

GRE FEB 2018

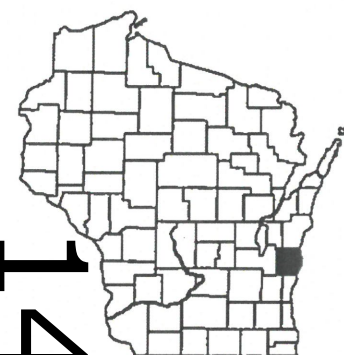
PROJECT ID: 4198-05-71
WITH: 4198-06-71

COUNTY: SHEBOYGAN

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
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 = 46



DESIGN DESIGNATION

A.A.D.T. 2018	=	50
A.A.D.T. 2038	=	60
D.H.V. 2038	=	25
D.D.	=	60/40
T.	=	10.6%
DESIGN SPEED	=	55 MPH
ESALS	=	7,300

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	PL + 58.1
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
MARSH AREA	---
WOODED OR SHRUB AREA	---

PROFILE	
GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	---
SPECIAL DITCH	---
GRADE ELEVATION	---
CULVERT (Profile View)	---
UTILITIES	
ELECTRIC	---
FIBER OPTIC	---
GAS	---
SANITARY SEWER	---
STORM SEWER	---
TELEPHONE	---
WATER	---
UTILITY PEDESTAL	---
POWER POLE	---
TELEPHONE POLE	---

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF HOLLAND, HOITINK ROAD

ONION RIVER BRIDGE & APPROACHES

LOC STR

SHEBOYGAN COUNTY

STATE PROJECT NUMBER

4198-05-71

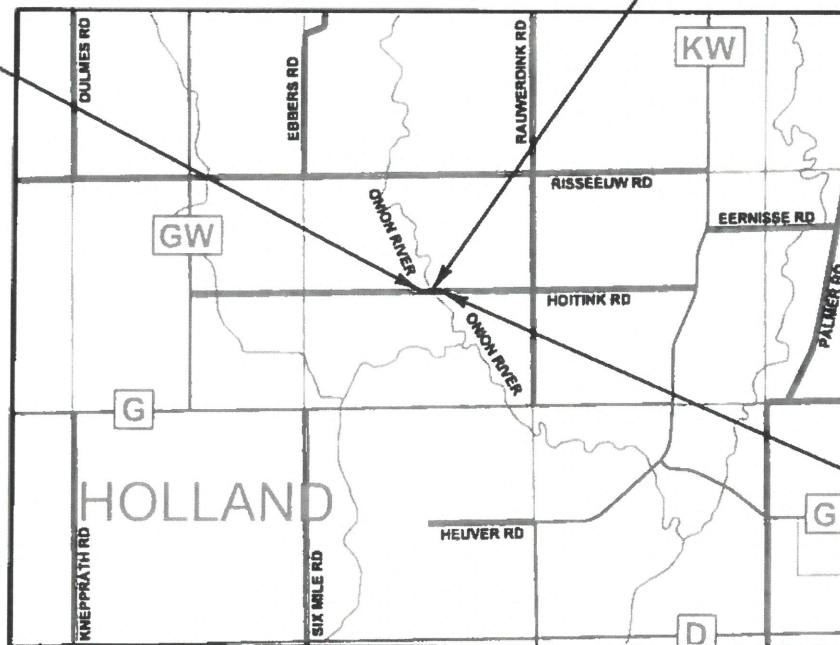
B-59-196

BEGIN PROJECT 4198-05-71

STA 0+79.09

X=177315.314

Y=119536.046



T-13-N

END PROJECT 4198-05-71

STA 3+82.82

R-22-E

LAYOUT
SCALE 0 .2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.058 MI.

COORDINATES ON THE PLAN ARE REFERENCED TO
SHEBOYGAN COUNTY COORDINATES NAD 1983 (2011).

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED
TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD29).

STATE PROJECT

4198-05-71

FEDERAL PROJECT

PROJECT

WISC 2018088

CONTRACT

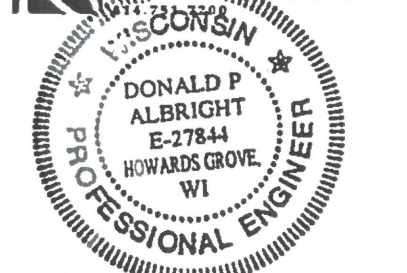
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ACCEPTED FOR
SHEBOYGAN COUNTY

7/25/2017
(Date) Highway Commissioner

ORIGINAL PLANS PREPARED BY

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
SHEBOYGAN, WISCONSIN



7/25/2017
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor KAPUR & ASSOCIATES, INC.

Designer KAPUR & ASSOCIATES, INC.

Management Consultant J.T. Engineering, Inc.

APPROVED FOR THE DEPARTMENT

DATE: 7/25/2017
(Signature) Management Consultant

E

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE LOCATION AND LIMITS OF EBS (EXCAVATION BELOW SUBGRADE),IF REQUIRED,WILL BE DETERMINED BY THE ENGINEER. SUCH EBS SHALL NOT BE USED TO BALANCE YARDAGE.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLAND AREAS.

SALVAGED TOPSOIL SHALL NOT BE PLACED UNTIL APPROVED BY ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS.EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP OR HEAVY RIPRAP.

A SAWED JOINT IS REQUIRED WHERE NEW ASPHALTIC CONCRETE SURFACE MEETS EXISTING ASPHALTIC CONCRETE SURFACE.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

RUNOFF COEFFICENT TABLE

	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	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP- TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE- TURF			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
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 = 0.5 ACRES
DISTURBED PROJECT AREA = 0.4 ACRES

UTILITY CONTACTS

FRONTIER COMMUNICATIONS OF WISCONSIN
MR. RYAN OSNESS
118 DIVISION STREET
PLYMOUTH, WI 53073
OFFICE: (920) 893-7455
CELL: (920) 246-3530
RYAN.D.OSNESS@FTR.COM

OTHER CONTACTS

WIDEPT OF NATURAL RESOURCES
MR. JAY SCHIEFELBEIN
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WI.GOV



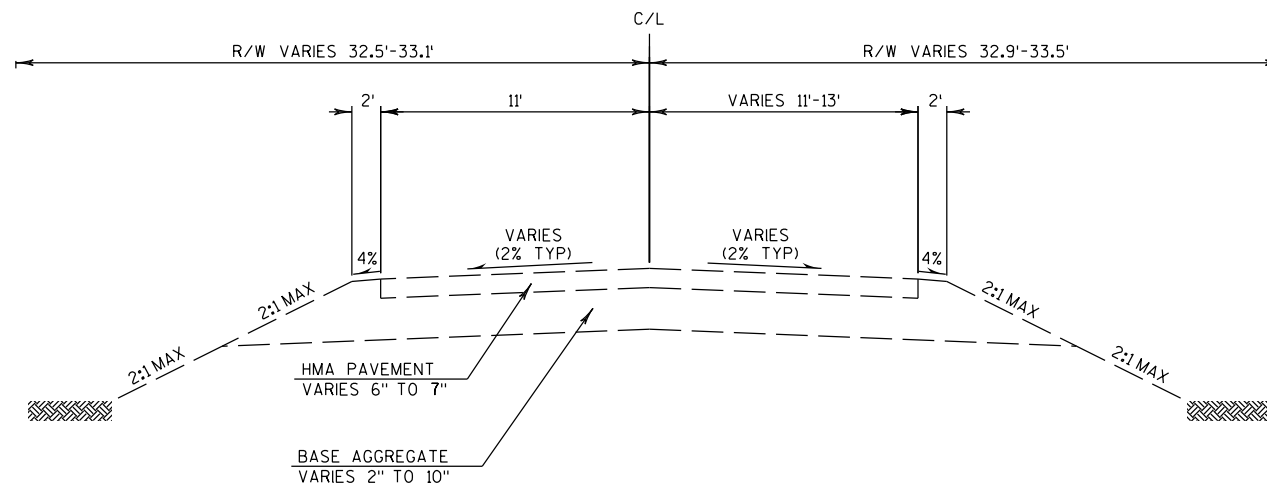
DESIGN INDEX

TITLE
GENERAL NOTES AND UTILITY CONTACTS
TYPICAL SECTIONS
CONSTRUCTION DETAIL

STANDARD ABBREVIATIONS

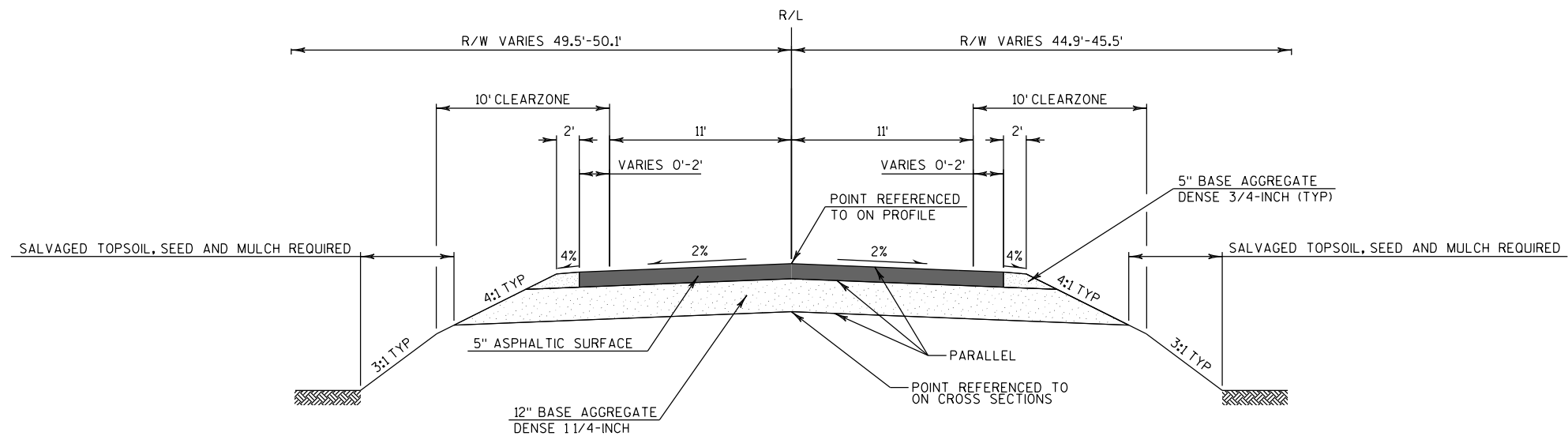
< ANGLE
ADT AVERAGE DAILY TRAFFIC
AC ACRE
AE, AEW APRON ENDWALL
AGG AGGREGATE
AH AHEAD
ASPH ASPHALTIC
BC BACK OF CURB
BF BACK FACE
BIT EXISTING BITUMINOUS
BM BENCH MARK
BEG BEGIN
BK BACK
C & G CURB AND GUTTER
CABC CRUSHED AGGREGATE BASE COURSE
CB CATCH BASIN
CMCP CORRUGATED METAL CULVERT PIPE
CMP CORRUGATED METAL PIPE
CP CULVERT PIPE
CY CUBIC YARD
CL OR C/L CENTER LINE
CO COUNTY
CONC CONCRETE
CONST CONSTRUCTION
CR CREEK
CTH COUNTY TRUNK HIGHWAY
CWT HUNDRED WEIGHT
D DEGREE OF CURVE
Δ DELTA
DHV DESIGN HOUR VOLUME
DIA DIAMETER
DISCH DISCHARGE
E EAST
EA EACH
EB EASTBOUND
EBS EXCAVATION BELOW SUBGRADE
EL, ELEV ELEVATION
ELEC ELECTRIC(AL), ELEC CABLE
EMB EMBANKMENT
ESALS EQUIVALENT SINGLE AXEL LOADS
ESMT EASEMENT
EW ENDWALL
EXC EXCAVATION
EXIST EXISTING BITUMINOUS
EXP EXPANSION
FC FACE OF CURB
FE FIELD ENTRANCE
FF FACE TO FACE
F/L, FL FLOW LINE
FERT FERTILIZER
FHWA FEDERAL HIGHWAY
FT FOOT (FEET)
G GAS
GN GRID NORTH
H HOUSE
HMA HOT MIX ASPHALT
HORZ HORIZONTAL
HP HIGH POINT
HR HANDICAP RAMP
HYD HYDRANT
I INTERSECTION ANGLE
ID INSIDE DIAMETER
INL INLET
INTER INTERSECTION
INV INVERT
IP IRON PIPE
JT JOINT
K RATE OF VERTICAL CURVATURE
L LENGTH OF CURVE
LB POUND
LC LONG CHORD OF CURVE
LP LOW POINT
LF LINEAR FOOT(FEET)
LHF LEFT HAND FORWARD
LS LUMP SUM
LT LEFT
M MARSH
MATL MATERIAL
MP MARKER POST
MAX MAXIMUM
MGAL 1000 GALLONS
MH MANHOLE
MIN MINIMUM
ML OR M/L MATCH LINE
N NORTH
NB NORTHBOUND

NC NORMAL CROWN OR NO CHANGE
NO NUMBER
NW OR N/W NORMAL WATER
OBLIT OBLITERATE
OD OUTSIDE DIAMETER
PAVT PAVEMENT
PC POINT OF CURVATURE
PCC POINT OF COMPOUND CURVE
PE PRIVATE ENTRANCE
PGL PROFILE GRADE LINE
PI POINT OF INTERSECTION
PL PROPERTY LINE
PLE PERMANENT LIMITED EASEMENT
PRC POINT OF REVERSE CURVE
PROJ PROJECT
PSI POUNDS PER SQUARE INCH
PT POINT OF TANGENCY
PVC POLYVINYL CHLORIDE
PT POINT OF TANGENCY
PAV'T PAVEMENT
PCC PORTLAND CEMENT CONCRETE
R RADIUS OR RANGE
RC REVERSE CURVE
RCCP REINFORCED CONCRETE CULVERT PIPE
RCHPCP REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE
RCPSS REINFORCED CONCRETE PIPE STORM SEWER
RHF RIGHT HAND FORWARD
R/L REFERENCE LINE
R/W RIGHT OF WAY
RD ROAD
RDWY ROADWAY
REL RELOCATE
REM REMAINING
REQD REQUIRED
RO RUN OFF LENGTH
RT RIGHT
RW RETAINING WALL
S SOUTH
SALV SALVAGED
SAN SANITARY
SB SOUTHBOUND
SDD STANDARD DETAIL DRAWINGS
SE SUPERELEVATION
SEC SECTION
SF SQUARE FOOT (FEET)
S/L SURVEY LINE
SHLDR SHOULDER(S)
SHR SHRINKAGE
SPECS SPECIFICATIONS
SS STORM SEWER
STA STATION
STH STATE TRUNK HIGHWAY
STR STRUCTURE
SW SIDEWALK
SY SQUARE YARD
TAN TANGENT
TEL TELEPHONE
T (TRUCKS) PERCENT OF
TC TOP OF CURB
TAN TANGENT
TEMP TEMPORARY
TL OR T/L TRANSIT LINE
TLE TEMPORARY LIMITED EASEMENT
TYP TYPICAL
UG UNDERGROUND (CABLE)
UNCL UNCLASSIFIED
VAR VARIABLE
VCL VERTICAL CURVE LENGTH
VPC VERTICAL POINT OF CURVATURE
VPCC VERTICAL POINT OF COMPOUND CURVE
VPI VERTICAL POINT OF INTERSECTION
VPRC VERTICAL POINT OF REVERSE CURVE
VPT VERTICAL POINT OF TANGENCY
VLV VALVE
VOL VOLUME
W WEST
WB WESTBOUND
WV WATER VALVE
X EASTING OR EAST GRID COORDINATE
Y NORTHING OR NORTH GRID COORDINATE
YD YARD



TYPICAL EXISTING SECTION

HOITINK ROAD
STA 0+79.09 TO STA 1+38.00
STA 2+34.00 TO STA 3+82.82



TYPICAL FINISHED SECTION

HOITINK ROAD
STA 0+79.09 TO STA 1+51.71
STA 2+48.29 TO STA 3+82.82

PAVEMENT TYPE	TOTAL PAVEMENT THICKNESS	LAYERS	NOMINAL SIZE
ASPHALTIC SURFACE	5"	2" UPPER LAYER	12.5 mm
		3" LOWER LAYER	19.0 mm



Estimate Of Quantities By Plan Sets

4198-05-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	3.000	3.000
0004	203.0500.S	Removing Old Structure Over Waterway (station) 01. 1+86.10	LS	1.000	1.000
0008	205.0100	Excavation Common **P**	CY	267.000	267.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-59-196	LS	1.000	1.000
0014	208.0100	Borrow **P**	CY	401.000	401.000
0016	210.1500	Backfill Structure Type A	TON	551.000	551.000
0018	213.0100	Finishing Roadway (project) 01. 4198-05-71	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	43.000	43.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	663.000	663.000
0028	455.0605	Tack Coat	GAL	13.000	13.000
0030	465.0105	Asphaltic Surface	TON	153.000	153.000
0032	502.0100	Concrete Masonry Bridges	CY	227.000	227.000
0034	502.3200	Protective Surface Treatment	SY	344.000	344.000
0036	503.0128	Prestressed Girder Type I 28-Inch	LF	379.000	379.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	33,400.000	33,400.000
0042	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	16.000	16.000
0044	506.4000	Steel Diaphragms (structure) 01. B-59-196	EACH	6.000	6.000
0046	513.4061	Railing Tubular Type M (structure) 01. B-59-196	LF	198.000	198.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,300.000	1,300.000
0054	606.0300	Riprap Heavy	CY	191.000	191.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0058	612.0700	Drain Tile Exploration	LF	25.000	25.000
0060	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4198-05-71	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	0.500	0.500
0066	624.0100	Water	MGAL	7.400	7.400
0070	625.0500	Salvaged Topsoil **P**	SY	787.000	787.000
0072	627.0200	Mulching **P**	SY	787.000	787.000
0074	628.1504	Silt Fence	LF	763.000	763.000
0076	628.1520	Silt Fence Maintenance	LF	763.000	763.000
0078	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0084	628.6005	Turbidity Barriers	SY	110.000	110.000
0086	628.7570	Rock Bags	EACH	20.000	20.000
0090	630.0120	Seeding Mixture No. 20 **P**	LB	21.300	21.300
0092	630.0160	Seeding Mixture No. 60	LB	2.100	2.100
0094	630.0200	Seeding Temporary **P**	LB	21.300	21.300

Estimate Of Quantities By Plan Sets

4198-05-71

Line	Item	Item Description	Unit	Total	Qty
0096	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0100	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0102	638.2602	Removing Signs Type II	EACH	4.000	4.000
0106	642.5201	Field Office Type C	EACH	0.500	0.500
0108	643.0420	Traffic Control Barricades Type III	DAY	1,078.000	1,078.000
0110	643.0705	Traffic Control Warning Lights Type A	DAY	1,848.000	1,848.000
0112	643.0900	Traffic Control Signs	DAY	1,078.000	1,078.000
0114	643.5000	Traffic Control	EACH	0.500	0.500
0118	645.0120	Geotextile Type HR	SY	286.000	286.000
0120	646.1020	Marking Line Epoxy 4-Inch	LF	75.000	75.000
0122	650.4500	Construction Staking Subgrade	LF	190.000	190.000
0124	650.5000	Construction Staking Base	LF	190.000	190.000
0126	650.6500	Construction Staking Structure Layout (structure) 01. B-59-196	LS	1.000	1.000
0130	650.9910	Construction Staking Supplemental Control (project) 01. 4198-05-71	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	190.000	190.000
0136	690.0150	Sawing Asphalt	LF	44.000	44.000
0138	715.0502	Incentive Strength Concrete Structures	DOL	1,362.000	1,362.000
0140	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0142	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

GRUBBING				
				201.0205
				GRUBBING
STATION -	STATION	OFFSET	LOCATION	STA
1+00 -	3+83	LT/RT	HOITINK ROAD	3
PROJECT 4198-05-71 TOTAL				3

FINISHING ROADWAY	
213.0100	
FINISHING ROADWAY	
PROJECT ID 4198-05-71	
LOCATION	EACH
PROJECT 4198-05-71	1
PROJECT 4198-05-71 TOTAL	
1	

EARTHWORK SUMMARY

From/To Station	Location	205.0100 Excavation Common (1)		Salvaged/ Unusable Pavement Material (2)	Available Material (3)	Expanded EBS Backfill (4)	Unexpande d Fill	Expanded Fill (5)	Mass Ordinate +/- (6)	Waste	208.0100 Borrow
		Cut (2)	EBS Excavation			Factor 1.30		Factor 1.25			
+79 to 3+83	HOITINK ROAD	217	0	28	189	0	421	526	-336	0	336
	UNDISTRIBUTED	0	50	0	0	65	0	0	-65	0	65
Grand Total		217	50	28	189	65	421	526	-401	0	401
Total Excavation Common		267									

- NOTES:
- 1) Common Excavation is the sum of the Cut and EBS Excavation columns.
 - 2) Salvaged/Unsuable Pavement Material is included in Cut. Asphaltic pavement unusable in wetlands.
 - 3) Available Material = Cut - Salvaged/Unusable Pavement Material
 - 4) Expanded EBS Backfill expansion factor = 1.3. Expanded EBS Backfill = EBS Excavation * Expansion Factor
 - 5) Expanded Fill expansion factor = 1.25. Expanded Fill = Unexpanded Fill * Expansion Factor
 - 6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

AGGREGATE ITEMS				
			305.0110	305.0120
			BASE	BASE
			AGGREGATE	AGGREGATE
			DENSE	DENSE
			3/4-INCH	1 1/4-INCH
STATION	OFFSET	LOCATION	TON	TON
0+79 - 1+53	RL	HOITINK ROAD	14	214
2+47 - 3+83	RL	HOITINK ROAD	25	389
UNDISTRIBUTED			4	60
PROJECT 4198-05-71 TOTAL			43	663

PAVEMENT ITEMS				
			455.0605	465.0105
			TACK	ASPHALTIC
			COAT	SURFACE
			GAL	TON
STATION	OFFSET	LOCATION		
0+79 - 1+53	RL	HOITINK ROAD	5	55
2+47 - 3+83	RL	HOITINK ROAD	8	98
PROJECT 4198-05-71 TOTAL			13	153

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

DRAIN TILE EXPLORATION

			612.0700 DRAIN TILE EXPLORATION
STATION	OFFSET	LOCATION	LF
2+30 - 2+55	LT	HOITINK ROAD	25
PROJECT 4198-05-71 TOTAL			25

SILT FENCE

			628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
STATION	OFFSET	LOCATION	LF	LF
0+79 - 1+53	LT/RT	HOITINK ROAD	265	265
2+47 - 3+83	LT/RT	HOITINK ROAD	345	345
UNDISTRIBUTED			153	153
PROJECT 4198-05-71 TOTAL			763	763

MOBILIZATIONS EROSION CONTROL

		628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
LOCATION		EACH	EACH
UNDISTRIBUTED		5	2
PROJECT 4198-05-71 TOTAL		5	2

ROCK BAGS

		628.7570 ROCK BAGS EACH
LOCATION		EACH
UNDISTRIBUTED		20
PROJECT 4198-05-71 TOTAL		20

WATER

		624.0100 WATER MGAL
LOCATION		MGAL
AGGREGATE COMPACTION		1.4
EARTHWORK COMPACTION		2.3
DUST CONTROL		3.7
PROJECT 4198-05-71 TOTAL		7.4

RESTORATION

			625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB
STATION	OFFSET	LOCATION	SY	SY	LB	LB	LB
0+79 - 1+53	LT/RT	HOITINK ROAD	184	184	5.0	--	5.0
2+47 - 3+83	LT/RT	HOITINK ROAD	446	446	12.0	--	12.0
UNDISTRIBUTED			157	157	4.3	2.1	4.3
PROJECT 4198-05-71 TOTAL			787	787	21.3	2.1	21.3

NOTE - SEEDING MIX 60 FOR RESTORATION ALONG ONION RIVER

TURBIDITY BARRIER

			628.1520 TURBIDITY BARRIER SY
STATION	OFFSET	LOCATION	SY
0+79 - 1+53	LT/RT	HOITINK ROAD	60
2+47 - 3+83	LT/RT	HOITINK ROAD	50
PROJECT 4198-05-71 TOTAL			110

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

PERMANENT SIGNING

				634.0612	637.2230
				POSTS WOOD	SIGNS
				4x6-INCH	TYPE II
				12-FT	REFLECTIVE F
SIGN NO.	LOCATION	SIGN CODE	W x H	EACH	SF
P101	B-59-196 NW CORNER	W5-52L	12 x 36	1	3.0
P102	B-59-196 SW CORNER	W5-52R	12 x 36	1	3.0
P103	B-59-196 NE CORNER	W5-52R	12 x 36	1	3.0
P104	B-59-196 SE CORNER	W5-52L	12 x 36	1	3.0
PROJECT 4198-05-71 TOTAL				4	12.0

REMOVING SIGNS

				638.2602
				REMOVING
				SIGNS
				TYPE II
				EACH
SIGN NO.	LOCATION	SIGN CODE		
R101	B-59-196 NW CORNER	W5-52L		1
R102	B-59-196 SW CORNER	W5-52R		1
R103	B-59-196 NE CORNER	W5-52R		1
R104	B-59-196 SE CORNER	W5-52L		1
PROJECT 4198-05-71 TOTAL				4

NOTE: REMOVAL OF SIGN POSTS INCIDENTAL TO BID
ITEM REMOVING OLD STRUCTURE STA 1+86.10

TRAFFIC CONTROL

		643.0420	643.0705	643.0900	643.5000
		TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC
		BARRICADES	WARNING LIGHTS	SIGNS	CONTROL
		TYPE III	TYPE A		
LOCATION	DURATION	EACH	DAYS	EACH	DAYS
PROJECT 4198-05-71	70	14	980	24	1,680
UNDISTRIBUTED			98		168
PROJECT 4198-05-71 TOTAL			1,078		1,848

PAVEMENT MARKING

		646.1020
		MARKING LINE
		EPOXY 4-INCH
		(12.5 FT LINE)
		(YELLOW)
STATION	LOCATION	LF
0+79 - 3+83	HOITINK ROAD	75
PROJECT 4198-05-71 TOTAL		75

SAWCUTS

		690.0150
		SAWING
		ASPHALT
STATION	OFFSET	LOCATION
0+79	LT/RT	HOITINK ROAD
3+83	LT/RT	HOITINK ROAD
PROJECT 4198-05-71 TOTAL		44

CONSTRUCTION STAKING

		650.4500	650.5000	650.6500	650.9910	650.9920
		CAT 0010	CAT 0010	CAT 0020	CAT 0010	CAT 0010
		CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
		STAKING	STAKING	STAKING	STAKING	STAKING
		SUBGRADE	BASE	STRUCTURE	SUPPLEMENTAL	SLOPE
				LAYOUT	CONTROL	STAKES
				B-59-196	4198-05-71	
LOCATION	LF	LF	LS	LS	LF	
STA 0+79 - STA 1+53	54	54	--	--	54	
STA 2+47 - STA 3+83	136	136	--	--	136	
PROJECT 4198-05-71	--	--	1	1	--	
PROJECT 4198-05-71 TOTAL		190	190	1	1	190

MAINTENANCE AND REPAIR OF
HAUL ROADS

		618.0100
		CAT 0030
		MAINTENANCE AND
		REPAIR OF HAUL ROADS
		PROJECT I.D. 4198-05-71
LOCATION	EACH	
PROJECT 4198-05-71	1	
PROJECT 4198-05-71 TOTAL		1

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SHEBOYGAN COUNTY, NAD 83 (1990 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 MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".
PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY. PROPERTY OWNERSHIP INFORMATION OBTAINED FROM "OWNERSHIP REPORTS" PERFORMED BY THE SHEBOYGAN COUNTY HIGHWAY DEPARTMENT.
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE REFERENCE LINES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TOTAL ACRES	R/W REQUIRED (ACRES)			REMAINING ACRES
				NEW	EXISTING	TOTAL	
1	DAVID W. & RITA V. LAMMERS	FEE	93.99	0.121	0.235	0.356	93.634
2	JOAN M. BRUGGINK	FEE	20.47	0.085	0.235	0.320	20.150

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

AREAS SHOWN IN THE TOTAL AREA MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA ACQUIRED

R/W PROJECT NUMBER	4198-05-00	SHEET NUMBER	4.1	TOTAL SHEETS	1
FEDERAL PROJECT NUMBER					

PLAT OF RIGHT-OF-WAY REQUIRED FOR TOWN OF HOLLAND, HOITINK ROAD ONION RIVER BRIDGE & APPROACHES

SHEBOYGAN CO. STATE OF WISCONSIN

CONSTRUCTION PROJECT NUMBER
4198-05-71

CONVENTIONAL ABBREVIATIONS

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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	IF (UNLESS NOTED)	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	• (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	SCM	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	SCS	CORPORATE LIMITS	---
FEE (HATCH VARIES)	FE	NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	---
TEMPORARY LIMITED EASEMENT	TLE	NO ACCESS (BY ACQUISITION)	---
PERMANENT LIMITED EASEMENT	PLE	NO ACCESS (BY STATUTORY AUTHORITY)	---
R/W BOUNDARY POINT	RWB	SECTION LINE	---
PARCEL NUMBER	PN	QUARTER LINE	---
UTILITY PARCEL NUMBER	UPN	SIXTEENTH LINE	---
SIGN NUMBER (OFF PREMISE)	SN	EXISTING CENTERLINE	---
BUILDING	B	PROPOSED REFERENCE LINE	---
		PARALLEL OFFSET	---

CONVENTIONAL UTILITY SYMBOLS		COMPENSABLE	NON-COMPENSABLE
WATER	W	CABLE TELEVISION	TV
GAS	G	FIBER OPTIC	FO
TELEPHONE	T	SANITARY SEWER	SS
OVERHEAD TRANSMISSION LINES	OH	STORM SEWER	SS
ELECTRIC	E		

ORIGINAL PLANS PREPARED BY

KAPUR & ASSOCIATES
CONSULTING ENGINEERS
414.751.7200



March 21, 2017 (Date) Erik A. Gustafson (Signature)

SHEBOYGAN COUNTY

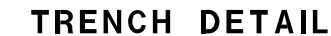
APPROVED FOR SHEBOYGAN COUNTY
DATE: 5/3/2017 (Date) (Signature)

Standard Detail Drawing List

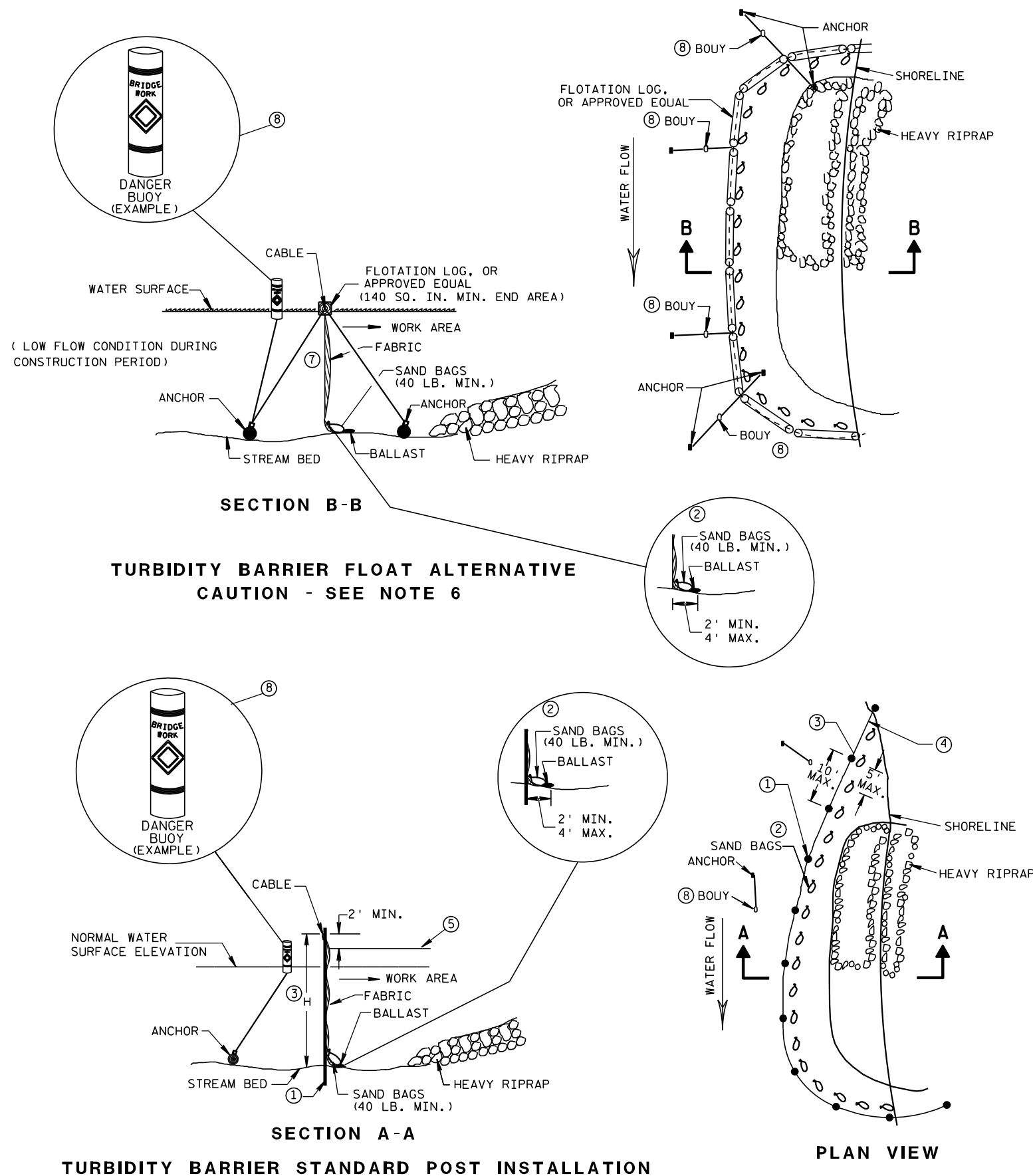
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)



- 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 1½" X 1½" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> <u>DATE</u>	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER

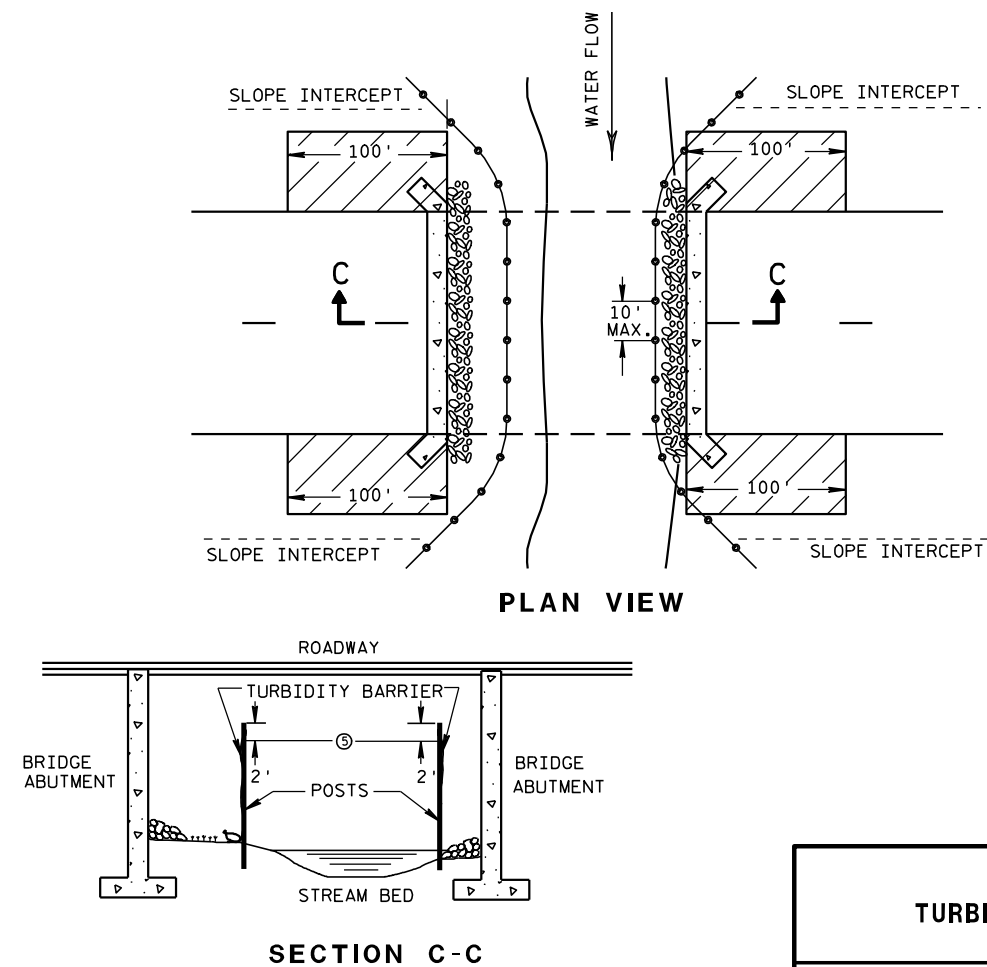


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

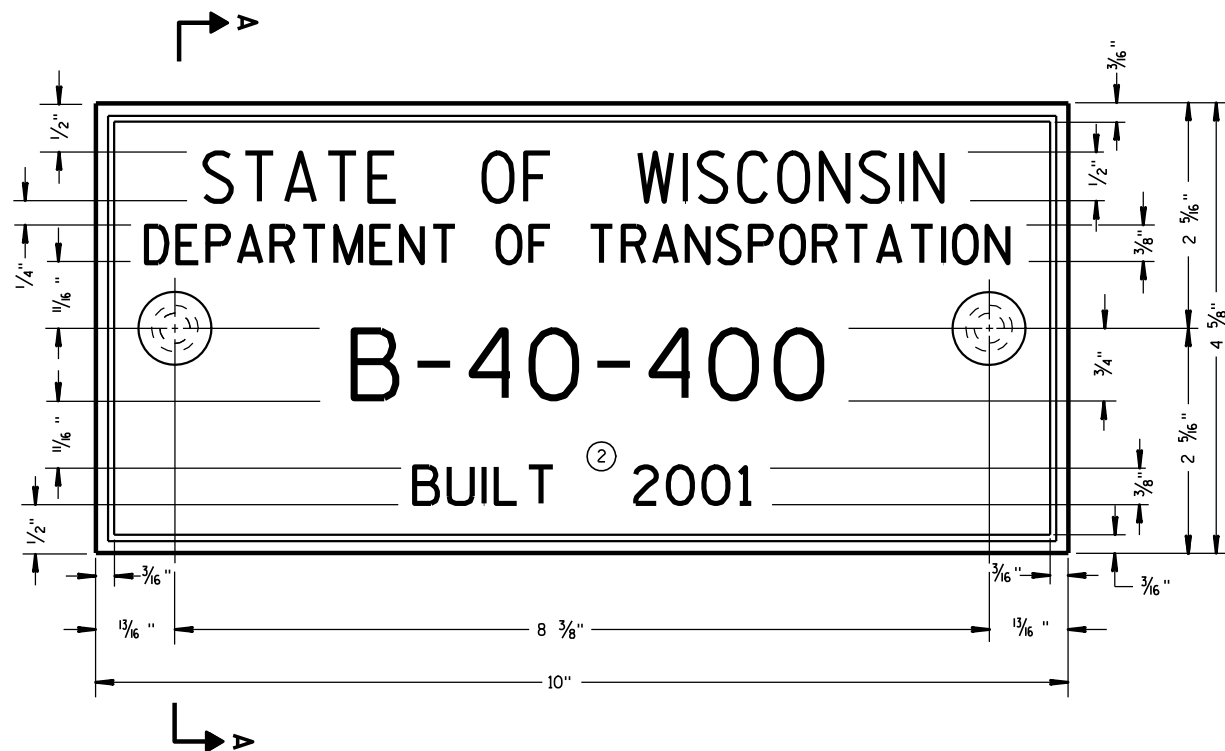
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

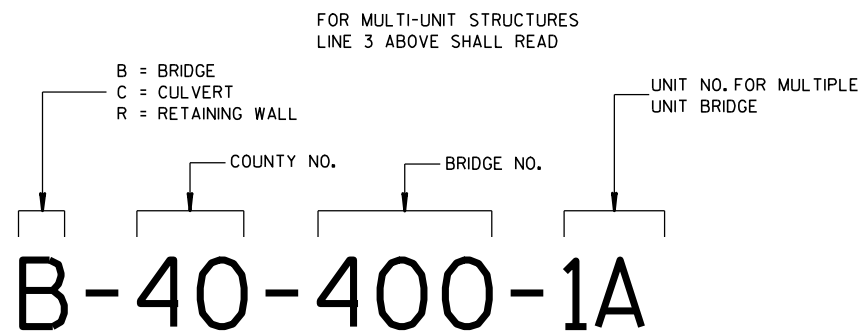
6/04/02
DATE

FHWA

/S/ Beth Connestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



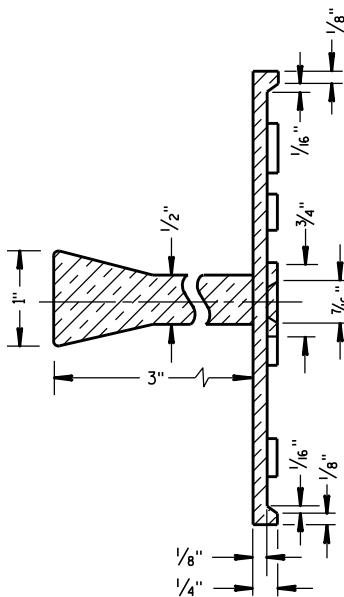
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

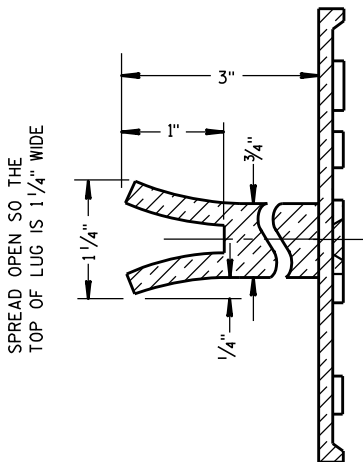
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

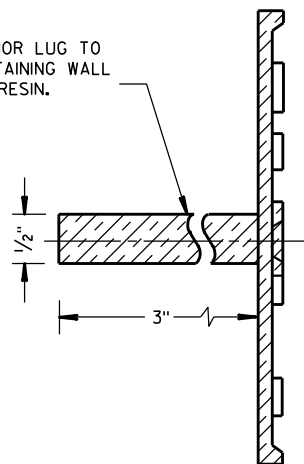


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

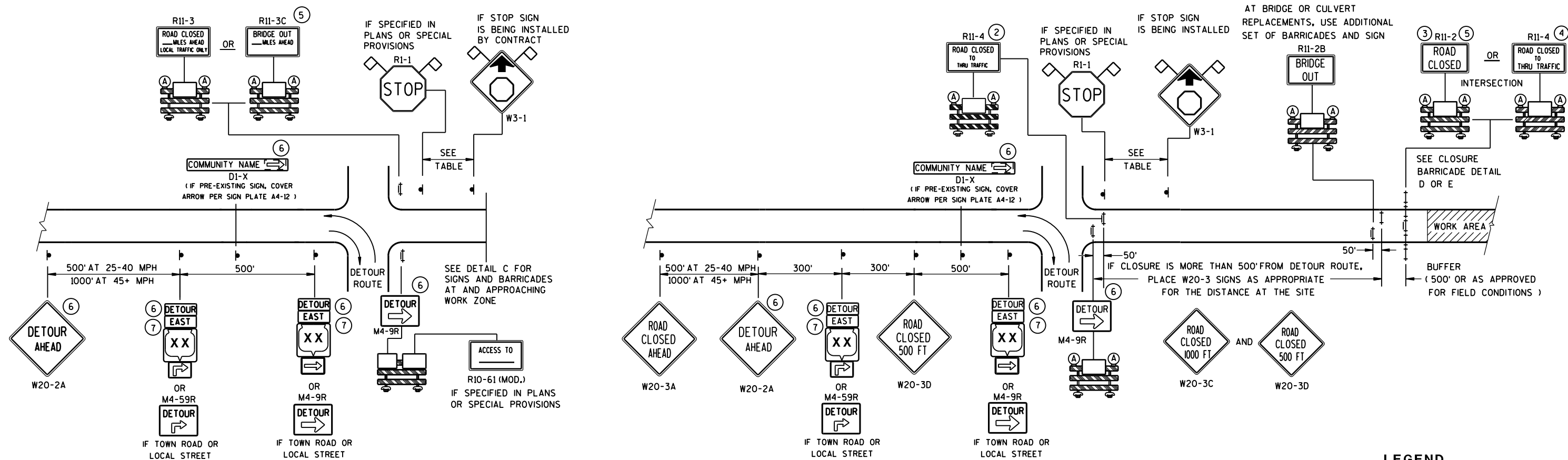


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE
(STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/26/10
DATE
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA



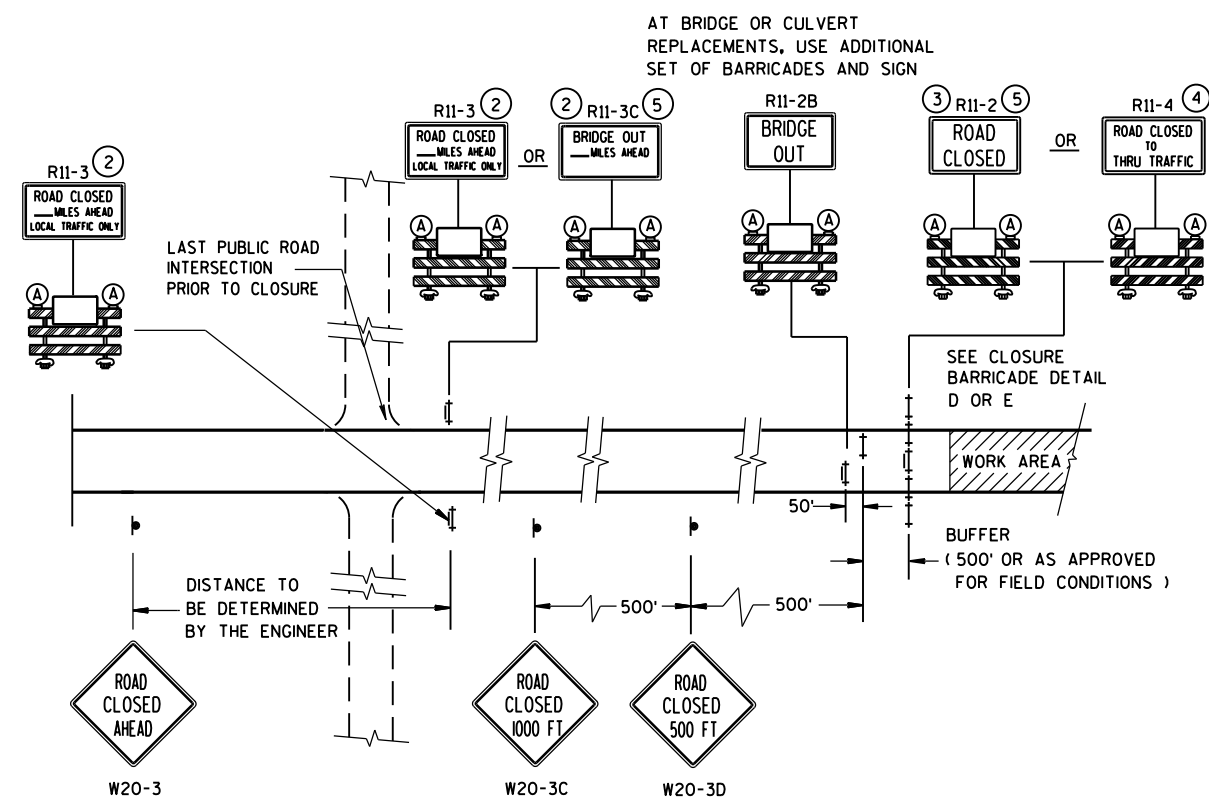
DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

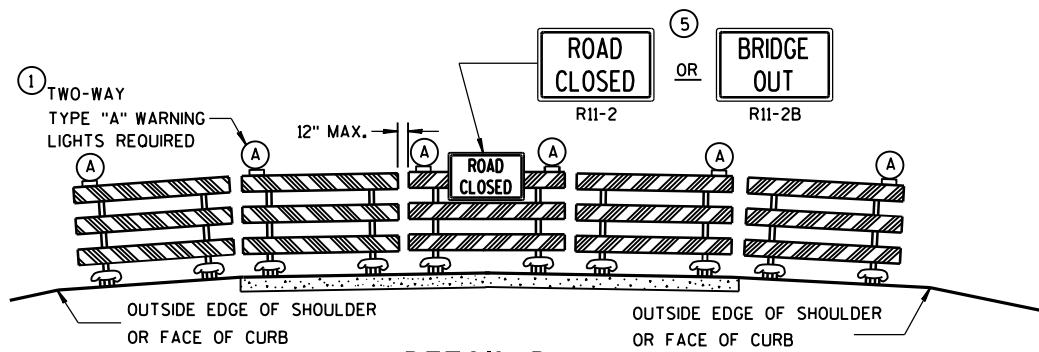
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
-  M3-X
-  M1-4
-  M1-5A
-  M1-6
-  M05-1
-  M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

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

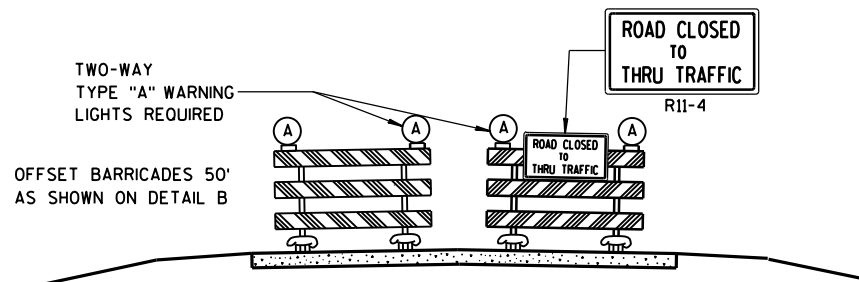
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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:

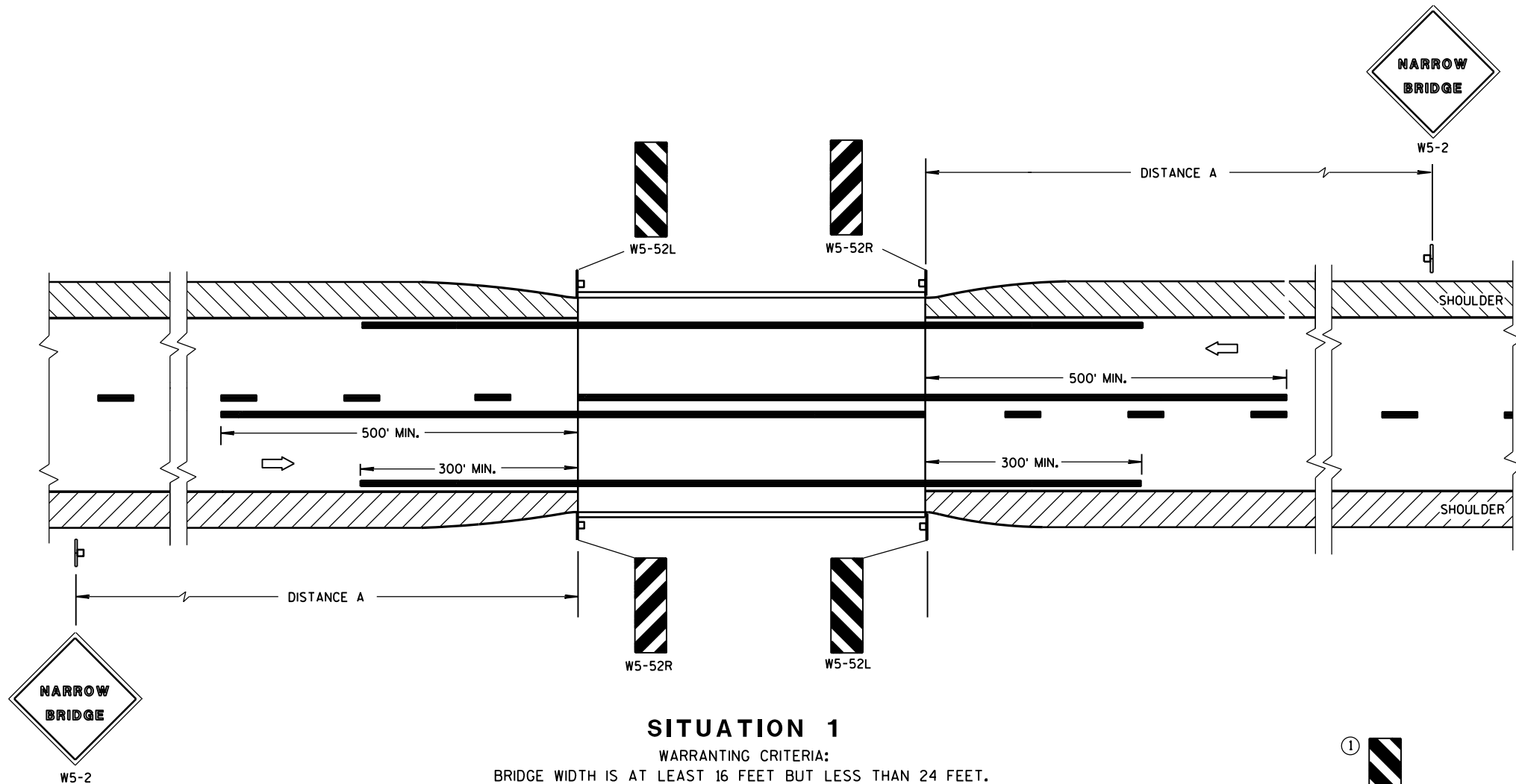
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" 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 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

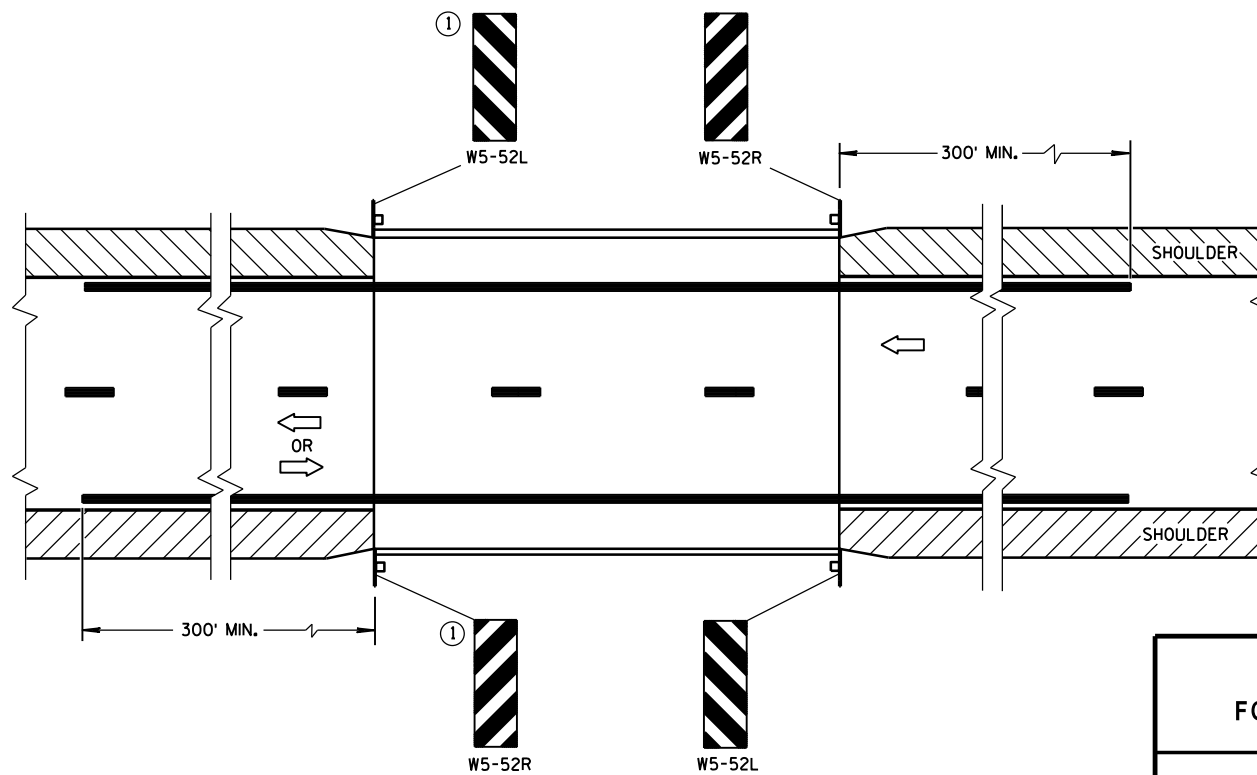
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

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

SIGNING & MARKING FOR TWO LANE BRIDGES

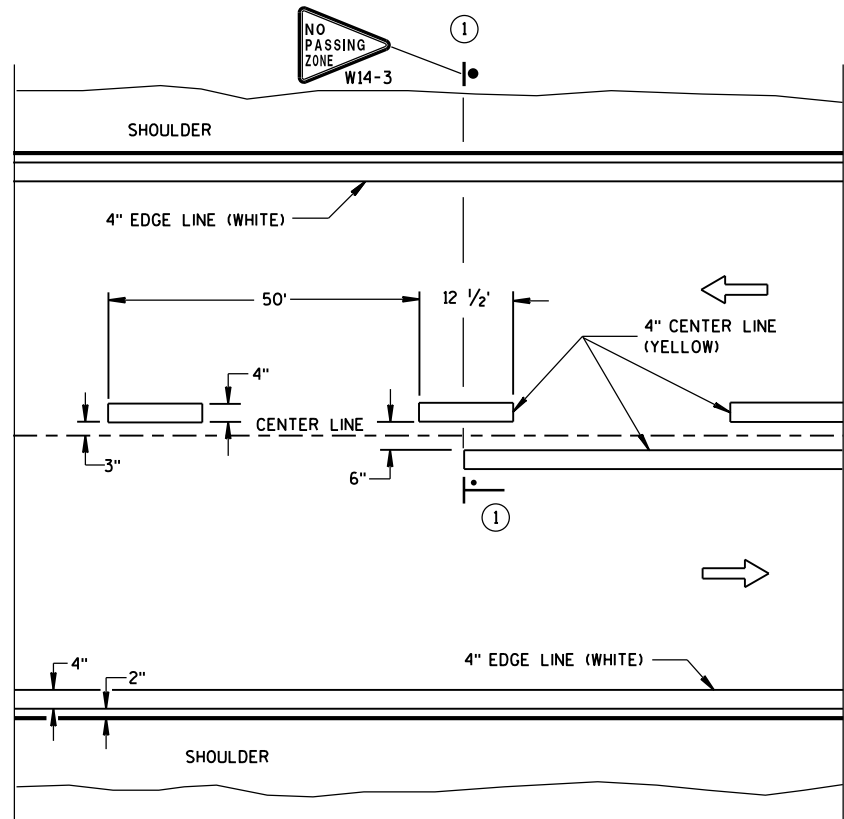
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

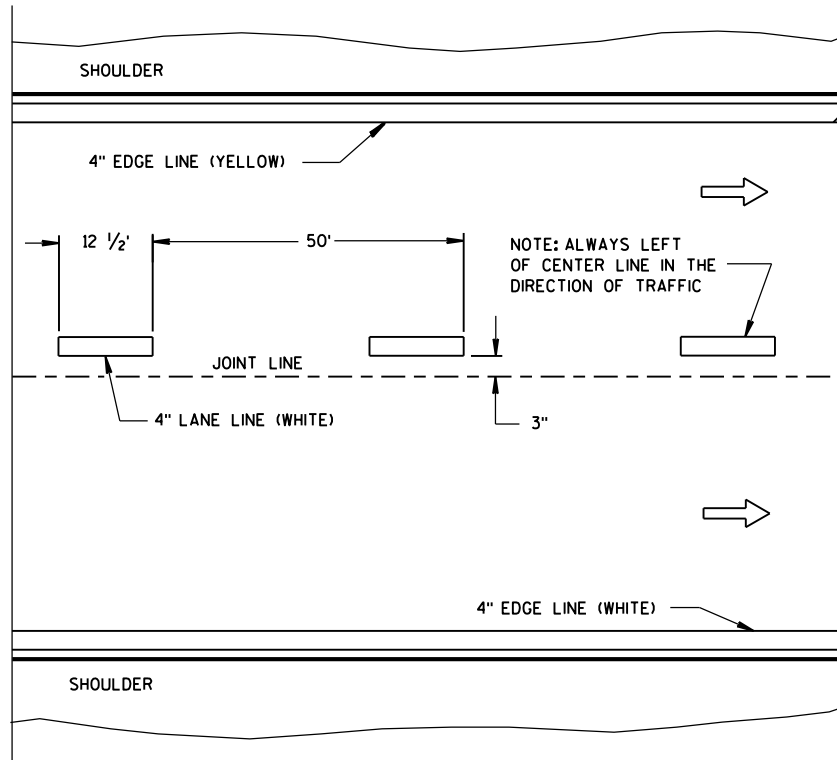
June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

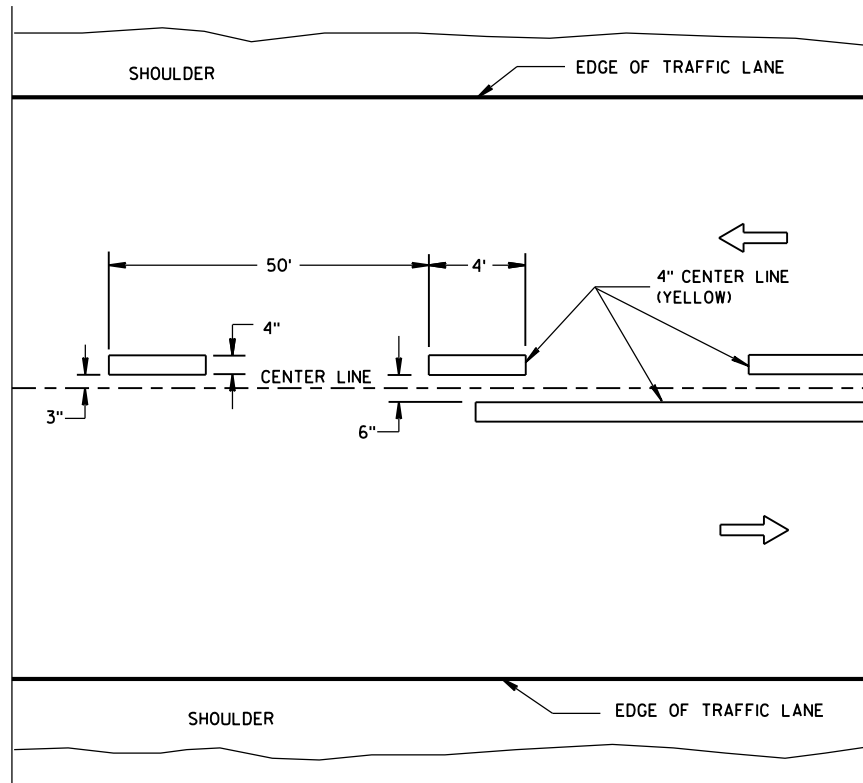


TWO WAY TRAFFIC

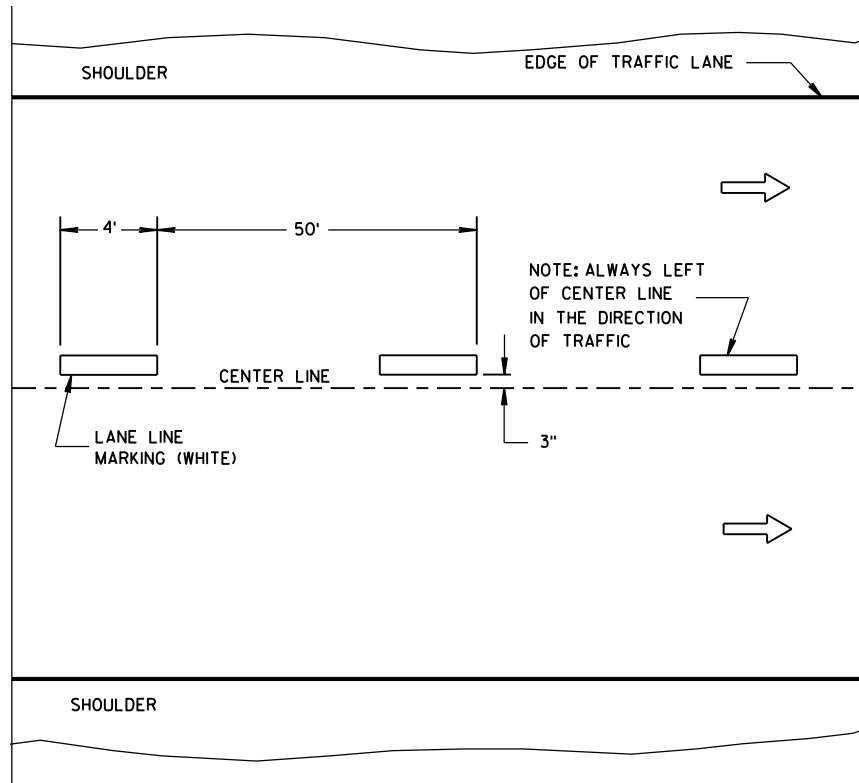


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

- ① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

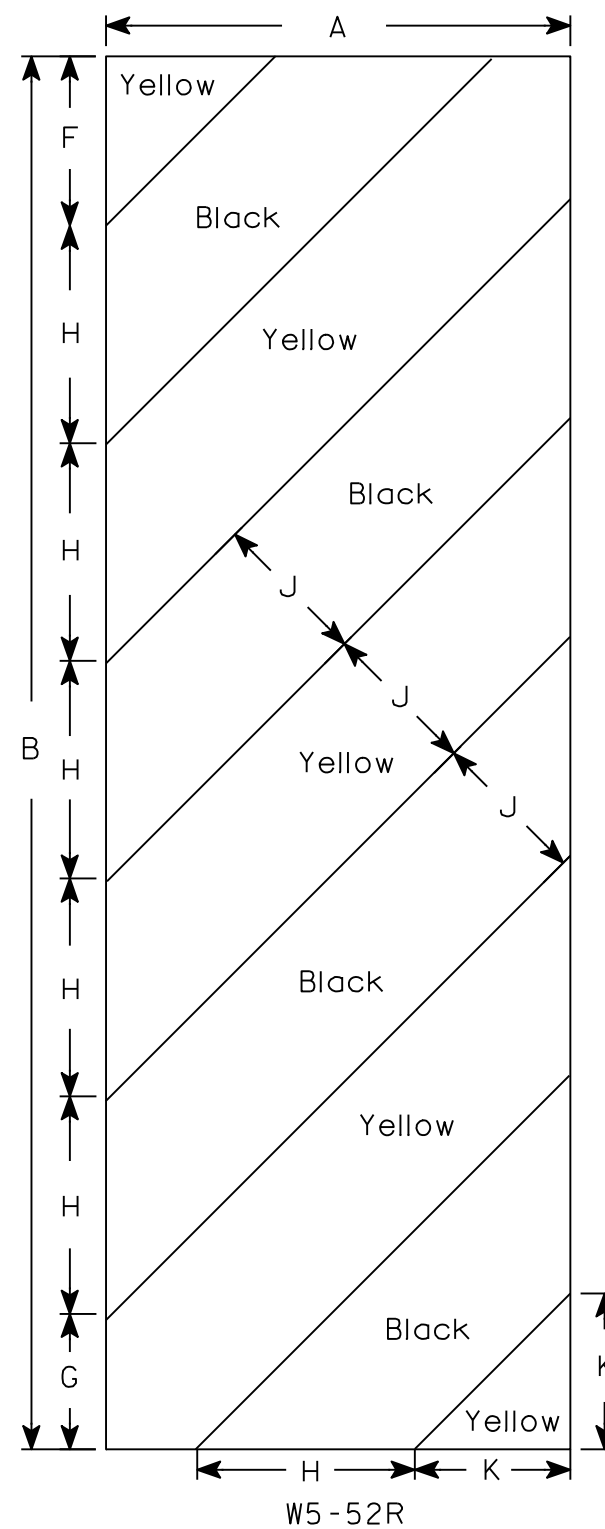
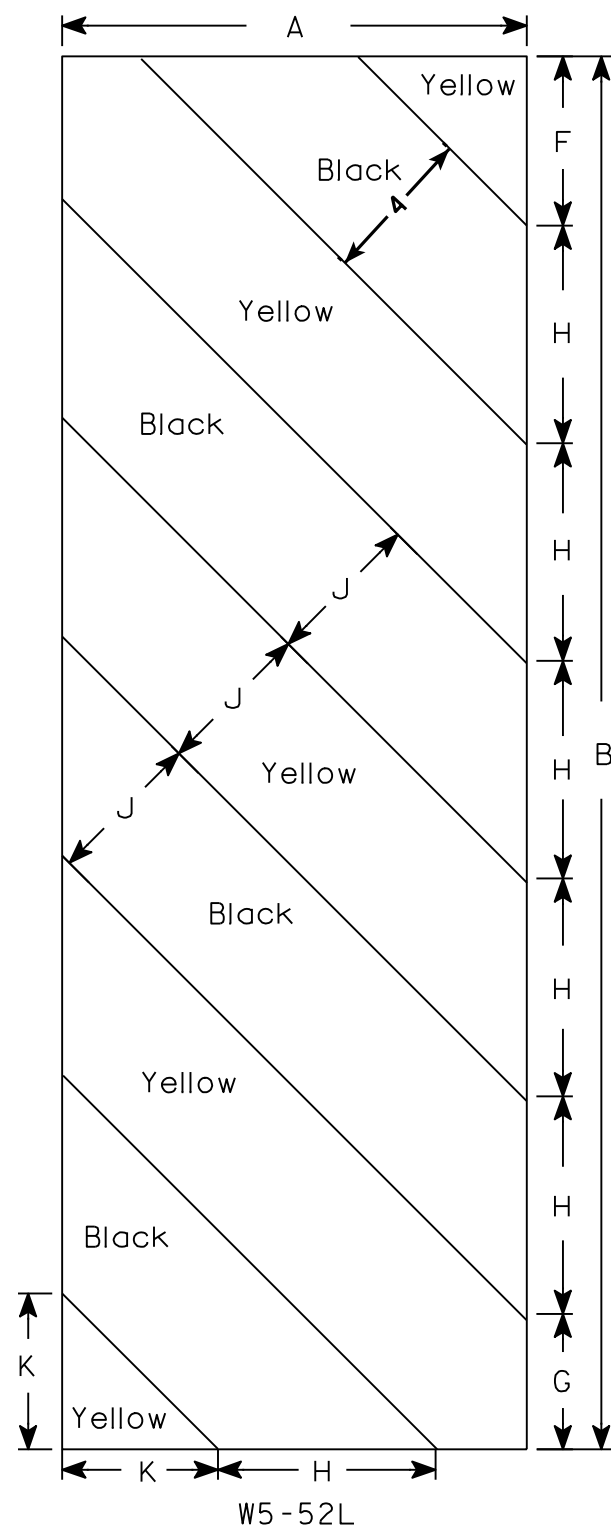
LEGEND

- ├── "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



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.

[illegible]

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:

E

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
 INVENTORY RATING FACTOR: RF = 1.14
 OPERATING RATING FACTOR: RF = 1.48
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE
 OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
 SUPERSTRUCTURE.....f'_c = 4,000 psi
 SUBSTRUCTURE.....f'_c = 3,500 psi
 PRESTRESSED CONCRETE GIRDERS.....f'_c = 8,000 psi
 BAR STEEL REINFORCEMENT.....f_y = 60,000 psi
 STEEL PILING.....f_y = 50,000 psi
 0.5" DIA. PRESTRESSING STRANDS.....ULTIMATE TENSILE STRENGTH = 270,000 psi

FOUNDATION DATA

USING THE MODIFIED GATES ACCEPTANCE METHOD:

ABUTMENTS AND PIER SHALL BE SUPPORTED ON HP 10 X 42 STEEL
 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER
 PILE AT THE ABUTMENTS AND 180 TONS PER PILE AT THE PIER AS
 DETERMINED BY THE MODIFIED GATES ACCEPTANCE METHOD.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED
 FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A
 RESISTANCE FACTOR OF 0.50 USING MODIFIED GATES ACCEPTANCE
 METHOD TO DETERMINE DRIVEN PILE CAPACITY.

ESTIMATED PILE LENGTHS:

WEST ABUTMENT 65 FEET
 EAST ABUTMENT 65 FEET
 PIER 65 FEET

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA..... 47.4 SQ. MI.
 Q100..... 2100 C.F.S.
 VELOCITY..... 4.21 F.P.S.
 BRIDGE WATERWAY AREA..... 684.59 SQ. FT.
 HIGHWATER ELEVATION 733.56
 ROAD OVERTOPPING NOT APPLICABLE
 SCOUR CODE 5

2 YEAR FREQUENCY

Q2 828 C.F.S.
 VELOCITY 3.96 F.P.S.
 HIGHWATER ELEVATION 731.40

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
 WILLIAM DREHER (608) 266-8489
 CONSULTANT:
 MOHAMMED ZAGLOUL (414) 751-7200

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTION
3. QUANTITIES, GENERAL NOTES & PROFILE
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT DETAILS
7. WEST ABUTMENT WINGWALLS
8. EAST ABUTMENT
9. EAST ABUTMENT DETAILS
10. EAST ABUTMENT WINGWALLS
11. PIER
12. 28" PRESTRESSED GIRDER
13. 28" PRESTRESSED GIRDER DETAILS
14. SUPERSTRUCTURE FRAMING PLAN
15. STEEL DIAPHRAGM
16. SUPERSTRUCTURE REINFORCEMENT
17. SUPERSTRUCTURE DETAILS (1 OF 2)
18. SUPERSTRUCTURE DETAILS (2 OF 2)
19. TUBULAR STEEL RAILING TYPE 'M'
20. HEAVY RIPRAP DETAILS

BENCH MARKS

NO.	DESCRIPTION	EL.	X	Y
1	1 INCH IRON PIPE	737.81	177139.70	119537.80
2	1 INCH IRON PIPE	745.10	179769.30	119504.40

PLAN

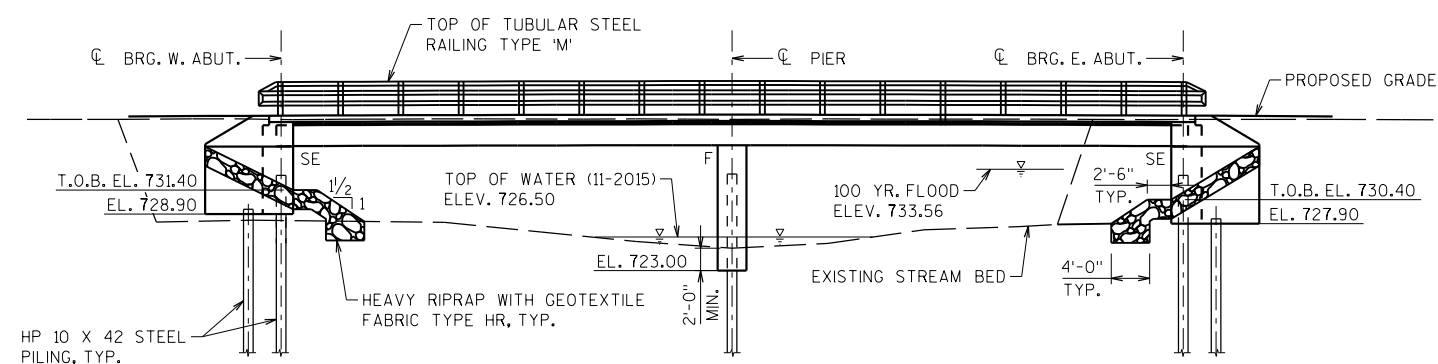
(2 SPAN 28" PRESTRESSED GIRDER)

LEGEND

- DIRECTION OF TRAFFIC
 (X) WINGWALL NUMBER
 T.O.B. TOP OF BERM

TRAFFIC DATA

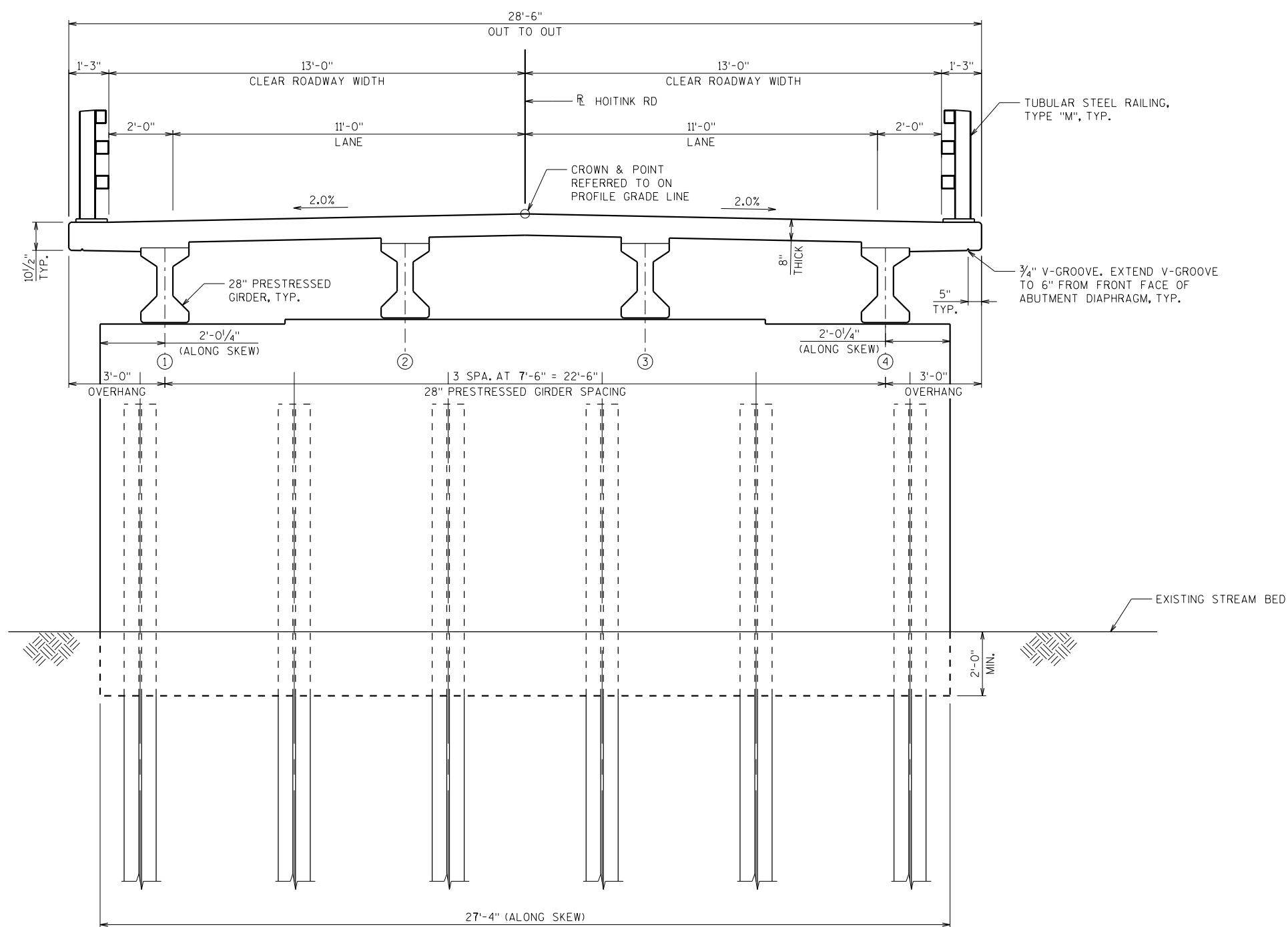
HOITINK ROAD
 AADT = 50 (2018)
 AADT = 60 (2038)
 RDS = 55 MPH



ELEVATION

(LOOKING NORTH)





TYPICAL SECTION
 LOOKING EAST
 (NORMAL TO C. OF UNION RIVER)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
TYPICAL SECTION			SHEET 2 OF 20

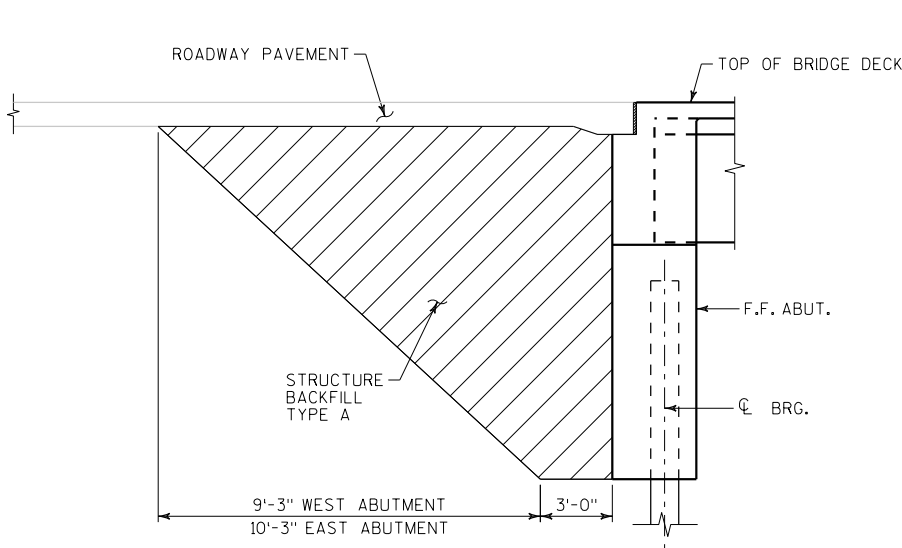
TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	WEST ABUTMENT	PIER	EAST ABUTMENT	SUPER.	TOTAL
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 1+86.10	LS	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-59-196	LS	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	238	32	281	-	551
502.0100	CONCRETE MASONRY BRIDGES	CY	45	39	50	93	227
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	344	344
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	-	-	-	379	379
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4,500	1,530	4,630	22,740	33,400
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	8	4	-	16
506.4000	STEEL DIAPHRAGMS B-59-196	EACH	-	-	-	6	6
513.4061	RAILING TUBULAR TYPE M B-59-196	LF	-	-	-	198	198
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	-	7	-	14
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	455	390	455	-	1,300
606.0300	RIPRAP HEAVY	CY	97	-	94	-	191
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	-	80	-	180
645.0120	GEOTEXTILE TYPE HR	SY	146	-	140	-	286
	NON-BID ITEMS						
	PREFORMED JOINT FILLER	SIZE					1/2" , 3/4"
	NON-BITUMINOUS JOINT FILLER	SIZE					1/2"
	CORK FILLER	SIZE					3/4"
	NAME PLATE	EACH					1

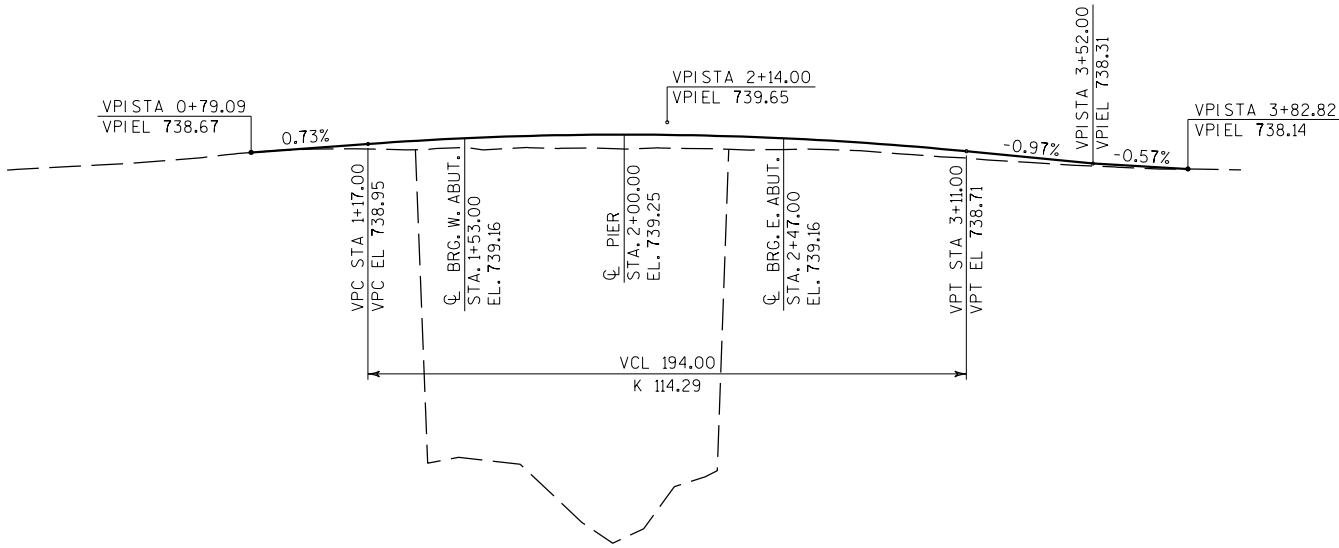
ALL ITEMS ARE CATEGORY 0010

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE PLACED WITH 2" OF CLEAR CONCRETE COVER UNLESS OTHERWISE NOTED.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), SHEBOYGAN COUNTY ZONE, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD29).
- THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.
- THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-59-196" SHALL BE THE EXISTING GROUND LINE & THE EXISTING STREAM BED.
- BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- AT THE BACK FACE OF ABUTMENT, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE STREAM BED IN FRONT OF THE ABUTMENT SHALL BE COVERED WITH HEAVY RIPRAP AND GEORTEXTILE FABRIC 'HR' TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET, ABUTMENT DETAILS AND IN THE HEAVY RIPRAP DETAILS.
- PILE SPLICES SHALL BE MADE BY A CERTIFIED WELDER.
- THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAIL SHEET.
- PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK, THE OUTSIDE VERTICAL FACES AND FIRST 1'-0" OF UNDERSIDE OF DECK.
- THE EXISTING BRIDGE, P-59-163, IS A TWO SPAN REINFORCED CONCRETE DECK GIRDER SUPPORTED ON FULL RETAINING TYPE ABUTMENTS AND SOLID SHAFT PIERS. THE ENTIRE STRUCTURE SHALL BE REMOVED IN ACCORDANCE WITH PROJECT CONSTRUCTION PLANS. AS-BUILT PLANS FOR THE EXISTING BRIDGE ARE NOT AVAILABLE.
- FIELD VERIFY EXISTING DRAIN PIPE. PLACE FILL AND RIPRAP IN A MANNER THAT WILL NOT DAMAGE THE DRAIN PIPE.



BACKFILL PAY LIMITS
(DIMENSIONS ARE MEASURED NORMAL TO ABUTMENT)



PROFILE GRADE LINE - HOITINK RD

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
QUANTITIES, GENERAL NOTES & PROFILE			SHEET 3 OF 20

NOTES

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

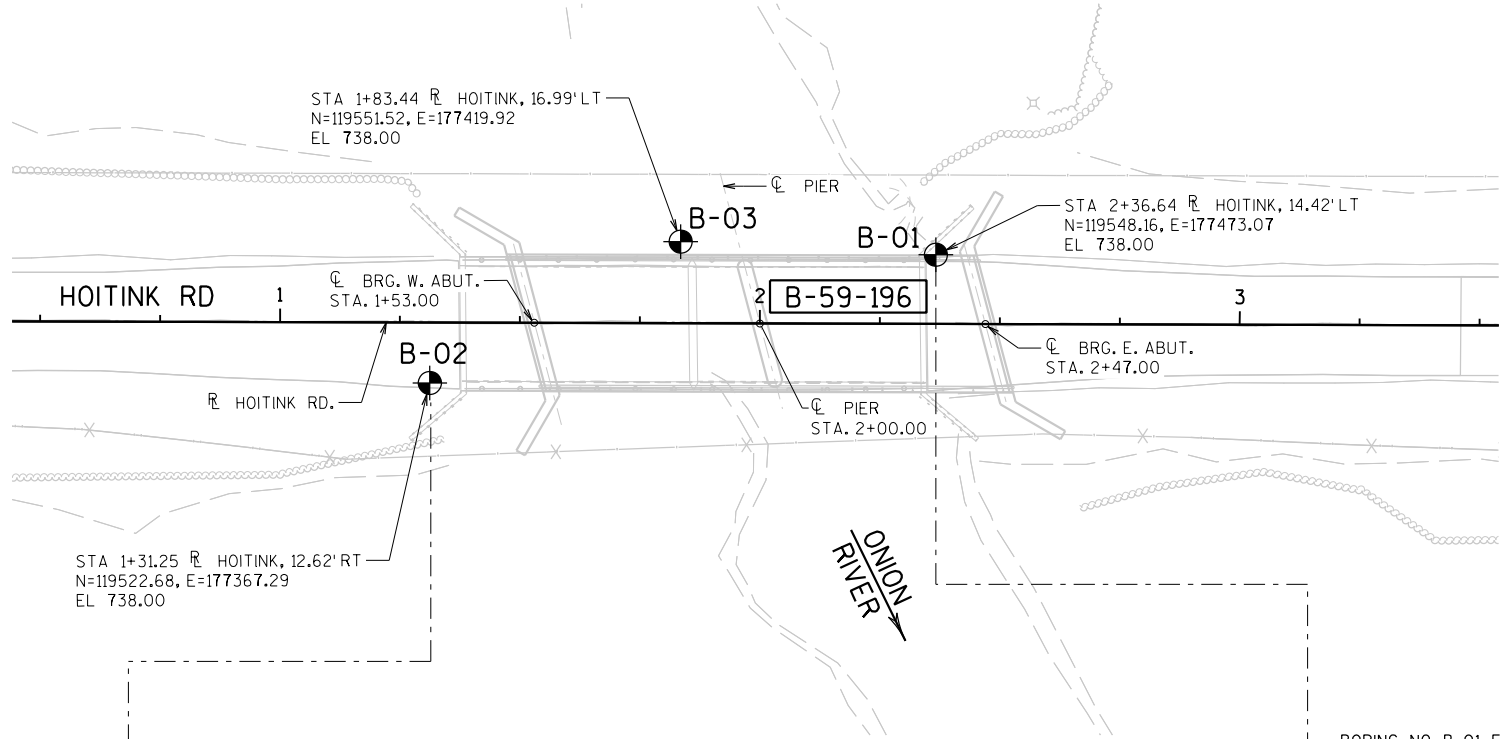
WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

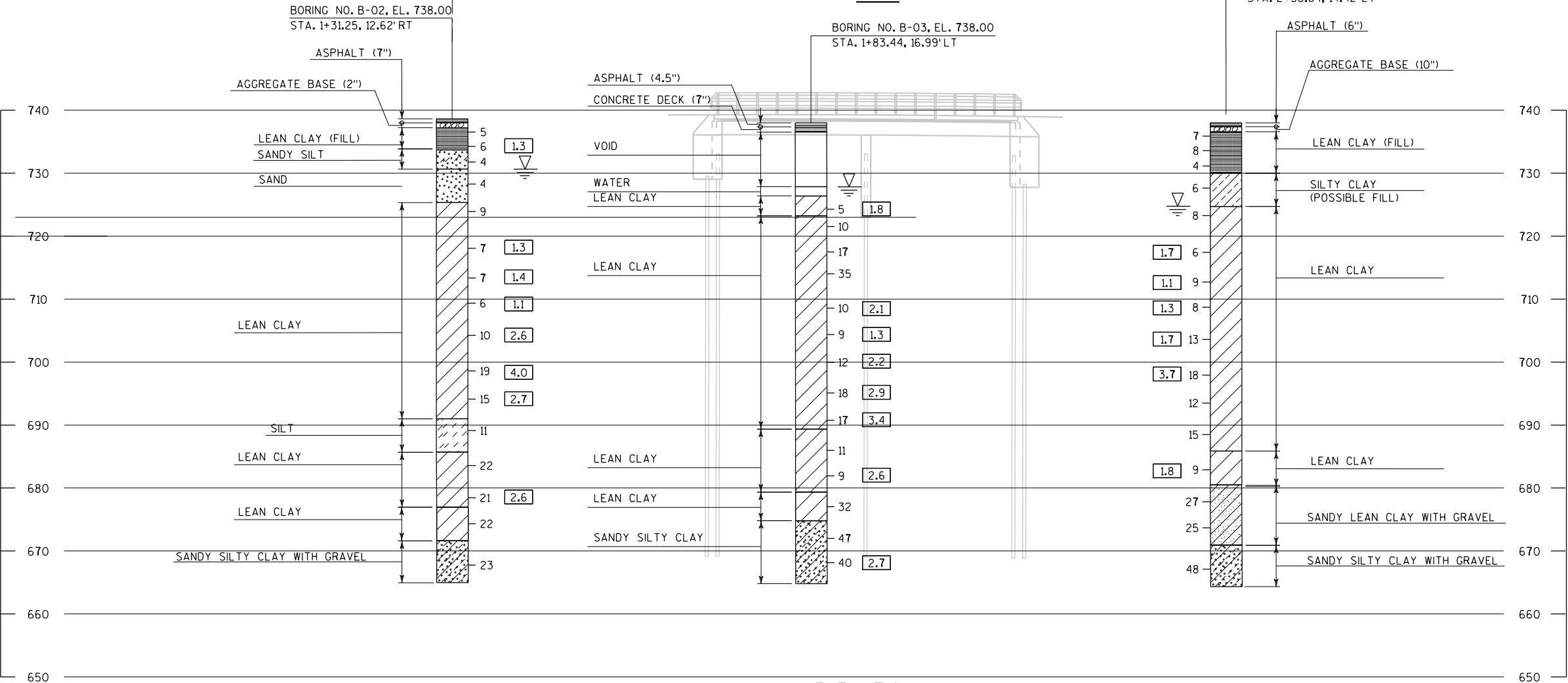
⊙ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
PROFESSIONAL SERVICE INDUSTRIES, INC.

SOIL BORING TAKEN:
DECEMBER 7, 2015 - BORING B-01
DECEMBER 4, 2015 - BORING B-02
DECEMBER 8, 2015 - BORING B-03



PLAN



ELEVATION

LOOKING NORTH

STATE PROJECT NUMBER

4198-05-71

ABBREVIATIONS

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

MATERIAL SYMBOLS

TOPSOIL / FILL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

ELEV. BORING NO. STA.
UNCONFINED STRENGTH 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
SUBSURFACE EXPLORATION			SHEET 4 OF 20

AO1 1/2" FILLER, SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.).

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

A03 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN.

A04 ABUTMENTS SHALL BE SUPPORTED ON HP 10 X 42 STEEL
PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140
TONS PER PILE AS DETERMINED BY THE MODIFIED GATES
ACCEPTANCE METHOD.
ESTIMATED PILE LENGTH = 65 FEET.

T HP 10 X 42 STEEL PILING

(X) WINGWALL NUMBER

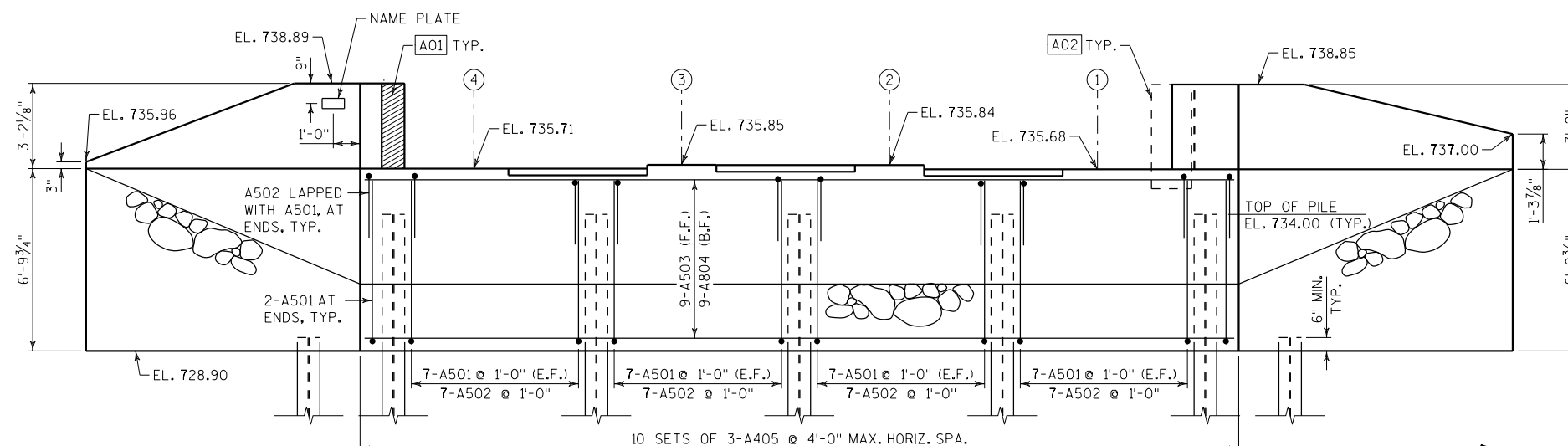
(X) GIRDER NUMBER

ELEVATIONS ARE GIVEN AT TOP OF CONCRETE AT THE
INTERSECTION OF THE GIRDER & C BEARING.

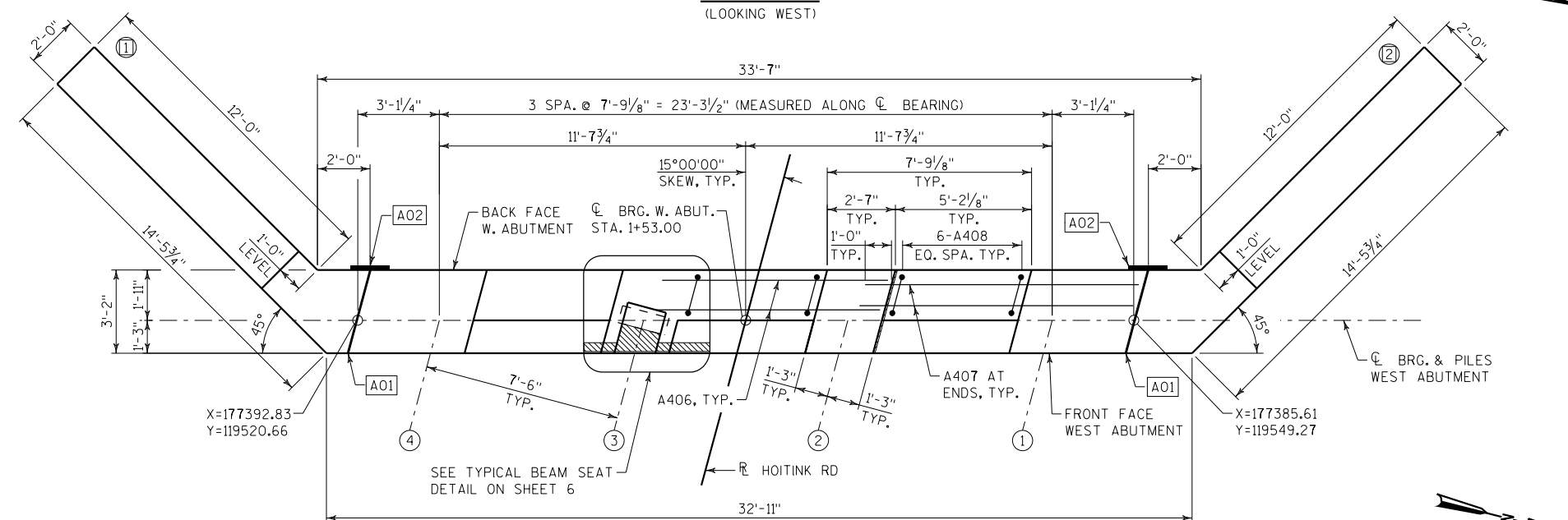
FOR TYPICAL SECTION THRU ABUTMENT BODY AND
REINFORCEMENT BILL OF BARS SEE SHEET 6.

FOR WINGWALL REINFORCEMENT SEE SHEET 7.

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF
ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

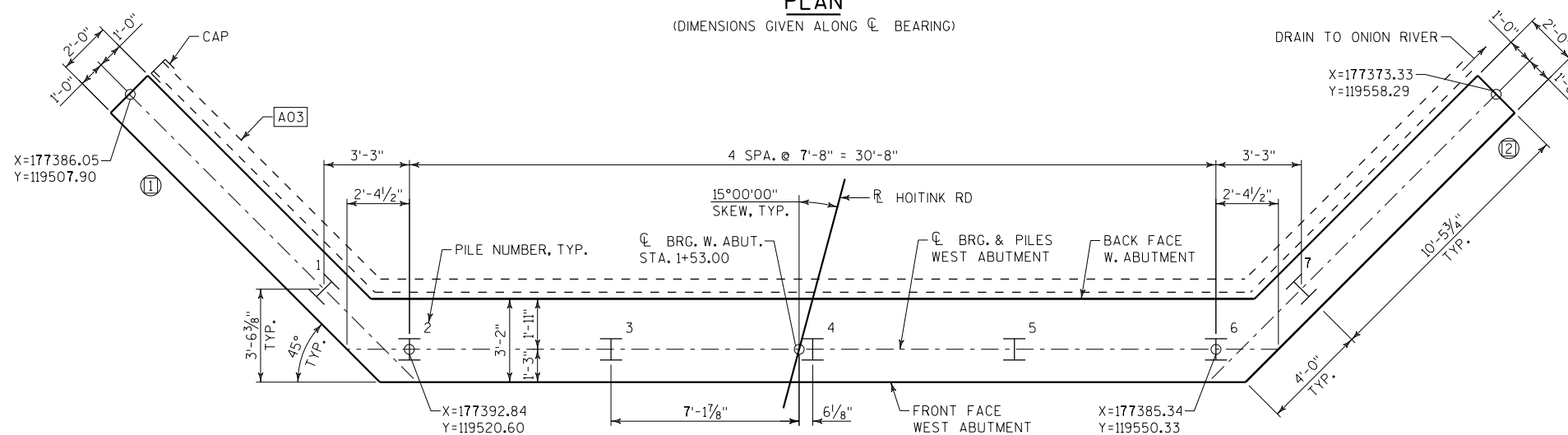


ELEVATION
(LOOKING WEST)



PLAN

(DIMENSIONS GIVEN ALONG $\odot$ BEARING)



PILE PLAN

(DIMENSIONS GIVEN ALONG $\odot$ BEARING)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
WEST ABUTMENT			SHEET 5 OF 2

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

A03 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN.

A07 4" X ¾" FILLER, TYP. RUN FULL LENGTH OF ABUTMENT.

A08 ¾" PREFORMED FILLER, TYP.

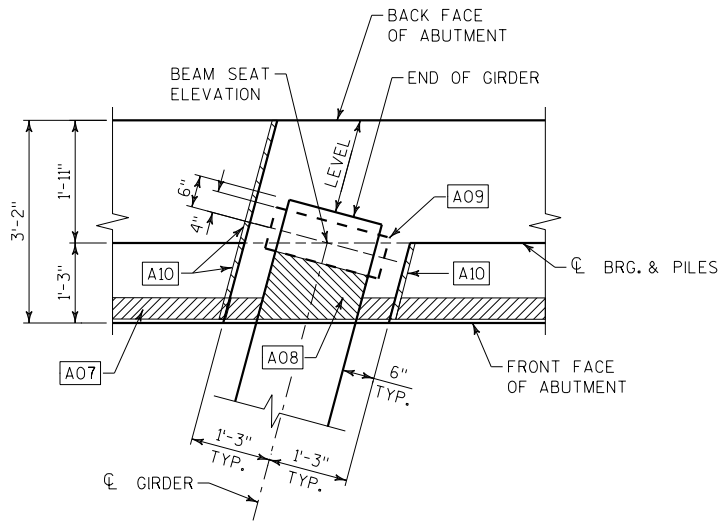
A09 ½" THICK X 8" X 1'-10" ELASTOMERIC BEARING PAD, TYP.

A10 ¾" CORK FILLER UP VERTICAL FACES OF BEAM SEATS, TYP.

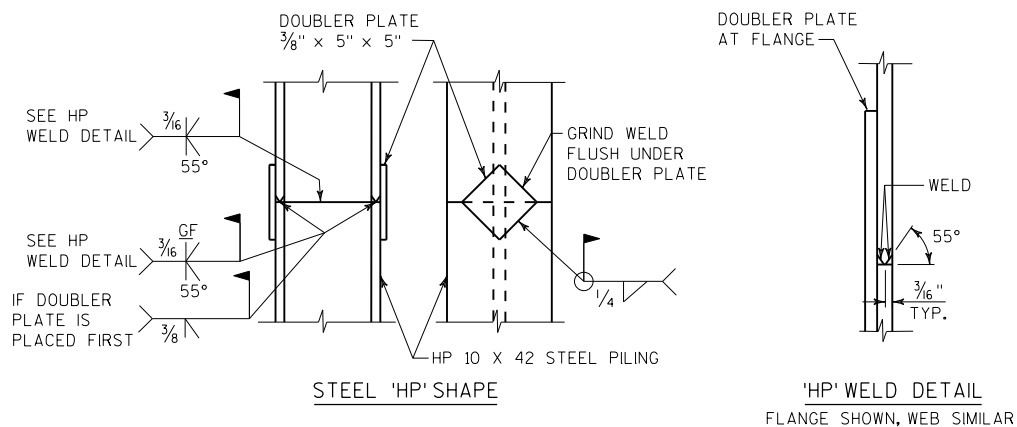
A11 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

A12 THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

FOR ABUTMENT PLAN & ELEVATION SEE SHEET 5.
FOR WINGWALL DETAILS, REINFORCEMENT & BILL OF
BARS SEE SHEET 7.



TYPICAL BEAM SEAT DETAIL



PILE SPLICE DETAIL

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	60	7'-11"	X	-	ABUTMENT BODY - VERT.
A502	X	30	7'-11"	X	-	ABUTMENT BODY - VERT.
A503	X	9	32'-7"	-	-	ABUTMENT BODY - LONG.
A804	X	9	33'-7"	-	-	ABUTMENT BODY - LONG.
A405	X	30	3'-5"	X	-	ABUTMENT BODY - TRANS.
A406	X	4	8'-9"	-	-	ABUTMENT SEAT - LONG.
A407	X	4	10'-7"	-	-	ABUTMENT SEAT - LONG.
A408	X	18	4'-6"	X	-	ABUTMENT SEAT - VERT.

6" NOMINAL *

B

B

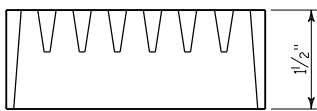
3/8" MAX.

SECTION B-B

(ORIENT SHIELD SO SLOTS ARE VERTICAL)

1/2"

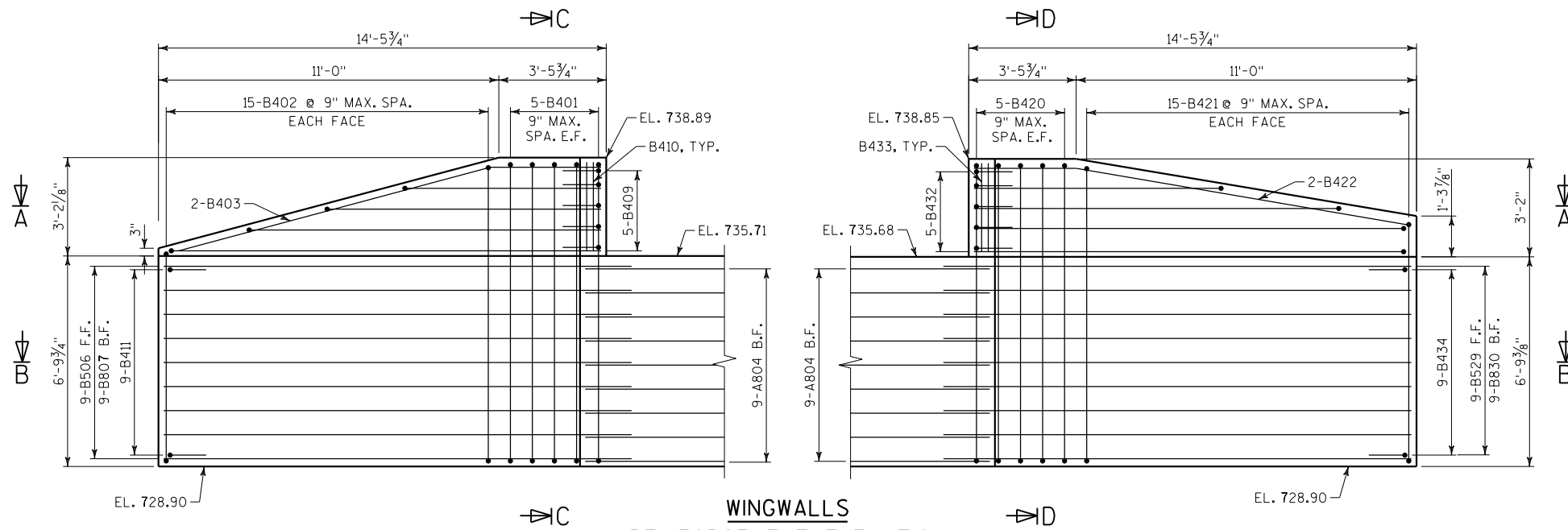
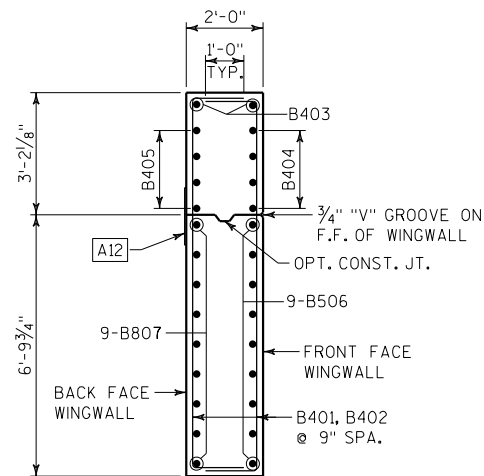
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



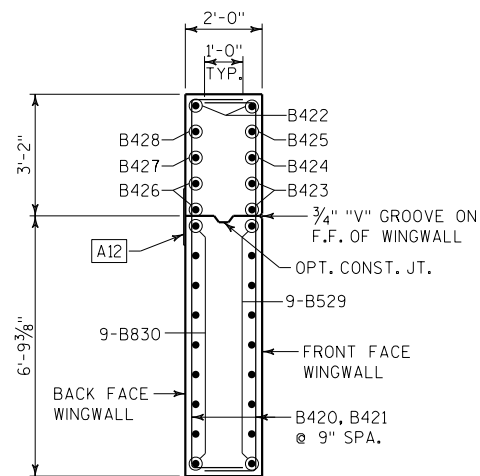
SECTION B-B
(ORIENT SHIELD SO SLOTS ARE VERTICAL)

BENDING DIAGRAMS

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-59-196					
			DRAWN BY	AJA	PLANS C'K'D. MHZ
WEST ABUTMENT DETAILS				SHEET 6 OF 20	

WINGWALLS
REINFORCEMENT ELEVATION
(WINGWALLS ① & ② FRONT FACE)
(LOOKING WEST)

SECTION C-C



SECTION D-D

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B401	X	10	12'-2"	X	-	WINGWALL 1 - VERT.
B402	X	30	10'-7"	X	▲	WINGWALL 1 - VERT.
B403	X	2	14'-6"	X	-	WINGWALL 1 - HORIZ. TOP
B404	X	4	11'-3"	X	▲	WINGWALL 1 - HORIZ. F.F.
B405	X	4	10'-10"	X	▲	WINGWALL 1 - HORIZ. B.F.
B506	X	9	15'-7"	X	-	WINGWALL 1 - HORIZ. F.F.
B807	X	9	17'-4"	X	-	WINGWALL 1 - HORIZ. B.F.
B808	X	9	9'-4"	X	-	WINGWALL 1 - HORIZ. B.F.
B409	X	5	8'-5"	X	-	WINGWALL 1 - HORIZ.
B410	X	5	2'-10"	-	-	WINGWALL 1 - VERT.
B411	X	9	4'-5"	X	-	WINGWALL 1 - HORIZ. ENDS
B420	X	10	12'-1"	X	-	WINGWALL 2 - VERT.
B421	X	30	11'-1"	X	▲	WINGWALL 2 - VERT.
B422	X	2	14'-2"	X	-	WINGWALL 2 - HORIZ. TOP
B423	X	2	15'-4"	X	-	WINGWALL 2 - HORIZ. F.F.
B424	X	1	12'-9"	X	-	WINGWALL 2 - HORIZ. F.F.
B425	X	1	8'-8"	X	-	WINGWALL 2 - HORIZ. F.F.
B426	X	1	16'-4"	X	-	WINGWALL 2 - HORIZ. B.F.
B427	X	1	13'-9"	X	-	WINGWALL 2 - HORIZ. B.F.
B428	X	1	9'-8"	X	-	WINGWALL 2 - HORIZ. B.F.
B529	X	9	15'-7"	X	-	WINGWALL 2 - HORIZ. F.F.
B830	X	9	17'-4"	X	-	WINGWALL 2 - HORIZ. B.F.
B831	X	9	9'-4"	X	-	WINGWALL 2 - HORIZ. B.F.
B432	X	5	11'-3"	X	-	WINGWALL 2 - HORIZ.
B433	X	5	2'-10"	-	-	WINGWALL 2 - VERT.
B434	X	9	4'-5"	X	-	WINGWALL 2 - HORIZ. ENDS

BAR MARK	DIM 'A'	DIM 'B'
B401	9'-8"	1'-4"
B402	6'-8" TO 9'-6"	1'-4"
B420	9'-7"	1'-4"
B421	7'-9" TO 9'-5"	1'-4"

BAR MARK	DIM 'A'	DIM 'B'
B404	5'-11" TO 14'-1"	1'-4"
B405	5'-6" TO 13'-8"	1'-4"
B423	14'-1"	1'-4"
B424	11'-6"	1'-4"
B425	7'-5"	1'-4"
B426	15'-1"	1'-4"
B427	12'-6"	1'-4"
B428	8'-5"	1'-4"

BAR MARK	DIM 'A'	DIM 'B'
B506	14'-1"	1'-6"
B807	15'-10"	1'-6"
B808	7'-10"	1'-6"
B529	14'-1"	1'-6"
B830	15'-10"	1'-6"
B831	7'-10"	1'-6"

BAR MARK	DIM 'A'	DIM 'B'
B403	2'-11"	10'-10"
B422	1'-7"	10'-10"

SECTION A-A

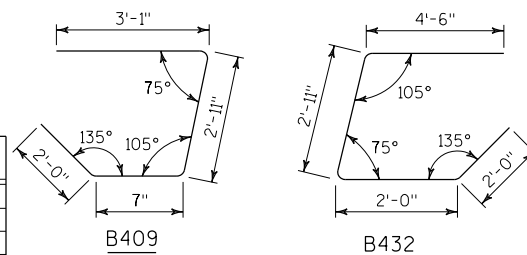
SECTION B-B

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
B402	2 SERIES OF 15	9'-2" TO 12'-0"
B404	1 SERIES OF 4	7'-2" TO 15'-4"
B405	1 SERIES OF 4	6'-9" TO 14'-11"
B421	2 SERIES OF 15	10'-3" TO 11'-11"

▲ BUNDLE AND TAG EACH SERIES SEPARATELY

BENDING DIAGRAMS



LEGEND

E.F. - EACH FACE
F.F. - FRONT FACE
B.F. - BACK FACE
(X) - WINGWALL NUMBER

NOTE

A12 18" RUBBERIZED MEMBRANE WATERPROOFING
IF CONST. JOINT IS USED (COST INCIDENTAL
TO BID ITEM "CONCRETE MASONRY BRIDGES")

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
WEST ABUTMENT WINGWALLS		SHEET 7 OF 20	

[BO1] 1/2" FILLER, SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONC.).

[B02] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

B03 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN.

B04 ABUTMENTS SHALL BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES ACCEPTANCE METHOD.
ESTIMATED PILE LENGTH = 65 FEET.

T HP 10 X 42 STEEL PILING

(X) WINGWALL NUMBER

(X) GIRDER NUMBER

ELEVATIONS ARE GIVEN AT TOP OF CONCRETE AT THE
INTERSECTION OF THE GIRDER & C BEARING.

FOR TYPICAL SECTION THRU ABUTMENT BODY AND
REINFORCEMENT BILL OF BARS SEE SHEET 9.

FOR WINGWALL REINFORCEMENT SEE SHEET 10.

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF
ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.



(DIMENSIONS GIVEN ALONG $\odot$ BEARING)



(DIMENSIONS GIVEN ALONG $\odot$ BEARING)

[B02] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

[B03] PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN.

[B07] 4" X $\frac{3}{4}$ " FILLER, TYP. RUN FULL LENGTH OF ABUTMENT.

[B08] $\frac{3}{4}$ " PREFORMED FILLER, TYP.

[B09] $\frac{1}{2}$ " THICK X 8" X 1'-10" ELASTOMERIC BEARING PAD, TYP.

[B10] $\frac{3}{4}$ " CORK FILLER UP VERTICAL FACES OF BEAM SEATS, TYP.

[B11] STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

[B12] THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

FOR ABUTMENT PLAN & ELEVATION SEE SHEET 8.
FOR WINGWALL DETAILS, REINFORCEMENT & BILL OF
BARS SEE SHEET 10.



BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C501	X	60	8'-11"	X	-	ABUTMENT BODY - VERT.
C502	X	30	7'-11"	X	-	ABUTMENT BODY - VERT.
C503	X	9	32'-7"	-	-	ABUTMENT BODY - LONG.
C804	X	9	33'-7"	-	-	ABUTMENT BODY - LONG.
C405	X	30	3'-5"	X	-	ABUTMENT BODY - TRANS.
C406	X	4	8'-9"	-	-	ABUTMENT SEAT - LONG.
C407	X	4	10'-7"	-	-	ABUTMENT SEAT - LONG.
C408	X	18	4'-6"	X	-	ABUTMENT SEAT - VERT.

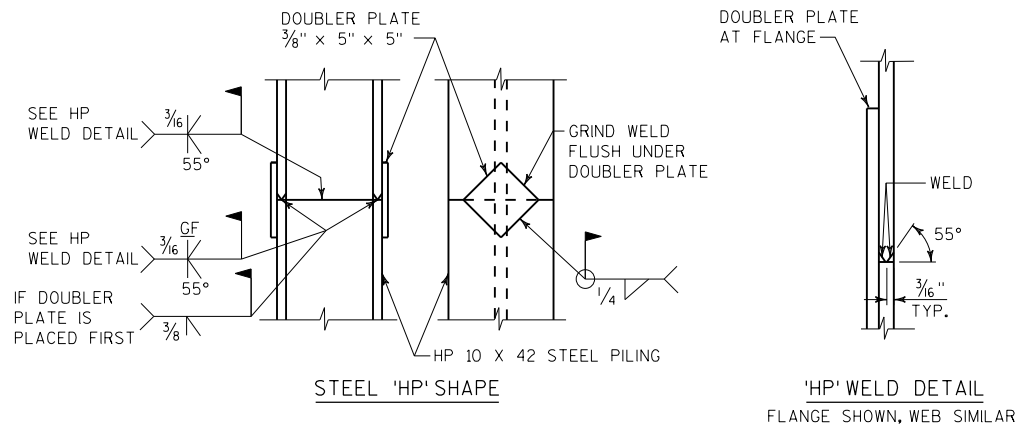
Technical drawings of two structural components, C501 and C405, and a table listing their dimensions.

Component C501: An L-shaped bracket. The vertical leg is 7'-2" long. The horizontal leg is 1'-10" long.

Component C405: A U-shaped bracket. The horizontal leg is 2'-10" long. The vertical leg is 1'-8" long. The bracket is shown with a 135° angle and a 1/2" dimension.

BAR MARK	DIM "A"	DIM "B"
C502	2'-10"	2'-8"
C408	1'-8"	1'-6"

TYPICAL BEAM SEAT DETAIL



6" NOMINAL *

B

B

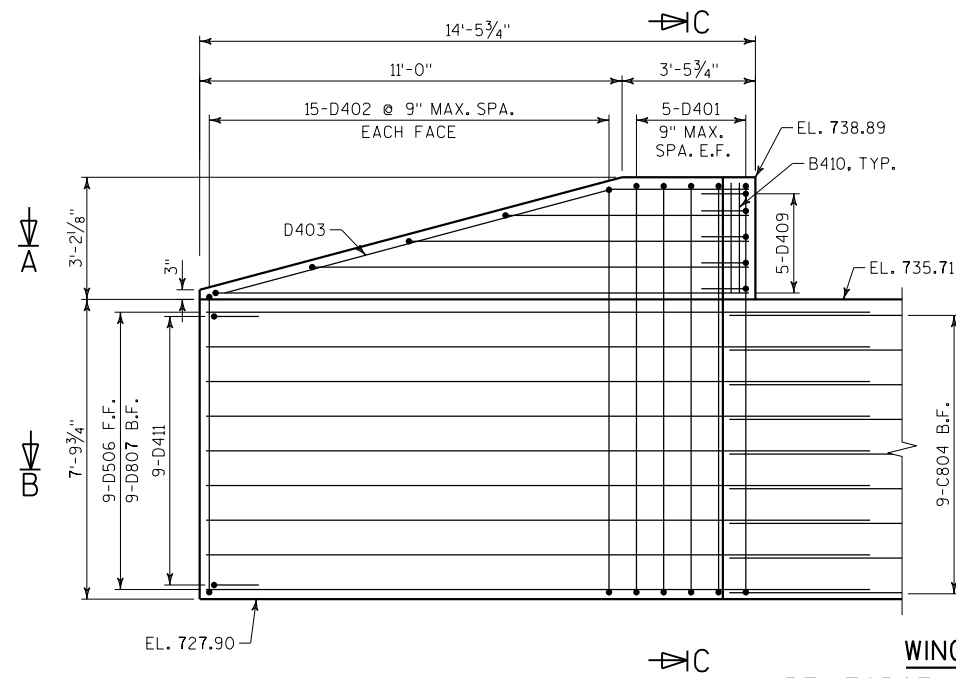
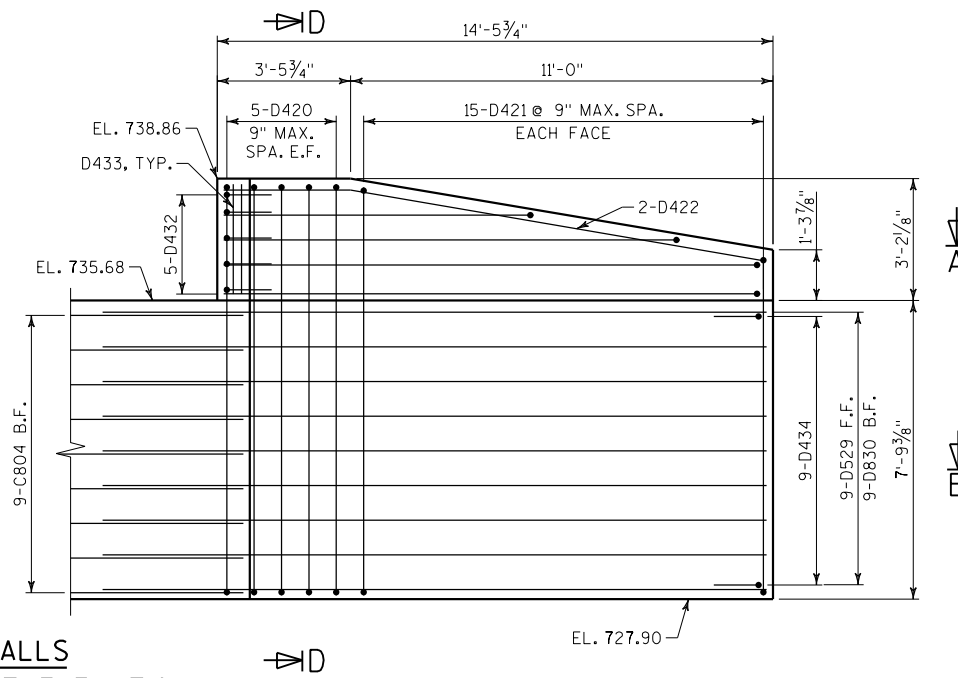
3/8" MAX.

SECTION B-B

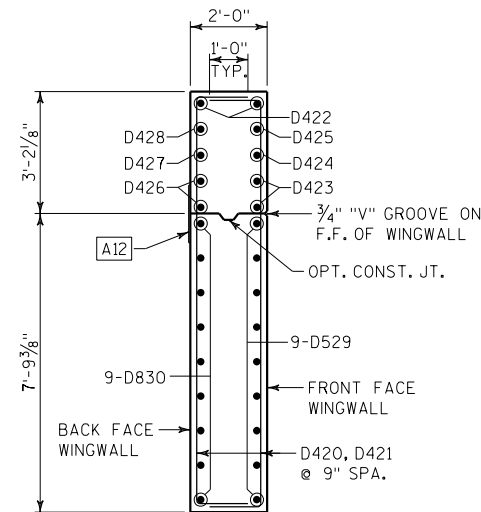
(ORIENT SHIELD SO SLOTS ARE VERTICAL)

1/2"

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

WINGWALLS
REINFORCEMENT ELEVATION(WINGWALLS ③ & ④ FRONT FACE)
(LOOKING EAST)

SECTION C-C



SECTION D-D

BILL OF BARS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR
FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
D401	X	10	13'-2"	X	-	WINGWALL 3 - VERT.
D402	X	30	11'-7"	X	▲	WINGWALL 3 - VERT.
D403	X	2	14'-6"	X	-	WINGWALL 3 - HORIZ. TOP
D404	X	4	11'-3"	X	▲	WINGWALL 3 - HORIZ. F.F.
D405	X	4	10'-10"	X	▲	WINGWALL 3 - HORIZ. B.F.
D506	X	9	15'-7"	X	-	WINGWALL 3 - HORIZ. F.F.
D807	X	9	17'-4"	X	-	WINGWALL 3 - HORIZ. B.F.
D808	X	9	9'-4"	X	-	WINGWALL 3 - HORIZ. B.F.
D409	X	5	8'-5"	X	-	WINGWALL 3 - HORIZ.
D410	X	5	2'-10"	-	-	WINGWALL 3 - VERT.
D411	X	9	4'-5"	X	-	WINGWALL 3 - HORIZ. ENDS
D420	X	10	13'-1"	X	-	WINGWALL 4 - VERT.
D421	X	30	12'-1"	X	▲	WINGWALL 4 - VERT.
D422	X	2	14'-2"	X	-	WINGWALL 4 - HORIZ. TOP
D423	X	2	15'-4"	X	-	WINGWALL 4 - HORIZ. F.F.
D424	X	1	12'-9"	X	-	WINGWALL 4 - HORIZ. F.F.
D425	X	1	8'-8"	X	-	WINGWALL 4 - HORIZ. F.F.
D426	X	2	16'-4"	X	-	WINGWALL 4 - HORIZ. B.F.
D427	X	1	13'-9"	X	-	WINGWALL 4 - HORIZ. B.F.
D428	X	1	9'-8"	X	-	WINGWALL 4 - HORIZ. B.F.
D529	X	9	15'-7"	X	-	WINGWALL 4 - HORIZ. F.F.
D830	X	9	17'-4"	X	-	WINGWALL 4 - HORIZ. B.F.
D831	X	9	9'-4"	X	-	WINGWALL 4 - HORIZ. B.F.
D432	X	5	11'-3"	X	-	WINGWALL 4 - HORIZ.
D433	X	5	2'-10"	-	-	WINGWALL 4 - VERT.
D434	X	9	4'-5"	X	-	WINGWALL 4 - HORIZ. ENDS

BAR MARK	DIM 'A'	DIM 'B'
D401	10'-8"	1'-4"
D402	7'-8" TO 10'-6"	1'-4"
D420	10'-7"	1'-4"
D421	8'-9" TO 10'-5"	1'-4"

BAR MARK	DIM 'A'	DIM 'B'
D404	5'-11" TO 14'-1"	1'-4"
D405	5'-6" TO 13'-8"	1'-4"
D423	14'-1"	1'-4"
D424	11'-6"	1'-4"
D425	7'-5"	1'-4"
D426	15'-1"	1'-4"
D427	12'-6"	1'-4"
D428	8'-5"	1'-4"

BAR MARK	DIM 'A'	DIM 'B'
D506	14'-1"	1'-6"
D807	15'-10"	1'-6"
D808	7'-10"	1'-6"
D529	14'-1"	1'-6"
D830	15'-10"	1'-6"
D831	7'-10"	1'-6"

BAR MARK	DIM 'A'	DIM 'B'
D403	2'-11"	10'-10"
D422	1'-7"	10'-10"

NOTE

A12 18" RUBBERIZED MEMBRANE WATERPROOFING
IF CONST. JOINT IS USED (COST INCIDENTAL
TO BID ITEM "CONCRETE MASONRY BRIDGES")

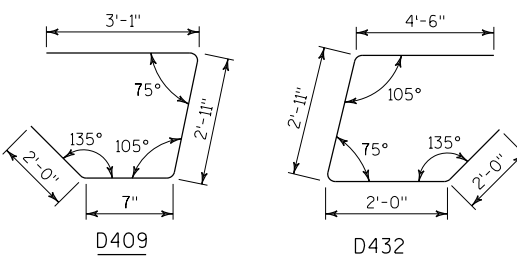
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
EAST ABUTMENT WINGWALLS			SHEET 10 OF 20

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
D402	2 SERIES OF 15	10'-2" TO 13'-0"
D404	1 SERIES OF 4	7'-2" TO 15'-4"
D405	1 SERIES OF 4	6'-9" TO 14'-11"
D421	2 SERIES OF 15	11'-3" TO 12'-11"

▲ BUNDLE AND TAG EACH SERIES SEPARATELY

BENDING DIAGRAMS

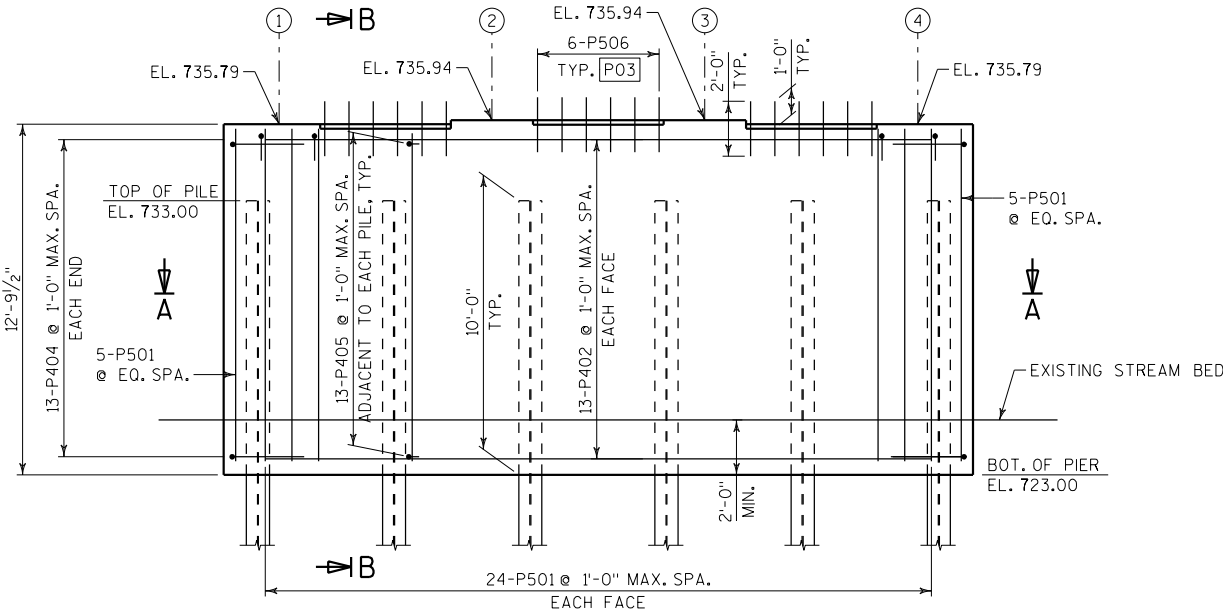


LEGEND

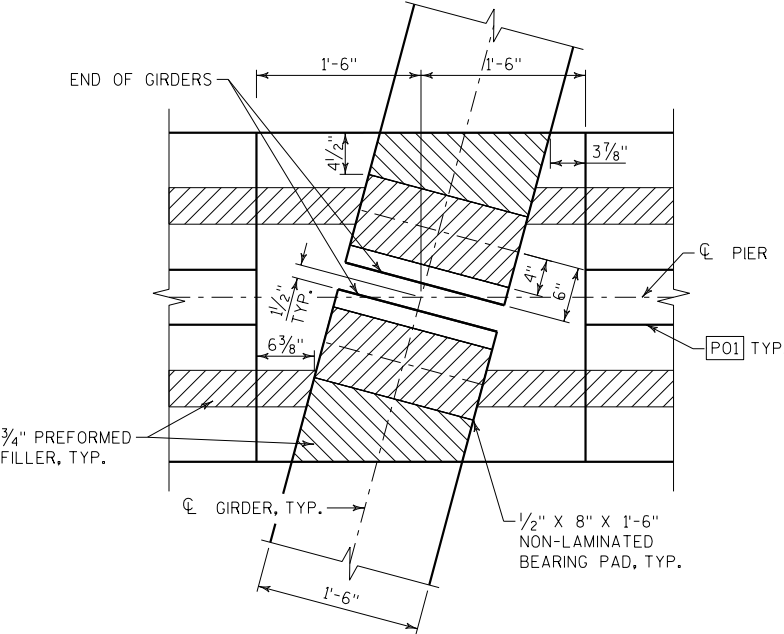
E.F. - EACH FACE
F.F. - FRONT FACE
B.F. - BACK FACE
ⓧ - WINGWALL NUMBER

SECTION A-A

SECTION B-B



ELEVATION
(LOOKING EAST)



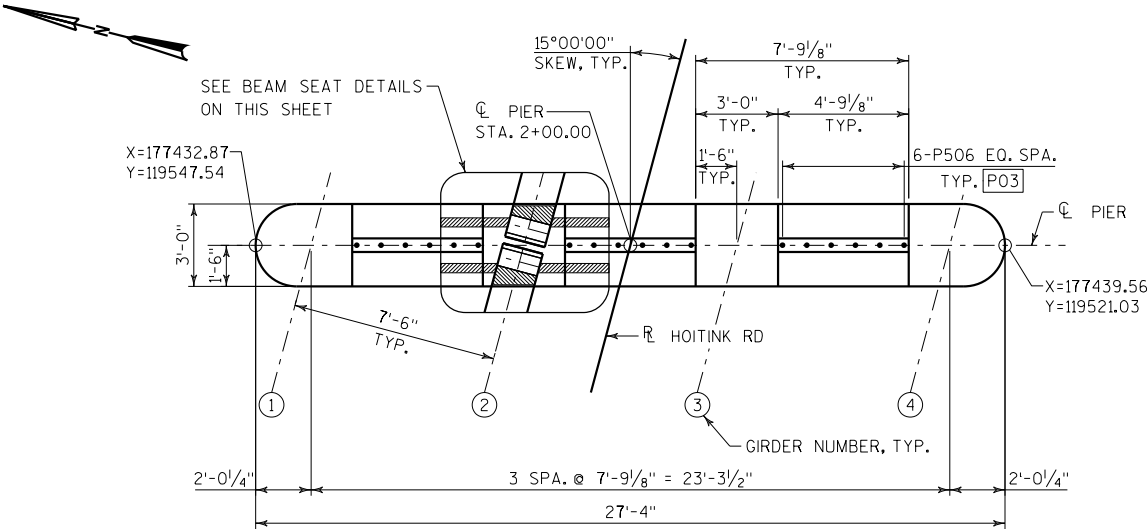
TYPICAL BEAM SEAT DETAIL

LEGEND

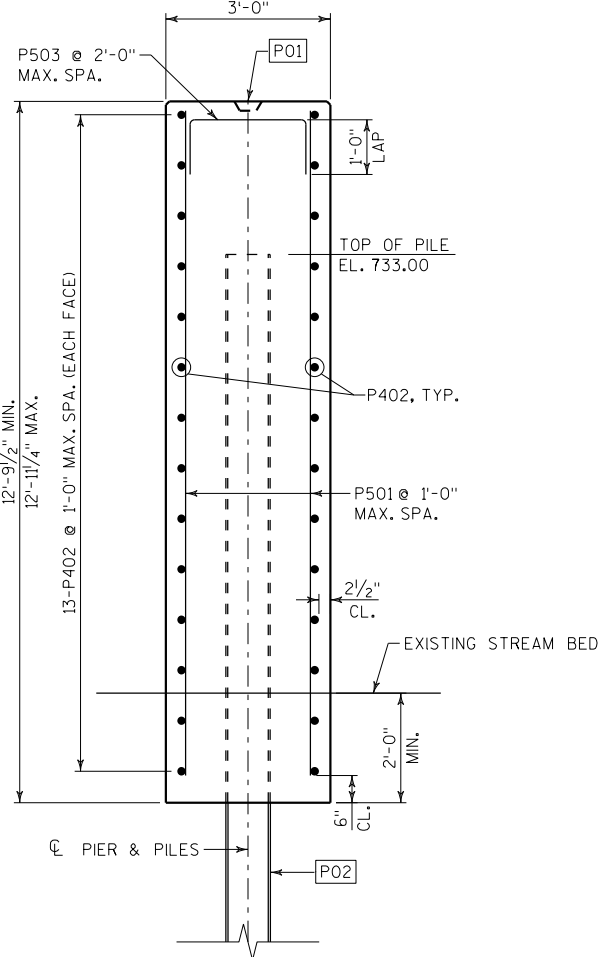
- [P01] 2" x 6" BEVELED KEYWAY BETWEEN BEAM SEATS.
- [P02] PIER SHALL BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES ACCEPTANCE METHOD. ESTIMATED PILE LENGTH = 65 FEET.
- [P03] PLACE P506 BEFORE CONCRETE HAS TAKEN INITIAL SET.
- HP 10 X 42 STEEL PILING
- GIRDER NUMBER

NOTE

ELEVATIONS ARE GIVEN AT TOP OF CONCRETE AT THE INTERSECTION OF THE GIRDER & CL BEARING.



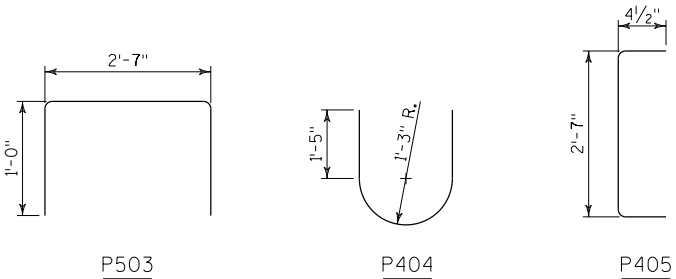
PIER PLAN



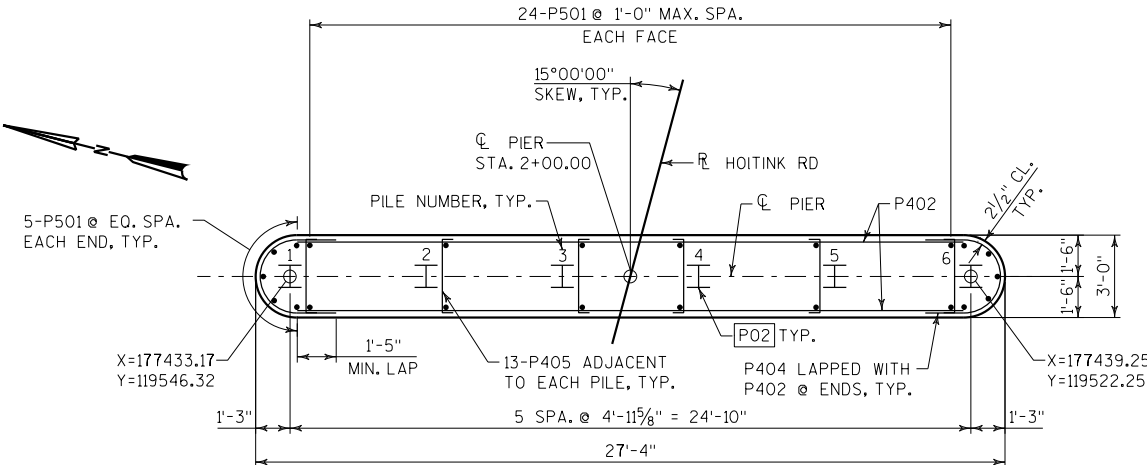
SECTION B-B

BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
P501	X	58	12'-1"	-	-	PIER BODY - VERT.
P402	X	26	24'-4"	-	-	PIER BODY - LONG.
P503	X	12	4'-4"	X	-	PIER BODY TOP - VERT.
P404	X	26	6'-11"	X	-	PIER BODY ENDS - HORIZ.
P405	X	78	3'-2"	X	-	PIER BODY TIE - TRANS.
P506	X	18	2'-0"	-	-	PIER TOP BETWEEN BEAM SEATS - VERT.



BENDING DIAGRAMS



SECTION A-A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
PIER		SHEET 11 OF 20	

GIRDER NOTES

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

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

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

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER AND ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

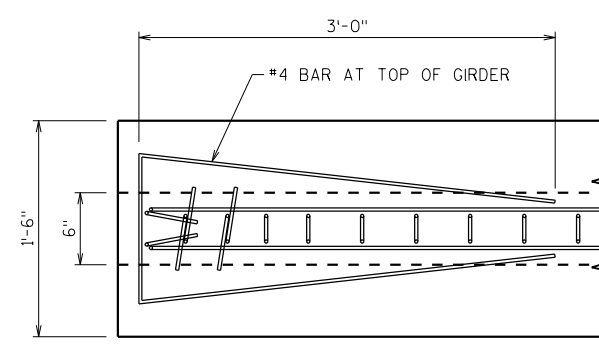
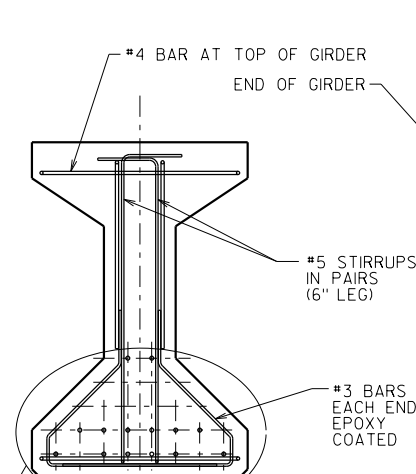
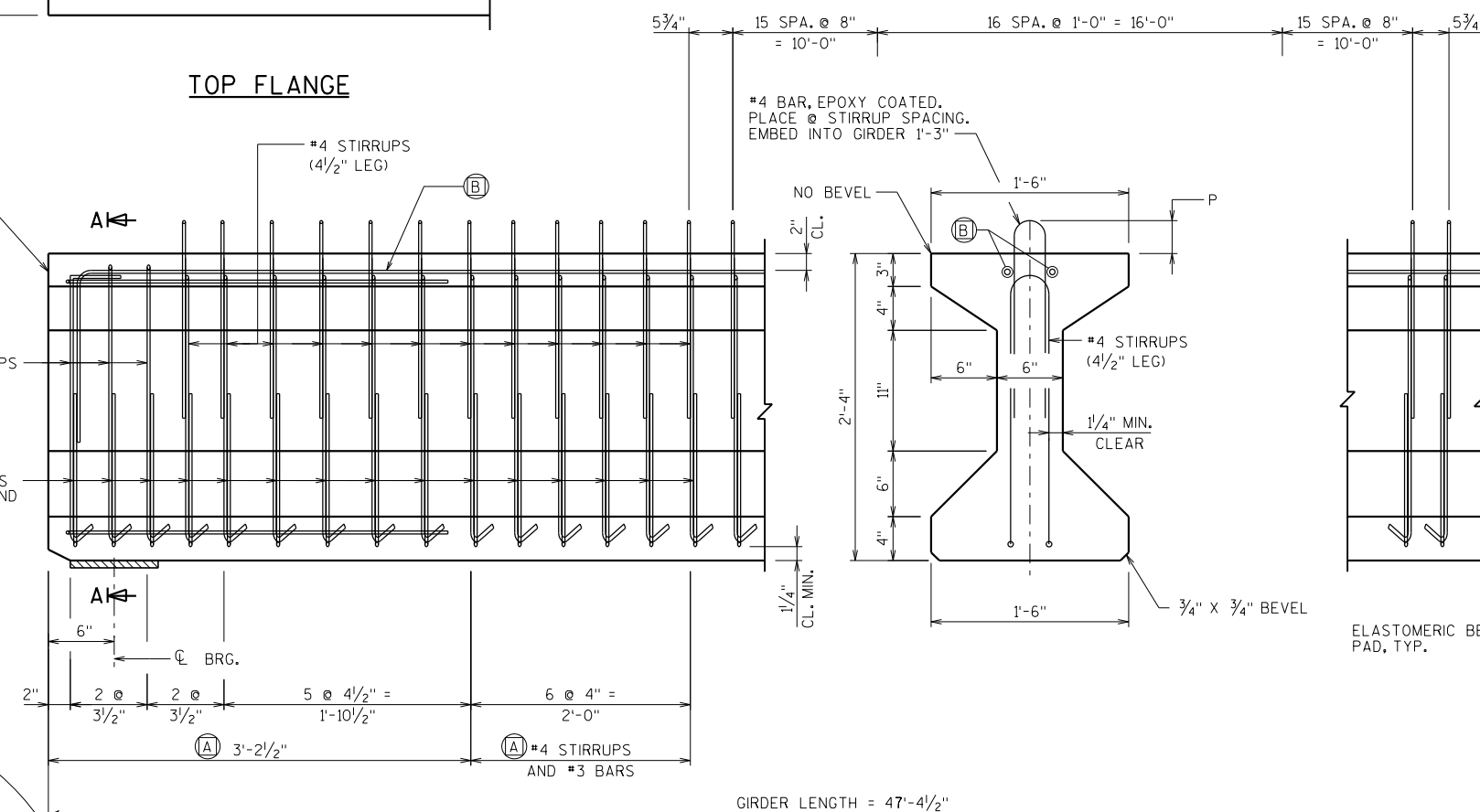
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

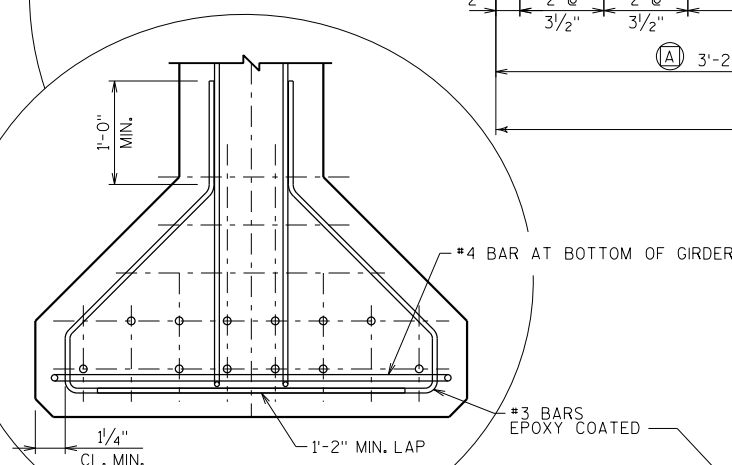
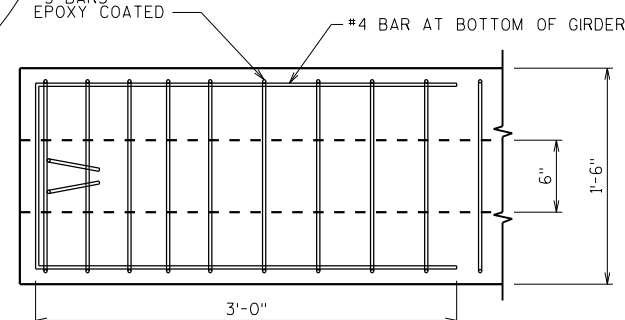
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.5" ϕ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

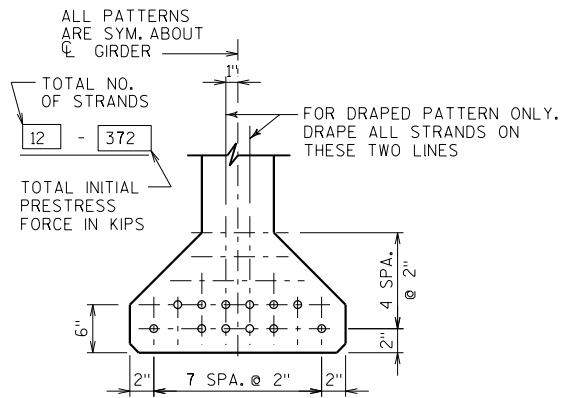
FOR DIAPHRAGM INSERT & CONNECTION DETAILS, SEE SHEET 15.

**TOP FLANGE****SECTION A-A****SIDE VIEW & TYP. SECTION IN SPAN**

- (A) DETAIL TYP. AT EACH END
- (B) 2-#4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

**BOTTOM FLANGE**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
28" PRESTRESSED GIRDER		SHEET 12 OF 20	



STRAND PATTERN

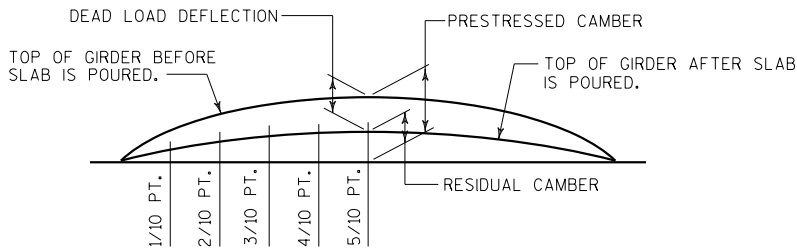
ALL GIRDERS
0.5" DIA. STRANDS

SPAN	GIRDER NUMBERS	PRESTRESS CAMBER* (IN.)	DEAD LOAD DEFLECTION (IN.)	RESIDUAL CAMBER (IN.)
1-2	GIRDER 1	7⁄8	1⁄2	3⁄8
1-2	GIRDER 2	7⁄8	1⁄2	3⁄8
1-2	GIRDER 3	7⁄8	1⁄2	3⁄8
1-2	GIRDER 4	7⁄8	1⁄2	3⁄8

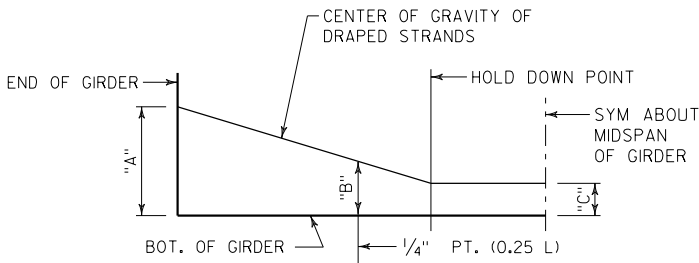
*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

THESE VALUES ARE NOT TO BE USED IN DETERMINING HAUNCH HEIGHT 'T'. USE ACTUAL GIRDER SHOTS.

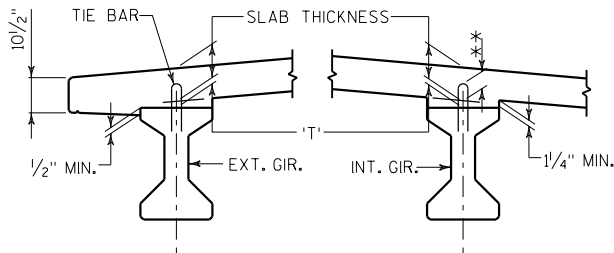
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE



SLAB HAUNCH DETAIL

IF 1⁄4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1⁄2" OR,
** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

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

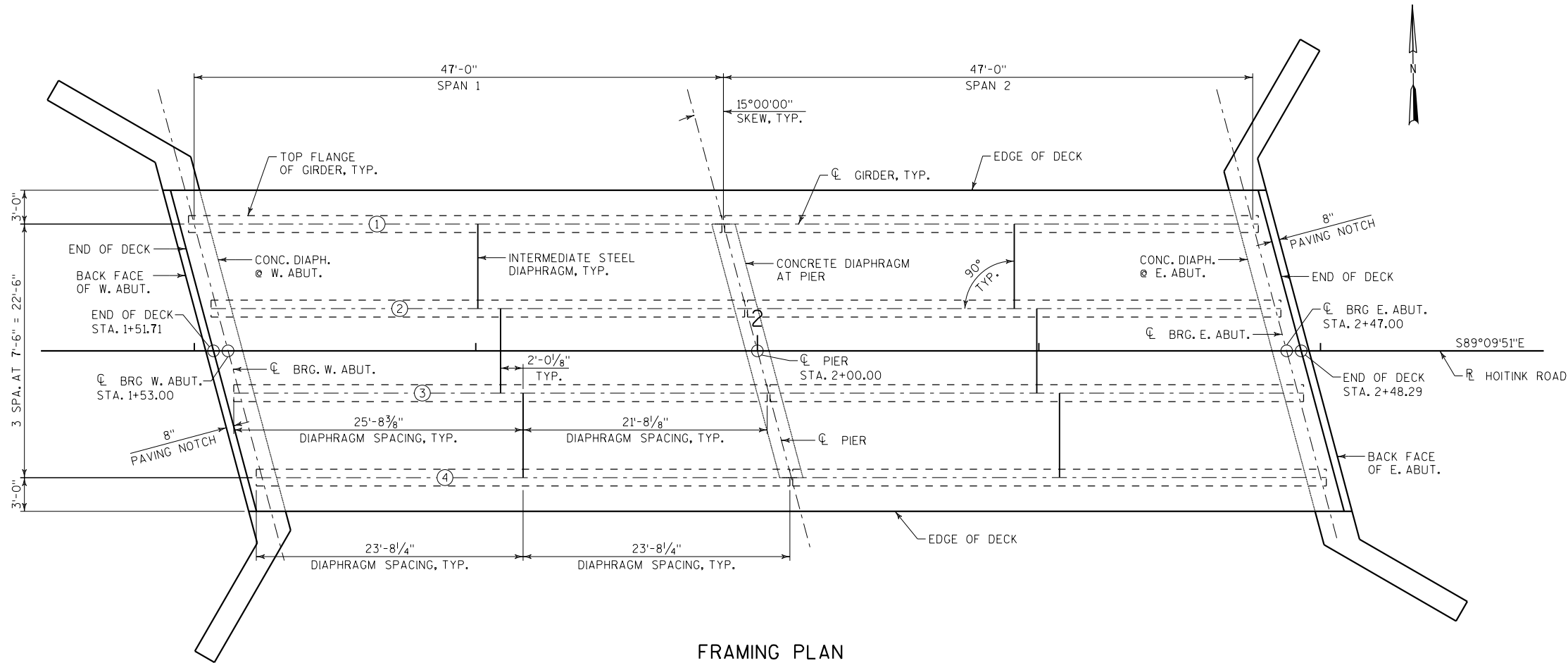
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 1⁄4" WAS USED IN QUANTITY "CONCRETE MASONRY BRIDGES"

GIRDER DATA																							
SPAN	GIRDER NUMBERS	LOCATION	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN					
				1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✕	(IN.)			
																				"A"	"B" MIN.	"B" MAX.	"C"
1-2	GIRDER 1	EXTERIOR	47'-4 1/2"	1/8	1/4	3/8	1/2	1/2	1/2	3/8	1/4	1/8	8000	7.0	7.0	7.0	0.5	12	6800	25	8.5	11.5	3
1-2	GIRDER 2	INTERIOR	47'-4 1/2"	1/8	1/4	3/8	3/8	1/2	3/8	3/8	1/4	1/8	8000	7.0	7.0	7.0	0.5	12	6800	25	8.5	11.5	3
1-2	GIRDER 3	INTERIOR	47'-4 1/2"	1/8	1/4	3/8	3/8	1/2	3/8	3/8	1/4	1/8	8000	7.0	7.0	7.0	0.5	12	6800	25	8.5	11.5	3
1-2	GIRDER 4	EXTERIOR	47'-4 1/2"	1/8	1/4	3/8	1/2	1/2	1/2	3/8	1/4	1/8	8000	7.0	7.0	7.0	0.5	12	6800	25	8.5	11.5	3

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
		DRAWN BY	AJA
		PLANS CK'D.	MHZ
28" PRESTRESSED GIRDER DETAILS		SHEET 13 OF 20	



FRAMING PLAN
(RAILING NOT SHOWN FOR CLARITY)

TOP OF DECK ELEVATIONS

LOCATION	W. ABUT. BRG.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL PIER	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	E. ABUT. BRG.
N. EDGE OF DECK	738.85	738.87	738.89	738.91	738.92	738.94	738.95	738.95	738.96	738.97	738.97	738.97	738.97	738.96	738.96	738.95	738.94	738.93	738.92	738.91	738.89
CL GIRDER 1	738.92	738.94	738.96	738.97	738.99	739.00	739.01	739.02	739.02	739.03	739.03	739.03	739.03	739.02	739.02	739.01	739.00	738.99	738.98	738.96	738.95
CL GIRDER 2	739.08	739.10	739.11	739.13	739.14	739.15	739.16	739.17	739.17	739.18	739.18	739.18	739.18	739.17	739.17	739.16	739.15	739.14	739.12	739.11	739.09
CROWN/PGL HOITINK RD	739.16	739.17	739.19	739.21	739.22	739.23	739.24	739.24	739.25	739.25	739.25	739.25	739.25	739.25	739.24	739.23	739.22	739.21	739.19	739.18	739.16
CL GIRDER 3	739.09	739.10	739.12	739.13	739.15	739.16	739.16	739.17	739.18	739.18	739.18	739.18	739.17	739.17	739.16	739.15	739.14	739.13	739.11	739.10	739.08
CL GIRDER 4	738.94	738.96	738.98	738.99	739.00	739.01	739.02	739.02	739.03	739.03	739.03	739.03	739.02	739.02	739.01	739.00	738.99	738.97	738.96	738.94	738.92
S. EDGE OF DECK	738.89	738.90	738.92	738.93	738.94	738.95	738.96	738.97	738.97	738.97	738.97	738.97	738.97	738.96	738.96	738.95	738.94	738.93	738.91	738.90	738.88

NOTES

- FOR INTERMEDIATE STEEL DIAPHRAGMS, SEE SHEET 15.
- FOR SECTION THRU DECK & CONCRETE DIAPHRAGM PARTIAL PLANS, SEE SHEET 17.
- FOR CONCRETE DIAPHRAGM SECTIONS AT ABUTMENTS & PIERS, SEE SHEET 18.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
SUPERSTRUCTURE FRAMING PLAN			SHEET 14 OF 20

NOTES

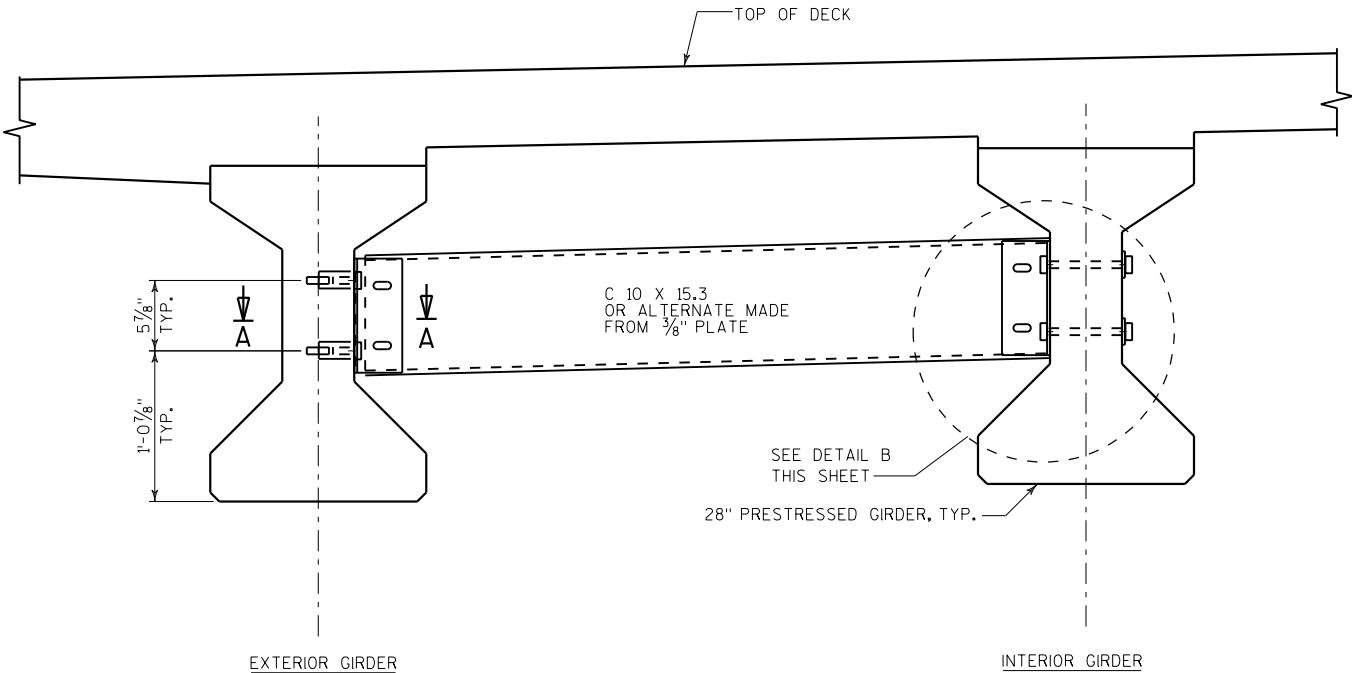
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-59-196", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

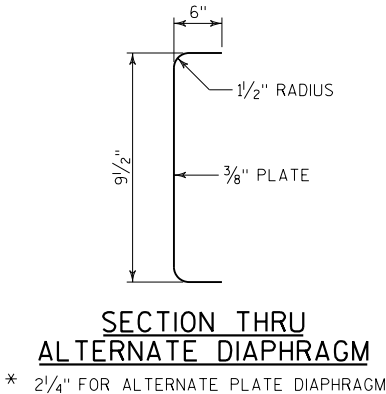
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

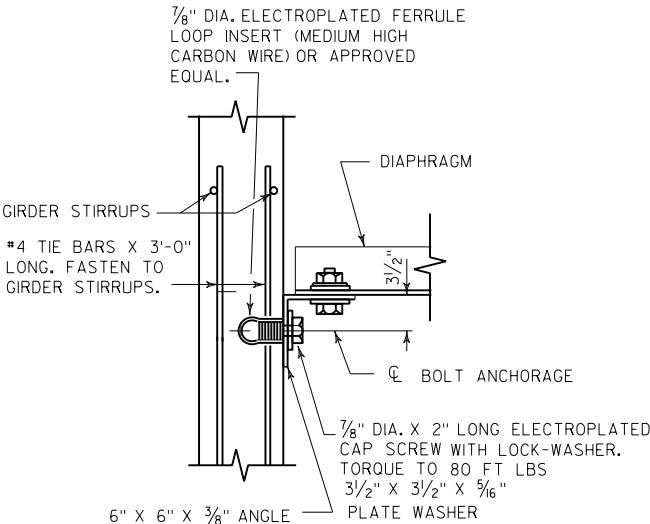
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



PART TRANSVERSE SECTION AT DIAPHRAGM

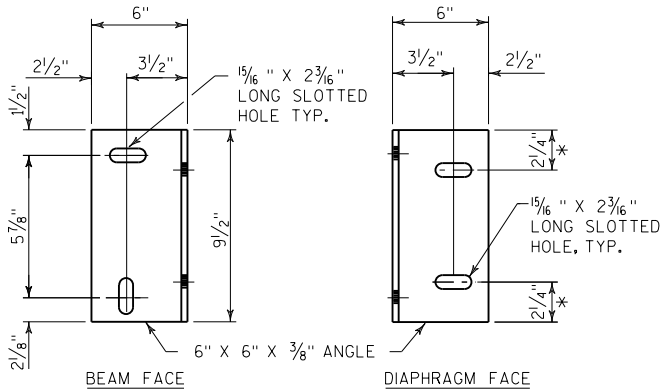


SECTION THRU ALTERNATE DIAPHRAGM

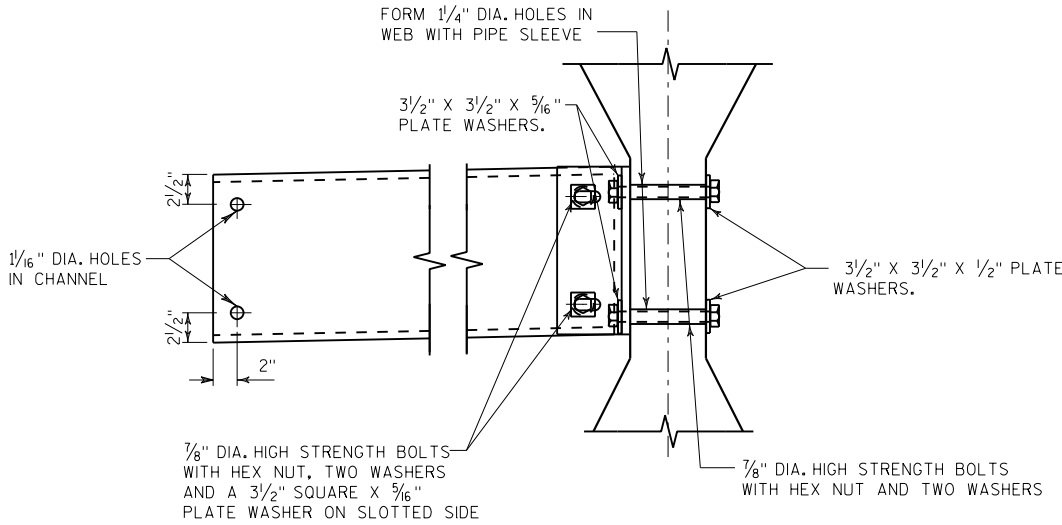


SECTION A-A

(FOR EXTERIOR ATTACHMENT)

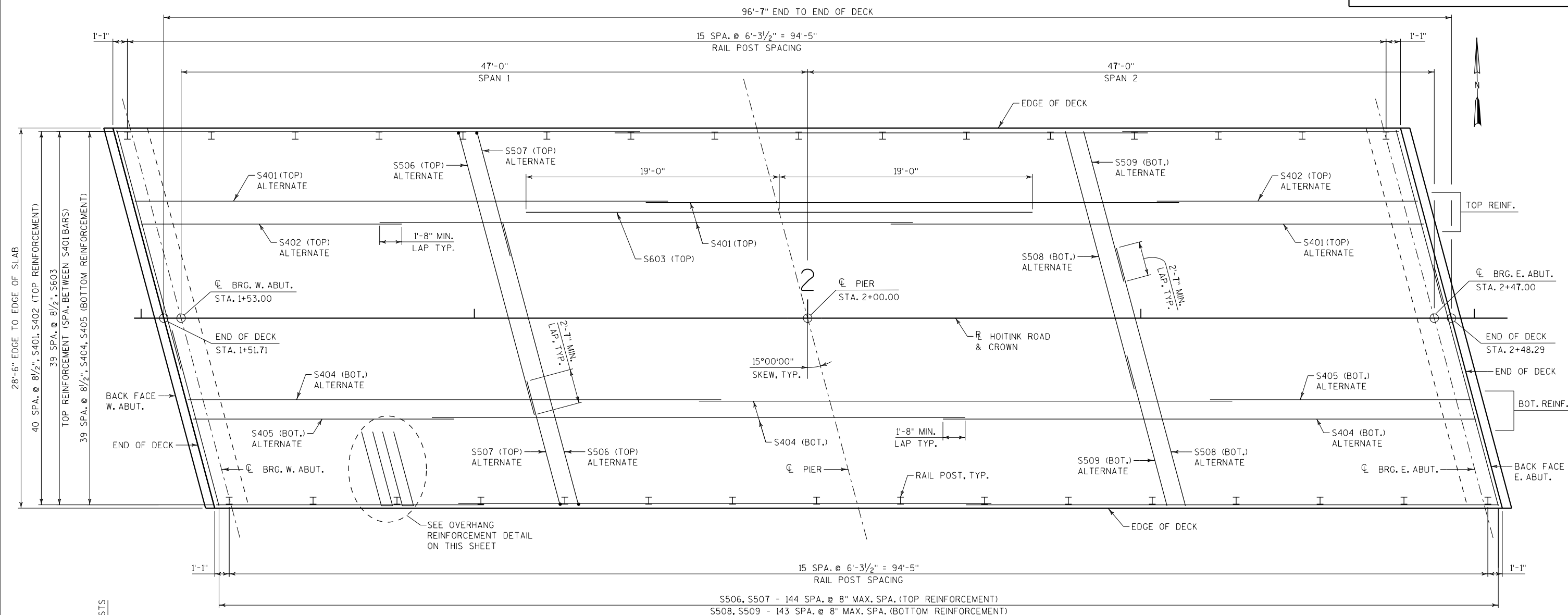


DIAPHRAGM SUPPORT

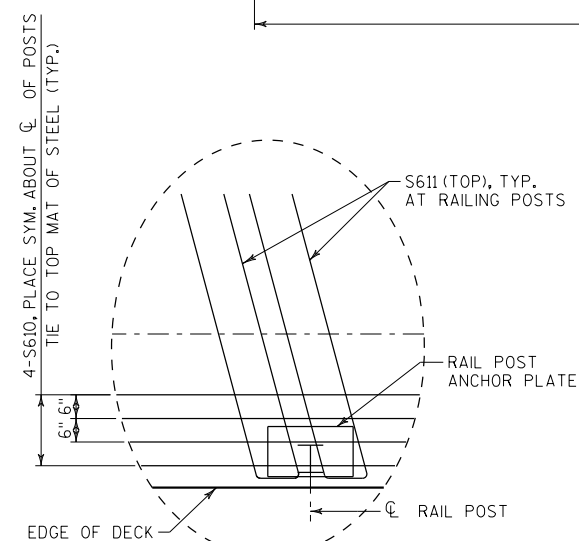


DETAIL B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
STEEL DIAPHRAGM			SHEET 15 OF 20

**DECK REINFORCEMENT PLAN**

(RAILING NOT SHOWN FOR CLARITY)

**OVERHANG REINFORCEMENT DETAIL****NOTES**

FOR CROSS SECTION THRU DECK AND CONCRETE DIAPHRAGM PARTIAL PLANS, SEE SHEET 17.

FOR SUPERSTRUCTURE BILL OF BARS & CONCRETE DIAPHRAGM SECTIONS, SEE SHEET 18.

FOR RAILING DETAILS & REINFORCEMENT, SEE SHEET 19.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
SUPERSTRUCTURE REINFORCEMENT		SHEET 16 OF 20	



3'-0" PIER

2'-0" PIER DIAPHRAGM

7-S542
EQ. SPA., TYP.

END OF GIRDERS, TYP.

TOP & BOTTOM FLANGE OF GIRDER, TYP.

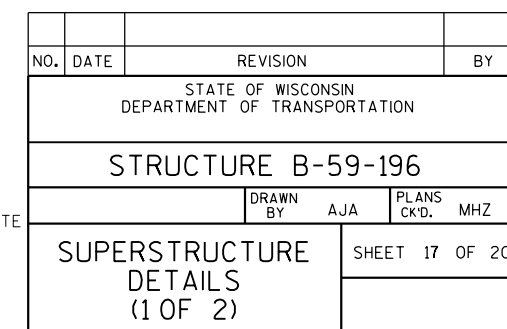
CL PIER

GIRDER WEB, TYP.

CL GIRDER, TYP.

PIER CONCRETE DIAPHRAGM PART PLAN

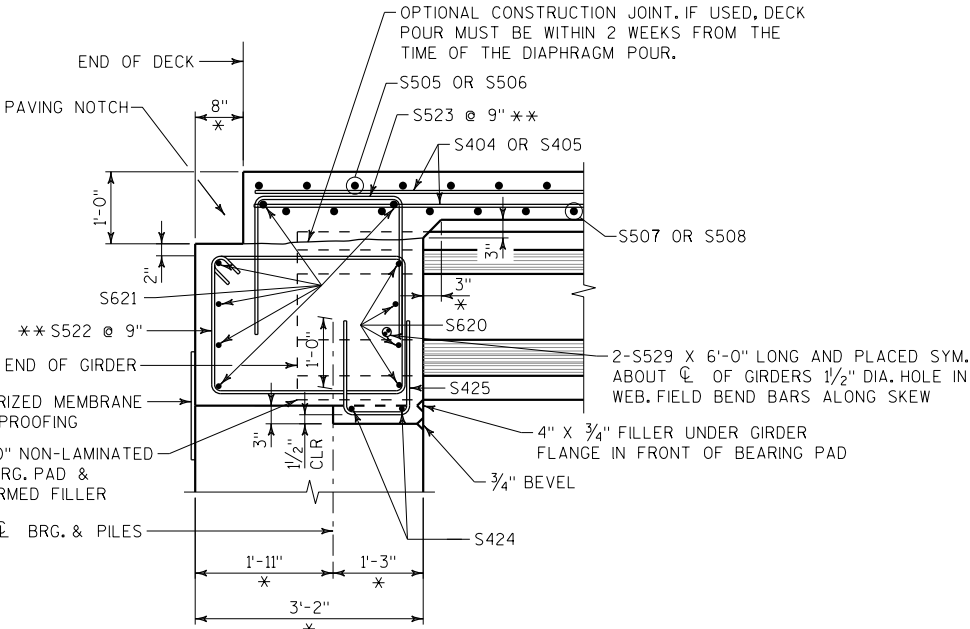
(LONGITUDINAL BARS NOT SHOWN FOR CLARITY)



BILL OF BARS

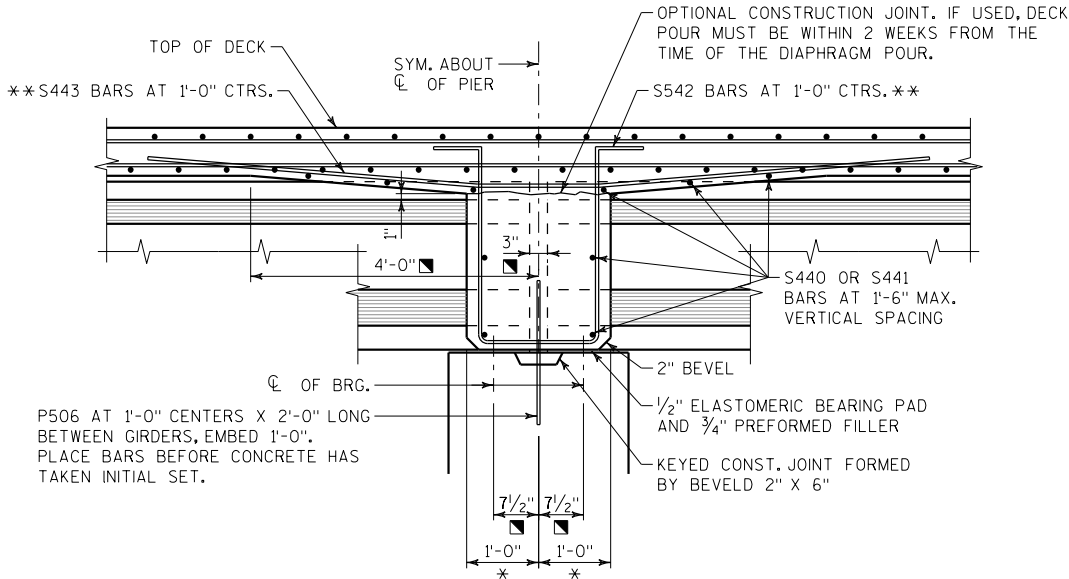
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S401	X	82	40'-0"	-	DECK TOP - LONG.
S402	X	41	19'-7"	-	DECK TOP - LONG.
S603	X	40	38'-0"	-	DECK TOP OVER PIER - LONG.
S404	X	80	40'-0"	-	DECK BOTTOM - LONG.
S405	X	40	19'-7"	-	DECK BOTTOM - LONG.
S506	X	145	22'-7"	X	DECK TOP - TRANS.
S507	X	145	10'-4"	X	DECK TOP - TRANS.
S508	X	144	20'-0"	-	DECK BOTTOM - TRANS.
S509	X	144	11'-9"	-	DECK BOTTOM - TRANS.
S610	X	128	6'-0"	-	DECK TOP OVERHANG - LONG.
S611	X	64	12'-7"	X	DECK TOP OVERHANG - TRANS.
S620	X	48	5'-0"	-	ABUTMENT DIAPHRAGM F.F. - TRANS.
S621	X	12	29'-2"	-	ABUTMENT DIAPHRAGM B.F. - TRANS.
S522	X	70	10'-3"	X	ABUTMENT DIAPHRAGM - VERT.
S523	X	70	6'-0"	X	ABUTMENT DIAPHRAGM - VERT.
S424	X	12	4'-8"	-	ABUTMENT DIAPHRAGM BEAM SEAT - TRANS.
S425	X	36	3'-9"	X	ABUTMENT DIAPHRAGM BEAM SEAT - VERT.
S626	X	8	7'-7"	X	ABUTMENT DIAPHRAGM CORNERS - TRANS. (SW & NE CORNERS)
S627	X	8	7'-7"	X	ABUTMENT DIAPHRAGM CORNERS - TRANS. (SE & NW CORNERS)
S428	X	8	2'-0"	-	ABUTMENT DIAPHRAGM CORNERS - VERT.
S529	X	16	6'-0"	-	ABUTMENT DIAPHRAGM THRU GIRDERS
S440	X	18	5'-11"	-	PIER DIAPHRAGM - TRANS.
S441	X	24	4'-5"	-	PIER DIAPHRAGM - TRANS.
S542	X	21	8'-3"	X	PIER DIAPHRAGM - VERT.
S443	X	21	9'-11"	X	PIER DIAPHRAGM - LONG.

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



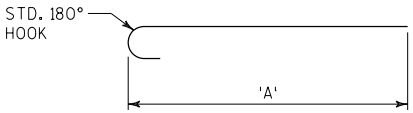
PART LONGITUDINAL SECTION AT ABUTMENT

CONC. DIAPH. TO EXTEND OUT TO OUT OF BRIDGE DECK
(SEE SHEETS 5, 6, 7, 8, 9 & 10 FOR ABUTMENT BEAM SEAT DETAILS)

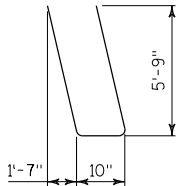


PART LONGITUDINAL SECTION AT PIER

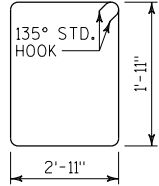
CONC. DIAPH. TO EXTEND BETWEEN OUTSIDE FACES OF EXTERIOR GIRDERS
(SEE SHEET 11 FOR PIER BEAM SEAT DETAILS)



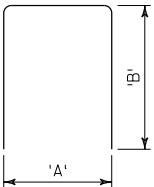
BAR MARK	DIM. 'A'
S506	22'-0"
S507	9'-6"



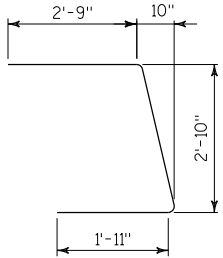
S611



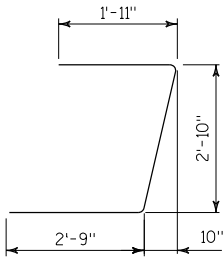
S522



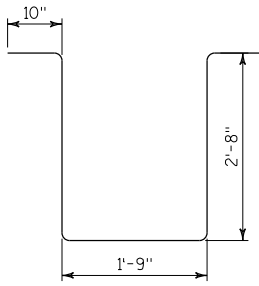
BAR MARK	DIM. 'A'	DIM. 'B'
S523	2'-3"	2'-0"
S425	11"	1'-6"



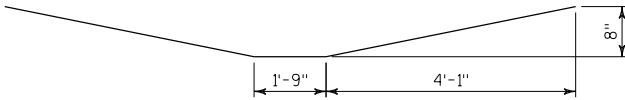
S626



S627



S542



S443

BENDING DIAGRAMS

NOTES

FOR SUPERSTRUCTURE REINFORCEMENT PLAN, SEE SHEET 16.

FOR CROSS SECTION THRU DECK & CONCRETE DIAPHRAGM PARTIAL PLANS, SEE SHEET 17.

FOR RAILING DETAILS & REINFORCEMENT, SEE SHEET 19.

LEGEND

■ DIMENSION IS TAKEN PARALLEL TO ϕ GIRDER.

* DIMENSION IS TAKEN NORMAL TO ϕ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ϕ GIRDERS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY		AJA	PLANS CK'D. MHZ
SUPERSTRUCTURE DETAILS (2 OF 2)		SHEET 18 OF 20	



1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-59-196 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 $\frac{1}{8}$ 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 SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



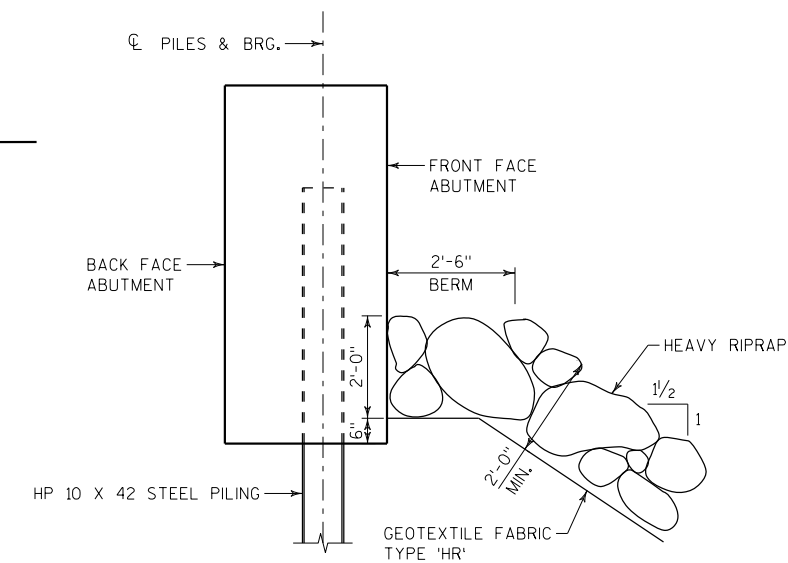
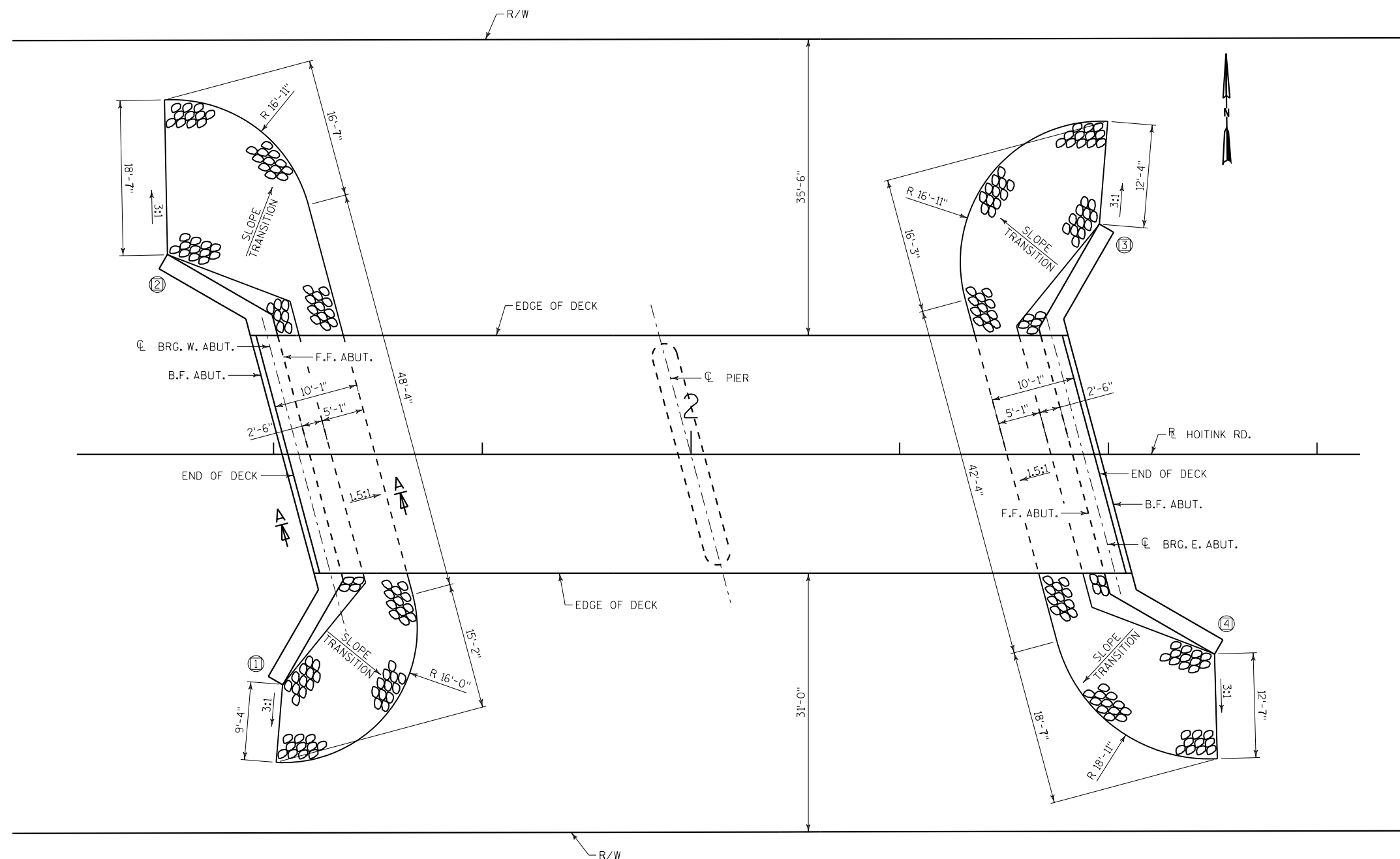
POST SHIM

DETAIL

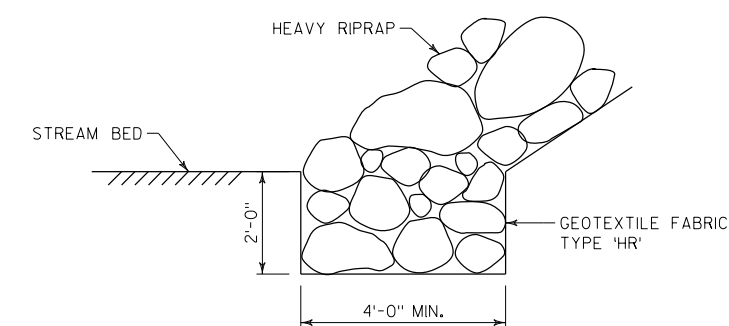


TYPICAL RAIL TO POST CONNECTIONS

- (1) W6 x 25 WITH $\frac{1}{8}$ " x $\frac{1}{2}$ " 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 $\frac{1}{4}$ " x $11\frac{3}{4}$ " x 1'-8" WITH $1\frac{5}{16}$ " x $1\frac{5}{8}$ " SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO.1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- (3) ASTM A449 - $\frac{1}{8}$ " 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. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE $10\frac{3}{4}$ " LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- (4) $\frac{5}{8}$ " x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH $1\frac{3}{16}$ " DIA. HOLES FOR ANCHOR BOLTS NO. 3
- (5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO.1 WITH NO. 6.
- (5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO.1 WITH NO. 6.
- (6) $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{16}$ " x $1\frac{5}{8}$ " x $1\frac{5}{8}$ " WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)



SECTION A-A



TOE DETAIL

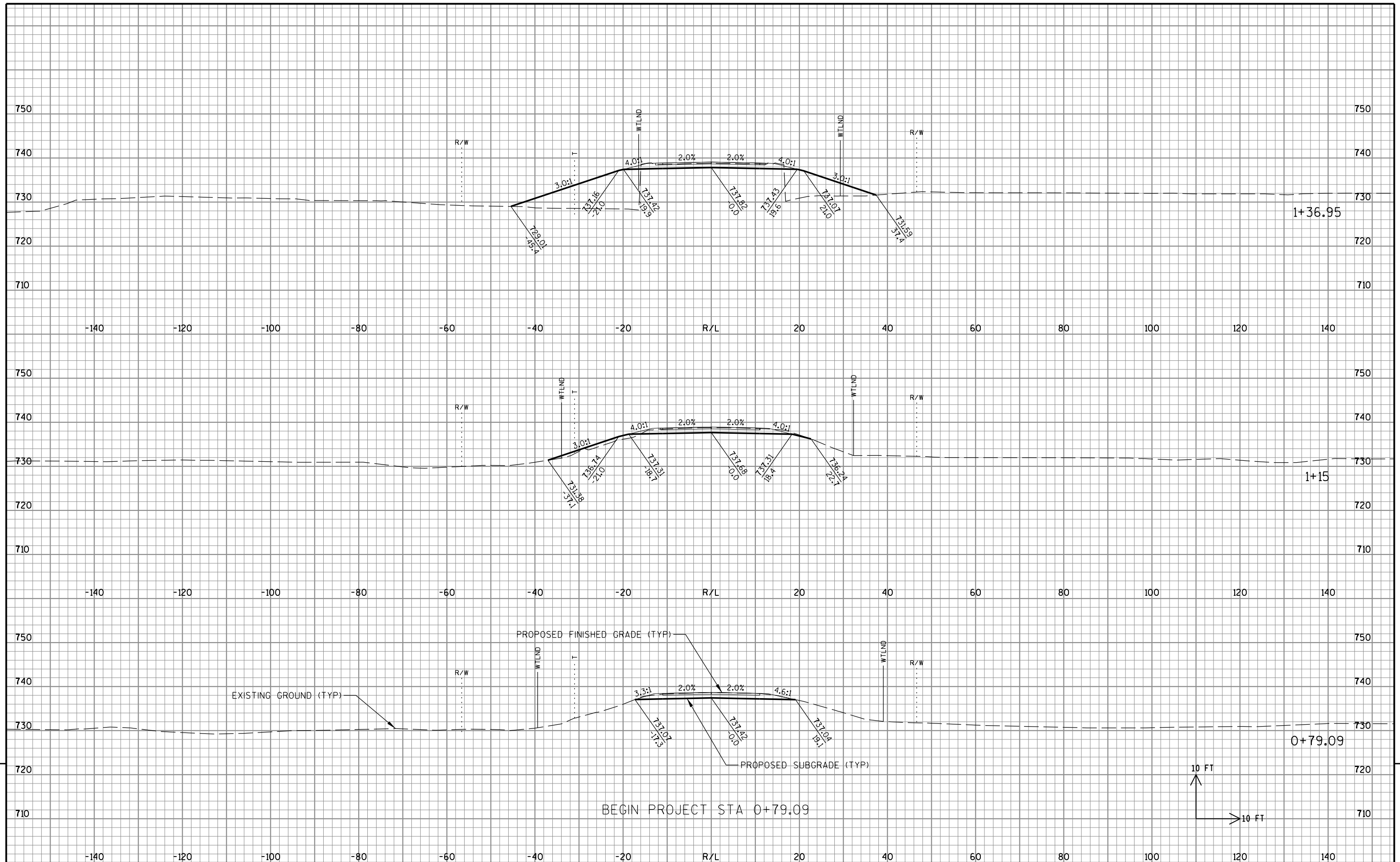
LEGEND

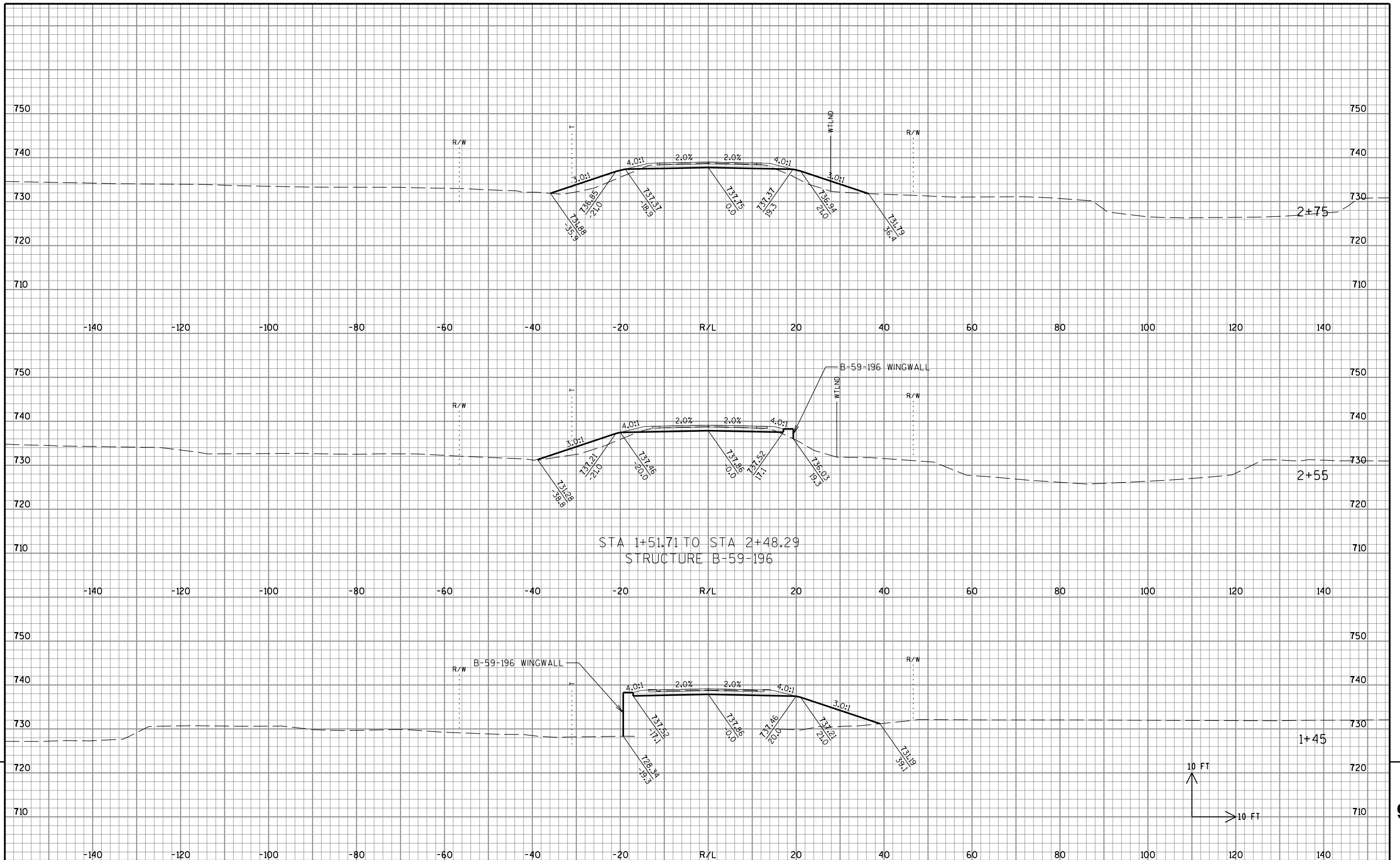
(X) WINGWALL NUMBER

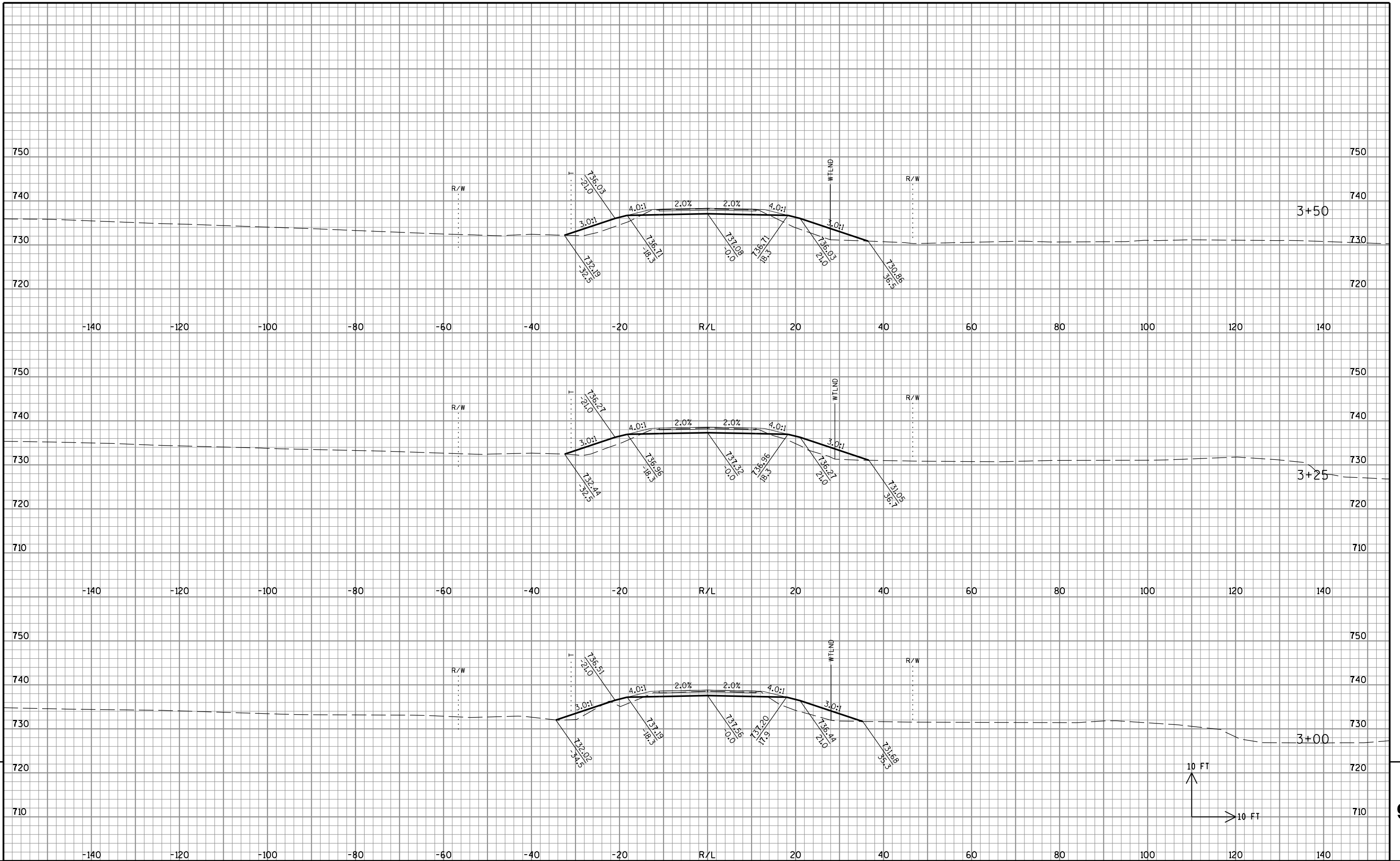
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-196			
DRAWN BY AJA		PLANS CK'D. MHZ	
HEAVY RIPRAP DETAILS			SHEET 20 OF 20

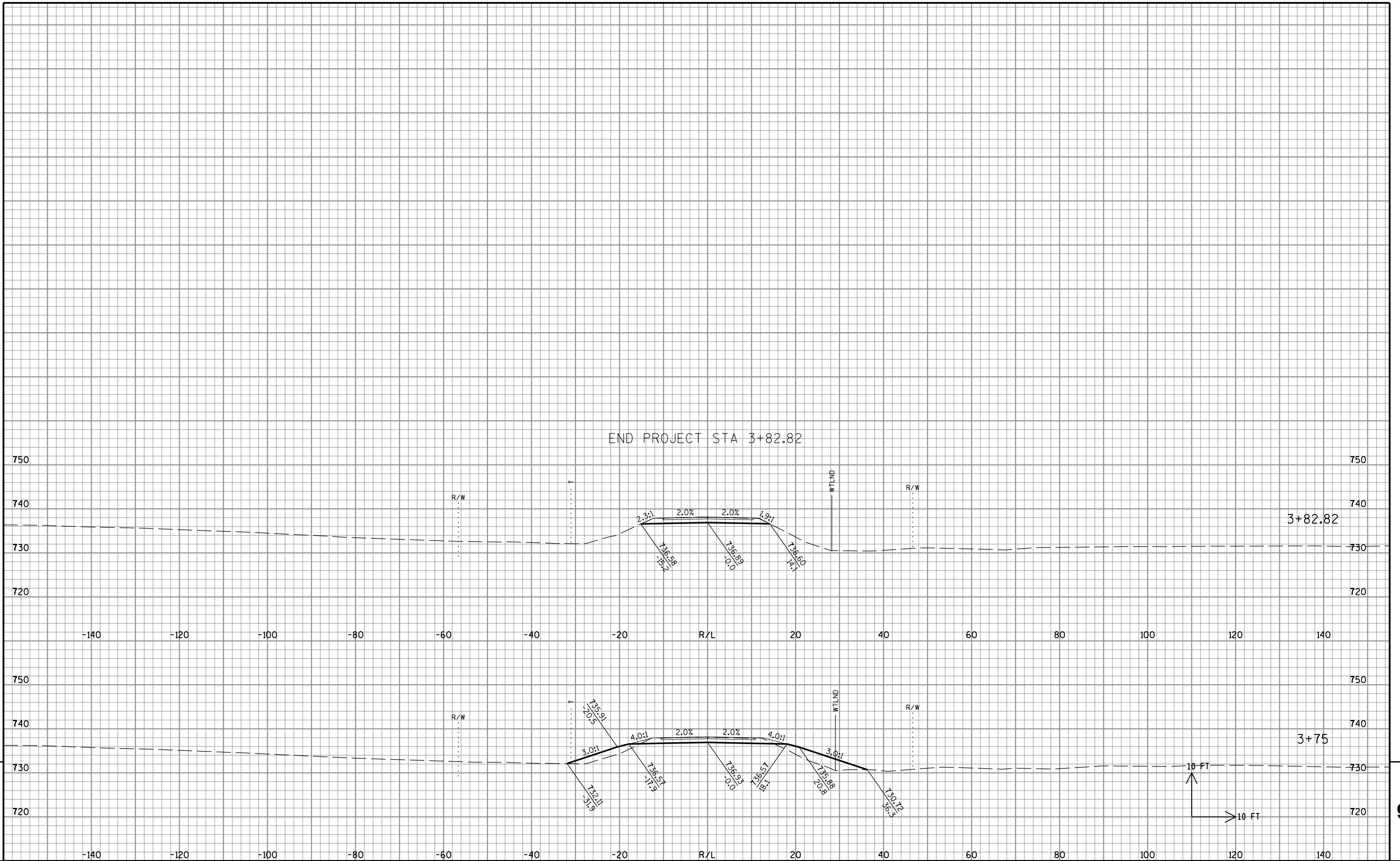
HOITINK ROAD

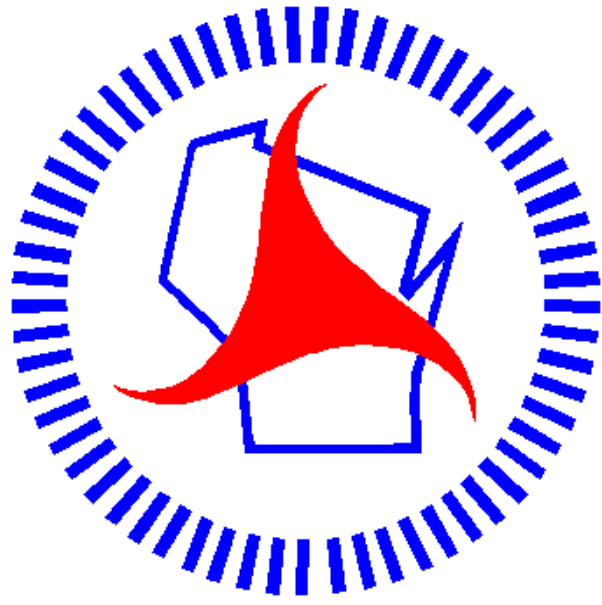
STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY)		Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
+79 AH	79.09	0.00	37	0	0	0	0	0	0
1+15	115.00	35.91	36	12	48	8	48	10	38
1+37	136.95	21.95	33	230	28	98	76	133	-57
1+45 BK	145.00	8.05	30	149	9	56	86	204	-118
2+55 AH	255.00	110.00	25	34	0	0	86	204	-118
2+75	275.00	20.00	26	61	19	35	105	248	-143
3+00	300.00	25.00	25	53	24	53	129	314	-185
3+25	325.00	25.00	27	58	24	51	153	378	-225
3+50	350.00	25.00	30	63	26	56	179	447	-269
3+75	375.00	25.00	33	55	29	55	208	516	-308
3+83 BK	382.82	7.82	32	0	9	8	217	526	-308
					217	421			











Wisconsin Department of Transportation

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ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections, Details, and Erosion Control
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 = 52



DESIGN DESIGNATION

A.A.D.T. (2018)	= 90
A.A.D.T. (2038)	= 110
D.H.V. (2038)	= 6.2%
D.D. (2038)	= 60/40
T.	= 7.4%
DESIGN SPEED	= 45 MPH
ESALS	= 14,600

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
MARSH AREA	----
WOODED OR SHRUB AREA	----

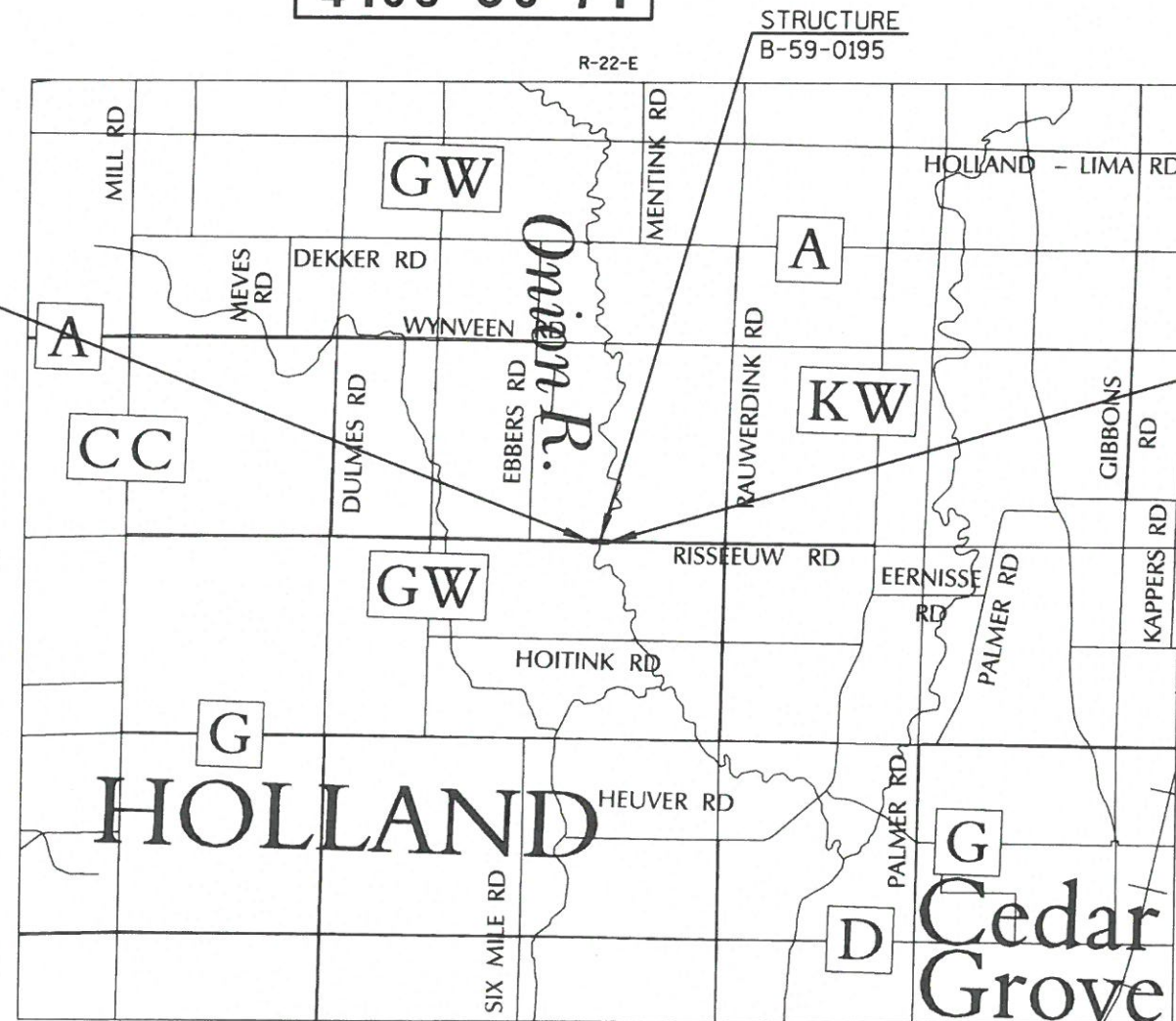
PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
T. HOLLAND, RISSEEUW ROAD
ONION RIVER BRIDGE & APPROACHES
LOCAL STREET
SHEBOYGAN COUNTY

STATE PROJECT NUMBER
4198-06-71

BEGIN PROJECT
STA. 8+75.00
X=176,286.80
Y=122,198.13

END PROJECT
STA. 11+75.00
X=176,586.78
Y=122,194.41



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI.

Coordinates on this plan are referenced to the Wisconsin County
Coordinate System (WCCS), Sheboygan, NAD 1983 (2011)

Elevations shown on this plan are referenced to the North
American Vertical Datum of 1988 NAVD 88 (2011).

STATE PROJECT

4198-06-71

FEDERAL PROJECT

PROJECT

WISC 2018089

CONTRACT

1

ACCEPTED FOR
SHEBOYGAN COUNTY

Date: 7/6/2017

SIGNATURE AND TITLE OF PROJECT
[Signature]

ORIGINAL PLANS PREPARED BY:

SA
STRAND
ASSOCIATES
910 WEST WINDRA DRIVE
MADISON, WISCONSIN 53715
(608) 251-4843

WISCONSIN
★
KEITH R. BEHREND
E-42073
MADISON
WI
★
PROFESSIONAL ENGINEER
Keith R. Behrend
7/6/2017

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor STRAND ASSOCIATES, INC.

Designer STRAND ASSOCIATES, INC.

Management Consultant JT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT

DATE: 7/6/17 [Signature]
(Management Consultant Signature)

GENERAL NOTES

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

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

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

THE LOCATION OF PROPOSED SIGNS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE EXACT NUMBER OF SIGNS AND SIGN LOCATIONS ARE TO BE APPROVED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OPERATIONS IN THE AREA.

WETLANDS EXIST IN THE PROJECT AREA. DO NOT DISTURB AREAS OUTSIDE OF THE SLOPE INTERCEPTS.

ASPHALT BID/MIX SPECIFICATIONS

	THICKNESS	GRADATION NOMINAL SIZE	BID/MIX SPECIFICATION
UPPER LAYER	1.75-INCHES	12.5 MM	ASPHALTIC SURFACE
LOWER LAYER	2.25-INCHES	19.0 MM	ASPHALTIC SURFACE

ABBREVIATIONS

B.	BARN
B.P.	BREAK POINT
COR.	CORNER
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE
C.S.P.A.	CORRUGATED STEEL PIPE ARCH
D.H.V.	DESIGN HOURLY VOLUME
D.	LANE DISTRIBUTION
D _a	DEGREE OF CURVE
DIA.	DIAMETER
DIM.	DIMENSION
e.	EXTERNAL DISTANCE
E.	EAST
EL. OR ELEV.	ELEVATION
E.S.A.L.	EQUIVALENT SINGLE AXLE LOAD
E.O.P.	EDGE OF PAVEMENT
EXIST.	EXISTING
G.	GARAGE
H.	HOUSE
H.P.	HIGH POINT
H.E.S.	HIGH EARLY STRENGTH
I.P.	IRON PIN
L.	LENGTH (OF CURVE)
L.H.F.	LEFT HAND FORWARD
L.C.	LONG CHORD
L.P.	LOW POINT
LT.	LEFT
MAX.	MAXIMUM
M.D.	MEDIAN DRAIN
MIN.	MINIMUM
NOR.	NORMAL
N.	NORTH
PGL	PROFILE GRADE LINE
P.L.E.	PERMANENT LIMITED EASEMENT
P.L.	PROPERTY LINE
R.C.A.P.	REINFORCED CONCRETE ARCH PIPE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
R.H.F.	RIGHT HAND FORWARD
RD.	ROAD
RT.	RIGHT
R/W	RIGHT-OF-WAY
S.	SHED
SHR.	SHRINKAGE
S.E.	SUPERELEVATION
S.P.B.G.	STEEL PLATE BEAM GUARD
SL. ST.	SLOPED STEEL
TEL.	TELEPHONE
T.L.E.	TEMPORARY LIMITED EASEMENT
TN.	TOWN
T.O.C.	TOP OF CURB
TRANS.	TRANSITION
T.	PERCENT OF TRUCKS
W.	WEST
VOL.	VOLUME
V.	DESIGN SPEED

UTILITIES

** WE ENERGIES ELECTRIC

SEND ALL CORRESPONDENCE TO:
LATROY BRUMFIELD
333 W EVERETT ST - A299
MILWAUKEE, WI 53203
PH: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
AL SCHMITT
245 SAND DR
WEST BEND, WI 53095
PH: (262) 338-7662
alan.schmitt@we-energies.com

** FRONTIER

RYAN OSNESS
118 DIVISION STREET
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**DENOTES DIGGERS HOTLINE MEMBER

OTHER CONTACTS

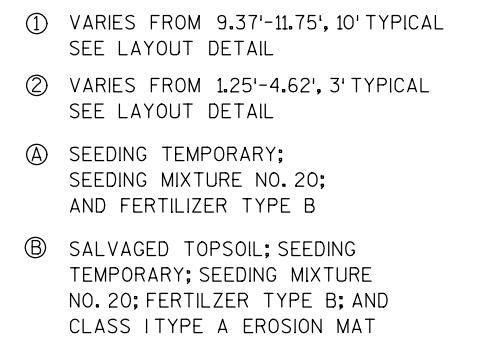
WISDNR

JAY SCHIEFELBEIN
DNR NORTHEAST REGION
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
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Jeremiah.schiefelbein@wisconsin.gov



Dial 811 or (800)242-8511

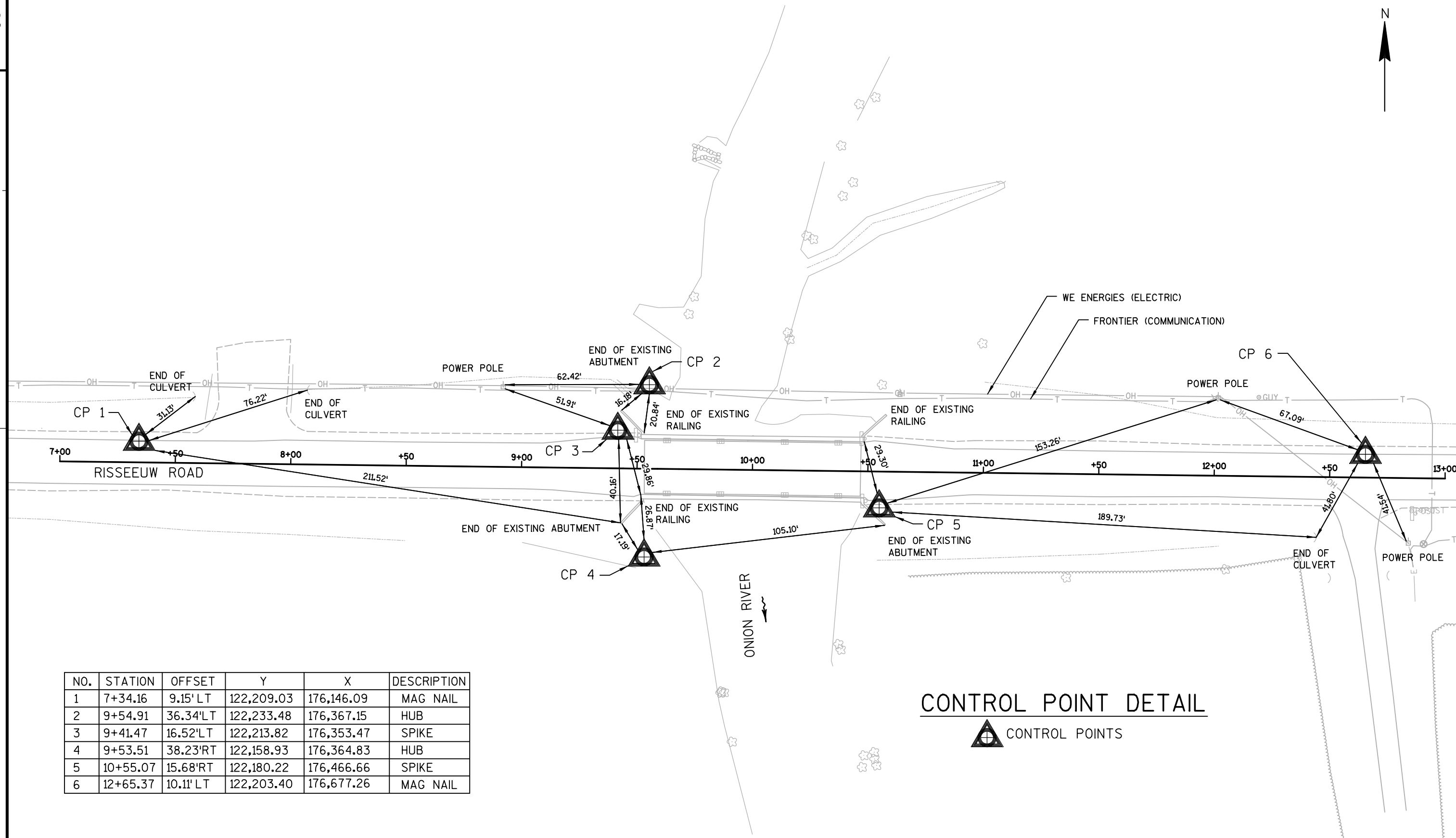
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RUNOFF COEFFICIENT TABLE

	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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT						.70 - .95						
CONCRETE						.80 - .95						
BRICK						.70 - .80						
DRIVES, WALKS						.75 - .85						
ROOFS						.75 - .95						
GRAVEL ROADS, SHOULDERS						.40 - .60						

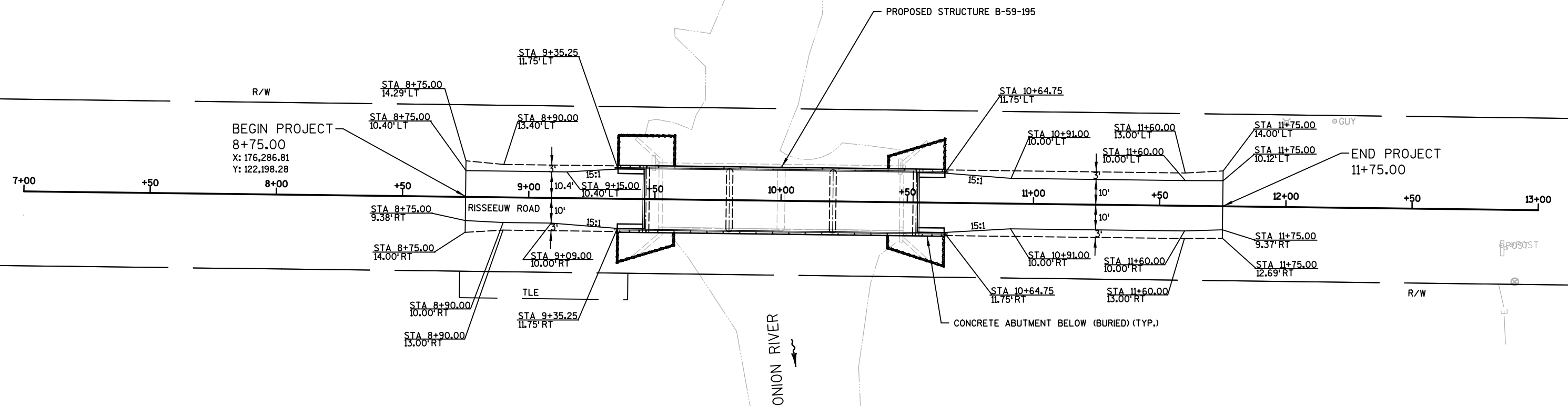
TOTAL PROJECT AREA = 0.29 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.09 ACRES

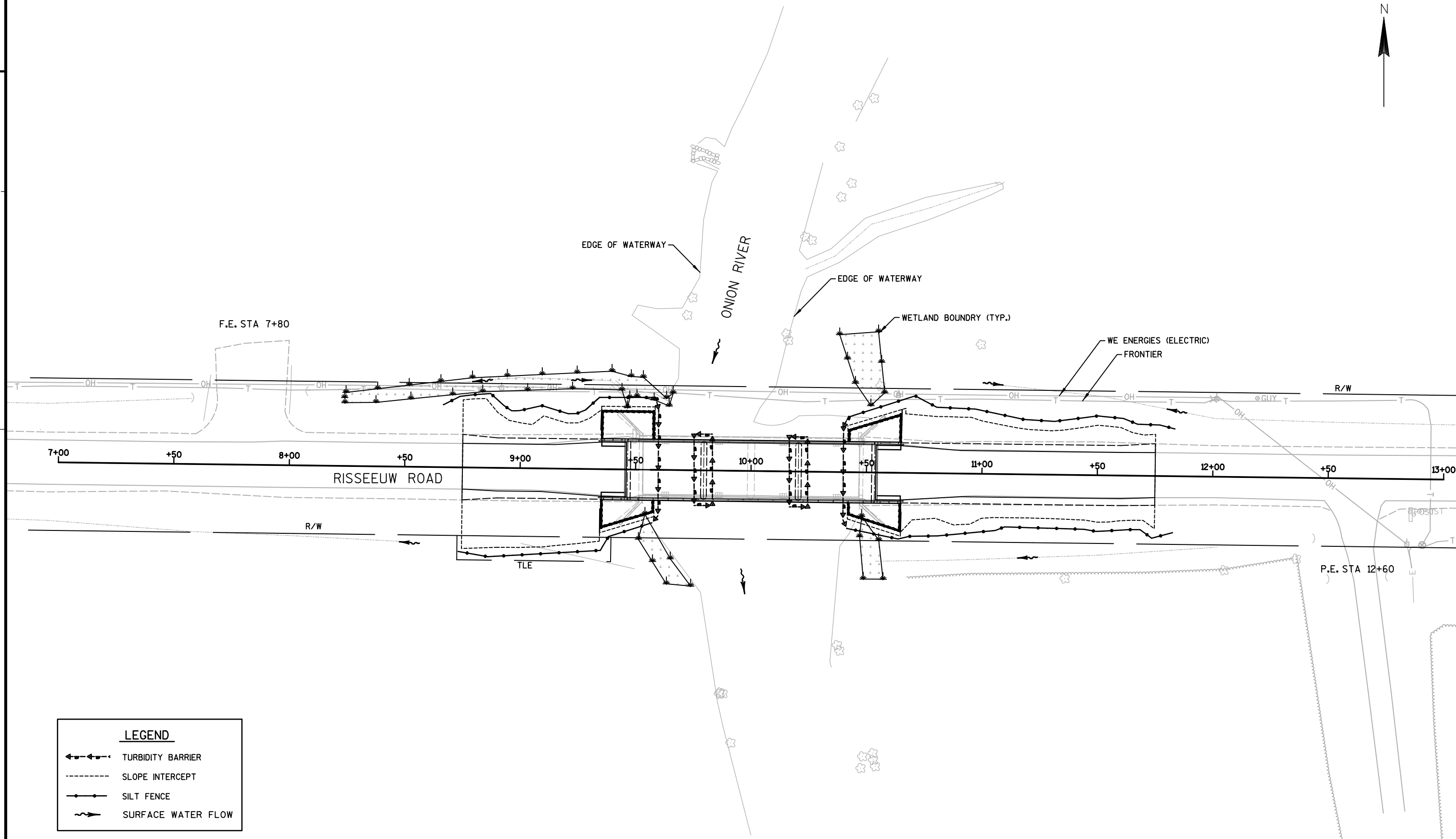


NO.	STATION	OFFSET	Y	X	DESCRIPTION
1	7+34.16	9.15' LT	122,209.03	176,146.09	MAG NAIL
2	9+54.91	36.34' LT	122,233.48	176,367.15	HUB
3	9+41.47	16.52' LT	122,213.82	176,353.47	SPIKE
4	9+53.51	38.23' RT	122,158.93	176,364.83	HUB
5	10+55.07	15.68' RT	122,180.22	176,466.66	SPIKE
6	12+65.37	10.11' LT	122,203.40	176,677.26	MAG NAIL

2

2 |





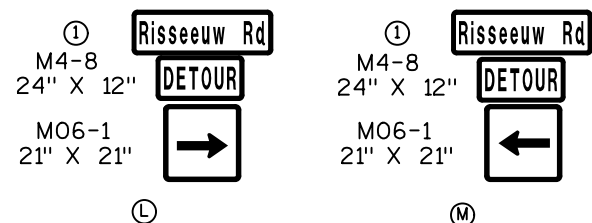
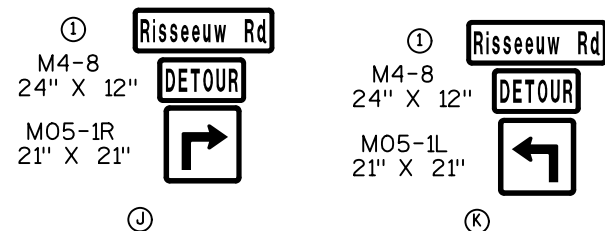
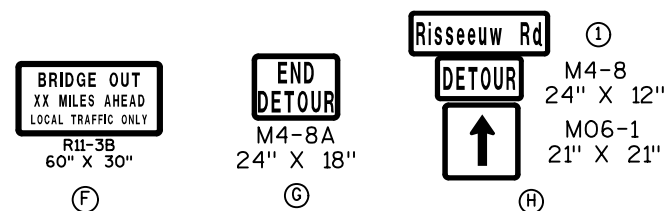
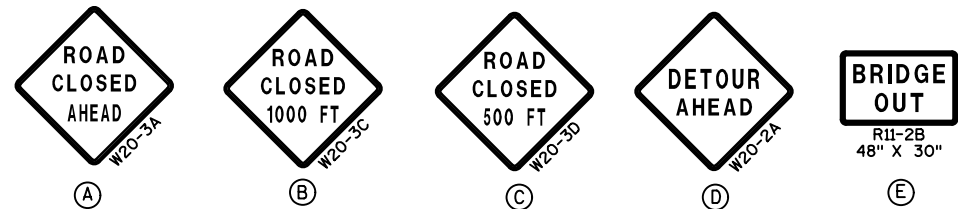
LEGEND

- TURBIDITY BARRIER
- SLOPE INTERCEPT
- SILT FENCE
- SURFACE WATER FLOW

TRAFFIC CONTROL SUMMARY (FOR INFORMATION ONLY)

CATEGORY	LOCATION	DESCRIPTION	SIGN CODE	SIZE INCH X INCH	EACH
0010	DETOUR	TRAFFIC CONTROL BARRICADES TYPE III	---	---	2
		DETOUR AHEAD	W20-2A	48X48	5
		END DETOUR	M4-8A	24X18	2
		BRIDGE OUT XX MILES AHEAD	R11-3B	60X30	2
		DETOUR	M4-8	24X12	21
		ARROW ADVANCE AHEAD/LT/RT	MO5-1	21X21	7
		ARROW AHEAD LT/RT TURN	MO6-1	21X12	14
		RISSEEUW ROAD	---	36X12	21
		SUBTOTAL SIGNS			72
ROAD CLOSURE		TRAFFIC CONTROL BARRICADES TYPE III	---	---	14
		TRAFFIC CONTROL WARNING LIGHTS TYPE A	---	---	24
		ROAD CLOSED AHEAD	W20-3A	48X48	2
		ROAD CLOSED 1000 FT	W20-3C	48X48	2
		ROAD CLOSED 500 FT	W20-3D	48X48	2
		BRIDGE OUT	R11-2B	48X30	6
		SUBTOTAL SIGNS			12

- ① **Risseeuw Rd** REFLECTIVE BACKGROUND, APPROXIMATE SIZE 36" X 12",
BACKGROUND ORANGE, MESSAGE BLACK, 6" SERIES B LETTERS



SEE S.D.D "BARRICADES AND SIGNS
FOR MAINLINE CLOSURES"

LEGEND

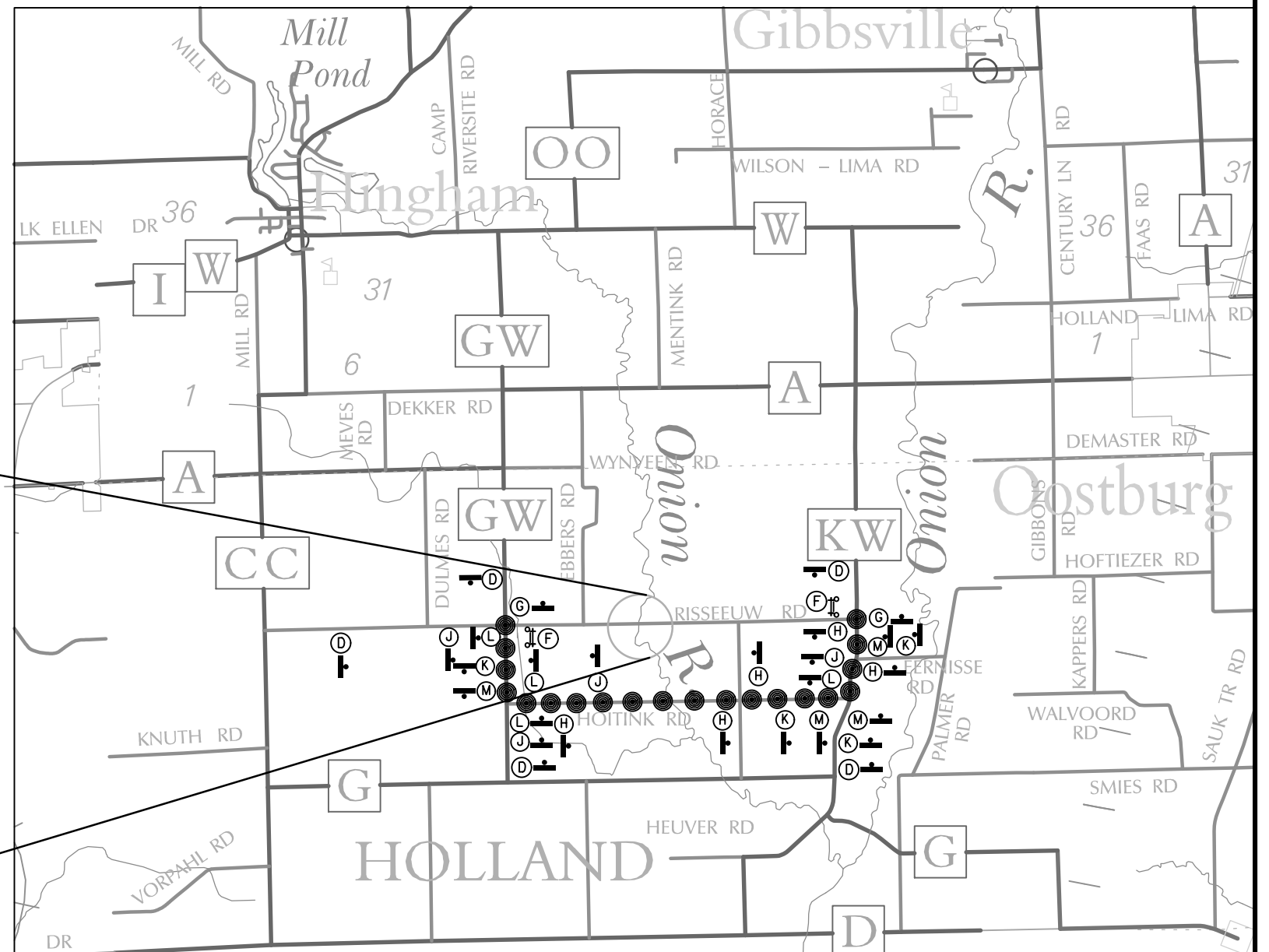
- DETOUR ROUTE
- ⌄ BARRICADES TYPE III WITH ATTACHED TRAFFIC CONTROL SIGN (2 WARNING LIGHTS TYPE A REQ'D.)
- ⌄ BARRICADES TYPE III WITHOUT SIGN (1 WARNING LIGHT TYPE A REQ'D.)
- ⌄ WOOD POST WITH ATTACHED TRAFFIC CONTROL SIGN

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0100 TRAFFIC CONTROL (PROJECT). IN LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.

ALL "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED.



Estimate Of Quantities By Plan Sets

4198-06-71

Line	Item	Item Description	Unit	Total	Qty
0006	203.0500.S	Removing Old Structure Over Waterway (station) 02. 10+00	LS	1.000	1.000
0008	205.0100	Excavation Common **P**	CY	295.000	295.000
0012	206.1000	Excavation for Structures Bridges (structure) 02. B-59-195	LS	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	204.000	204.000
0020	213.0100	Finishing Roadway (project) 02. 4198-06-71	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	25.000	25.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	311.000	311.000
0026	311.0110	Breaker Run	TON	110.000	110.000
0030	465.0105	Asphaltic Surface	TON	97.000	97.000
0032	502.0100	Concrete Masonry Bridges	CY	309.000	309.000
0034	502.3200	Protective Surface Treatment	SY	391.000	391.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	8,320.000	8,320.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	37,010.000	37,010.000
0048	513.4061	Railing Tubular Type M (structure) 02. B-59-195	LF	264.000	264.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,350.000	1,350.000
0054	606.0300	Riprap Heavy	CY	149.000	149.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 02. 4198-06-71	EACH	1.000	1.000
0064	619.1000	Mobilization	EACH	0.500	0.500
0066	624.0100	Water	MGAL	1.500	1.500
0068	625.0100	Topsoil **P**	SY	240.000	240.000
0074	628.1504	Silt Fence	LF	575.000	575.000
0076	628.1520	Silt Fence Maintenance	LF	575.000	575.000
0078	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0082	628.2002	Erosion Mat Class I Type A **P**	SY	241.000	241.000
0084	628.6005	Turbidity Barriers	SY	261.000	261.000
0086	628.7570	Rock Bags	EACH	12.000	12.000
0088	629.0210	Fertilizer Type B **P**	CWT	3.000	3.000
0090	630.0120	Seeding Mixture No. 20 **P**	LB	10.000	10.000
0094	630.0200	Seeding Temporary **P**	LB	15.000	15.000
0096	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0098	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	2.000	2.000
0100	637.2230	Signs Type II Reflective F	SF	16.500	16.500
0102	638.2602	Removing Signs Type II	EACH	4.000	4.000
0104	638.3000	Removing Small Sign Supports	EACH	4.000	4.000

Estimate Of Quantities By Plan Sets

4198-06-71

Line	Item	Item Description	Unit	Total	Qty
0106	642.5201	Field Office Type C	EACH	0.500	0.500
0108	643.0420	Traffic Control Barricades Type III	DAY	1,696.000	1,696.000
0110	643.0705	Traffic Control Warning Lights Type A	DAY	2,544.000	2,544.000
0112	643.0900	Traffic Control Signs	DAY	8,904.000	8,904.000
0114	643.5000	Traffic Control	EACH	0.500	0.500
0116	645.0111	Geotextile Type DF Schedule A	SY	46.000	46.000
0118	645.0120	Geotextile Type HR	SY	256.000	256.000
0120	646.1020	Marking Line Epoxy 4-Inch	LF	75.000	75.000
0122	650.4500	Construction Staking Subgrade	LF	190.000	190.000
0124	650.5000	Construction Staking Base	LF	190.000	190.000
0128	650.6500	Construction Staking Structure Layout (structure) 02. B-59-195	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 02. 4198-06-71	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	190.000	190.000
0136	690.0150	Sawing Asphalt	LF	40.000	40.000
0138	715.0502	Incentive Strength Concrete Structures	DOL	1,854.000	1,854.000
0140	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0142	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

3

EARTHWORK SUMMARY													
(1)		(2)	(3)		(4)			(5)		(6)		*	
205.0100		SALVAGED/ UNUSABLE								311.0110		624.0100	
EXCAVATION COMMON**		PAVEMENT MATERIAL	AVAILABLE	UNEXPANDED	EXPANDED			MASS		BREAKER		WATER	
CUT	EBS	REMOVAL	MATERIAL	FILL	FILL	EBS	BACKFILL	ORDINATE	+WASTE	RUN			
FACTOR 1.25													
CATEGORY	STATION - STATION	LOCATION	CY	CY	CY	CY	CY	CY			TON	MGAL	
0010	8+75.00 - 9+45.25	LT & RT	77	16	15	62	7	9	20	53	53	35	0.2
	10+54.75 - 11+75.00	LT & RT	168	34	17	151	0	0	43	151	151	75	0.3
TOTALS			245	50	32	213	7	9	63	204	204	110	0.5
PAY QUANTITIES			295	-	-	-	-	-	-	-	-	110	0.5

- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS.
EBS QUANTITY IS UNDISTRIBUTED
- 2) SALVAGED/UNUSABLE MATERIALS ARE INCLUDED IN EXCAVATION COMMON COLUMN
- 3) AVAILABLE MATERIAL = CUT - SALVAGED MATERIALS
- 4) EXPANDED FILL FACTOR = 1.25
- 5) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE CATEGORY.
PLUS QTY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY,
MINUS QTY INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY
- 6) EBS TO BE BACKFILLED WITH BREAKER RUN
- * ADDITIONAL QUANTITIES LISTED ELSEWHERE
- ** PAY PLAN QUANTITY

MAINTENANCE AND REPAIR OF HAUL ROADS

618.0100		
CATEGORY	PROJECT	EACH
0030	4198-06-71	1

BASE AGGREGATE SUMMARY					
CATEGORY	STATION - STATION	LOCATION	305.0110	305.0120	624.0100
			BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	WATER MGAL*
0010	8+75.00 - 9+45.25	LT & RT	9	113	0.5
	10+54.75 - 11+75.00	LT & RT	16	198	0.5
TOTALS			25	311	1.0

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

MOBILIZATION

619.1000		
CATEGORY	PROJECT	I.D. EACH
0010	4198-06-71	0.5

ASPHALTIC SURFACE				
CATEGORY	STATION - STATION	LOCATION	465.0105	
			TON	
0010	8+75.00 - 9+45.25	LT & RT	36	
	10+54.75 - 11+75.00	LT & RT	61	
TOTAL			97	

FINISHING ROADWAY		
CATEGORY	PROJECT	213.0100
		I.D. EACH
0010	4198-06-71	1

MOBILIZATIONS EROSION CONTROL	
CATEGORY	628.1905
	EACH
0010	5

MOBILIZATIONS EROSION CONTROL	
CATEGORY	628.1910
	EACH
0010	2

3

SILT FENCE				
CATEGORY	STATION - STATION	LOCATION	628.1504	628.1520
			SILT FENCE LF	SILT FENCE MAINTENANCE LF
0010	8+73.30 - 9+58.32	LT & RT	185	185
	10+41.79 - 11+76.82	LT & RT	290	290
	UNDISTRIBUTED	---	100	100
TOTALS			575	575

FINISHING ITEMS						
CATEGORY	STATION - STATION	LOCATION	625.0100	628.2002	629.0210	630.0120
			TOPSOIL ** SY	EROSION MAT CLASS I TYPE A ** SY	FERTILIZER TYPE B ** CWT	SEEDING MIXTURE NO. 20 ** LB
0010	8+75.00 - 9+45.25	LT & RT	150	150	1	4
	10+54.75 - 11+75.00	LT & RT	90	91	1	4
	UNDISTRIBUTED	---	---	---	1	2
TOTALS			240	241	3	10

**PAY PLAN QUANTITY

TURBIDITY BARRIERS			
CATEGORY	STATION	LOCATION	628.6005 SY
0010	9+60	LT & RT	55
	9+80	LT & RT	78
	10+20	LT & RT	78
	10+40	LT & RT	50
	TOTAL		261

PERMANENT SIGNING QUANTITIES									
CATEGORY	STATION	LOCATION	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN X IN	637.2230	634.0612	634.0616	REMARKS
						SIGNS TYPE II REFLECTIVE F SF	POSTS WOOD 4X6-INCH X12-FT EACH	POSTS WOOD 4X6-INCH X16-FT EACH	
0010	9+45	LT	W5-52L	CHEVRON	12X36	3.00	1	---	INSTALL AT END OF BRIDGE
	9+45	RT	W5-52R	CHEVRON	12X36	3.00	1	---	INSTALL AT END OF BRIDGE
	10+54	LT	W5-52L	CHEVRON	12X36	3.00	1	---	INSTALL AT END OF BRIDGE
	10+54	RT	W5-52R	CHEVRON	12X36	3.00	1	---	INSTALL AT END OF BRIDGE
	---	LT	W13-1P	45 MPH	18X18	2.25	---	1	INSTALL 275' EAST OF STA 11+75
	---	RT	W13-1P	45 MPH	18X18	2.25	---	1	INSTALL 275' WEST OF STA 8+75
	TOTALS					16.50	4	2	

ROCK BAGS			
CATEGORY	STATION	LOCATION	628.7570 ROCK BAGS EACH
0010	UNDISTRIBUTED	---	12
TOTALS			12

TRAFFIC CONTROL								
CATEGORY	LOCATION	DURATION CALENDAR DAYS	643.0420	643.0900	643.0705	EACH	DAYS	
			BARRICADES TYPE III EACH	SIGNS EACH	WARINING LIGHTS TYPE A EACH			
0010	ROAD CLOSURE	106	14	1,484	12	1,272	24	2,544
	DETOUR ROUTE	106	2	212	72	7,632	---	---
TOTALS				1,696		8,904		2,544

TRAFFIC CONTROL		
CATEGORY		643.5000 EACH
0010	4198-06-71	0.5

REMOVING SIGNS SUMMARY				
CATEGORY	LOCATION	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	BRIDGE CORNERS	CLEARANCE STRIPE	4	4
TOTALS			4	4

MARKING LINE EPOXY 4-INCH				
CATEGORY	STATION -	STATION LOCATION	646.1020 (YELLOW) LF	REMARKS
0010	8+75 -	11+75 CL	75	CENTERLINE SKIPS
TOTAL			75	

FIELD OFFICE TYPE C		
CATEGORY	PROJECT I.D.	642.5201 EACH
0010	4198-06-71	0.5

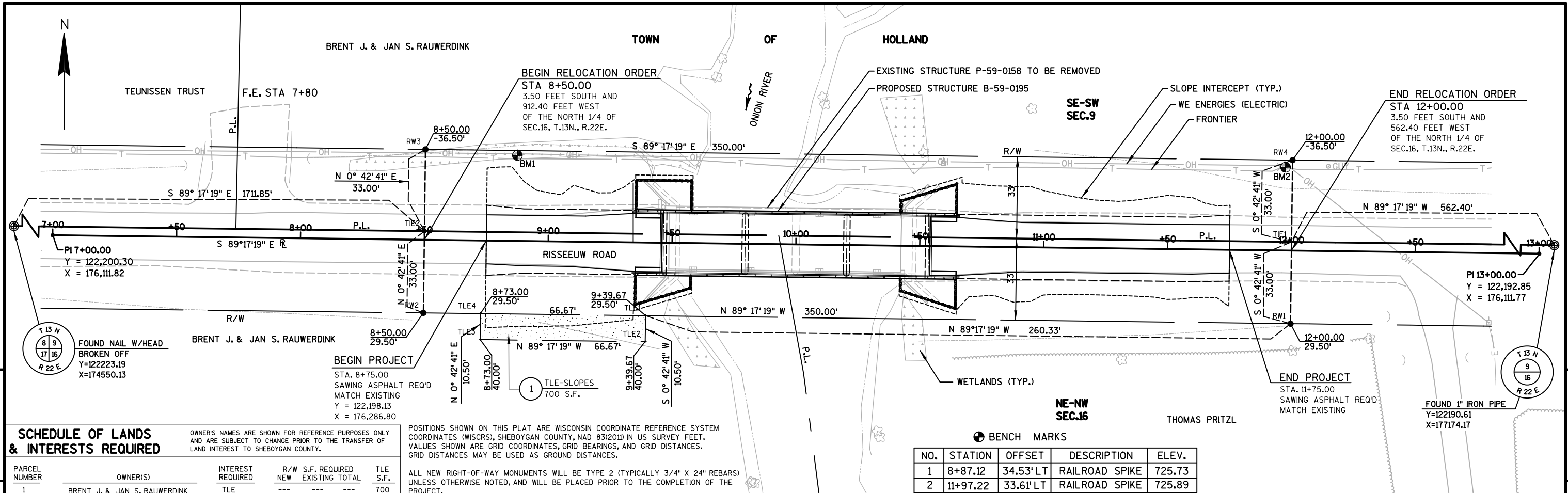
CONSTRUCTION STAKING SUMMARY						
CATEGORY	STATION -	STATION LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF	
0010	8+75.00 -	9+45.25 LT & RT	70	70	70	
	10+54.75 -	11+75.00 LT & RT	120	120	120	
TOTALS			190	190	190	

CONSTRUCTION STAKING STRUCTURE LAYOUT		
CATEGORY	STRUCTURE	650.6500 LS
0020	B-59-0195	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL		
CATEGORY	PROJECT	650.9910 LS
0010	4198-06-71	1

SAWING ASPHALT			
CATEGORY	STATION	LOCATION	690.0150 LF
0010	8+75.00	LT/RT	20
	11+75.00	LT/RT	20
TOTAL			40

INCENTIVE STRENGTH CONCRETE STRUCTURES		
CATEGORY	PROJECT	715.0502 DOL
0020	4869-00-72	1,854

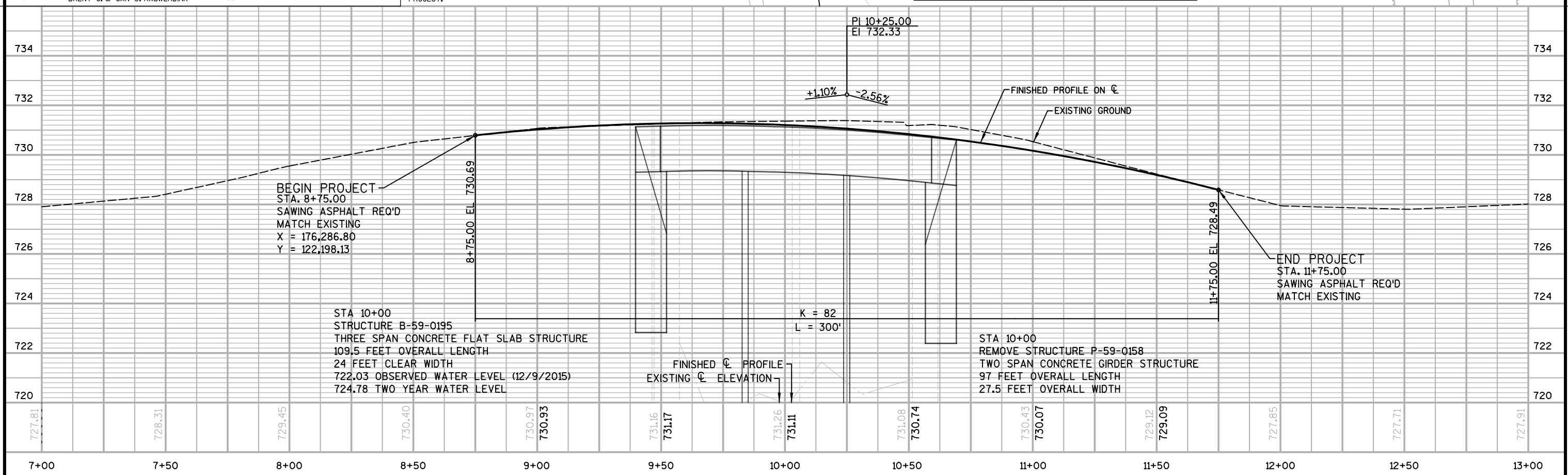


SCHEDULE OF LANDS & INTERESTS REQUIRED				
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W S.F. REQUIRED NEW EXISTING TOTAL	TLE S.F.
1	BRENT J. & JAN S. RAUWERDINK	TLE	---	700

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SHEBOYGAN 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.

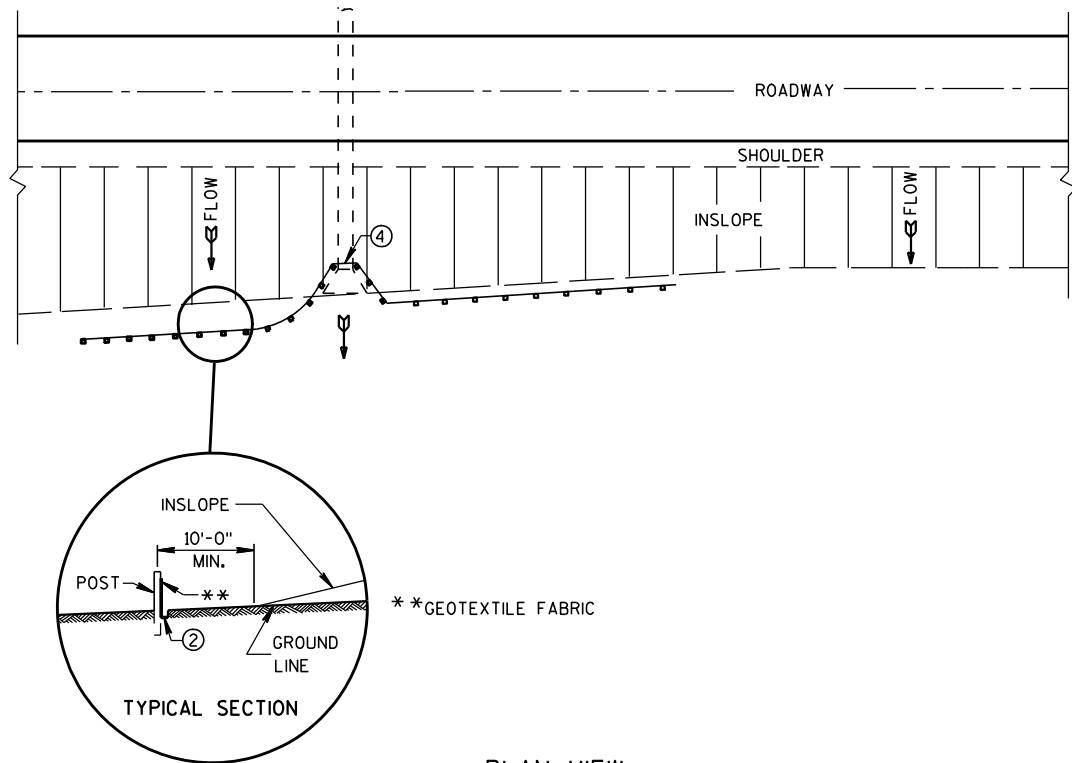
ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" REBARS) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	8+87.12	34.53' LT	RAILROAD SPIKE	725.73
2	11+97.22	33.61' LT	RAILROAD SPIKE	725.89

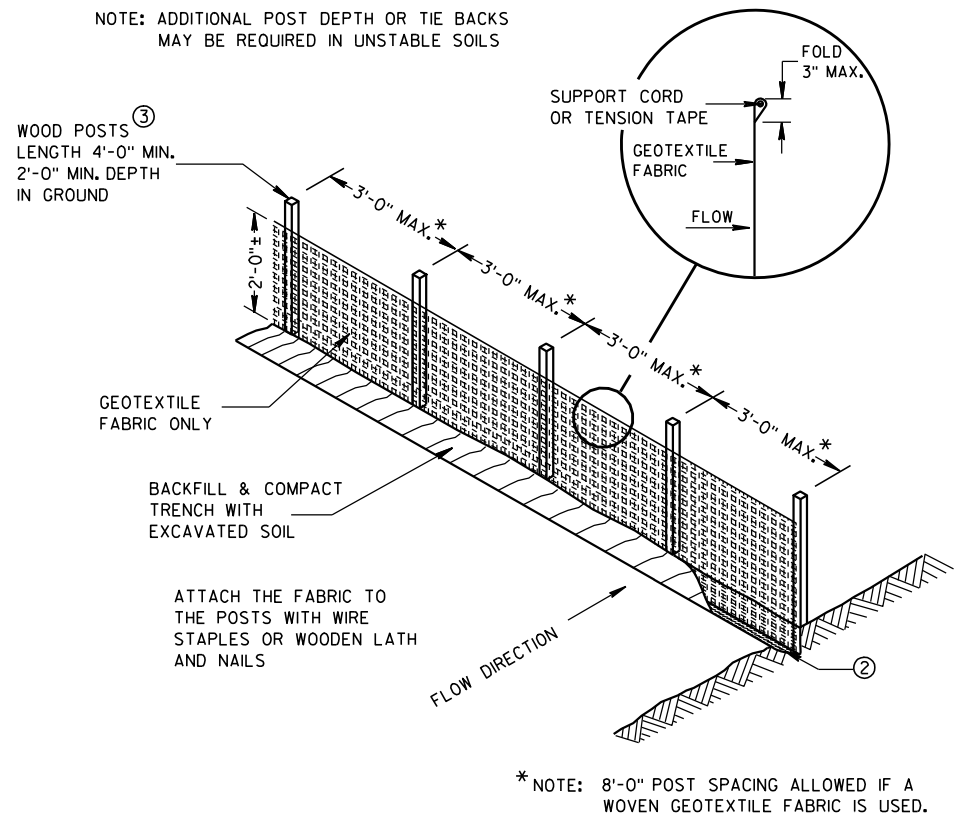


Standard Detail Drawing List

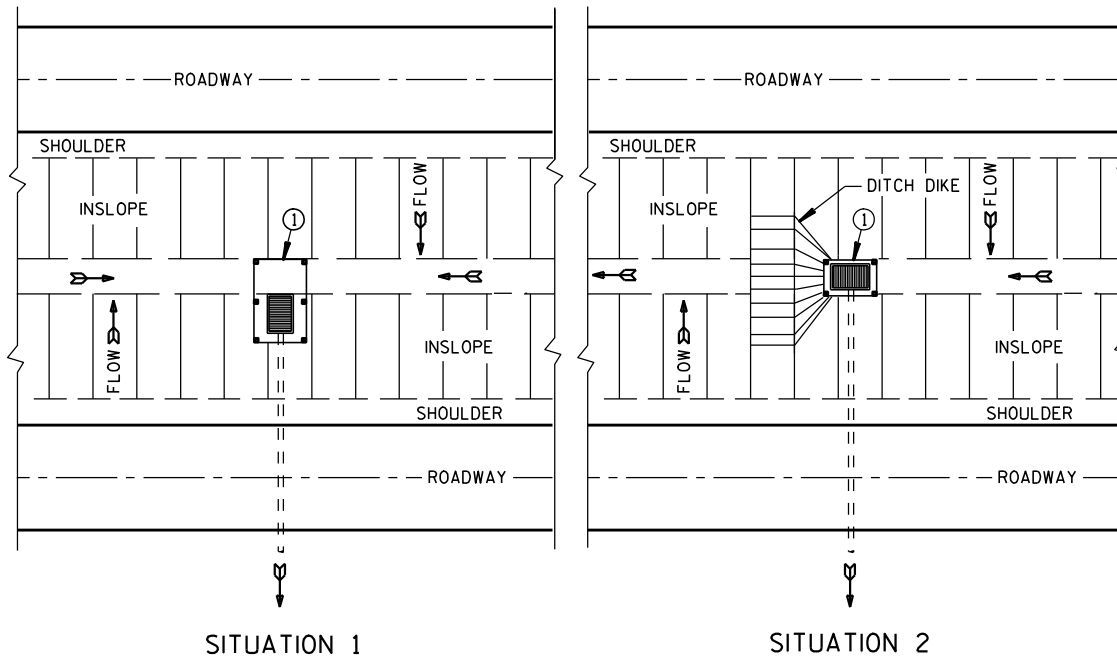
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)



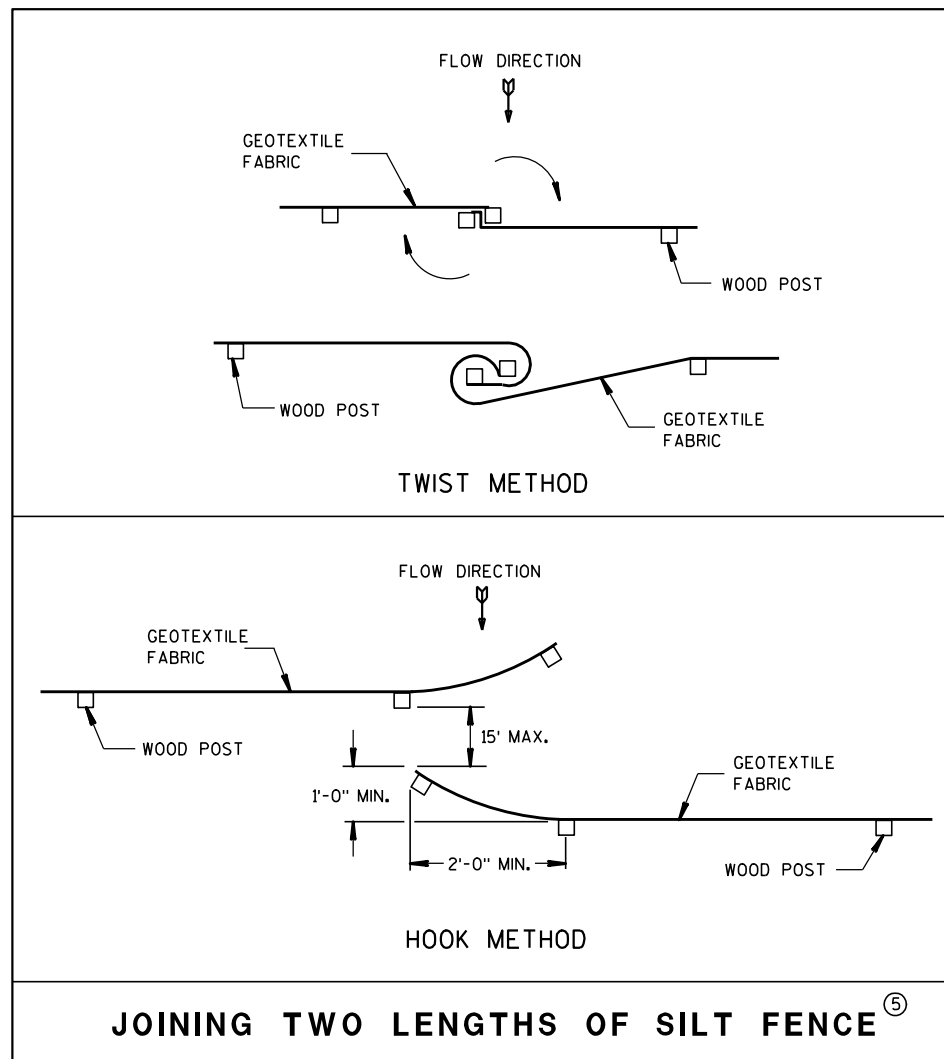
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

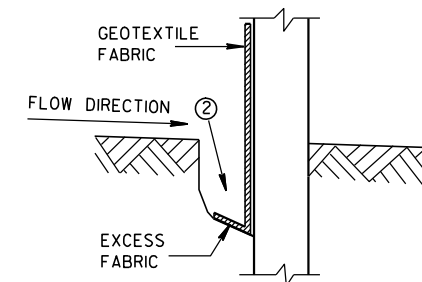


JOINING TWO LENGTHS OF SILT FENCE

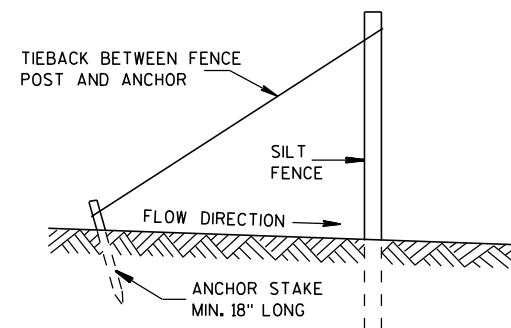
GENERAL NOTES

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 1 1/8" X 1 1/8" 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.

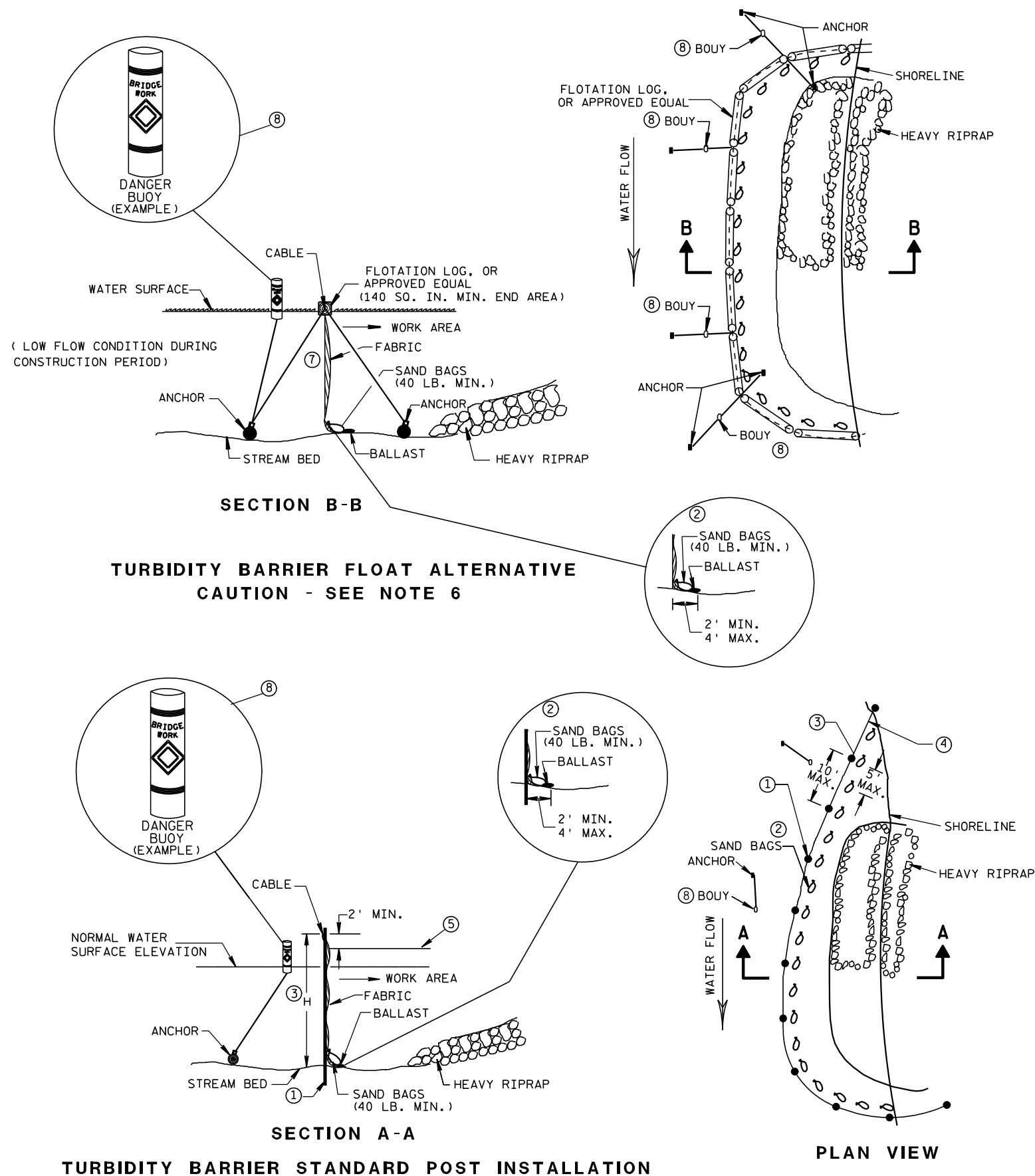


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

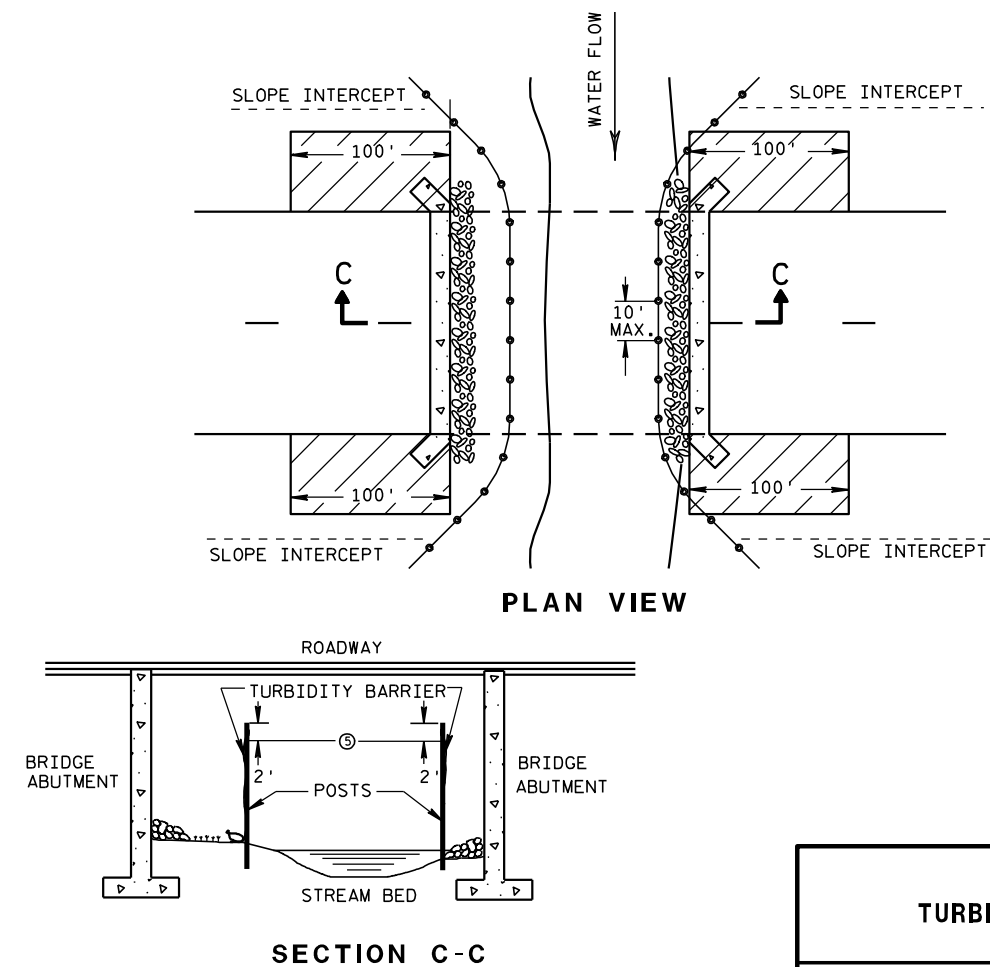


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

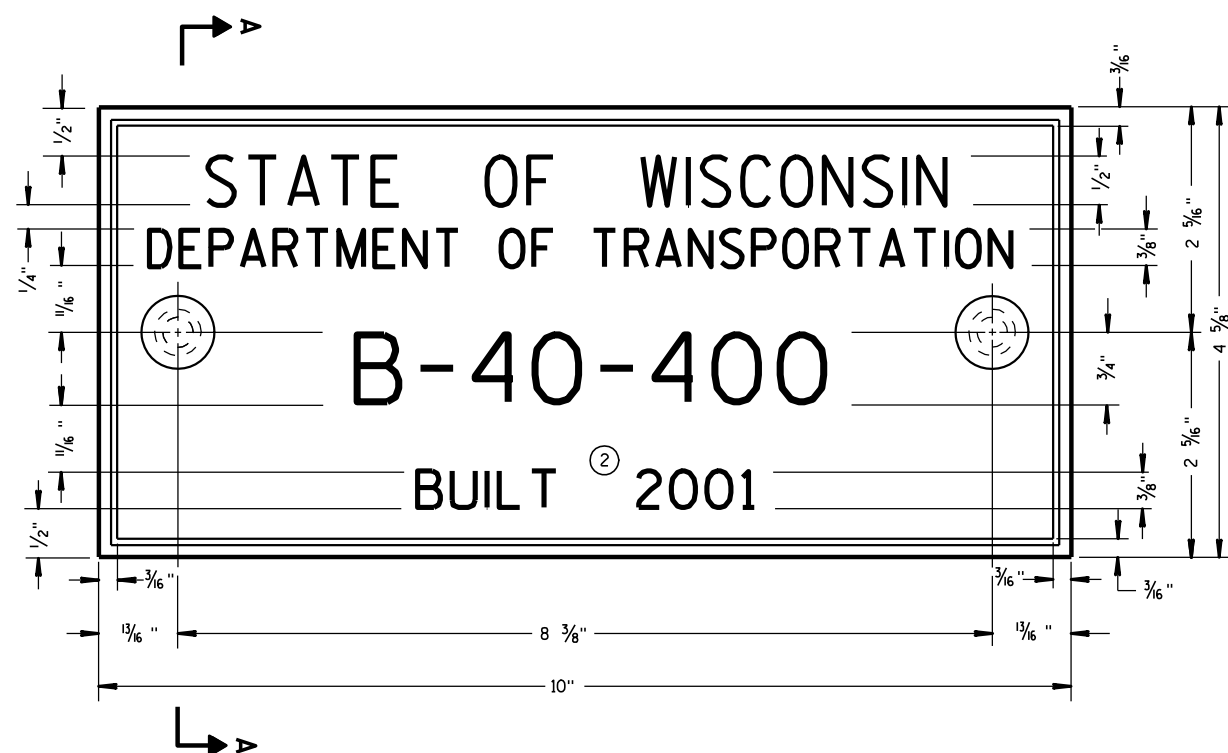
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

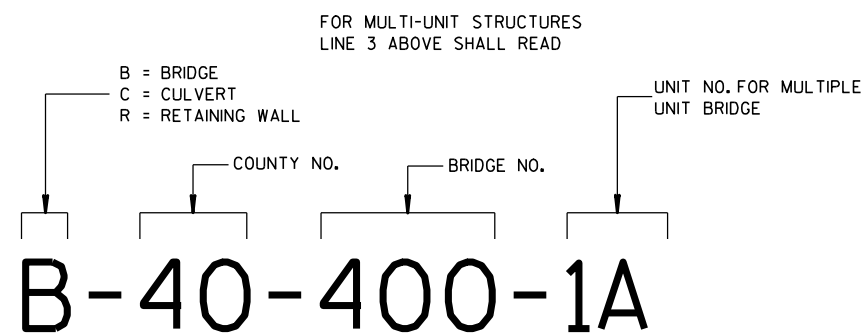
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



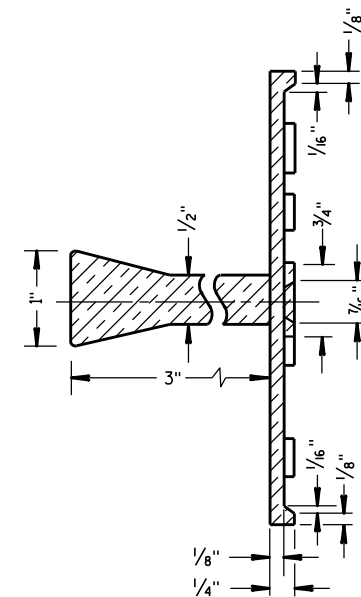
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

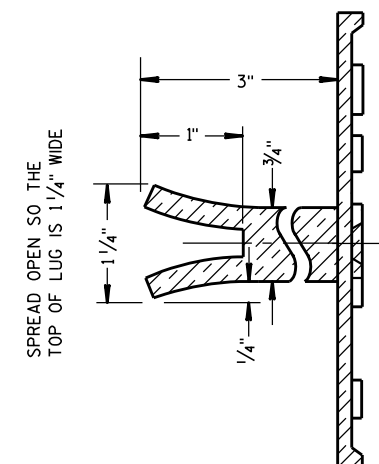
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

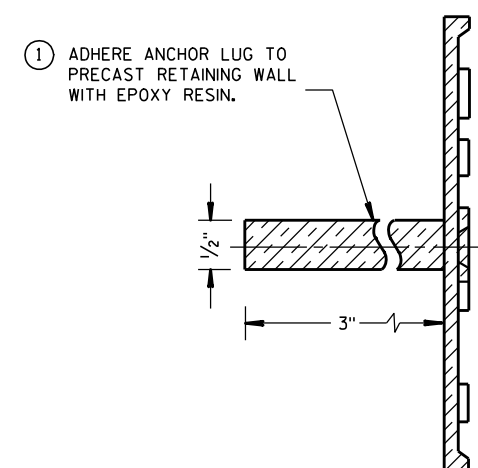
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE
(STRUCTURES)

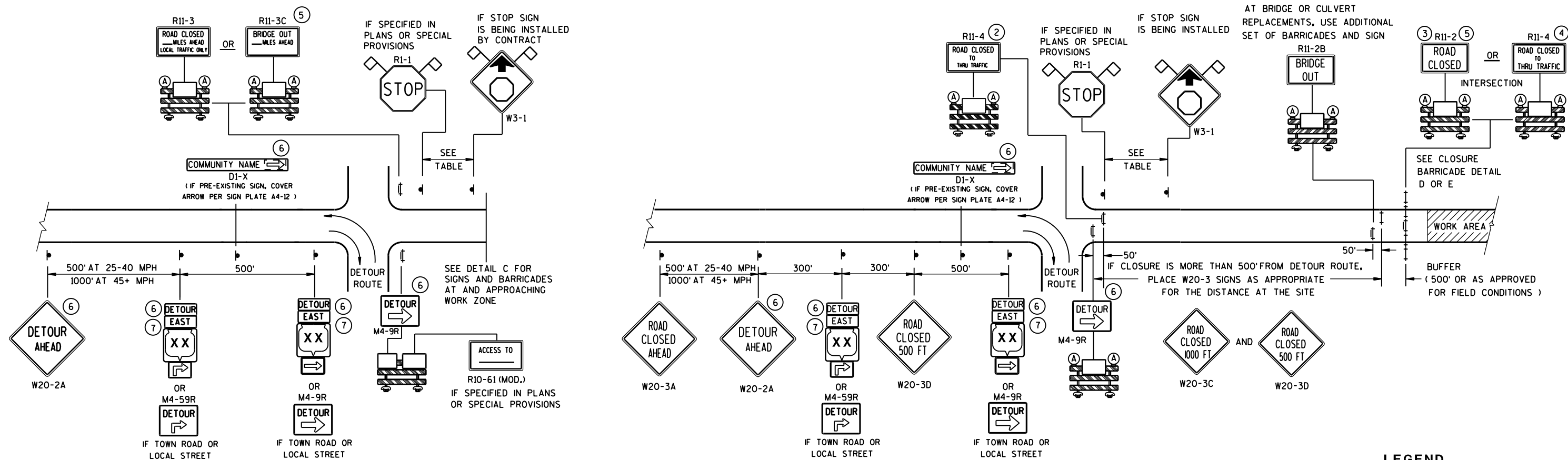
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

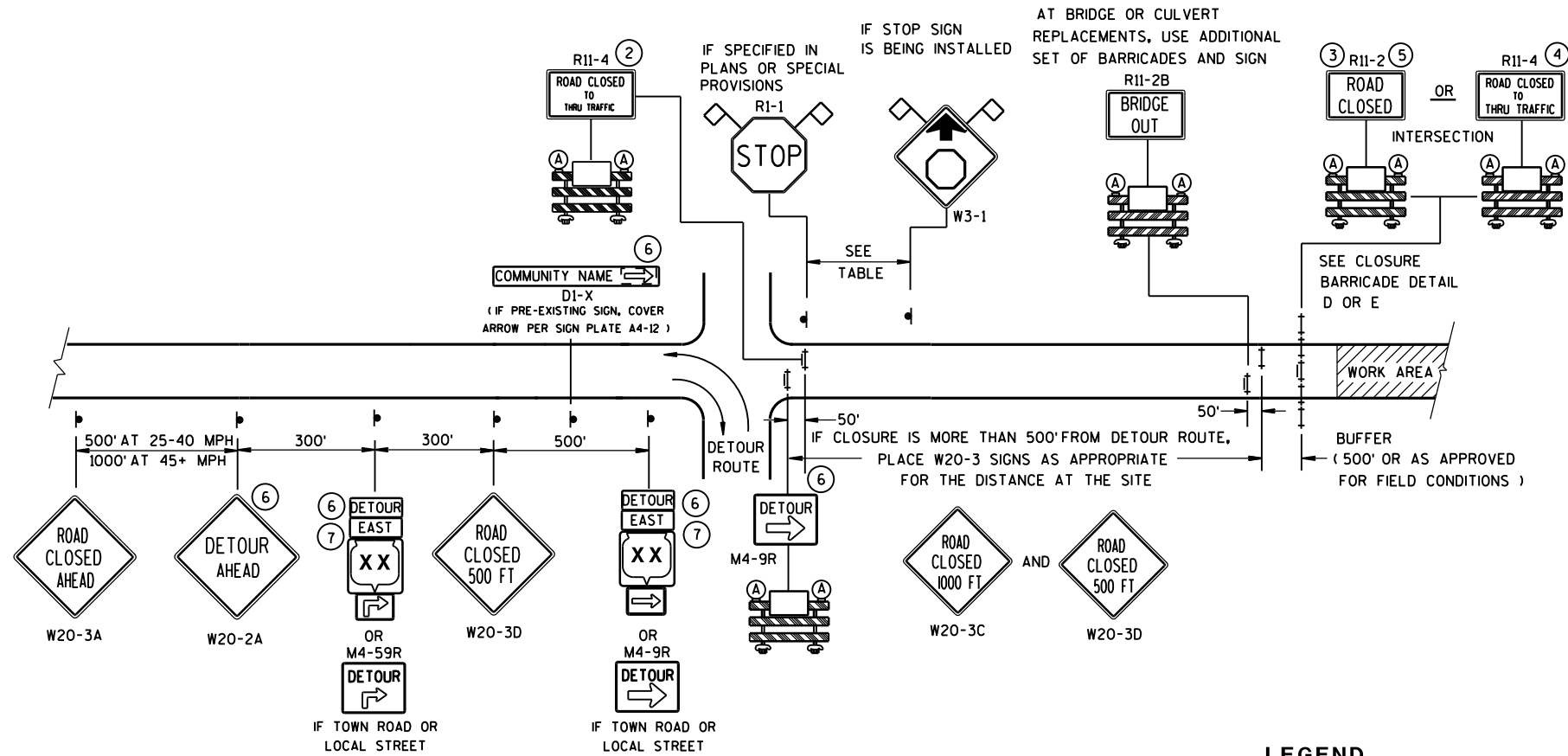
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

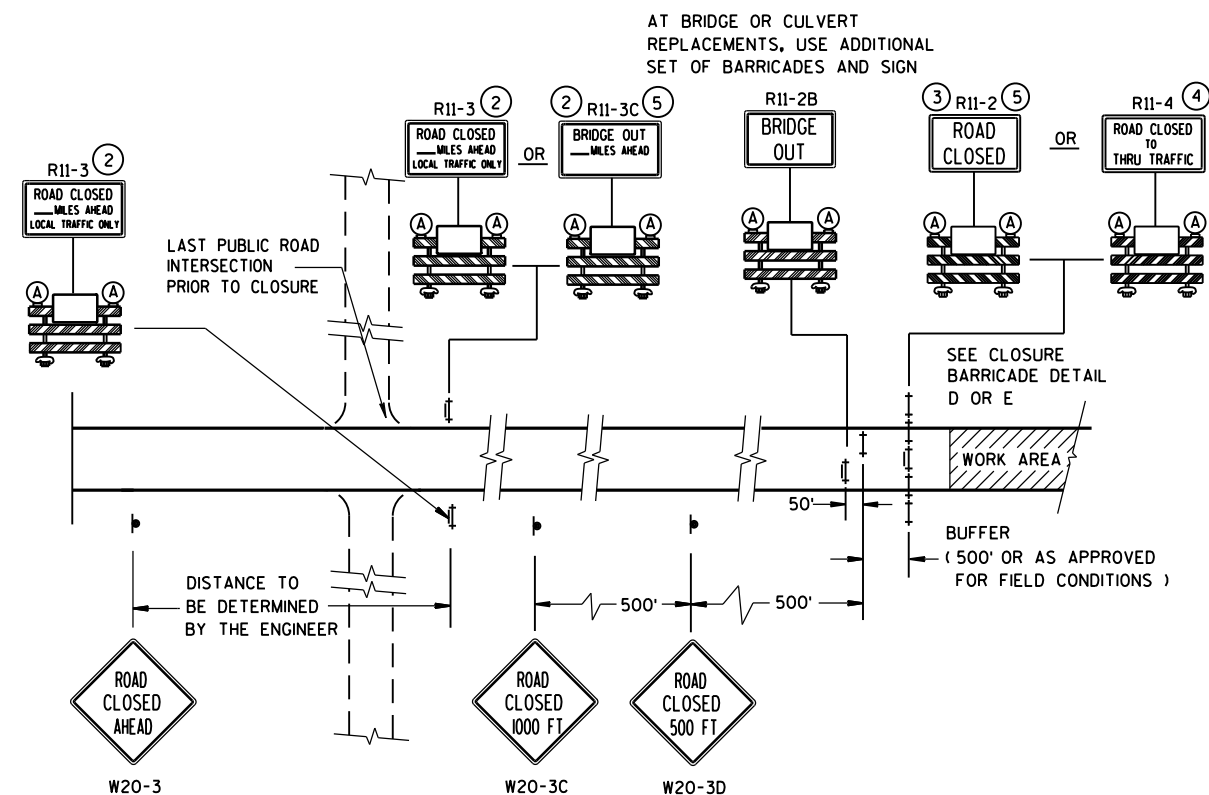
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

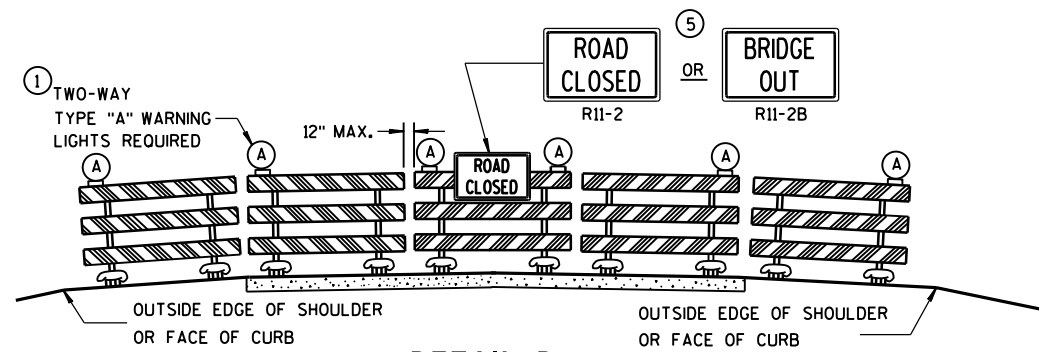
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
M3-X
-  OR  OR 
M1-4 M1-5A M1-6
-  OR 
MO5-1 MO6-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

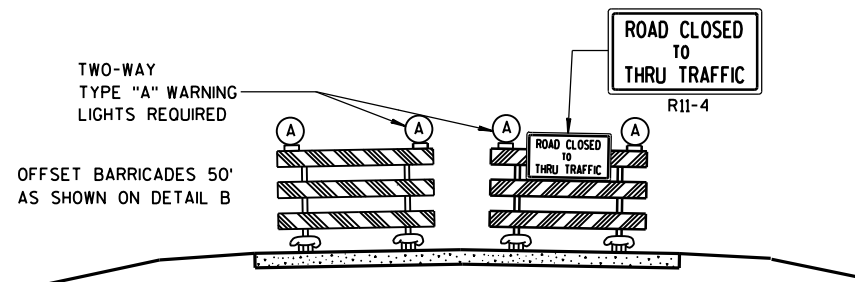
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

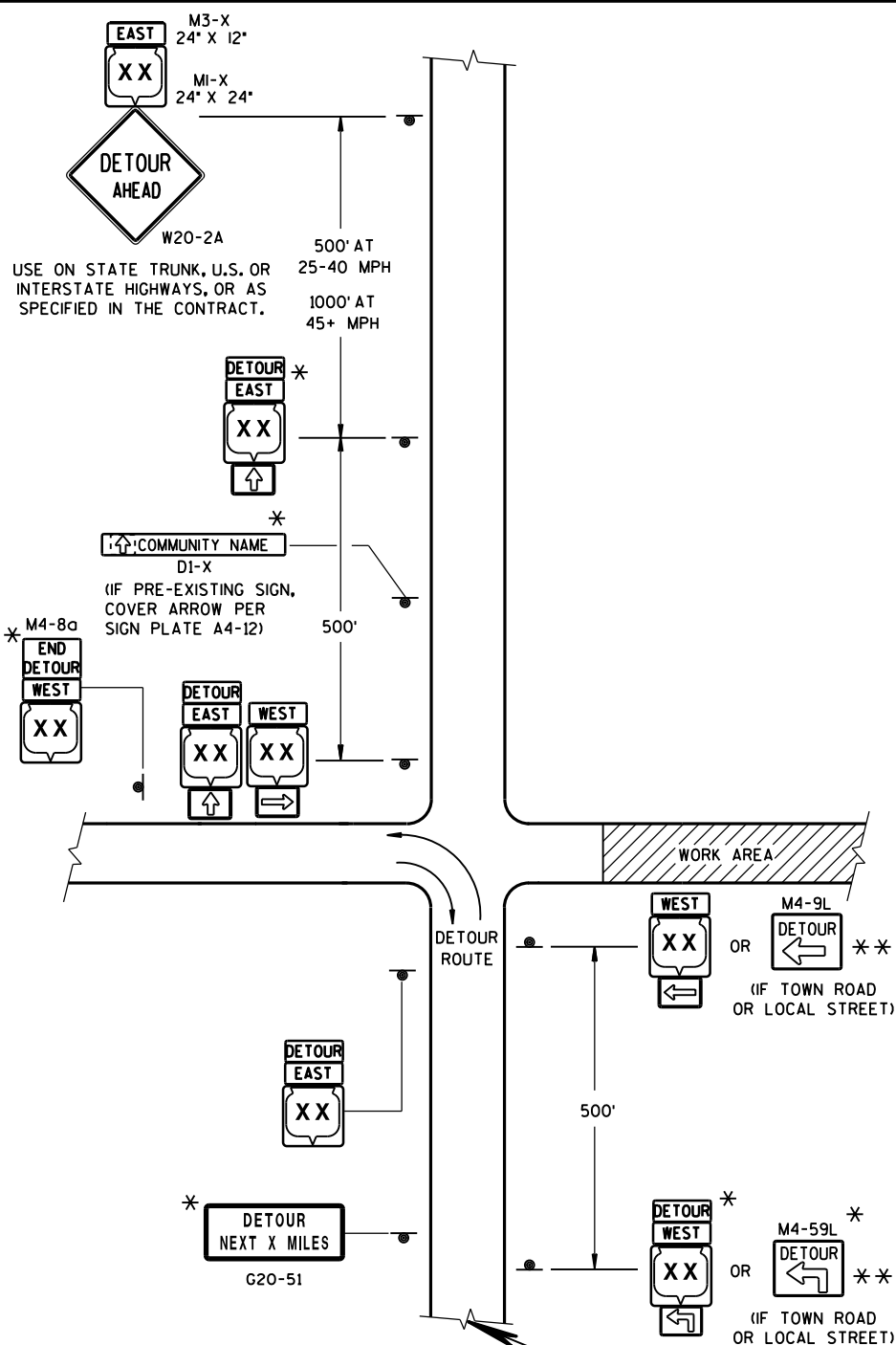
R1-1 SHALL BE 36" X 36".

- 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 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

OR OR
MI-4 MI-5A MI-6

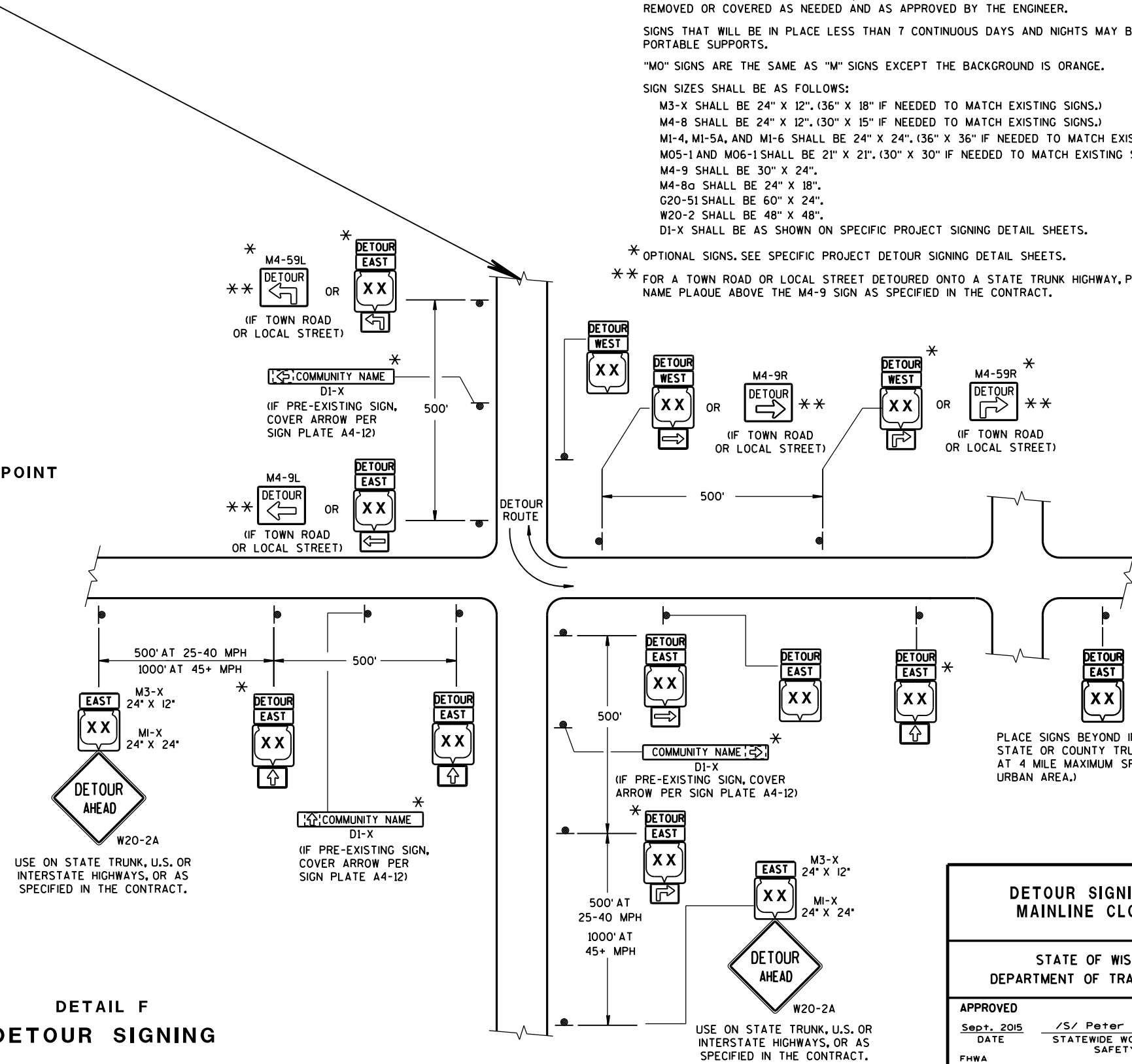
OR OR
M05-1 M06-1 M06-1

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD 15C2-SHEET "a"

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

DETAIL F
DETOUR SIGNING



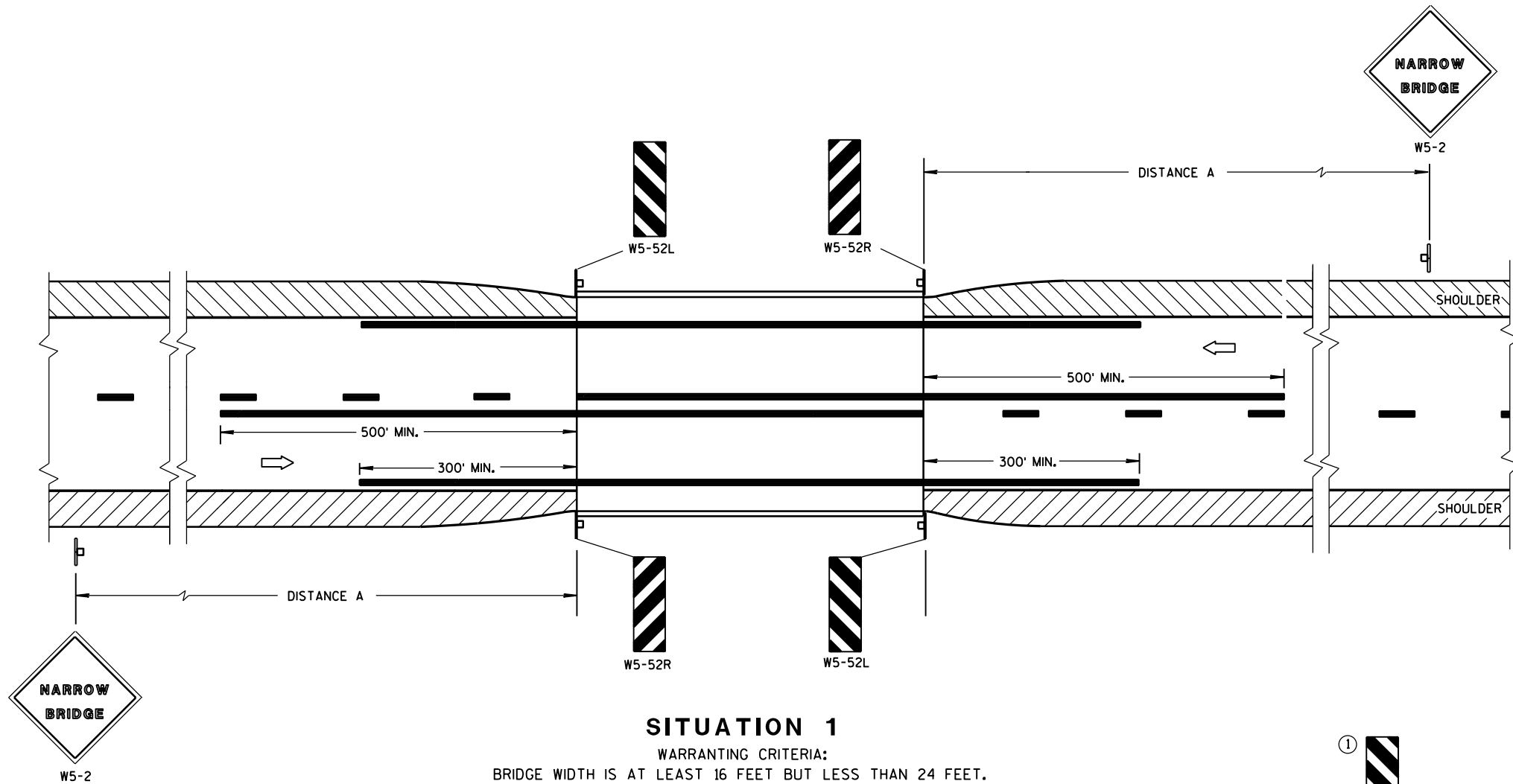
GENERAL NOTES

- 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.)
 - M05-1 AND M06-1 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.

**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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

GENERAL NOTES

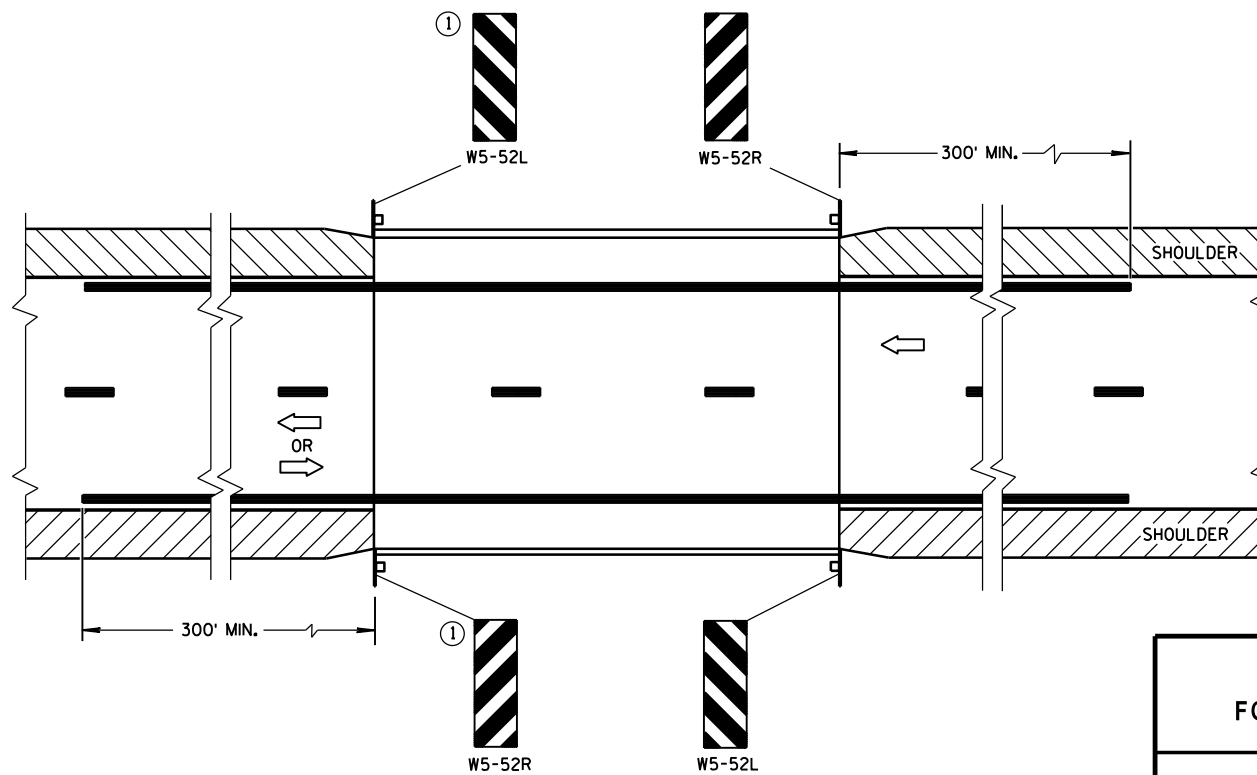
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

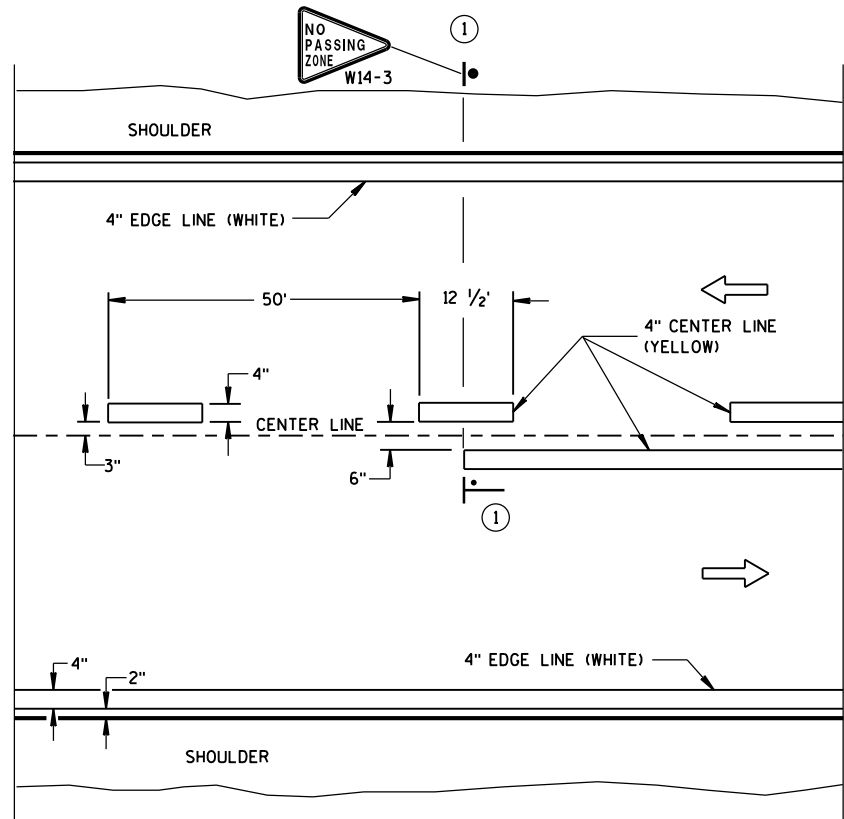
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

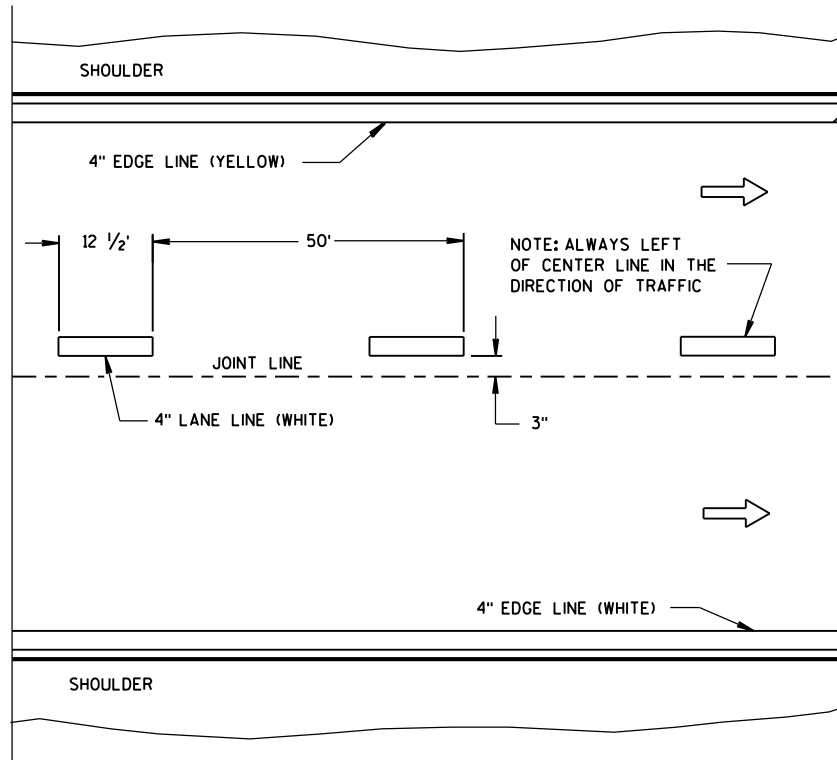
June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

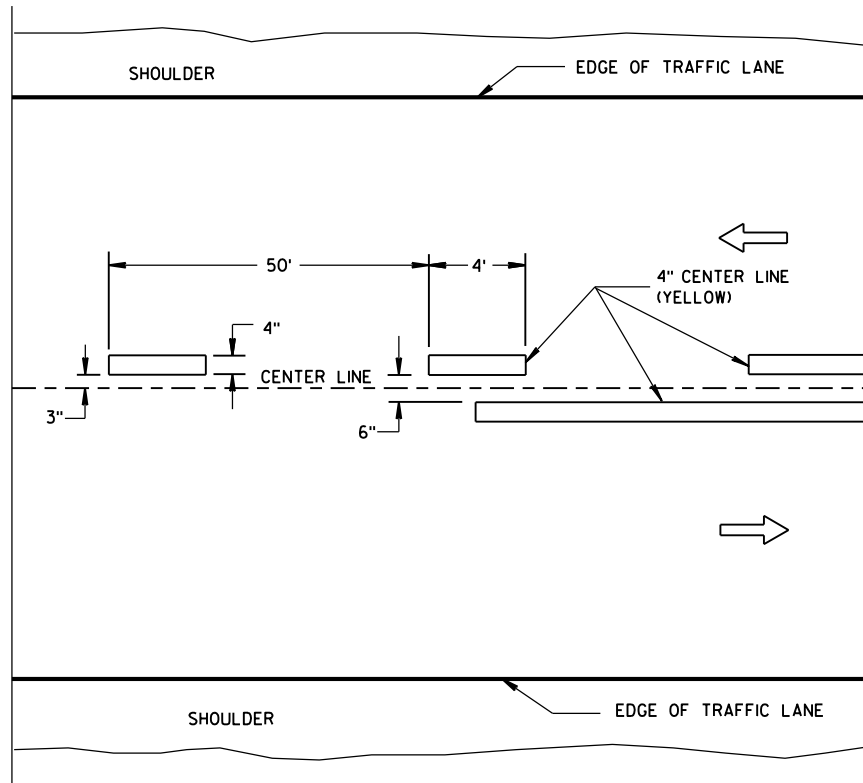


TWO WAY TRAFFIC

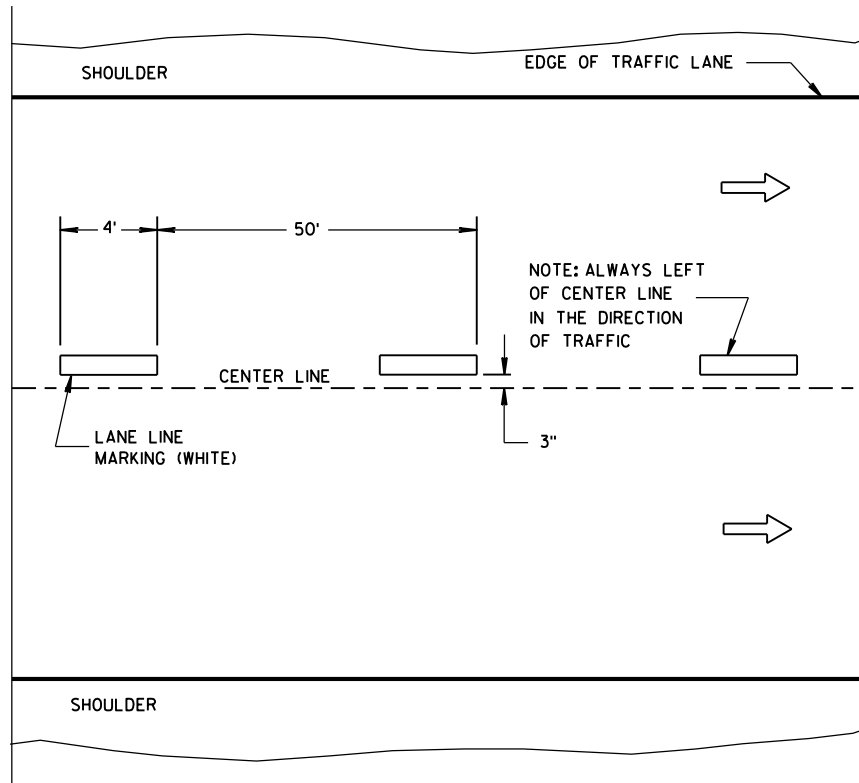


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

—●— "T" MARKING

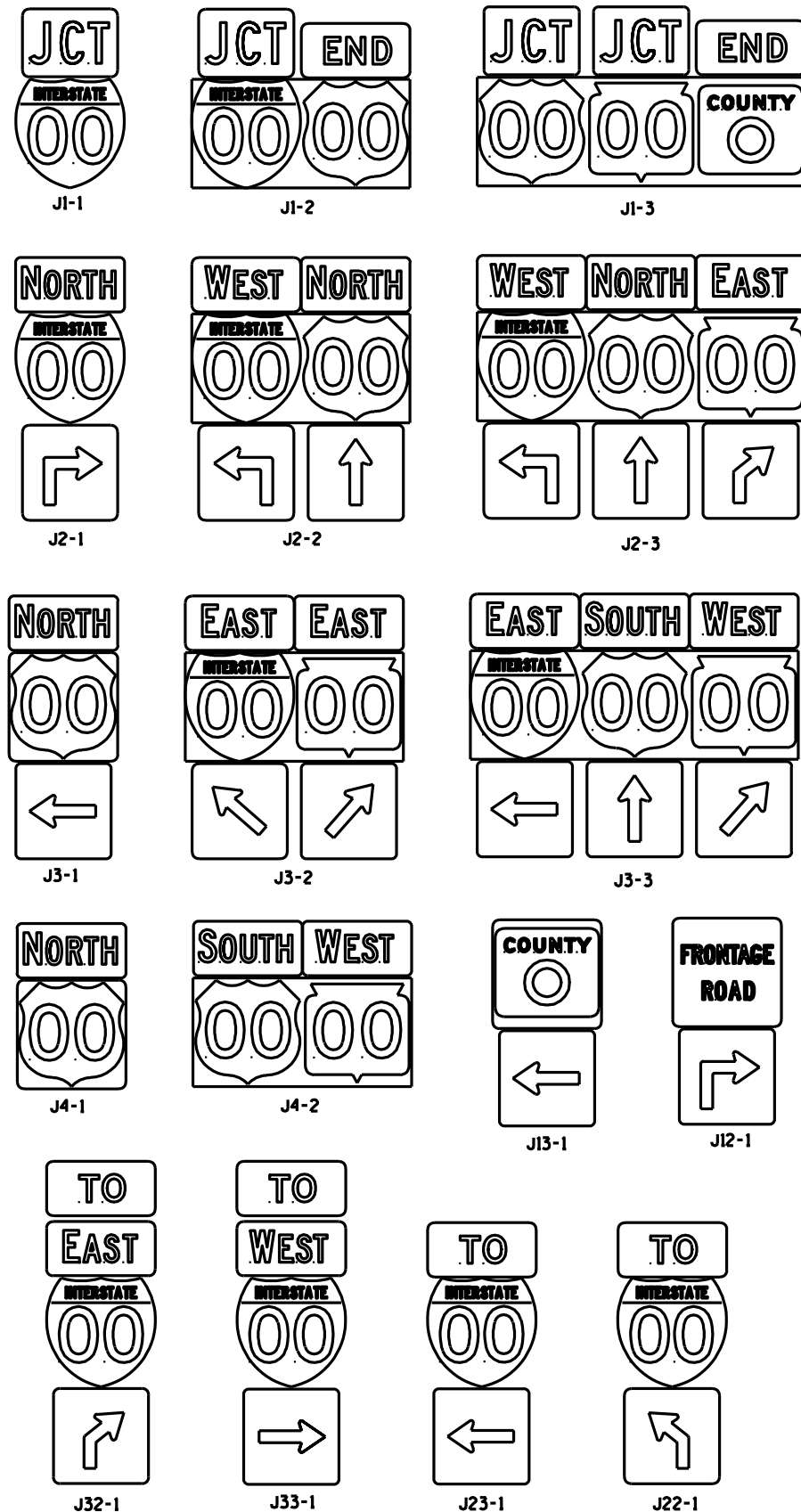
● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

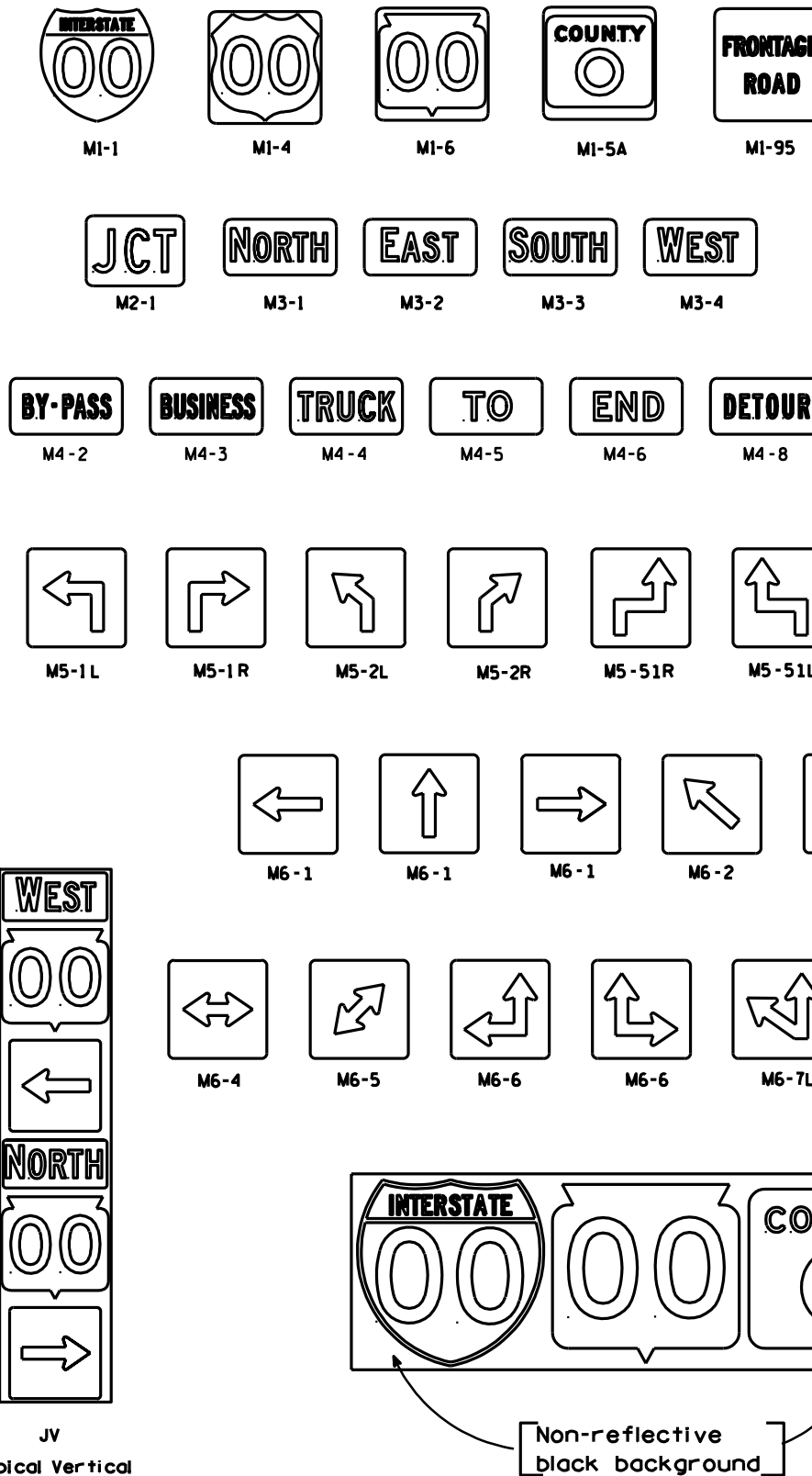
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

TYPICAL ASSEMBLIES



INDIVIDUAL COMPONENTS OF ASSEMBLIES



GENERAL NOTES

1. All components within any individual assembly shall be the same "size". The following table illustrates that situation:

SIZE	M1'S	M2	M3'S & M4'S	M5'S & M6'S
2	24 x 24	21 x 15	24 x 12	21 x 21
3,4-5	36 x 36	30 x 21	30 x 15	30 x 30

2. For any assembly containing two or more route markers, the route markers SHALL be placed on a single high density overlay PLYWOOD panel. All other materials within the assembly can be either plywood or aluminum.

3. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 marker shall be blue.

4. All vertical J assemblies are given a sign code of JV.

JV
(Typical Vertical
J- Assembly
See Note 4)

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/06/00

A2-1.6

PROJECT NO:

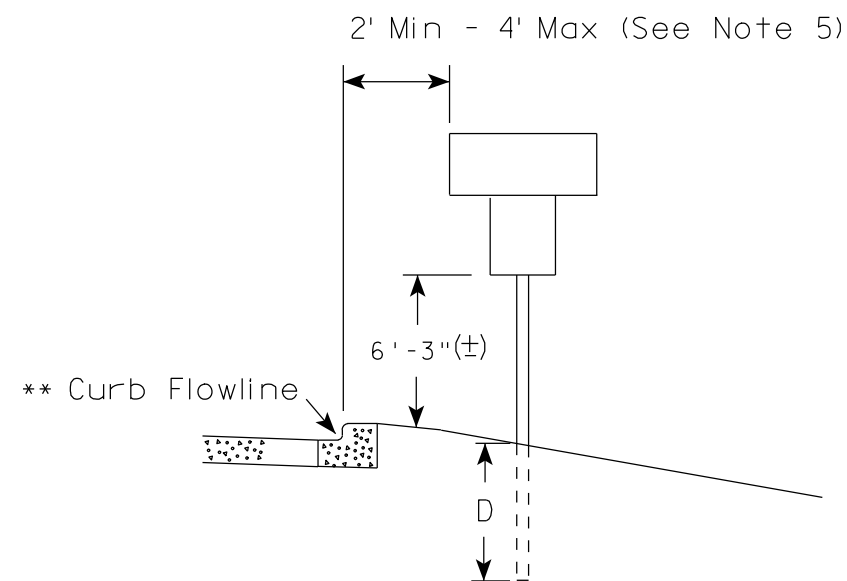
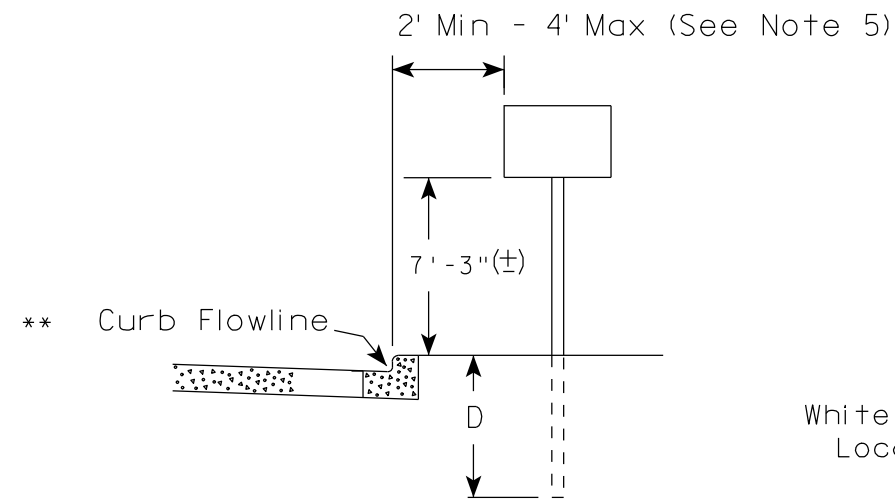
HWY:

COUNTY:

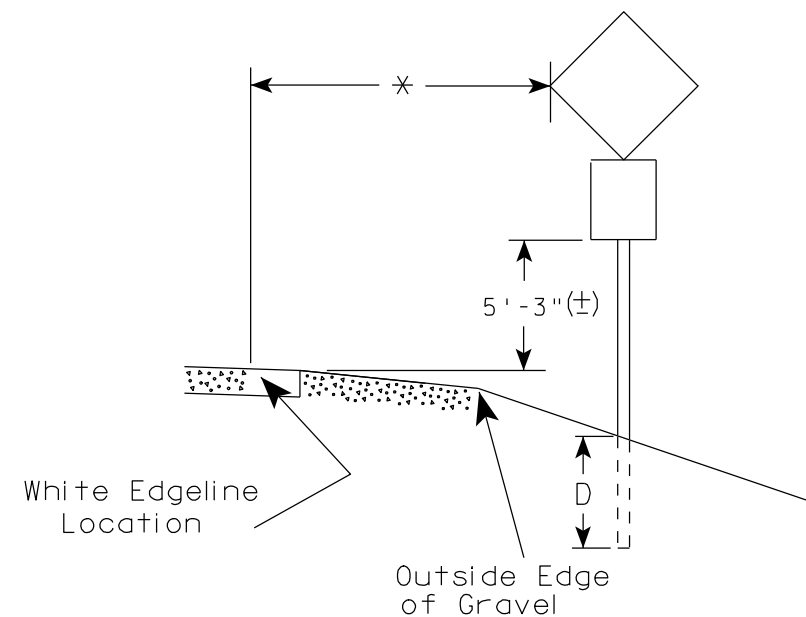
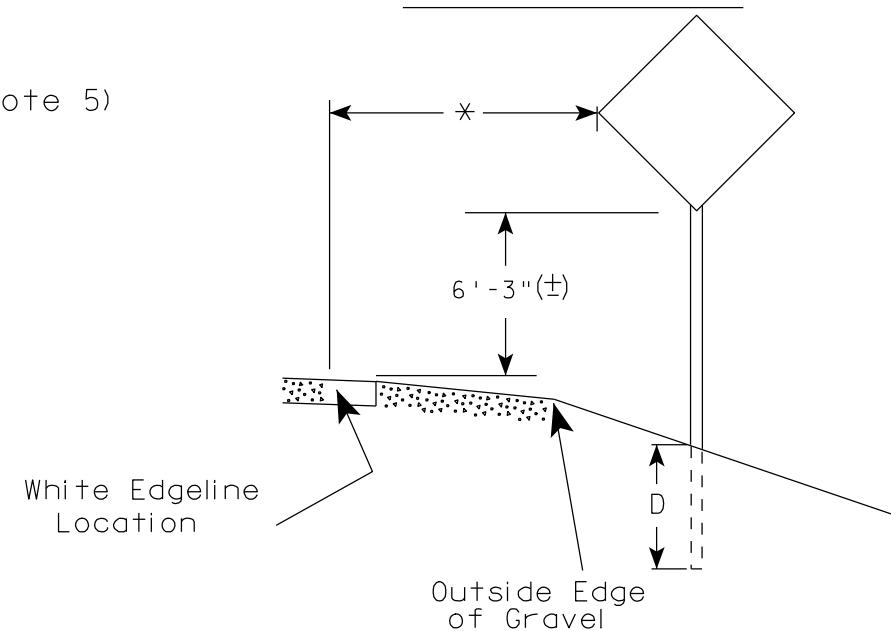
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

* 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 or larger than 20 sq. ft. 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

* * 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.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

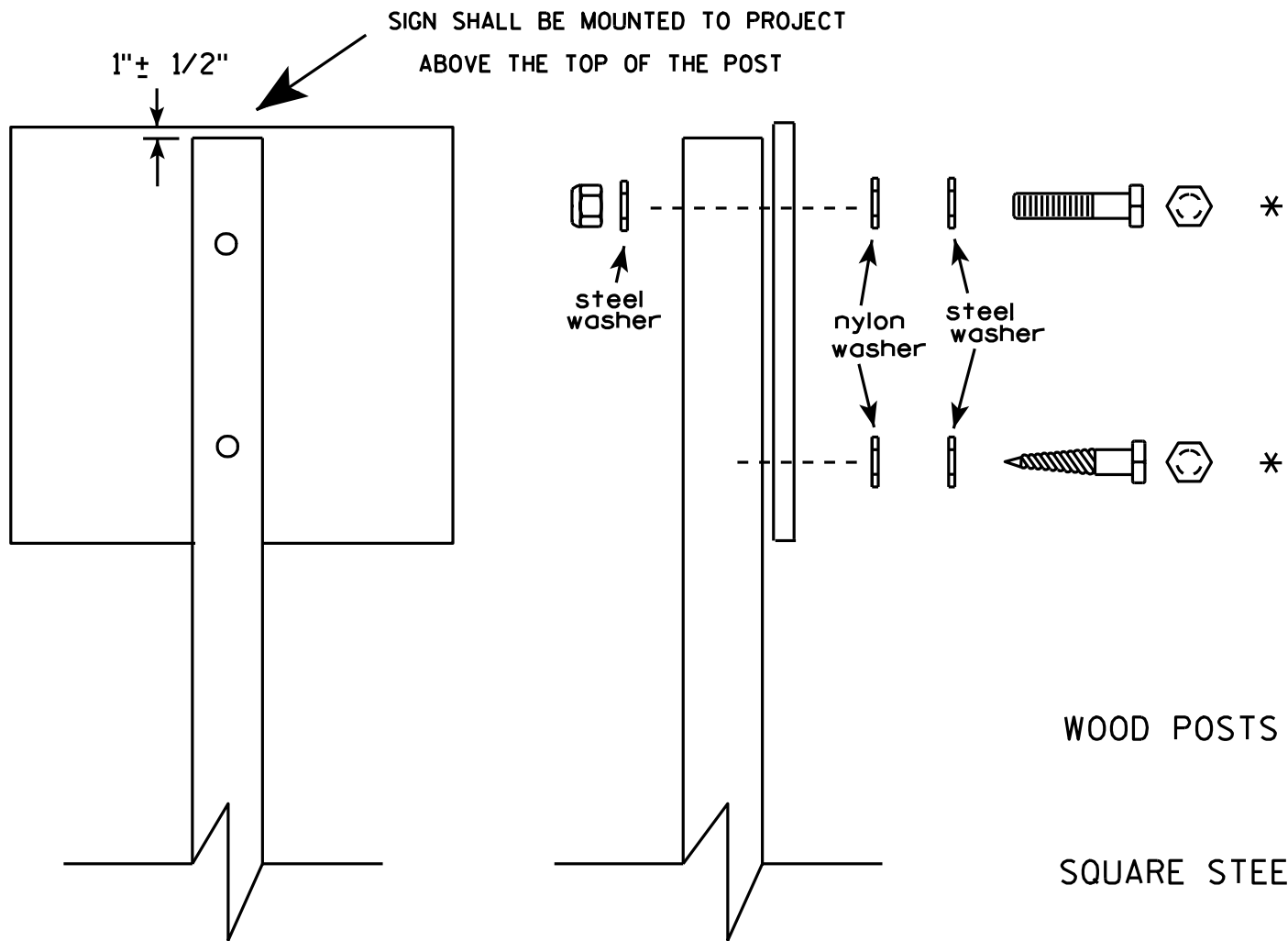
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

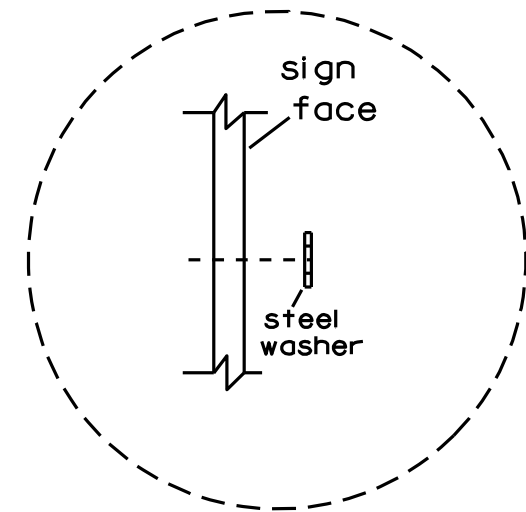
E



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

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

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



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

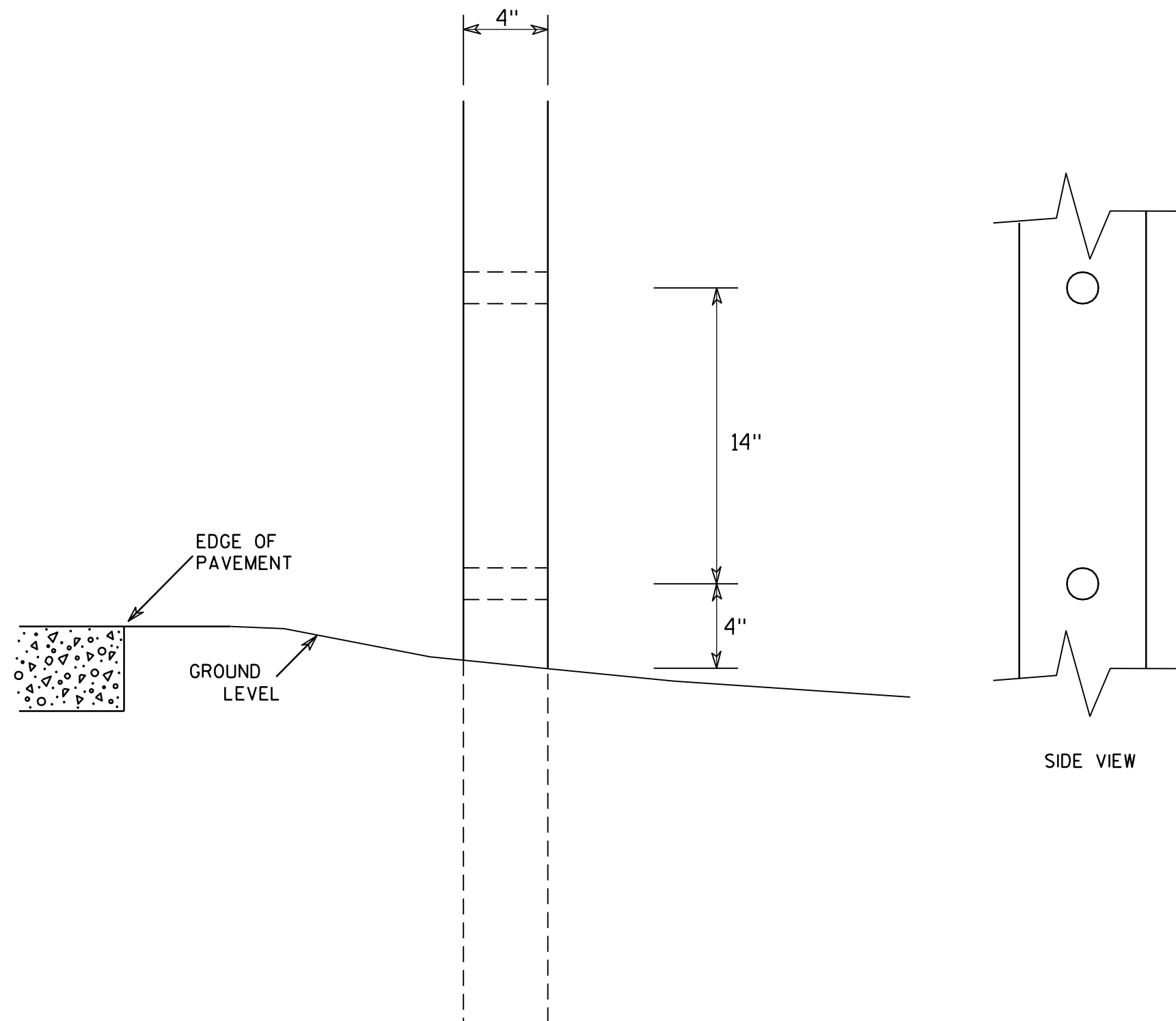
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

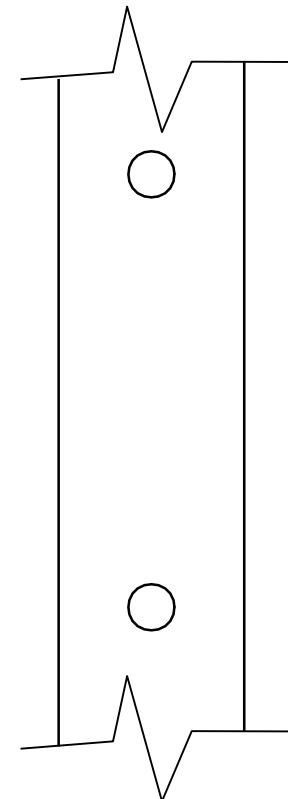
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



GENERAL NOTES

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



SIDE VIEW

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:

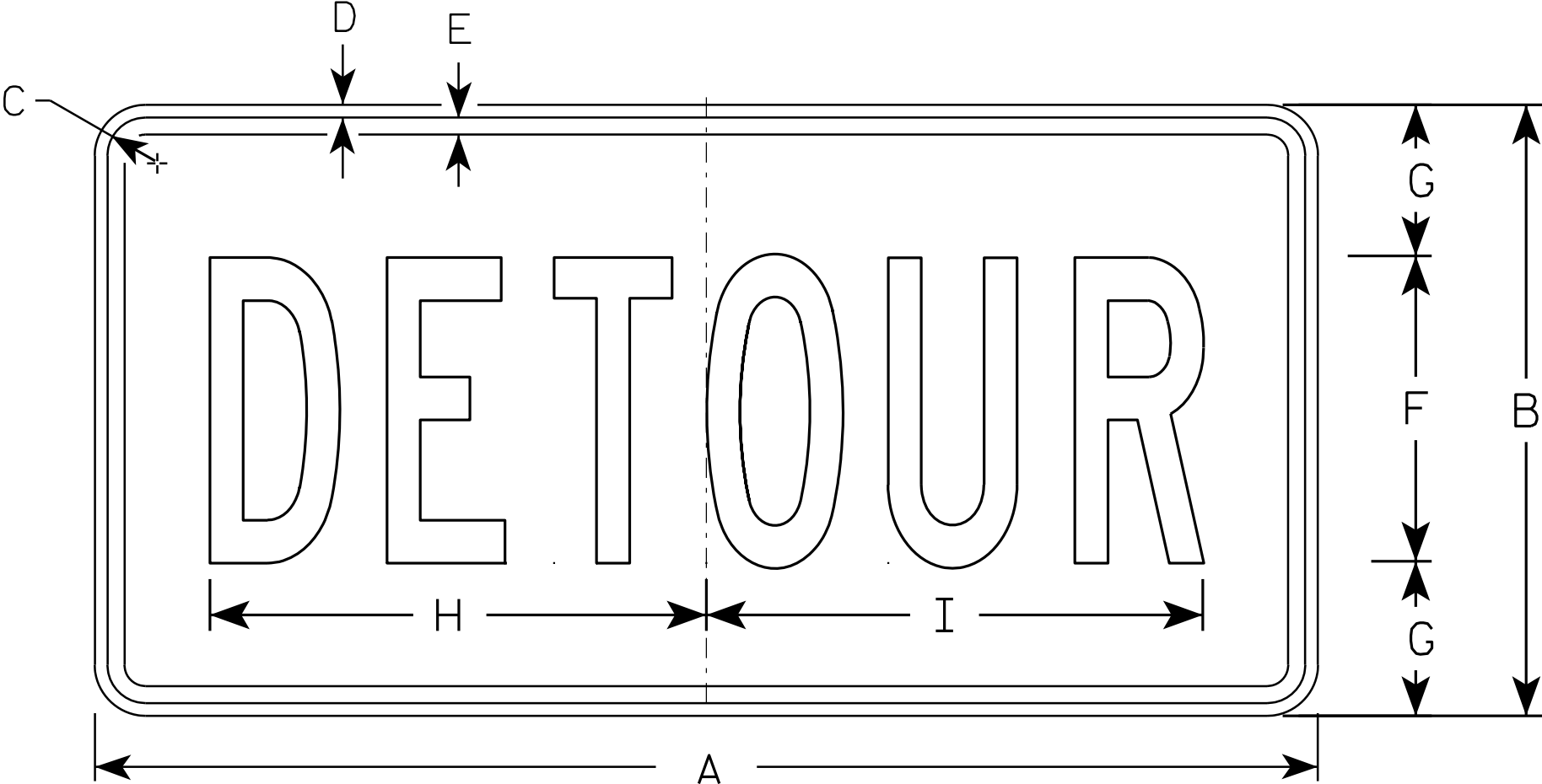
COUNTY:

SHEET NO:

E

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.



M4 - 8

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																											

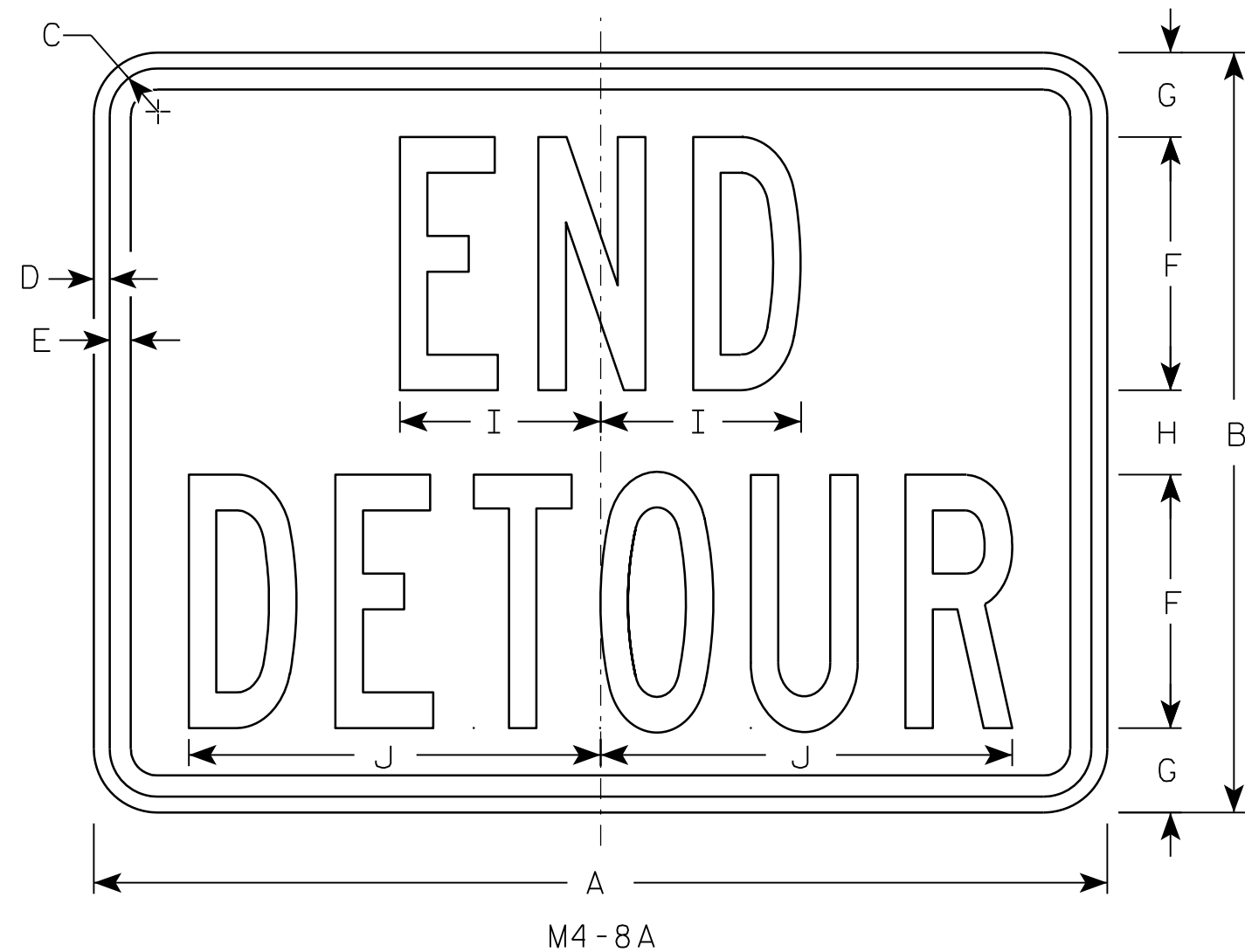
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



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.

7

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																											

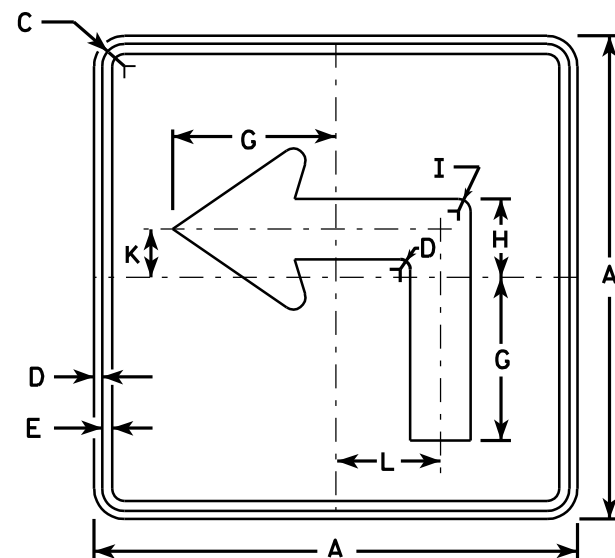
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M4-8A

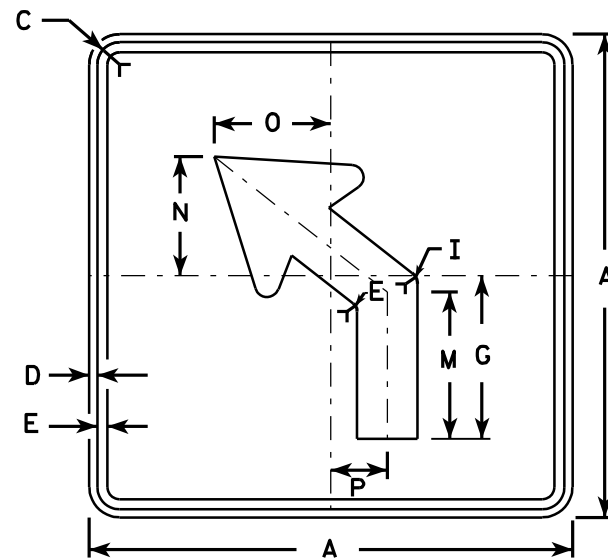
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

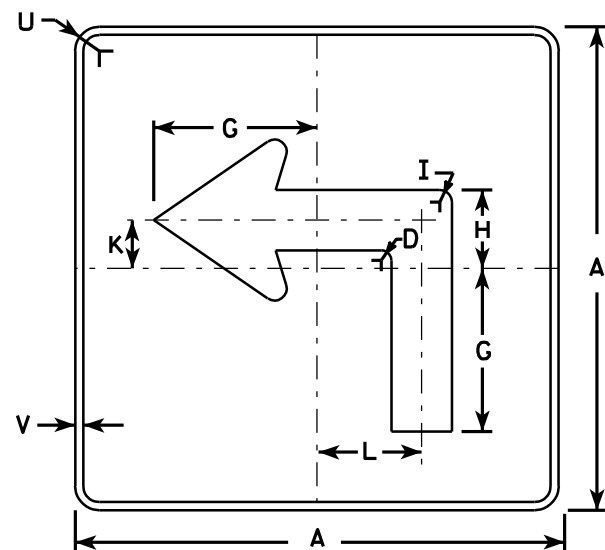
DATE 3/9/11 PLATE NO. M4-8A.2



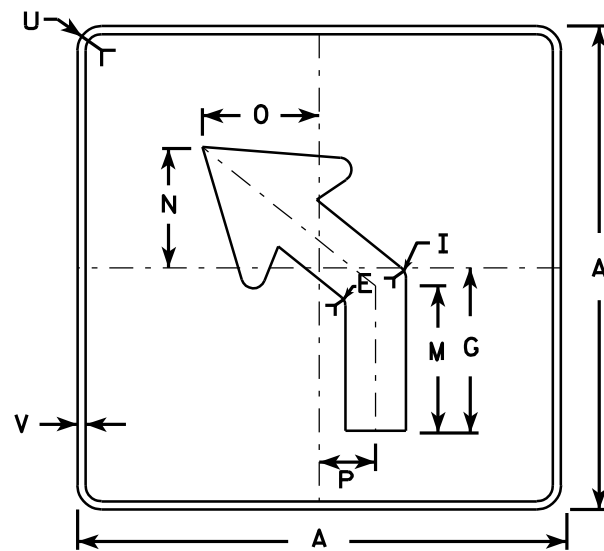
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



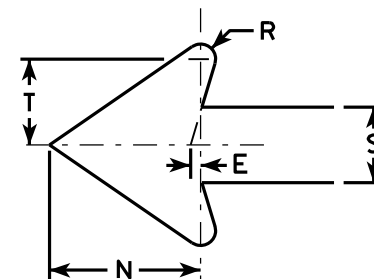
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 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.
- M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
MO5-1 and MO5-2 Background - Orange - Reflective
Message - Black
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq.
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

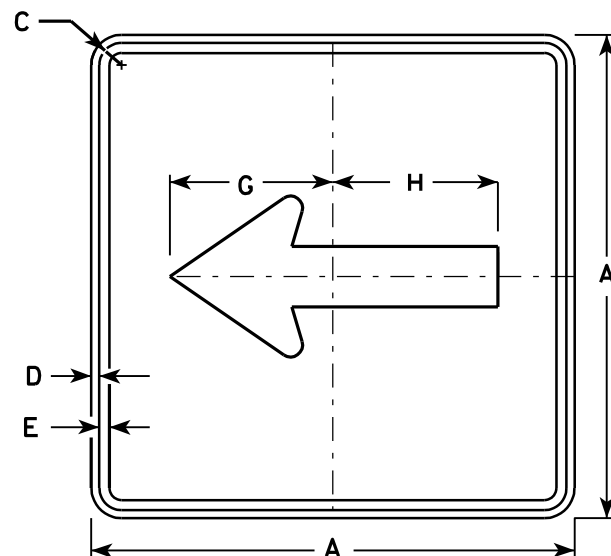
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M5-1 & M5-2

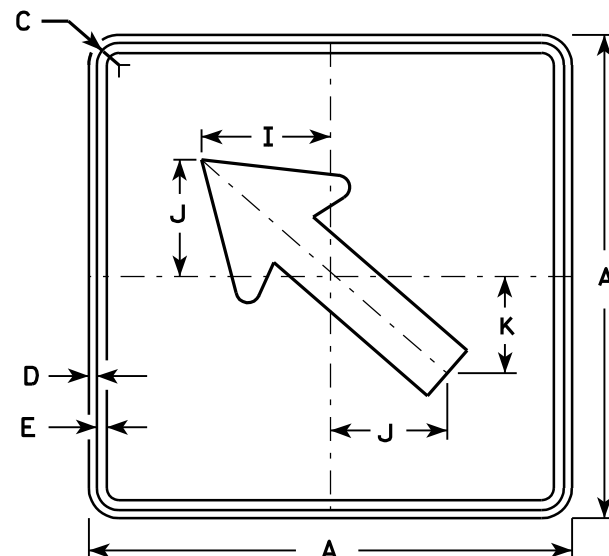
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

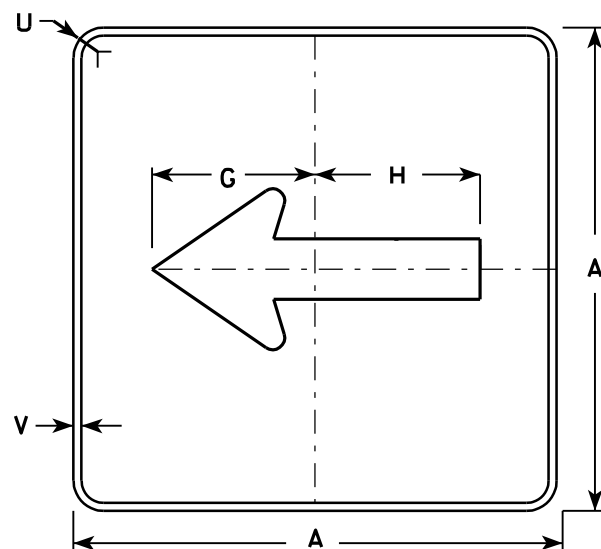
DATE 3/16/10 PLATE NO. M5-1.11



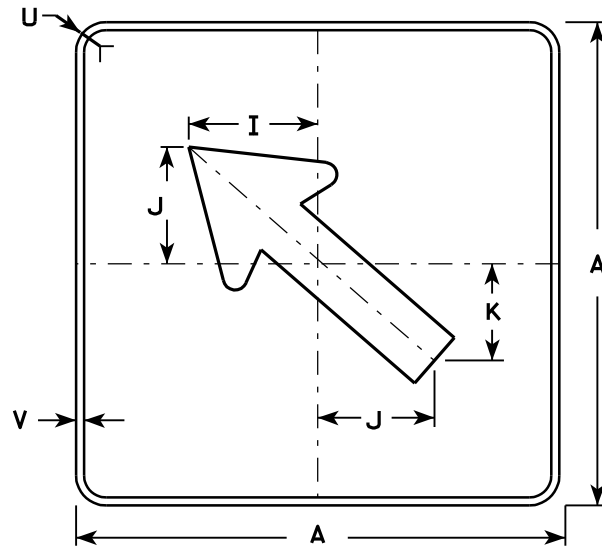
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



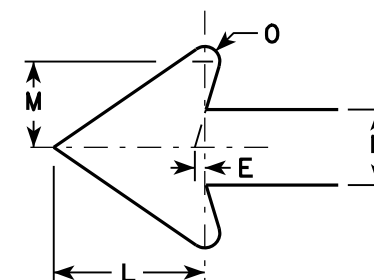
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG6-1 and MG6-2 Background - Green
Message - White - Type H Reflective
MK6-1 and MK6-2 Background - Green
Message - White - Type H Reflective
MM6-1 and MM6-2 Background - White - Type H Reflective
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White - Type H Reflective
MO6-1 and MO6-2 Background - Orange - Reflective
Message - Black
MR6-1 and MR6-2 Background - Brown
Message - Yellow - Type H Reflective



Metric equivalent
for this sign is:

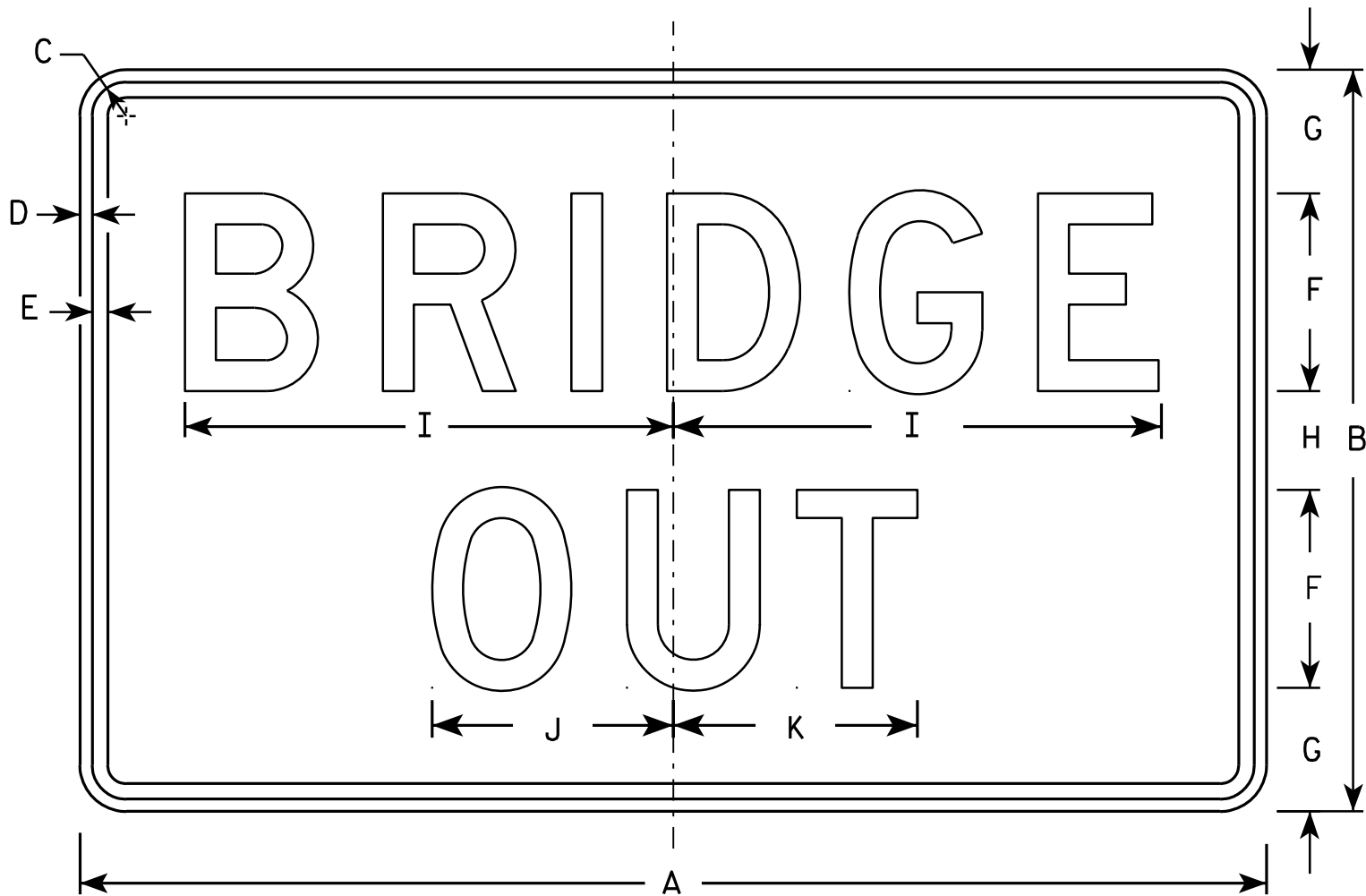
SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	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	0.28
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	0.56
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	0.56
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	0.56

PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

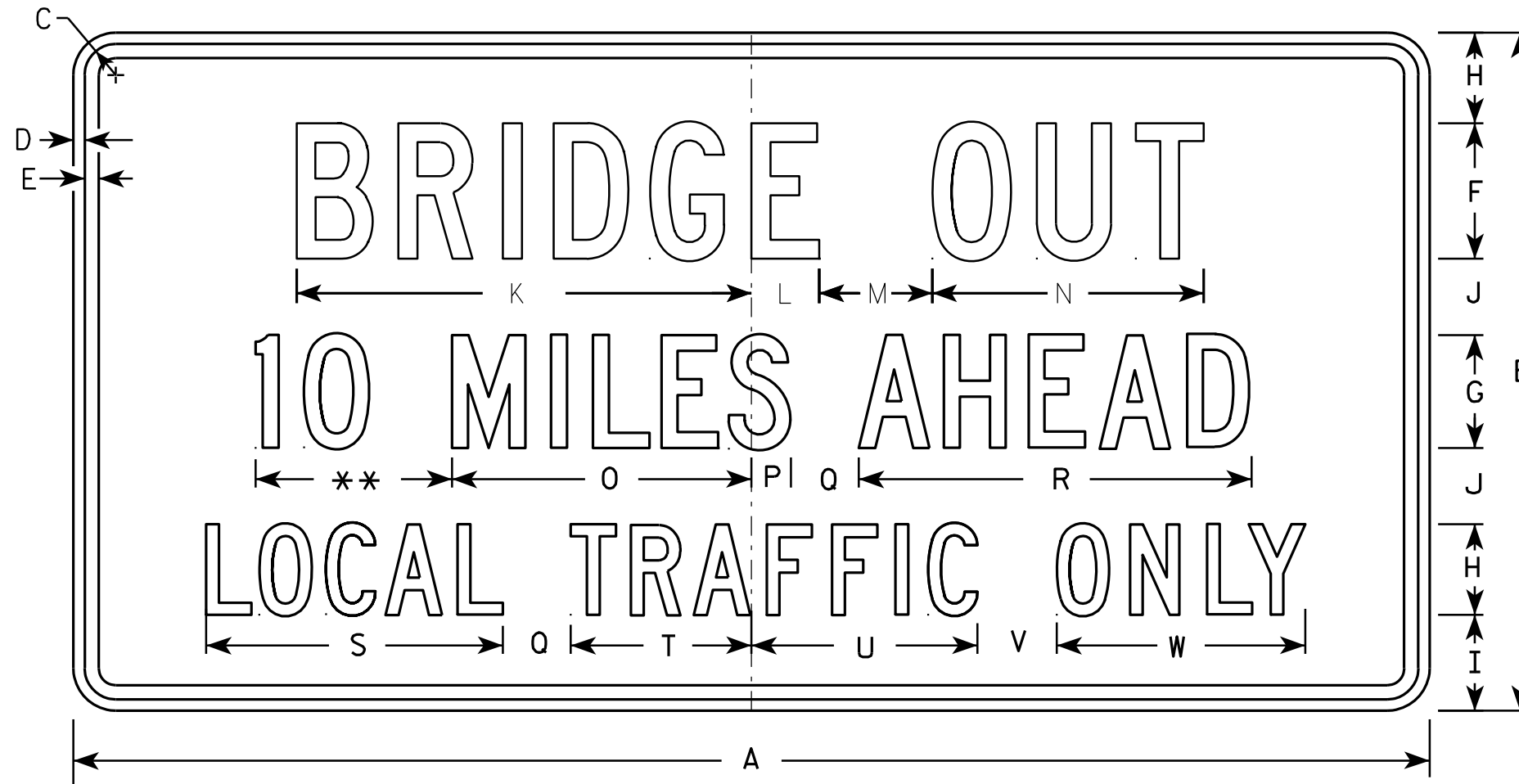
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall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



R11-2B

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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-2B.2



R11-3B

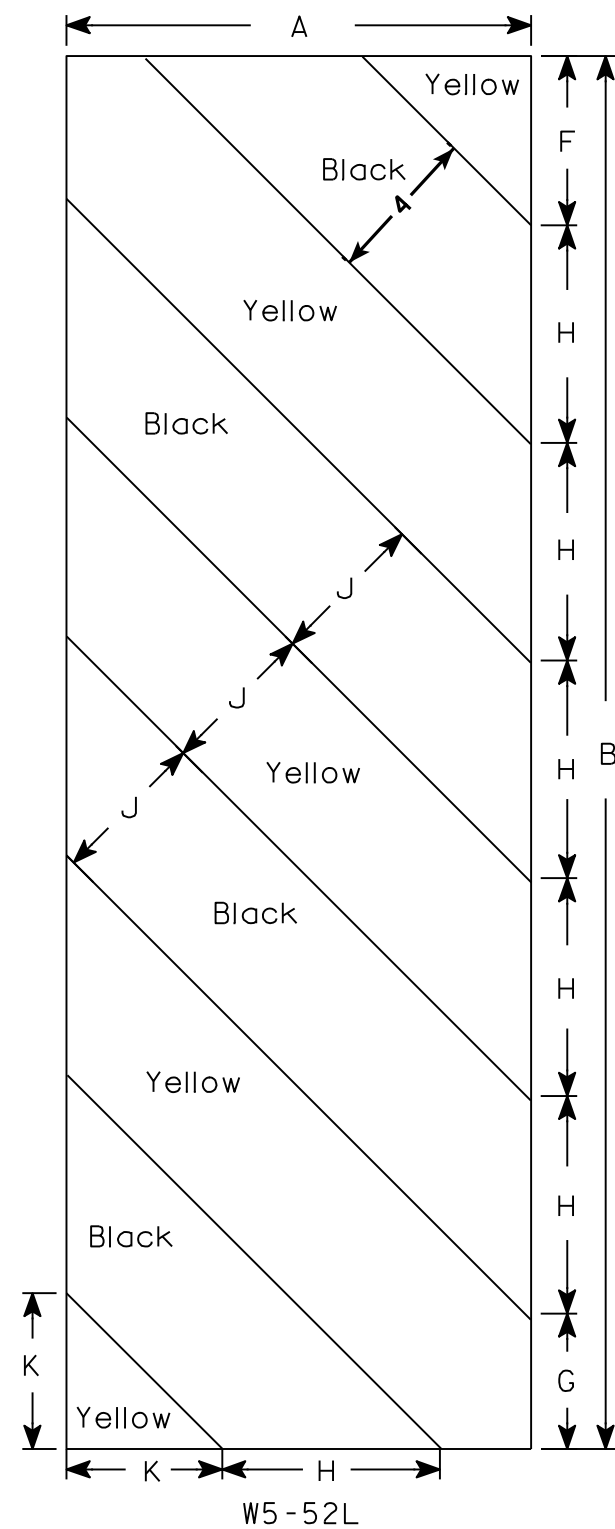
NOTES

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.

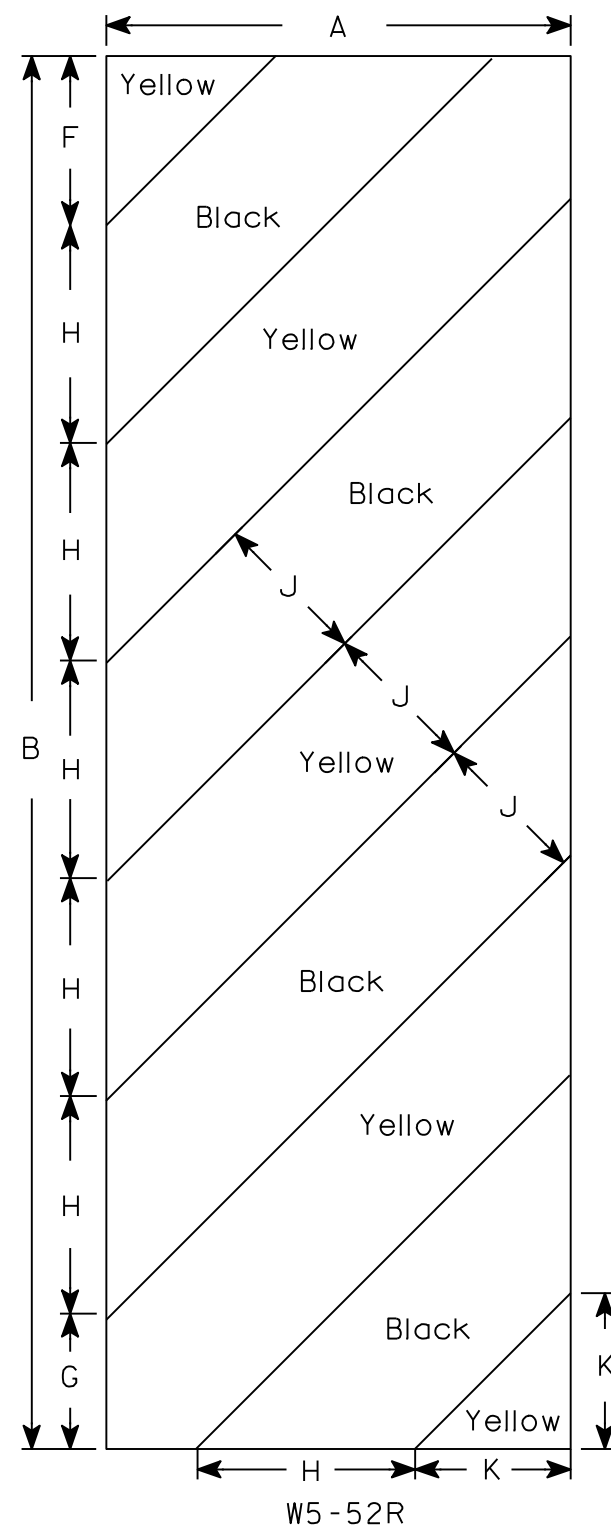
** See Note 5

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	18	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	2	2	13 1⁄4	2 1⁄4	3	8	8	1 1⁄2	2	10 3⁄4	8 3⁄8	4 3⁄4	6 1⁄2	2	6 3⁄4				4.5
2S	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
2M	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
3																											
4																											
5																											

STANDARD SIGN R11-3B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-3B.2



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.

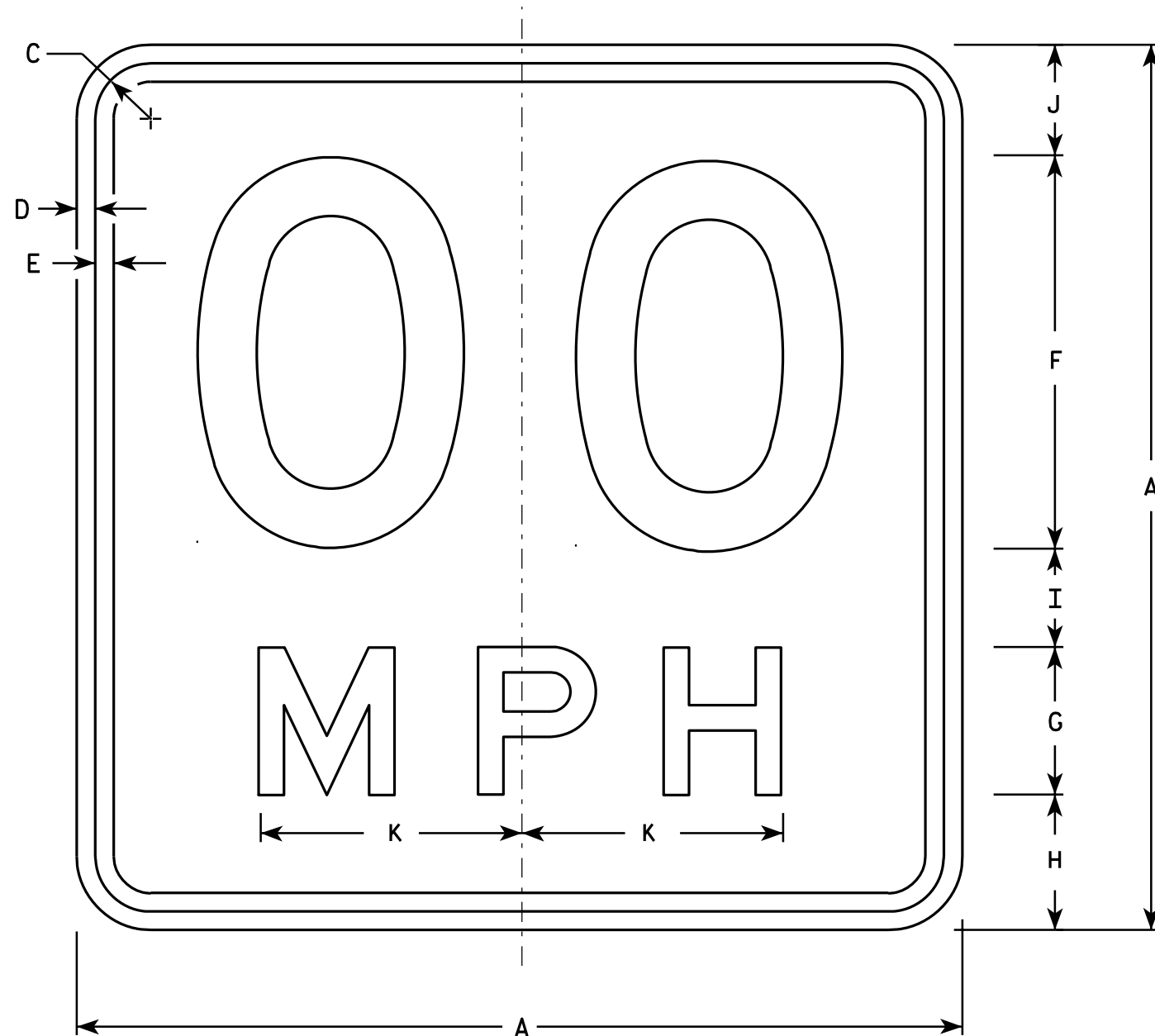
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄16																6.75
4																											
5																											

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



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

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.

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

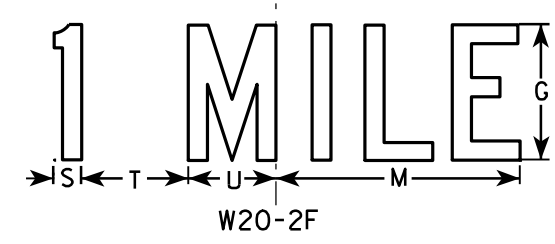
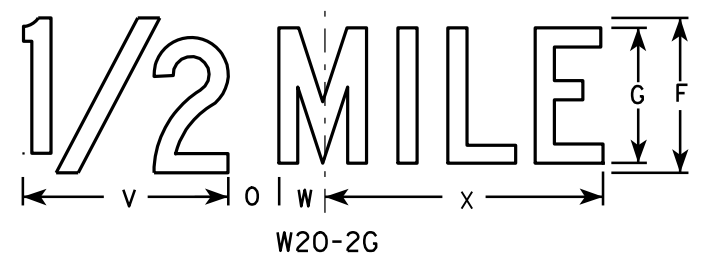
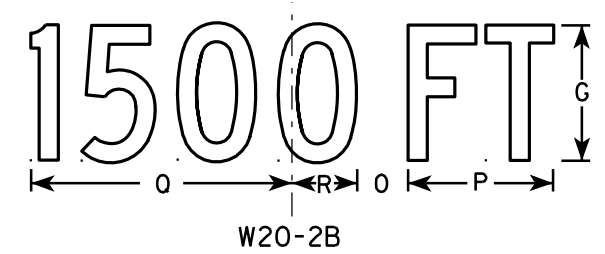
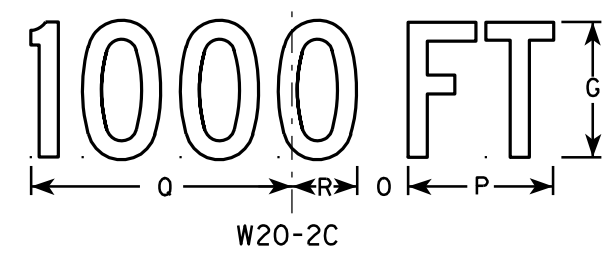
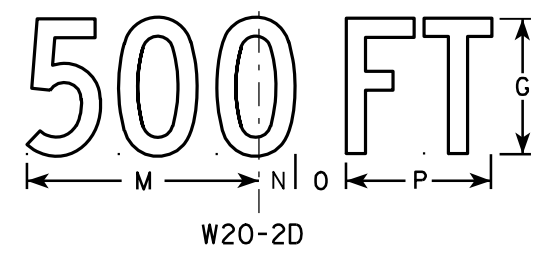
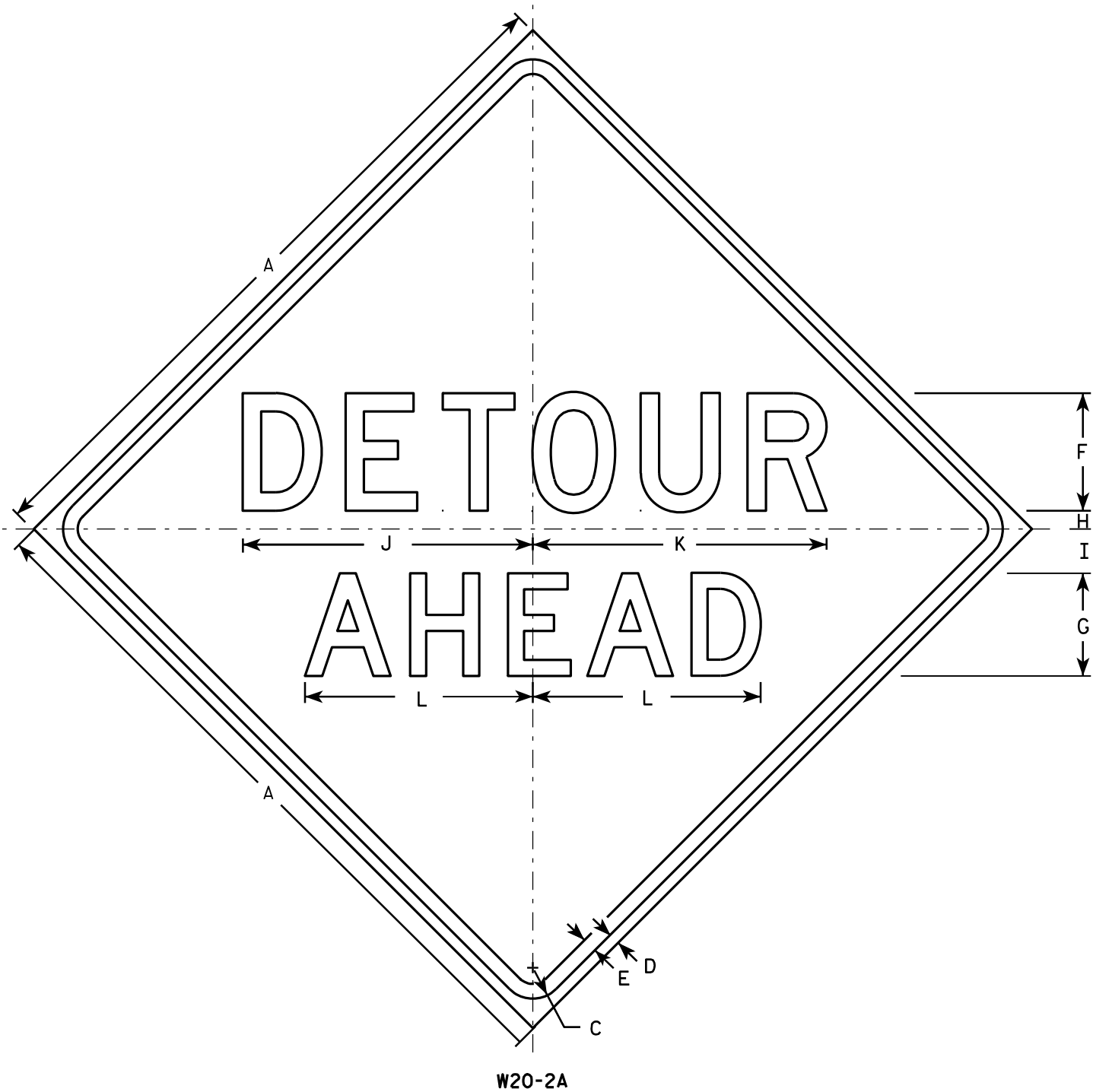
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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.

7

7

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	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

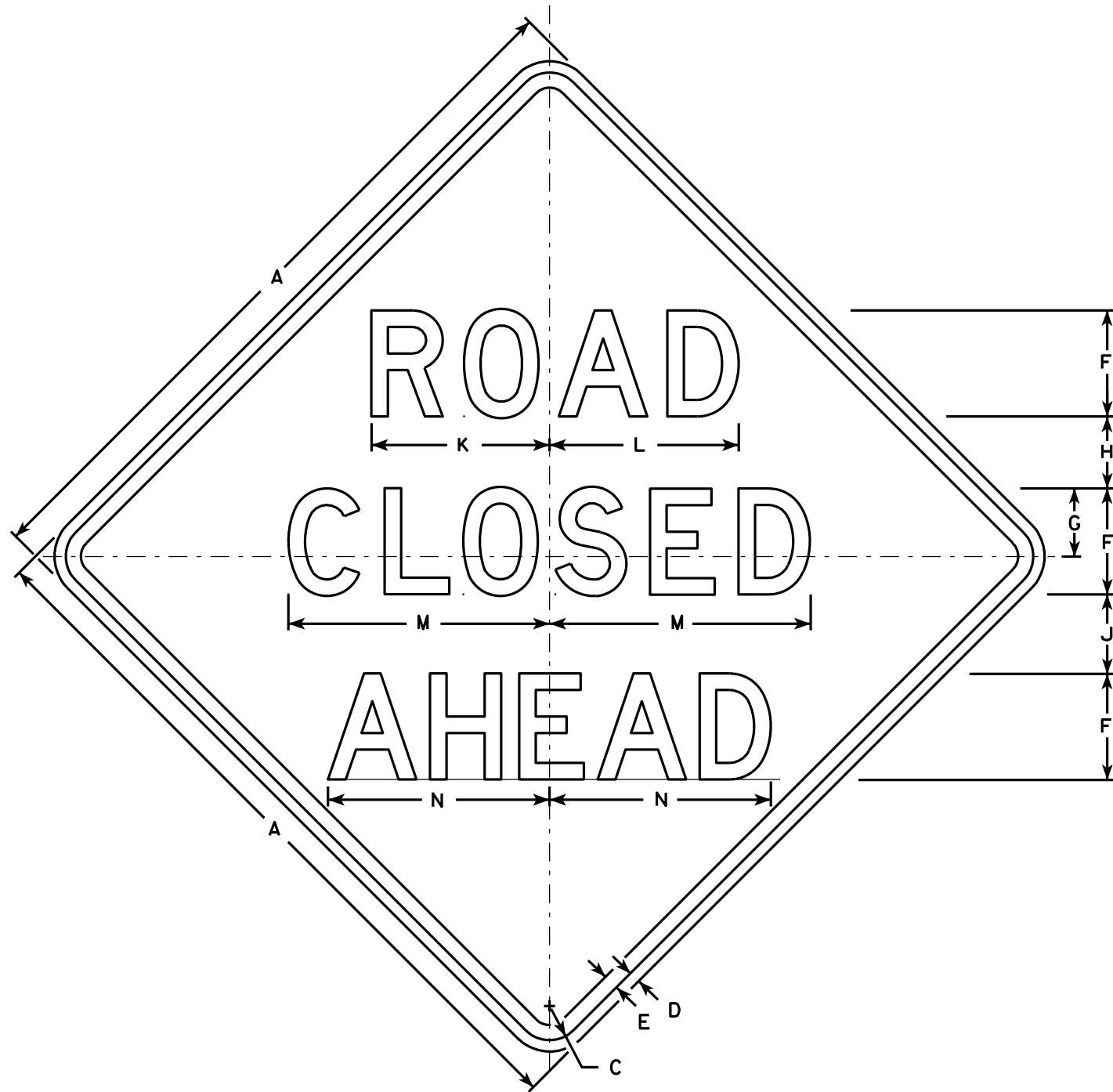
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

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:

E

DESIGN DATA

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

LIVE LOAD:
DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF = 1.24
OPERATING RATING FACTOR _____ RF = 1.62
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

MATERIAL PROPERTIES:
CONCRETE SUPERSTRUCTURE _____ f'c = 4,000 psi
CONCRETE SUBSTRUCTURE _____ f'c = 3,500 psi
HIGH STRENGTH BAR _____
STEEL REINFORCEMENT _____ fy = 60,000 psi

TRAFFIC DATA:
A.D.T. (2018) : 90
A.D.T. (2038) : 110
DESIGN SPEED: 45 MPH

FOUNDATION DATA:
ABUTMENTS AND PIERS TO BE SUPPORTED ON HP 10x42 STEEL PILING DRIVEN TO THE FOLLOWING REQUIRED DRIVING RESISTANCES PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

WEST ABUTMENT _____ 140 TON*
PIER 1 _____ 180 TON*
PIER 2 _____ 180 TON*
EAST ABUTMENT _____ 140 TON*

* 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.

ESTIMATED PILE LENGTHS:
WEST ABUTMENT _____ 75 FEET EACH
PIER 1 _____ 75 FEET EACH
PIER 2 _____ 75 FEET EACH
EAST ABUTMENT _____ 75 FEET EACH

HYDRAULIC DATA

Q₁₀₀ _____ 2,750 C.F.S.
VELOCITY _____ 5.61 F.P.S.
HW₁₀₀ ELEV. _____ 727.01 FT.
WATERWAY AREA (BRIDGE) _____ 491 S.F.
DRAINAGE AREA _____ 47.4 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY _____ N/A
Q₂ _____ 852 C.F.S.
HW₂ _____ 725.38 FT.
SCOUR CODE _____ 5

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES AND DETAILS
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. PIER DETAILS
9. SUPERSTRUCTURE PLAN, SECTION AND DETAILS
10. SUPERSTRUCTURE SECTION AND DETAILS
11. TUBULAR STEEL RAILING TYPE M

LEGEND

BENCH MARK

DESIGN CONTACT:

KEITH BEHREND (608) 251-4843

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 261-8205

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	8+87.12, 34.53' LT	RAILROAD SPIKE	725.73
BM 2	11+97.22, 33.61' LT	RAILROAD SPIKE	725.89

BM 1

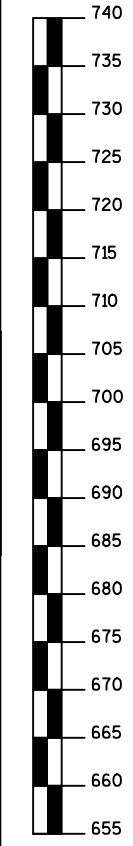
SEE SHEET 5 FOR NAME PLATE LOCATION

PLAN

(3-SPAN CONCRETE FLAT SLAB)

ELEVATION

(LOOKING NORTH)



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

THE FIRST ONE OR TWO DIGITS OF A REINFORCING BAR MARK SIGNIFIES THE BAR SIZE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-59-195" SHALL BE THE EXISTING GROUND LINE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENT SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

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 STRUCTURE BACKFILL.

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

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE EXISTING STRUCTURE P-59-158, A TWO-SPAN CONCRETE GIRDER BRIDGE, IS TO BE REMOVED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, III OR AASHTO DESIGNATION M213.

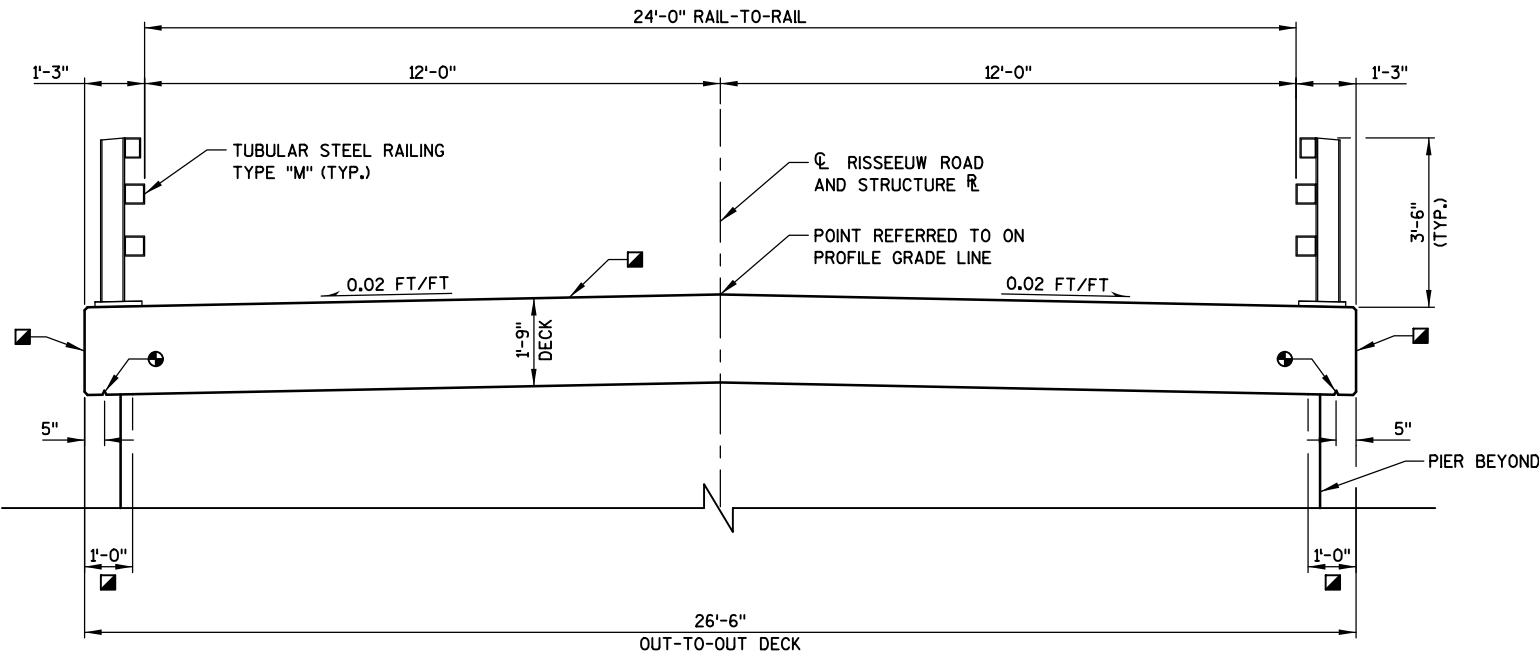
BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

THE EXISTING STREAMBED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

LEGEND

- 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.
- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL SHEET 4.

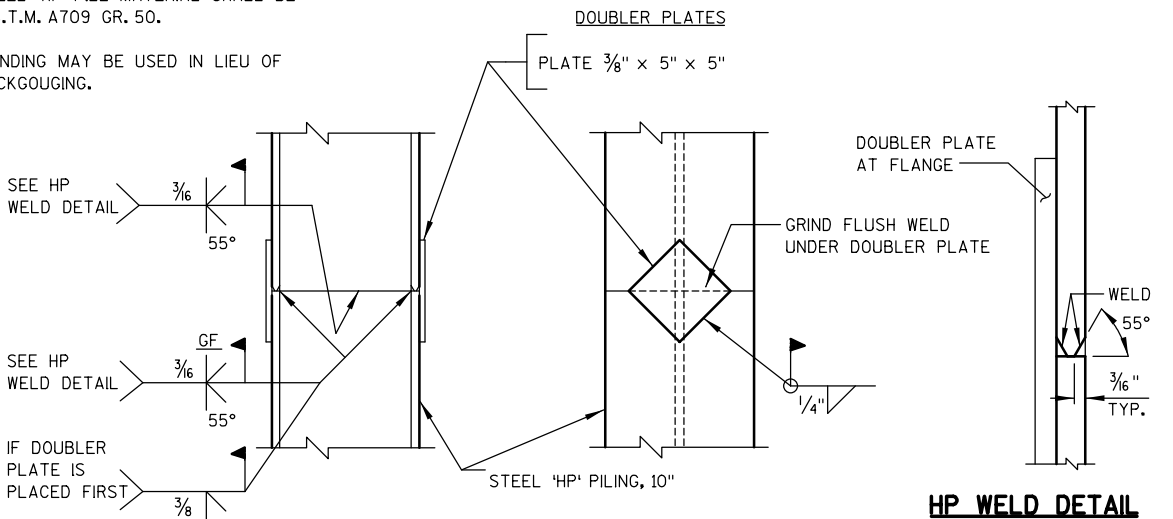


CROSS SECTION THRU SUPERSTRUCTURE

PILE SPlice NOTES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.

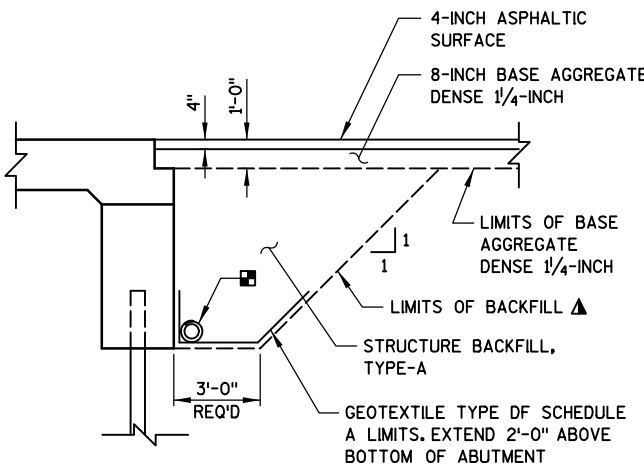
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



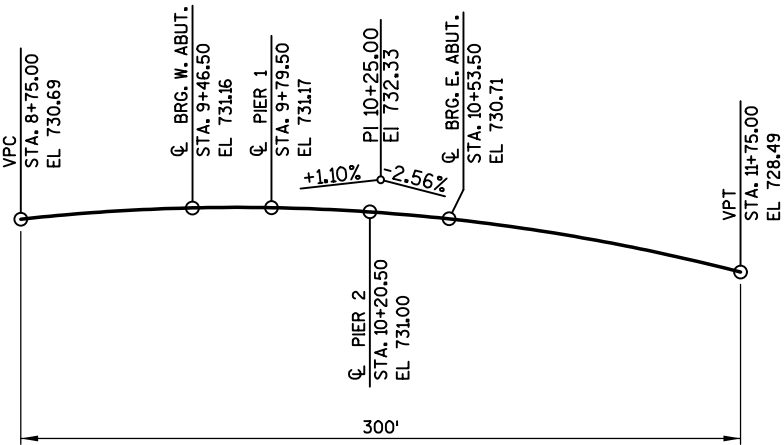
PILE SPlice DETAILS

HP WELD DETAIL

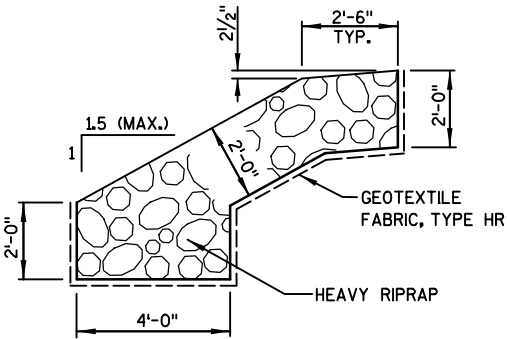
FLANGE SHOWN, WEB SIMILAR



TYPICAL SECTION THRU ABUTMENT



PROFILE GRADE LINE



RIPRAP HEAVY DETAIL

TOTAL ESTIMATED QUANTITIES

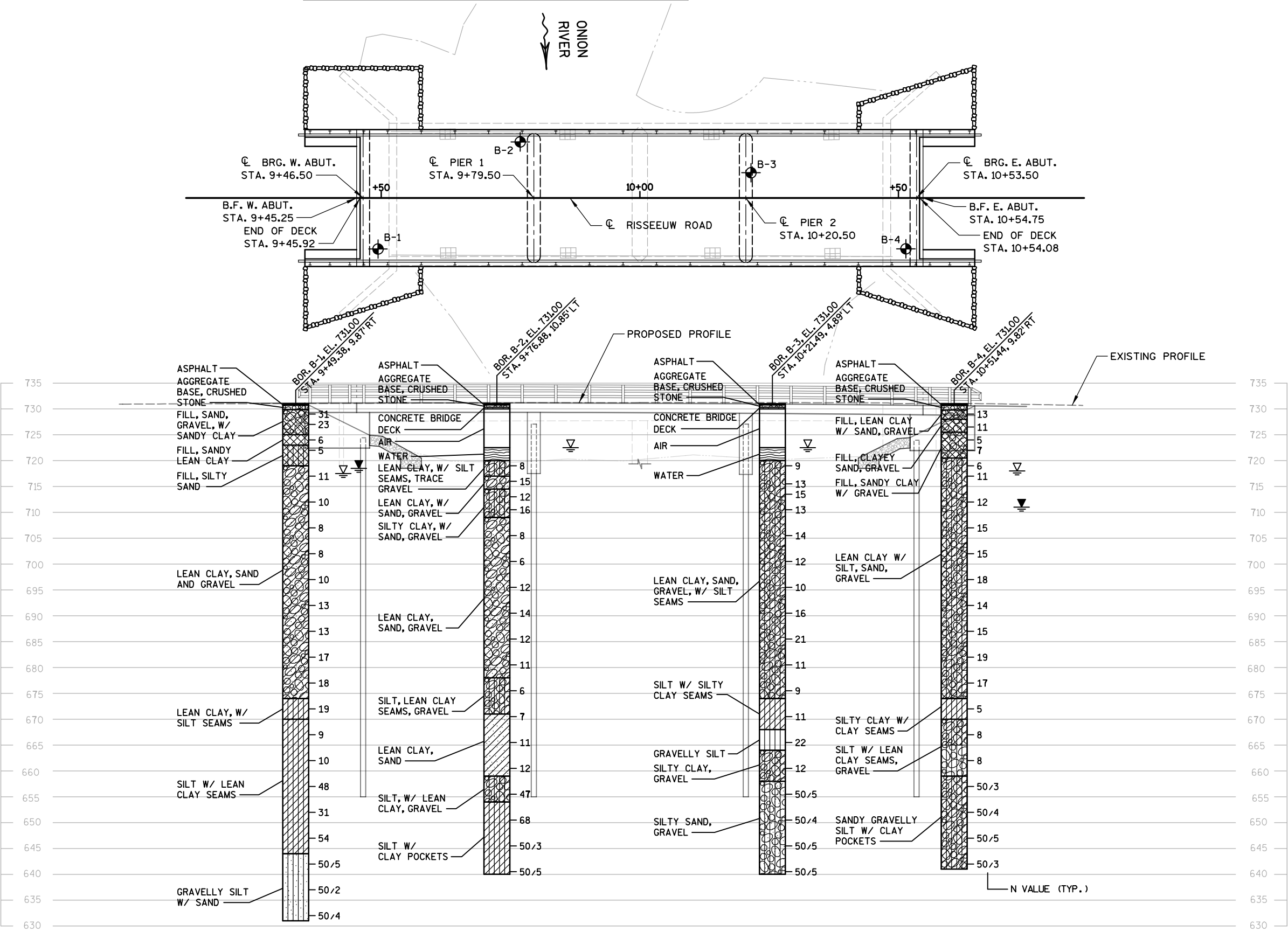
BID NUMBER	BID ITEM	UNITS	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTALS
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STA. 10+00	L.S.	--	--	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGE B-59-195	L.S.	--	--	--	--	--	1
210.1500	STRUCTURE BACKFILL TYPE A	TON	102	--	--	102	--	204
502.0100	CONCRETE MASONRY BRIDGES	C.Y.	32	27	27	32	191	309
502.3200	PROTECTIVE SURFACE TREATMENT	S.Y.	3	--	--	3	385	391
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB.	1,600	2,560	2,560	1,600	--	8,320
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB.	1,460	100	100	1,460	33,890	37,010
513.4061	RAILING TUBULAR TYPE M B-59-195	L.F.	22	--	--	22	220	264
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	8	--	--	8	--	16
550.1100	PILING STEEL HP 10-INCH X 42 LB.	L.F.	300	375	375	300	--	1,350
606.0300	RIPRAP HEAVY	C.Y.	79	--	--	70	--	149
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	L.F.	90	--	--	90	--	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	S.Y.	23	--	--	23	--	46
645.0120	GEOTEXTILE TYPE HR	S.Y.	134	--	--	122	--	256
	NON-BID ITEMS							
	FILLER	SIZE	1/2" & 3/4"	3/4"	3/4"	1/2" & 3/4"	--	1/2" & 3/4"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
	DRAWN BY	OTH	PLANS CK'D. DJW
CROSS SECTION, QUANTITIES, NOTES & DETAILS			SHEET 2

BORINGS PERFORMED AND REPORT COMPLETED BY:
PROFESSIONAL SERVICE INDUSTRIES (PSI)
821 CORPORATE COURT
WAUKESHA, WI 53189

BORINGS WERE PERFORMED ON 3/21/2016,
3/22/2016, 3/28/2016.

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	3/21/16	122,187.34	176,361.05
2	3/22/16	122,207.71	176,388.81
3	3/28/16	122,201.20	176,433.35
4	3/21/16	122,186.12	176,463.11
BORINGS COMPLETED BY: PSI			
REPORT COMPLETED BY: PSI			
ALL COORDINATES REFERENCED TO SHEBOYGAN COUNTY COORDINATE SYSTEM			



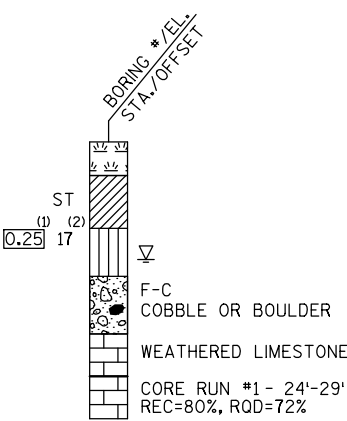
STATE PROJECT NUMBER

4198-06-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION
DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-59-195			
DRAWN BY		DTH	PLANS C'D. DJW
SUBSURFACE EXPLORATION		SHEET 3	

GENERAL NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

SEE SHEET 5 FOR REINFORCING DETAILS.

ADJUST A501 BARS INTERFERING WITH PILES.

WEST ABUTMENT TO BE SUPPORTED ON HP 10x42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION, ESTIMATED 75 FEET LONG EACH.

LEGEND

● 1/2" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

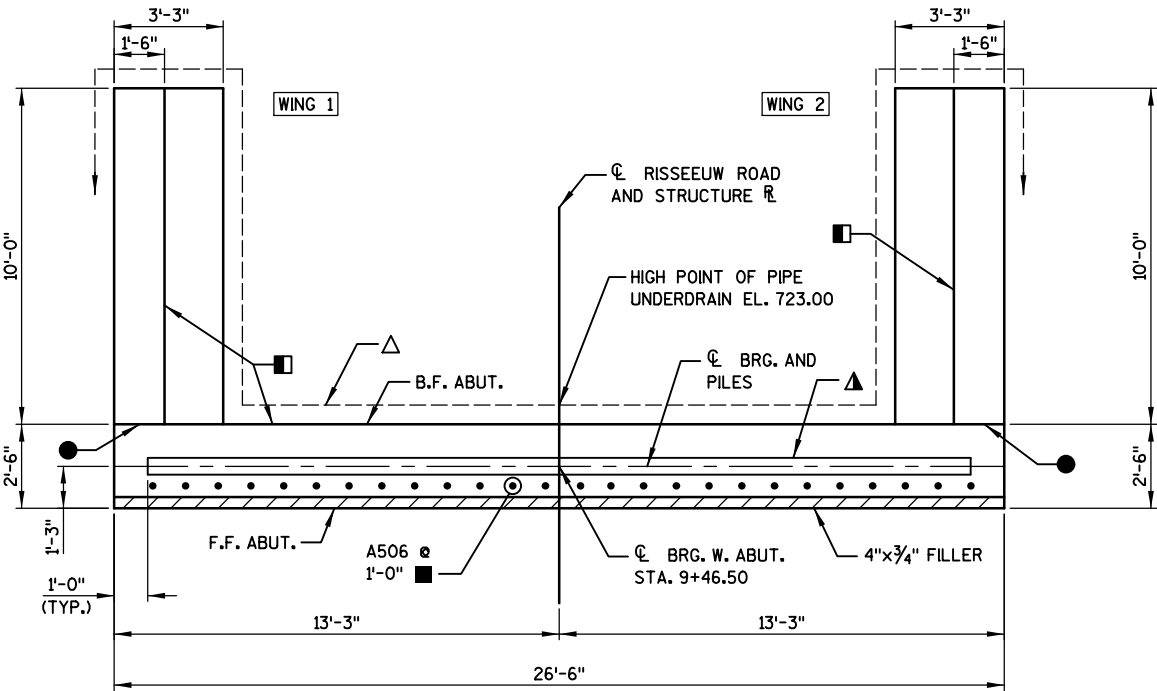
△ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.

■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

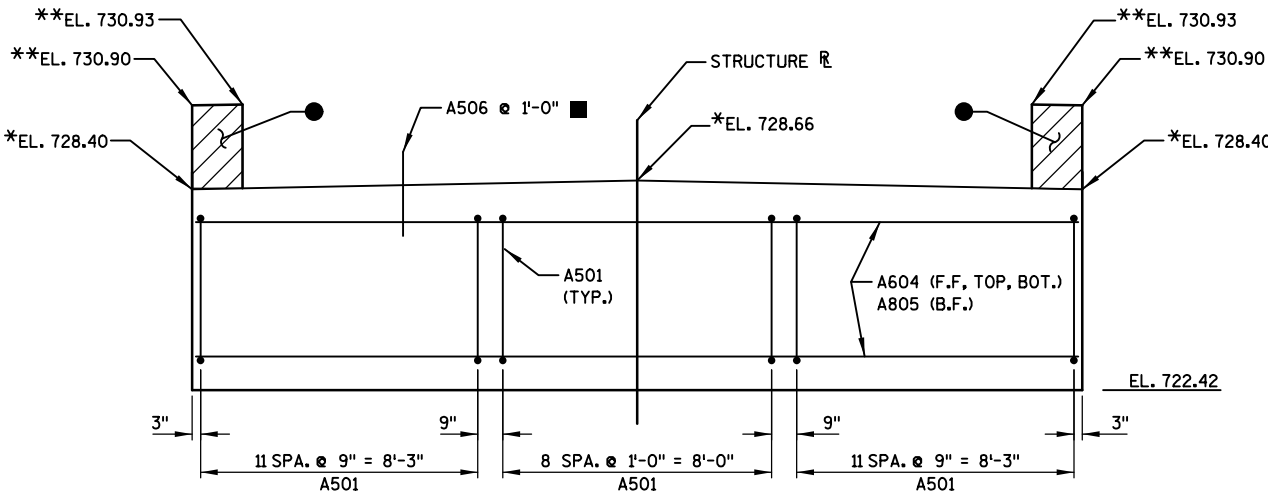
* THESE ELEVATIONS GIVEN AT C. BRG. ABUT.

** THESE ELEVATIONS GIVEN AT B.F. ABUT.

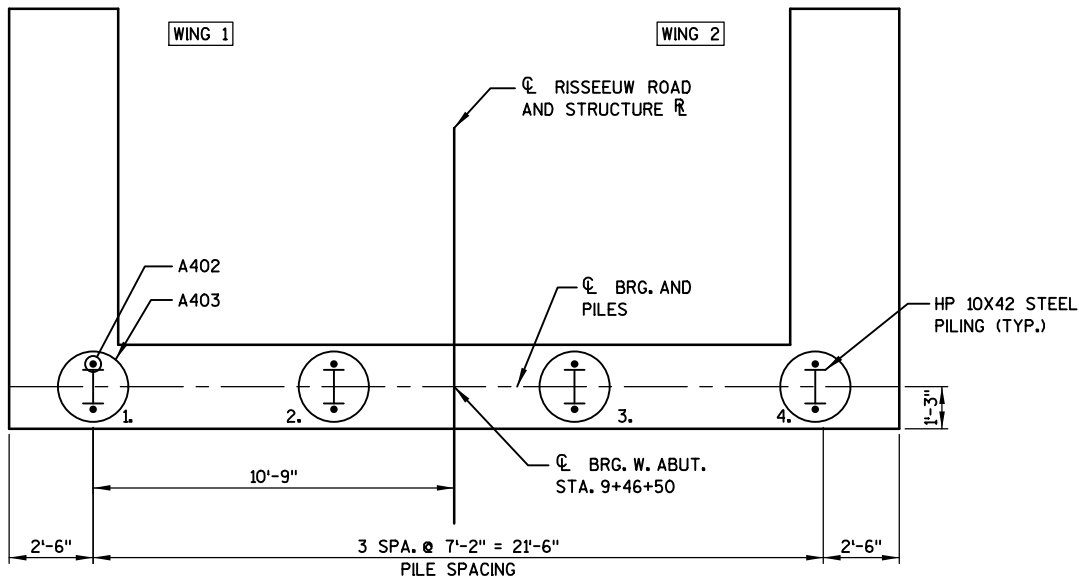
▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".



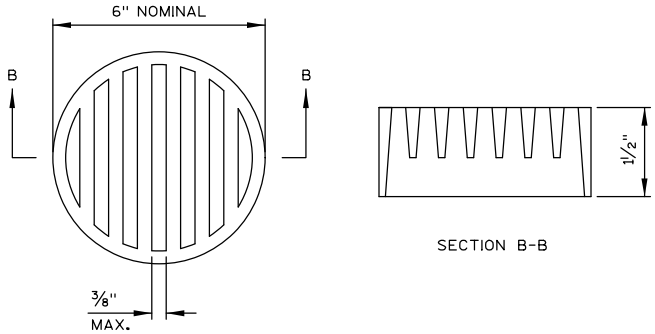
PLAN



ELEVATION
(LOOKING WEST)



PILE PLAN



NOTES:
DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.
ORIENT SHIELD SO SLOTS ARE VERTICAL.
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH SS SCREWS.

RODENT SHIELD

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		OTH	PLANS CK'D. DJW
WEST ABUTMENT		SHEET 4	

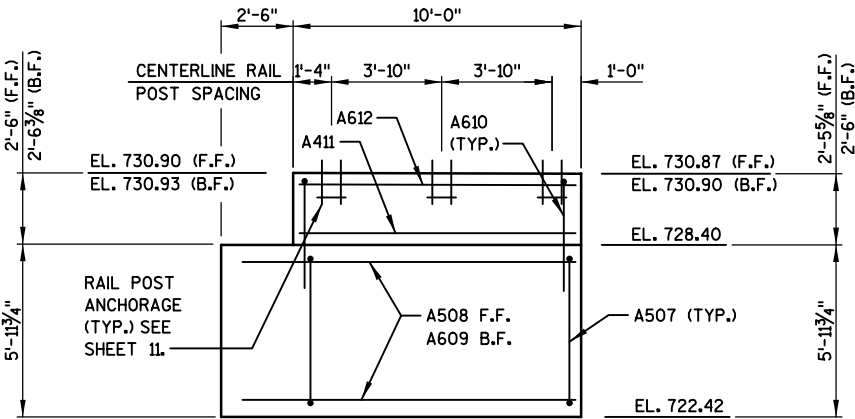
LEGEND

- OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE. 1'-0" MAX. SPACING.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 723.00 AT R. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED SHEET 4.

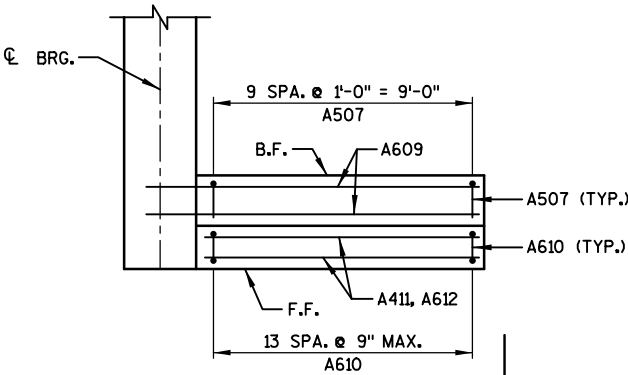
WEST ABUTMENT
BILL OF BARS

UNCOATED: 1,600 LBS
COATED: 1,460 LBS

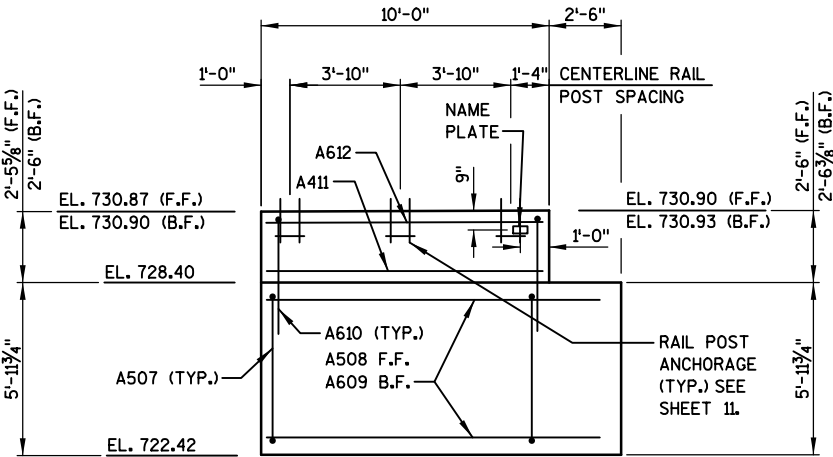
MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	33	15'-11"	X		LOWER BODY - VERT.
A402	8	2'-3"			LOWER BODY - PILES
A403	4	28'-0"	X		LOWER BODY - PILES
A604	11	26'-2"			LOWER BODY - F.F., TOP, BOT. - HORIZ.
A805	7	28'-5"	X		LOWER BODY - B.F. - HORIZ.
A506	25	2'-0"		X	LOWER BODY - VERT.
A507	20	17'-7"	X	X	LOWER WINGS - VERT.
A508	14	12'-2"		X	LOWER WINGS - F.F. - HORIZ.
A609	16	12'-2"		X	LOWER WINGS - B.F. - HORIZ.
A610	28	10'-4"	X	X	UPPER WINGS - VERT.
A411	12	9'-7"		X	UPPER WINGS - HORIZ.
A612	4	9'-7"		X	UPPER WINGS - HORIZ.



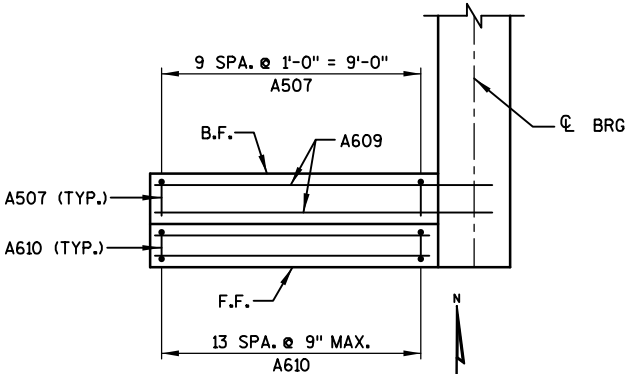
WING 2 ELEVATION
(FRONT FACE)



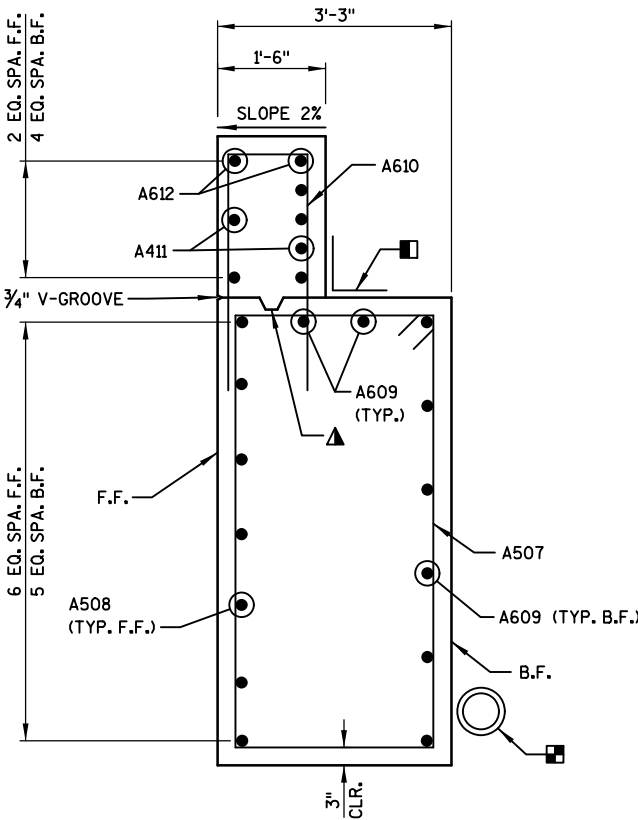
WING 2 PLAN



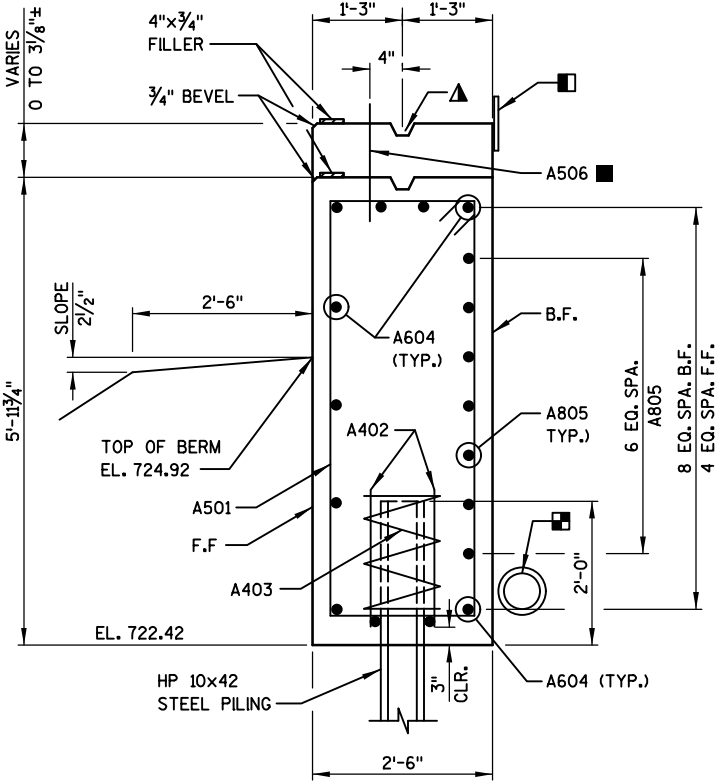
WING 1 ELEVATION
(FRONT FACE)



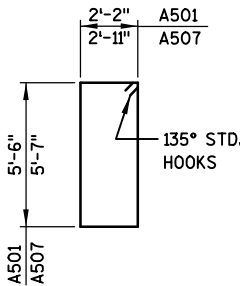
WING 1 PLAN



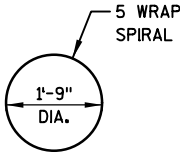
TYPICAL WING SECTION



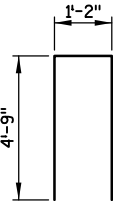
TYPICAL ABUTMENT SECTION



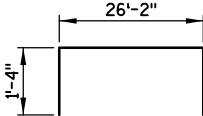
A501 A507



A403



A610



A805

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		OTH	PLANS CK'D. DJW
WEST ABUTMENT DETAILS		SHEET 5	

GENERAL NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

ADJUST B501BARS INTERFERING WITH PILES.

EAST ABUTMENT TO BE SUPPORTED ON HP 10x42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 75 FEET LONG EACH.

LEGEND

● 1/2" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

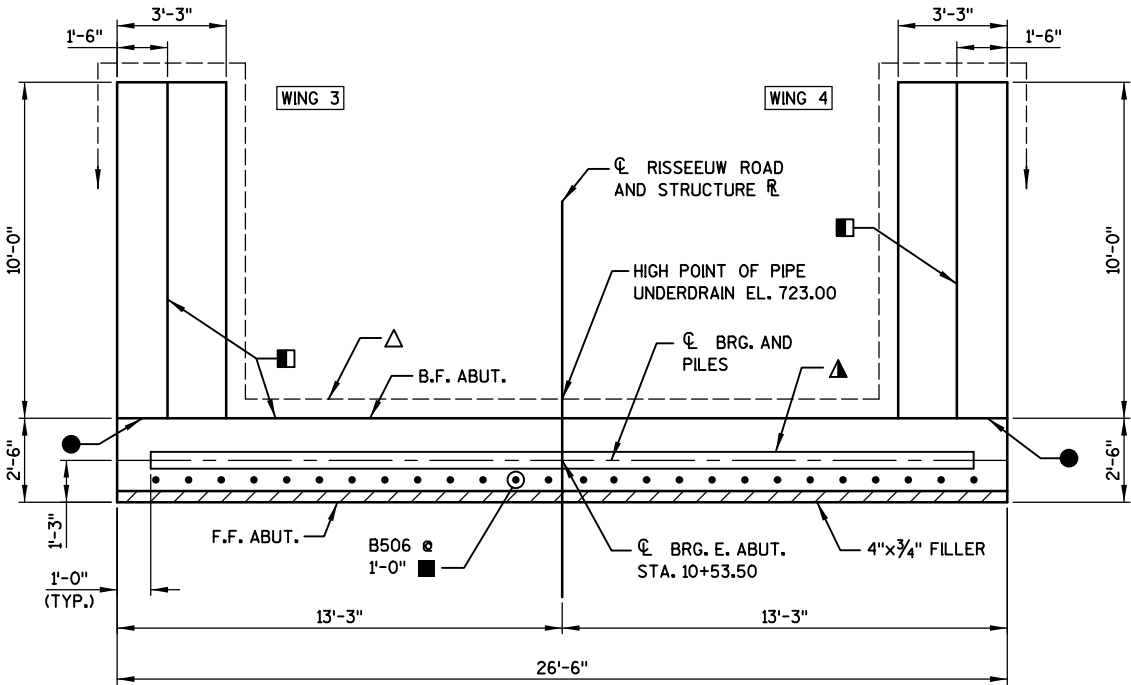
△ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL SHEET 4.

■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

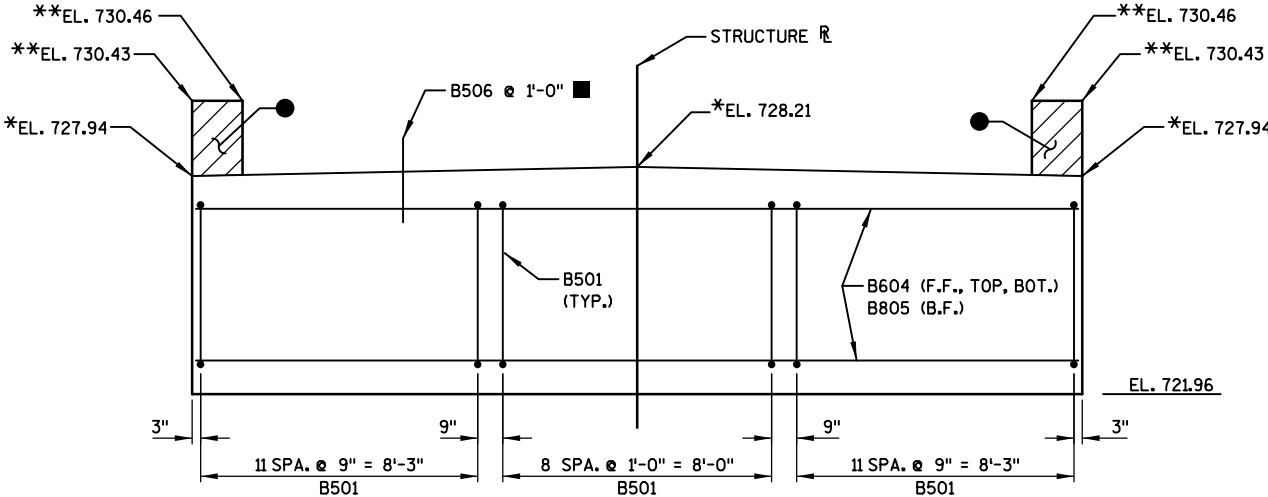
* THESE ELEVATIONS GIVEN AT C.BRG. ABUT.

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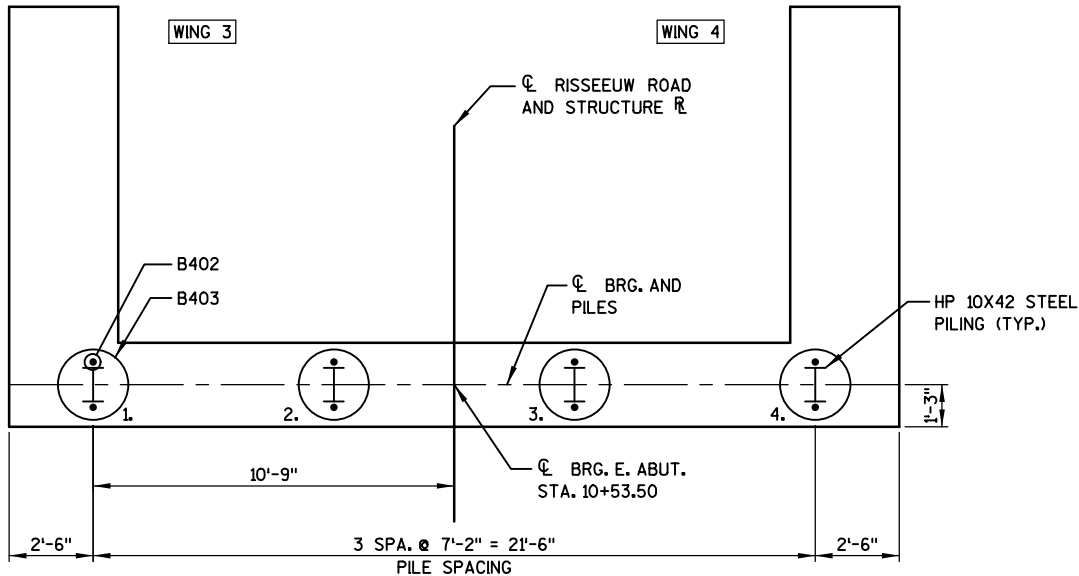
▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".



PLAN



ELEVATION
(LOOKING EAST)

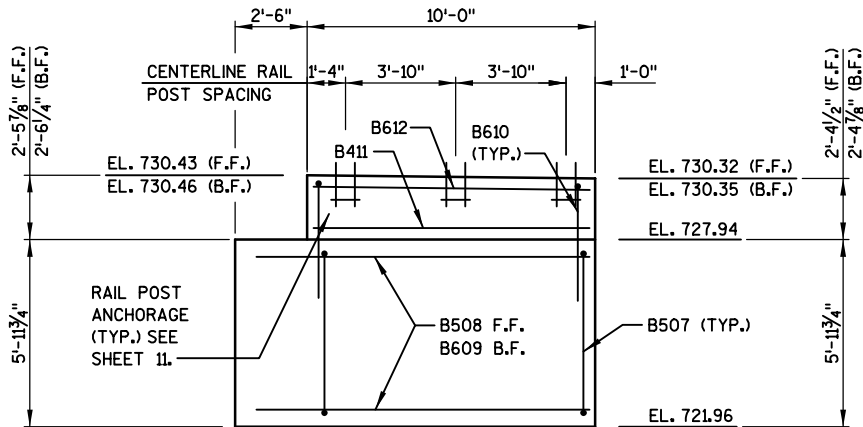


PILE PLAN

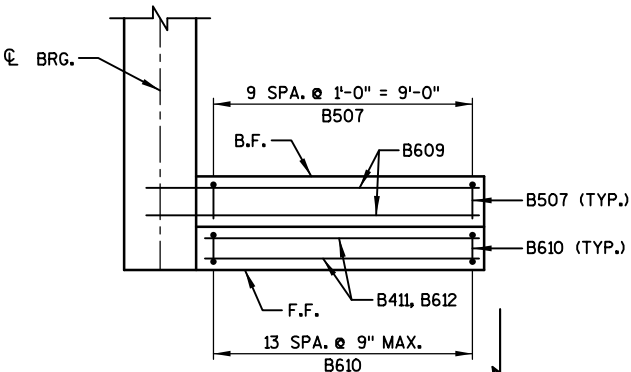
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		DTH	PLANS CK'D. DJW
EAST ABUTMENT			SHEET 6

LEGEND

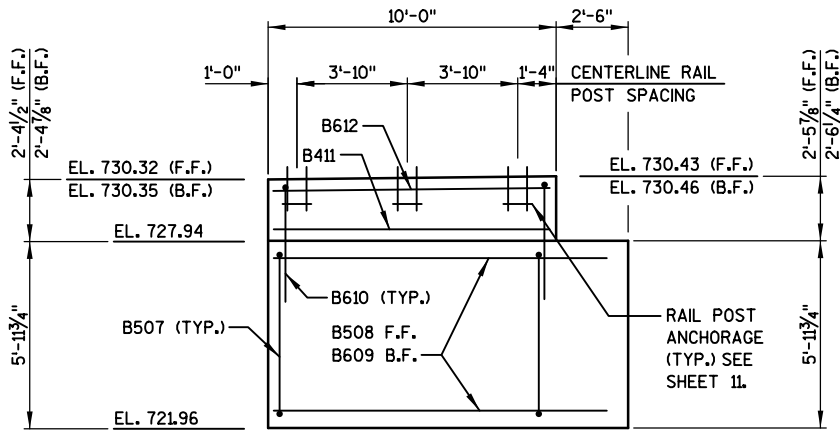
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INTIAL SET HAS TAKEN PLACE. 1'-0" MAX. SPACING.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 723.00 AT R. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.



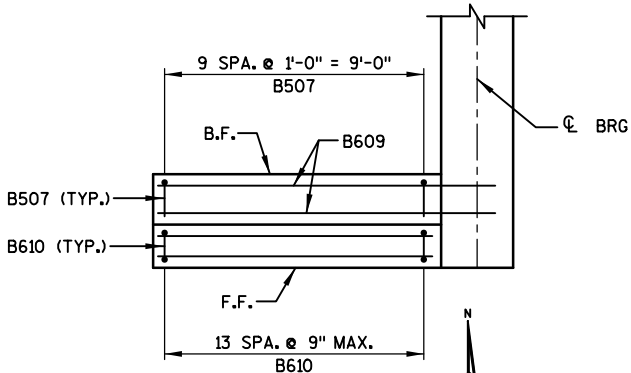
WING 4 ELEVATION
(FRONT FACE)



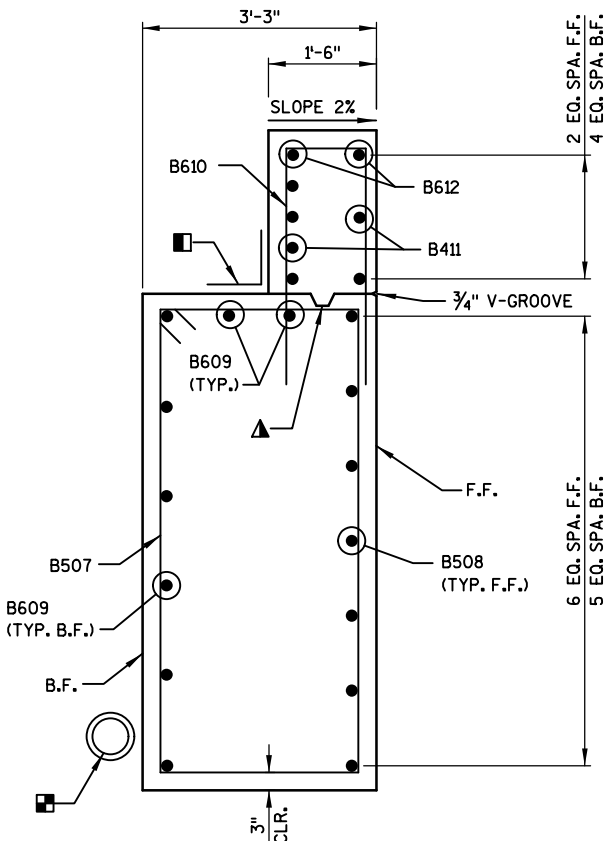
WING 4 PLAN



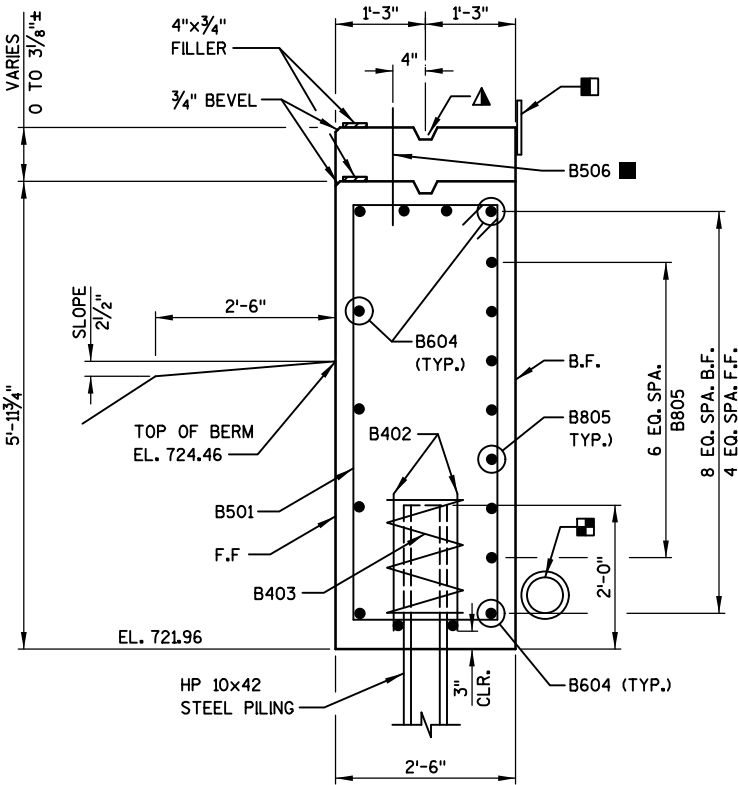
WING 3 ELEVATION
(FRONT FACE)



WING 3 PLAN



TYPICAL WING SECTION

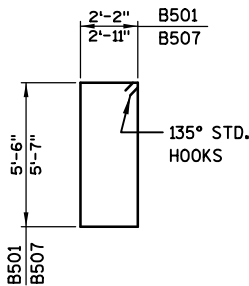


TYPICAL ABUTMENT SECTION

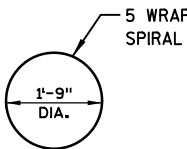
EAST ABUTMENT
BILL OF BARS

UNCOATED: 1,600 LBS
COATED: 1,460 LBS

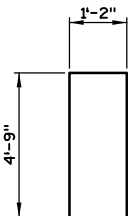
MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	33	15'-11"	X		LOWER BODY - VERT.
B402	8	2'-3"			LOWER BODY - PILES
B403	4	28'-0"	X		LOWER BODY - PILES
B604	11	26'-2"			LOWER BODY - F.F., TOP, BOT. - HORIZ.
B805	7	28'-5"	X		LOWER BODY - B.F. - HORIZ.
B506	25	2'-0"		X	LOWER BODY - VERT.
B507	20	17'-7"	X	X	LOWER WINGS - VERT.
B508	14	12'-2"		X	LOWER WINGS - F.F. - HORIZ.
B609	16	12'-2"		X	LOWER WINGS - B.F. - HORIZ.
B610	28	10'-4"	X	X	UPPER WINGS - VERT.
B411	12	9'-7"		X	UPPER WINGS - HORIZ.
B612	4	9'-7"		X	UPPER WINGS - HORIZ.



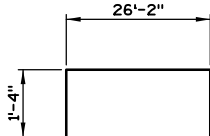
B501, B507



B403



B610

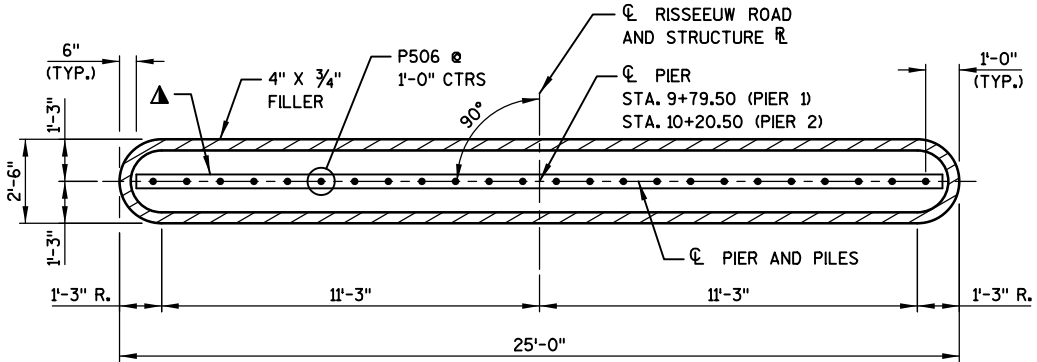


B805

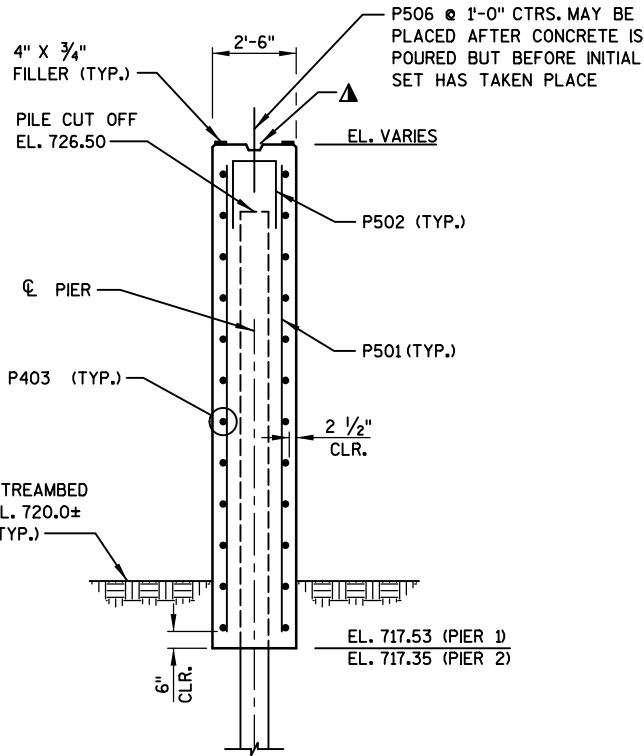
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		OTH	PLANS CK'D. DJW
EAST ABUTMENT DETAILS		SHEET 7	

PIERS	PIER 1		PIER 2	
	UNCOATED: 2,560 LBS		2,560 LBS	
BILL OF BARS	COATED: 100 LBS		100 LBS	

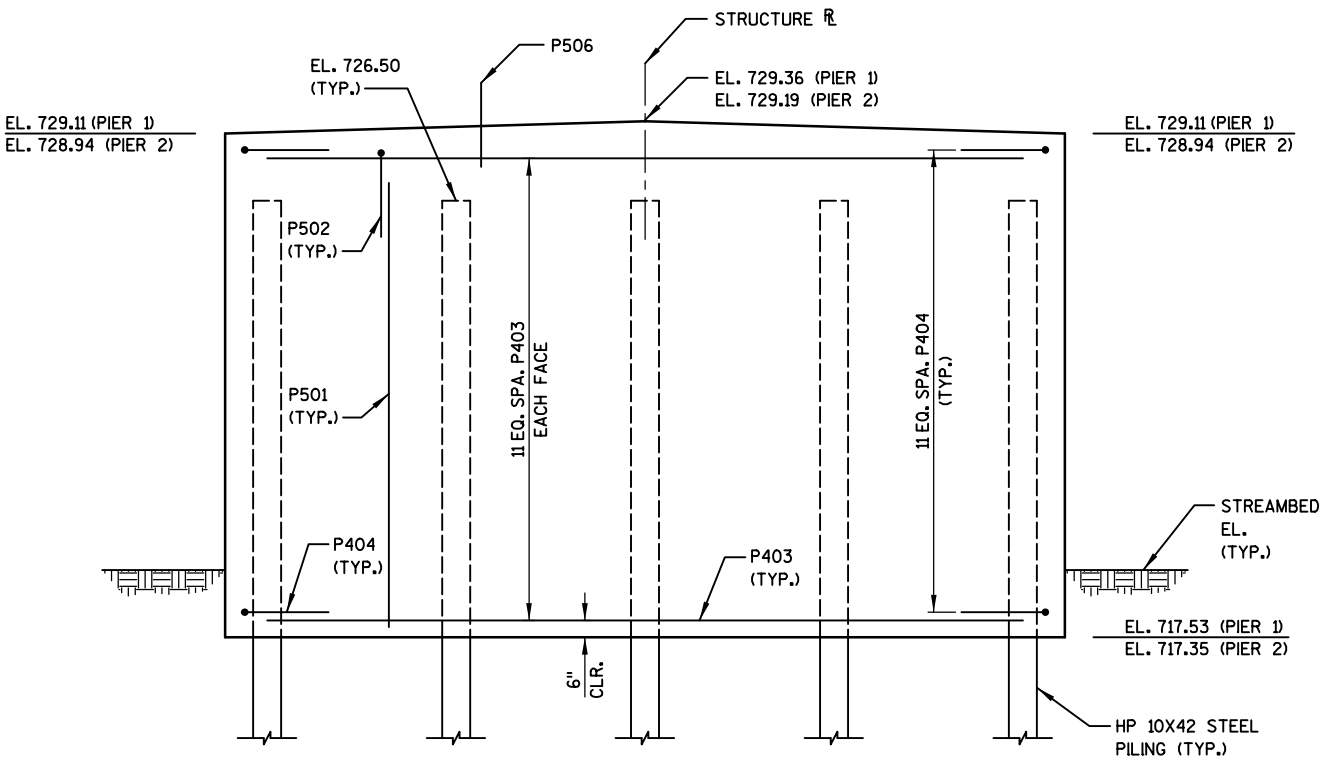
MARK	NO. REQ'D		LENGTH	BENT	COAT	LOCATION
	PIER 1	PIER 2				
P501	54	54	10'-10"			PIER - VERT.
P502	24	24	4'-3"	X		PIER - STIRRUPS - TOP - VERT.
P403	24	24	22'-6"			PIER - SIDES - HORIZ.
P404	24	24	6'-1"	X		PIER - ENDS - HORIZ.
P405	60	60	2'-8"	X		PIER - TIES - HORIZ.
P506	24	24	2'-0"		X	PIER - DOWELS - VERT.



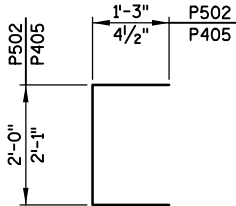
PLAN



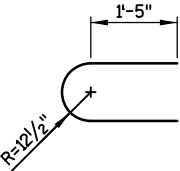
END VIEW



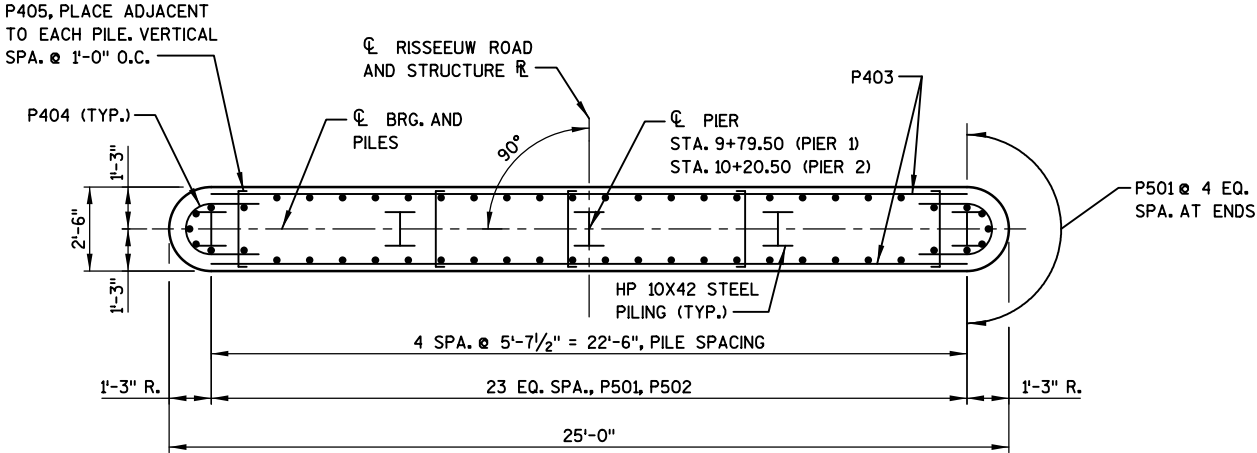
ELEVATION



P502, P405



P404



PILE PLAN

NOTES

PIER TO BE SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 75 FEET LONG EACH.

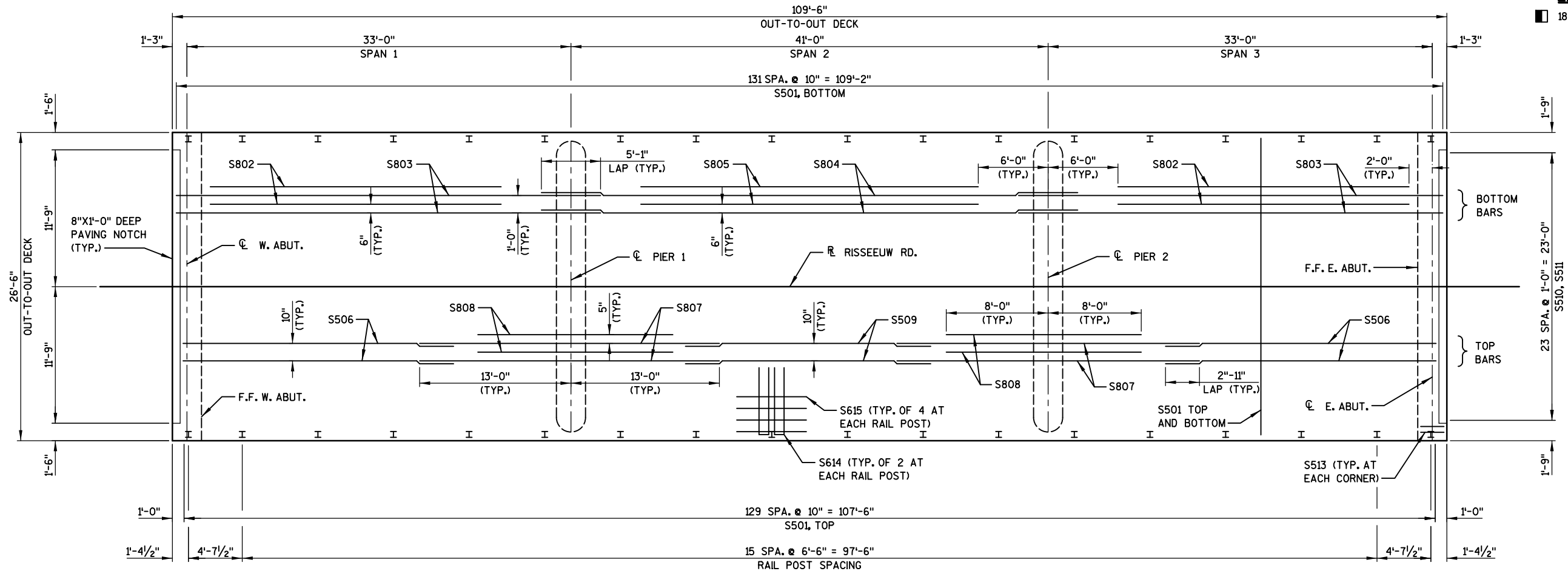
LEGEND

KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"

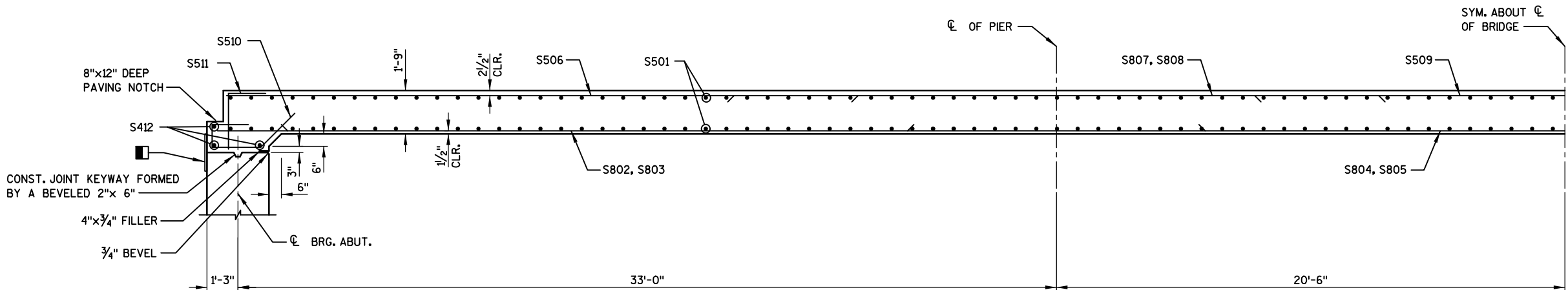
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		OTH	PLANS CK'D. DJW
PIER DETAILS		SHEET 8	

LEGEND

18" RUBBERIZED MEMBRANE WATERPROOFING.

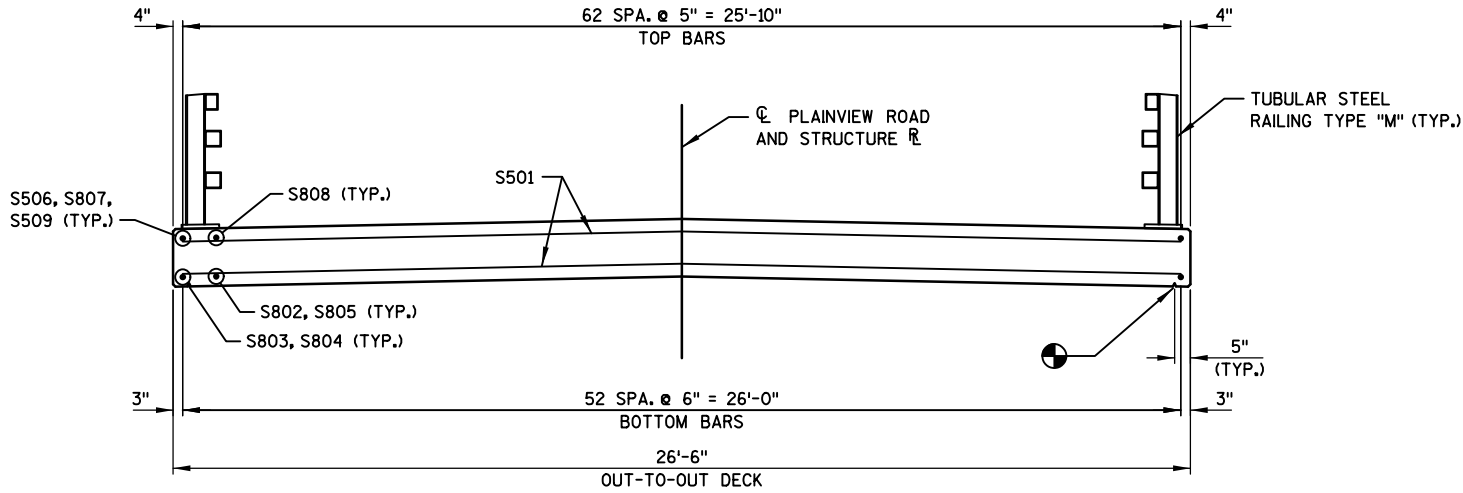


PLAN

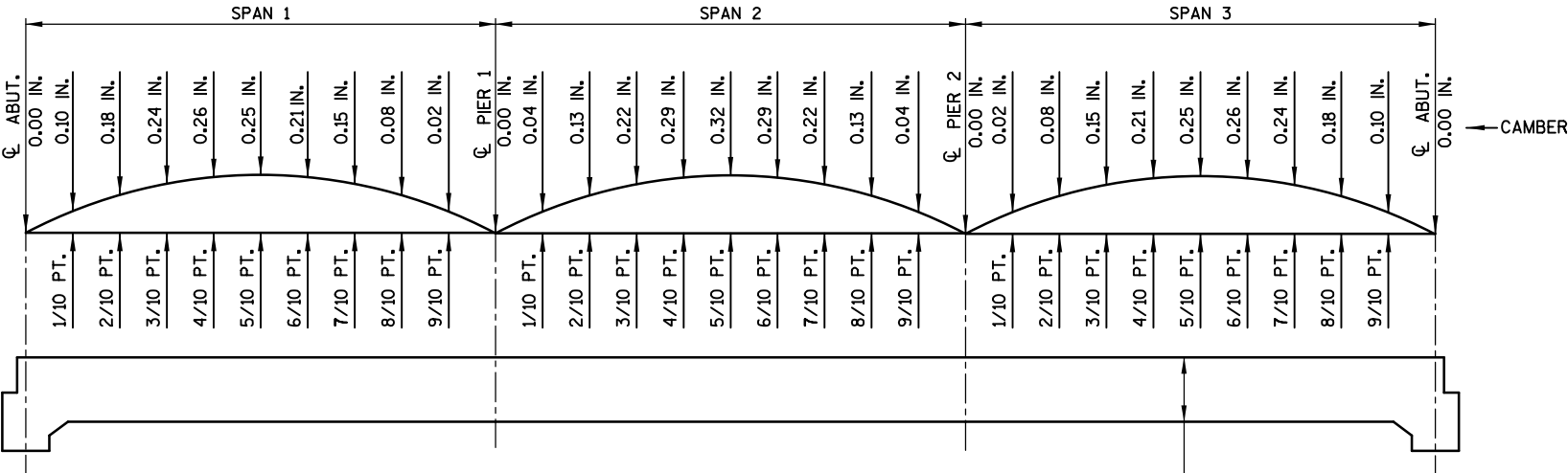


HALF LONGITUDINAL SECTION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		DTM	PLANS CK'D. DJW
SUPERSTRUCTURE		SHEET 9	
PLAN, SECTION			
AND DETAILS			



CROSS SECTION THRU SUPERSTRUCTURE



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

LESS TOP OF SLAB ELEVATION AT FINAL GRADE
PLUS SLAB THICKNESS
PLUS CAMBER
PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS TOP OF SLAB FALSEWORK ELEVATION.

SURVEY TOP OF SLAB ELEVATIONS

	ABUTMENT	5/10 PT.	PIER	5/10 PT.	PIER	5/10 PT.	ABUTMENT
NORTH EDGE OF SLAB							
CROWN OR R							
SOUTH EDGE OF SLAB							

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C. OF ABUTMENTS, THE C. OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR R. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

SUPERSTRUCTURE
BILL OF BARS

COATED: 33,890 LBS

MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S501	262	26'-2"		X	SLAB - TRANSVERSE - TOP, BOTTOM
S802	52	25'-0"		X	SLAB - LONG. - BOTTOM
S803	54	36'-8"		X	SLAB - LONG. - BOTTOM
S804	27	46'-2"		X	SLAB - LONG. - BOTTOM
S805	26	29'-0"		X	SLAB - LONG. - BOTTOM
S506	64	23'-4"		X	SLAB - LONG. - TOP
S807	64	26'-0"		X	SLAB - LONG. - TOP
S808	62	16'-0"		X	SLAB - LONG. - TOP
S509	32	20'-10"		X	SLAB - LONG. - TOP
S510	48	6'-11"	X	X	ABUT. DIAPHRAGM - VERT.
S511	48	3'-7"	X	X	ABUT. DIAPHRAGM - VERT.
S412	6	26'-2"		X	ABUT. DIAPHRAGM - HORIZ.
S513	8	7'-11"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
S614	72	12'-0"	X	X	SLAB - TRANSVERSE - TOP - AT RAILING POSTS
S615	144	6'-0"		X	SLAB - LONG. - TOP - AT RAILING POSTS

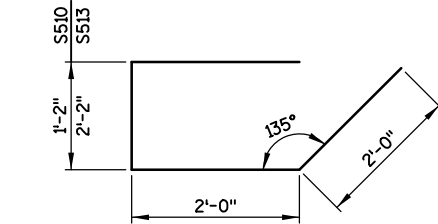
NOTES

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

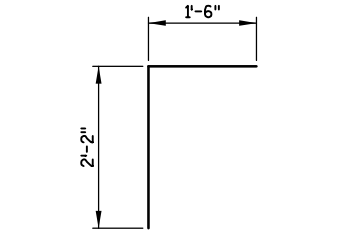
ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

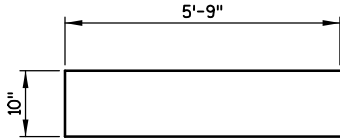
3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.



S510, S513



S511



S614

TOP OF DECK ELEVATIONS

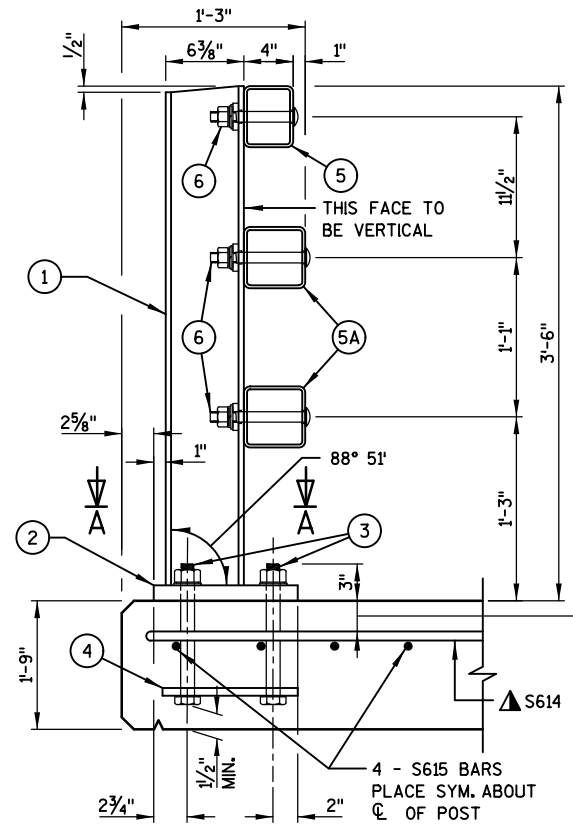
LOCATION	NORTH EDGE OF DECK 13.25' LT		C/L BRIDGE -		SOUTH EDGE OF DECK 13.25' RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L W. ABUT.	9+46.50	730.90	9+46.50	731.16	9+46.50	730.90
0.1L POINT	9+49.80	730.91	9+49.80	731.17	9+49.80	730.91
0.2L POINT	9+53.10	730.91	9+53.10	731.18	9+53.10	730.91
0.3L POINT	9+56.40	730.92	9+56.40	731.18	9+56.40	730.92
0.4L POINT	9+59.70	730.92	9+59.70	731.18	9+59.70	730.92
0.5L POINT	9+63.00	730.92	9+63.00	731.19	9+63.00	730.92
0.6L POINT	9+66.30	730.92	9+66.30	731.19	9+66.30	730.92
0.7L POINT	9+69.60	730.92	9+69.60	731.18	9+69.60	730.92
0.8L POINT	9+72.90	730.92	9+72.90	731.18	9+72.90	730.92
0.9L POINT	9+76.20	730.91	9+76.20	731.18	9+76.20	730.91
C/L PIER 1	9+79.50	730.91	9+79.50	731.17	9+79.50	730.91
0.1L POINT	9+83.60	730.90	9+83.60	731.17	9+83.60	730.90
0.2L POINT	9+87.70	730.89	9+87.70	731.15	9+87.70	730.89
0.3L POINT	9+91.80	730.88	9+91.80	731.14	9+91.80	730.88
0.4L POINT	9+95.90	730.86	9+95.90	731.13	9+95.90	730.86
0.5L POINT	10+00.00	730.85	10+00.00	731.11	10+00.00	730.85
0.6L POINT	10+04.10	730.83	10+04.10	731.09	10+04.10	730.83
0.7L POINT	10+08.20	730.81	10+08.20	731.07	10+08.20	730.81
0.8L POINT	10+12.30	730.79	10+12.30	731.05	10+12.30	730.79
0.9L POINT	10+16.40	730.76	10+16.40	731.03	10+16.40	730.76
C/L PIER 2	10+20.50	730.73	10+20.50	731.00	10+20.50	730.73
0.1L POINT	10+23.80	730.71	10+23.80	730.98	10+23.80	730.71
0.2L POINT	10+27.10	730.69	10+27.10	730.95	10+27.10	730.69
0.3L POINT	10+30.40	730.66	10+30.40	730.93	10+30.40	730.66
0.4L POINT	10+33.70	730.63	10+33.70	730.90	10+33.70	730.63
0.5L POINT	10+37.00	730.61	10+37.00	730.87	10+37.00	730.61
0.6L POINT	10+40.30	730.58	10+40.30	730.84	10+40.30	730.58
0.7L POINT	10+43.60	730.55	10+43.60	730.81	10+43.60	730.55
0.8L POINT	10+46.90	730.51	10+46.90	730.78	10+46.90	730.51
0.9L POINT	10+50.20	730.48	10+50.20	730.74	10+50.20	730.48
C/L E. ABUT.	10+53.50	730.44	10+53.50	730.71	10+53.50	730.44

ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.

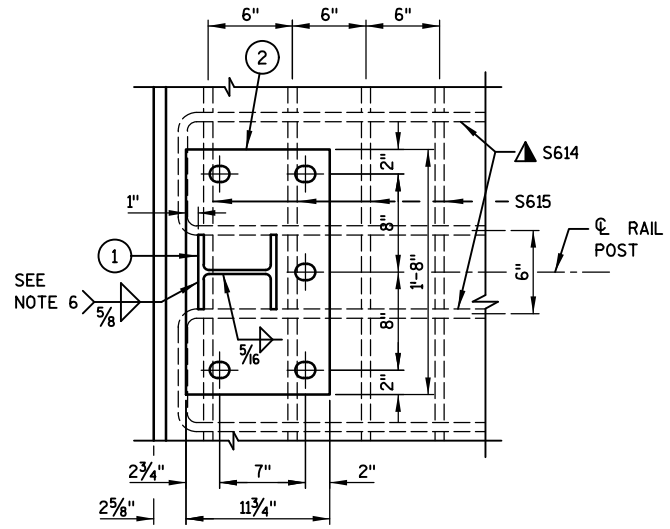
STATE PROJECT NUMBER

4198-06-71

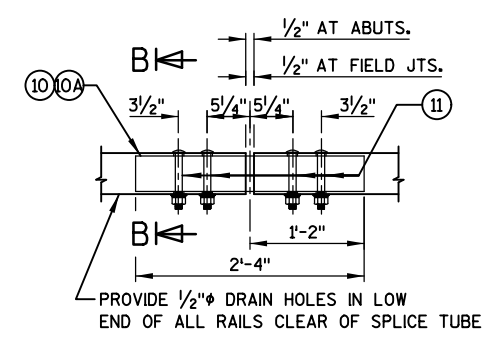
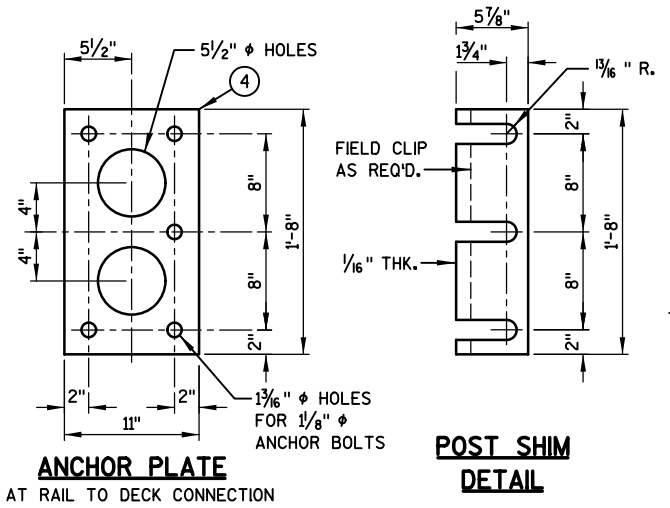
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		DTJ	PLANS CK'D. DJW
SUPERSTRUCTURE SECTION AND DETAILS		SHEET 10	



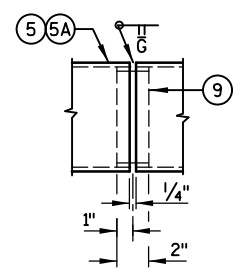
SECTION THRU RAILING ON DECK



SECTION A-A

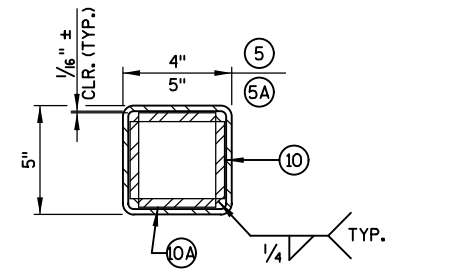


FIELD ERECTION JOINT DETAIL

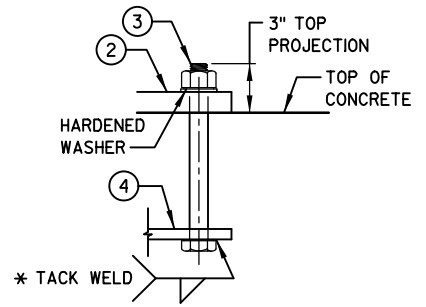


SHOP RAIL SPLICE DETAIL

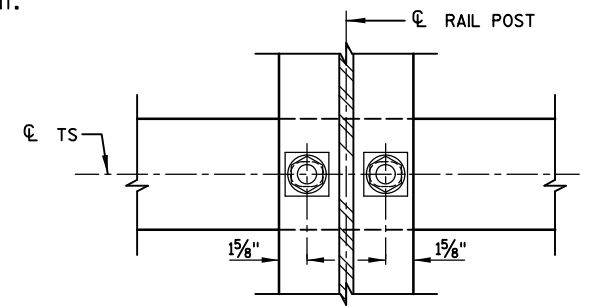
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



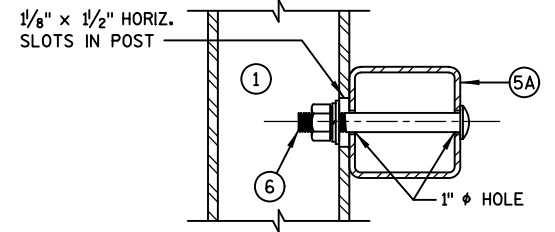
SECTION B-B



ANCHOR BOLTS



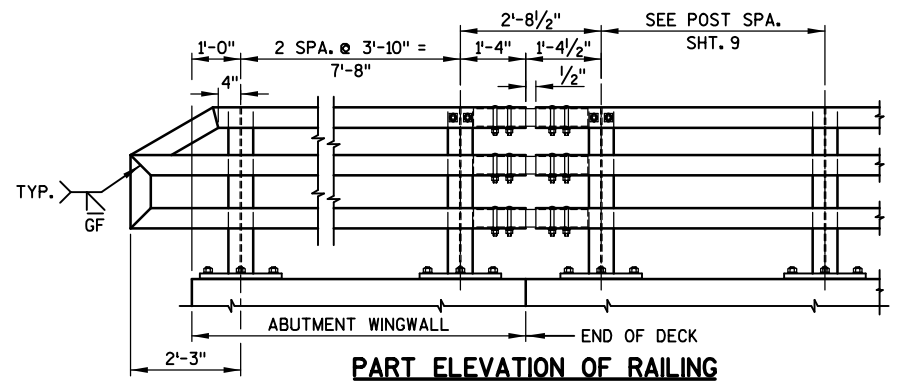
SECTION THRU POST WEB



SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



PART ELEVATION OF RAILING

LEGEND

- ① W6x25 WITH 1/8" X 1/2" 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 POST NORMAL TO GRADE LINE.
- ② PLATE 1/4" X 11 3/4" X 1'-8" WITH 1 5/8" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3 WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/8" 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. USE 1'-9" LONG IN ABUTMENT WINGS. AT POST ON CONCRETE SLAB SUPERSTRUCTURE USE 1'-3" LONG. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D AT EACH RAIL TO POST LOCATION.)
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A, 2 PER RAIL.
- ⑪ 7/8" φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS.

LEGEND

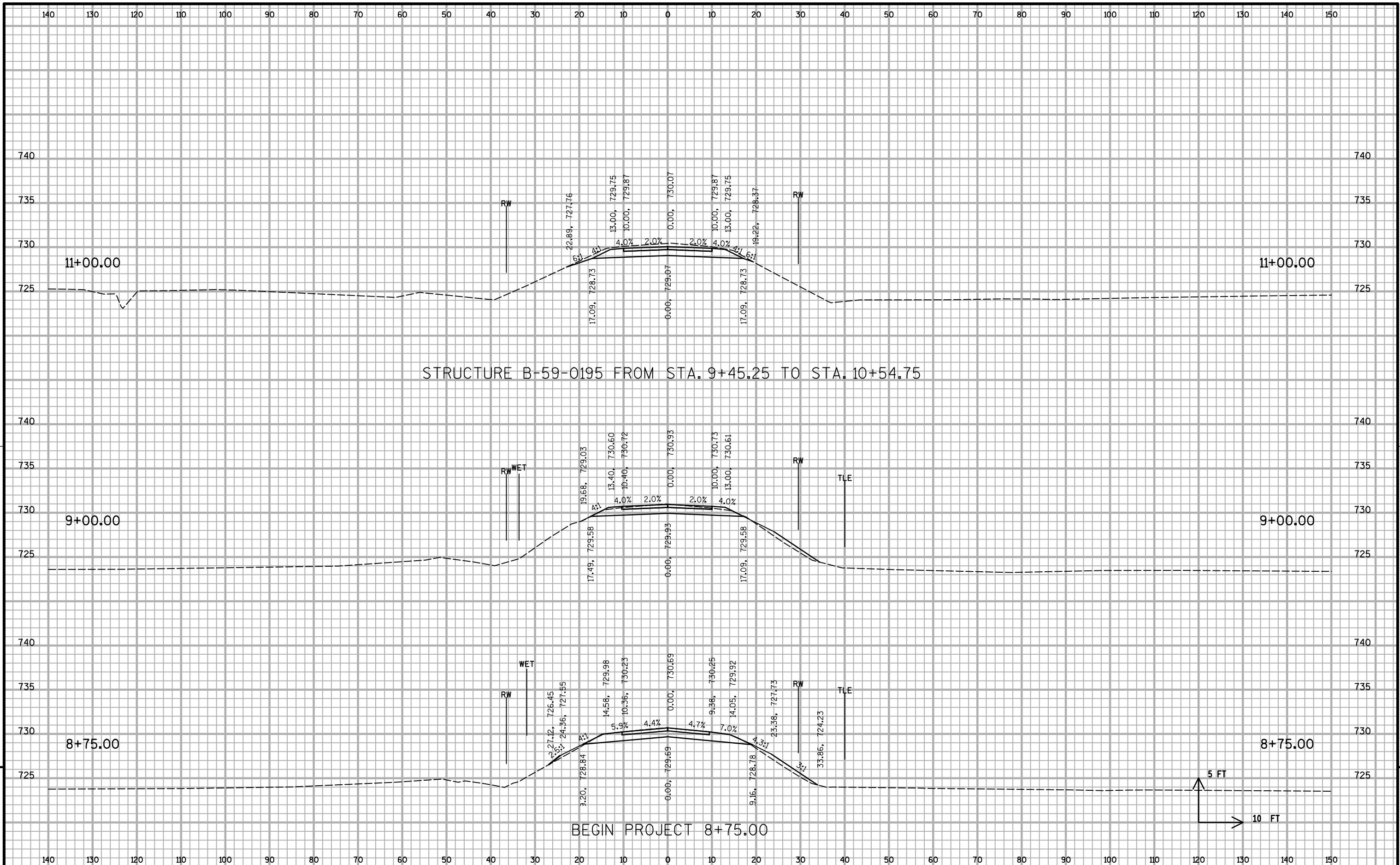
- ▲ TIE TO TOP MAT OF STEEL.
- * FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

GENERAL NOTES

- 1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-59-195" 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 1/8 TURN.
- 4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
- 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 PLATES 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 POST & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
- 10. THIS RAILING MEETS NCHRP REPOST 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-59-195			
DRAWN BY		OTH	PLANS CK'D. DJW
TUBULAR STEEL RAILING TYPE M			SHEET 11

EARTHWORK SUMMARY										
STATION	REAL STATION	DISTANCE								
			CUT	FILL	EBS	CUT	UNEXPANDED FILL	EBS	CUT 1.00	FILL 1.25
8+75.00	875.00		25	15	5					
9+00.00	900.00	25.00	28	0	6	24	7	5	29	9
9+45.25	945.25	45.25	36	0	7	53	0	11	93	9
B-59-0195										
10+54.75	1054.75		53	0	11					
11+00.00	1100.00	45.25	41	0	8	78	0	16	187	9
11+50.00	1150.00	50.00	29	0	6	64	0	13	264	9
11+75.00	1175.00	25.00	28	1	6	26	0	5	295	9



STRUCTURE B-59-0195 FROM STA. 9+45.25 TO STA. 10+54.75

BEGIN PROJECT 8+75.00

PROJECT NO: 4198-06-71

HWY: RISSEEUW ROAD

COUNTY: SHEBOYGAN

CROSS SECTIONS

SHEET

E

FILE NAME : S:\MAD\3700--3799\3774\003\MIcroS\PLAN\090201_xs.dgn

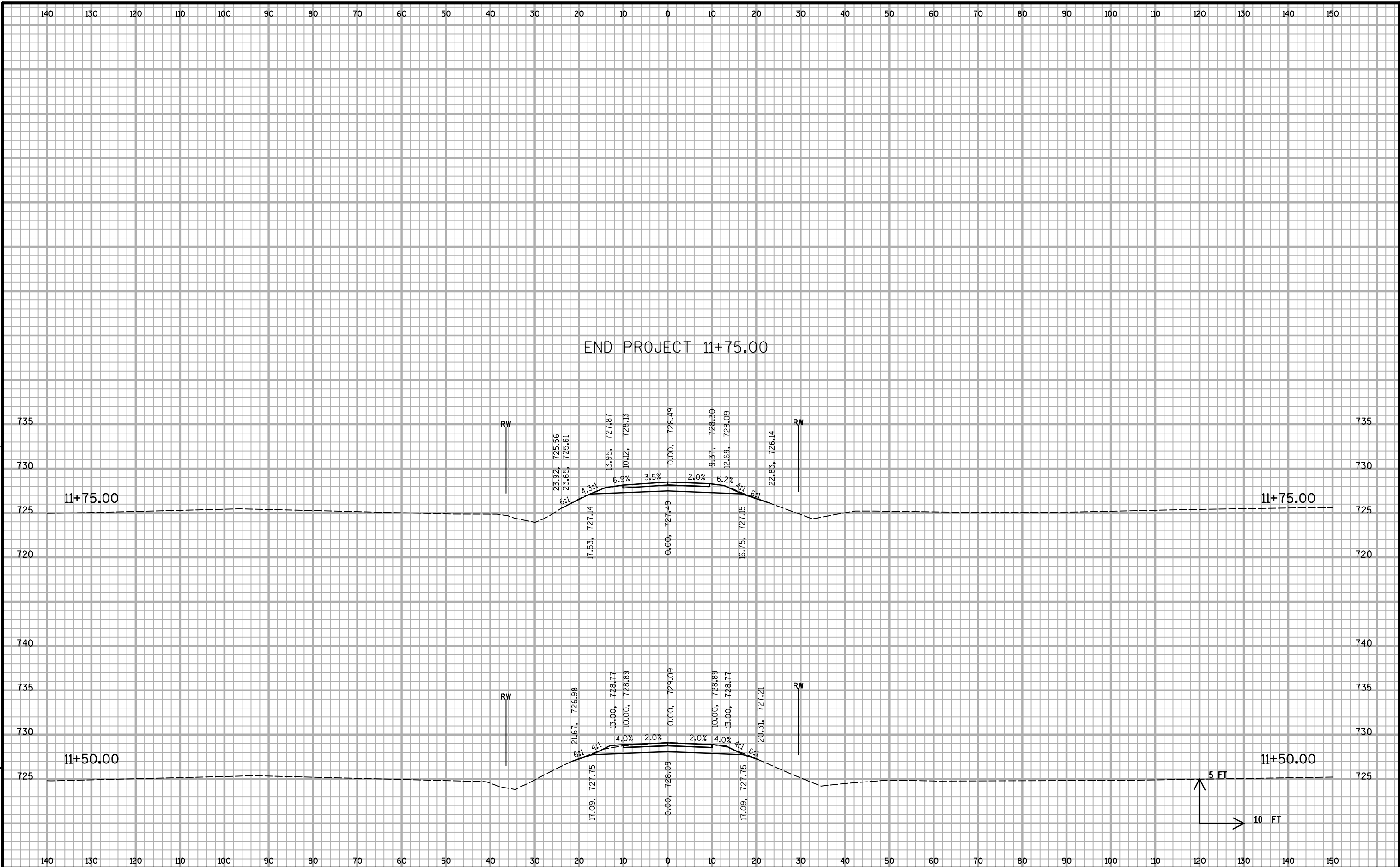
PLOT DATE : 6/28/2017

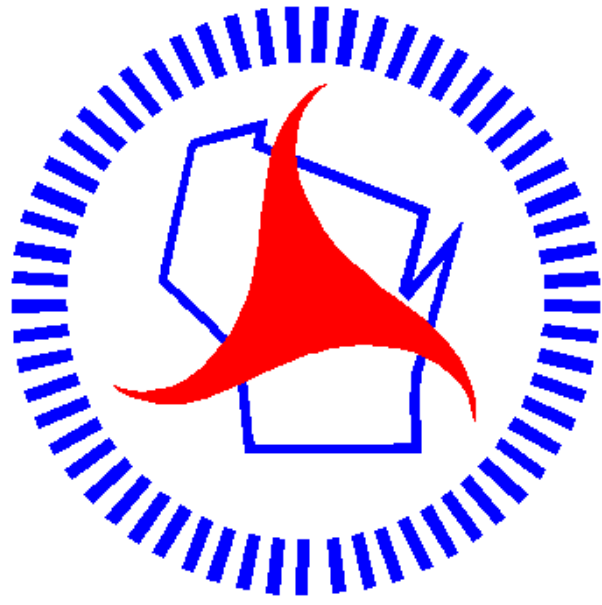
PLOT BY : _username_

PLOT NAME :

PLOT SCALE : \$\$.....plotscale.....\$\$

WISDOT/CADDs SHEET 21





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