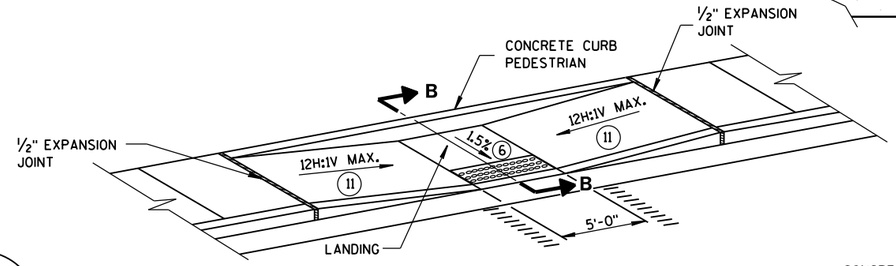
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



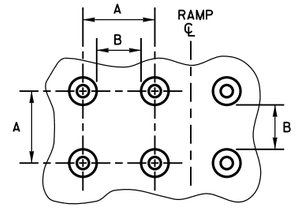
SECTION A-A



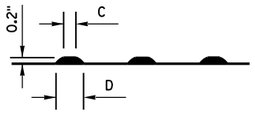
MID-BLOCK CROSSING
TYPE 7A

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

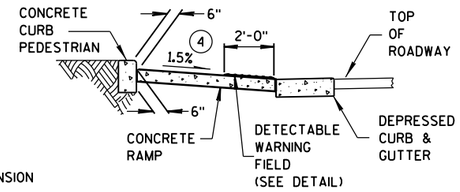


PLAN VIEW

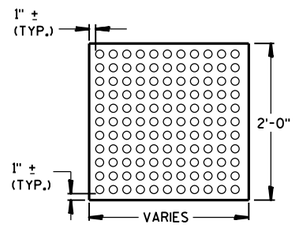


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



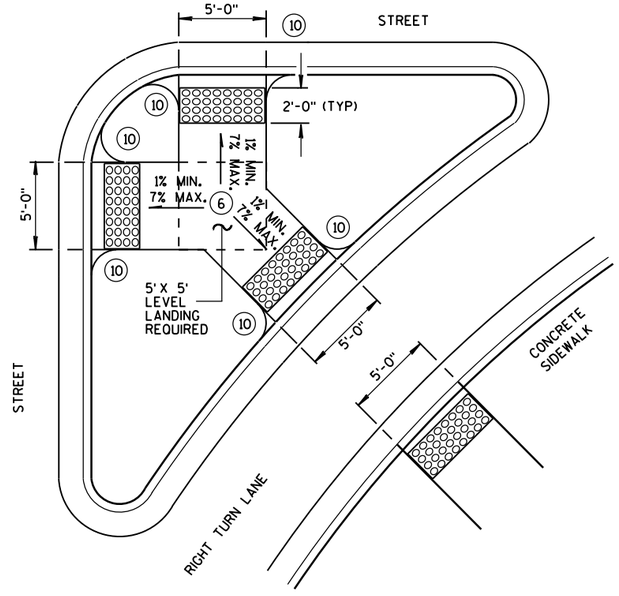
SECTION B-B



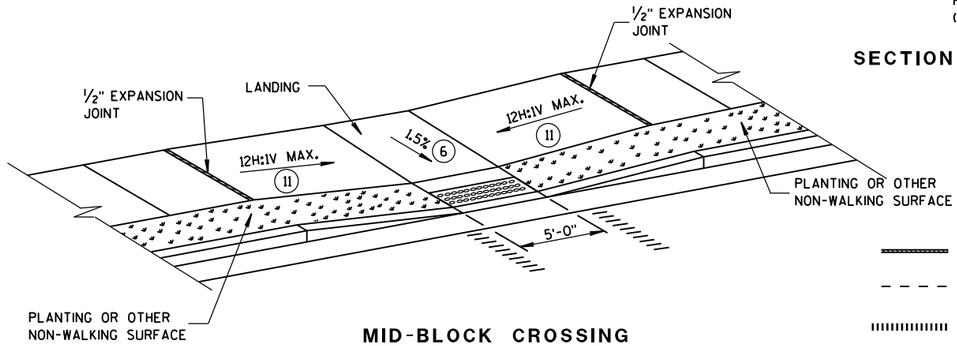
PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

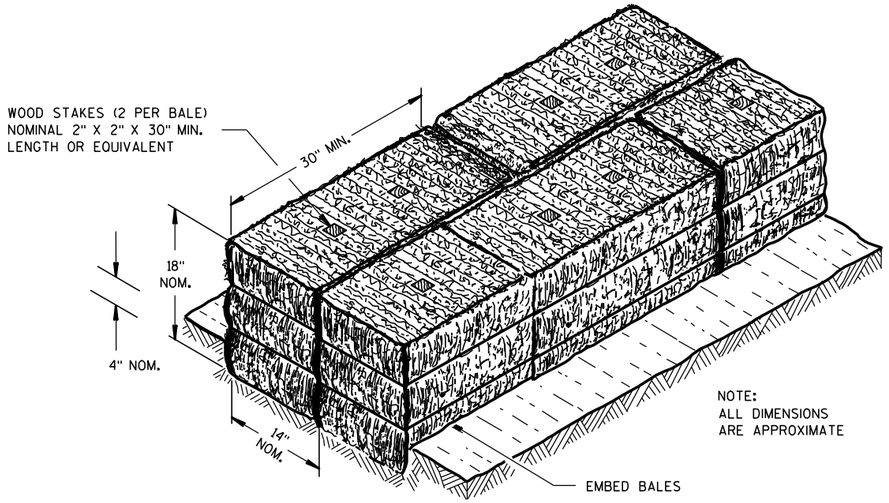
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

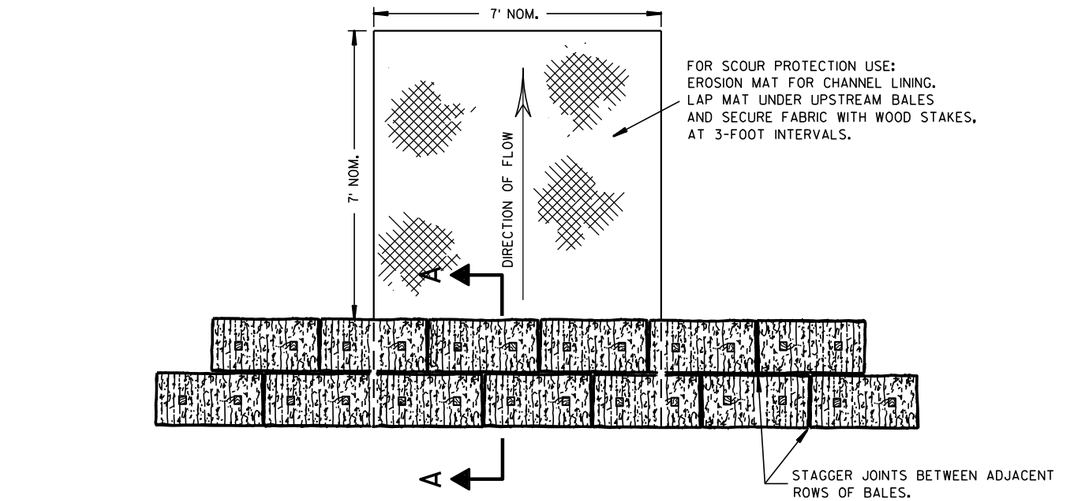
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

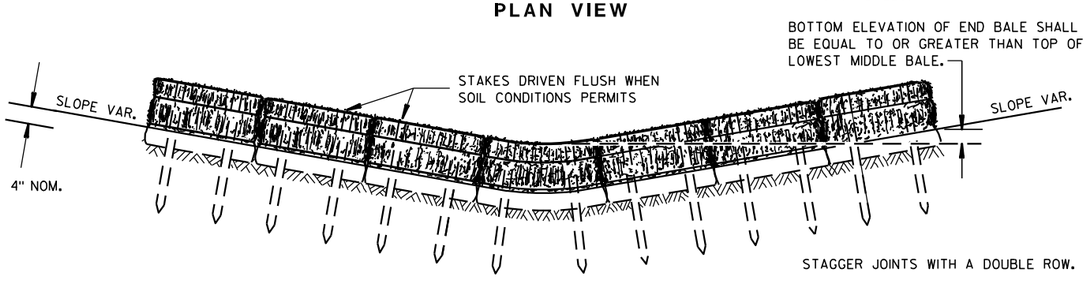
S.D.D. 8 D 5-16e



SECTION A-A



PLAN VIEW



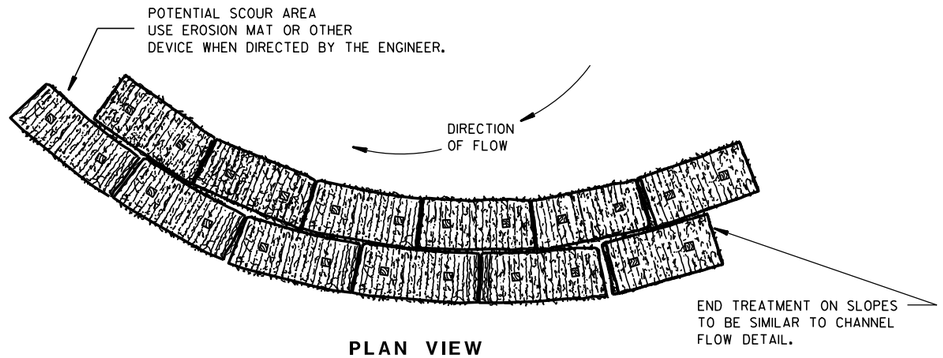
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

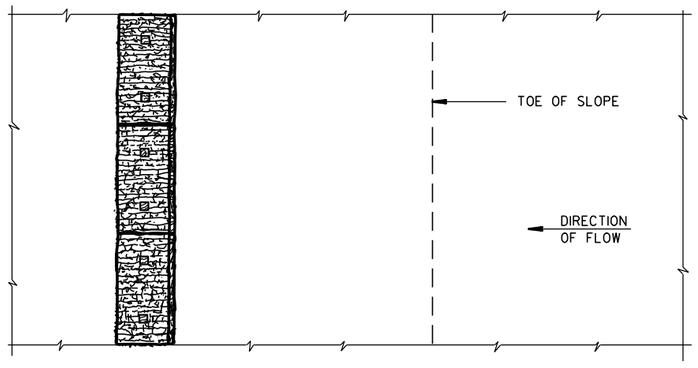
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

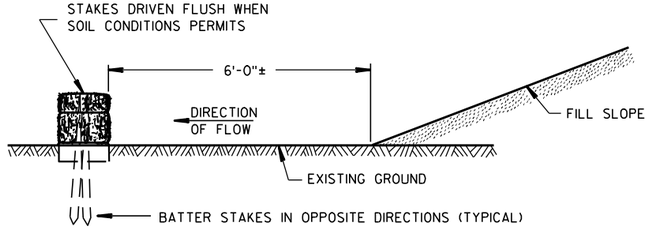


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

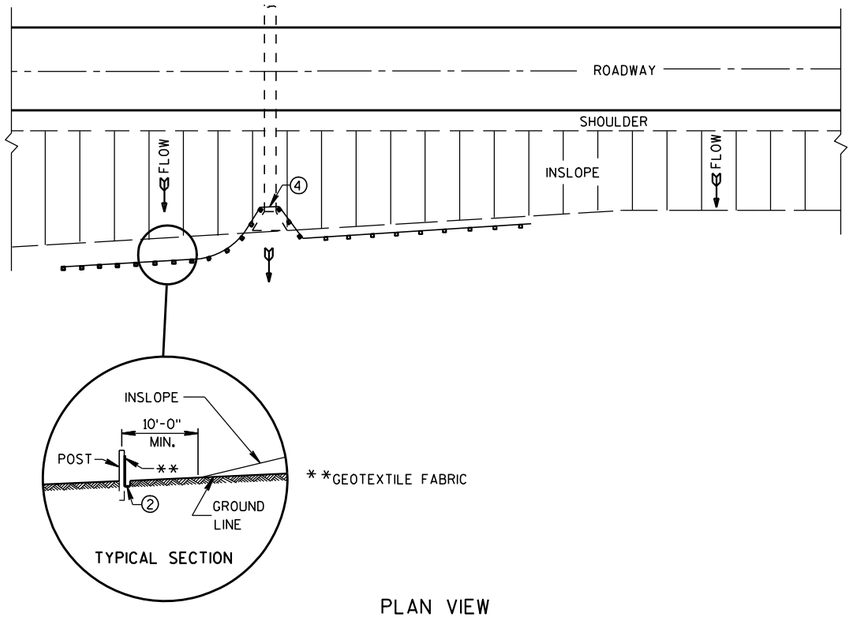
APPROVED

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

FHWA

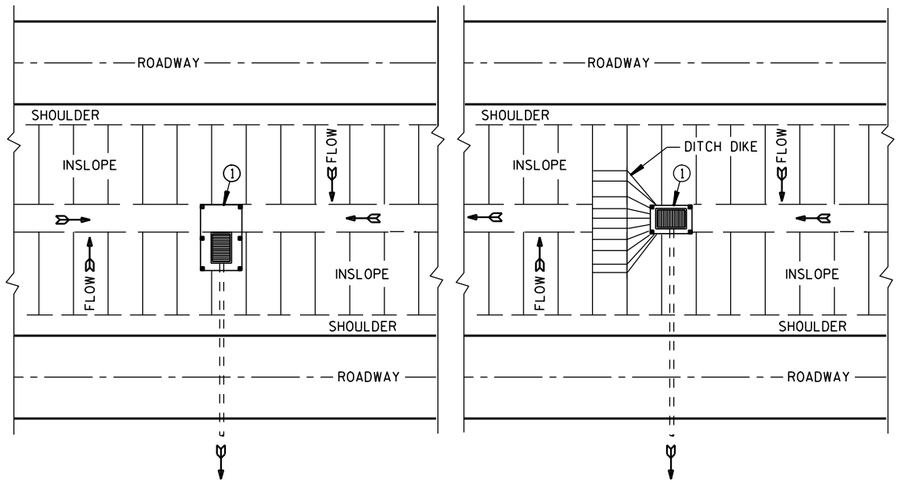
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



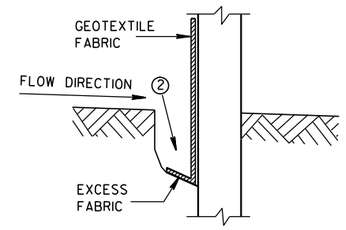
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

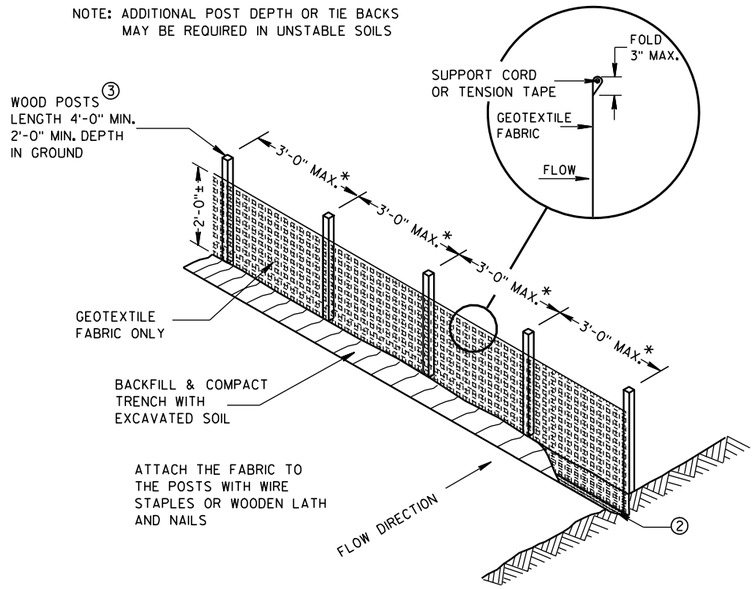
GENERAL NOTES

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

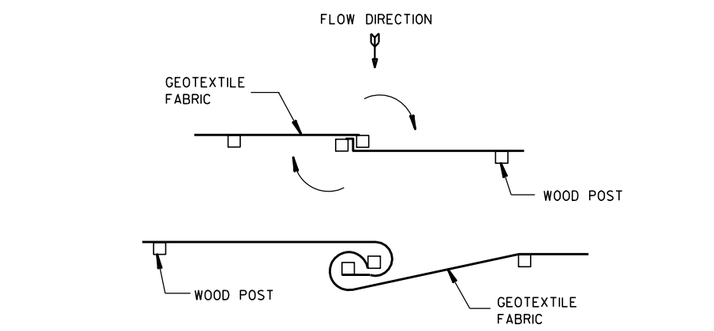
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



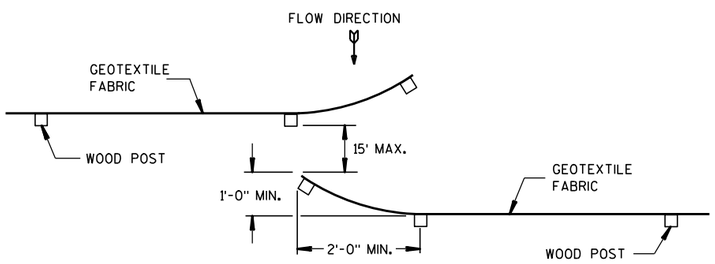
TRENCH DETAIL



SILT FENCE

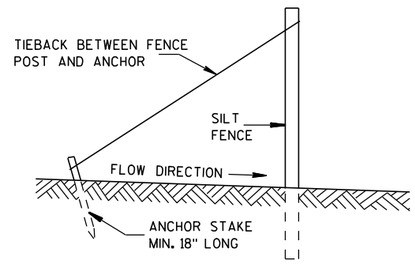


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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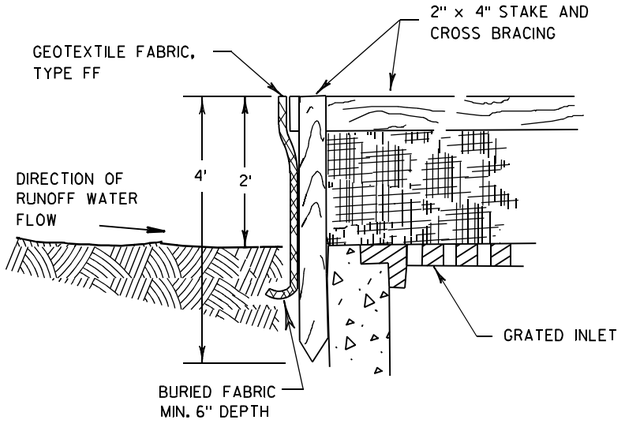
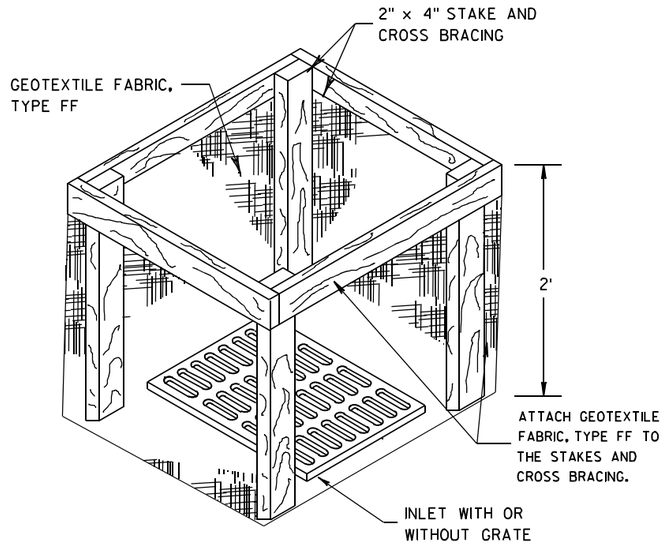
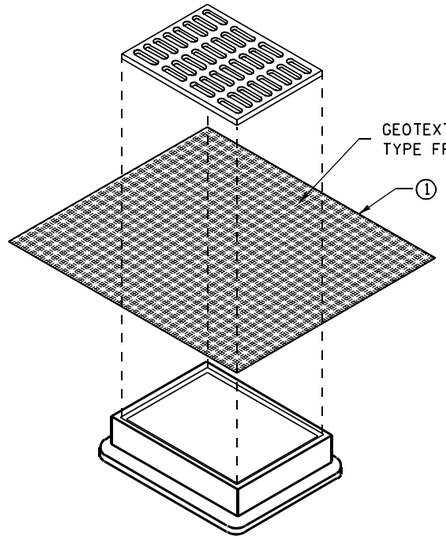
S.D.D. 8 E 9-6



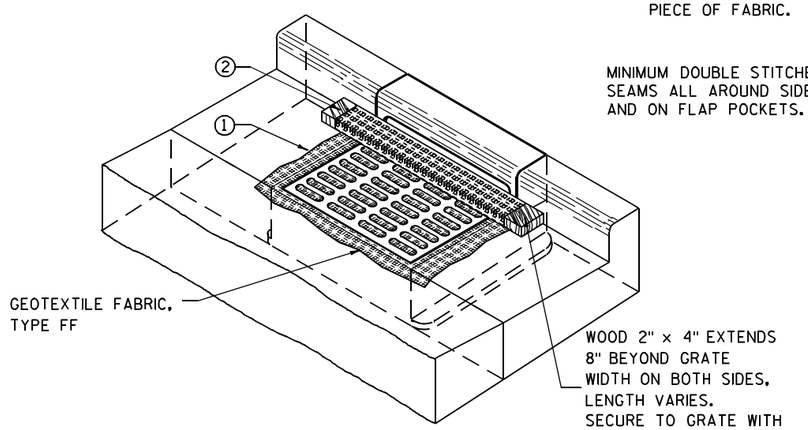


INLET PROTECTION, TYPE A

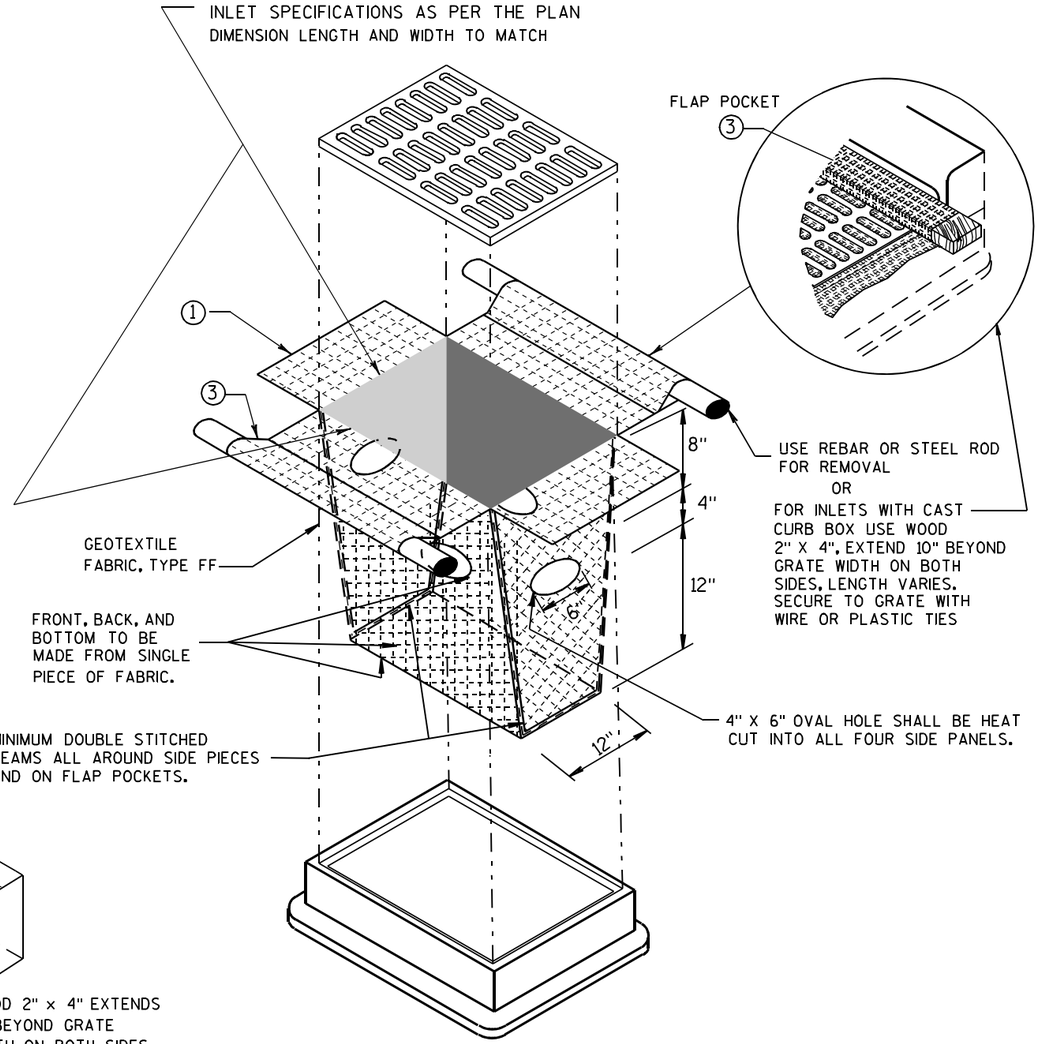


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

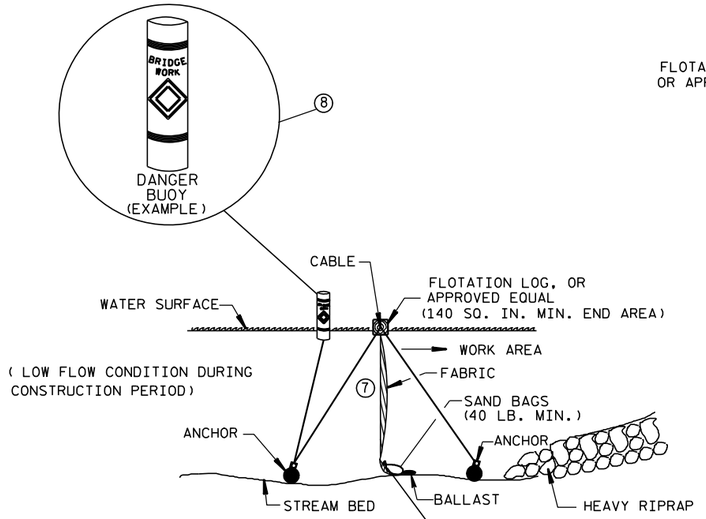
APPROVED

10/16/02
DATE

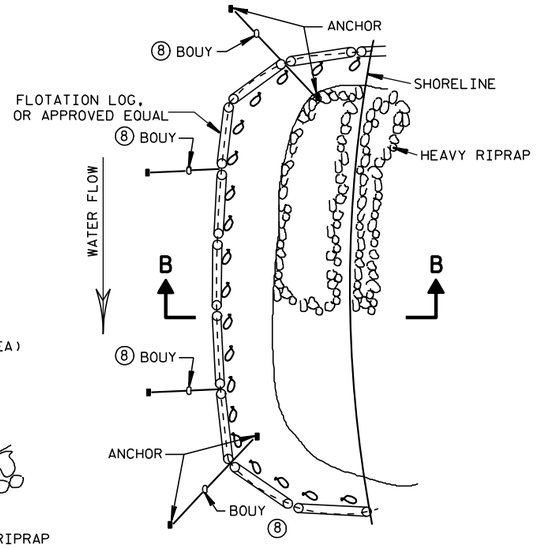
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

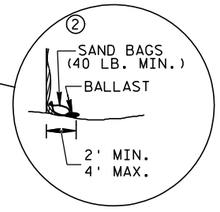
FHWA

6
S.D.D. 8 E 10-2

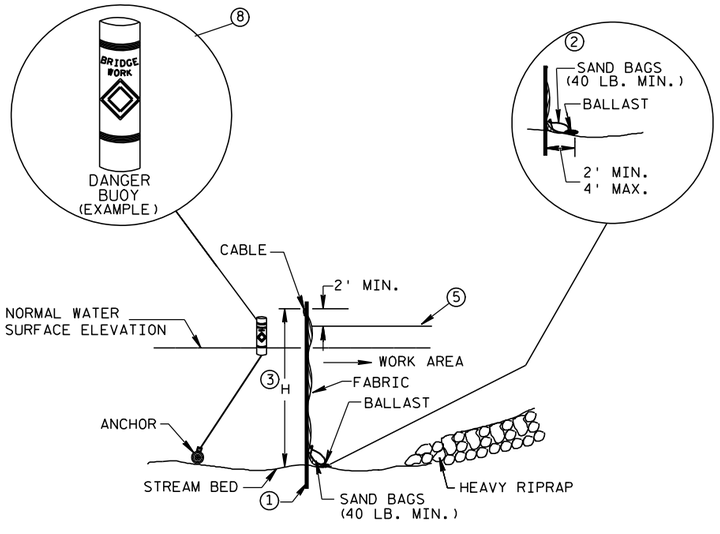


SECTION B-B

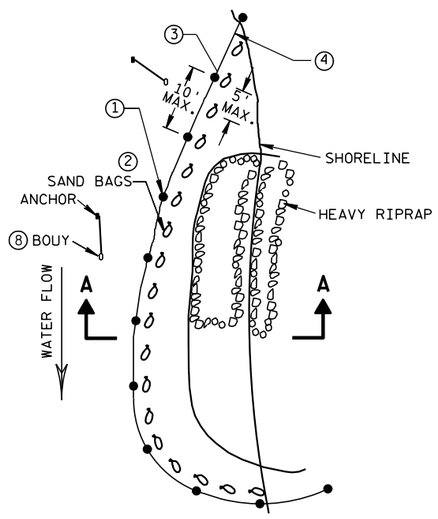




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

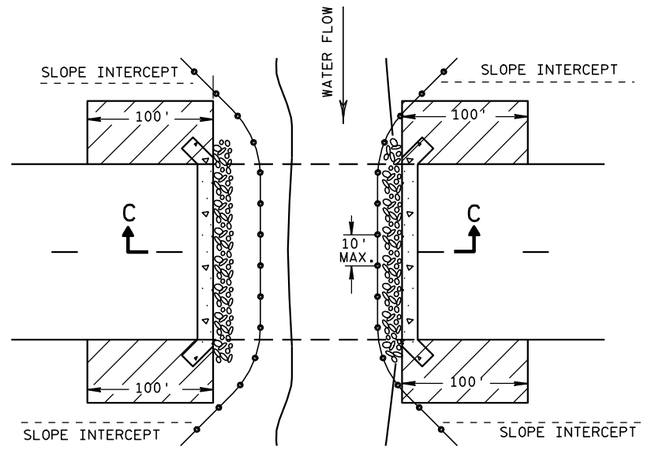
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

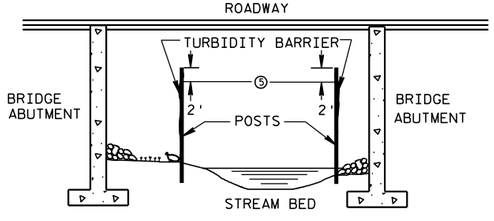
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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METAL APRON ENDWALLS

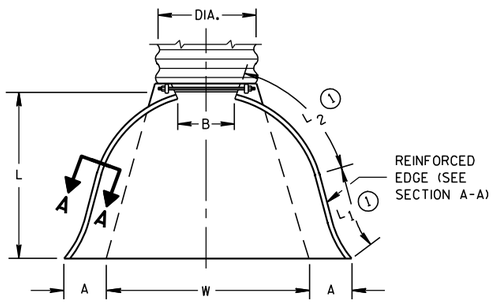
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

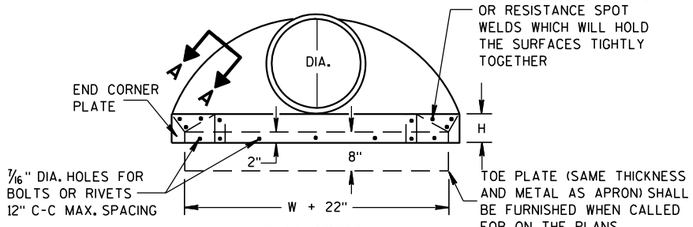
REINFORCED CONCRETE APRON ENDWALLS

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

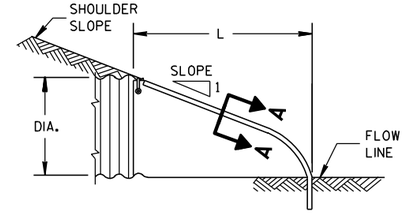
*MINIMUM
**MAXIMUM



PLAN VIEW

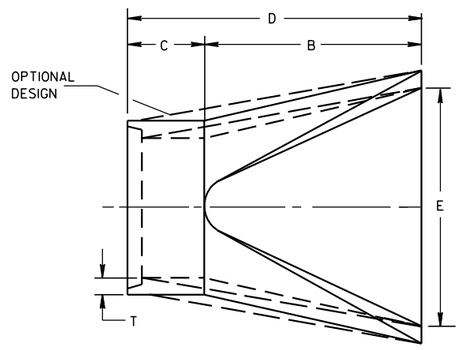


END VIEW

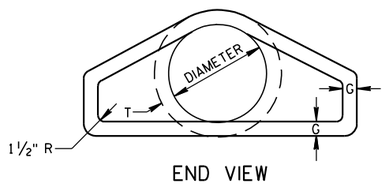


SIDE ELEVATION

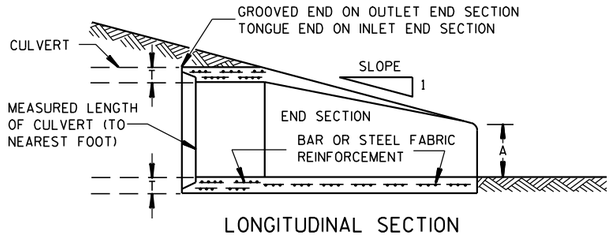
METAL ENDWALLS



PLAN

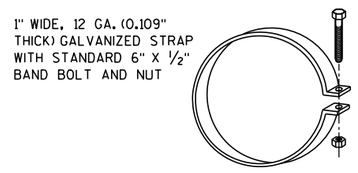


END VIEW



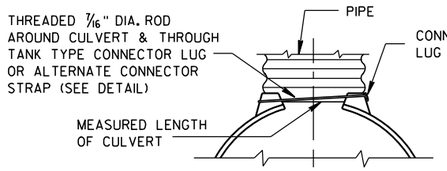
LONGITUDINAL SECTION

CONCRETE ENDWALLS

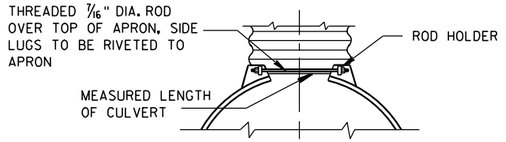


ALTERNATE FOR TYPE 1 CONNECTION

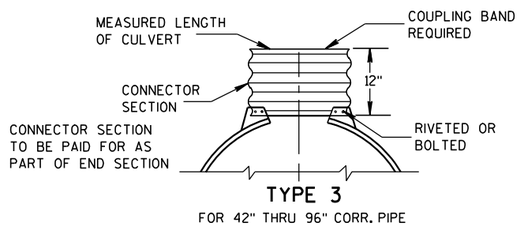
END SECTION CONNECTOR STRAP



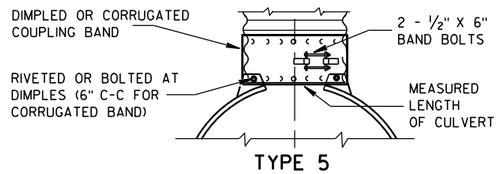
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

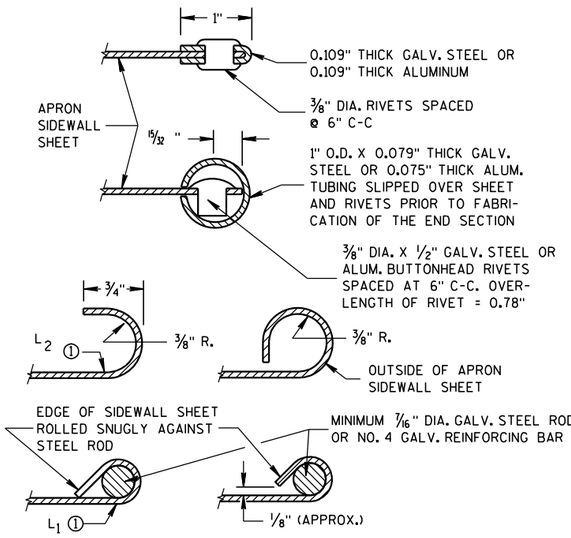
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

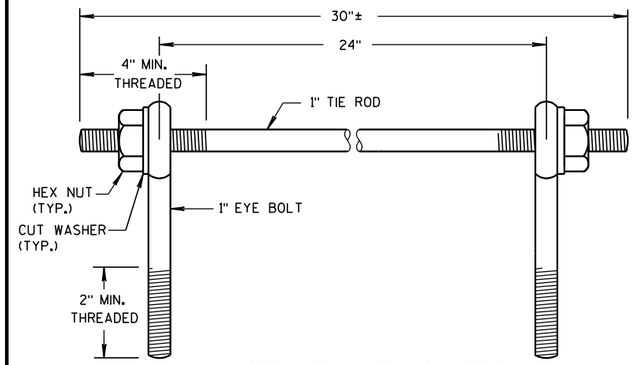
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

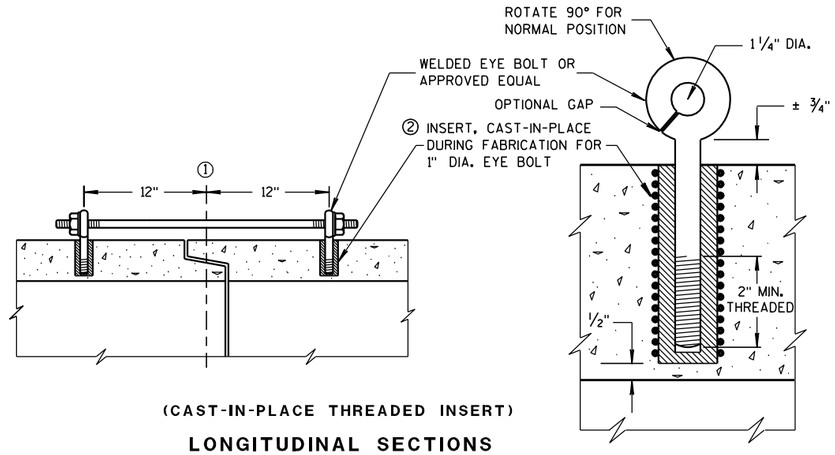
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

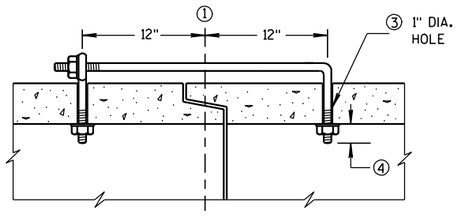
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

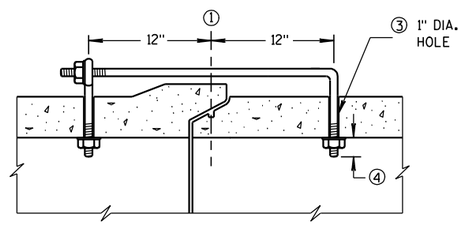
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

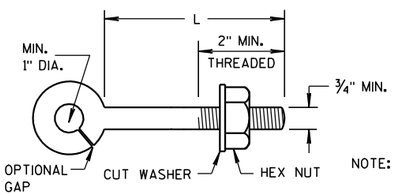


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

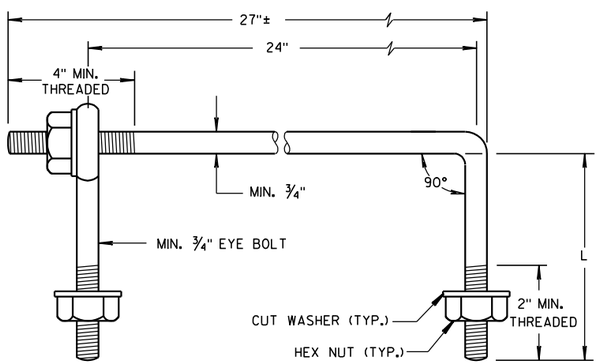
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

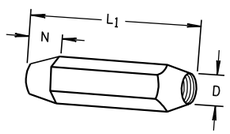
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



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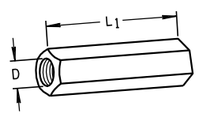
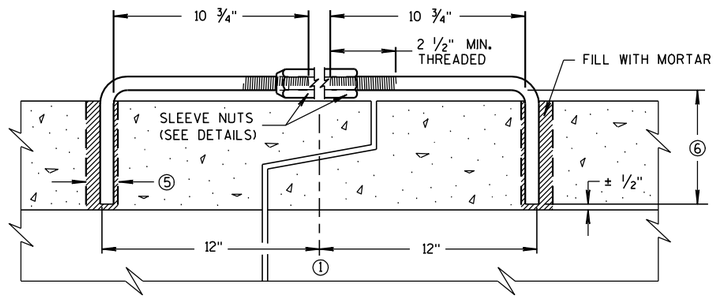


PLAIN

RIGHT AND LEFT THREADS

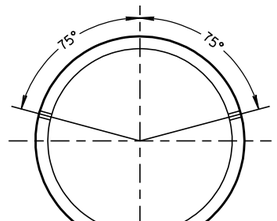
SLEEVE NUTS



LONGITUDINAL SECTION

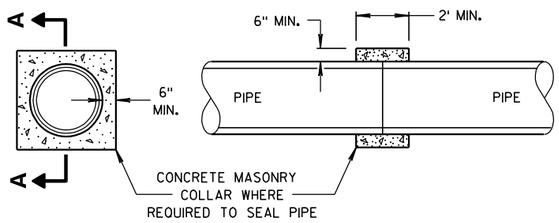
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6 S.D.D. 8 F 4-7

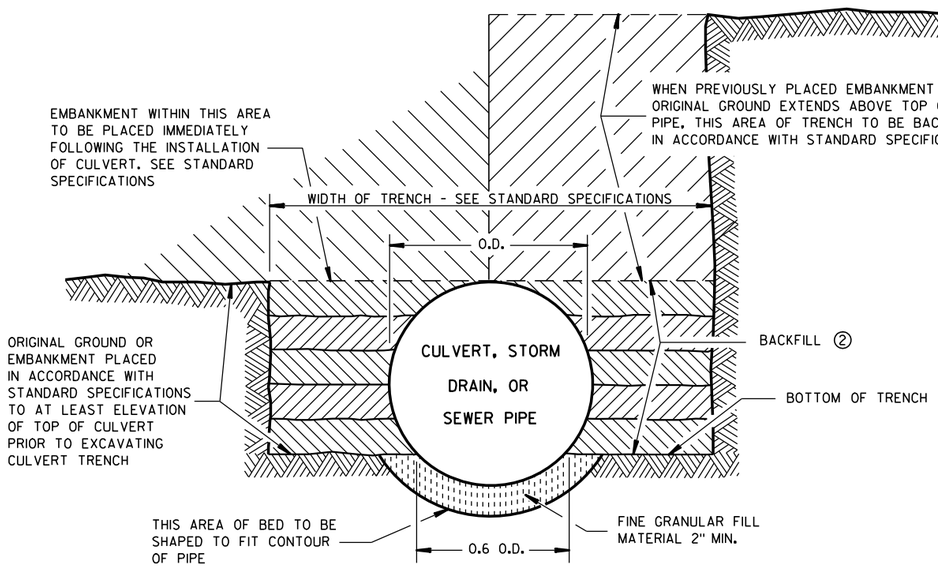
GENERAL NOTES

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

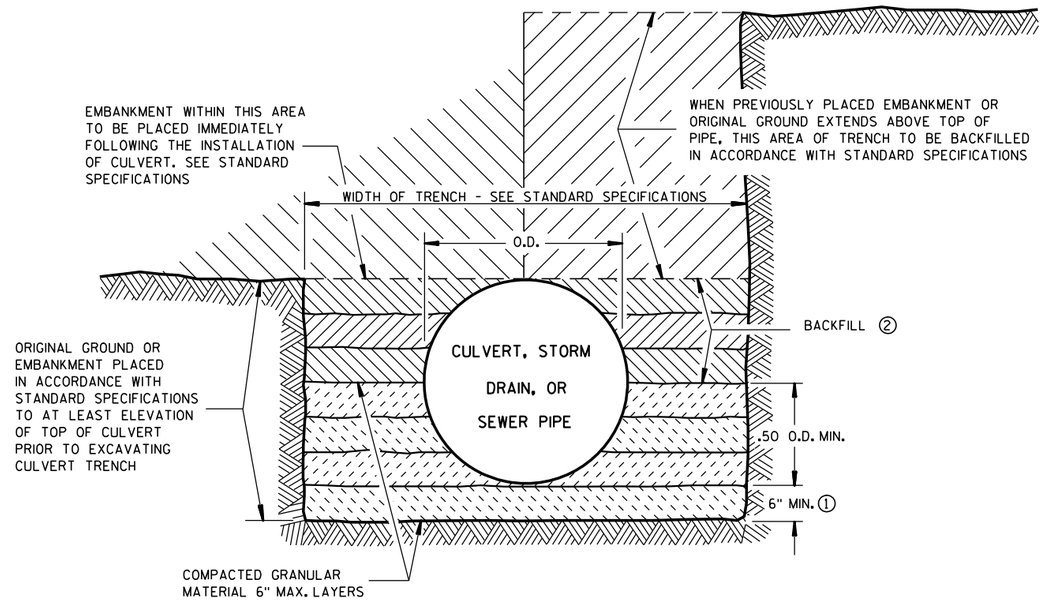
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

CLASS "B" BEDDING

CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

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S.D.D. 8 F 5-1

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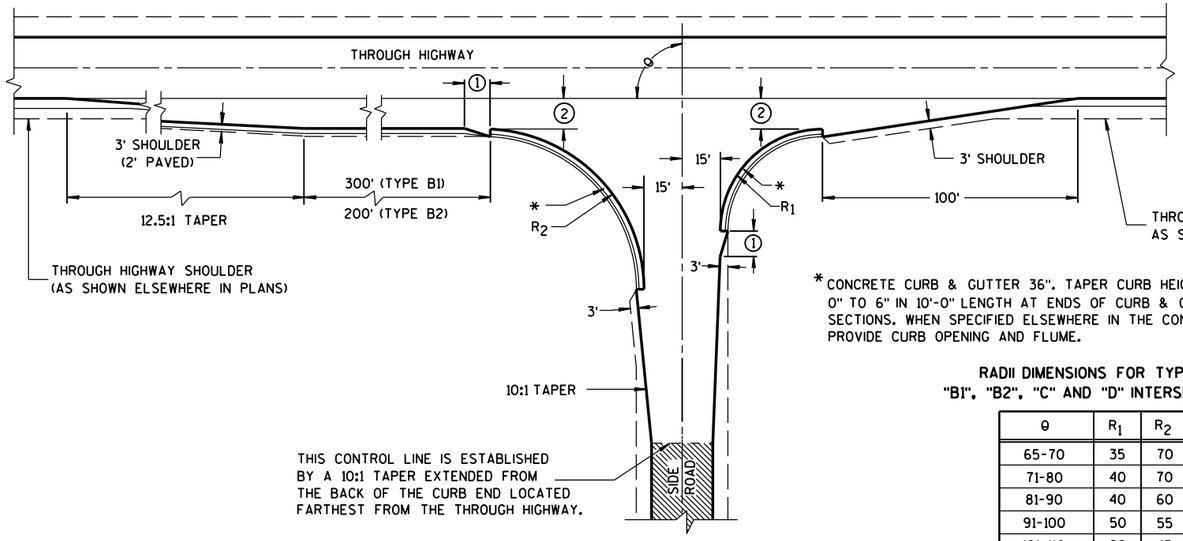
S.D.D. 8 F 5-1

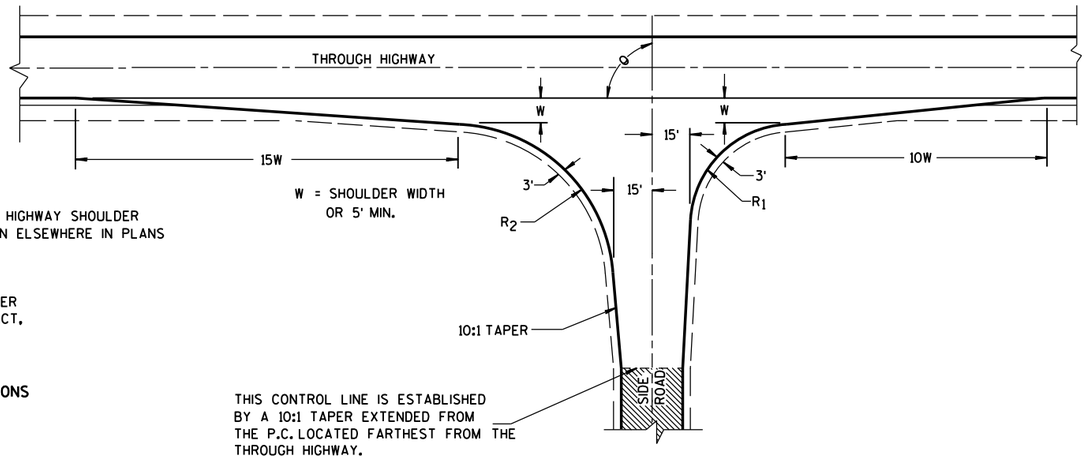


TYPE "B1" AND "B2"

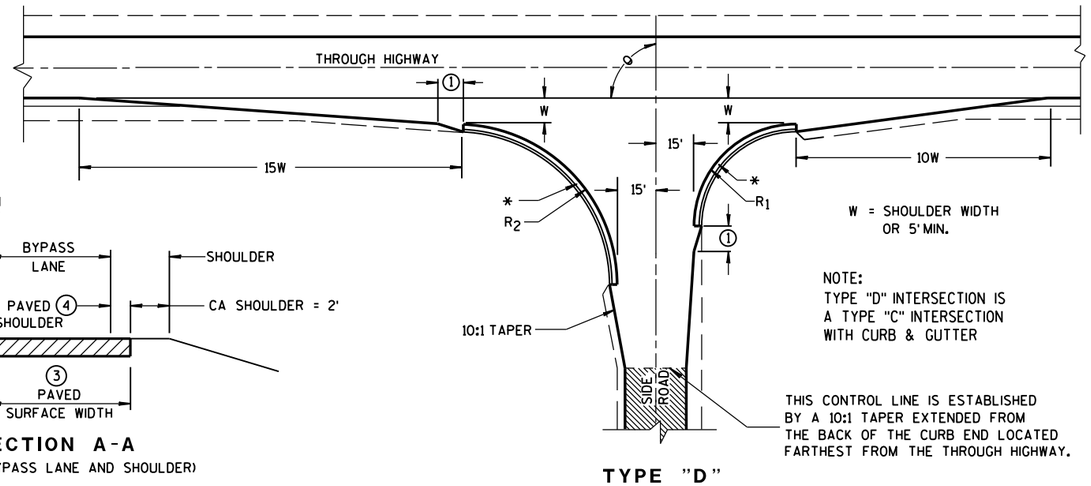
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

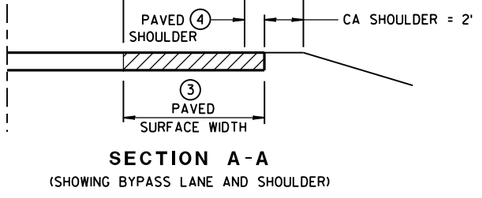
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

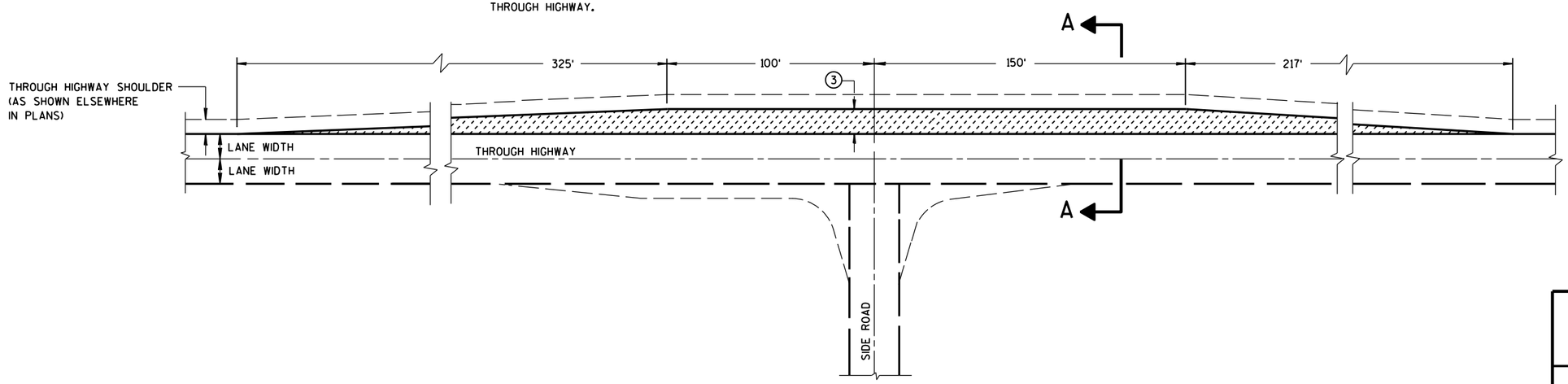
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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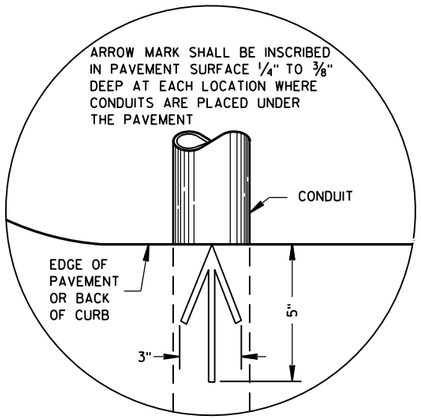
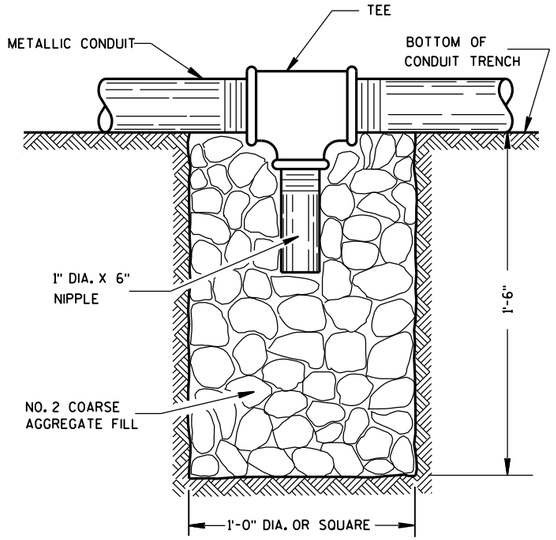
S.D.D. 9 A 1-13a



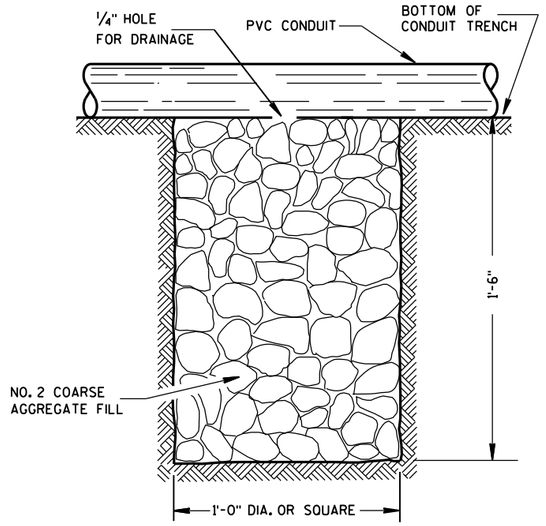
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

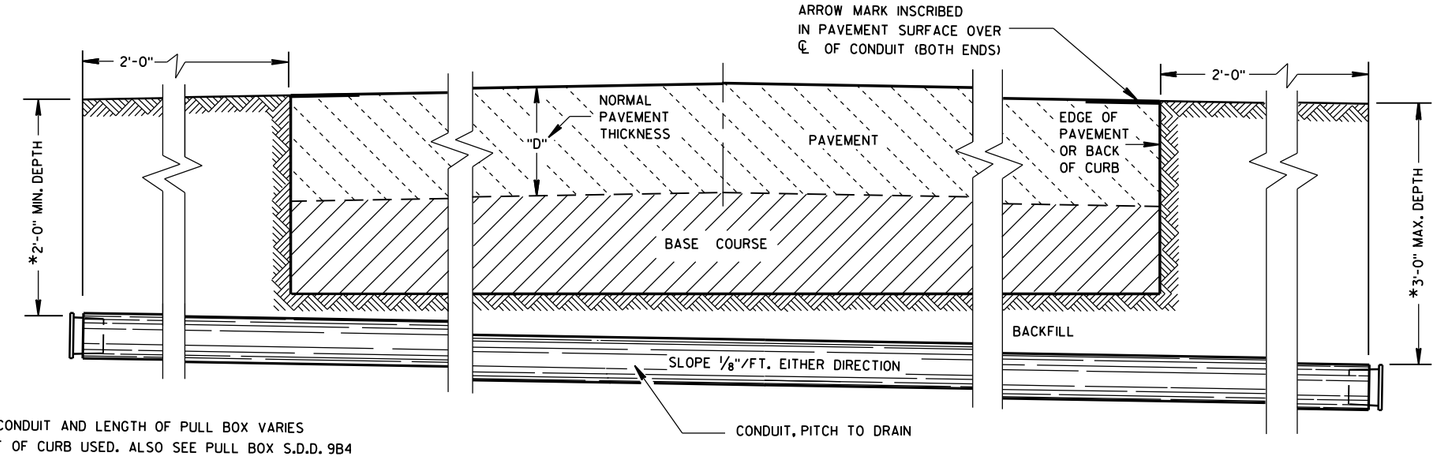
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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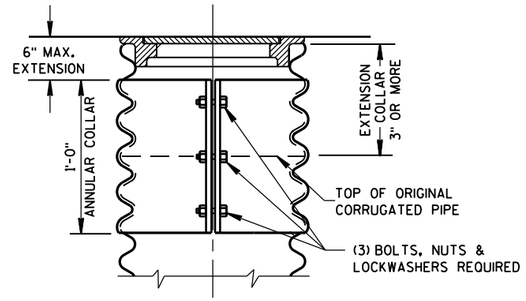
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

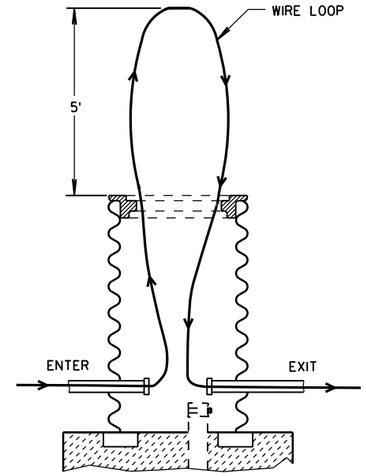
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

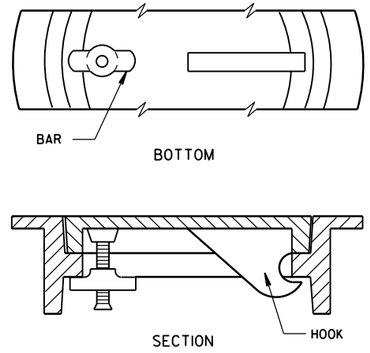
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

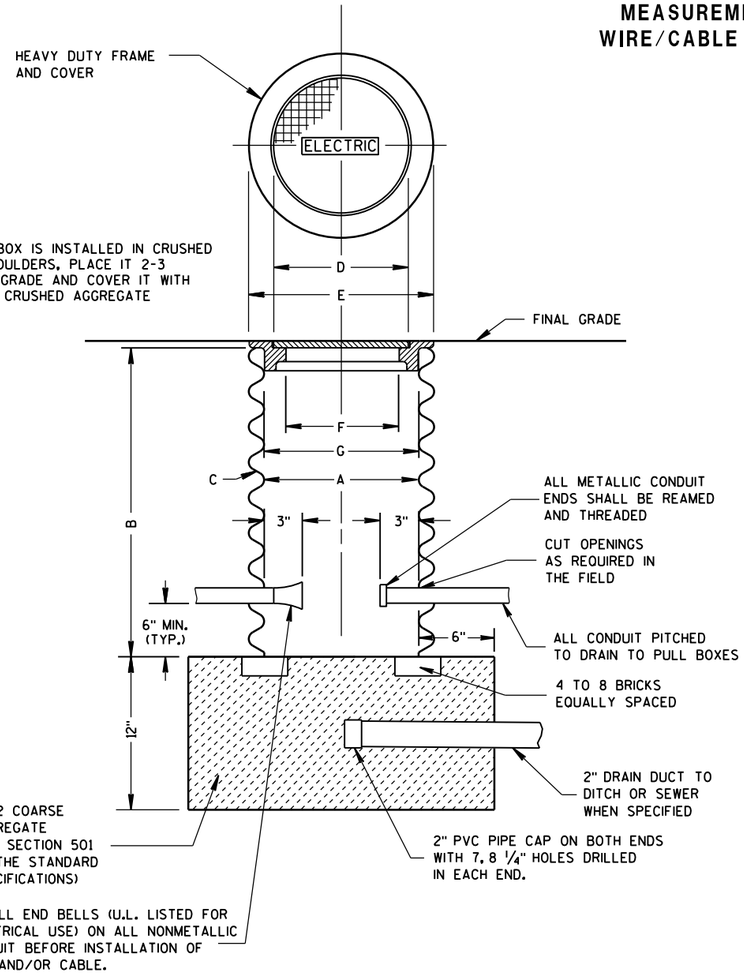


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



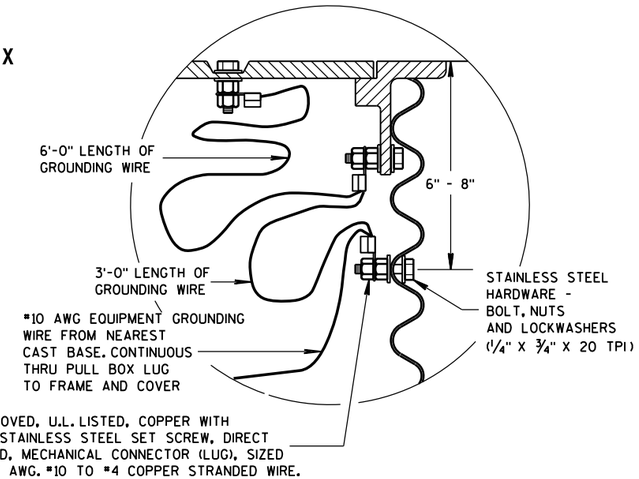
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

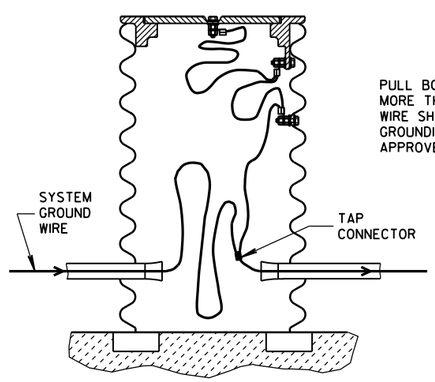


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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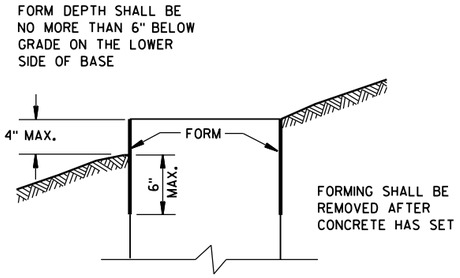
S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

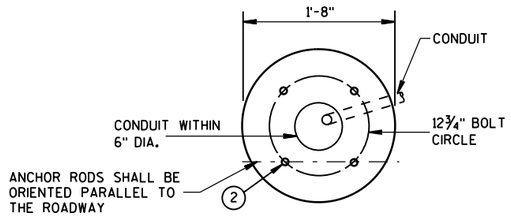
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

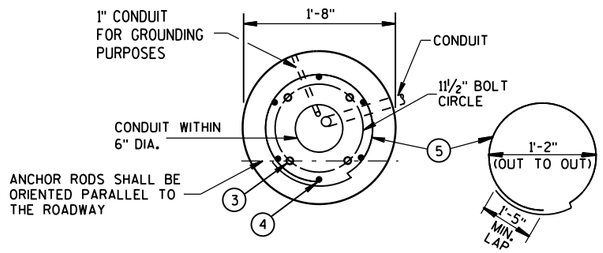
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

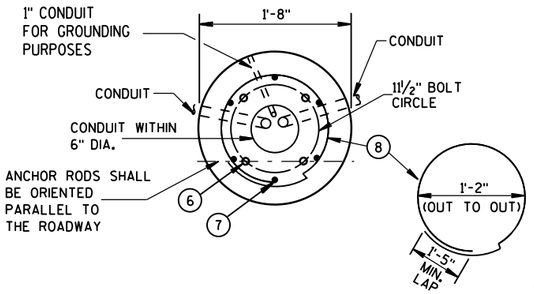
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

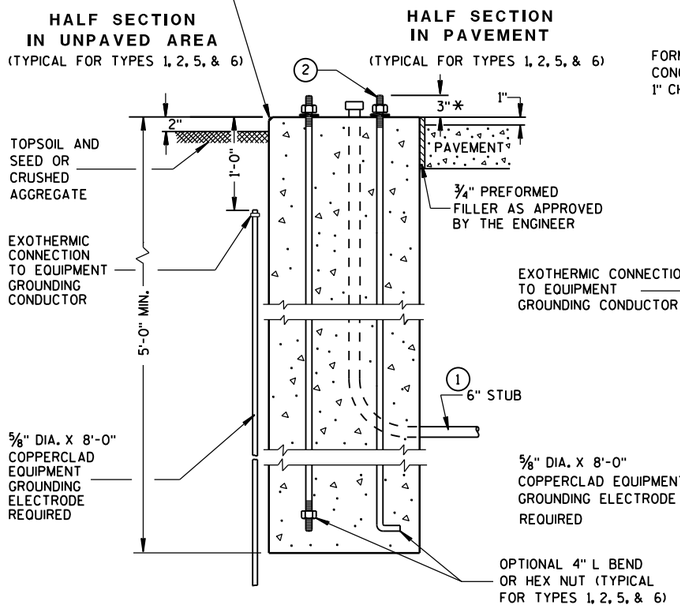






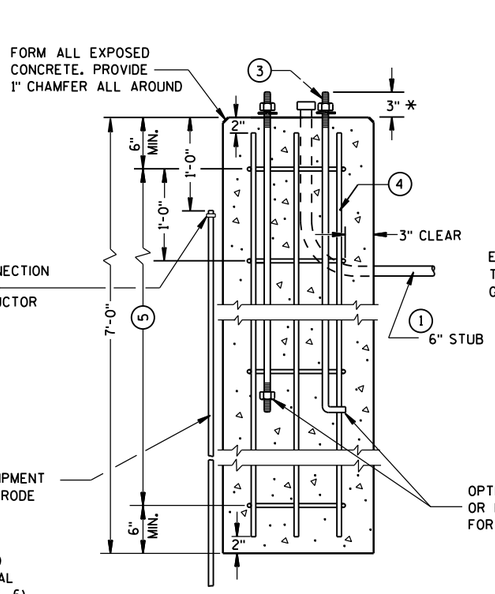
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

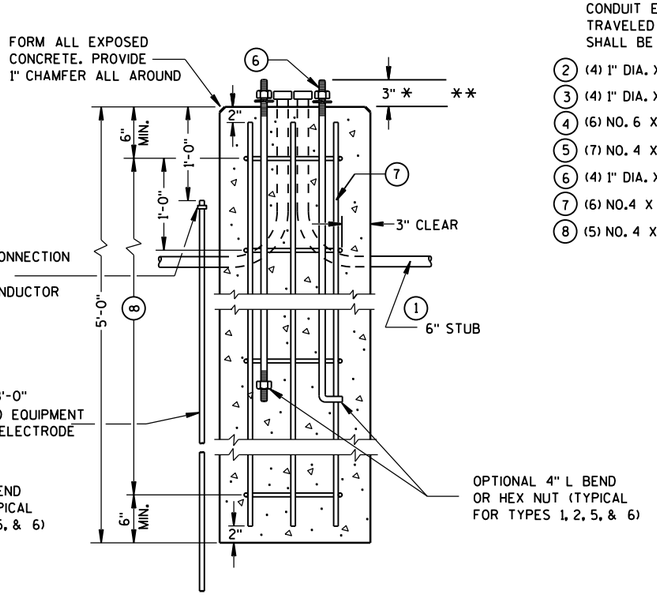


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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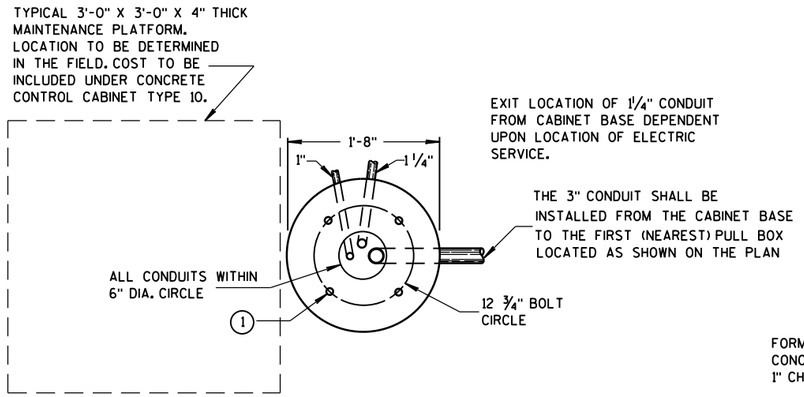
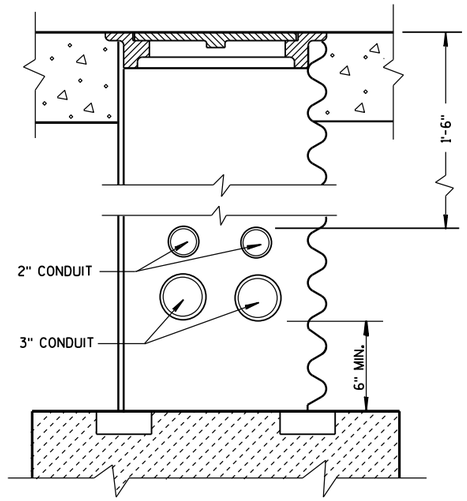
S.D.D. 9 C 2-7

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

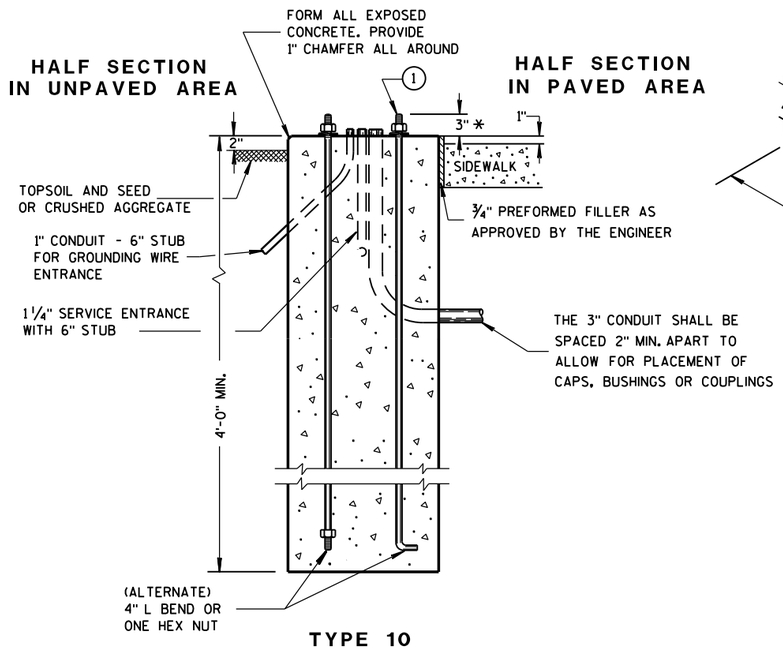
* INCLUDES MAINTENANCE PLATFORM.



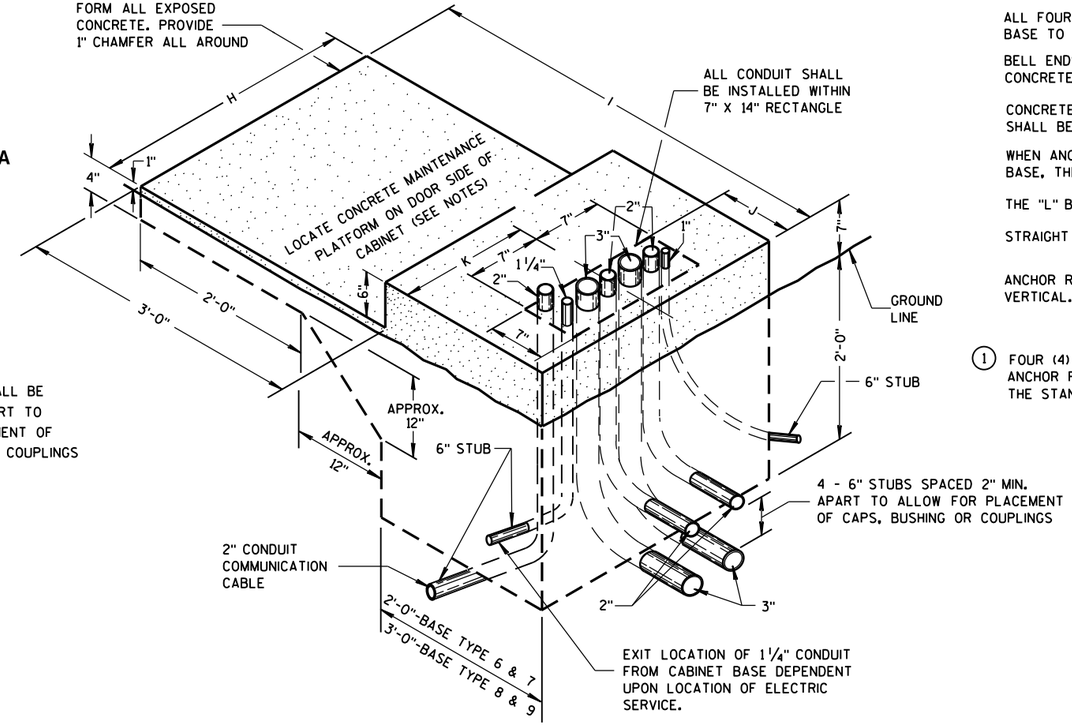


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9
(ISOMETRIC VIEW)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6". ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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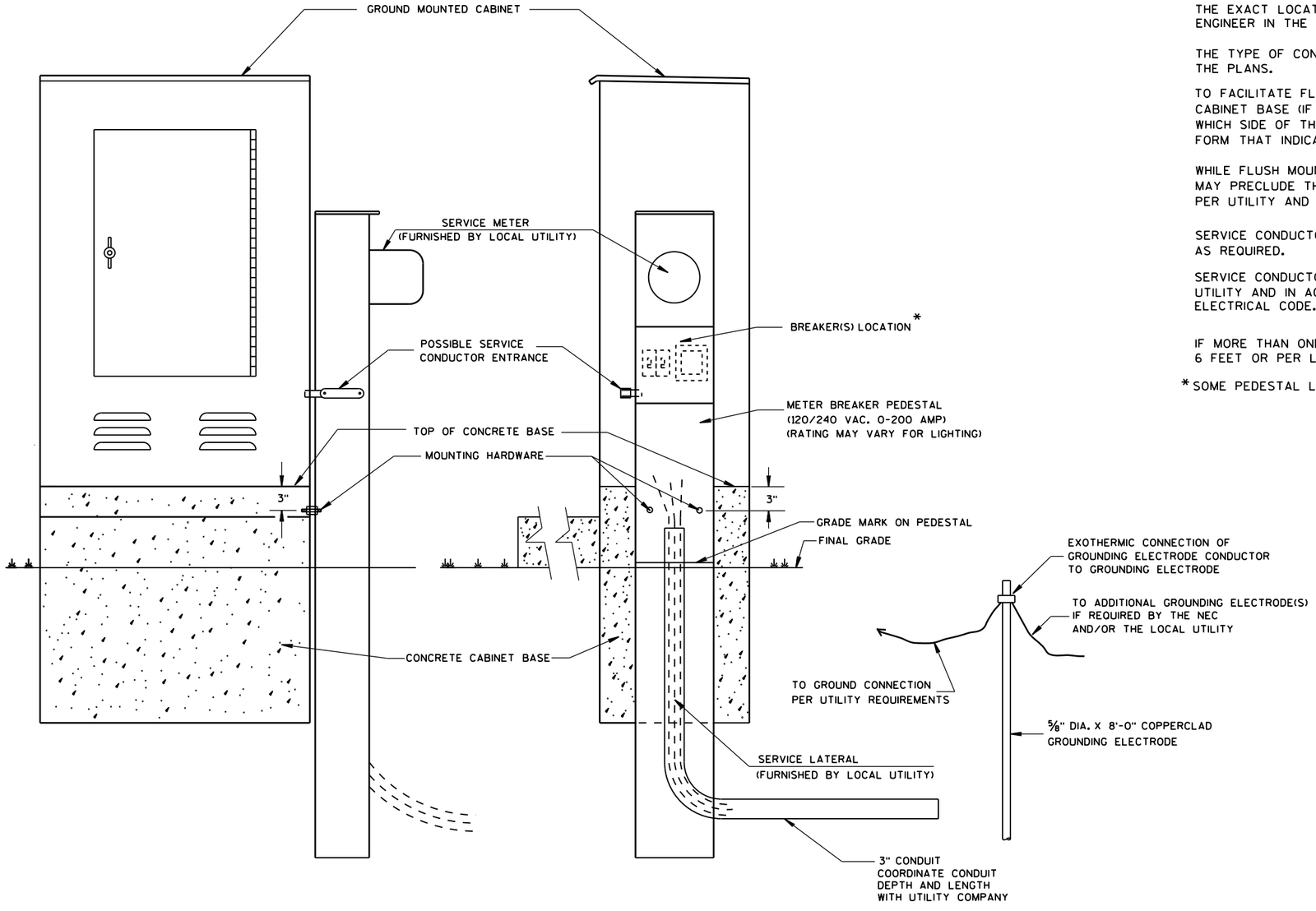
S.D.D. 9 C 5-9



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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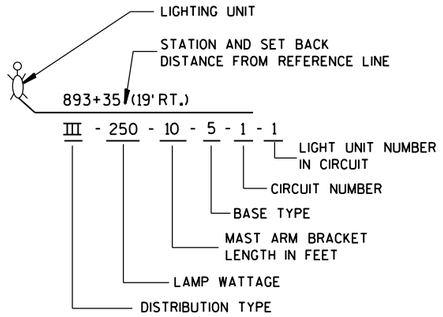
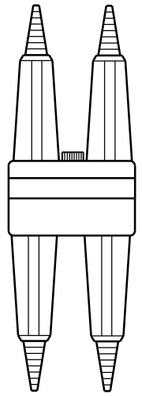
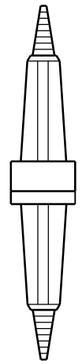


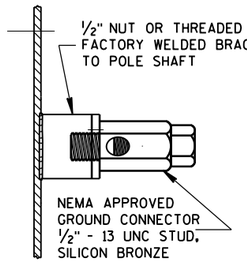
LIGHTING UNIT CODE
(TYPICAL)

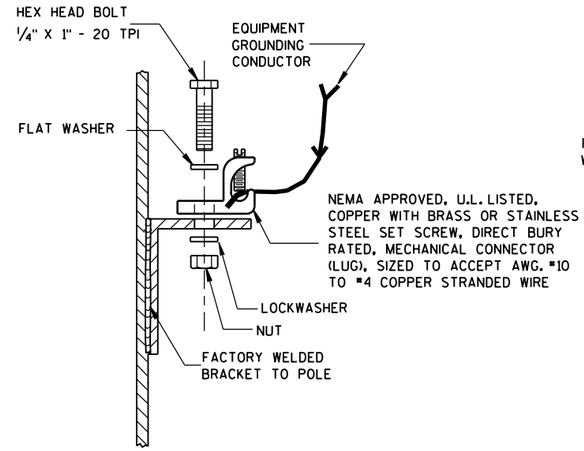


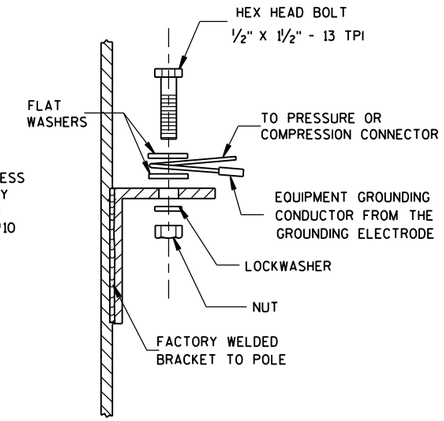
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



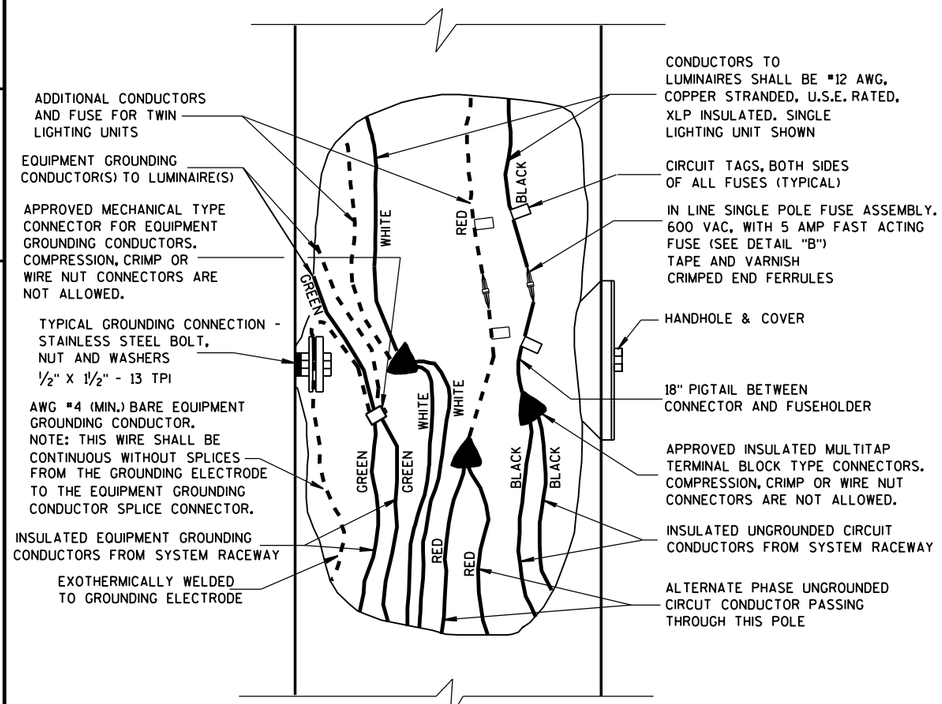
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



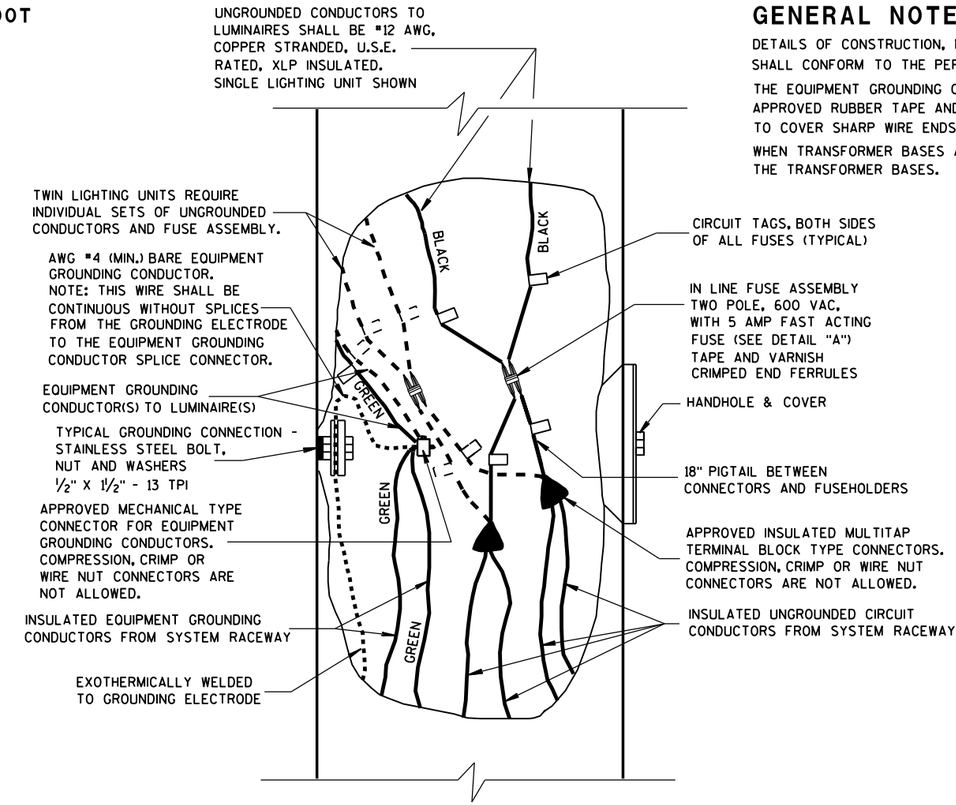




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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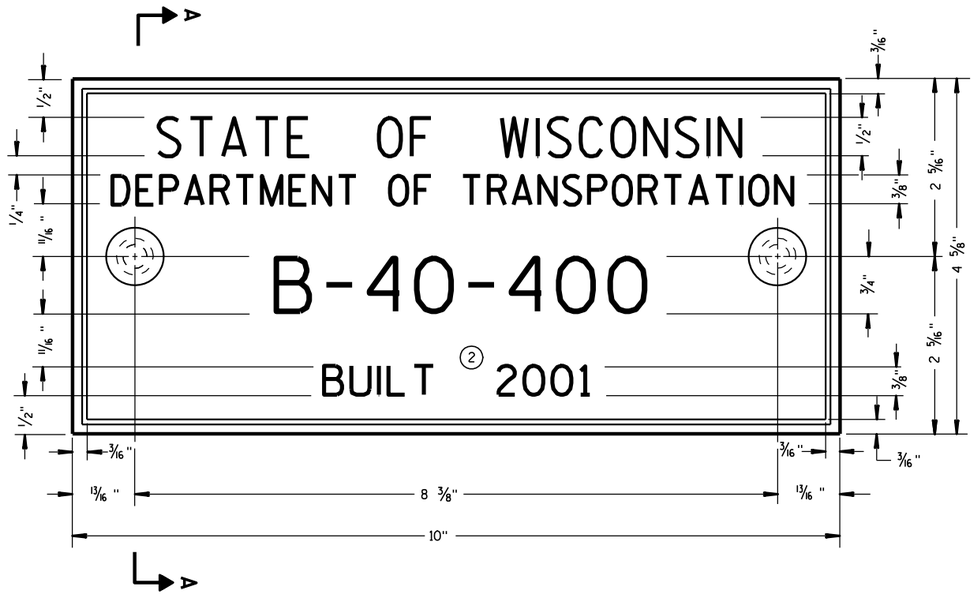
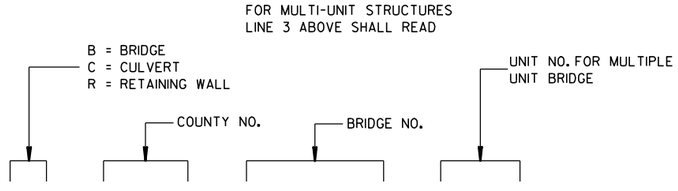
S.D.D. 9 E 3-5



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

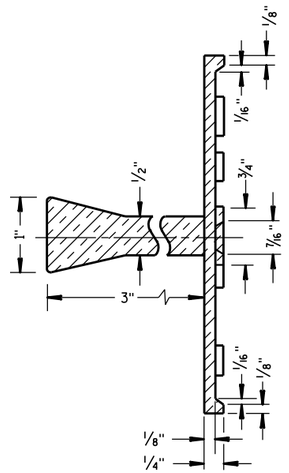
GENERAL NOTES

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

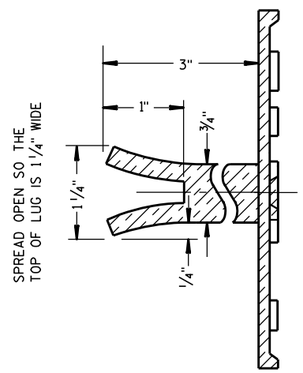
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

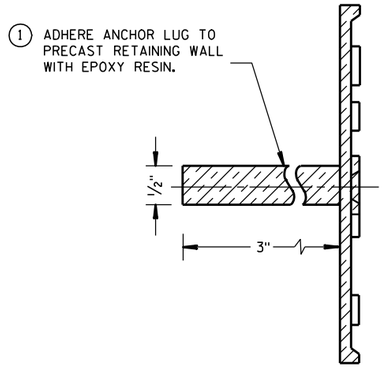
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



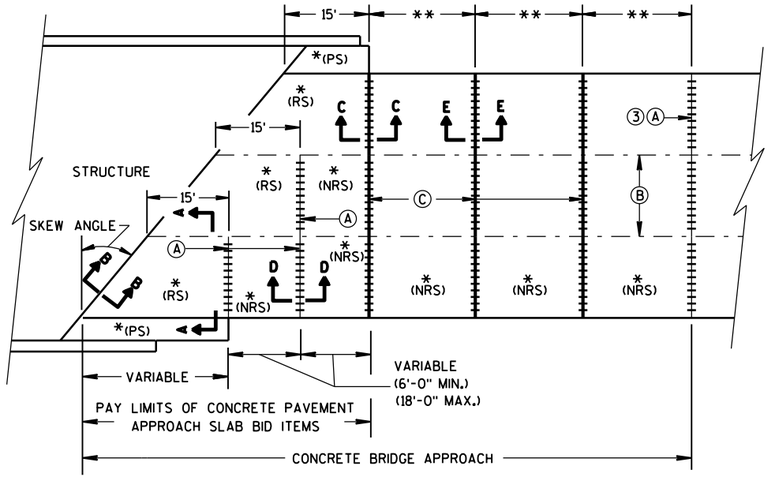
ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

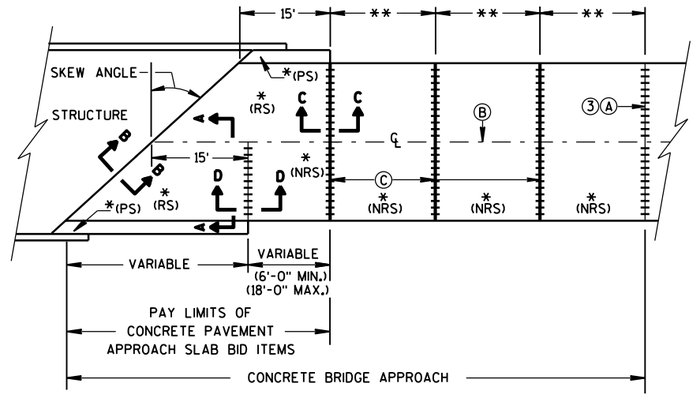
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	

6

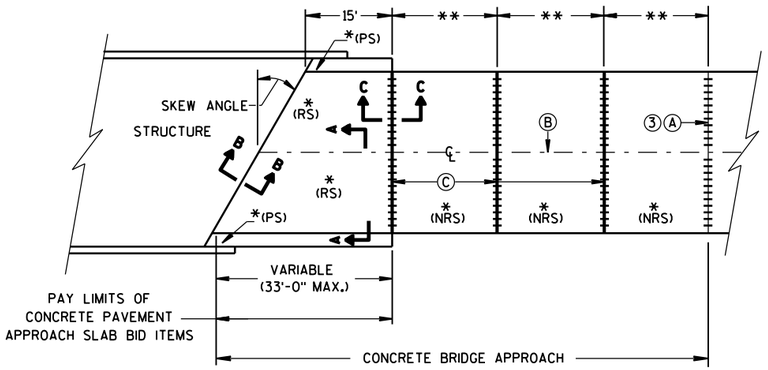
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



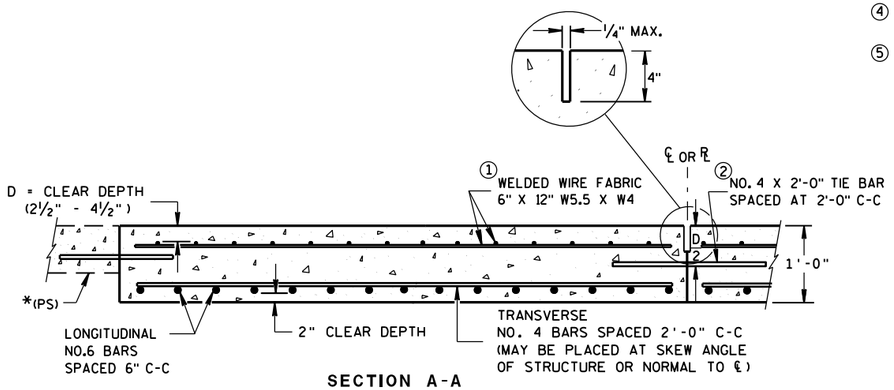
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

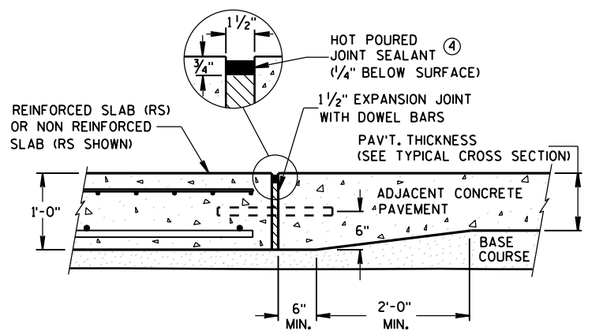
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

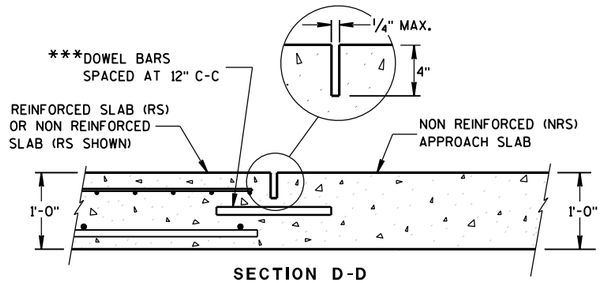
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT AND TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

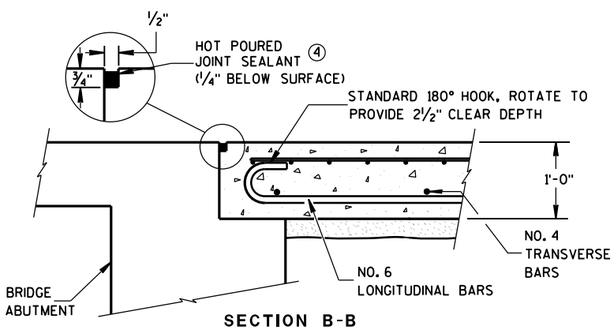
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

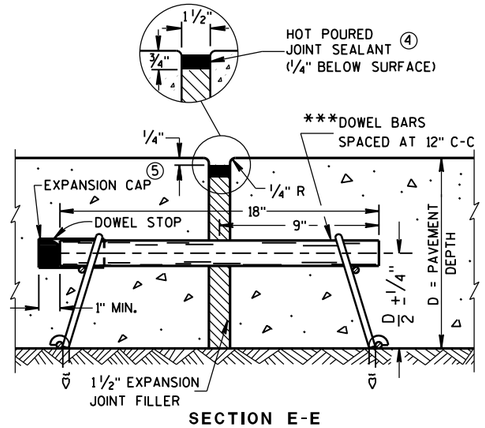
③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
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FHWA

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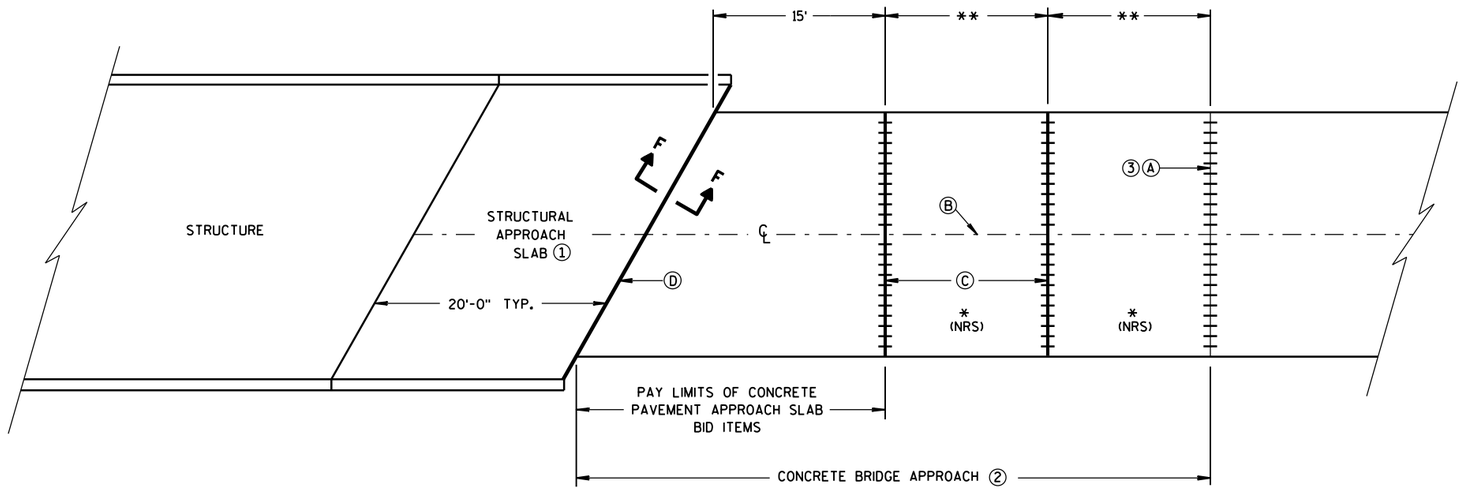


BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE BRIDGE APPROACH.

① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).

② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION — WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.

③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

*(NRS) = NON-REINFORCED CONCRETE SLAB

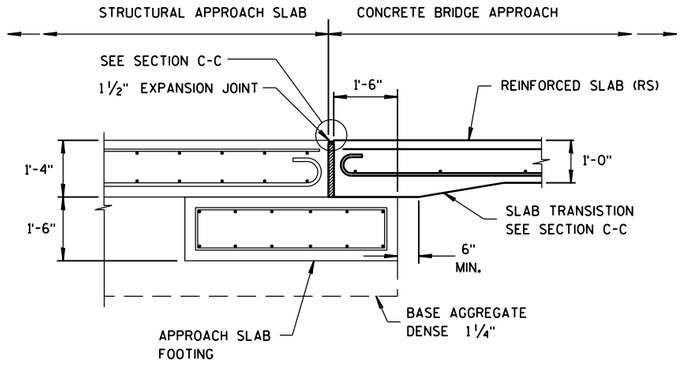
**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)

Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT AND TIE BARS.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION F-F

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
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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.

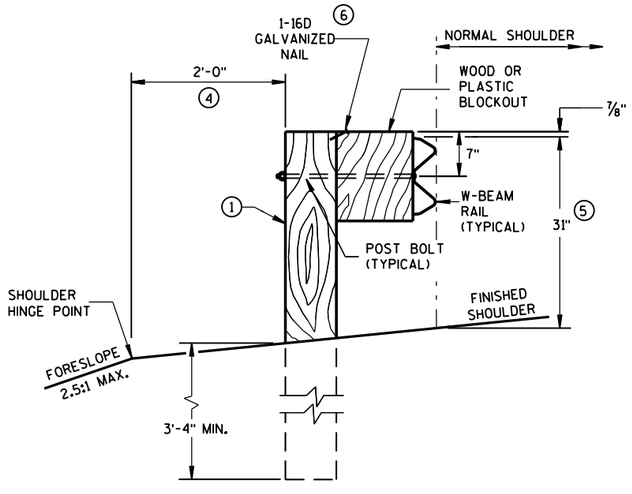
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

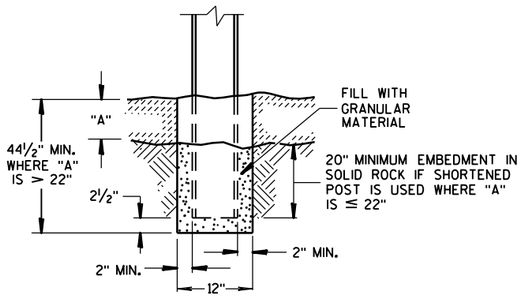
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



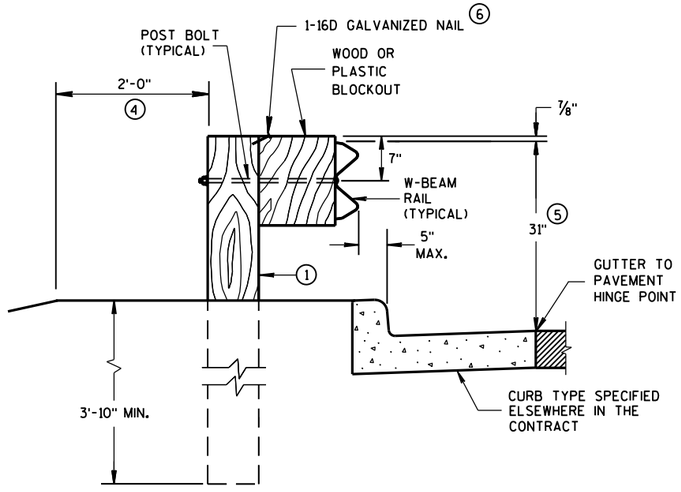
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



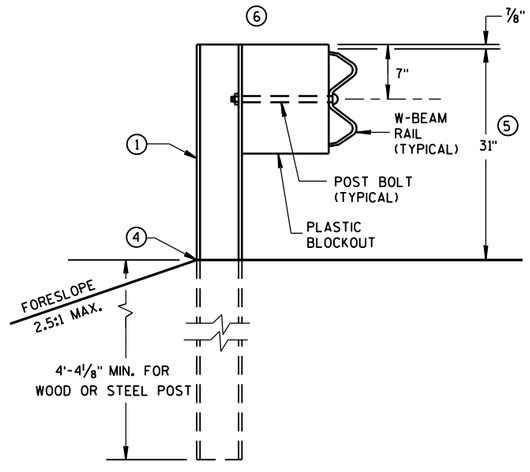
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



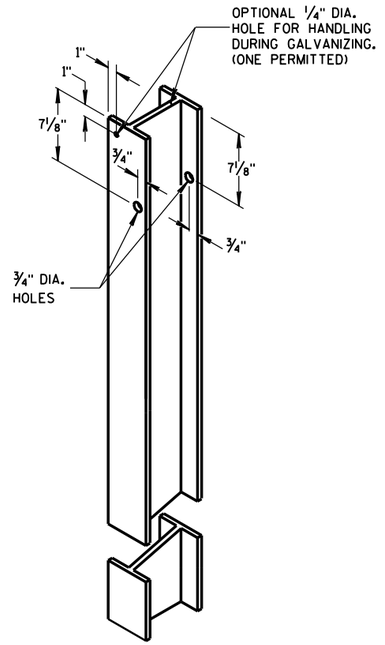
END VIEW

LOCATED ALONG A CURBED ROADWAY

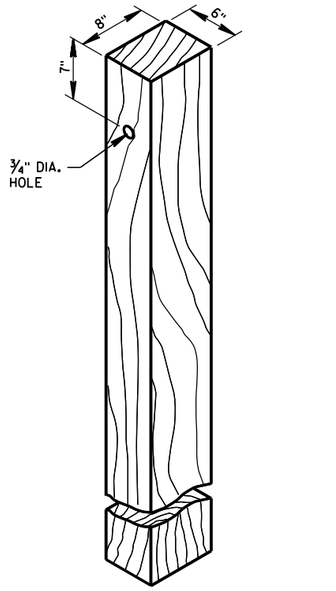


END VIEW

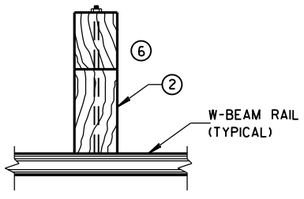
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



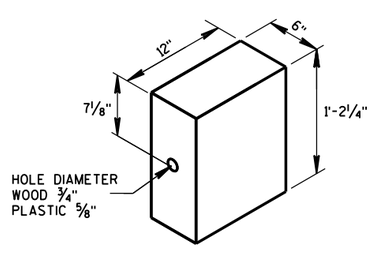
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



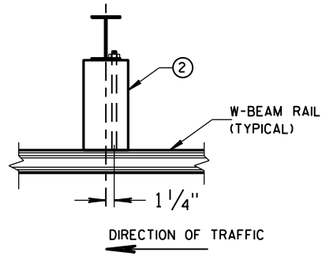
WOOD POST
(6" X 8") NOMINAL (1)



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 TRANSPOR

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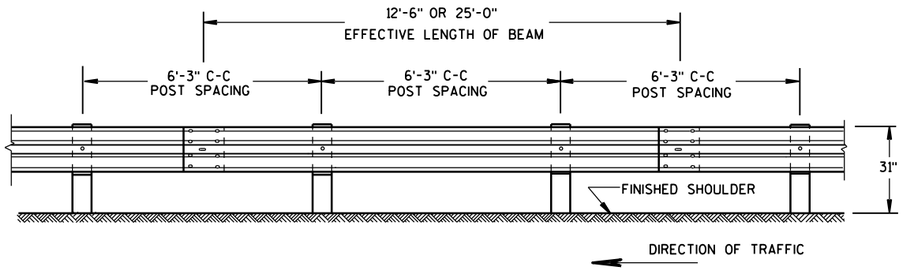
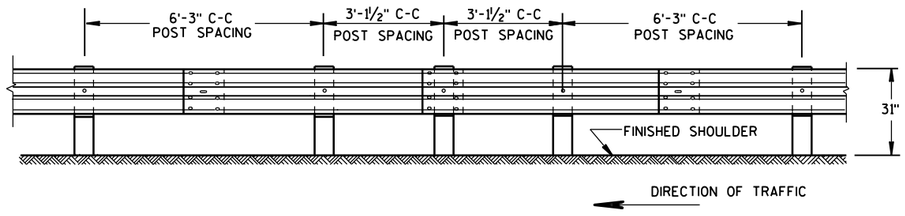
S.D.D. 14 B 42-3a



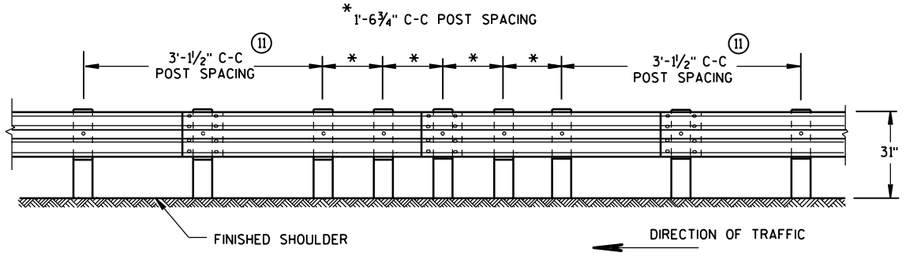
FRONT VIEW

POST SPACING STANDARD INSTALLATION



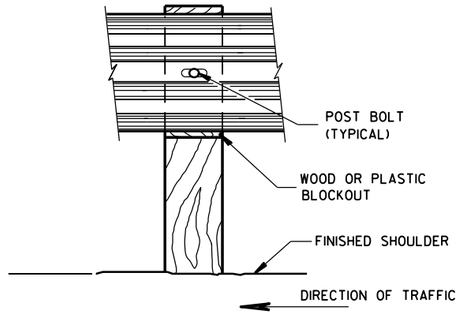
FRONT VIEW

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

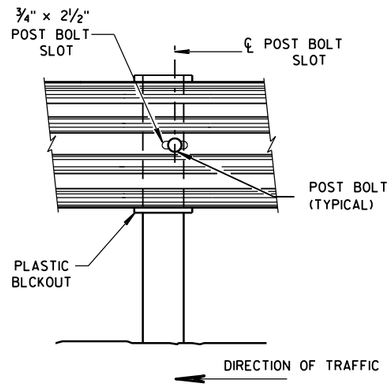


FRONT VIEW

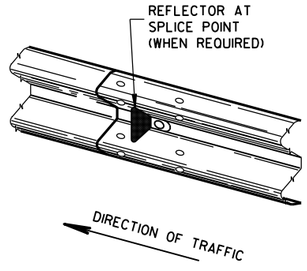
QUARTER POST SPACING (QS)

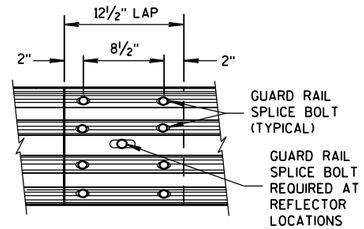


FRONT VIEW AT WOOD POST



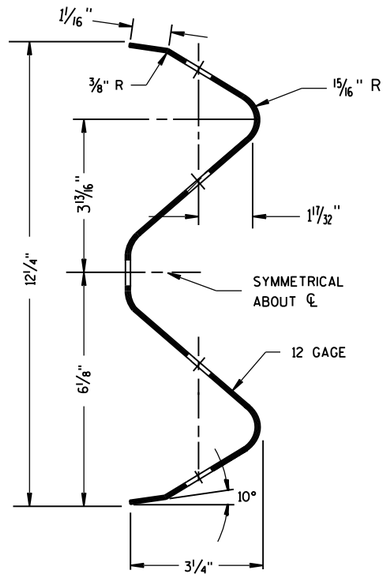
FRONT VIEW AT STEEL POST



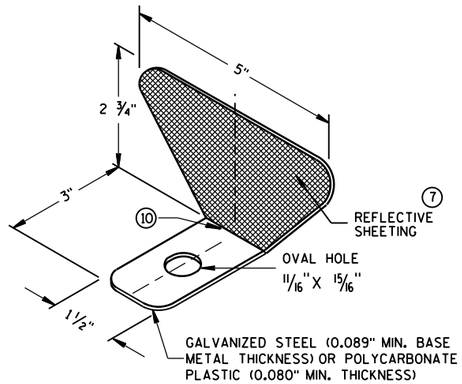


FRONT VIEW

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

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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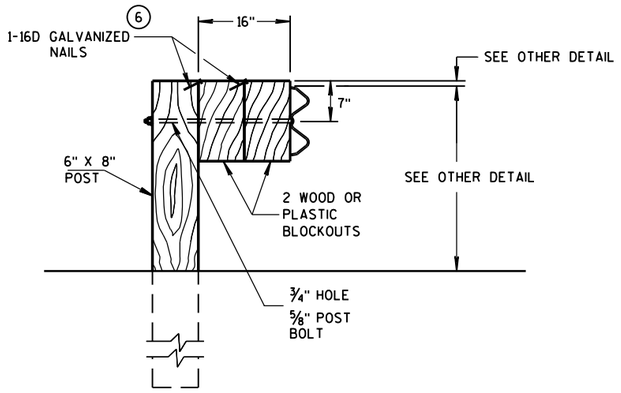
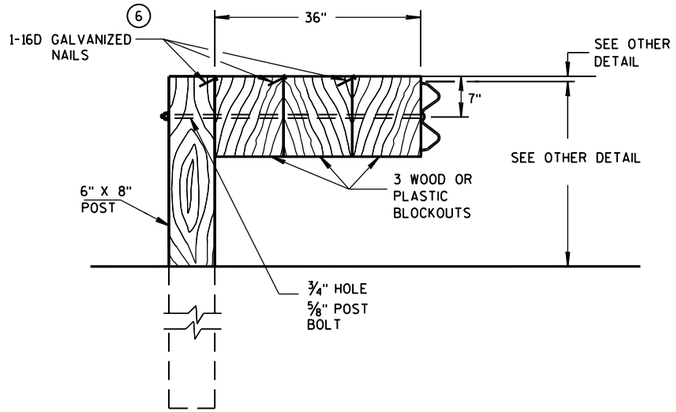


DETAIL FOR 16" BLOCKOUT DEPTH

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

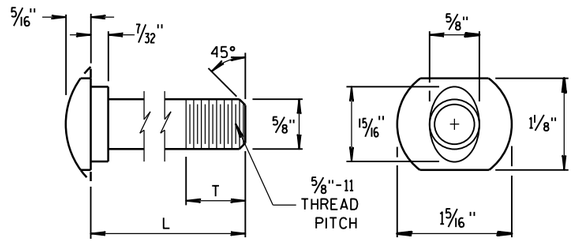


DETAIL FOR 36" BLOCKOUT DEPTH

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

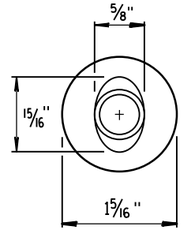
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

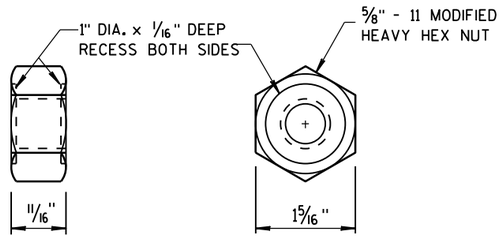


POST BOLT TABLE

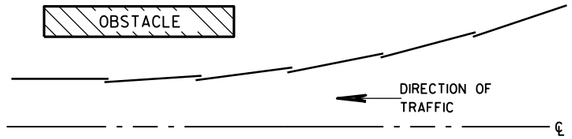
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

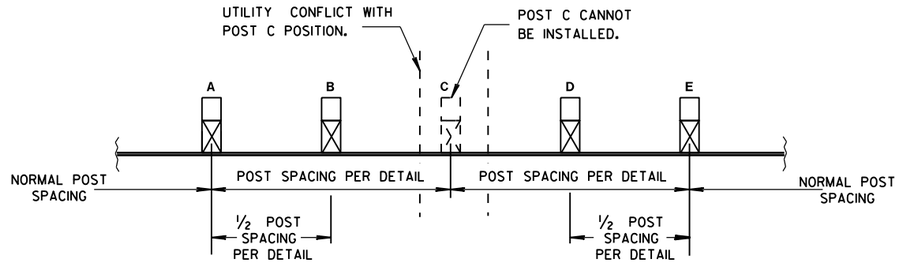


POST BOLT AND RECESS NUT

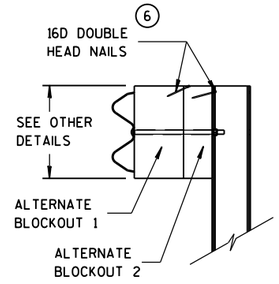


PLAN VIEW

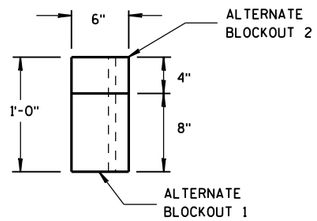
BEAM LAPPING DETAIL



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 DEVELOPMENT 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.

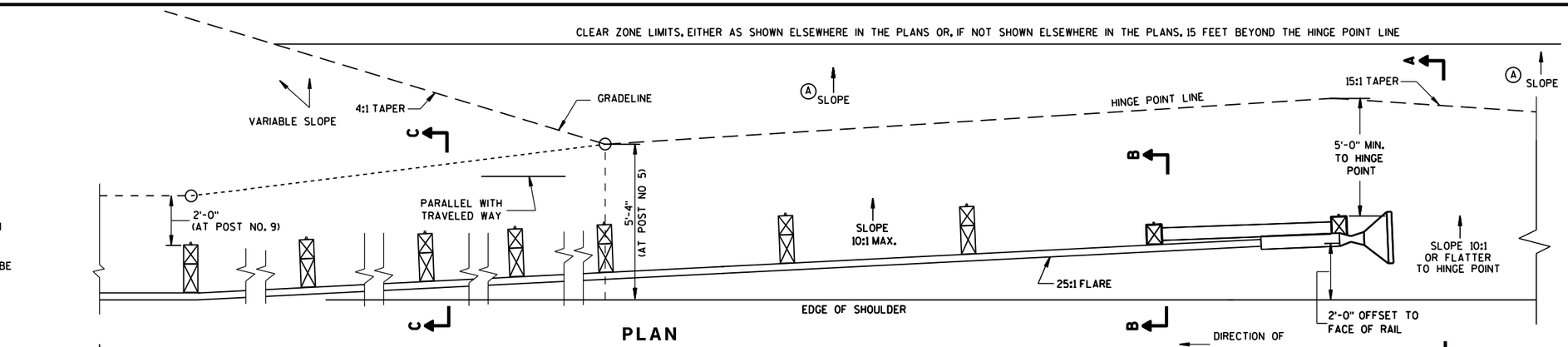
SEE SDD 14B42 FOR MORE INFORMATION.

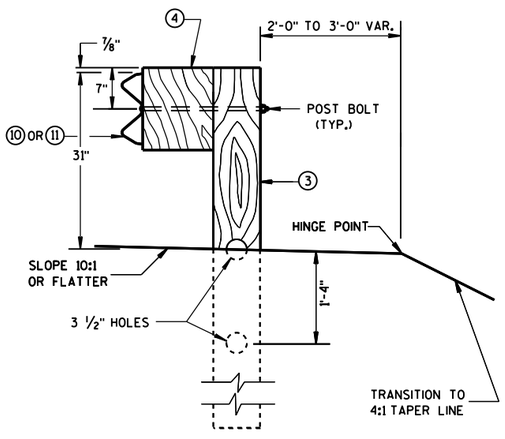
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

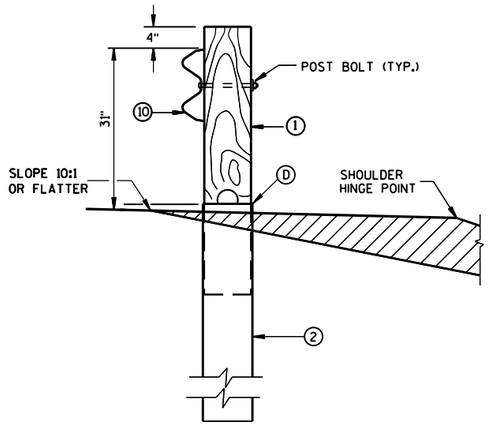
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

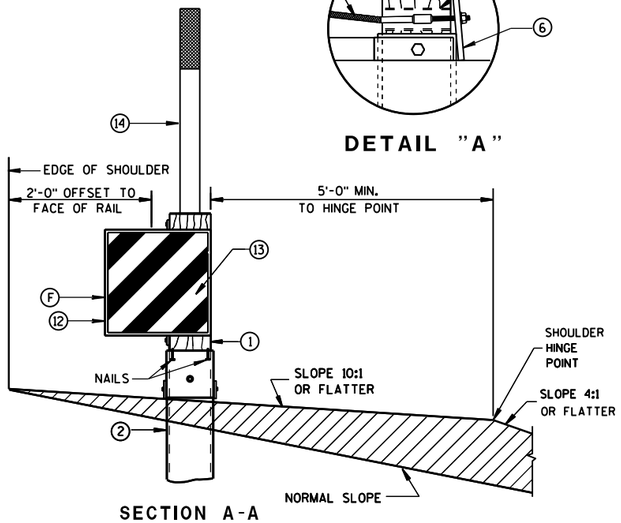




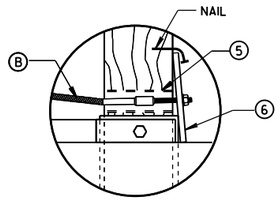
SECTION C-C
TYPICAL AT POST NOS. 3-9



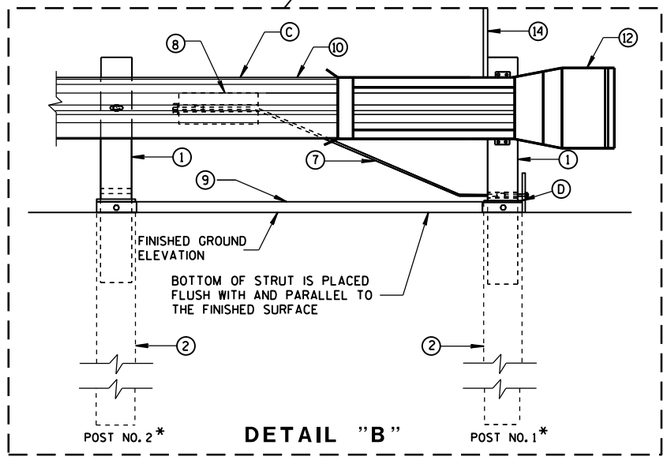
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



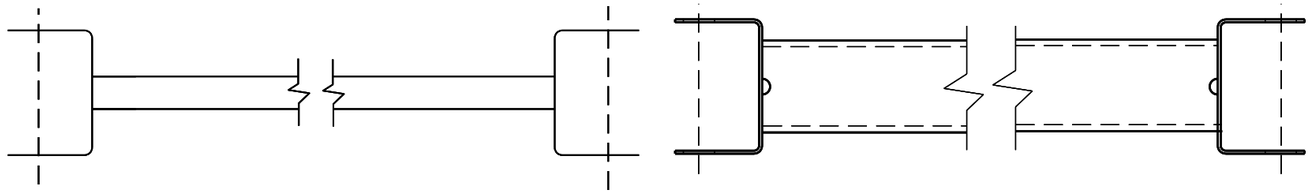
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

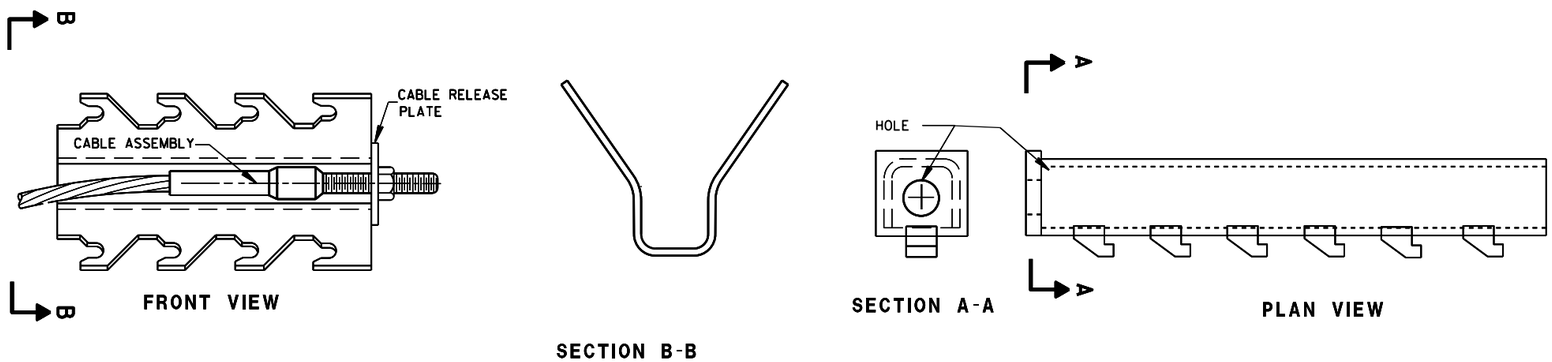
S.D.D. 14 B 44-2a



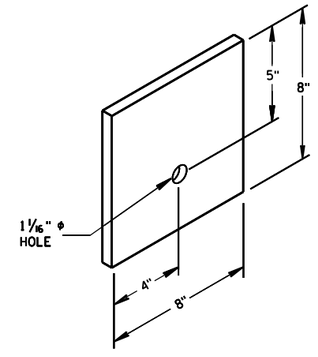
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX (8) (H)

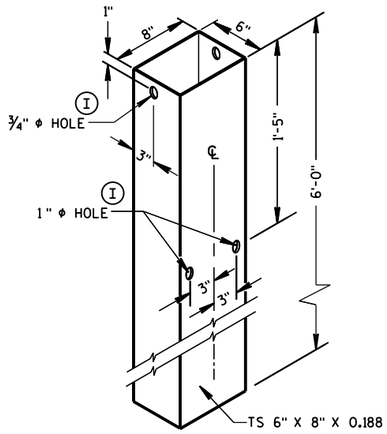


BEARING PLATE (6)

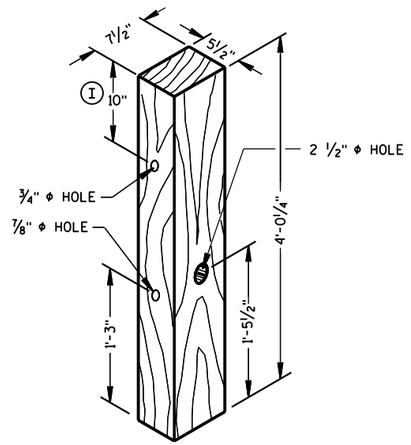
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 44-2b

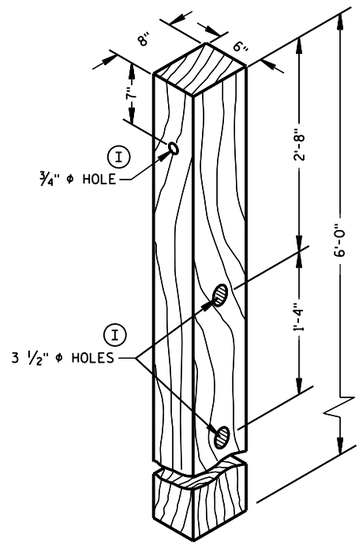


FOUNDATION TUBE (2)



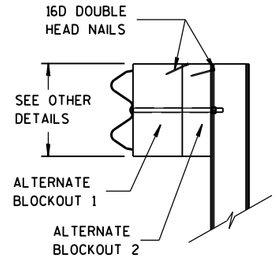
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

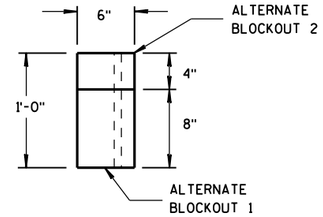


POSTS NUMBER 3-9

WOOD CRT POST (3)

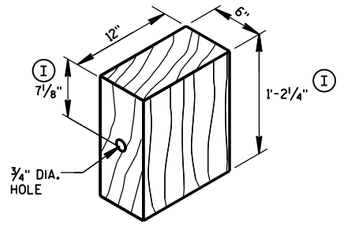


SIDE VIEW



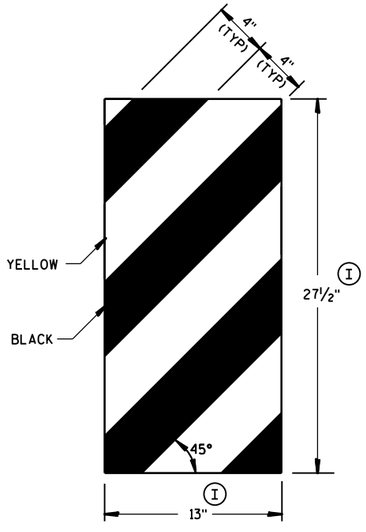
TOP VIEW

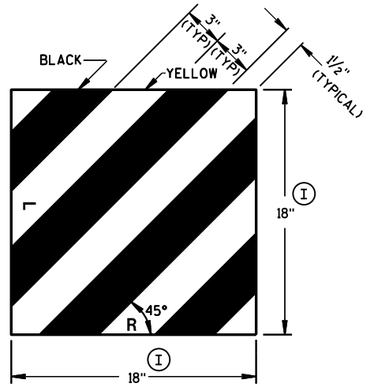
ALTERNATE WOOD BLOCKOUT DETAIL



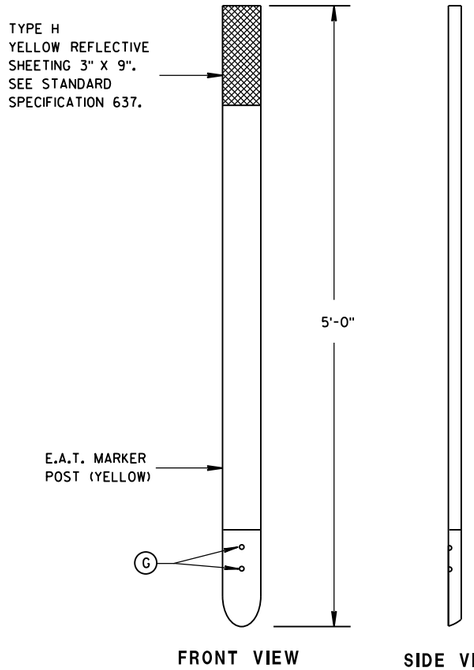
WOOD BLOCKOUT (4)

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





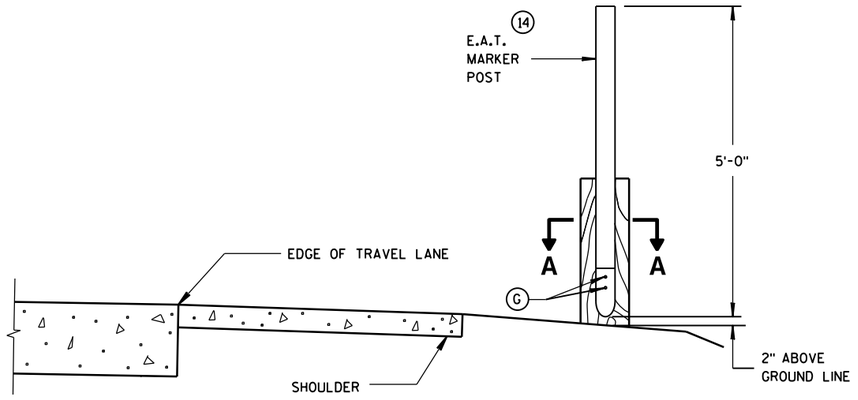
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

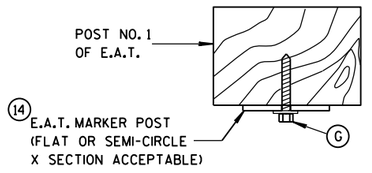
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

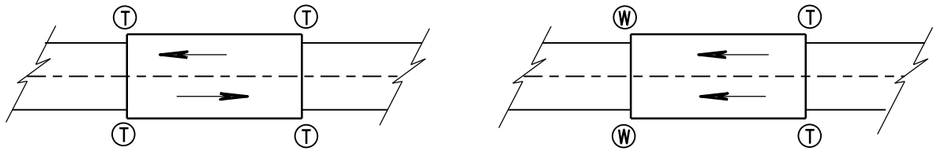
APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

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

6

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

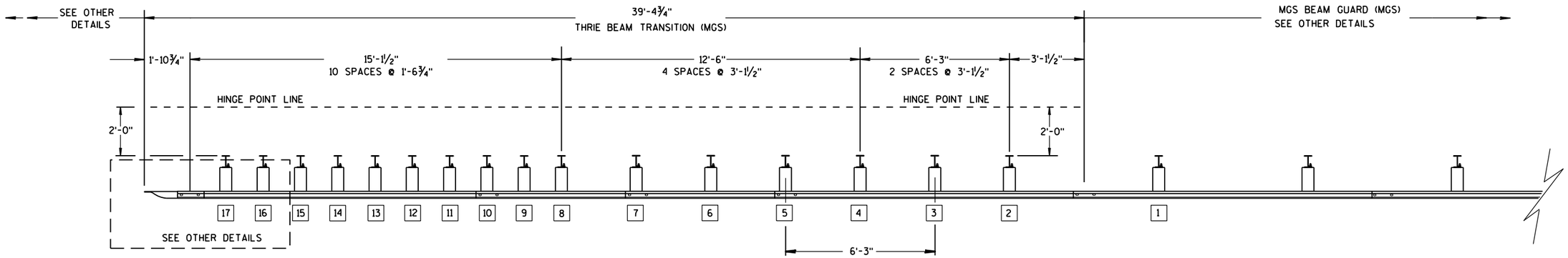
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

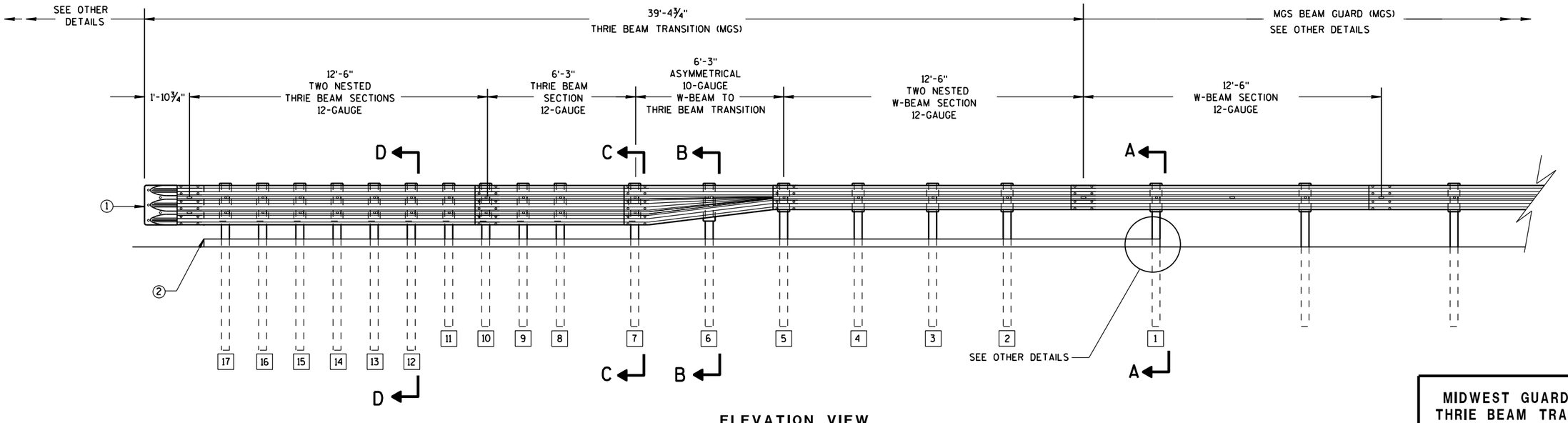
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

(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 TRANSPOR

6

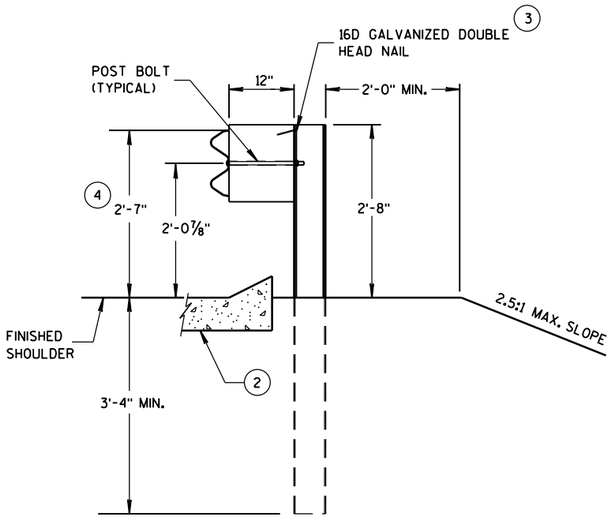
S.D.D. 14 B 45-4a

GENERAL NOTES

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

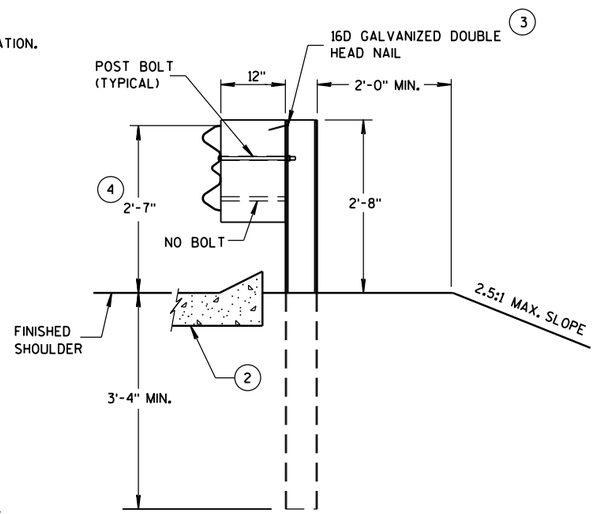
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



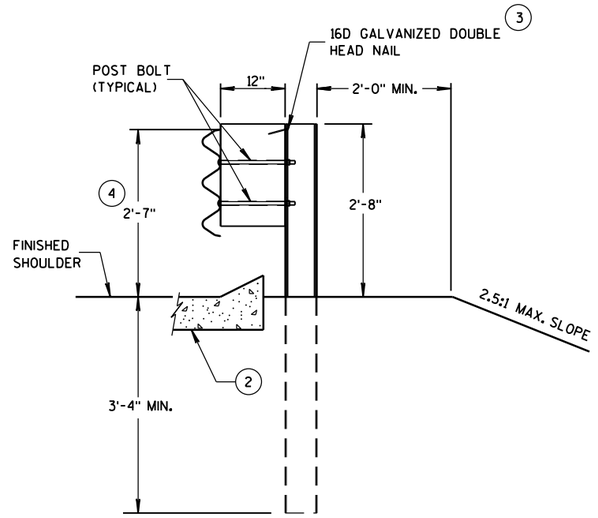
SECTION A-A

POSTS 1-5



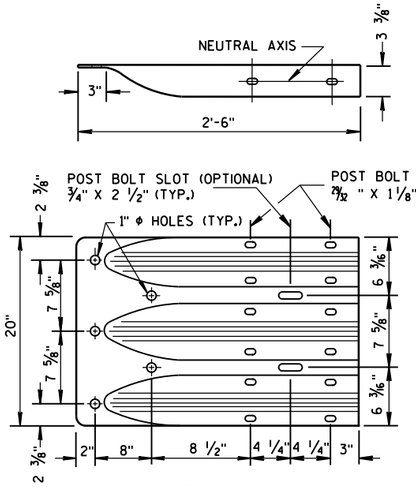
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

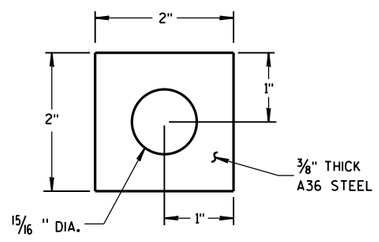
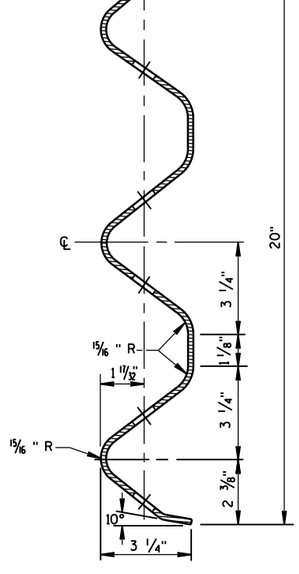
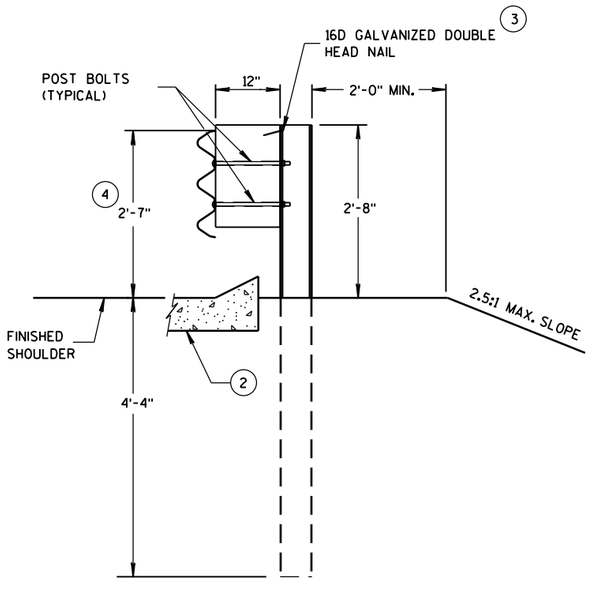


PLATE WASHER DETAIL

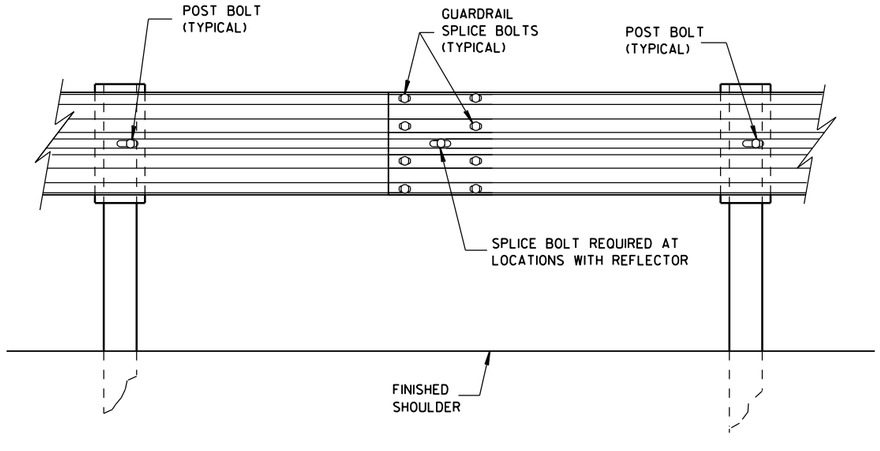


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



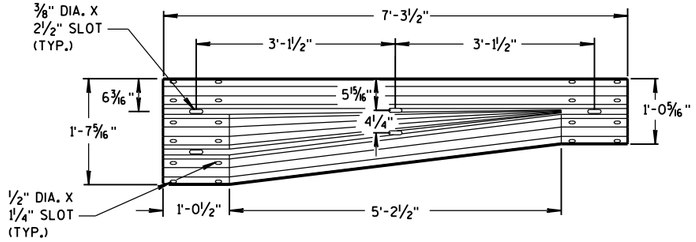
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

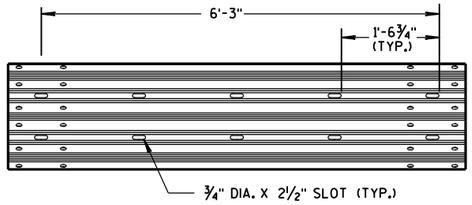
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

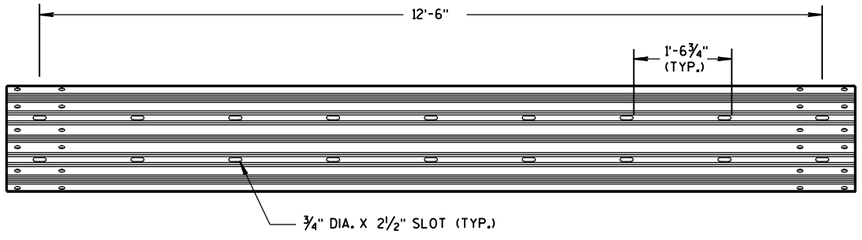
S.D.D. 14 B 45-4b



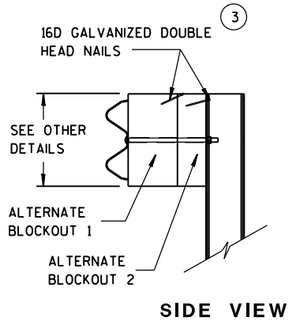
W-BEAM TO THRIE BEAM TRANSITION SECTION



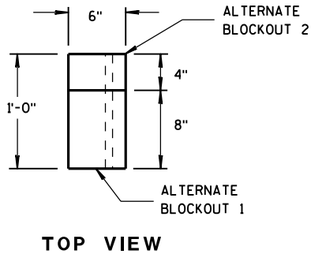
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

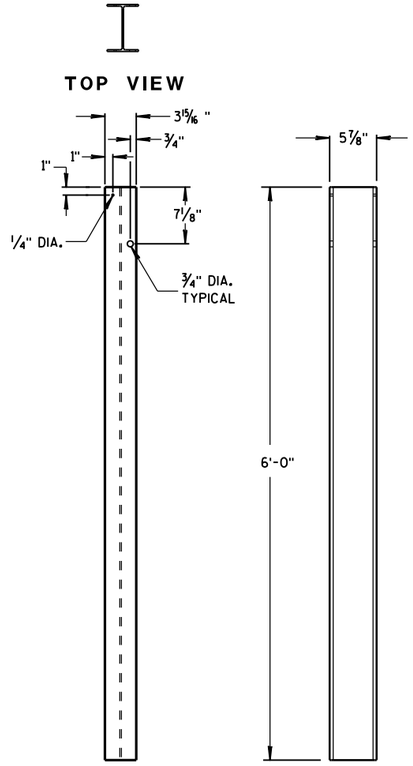


SIDE VIEW



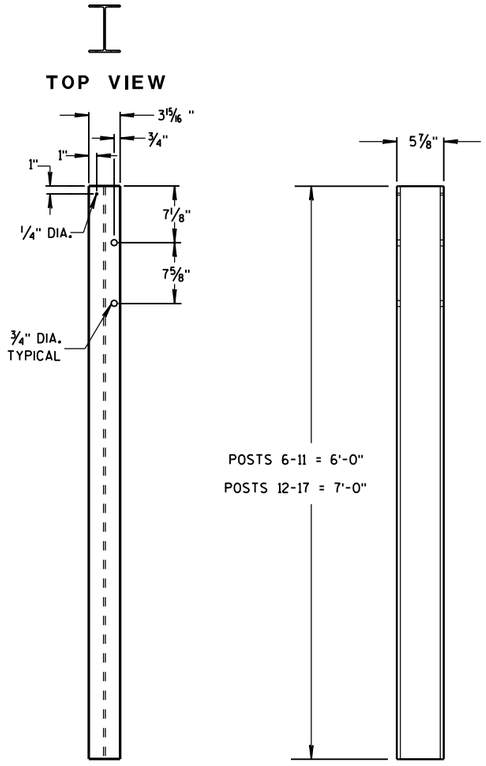
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



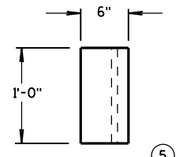
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

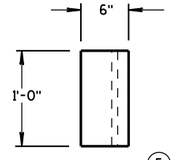


FRONT VIEW SIDE VIEW

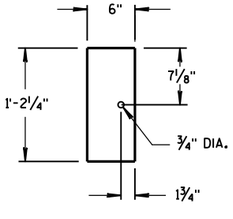
STEEL POSTS 6-17



TOP VIEW

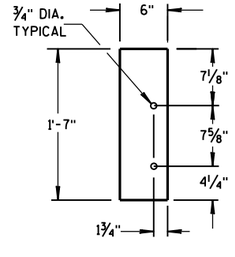


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

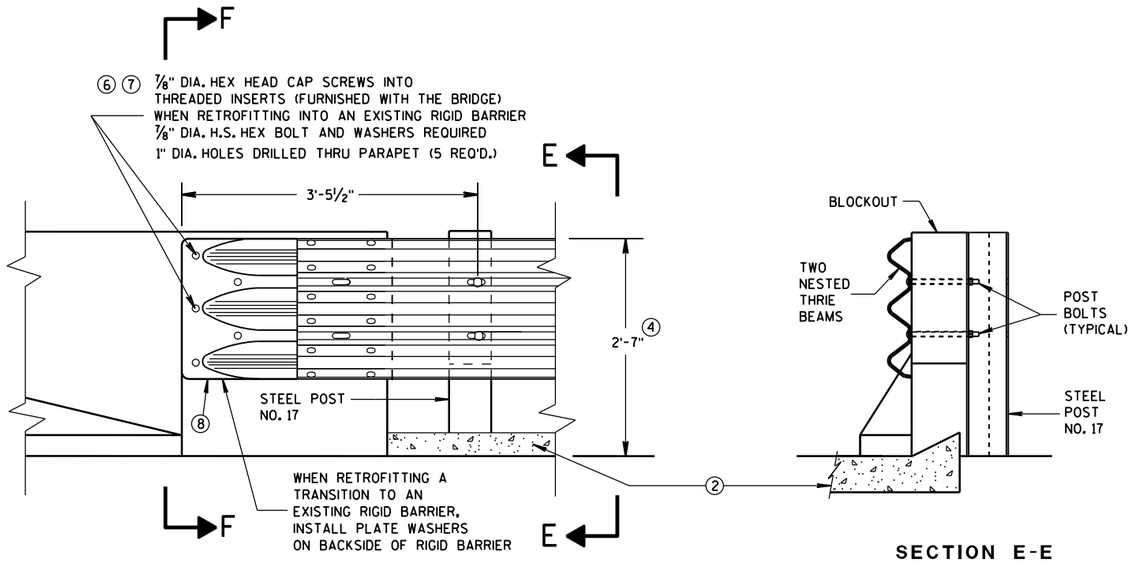
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

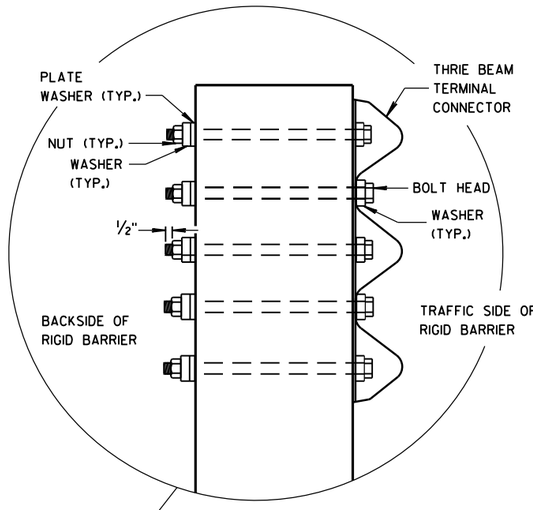
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

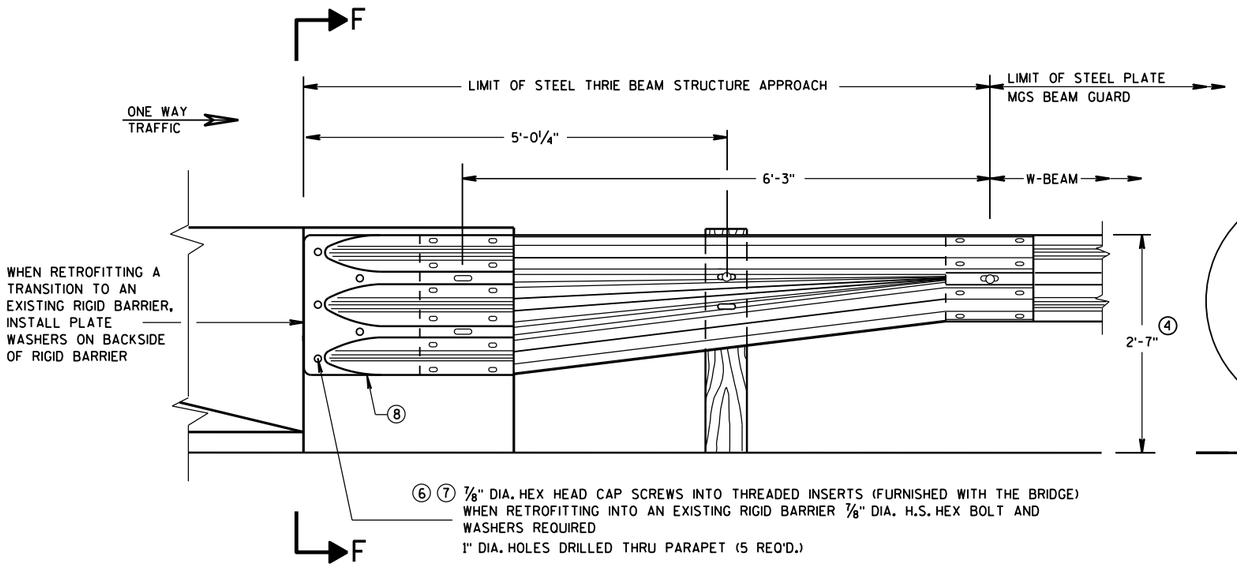
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

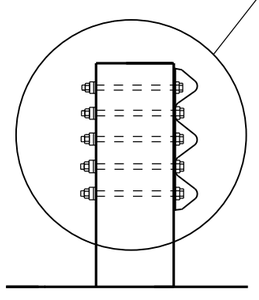
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

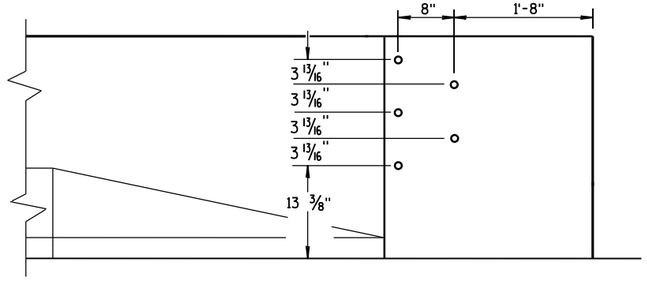




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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

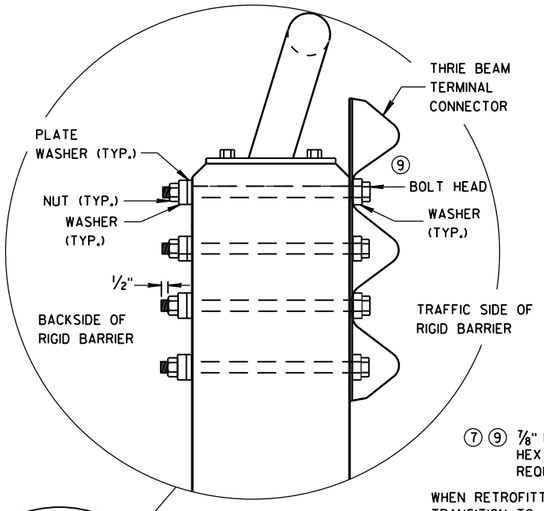
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

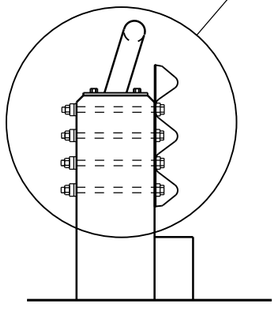
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

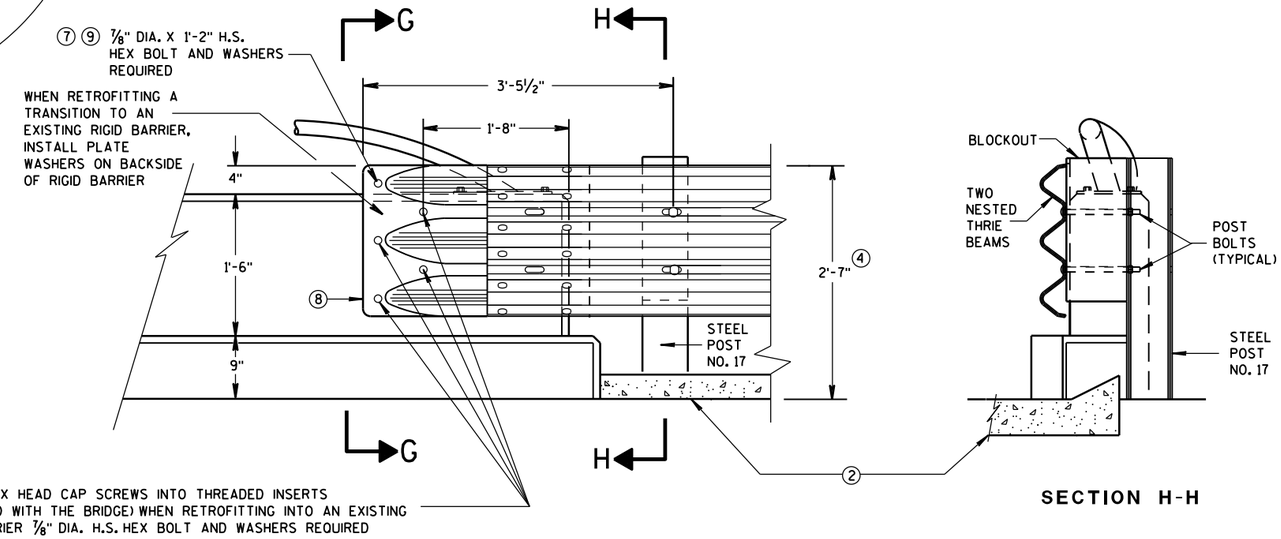
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





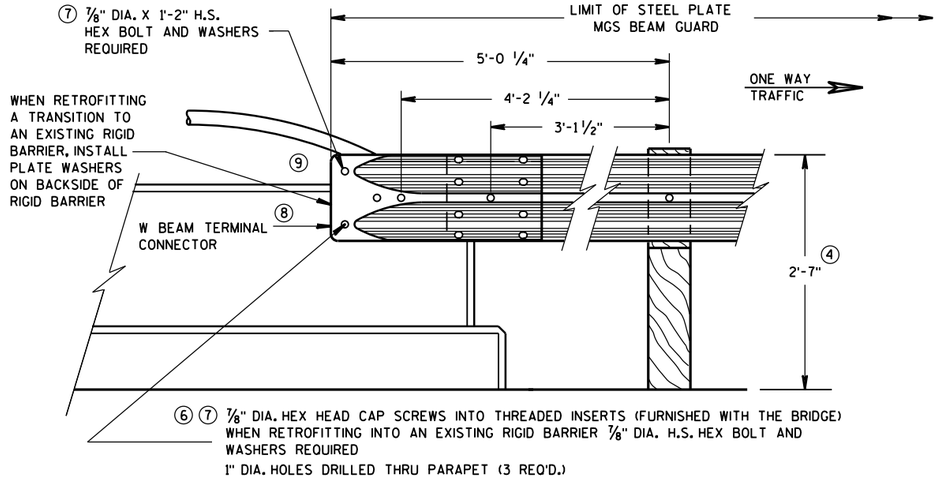
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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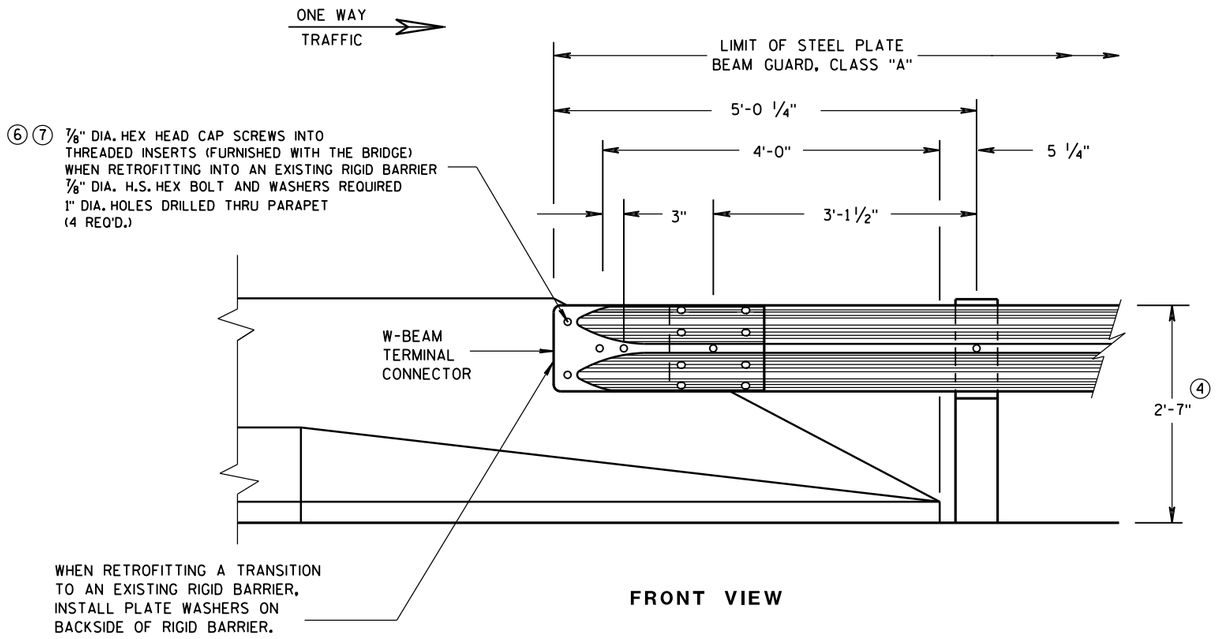


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

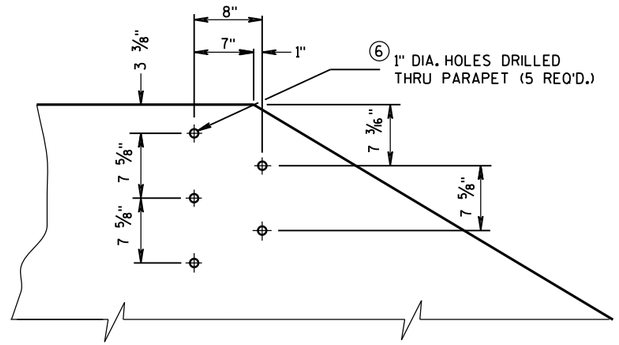
GENERAL NOTES

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

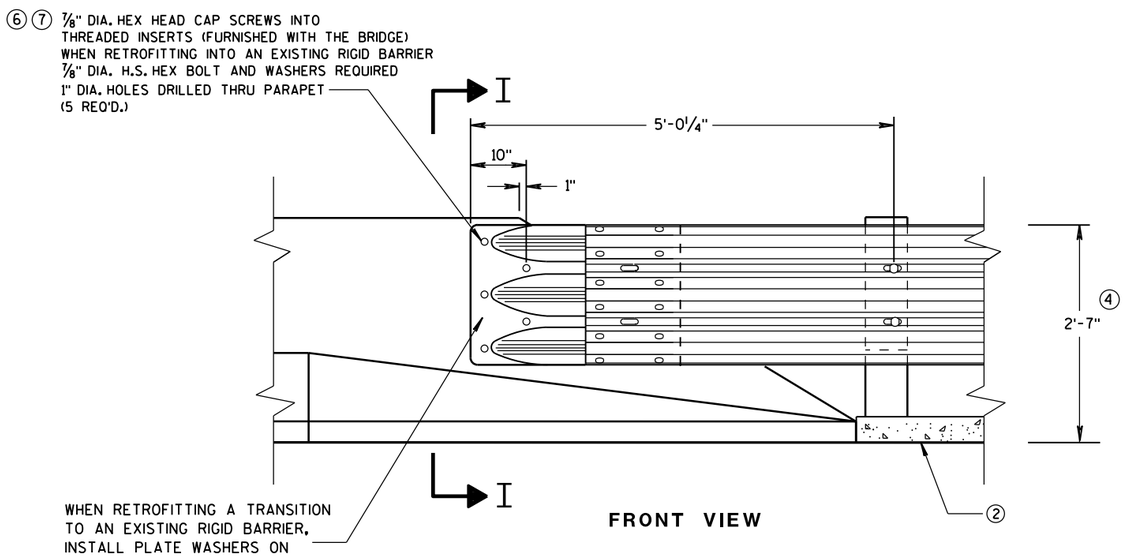
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

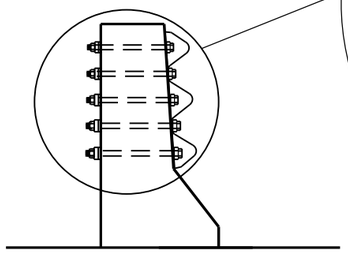
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



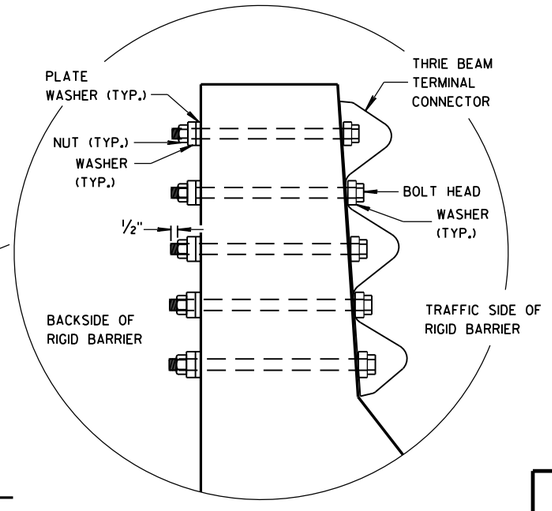
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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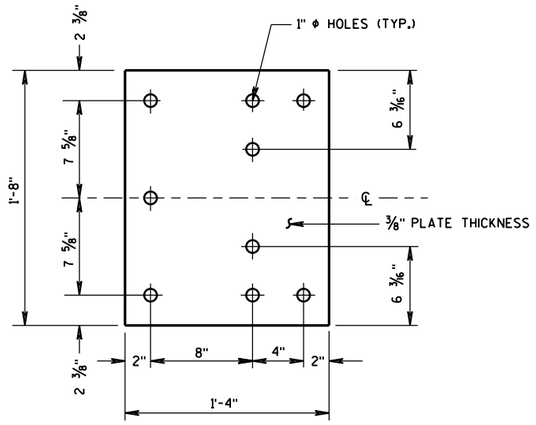
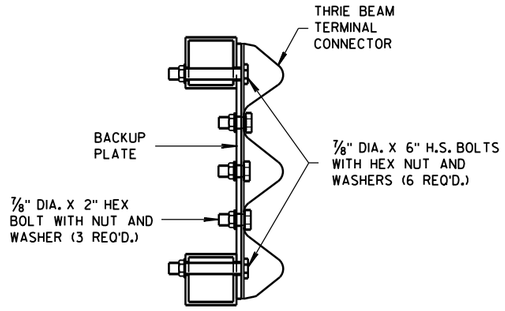
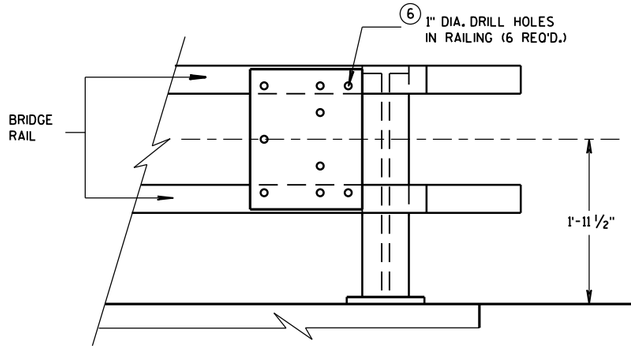


BACK-UP PLATE DETAIL



SECTION J-J

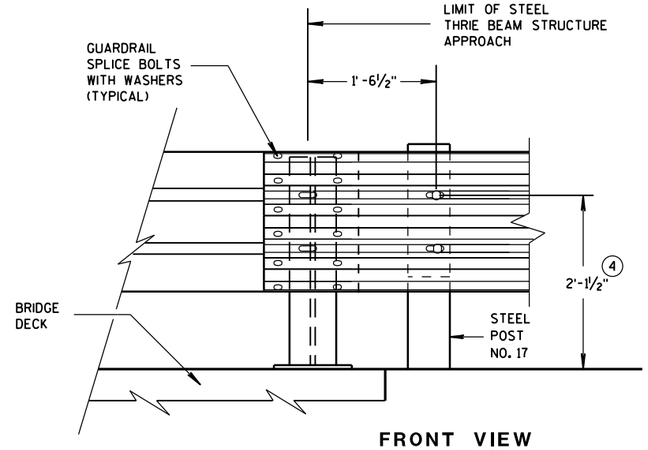


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

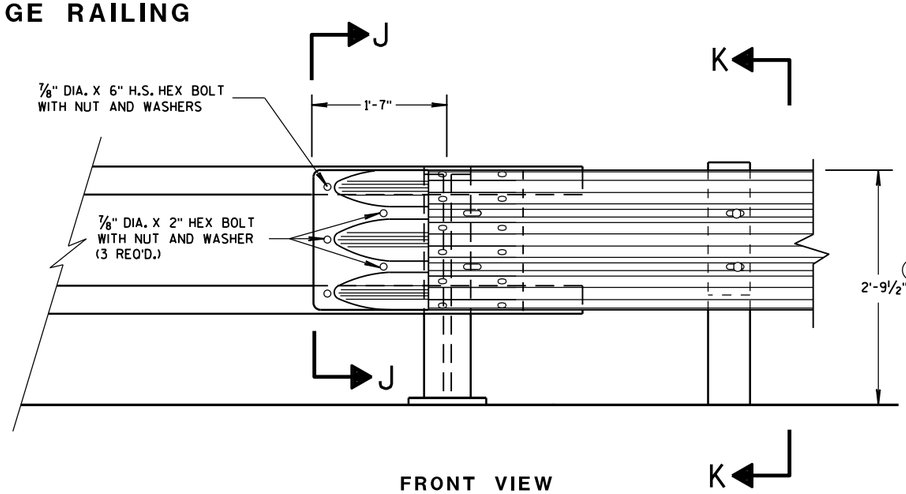
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

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

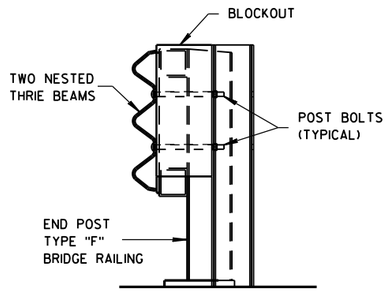


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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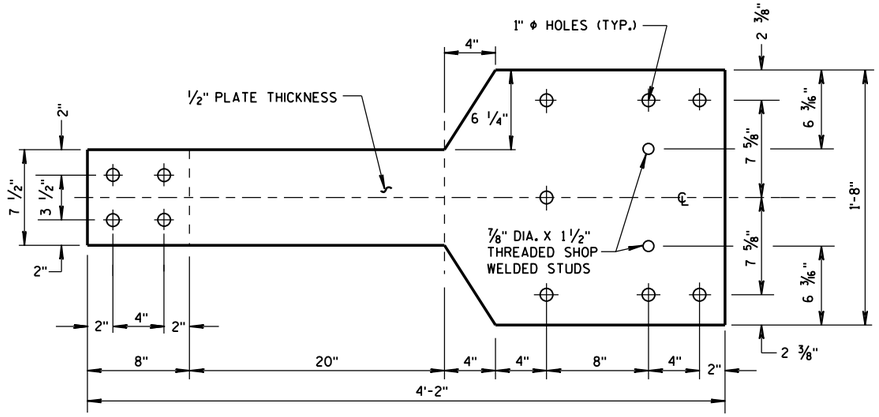
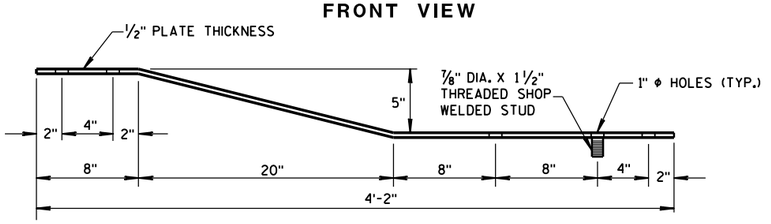
GENERAL NOTES

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

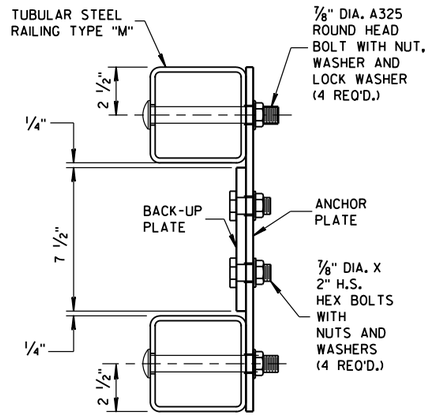


FRONT VIEW

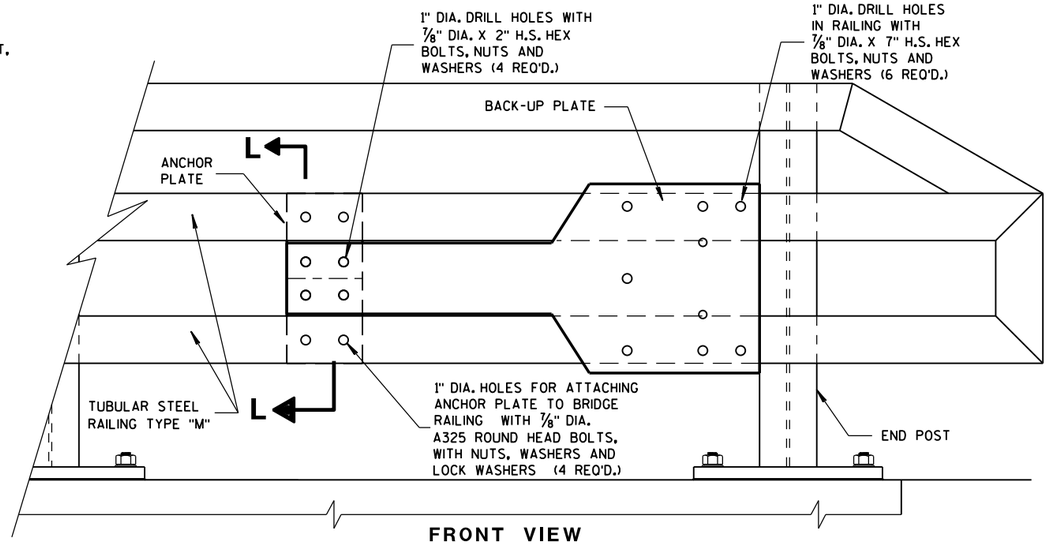


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

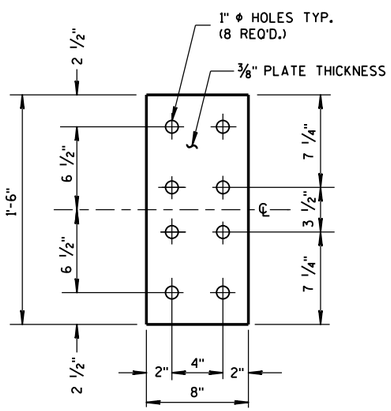


SECTION L-L



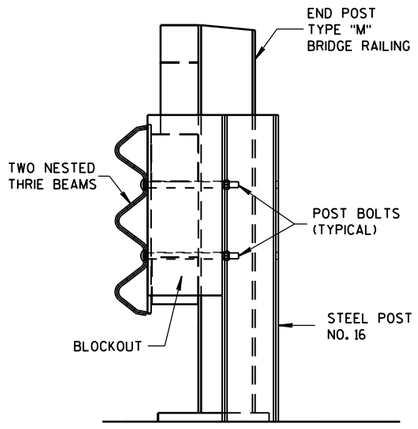
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

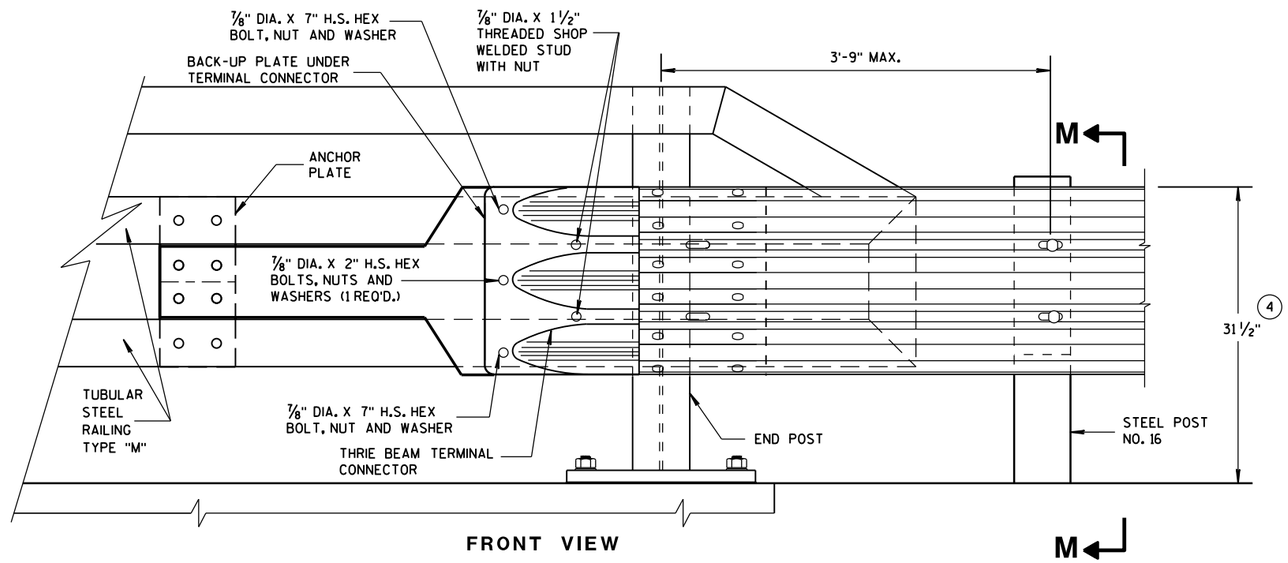


FRONT VIEW

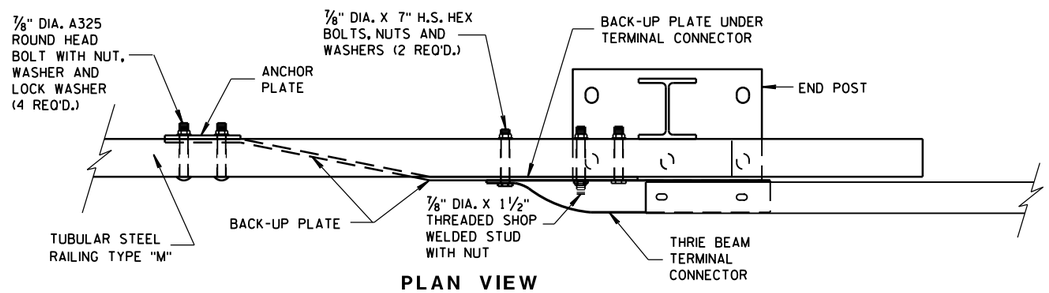
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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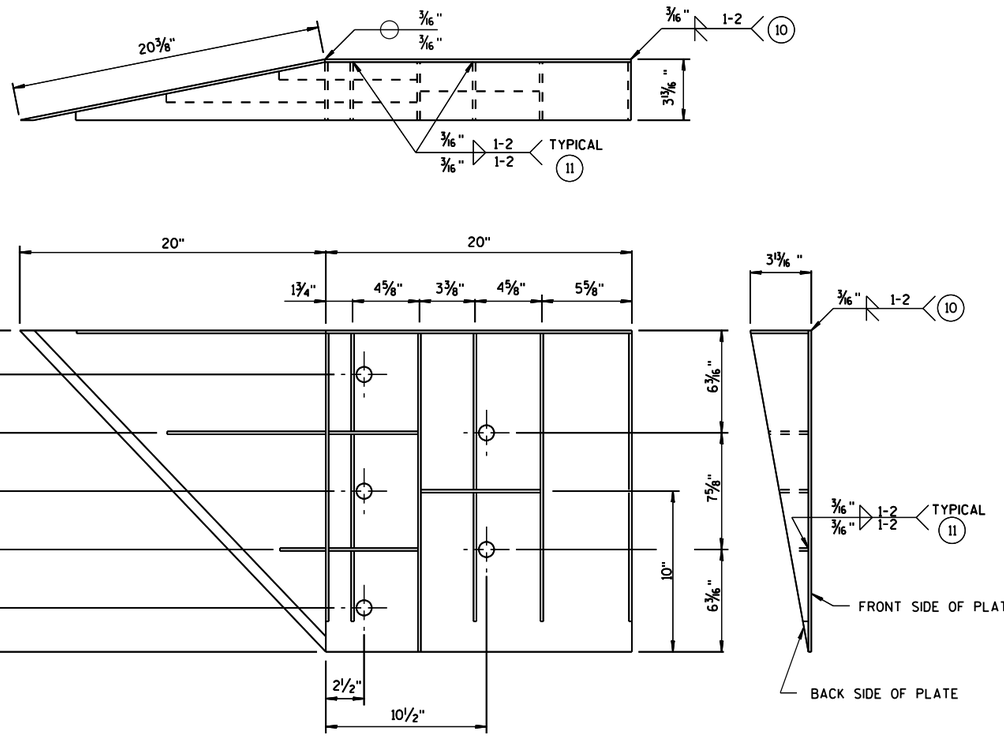

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

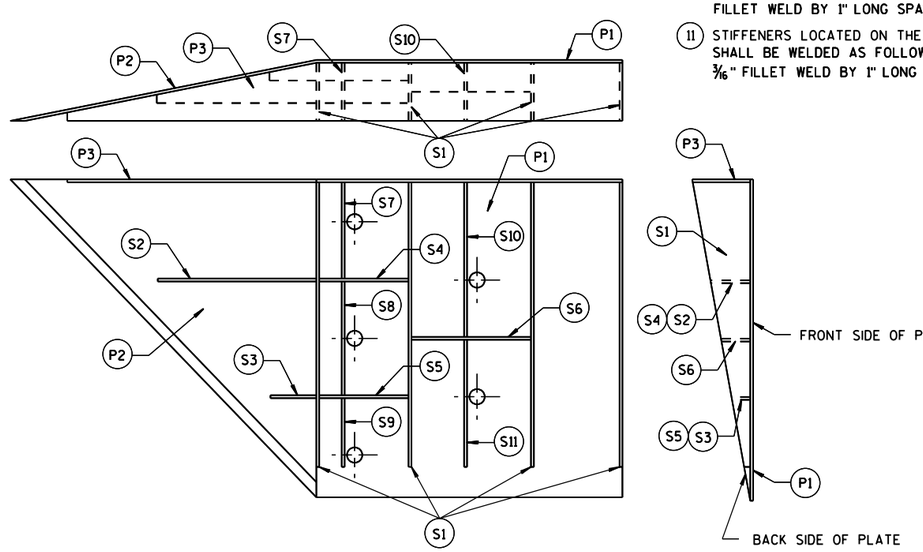

PLATE AND STIFFENER IDENTIFICATION

(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".

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)

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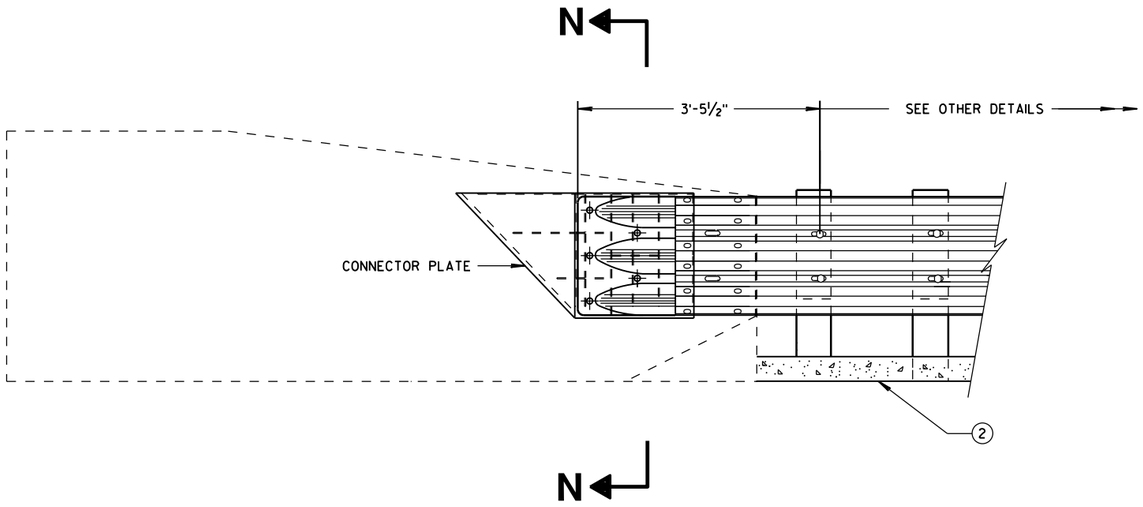
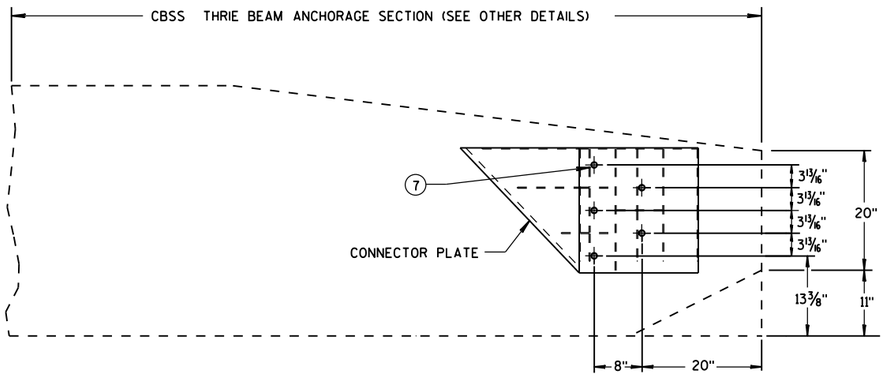


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



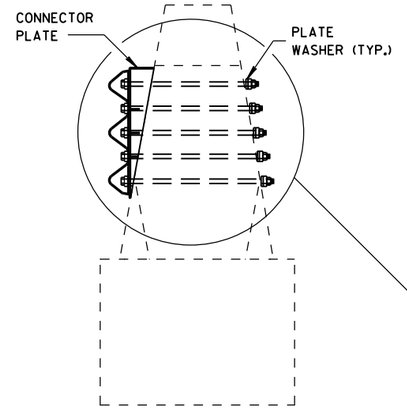
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

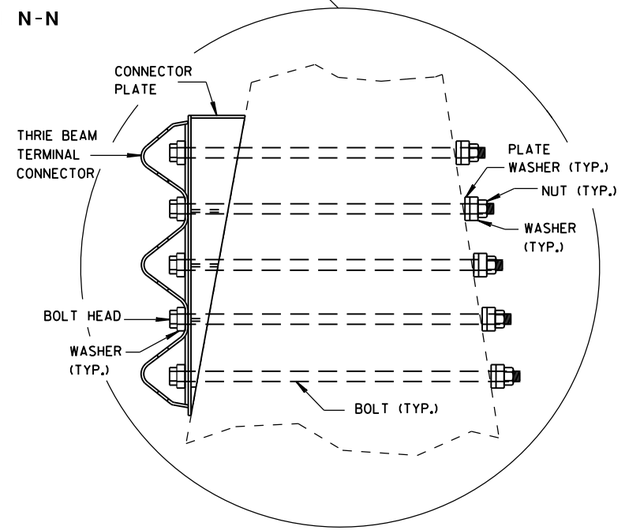
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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)

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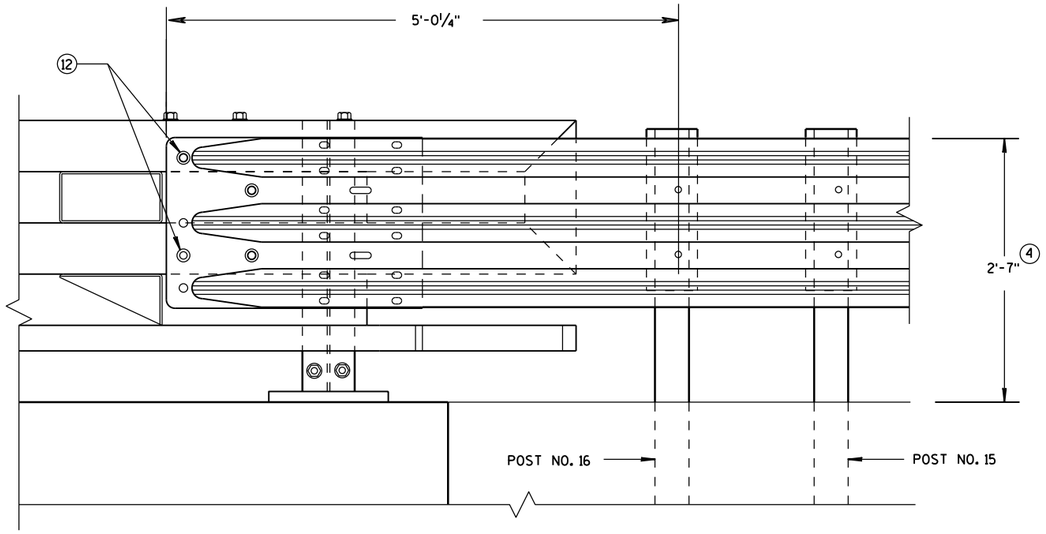
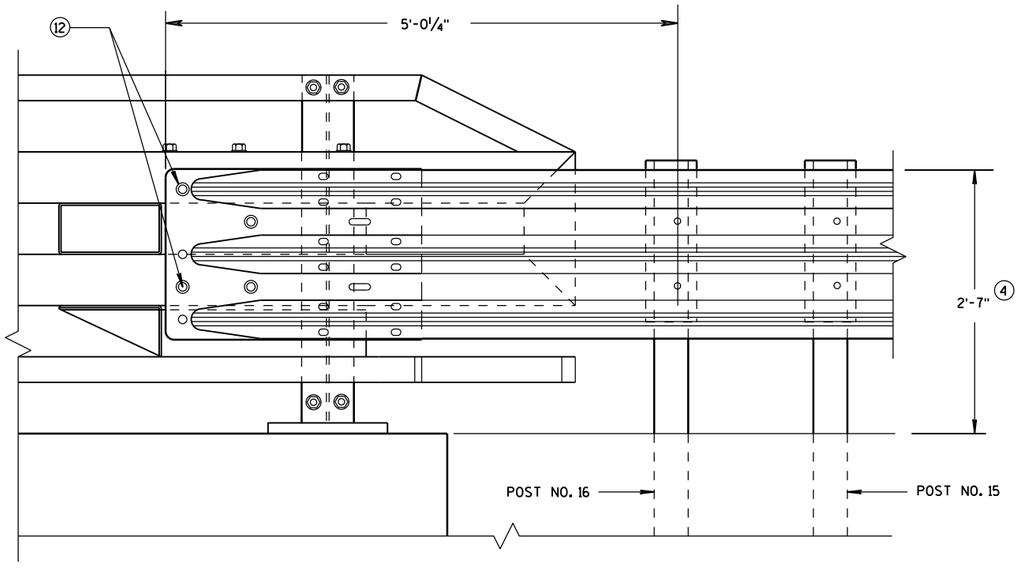


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

FHWA

NT

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

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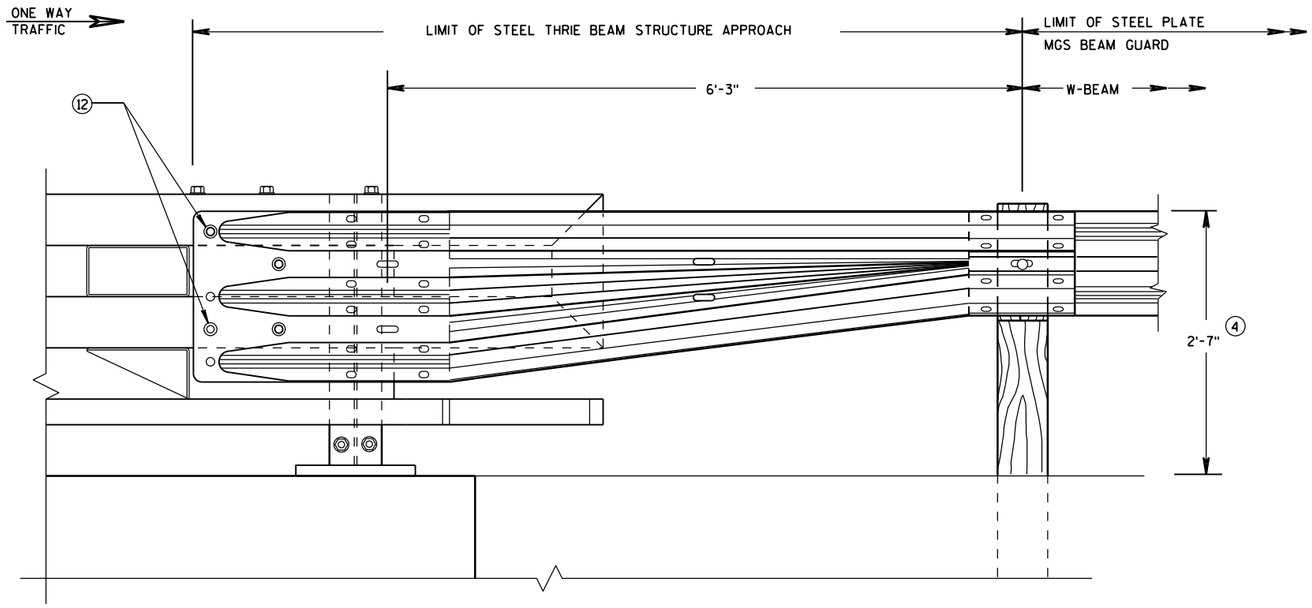
S.D.D. 14 B 45-4k



FRONT VIEW

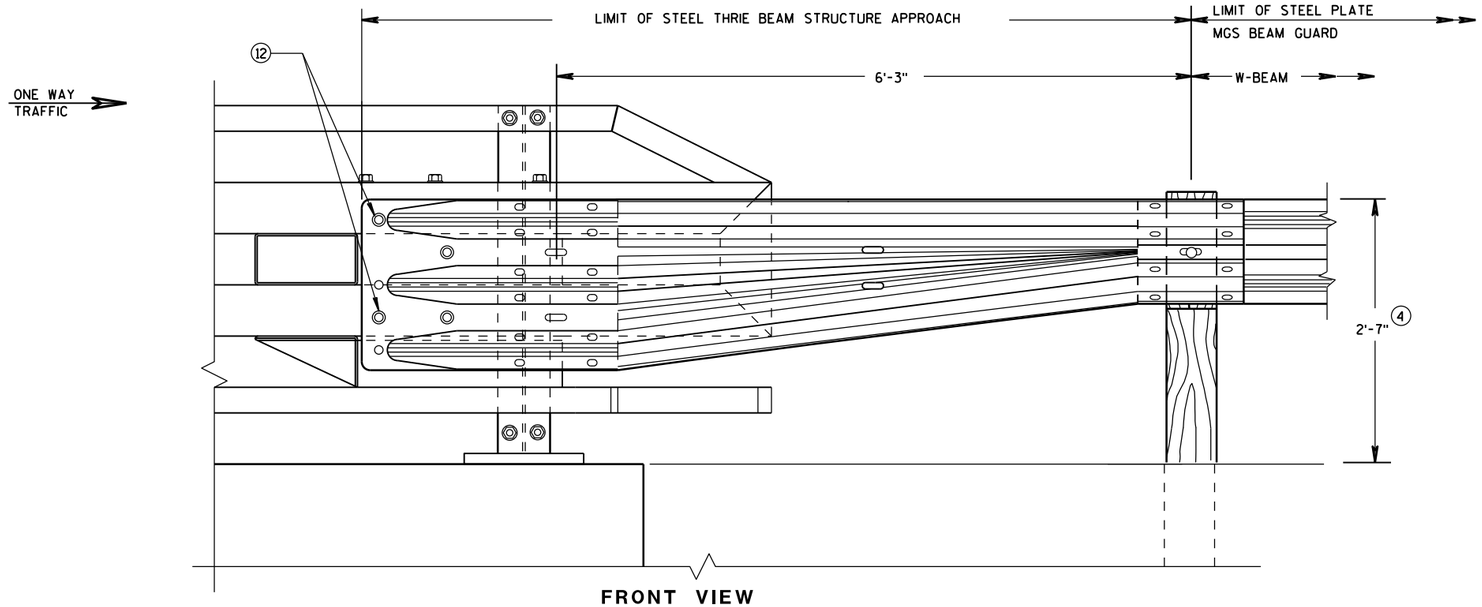
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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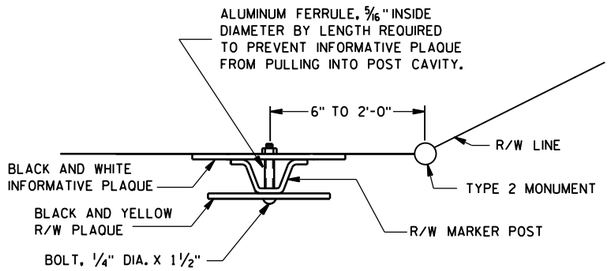
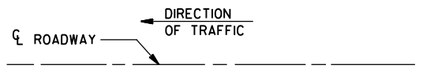
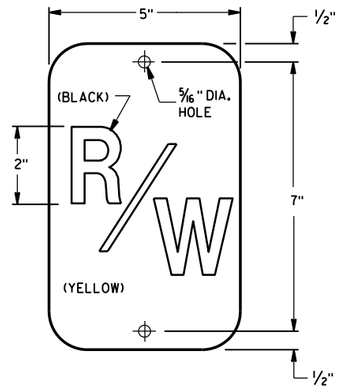
S.D.D. 14 B 45-4L



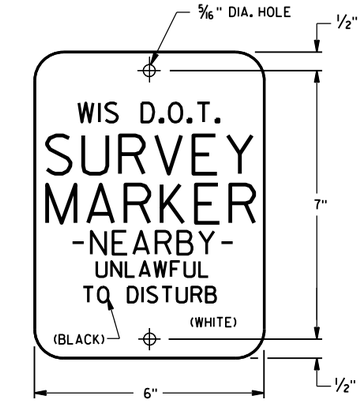


PLAN VIEW



R/W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

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

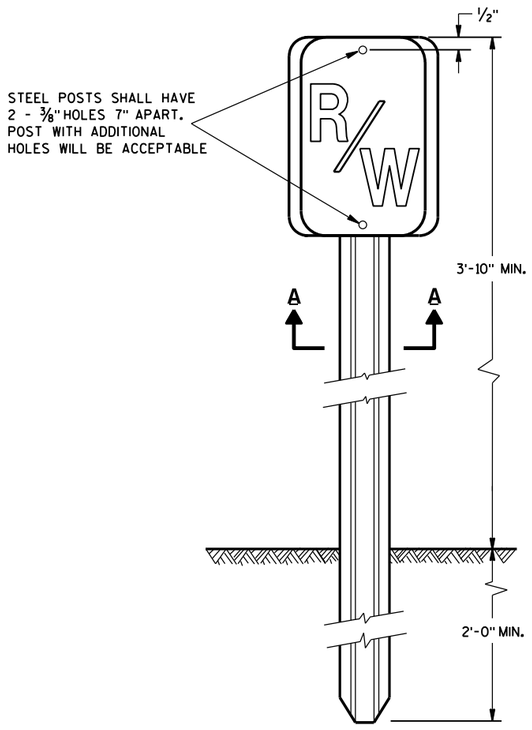
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

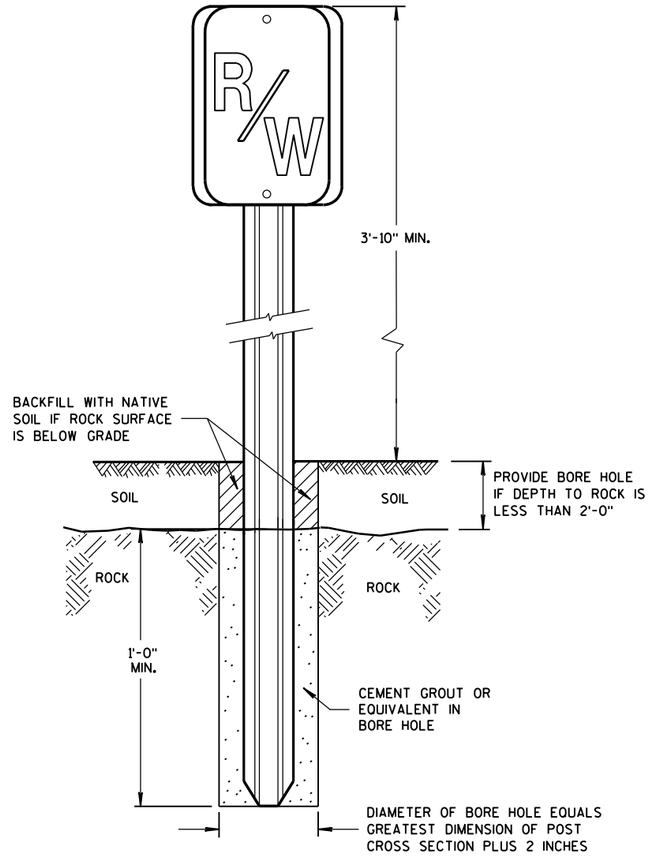
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

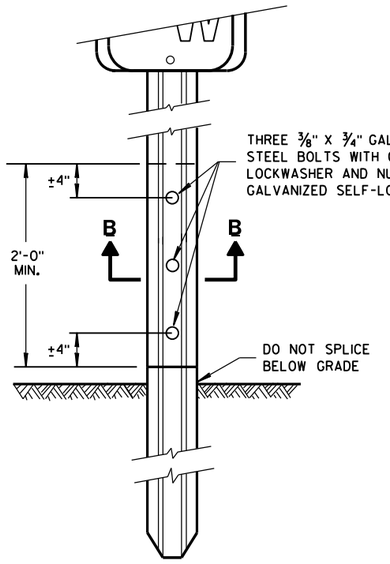
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT. DEPENDING ON THE STABILITY OF THE ROCK.



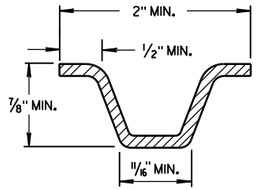
FRONT VIEW
STEEL MARKER POST



FRONT VIEW
ROCK INSTALLATION (1)

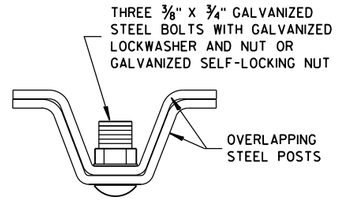


FRONT VIEW
SPLICE DETAIL



MIN. WEIGHT 1.12 LB./FT.

SECTION A-A



SECTION B-B

MARKER POST FOR RIGHT-OF-WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

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S.D.D. 15 A 1-12a

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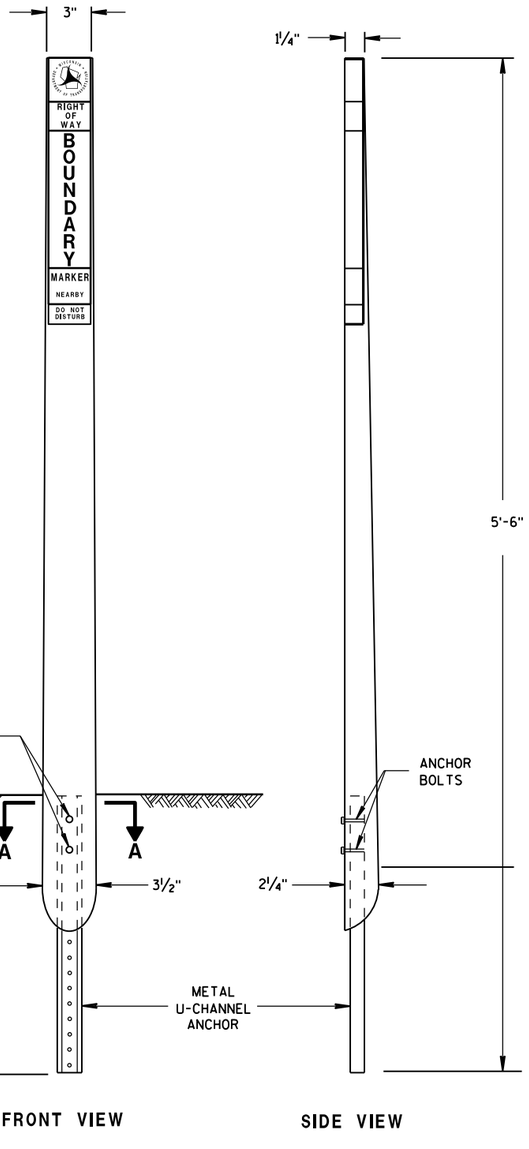
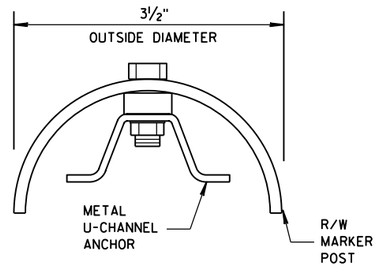
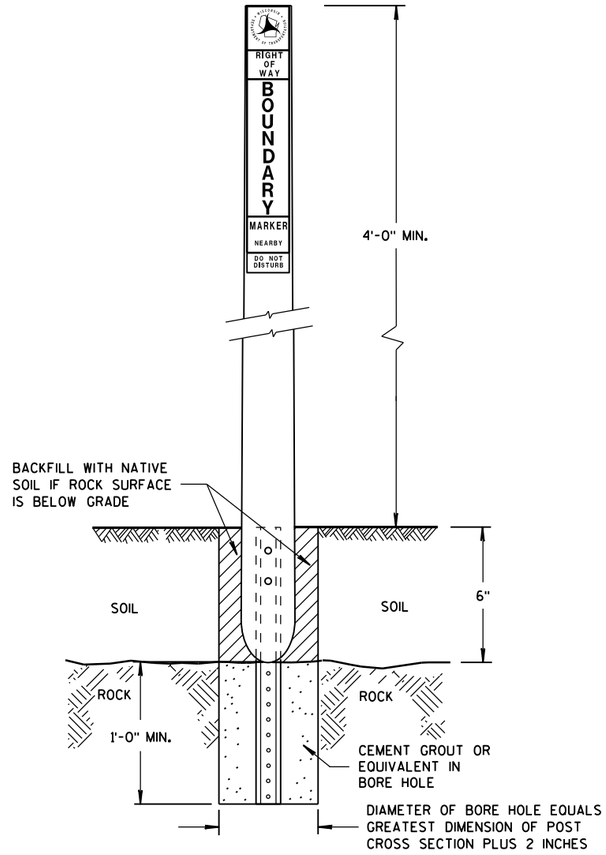
S.D.D. 15 A 1-12a



FLEXIBLE MARKER POST FOR RIGHT-OF-WAY ①

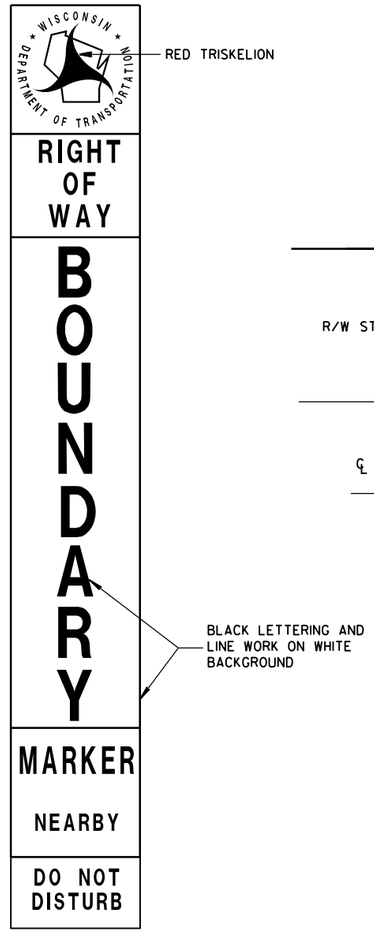


SECTION A-A



FRONT VIEW

ROCK INSTALLATION ①②



RIGHT-OF-WAY STICKER

THE RIGHT-OF-WAY STICKER WILL BE ATTACHED TO THE RIGHT-OF-WAY POST PRIOR TO DELIVERY.

GENERAL NOTES

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

A FLEXIBLE MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

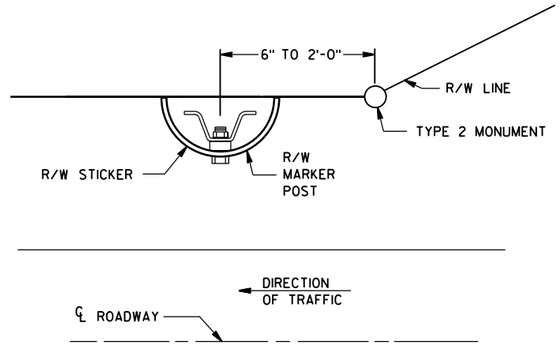
THE RIGHT-OF-WAY STICKER SHALL FACE THE ROADWAY.

INSTALL PER DEPTH OF MANUFACTURER'S RECOMMENDATIONS BUT NOT LESS THAN 18 INCHES BELOW GRADE FROM THE BOTTOM OF THE METAL U-CHANNEL ANCHOR.

① FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.

② IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 4'-0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



PLAN VIEW

FLEXIBLE MARKER POST FOR RIGHT-OF-WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — /S/ Ray Kumapayi
DATE — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

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S.D.D. 15 A 1-12b

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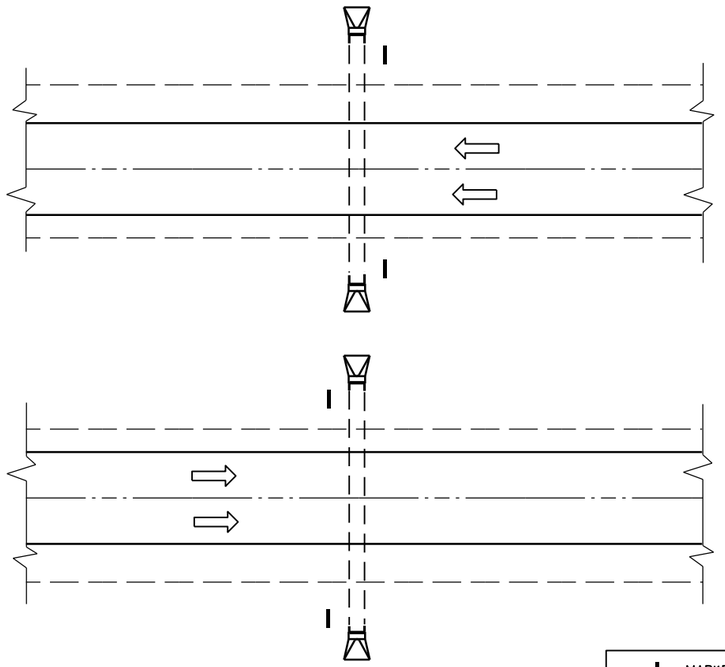
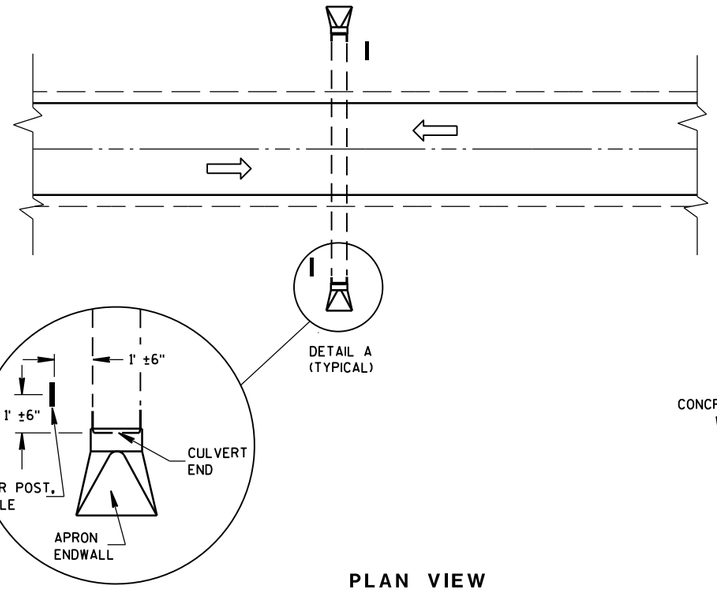
S.D.D. 15 A 1-12b



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

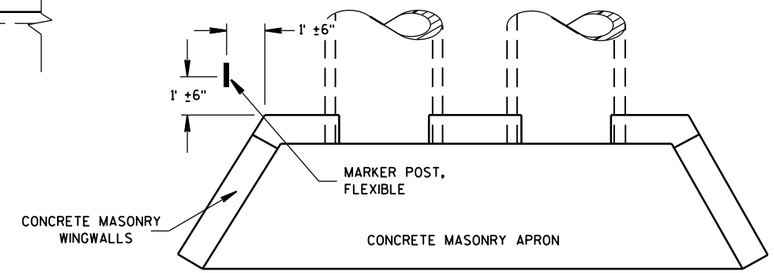
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

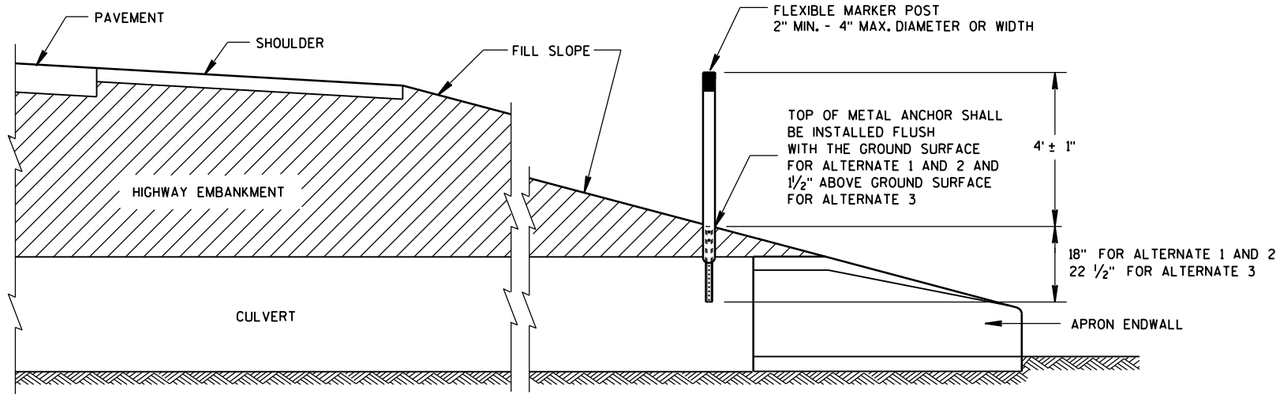
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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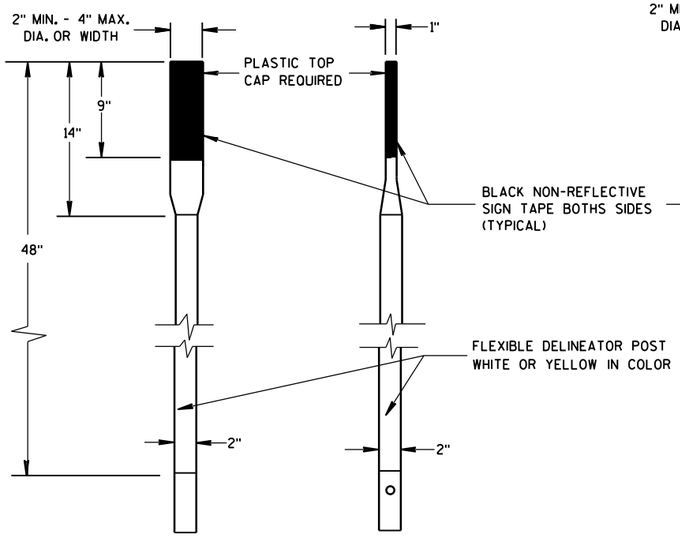
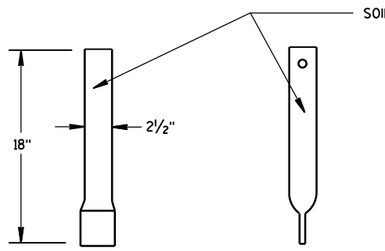
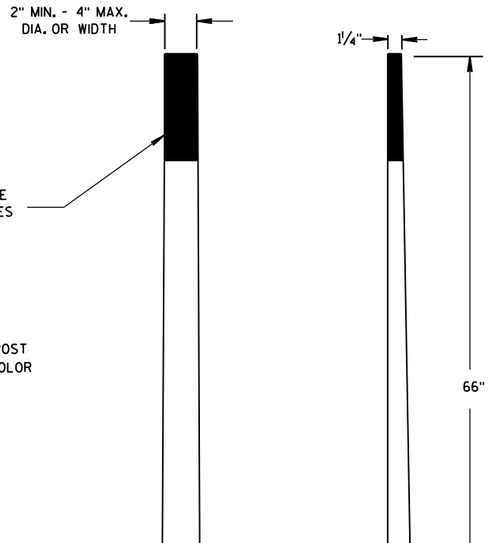
S.D.D. 15 A 3-2a





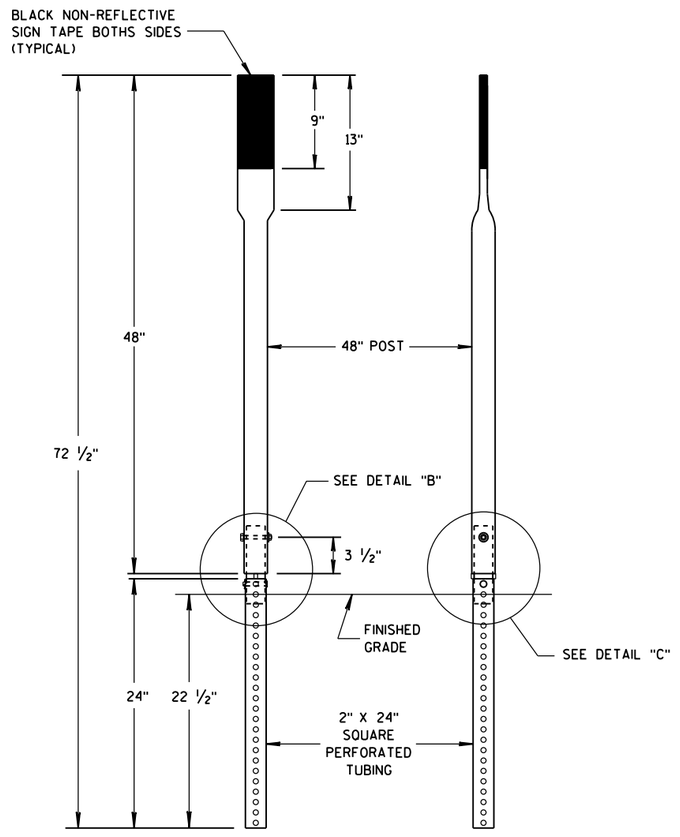
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

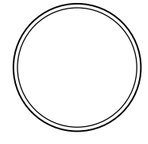
ALTERNATE 2



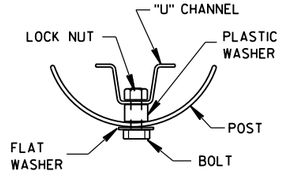
FRONT VIEW SIDE VIEW

ALTERNATE 3

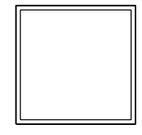
FLEXIBLE MARKER POSTS



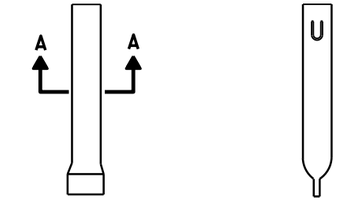
SECTION A-A



SECTION B-B

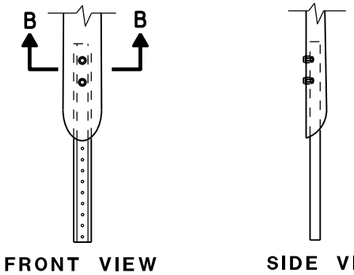


SECTION C-C



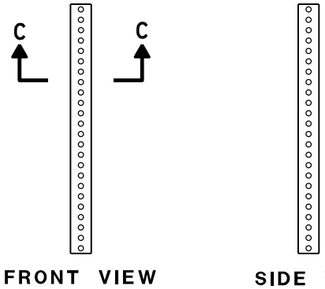
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

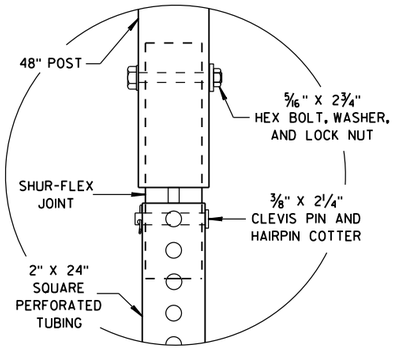
ALTERNATE 2



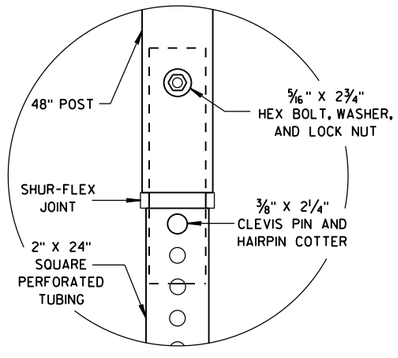
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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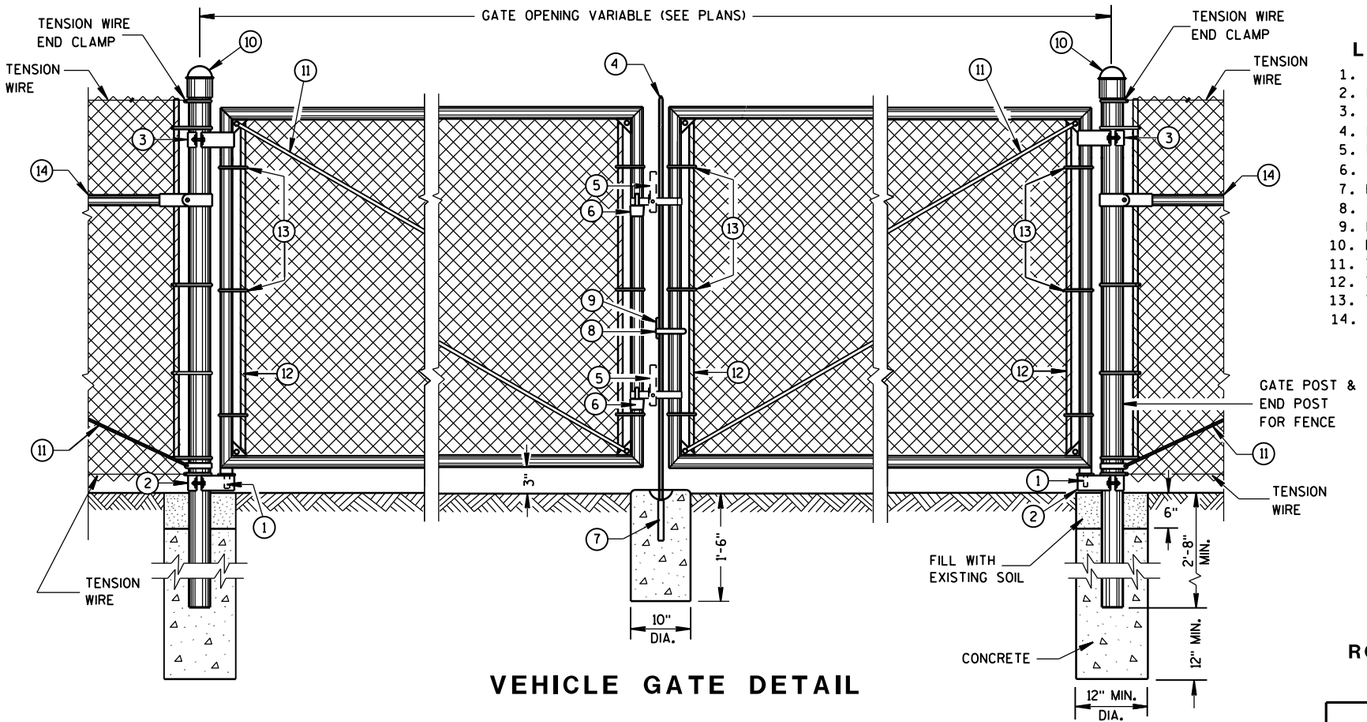
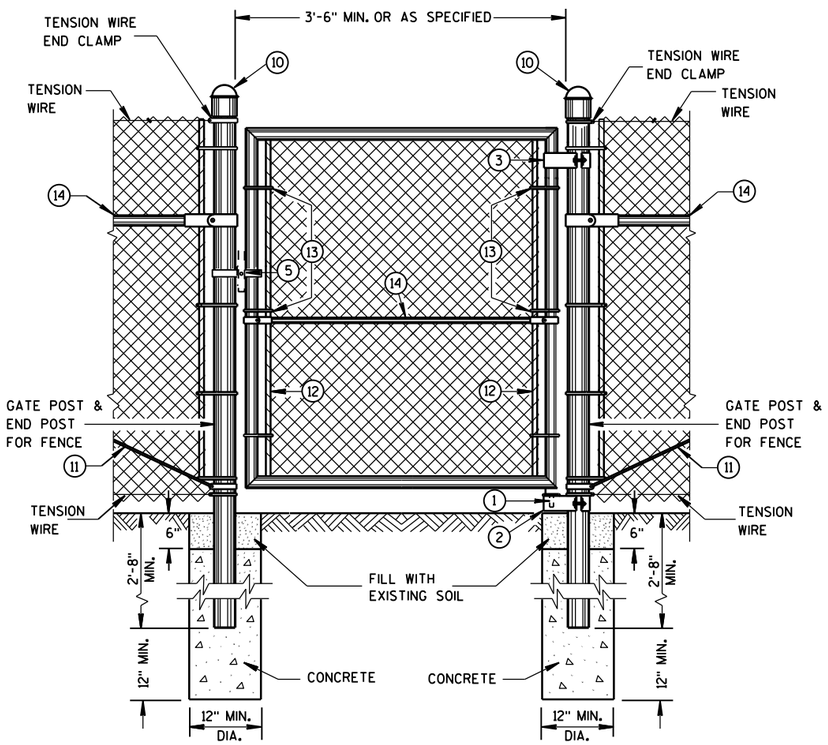
S.D.D. 15 A 3-2b



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

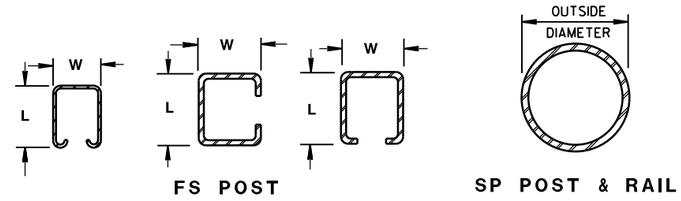
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

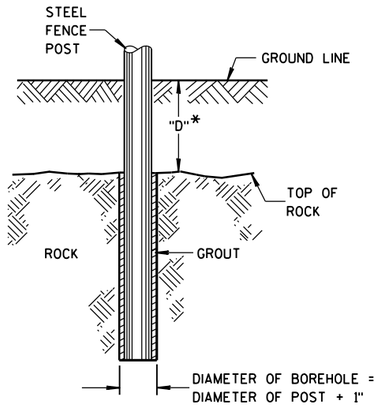
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

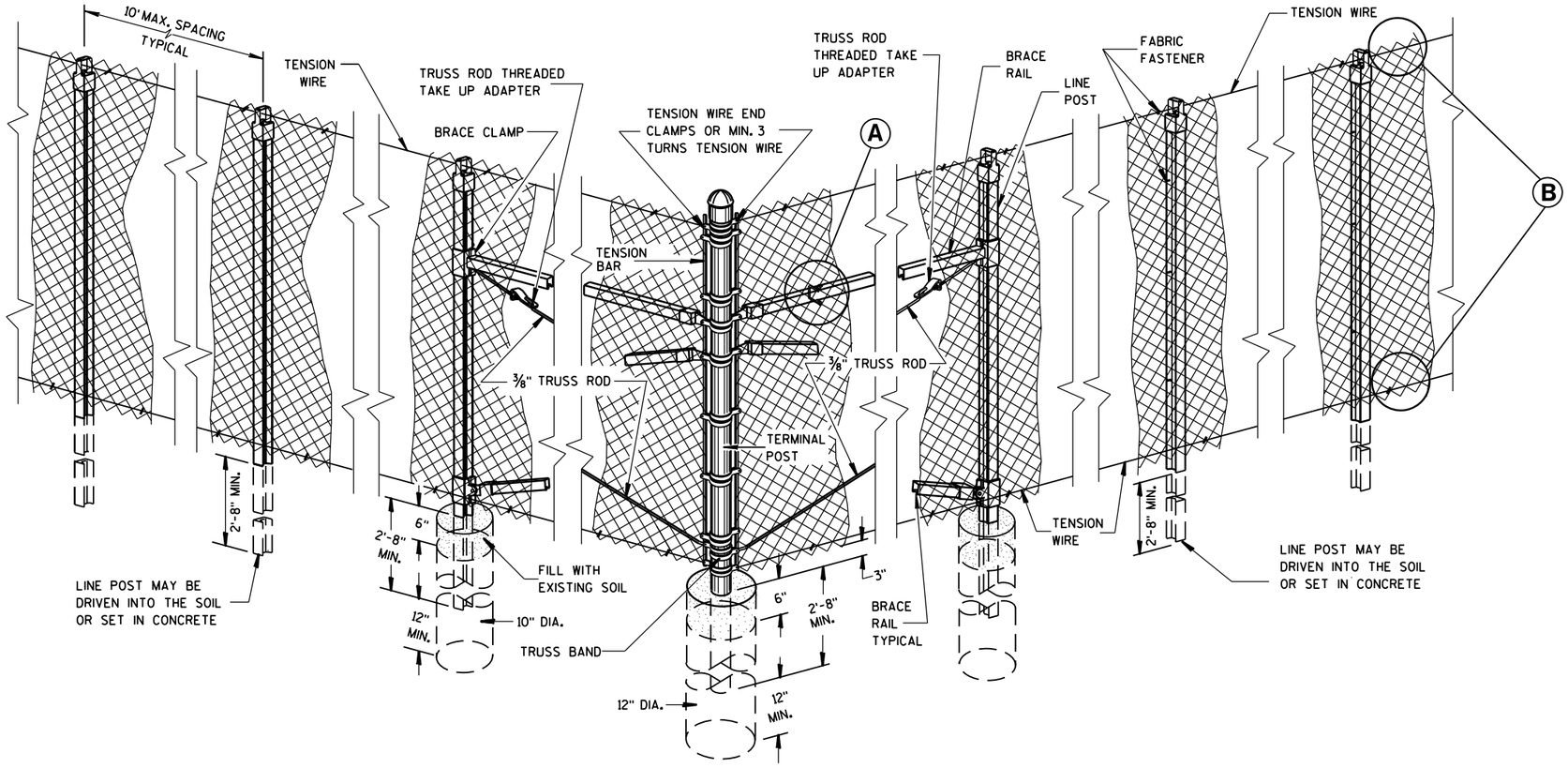
6

S.D.D. 15 B 3-15a

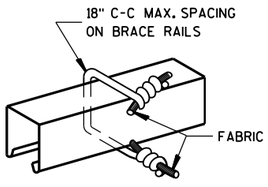


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



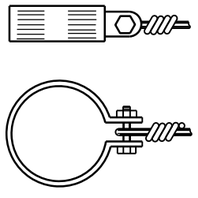
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



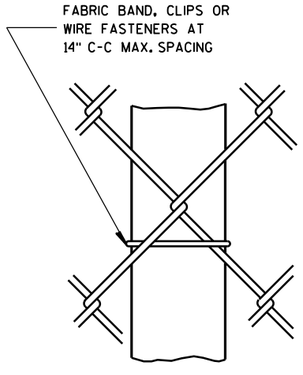
BRACE RAIL

FABRIC FASTENER

Ⓐ



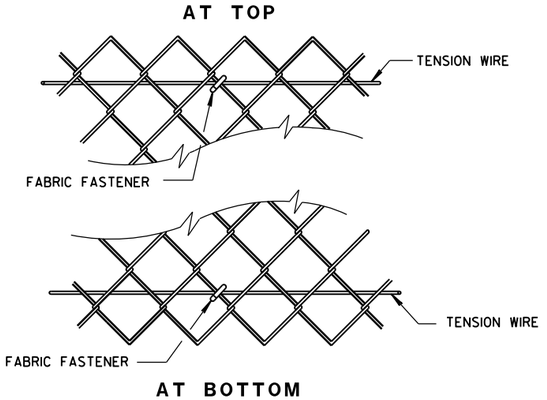
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

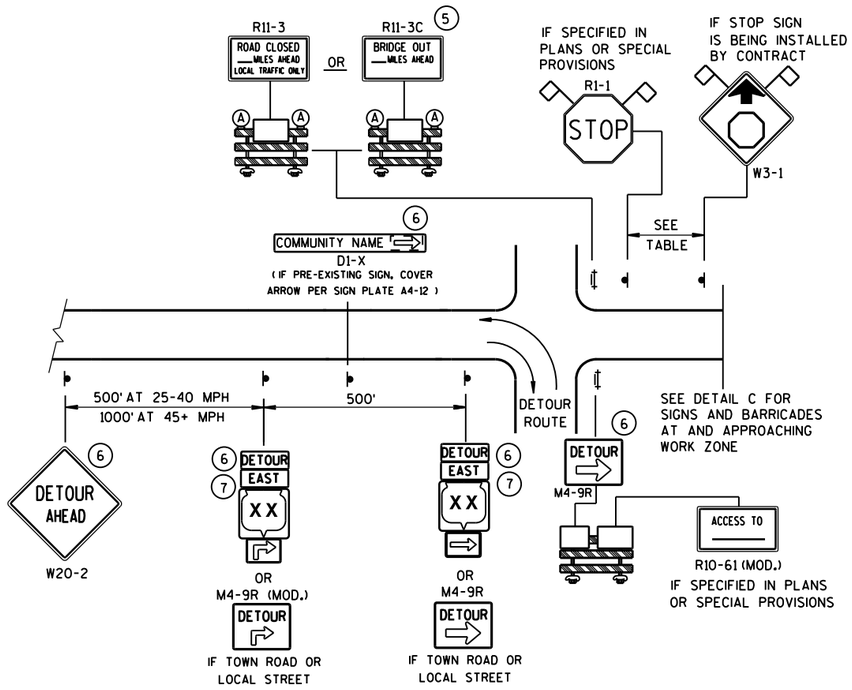
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-15b

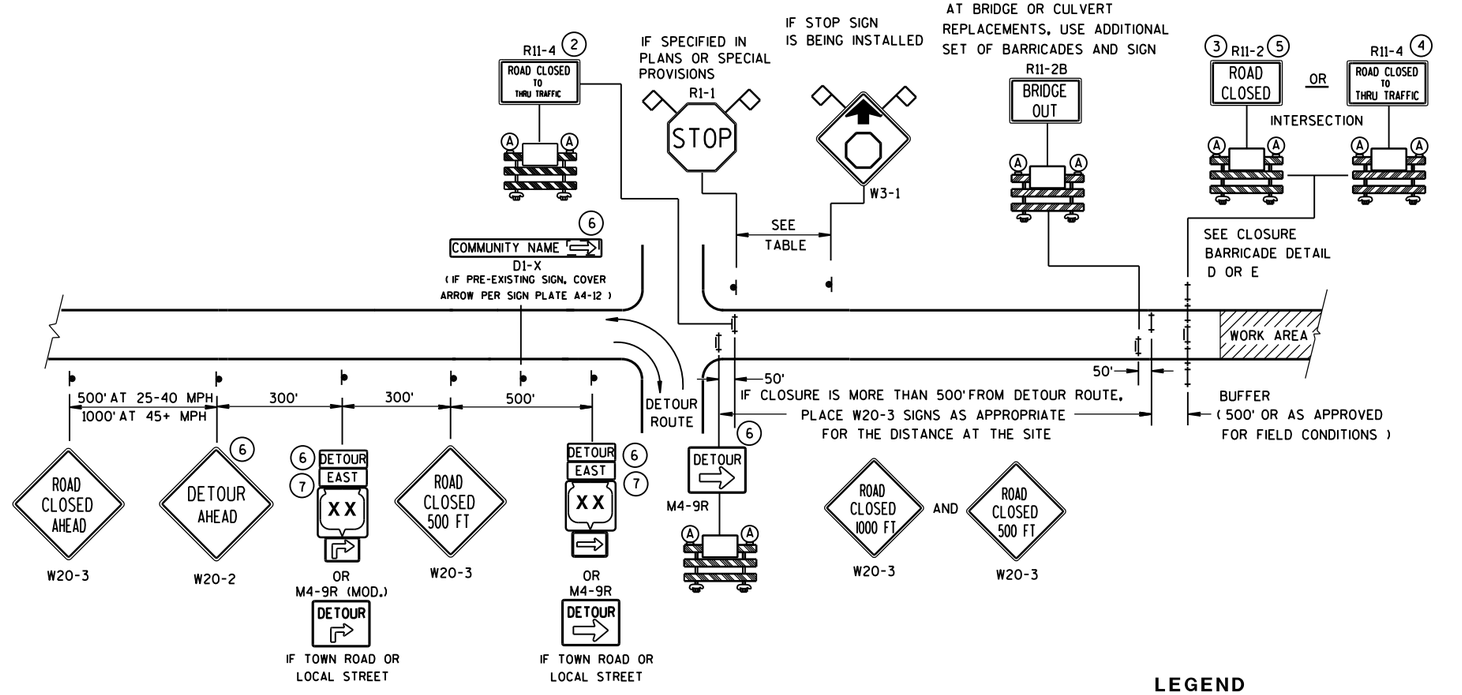
6

S.D.D. 15 B 3-15b



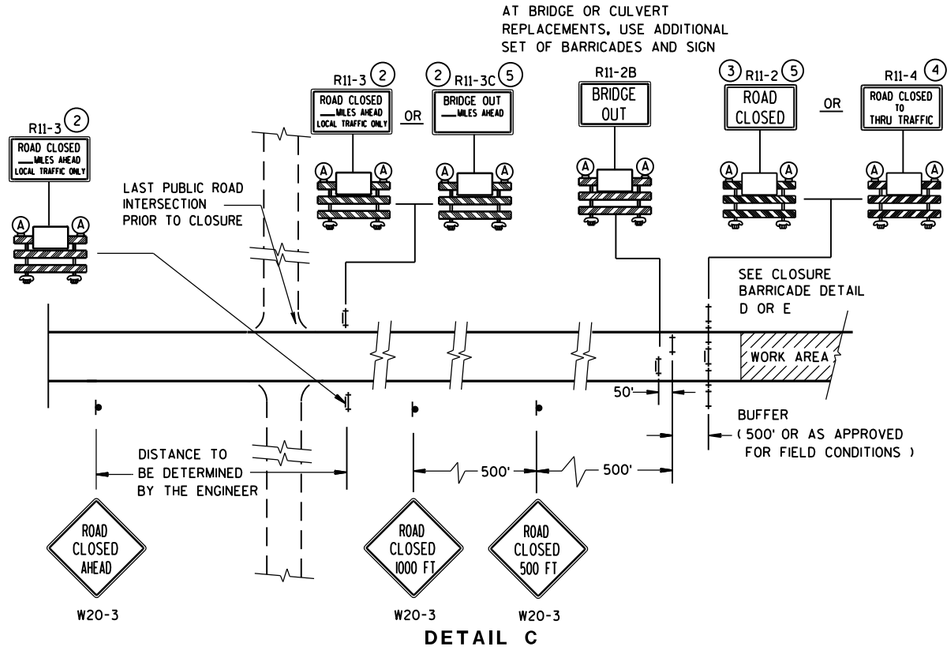
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (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)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

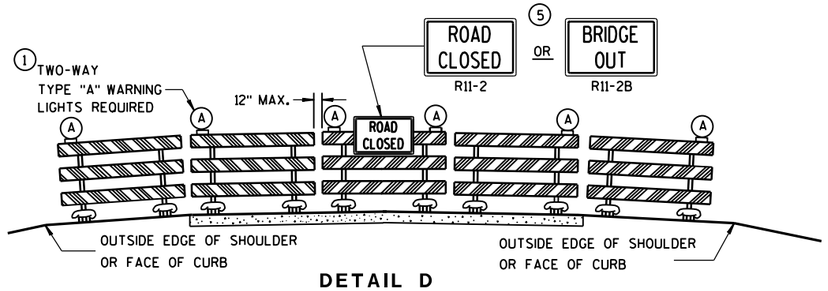
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

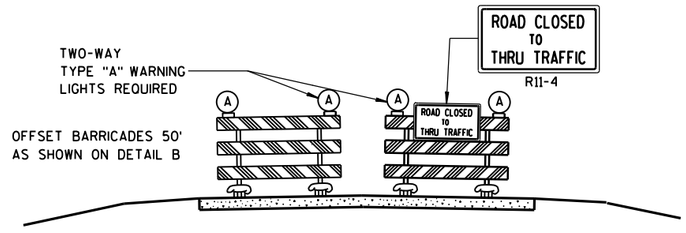
S.D.D. 15 C 2-5a



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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

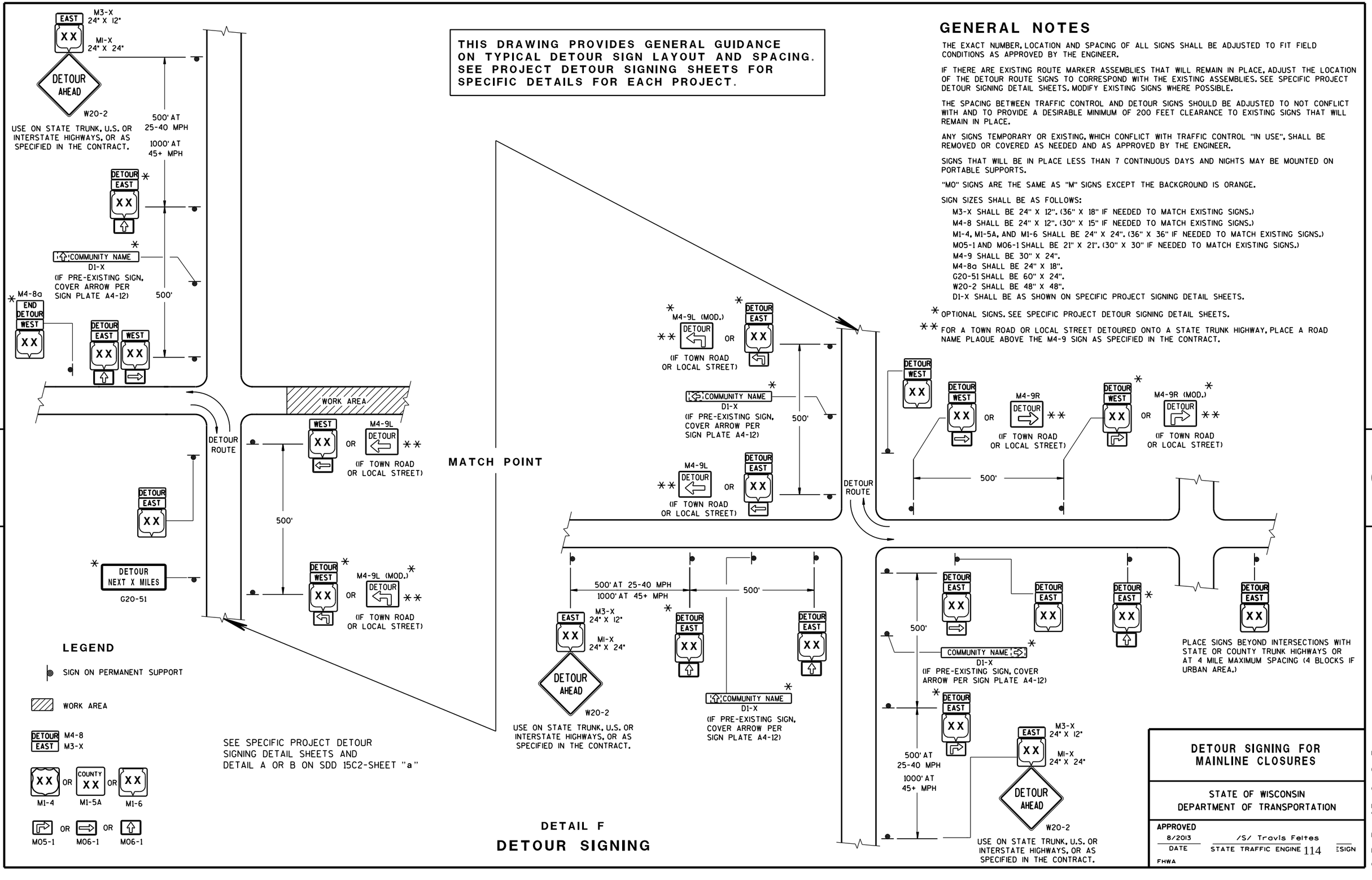
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- 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.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8, M3-X
- XX OR COUNTY XX OR XX — M1-4, M1-5A, M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

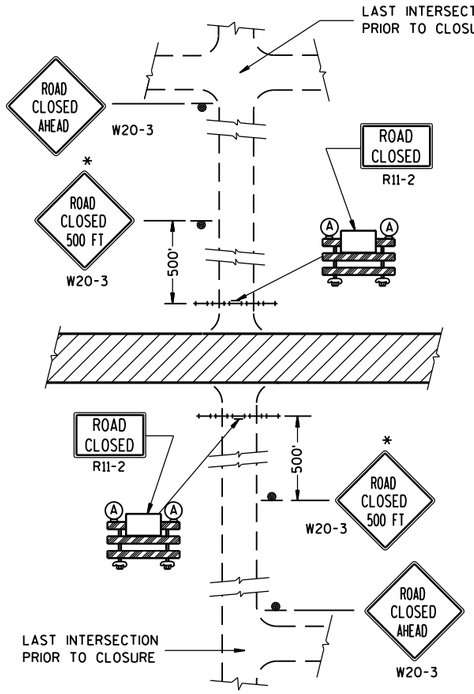
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

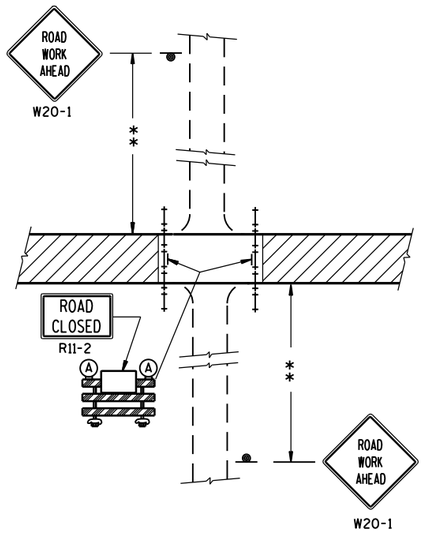
S.D.D. 15 C 2-5c

6



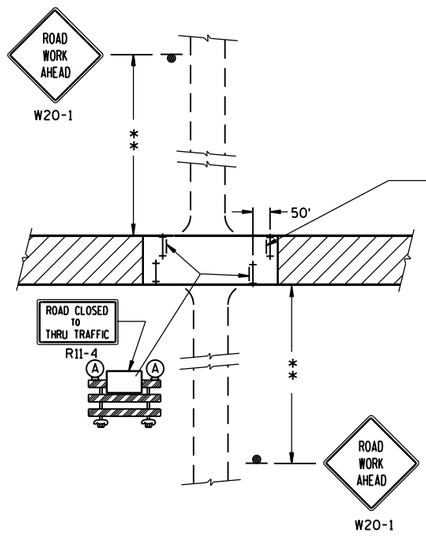
DETAIL 1

(NO ACCESS TO PROJECT)



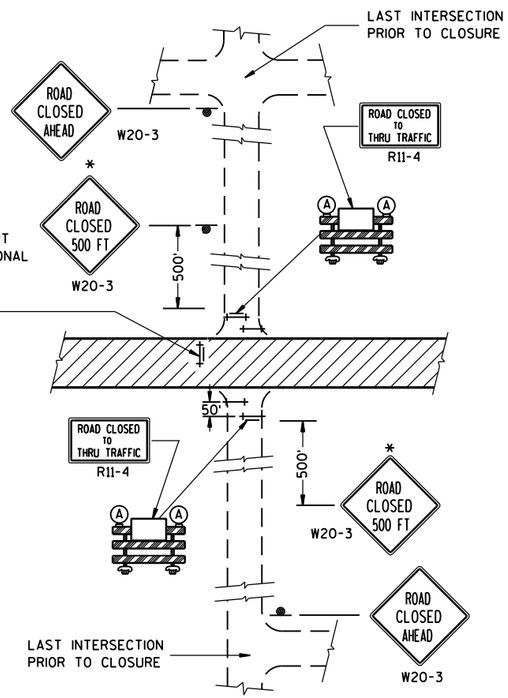
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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

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 AND R11-4 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.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

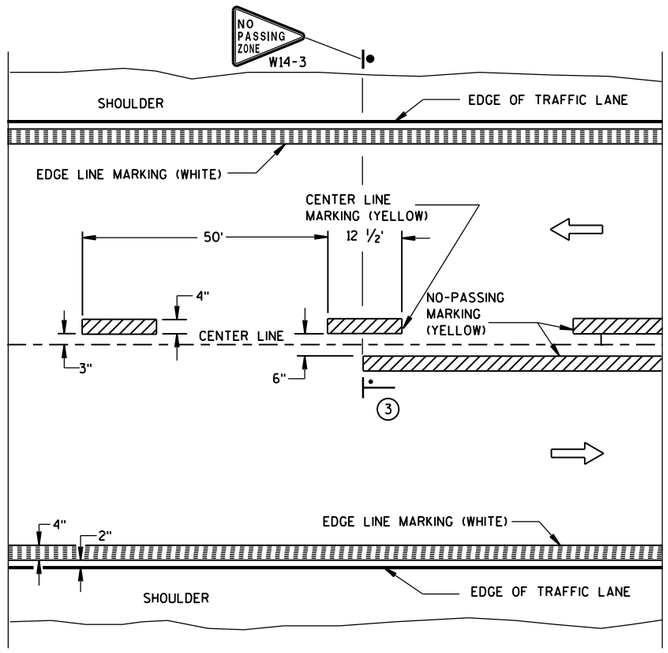
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

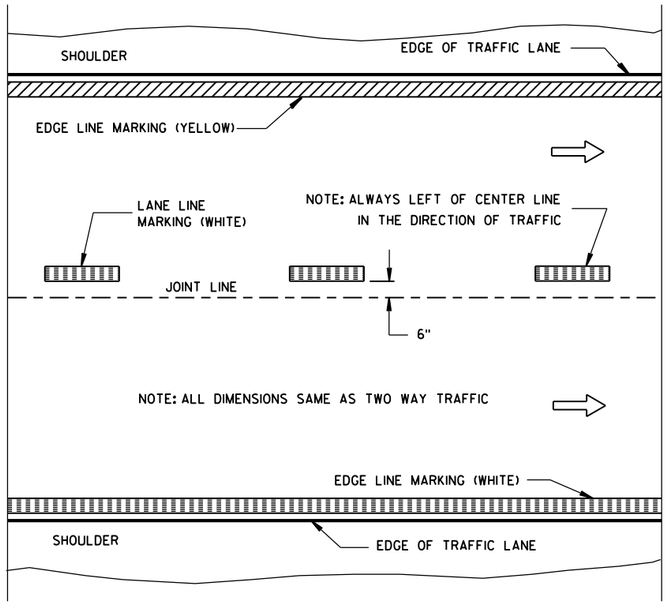
S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2

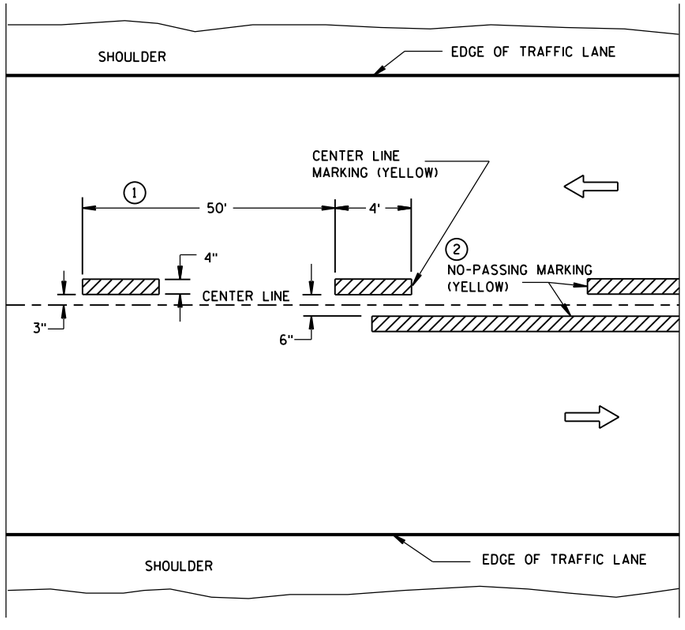


TWO WAY TRAFFIC

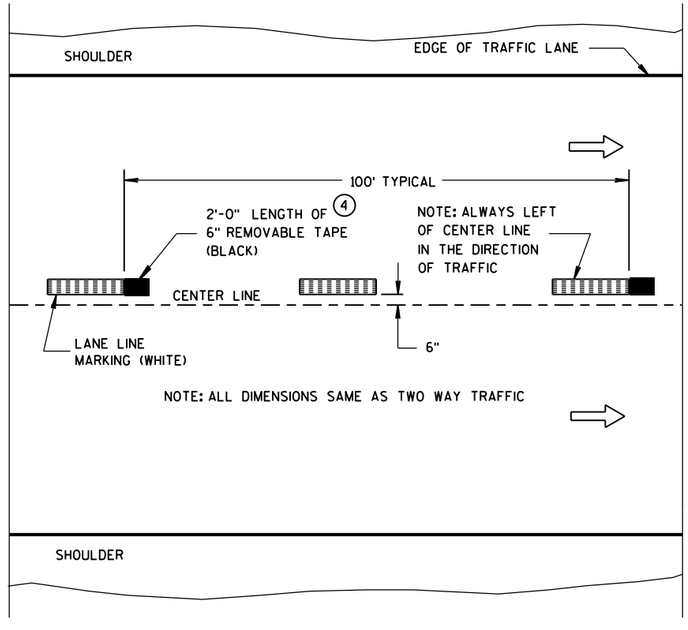


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

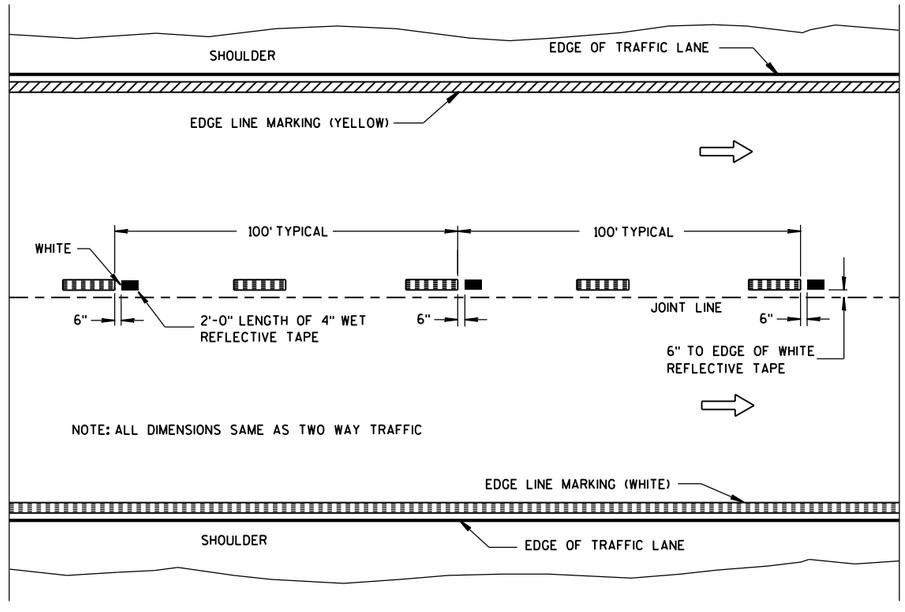
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

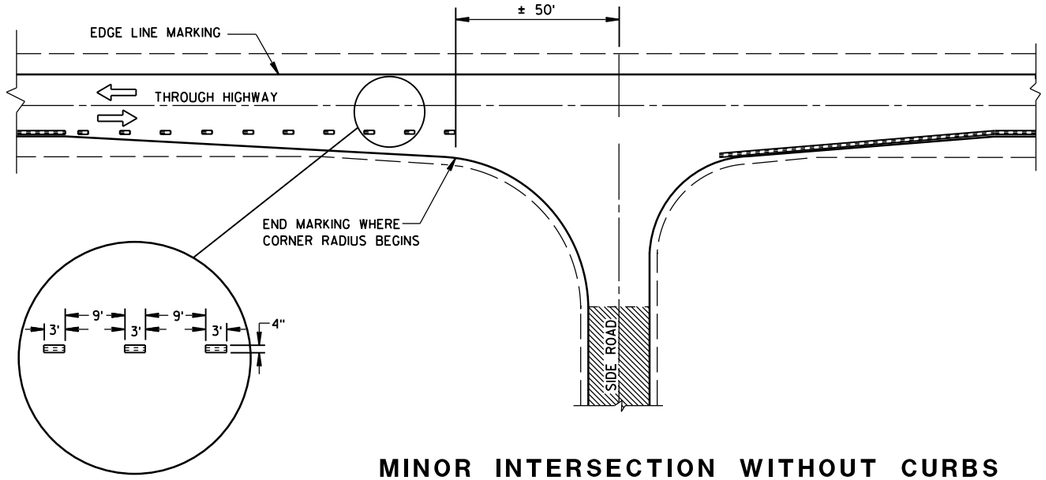
FHWA

6

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

6

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



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

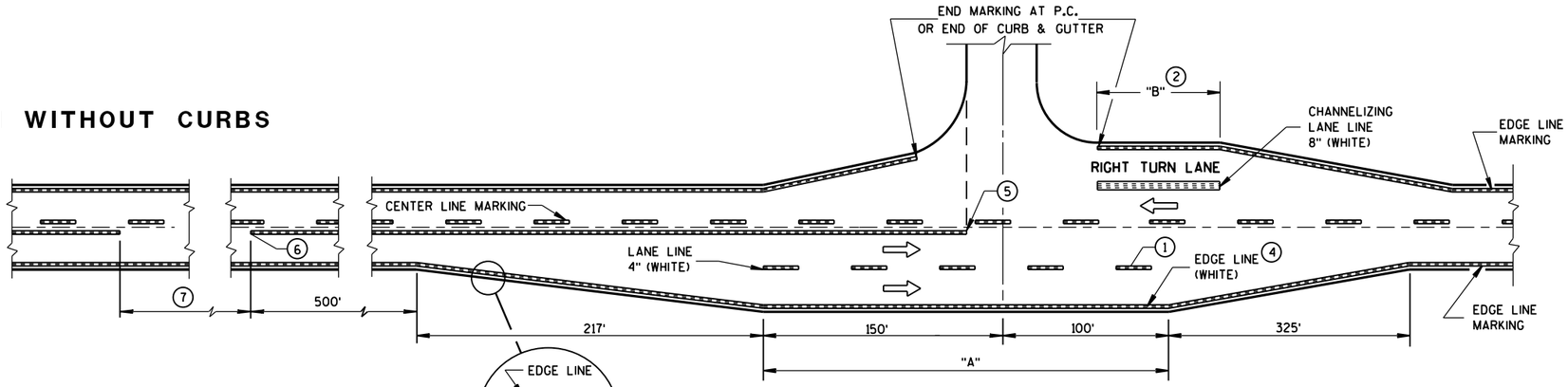
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

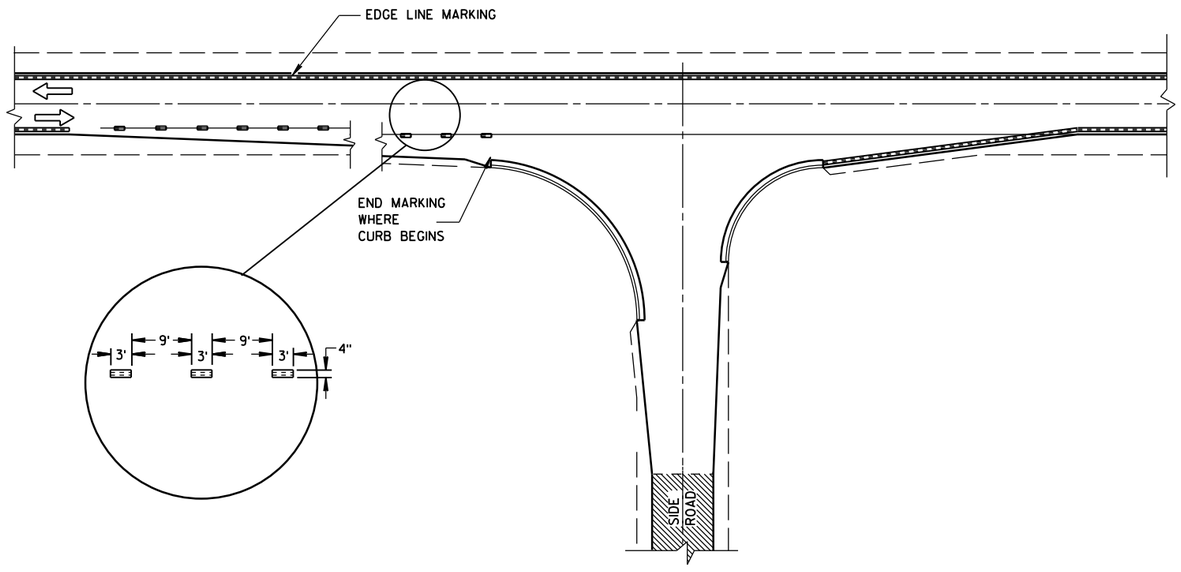
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



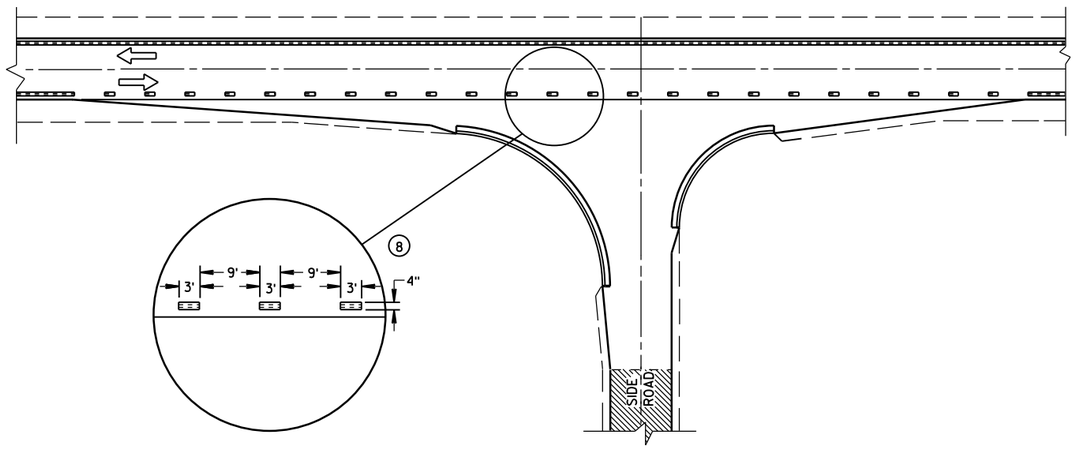
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

6

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

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

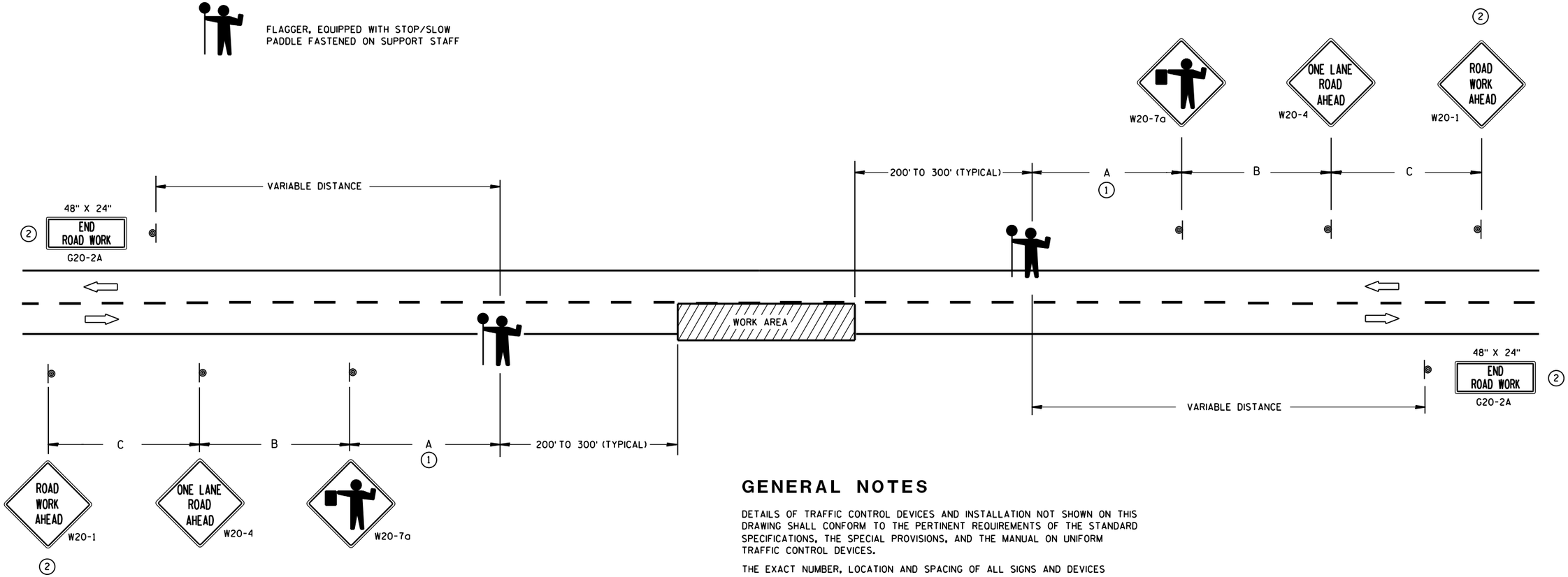
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

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

BE PREPARED TO STOP
W3-4

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



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

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

GENERAL NOTES

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

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

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

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

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

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

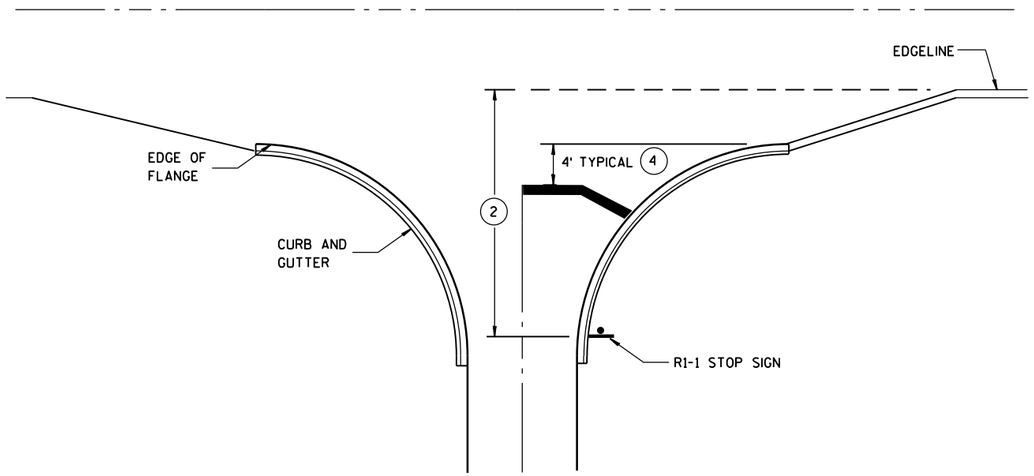
TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

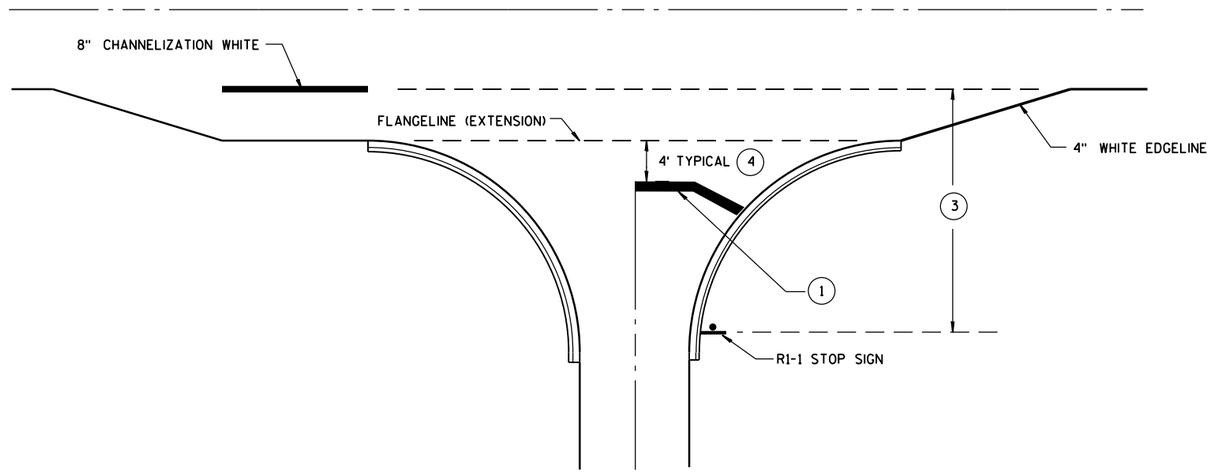
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

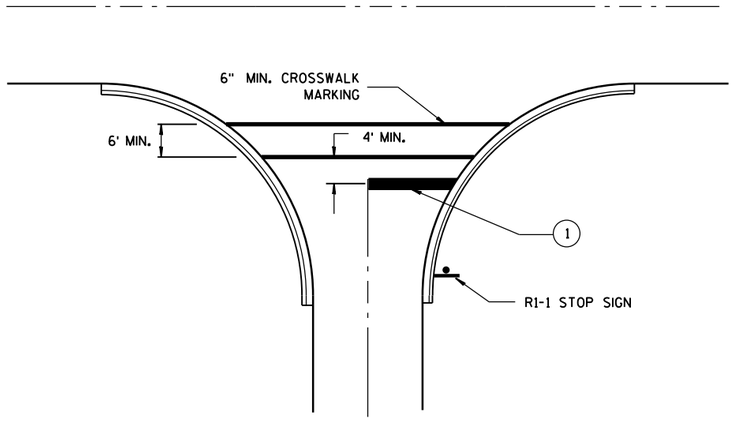
S.D.D. 15 C 12-4



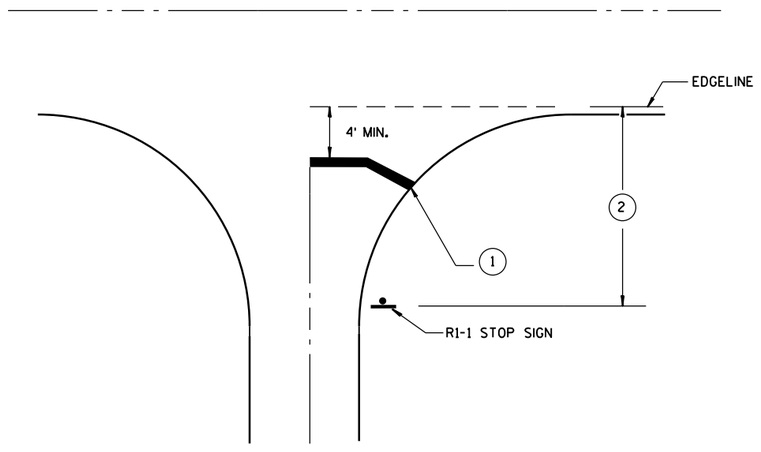
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

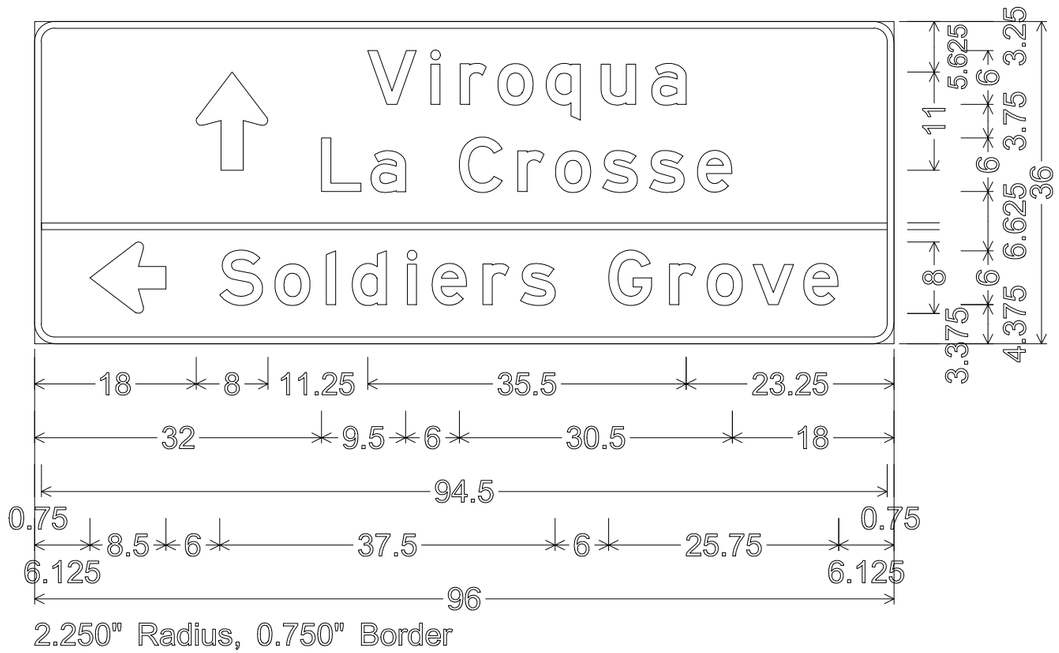
4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

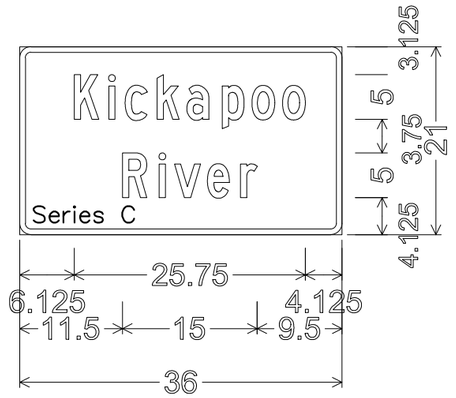
6

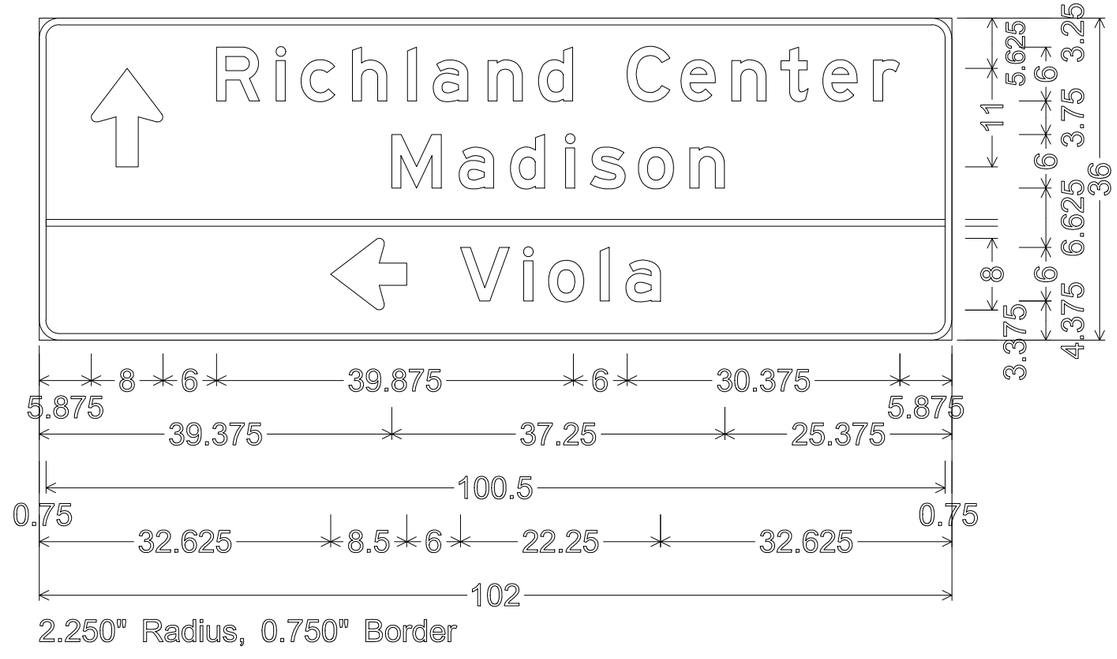
S.D.D. 15 C 33-1



NOTES

1. All Signs Type II – Type H Reflective
2. Color:
   Background – GREEN
   Message – WHITE
3. Message Series – E except as shown





7

7

PROJECT NO: 1643-08-81	HWY: USH 14/STH 131	COUNTY: VERNON	PERMANENT SIGNING	SHEET NO: F

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\CADD FILES\ROADWAY\SPECIALS SIGNS FROM DOT (2).DWG
LAYOUT : MODEL

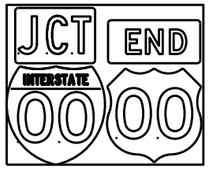
PLOT DATE 7/22/2015
PLOT TIME :10:26:51 AM

PLOT BY : GABBEY, MICHAELIS

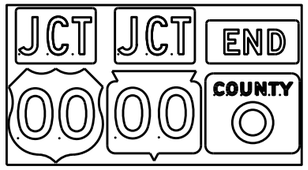
PLOT SCALE :0.081967

TYPICAL ASSEMBLIES

J1-1

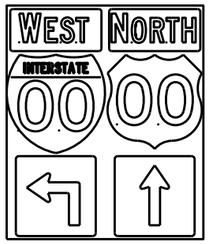


J1-2

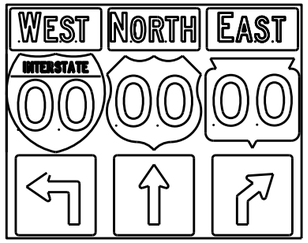


J1-3

J2-1



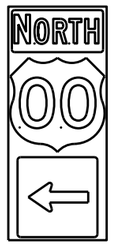
J2-2



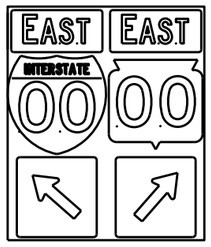
J2-3

JV

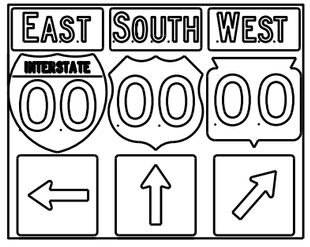
(Typical Vertical J-Assembly
See Note 10 and 11)



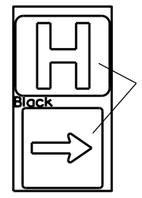
J3-1



J3-2



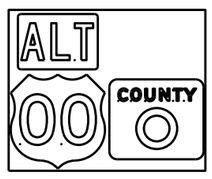
J3-3



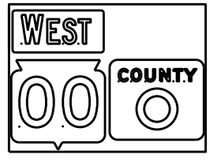
Blue Background

JH-1

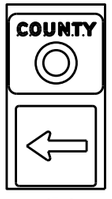
J4-1



J4-2



J4-2



J13-1

J12-1

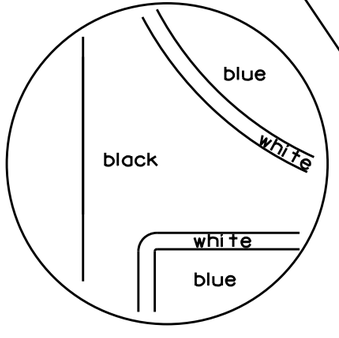
J32-1

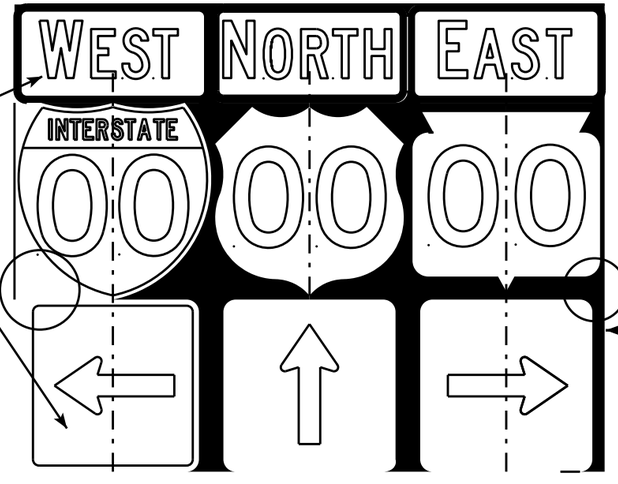
J33-1

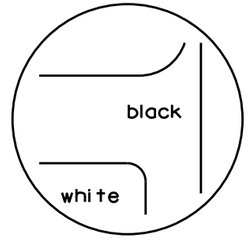
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

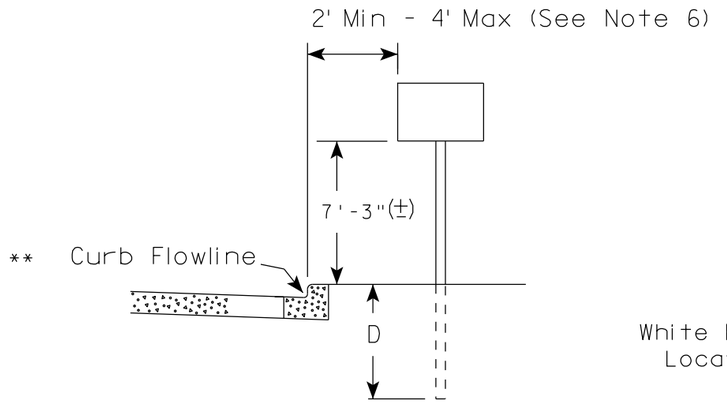
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

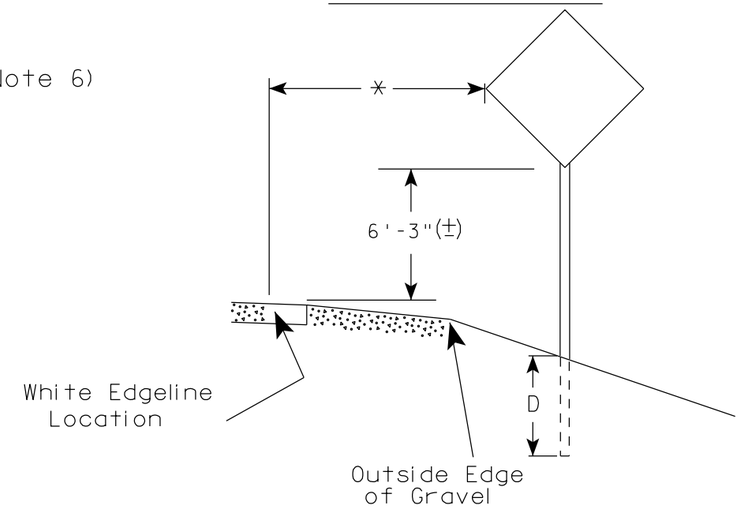
PROJECT NO: | SHEET NO: E

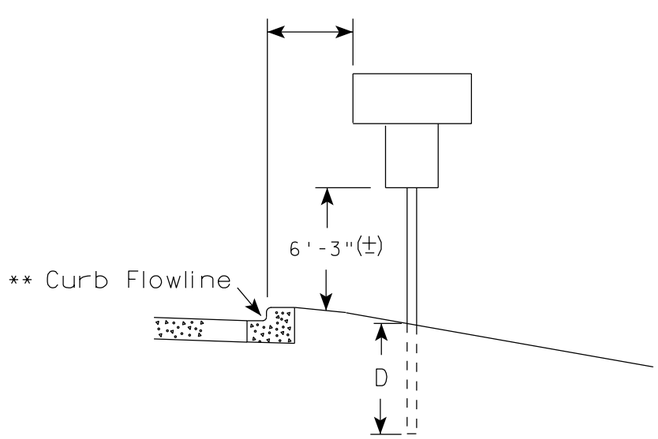
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :
WISDOT/CADDS SHEET 42

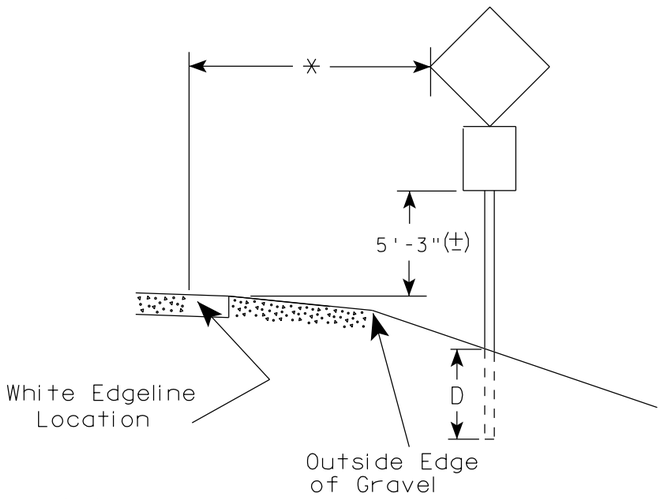
URBAN AREA



RURAL AREA (See Note 2)







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" (±).

POST EMBEDMENT DEPTH

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

** 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.

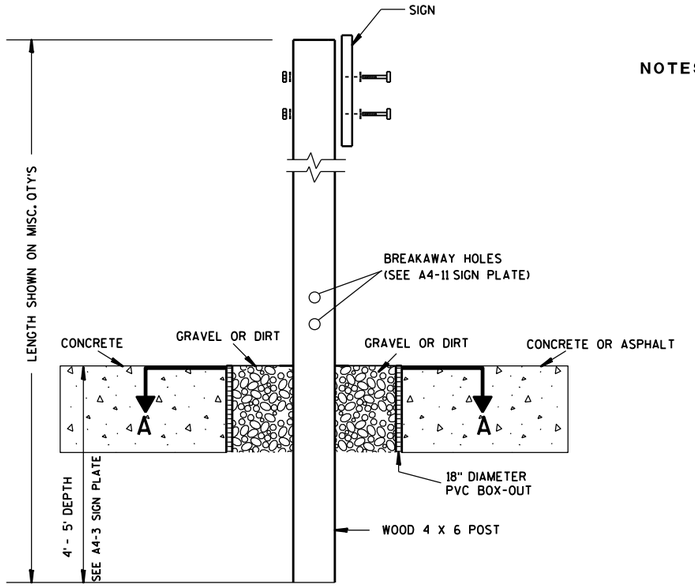
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

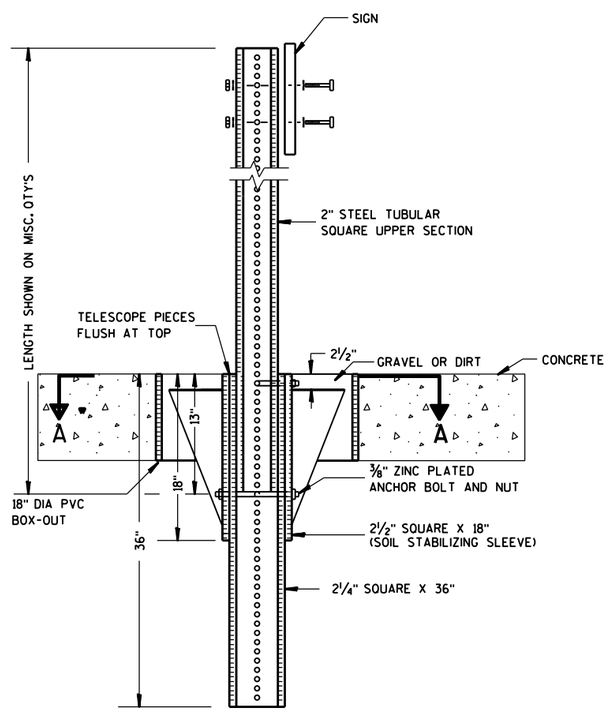
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

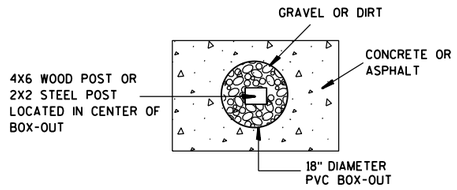
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

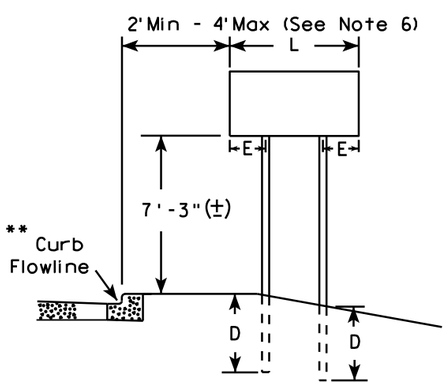
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

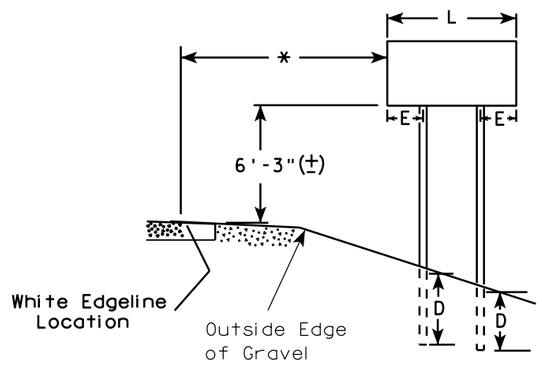
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

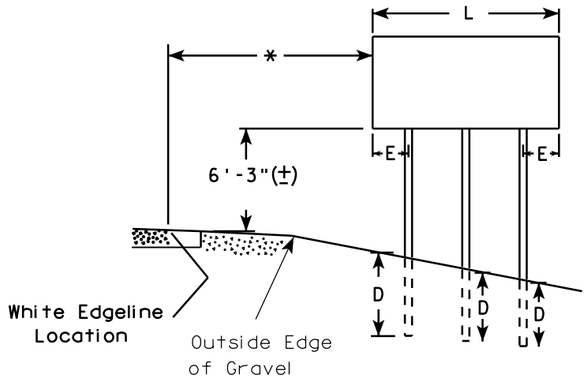
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

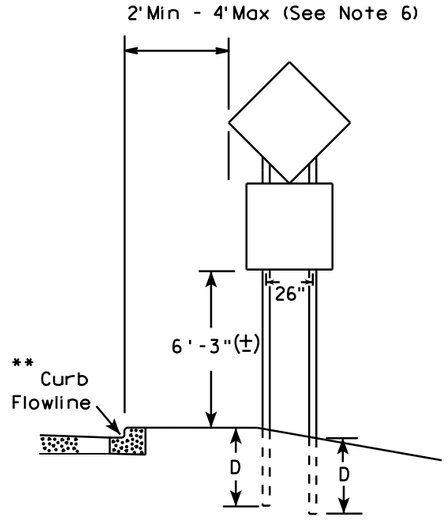
URBAN AREA



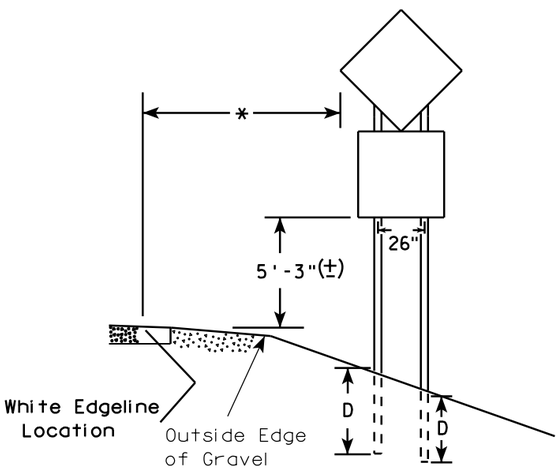
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. 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), 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" (±).

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

***

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

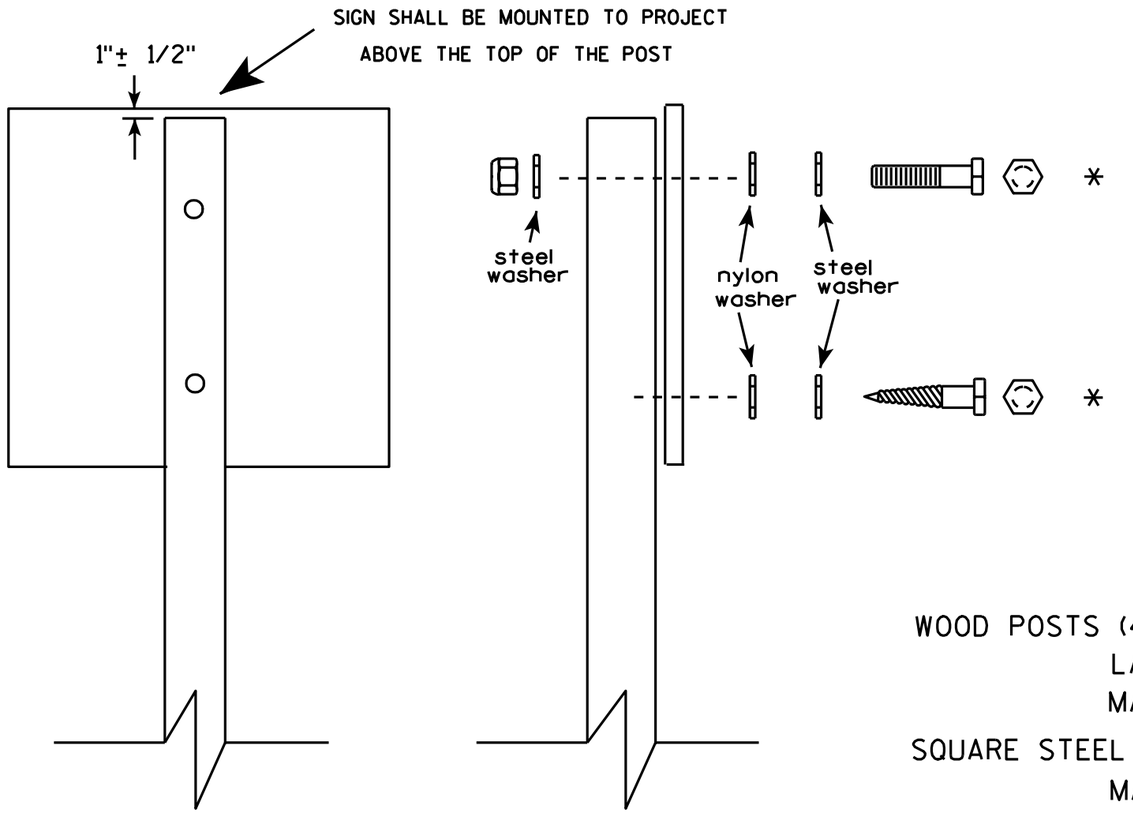
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 124 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



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

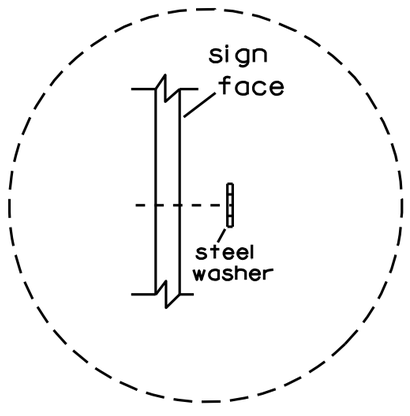
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

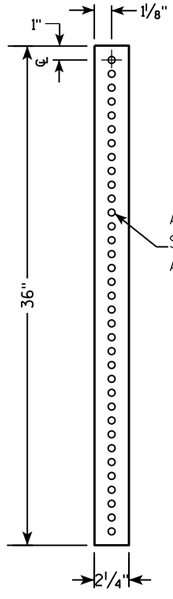
7

PROJECT NO:

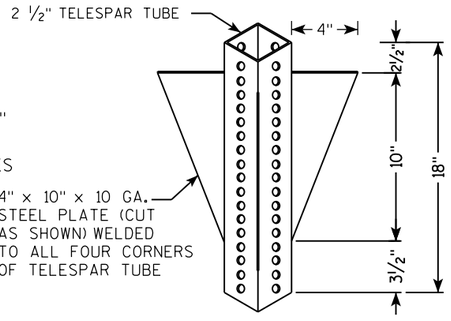
SHEET NO: 125 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

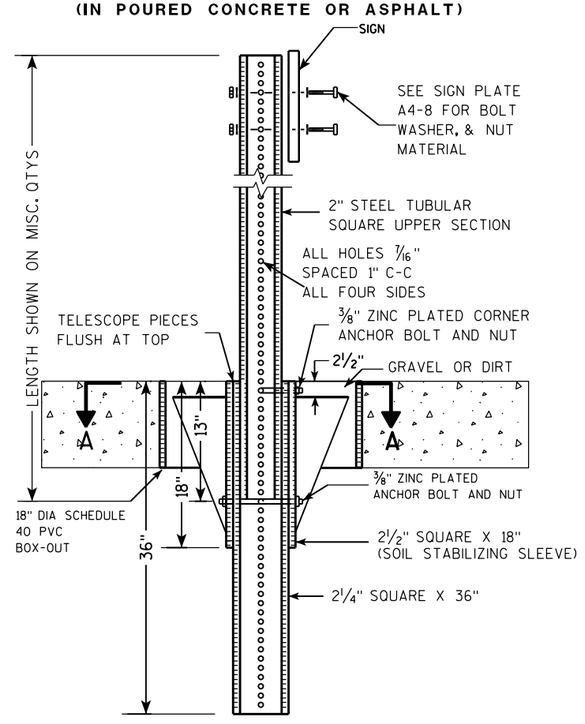
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



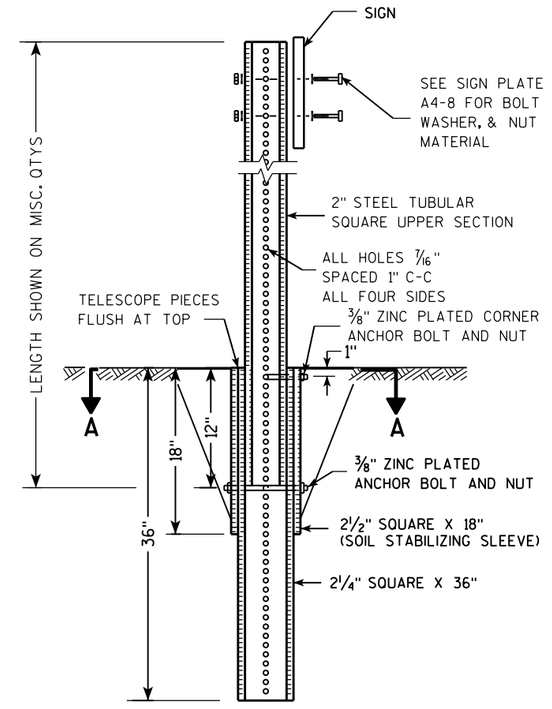
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

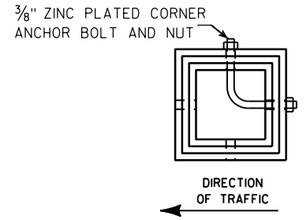


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

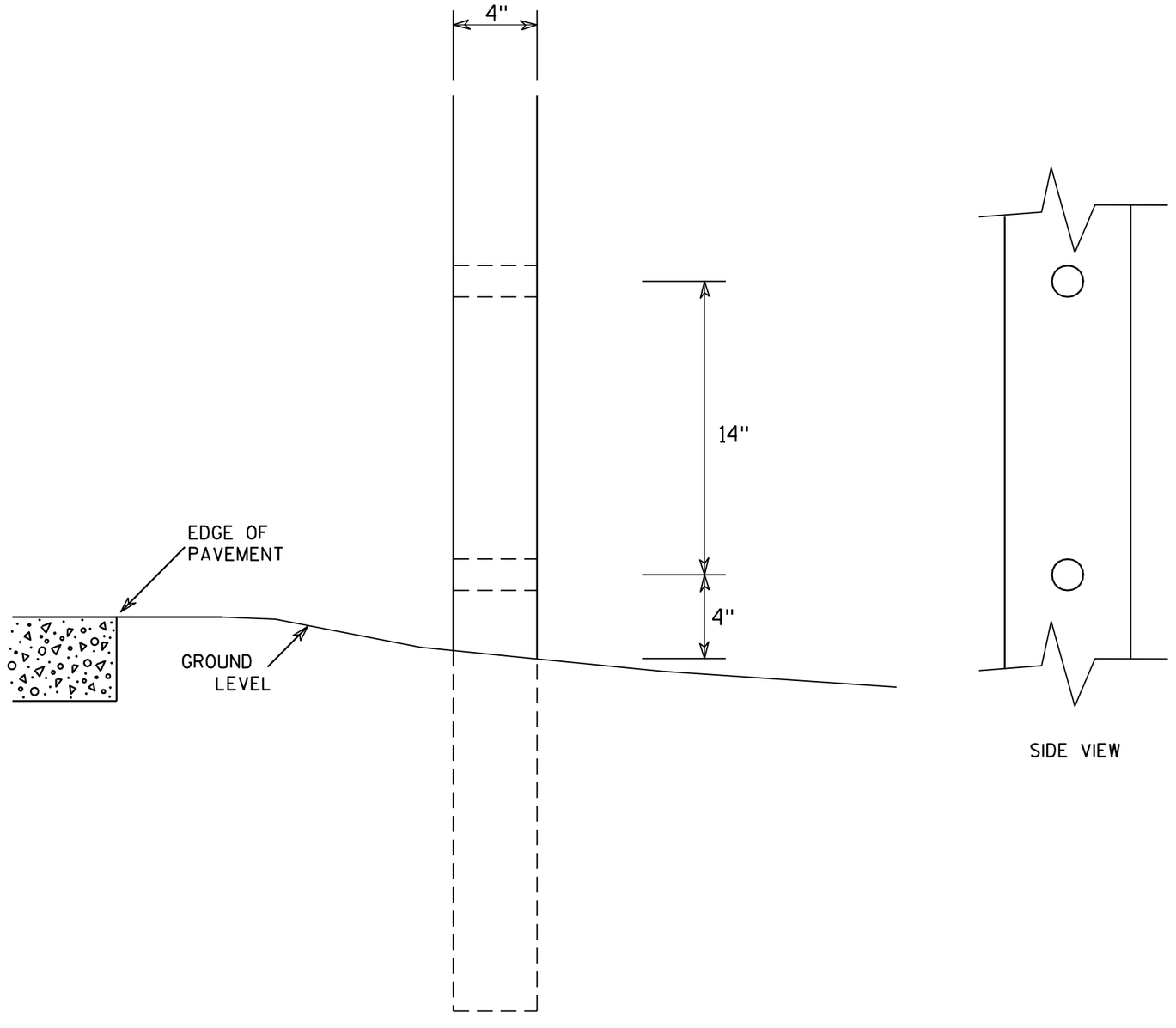
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

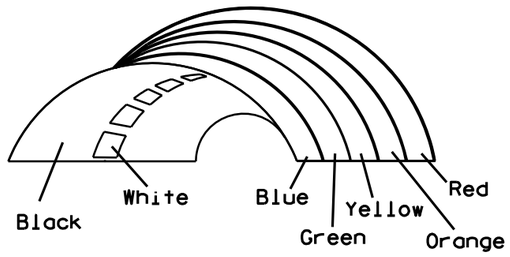
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 127	E

* VARIES

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - (See Note 5)
3. Message Series - (See Note 6)
4. 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.
5. Border - Blue
   Line 1 - Red
   Line 2 - Black
   Line 3-5 - Blue
6. Line 1 - Dutch 8011L
   Line 2 - Series E
   Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

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																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

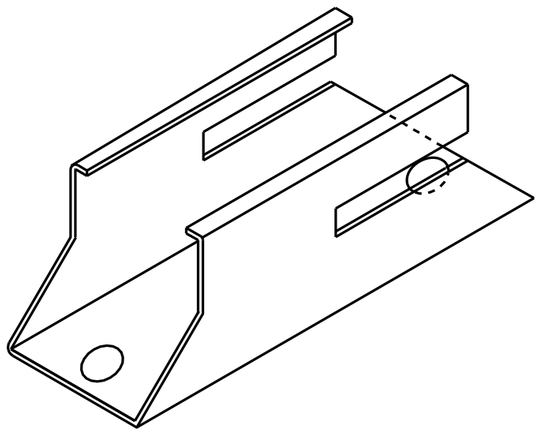
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

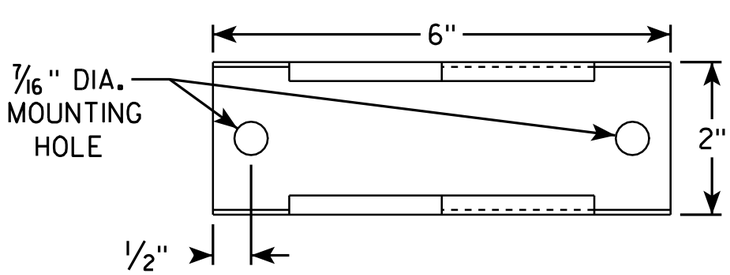
DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 128

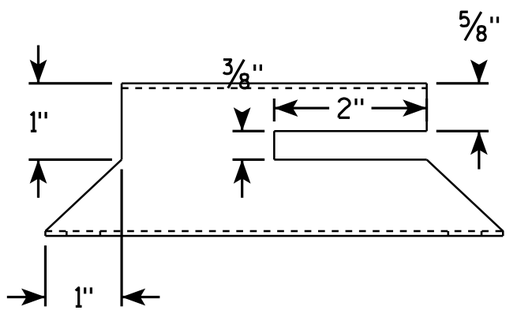
ISOMETRIC VIEW



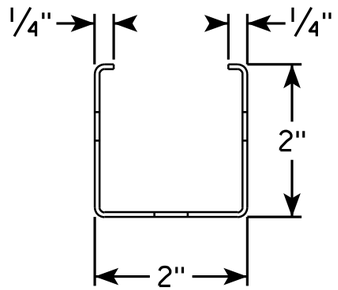
TOP VIEW



SIDE VIEW



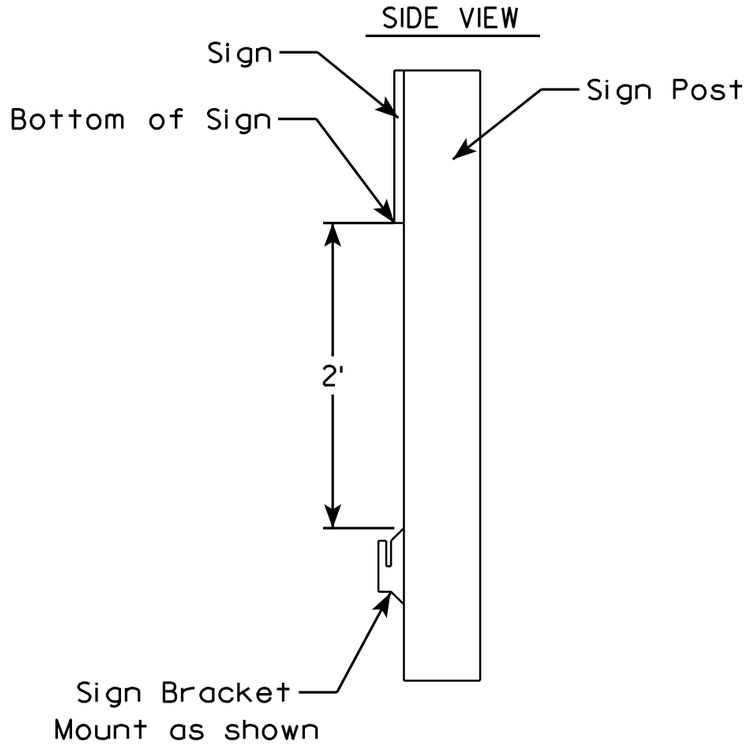
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

7

7

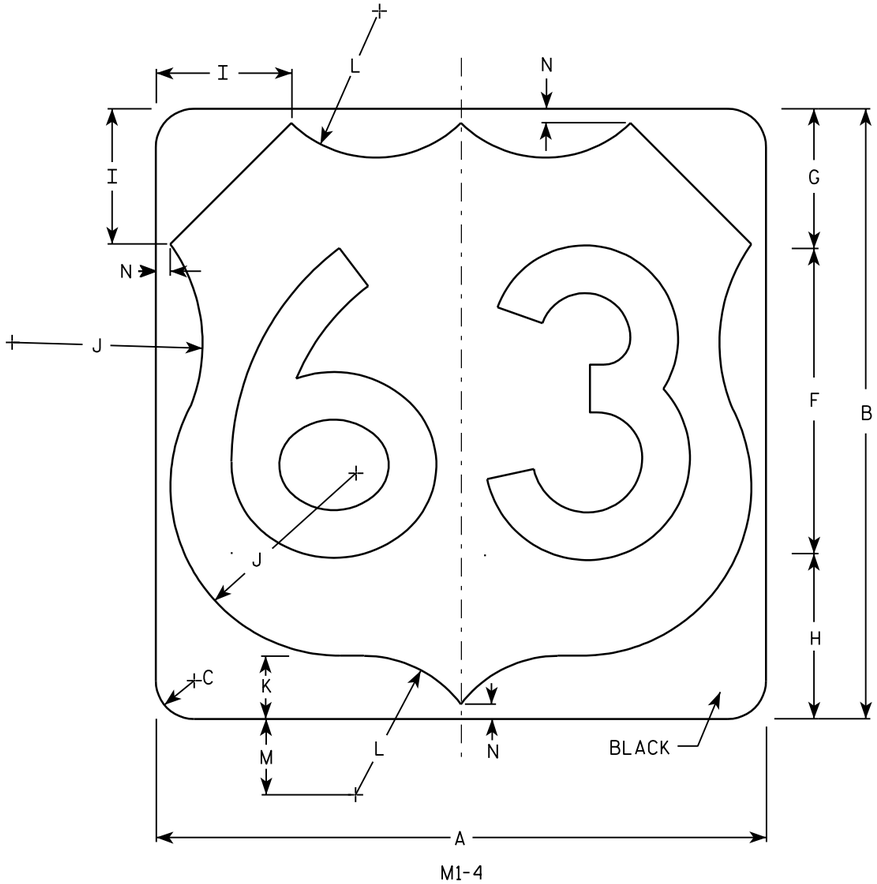
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 129 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\I5556B.DGN PLOT DATE : 01-MAR-2010 15:34 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 1.986348:1.000000

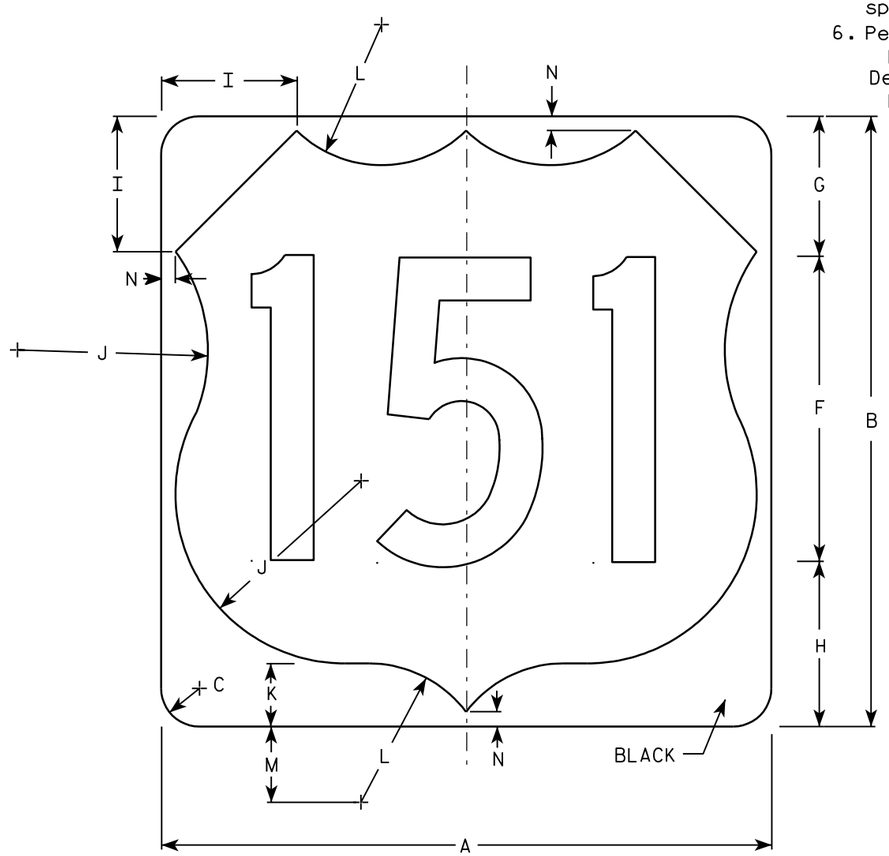
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. 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.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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	Areq sq. ft.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

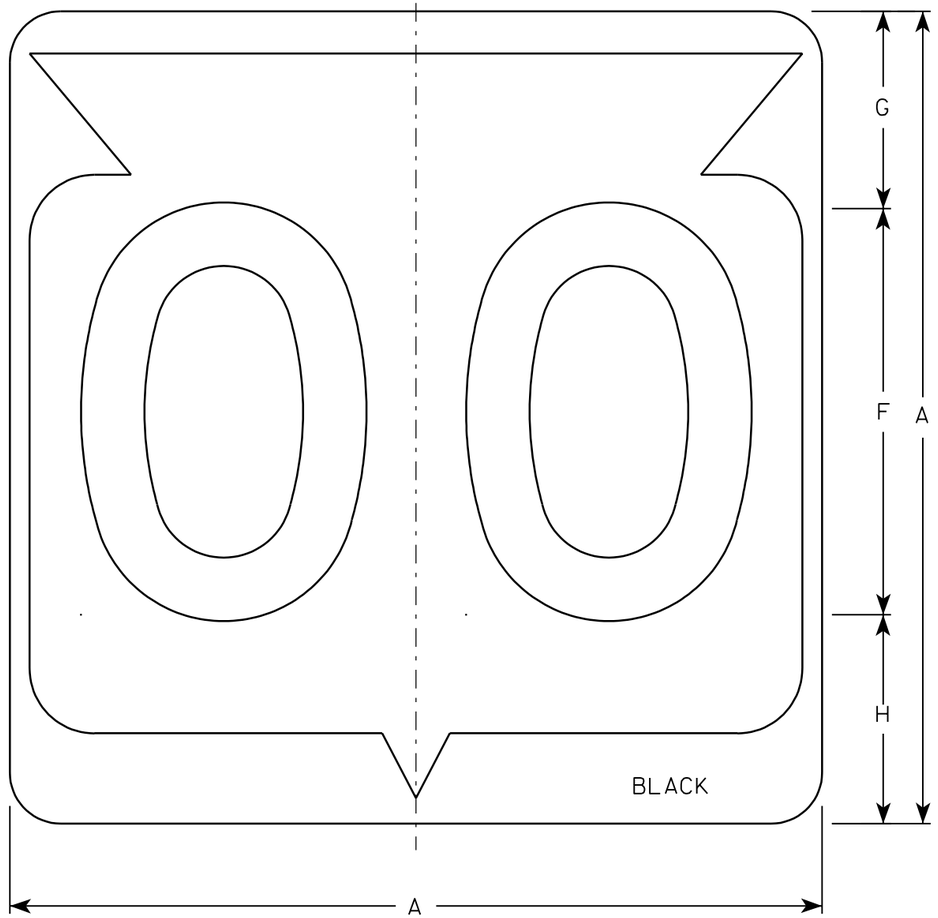
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

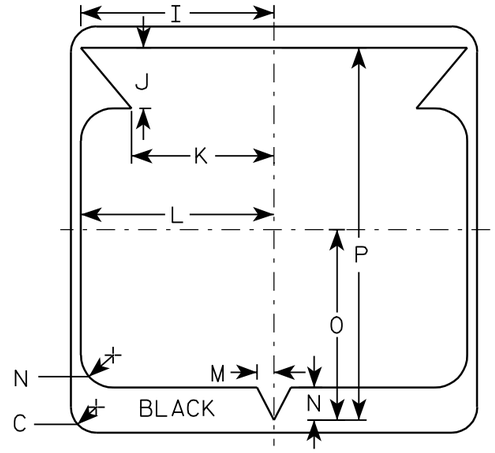
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. 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.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

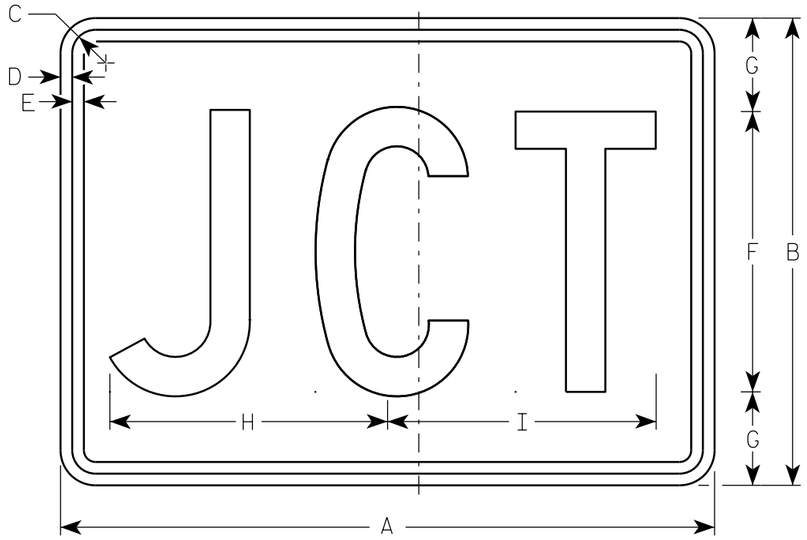
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

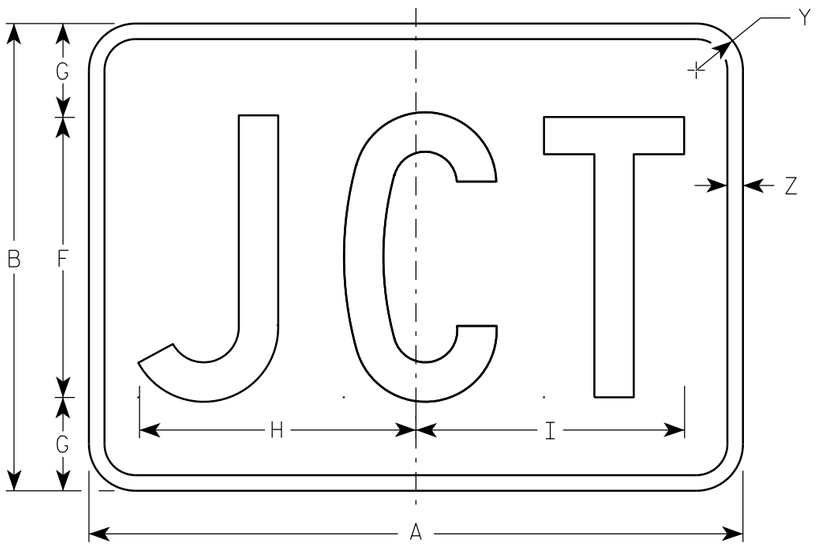
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 131	E



M2-1
MK2-1
MM2-1
MN2-1
MR2-1



MB2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. 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.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MR2-1 Background - Brown
   Message - Yellow

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																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

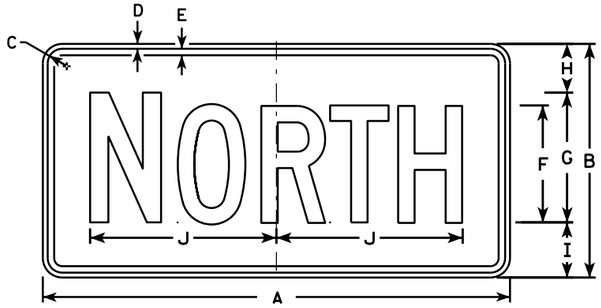
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

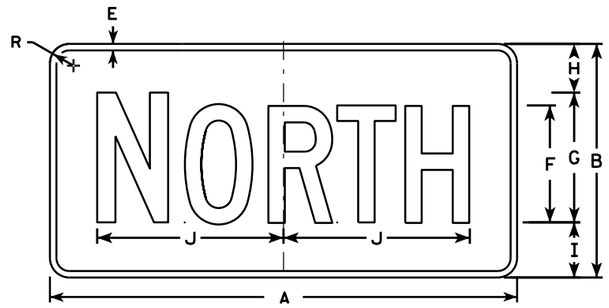
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/30/14 PLATE 132 12-1.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

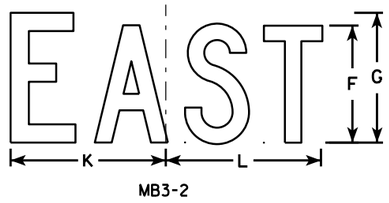


M3-1
MK3-1
MM3-1
MN3-1

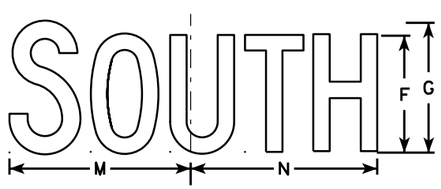


MB3-1

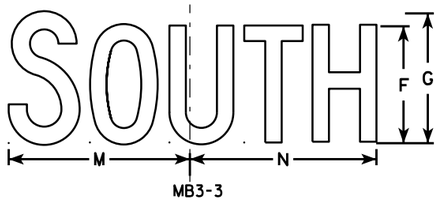
M3-2
MK3-2
MM3-2
MN3-2



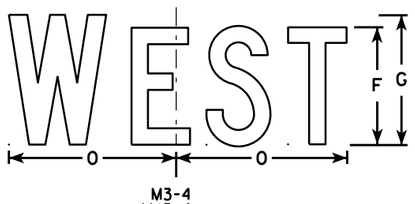
MB3-2



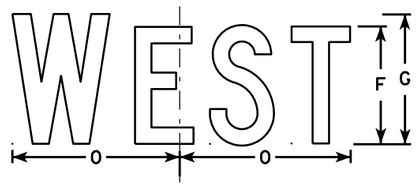
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. 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.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

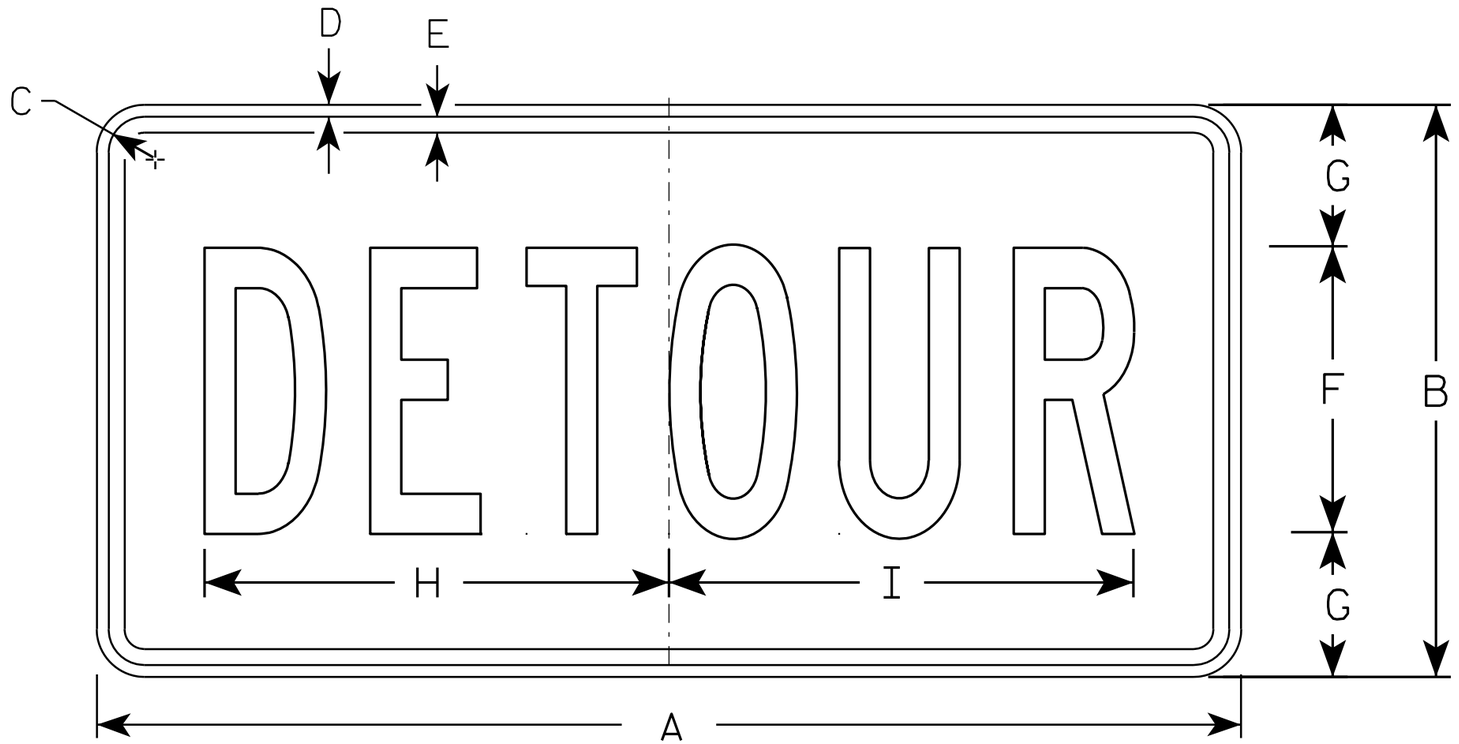
PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 30-JUN-2014 12:53 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000

WISDOT/CADDS SHEET 42

7

7



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

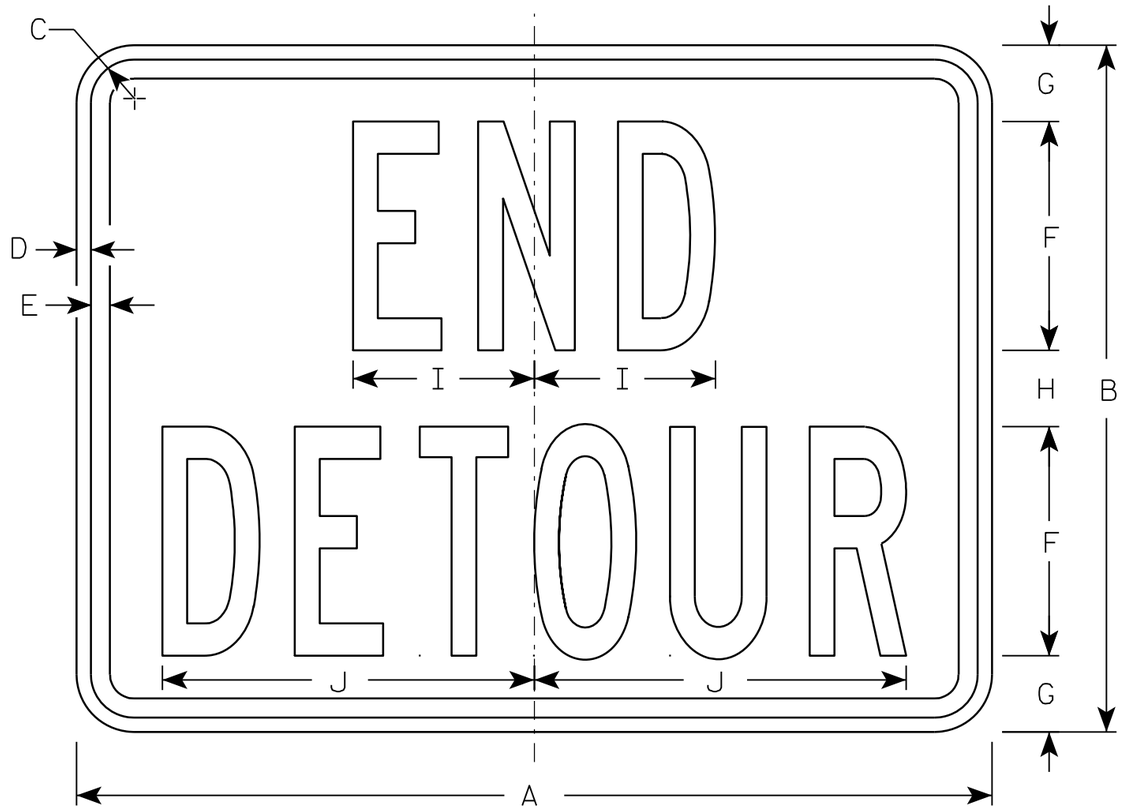
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 134	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

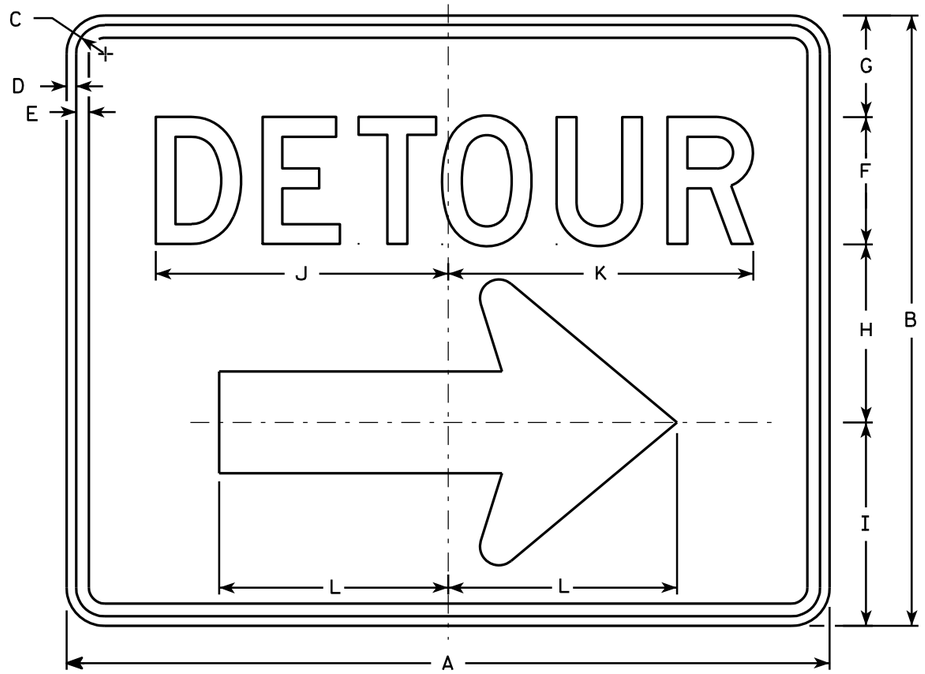
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

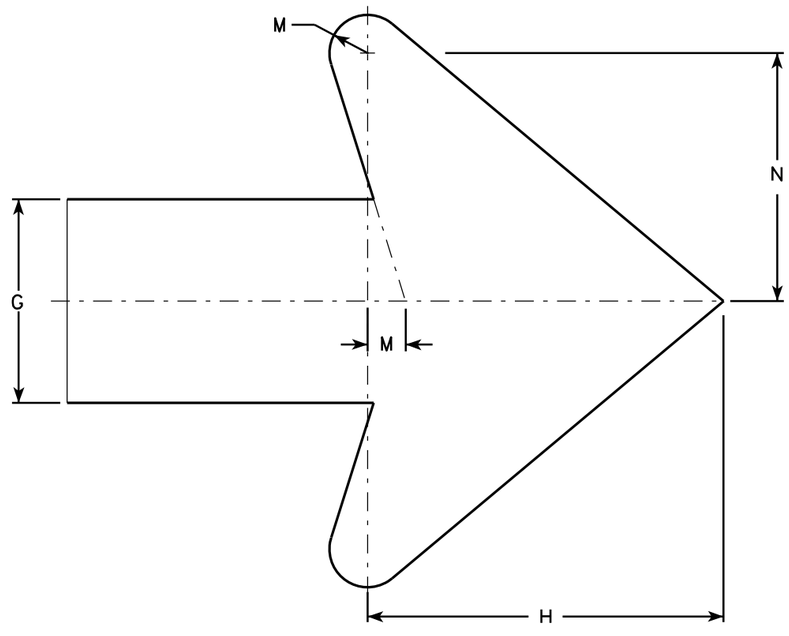
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 135	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. 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.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

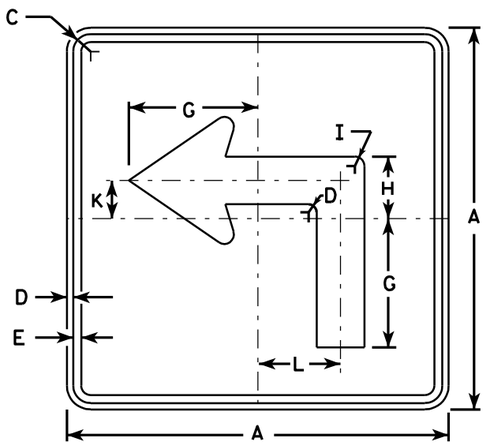
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

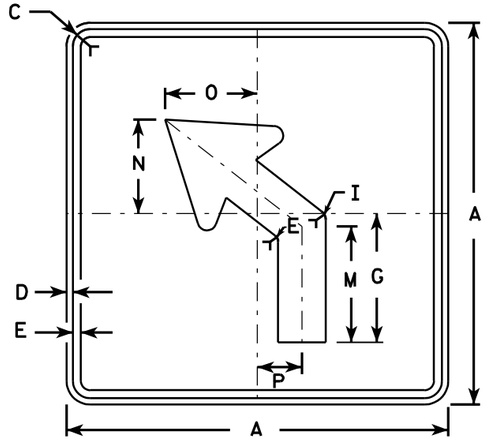
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

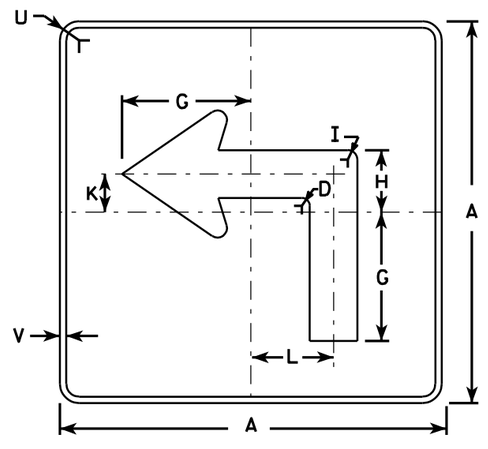
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E



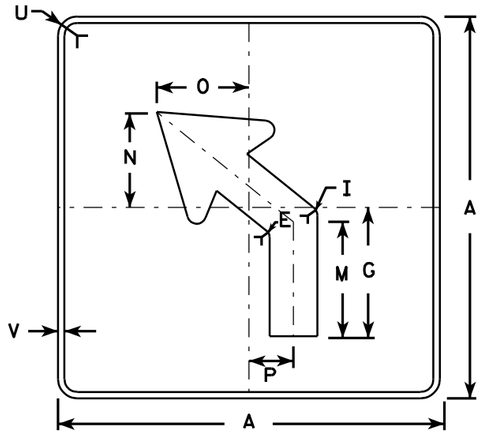
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



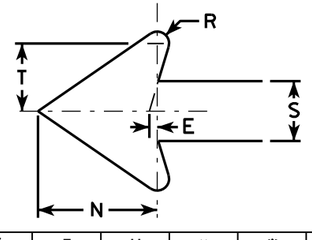
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

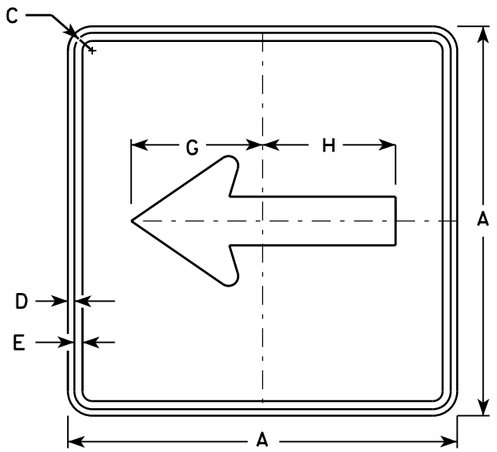
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

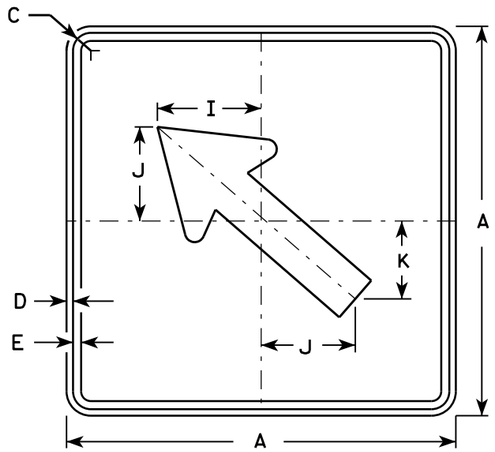
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 137 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



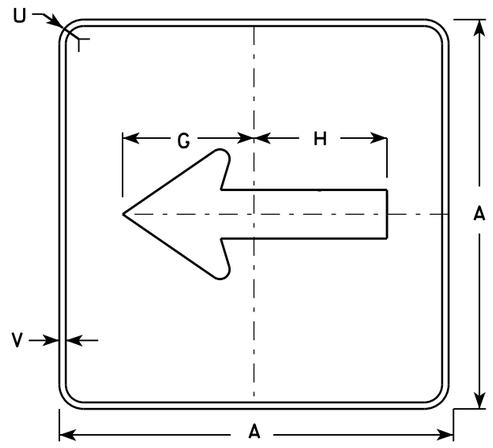
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



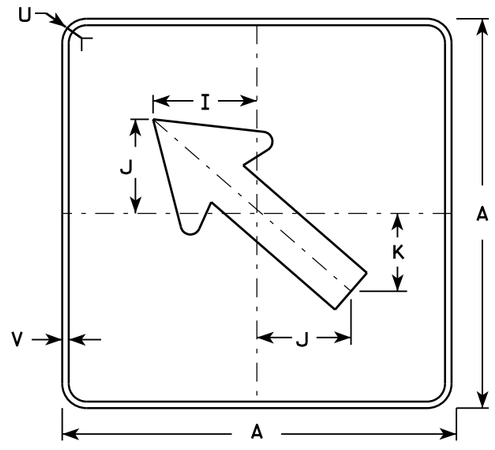
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

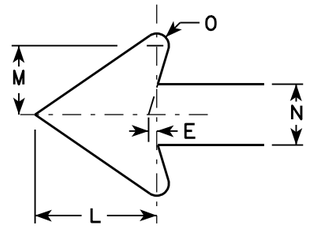
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1



MB6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

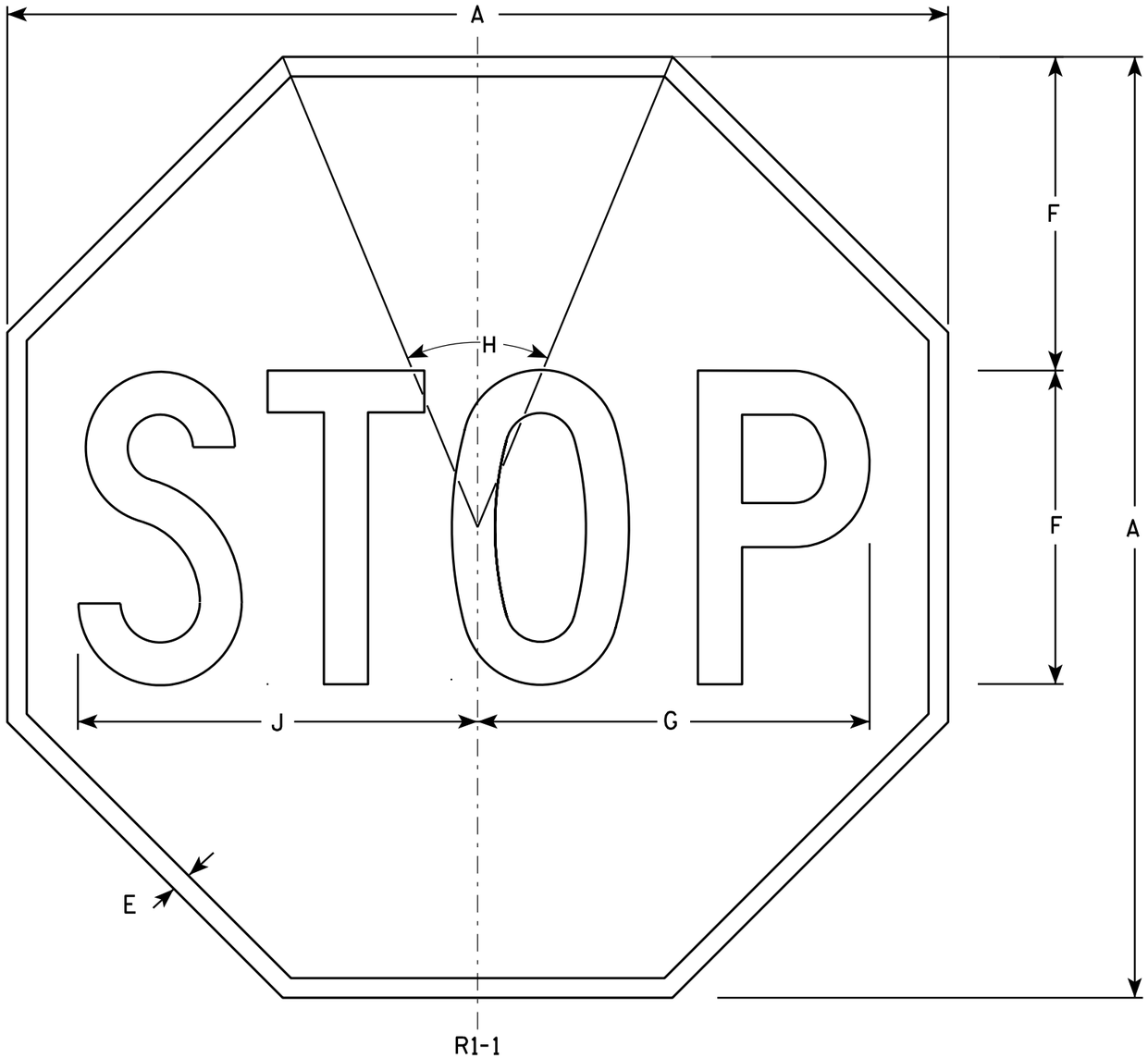
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE 138 M6-1.14

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000
WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

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	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

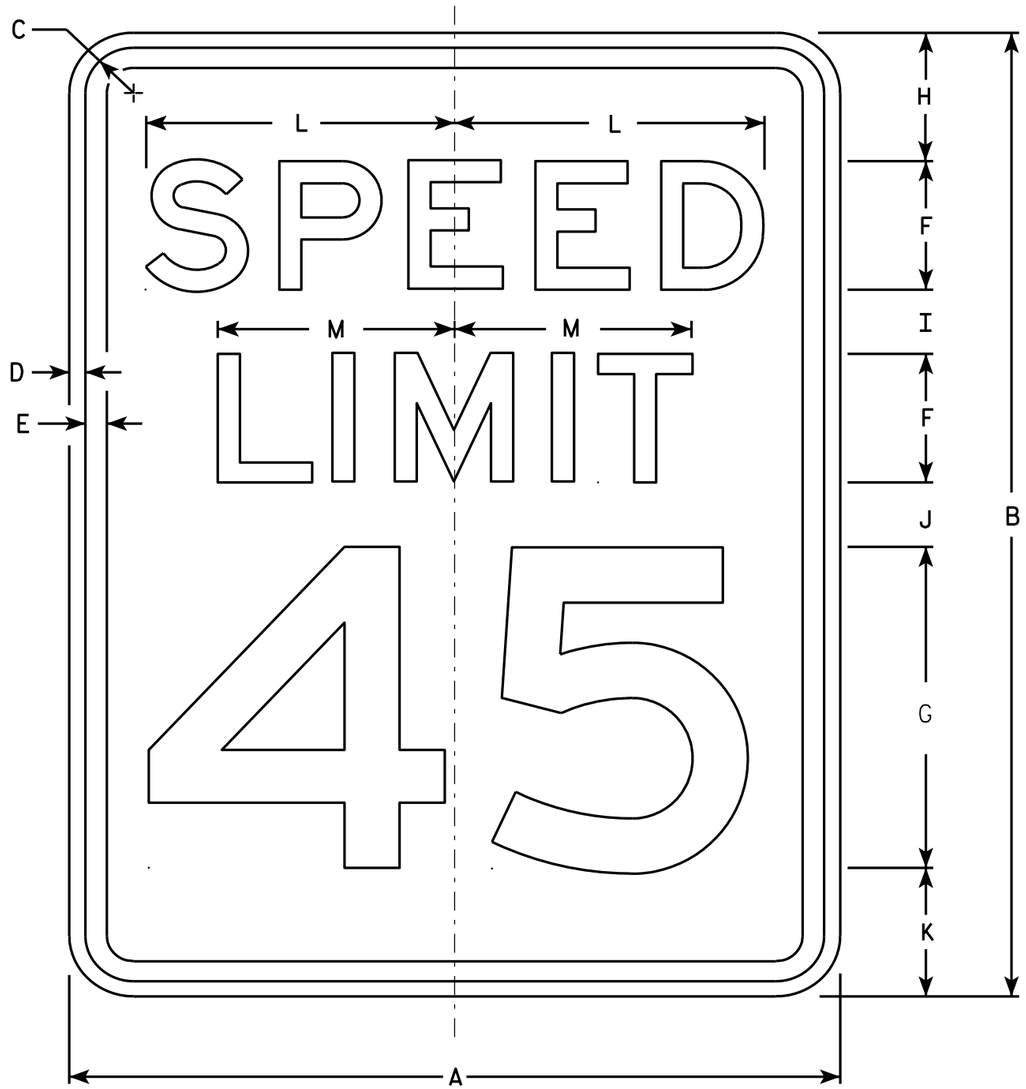
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 139	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

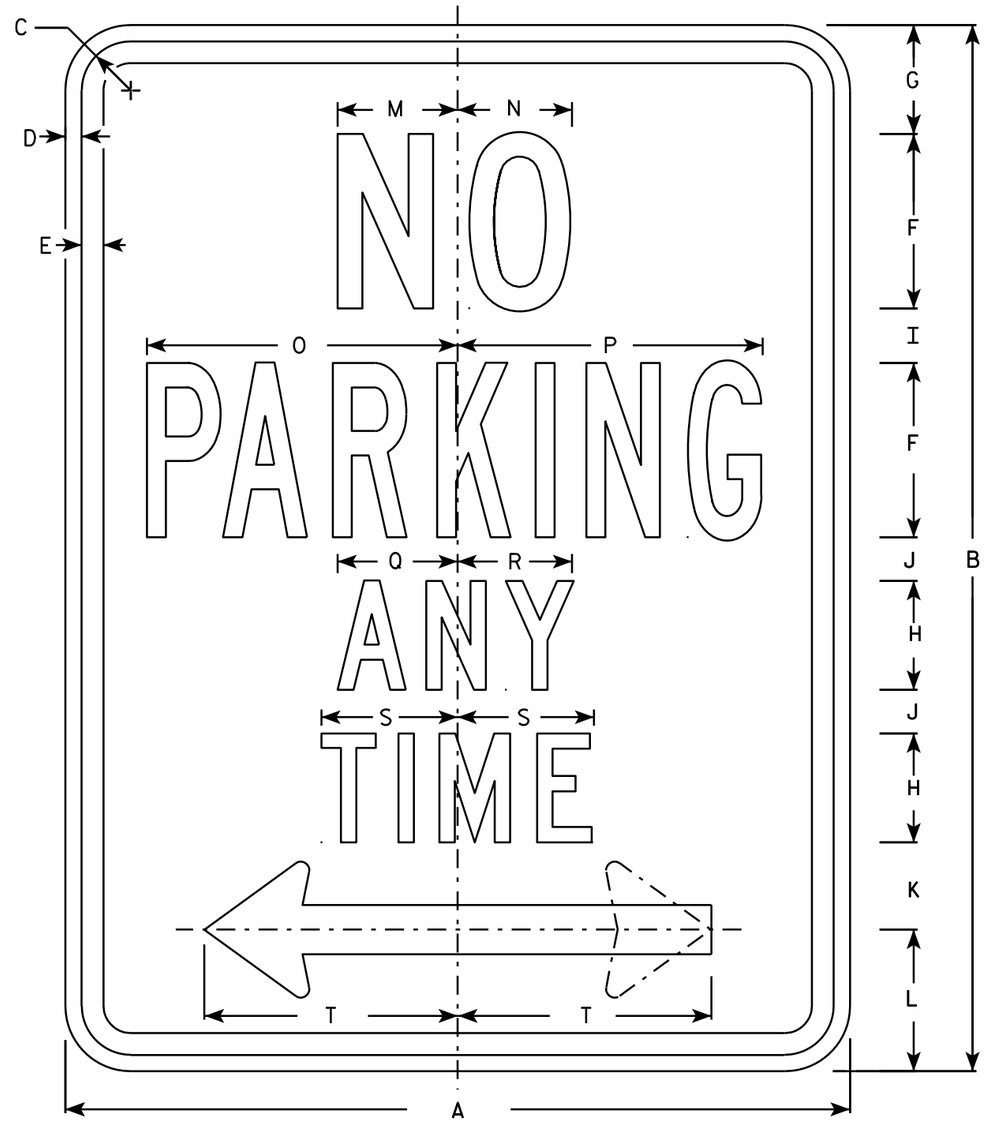
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

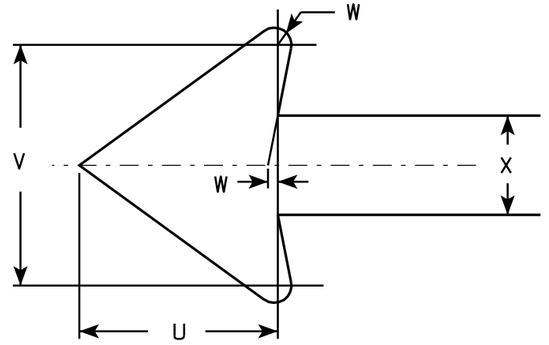
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 140 | E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. 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.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

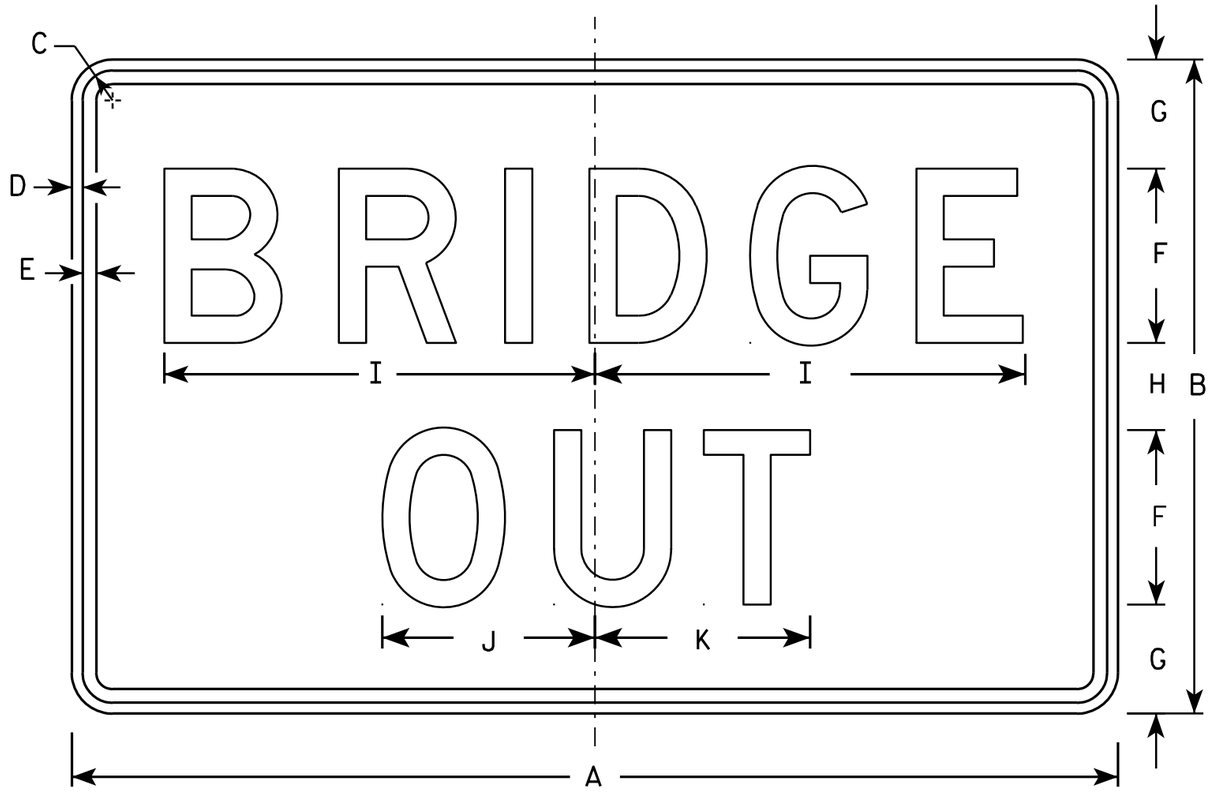
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 141 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

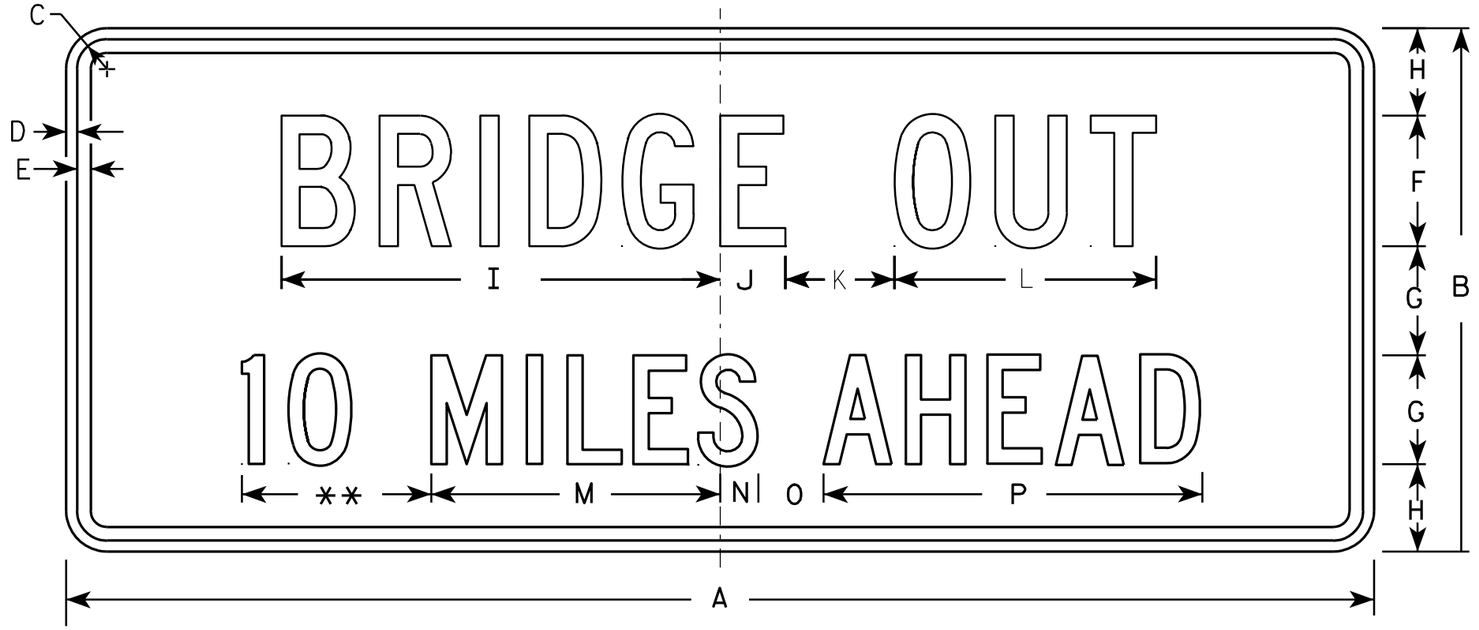
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 142 E



R11-3C

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4											3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3C.2

PROJECT NO:

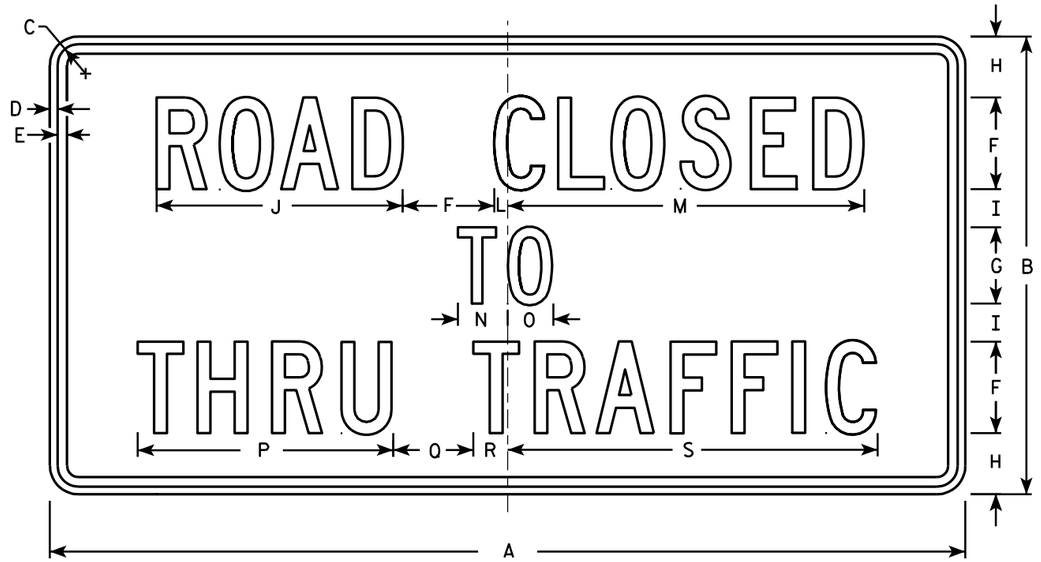
SHEET NO: 143 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R113C.DGN PLOT DATE : 01-APR-2011 14:15 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7

7



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

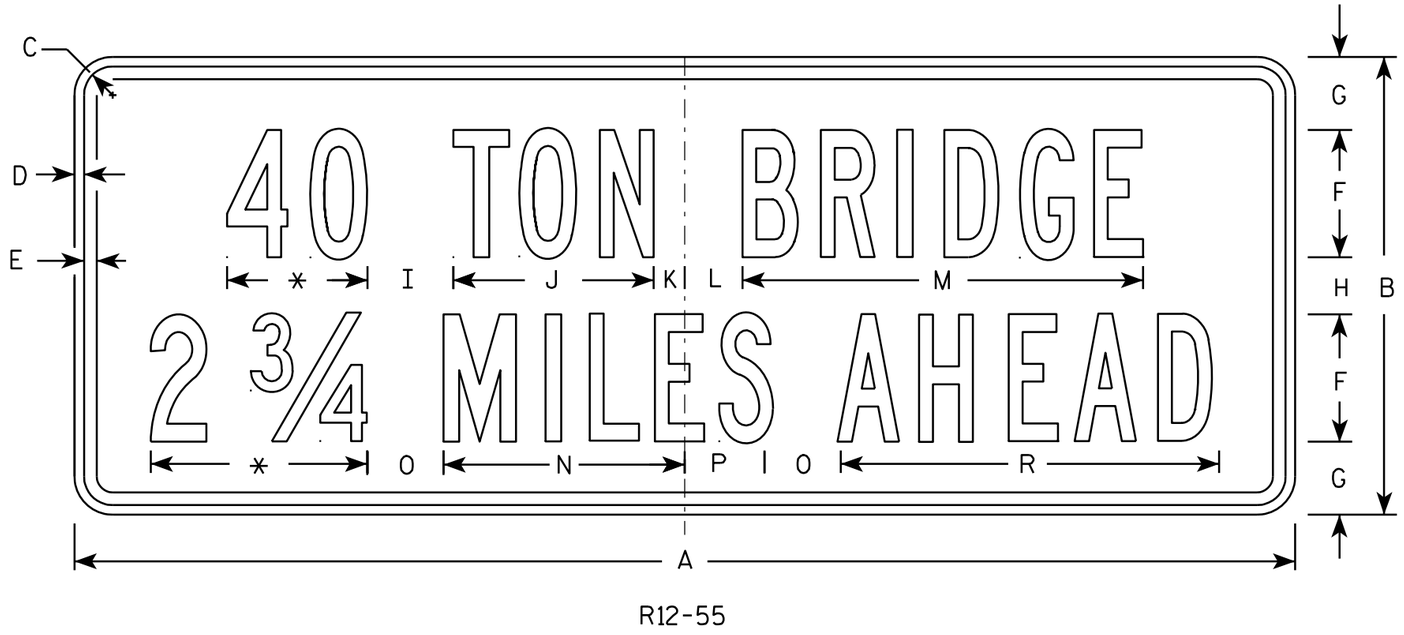
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 144 | E



R12-55

* Varies

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B for Size 2, Series D for Sizes 3 & 4
4. 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.
6. For distances less than 5 miles, that figure should be expressed to the nearest 1/4 mile.

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	48	18	1 1/8	3/8	1/2	5	2 7/8	2 1/4	3 3/8	7 7/8	1 1/4	2 1/4	15 3/4	9 1/2	3	3 1/8		14 7/8									6.0
2M	48	18	1 1/8	3/8	1/2	5	2 7/8	2 1/4	3 3/8	7 7/8	1 1/4	2 1/4	15 3/4	9 1/2	3	3 1/8		14 7/8									6.0
3	90	24	2 1/4	3/4	1	6	4	4	6	15 1/4	2 1/2	3 1/2	30 5/8	18 3/8	6	6 1/4		28 3/8									15.0
4	120	30	2 1/4	3/4	1	8	5 1/4	3 5/8	8	19 5/8	4	3	39 1/2	24 1/2	7	6 3/4		36 3/8									20.0
5	120	30	2 1/4	3/4	1	8	5 1/4	3 5/8	8	19 5/8	4	3	39 1/2	24 1/2	7	6 3/4		36 3/8									20.0

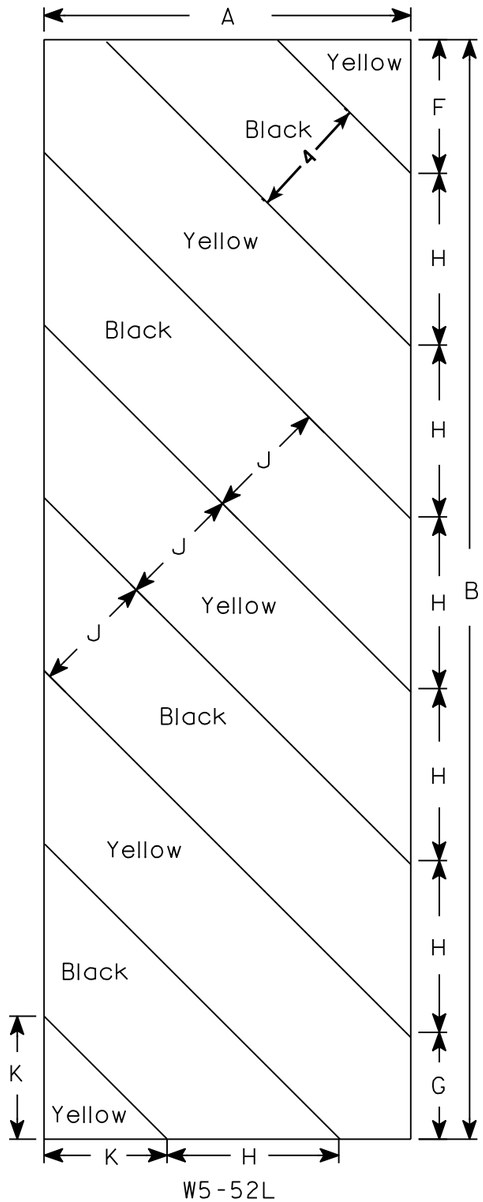
STANDARD SIGN
R12-55

WISCONSIN DEPT OF TRANSPORTATION

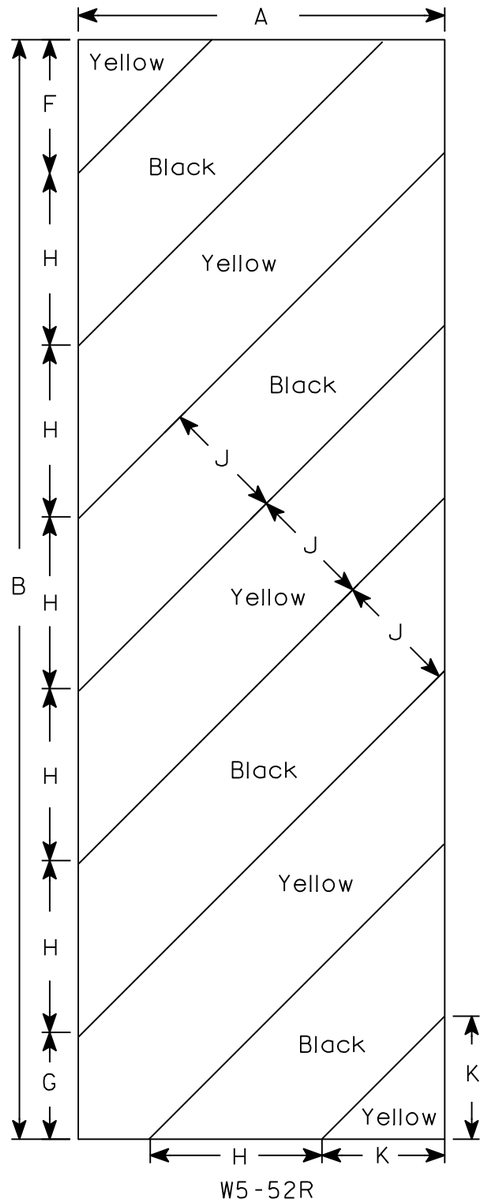
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/23/11 PLATE NO. R12-55.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	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

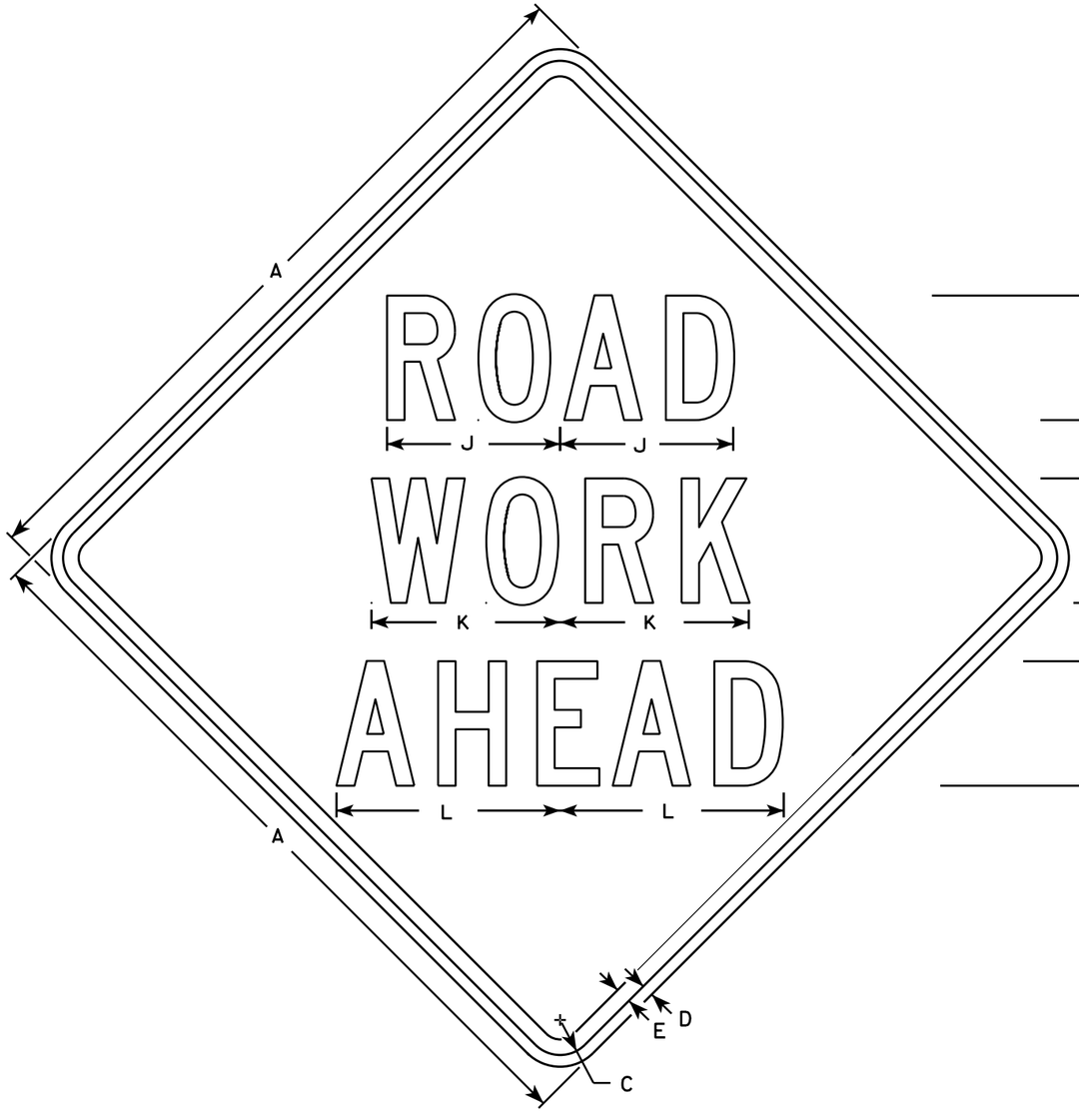
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

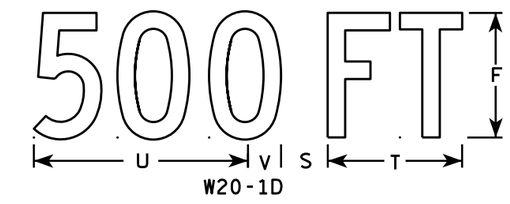
APPROVED Matthew R Rauch
for State Traffic Engineer

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

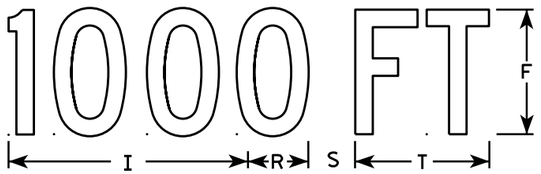
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E



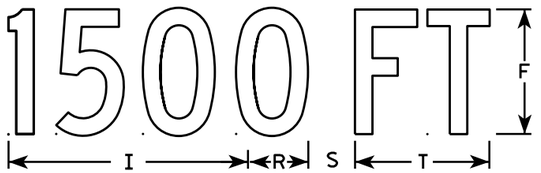
W20-1A



W20-1D



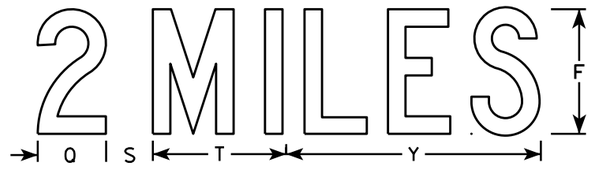
W20-1C



W20-1B

W20-1G

W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer

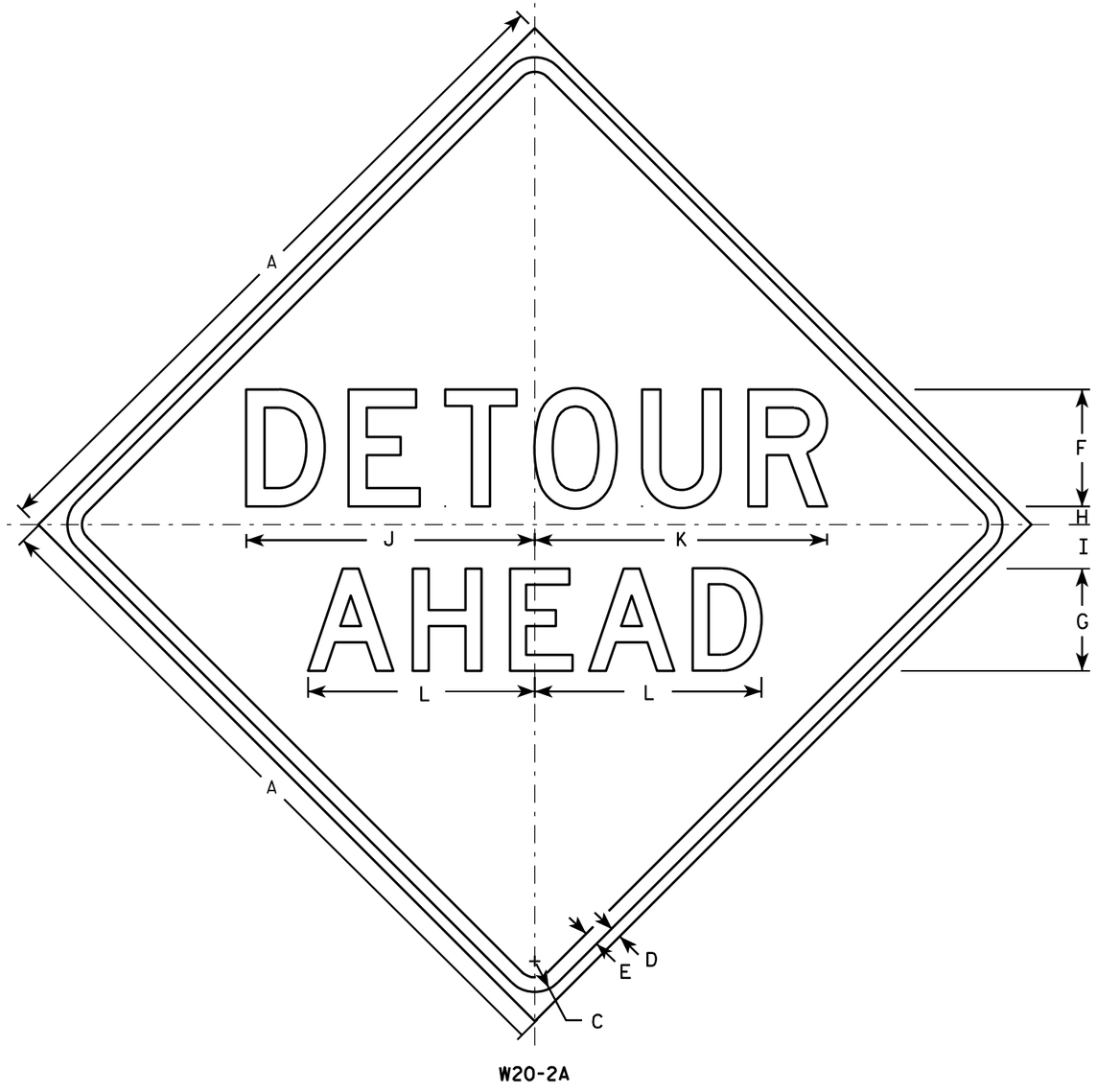
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

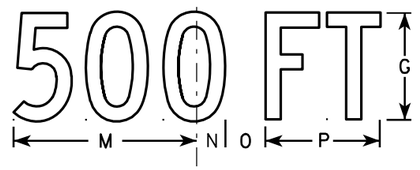
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

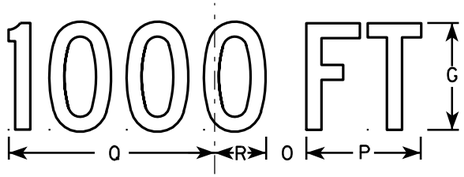
WISDOT/CADDS SHEET 42



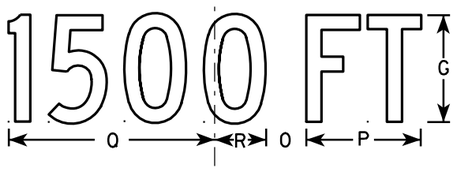
W20-2A



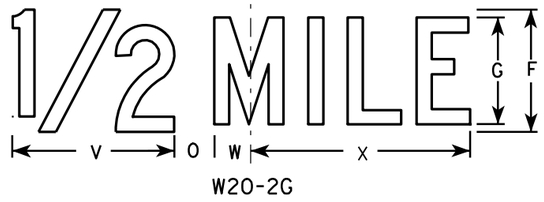
W20-2D



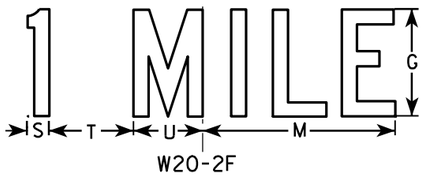
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. 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.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

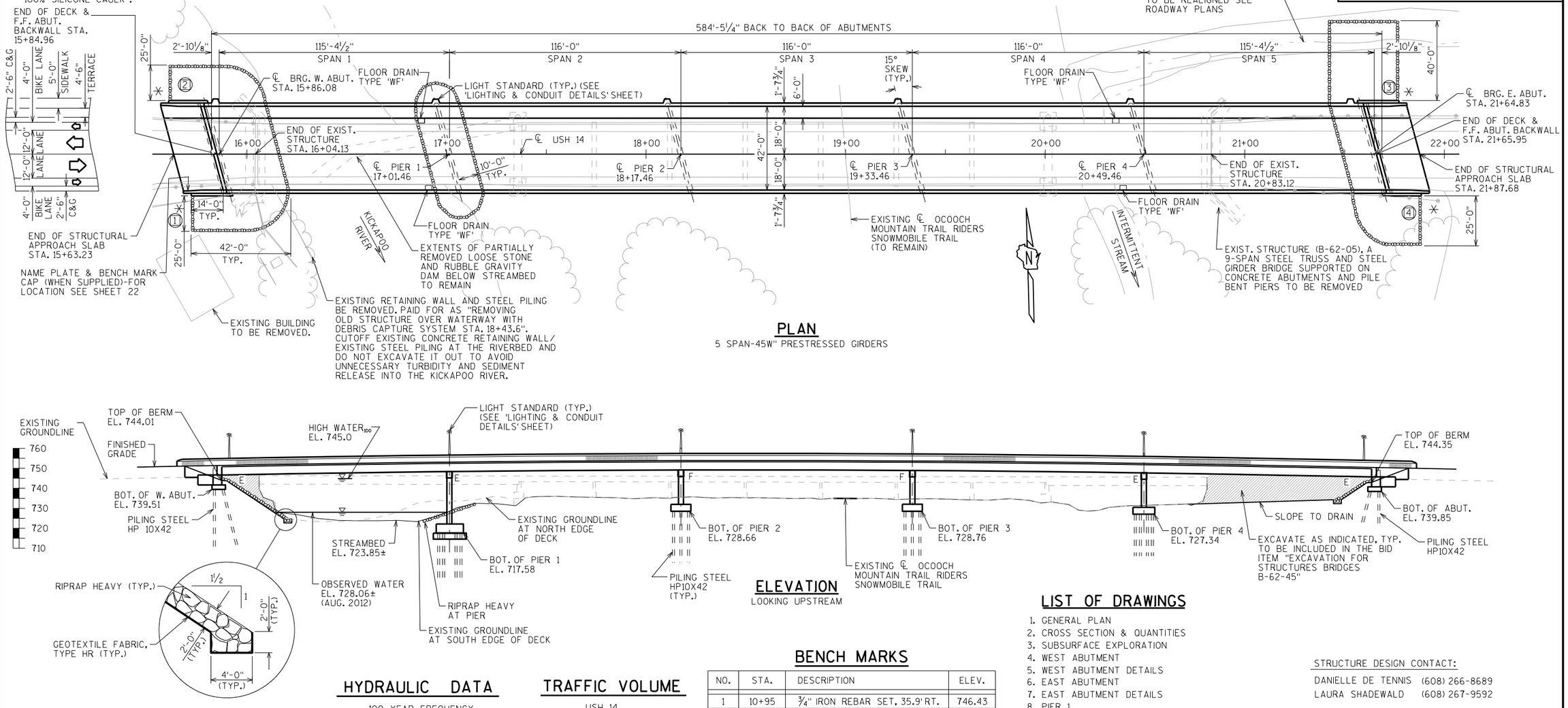
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 148	E

STATE PROJECT NUMBER

1643-08-81

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(2) INDICATES WING NUMBER



PLAN

5 SPAN-45W" PRESTRESSED GIRDERS

ELEVATION

LOOKING UPSTREAM

LIST OF DRAWINGS

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	10+95	¾" IRON REBAR SET, 35.9' RT.	746.43
2	14+00	¾" IRON REBAR SET, 53.9' LT.	746.30
3	14+90	¾" IRON REBAR SET, 49.8' RT.	750.64
4	16+77	¾" IRON REBAR SET, 139.2' LT.	736.73
5	22+31	¾" IRON REBAR SET, 197.8' LT.	737.15
6	26+52	¾" IRON REBAR SET, 93.0' LT.	744.43

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} =16,000 C.F.S.
VEL. =2.8 F.P.S.
HW.= EL. 745.0
WATERWAY AREA= 5,777 SQ. FT.
DRAINAGE AREA= 485 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 =4,400 C.F.S.
$HW._2$= EL. 734.0

TRAFFIC VOLUME

USH 14
A.D.T.=4400 (2036)
R.D.S.=45 M.P.H.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF=1.04
OPERATING RATING FACTOR: RF=1.37
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 225 (KIPS)
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES

CONCRETE MASONRY DECK — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
45W" PRESTRESSED GIRDERS, CONCRETE MASONRY — f'c = 8000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✳✳PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 35'-0" LONG AT WEST ABUTMENT.
ESTIMATED 55'-0" LONG AT EAST ABUTMENT.

PIERS TO BE SUPPORTED ON HP 10 X42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✳✳PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 35'-0" LONG AT PIER 1.
ESTIMATED 50'-0" LONG AT PIERS 2 & 3.
ESTIMATED 45'-0" LONG AT PIER 4.

✳✳ 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.

STRUCTURE DESIGN CONTACT:
DANIELLE DE TENNIS (608) 266-8689
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 10/21/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-62-45

USH 14 OVER THE KICKAPOO RIVER

COUNTY VERNON | ~~TOWN/CITY~~/VILLAGE READSTOWN

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DFD	MWB	MJH	BLB

GENERAL PLAN

SHEET 1 OF 29

149

I.D. 1643-08-01

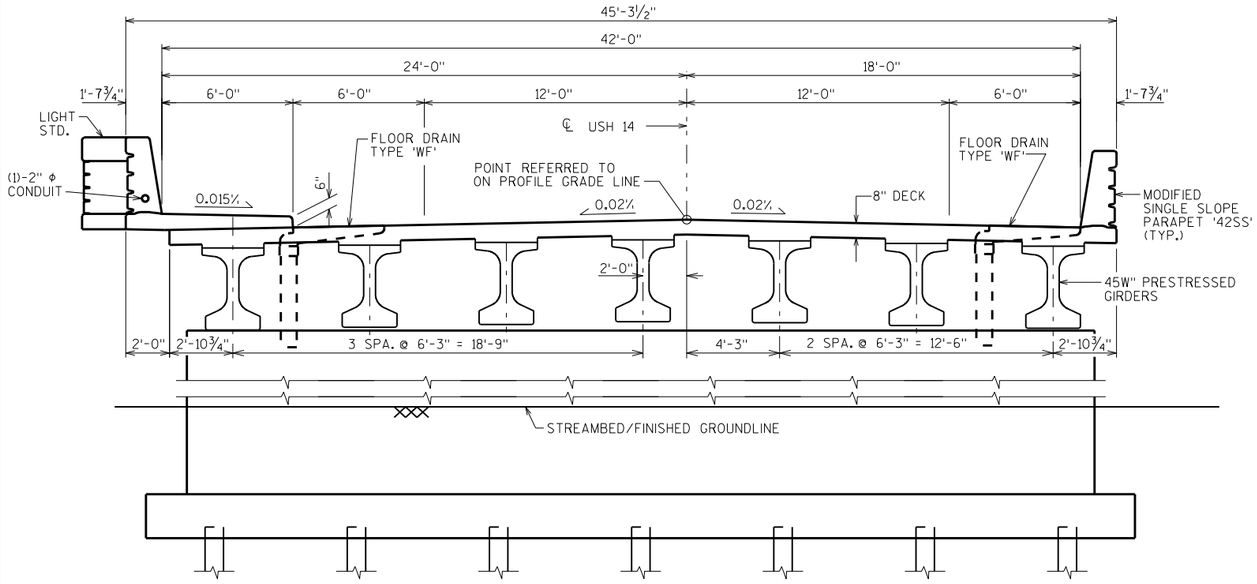
DATE: MAY 2015

SCALE = 25.0

8

8

STATE PROJECT NUMBER
1643-08-81



CROSS SECTION THRU ROADWAY LOOKING EAST

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, CURB AND SIDEWALK, STRUCTURAL APPROACH SLABS, AND PAVING BLOCK AND NOTCH.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACES AND TOPS OF PARAPETS, INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS TO THE TOP SURFACES OF BOTH ABUTMENTS.

THE EXISTING GROUND LINE/STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

GENERAL NOTES

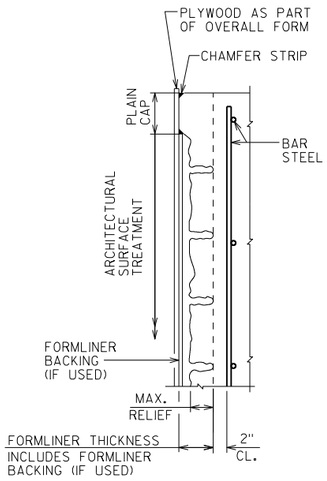
APPLY "RECTANGULAR CUT STONE" FORMLINER TO THE OUTSIDE FACE OF PARAPETS. WORK SHALL BE PAID FOR AS "ARCHITECTURAL SURFACE TREATMENT". INDIVIDUAL CUT STONES IN FORMLINED AREAS SHALL BE STAINED AS INDICATED IN THE SPECIAL PROVISIONS. WORK SHALL BE PAID FOR AS "CONCRETE STAINING MULTI-COLOR B-62-45".

ONLY FORMLINER AREAS SHALL BE STAINED WITH "CONCRETE STAINING MULTI-COLOR B-62-45".

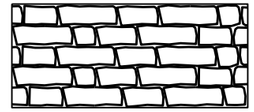
IF REQUIRED, TOUCH-UP STAINING IS TO BE DONE TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO THE TOP OF PARAPET.



SECTION THRU FORMLINER

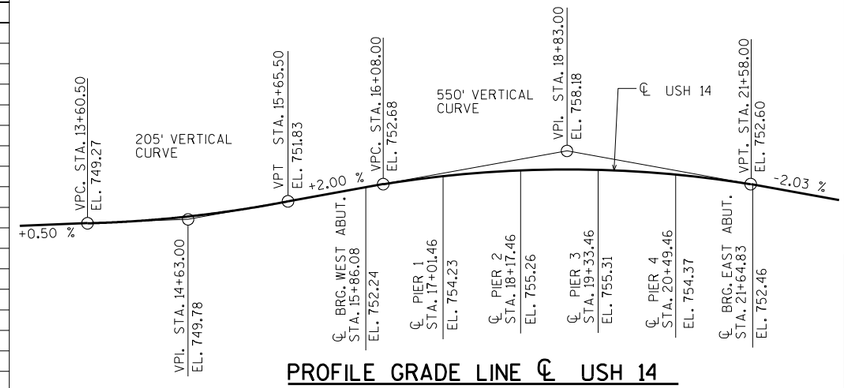


RECTANGULAR CUT STONE

FORMLINER THICKNESS = 4"
COURSE HEIGHT = 8"
MAX. RELIEF = 3"

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST APPROACH	WEST ABUT.	PIER 1	PIER 2	PIER 3	PIER 4	EAST ABUT.	EAST APPROACH	TOTALS
	203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STA. 18+43.6	LS	——	——	——	——	——	——	——	——	——	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-62-45	LS	——	——	——	——	——	——	——	——	——	1
	206.5000	COFFERDAMS B-62-45	LS	——	——	——	——	——	——	——	——	——	1
	210.0100	BACKFILL STRUCTURE	CY	——	——	110	——	——	——	——	107	——	217
*	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	——	170	——	——	——	——	——	——	170	340
	502.0100	CONCRETE MASONRY BRIDGES	CY	1075	68	101	270	141	141	176	101	68	2141
	502.1100	CONCRETE MASONRY SEAL	CY	——	——	——	101	——	——	——	——	——	101
	502.3100	EXPANSION DEVICE B-62-45	LS	——	——	——	——	——	——	——	——	——	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	2744	95	20	——	——	——	——	20	95	2974
	502.3210	PIGMENTED SURFACE SEALER	SY	603	21	——	——	——	——	——	——	21	645
	503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	4052	——	——	——	——	——	——	——	——	4052
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	——	——	3900	4860	3470	3470	3800	3780	——	23,280
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	253,575	11200	3590	9580	5420	5420	5620	3600	11200	309,205
	505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	——	——	820	——	——	——	——	820	——	1640
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	——	——	——	——	14	14	——	——	——	28
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	——	——	——	14	——	——	14	——	——	28
	506.4000	STEEL DIAPHRAGMS B-62-45	EACH	60	——	——	——	——	——	——	——	——	60
	506.6000	BEARING ASSEMBLIES EXPANSION B-62-45	EACH	——	——	7	——	——	——	——	7	——	14
	514.0450	FLOOR DRAINS TYPE WF	EACH	4	——	——	——	——	——	——	——	——	4
	514.2608	DOWNSPOUT 8-INCH	LF	16	——	——	——	——	——	——	——	——	16
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	——	——	12	——	——	——	——	12	——	24
	517.1015.S	CONCRETE STAINING MULTI-COLOR B-62-45	SF	3215	110	——	——	——	——	——	——	110	3435
	517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-62-45	SF	3215	110	——	——	——	——	——	——	110	3435
	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	——	——	770	1330	1450	1450	1530	1210	——	7740
	606.0300	RIPRAP HEAVY	CY	——	——	280	92	——	——	——	350	——	722
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	——	——	80	——	——	——	——	80	——	160
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	——	——	2	——	——	——	——	2	——	4
	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	——	——	490	175	——	——	——	490	——	1155
★	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	18	——	——	——	——	——	——	——	——	18
★	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	610	——	——	——	——	——	——	——	——	610
★	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	6	——	——	——	——	——	——	——	——	6
	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	6	——	——	——	——	——	——	——	——	6
		NON-BID ITEMS											
		BRIDGE SEAT PROTECTION	L.S.										1
		FILLER	SIZE										½",¾",1½"



PROFILE GRADE LINE ℄ USH 14

* ADDITIONAL QUANTITIES ON ROADWAY PLANS

★ QUANTITIES FOR NOTED 3 ITEMS ARE INCLUDED IN THE LIGHTING QUANTITIES CAT 0030

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

CROSS SECTION & QUANTITIES

SHEET 2

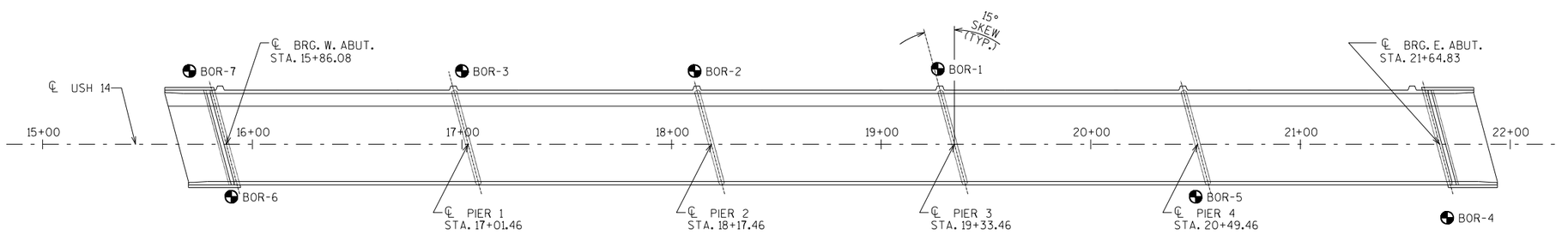
150

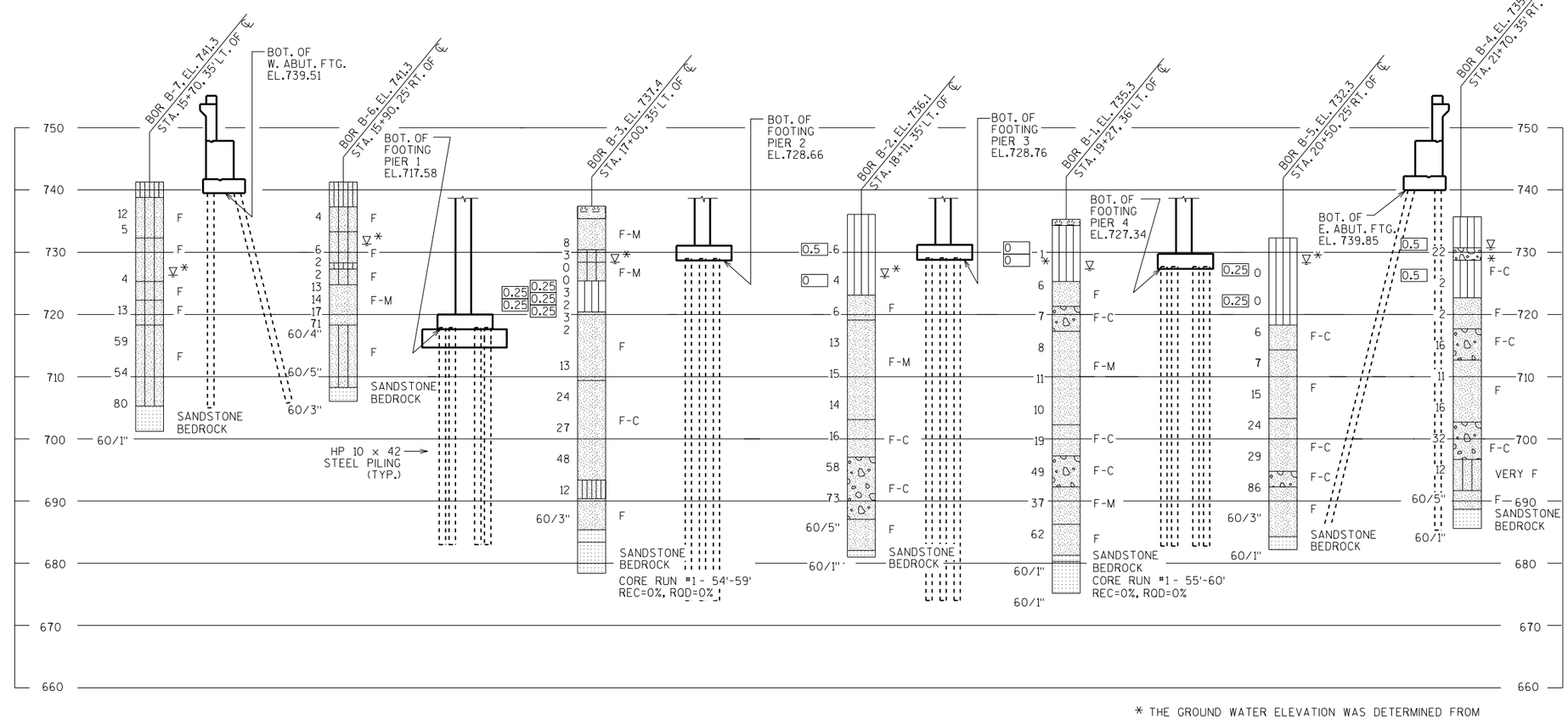
8

8

SCALE = 3.35

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	3/4/14	108430.098	735387.657
2	3/6/14	108433.002	735267.446
3	3/7/14	108439.032	735166.101
4	3/11/14	108347.812	735622.741
5	3/12/14	108369.793	735506.292
6	3/13/14	108380.748	735049.456
7	3/13/14	108443.636	735030.983
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) VERNON COUNTY			





* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

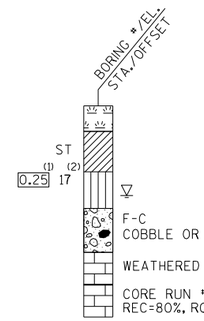
STATE PROJECT NUMBER

1643-08-81

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

SUBSURFACE EXPLORATION

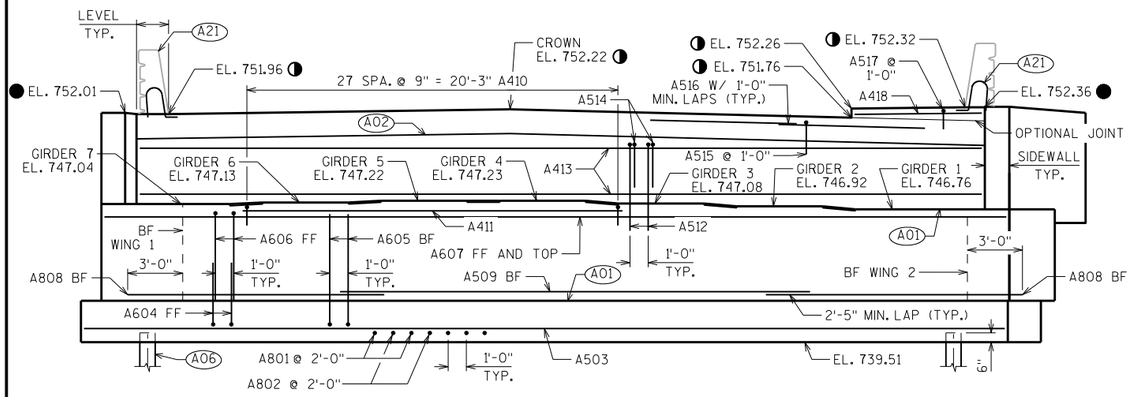
SHEET 3

151

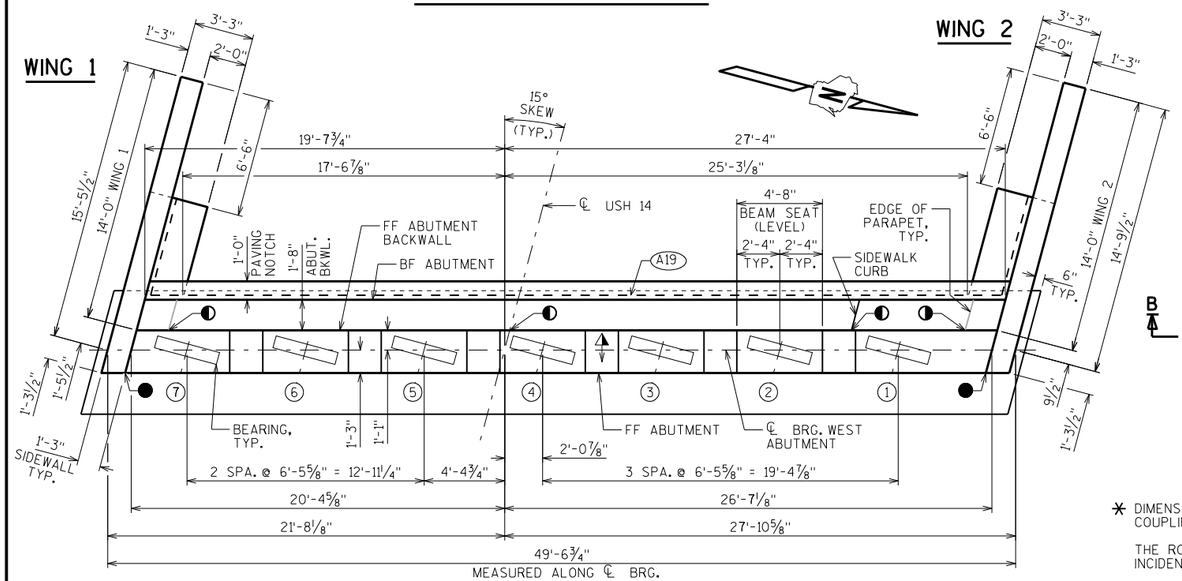
SCALE = 3

8

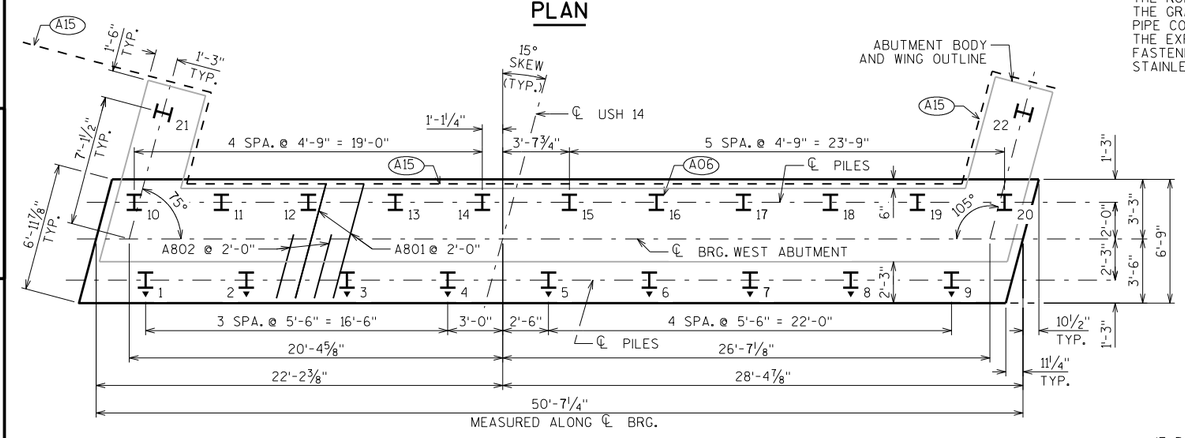
8



ELEVATION LOOKING WEST



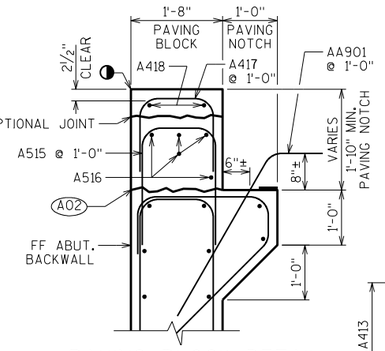
PLAN



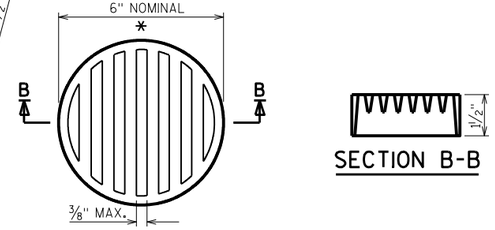
FOOTING & PILE PLAN

INDICATES PILE BATTERED 1:4 IN DIRECTION SHOWN

- A01 CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- A02 CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 35'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- A21 PARAPET ON PAVING BLOCK. FOR PARAPET BARS & DIMENSIONS SEE "SINGLE SLOPE PARAPET 42 SS MODIFIED" SHEET
- ◭ SLOPE 1" DOWN BETWEEN BEAM SEATS
- ◑ THE TOP OF PAVING BLOCK ELEVATIONS ARE GIVEN AT THE FF BACKWALL.
- ● ELEVATION GIVEN AT THE BF WING/ SIDEWALL



PAVING BLOCK DETAIL UNDER SIDEWALK



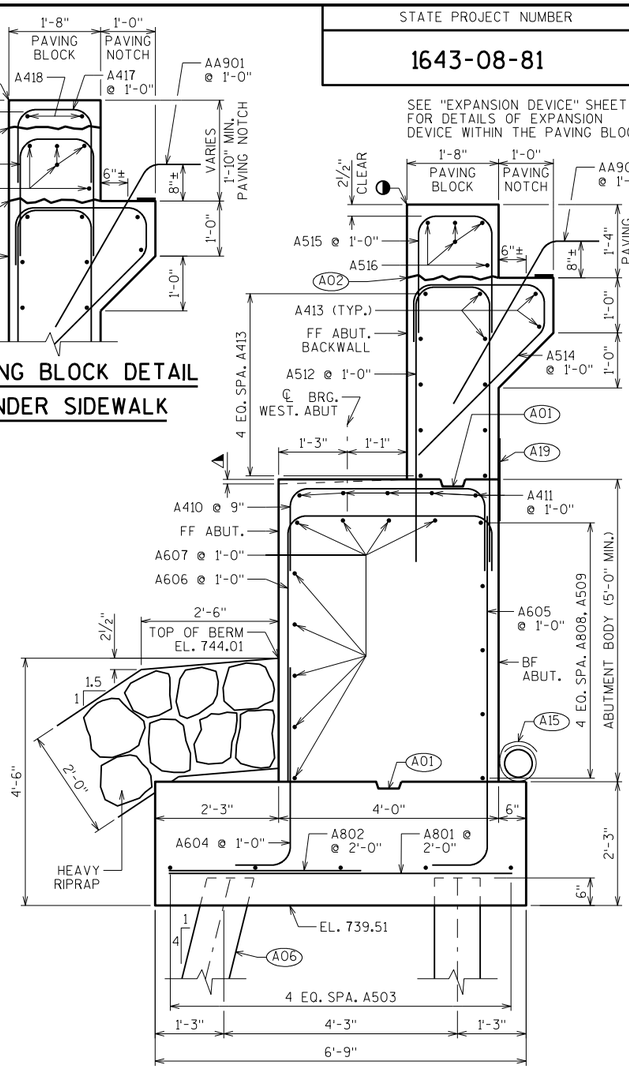
RODENT SHIELD DETAIL

SECTION B-B

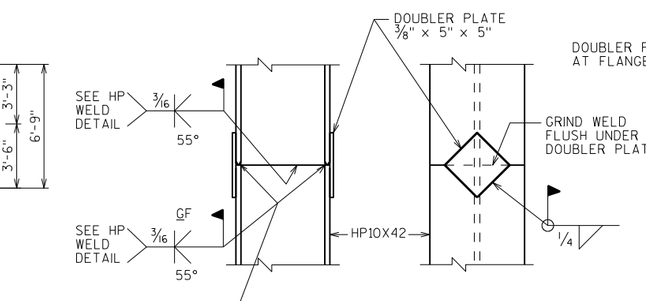
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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



SECTION THRU BODY



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

STATE PROJECT NUMBER

1643-08-81

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY DFD | PLANS CK'D. BLB

WEST ABUTMENT

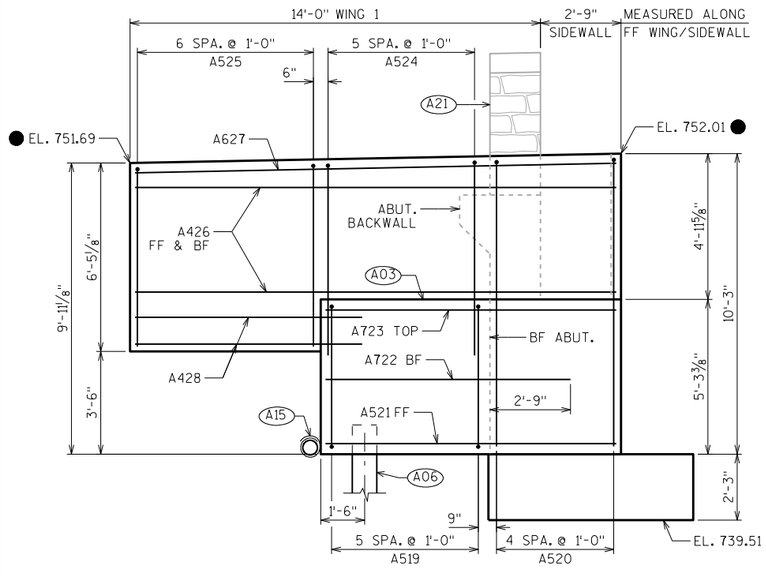
SHEET 4

152

SCALE = 4.0

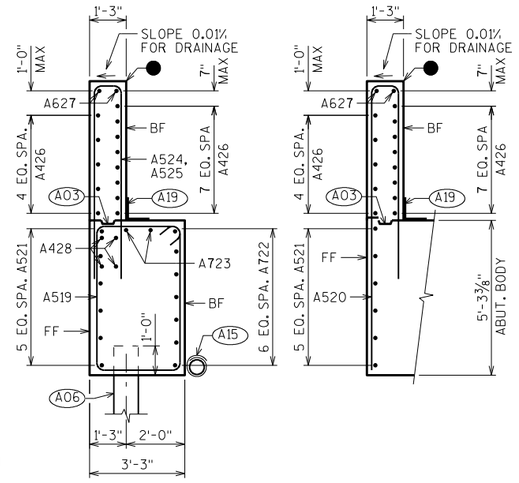
8

8



WING 1 ELEVATION

SHOWING FF WING



WING 1 SECTION

WING 1 SECTION

AT SIDEWALL

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 35'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 PARAPET ON PAVING BLOCK AT BF WING. FOR PARAPET BARS AND DIMENSIONS, SEE "SINGLE SLOPE PARAPET 42SS MODIFIED" SHEET

● ELEVATION GIVEN AT THE BF WING/ SIDEWALL

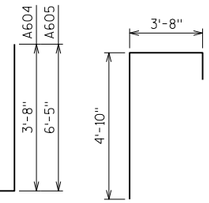
STATE PROJECT NUMBER
1643-08-81

BILL OF BARS

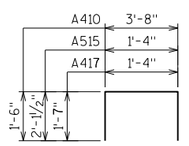
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A801		26	6'-6"			FOOTING TRANSVERSE
A802		25	3'-9"			FOOTING TRANSVERSE
A503		5	50'-3"			FOOTING LONGITUDINAL
A604		50	4'-6"	X		FOOTING/ABUT. BODY FF VERTICAL
A605		50	7'-3"	X		FOOTING/ABUT. BODY BF VERTICAL
A606		50	9'-2"	X		ABUT. BODY VERTICAL
A607		9	49'-2"			ABUT. BODY HORIZONTAL FF AND TOP
A808		10	14'-0"			ABUT. BODY HORIZONTAL BF AT WINGS
A509		5	25'-8"			ABUT. BODY HORIZONTAL BF
A410		28	6'-6"	X		ABUT. BODY U-BAR TOP BTWN. GIRS. 3 & 7
A411		5	20'-6"			ABUT. BODY HORIZ. TOP BTWN. GIRS. 3 & 7
A512	X	48	12'-1"	X		ABUT. BACKWALL U-BAR
A413	X	12	49'-2"			ABUT. BACKWALL HORIZONTAL
A514	X	48	6'-10"	X		ABUT. VERTICAL UNDER PAVING NOTCH
A515	X	48	5'-4"	X		ABUT. PAVING BLOCK U-BAR
A516	X	35	8'-0"			ABUT. PAVING BLOCK HORIZONTAL
A417	X	18	4'-4"	X		ABUT. PAVING BLOCK U-BAR AT SIDEWALK
A418	X	2	7'-8"			ABUT. PAVING BLOCK HORIZ. AT SIDEWALK
A519	X	6	16'-3"	X		WING 1 BODY STIRRUP
A520	X	5	17'-3"	X		WING 1 VERTICAL AT SIDEWALL
A521	X	6	9'-10"			WING 1 BODY HORIZONTAL FF
A722	X	7	8'-5"			WING 1 BODY HORIZONTAL BF
A723	X	2	9'-10"			WING 1 BODY HORIZONTAL TOP
A524	X	6	14'-2"	X		WING 1 VERTICAL
A525	X	7	13'-0"	X		WING 1 VERTICAL END
A426	X	13	16'-1"			WING 1 HORIZONTAL
A627	X	2	16'-1"			WING 1 HORIZONTAL TOP
A428	X	4	7'-9"			WING 1 HORIZONTAL END
A529	X	6	15'-9"	X		WING 2 BODY STIRRUP
A530	X	4	18'-3"	X		WING 2 VERTICAL AT SIDEWALL
A531	X	6	9'-3"			WING 2 BODY HORIZONTAL FF
A732	X	7	9'-1"			WING 2 BODY HORIZONTAL BF
A733	X	2	9'-3"			WING 2 BODY HORIZONTAL TOP
A534	X	6	15'-4"	X		WING 2 VERTICAL
A535	X	7	13'-6"	X		WING 2 VERTICAL END
A436	X	15	15'-9"			WING 2 HORIZONTAL
A637	X	2	15'-9"			WING 2 HORIZONTAL TOP
A438	X	4	7'-9"			WING 2 HORIZONTAL END
AA901		48	5'-0"	X		ABUT. BACKWALL/APPROACH SLAB DOWEL

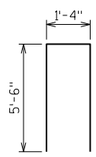
STAINLESS STEEL REINFORCEMENT



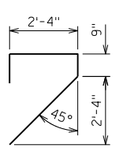
A604, A605 A606



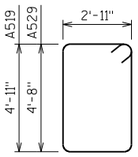
A410, A515, A417



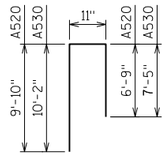
A512



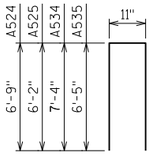
A514



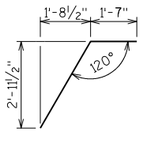
A519, A529



A520, A530



A524, A525, A534, A535



AA901

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY DFD | PLANS CK'D. BLB

WEST ABUTMENT DETAILS

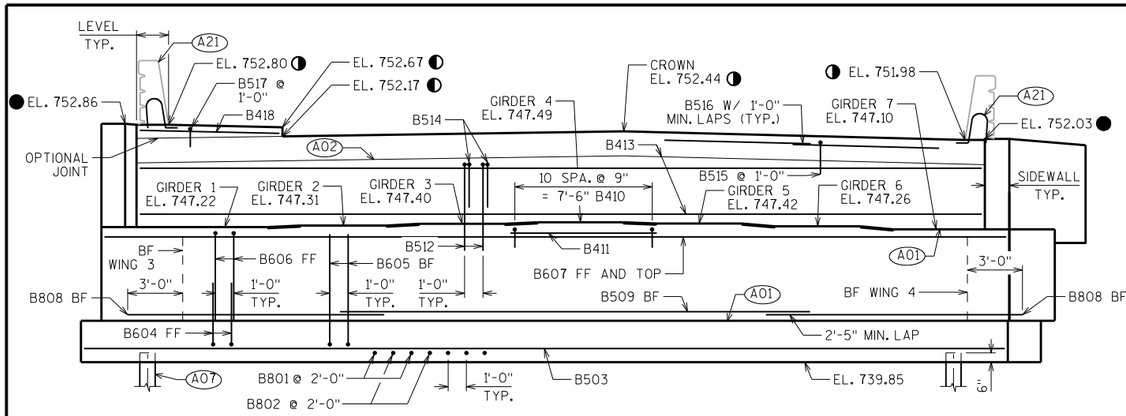
SHEET 5

153

SCALE = 2.5

8

8



ELEVATION LOOKING EAST

A01 CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

A02 CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPER-STRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

A07 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 55'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

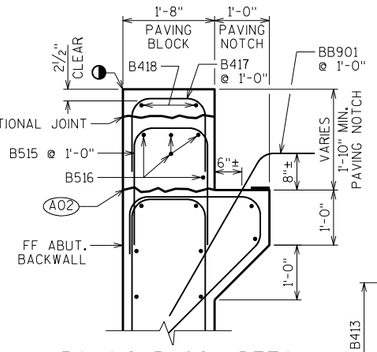
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 PARAPET ON PAVING BLOCK. FOR PPT. BARS & DIMENSIONS SEE "SINGLE SLOPE PARAPET 42 SS MODIFIED" SHEET

◭ SLOPE 1" DOWN BETWEEN BEAM SEATS

◑ THE TOP OF PAVING BLOCK ELEVATIONS ARE GIVEN AT THE FF BACKWALL.

● ELEVATION GIVEN AT THE BF WING/ SIDEWALL

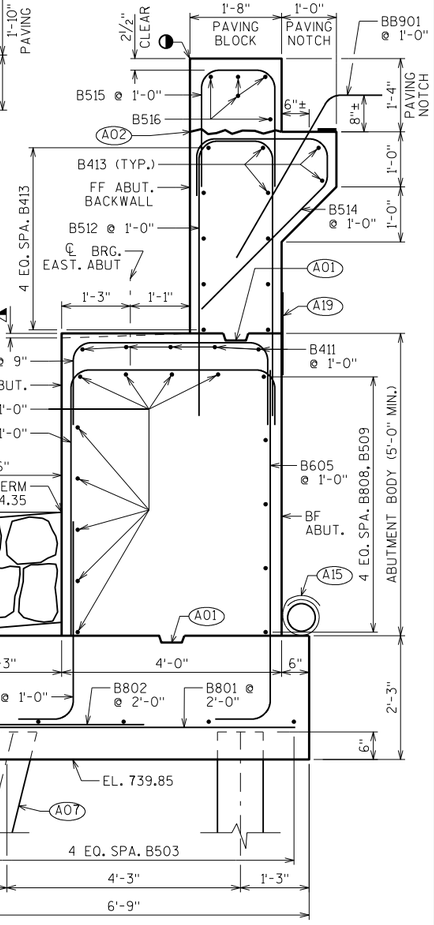


PAVING BLOCK DETAIL UNDER SIDEWALK

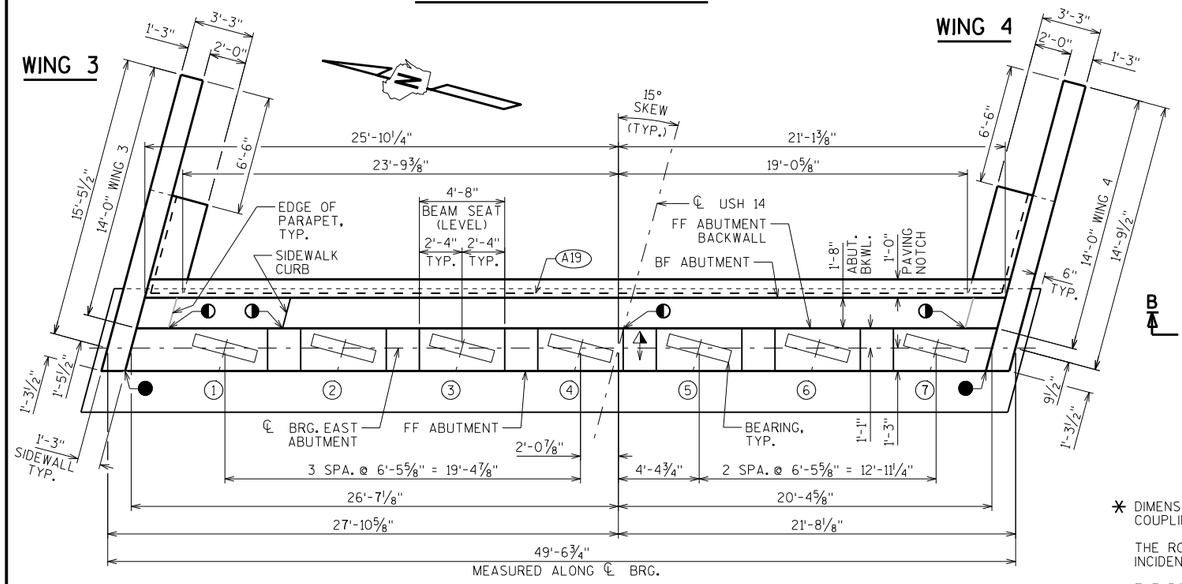
STATE PROJECT NUMBER

1643-08-81

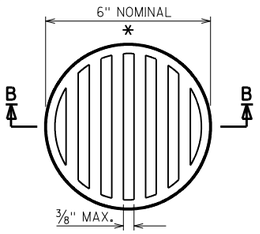
SEE "EXPANSION DEVICE" SHEET FOR DETAILS OF EXPANSION DEVICE WITHIN THE PAVING BLOCK



SECTION THRU BODY



PLAN

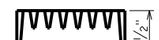


RODENT SHIELD DETAIL

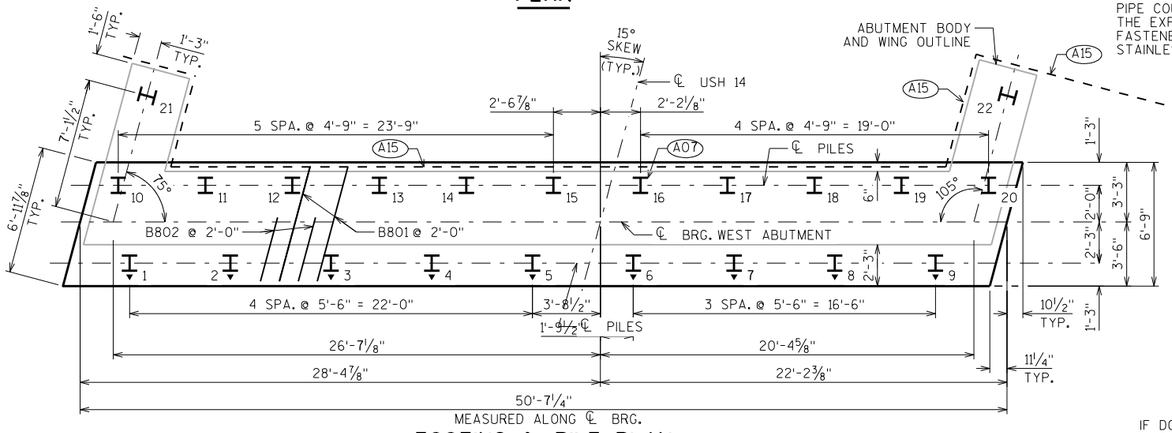
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

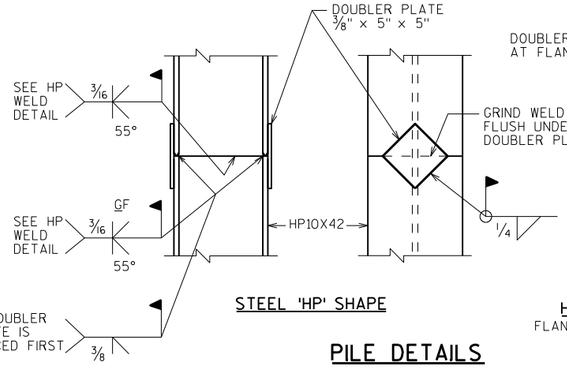


SECTION B-B

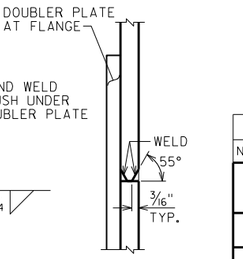


FOOTING & PILE PLAN

I INDICATES PILE BATTERED 1:4 IN DIRECTION SHOWN



STEEL 'HP' SHAPE



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY DFD | PLANS CK'D. BLB

EAST ABUTMENT

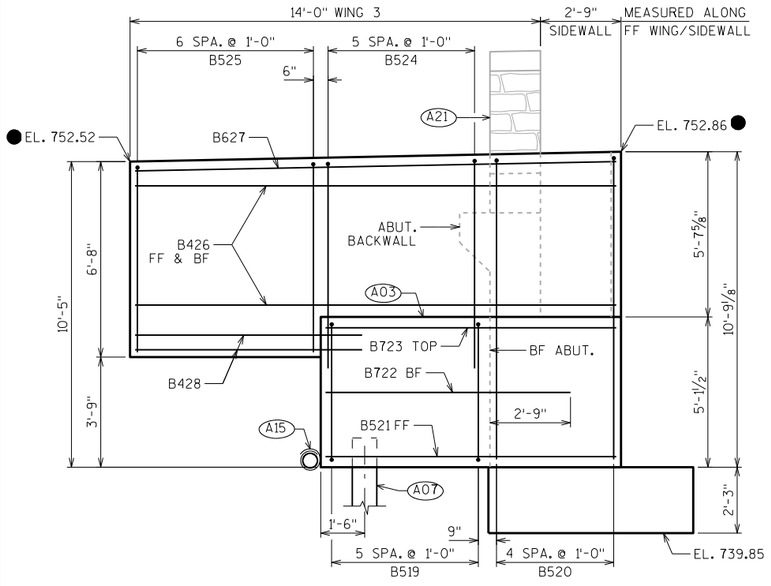
SHEET 6

154

SCALE = 4.0

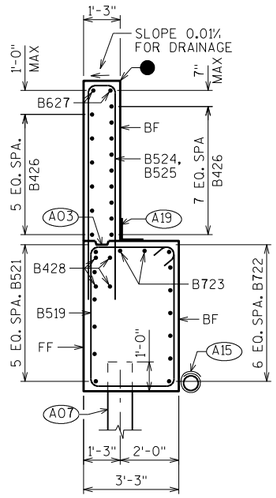
8

8

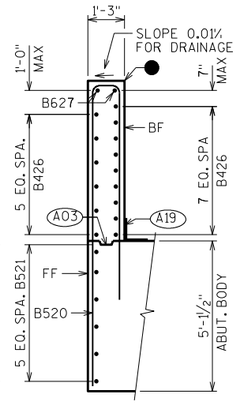


WING 3 ELEVATION

SHOWING FF WING



WING 3 SECTION



WING 3 SECTION

AT SIDEWALL

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A07) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 55'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) PARAPET ON PAVING BLOCK AT BF WING. FOR PARAPET BARS AND DIMENSIONS, SEE "SINGLE SLOPE PARAPET 42SS MODIFIED" SHEET

● ELEVATION GIVEN AT THE BF WING/ SIDEWALL

STATE PROJECT NUMBER

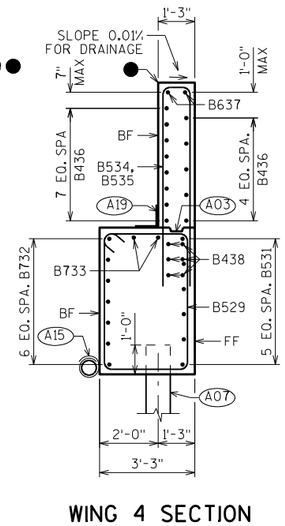
1643-08-81

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B801		26	6'-6"			FOOTING TRANSVERSE
B802		25	3'-9"			FOOTING TRANSVERSE
B503		5	50'-3"			FOOTING LONGITUDINAL
B604		50	4'-6"	X		FOOTING/ABUT. BODY FF VERTICAL
B605		50	7'-3"	X		FOOTING/ABUT. BODY BF VERTICAL
B606		50	9'-2"	X		ABUT. BODY VERTICAL
B607		9	49'-2"			ABUT. BODY HORIZONTAL FF AND TOP
B808		10	14'-0"			ABUT. BODY HORIZONTAL BF AT WINGS
B509		5	25'-8"			ABUT. BODY HORIZONTAL BF
B410		11	6'-4"	X		ABUT. BODY U-BAR TOP BTWN. GIRS. 3 & 5
B411		5	8'-0"			ABUT. BODY HORIZ. TOP BTWN. GIRS. 3 & 5
B512	X	48	12'-1"	X		ABUT. BACKWALL U-BAR
B413	X	12	49'-2"			ABUT. BACKWALL HORIZONTAL
B514	X	48	6'-10"	X		ABUT. VERTICAL UNDER PAVING NOTCH
B515	X	48	5'-4"	X		ABUT. PAVING BLOCK U-BAR
B516	X	35	8'-0"			ABUT. PAVING BLOCK HORIZONTAL
B417	X	18	4'-4"	X		ABUT. PAVING BLOCK U-BAR AT SIDEWALK
B418	X	2	7'-8"			ABUT. PAVING BLOCK HORIZ. AT SIDEWALK
B519	X	6	16'-0"	X		WING 3 BODY STIRRUP
B520	X	5	18'-5"	X		WING 3 VERTICAL AT SIDEWALL
B521	X	6	9'-10"			WING 3 BODY HORIZONTAL FF
B722	X	7	8'-5"			WING 3 BODY HORIZONTAL BF
B723	X	2	9'-10"			WING 3 BODY HORIZONTAL TOP
B524	X	6	15'-8"	X		WING 3 VERTICAL
B525	X	7	13'-4"	X		WING 3 VERTICAL END
B426	X	15	16'-1"			WING 3 HORIZONTAL
B627	X	2	16'-1"			WING 3 HORIZONTAL TOP
B428	X	4	7'-9"			WING 3 HORIZONTAL END
B529	X	6	15'-9"	X		WING 4 BODY STIRRUP
B530	X	4	16'-11"	X		WING 4 VERTICAL AT SIDEWALL
B531	X	6	9'-3"			WING 4 BODY HORIZONTAL FF
B732	X	7	9'-1"			WING 4 BODY HORIZONTAL BF
B733	X	2	9'-3"			WING 4 BODY HORIZONTAL TOP
B534	X	6	14'-0"	X		WING 4 VERTICAL
B535	X	7	13'-2"	X		WING 4 VERTICAL END
B436	X	13	15'-9"			WING 4 HORIZONTAL
B637	X	2	15'-9"			WING 4 HORIZONTAL TOP
B438	X	6	7'-9"			WING 4 HORIZONTAL END
BB901		48	5'-0"	X		ABUT. BACKWALL/APPROACH SLAB DOWEL

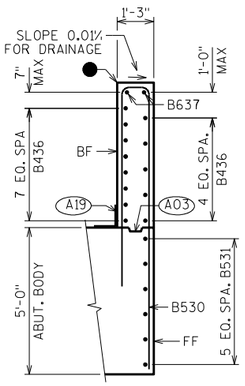
STAINLESS STEEL REINFORCEMENT



WING 4 ELEVATION

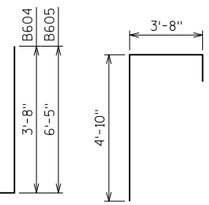
SHOWING FF WING

WING 4 SECTION



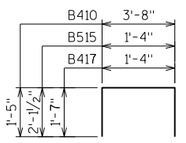
WING 4 SECTION

AT SIDEWALL

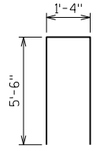


B604, B605

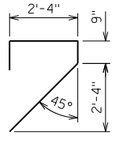
B606



B410, B515, B417



B512



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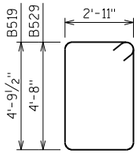
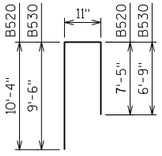
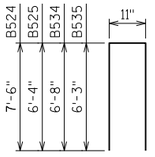


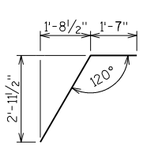
B519, B529



B520, B530



B524, B525, B534, B535



BB901

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY DFD | PLANS CK'D. BLB

EAST ABUTMENT DETAILS

SHEET 7

155

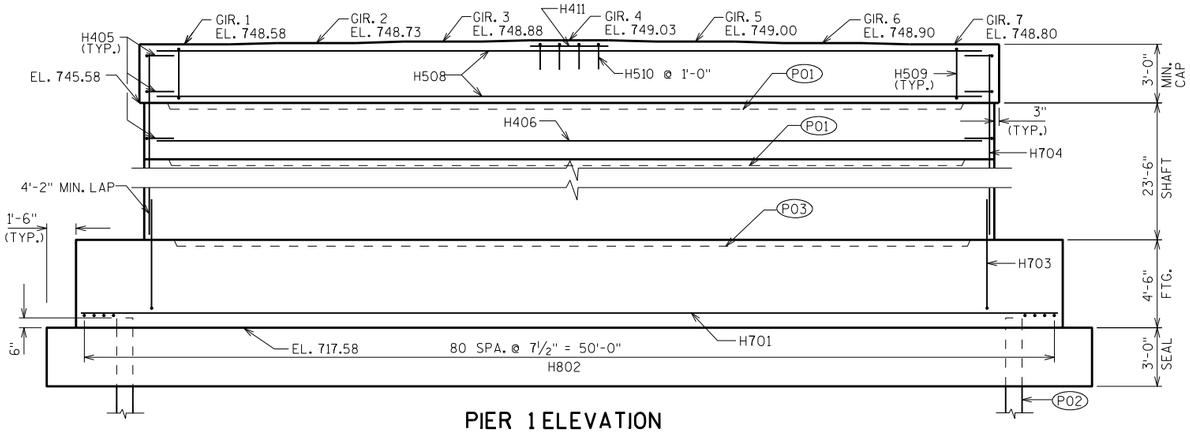
SCALE = 2.5

8

8

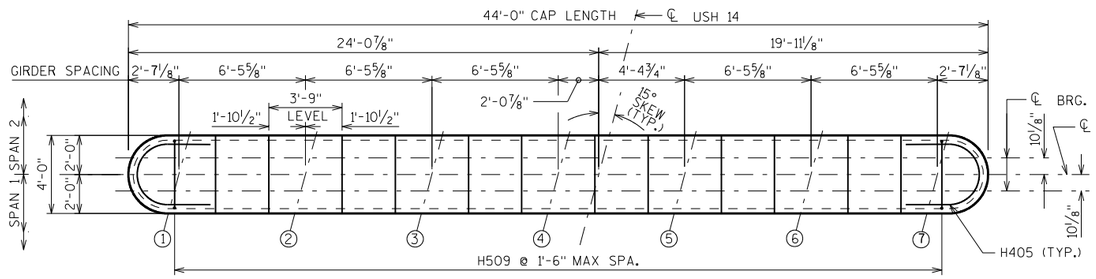
STATE PROJECT NUMBER

1643-08-81

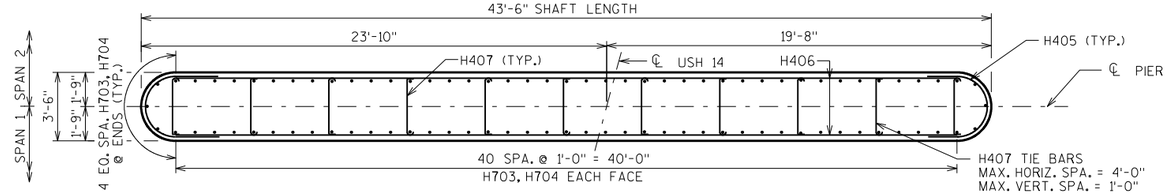


PIER 1 ELEVATION

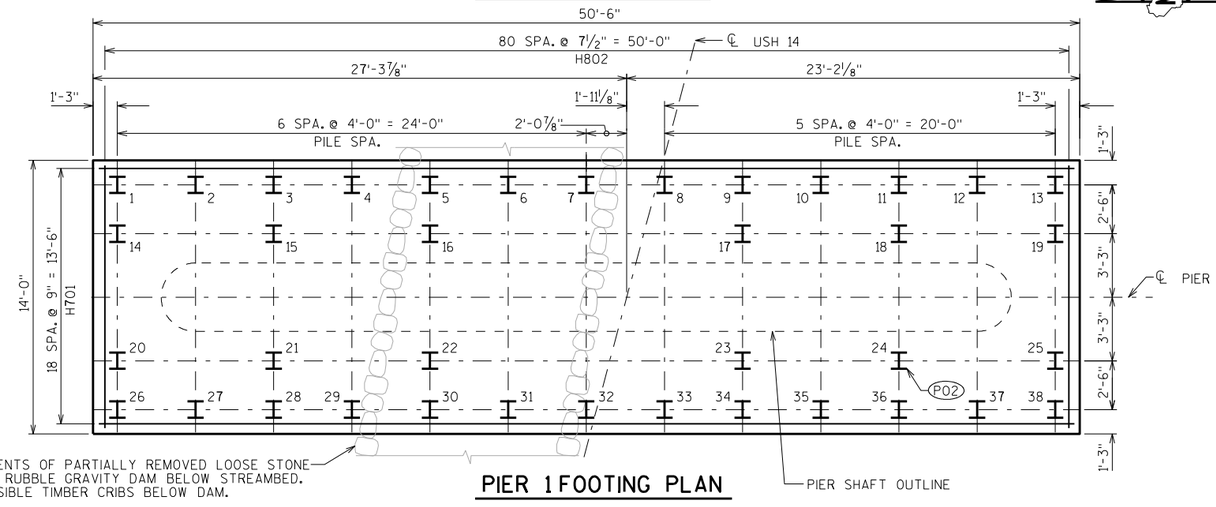
(LOOKING UPSTATION)



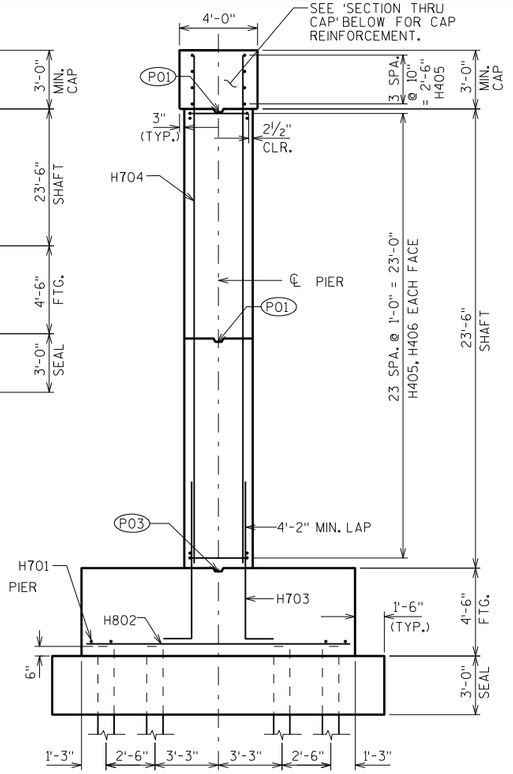
PIER 1 CAP PLAN



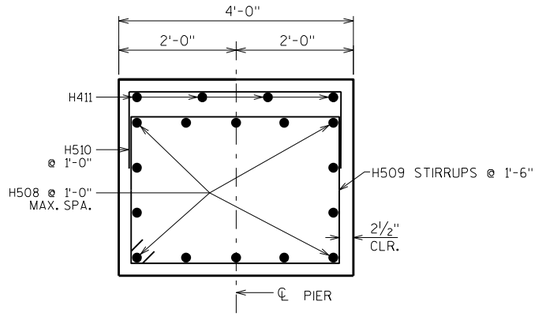
PIER 1 SHAFT PLAN



PIER 1 FOOTING PLAN



SECTION THRU PIER

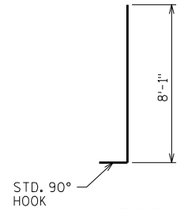


SECTION THRU CAP

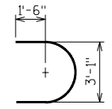
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
H701		19	50'-0"			FOOTING-HORIZ.
H802		81	13'-6"			FOOTING-HORIZ.
H703	X	88	9'-1"	X		FOOTING-DOWELS
H704	X	88	26'-0"			COLUMNS-VERT.
H405	X	56	7'-10"	X		COLUMNS-HORIZ. END
H406	X	48	40'-0"			COLUMNS-HORIZ. EACH FACE
H407	X	264	3'-11"	X		COLUMNS-HORIZ. TIE BARS
H508	X	14	40'-0"			CAP-HORIZ.
H509	X	28	13'-0"	X		CAP-STIRRUPS
H510	X	4	6'-0"	X		CAP-ADDITIONAL REIN. VERT.
H411	X	4	4'-0"			CAP-ADDITIONAL REIN. HORIZ.



H703



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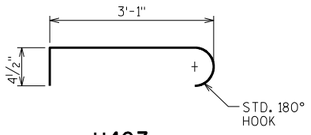
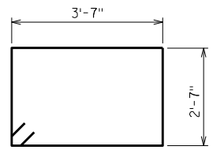
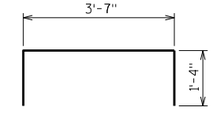


H407



H509



H510

P01 OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING. ESTIMATED 35'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

P03 KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

PIER 1

SHEET 8

156

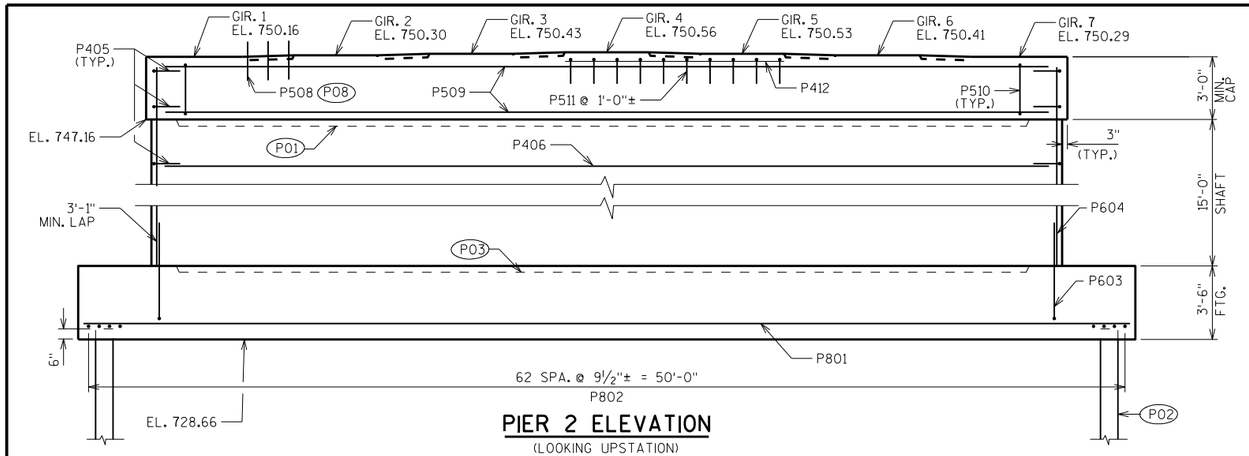
SCALE =

8

8

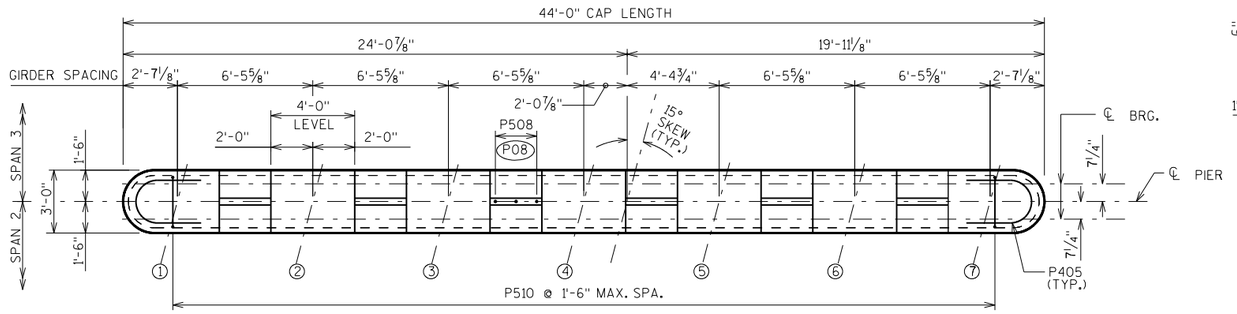
STATE PROJECT NUMBER

1643-08-81

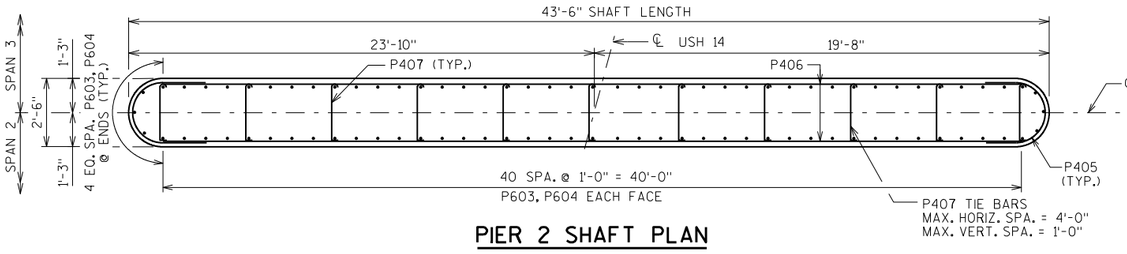


PIER 2 ELEVATION

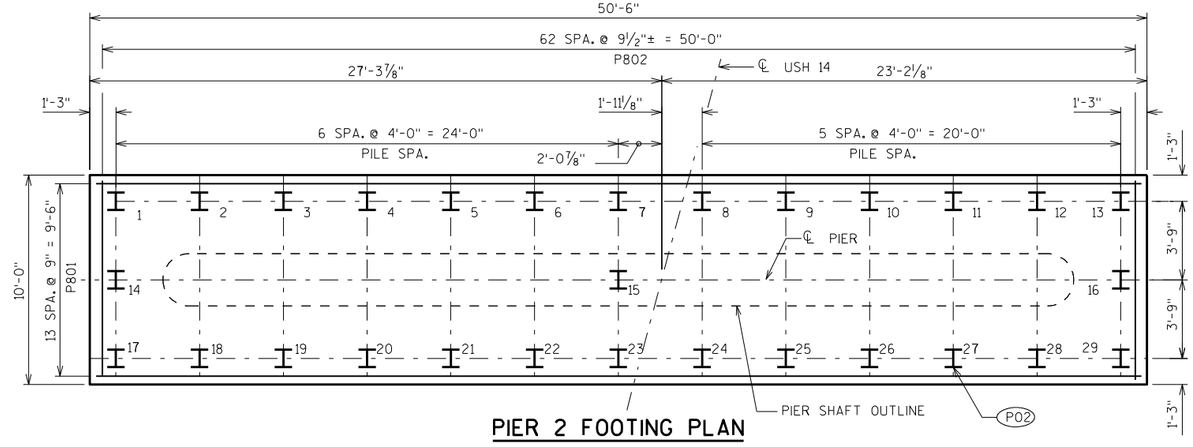
(LOOKING UPSTATION)



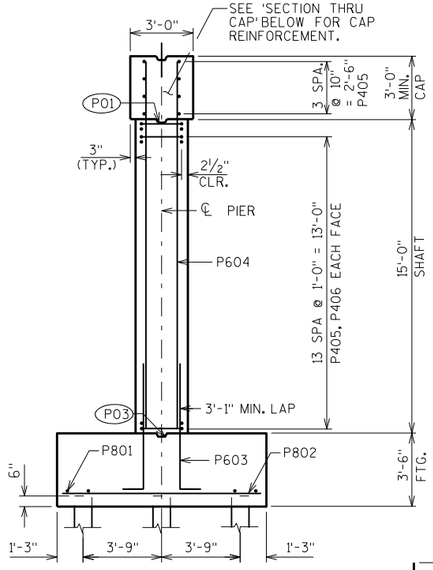
PIER 2 CAP PLAN



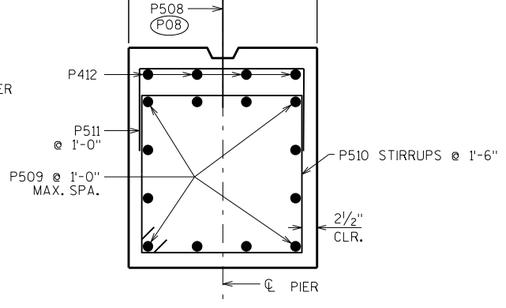
PIER 2 SHAFT PLAN



PIER 2 FOOTING PLAN



SECTION THRU PIER

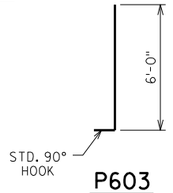


SECTION THRU CAP

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P801		14	50'-0"			FOOTING-HORIZ.
P802		63	9'-6"			FOOTING-HORIZ.
P603	X	88	6'-10	X		FOOTING-DOWELS
P604	X	88	17'-6"			COLUMNS-VERT.
P405	X	38	6'-3"	X		COLUMNS-HORIZ. END
P406	X	30	40'-0"			COLUMNS-HORIZ. EACH FACE
P407	X	154	2'-11"	X		COLUMNS-HORIZ. TIE BARS
P508	X	18	2'-0"			SHAFT-VERT. DOWEL BARS
P509	X	12	40'-0"			CAP-HORIZ.
P510	X	28	11'-0"	X		CAP-STIRRUPS
P511	X	10	5'-0"	X		CAP-ADDITIONAL REIN.-VERT.
P412	X	4	11'-0"			CAP-ADDITIONAL REIN.-HORIZ.



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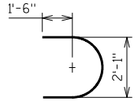

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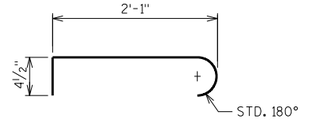

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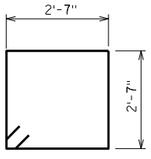

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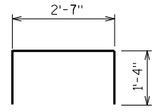

P511

(P01) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 50' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P03) KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

(P08) P508 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

PIER 2

SHEET 9

157

SCALE =

STATE PROJECT NUMBER

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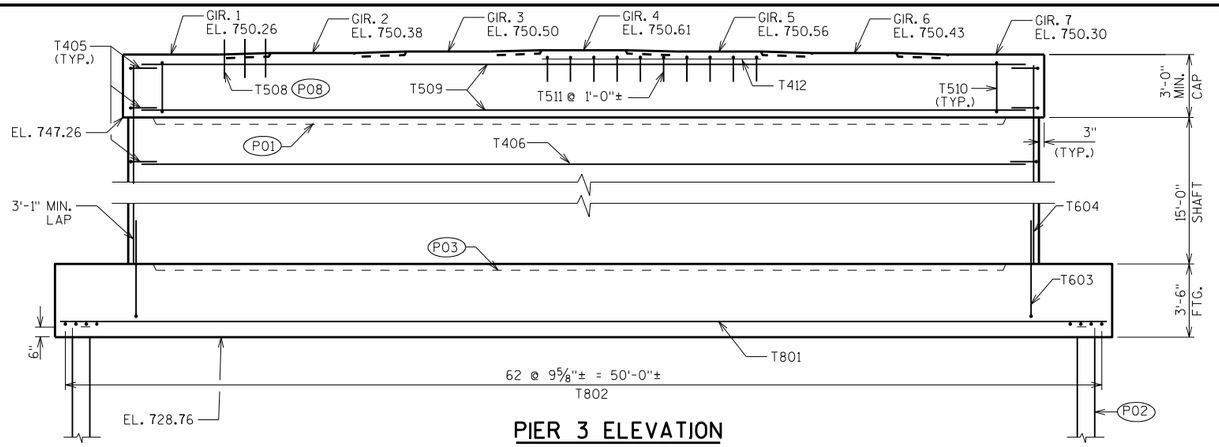
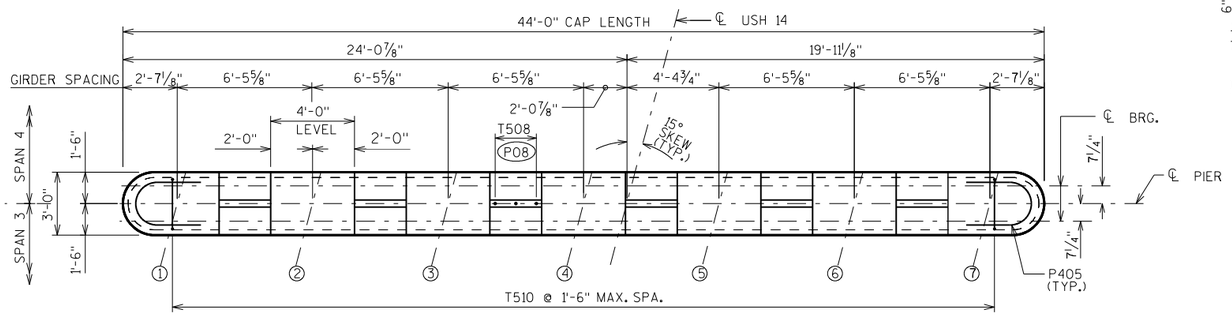
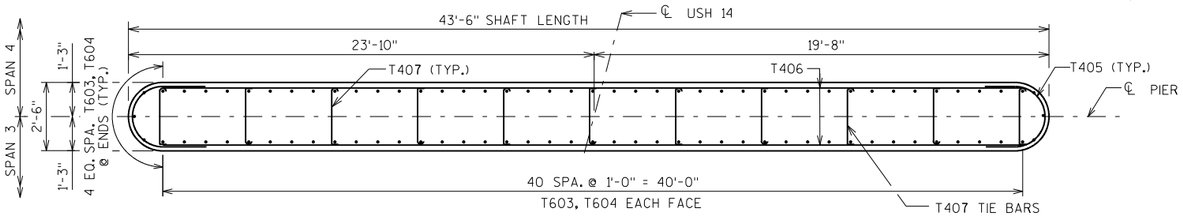


PIER 3 ELEVATION

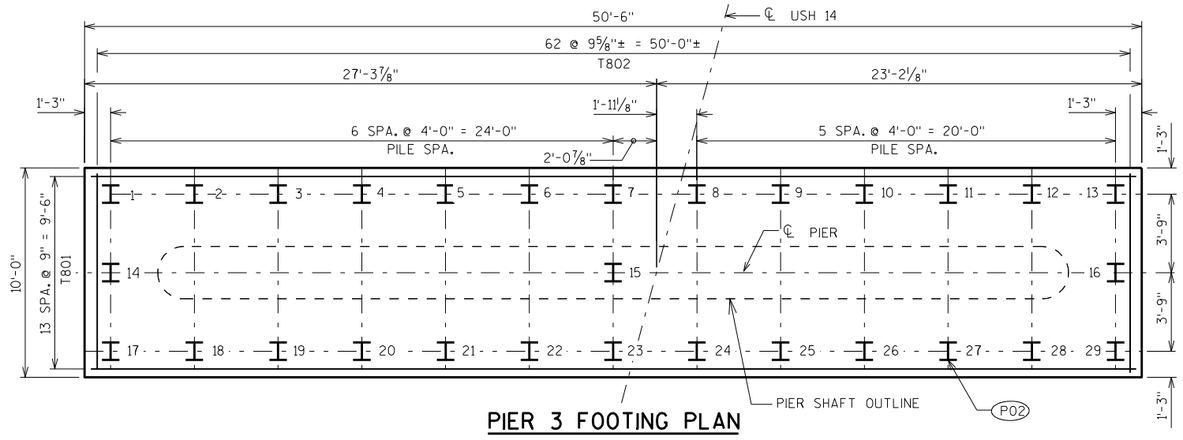
(LOOKING UPSTATION)



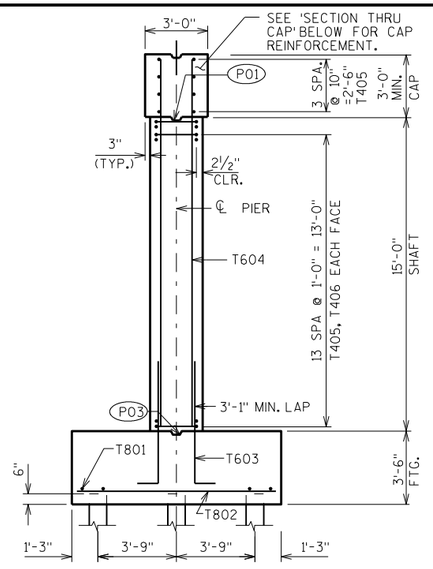
PIER 3 CAP PLAN



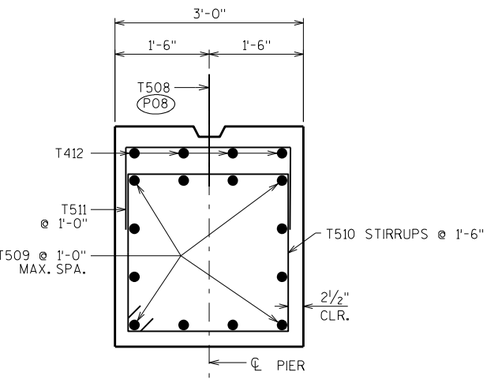
PIER 3 SHAFT PLAN



PIER 3 FOOTING PLAN



SECTION THRU PIER

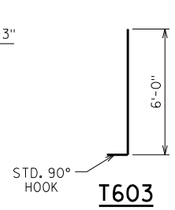


SECTION THRU CAP

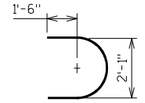
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

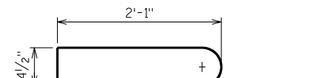
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
T801		14	50'-0"			FOOTING-HORIZ.
T802		63	9'-6"			FOOTING-HORIZ.
T603	X	88	6'-10"	X		FOOTING-DOWELS
T604	X	88	17'-6"			COLUMNS-VERT.
T405	X	38	6'-3"	X		COLUMNS-HORIZ. END
T406	X	30	40'-0"			COLUMNS- HORIZ.EACH FACE
T407	X	154	2'-11"	X		COLUMNS-HORIZ. TIE BARS
T508	X	18	2'-0"			SHAFT -VERT. DOWEL BARS
T509	X	12	40'-0"			CAP-HORIZ.
T510	X	28	11'-0"	X		CAP-STIRRUPS
T511	X	10	5'-0"	X		CAP-ADDITIONAL REIN.-VERT.
T412	X	4	11'-0"			CAP-ADDITIONAL REIN.-HORIZ.



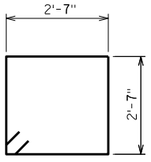
T603



T405



T407



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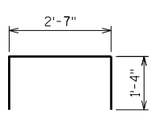


T511

(P01) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

(P02) SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 50'LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P03) KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

(P08) †508 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

PIER 3

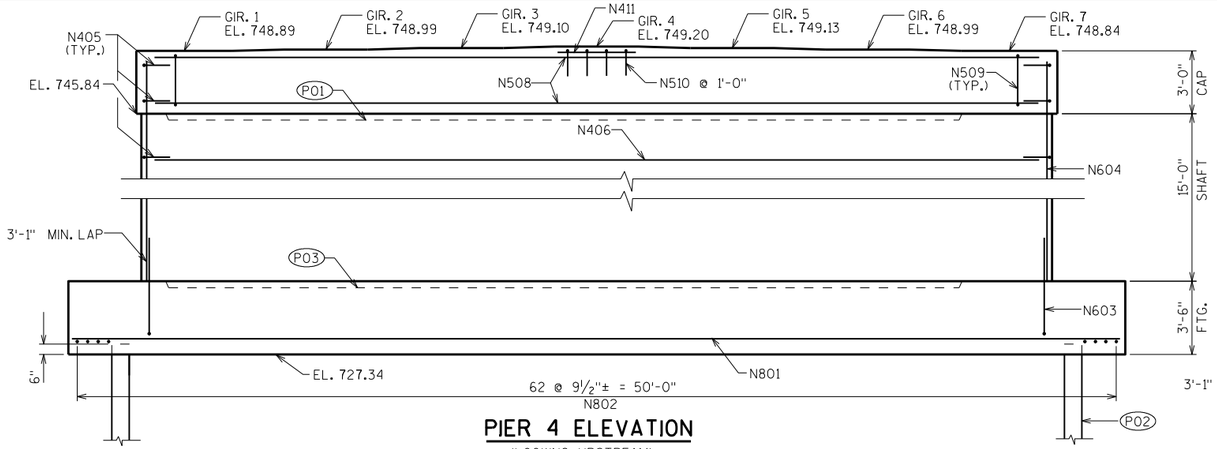
SHEET 10

158

SCALE =

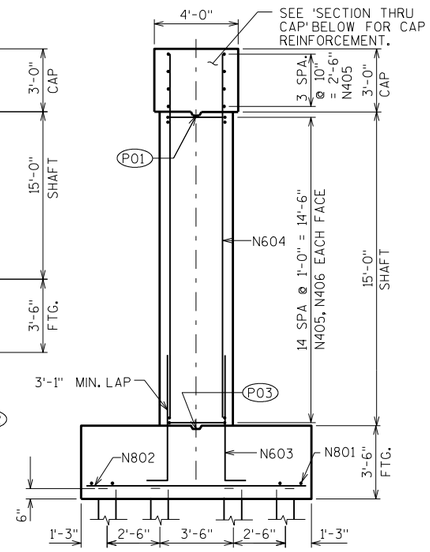
STATE PROJECT NUMBER

1643-08-81



PIER 4 ELEVATION

(LOOKING UPSTREAM)

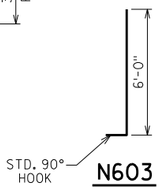


SECTION THRU PIER

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
N801		15	50'-0"			FOOTING-HORIZ.
N802		64	10'-6"			FOOTING-HORIZ.
N603	X	88	6'-10"	X		FOOTING-DOWELS
N604	X	88	17'-6"			COLUMNS-VERT.
N405	X	38	7'-10"	X		COLUMNS-HORIZ. END
N406	X	30	40'-0"			COLUMNS-HORIZ. F.F. & B.F.
N407	X	154	3'-11"	X		COLUMNS-HORIZ. TIE BARS
N508	X	14	40'-0"			CAP-HORIZ.
N509	X	28	13'-0"	X		CAP-STIRRUPS
N510	X	4	6'-0"	X		CAP-ADDITIONAL REIN.-VERT.
N411	X	4	4'-0"			CAP-ADDITIONAL REIN.-HORIZ.



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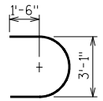

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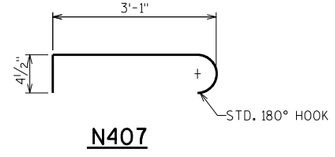

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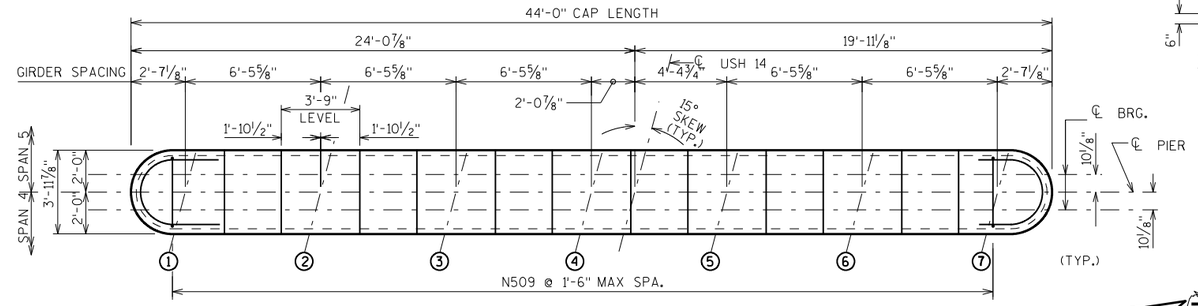
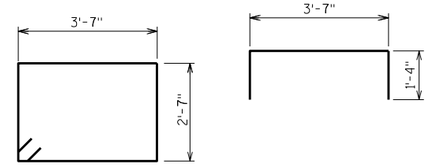
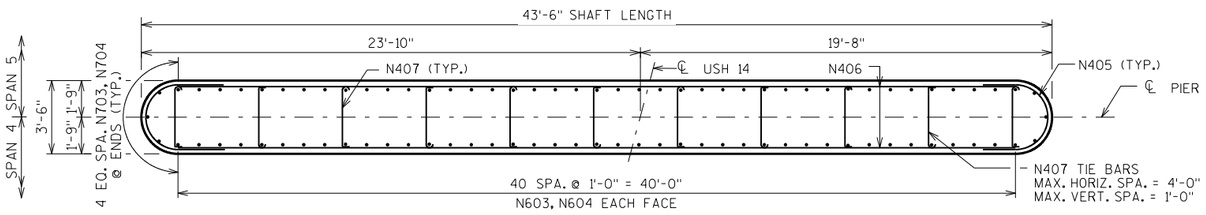


PIER 4 CAP PLAN

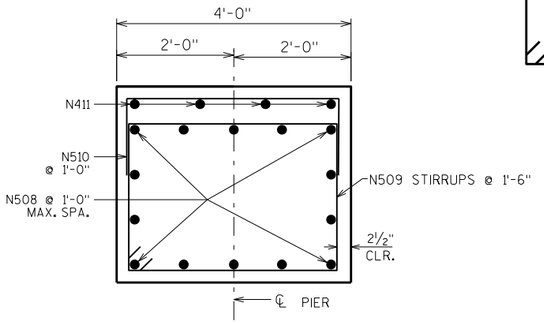


N509

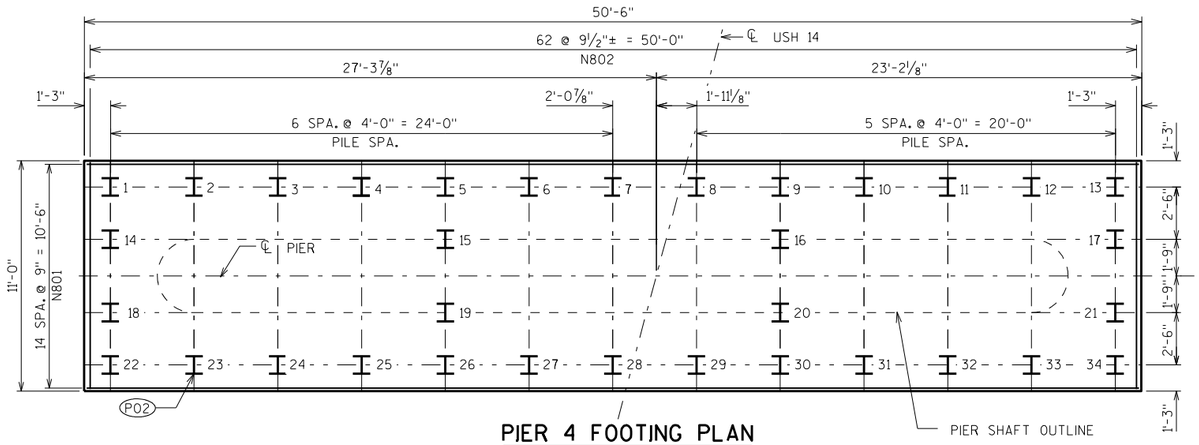
N510



PIER 4 SHAFT PLAN



SECTION THRU CAP



PIER 4 FOOTING PLAN

P01 OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

P02 SUPPORT PIER ON HP 10 x 42 STEEL PILING, ESTIMATED 45' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

P03 KEYED CONST. JOINT FORMED BY BEVELED 2" X 6"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

PIER 4

SHEET 11

159

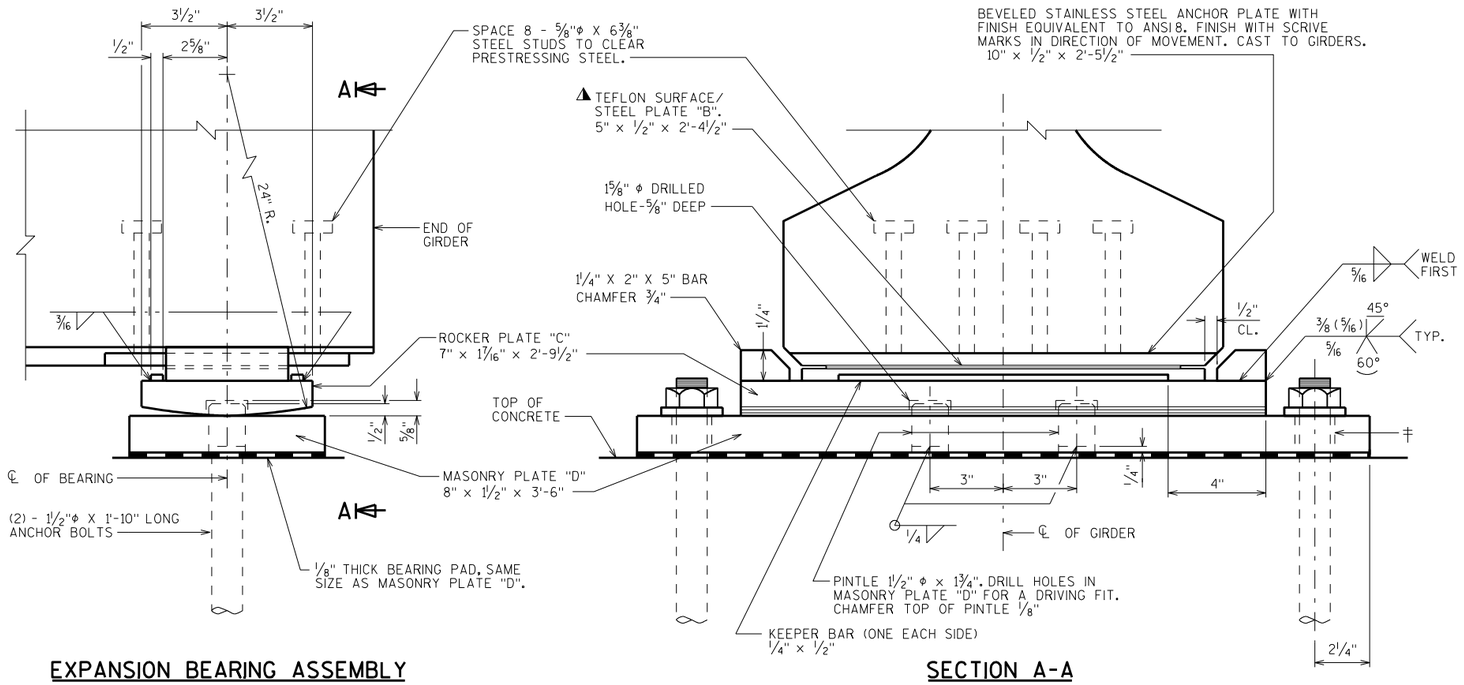
SCALE =

8

8

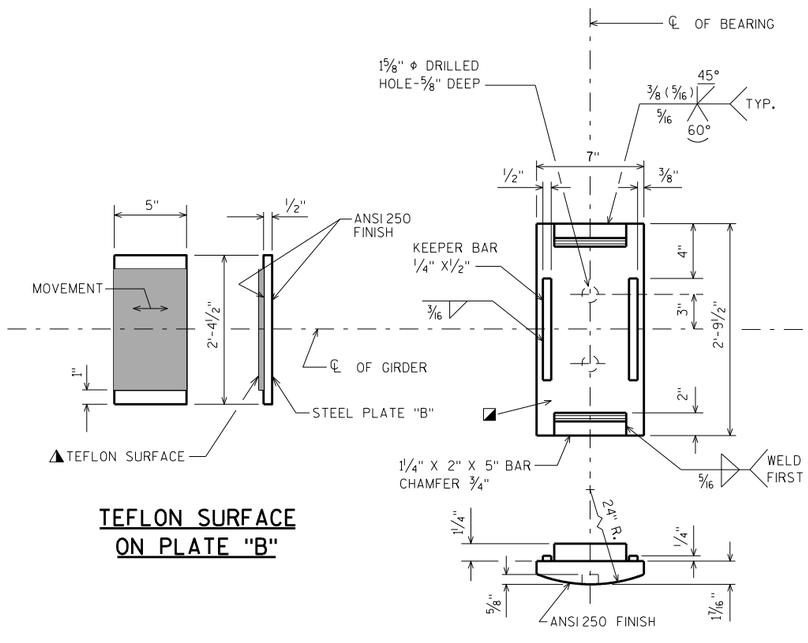
STATE PROJECT NUMBER

1643-08-81



EXPANSION BEARING ASSEMBLY

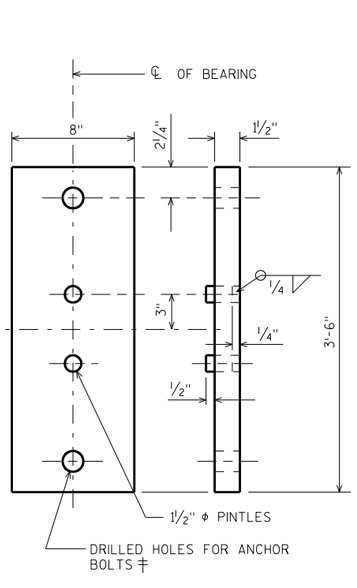
SECTION A-A



TEFLON SURFACE ON PLATE "B"

ROCKER PLATE "C"

EXPANSION BEARING



MASONRY PLATE "D"

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "PRESTRESSED GIRDER STEEL BEARINGS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-62-45", EACH.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIVE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

7 BEARINGS REQUIRED AT WEST ABUTMENT.

7 BEARINGS REQUIRED AT EAST ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

PRESTRESSED GIRDER STEEL BEARINGS

SHEET 12

160

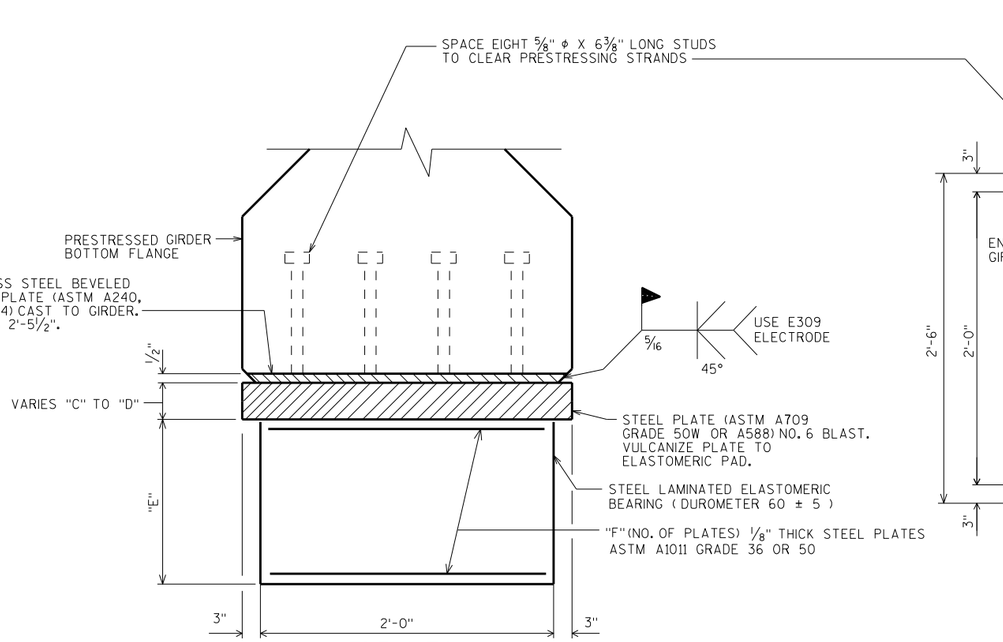
8

8

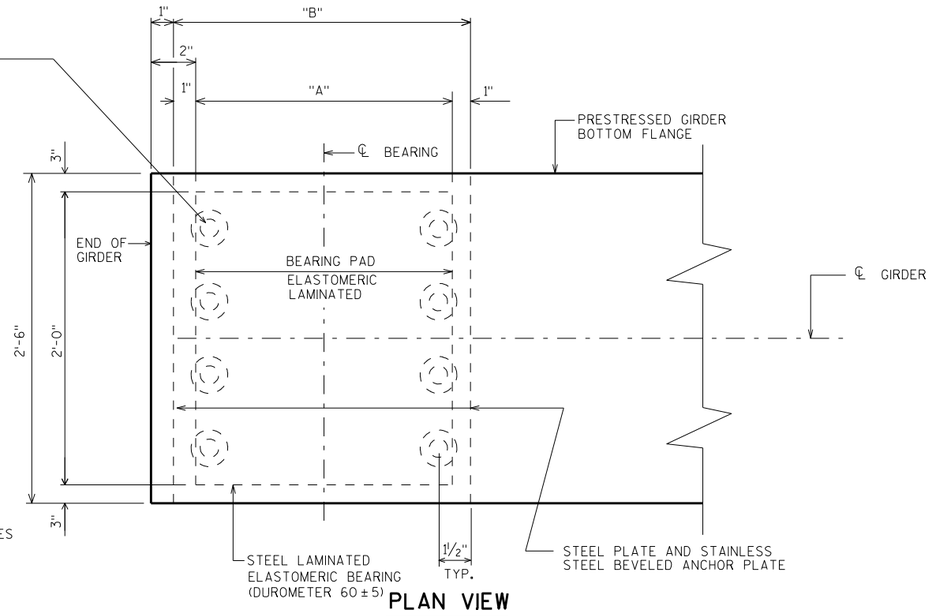
SCALE =

STATE PROJECT NUMBER

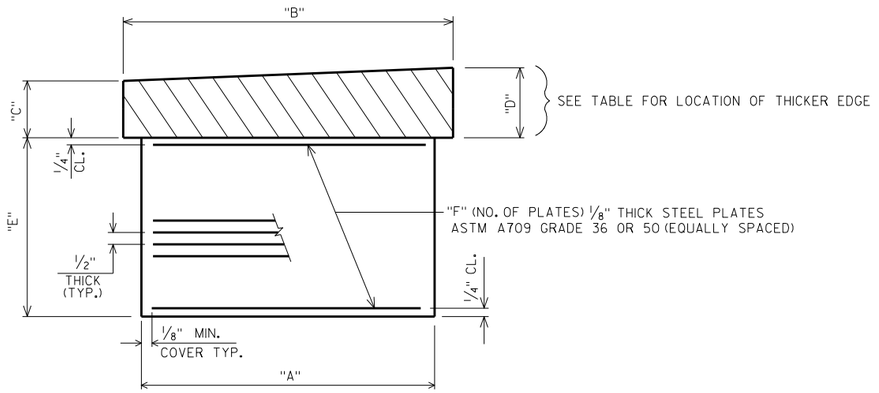
1643-08-81



END VIEW



PLAN VIEW



SECTION THRU BEARING PAD ELASTOMERIC LAMINATED

(GIRDER AND STAINLESS STEEL ANCHOR PLATE NOT SHOWN FOR CLARITY)

	NO. REQ'D.	"A"	"B"	"C"	"D"	"E"	"F"	THICKER EDGE LOCATION
PIER 1, SPAN 1	7	1'-2"	1'-5"	1 1/2"	1 7/8"	4 3/8"	7	UPSTATION (TOWARD END OF GIRDER)
PIER 1, SPAN 2	7	1'-2"	1'-5"	1 1/2"	1 7/8"	4 3/8"	7	UPSTATION (TOWARD MIDDLE OF GIRDER)
PIER 4, SPAN 4	7	1'-2"	1'-5"	1 1/2"	1 5/8"	4 3/8"	7	DOWNSTATION (TOWARD MIDDLE OF GIRDER)
PIER 4, SPAN 5	7	1'-2"	1'-5"	1 1/2"	1 7/8"	4 3/8"	7	DOWNSTATION (TOWARD END OF GIRDER)

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARING PADS ELASTOMERIC LAMINATED SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

LAMINATED ELASTOMERIC BEARINGS

SHEET 13

161

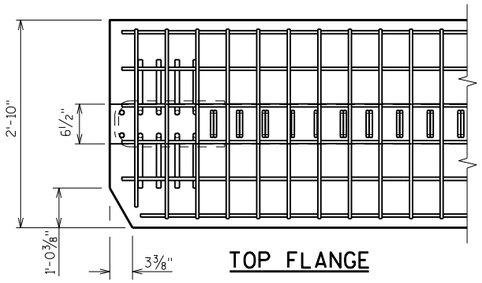
SCALE = 4

8

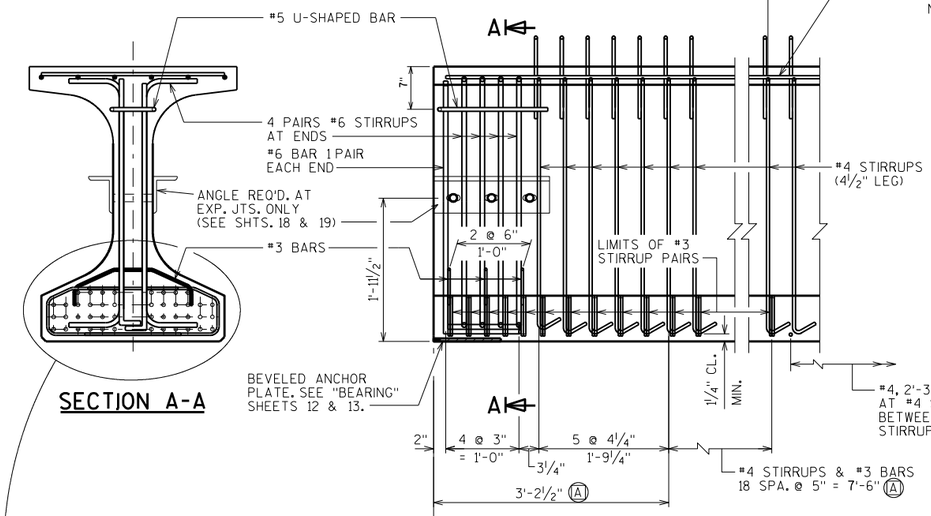
8

STATE PROJECT NUMBER

1643-08-81



TOP FLANGE



SECTION A-A

SIDE VIEW & TYPICAL SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

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

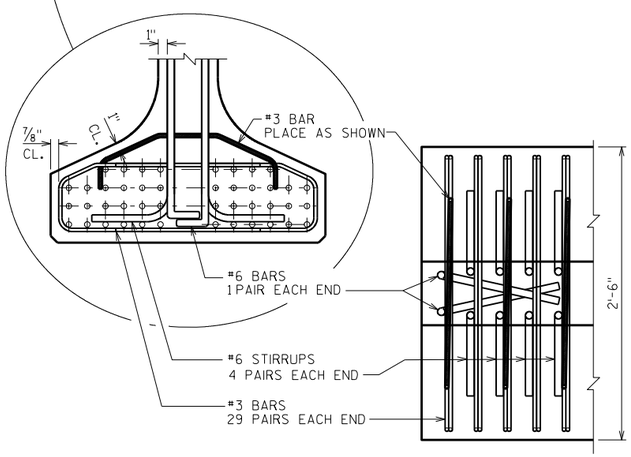
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

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

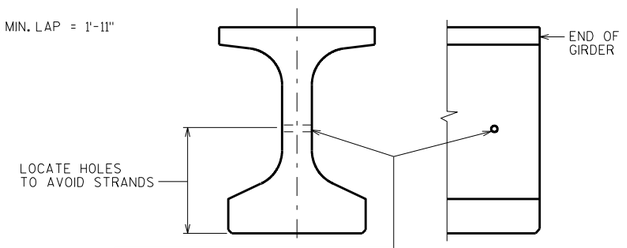


BOTTOM FLANGE

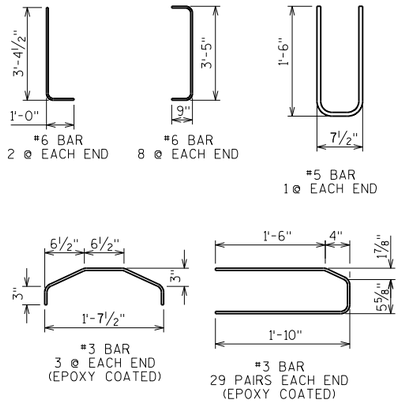
SLEEVE LOCATIONS

SPAN 1 — IN GIRDER 1, 8'-9¼" FROM EAST END; IN GIRDER 7, 8'-9⅞" FROM EAST END

SPAN 4 — IN GIRDER 1, 8'-9¼" FROM EAST END; IN GIRDER 7, 8'-9⅞" FROM EAST END



FLOOR DRAIN ATTACHMENT



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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	1-7	115.75	0.89	1.67	2.28	2.66	2.78	2.63	2.23	1.61	0.84	8000	6	6	6	0.60	38	6400	40	13.75	16.75	5.0		
2	1-7	115.75	0.81	1.55	2.14	2.52	2.66	2.53	2.15	1.57	0.82	8000	7	7	6	0.60	34	6400	40	13.75	16.75	5.0		
3	1-7	115.75	0.84	1.60	2.20	2.58	2.72	2.58	2.20	1.60	0.84	8000	6	6	6	0.60	34	6400	40	13.75	16.75	5.0		
4	1-7	115.75	0.82	1.57	2.15	2.53	2.66	2.52	2.14	1.55	0.81	8000	6	6	6	0.60	34	6400	40	13.75	16.75	5.0		
5	1-7	115.75	0.84	1.61	2.23	2.63	2.78	2.66	2.28	1.67	0.89	8000	6	6	6	0.60	38	6400	40	13.75	16.75	5.0		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

45W" PRESTRESSED GIRDER DETAILS 1

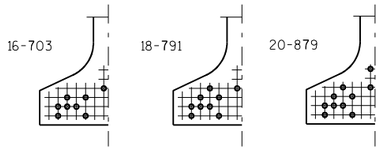
SHEET 14

162

SCALE =

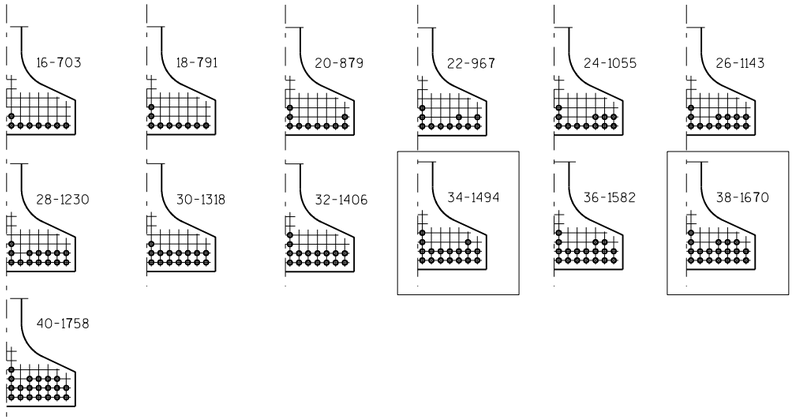
STATE PROJECT NUMBER

1643-08-81



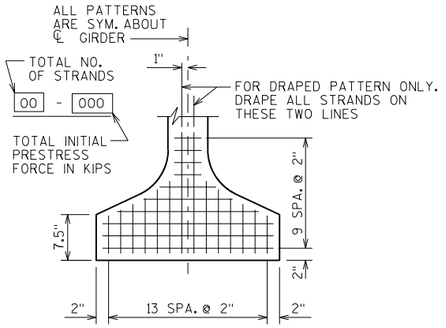
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

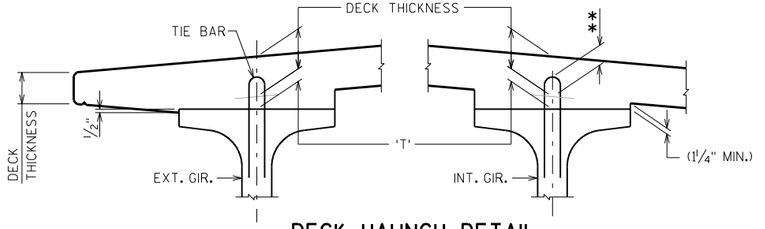


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

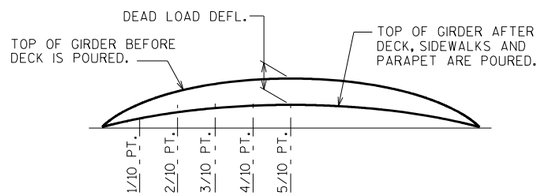
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

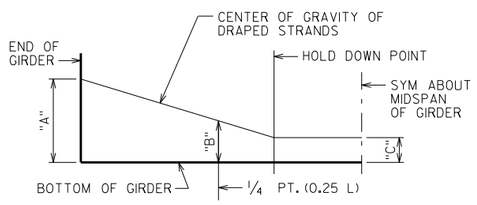
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH ('T') OF 2⅝" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

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

SPAN	CAMBER (IN.) *
1	4.45"
2	3.65"
3	3.65"
4	3.65"
5	4.45"

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

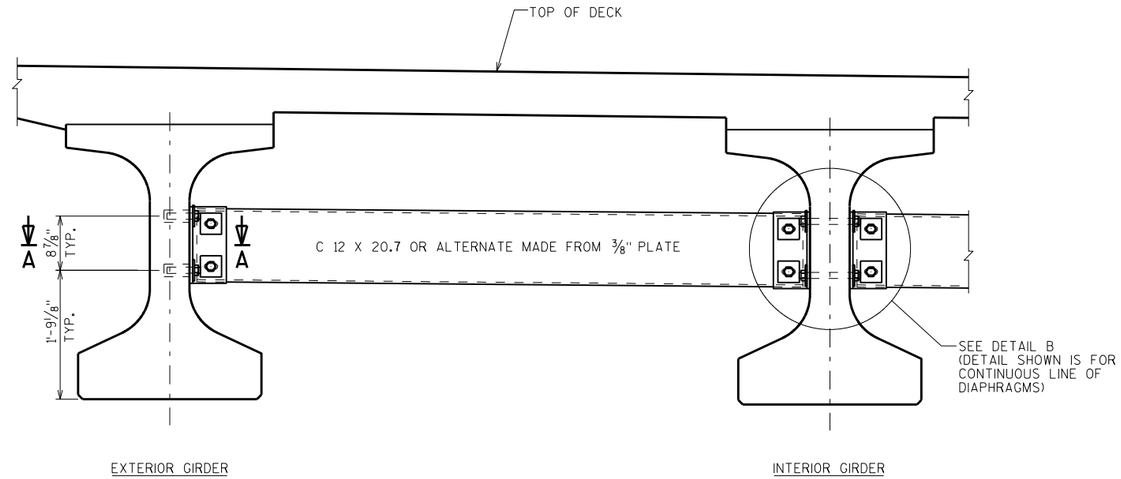
45W" PRESTRESSED GIRDER DETAILS 2

SHEET 15

163

SCALE = 1.0

STATE PROJECT NUMBER
1643-08-81



PART TRANSVERSE SECTION AT DIAPHRAGM

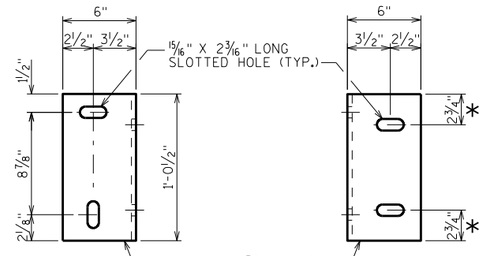
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-62-45", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

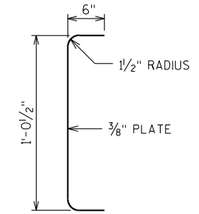
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

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

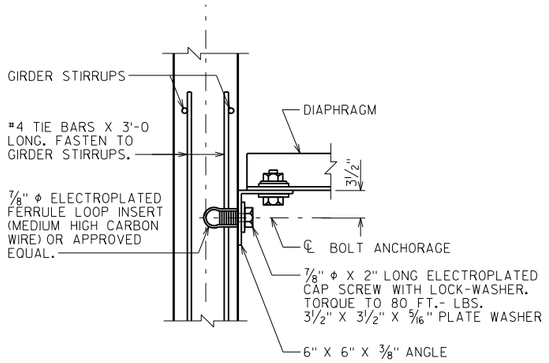


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM

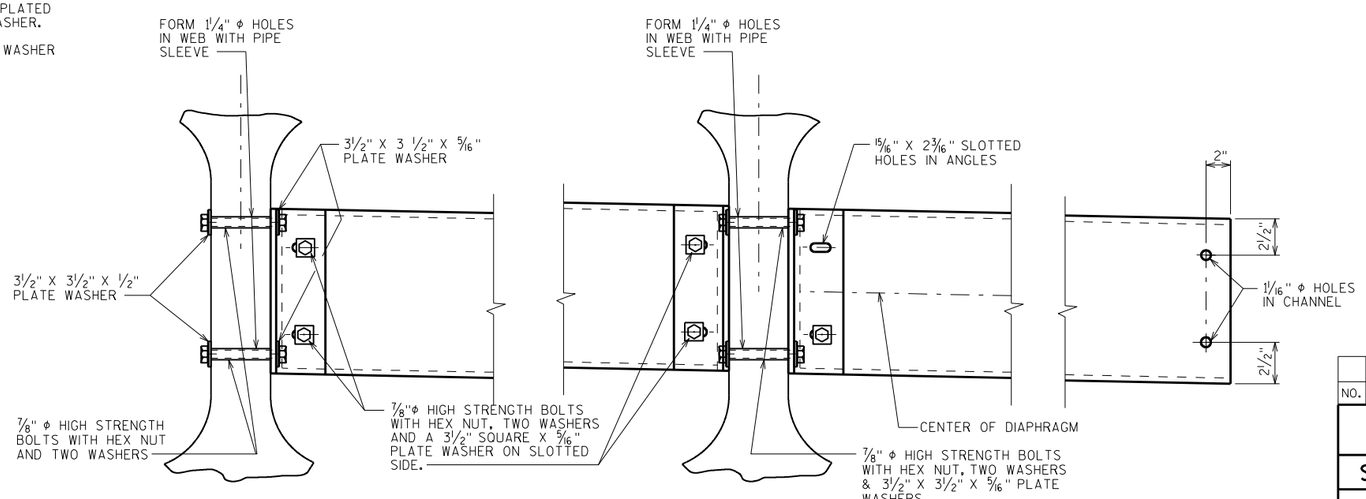


SECTION THRU ALTERNATE DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

STEEL DIAPHRAGM

SHEET 16

164

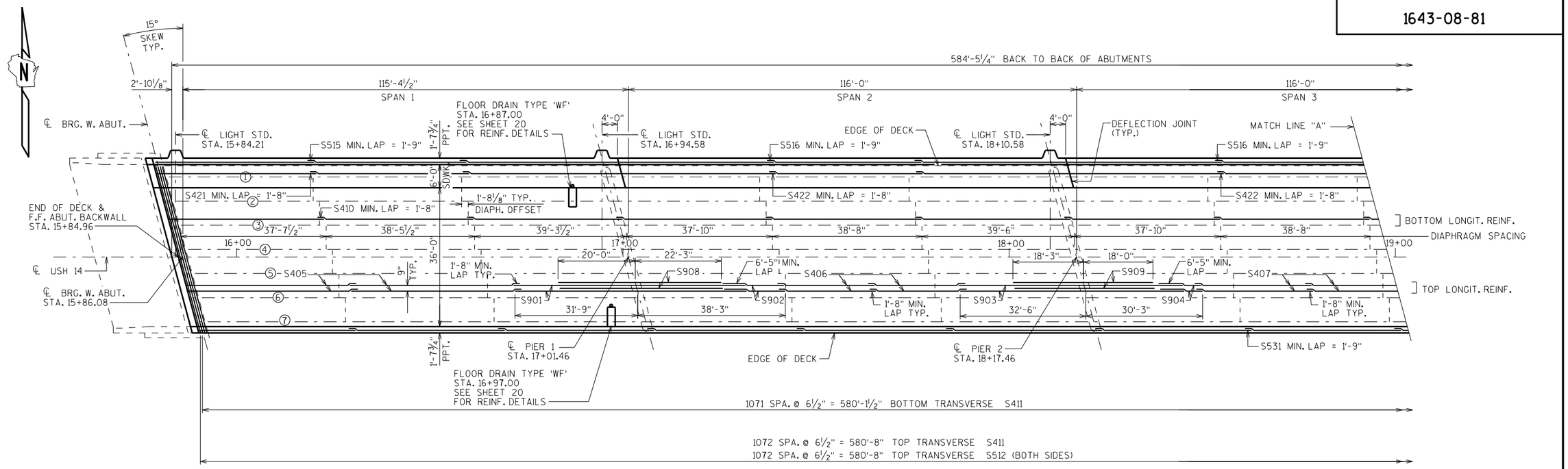
8

8

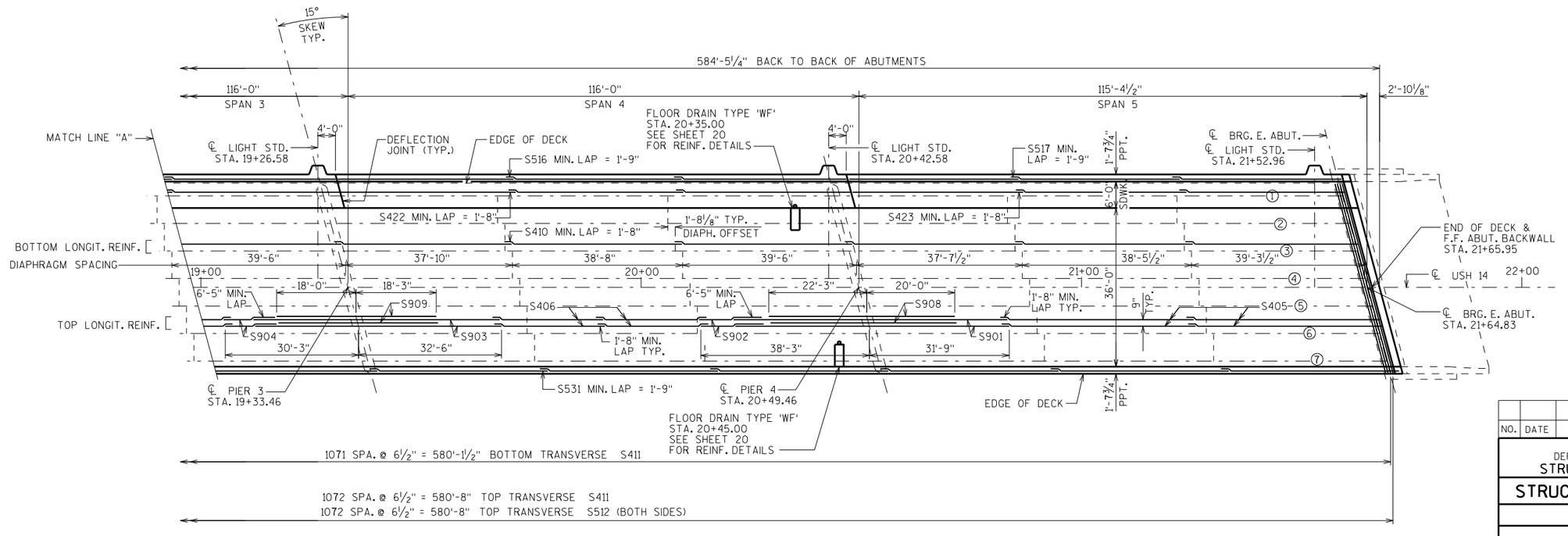
SCALE =

STATE PROJECT NUMBER

1643-08-81



DECK REINFORCEMENT PLAN



DECK REINFORCEMENT PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

SUPERSTRUCTURE PLAN

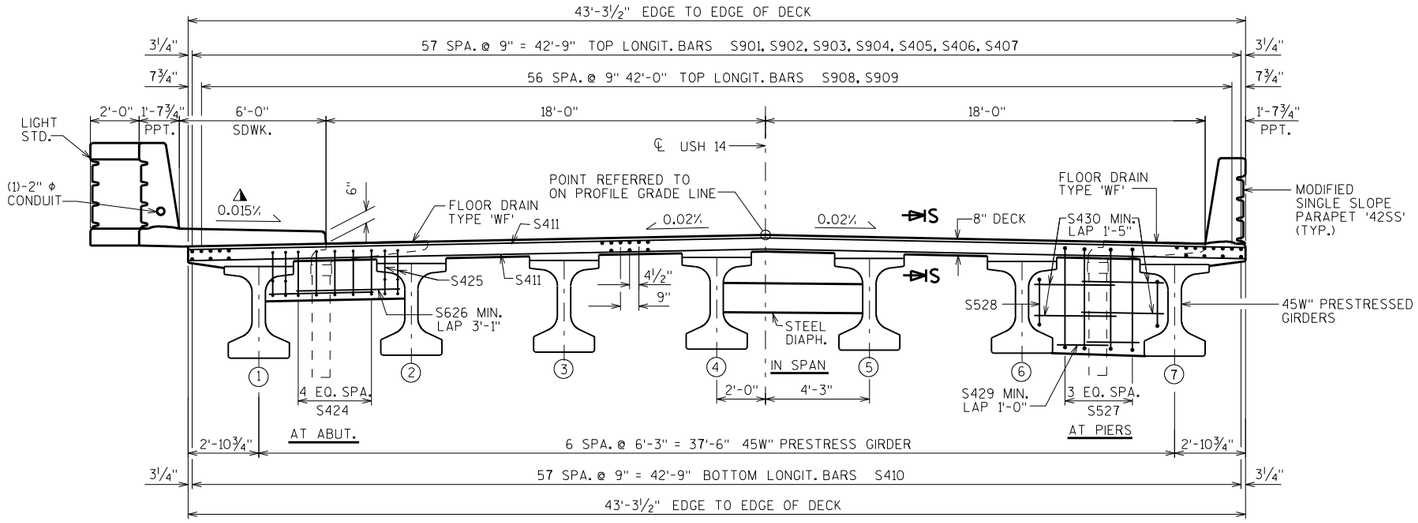
SHEET 17

165

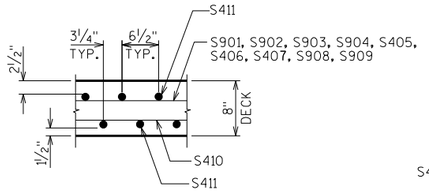
SCALE =

STATE PROJECT NUMBER

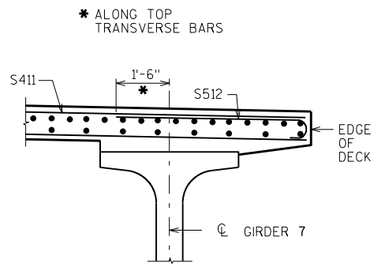
1643-08-81



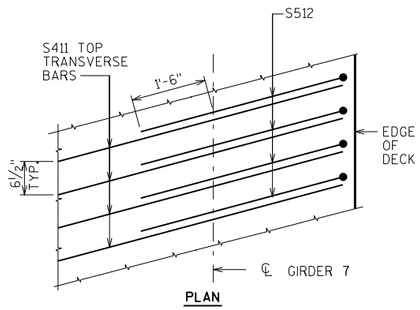
CROSS SECTION LOOKING EAST



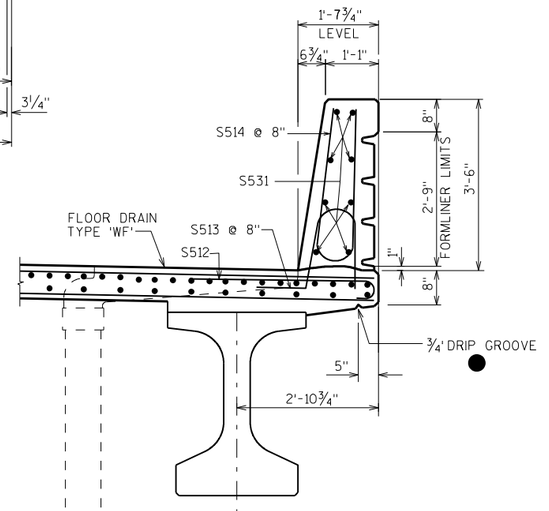
SECTION S-S



SECTION



PLAN

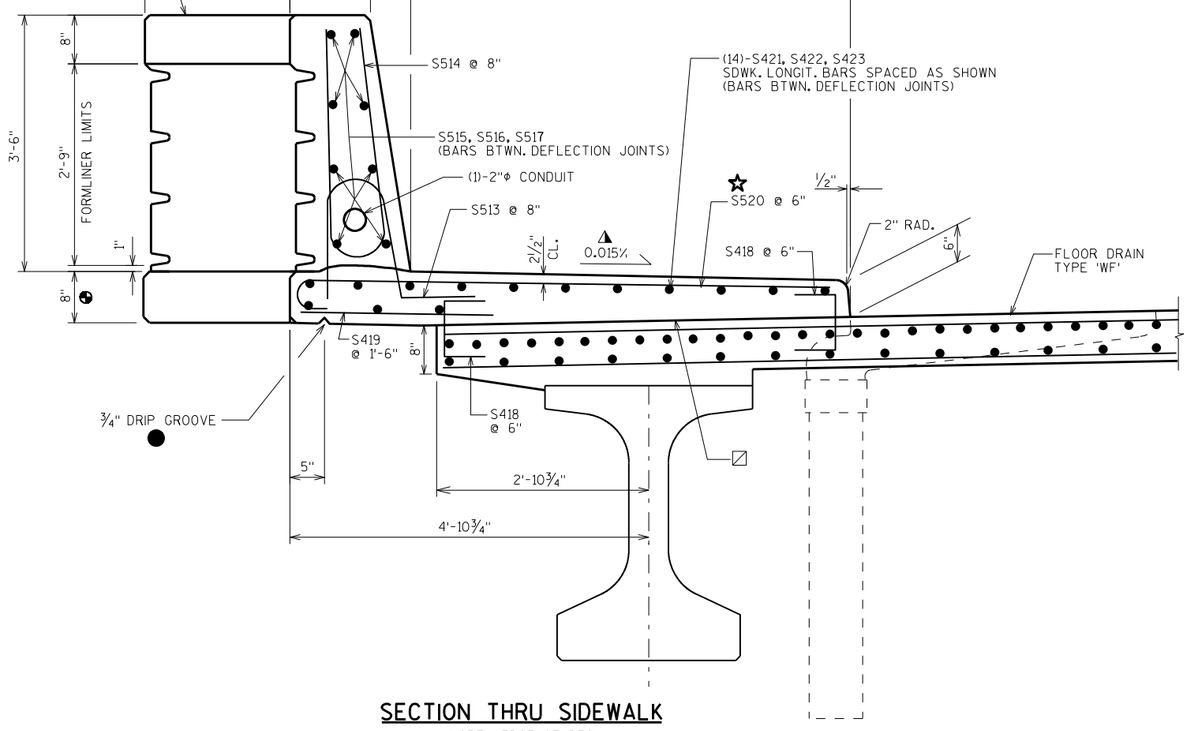


SECTION THRU PARAPET

(SOUTH EDGE OF DECK)

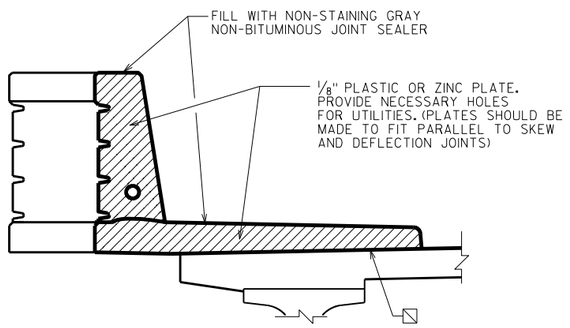
ADDITIONAL REINF. DETAIL

(SHOWING TOP TRANSVERSE STEEL ONLY, PARAPET NOT SHOWN FOR CLARITY)



SECTION THRU SIDEWALK

(NORTH EDGE OF DECK)



DEFLECTION JOINT DETAILS

NOTES:

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN IN THE "DEFLECTION JOINT DETAIL". IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINTS SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

◔ 8" MIN. SIDEWALK THICKNESS ALSO REQ'D AT THE EDGE OF DECK/SLAB

☒ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◭ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

● 3/4" V-GROOVE. TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS. V-GROOVES ARE REQ'D.

☆ PLACE TRANSVERSE SIDEWALK BARS PARALLEL WITH SKEW AND DEFLECTION JOINTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

SUPERSTRUCTURE CROSS SECTION

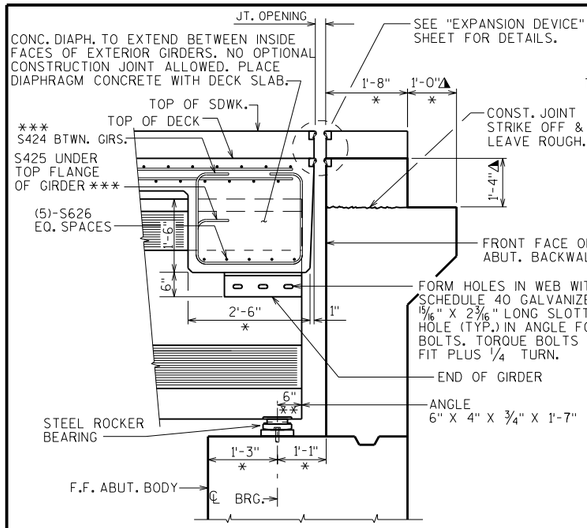
SHEET 18

166

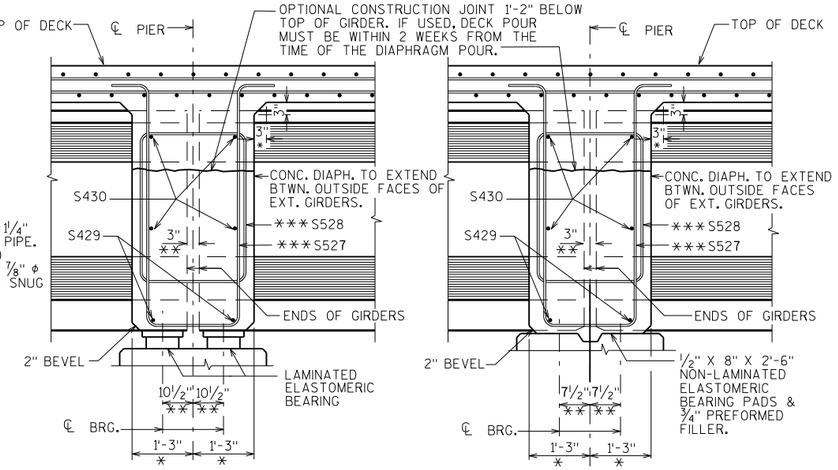
8

8

SCALE =



AT ABUTMENT



AT PIERS 1 & 4

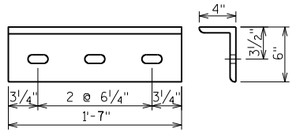
AT PIERS 2 & 3

PART. LONGITUDINAL SECTION

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS GIVEN PARALLEL TO ℄ GIRDERS

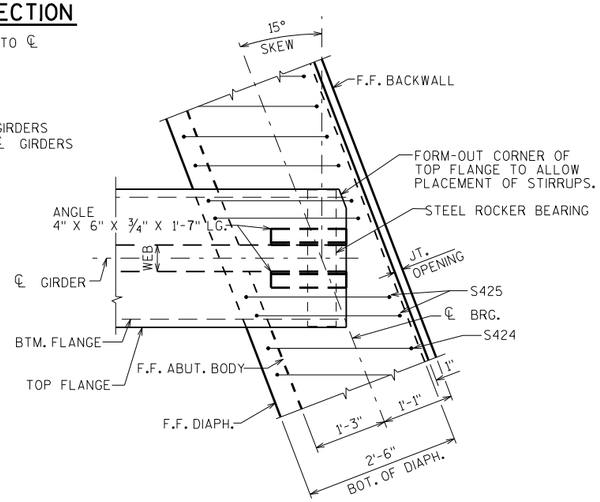
*** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS



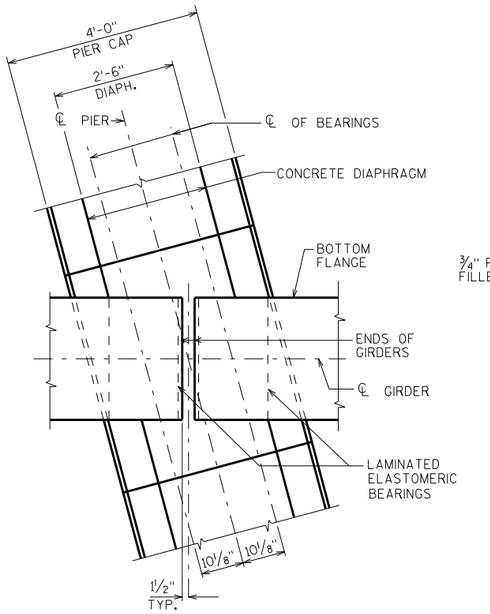
ANGLE

6" X 4" X ¾" X 1'-7"

PROVIDE 3½" X 3½" X 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" X 3½" X ½" PLATE WASHERS SHALL BE PROVIDED.

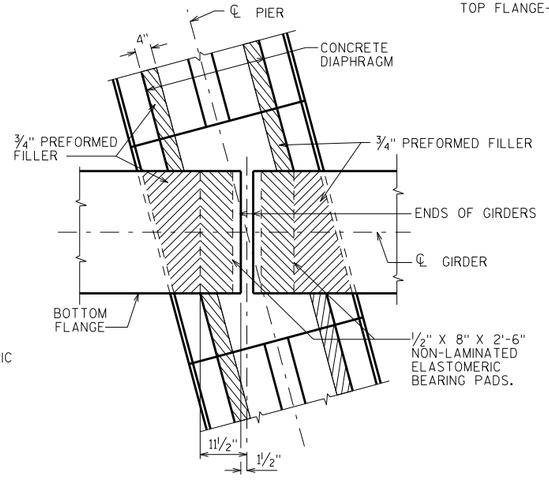


TOP VIEW OF ABUT. DIAPHRAGM



LAMINATED ELASTOMERIC BEARING DETAILS

AT PIERS 1 & 4



NON-LAMINATED BEARING PADS AND FILLER DETAILS

AT PIERS 2 & 3

NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

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

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

TOP OF DECK ELEVATIONS

	W. ABUT	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER 1
LEOD	751.66	751.89	752.12	752.34	752.56	752.77	752.97	753.16	753.34	753.51	753.67
GIR 1	751.73	751.96	752.19	752.41	752.63	752.84	753.04	753.23	753.41	753.58	753.74
GIR 2	751.89	752.12	752.35	752.57	752.79	753.00	753.19	753.38	753.56	753.73	753.89
GIR 3	752.04	752.27	752.50	752.73	752.94	753.15	753.35	753.53	753.71	753.88	754.03
CROWN	752.25	752.48	752.71	752.94	753.15	753.35	753.55	753.73	753.91	754.07	754.23
GIR 4	752.20	752.43	752.66	752.89	753.10	753.30	753.50	753.68	753.86	754.03	754.18
GIR 5	752.19	752.42	752.65	752.87	753.09	753.29	753.48	753.67	753.84	754.00	754.16
GIR 6	752.10	752.33	752.56	752.78	752.99	753.19	753.38	753.57	753.74	753.90	754.06
GIR 7	752.01	752.24	752.47	752.69	752.90	753.10	753.29	753.47	753.64	753.80	753.95
REOD	751.99	752.22	752.45	752.67	752.88	753.08	753.27	753.45	753.62	753.78	753.93

	PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER 2
LEOD	753.67	753.83	753.97	754.10	754.23	754.34	754.44	754.54	754.62	754.70	754.76
GIR 1	753.74	753.89	754.03	754.17	754.29	754.40	754.51	754.60	754.68	754.76	754.82
GIR 2	753.89	754.04	754.18	754.31	754.43	754.54	754.65	754.74	754.82	754.89	754.95
GIR 3	754.03	754.18	754.32	754.45	754.57	754.68	754.78	754.87	754.95	755.03	755.09
CROWN	754.23	754.38	754.51	754.64	754.76	754.87	754.97	755.06	755.13	755.20	755.26
GIR 4	754.18	754.33	754.47	754.60	754.72	754.82	754.92	755.01	755.09	755.16	755.22
GIR 5	754.16	754.31	754.44	754.57	754.69	754.79	754.89	754.98	755.06	755.12	755.18
GIR 6	754.06	754.20	754.34	754.46	754.58	754.68	754.78	754.87	754.94	755.01	755.06
GIR 7	753.95	754.10	754.23	754.35	754.47	754.57	754.67	754.75	754.83	754.89	754.95
REOD	753.93	754.08	754.21	754.33	754.45	754.55	754.65	754.73	754.80	754.87	754.92

	PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER 3
LEOD	754.76	754.81	754.86	754.89	754.92	754.93	754.94	754.93	754.92	754.89	754.86
GIR 1	754.82	754.87	754.92	754.95	754.98	754.99	754.99	754.97	754.95	754.91	
GIR 2	754.95	755.01	755.05	755.08	755.10	755.12	755.12	755.11	755.10	755.07	755.03
GIR 3	755.09	755.14	755.18	755.21	755.23	755.24	755.24	755.24	755.22	755.19	755.15
CROWN	755.26	755.31	755.35	755.38	755.40	755.41	755.41	755.40	755.38	755.35	755.31
GIR 4	755.22	755.27	755.31	755.34	755.36	755.37	755.37	755.36	755.34	755.31	755.27
GIR 5	755.18	755.23	755.27	755.30	755.32	755.32	755.32	755.31	755.29	755.26	755.22
GIR 6	755.06	755.11	755.15	755.17	755.19	755.20	755.20	755.18	755.16	755.13	755.09
GIR 7	754.95	754.99	755.03	755.05	755.07	755.07	755.07	755.06	755.03	755.00	754.96
REOD	754.92	754.97	755.00	755.03	755.04	755.05	755.05	755.03	755.01	754.97	754.93

	PIER 3	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER 4
LEOD	754.86	754.82	754.76	754.70	754.62	754.54	754.45	754.34	754.23	754.11	753.97
GIR 1	754.91	754.87	754.81	754.75	754.68	754.59	754.50	754.39	754.28	754.16	754.02
GIR 2	755.03	754.99	754.93	754.86	754.79	754.70	754.61	754.50	754.39	754.26	754.13
GIR 3	755.15	755.10	755.05	754.98	754.90	754.81	754.72	754.61	754.49	754.37	754.23
CROWN	755.31	755.26	755.20	755.13	755.05	754.96	754.86	754.75	754.64	754.51	754.37
GIR 4	755.27	755.22	755.16	755.09	755.02	754.93	754.83	754.72	754.60	754.47	754.34
GIR 5	755.22	755.17	755.11	755.04	754.96	754.87	754.77	754.66	754.54	754.41	754.27
GIR 6	755.09	755.04	754.97	754.90	754.82	754.73	754.63	754.52	754.40	754.26	754.12
GIR 7	754.96	754.90	754.84	754.77	754.68	754.59	754.49	754.37	754.25	754.12	753.98
REOD	754.93	754.88	754.81	754.74	754.66	754.56	754.46	754.35	754.22	754.09	753.95

	PIER 4	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	E. ABUT.
LEOD	753.97	753.83	753.68	753.52	753.35	753.17	752.98	752.78	752.57	752.36	752.13
GIR 1	754.02	753.88	753.73	753.57	753.40	753.22	753.03	752.83	752.62	752.40	752.17
GIR 2	754.13	753.98	753.83	753.67	753.50	753.31	753.12	752.92	752.71	752.49	752.26
GIR 3	754.23	754.09	753.93	753.77	753.59	753.41	753.22	753.02	752.80	752.58	752.35
CROWN	754.37	754.22	754.07	753.90	753.73	753.54	753.35	753.14	752.93	752.70	752.47
GIR 4	754.34	754.19	754.03	753.87	753.69	753.51	753.31	753.11	752.90	752.67	752.44
GIR 5	754.27	754.12	753.97	753.80	753.62	753.44	753.24	753.04	752.82	752.60	752.36
GIR 6	754.12	753.98	753.82	753.65	753.47	753.28	753.09	752.88	752.66	752.44	752.20
GIR 7	753.98	753.83	753.67	753.50	753.32	753.13	752.93	752.72	752.51	752.28	752.05
REOD	753.95	753.80	753.64	753.47	753.29	753.10	752.90	752.69	752.47	752.25	752.01

STATE PROJECT NUMBER

1643-08-81

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

SUPERSTRUCTURE DETAILS 1

SHEET 19

167

SCALE = 1.5

8

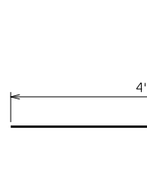
8

STATE PROJECT NUMBER
1643-08-81

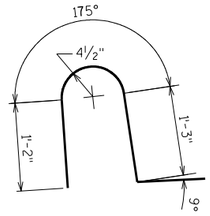
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S901	X	116	60'-0"			DECK TOP-CONTINUITY-OVER PIERS 1 & 4
S902	X	116	16'-5"			DECK TOP-CONTINUITY-OVER PIERS 1 & 4
S903	X	116	58'-0"			DECK TOP-CONTINUITY-OVER PIERS 2 & 3
S904	X	116	11'-2"			DECK TOP-CONTINUITY-OVER PIERS 2 & 3
S405	X	232	44'-1"			DECK TOP-LONGIT.-SPANS 1& 5
S406	X	232	25'-2"			DECK TOP-LONGIT.-SPANS 2 & 4
S407	X	116	30'-3"			DECK TOP-LONGIT.-SPAN 3
S908	X	114	42'-3"			DECK TOP-CONTINUITY-OVER PIERS 1 & 4
S909	X	114	36'-3"			DECK TOP-CONTINUITY-OVER PIERS 2 & 3
S410	X	870	40'-4"			DECK BOTTOM-LONGIT.
S411	X	2145	44'-6"			DECK TRANSVERSE TOP & BOT.
S512	X	1073	5'-1"	X		DECK TRANSVERSE-TOP EDGE
S513	X	1748	4'-5"	X		PPT. VERT.
S514	X	1748	6'-8"	X		PPT. VERT.
S515	X	24	41'-2"			PPT. HORIZ.-SPAN 1-NORTH EDGE
S516	X	72	39'-11			PPT. HORIZ.-SPAN 2,3,4-NORTH EDGE
S517	X	24	38'-5"			PPT.HORIZ.-SPAN 5-NORTH EDGE
S418	X	2332	2'-6"	X		SDWK. VERT.
S419	X	392	2'-10"			SDWK. HORIZ.
S520	X	1166	8'-1"	X		SDWK. HORIZ.
S421	X	42	41'-3"			SDWK. HORIZ. SPAN 1
S422	X	126	39'-9"			SDWK. HORIZ. SPAN 2,3,4
S423	X	42	38'-9"			SDWK. HORIZ. SPAN 5
S424	X	60	6'-10"	X		ABUT. DIAPH.-VERT.
S425	X	48	5'-9"	X		ABUT. DIAPH.-VERT.
S626	X	120	4'-6"			ABUT. DIAPH.-HORIZ.
S527	X	96	11'-9"	X		PIER DIAPH.-VERT.
S528	X	48	9'-8"	X		PIER DIAPH.-VERT.
S429	X	96	2'-6"			PIER DIAPH.-HORIZ.
S430	X	192	3'-8"			PIER DIAPH.-HORIZ.
S531	X	120	40'-5"			PPT. HORIZ. ALL SPANS SOUTH EDGE
S532	X	28	5'-0"			AT DRAINS-HORIZ.
S933	X	56	18'-2"			AT DRAINS-HORIZ.
S434	X	16	6'-6"			AT DRAINS-HORIZ.



S512



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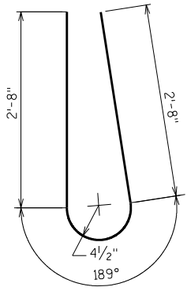

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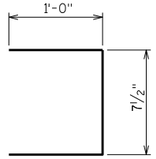

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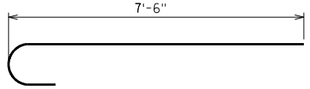

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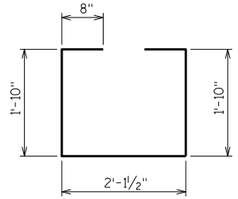
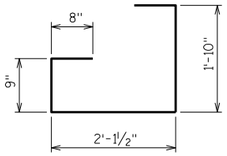


S424



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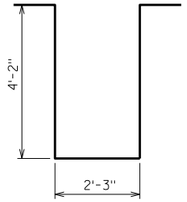
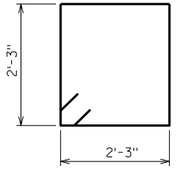


S527



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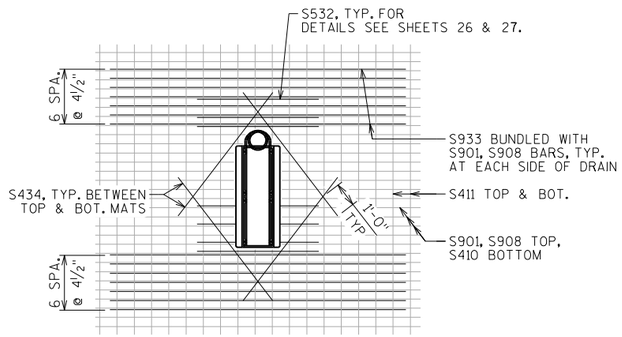
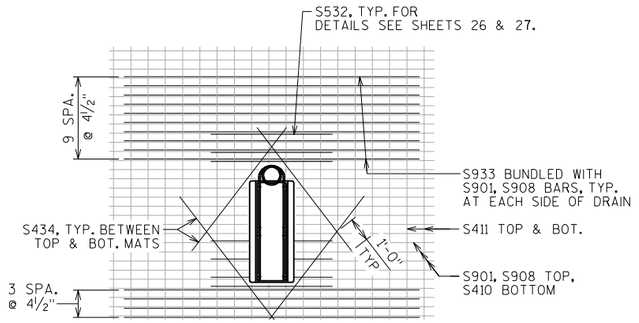


FLOOR DRAIN REINFORCING DETAIL (AT SIDEWALK)

CUT TRANSVERSE AND LONGITUDINAL BARS AROUND DRAIN AS REQ'D. PROVIDE 1" CLEAR BETWEEN DRAIN AND CUT BAR.



FLOOR DRAIN REINFORCING DETAIL (AT PARAPET)

CUT TRANSVERSE AND LONGITUDINAL BARS AROUND DRAIN AS REQ'D. PROVIDE 1" CLEAR BETWEEN DRAIN AND CUT BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

SUPERSTRUCTURE DETAILS 2

SHEET 20

168

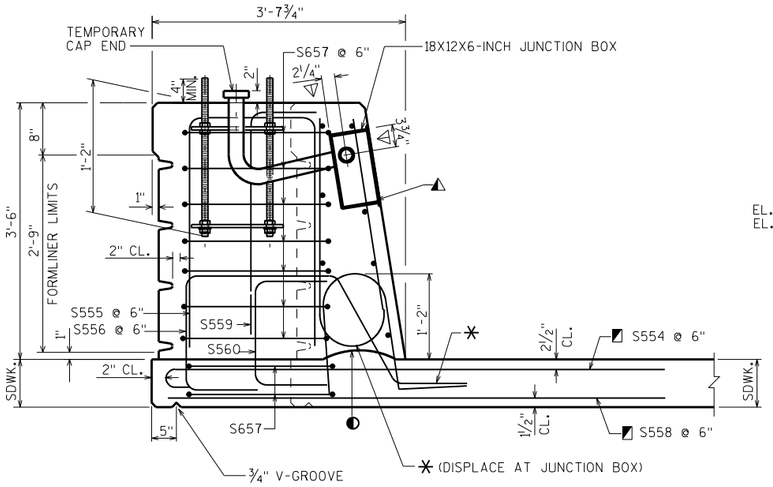
SCALE =

8

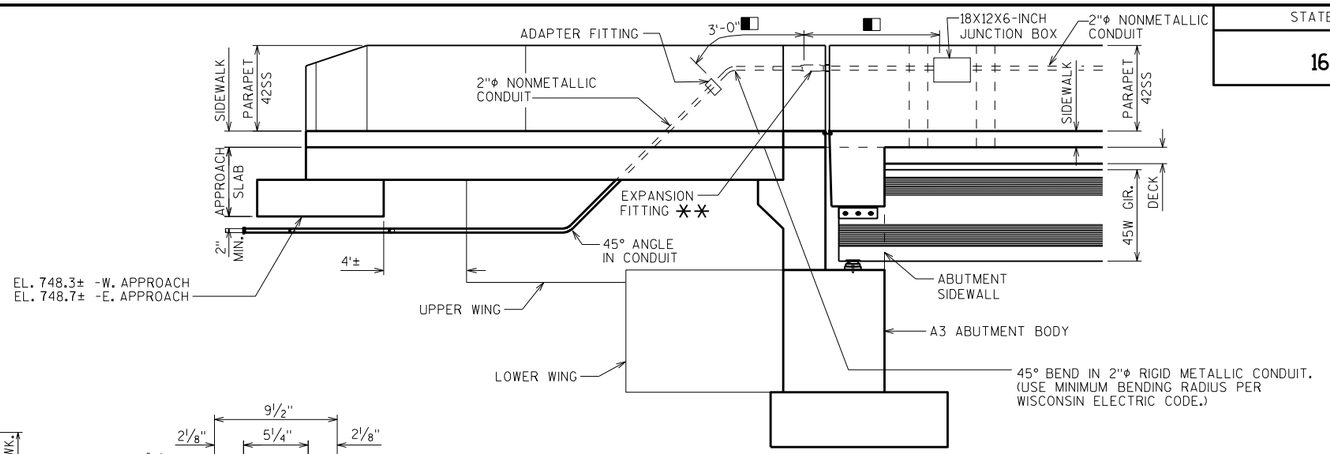
8

STATE PROJECT NUMBER

1643-08-81



SECTION A-A



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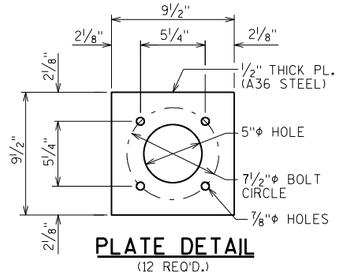
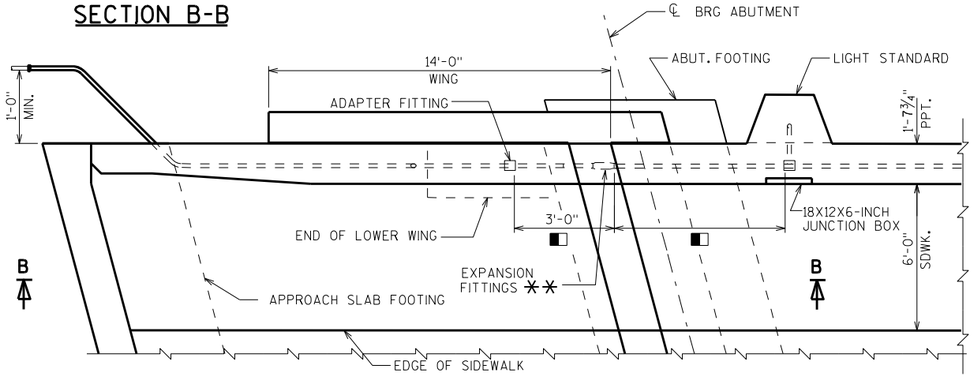


PLATE DETAIL

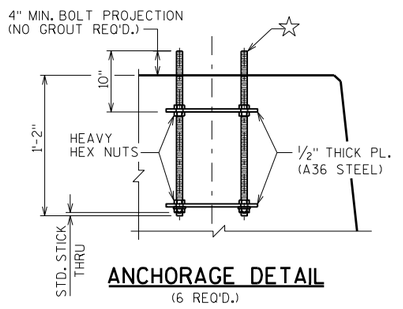
(12 REQ'D.)



PLAN OF APPROACH SLAB AND WING 2

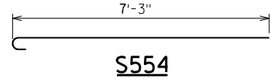
SHOWING CONDUIT - WING 3 SIMILAR

PLAN AT LIGHT STANDARD

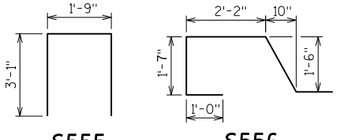


ANCHORAGE DETAIL

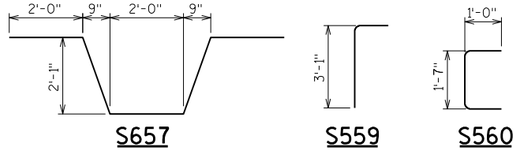
(6 REQ'D.)



S554



S555 S556



S657 S559 S560

- ■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON WING SIDE OF THE JOINT OPENING AND TO FIRST JUNCTION BOX ON THE BRIDGE SIDE.
- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ✳ SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- ☆ ¾"ϕ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

** APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S554	X	60	7-10	X		SDWK. TRANSV. @ LIGHT STD.
S555	X	24	7-8	X		PARAPET VERT. @ LIGHT STD.
S556	X	24	7-0	X		PARAPET VERT. @ LIGHT STD.
S657	X	54	10-0	X		PARAPET HORIZ. @ LIGHT STD.
S558	X	60	7-3			SDWK. TRANSV. @ LIGHT STD.
S559	X	12	4-0	X		PARAPET VERT. @ LIGHT STD.
S560	X	12	3-4	X		PARAPET VERT. @ LIGHT STD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

LIGHTING & CONDUIT DETAILS

SHEET 21

169

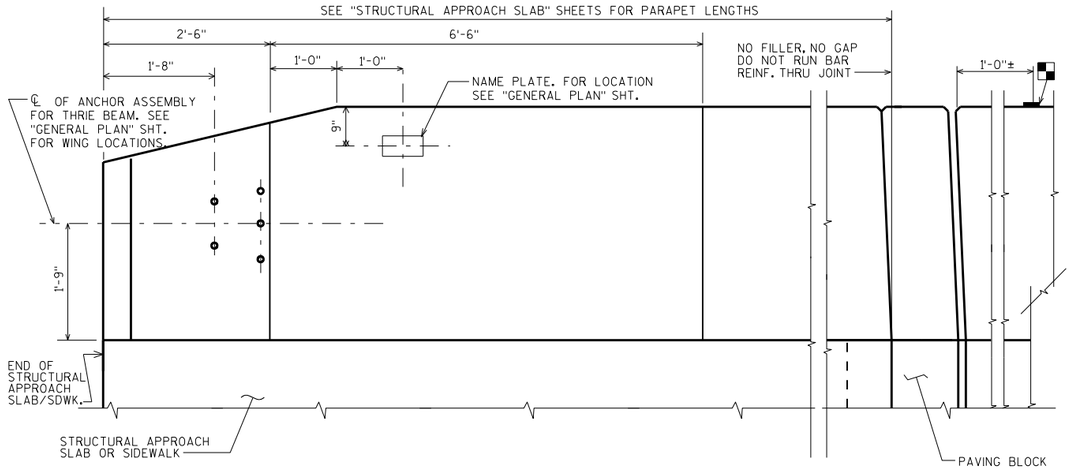
SCALE =

8

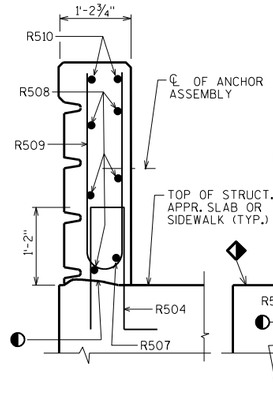
8

STATE PROJECT NUMBER

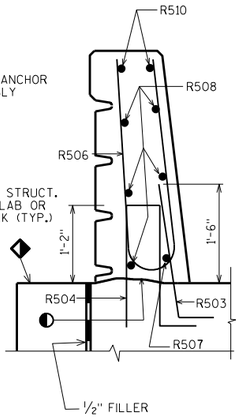
1643-08-81



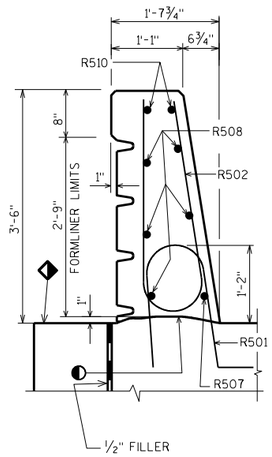
INSIDE ELEVATION



SECTION A



SECTION B



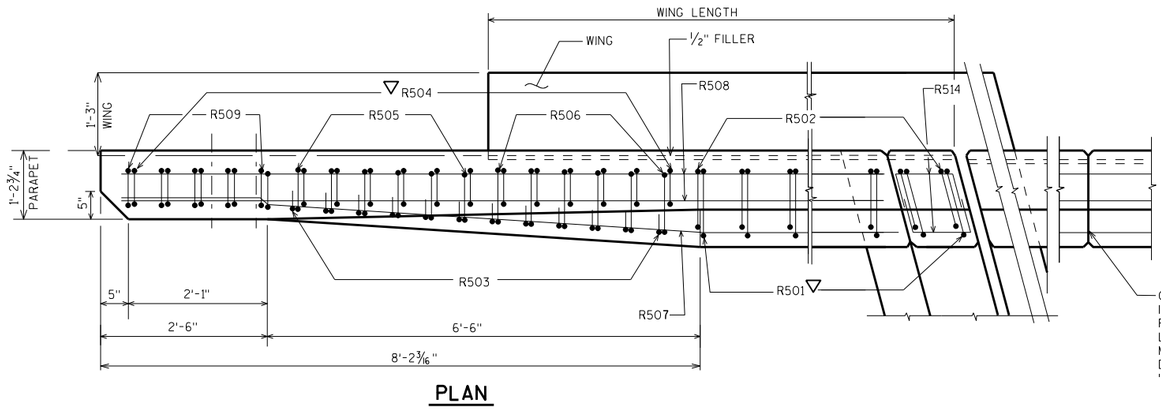
SECTION C

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	COAT	WEST APPR.	EAST APPR.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	40	40	4-5	X		PARAPET VERT.
R502	X	40	40	6-8	X		PARAPET VERT.
R503	X	22	22	2-9	X		PARAPET VERT.
R504	X	34	34	4-4	X		PARAPET VERT.
R505	X	10	10	6-5	X		PARAPET VERT.
R506	X	12	12	6-6	X		PARAPET VERT.
R507	X	2	2	19-3	X		PARAPET HORIZ.
R508	X	10	10	19-3			PARAPET HORIZ.
R509	X	12	12	5-5	X	▲	PARAPET VERT.
R510	X	4	4	19-4	X		PARAPET HORIZ.
R514	X	16	16	1-5	X		PARAPET HORIZ.

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



PLAN

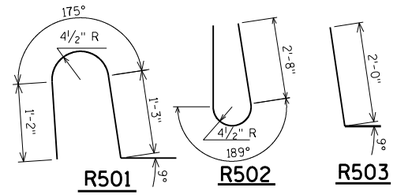
- BENCH MARK CAP (WHEN SUPPLIED).
- CONST. JOINT - STRIKE OFF AS SHOWN.
- SLOPE FOR DRAINAGE
- R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

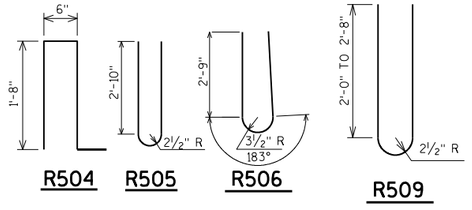
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.

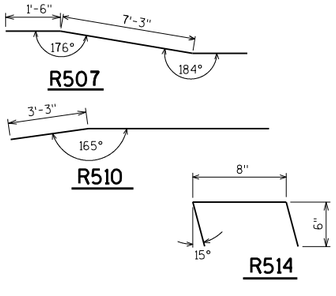
BAR SERIES TABLE

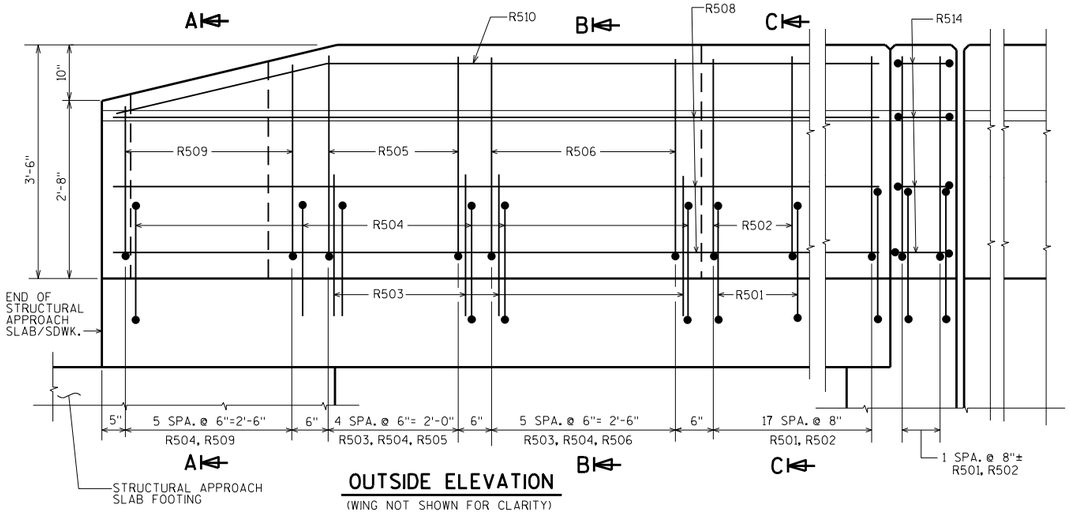
MARK	NO. REQD.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



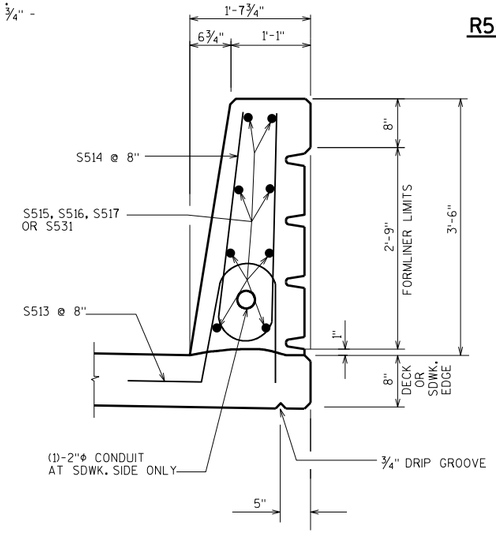






OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



SECTION THRU PARAPET ON DECK OR SIDEWALK

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

SINGLE SLOPE PARAPET 42SS MODIFIED

SHEET 22

170

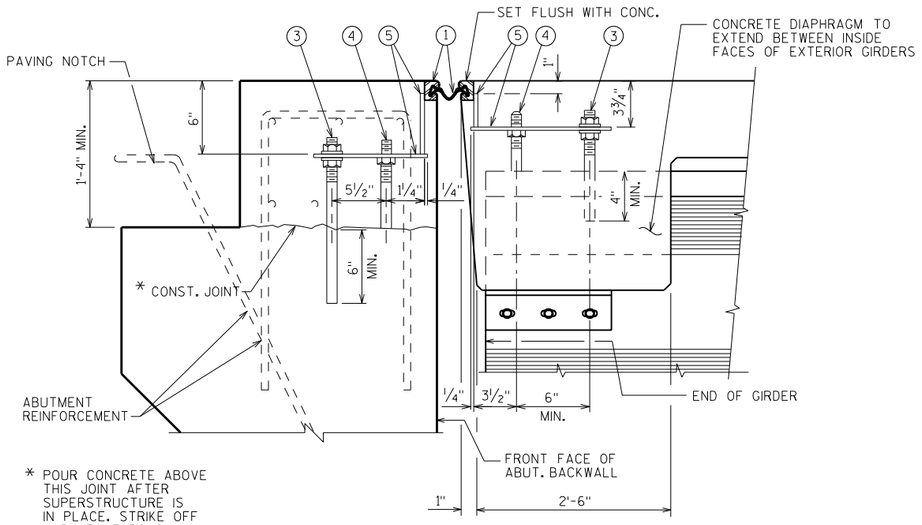
SCALE = 1

8

8

STATE PROJECT NUMBER

1643-08-81



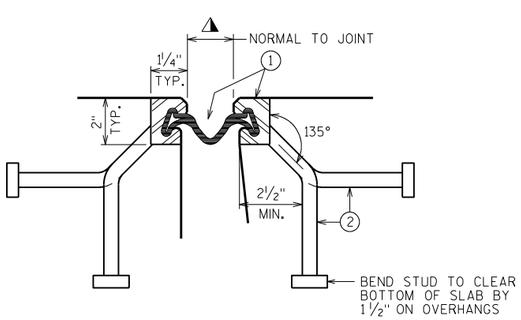
* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

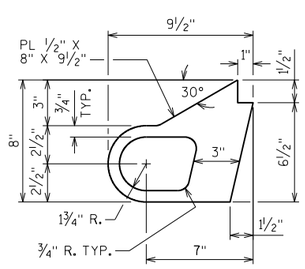
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS 5/8"Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
7. 3/4"Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4"Φ X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
11. SIDEWALK COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

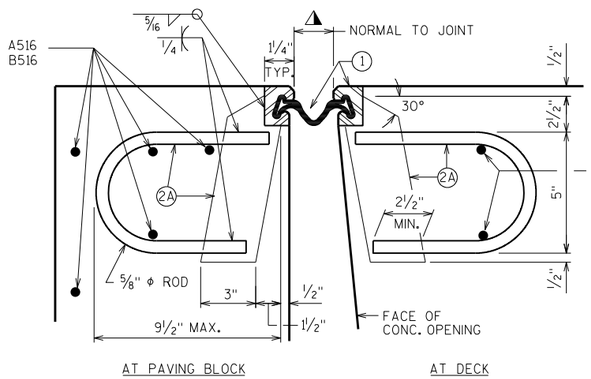


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

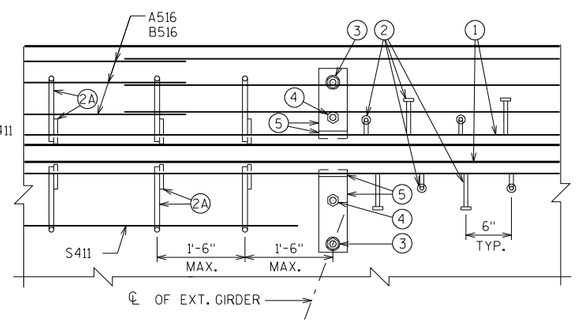


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

AT PARAPET, SIDEWALK SIMILAR

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-62-45".

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMAL TO JT.)
85°	2 5/8"
75°	2 3/8"
65°	2 1/8"
55°	2"
45°	1 3/4"
35°	1 1/2"
25°	1 3/8"
15°	1 1/8"
5°	7/8"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

EXPANSION DEVICE

SHEET 23

171

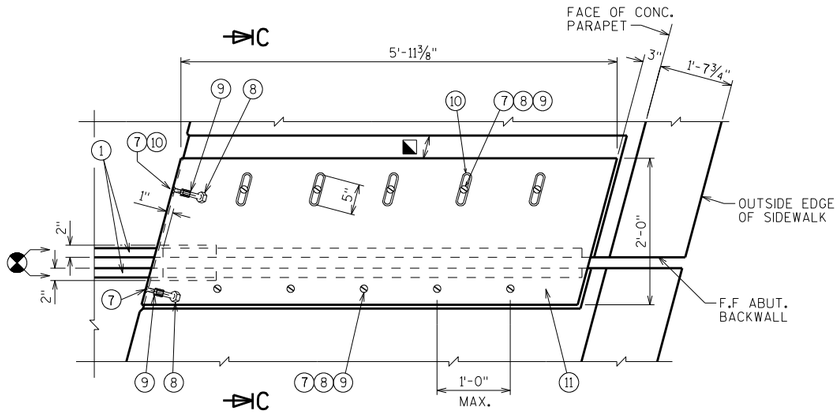
8

8

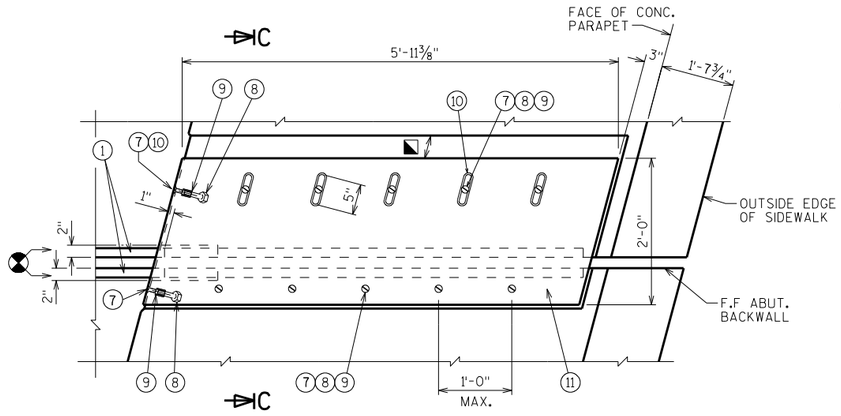
SCALE =

STATE PROJECT NUMBER

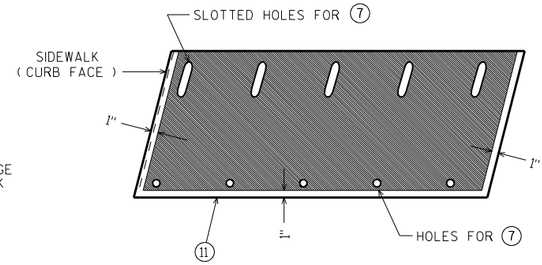
1643-08-81



PLAN AT SIDEWALK
(SHOWING JOINT AT WEST ABUTMENT)

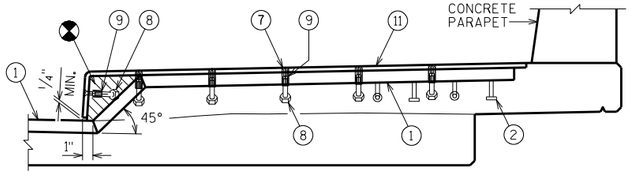


PLAN AT SIDEWALK
(SHOWING JOINT AT EAST ABUTMENT)

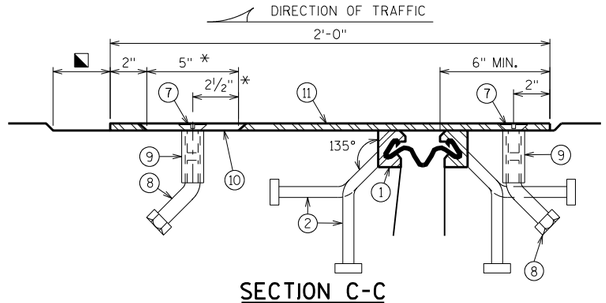


PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE ●
(PLATE AT WEST ABUTMENT SHOWN, PLATE AT EAST ABUTMENT SIMILAR)

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170



SECTION AT SIDEWALK



SECTION C-C
* DIMENSION ALONG DIRECTION OF MOVEMENT

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

(11) SIDEWALK COVER PLATE ⅜" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

● PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

COVER PLATE DETAILS 1

SHEET 24

172

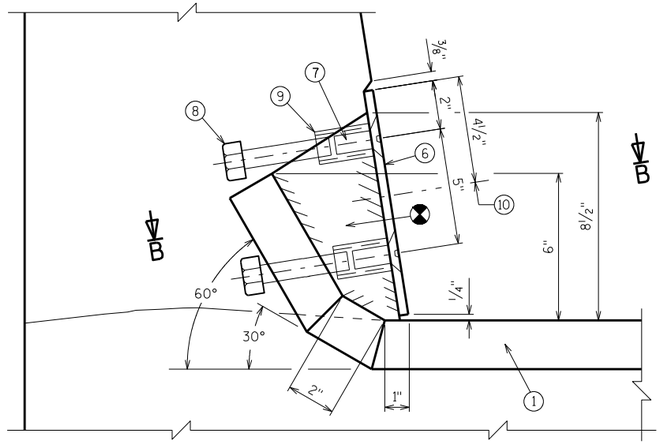
8

8

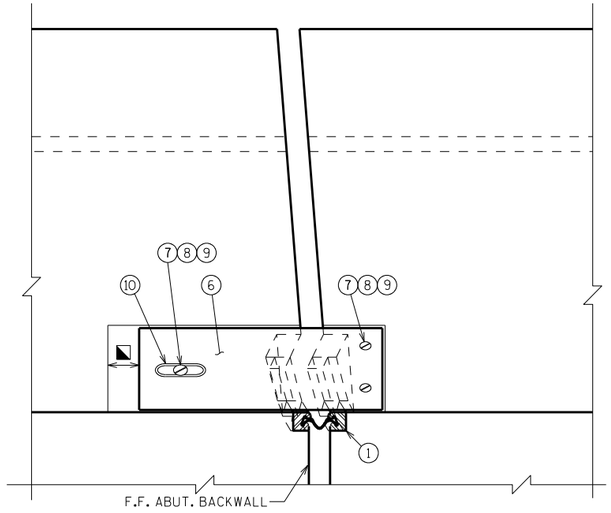
SCALE =

STATE PROJECT NUMBER

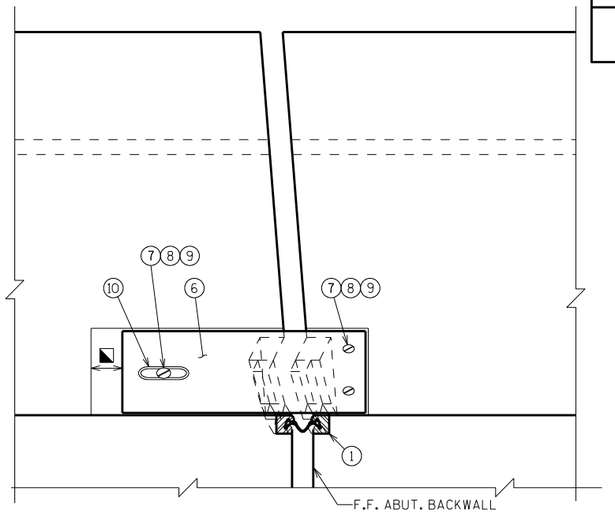
1643-08-81



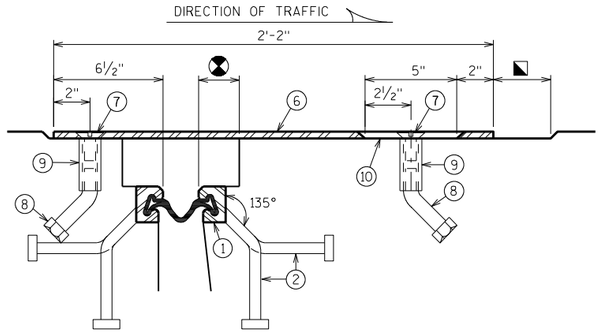
SECTION A-A



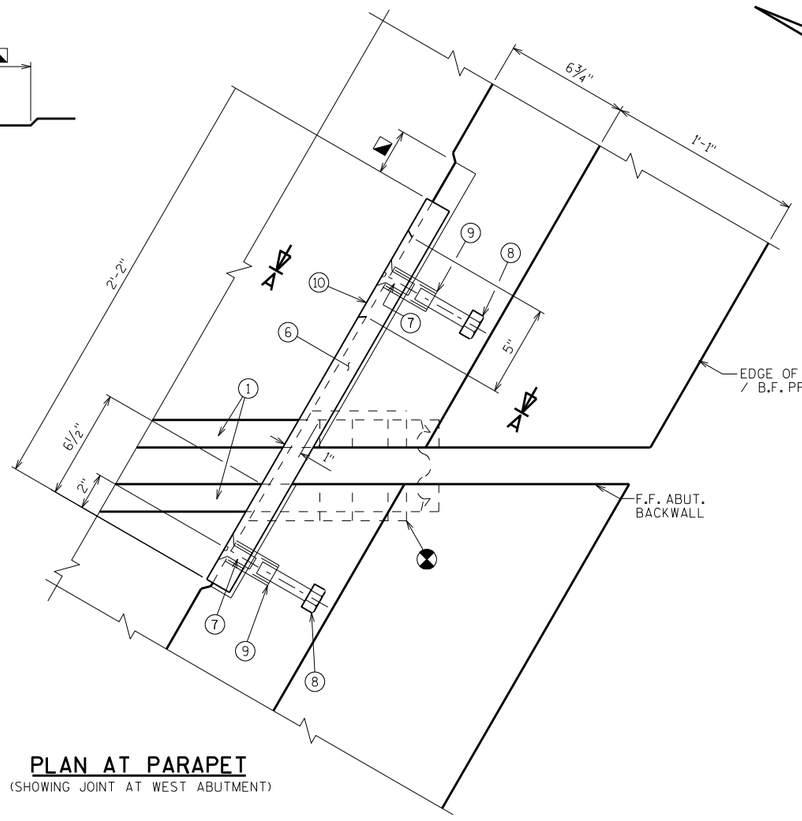
VIEW OF PARAPET PLATE FROM ROADWAY
(SHOWING JOINT AT EAST ABUTMENT)



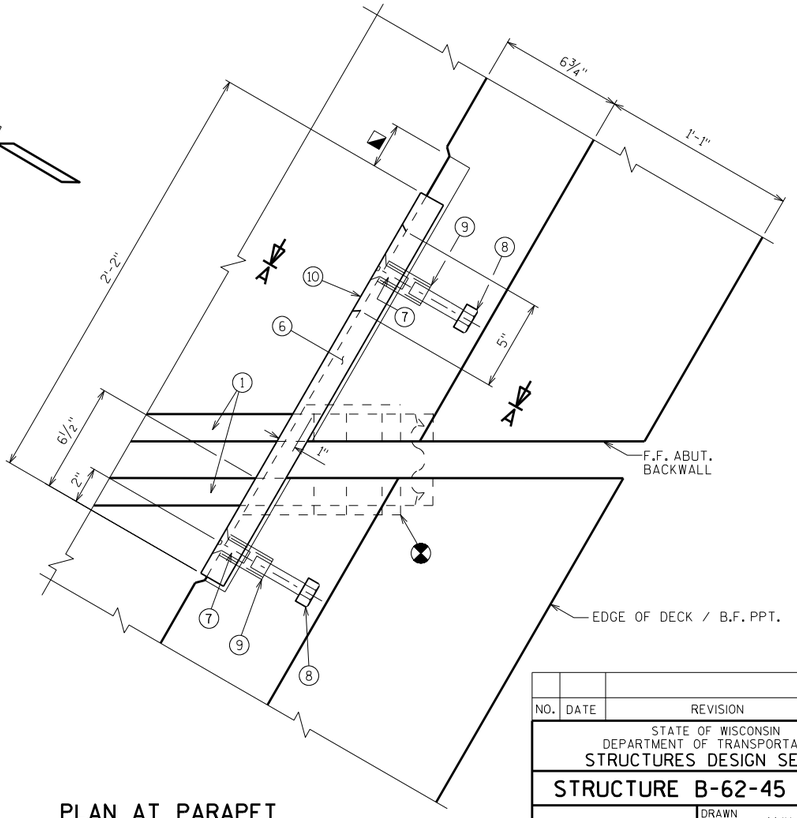
VIEW OF PARAPET PLATE FROM ROADWAY
(SHOWING JOINT AT WEST ABUTMENT)



SECTION B-B



PLAN AT PARAPET
(SHOWING JOINT AT WEST ABUTMENT)



PLAN AT PARAPET
(SHOWING JOINT AT EAST ABUTMENT)

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

SEE 'EXPANSION DEVICE' SHEET FOR LEGEND.

NOTE: INSTALL PARAPET COVER PLATES ON PARAPET ON DECK. DO NOT INSTALL PARAPET COVER PLATES ON PARAPET ON RAISED SIDEWALK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY MJH | PLANS CK'D. BLB

COVER PLATE DETAILS 2

SHEET 25

173

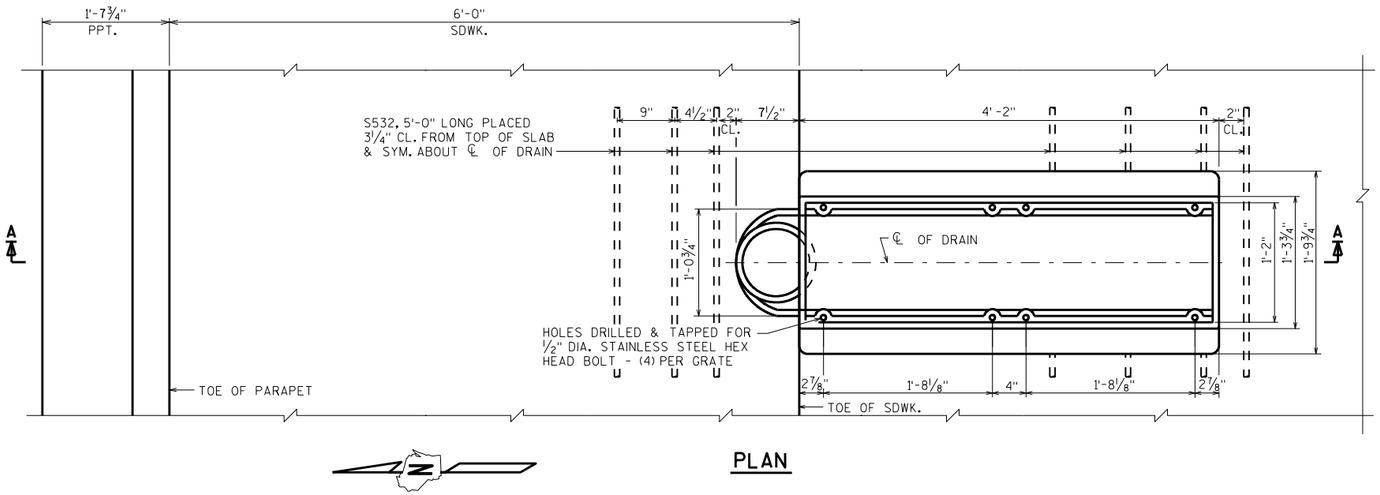
8

8

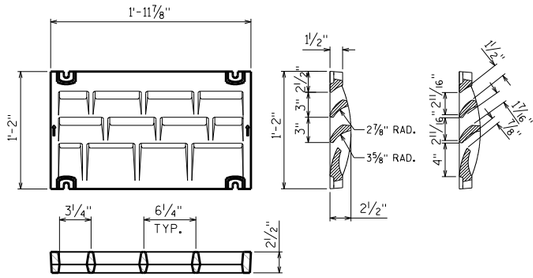
SCALE =

STATE PROJECT NUMBER

1693-08-81



PLAN



GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

GENERAL NOTES

ALL MATERIAL FOR TYPE 'WF' CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

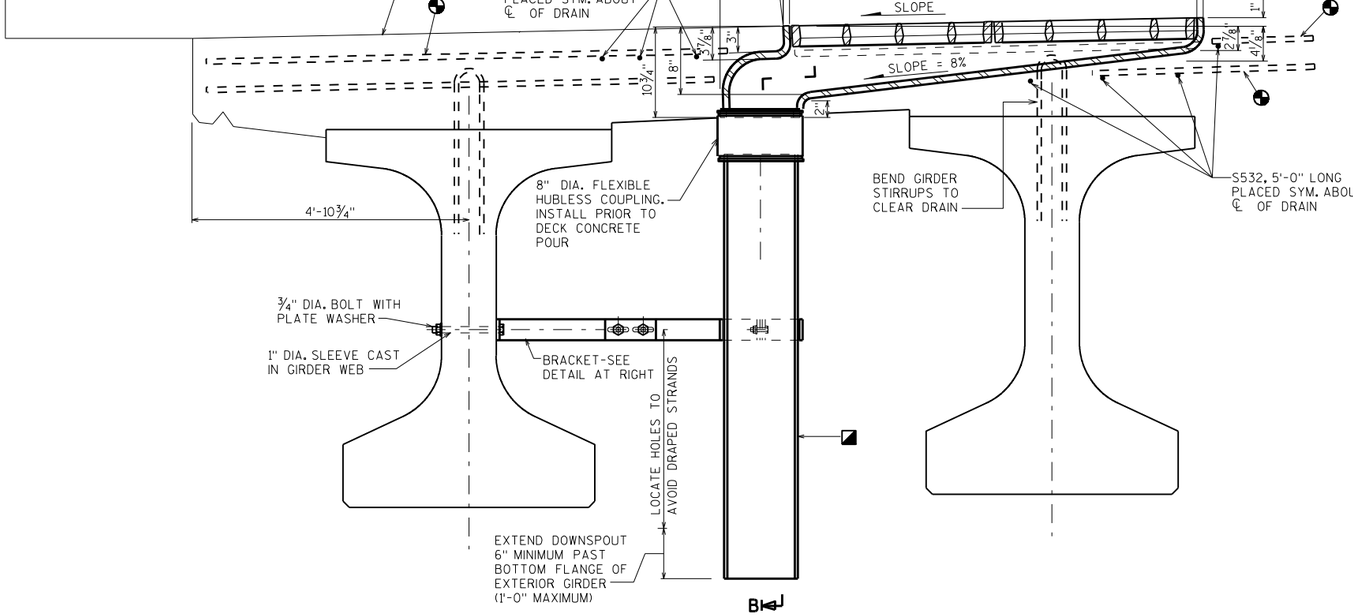
MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

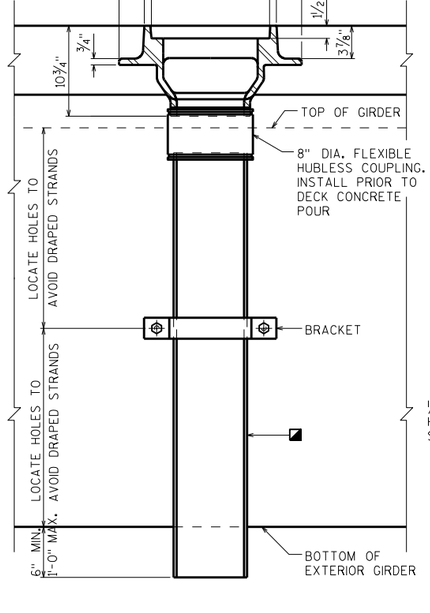
◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

◔ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

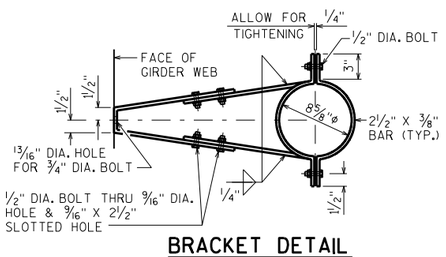
SEE "SUPERSTRUCTURE PLAN" SHEET FOR DRAIN LOCATIONS.



SECTION A-A



SECTION B-B



BRACKET DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY WWR | PLANS CK'D. BLB

FLOOR DRAIN TYPE 'WF' AT SIDEWALK

SHEET 26

174

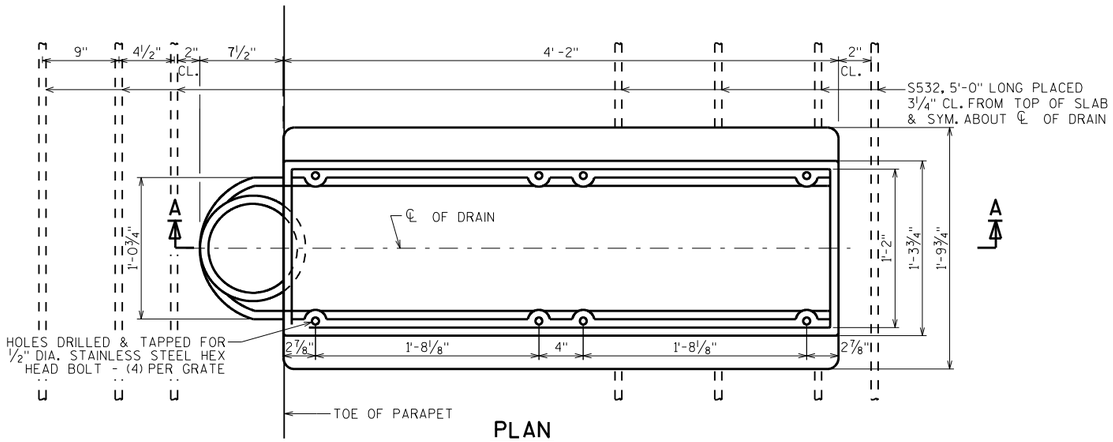
8

8

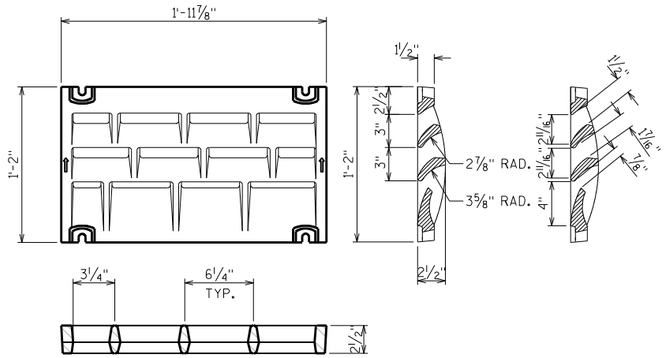
SCALE =

STATE PROJECT NUMBER

1643-08-81



PLAN



GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

GENERAL NOTES

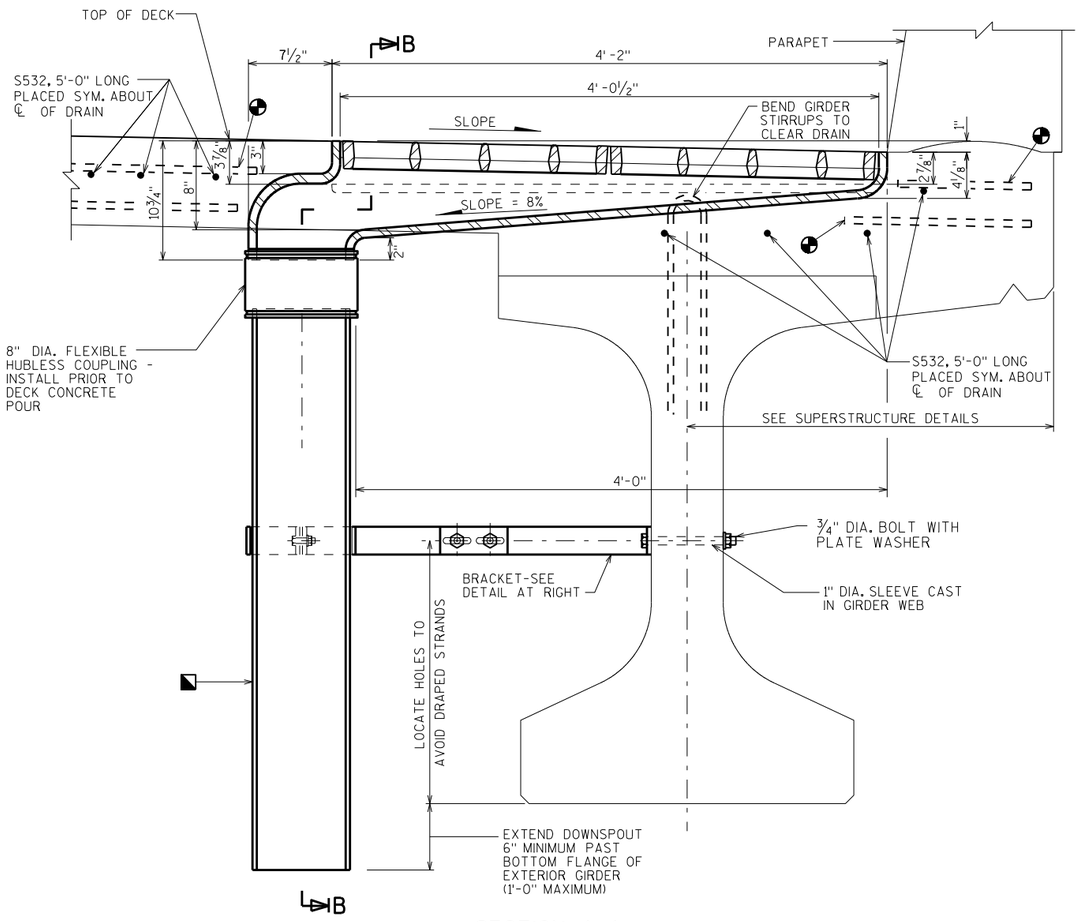
ALL MATERIAL FOR TYPE 'WF' CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

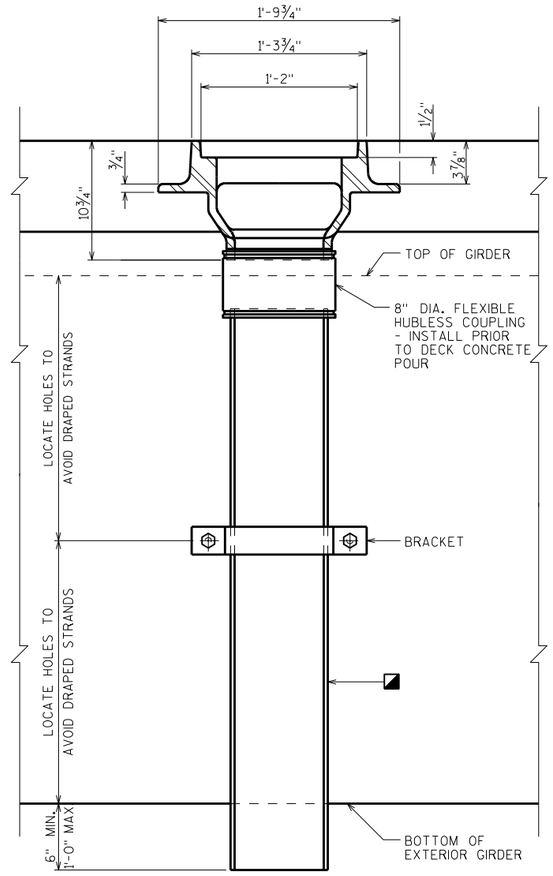
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

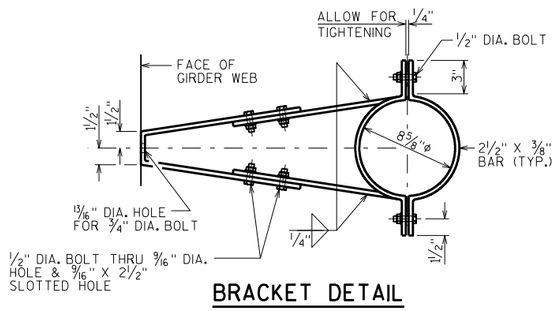
⊕ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.



SECTION A-A



SECTION B-B



BRACKET DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

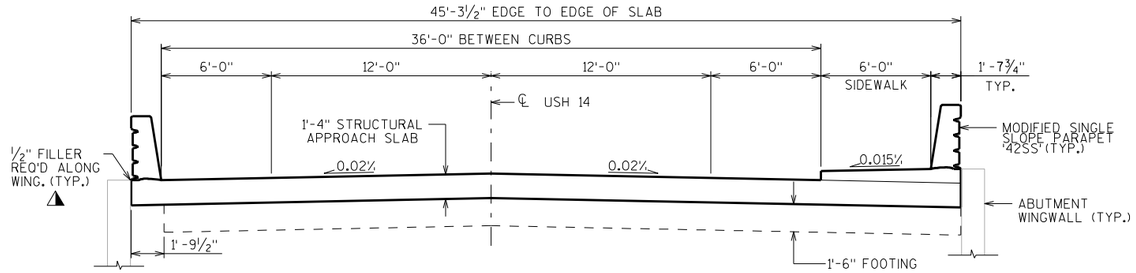
DRAWN BY MJH | PLANS CK'D. BLB

FLOOR DRAIN TYPE 'WF' AT PARAPET

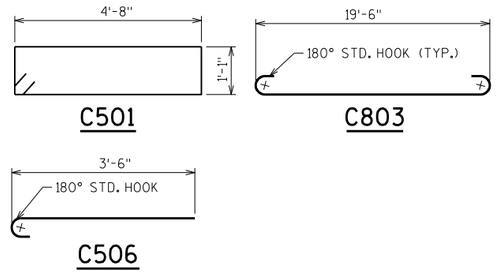
SHEET 27

175

SCALE = 0.55



CROSS SECTION THRU STRUCTURAL APPROACH SLAB - LOOKING WEST



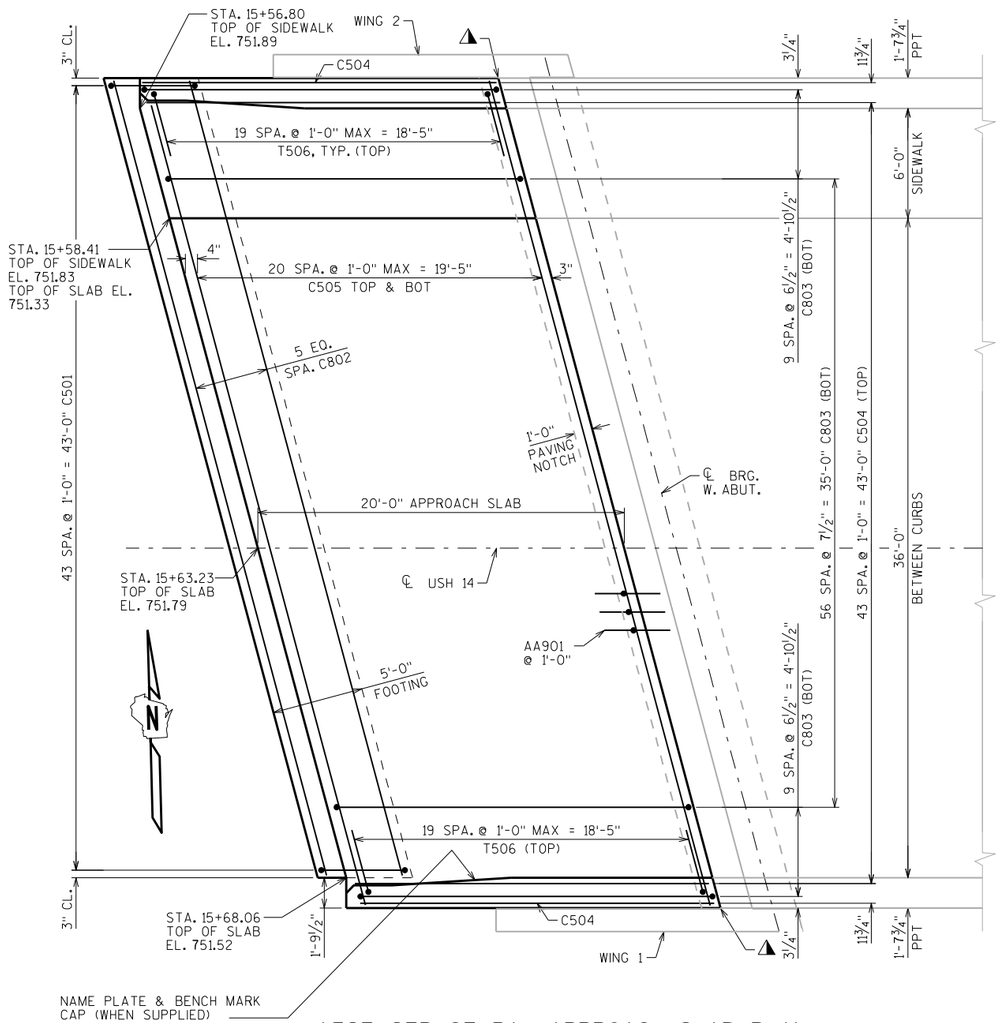
STATE PROJECT NUMBER

1643-08-81

BILL OF BARS

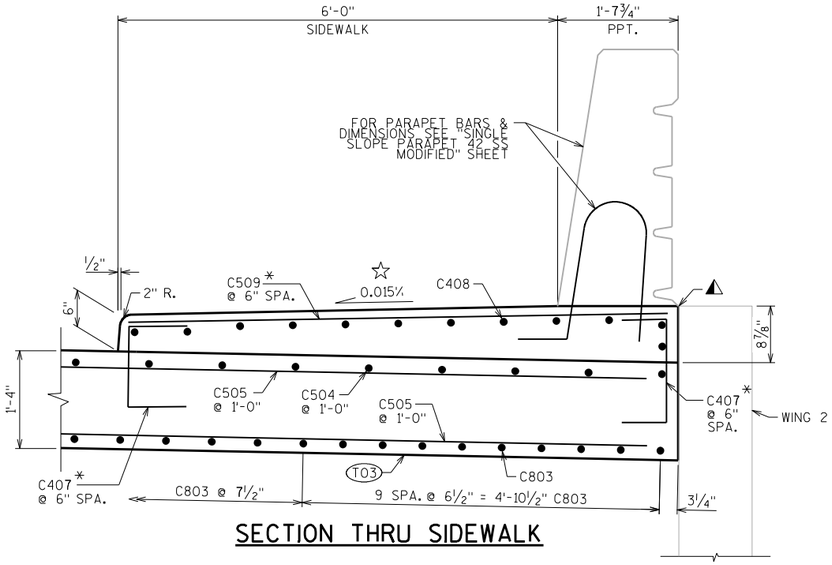
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
C501	X	44	12'-2"	X		APPROACH SLAB FOOTING - STIRRUP
C802	X	12	44'-8"			APPROACH SLAB FOOTING - TRANS.
C803	X	75	21'-4"	X		APPROACH SLAB - LONGIT. BOT.
C504	X	46	19'-6"			APPROACH SLAB - LONGIT. TOP
C505	X	42	46'-6"			APPROACH SLAB - TRANS. TOP & BOT.
C506	X	20	4'-1"	X		APPROACH SLAB - TRANS. TOP
C407	X	82	3'-0"	X		SIDEWALK - VERT.
C408	X	12	19'-6"			SIDEWALK - LONGIT.
C509	X	41	7'-6"			SIDEWALK - TRANS.

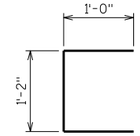


WEST STRUCTURAL APPROACH SLAB PLAN

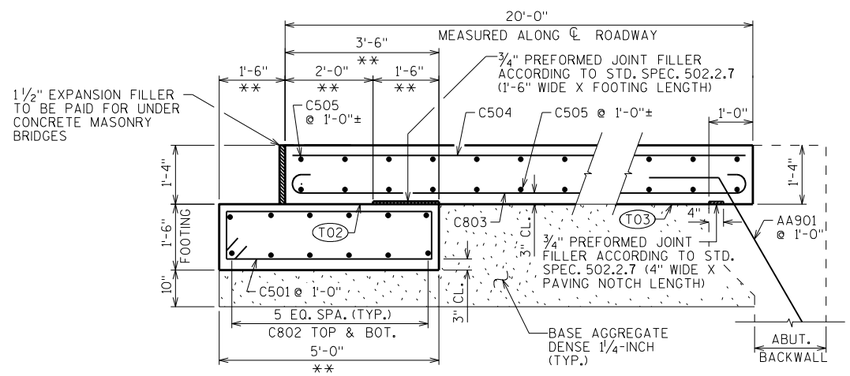
SIDEWALK AND PARAPET BARS NOT SHOWN FOR CLARITY



SECTION THRU SIDEWALK



C407



SECTION THRU STRUCTURAL APPROACH SLAB

* PLACE BARS ALONG SKEW

** DIMENSION TAKEN NORMAL TO ℄ OF ABUTMENT

☆ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

▲ 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.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY DFD | PLANS CK'D. BLB

WEST STRUCTURAL APPROACH SLAB

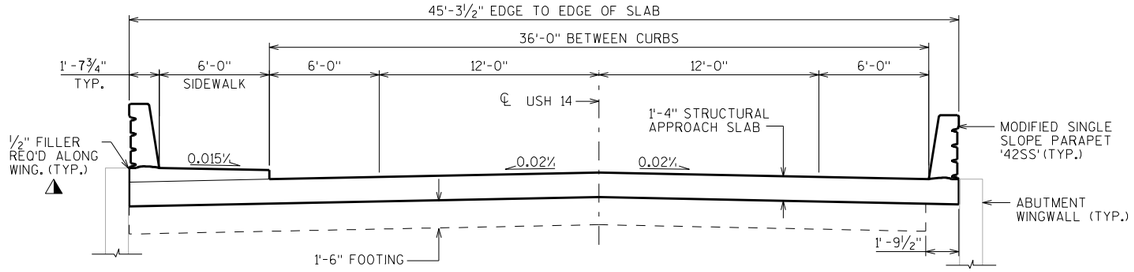
SHEET 28

176

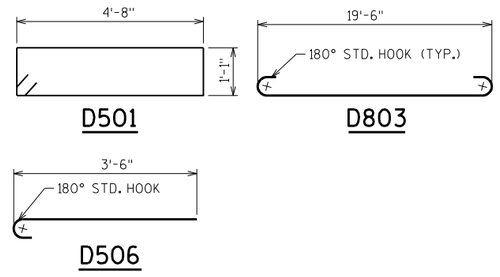
SCALE = 4.0

8

8



CROSS SECTION THRU STRUCTURAL APPROACH SLAB - LOOKING EAST



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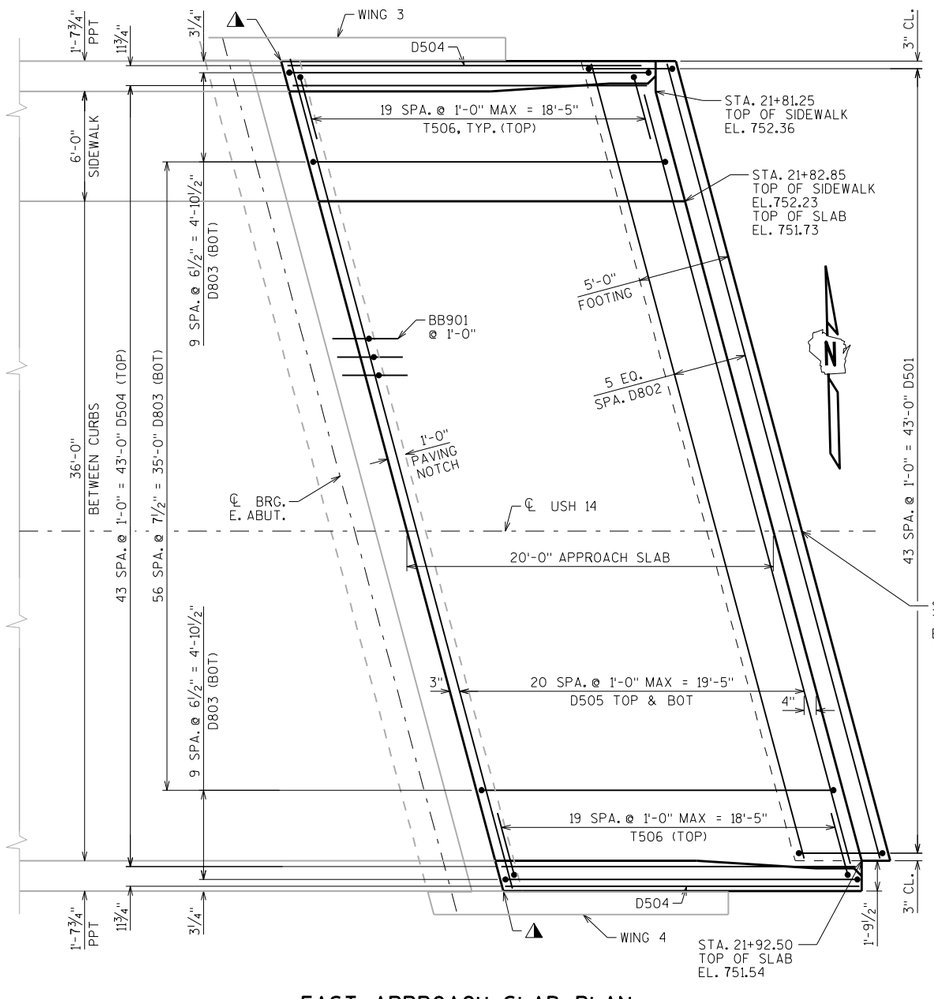
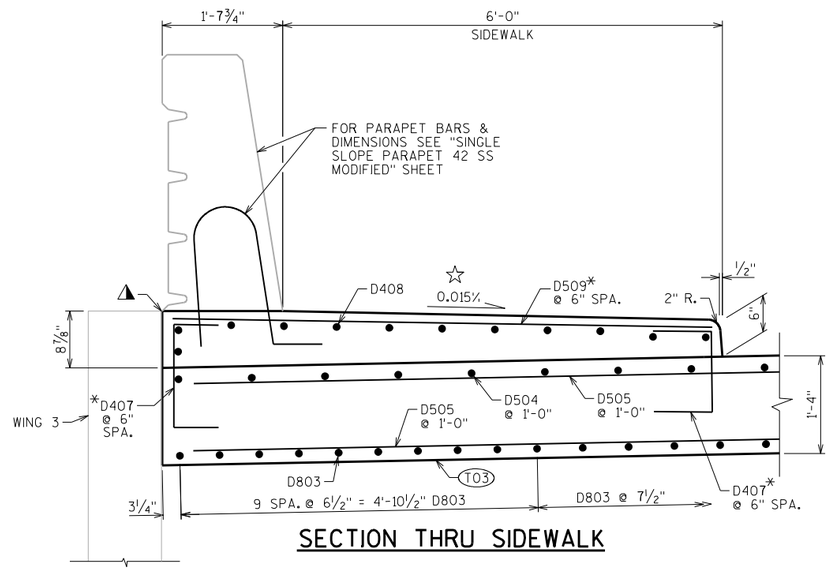
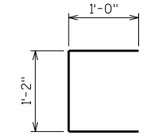


EAST APPROACH SLAB PLAN

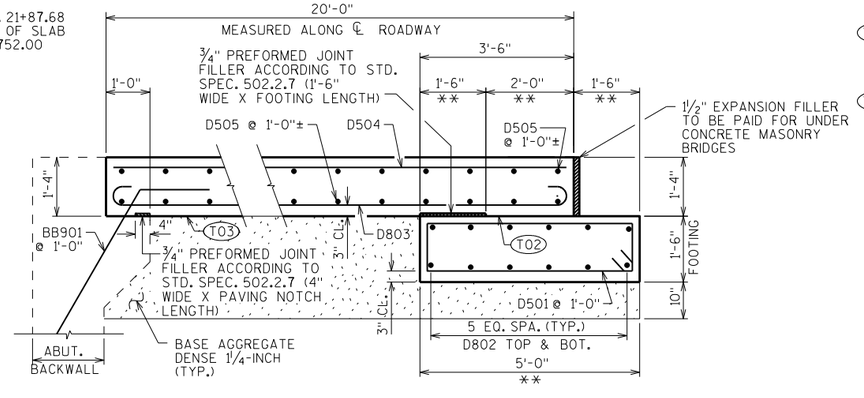
SIDEWALK AND PARAPET BARS NOT SHOWN FOR CLARITY



SECTION THRU SIDEWALK



D407



SECTION THRU STRUCTURAL APPROACH SLAB

* PLACE BARS ALONG SKEW

** DIMENSION TAKEN NORMAL TO ℄ OF ABUTMENT

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-45

DRAWN BY: DFD | PLANS CK'D.: BLB

EAST STRUCTURAL APPROACH SLAB

SHEET 29

177

STATE PROJECT NUMBER

1643-08-81

8

8

SCALE = 4.0

EARTHWORK-MAINLINE

	AREA (SF)				INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)								
STATION	CUT	FILL	ROCK EXCAVATION	MARSH EXCAVATION	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	MASS ORDINATE NOTE 1
9+90	0.0	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10+00	11.8	11.1	0	0	2	0	0	0	0	0	3	4	2	0	0	0	0	0	3	4	-2
10+50	11.7	17.0	0	0	22	0	0	0	0	0	25	33	24	0	0	0	0	0	28	36	-12
11+00	11.6	14.8	0	0	22	0	0	0	0	0	29	38	46	0	0	0	0	0	57	74	-28
11+00	64.9	14.8	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0	0	57	74	-28
11+50	41.0	32.0	1.2	0	96	0	1	1	0	0	43	56	142	0	1	1	0	0	100	130	13
12+00	29.4	54.1	1.2	0	65	0	2	2	0	0	80	104	207	0	3	3	0	0	180	234	-24
12+50	17.8	63.2	3.9	0	44	0	5	6	0	0	109	142	251	0	8	9	0	0	289	376	-116
13+00	23.9	92.1	5.4	0	38	0	9	10	0	0	144	187	289	0	17	19	0	0	433	563	-255
13+50	20.0	109.7	4.3	0	41	0	9	10	0	0	187	243	330	0	26	29	0	0	620	806	-447
14+00	20.0	157.6	7.0	0	37	0	11	12	0	0	248	322	367	0	37	41	0	0	868	1128	-721
14+50	20.0	122.3	0	0	37	0	7	8	0	0	259	337	404	0	44	48	0	0	1127	1465	-1013
15+00	20.0	272.1	0	0	37	0	0	0	0	0	365	475	441	0	44	48	0	0	1492	1940	-1450
15+50	20.0	472.1	0	0	37	0	0	0	0	0	689	896	478	0	44	48	0	0	2181	2835	-2309
15+85	20.0	509.0	0	0	26	0	0	0	0	0	636	827	504	0	44	48	0	0	2817	3662	-3110
15+85	0.0	0.0	0	0	0	0	0	0	0	0	0	0	504	0	44	48	0	0	2817	3662	-3110
21+66	0.0	0.0	0	0	0	0	0	0	0	0	0	0	504	0	44	48	0	0	2817	3662	-3110
21+66	10.0	816.5	0	119.9	0	0	0	0	0	0	0	0	504	0	44	48	0	0	2817	3662	-3110
22+00	10.0	781.5	0	119.9	11	0	0	0	153	91.8	1006	1188	515	0	44	48	153	92	3823	4851	-4287
22+50	10.0	799.9	0	92.0	19	0	0	0	198	118.8	1464	1749	534	0	44	48	351	211	5287	6599	-6017
23+00	10.0	727.2	0	61.5	19	0	0	0	142	85.2	1414	1727	553	0	44	48	493	296	6701	8327	-7725
23+50	10.0	563.0	0	49.3	19	0	0	0	104	62.4	1195	1472	572	0	44	48	597	358	7896	9799	-9179
24+00	10.0	524.8	0	43.5	19	0	0	0	86	51.6	1007	1242	591	0	44	48	683	410	8903	11041	-10402
24+50	45.7	413.5	0	52.7	50	0	0	0	89	53.4	869	1060	641	0	44	48	772	463	9772	12101	-11412
25+00	36.8	298.4	0	59.5	76	0	0	0	104	62.4	659	776	717	0	44	48	876	526	10431	12877	-12112
25+50	43.7	195.0	0	57.0	75	0	0	0	108	64.8	457	510	792	0	44	48	984	590	10888	13387	-12546
26+00	57.3	165.0	0	63.0	94	0	0	0	113	67.8	333	345	886	0	44	48	1097	658	11221	13732	-12797
26+45	64.9	0.0	0	0.0	101	0	0	0	53	31.8	138	138	987	0	44	48	1150	690	11359	13870	-12835
				COLUMN TOTAL	987	0	44	48	1150	690	11359	13870	987	0	44	48	1150	690	11359	13870	-12835

EARTHWORK-NORTH WATER STREET

	AREA (SF)				INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)								
STATION	CUT	FILL	ROCK EXCAVATION	MARSH EXCAVATION	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	MASS ORDINATE NOTE 1
50+16	49.2	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50+50	0.0	129.0	16.5	0	31	0	10	11	0	0	81	106	31	0	10	11	0	0	81	106	-64
51+00	3.6	34.1	6.5	0	3	0	22	24	0	0	151	196	34	0	32	35	0	0	232	302	-233
51+50	17.0	0.0	20.9	0	19	0	25	28	0	0	32	41	53	0	57	63	0	0	264	343	-227
52+00	31.0	2.0	28.4	0	44	0	48	53	0	0	2	3	97	0	105	116	0	0	266	346	-134
52+50	32.6	0.0	28.8	0	59	0	55	61	0	0	2	3	156	0	160	176	0	0	268	349	-17
53+00	49.2	0.0	15.7	0	76	0	41	45	0	0	0	0	232	0	201	221	0	0	268	349	104
53+00	0.0	0.0	15.7	0	0	0	0	0	0	0	0	0	232	0	201	221	0	0	268	349	104
53+50	0.0	0.0	0	0	0	0	15	17	0	0	0	0	232	0	216	238	0	0	268	349	121
				COLUMN TOTALS =	232	0	216	238	0	0	268	349	232	0	216	238	0	0	268	349	121

EARTHWORK-SOUTH WATER STREET REMOVAL

	AREA (SF)				INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)								
STATION	CUT	FILL	ROCK EXCAVATION	MARSH EXCAVATION	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	205.0100 EXCAVATION COMMON	CUT MATERIAL INCIDENTAL TO EXCAVATION FOR STRUCTURES BRIDGES B-62-45	205.0200 ROCK EXCAVATION	EXPANDED ROCK FACTOR (1.1)	205.0400 MARSH EXCAVATION	REDUCED MARSH IN FILL (0.6)	FILL	FILL EXP (30%)	MASS ORDINATE NOTE 1
61+00	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61+50	29.8	0.0	0	0	28	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	28
62+00	49.1	0.0	0	0	74	0	0	0	0	0	0	0	102	0	0	0	0	0	0	0	102
62+32.25	0.0	0.0	0	0	29	0	0	0	0	0	0	0	131	0	0	0	0	0	0	0	131
				COLUMN TOTALS =	131	0	0	0	0	0	0	0	131	0	0	0	0	0	0	0	131
MAINLINE (STA. 9+90 - STA. 15+85; STA. 21+66 - STA. 26+45)					987	0	44	48	1150	690	11359	13870	987	0	44	48	1150	690	11359	13870	-12835
* NEW ABUTMENT - OLD ABUTMENT (STA.15+85 - STA. 16+04) OLD ABUTMENT - NEW ABUTMENT (STA. 20+83 - STA. 21+66)					0	2500	0	0	0	0	0	0	987	2500	44	48	1150	690	11359	13870	-10335
NORTH WATER STREET					232	0	216	238	0	0	268	349	1219	2500	260	286	1150	690	11627	14219	-10214
SOUTH WATER STREET					131	0	0	0	0	0	0	0	1350	2500	260	286	1150	690	11627	14219	-10083
P.E., F.E., C.E.					100	0	0	0	0	0	90	117	1450	2500	260	286	1150	690	11717	14336	-10100
PROJECT TOTALS =					1450	2500	260	286	1150	690	11717	14336									

* CROSS SECTIONS NOT PROVIDED WITHIN LIMITS OF PROPOSED STRUCTURE (PROPOSED BACK OF ABUTMENT TO PROPOSED BACK OF ABUTMENT)

9

9

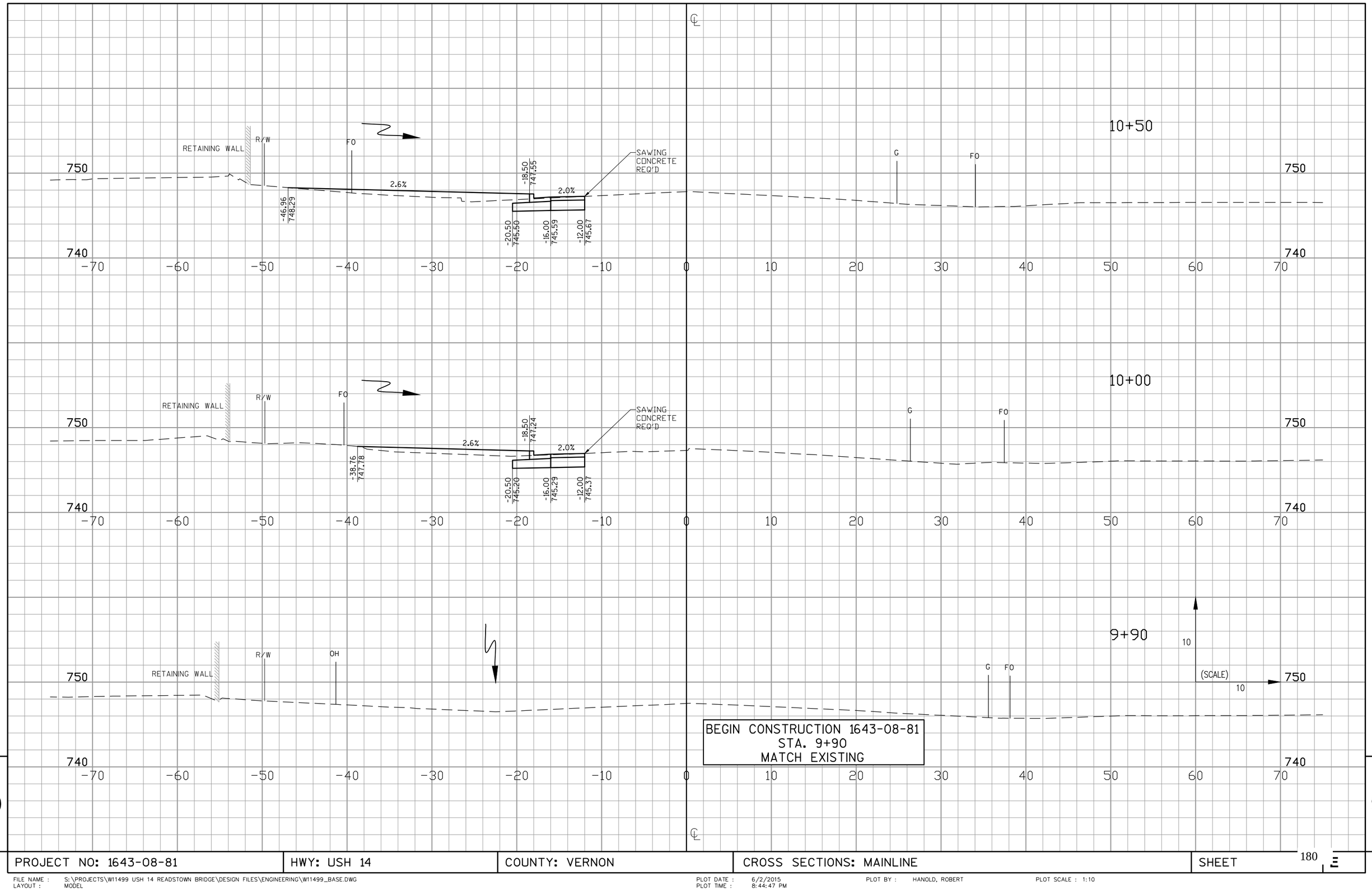
PROJECT NO: 1643-08-81 | HWY: USH 14 | COUNTY: VERNON | EARTHWORK | SHEET --- 179 | E

FILE NAME : S:±Projects±W11499 USH 14 Readstown Bridge±PSE±Quantities±Earthwork±Earthwork table.dwg

PLOT DATE : 7/30/2015
PLOT TIME : 1:59:44 PM

PLOT BY : STRINE, THERESA

PLOT SCALE :



9

9

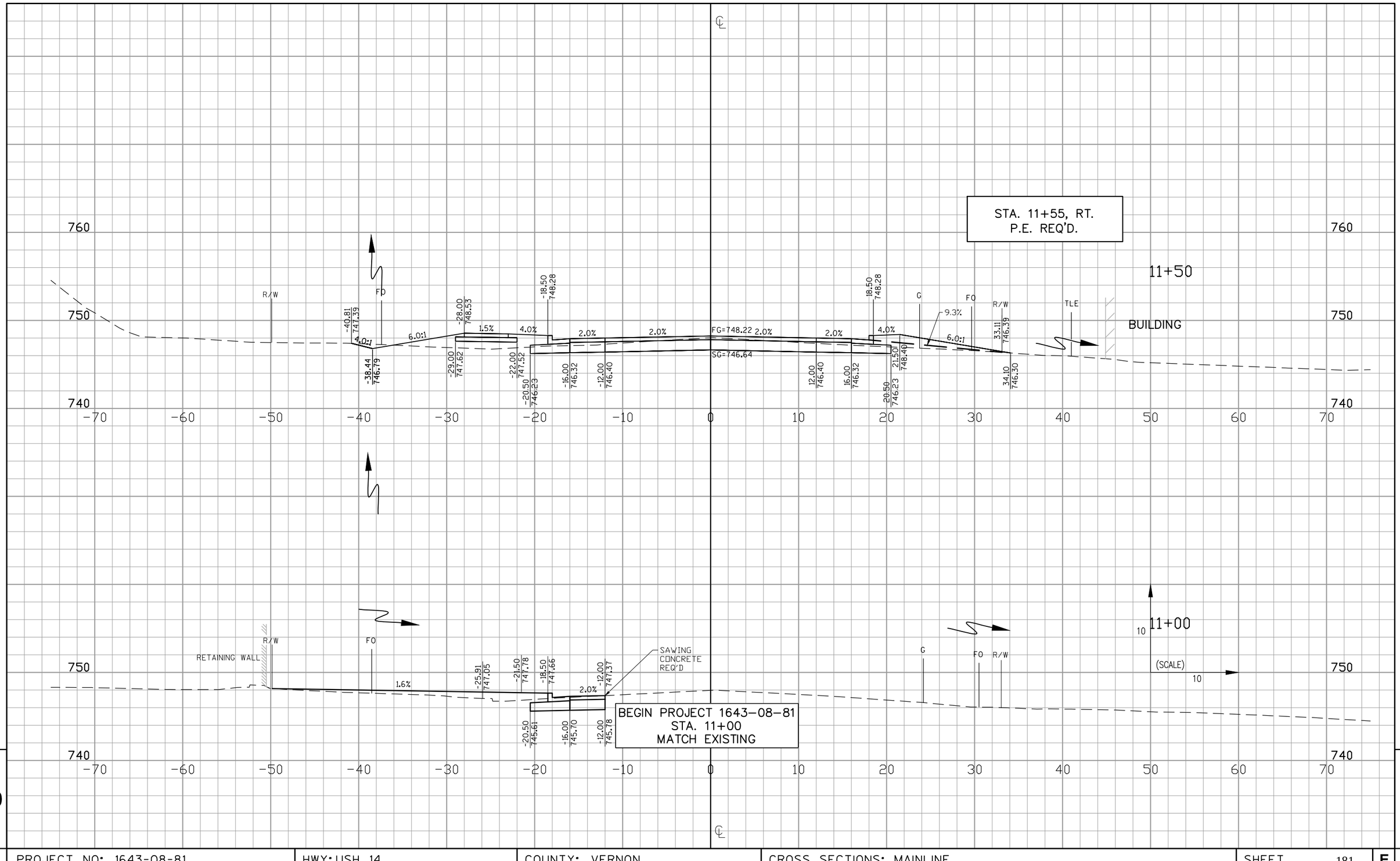
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

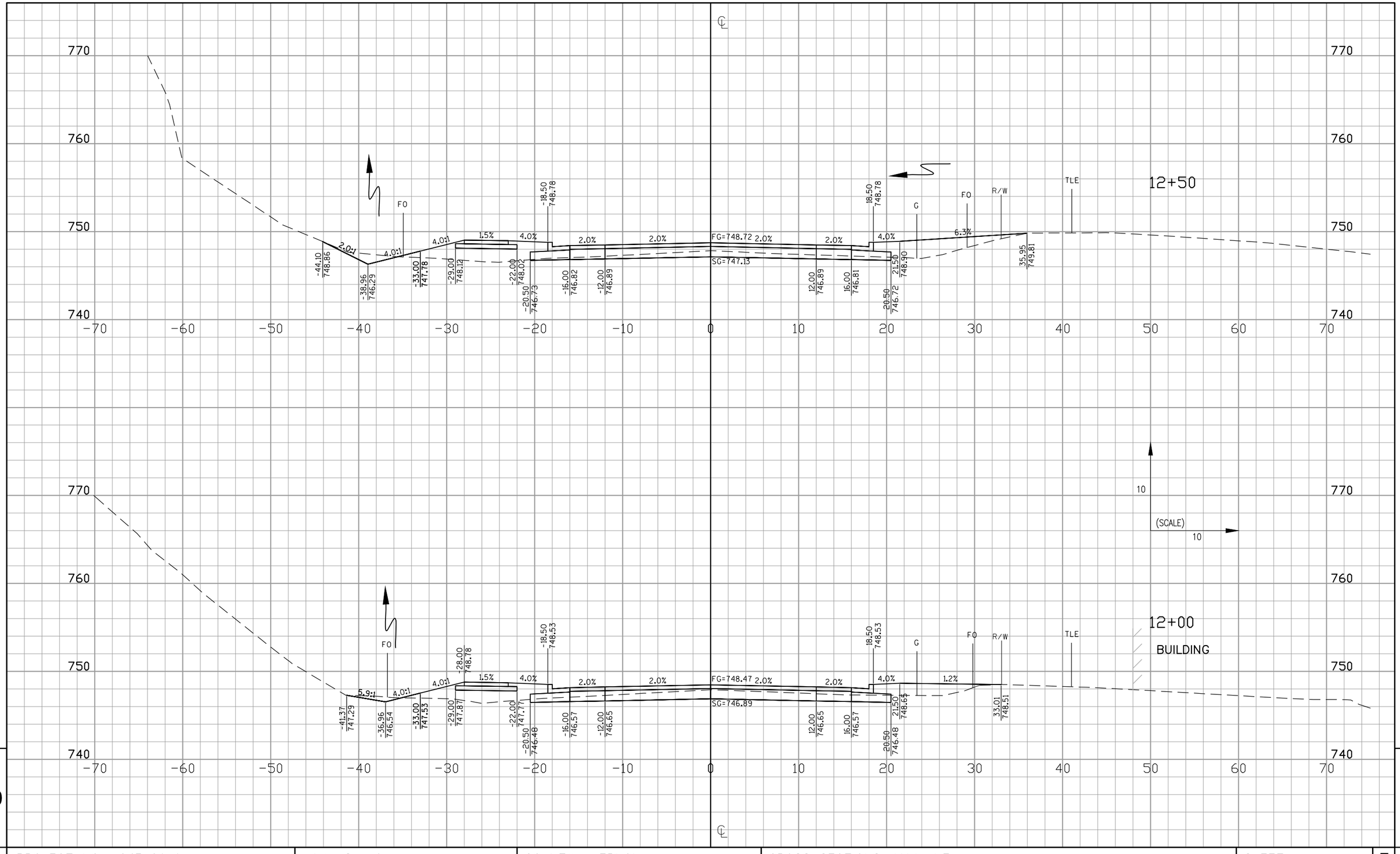
PLOT DATE : 6/2/2015
PLOT TIME : 8:44:47 PM

PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10

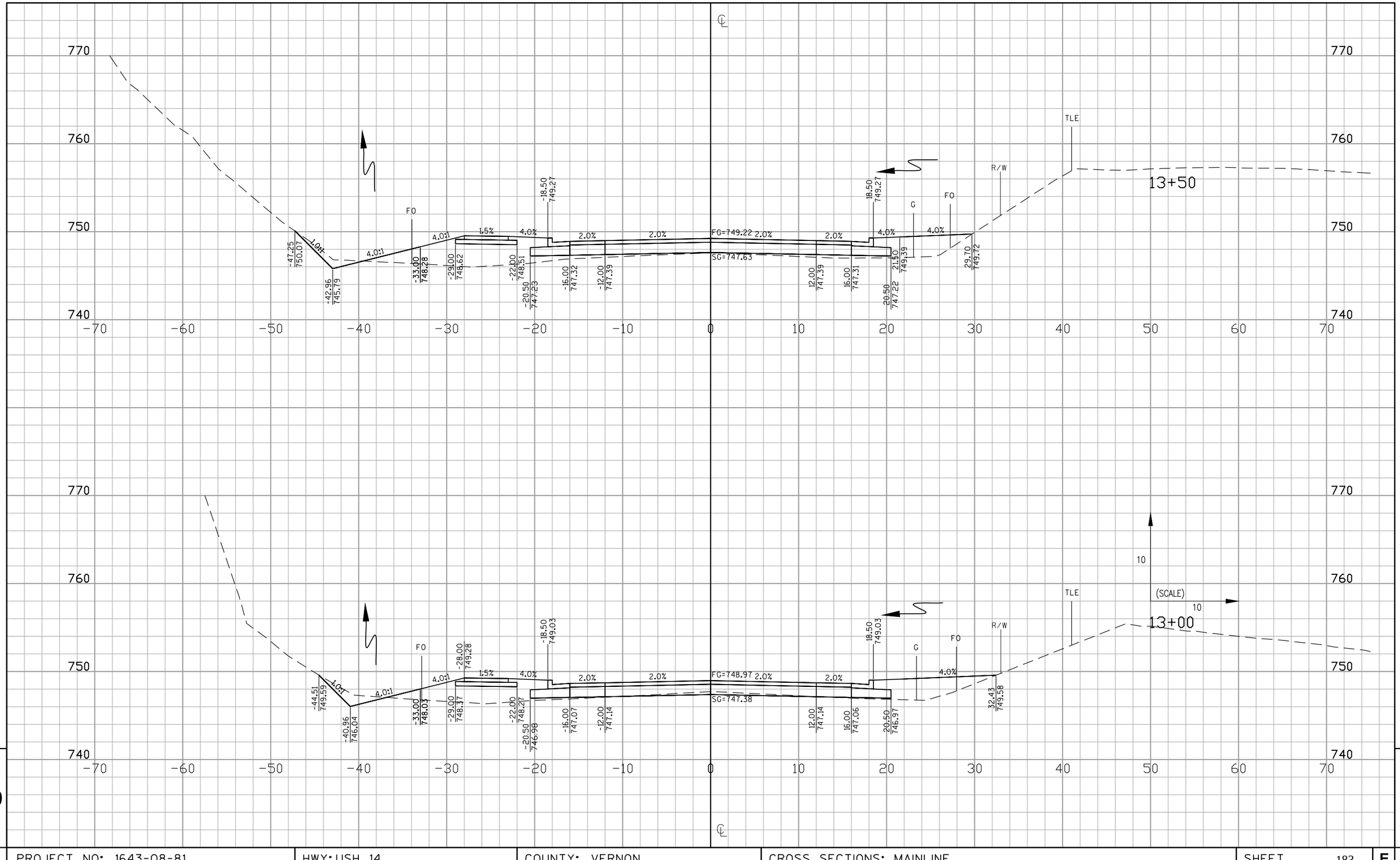


PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 181	E



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 182	E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG PLOT DATE : 6/2/2015 8:48 PM PLOT BY : HANOLD, ROBERT PLOT SCALE : **** WISDOT/CADDS SHEET 49



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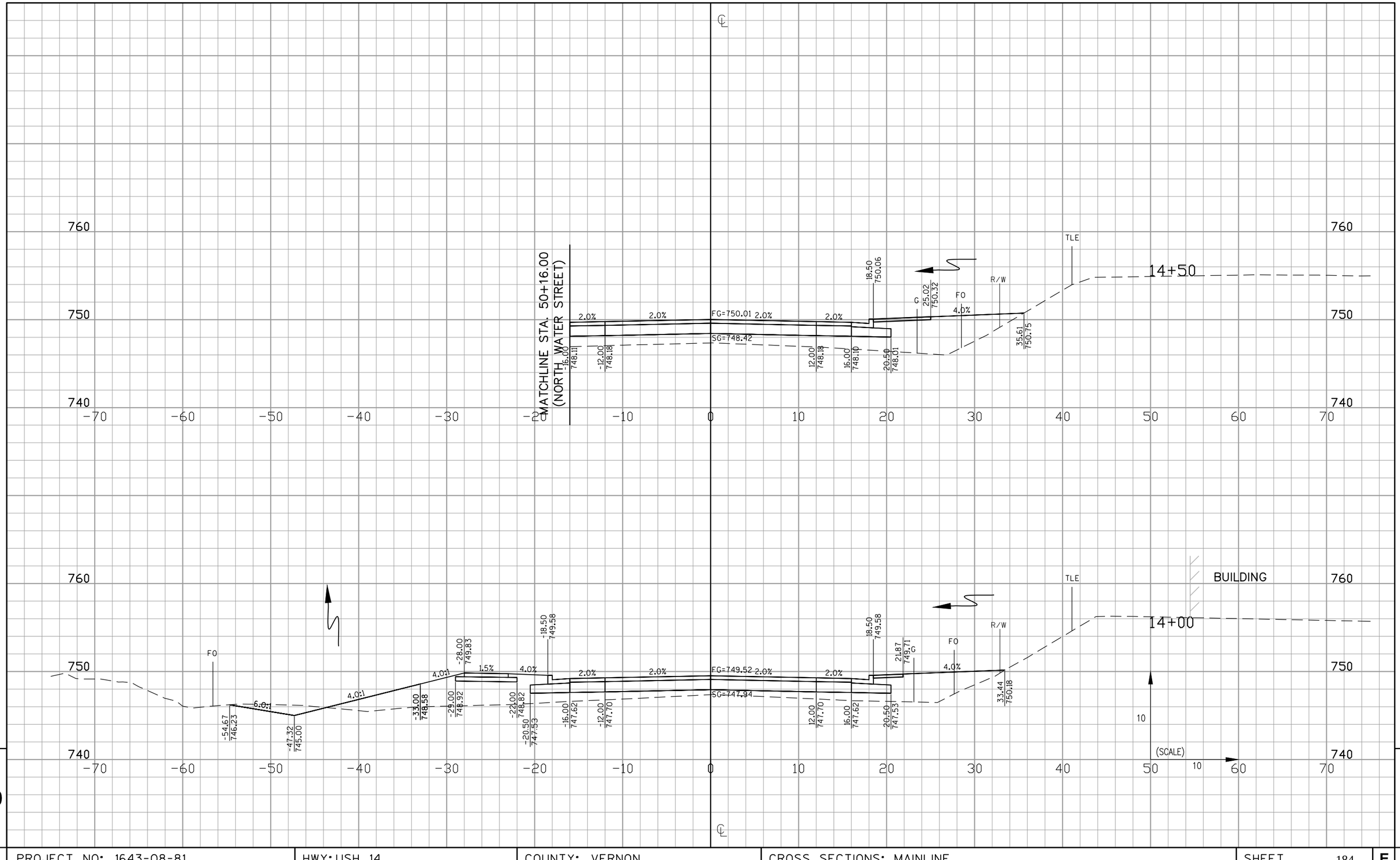
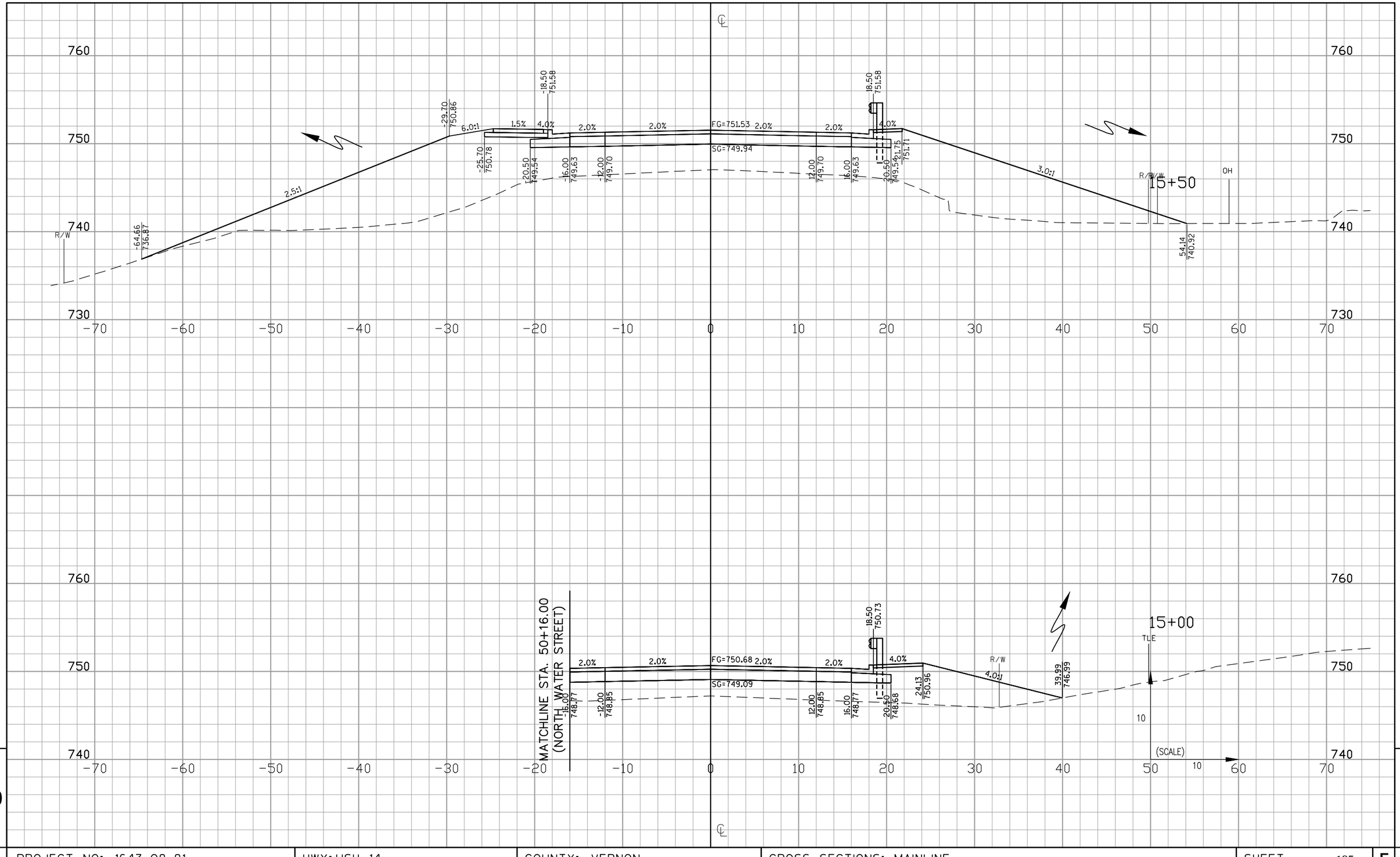
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 183	E



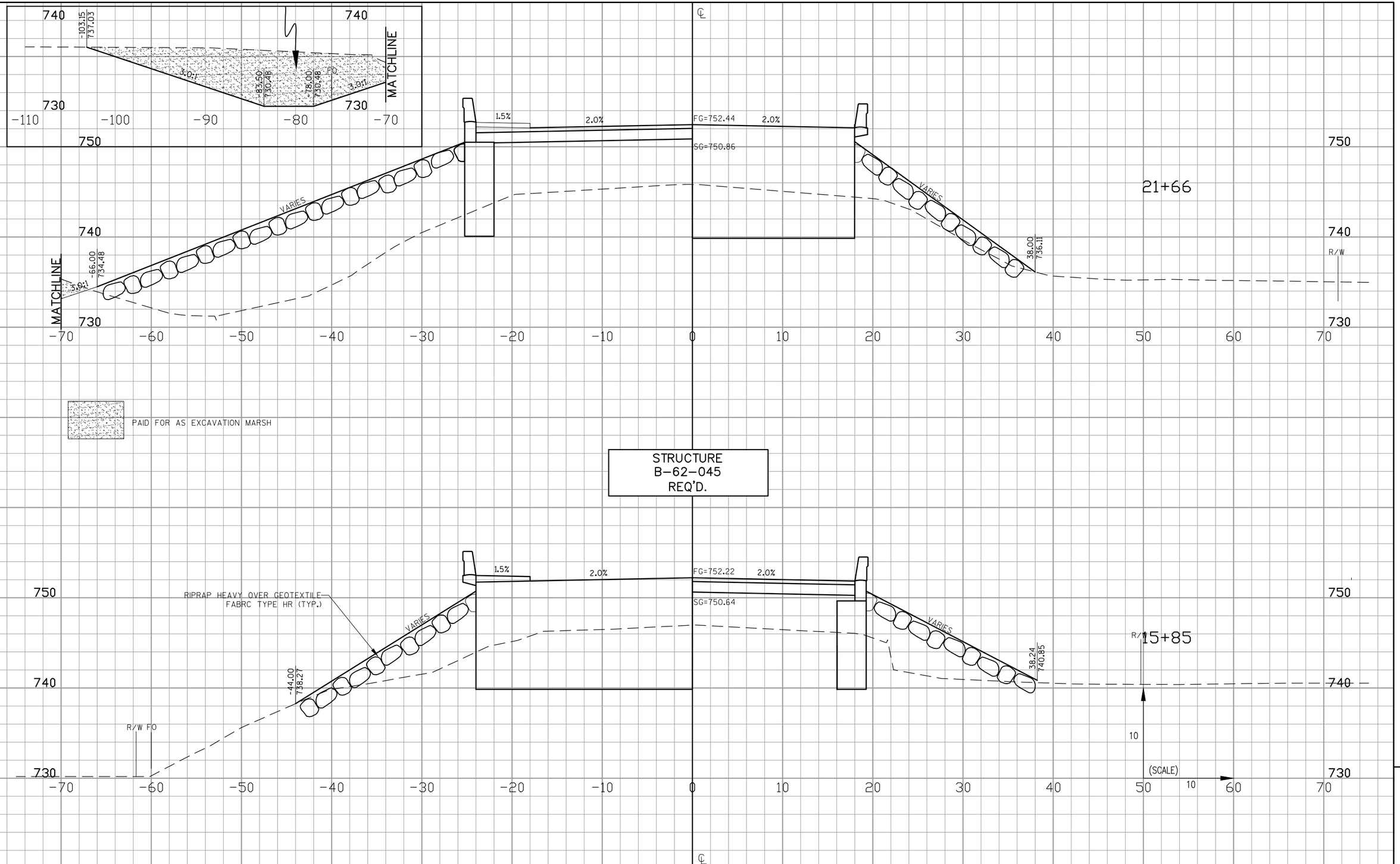
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 184	E



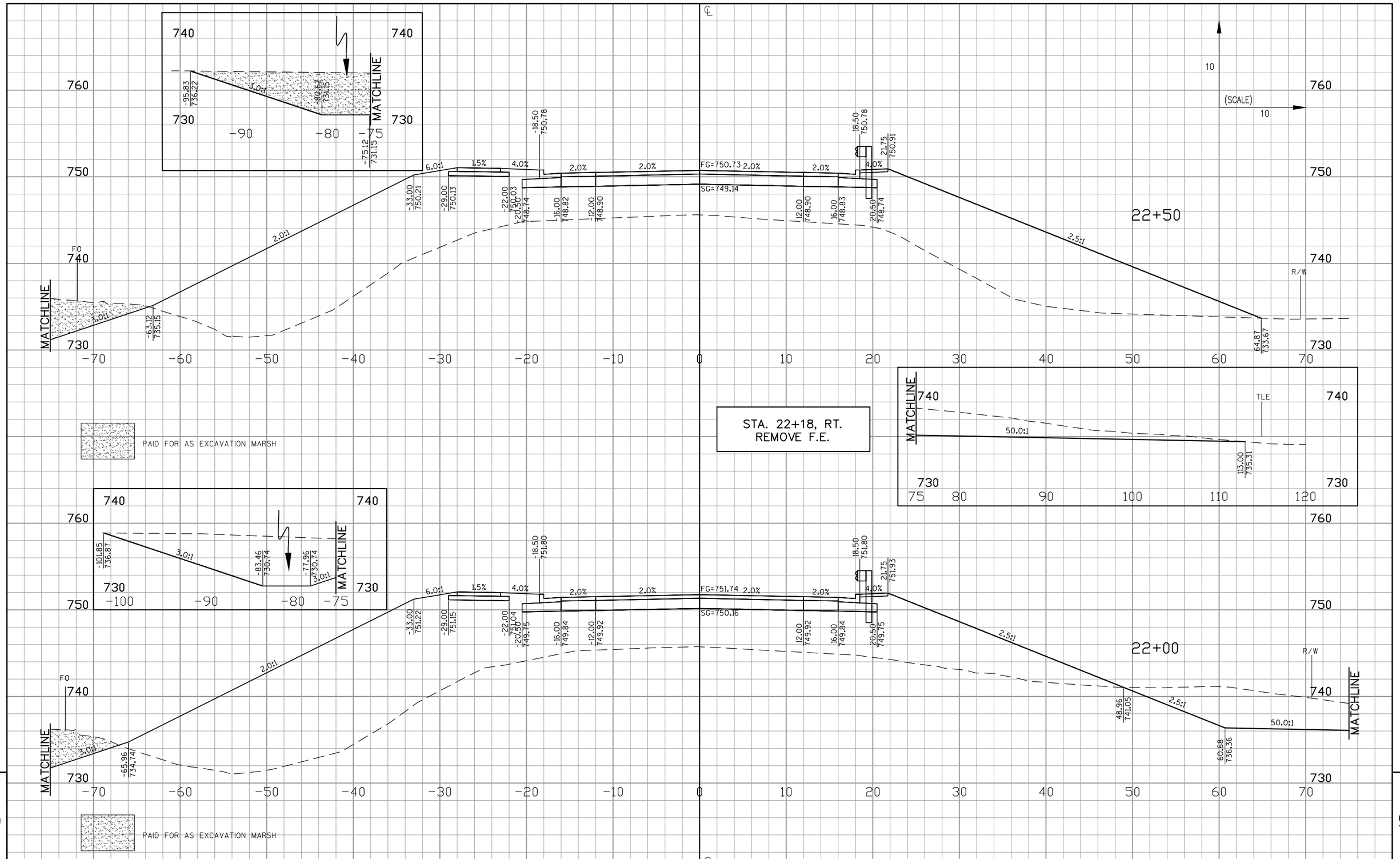
9

9

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 185	E



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET .186 E



9

9

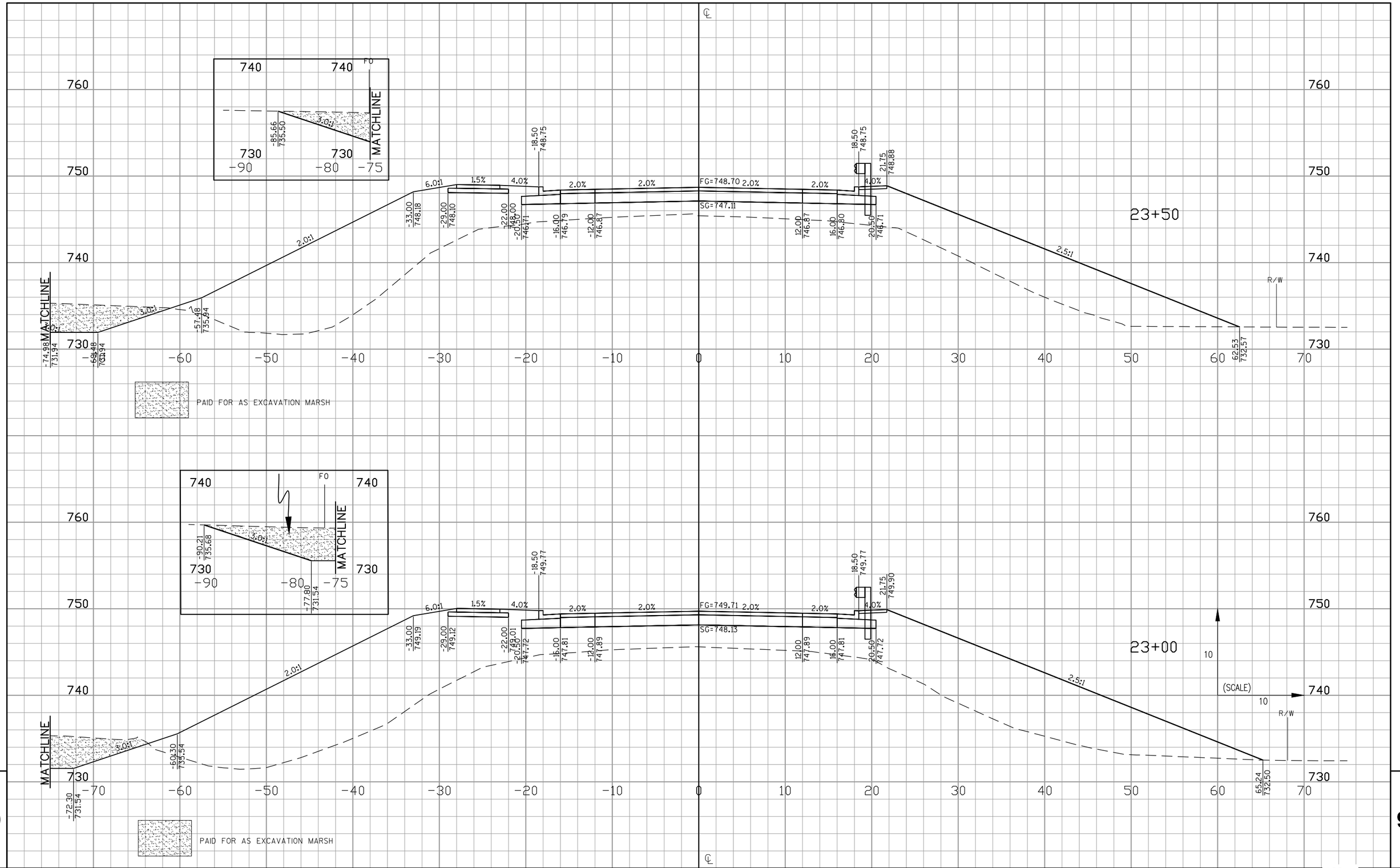
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 7/24/2015
PLOT TIME : 1:38:16 PM

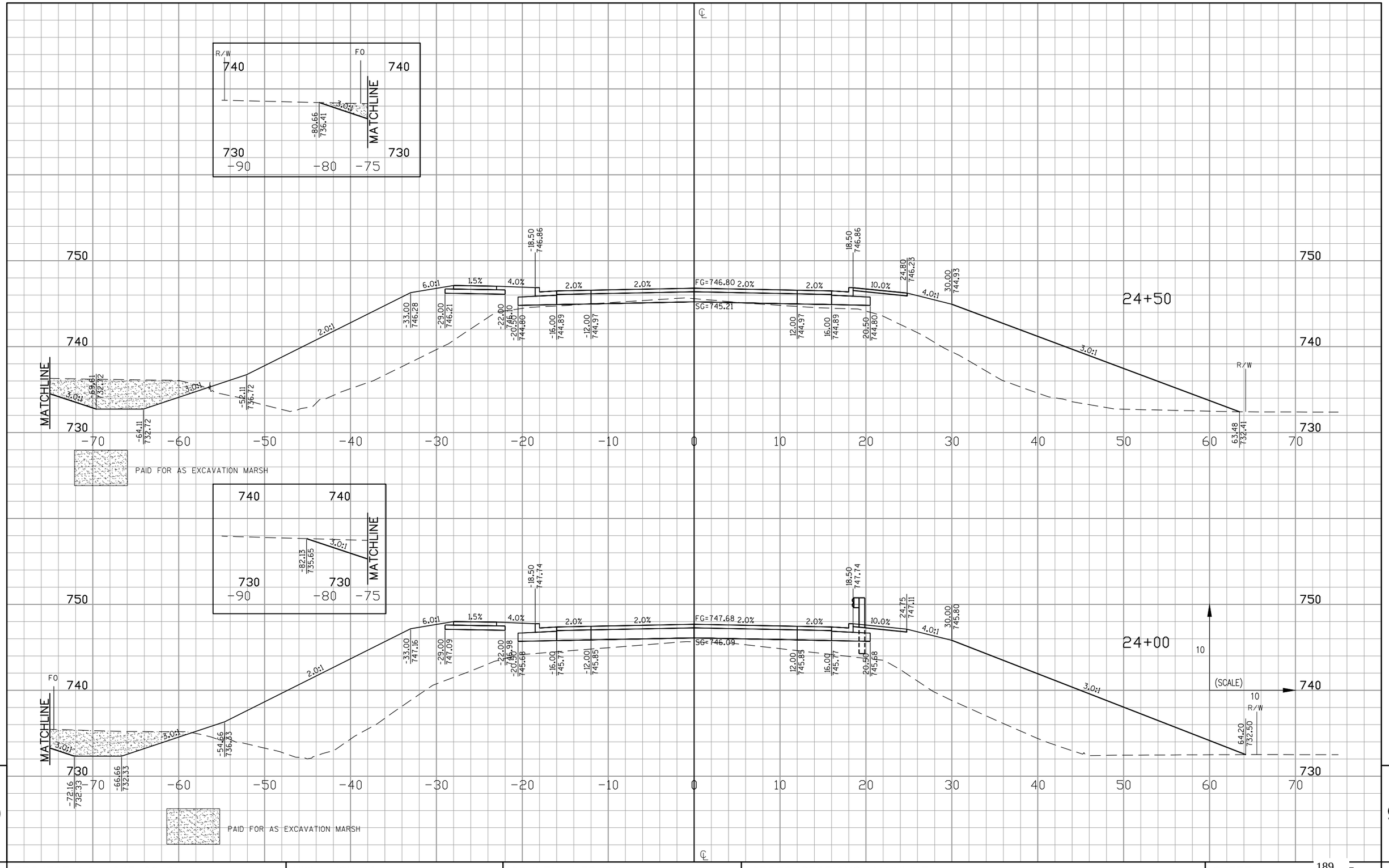
PLOT BY : STRINE, THERESA

PLOT SCALE : 1:10



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL
PLOT DATE : 7/24/2015
PLOT TIME : 1:43:54 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1:10



9

9

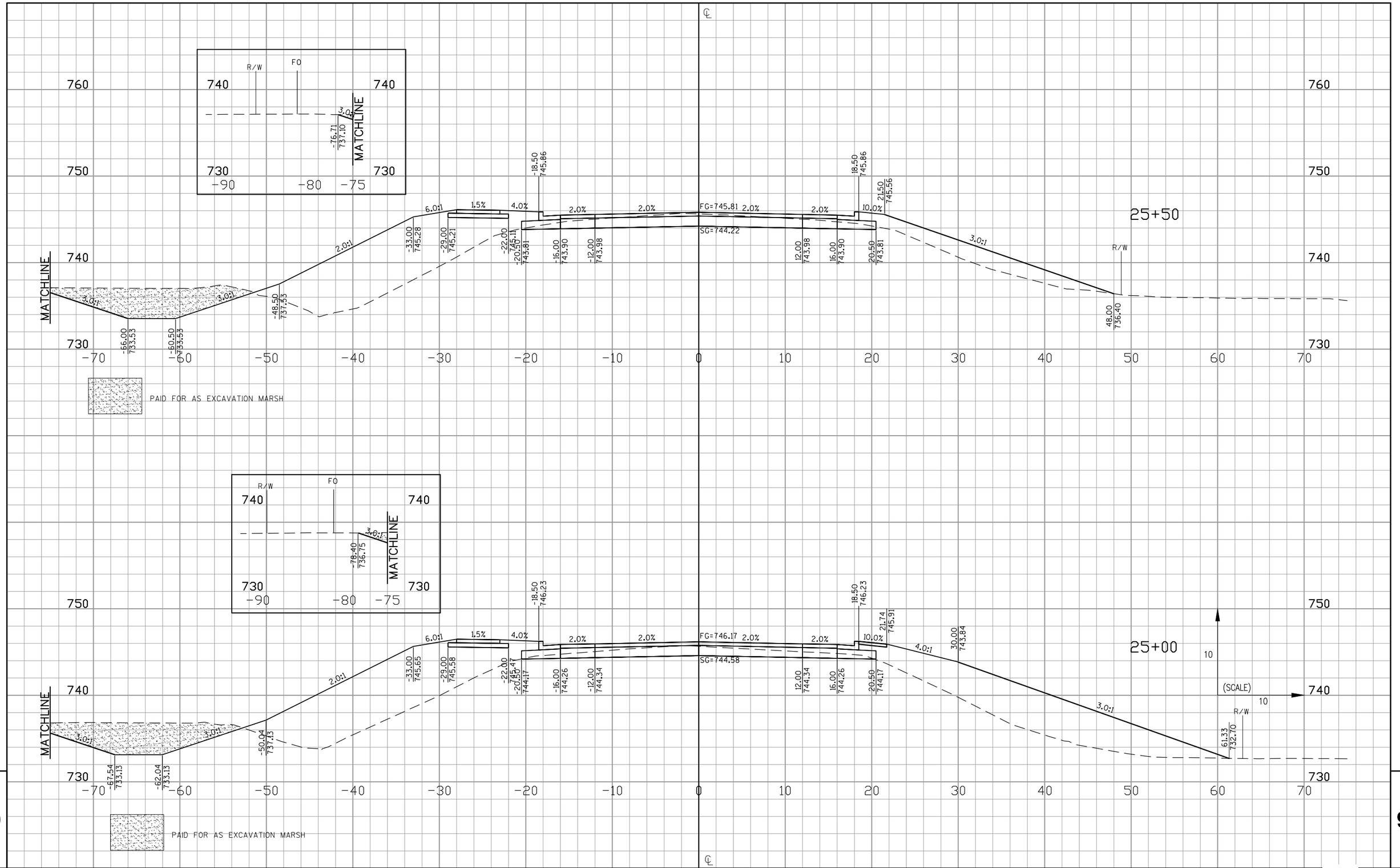
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 7/24/2015
PLOT TIME : 1:47:13 PM

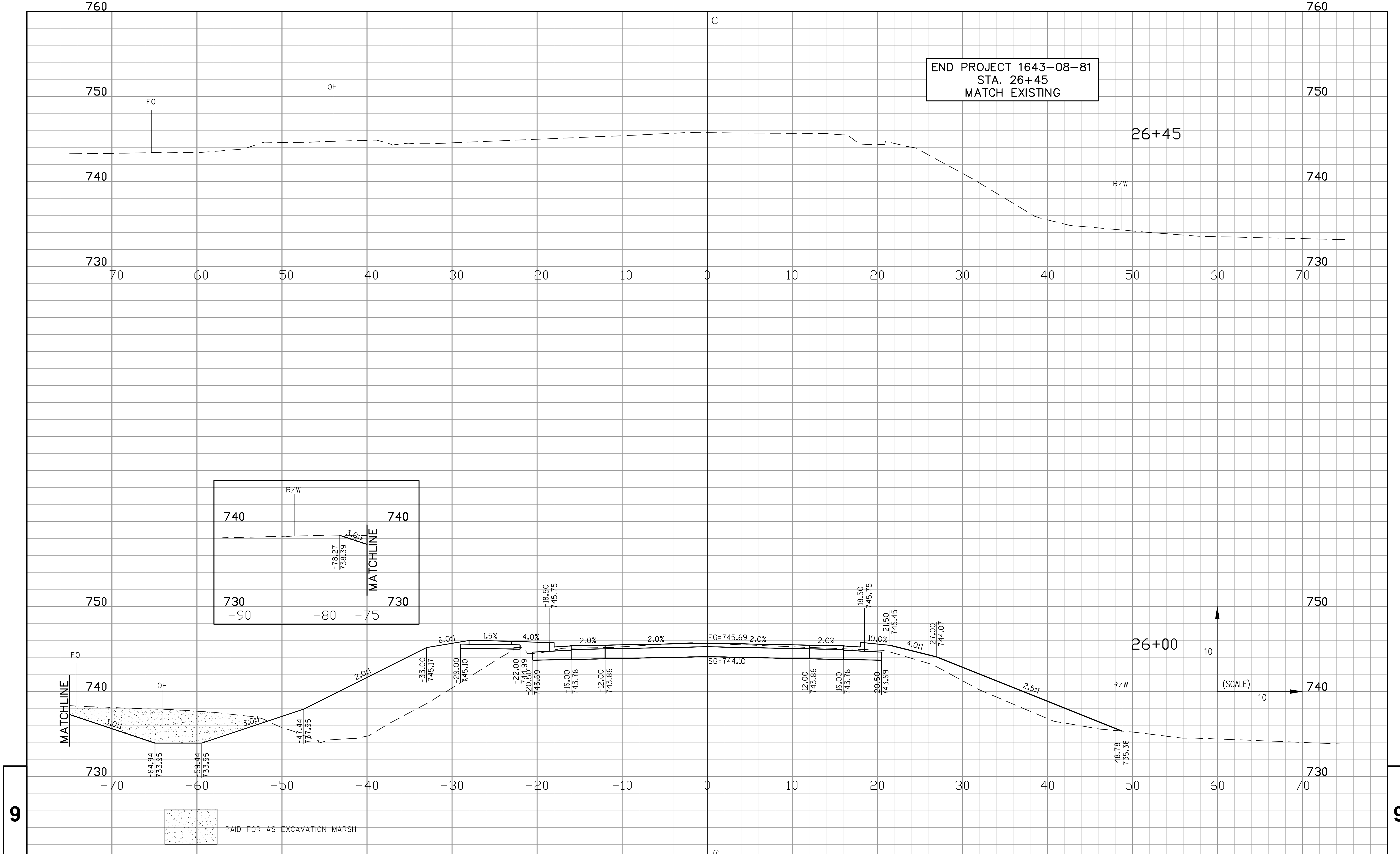
PLOT BY : STRINE, THERESA

PLOT SCALE : 1:10



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL
PLOT DATE : 7/24/2015
PLOT TIME : 3:36:35 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1:10



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: MAINLINE	SHEET 191 E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL
PLOT DATE : 7/24/2015 PLOT TIME : 1:58:29 PM PLOT BY : STRINE, THERESA PLOT SCALE : 1:10

END PROJECT 1643-08-81
STA. 26+45
MATCH EXISTING

26+45

FO
OH
R/W

760
750
740
730
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

R/W
740
730
-90 -80 -75
3.0:1
-78.27
738.39
MATCHLINE

26+00

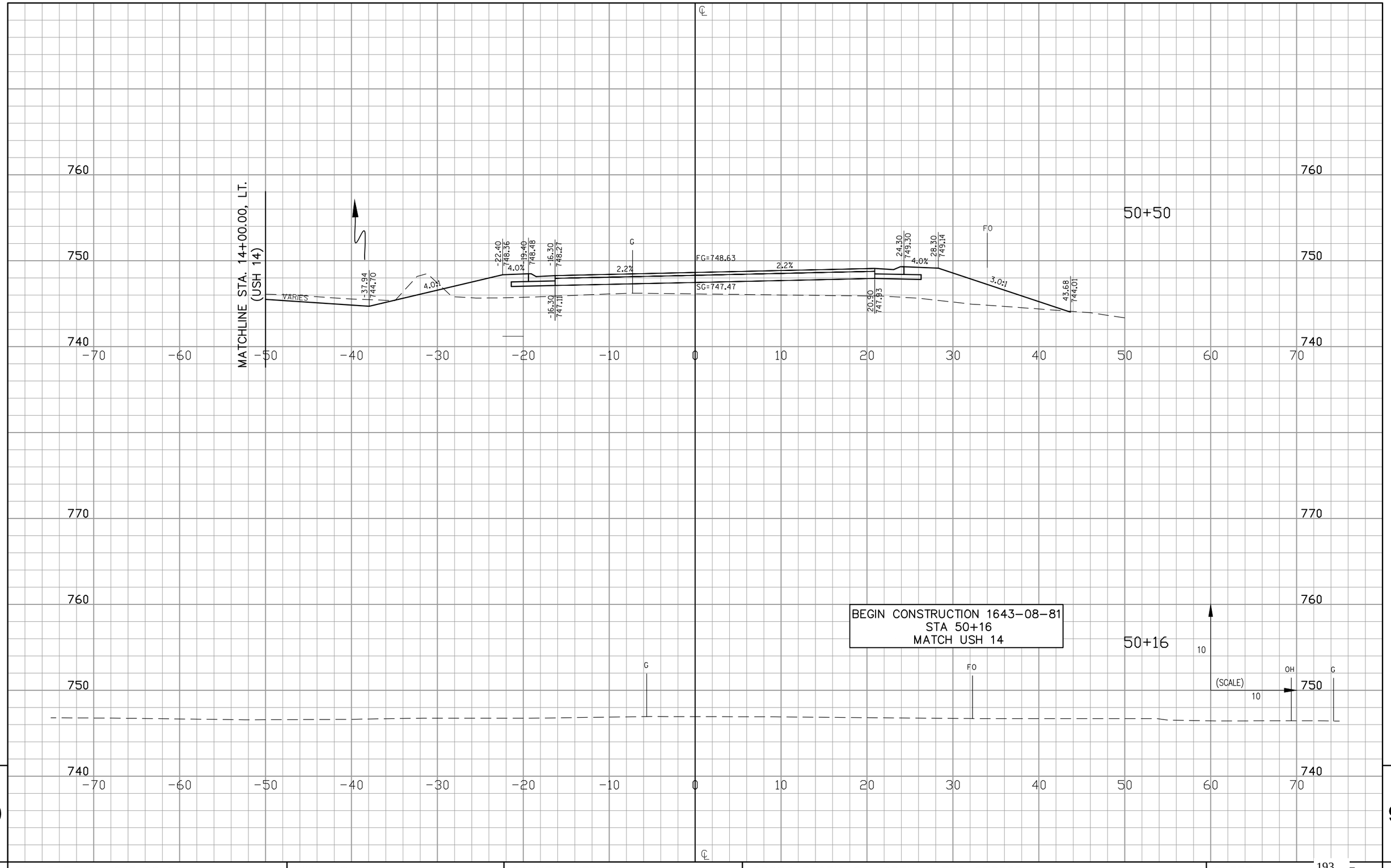
FO
OH
MATCHLINE
3.0:1
3.0:1
2.0:1
6.0:1
1.5%
4.0%
2.0%
2.0%
FG=745.69
SG=744.10
2.0%
2.0%
10.0%
4.0:1
2.5:1
R/W
(SCALE)
10
10

-64.94 733.95
-59.44 733.95
-47.44 737.95
-33.00 745.17
-29.00 745.10
-22.00 744.99
-20.50 743.69
-18.50 745.75
-16.00 743.78
-12.00 743.86
12.00 743.86
16.00 743.78
20.50 743.69
18.50 745.75
21.50 745.45
27.00 744.07
48.78 735.36

9 9

PROJECT NO: 1643-08-81 | HWY: USH 14 | COUNTY: VERNON | CROSS SECTIONS: MAINLINE | SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL
PLOT DATE : 6/8/2015
PLOT TIME : 8:46:41 AM
PLOT BY : TRACY, DAN
PLOT SCALE : 1:10



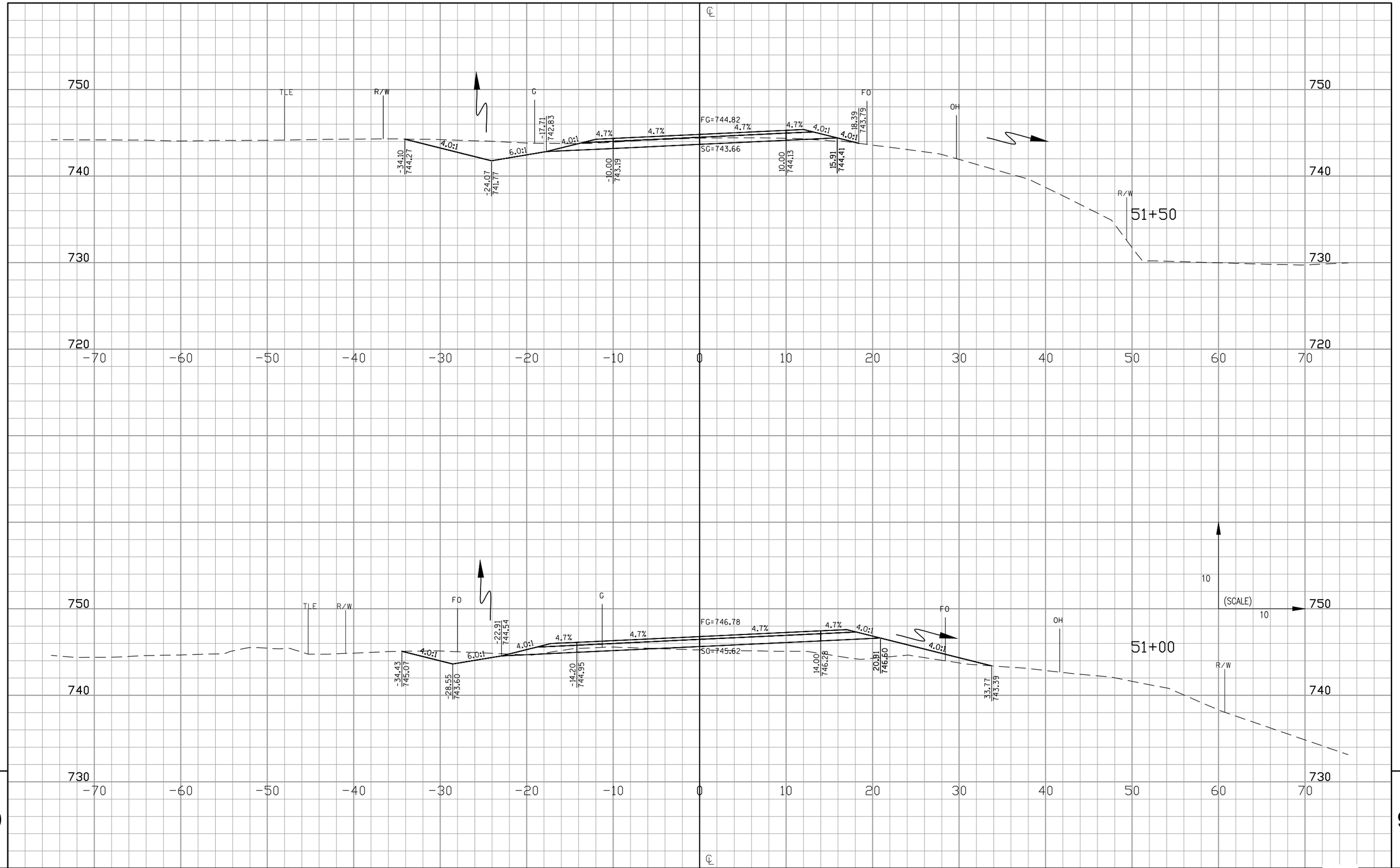
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: NORTH WATER STREET	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:51:45 PM

PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10



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PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: NORTH WATER STREET	SHEET

9

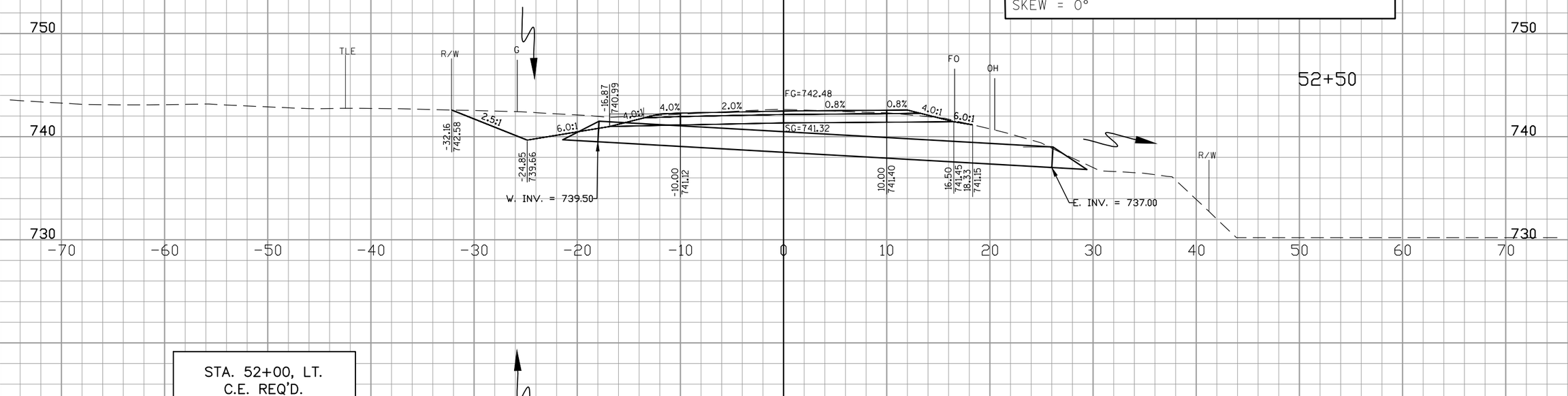
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:52:05 PM

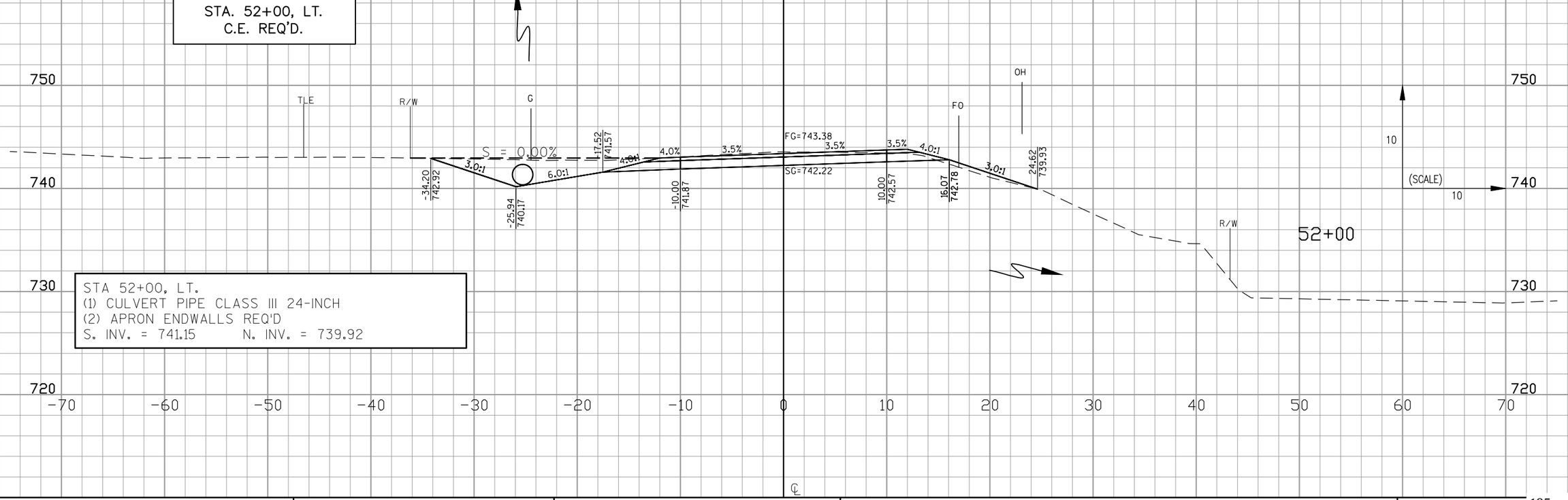
PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10

STA 52+50
(1) CULVERT PIPE CLASS III 24-INCH
(2) APRON ENDWALLS REQ'D
SKEW = 0°



STA. 52+00, LT.
C.E. REQ'D.



STA 52+00, LT.
(1) CULVERT PIPE CLASS III 24-INCH
(2) APRON ENDWALLS REQ'D
S. INV. = 741.15 N. INV. = 739.92

9 9

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: NORTH WATER STREET	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL
PLOT DATE : 6/2/2015
PLOT TIME : 8:52:25 PM
PLOT BY : HANOLD, ROBERT
PLOT SCALE : 1:10

END CONSTRUCTION 1643-08-81
STA 53+50
MATCH EXISTING

53+50

53+00

760
750
740
730

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

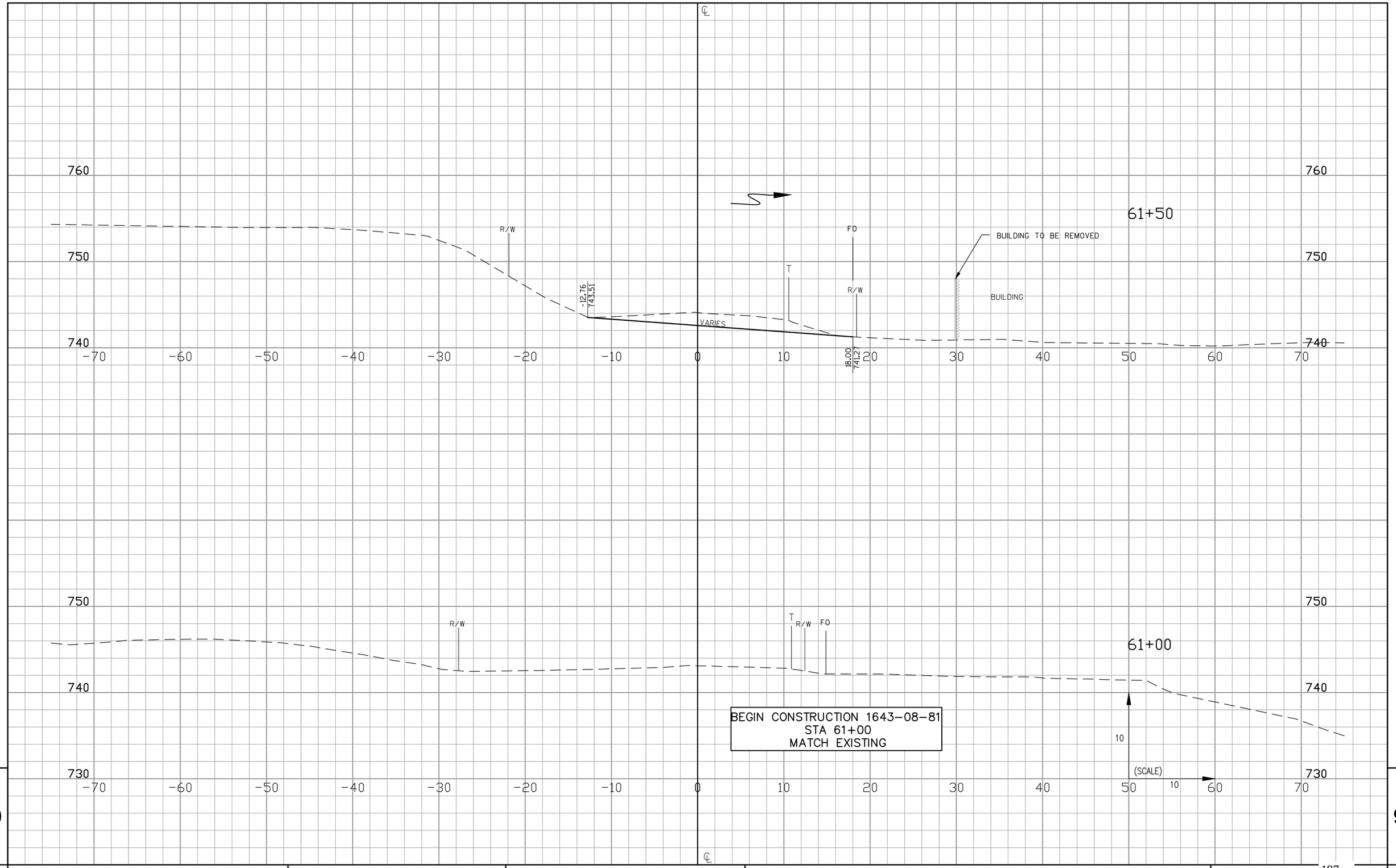
TLE
R/W
G
OH
FO
-24.88
741.76
4.0:1
6.0:1
-12.00
741.61
-19.37
740.38
10
(SCALE)
10

9

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: NORTH WATER STREET	SHEET

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:52:44 PM
PLOT BY : HANOLD, ROBERT
PLOT SCALE : 1:10



PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: SOUTH WATER STREET REMOVAL	SHEET

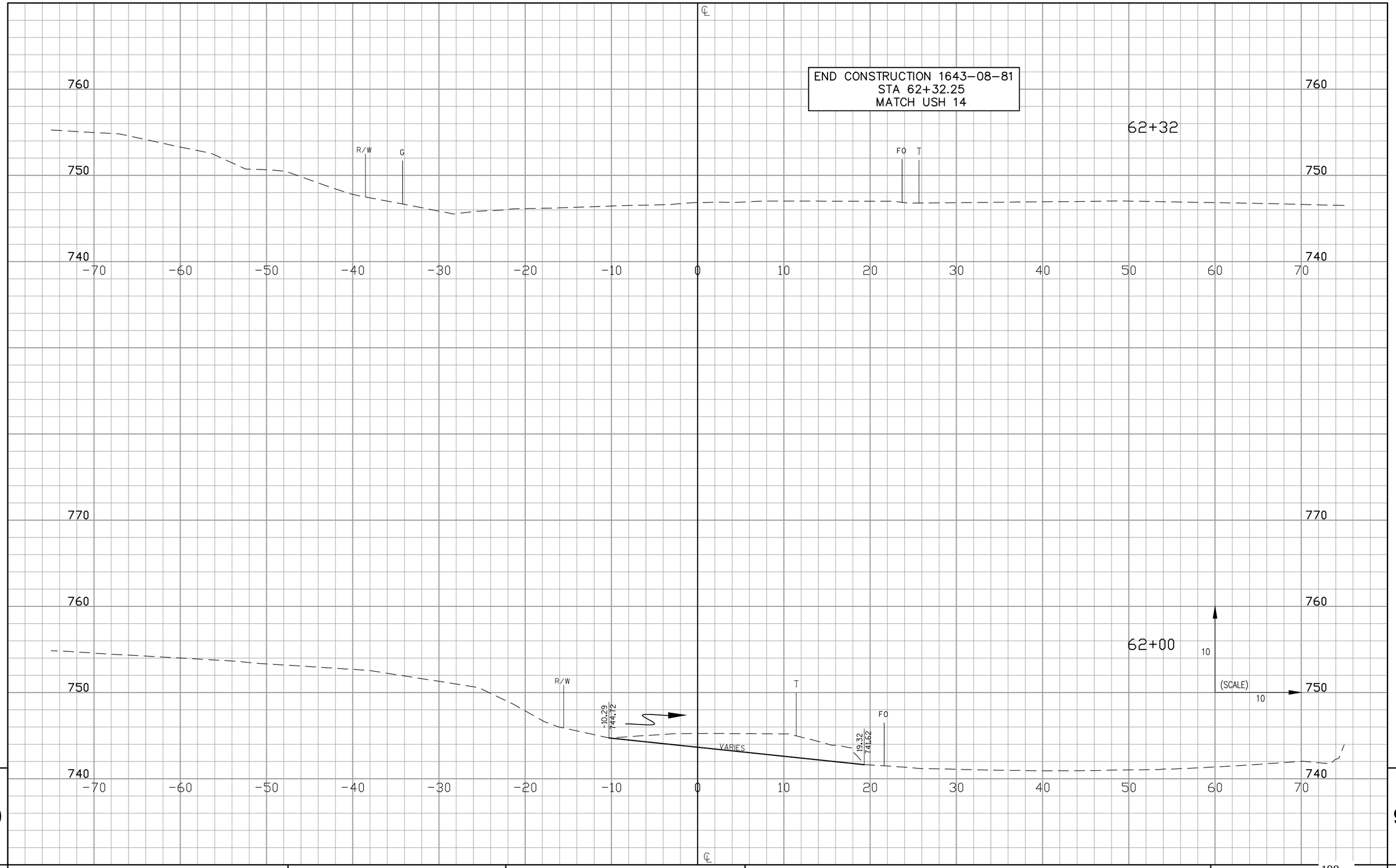
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:59:44 PM

PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10

END CONSTRUCTION 1643-08-81
STA 62+32.25
MATCH USH 14



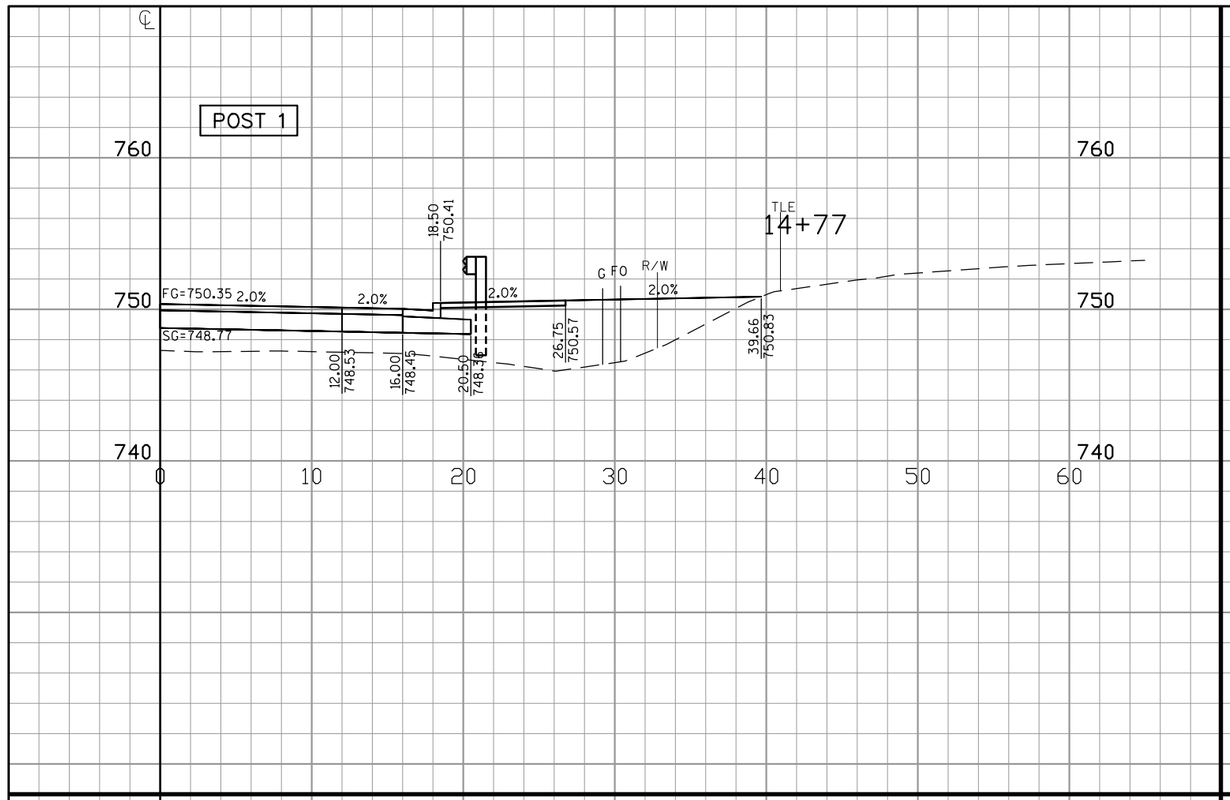
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: SOUTH WATER STREET REMOVAL	SHEET

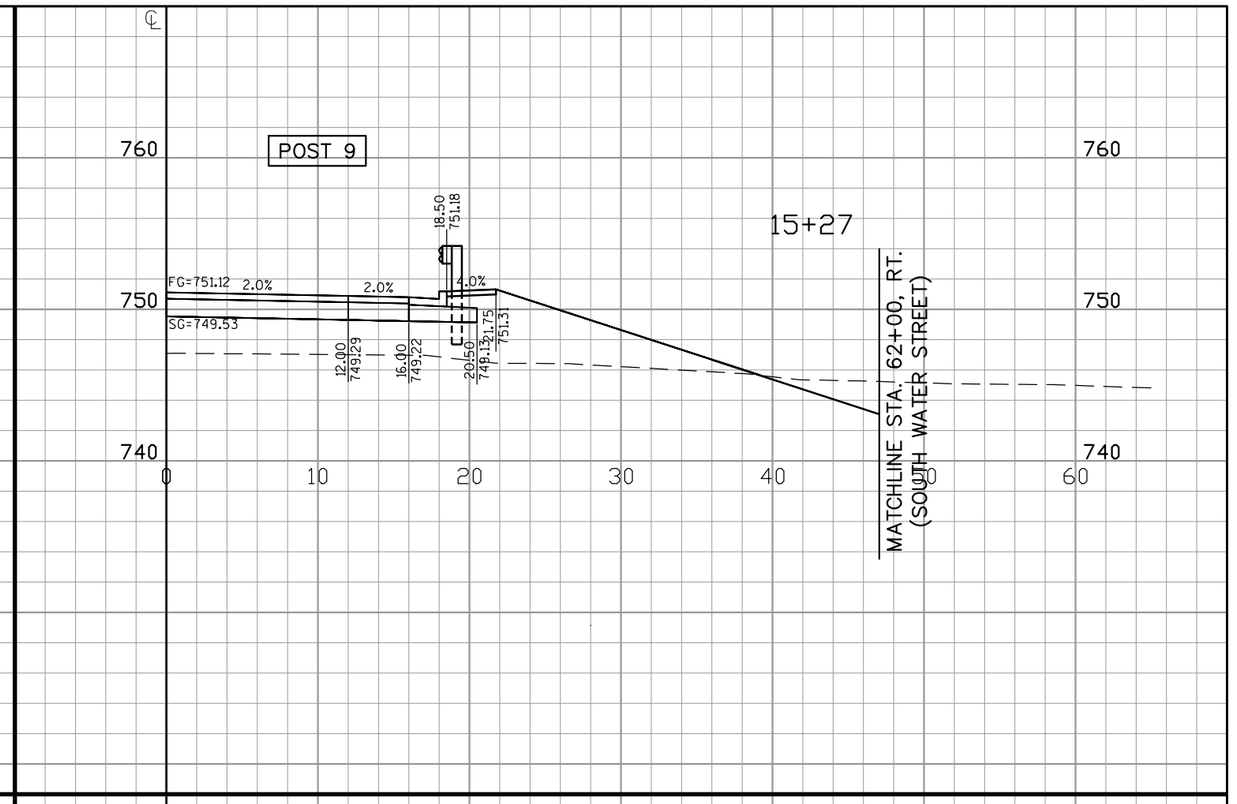
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

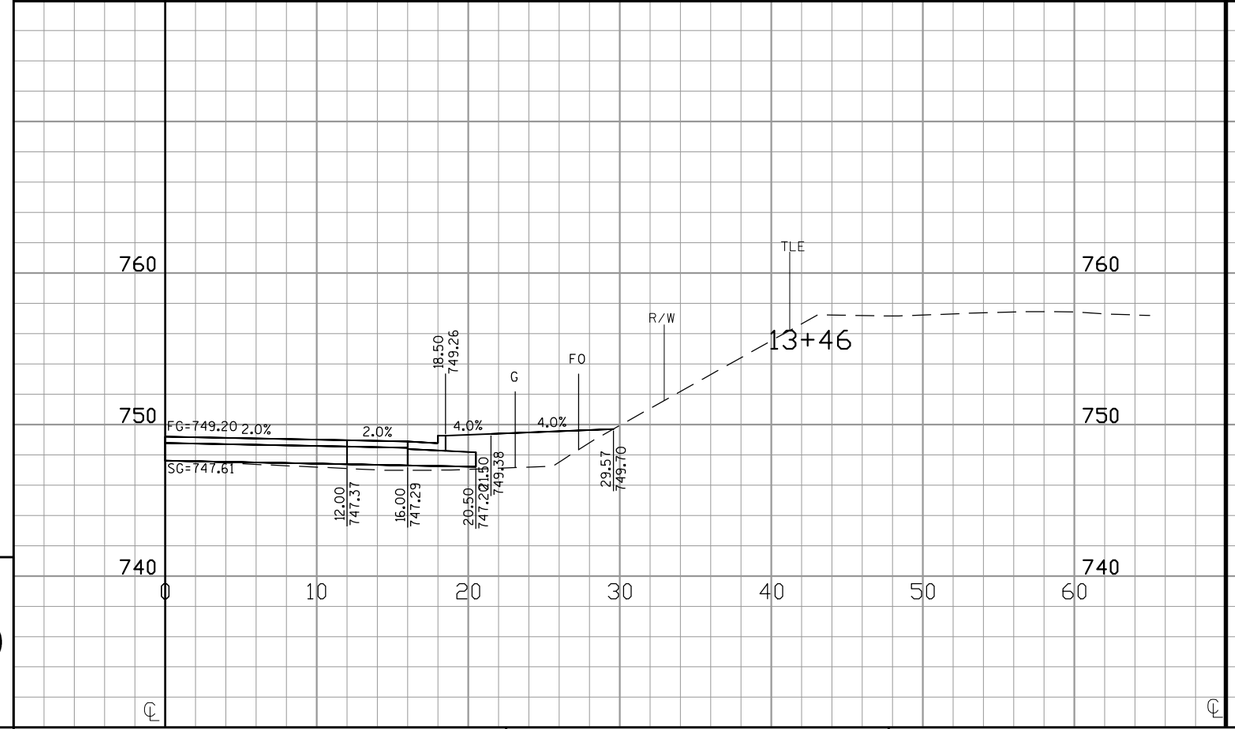
PLOT DATE : 6/2/2015
PLOT TIME : 9:00:07 PM

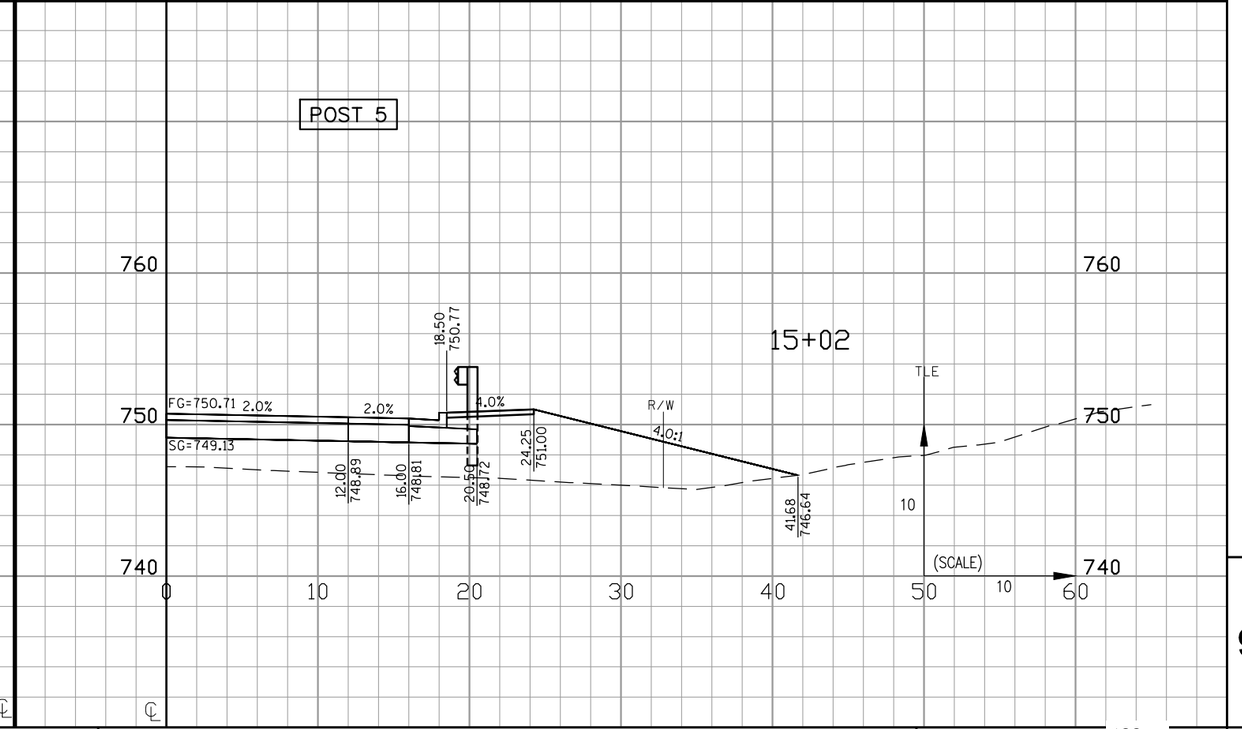
PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10









9

9

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: BEAM GUARD (SOUTHWEST QUADRANT)	SHEET

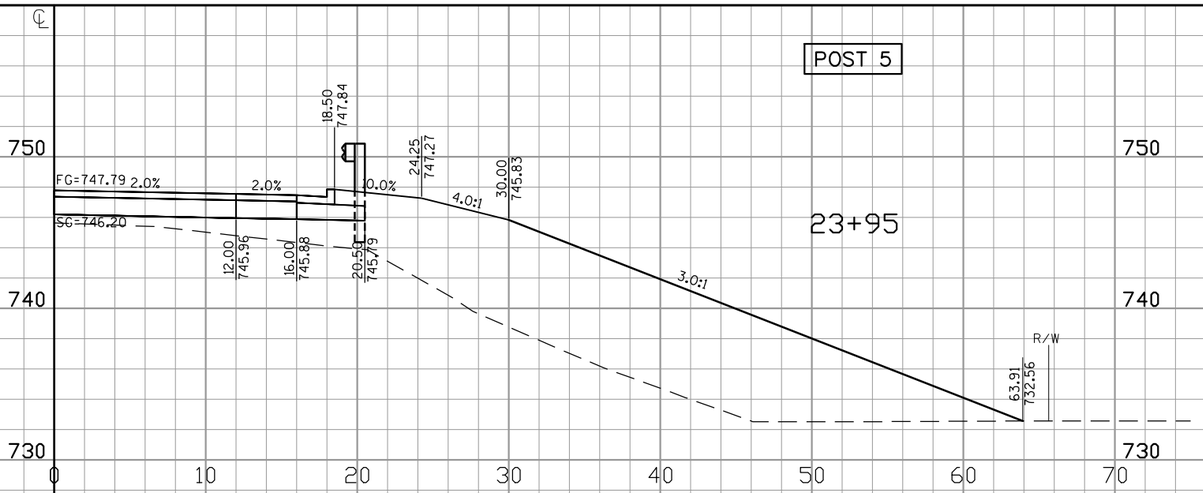
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:53:57 PM

PLOT BY : HANOLD, ROBERT

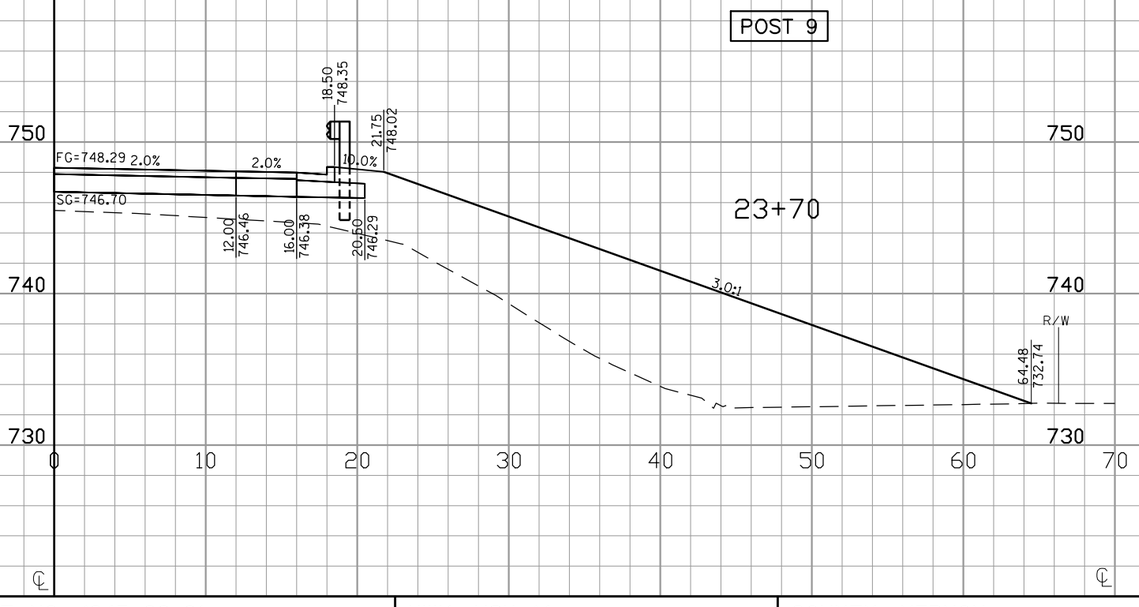
PLOT SCALE : 1:10

POST 5

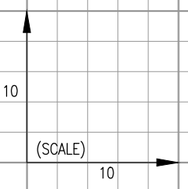


23+95

POST 9



23+70



9

9

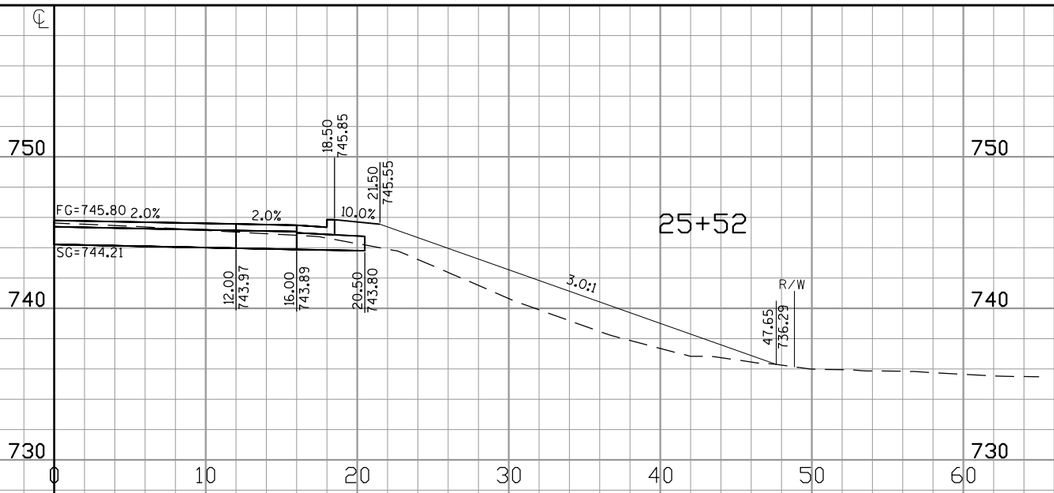
PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: BEAM GUARD (SOUTHEAST QUADRANT)	SHEET

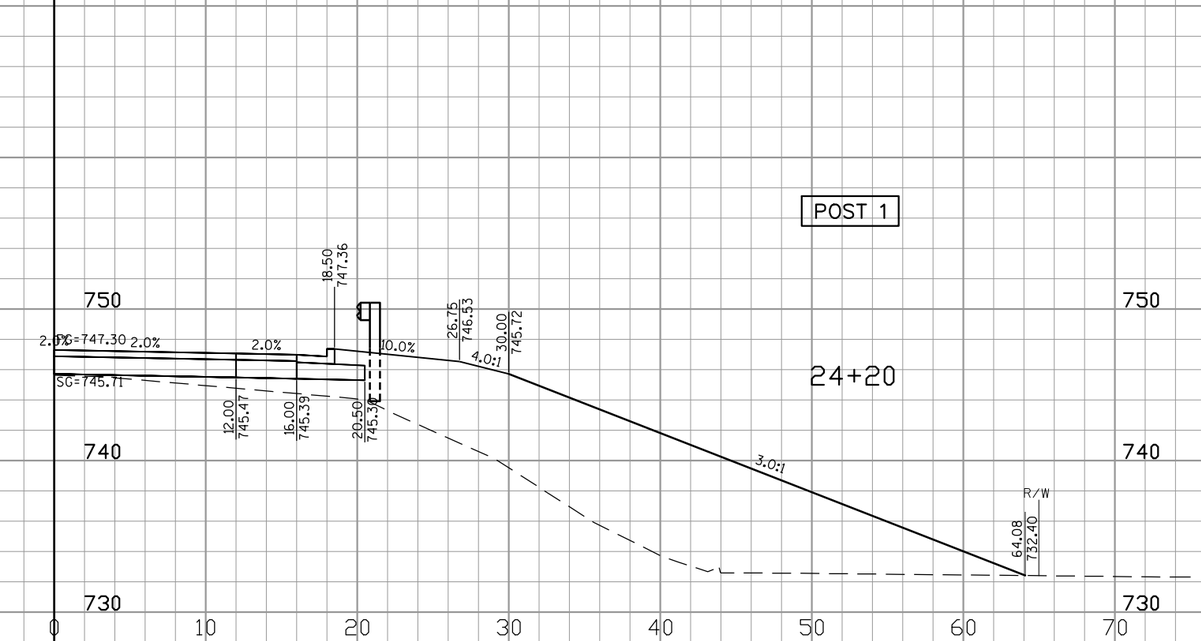
FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

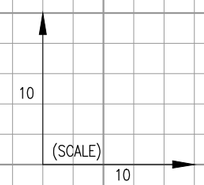
PLOT DATE : 6/2/2015
PLOT TIME : 8:54:15 PM

PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10







9

9

PROJECT NO: 1643-08-81	HWY: USH 14	COUNTY: VERNON	CROSS SECTIONS: BEAM GUARD (SOUTHEAST QUADRANT)	SHEET 201 E

FILE NAME : S:\PROJECTS\W11499 USH 14 READSTOWN BRIDGE\DESIGN FILES\ENGINEERING\W11499_BASE.DWG
LAYOUT : MODEL

PLOT DATE : 6/2/2015
PLOT TIME : 8:54:41 PM

PLOT BY : HANOLD, ROBERT

PLOT SCALE : 1:10

Wisconsin Department of Transportation

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