WIS

JULY 2017

PROJECT ID: WITH: N/A

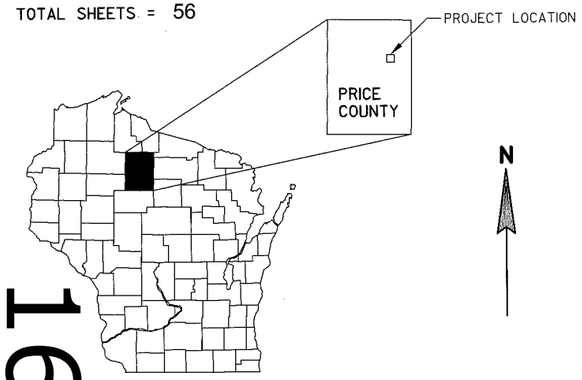
9894-00-71

COUNTY: PRICE

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 56



16

DESIGN DESIGNATION

A.A.D.T.	2017	=	37
A.A.D.T.	2037	=	54
D.H.V.	2037	=	8
D.D.		=	60/40
T.		=	95% ASSUMED
DESIGN SPEED		=	<25 MPH
ESALS		=	140,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) — ROCK
- SPECIAL DITCH — LABEL
- GRADE ELEVATION — 95.36
- CULVERT (Profile View)

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T WORCESTER, ELK RIVER BRIDGE

SHEEP RANCH ROAD; FH38 FR131

LOCAL STREET
PRICE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9894-00-71	WISC 2017350	1

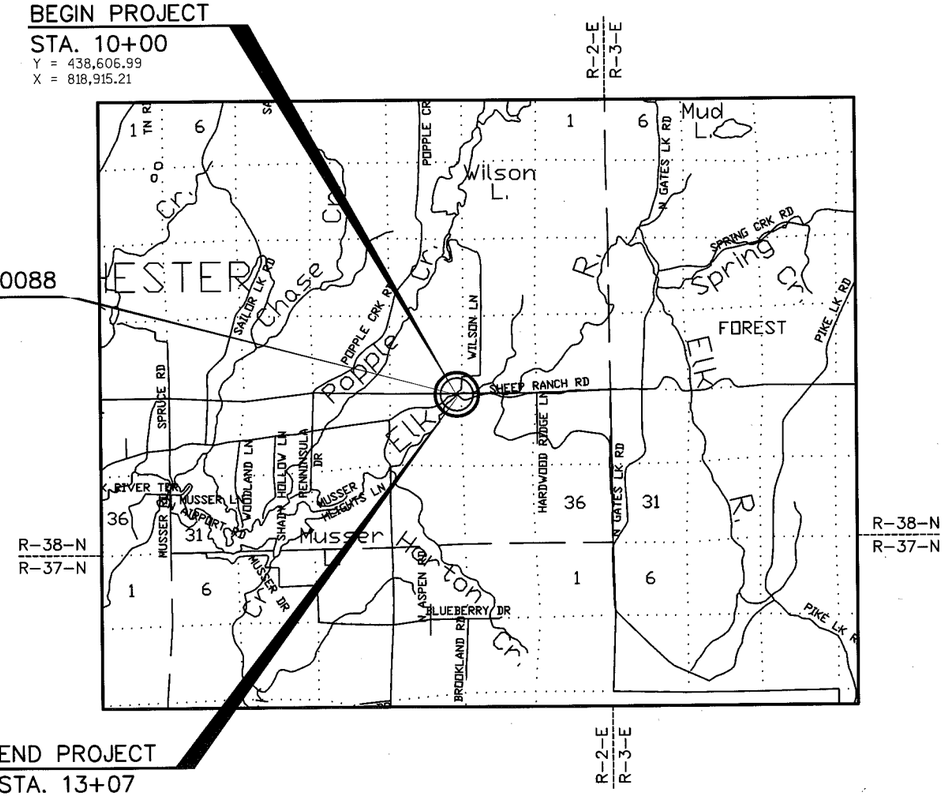
STATE PROJECT NUMBER

9894-00-71

BEGIN PROJECT
STA. 10+00
Y = 438,606.99
X = 818,915.21

STRUCTURE B-50-0088

END PROJECT
STA. 13+07



LAYOUT

SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.058 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM, PRICE COUNTY, NAD83 (1997) IN U.S. SURVEY FEET, VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR
US FOREST SERVICE
1/24/17 (Date) (Forest Supervisor)

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

1/19/17 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor: JEWELL ASSOCIATES ENGINEERS, INC.

Designer: JEWELL ASSOCIATES ENGINEERS, INC.

Management Consultant: CEDAR CORP.

APPROVED FOR THE DEPARTMENT

DATE: 1-31-2017

Management Consultant Signature

E

2

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		

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

TOTAL PROJECT AREA= 0.50 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.46 ACRES

GENERAL NOTES

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

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. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

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. 30), AND EROSION MAT AS DIRECTED BY THE ENGINEER.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE 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 AND CULVERT PIPE CHECKS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

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

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 25%.

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

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

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN. 3.5–INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1.75–INCH UPPER LAYER AND 1.75–INCH LOWER LAYER.

TACK COAT QUANTITIES WERE CALCULATED USING A 0.060 GAL/SY APPLICATION RATE.

CURVE DATA IS BASED ON THE ARC DEFINITION.

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

ALL RADII DIMENSIONS ARE MEASURED TO EDGE OF ASPHALT.

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

ELEVATIONS ON THE PLAN ARE REFERENCED TO EMERY GPS STATION (PID DN7210). THE STATION IS A BRONZE PRICE COUNTY GEODETIC CONTROL MARKER DISK SET IN THE TOP OF A 35–CM (14 INCH) DIAMETER CONCRETE POST, RECESSED 30 CM (12 INCHES) BELOW GROUND LEVEL AND APPROXIMATELY 0.5 M (24.9 FT) WEST OF THE CENTERLINE OF COUNTY HIGHWAY H, 3.8 MI (6.1 KM) NORTH OF COUNTY HIGHWAY D, 0.35 MI (0.6 KM) NORTH OF HEMLOCK DRIVE, 15.8 M (51.8 FT) WEST OF A POWER POLE, 0.5 M (1.6 FT) EAST OF A CULTIVED FIELD, 0.6 M (3.0 FT) WEST OF A COUNTY SURVEYORS METAL WITNESS POST AND IS 1 M (3.3 FT) FROM THREE ORANGE 4X4 PLASTIC GUARD POSTS SURROUNDING THE STATION.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT BEYOND THE SLOPE INTERCEPTS IN THESE AREAS.

CONTACTS

DESIGN CONSULTANT

JEWELL ASSOCIATES ENGINEERS, INC.
310 E. JACKSON ST.
WISCONSIN RAPIDS, WI 54494
ATTN: SCOTT WHITSETT, PE
PHONE: (715) 424-2424
FAX: (715) 424-2421
EMAIL: scott.whitsett@jewellassoc.com

DNR LIAISON

STATE OF WISCONSIN
DNR SERVICE CENTER
810 W. MAPLE ST.
SPOONER, WI 54801
ATTN: SHAWN HASELEU
PHONE: (715) 635-4228
EMAIL: shawn.haseleu@wisconsin.gov

US FOREST SERVICE

MARK BEUNING, FOREST ENGINEER
500 HANSON LAKE ROAD
RHINELANDER, WI 54501
PHONE: (715) 362–1377
EMAIL: mbeuning@fs.fed.us

UTILITIES

ELECTRIC

PRICE ELECTRIC COOOPERATIVE
BEN ORYSEN
PO BOX 110
PHILLIPS, WI 54555
PHONE: (715) 339–2155

TELEPHONE

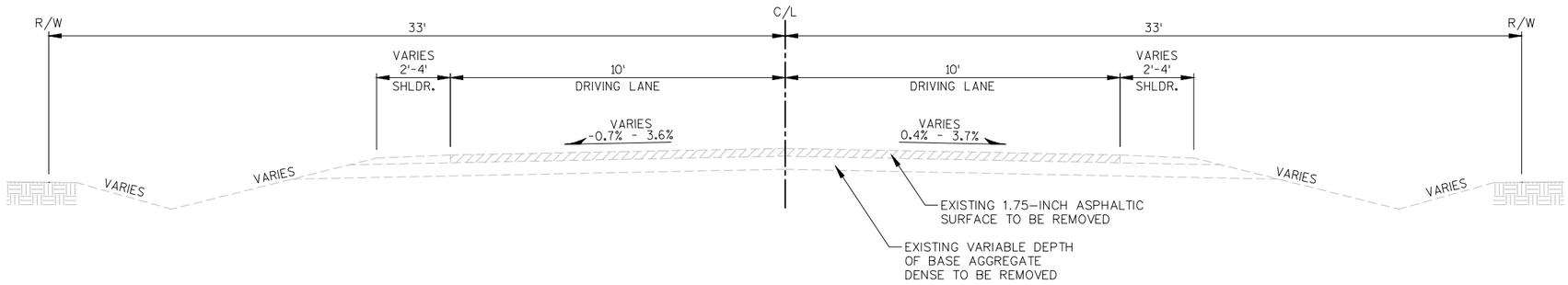
PRICE COUNTY TELEPHONE
JEFF HALLSTRAND
PO BOX 108
PHILLIPS, WI 54555
PHONE: (715) 339–2151

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

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\GEN NOTES – CONTACTS – UTILITIES.DWG
LAYOUT :
PLOT DATE : 5/9/2017
PLOT TIME : 8:26:06 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

2



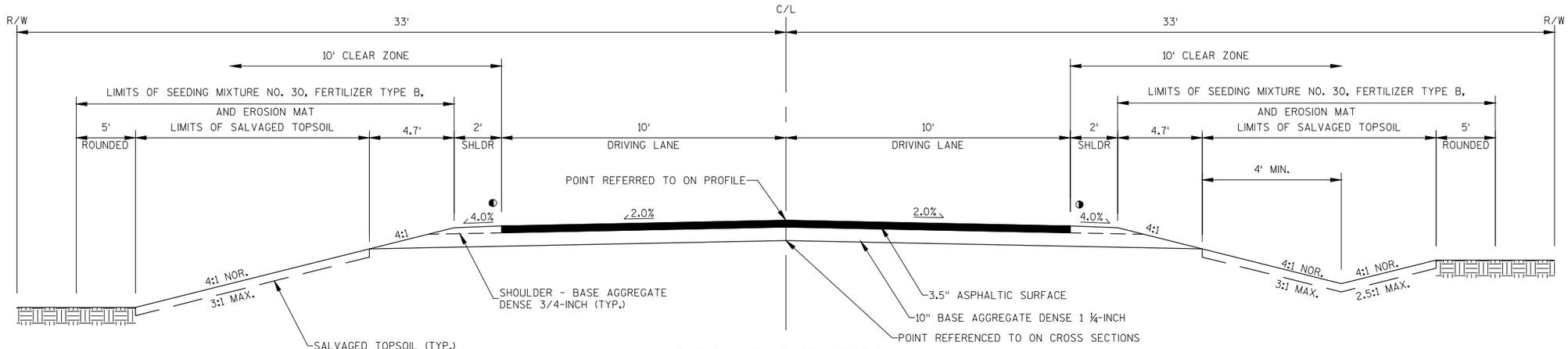
TYPICAL EXISTING SECTION

SHEEP RANCH ROAD
STA. 10+00 – STA. 13+07

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	TYPICAL EXISTING - SHEEP RANCH ROAD	SHEET 3	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\TYPICALS\W11553_TYPICALS.DWG
LAYOUT : EXISTING
PLOT DATE : 9/8/2016
PLOT TIME : 4:03:08 PM
PLOT BY : CHRISTIANSON, TAYLOR
PLOT SCALE : 1" = 1'

2



TYPICAL FINISHED SECTION

STA. 10+00 - STA. 13+07

FILL SECTION

CUT SECTION

◑ ASPHALT SAFETY EDGE

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	FINISHED TYPICAL - SHEEP RANCH ROAD	SHEET 4	E

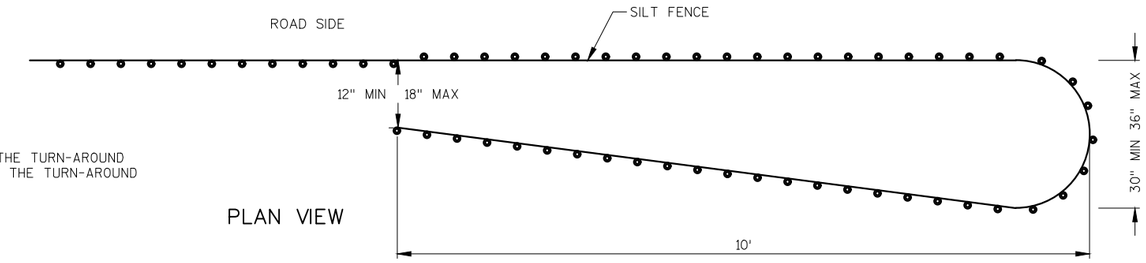
FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\TYPICALS\W11553_TYPICALS.DWG
LAYOUT : PROPOSED

PLOT DATE : 8/19/2016
PLOT TIME : 1:27:09 PM

PLOT BY : CHRISTIANSON, TAYLOR

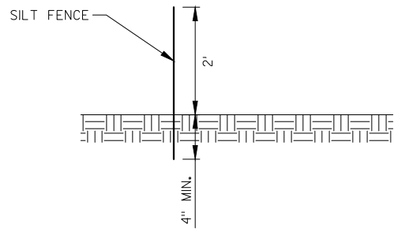
PLOT SCALE : 1" = 1'

2

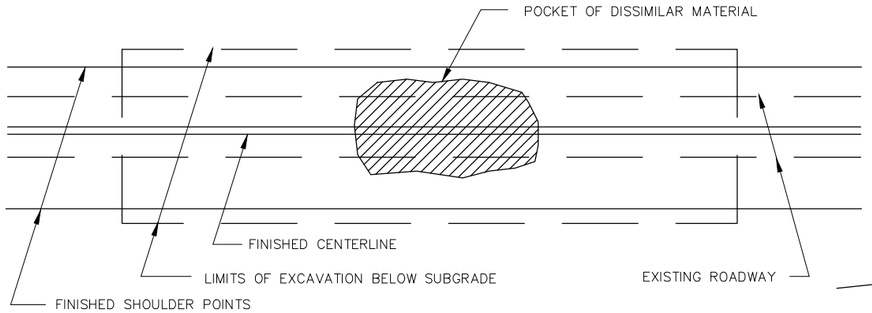


NOTE: SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND

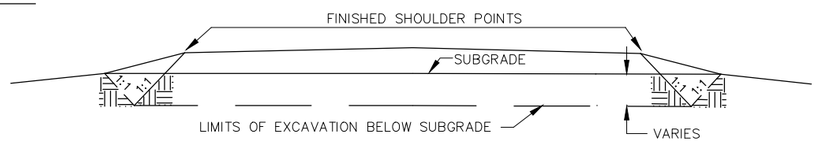
PLAN VIEW



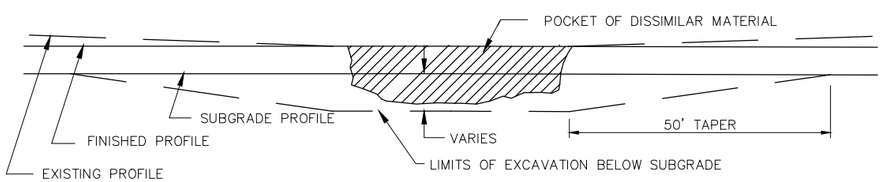
SILT FENCE TURN–AROUND DETAIL



PLAN VIEW



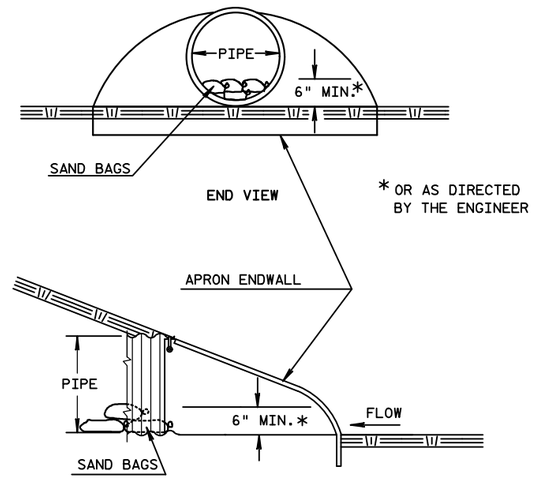
CROSS SECTION VIEW



PROFILE 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.

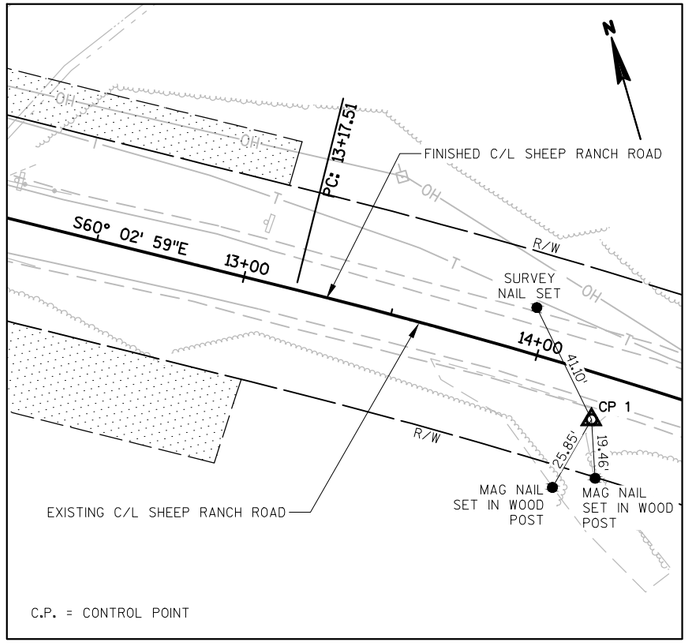
EXCAVATION BELOW SUBGRADE (E.B.S.)



CULVERT PIPE DITCH CHECK

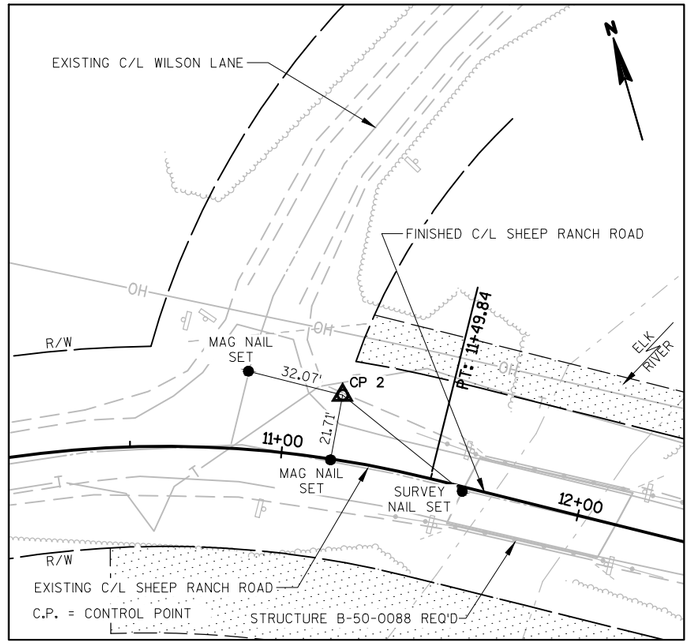
PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	CONSTRUCTION DETAILS	SHEET 5	E

FILE NAME : R:\Projects\W11553 Sheep Ranch Rd, Price County\SheetsPlan\Details\W11553–Construction Details 1.dwg
PLOT DATE : 5/8/2017 3:28 PM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1'–0" = 1'–0"



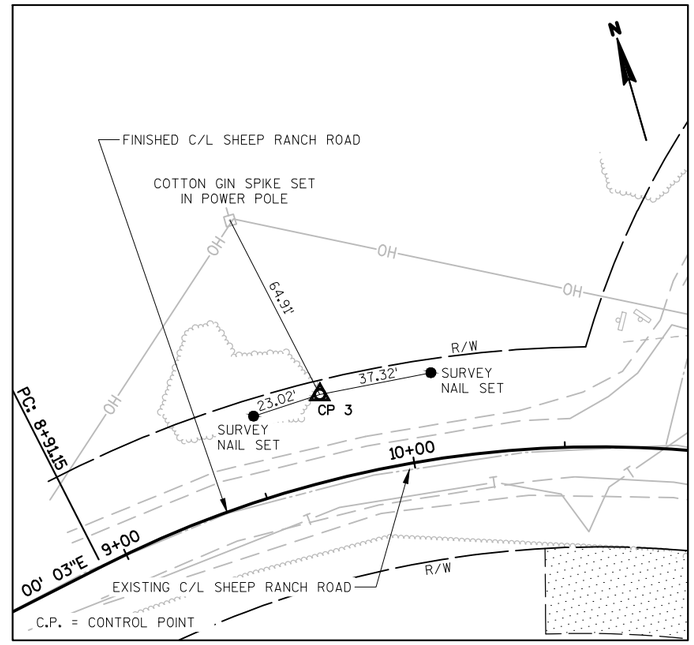
TIES TO C.P.#1

STA. 14+23.43; 15.16' RT.
Y = 438,409.71
X = 819,284.02



TIES TO C.P.#2

STA. 11+17.03; 21.32' LT.
Y = 438,595.89
X = 819,036.50



TIES TO C.P.#3

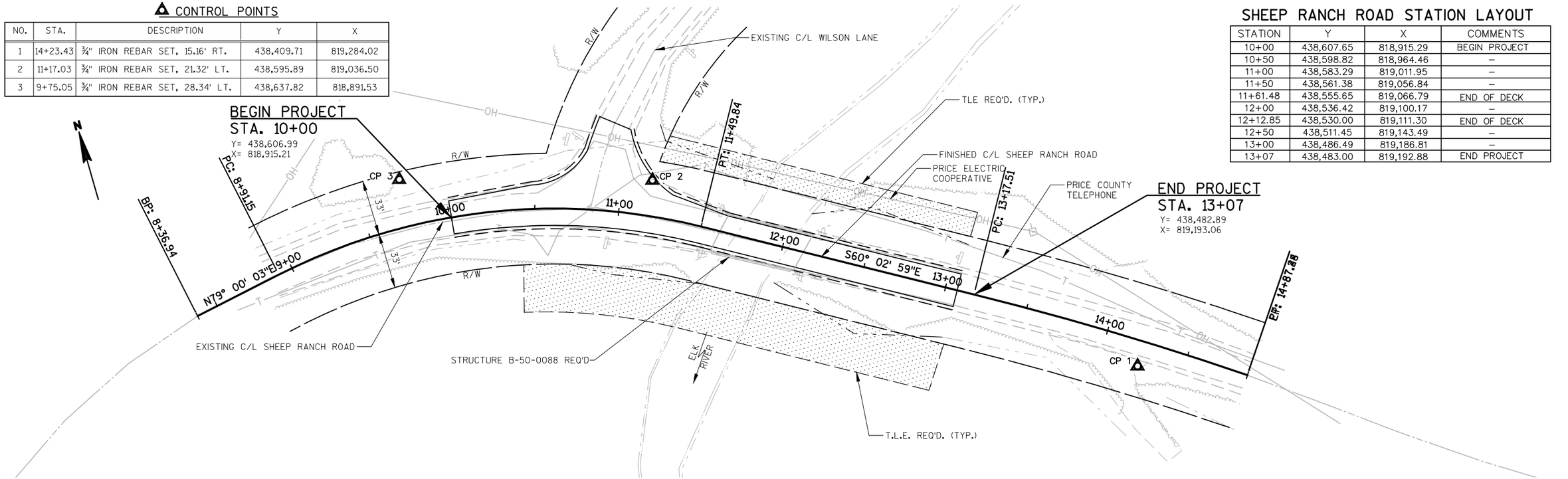
STA. 9+75.05; 28.34' LT.
Y = 438,637.82
X = 818,891.53

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	14+23.43	¾" IRON REBAR SET, 15.16' RT.	438,409.71	819,284.02
2	11+17.03	¾" IRON REBAR SET, 21.32' LT.	438,595.89	819,036.50
3	9+75.05	¾" IRON REBAR SET, 28.34' LT.	438,637.82	818,891.53

SHEEP RANCH ROAD STATION LAYOUT

STATION	Y	X	COMMENTS
10+00	438,607.65	818,915.29	BEGIN PROJECT
10+50	438,598.82	818,964.46	–
11+00	438,583.29	819,011.95	–
11+50	438,561.38	819,056.84	–
11+61.48	438,555.65	819,066.79	END OF DECK
12+00	438,536.42	819,100.17	–
12+12.85	438,530.00	819,111.30	END OF DECK
12+50	438,511.45	819,143.49	–
13+00	438,486.49	819,186.81	–
13+07	438,483.00	819,192.88	END PROJECT



PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	TIES AND ALIGNMENT PLAN	SHEET 6	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\ALIGNMENT AND TIE SHEET_RECOVER.DWG
LAYOUT : SHEET_RECOVER
PLOT DATE : 9/14/2016
PLOT TIME : 4:24:10 PM
PLOT BY : STRINE, THERESA
PLOT SCALE : 1" = 1'

2

LEGEND

- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- WORK ZONE
- DIRECTION OF TRAFFIC

GENERAL NOTES FOR TRAFFIC CONTROL

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

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

ALL "W" AND "WO" SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS AND BUSINESSES.

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

ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ACCESS TO ALL PROPERTY ABUTTING THE ROADWAY CONSTRUCTION WORK THROUGHOUT THE LIFE OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, LIGHTS, TEMPORARY MARKINGS, FLAGGERS, AND SUCH OTHER SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

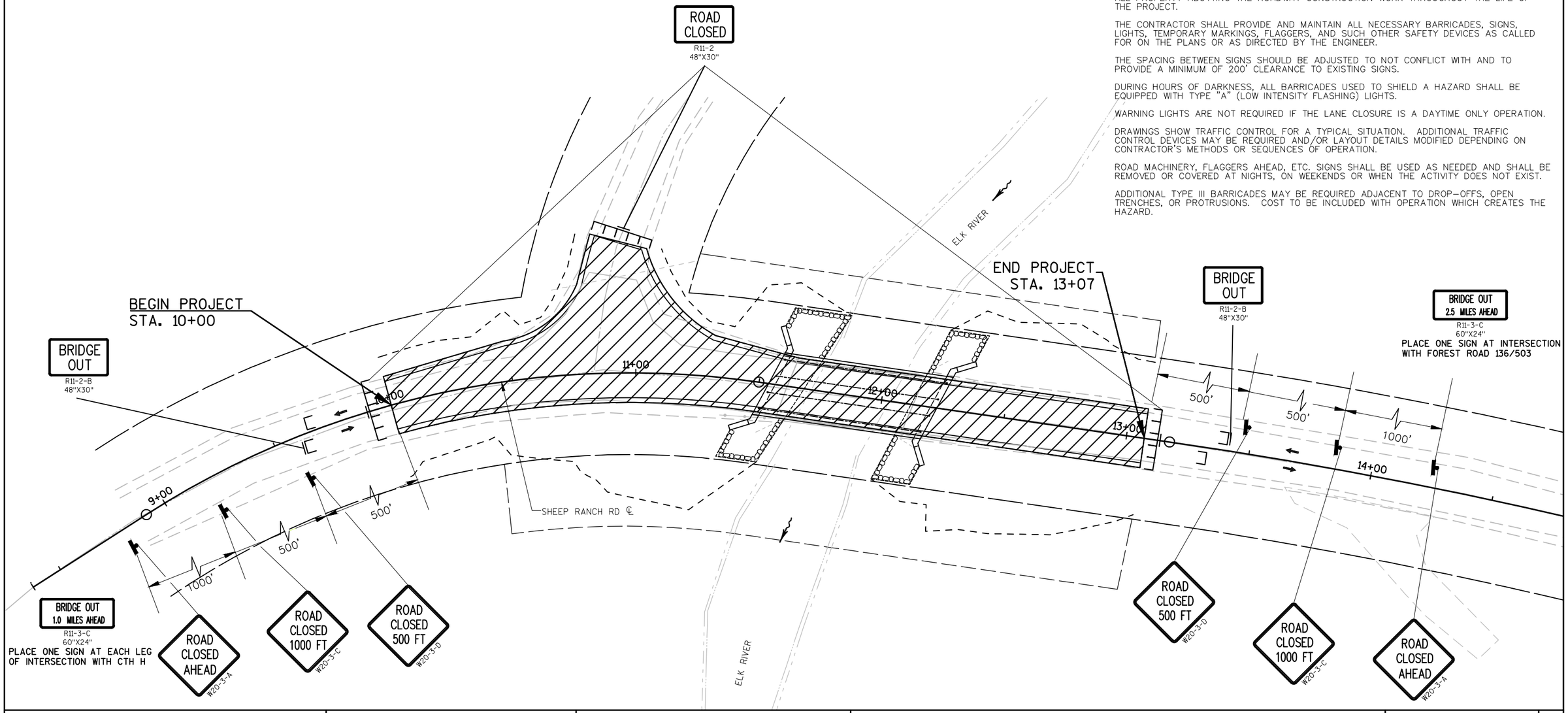
DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS OR SEQUENCES OF OPERATION.

ROAD MACHINERY, FLAGGERS AHEAD, ETC. SIGNS SHALL BE USED AS NEEDED AND SHALL BE REMOVED OR COVERED AT NIGHTS, ON WEEKENDS OR WHEN THE ACTIVITY DOES NOT EXIST.

ADDITIONAL TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.



PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	TRAFFIC CONTROL	SHEET 7	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\TRAFFIC CONTROL.DWG
LAYOUT : 1
PLOT DATE : 5/9/2017
PLOT TIME : 9:44:06 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : "PLOT" SCALE : **********

2

LEGEND

1. 

2. 

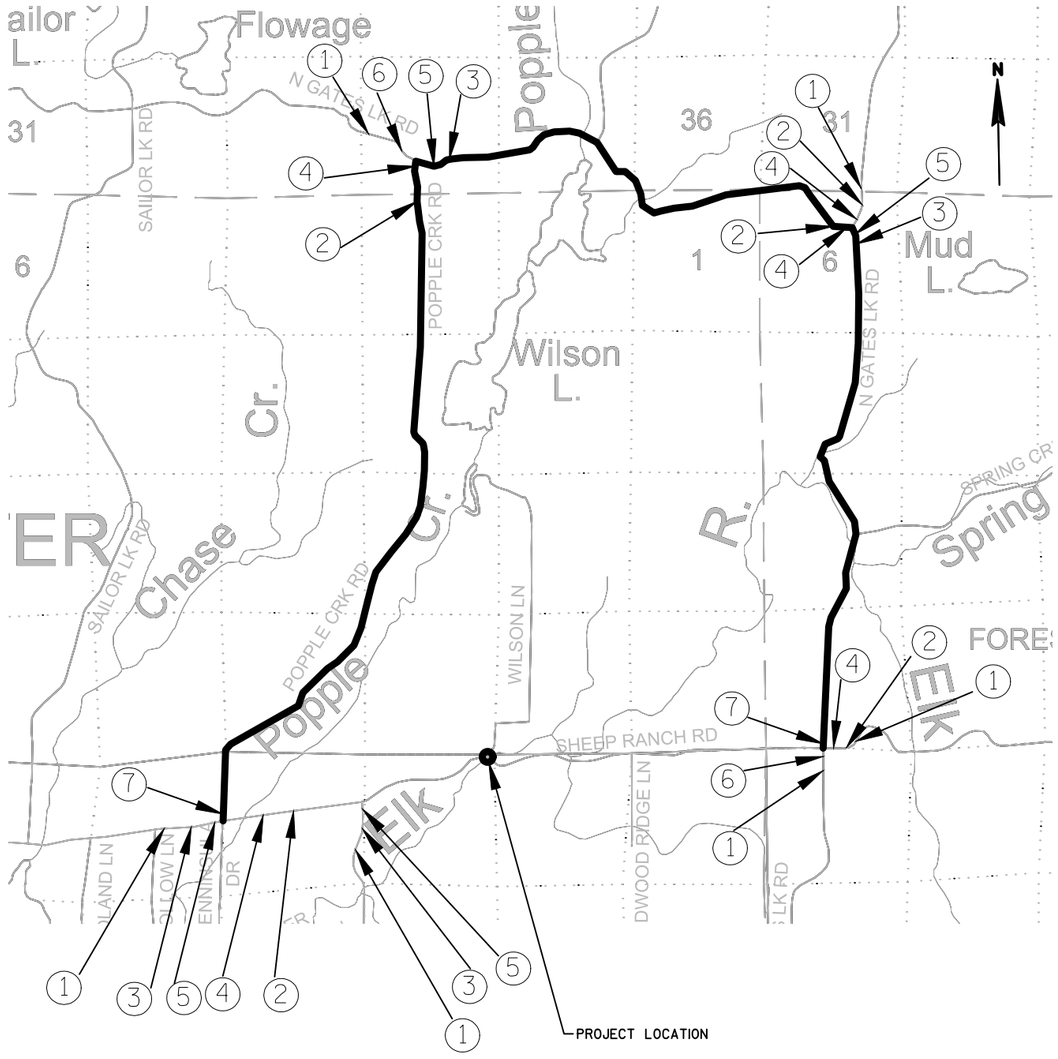
3. 

4.

5. 

6. 

7. 



GENERAL NOTES:

THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT THE 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 REMOVED AS SPECIFIED IN THE PLANS AN/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

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	DETOUR	SHEET 8	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\DETOUR.DWG
LAYOUT : 1
PLOT DATE : 5/9/2017
PLOT TIME : 9:46:02 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : "PLOT" SCALE : **********

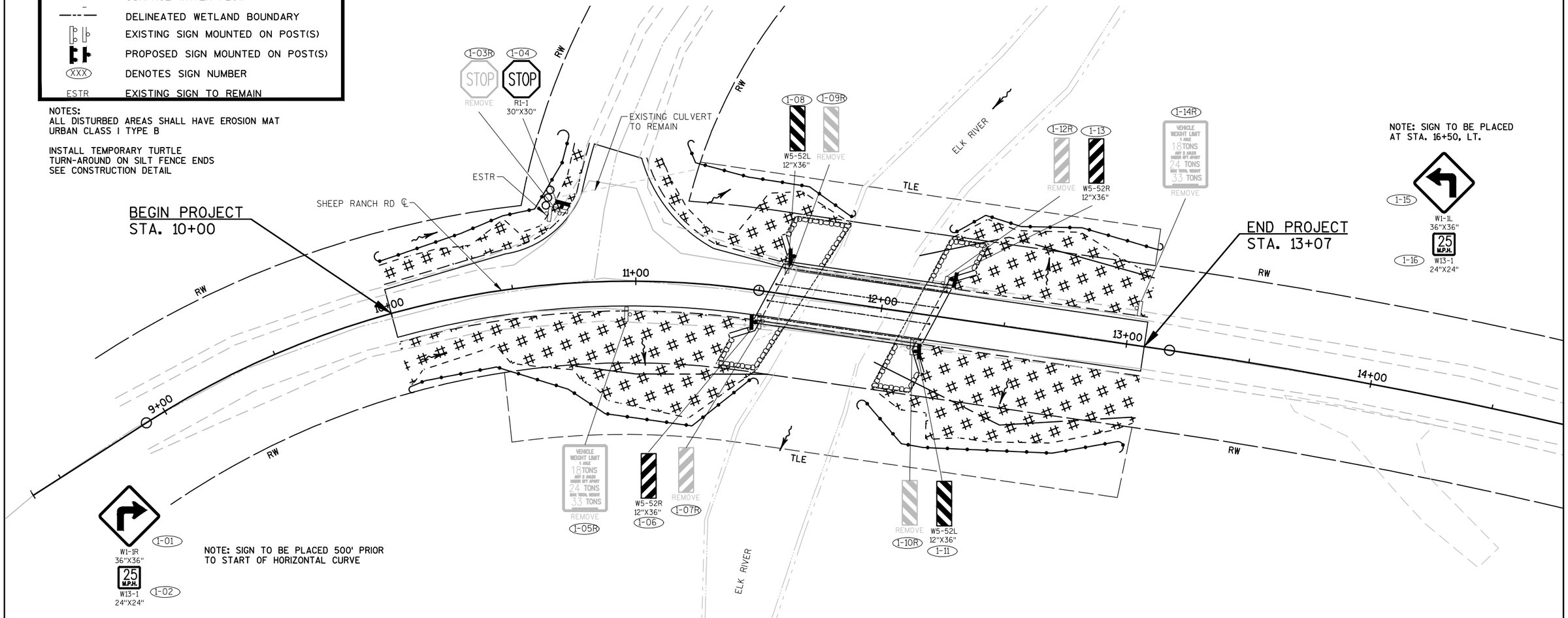
2

LEGEND

- SILT FENCE
- RIP RAP HEAVY
- EROSION MAT URBAN CLASS I TYPE B
- SLOPE INTERCEPT
- PIPE CHECK
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

NOTES:
ALL DISTURBED AREAS SHALL HAVE EROSION MAT URBAN CLASS I TYPE B

INSTALL TEMPORARY TURTLE TURN-AROUND ON SILT FENCE ENDS SEE CONSTRUCTION DETAIL



PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	PERMANENT SIGNING & EROSION CONTROL	SHEET 9	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\EROSION CONTROL.DWG
LAYOUT : 1
PLOT DATE : 9/20/2016
PLOT TIME : 10:38:11 AM
PLOT BY : CHRISTIANSON, TAYLOR
PLOT SCALE : PLOT SCALE : **********

9894-00-71

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	3.000	3.000
0020	201.0205	Grubbing	STA	3.000	3.000
0030	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. P-50-0051	LS	1.000	1.000
0040	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 11+87	LS	1.000	1.000
0050	205.0100	Excavation Common **P**	CY	344.000	344.000
0060	206.1000	Excavation for Structures Bridges (structure) 01. B-50-0088	LS	1.000	1.000
0070	210.1500	Backfill Structure Type A	TON	280.000	280.000
0080	213.0100	Finishing Roadway (project) 01. 9894-00-71	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	50.000	50.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	650.000	650.000
0110	455.0605	Tack Coat	GAL	45.000	45.000
0120	465.0105	Asphaltic Surface	TON	160.000	160.000
0130	502.0100	Concrete Masonry Bridges	CY	124.000	124.000
0140	502.3200	Protective Surface Treatment	SY	230.000	230.000
0150	503.0136	Prestressed Girder Type I 36-Inch	LF	268.000	268.000
0160	505.0400	Bar Steel Reinforcement HS Structures	LB	4,280.000	4,280.000
0170	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	16,610.000	16,610.000
0180	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0190	506.4000	Steel Diaphragms (structure) 01. B-50-0088	EACH	3.000	3.000
0200	513.4061	Railing Tubular Type M (structure) 01. B-50-0088	LF	141.000	141.000
0210	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0220	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	540.000	540.000
0230	606.0300	Riprap Heavy	CY	170.000	170.000
0240	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0250	619.1000	Mobilization	EACH	1.000	1.000
0260	624.0100	Water	MGAL	5.000	5.000
0270	625.0500	Salvaged Topsoil	SY	1,370.000	1,370.000
0280	628.1504	Silt Fence	LF	870.000	870.000
0290	628.1520	Silt Fence Maintenance	LF	2,610.000	2,610.000
0300	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0310	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0320	628.2008	Erosion Mat Urban Class I Type B **P**	SY	1,370.000	1,370.000
0330	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0340	629.0210	Fertilizer Type B **P**	CWT	1.000	1.000
0350	630.0130	Seeding Mixture No. 30 **P**	LB	13.000	13.000
0360	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0370	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000

9894-00-71

Line	Item	Item Description	Unit	Total	Qty
0380	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0390	637.2230	Signs Type II Reflective F	SF	38.000	38.000
0400	638.2602	Removing Signs Type II	EACH	7.000	7.000
0410	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0420	642.5001	Field Office Type B	EACH	1.000	1.000
0430	643.0100	Traffic Control (project) 01. 9894-00-71	EACH	1.000	1.000
0440	643.0420	Traffic Control Barricades Type III	DAY	1,428.000	1,428.000
0450	643.0705	Traffic Control Warning Lights Type A	DAY	952.000	952.000
0460	643.0900	Traffic Control Signs	DAY	884.000	884.000
0470	643.2000	Traffic Control Detour (project) 01. 9894-00-71	EACH	1.000	1.000
0480	643.3000	Traffic Control Detour Signs	DAY	3,400.000	3,400.000
0490	645.0120	Geotextile Type HR	SY	280.000	280.000
0500	650.4500	Construction Staking Subgrade	LF	238.000	238.000
0510	650.5000	Construction Staking Base	LF	238.000	238.000
0520	650.6500	Construction Staking Structure Layout (structure) 01. B-50-0088	LS	1.000	1.000
0530	650.9910	Construction Staking Supplemental Control (project) 01. 9894-00-71	LS	1.000	1.000
0540	650.9920	Construction Staking Slope Stakes	LF	238.000	238.000
0550	715.0502	Incentive Strength Concrete Structures	DOL	744.000	744.000
0560	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0570	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

ALL BID ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

CLEARING & GRUBBING

STATION - STATION	LOCATION	PROJECT ID 9894-00-71 201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
11+00 - 12+00	MAINLINE, RT	1	1
12+00 - 13+00	MAINLINE, RT	1	1
12+00 - 13+00	MAINLINE, LT	1	1
	TOTALS =	3	3

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)
10+00 - 11+54	MAINLINE	20	275
12+22 - 13+07	MAINLINE	10	155
--	WILSON LN	10	170
--	UNDISTRIBUTED	10	50
	TOTALS =	50	650

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	(1) **P** 205.0100 COMMON EXCAVATION CUT (2) (CY)	AVAILABLE MATERIAL (CY) (3)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (4)	MASS ORDINATE +/- (CY) (5)	WASTE (CY)	COMMENT:
0010	10+00 - 11+54	MAINLINE	241	241	112	140	101	101	
	12+23 - 13+07	MAINLINE	103	103	148	185	-82	-82	
		TOTALS =	344	344	260	325	19		

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
4.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.25
5.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGO
MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

ASPHALTIC SURFACE

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
10+00 - 11+54	MAINLINE	20	70
12+22 - 13+07	MAINLINE	10	40
--	WILSON LN	10	35
--	UNDISTRIBUTED	5	15
	TOTALS =	45	160

WATER

PROJECT	624.0100 (MGAL)
9894-00-71	5
TOTAL =	5

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	MISCELLANEOUS QUANTITIES	SHEET 12	E

ALL BID ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

FINISHING ITEMS

STATION - STATION	LOCATION	**P** 625.0500 SALVAGED TOPSOIL (SY)	**P** 629.0210 FERTILIZER TYPE B (CWT)	**P** 630.0130 SEEDING MIXTURE NO. 30 (LB)
10+00 - 11+54	MAINLINE	555	0.4	5
12+22 - 13+07	MAINLINE	535	0.4	5
--	UNDISTRIBUTED	280	0.2	3
	TOTALS =	1370	1.0	13

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
10+00 - 10+73	MAINLINE, LT.	140	420
10+00 - 11+68	MAINLINE, RT.	180	540
11+00 - 11+68	MAINLINE, LT.	110	330
12+12 - 13+07	MAINLINE, RT.	140	420
12+12 - 13+07	MAINLINE, LT.	120	360
--	UNDISTRIBUTED	180	540
	TOTALS =	870	2610

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
9894-00-71	5	3
TOTALS =	5	3

3

EROSION MAT URBAN CLASS I TYPE B

STATION - STATION	LOCATION	628.2008 (SY)
10+00 - 11+54	MAINLINE	555
12+22 - 13+07	MAINLINE	535
--	UNDISTRIBUTED	280
	TOTAL =	1370

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
10+68 LT	MAINLINE	3
--	UNDISTRIBUTED	1
	TOTAL =	4

PERMANENT SIGNING

NUMBER	STATION	CODE	SIZE (INCH X INCH)	634.0616 POSTS WOOD 4X6 - INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6 - INCH X 18-FT (EACH)	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)
1-01	500-FEET PRIOR TO START OF HORIZONTAL CURVE, RT	W1-1R	36" X 36"	--	1	--	9.00
1-02	500-FEET PRIOR TO START OF HORIZONTAL CURVE, RT	W13-1	24" X 24"	--	--	--	4.00
1-04	10+73, LT	R1-1	30" X 30"	1	--	5.18	--
1-06	11+50, RT	W5-52R	12" x 36"	1	--	--	3.00
1-08	11+59, LT	W5-52L	12" x 36"	1	--	--	3.00
1-11	12+18, RT	W5-52L	12" x 36"	1	--	--	3.00
1-13	12+27, LT	W5-52R	12" x 36"	1	--	--	3.00
1-15	16+50, LT	W1-1R	36" X 36"	--	1	--	9.00
1-16	16+50, LT	W13-1	24" X 24"	--	--	--	4.00
			TOTALS =	5	2	5.18	38.00

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS

LOCATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
MAINLINE, 50 FT W OF B-50-0088	R12-56	1	1
MAINLINE, 75 FT E OF B-50-0088	R12-57	1	1
SHEEP RANCH RD./WILSON LN. INT. (WEST OF BRIDGE)	R1-1	1	1
SW QUADRANT STRUCTURE B-50-0088	W5-52R	1	1
SE QUADRANT STRUCTURE B-50-0088	W5-52L	1	1
NW QUADRANT STRUCTURE B-50-0089	W5-52L	1	1
NE QUADRANT STRUCTURE B-50-0090	W5-52R	1	1
	TOTALS =	7	7

TRAFFIC CONTROL

LOCATION	643.0100 (01. 9894-00-71) (EACH)	643.0420 BARRICADES TYPE III (DAYS)	643.0705 WARNING LIGHTS TYPE A (DAYS)	643.0900 SIGNS (DAYS)	643.2000 DETOUR (01. 9894-00-71) (EACH)	643.3000 DETOUR SIGNS (DAY)
PROJECT	1	1428	952	884	1	3400
TOTAL =	1	1428	952	884	1	3400

CONSTRUCTION STAKING

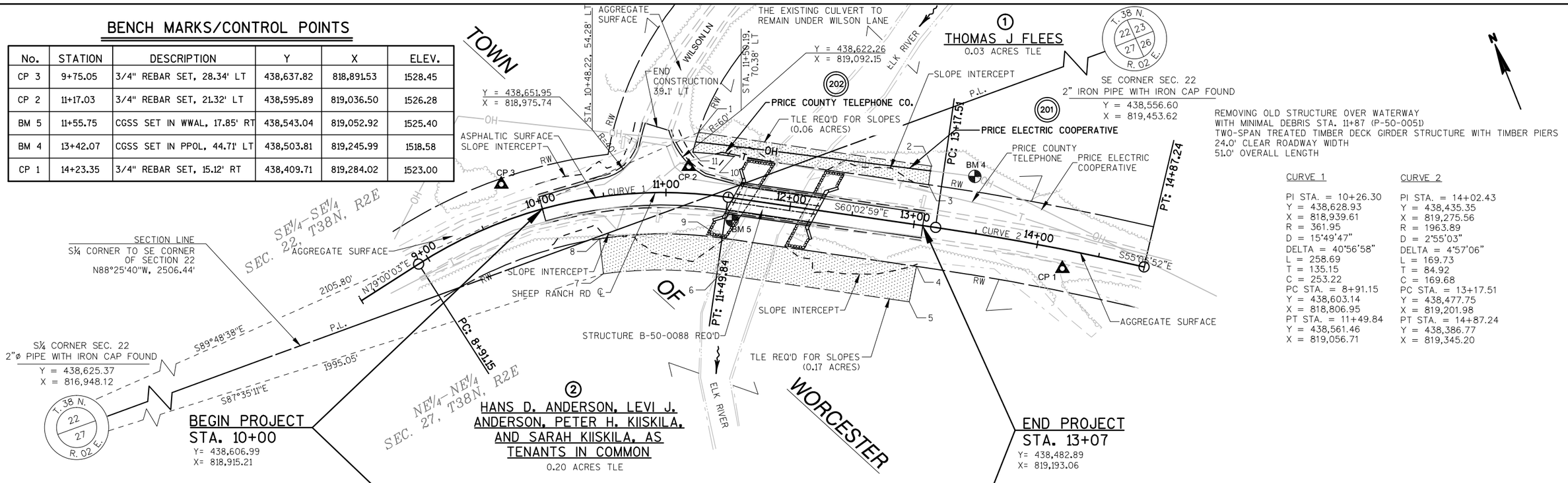
STATION -STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	*650.6500 STRUCTURE LAYOUT (B-50-0088) (LS)	650.9910 SUPPLEMENTAL CONTROL (01. 9894-00-71) (LS)	650.9920 SLOPES STAKES (LF)
10+00 - 11+54	MAINLINE	154	154	-	-	154
12+23 - 13+07	MAINLINE	84	84	-	-	84
--	PROJECT	-	-	1	1	-
	TOTALS =	238	238	1	1	238

*CATEGORY 0020

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\MISC-QUANTITIES.DWG
LAYOUT : LAYOUT1
PLOT DATE : 5/9/2017
PLOT TIME : 8:20:28 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

BENCH MARKS/CONTROL POINTS

No.	STATION	DESCRIPTION	Y	X	ELEV.
CP 3	9+75.05	3/4" REBAR SET, 28.34' LT	438,637.82	818,891.53	1528.45
CP 2	11+17.03	3/4" REBAR SET, 21.32' LT	438,595.89	819,036.50	1526.28
BM 5	11+55.75	CGSS SET IN WWAL, 17.85' RT	438,543.04	819,052.92	1525.40
BM 4	13+42.07	CGSS SET IN PPOL, 44.71' LT	438,503.81	819,245.99	1518.58
CP 1	14+23.35	3/4" REBAR SET, 15.12' RT	438,409.71	819,284.02	1523.00



CURVE 1

PI STA. = 10+26.30
Y = 438,628.93
X = 818,939.61
R = 361.95
D = 15°49'47"
DELTA = 40°56'58"
L = 258.69
T = 135.15
C = 253.22
PC STA. = 8+91.15
Y = 438,603.14
X = 818,806.95
PT STA. = 11+49.84
Y = 438,561.46
X = 819,056.71

CURVE 2

PI STA. = 14+02.43
Y = 438,435.35
X = 819,275.56
R = 1963.89
D = 2°55'03"
DELTA = 4°57'06"
L = 169.73
T = 84.92
C = 169.68
PC STA. = 13+17.51
Y = 438,477.75
X = 819,201.98
PT STA. = 14+87.24
Y = 438,386.77
X = 819,345.20

HORIZONTAL POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, PRICE COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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."

NOTE:
EXISTING ℄ OF SHEEP RANCH ROAD BASED ON CENTERLINE OF EXISTING PAVEMENT.

BASIS OF EXISTING RIGHT OF WAY FOR SHEEP RANCH ROAD WAS BASED ON THE CENTERLINE OF EXISTING PAVEMENT AND WIS STATUTE 82.31(2).

TLE LINE TABLE

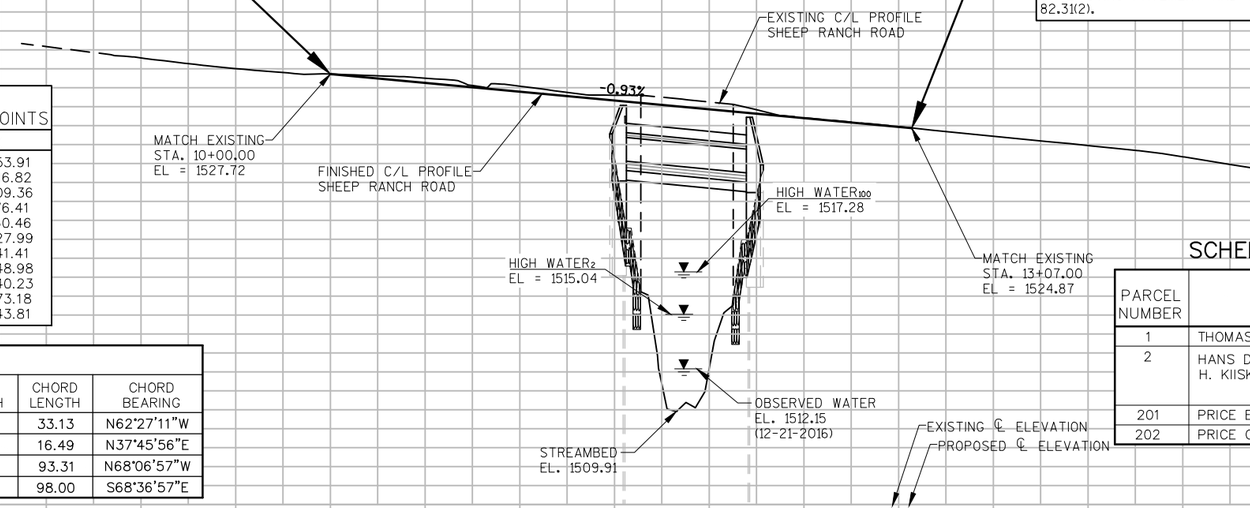
POINT TO POINT	BEARING	DISTANCE
1 TO 2	S60°02'59"E	188.01'
2 TO 3	S29°55'40"W	14.95'
3 TO 10	N60°02'59"W	157.16'
4 TO 5	S33°25'38"W	28.95'
5 TO 6	N60°02'59"W	152.89'
7 TO 8	N15°32'17"E	28.28'
9 TO 4	S60°02'59"E	157.16'

COORDINATE TABLE TEMPORARY LIMITED EASEMENT (TLE) POINTS

POINT	STA.	OFFSET	Y	X
1	11+22.65	49.11 LT.	438618.41	819053.91
2	13+07.00	47.95 LT.	438524.54	819216.82
3	13+07.00	33.00 LT.	438511.59	819209.36
4	13+07.00	33.00 RT.	438454.40	819176.41
5	13+05.25	61.89 RT.	438430.24	819160.46
6	11+52.36	61.89 RT.	438506.57	819027.99
7	10+40.00	61.24 RT.	438541.35	818941.41
8	10+41.61	33.00 RT.	438568.59	818948.98
9	11+49.84	33.00 RT.	438532.86	819040.23
10	11+49.84	33.00 LT.	438590.05	819073.18
11	11+19.48	33.00 LT.	438605.37	819043.81

TLE CURVE TABLE

POINT TO POINT	DELTA ANGLE	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
10 TO 11	04°48'24"	16.58	394.95	33.13	33.13	N62°27'11"W
11 TO 1	04°34'24"	8.25	206.68	16.50	16.49	N37°45'56"E
6 TO 7	16°7'57"	47.12	332.50	93.62	93.31	N68°06'57"W
8 TO 9	17°7'57"	49.55	328.95	98.36	98.00	S68°36'57"E



STA. 11+88
STRUCTURE B-50-0088 REQ'D.
SINGLE-SPAN 36-INCH PRESTRESSED CONCRETE GIRDER STRUCTURE
CLEAR ROADWAY WIDTH = 24.0'
OAL = 68.67', SKEW = 20° L.H.F.

EARTHWORK SUMMARY

EXCAVATION COMMON	=	344	C.Y.
FILL	=	260	C.Y.
FILL EXPANSION	=	325	25%
WASTE	=	19	C.Y.

SCHEDULE OF LANDS & INTERESTS REQUIRED

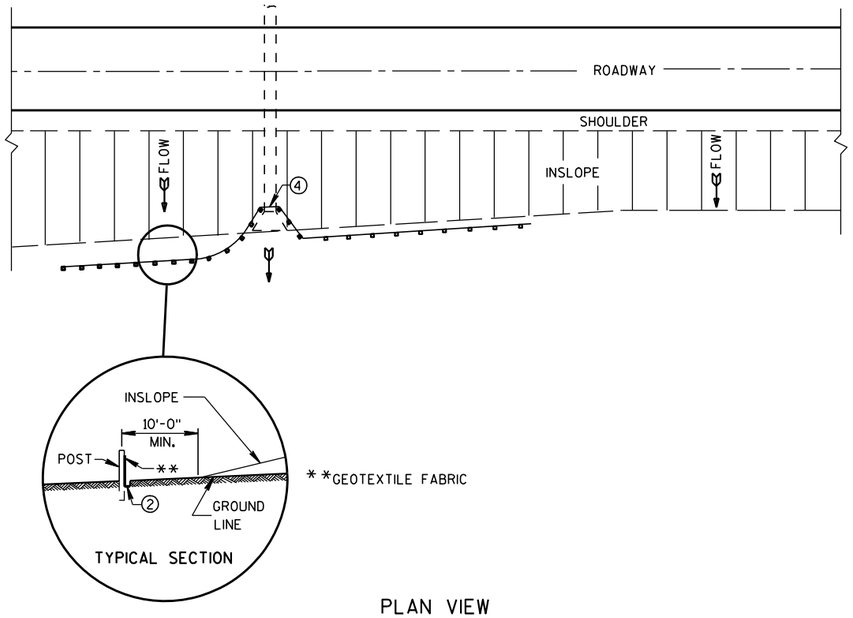
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	TLE ACRES
1	THOMAS J FLEES	TLE	0.03
2	HANS D. ANDERSON, LEVI J. ANDERSON, PETER H. KIISKILA, AND SARAH KIISKILA, AS TENANTS IN COMMON	TLE	0.20
201	PRICE ELECTRIC COOPERATIVE	TEMPORARY CONSTRUCTION EASEMENT	
202	PRICE COUNTY TELEPHONE CO.	TEMPORARY CONSTRUCTION EASEMENT	

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	PLAN AND PROFILE: SHEEP RANCH ROAD	SHEET 14	E

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\PLAN & PROFILE SHEETS\W11553_PLAN & PROFILE.DWG
LAYOUT : 1
PLOT DATE : 9/20/2016
PLOT TIME : 9:55:19 AM
PLOT BY : CHRISTIANSON, TAYLOR
PLOT SCALE : ********** "PLOT" SCALE :

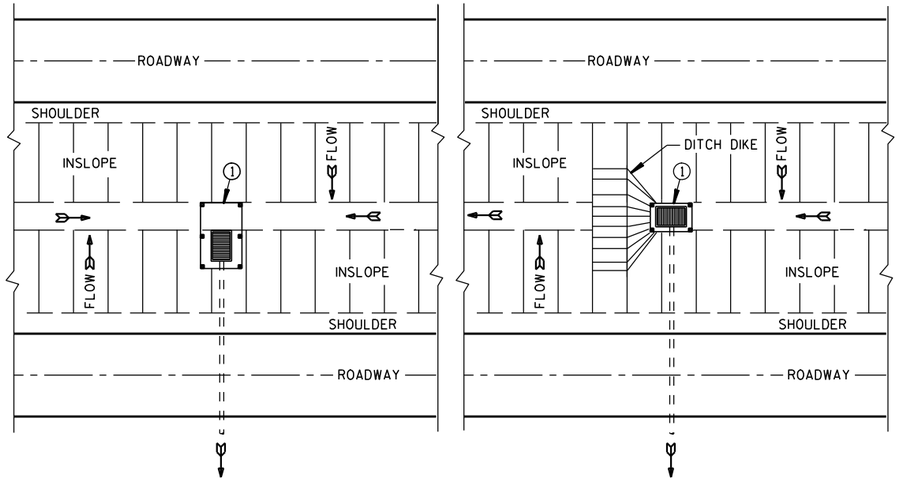
Standard Detail Drawing List

08E09-06	SILT FENCE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES



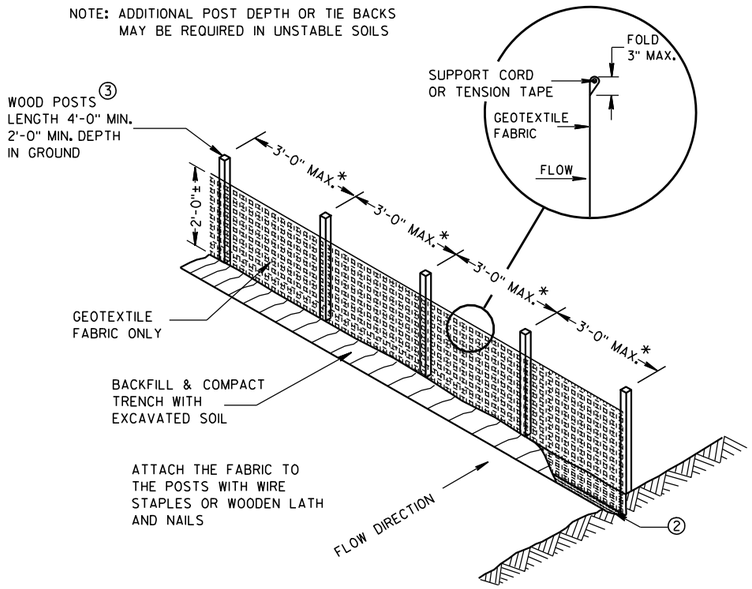
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



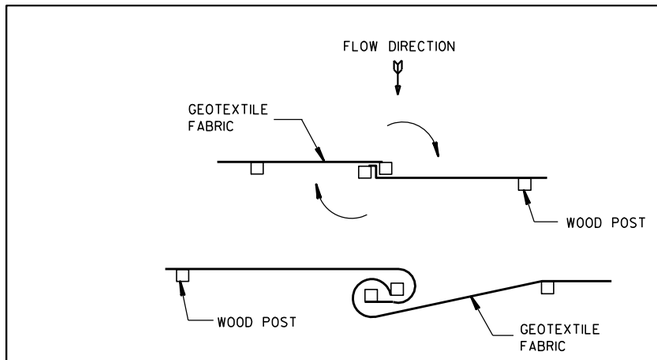
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



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

SILT FENCE

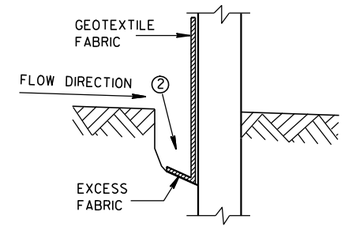


JOINING TWO LENGTHS OF SILT FENCE 5

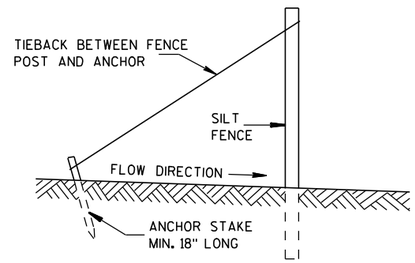
GENERAL NOTES

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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

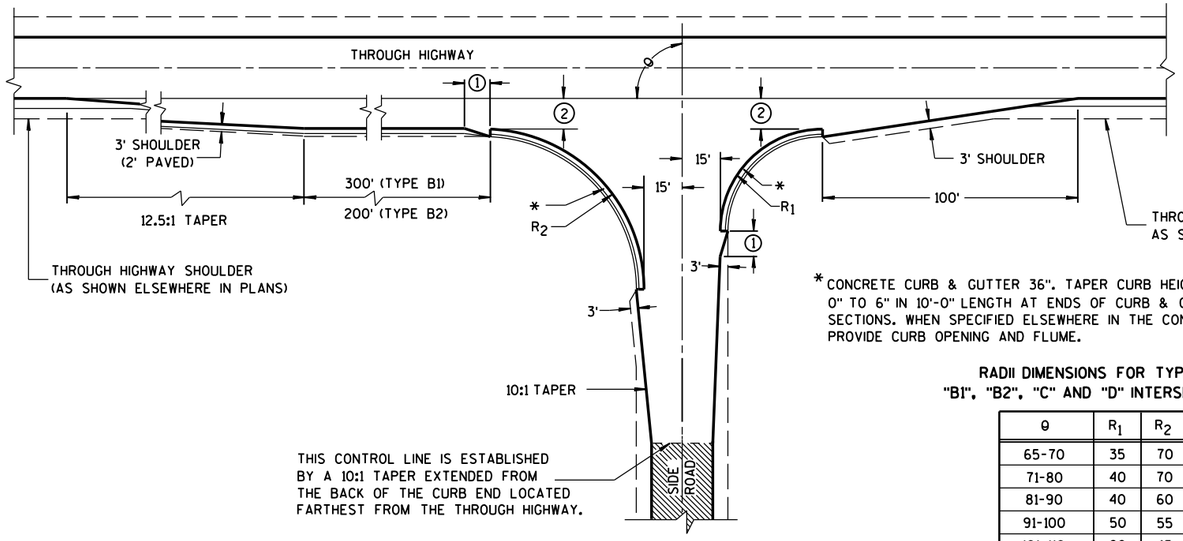
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

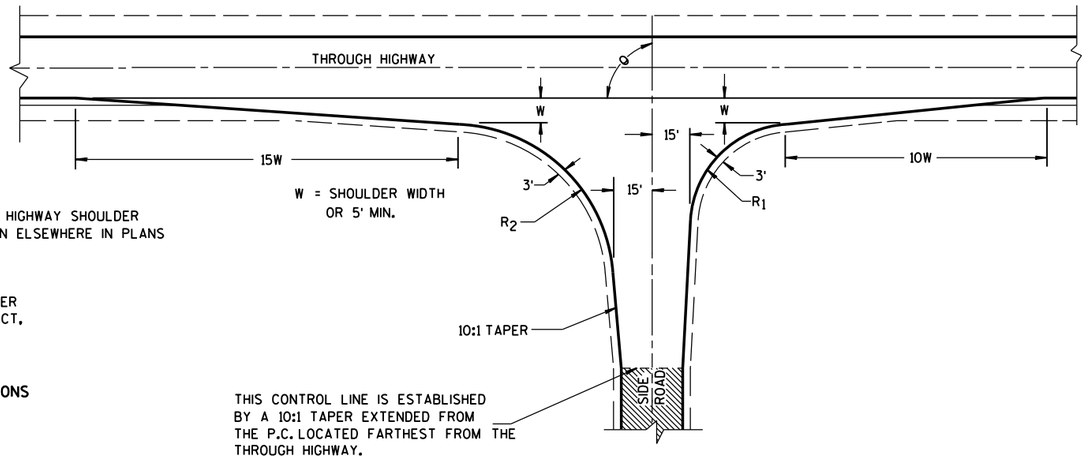


TYPE "B1" AND "B2"

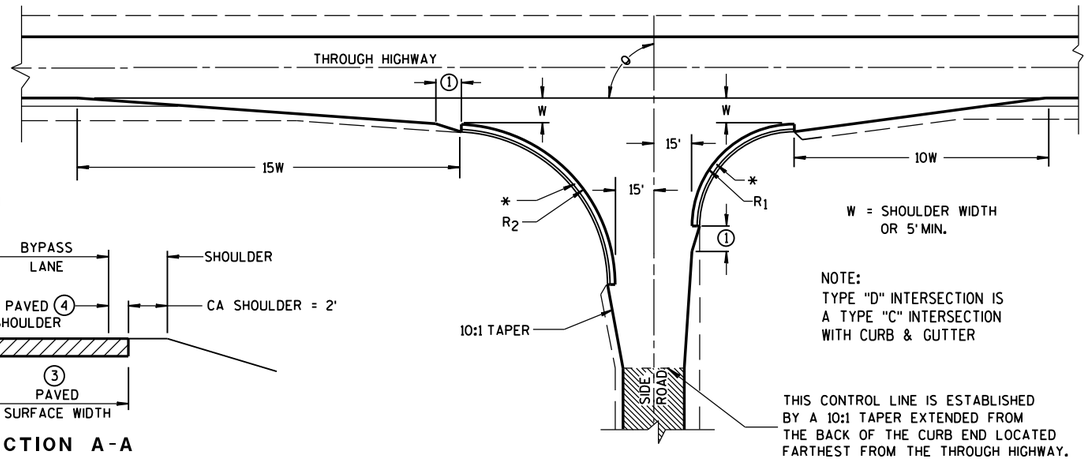
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

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

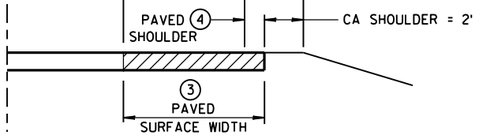
(1) 10-FT TYPICAL.

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

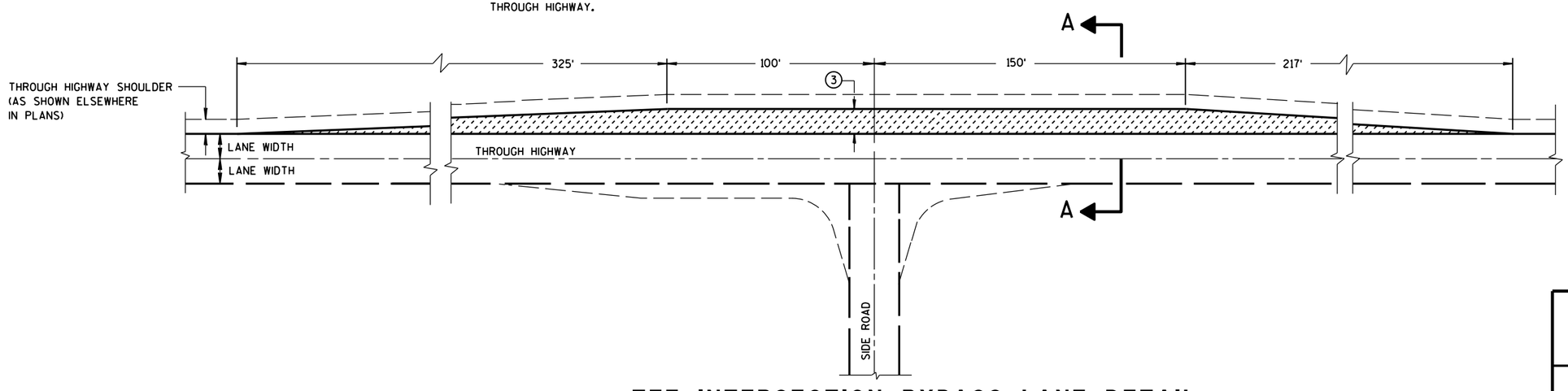
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(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)



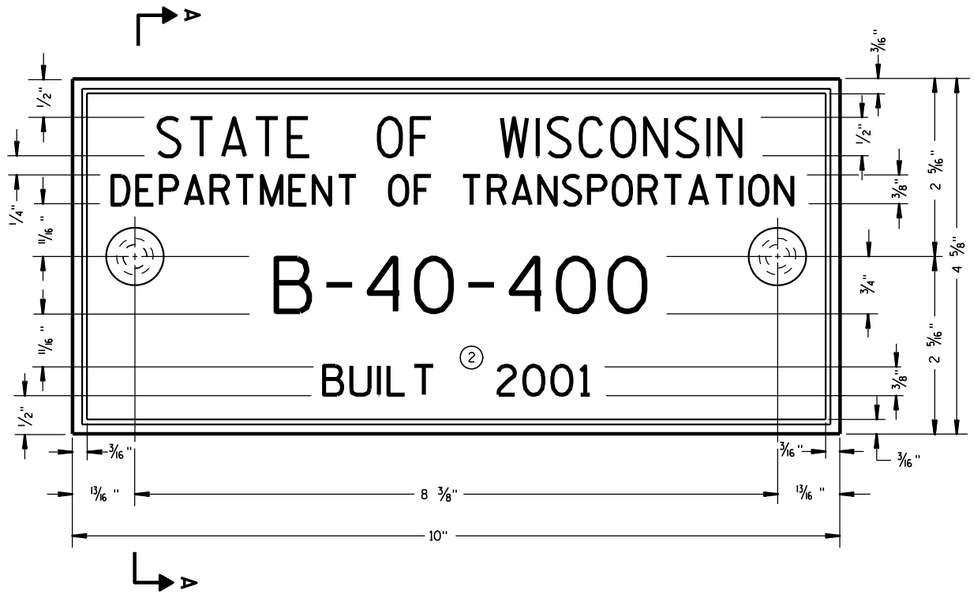
TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

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



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

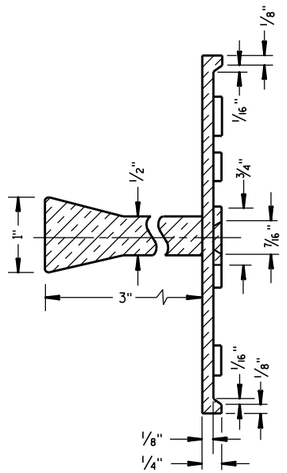
GENERAL NOTES

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.

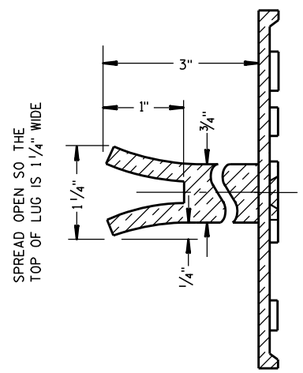
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

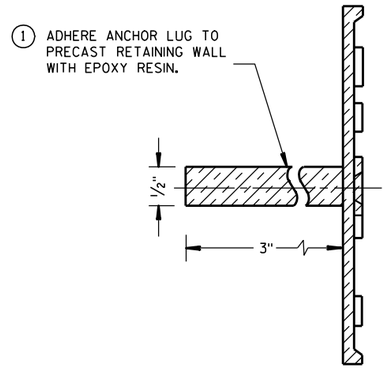
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

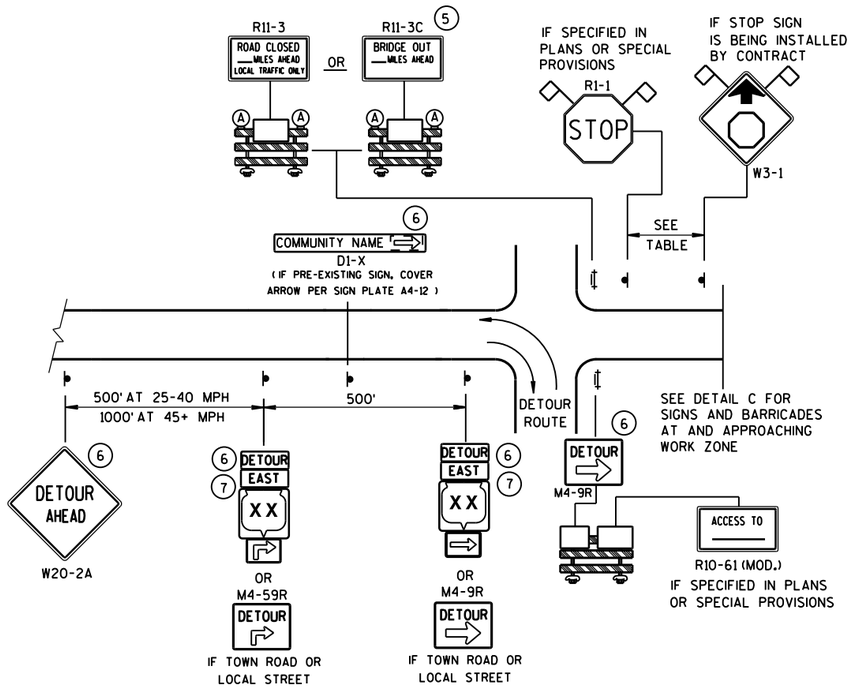
FHWA

6

S.D.D. 12 A 3-10

6

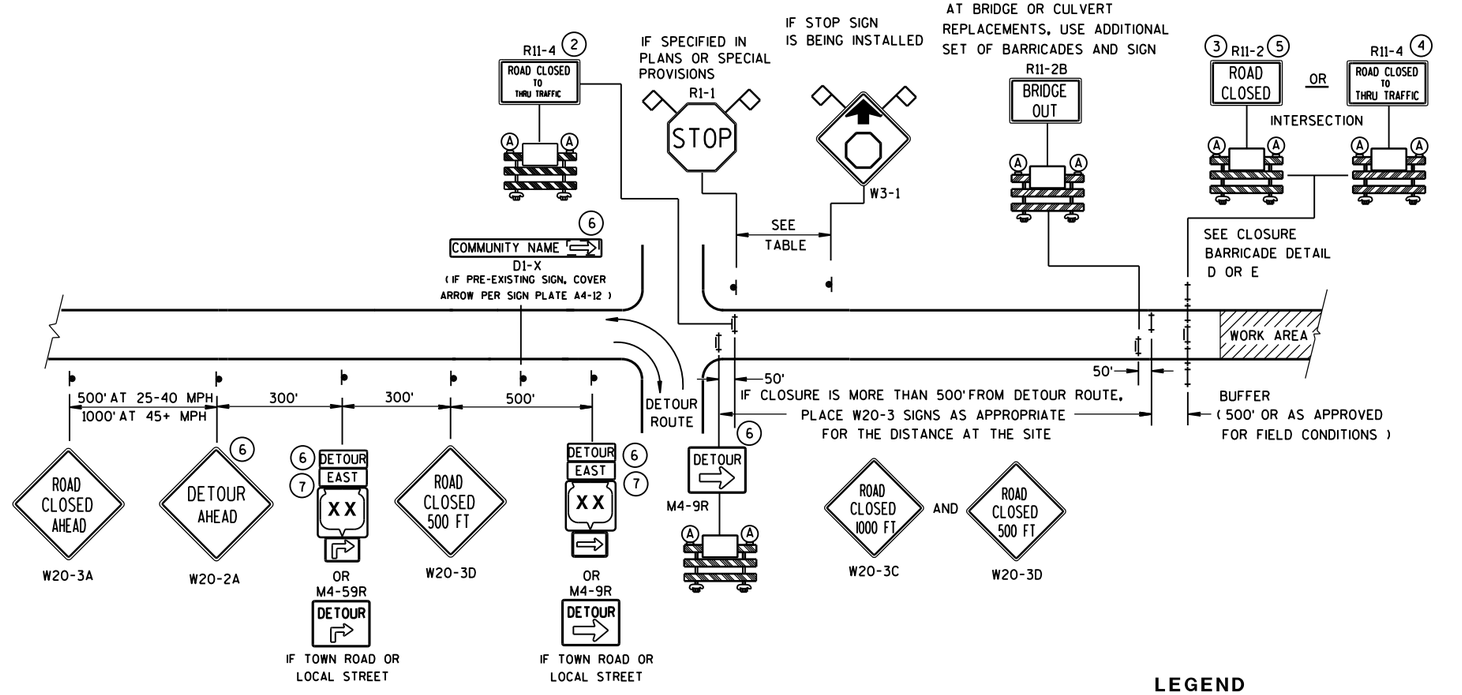
S.D.D. 12 A 3-10



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

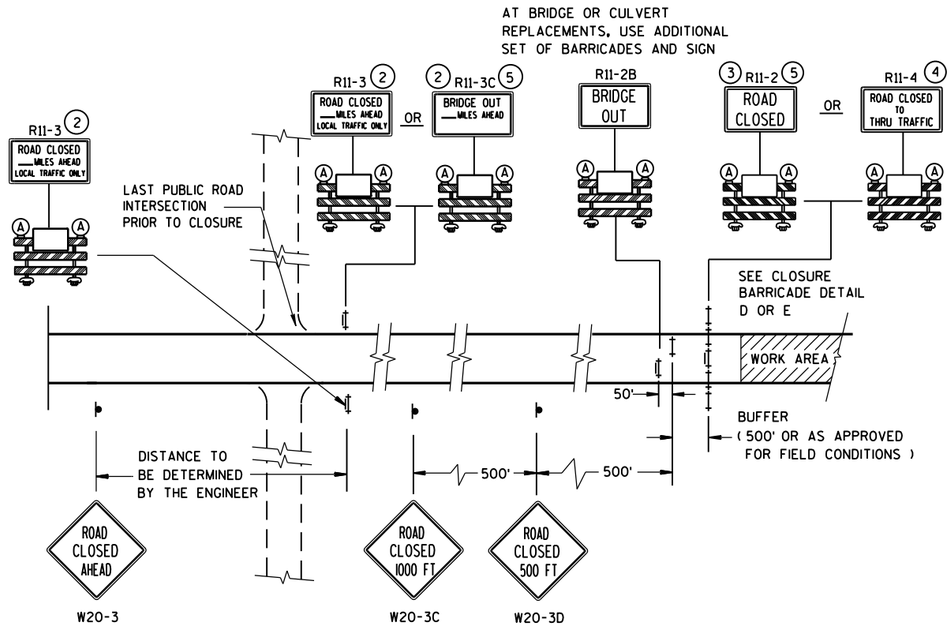
WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



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

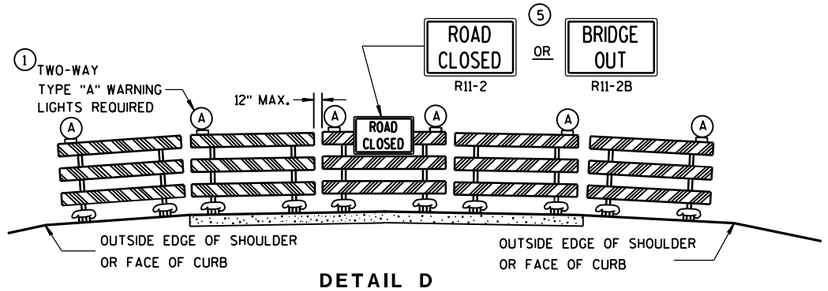
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

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

6

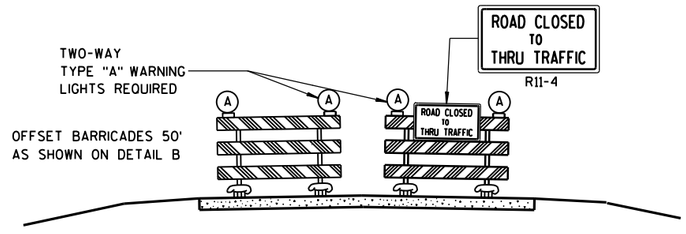
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI

FHWA

FIC

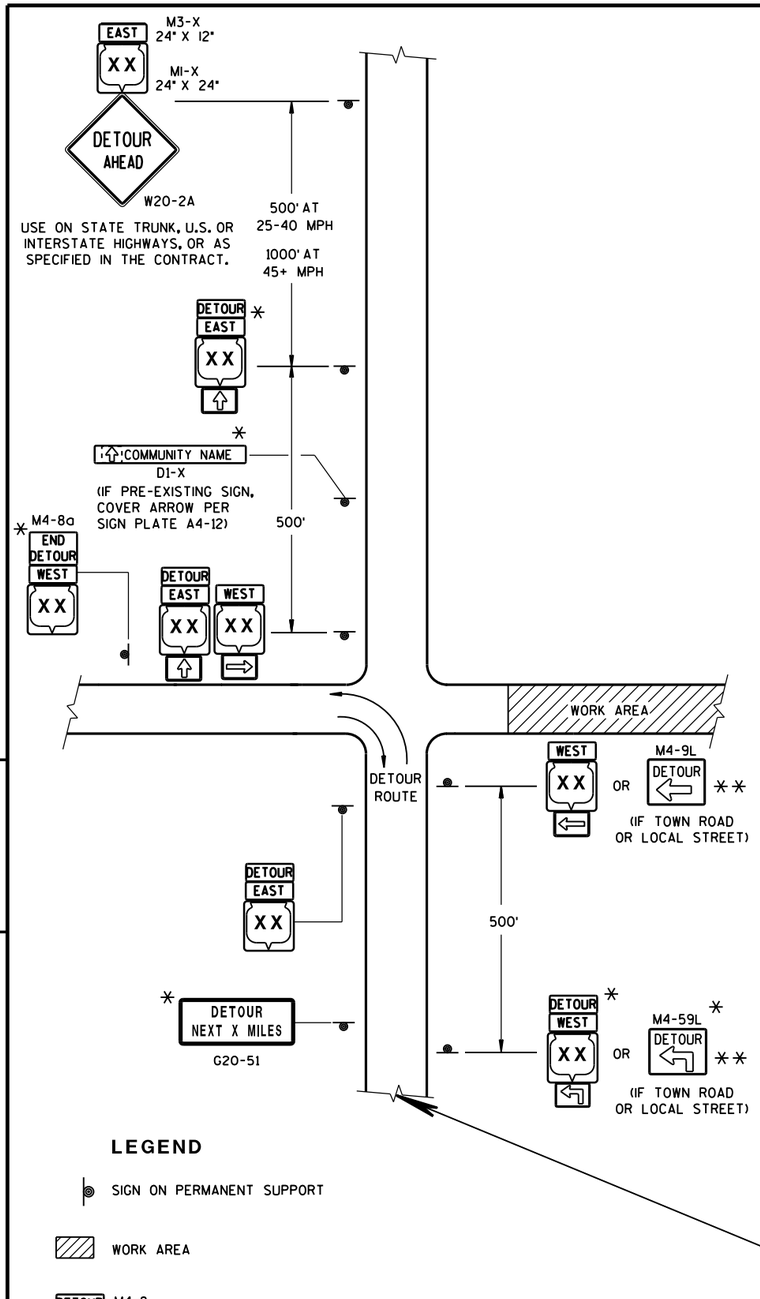
6

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

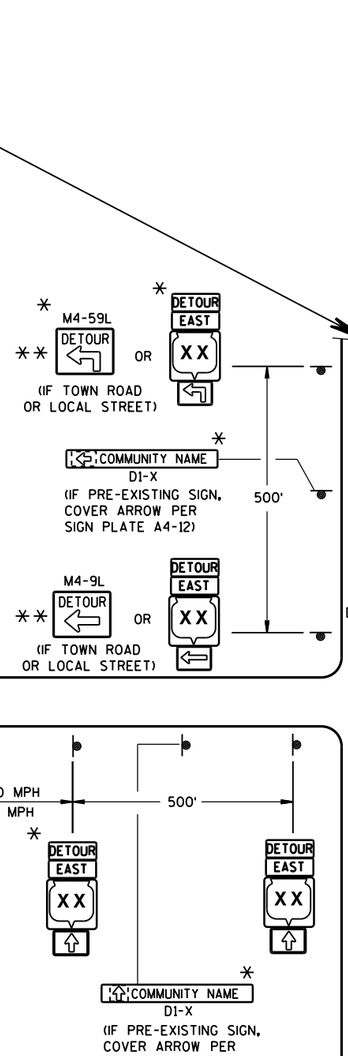
6

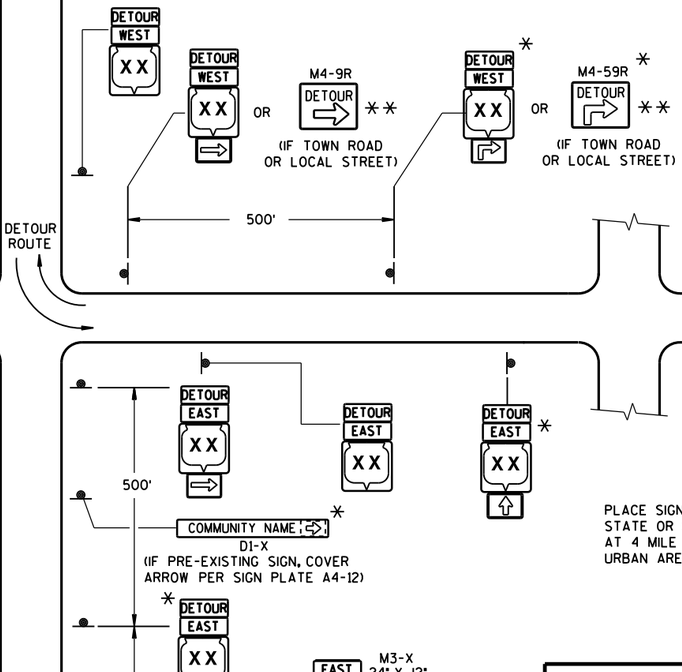
S.D.D. 15 C 2-6b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



MATCH POINT





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 / MO6-1 / 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

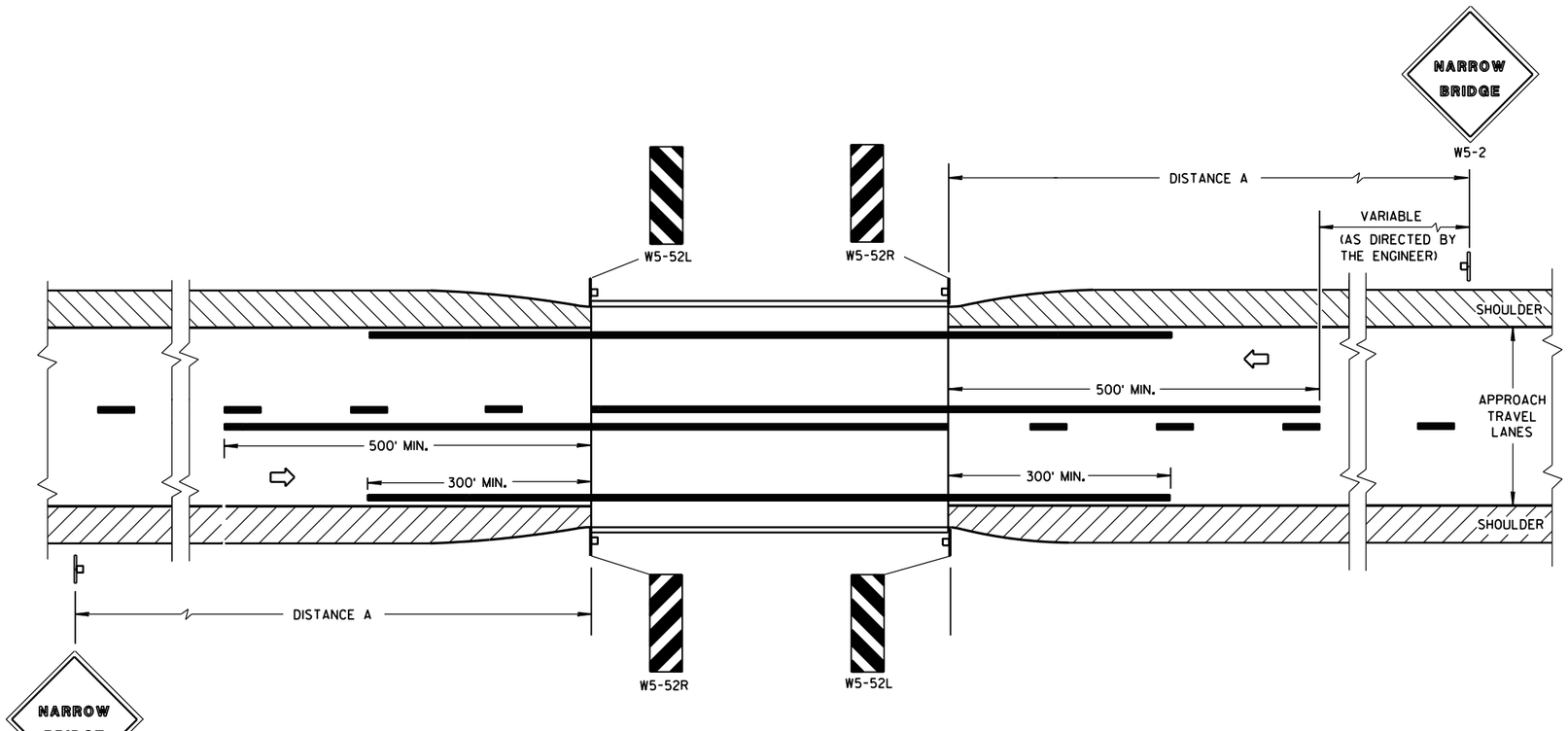
Sept. 2015 — DATE

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

FHWA

6

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



SITUATION 1

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

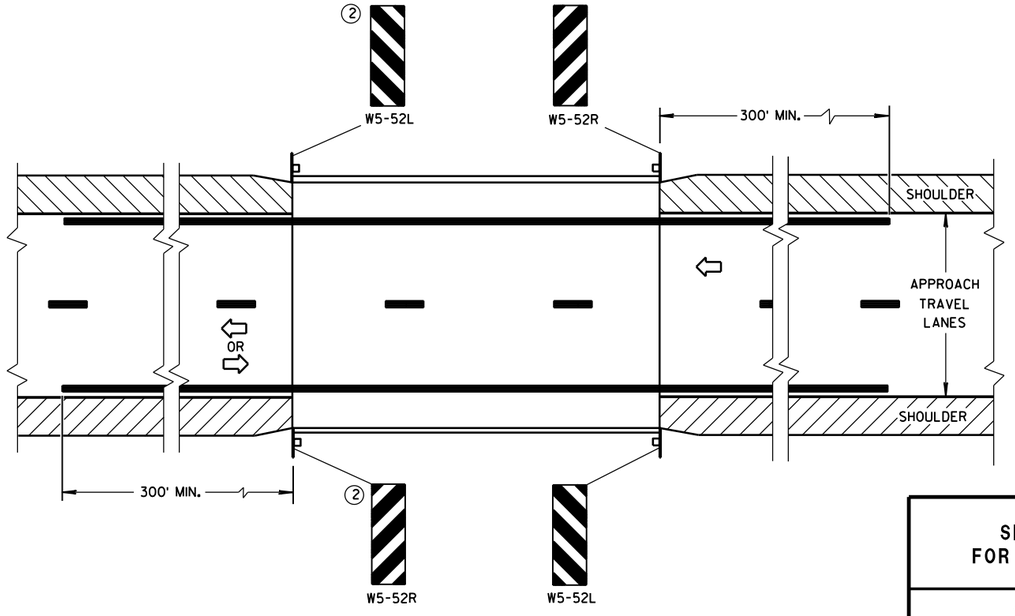
DISTANCE TABLE

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

GENERAL NOTES

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

1. LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
2. OMIT ON ONE-WAY TRAVELLED WAYS.
3. EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

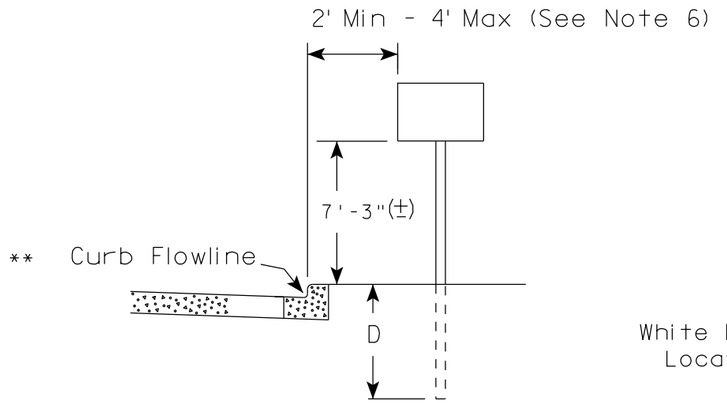
6

S.D.D. 15 C 6-8

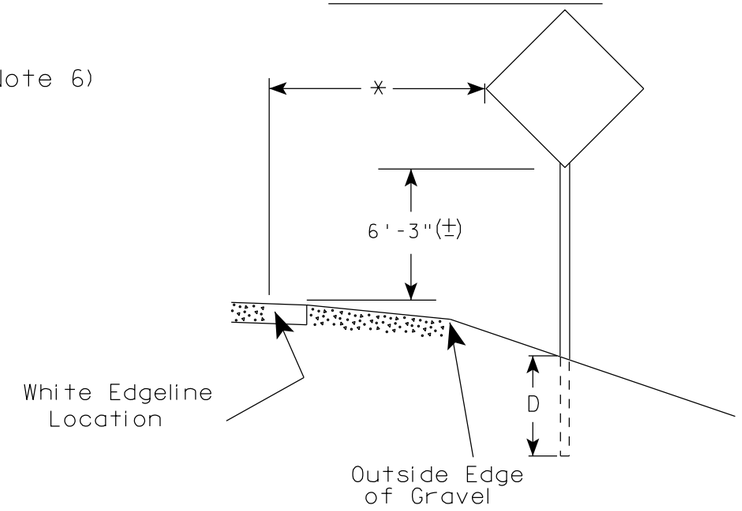
6

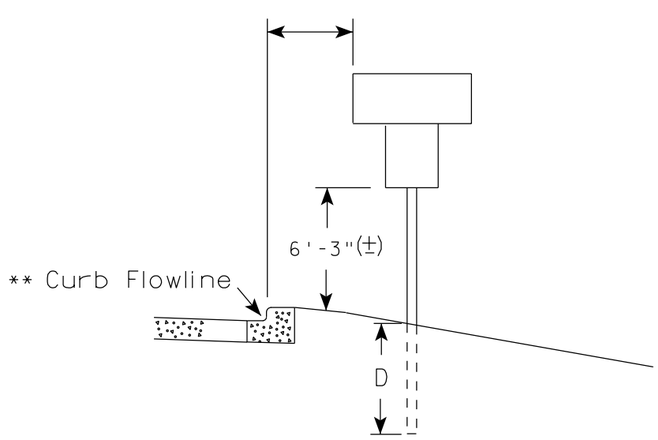
S.D.D. 15 C 6-8

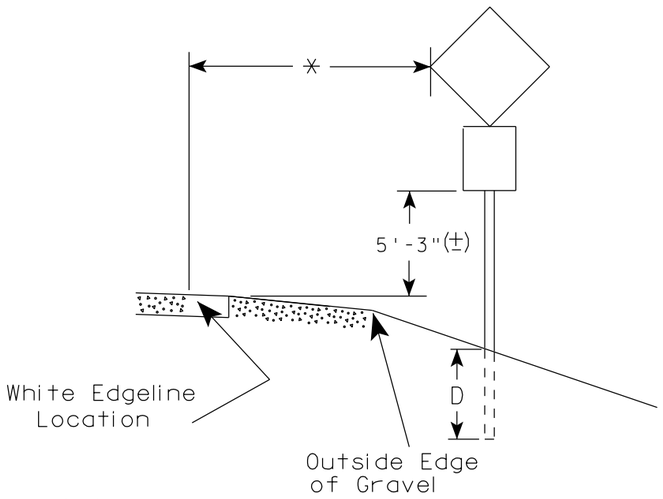
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet, 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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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) & End of Rod Markers (W5-56 & W5-56A) 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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

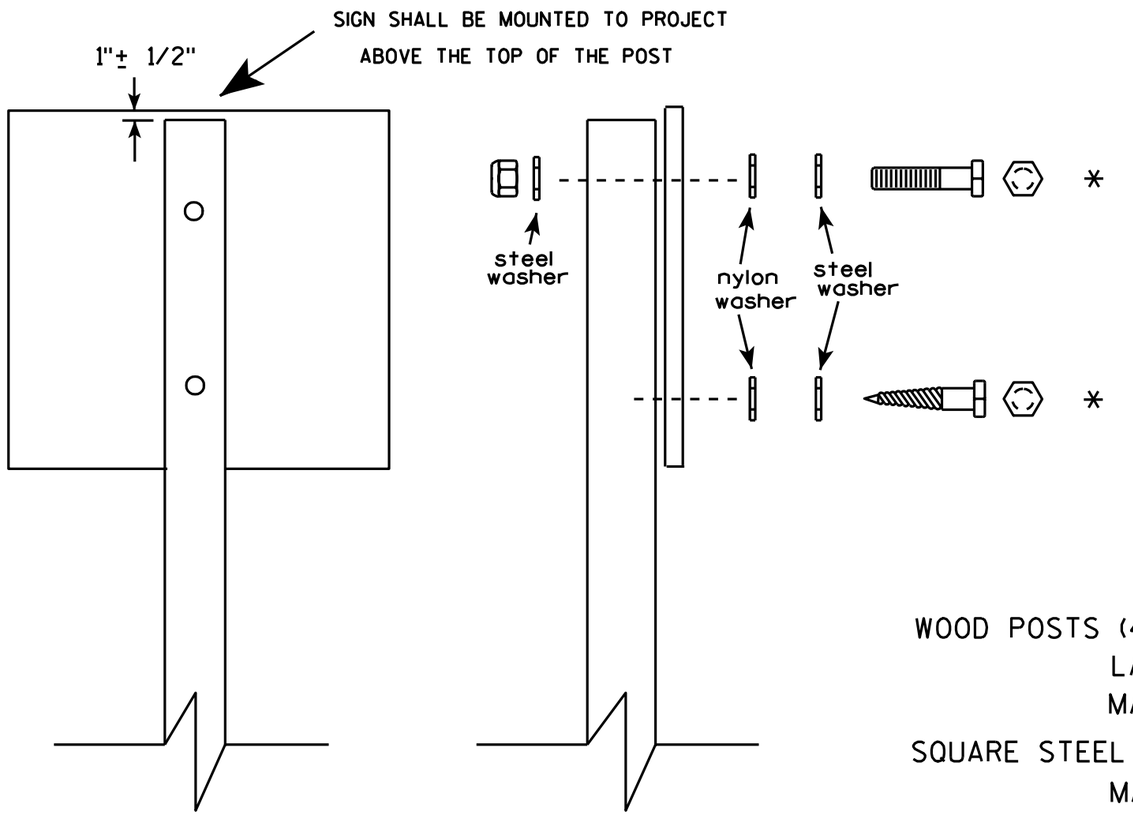
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 30-SEP-2013 13:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 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

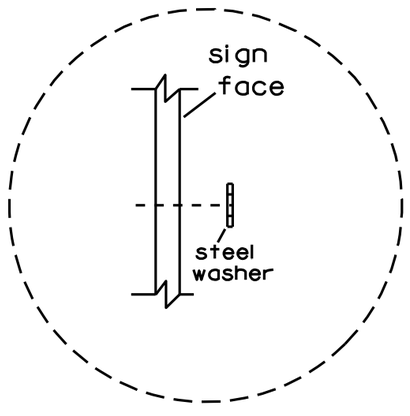
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

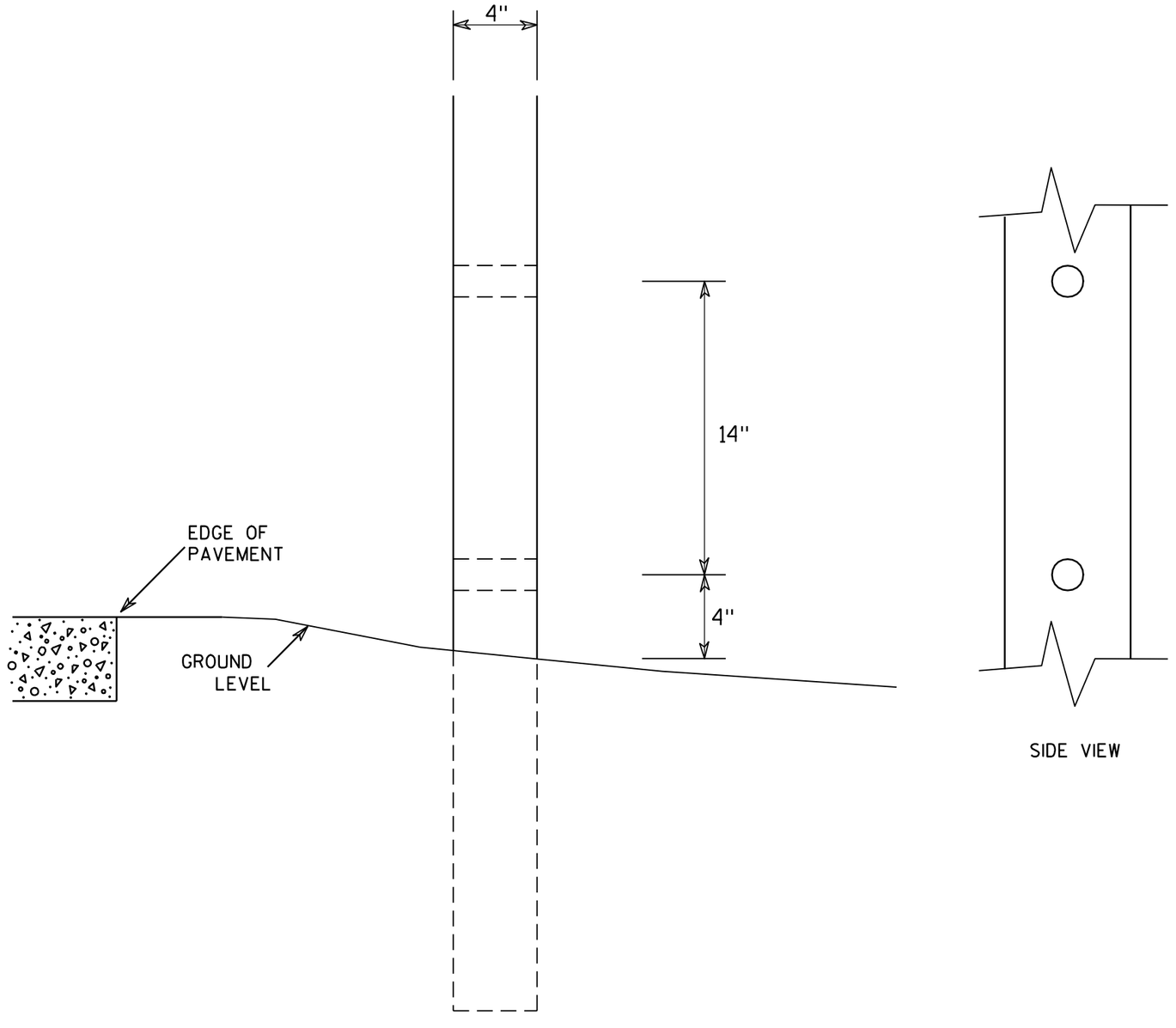
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 24 E



SIDE VIEW

GENERAL NOTES

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

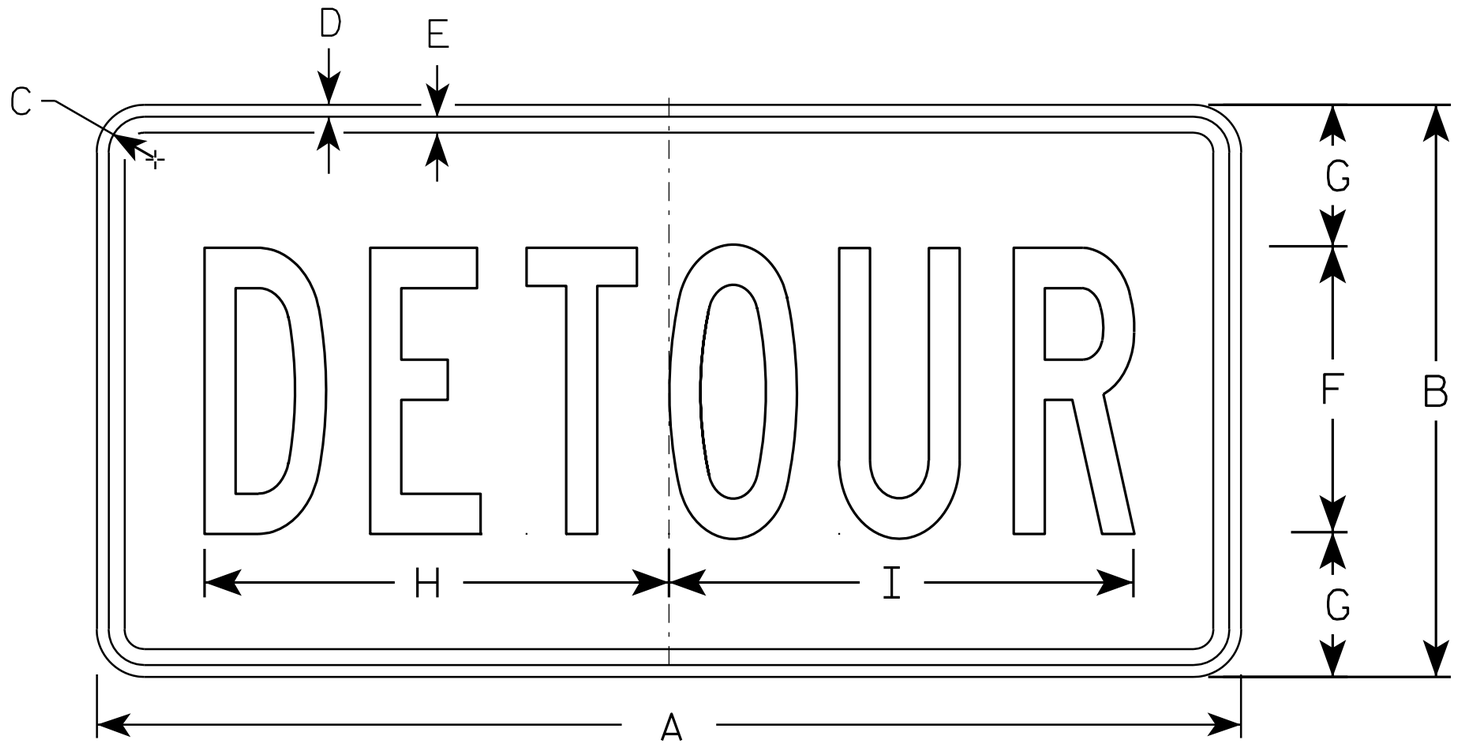
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 25	E



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																											

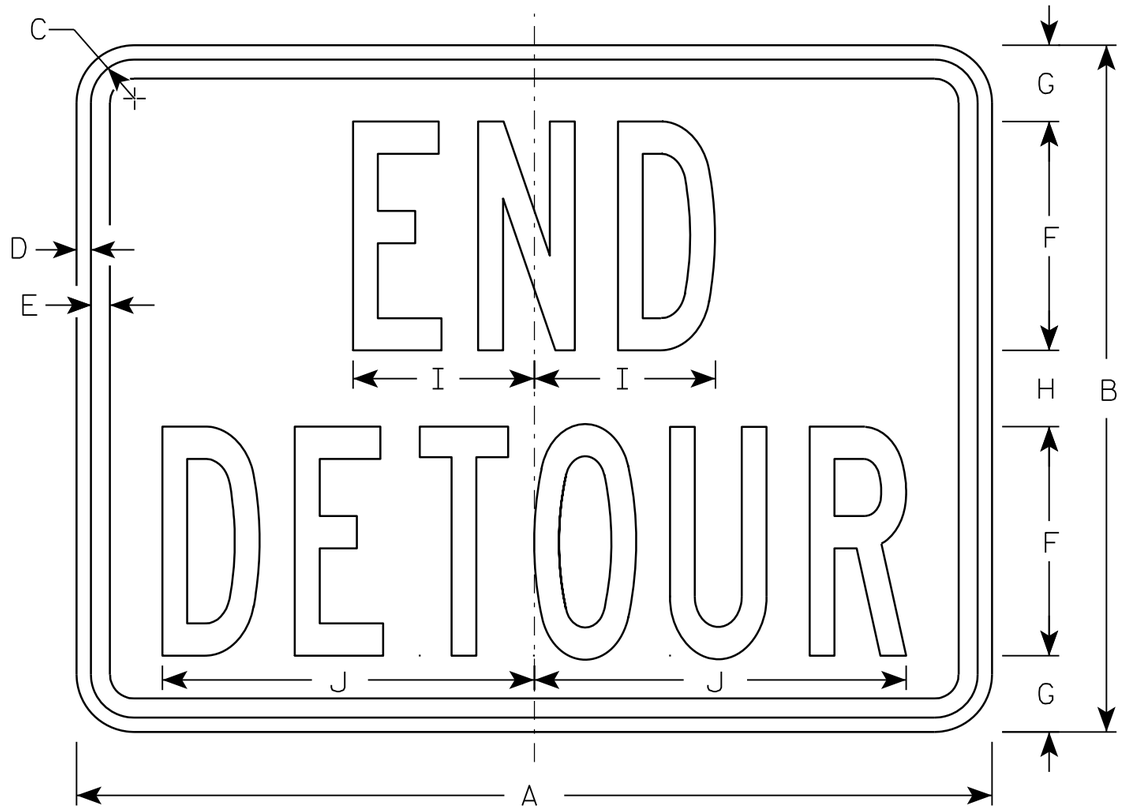
STANDARD SIGN
M4-8

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: 26	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																											

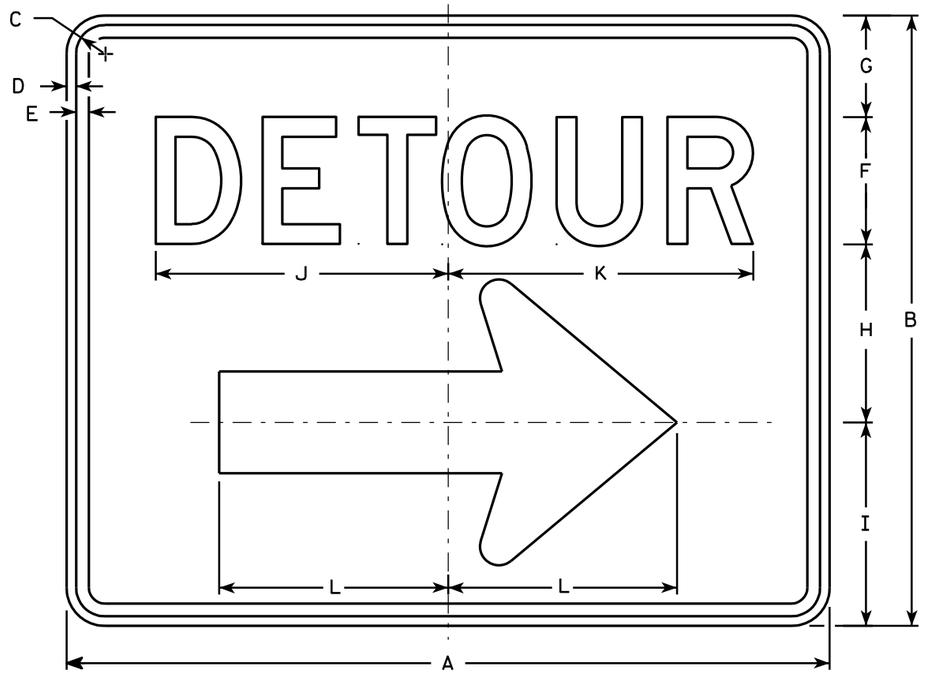
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

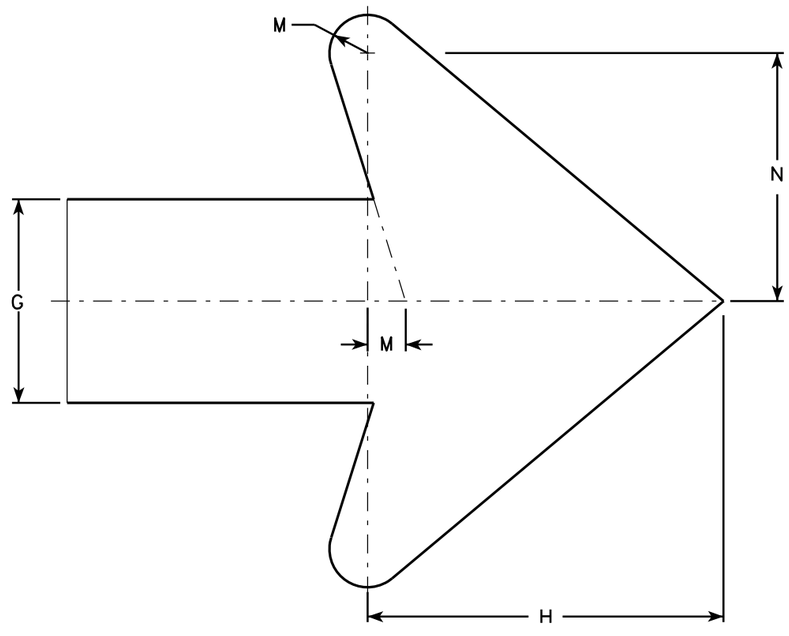
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E



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

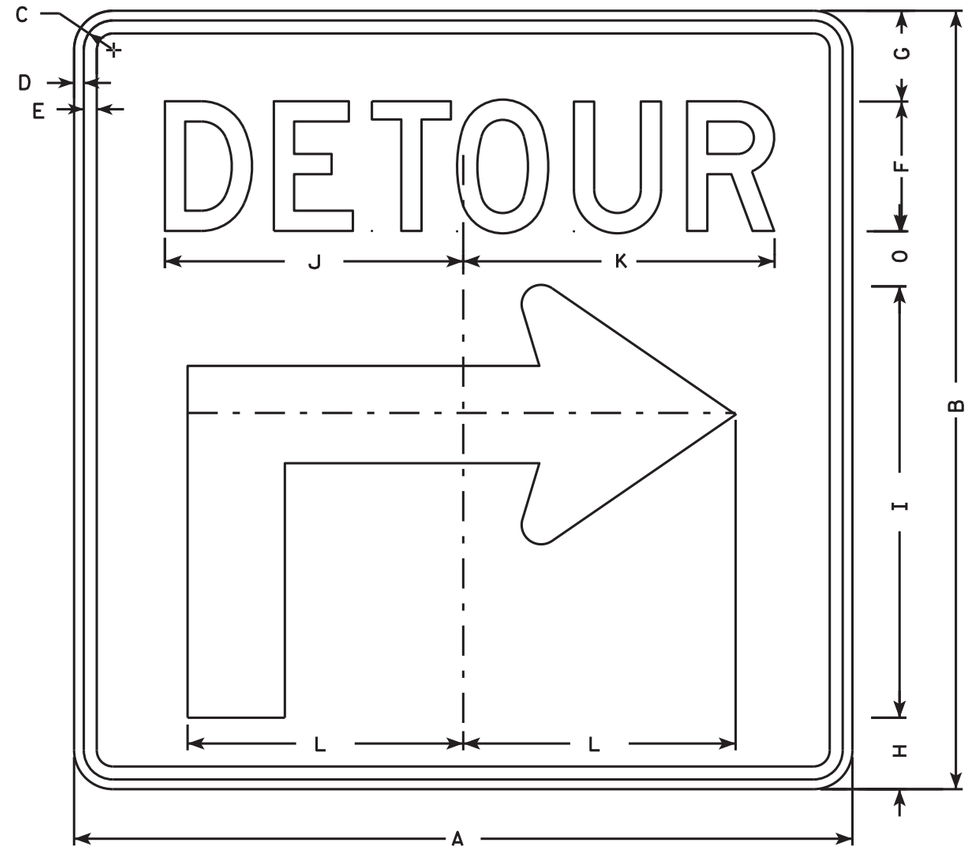
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

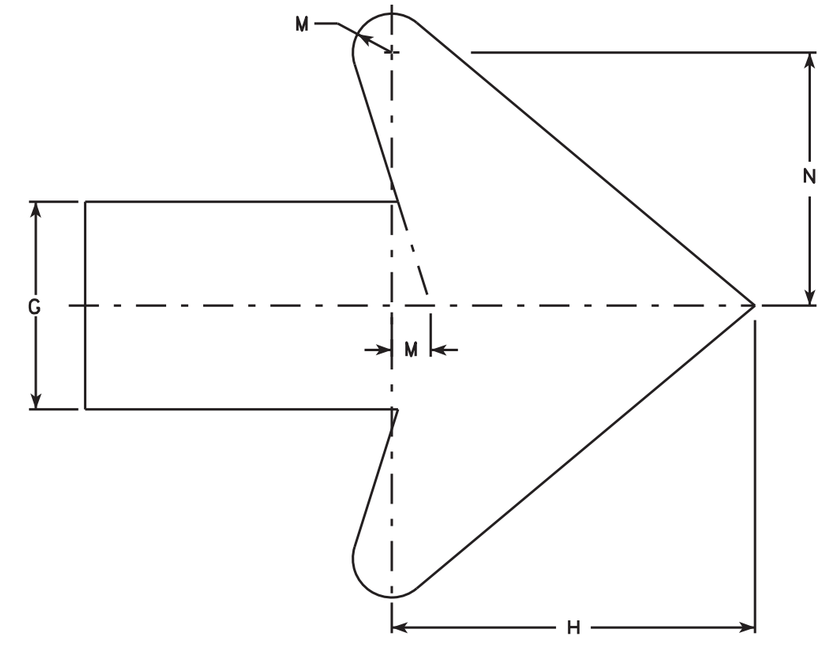
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 28 | E



M4-59R

NOTES

1. Sign is Type II - Type F Reflective
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.
5. M4-59L is the same as M4-59R 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	30	1 1/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
3	30	30	1 1/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
4	48	48	1 3/8	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0
5	48	48	1 3/8	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0

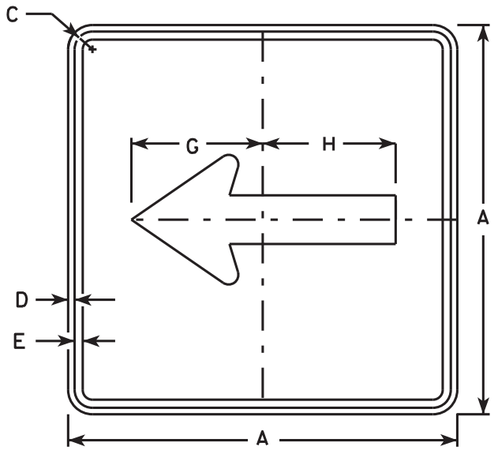
STANDARD SIGN
M4-59 L&R

WISCONSIN DEPT OF TRANSPORTATION

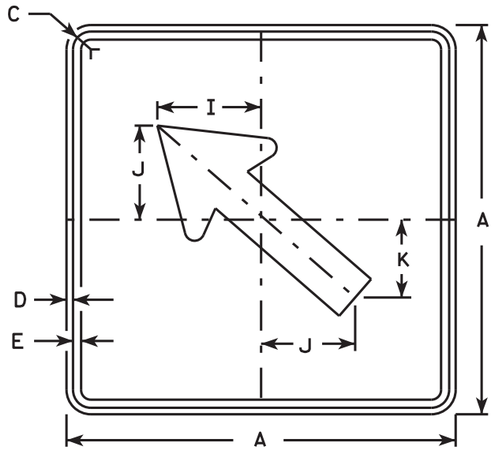
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/15 PLATE NO. M4-59.1

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



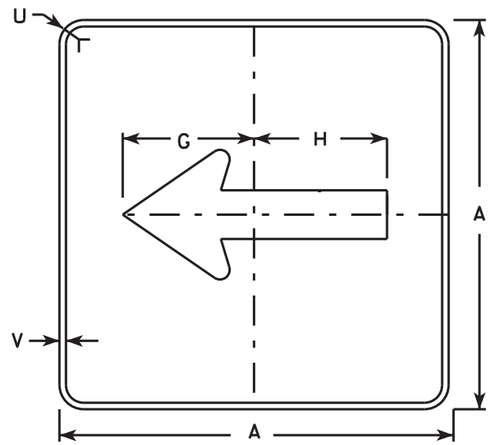
M6-1
MM6-1
MO6-1
MP6-1



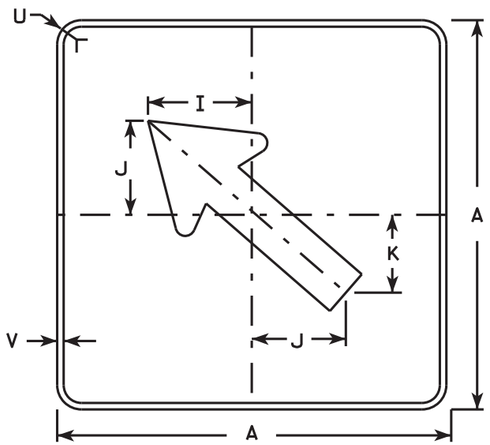
M6-2
MM6-2
MO6-2
MP6-2

NOTES

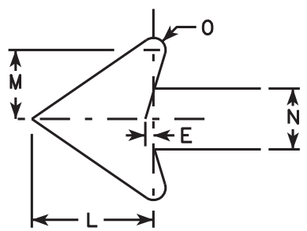
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   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
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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

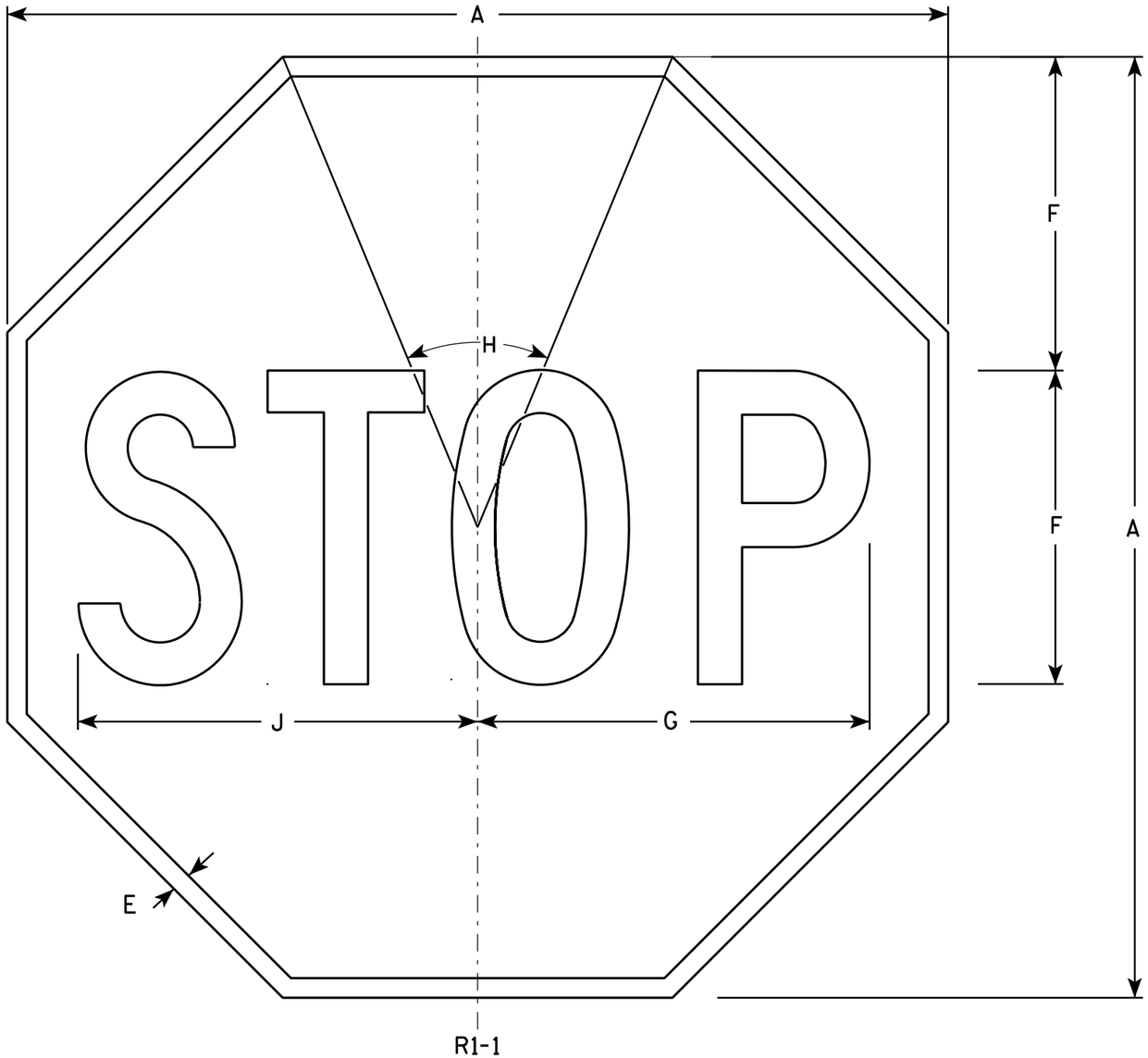
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

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



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

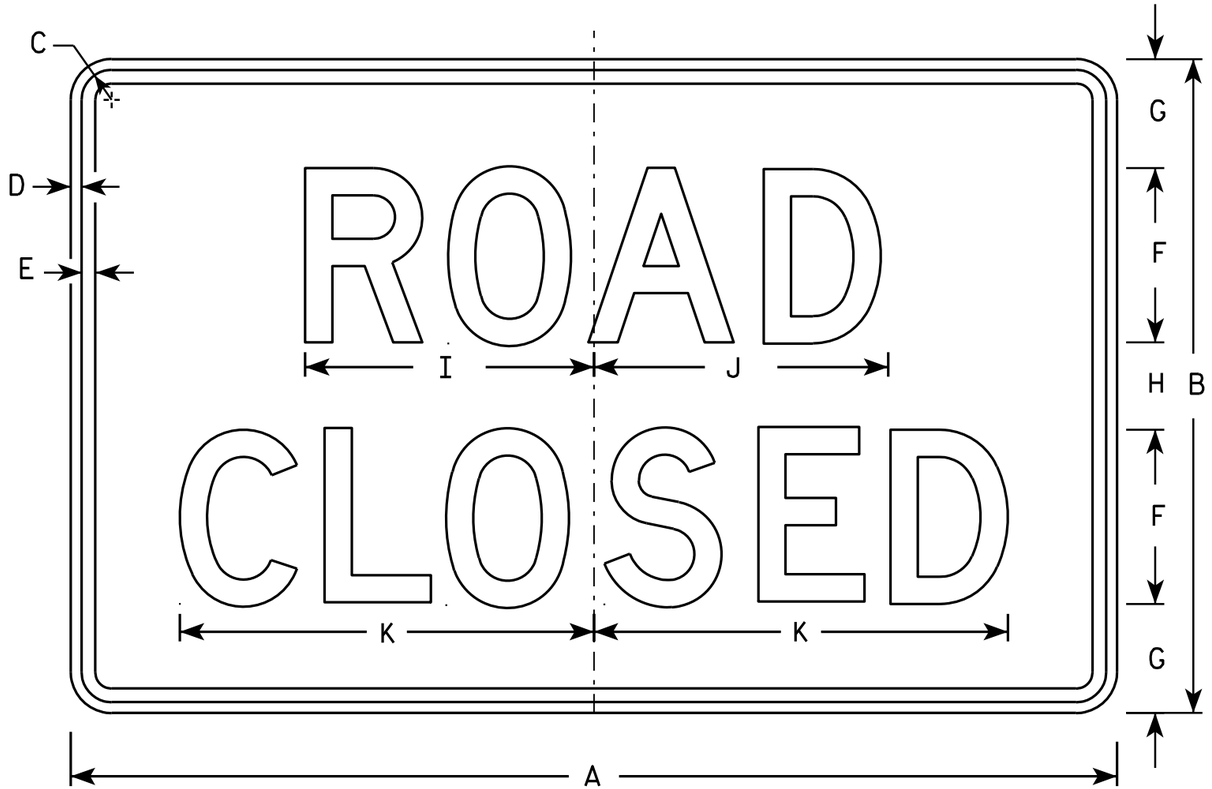
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

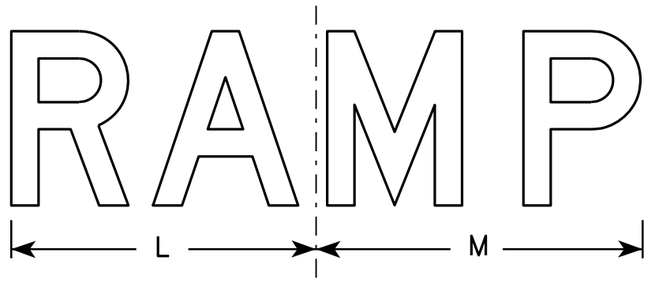
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 31	E



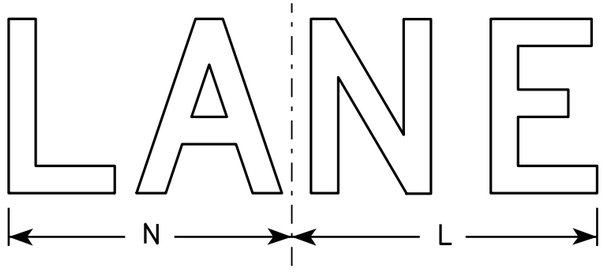
R11-2

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.
5. Modify the message as required.



R11-2R



R11-2L

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	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

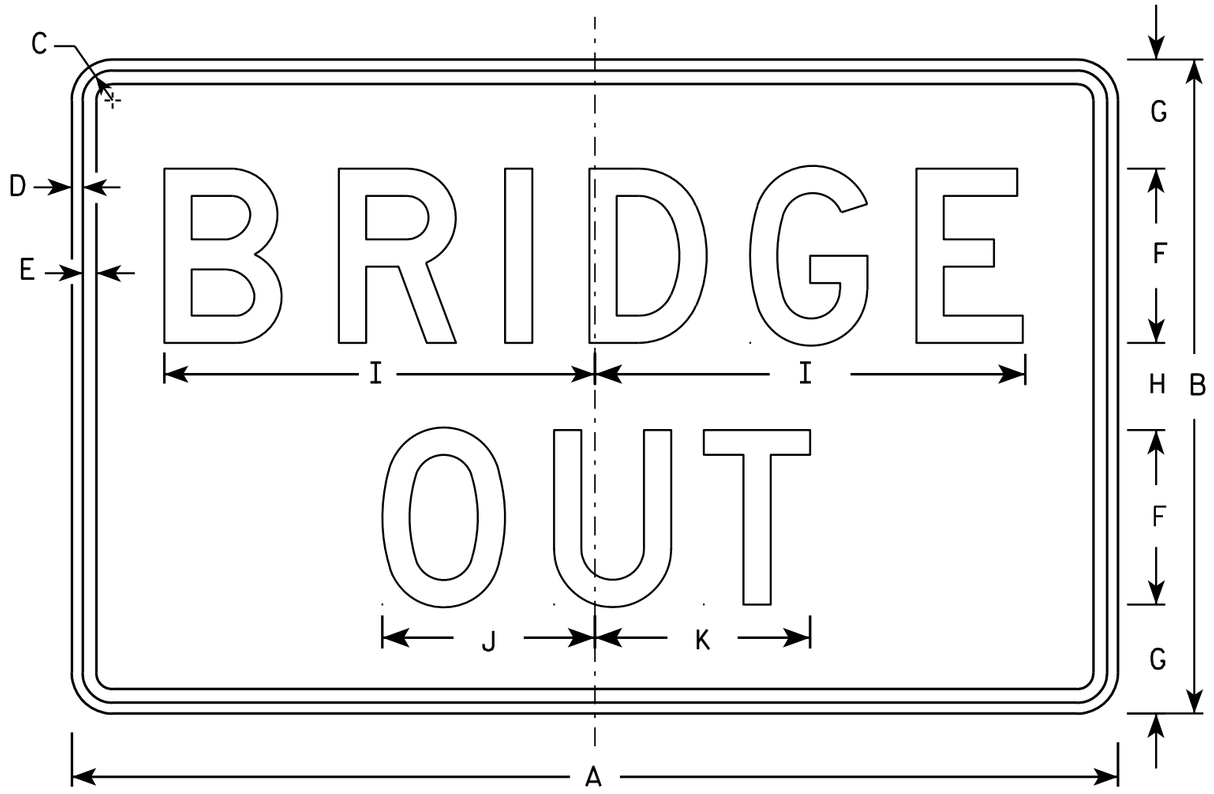
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 32	E



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

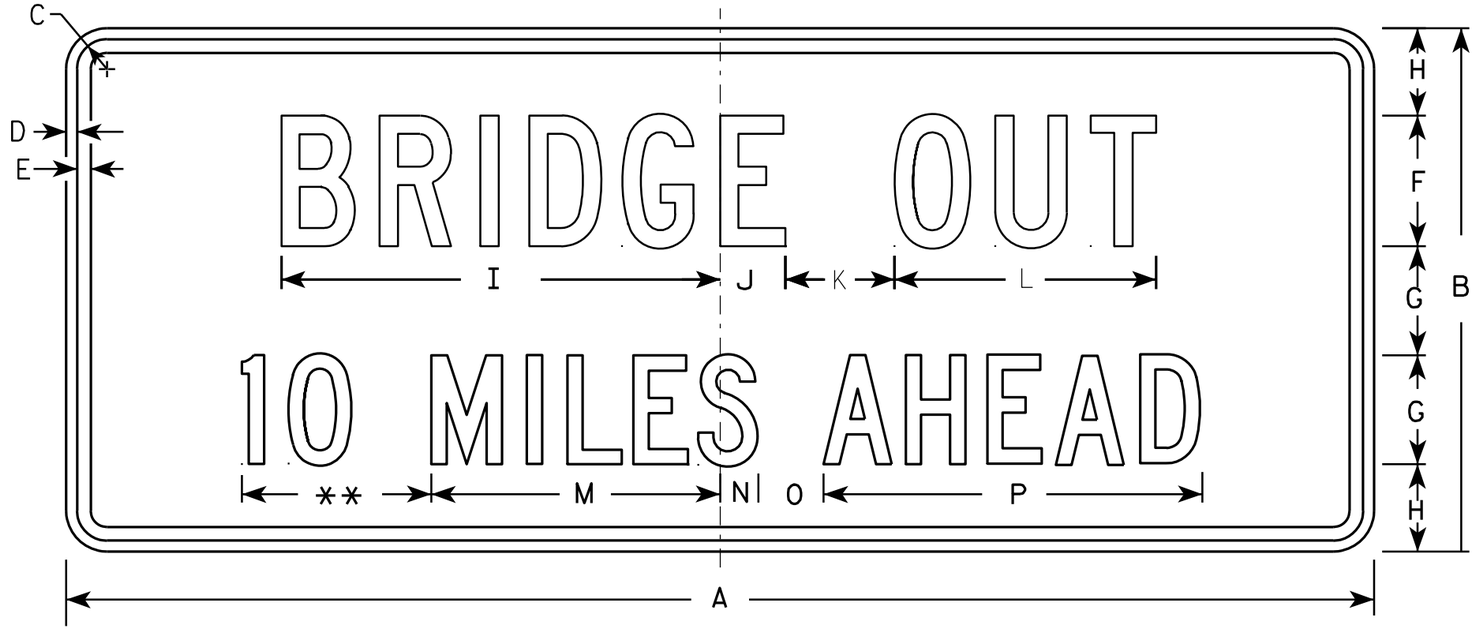
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 33 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:

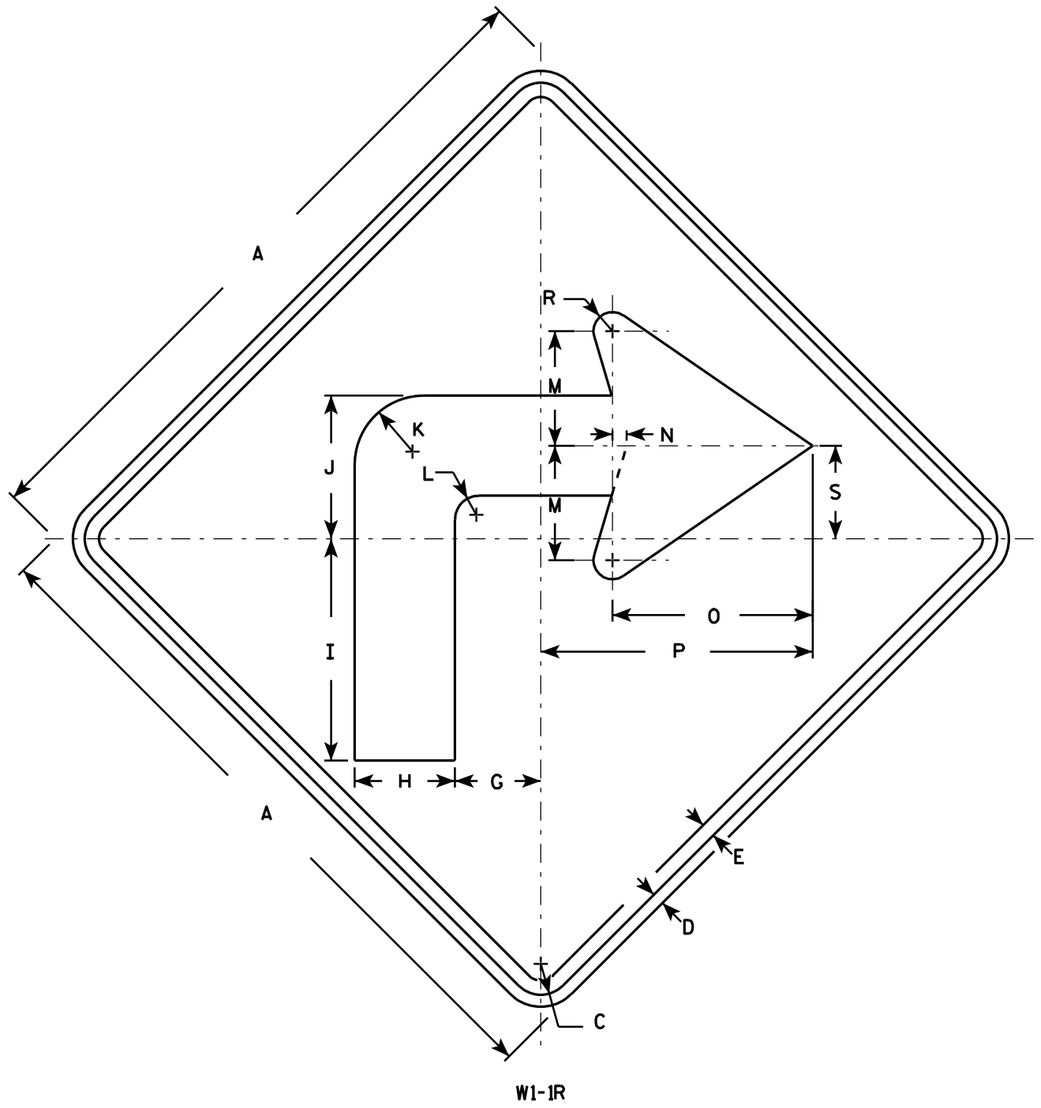
SHEET NO: 34 E

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



W1-1R

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. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

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		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

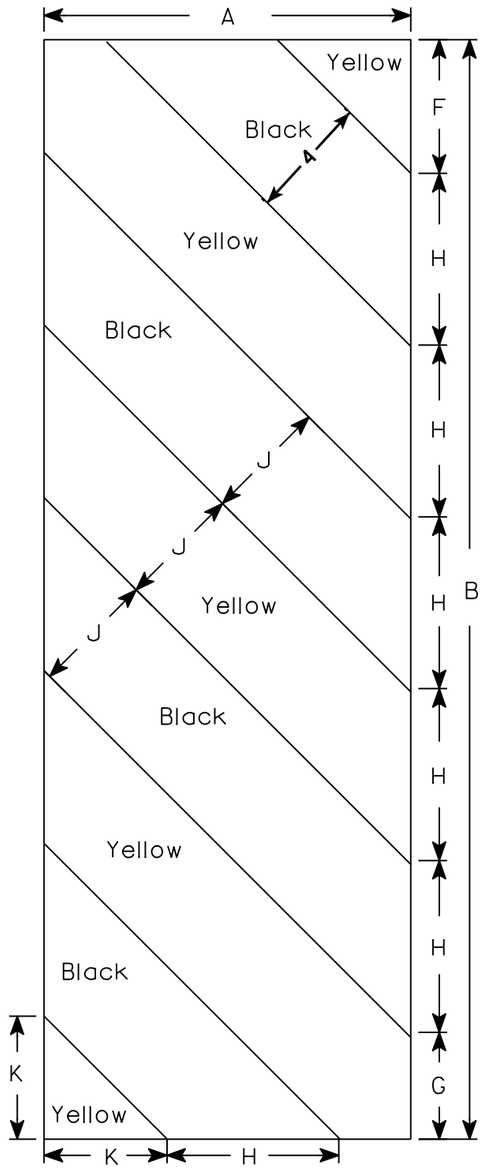
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

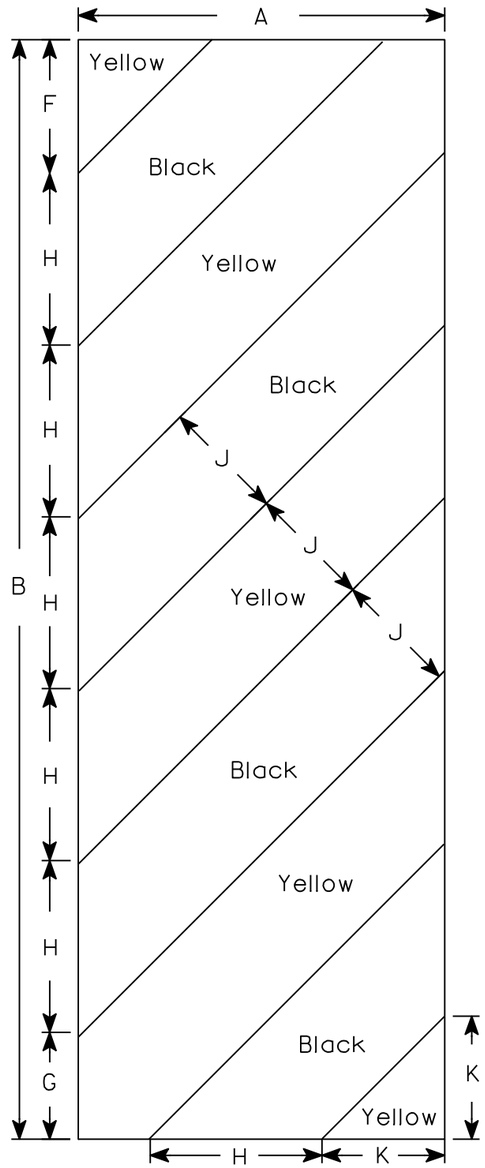
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 35 | 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

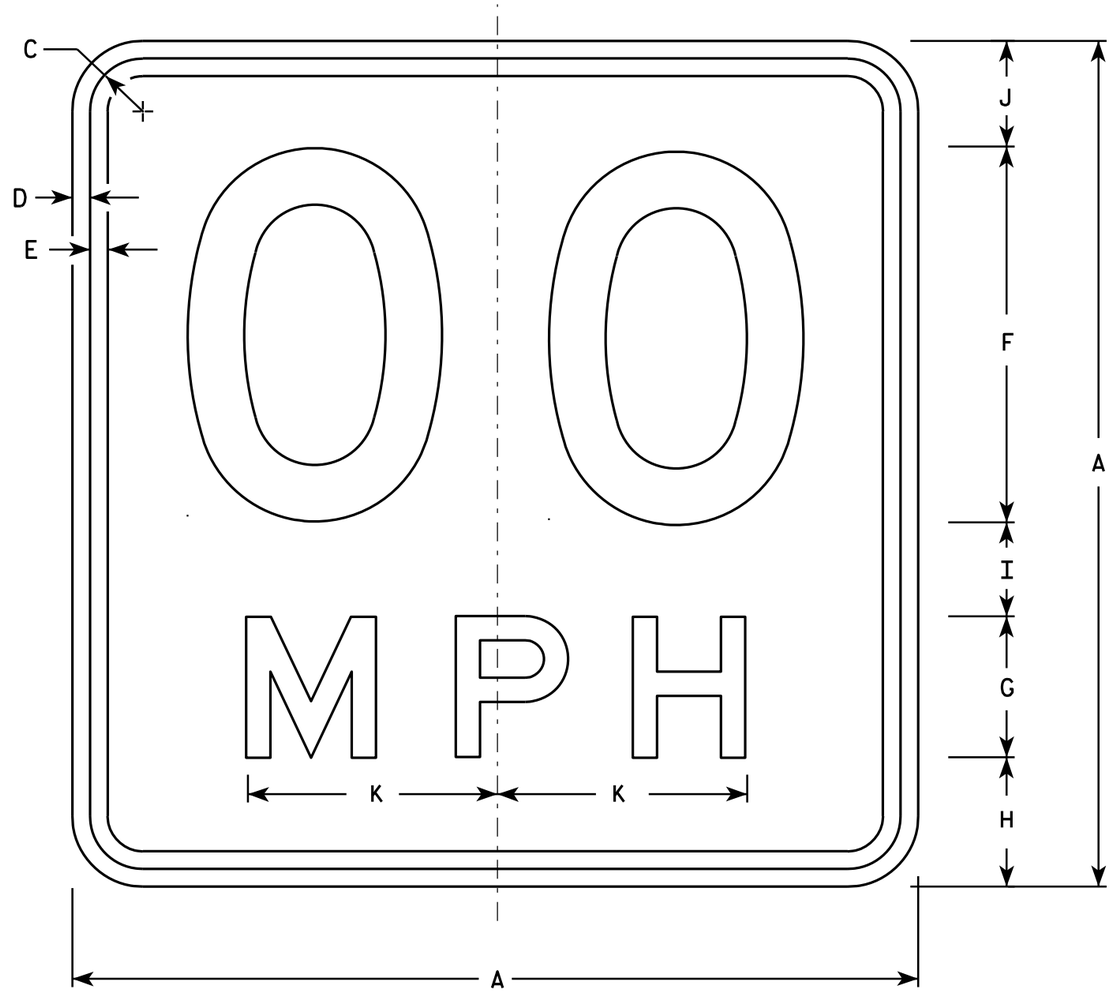
W5-52L & W5-52R

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: 36 | E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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. 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. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	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		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

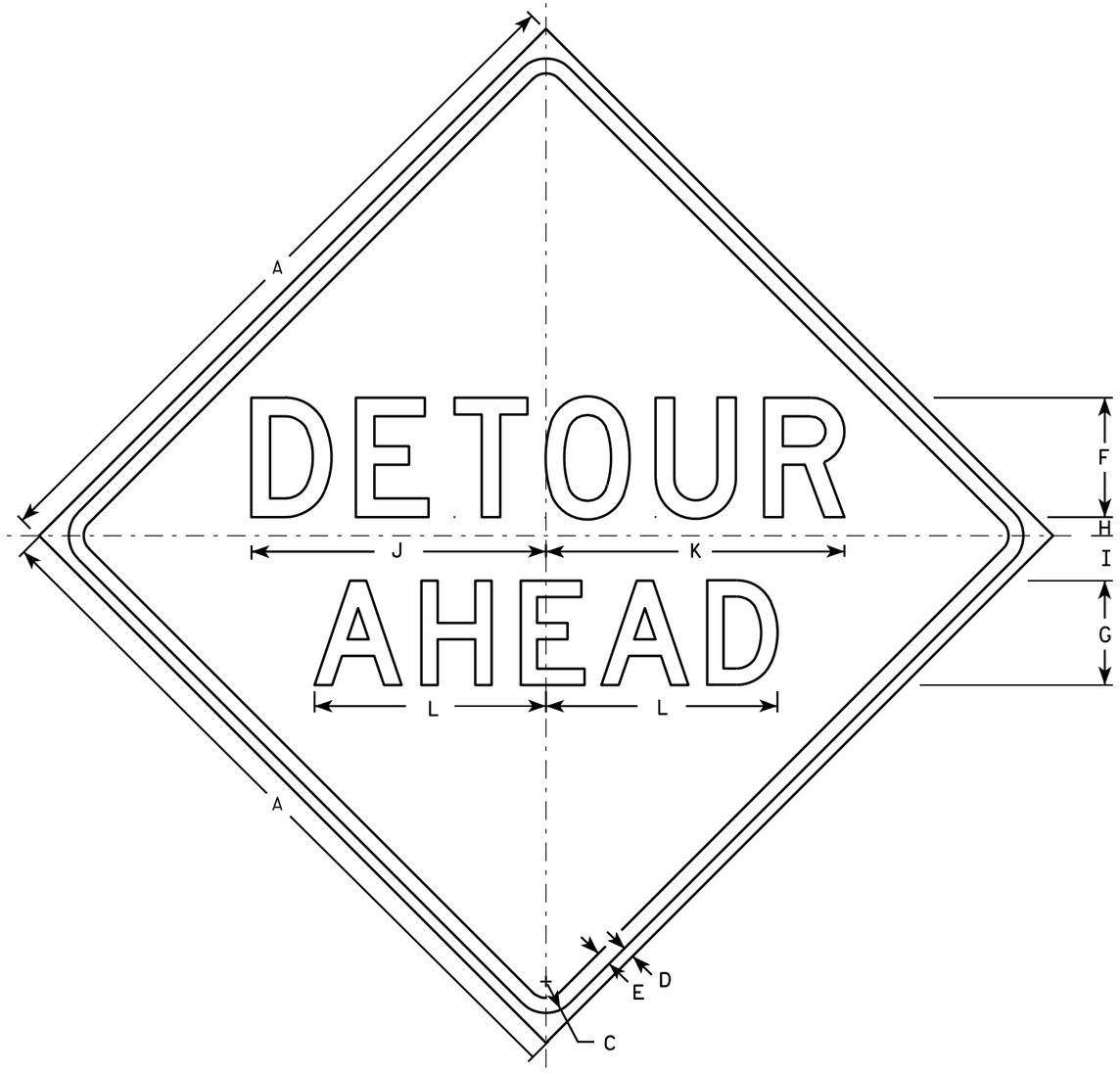
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

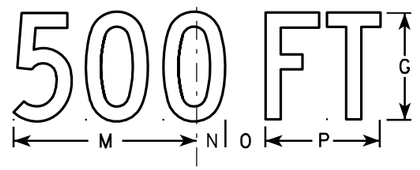
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

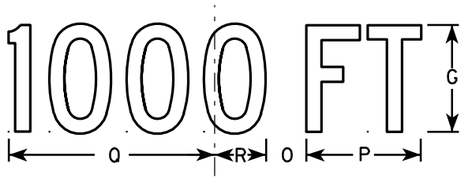
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 37	E



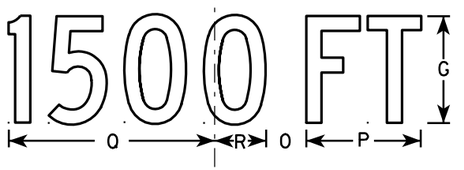
W20-2A



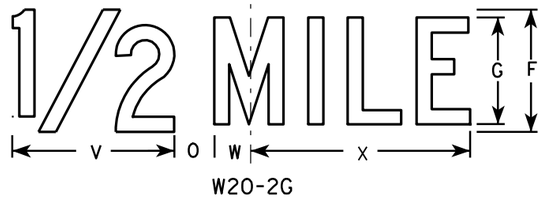
W20-2D



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.

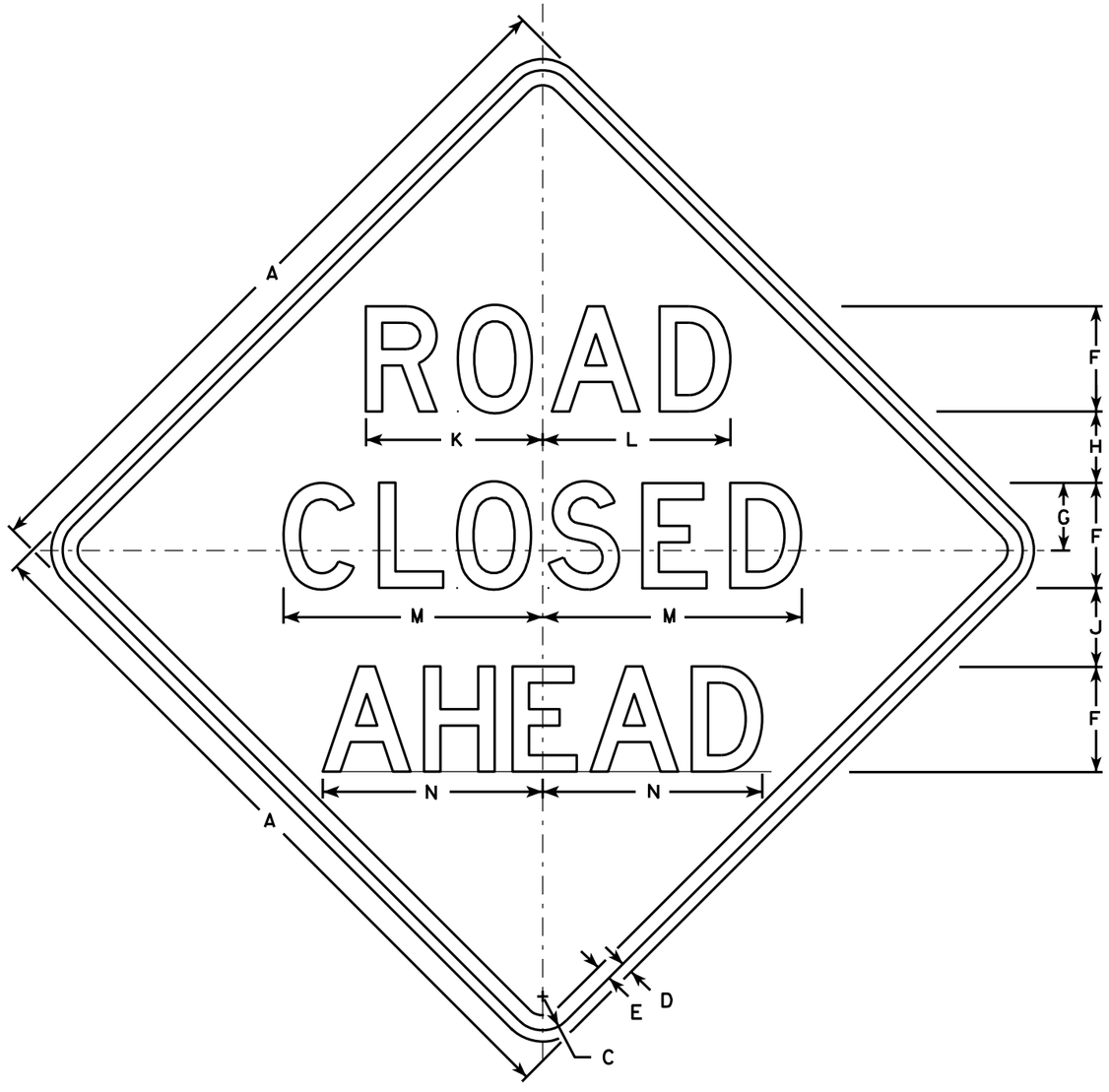
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 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

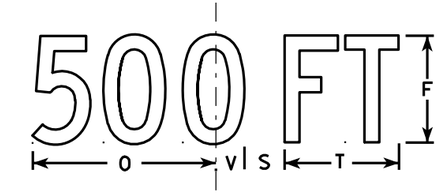
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-2.6

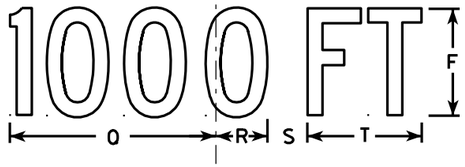
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 38	E



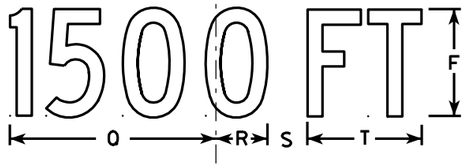
W20-3A



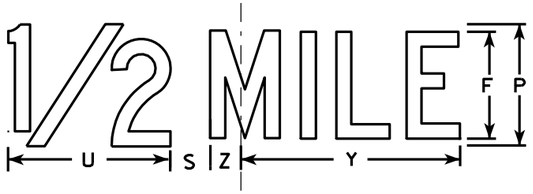
W20-3D



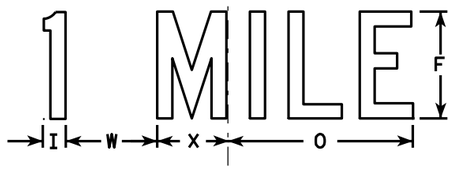
W20-3C



W20-3B



W20-3G



W20-3F

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. Lines 1 and 2 are Series D.
   Line 3 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	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

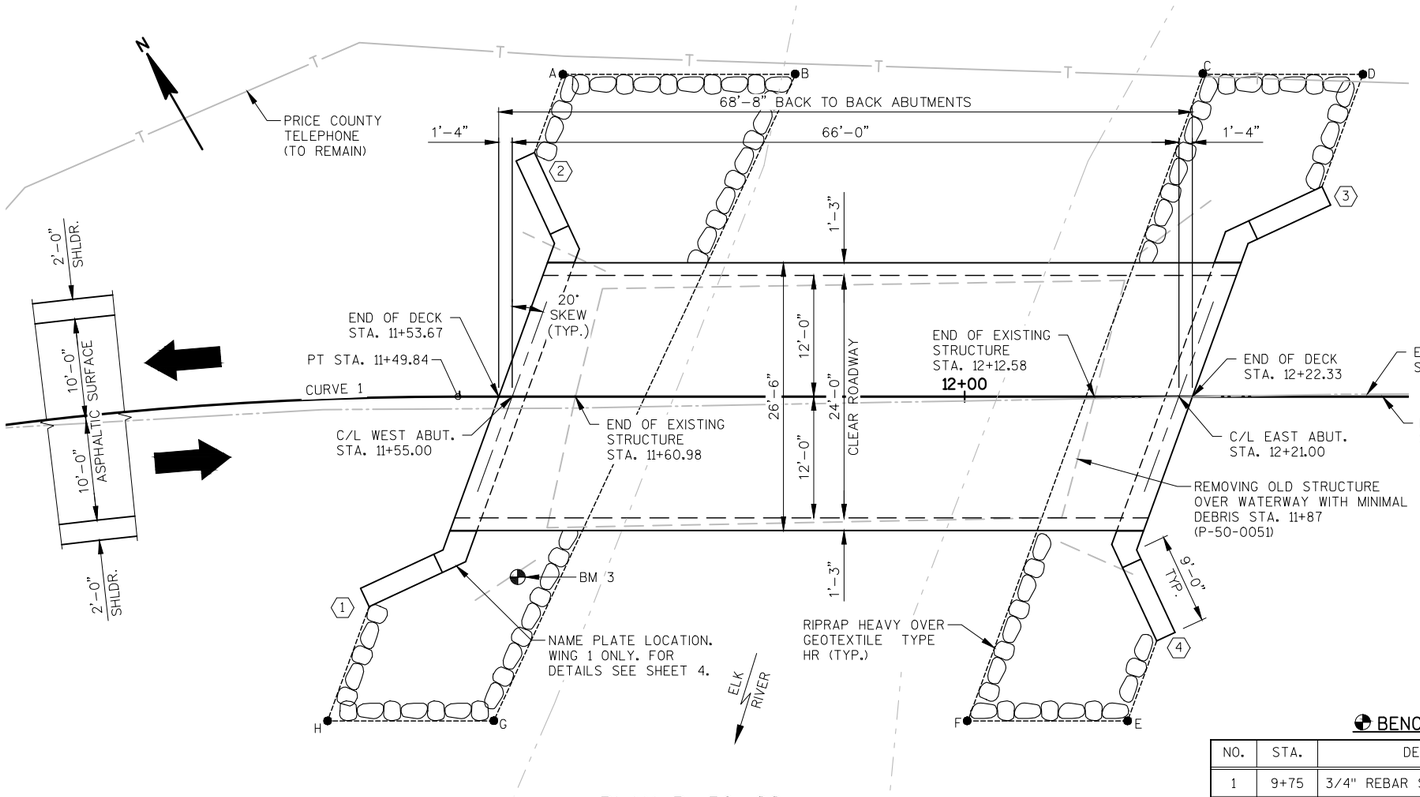
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 39 | E

STATE PROJECT NUMBER

9894-00-71



INDICATES WING NUMBER

PLAN B-50-88

(SINGLE-SPAN 36-INCH PRESTRESSED GIRDER STRUCTURE)

CURVE 1 DATA

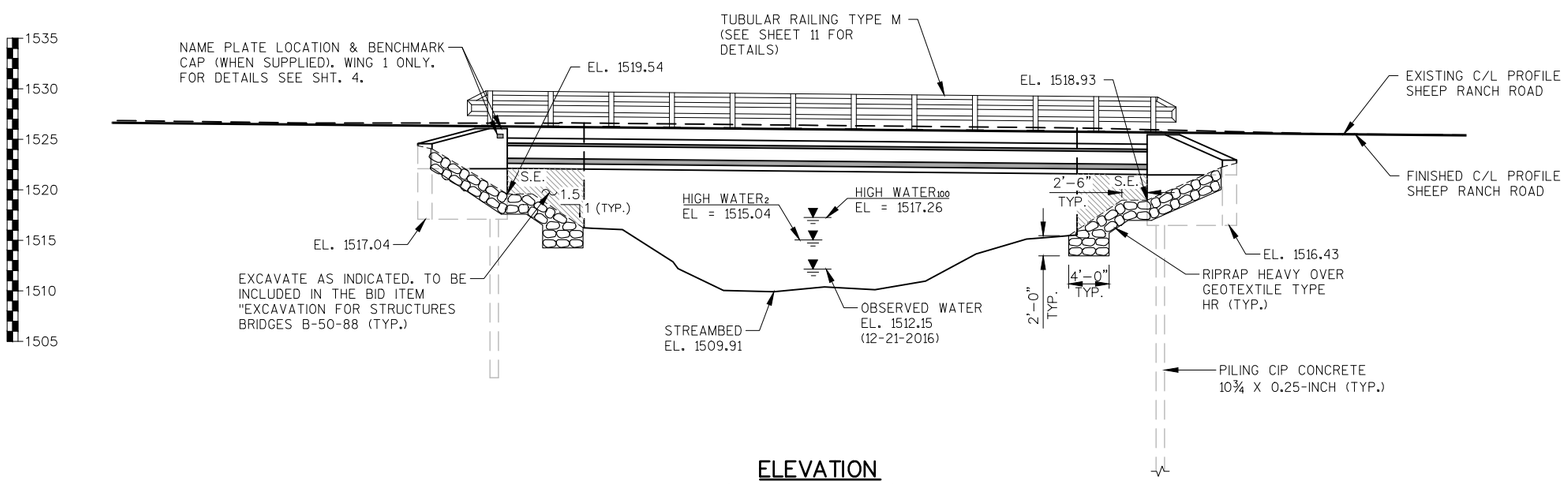
PI STA.	10+26.30
Y	438,628.93
X	818,939.61
R	361.95
D	15°49'47"
DELTA	40°56'58"
L	258.69
T	135.15
C	253.22
PC STA.	8+91.15
Y	438,603.14
X	818,806.95
PT STA.	11+49.84
Y	438,561.46
X	819,056.71

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	11+60	32' LT.
B	11+83	32' LT.
C	12+23	32' LT.
D	12+39	32' LT.
E	12+16	32' RT.
F	12+00	32' RT.
G	11+53	32' RT.
H	11+36	32' RT.

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+75	3/4" REBAR SET, 28.9' LT.	1528.45
2	11+17	3/4" REBAR SET, 21.7' LT.	1526.28
3	11+56	CGSS SET IN WWAL, 17.9' RT.	1525.40
4	13+42	CGSS SET IN PPOL, 44.7' LT.	1518.58
5	14+23	3/4" REBAR SET, 15.2' RT.	1523.00



ELEVATION

(NORMAL TO ELK RIVER)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.31
OPERATING RATING FACTOR	RF=1.82
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, DECK	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
36-INCH PRESTRESSED GIRDER CONCRETE MASONRY	f'c = 8,000 P.S.I.
STRANDS 0.5 INCH DIA. WITH ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 20 FT. PILE LENGTHS AT WEST ABUTMENT AND 40 FT. PILE LENGTHS AT EAST ABUTMENT.

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

TRAFFIC DATA

A.D.T. (2017)	37
A.D.T. (2037)	54
DESIGN SPEED	<25 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	31.7 SQ. MI.
Q_{100} TOTAL	1,050 C.F.S.
THROUGH STRUCTURE	1,050 C.F.S.
OVERTOPPING ROADWAY	N/A
VELOCITY - THROUGH STRUCTURE	5.44 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE	193 SQ. FT.
HIGH WATER$_{100}$ ELEVATION	1517.26
SCOUR CRITICAL CODE	5
EROSION CONTROL	
Q_2	342 C.F.S.
HIGH WATER$_2$ ELEVATION	1515.04

LIST OF DRAWINGS

GENERAL PLAN	1.
CROSS SECTION & QUANTITIES	2.
SUBSURFACE EXPLORATION	3.
ABUTMENTS	4.
ABUTMENT DETAILS	5.
GIRDER LAYOUT	6.
GIRDER DETAILS	7.
STEEL DIAPHRAGM	8.
SUPERSTRUCTURE	9.
SUPERSTRUCTURE DETAILS	10.
TUBULAR RAILING TYPE M	11.

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND
E-36303
SPRING GREEN
WIS.
Patrick Boland 11-9-16

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Architects - Surveyors
22

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/18/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-50-88

SHEEP RANCH ROAD OVER ELK RIVER

COUNTY	PRICE
TOWN/~~CITY/VILLAGE~~	WORCESTER
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JZ	PTB	JZ	PTB

GENERAL PLAN

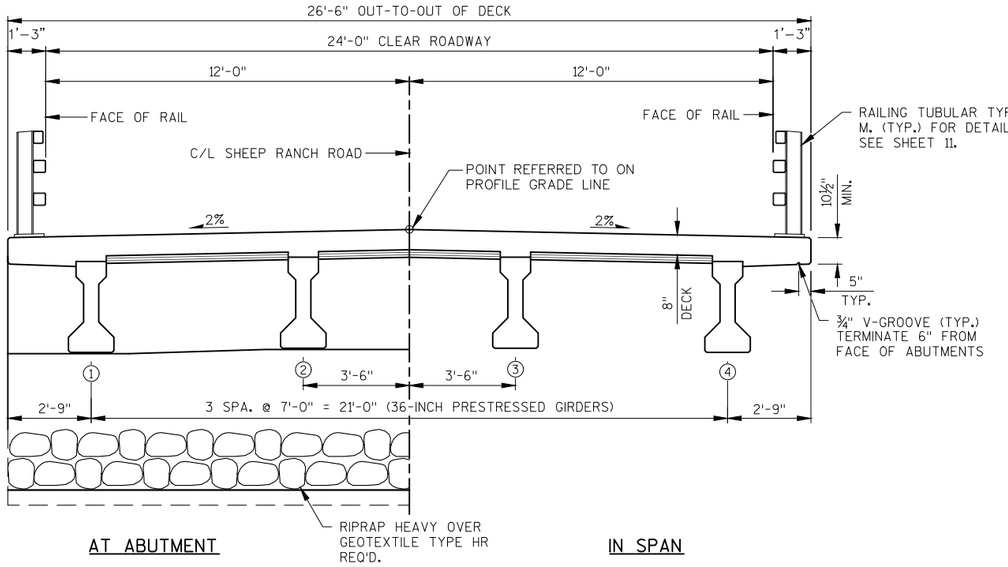
SHEET 1 OF 11

40

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

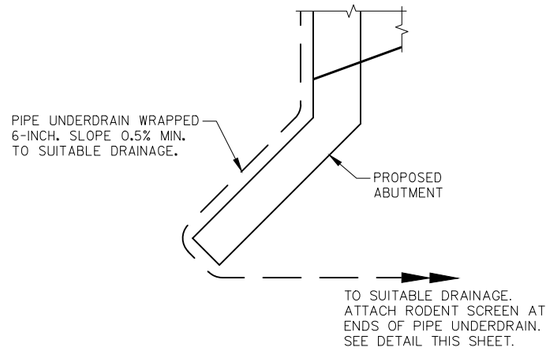
BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\STRUCTURE\CAD FILES\PRELIMS\01 GENERAL LAYOUT.DWG
PLOT DATE : 5/11/2016 10:39:45 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT1

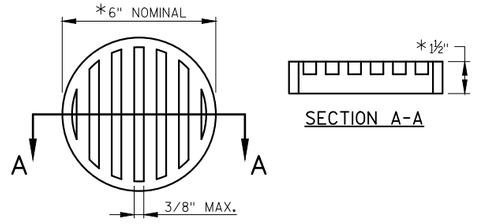


PROPOSED CROSS-SECTION THROUGH ROADWAY

(LOOKING EAST)



PIPE UNDERDRAIN DETAIL



RODENT SCREEN

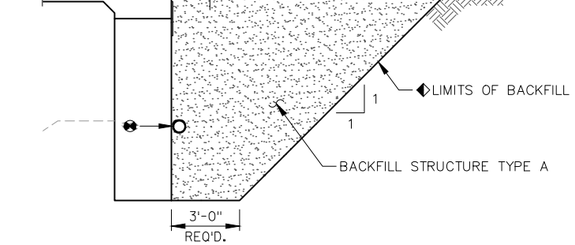
NOTES:

*DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SCREEN SO SLOTS ARE VERTICAL.

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

THE RODENT SCREEN 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 SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-50-88". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

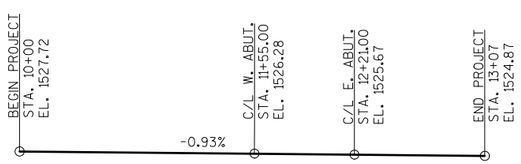
◆ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

BACKFILL STRUCTURE DETAIL

(TYPICAL AT BOTH ABUTMENTS)

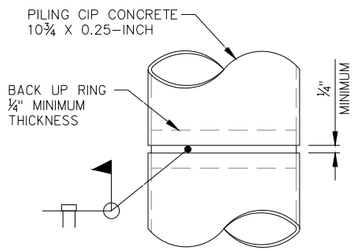
TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	E. ABUT.	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 11+87	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-50-88	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	140	140	--	280
502.0100	CONCRETE MASONRY BRIDGES	CY	29	29	66	124
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	230	230
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	--	--	268	268
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,140	2,140	--	4,280
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,395	1,395	13,820	16,610
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	--	--	8	8
506.4000	STEEL DIAPHRAGMS B-50-88	EACH	--	--	3	3
513.4061	RAILING TUBULAR TYPE M B-50-88	LF	--	--	141	141
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	--	12
550.2104	PILING CIP CONCRETE 10¾ X 0.25-INCH	LF	180	360	--	540
606.0300	RIPRAP HEAVY	CY	95	75	--	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	--	150
645.0120	GEOTEXTILE TYPE HR	SY	160	120	--	280
	NON-BID ITEMS					
	FILLER	SIZE	--	--	--	½" & ¾"

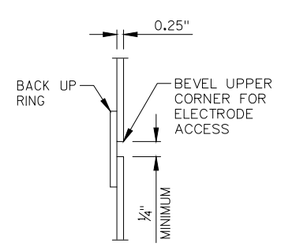


PROFILE GRADE LINE

SHEEP RANCH ROAD



CAST-IN-PLACE CONCRETE PILE



C.I.P. PILE WELD DETAIL

NOTES:

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK AND THE EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

THE EXISTING STRUCTURE, P-50-0051, IS A TWO-SPAN TIMBER DECK GIRDER STRUCTURE SUPPORTED ON FULL RETAINING TIMBER ABUTMENTS. THE STRUCTURE HAS A 24.0' CLEAR ROADWAY WIDTH, AN OVERALL LENGTH OF 51.0', AND SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

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

STATE PROJECT NUMBER

9894-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

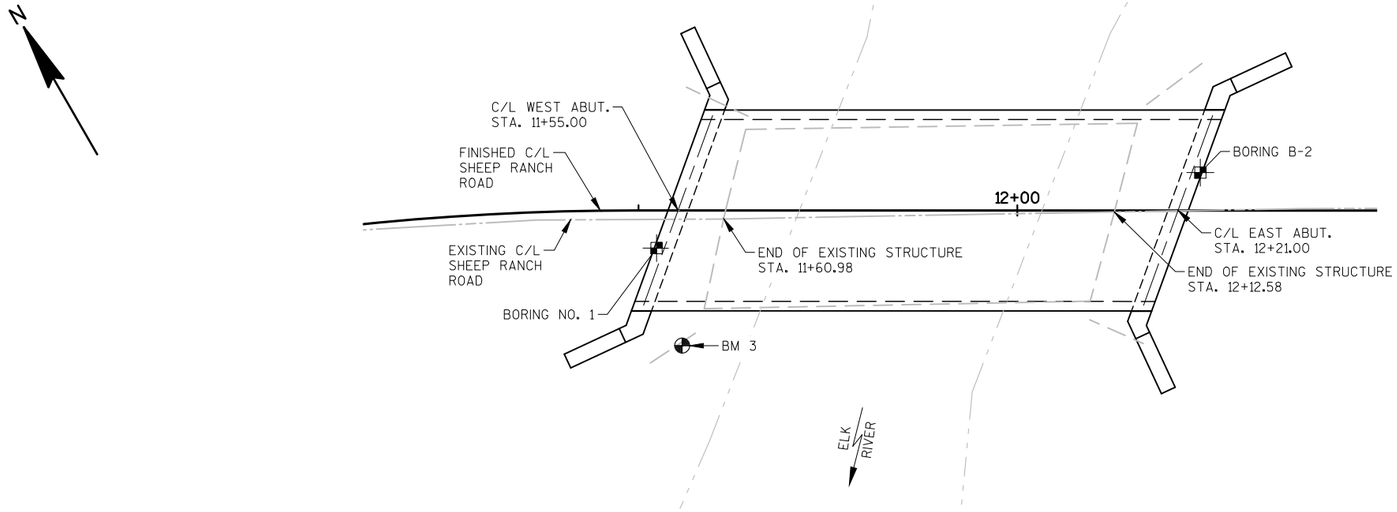
STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

CROSS SECTIONS AND QUANTITIES

SHEET 2 OF 11

41



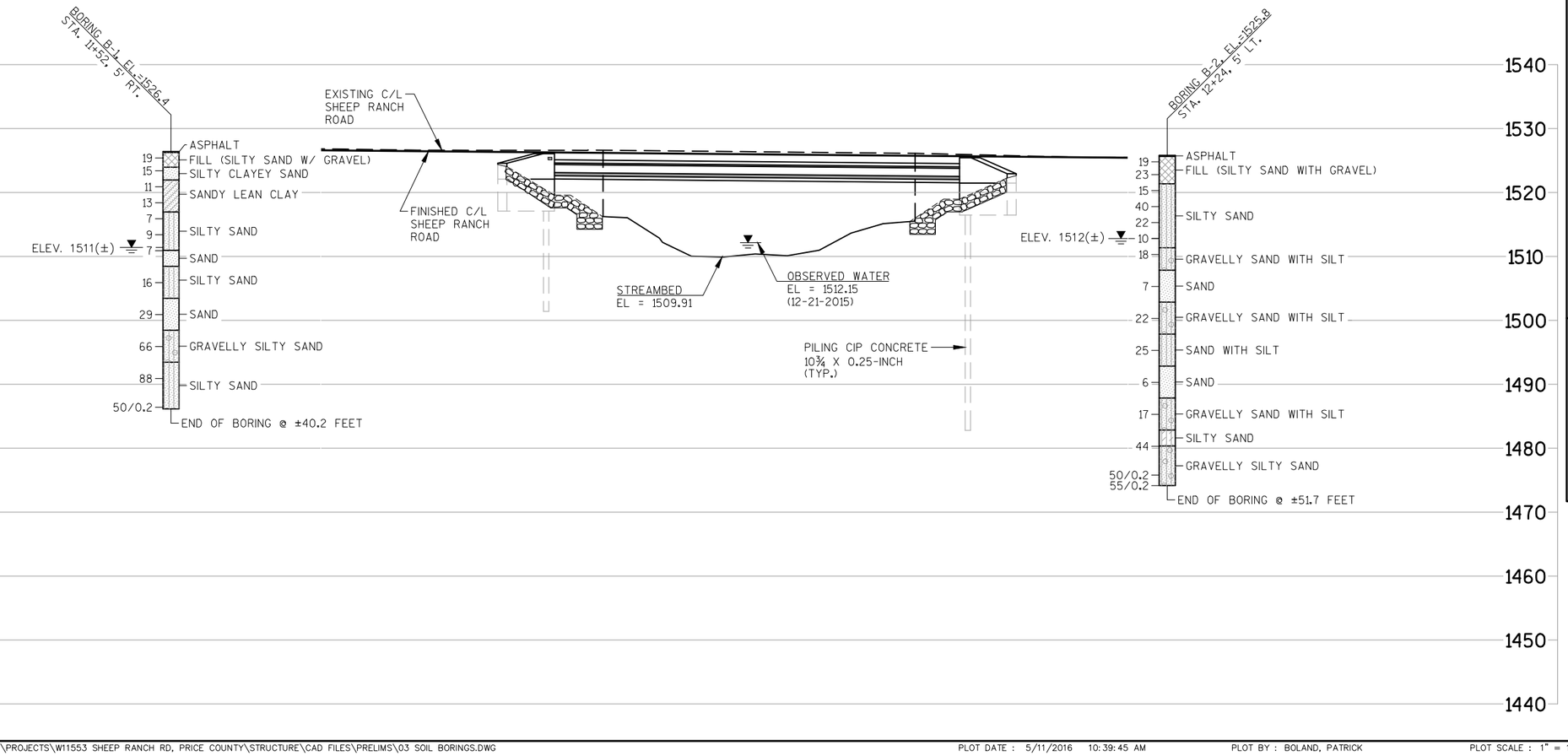
PLAN B-50-88

SOIL BORINGS

BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	03/23/16	438,555.9	819,056.4
B-2	02/22/16	438,528.7	819,123.6

BORINGS & REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING
4203 SCHOFIELD AVE, SUITE 1
SCHOFIELD, WI 54476

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10¾ X 0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 20 FT. PILE LENGTH AT THE WEST ABUTMENT AND 40 FT. PILE LENGTH AT THE EAST ABUTMENT.



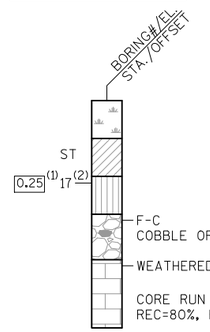
STATE PROJECT NUMBER

9894-00-71

MATERIAL SYMBOLS

Asphalt; Topsoil; Peat; Concrete; Fill; Gravel; Sand; Clay; Silt; Boulders or Cobbles; Limestone; Bedrock (unknown); Shale; Sandstone; Igneous/ meta

LEGEND OF BORING



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

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

GROUND WATER ELEVATIONS

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

SUBSURFACE EXPLORATION

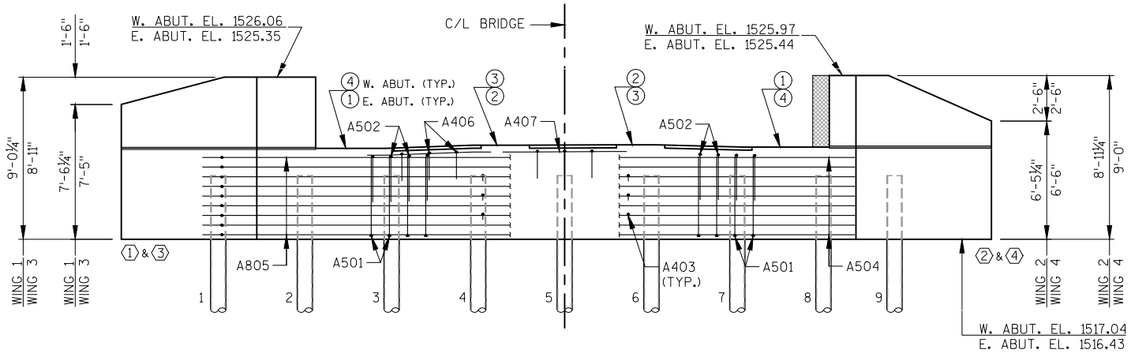
SHEET 3 OF 11

42

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\STRUCTURE\CAD FILES\PRELIMS\03 SOIL BORINGS.DWG PLOT DATE : 5/11/2016 10:39:45 AM PLOT BY : BOLAND, PATRICK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1

STATE PROJECT NUMBER

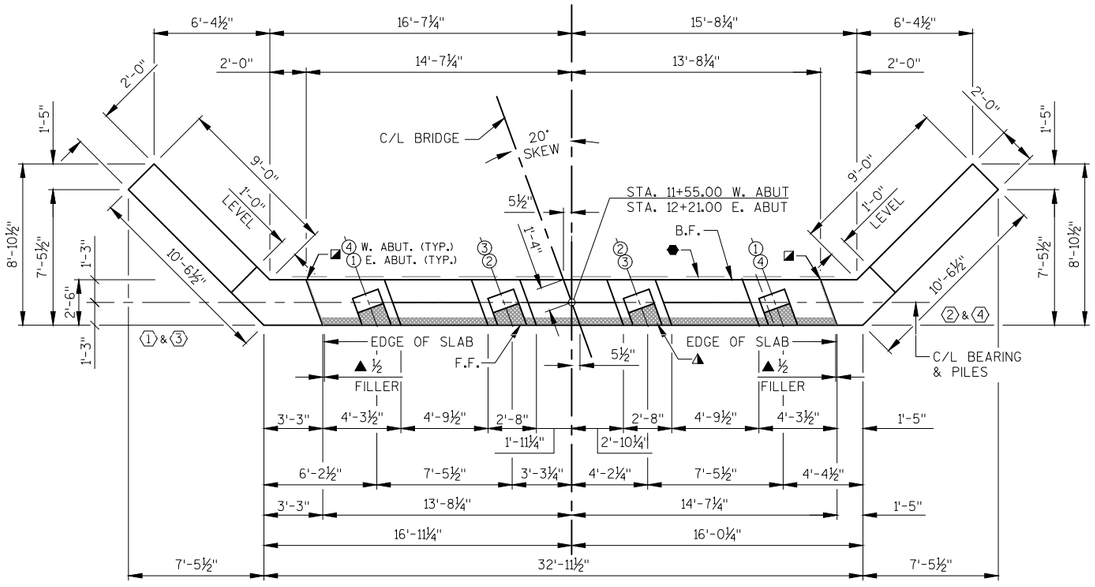
9894-00-71



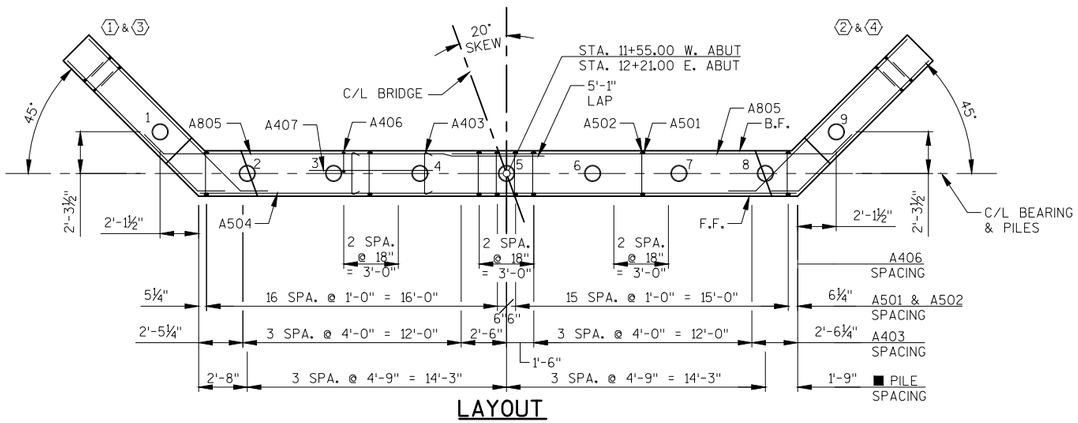
BACK FACE BAR STEEL REINF. FRONT FACE BAR STEEL REINF.

ELEVATION

(WEST ABUTMENT LOOKING WEST)
(EAST ABUTMENT LOOKING EAST)



PLAN



LAYOUT

NOTES

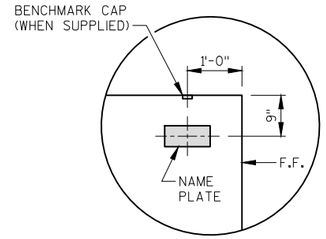
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

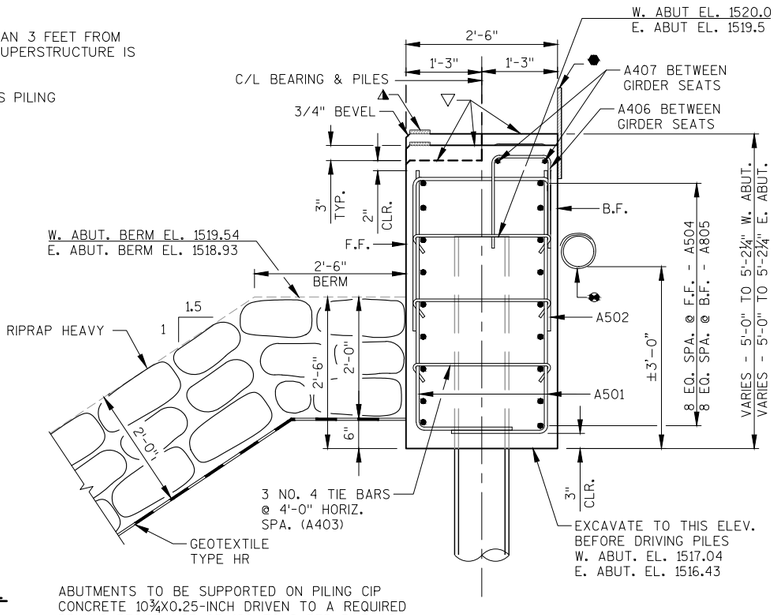
SPACE REINFORCEMENT TO MISS PILING

F.F. – FRONT FACE

B.F. – BACK FACE

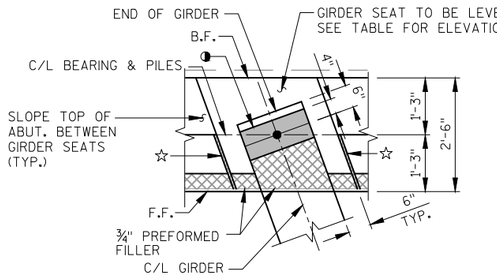


NAME PLATE AND BENCHMARK CAP DETAIL



ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10¾X0.25-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 20 FT PILE LENGTH AT WEST ABUTMENT AND 40 FT. PILE LENGTHS AT EAST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY



GIRDER SEAT DETAIL

GIRDER SEAT ELEVATIONS

GIRDER LINE	WEST ABUT.	EAST ABUT.
1	1522.04	1521.43
2	1522.21	1521.59
3	1522.23	1521.62
4	1522.12	1521.51

LEGEND

- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ● 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◭ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ■ PILE SPACING MEASURED AT BASE OF SHAFT.
- ◓ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ◑ ½"x8"x1'-6" ELASTOMERIC BEARING PAD.
- ▽ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⬡ INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

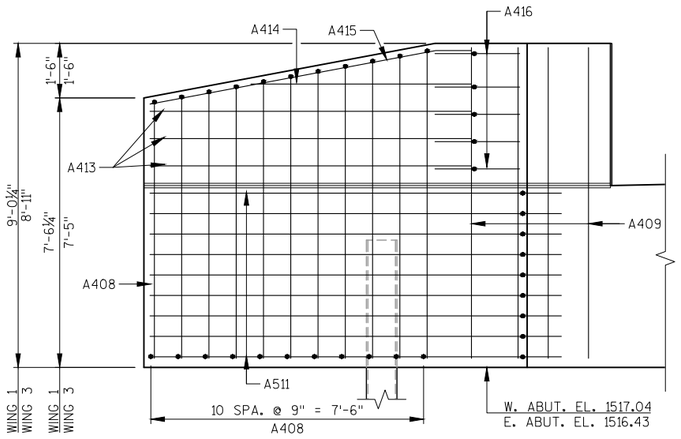
STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

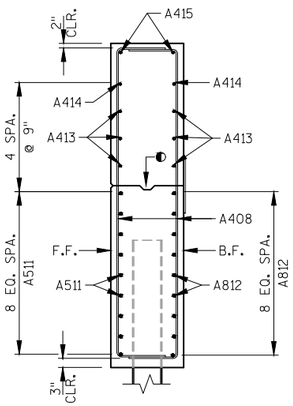
ABUTMENTS

SHEET 4 OF 11

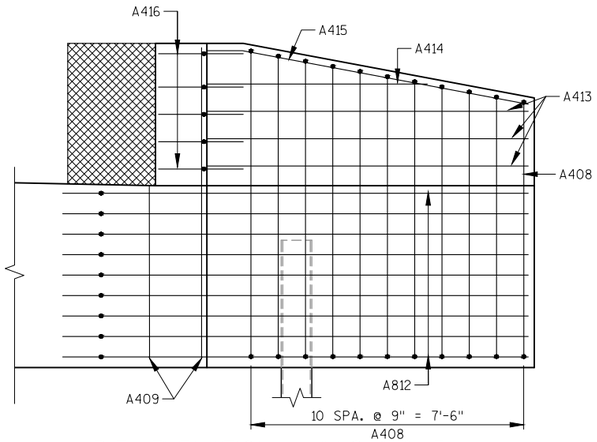
43



F.F. ELEVATION - WING 1 & 3



SECTION A-A



B.F. ELEVATION - WING 1 & 3

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

STATE PROJECT NUMBER

9894-00-71

BILL OF BARS
TWO ABUTMENTS SHOWN

4,280 LB (COATED)
2,790 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	132	5-10	X			BODY - VERT. - F.F & B.F.
A502	66	7-7	X			BODY - VERT. - TOP
A403	48	2-8	X			TIE BARS
A504	18	32-10				BODY - HORIZ. - F.F.
A805	36	22-6	X			BODY - HORIZ. - B.F.
A406	18	3-3	X			BODY - VERT. - TOP BETWEEN SEATS
A407	12	6-9				BODY - HORIZ. - TOP BETWEEN SEATS
A408	44	10-2	X	X	✳	WING 1 & 3 - VERT. - F.F. & B.F.
A409	22	8-6		X		WINGS - VERT.
A410	4	5-0		X		WINGS - VERT. - TOP
A511	36	11-9	X	X		WINGS - HORIZ. - F.F.
A812	36	13-4	X	X		WINGS - HORIZ. - B.F.
A413	12	8-10		X		WING 1 & 3 - HORIZ. - F.F. & B.F.
A414	4	6-1		X		WING 1 & 3 - HORIZ. - F.F. & B.F.
A415	4	9-0	X	X		WING 1 & 3 - HORIZ. - F.F. & B.F.
A416	10	10-6	X	X		WING 1 & 3 - HORIZ. - TOP
A417	44	9-10	X	X	✳	WING 2 & 4 - VERT. - F.F. & B.F.
A418	8	8-10		X		WING 2 & 4 - HORIZ. - F.F. & B.F.
A419	4	6-4		X		WING 2 & 4 - HORIZ. - F.F. & B.F.
A420	4	4-0		X		WING 2 & 4 - HORIZ. - F.F. & B.F.
A421	4	9-3	X	X		WING 2 & 4 - HORIZ. - F.F. & B.F.
A422	10	8-8	X	X		WING 2 & 4 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

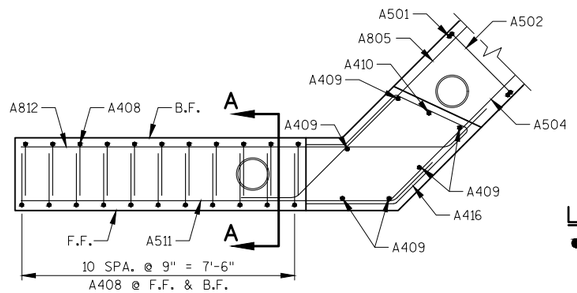
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A408	4 SERIES OF 11	10-10 TO 9-6
A417	4 SERIES OF 11	11-0 TO 8-8

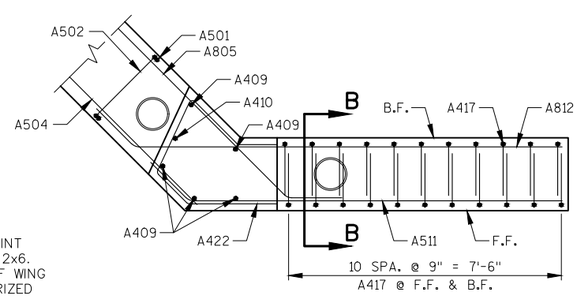
BUNDLE AND TAG EACH SERIES SEPARATELY.



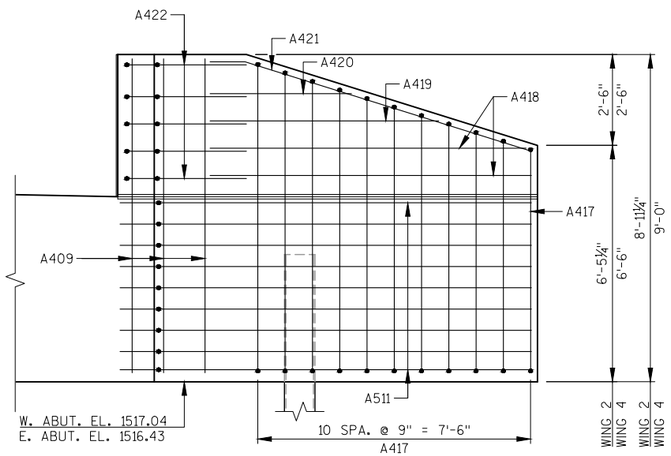
PLAN VIEW - WING 1 & 3

LEGEND

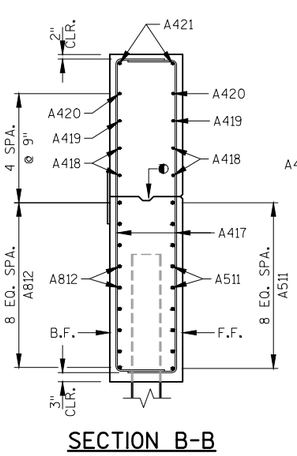
◐ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".



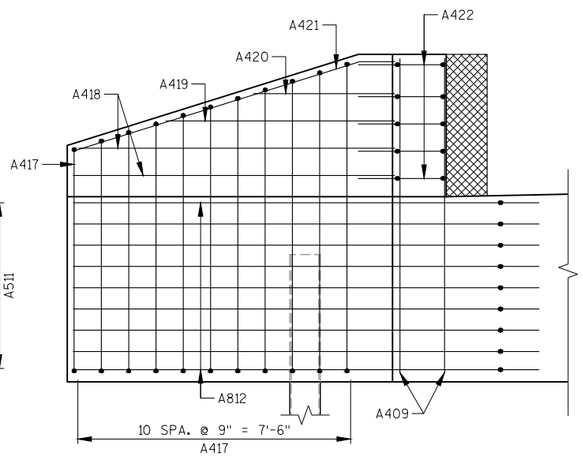
PLAN VIEW - WING 2 & 4



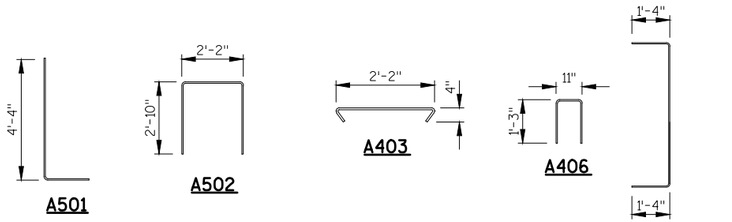
F.F. ELEVATION - WING 2 & 4

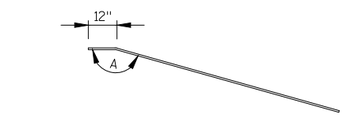


SECTION B-B



B.F. ELEVATION - WING 2 & 4





MARK	'A'
A415	169°23'
A421	162°39'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

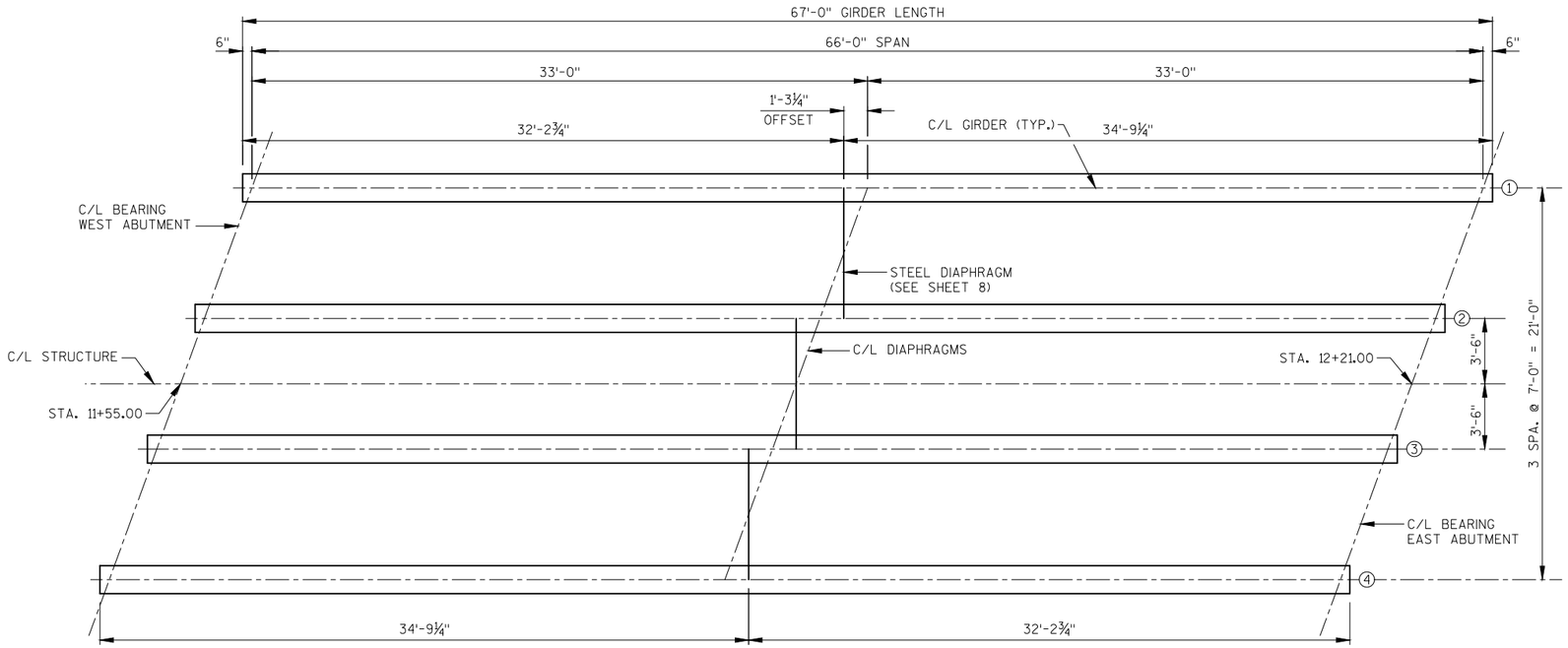
STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

ABUTMENT DETAILS

SHEET 5 OF 11
44

STATE PROJECT NUMBER
9894-00-71



BILL OF BARS SUPERSTRUCTURE

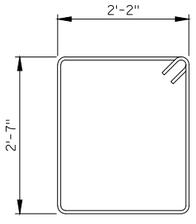
13,820 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	60	10-0	X	X	ABUT. DIAPHRAGM - VERT.
S502	60	5-9	X	X	ABUT. DIAPHRAGM - VERT. - TOP
S603	4	1-8		X	ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S604	12	1-11		X	ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S605	6	5-2		X	ABUT. DIAPHRAGM - HORIZ. - FRONT
S606	18	5-8		X	ABUT. DIAPHRAGM - HORIZ. - FRONT
S607	12	27-10		X	ABUT. DIAPHRAGM - HORIZ. - BACK
S408	12	4-2		X	ABUT. DIAPHRAGM - HORIZ. - BOT.
S409	36	3-3	X	X	ABUT. DIAPHRAGM - VERT. - BOT.
S510	16	6-0		X	ABUT. DIAPHRAGM - GIRDER WEB
S511	235	27-10		X	DECK - TOP & BOT. - TRANSVERSE
S412	142	35-0		X	DECK - TOP & BOT. - LONGITUDINAL
S613	44	12-0	X	X	DECK - RAIL POSTS
S614	80	6-0		X	DECK - RAIL POSTS - INTERIOR
S615	4	12-0	X	X	DECK - RAIL POSTS - ENDS
S616	16	6-0	X	X	DECK - RAIL POSTS - ENDS

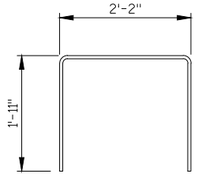
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

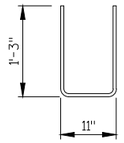
GIRDER LAYOUT



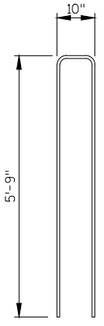
S501



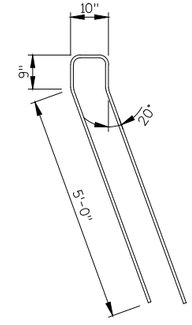
S502



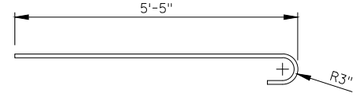
S409



S613



S615



S616

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

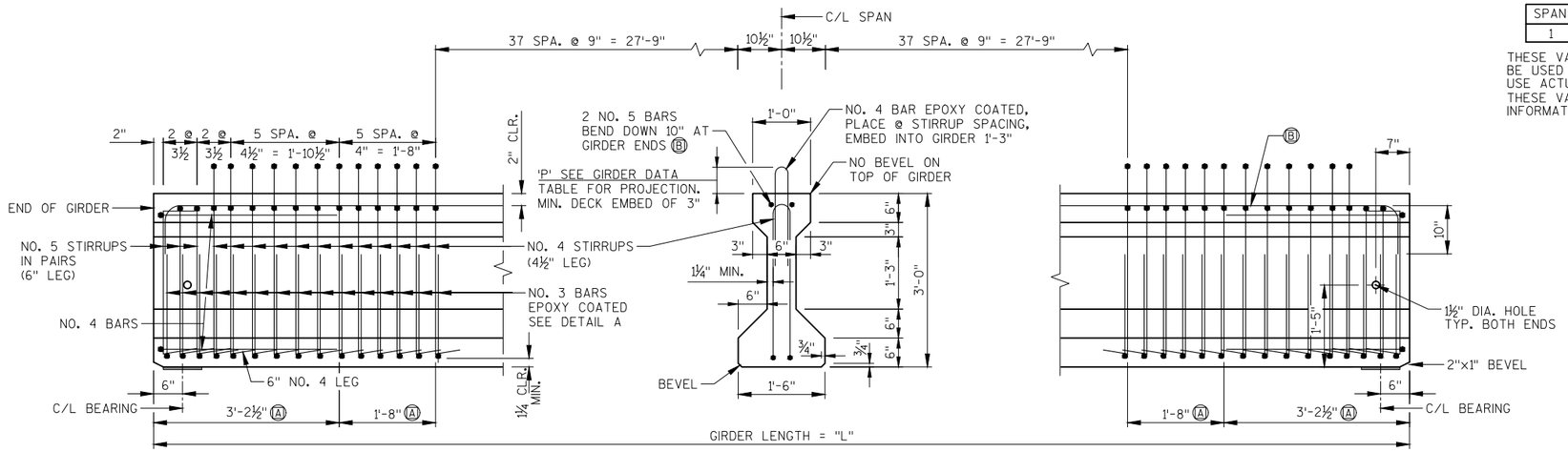
GIRDER LAYOUT

SHEET 6 OF 11

45

STATE PROJECT NUMBER

9894-00-71



36-INCH GIRDER - SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ (2) #5 BARS, FULL LENGTH, MIN. LAP = 3-8"

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

SPAN	CAMBER (IN.)
1	2.3"

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

GIRDER NOTES

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.5-INCH DIAMETER 7-WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270 KSI.

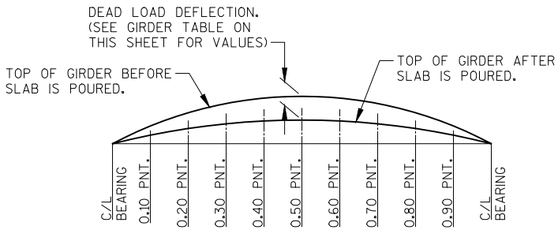
STRANDS SHALL BE FLUSH WITH THE ENDS OF THE GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINEOUS JOINT SEALER.

SPACING SHOWN FOR NO. 4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

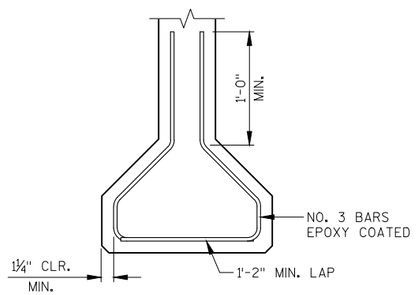
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 8.

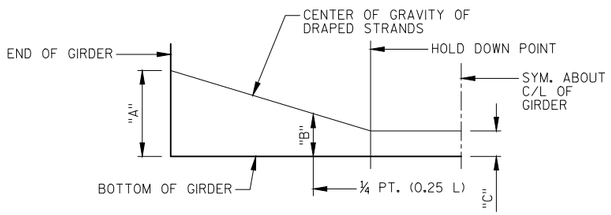
DATA SHOWN IN DEFLECTION DATA IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSES.



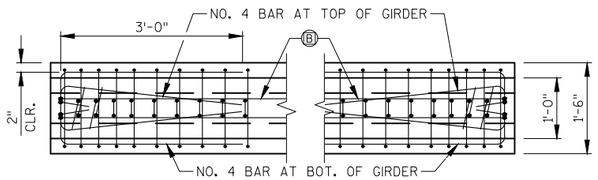
DEAD LOAD DEFLECTION DIAGRAM



DETAIL A

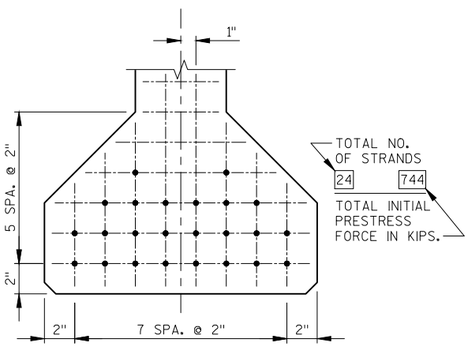


DRAPED STRAND PROFILE



TOP VIEW OF GIRDER ENDS

Ⓑ NO. 5 "B" BARS MAY BE SPLICED, USE 44" MIN. LAP.



TYP. STRAND PATTERN

GIRDER DATA

SPAN	LINE	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (K.S.I.)	STIRRUP PROJECTION "P"			DIA. OF STRAND (IN.)	DRAPED PATTERN					
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10		1ST 1/3	MID 1/3	END 1/3		TOTAL NO. OF STRANDS	f'ci (K.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	1-4	67'-0"	5/16	9/16	13/16	15/16	1	15/16	13/16	9/16	5/16	8.0	7½"	6"	7½"	0.5"	24	6.8	30	10½	13½	4

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

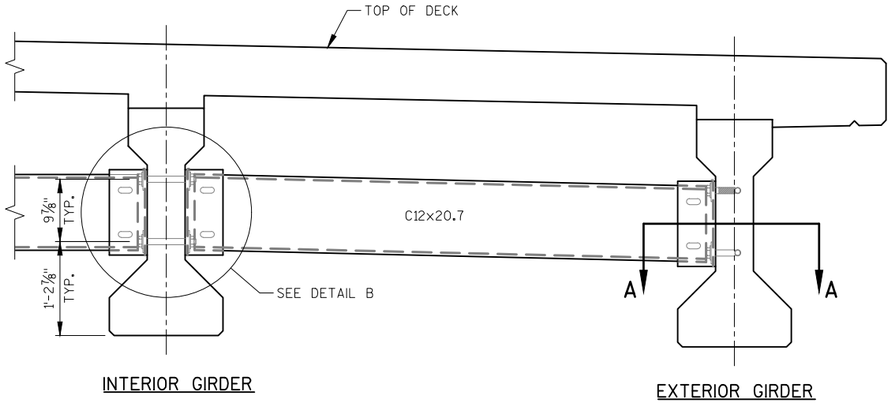
36-INCH PRESTRESSED GIRDER DETAILS

SHEET 7 OF 11

46

STATE PROJECT NUMBER

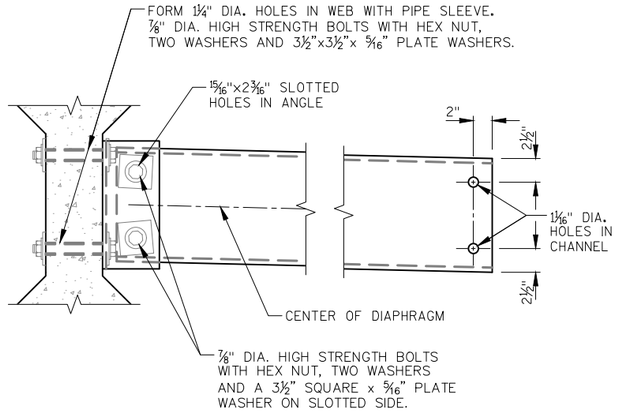
9894-00-71



INTERIOR GIRDER

EXTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B

(FOR STAGGERED DIAPHRAGMS)

GIRDER NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-50-88", EACH.

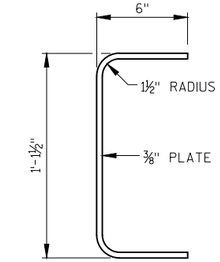
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

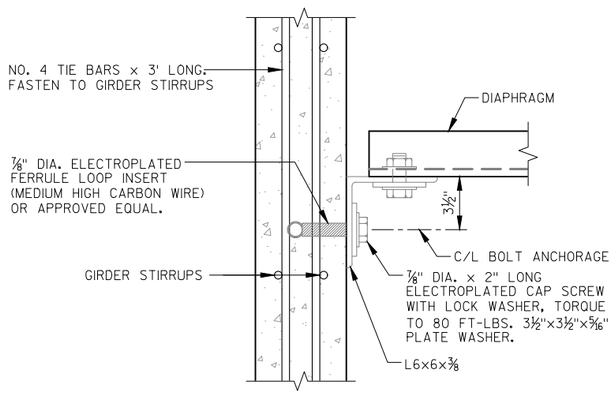
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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

PLACE ONE DIAPHRAGM AT MID-LENGTH OF GIRDER AS INDICATED ON SHEET 6.

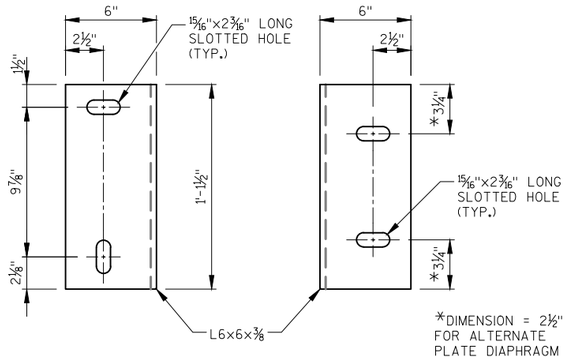


SECTION THROUGH ALTERNATE DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



GIRDER FACE DIAPHRAGM FACE

DIAPHRAGM SUPPORT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-50-88

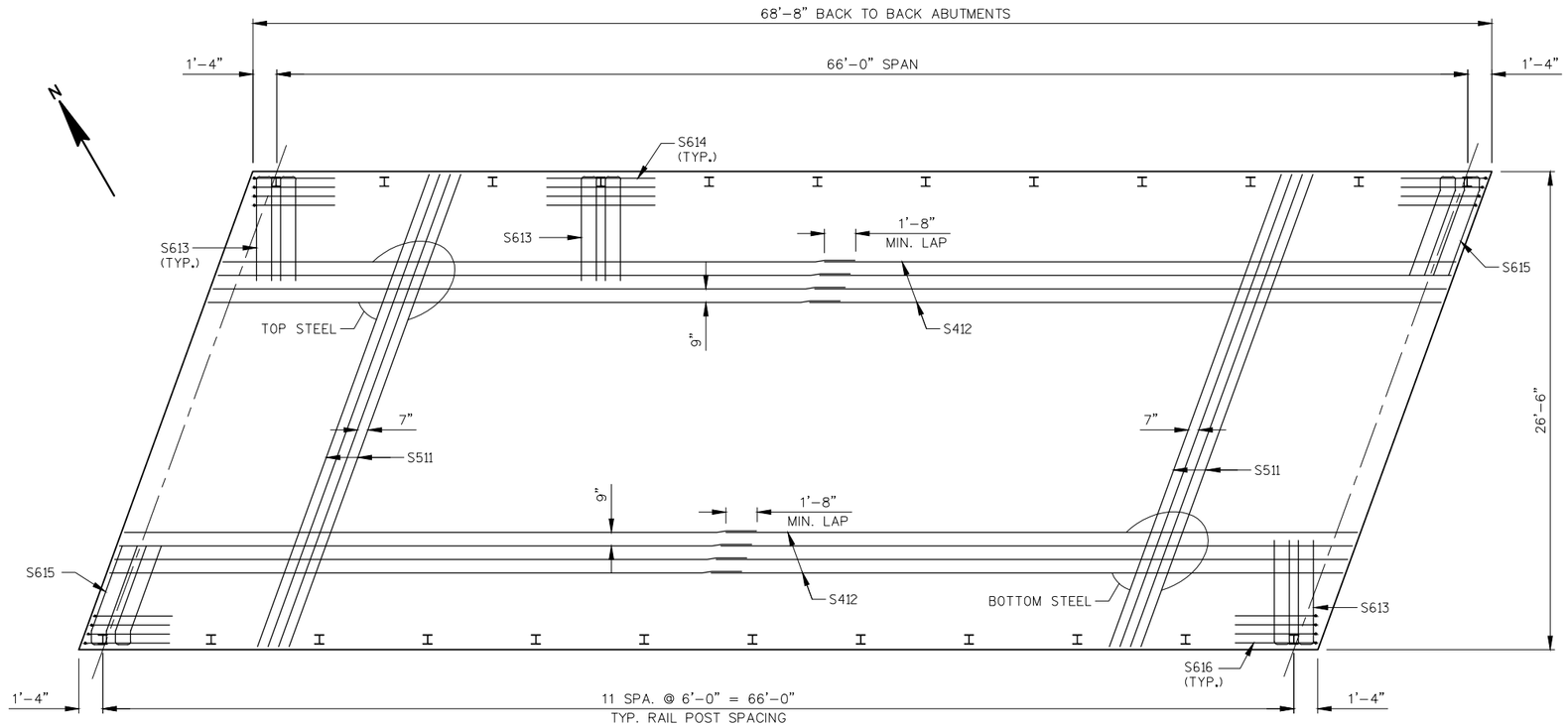
DRAWN BY JZ | PLANS CK'D. PTB

STEEL DIAPHRAGM

SHEET 8 OF 11

47

STATE PROJECT NUMBER
9894-00-71



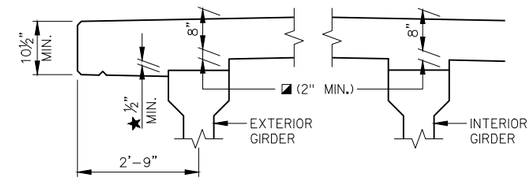
PLAN

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

T.D. - TOP OF DECK
T.G. - TOP OF GIRDER

ELEVATIONS SHOWN AT THE TOP OF GIRDER ARE FOR THE MATERIAL AS ERECTED.



IF 2" MINIMUM HAUNCH HEIGHT "◪" CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAXIMUM HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3".

TO DETERMINE "◪" (AFTER GIRDERS ARE IN PLACE):
OBTAIN THE ELEVATIONS OF THE TOP OF GIRDER AT THE C/L OF SUBSTRUCTURE UNITS AND AT EACH 1/10 POINT FOR EVERY GIRDER AND ALL SPANS, THEN PROCEED WITH THE PROCESS SHOWN BELOW.

TOP OF DECK ELEVATION AT THE FINAL GRADE
-TOP OF GIRDER ELEVATION
+DEAD LOAD DEFLECTION
-SLAB THICKNESS
=HAUNCH HEIGHT "◪"

NOTE: AN AVERAGE HAUNCH "◪" OF 2.7" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

★SLAB THICKNESS SHALL BE INCREASED AS NECESSARY TO CONCEAL INTERSECTION OF SLAB AND TOP OF GIRDER AT ALL FACIA GIRDERS.

SLAB HAUNCH DETAIL

ELEVATIONS AT TOP OF DECK

GIRDER LINE		C/L BRG. W. ABUT.	0.10 PT.	0.20 PT.	0.30 PT.	0.40 PT.	0.50 PT.	0.60 PT.	0.70 PT.	0.80 PT.	0.90 PT.	C/L BRG. E. ABUT.
N. EDGE	T.D.	1525.97	1525.91	1525.85	1525.79	1525.73	1525.66	1525.60	1525.54	1525.48	1525.42	1525.36
①	T.D.	1526.04	1525.97	1525.91	1525.85	1525.79	1525.73	1525.67	1525.61	1525.55	1525.48	1525.42
②	T.D.	1526.20	1526.14	1526.08	1526.02	1525.95	1525.89	1525.83	1525.77	1525.71	1525.65	1525.59
C/L	T.D.	1526.28	1526.22	1526.16	1526.10	1526.04	1525.97	1525.91	1525.85	1525.79	1525.73	1525.67
③	T.D.	1526.22	1526.16	1526.10	1526.04	1525.98	1525.92	1525.86	1525.79	1525.73	1525.67	1525.61
④	T.D.	1526.11	1526.05	1525.98	1525.92	1525.86	1525.80	1525.74	1525.68	1525.62	1525.56	1525.49
S. EDGE	T.D.	1526.06	1526.00	1525.94	1525.88	1525.82	1525.75	1525.69	1525.63	1525.57	1525.51	1525.45

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

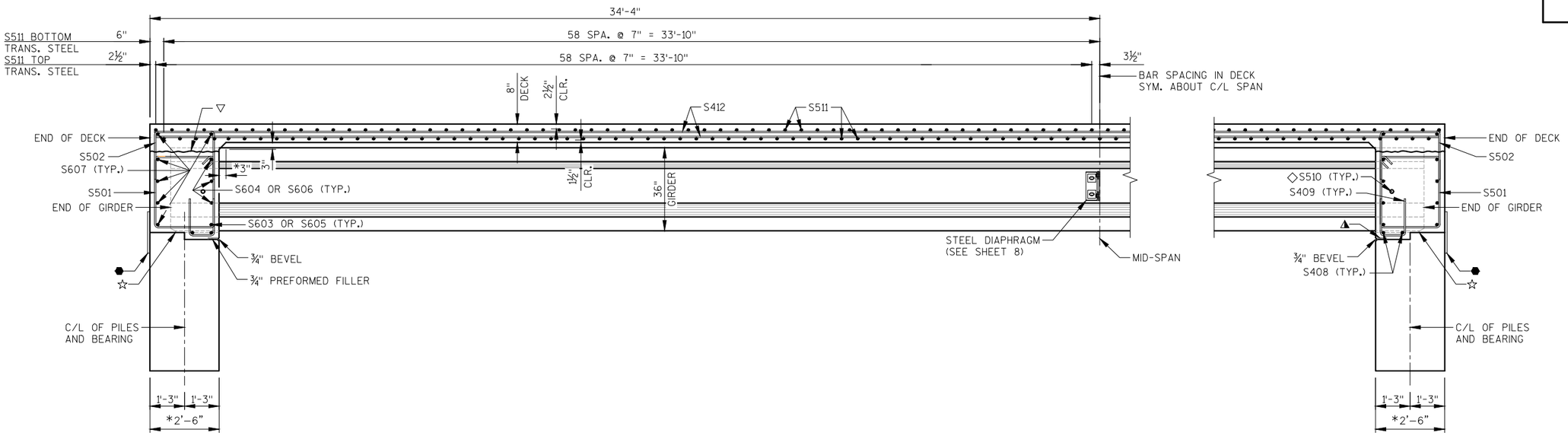
STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

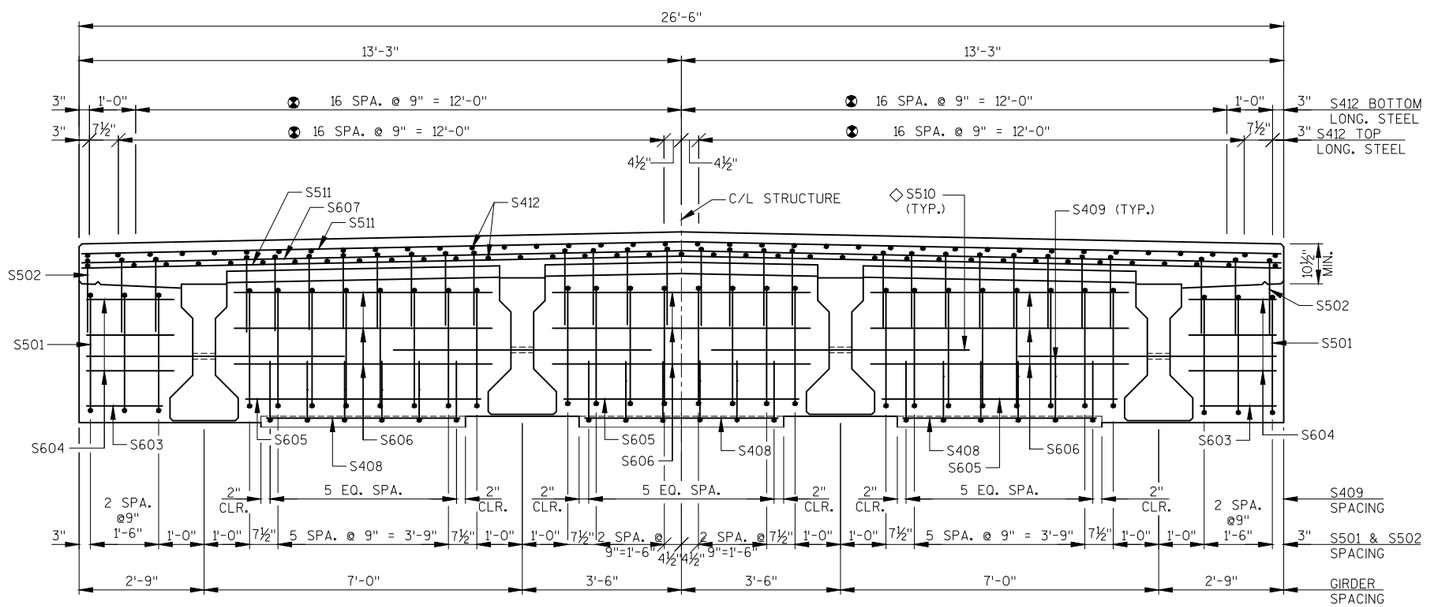
SUPERSTRUCTURE

SHEET 9 OF 11
48

STATE PROJECT NUMBER
9894-00-71



PARTIAL LONGITUDINAL SECTION



CROSS SECTION THROUGH ROADWAY

BAR SPACING IN DIAPHRAGM SYM. ABOUT C/L STRUCTURE

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 6 FOR BILL OF BARS.

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- ☆ ½" NON-LAMINATED ELASTOMERIC BEARING PAD AND ¾" PREFORMED FILLER.
- ◮ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ◇ (1) 1½" DIAMETER HOLE IN WEB FOR (2) S510 HORIZONTAL BARS. BARS TO BE PLACED SYMMETRICAL ABOUT C/L OF GIRDERS. FIELD BEND BARS ALONG SKEW.
- ⊠ MEASURED PARALLEL TO C/L OF ROADWAY.
- ∗ DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE.
- ▽ OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

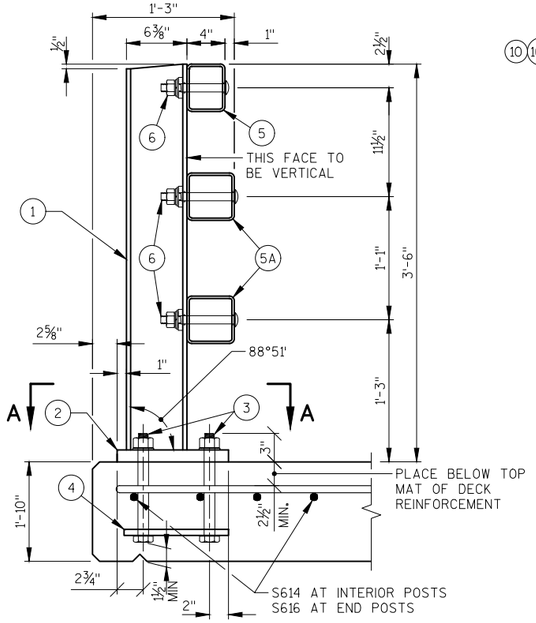
STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

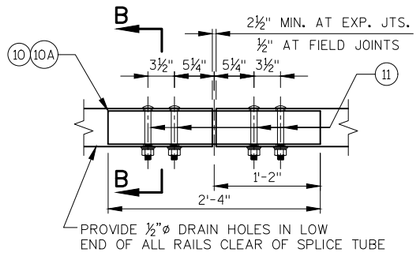
SUPERSTRUCTURE DETAILS

SHEET 10 OF 11

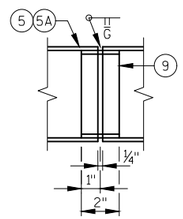
49



SECTION THROUGH RAILING ON DECK

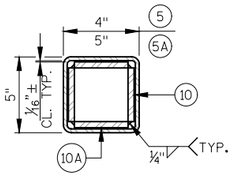


FIELD ERECTION JOINT DETAIL

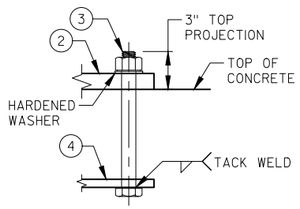


SHOP RAIL SPLICE DETAIL

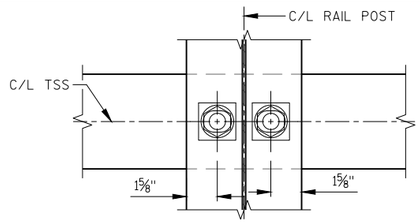
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



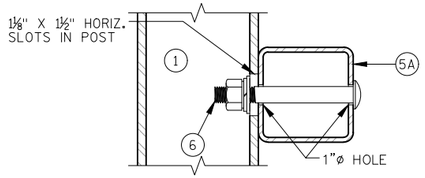
SECTION B-B



ANCHOR BOLTS



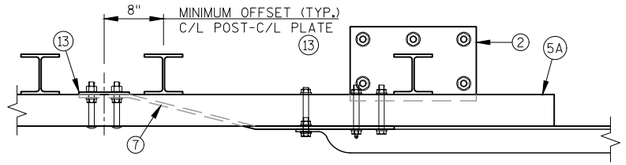
SECTION THROUGH POST WEB



SECTION THROUGH RAIL

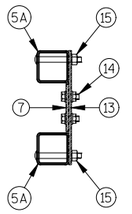
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

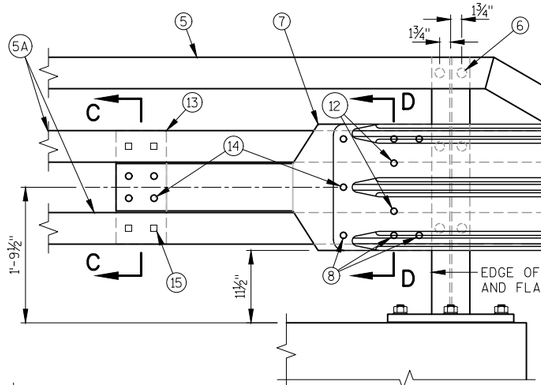


TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

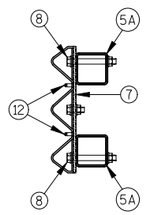


SECTION C-C

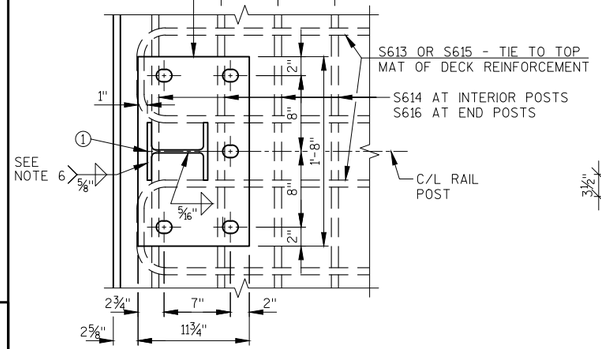


DETAIL AT END POST

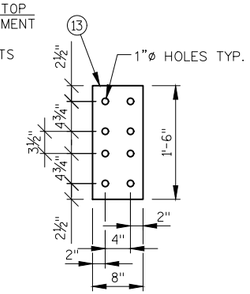
(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

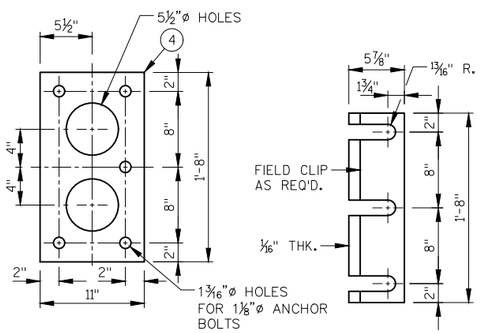


SECTION A-A



ANCHOR PLATE

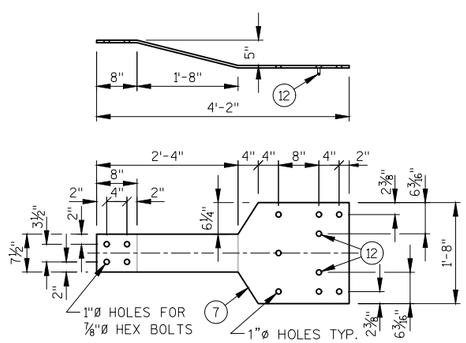
AT BEAM GUARD ATTACHMENT



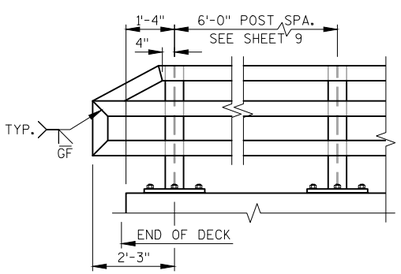
ANCHOR PLATE

AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL



PART ELEVATION OF RAILING

LEGEND

① W6x25 WITH 1⅛" x 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1¼"x11¾"x1'-8" WITH 15⁄16"x1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS.

④ 5⁄16"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 13⁄16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

⑤ TSS 5x4x¼ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑤A TSS 5x5x¼ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16"x1⅝"x1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).

⑦ ½" THK. BACK-UP PLATE WITH 2 -⅞"x1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

⑩ ⅜"x3⅝"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜"x2⅝"x2'-4" PLATE USED IN NO. 5, ⅜"x3⅝"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16"x1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15⁄16"x2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

⑫ ⅞" DIA. BY 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

⑬ ⅜"x8"x1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-50-88" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

STATE PROJECT NUMBER

9894-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-50-88

DRAWN BY JZ | PLANS CK'D. PTB

TUBULAR RAILING TYPE M

SHEET 11 OF 11

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\STRUCTURE\CAD FILES\FINALS\11 TUBULAR RAILING TYPE M.DWG
LAYOUT : TUBULAR RAILING TYPE M

PLOT DATE : 11/7/2016
PLOT TIME : 10:36:51 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

EARTHWORK-MAINLINE

	AREA (SF)					INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)							
STATION	CUT	SALVAGED/ UNUSABLE PAV'T MATERIAL	FILL	MARSH EX	EBS	CUT NOTE 1	SALVAGED/ UNUSABLE PAV'T MATERIAL NOTE 2	FILL NOTE 3	MARSH EX	REDUCED MARSH IN FILL (0.6) NOTE 4	FILL (25%)	SELECT CRUSHED MATERIAL (1.5)	EBS	CUT 1.00 NOTE 1	FILL	MARSH EX	REDUCED MARSH IN FILL (0.6) NOTE 4	FILL (25%) NOTE 5	SELECT CRUSHED MATERIAL (1.5)	EBS	MASS ORDINATE NOTE 6
10+00	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10+50	47	0	0	0	0	66	0	38	0	0	48	0	0	66	38	0	0	48	0	0	18
11+00	29	0	41	0	0	70	0	68	0	0	84	0	0	136	106	0	0	132	0	0	4
11+50	75	0	31	0	0	96	0	6	0	0	7	0	0	232	112	0	0	139	0	0	93
11+54	40	0	48	0	0	9	0	0	0	0	0	0	0	241	112	0	0	139	0	0	102
11+54	0	0	0	0	0	0	0	0	0	0	0	0	0	241	112	0	0	139	0	0	102
12+00	0	0	0	0	0	0	0	0	0	0	0	0	0	241	112	0	0	139	0	0	102
12+23	0	0	0	0	0	0	0	0	0	0	0	0	0	241	112	0	0	139	0	0	102
12+23	36	0	49	0	0	0	0	54	0	0	68	0	0	241	166	0	0	207	0	0	34
12+50	33	0	60	0	0	35	0	85	0	0	107	0	0	276	251	0	0	314	0	0	-38
13+00	31	0	32	0	0	60	0	9	0	0	11	0	0	336	260	0	0	325	0	0	11
13+07	31	0	32	0	0	8	0	0	0	0	0	0	0	344	260	0	0	325	0	0	19
				TOTALS =		344	0	260	0	0	325	0	0								

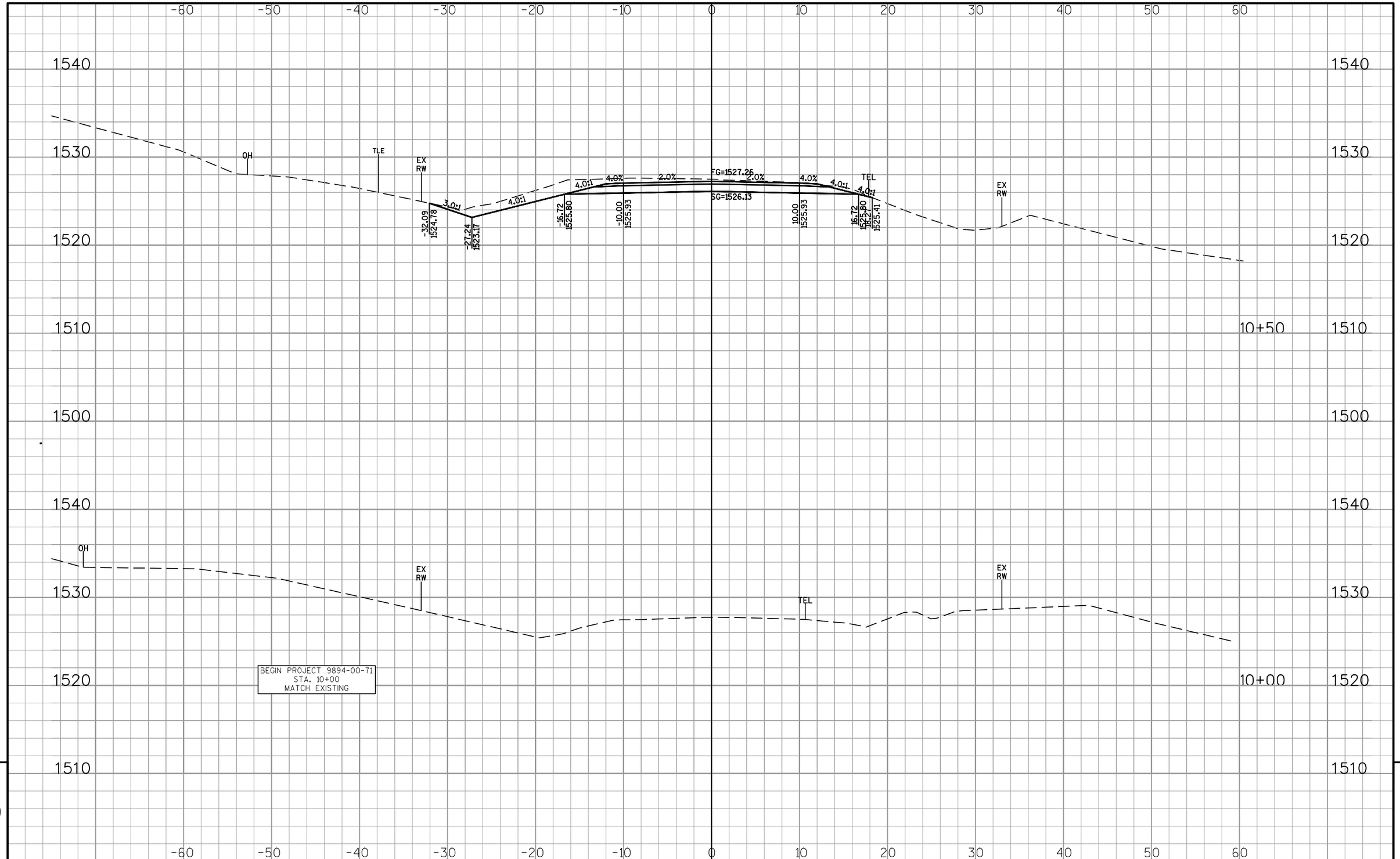
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - REDUCED MARSH IN FILL	REDUCED MARSH THAT CAN BE USED IN FILL
5 - FILL (25%)	FILL 25%: (FILL -REDUCED MARSH IN FILL)*1.25
6 - MASS ORDINATE	(CUT - FILL (25%))

FILE NAME : R:\PROJECTS\W11553 SHEEP RANCH RD, PRICE COUNTY\SHEETSPLAN\DETAILS\EARTHWORK TABLE.DWG
LAYOUT : LAYOUT1

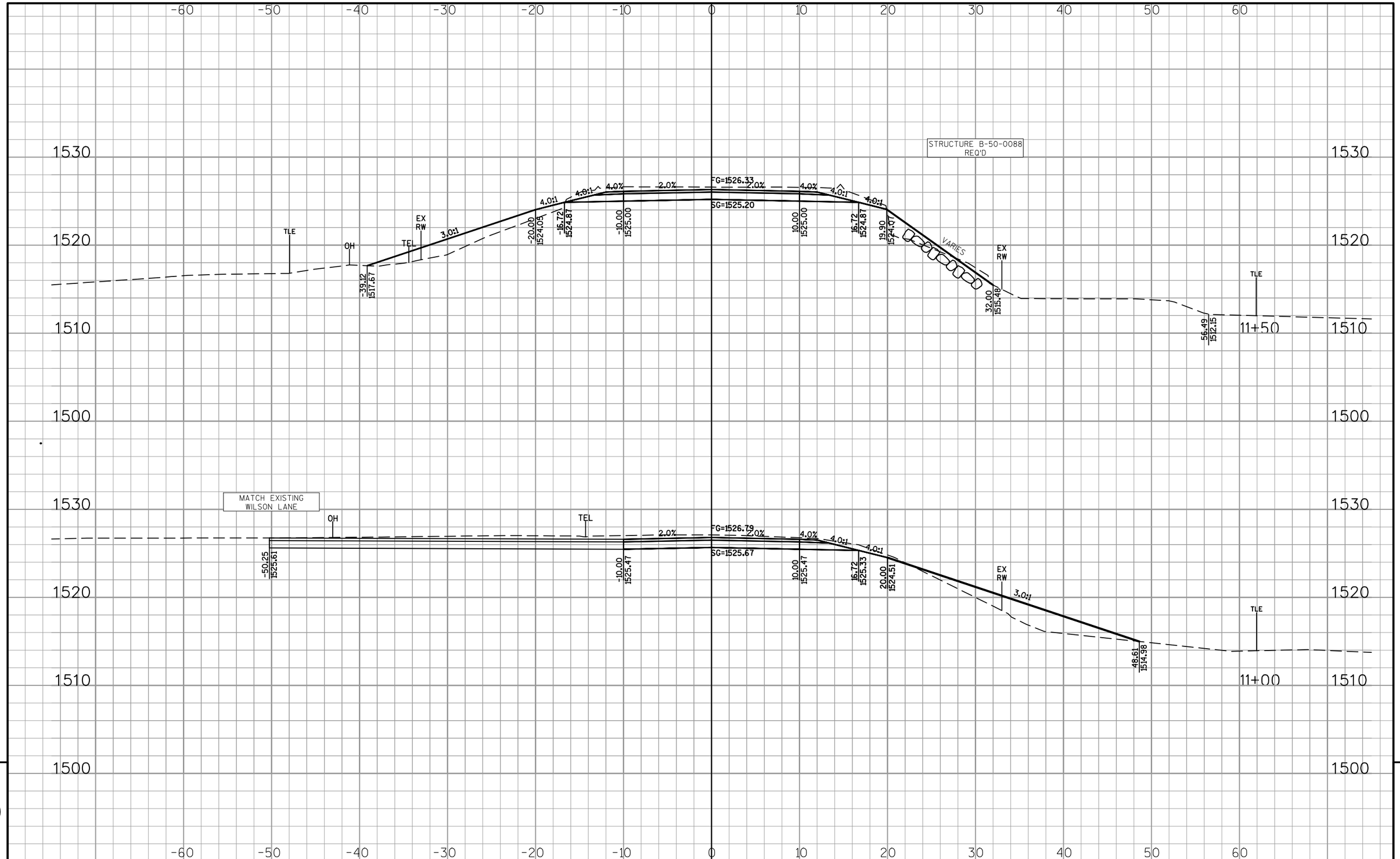
PLOT DATE : 9/8/2016
PLOT TIME : 3:53:53 PM

PLOT BY : CHRISTIANSON, TAYLOR

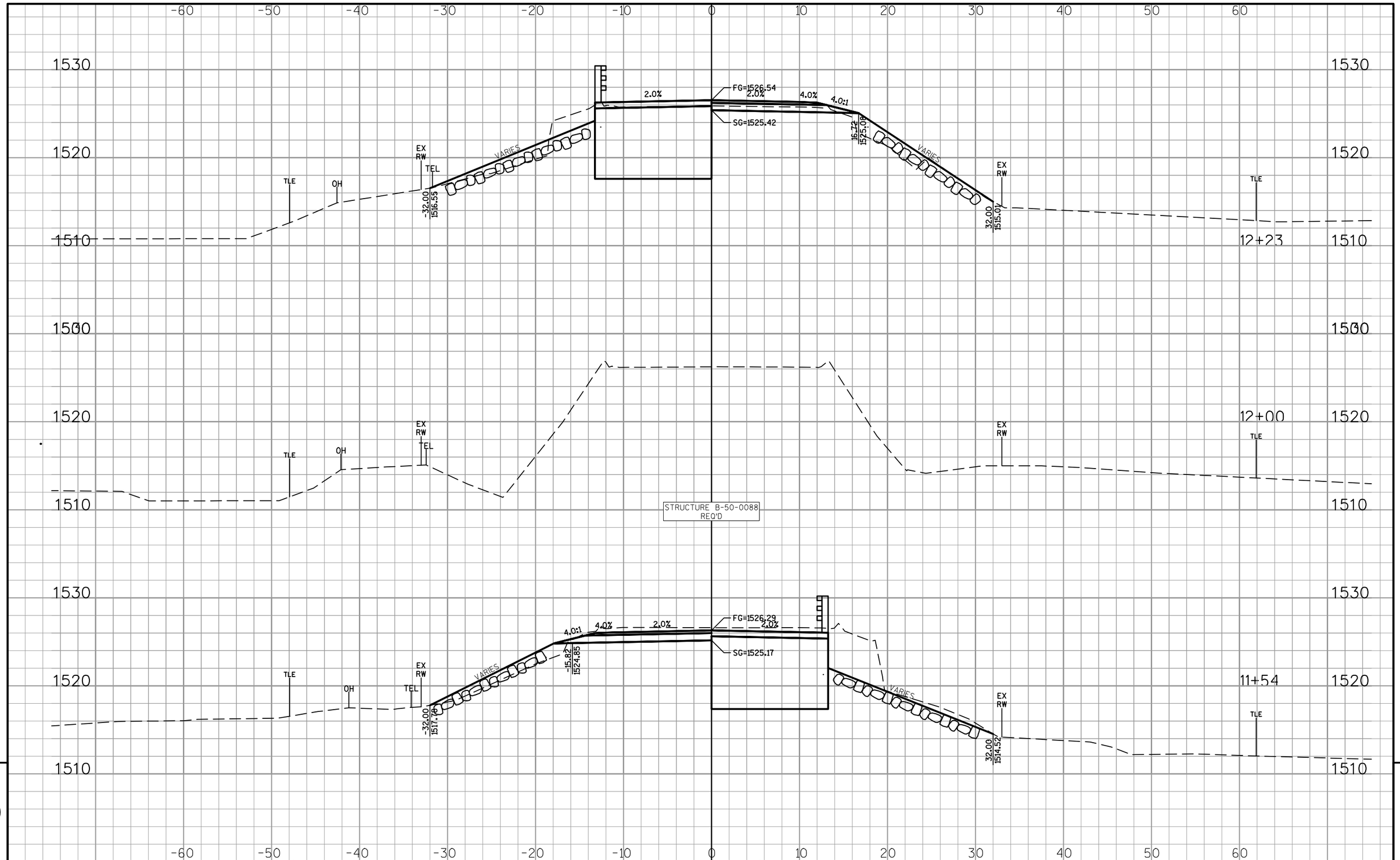
PLOT SCALE : 1" = 1'



PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	CROSS SECTIONS: CROSS SECTION	SHEET 52	E



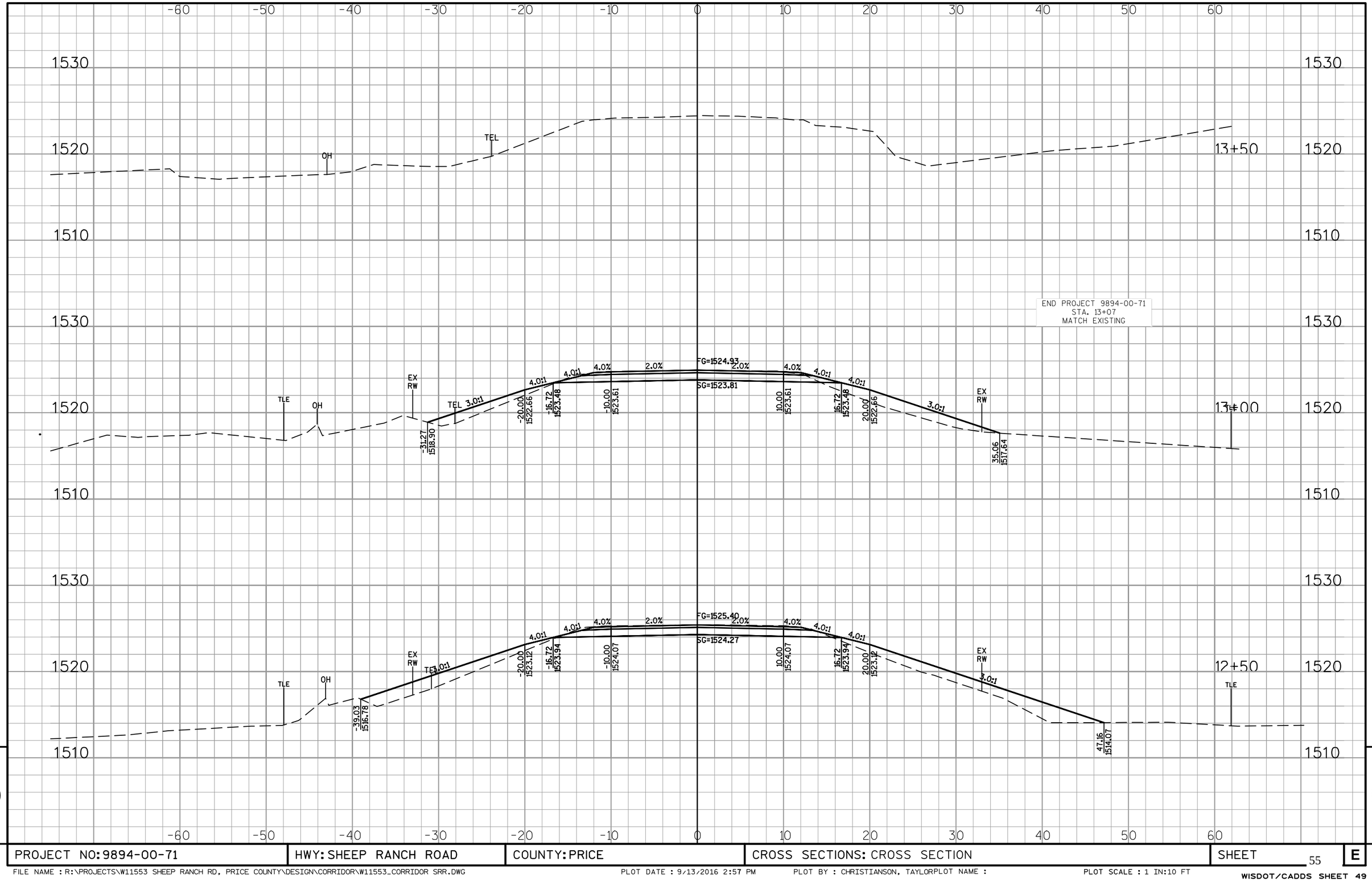
PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	CROSS SECTIONS: CROSS SECTION	SHEET 53	E



9

9

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	CROSS SECTIONS: CROSS SECTION	SHEET 54	E



9

9

PROJECT NO: 9894-00-71	HWY: SHEEP RANCH ROAD	COUNTY: PRICE	CROSS SECTIONS: CROSS SECTION	SHEET 55	E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov