

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C GREEN BAY, LARSEN ROAD

BEAVER DAM CREEK BRIDGE

LOC STR

BROWN COUNTY

STATE PROJECT NUMBER

4987-12-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4987-12-71	WISC 2024234	1

FEB 13, 2024

ORDER OF SHEETS

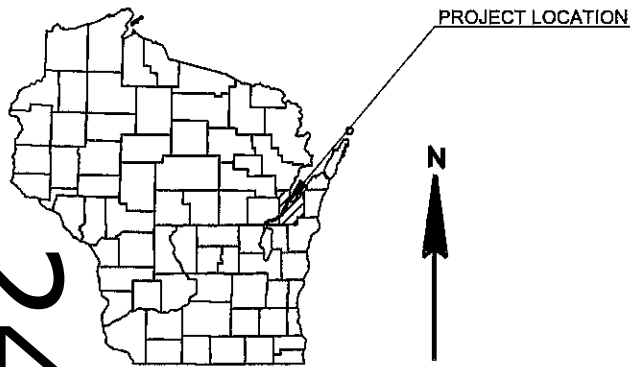
Section No.	Title
1	Title
2	Typical Sections and Details
3	Estimate of Quantities
3	Miscellaneous Quantities
4	Right of Way Plat
5	Plan and Profile
6	Standard Detail Drawings
7	Sign Plates
8	Structure Plans
9	Computer Earthwork Data
9	Cross Sections

TOTAL SHEETS = 60

PROJECT ID: 4987-12-71

24

COUNTY: BROWN



PROJECT LOCATION



DESIGN DESIGNATION

A.A.D.T. (2024)	=	5,850
A.A.D.T. (2044)	=	6,050
D.H.V.	=	-
D.D.	=	50/50
T.	=	12.5%
DESIGN SPEED	=	35 MPH
ESALS	=	423

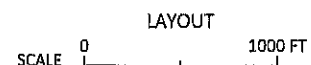
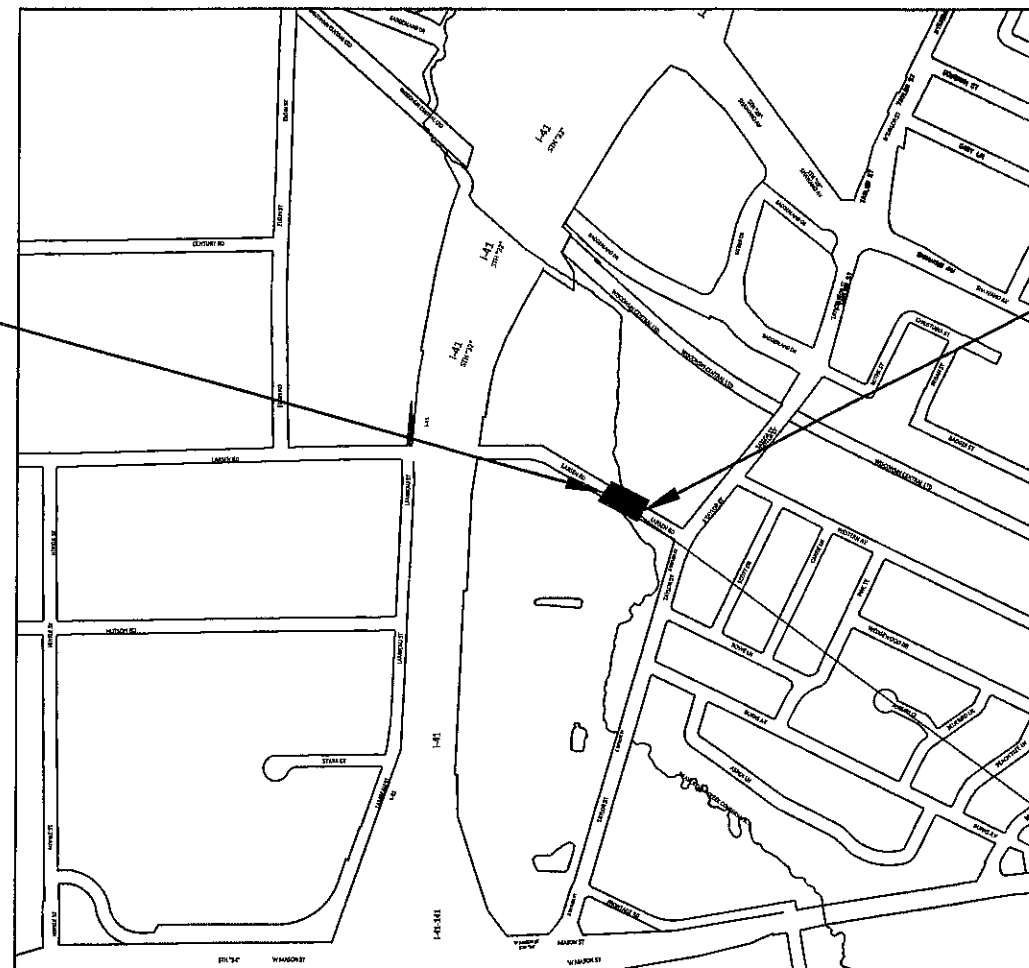
BEGIN PROJECT

STA 9+35
Y=573113.538
X=83275.931

END PROJECT
STA 10+65

CONVENTIONAL SYMBOLS

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



TOTAL NET LENGTH OF CENTERLINE = 0.025 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

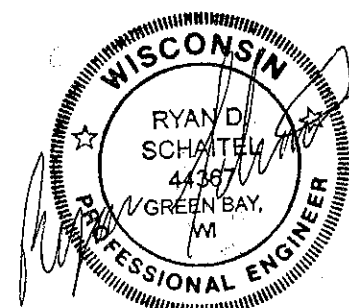
ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ACCEPTED FOR
CITY OF GREEN BAY

10/24/23
DATE
DIRECTOR PUBLIC WORKS

ORIGINAL PLANS PREPARED BY

AYRES



10-11-2023
(Date)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	AYRES
Surveyor	AYRES
Designer	DOUG KIRST, PE
Project Manager	BRIAN EDWARDS, PE
Regional Supervisor	

APPROVED FOR THE DEPARTMENT
DATE: 10/24/23
(Signature)

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GENERAL NOTES

THE LOCATION OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

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

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

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

TOTAL PROJECT AREA= 0.272 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.190 ACRES
 SOIL GROUP B/D

UTILITIES

- * AT&T WISCONSIN**
221 W WASHINGTON STREET
APPLETON, WI 54911
ATTENTION: KYLE WEBER
E-MAIL: kw715w@att.com
TELEPHONE 920-221-5969
- * EVERSTREAM**
324 E. WISCONSIN AVENUE
SUITE 730
MILWAUKEE, WI 53202
ATTENTION: SHAD GARCIA
E-MAIL: sgarcia@everstream.net
TELEPHONE 414-522-6685
- * CITY OF GREEN BAY - SEWER**
100 N. JEFFERSON STREET
GREEN BAY, WI 54301
ATTENTION: VALARIE JOOSTEN
E-MAIL: valarie.joosten@greenbaywi.gov
TELEPHONE 920-448-3100
AFTER HOURS EMERGENCY 920-492-3735
- * GREEN BAY WATER UTILITY**
631 S. ADAMS STREET
GREEN BAY, WISCONSIN 54301
ATTENTION: KRISTEN ROMANOWICZ
E-MAIL: kristen.romanowicz@greenbaywi.gov
TELEPHONE 920-785-7903
CELL 920-621-8071
- * LUMEN**
3235 INTERTECH DRIVE
BROOKFIELD, WI 53045-5113
ATTENTION: DAN SHEA
E-MAIL: dshea@terratechllc.net
TELEPHONE 319-423-5242

- * SPECTRUM**
2580 W. MASON STREET
GREEN BAY, WI 54301
ATTENTION: ERIC VERTZ
E-MAIL: eric.vertz@charter.com
TELEPHONE 920-378-0374
- * VILLAGE OF HOWARD**
1336 CORNELL ROAD
VILLAGE OF HOWARD, WI 54313
ATTENTION: GEOFF FARR
E-MAIL: gfarr@villageofhoward.com
TELEPHONE 920-434-4060
- * WISCONSIN PUBLIC SERVICE - ELECTRIC**
2850 S. ASHLAND AVENUE
GREEN BAY, WI 54307
ATTENTION: ROD SMITS
E-MAIL: rod.smits@wisconsinpublicservice.com
TELEPHONE 920-617-2794
CELL 920-639-4883
- * WISCONSIN PUBLIC SERVICE - GAS**
2850 S. ASHLAND AVENUE
GREEN BAY, WI 54307
ATTENTION: ADAM LEY
E-MAIL: adam.ley@wisconsinpublicservice.com
TELEPHONE 920-304-2053

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	NC	NORMAL CROWN
AC	ASPHALT CEMENT	PT	POINT OF TANGENCY
AGG	AGGREGATE	PC	POINT OF CURVATURE
ASPH	ASPHALT	PI	POINT OF INTERSECTION
BM	BENCH MARK	PE	PRIVATE ENTRANCE
C/L	CENTERLINE	R	RADIUS
CONC	CONCRETE	REM	REMOVE
CMP	CORRUGATED METAL PIPE	R/L OR RL	REFERENCE LINE
CR.	CREEK	RCCP	REINFORCED CONCRETE CULVERT PIPE
D	DEGREE OF CURVE	RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
DHV	DESIGN HOUR VOLUME	R.O.	RUNOUT
ESALS	EQUIVALENT SINGLE AXIS LOADS	R/W	RIGHT-OF-WAY
EXIST	EXISTING	STA	STATION
FE	FIELD ENTRANCE	SE	SUPER ELEVATION
HYD	HYDRANT	SS	STORM SEWER
IP	IRON PIPE OR PIN	T	TANGENT
L	LENGTH OF CURVE	TEL	TELEPHONE
LC	LONG CHORD OF CURVE	TLE	TEMPORARY LIMITED EASEMENT
LR	LENGTH OF RUNOFF	T	TRUCKS
MH	MANHOLE	VC	VERTICAL CURVE
		W	WELL

DEPARTMENT OF NATURAL RESOURCES

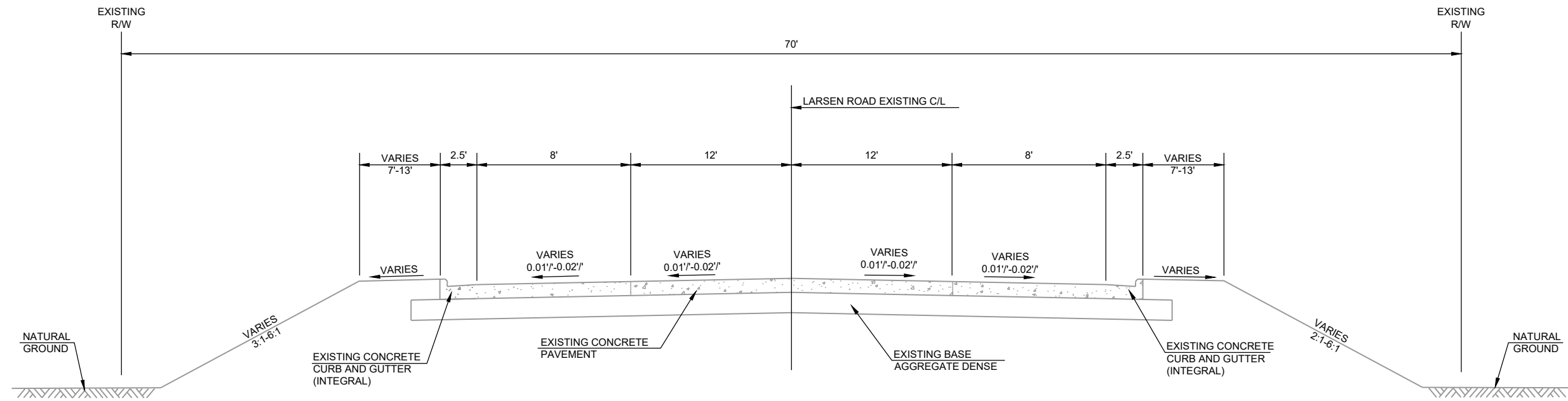
WDNR
 2984 SHAWANO AVE.
 GREEN BAY, WISCONSIN 54313
 ATTENTION: JAMES DOPERALSKI
 E-MAIL: JAMES.DOPERALSKI@WISCONSIN.GOV
 TELEPHONE 920-662-5119

*-MEMBER OF DIGGERS HOTLINE



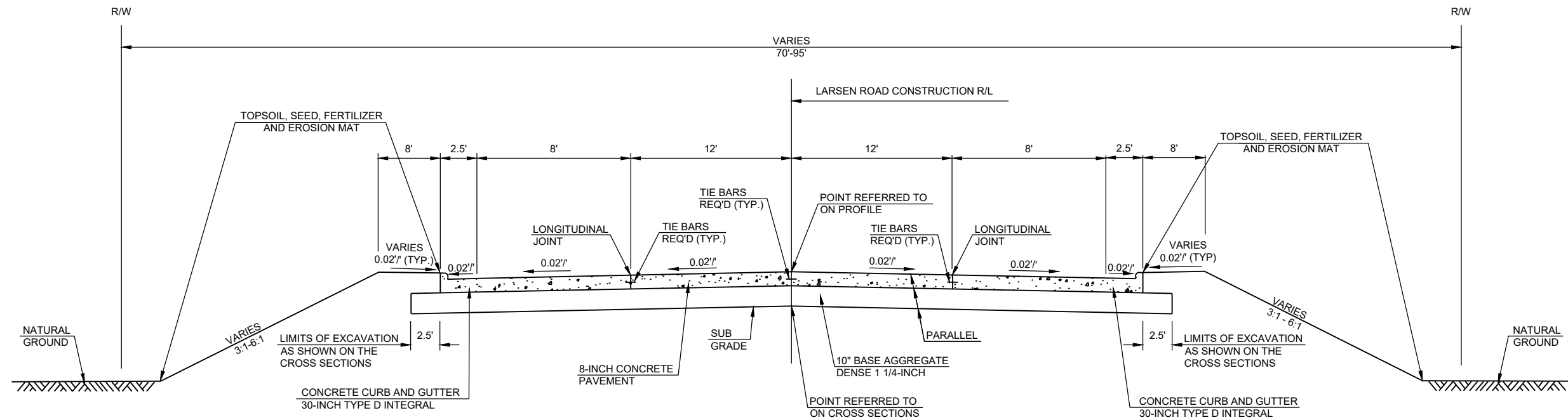
Dial 811 or (800)242-8511

www.DiggersHotline.com



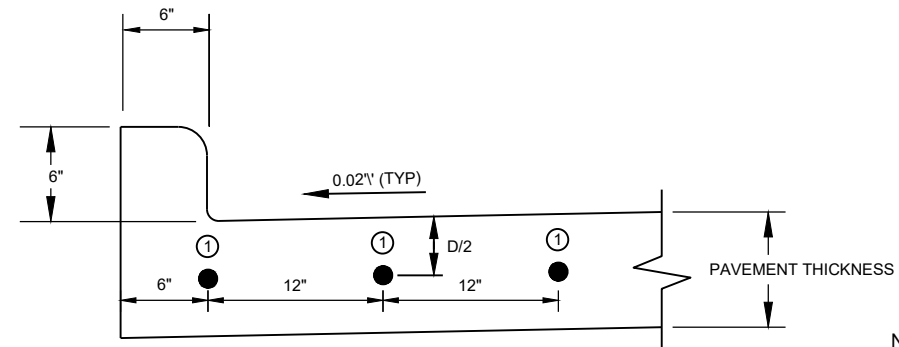
EXISTING TYPICAL SECTION FOR LARSEN ROAD

STA. 9+35 - STA. 10+65



FINISHED TYPICAL SECTION FOR LARSEN ROAD

STA. 9+35 - STA. 10+65

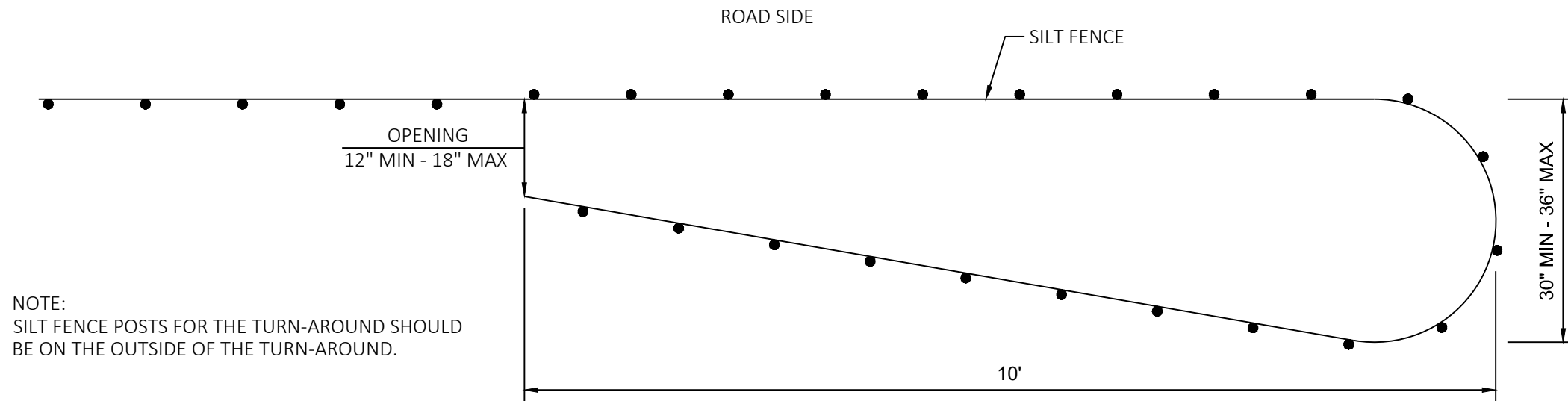


NOTES:

- CONTRACTION JOINTS SHALL BE SAWED EVERY 15 FEET MAXIMUM OR AS DESIGNATED BY ENGINEER IN FIELD.
- 6"X6" EXPANSION JOINTS (3/4") SHALL BE PLACED AT CURB HEAD AT END OF RADII.

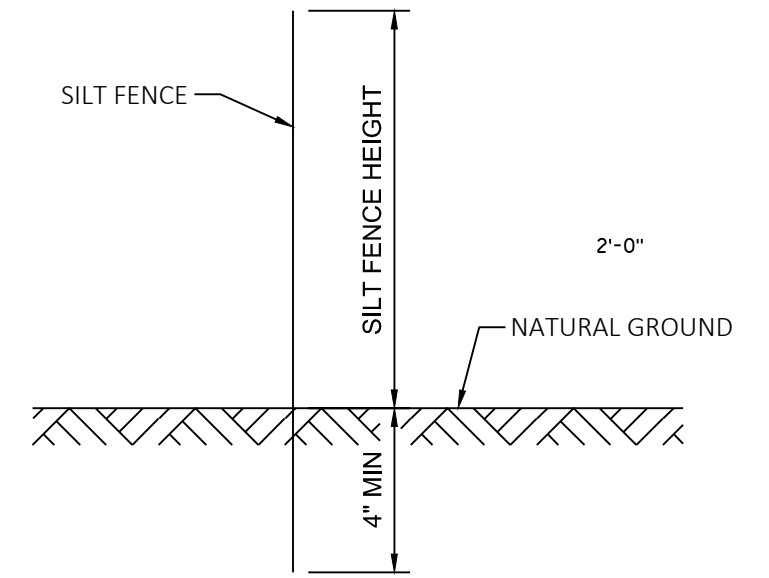
① 1-1/4"x18" SMOOTH EPOXY COATED DOWEL BARS NECESSARY AT CONTRACTION JOINTS (TYPICAL ACROSS PAVEMENT SECTION)

INTEGRAL CURB AND GUTTER DETAILS



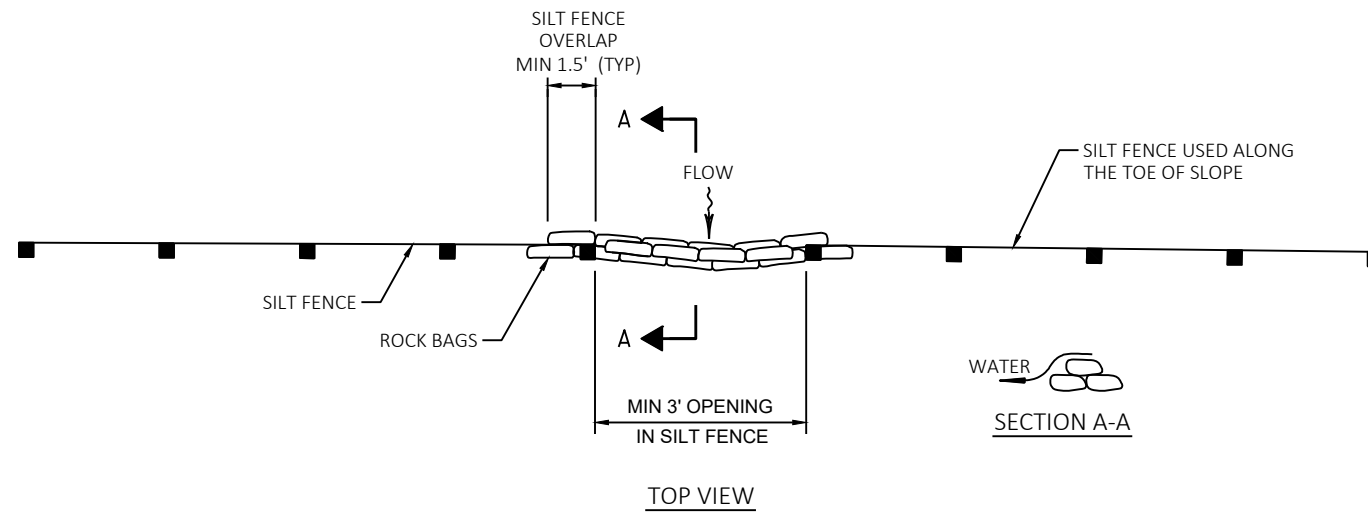
NOTE:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD
BE ON THE OUTSIDE OF THE TURN-AROUND.

PLAN VIEW



SIDE VIEW








SILT FENCE TURN-AROUND DETAIL

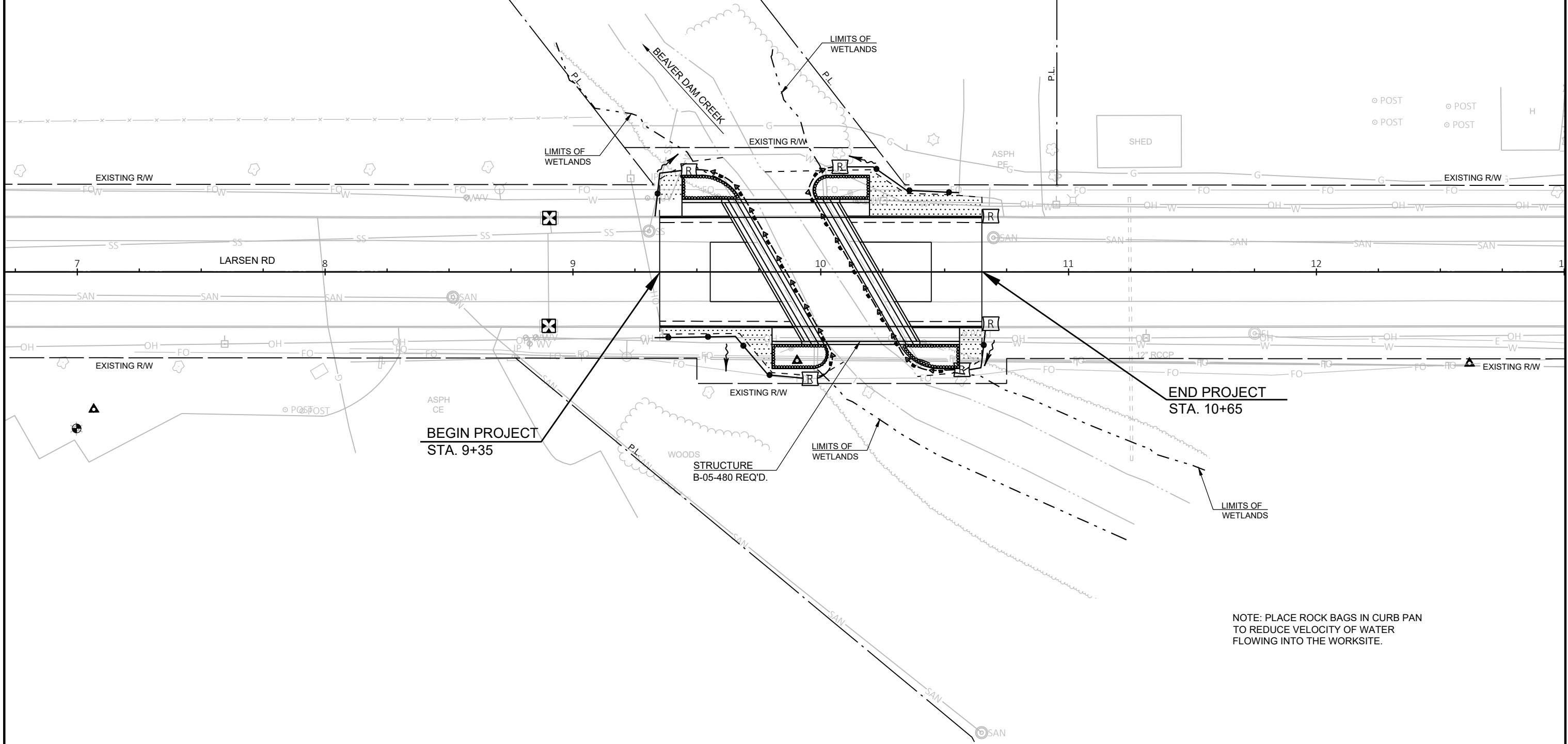
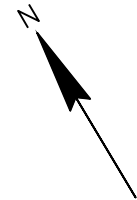


TOP VIEW

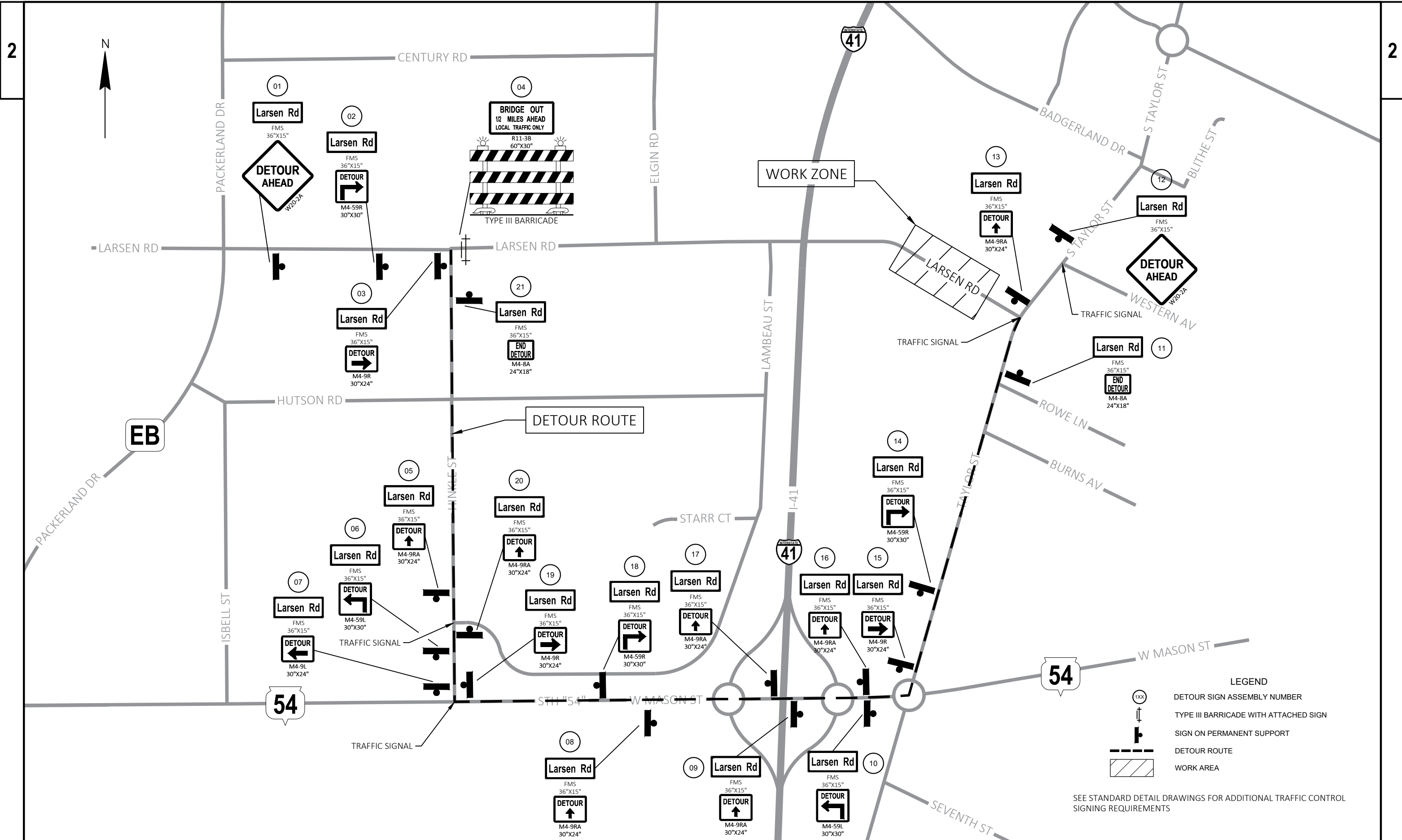
ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

LEGEND

-  EROSION CONTROL MAT CLASS I TYPE B URBAN
-  SILT FENCE
-  SLOPE INTERCEPT
-  TURBIDITY BARRIER
-  INLET PROTECTION
-  ROCK BAGS
-  SURFACE WATER FLOW



NOTE: PLACE ROCK BAGS IN CURB PAN TO REDUCE VELOCITY OF WATER FLOWING INTO THE WORKSITE.



LEGEND

- (1XX) DETOUR SIGN ASSEMBLY NUMBER
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- DETOUR ROUTE
- WORK AREA

SEE STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL SIGNING REQUIREMENTS

PROJECT NO: 4987-12-71	HWY: LARSEN ROAD	COUNTY: BROWN	DETOUR	SHEET	E
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Estimate Of Quantities

4987-12-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-5-731	EACH	1.000	1.000
0006	204.0100	Removing Concrete Pavement	SY	464.000	464.000
0008	204.0165	Removing Guardrail	LF	56.000	56.000
0010	205.0100	Excavation Common	CY	187.000	187.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-5-480	EACH	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	520.000	520.000
0016	213.0100	Finishing Roadway (project) 01. 4987-12-71	EACH	1.000	1.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	236.000	236.000
0020	415.0080	Concrete Pavement 8-Inch	SY	255.000	255.000
0022	415.0410	Concrete Pavement Approach Slab	SY	112.000	112.000
0024	415.4100	Concrete Pavement Joint Filling	SY	412.000	412.000
0026	416.0620	Drilled Dowel Bars	EACH	36.000	36.000
0028	502.0100	Concrete Masonry Bridges	CY	362.000	362.000
0030	502.3200	Protective Surface Treatment	SY	330.000	330.000
0032	502.3210	Pigmented Surface Sealer	SY	64.000	64.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	8,410.000	8,410.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	56,180.000	56,180.000
0038	513.7011	Railing Steel Type C2	LF	157.800	157.800
0040	516.0500	Rubberized Membrane Waterproofing	SY	32.000	32.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,200.000	1,200.000
0044	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	166.000	166.000
0046	602.0405	Concrete Sidewalk 4-Inch	SF	36.000	36.000
0048	606.0300	Riprap Heavy	CY	160.000	160.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	216.000	216.000
0052	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	4.000	4.000
0058	625.0100	Topsoil	SY	250.000	250.000
0060	628.1504	Silt Fence	LF	209.000	209.000
0062	628.1520	Silt Fence Maintenance	LF	418.000	418.000
0064	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0068	628.2008	Erosion Mat Urban Class I Type B	SY	250.000	250.000
0070	628.6005	Turbidity Barriers	SY	166.000	166.000
0072	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0074	628.7570	Rock Bags	EACH	86.000	86.000
0076	629.0210	Fertilizer Type B	CWT	0.300	0.300
0078	630.0140	Seeding Mixture No. 40	LB	5.000	5.000
0080	630.0200	Seeding Temporary	LB	6.000	6.000
0082	630.0500	Seed Water	MGAL	6.000	6.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0300	Traffic Control Drums	DAY	1,875.000	1,875.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,575.000	1,575.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	2,400.000	2,400.000
0092	643.0715	Traffic Control Warning Lights Type C	DAY	600.000	600.000
0094	643.0800	Traffic Control Arrow Boards	DAY	75.000	75.000
0096	643.0900	Traffic Control Signs	DAY	2,775.000	2,775.000
0098	643.1000	Traffic Control Signs Fixed Message	SF	75.000	75.000
0100	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000

Estimate Of Quantities

4987-12-71

Line	Item	Item Description	Unit	Total	Qty
0102	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	180.000	180.000
0104	643.5000	Traffic Control	EACH	1.000	1.000
0106	645.0111	Geotextile Type DF Schedule A	SY	170.000	170.000
0108	645.0120	Geotextile Type HR	SY	315.000	315.000
0110	646.1020	Marking Line Epoxy 4-Inch	LF	260.000	260.000
0112	650.4500	Construction Staking Subgrade	LF	112.000	112.000
0114	650.5000	Construction Staking Base	LF	112.000	112.000
0116	650.6501	Construction Staking Structure Layout (structure) 01. B-5-480	EACH	1.000	1.000
0118	650.7000	Construction Staking Concrete Pavement	LF	112.000	112.000
0120	650.9500	Construction Staking Sidewalk (project) 01. 4987-12-71	EACH	1.000	1.000
0122	650.9911	Construction Staking Supplemental Control (project) 01. 4987-12-71	EACH	1.000	1.000
0124	650.9920	Construction Staking Slope Stakes	LF	112.000	112.000
0126	690.0250	Sawing Concrete	LF	90.000	90.000
0128	715.0502	Incentive Strength Concrete Structures	DOL	2,172.000	2,172.000
0130	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0132	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0134	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0136	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	12.000	12.000

GRUBBING

STATION TO	STATION	LOCATION	201.0205 GRUBBING STA
9+00	- 11+00	LARSEN RD	2
TOTAL			2

REMOVING GUARDRAIL

STATION TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
9+50	- 9+63	LARSEN RD, LT	14
9+84	- 9+96	LARSEN RD, RT	14
10+04	- 10+16	LARSEN RD, LT	14
10+37	- 10+50	LARSEN RD, RT	14
TOTAL			56

REMOVING CONCRETE PAVEMENT

STATION TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY
9+35	- 9+94	LARSEN RD	232
10+06	- 10+65	LARSEN RD	232
TOTAL			464

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item #205.0100)	Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste
			Cut (1)				Factor 1.30		
1	9+35 - 10+65	LARSEN RD	187	129	58	12	16	42	42
Division 1 Totals			187	129	58	12	16	42	42

BASE AGGREGATE DENSE

STATION TO	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON	624.0100 WATER MGAL
9+35	- 9+91	LARSEN RD	118	2
10+09	- 10+65	LARSEN RD	118	2
TOTAL			236	4

- 1) Unusable Pavement Material is included in Cut
- 4) Unusable Pavement Material = Existing Asphaltic Pavement. Backfill any areas below subgrade with borrow.
- 5) Available Material = Cut - Unusable Pavement Material
- 13) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
- 14) 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.

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONCRETE PAVEMENT

STATION TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	415.4100 CONCRETE PAVEMENT JOINT FILLING SY	416.0620 DRILLED DOWEL BARS EACH
9+35 -	9+88	LARSEN RD	128	56	206	18
10+12 -	10+65	LARSEN RD	127	56	206	18
TOTAL			255	112	412	36

CONCRETE CURB AND GUTTER

STATION TO	STATION	LOCATION	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30- INCH TYPE D LF
9+35 -	9+63	LARSEN RD, LT	29
9+35 -	9+89	LARSEN RD, RT	54
10+11 -	10+65	LARSEN RD, LT	54
10+37 -	10+65	LARSEN RD, RT	29
TOTAL			166

SIDEWALK 4-INCH

STATION TO	STATION	LOCATION	602.0405 CONCRETE SIDEWALK 4- INCH SF
9+44 -	9+63	LARSEN RD, LT	11
9+80 -	9+92	LARSEN RD, RT	7
10+08 -	10+20	LARSEN RD, LT	7
10+37 -	10+56	LARSEN RD, RT	11
TOTAL			36

SILT FENCE

STATION TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
9+30 -	9+35	LARSEN RD, LT	16	32
9+35 -	9+92	LARSEN RD, RT	65	130
10+09 -	10+50	LARSEN RD, LT	65	130
10+59 -	10+65	LARSEN RD, RT	21	42
UNDISTRIBUTED			42	84
TOTAL			209	418

EROSION MAT

STATION TO	STATION	LOCATION	628.2008 EROSION MAT URBAN CLASS I TYPE B SY
9+35 -	10+65	LARSEN RD, LT	126
9+35 -	10+65	LARSEN RD, RT	74
UNDISTRIBUTED			50
TOTAL			250

ROCK BAGS

STATION	LOCATION	628.7570 ROCK BAGS EACH
9+50	LARSEN RD, LT	15
9+90	LARSEN RD, RT	15
10+15	LARSEN RD, LT	15
10+55	LARSEN RD, RT	15
10+70	LARSEN RD, LT & RT	8
UNDISTRIBUTED		18
TOTAL		86

TURBIDITY BARRIER

STATION TO	STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
935+00 -	10+00	LARSEN RD	85
10+00 -	10+59	LARSEN RD	81
TOTAL			166

INLET PROTECTION

STATION	LOCATION	628.7020 INLET PROTECTION TYPE D EACH
8+87	LARSEN RD, LT	1
8+87	LARSEN RD, RT	1
TOTAL		2

MOBILIZATION EROSION CONTROL

STATION TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
9+30 -	10+65	LARSEN RD, LT & RT	5	3
TOTAL			5	3

TOPSOIL, FERTILIZER, AND SEED

STATION TO	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
9+35 -	10+65	LARSEN RD, LT	126	0.1	2	3	3
9+35 -	10+65	LARSEN RD, RT	74	0.1	2	2	2
UNDISTRIBUTED			50	0.1	1	1	1
TOTAL			250	0.3	5	6	6

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

TRAFFIC CONTROL DETOUR SIGN SUMMARY - PROJECT 4390-07-71

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 75 DAYS	* 643.0900 TRAFFIC CONTROL SIGNS DAYS	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	REMARKS
1	LARSEN RD, 750 FT WEST OF HINKLE ST	FMS	36"X15"	1					3.75	LARSEN RD
	"	W 20-2A	48"X48"	1	75	75				
2	LARSEN RD, 350 FT WEST OF HINKLE ST	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-59R	30"X30"	1	75	75				
3	LARSEN RD, 50 FT WEST OF HINKLE ST	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9R	30"X24"	1	75	75				
4	LARSEN RD, JUST EAST OF HINKLE ST	R 11-3B	60"X30"	1	75	75	75	150		1/2 MILE
5	HINKLE ST, 150 FT NORTH OF MASON ST FRONTAGE RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
6	HINKLE ST, 250 FT NORTH OF STH 54	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-59L	30"X30"	1	75	75				
7	HINKLE ST, 50 FT NORTH OF STH 54	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9L	30"X24"	1	75	75				
8	STH 54, 350 FT WEST OF I-41 SOUTHBOUND RAMP, IN MEDIAN	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
9	STH 54, 150 FT WEST OF I-41 NORTHBOUND RAMP, IN MEDIAN	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
10	STH 54, 250 FT WEST OF TAYLOR ST, IN MEDIAN	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-59R	30"X24"	1	75	75				
11	TAYLOR ST, 250 FT SOUTH OF LARSEN RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-8A	24"X18"	1	75	75				
12	TAYLOR ST, 500 FT NORTH OF LARSEN RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	W 20-2A	48"X48"	1	75	75				
13	TAYLOR ST, 100 FT NORTH OF LARSEN RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
14	TAYLOR ST, 350 FT NOTH OF STH 54	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-59R	30"X30"	1	75	75				
15	TAYLOR ST, 350 FT NOTH OF STH 54	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9R	30"X24"	1	75	75				
16	STH 54, 200 FT EAST OF I-41 NORTHBOUND RAMP, IN MEDIAN	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
17	STH 54, 150 FT EAST OF I-41 SOUTHBOUND RAMP, IN MEDIAN	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
18	STH 54, 500 FT WEST OF HINKLE ST	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-59R	30"X30"	1	75	75				
19	STH 54, 50 FT WEST OF HINKLE ST	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9R	30"X24"	1	75	75				
20	HINKLE ST, 100 FT SOUTH OF MASON ST FRONTAGE RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-9RA	30"X24"	1	75	75				
21	HINKLE ST, 250 FT SOUTH OF LARSEN RD	FMS	36"X15"	1					3.75	LARSEN RD
	"	MO4-8A	24"X18"	1	75	75				

CATEGORY 0010 DETOUR TOTALS

1,575 75 150 75.0

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

TRAFFIC CONTROL

LOCATION	643.0300		* 643.0420		* 643.0705		643.0715		643.0800		* 643.0900		* 643.0050		REMARKS		
	TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL				
	APPROX. SERVICE PERIOD	DRUMS NO IN SERVICE	NO IN SERVICE	DAY	BARRICADES TYPE III	NO IN SERVICE	DAY	WARNING LIGHTS TYPE A	NO IN SERVICE	DAY	WARNING LIGHTS TYPE C	NO IN SERVICE	DAY	ARROW BOARDS		SIGNS	SIGNS PCMS
LARSEN RD WEST & EAST APPROACH	7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	14	ADVANCED WARNING FOR LARSEN RD CLOSURE
LARSEN RD WEST APPROACH	75	-	-	-	9	675	14	1050	-	-	-	-	-	7	525	-	REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D", "BRIDGE OUT 0.3 MILES AHEAD"
LARSEN RD EAST APPROACH	75	-	-	-	9	675	14	1050	-	-	-	-	-	5	375	-	REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D", "BRIDGE OUT 0.1 MILES AHEAD"
TAYLOR ST RIGHT TURN LANE	75	25	1875	-	2	150	2	150	8	600	1	75	4	300	-	-	REFER TO SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE"
TOTALS			1,875			1,500		2,250		600		75		1,200		14	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SAWING CONCRETE

CONSTRUCTION STAKING

CATEGORY	STATION TO	STATION	LOCATION	650.4500		650.5000		650.6501.01		650.7000		650.9500.01		650.9911.01		650.9920	
				CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (B-05-480) EACH	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	CONSTRUCTION STAKING SIDEWALK (4987-12-71) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (4987-12-71) EACH	CONSTRUCTION STAKING CONSTRUCTION STAKING SLOPE LF							
0010	9+35	-	10+65	LARSEN RD	-	-	-	-	-	1	1	-	-	-	-	-	-
0010	9+35	-	9+91	LARSEN RD	56	56	-	56	-	-	-	56	-	-	-	56	-
0010	10+09	-	10+65	LARSEN RD	56	56	-	56	-	-	-	56	-	-	-	56	-
			TOTAL 0010		112	112	0	112	1	1	112	-	-	-	-	-	-
0020	10+00		B-05-480		-	-	1	-	-	-	-	-	-	-	-	-	-
			TOTAL 0020		0	0	1	0	0	0	0	0	0	0	0	0	0
			PROJECT TOTAL		112	112	1	112	1	1	112	-	-	-	-	-	-

STATION	LOCATION	690.0250 SAWING CONCRETE LF
9+35	LARSEN RD	45
10+65	LARSEN RD	45
	TOTAL	90

MARKING LINE

STATION TO	STATION	LOCATION	643.3180 TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH LF	646.1020 MARKING LINE EPOXY 4-INCH LF	REMARKS
9+35	-	10+65	LARSEN RD	-	260
			TAYLOR ST	180	-
		TOTAL		180	260

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

LEGEND

XXXX SAW CUTS
 X TREE TO BE GRUBBED

CONCRETE CURB AND GUTTER INTEGRAL 30-INCH TYPE D REQ'D.

LIMITS OF WETLANDS
 SLOPE INTERCEPTS

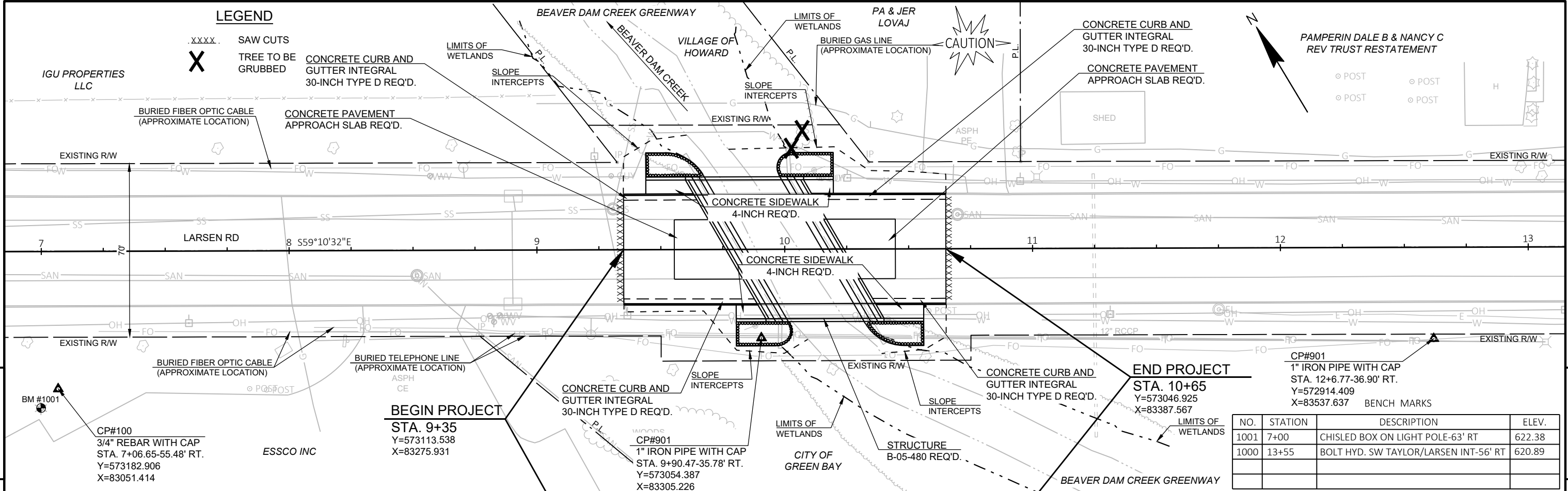
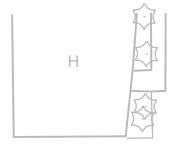
BEAVER DAM CREEK GREENWAY
 BEAVER DAM CREEK
 VILLAGE OF HOWARD

LIMITS OF WETLANDS
 BURIED GAS LINE (APPROXIMATE LOCATION)
 CAUTION

CONCRETE CURB AND GUTTER INTEGRAL 30-INCH TYPE D REQ'D.
 CONCRETE PAVEMENT APPROACH SLAB REQ'D.

PAMPERIN DALE B & NANCY C REV TRUST RESTATEMENT

POST
 POST
 POST
 POST



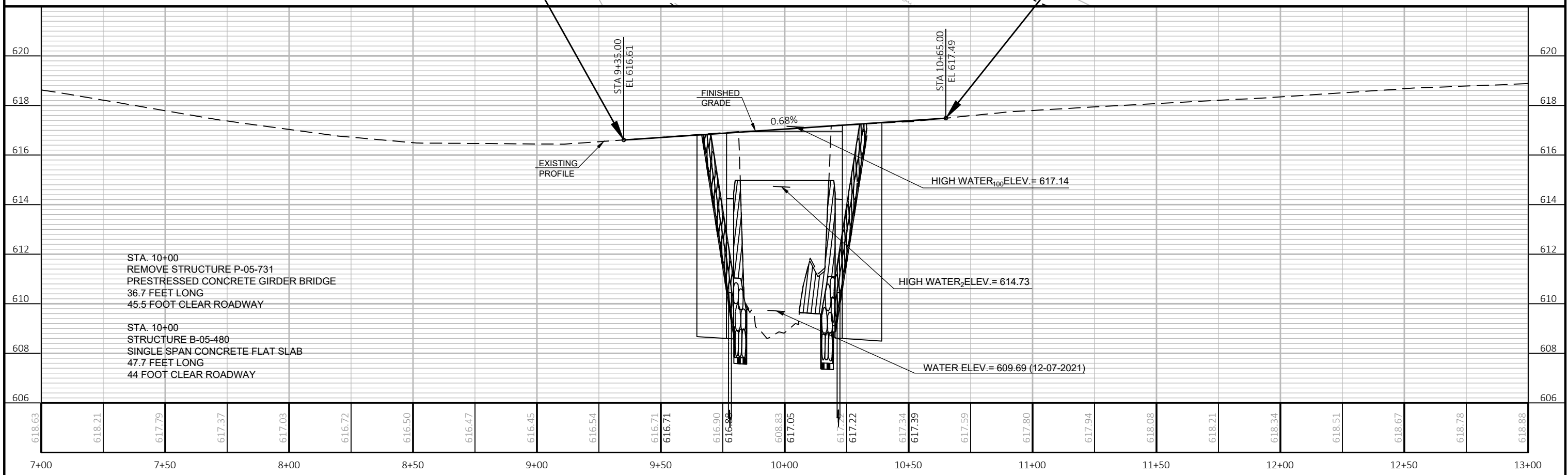
BEGIN PROJECT
 STA. 9+35
 Y=573113.538
 X=83275.931

END PROJECT
 STA. 10+65
 Y=573046.925
 X=83387.567

NO.	STATION	DESCRIPTION	ELEV.
1001	7+00	CHISLED BOX ON LIGHT POLE-63' RT	622.38
1000	13+55	BOLT HYD. SW TAYLOR/LARSEN INT-56' RT	620.89

CP#100
 3/4" REBAR WITH CAP
 STA. 7+06.65-55.48' RT.
 Y=573182.906
 X=83051.414

CP#901
 1" IRON PIPE WITH CAP
 STA. 9+90.47-35.78' RT.
 Y=573054.387
 X=83305.226



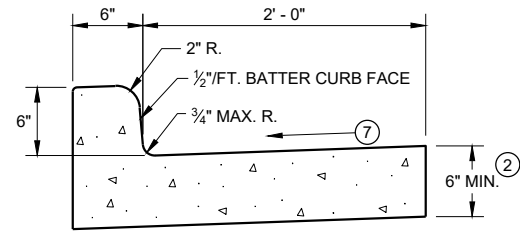
STA. 10+00
 REMOVE STRUCTURE P-05-731
 PRESTRESSED CONCRETE GIRDER BRIDGE
 36.7 FEET LONG
 45.5 FOOT CLEAR ROADWAY

STA. 10+00
 STRUCTURE B-05-480
 SINGLE SPAN CONCRETE FLAT SLAB
 47.7 FEET LONG
 44 FOOT CLEAR ROADWAY

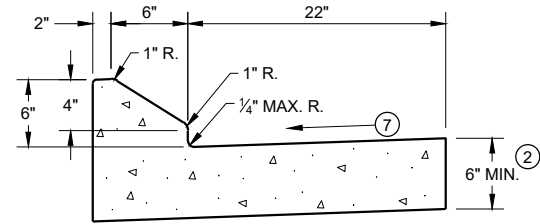
PROJECT NO: 4987-12-71	HWY: LARSEN ROAD	COUNTY: BROWN	PLAN AND PROFILE: PLAN AND PROFILE	SHEET	E
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Standard Detail Drawing List

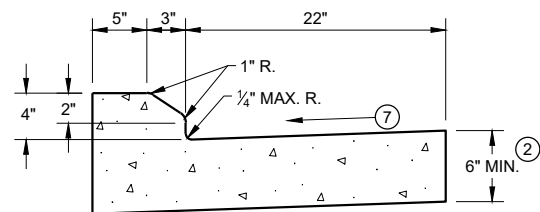
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-11	URBAN DOWELED CONCRETE PAVEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D20-07B	TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY



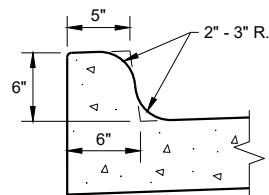
TYPES A^① & D



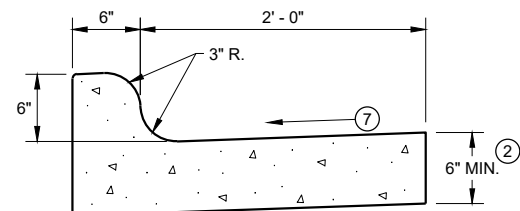
6" SLOPED CURB TYPES G^① & J



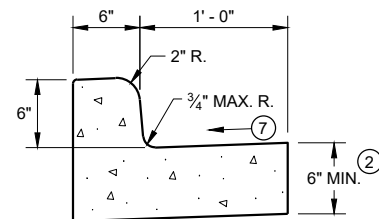
4" SLOPED CURB TYPES G^① & J



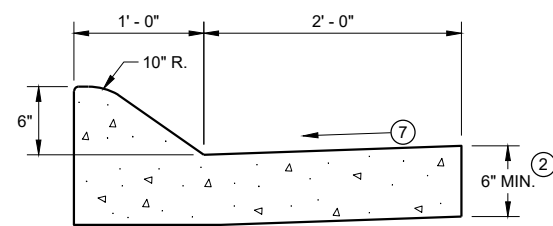
TYPES K^① & L
(OPTIONAL CURB SHAPE)



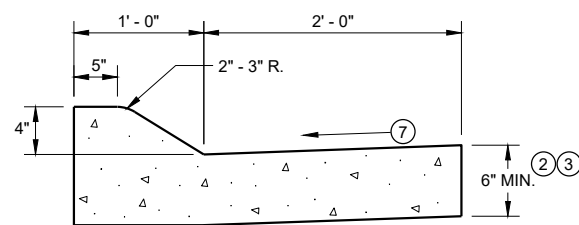
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



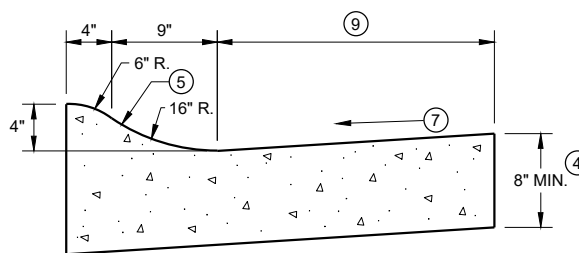
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

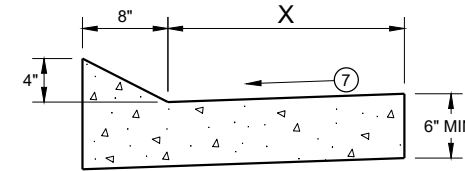


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

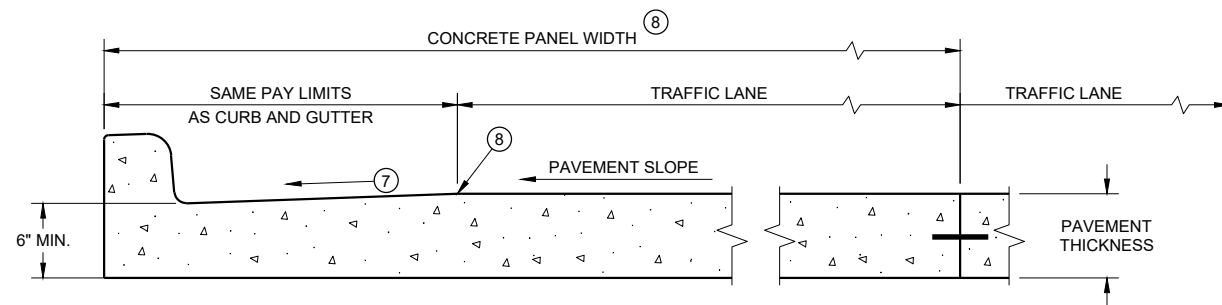
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

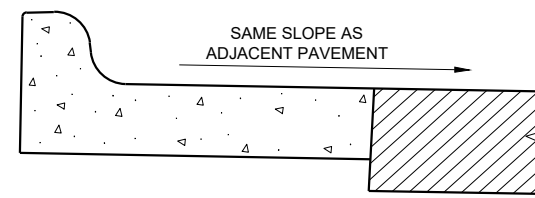
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT* WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

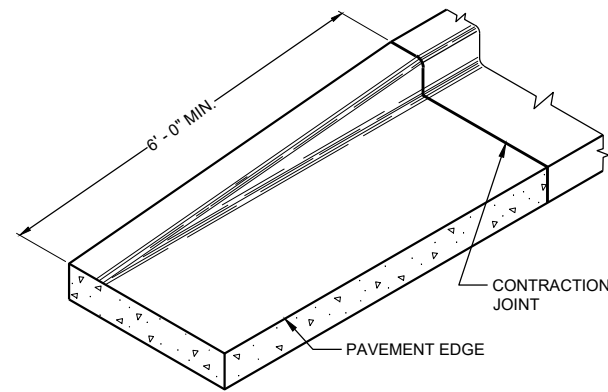
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

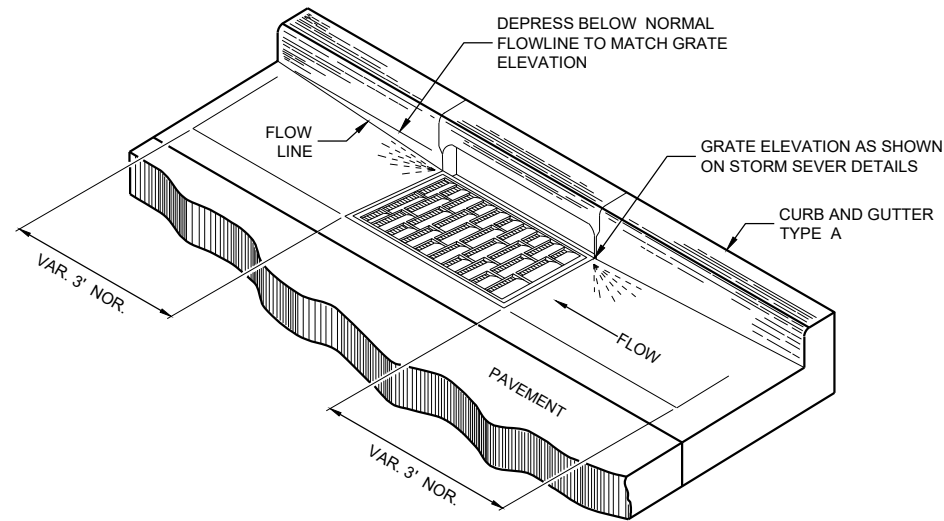
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

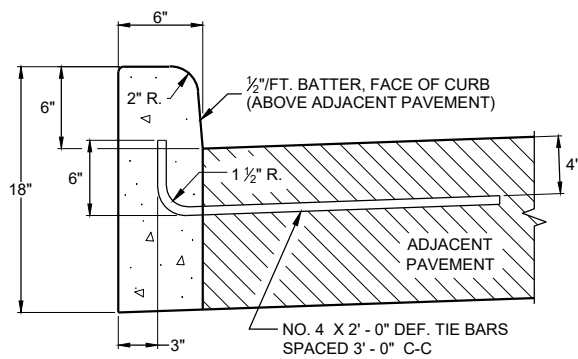
GENERAL NOTES

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

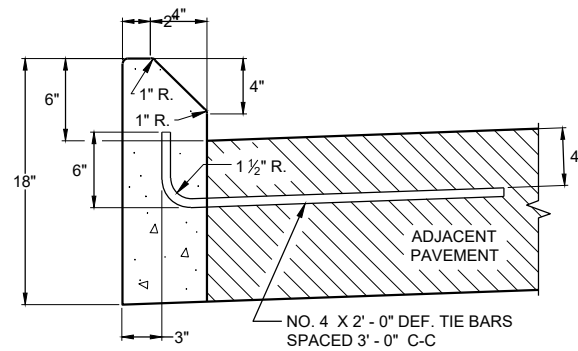
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

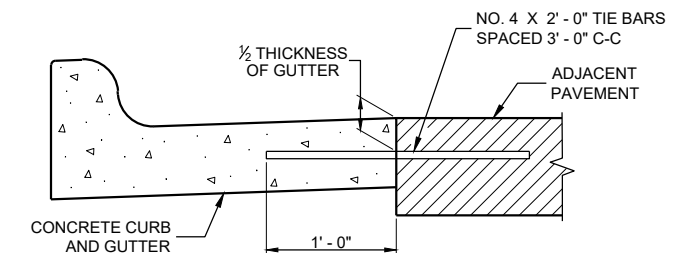
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



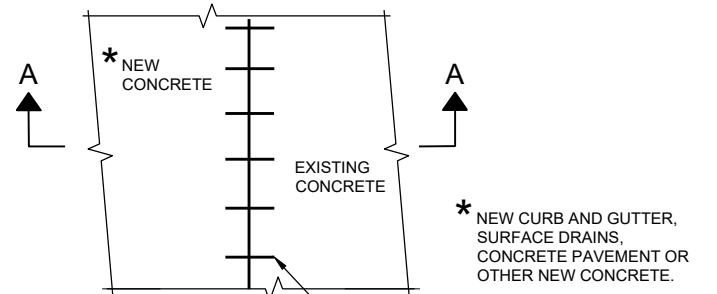
TYPES A^① & D



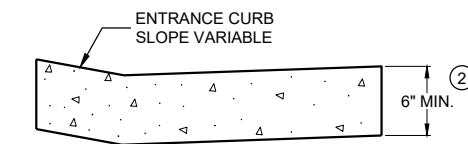
**TYPES G^① & J
CONCRETE CURB**



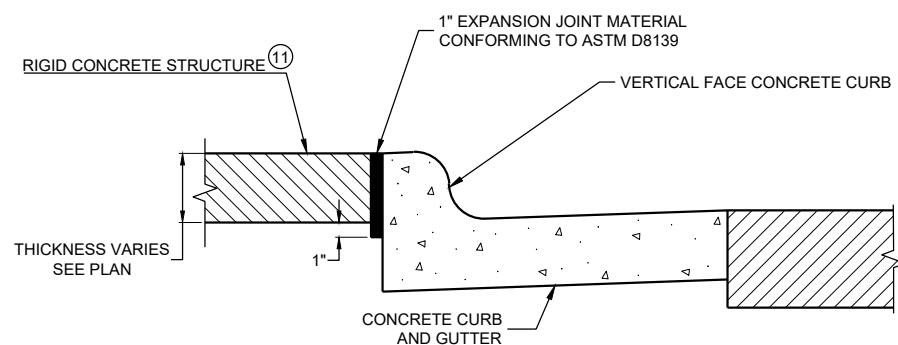
TYPICAL TIE BAR LOCATION^①



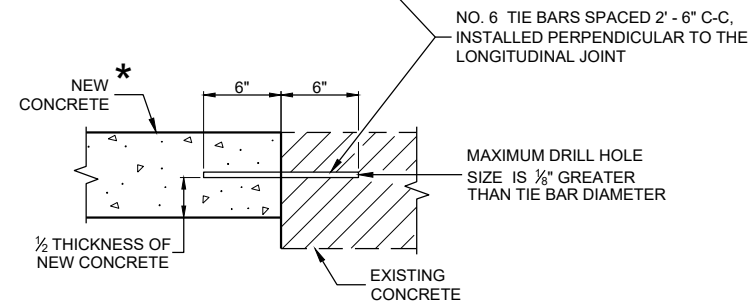
PLAN VIEW



**DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



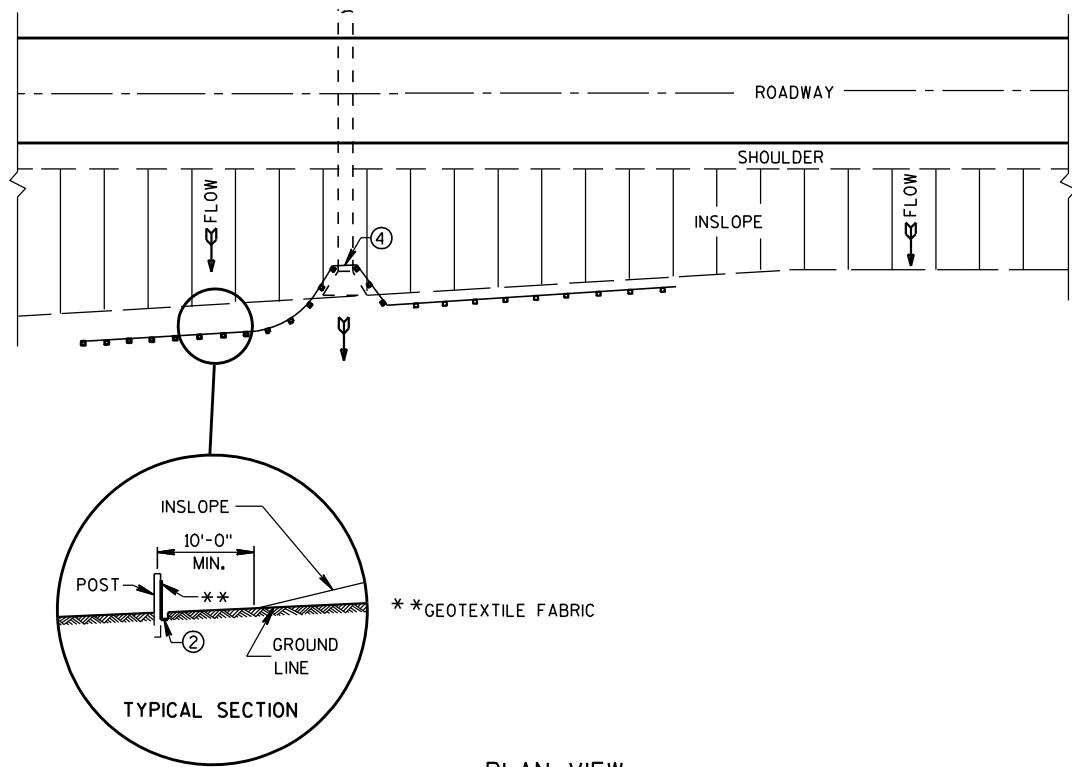
**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

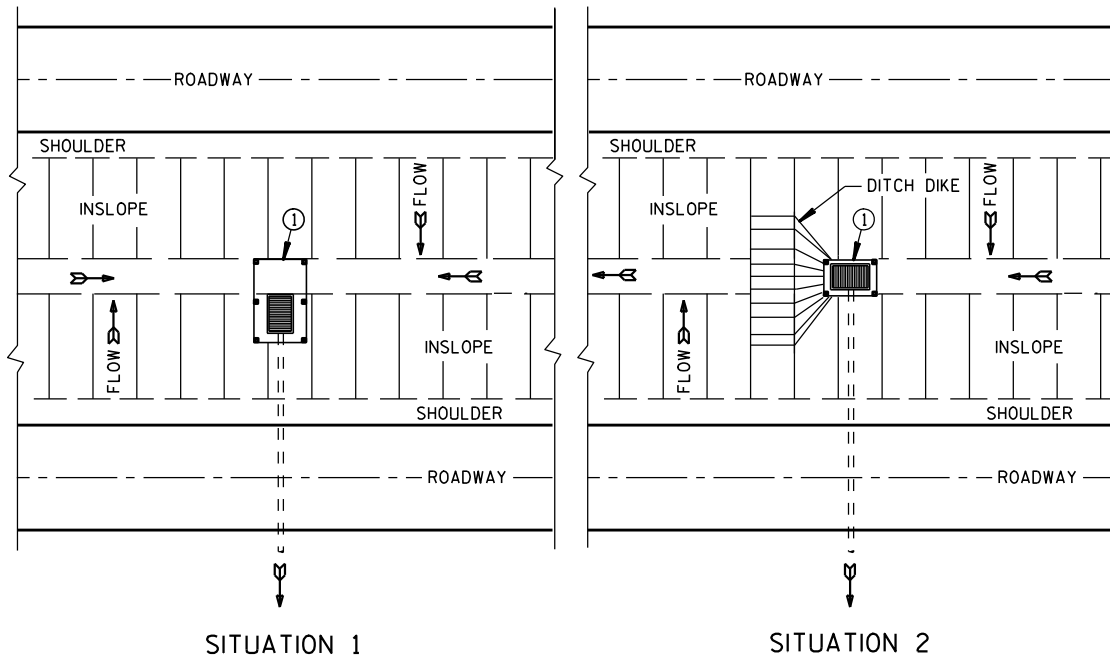
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE May 2023 /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

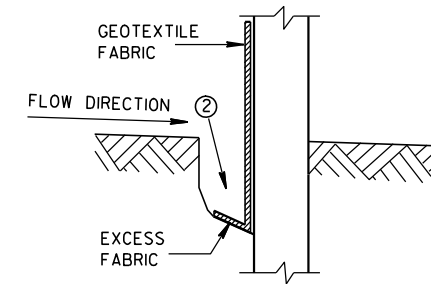


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

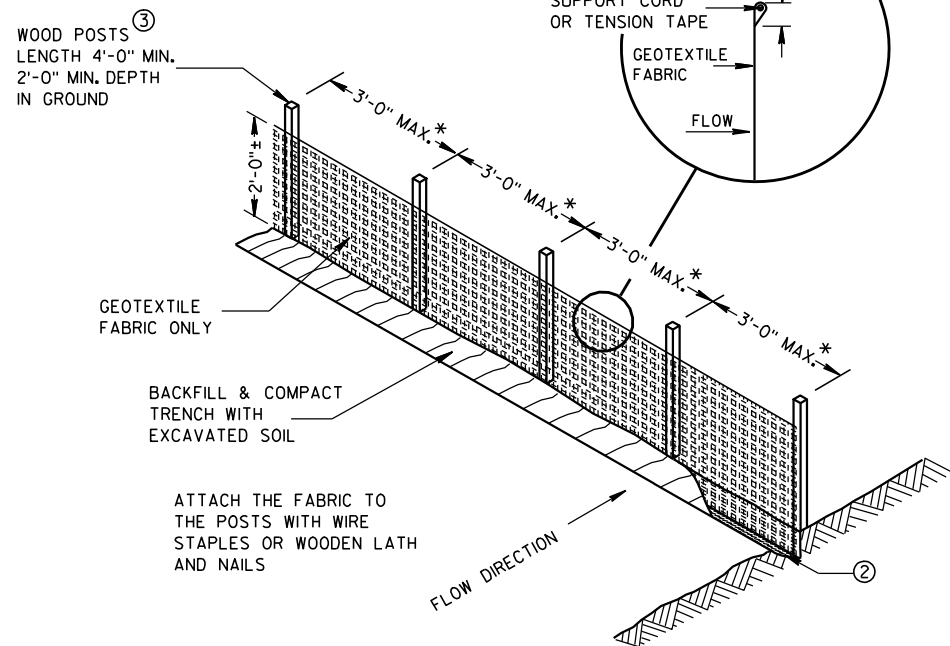
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



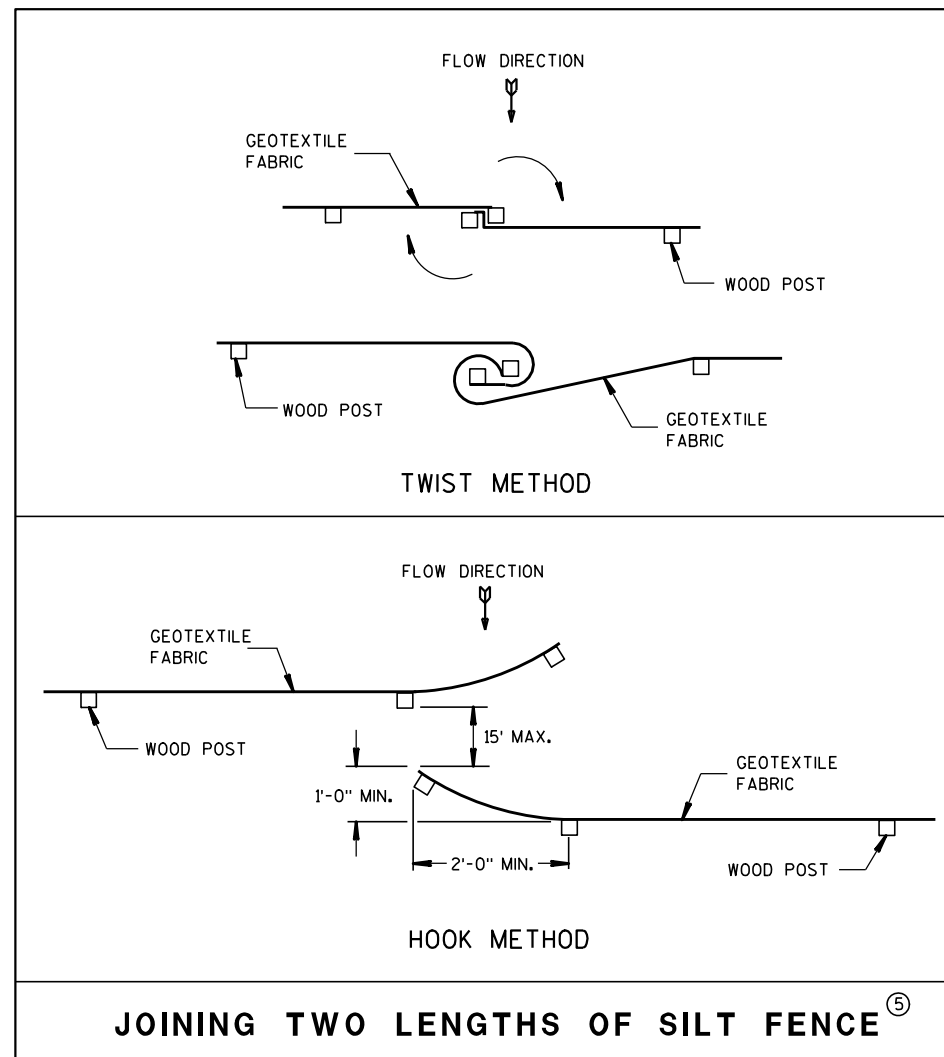
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

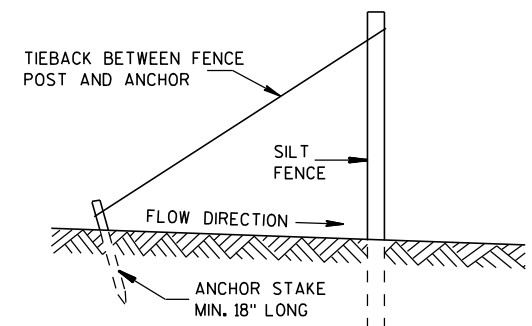


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

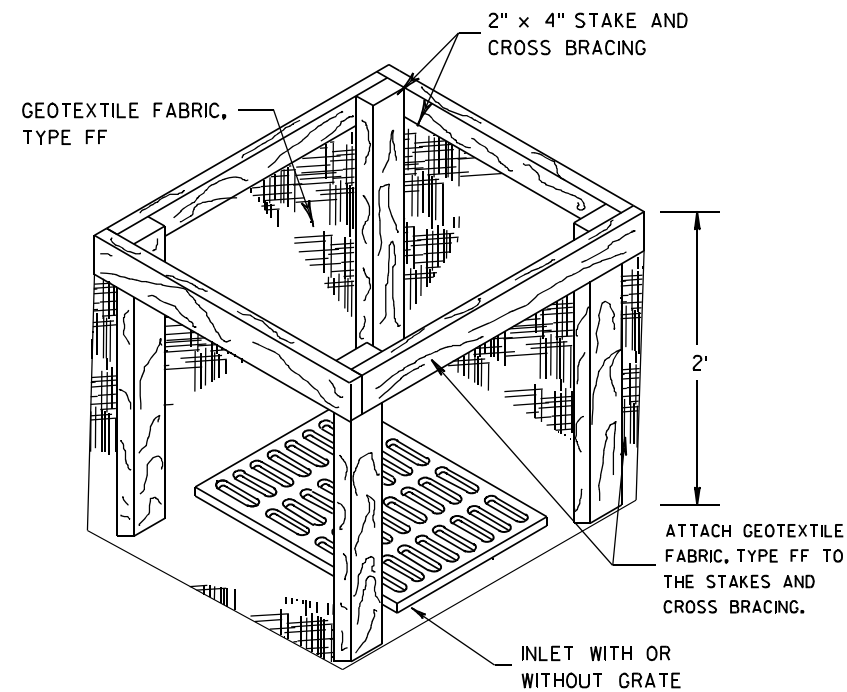
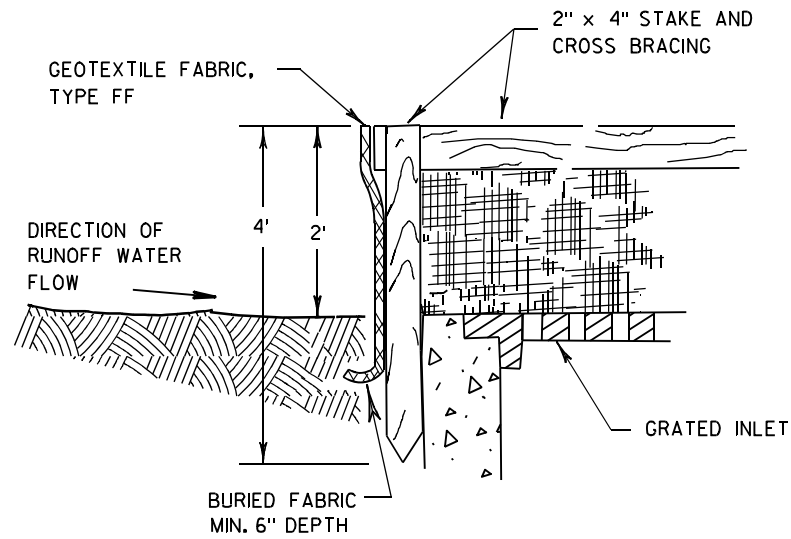


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

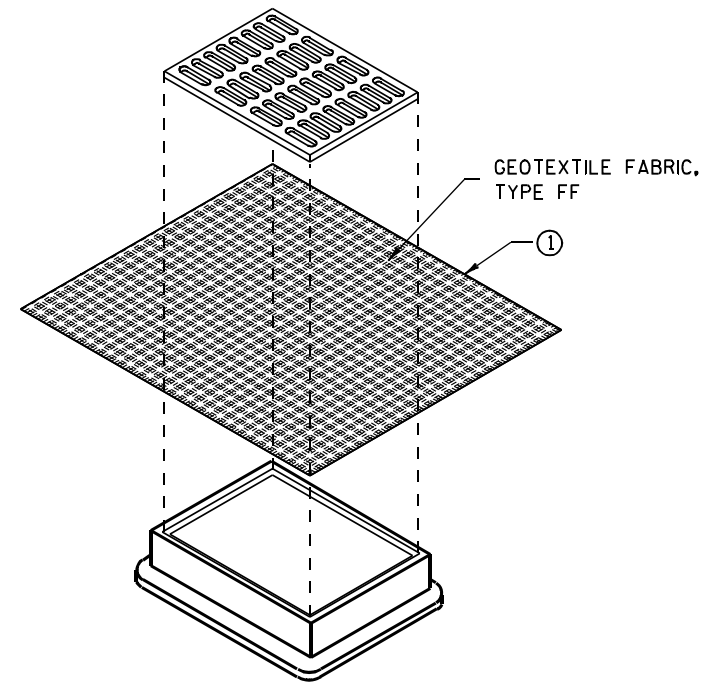
GENERAL NOTES

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

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

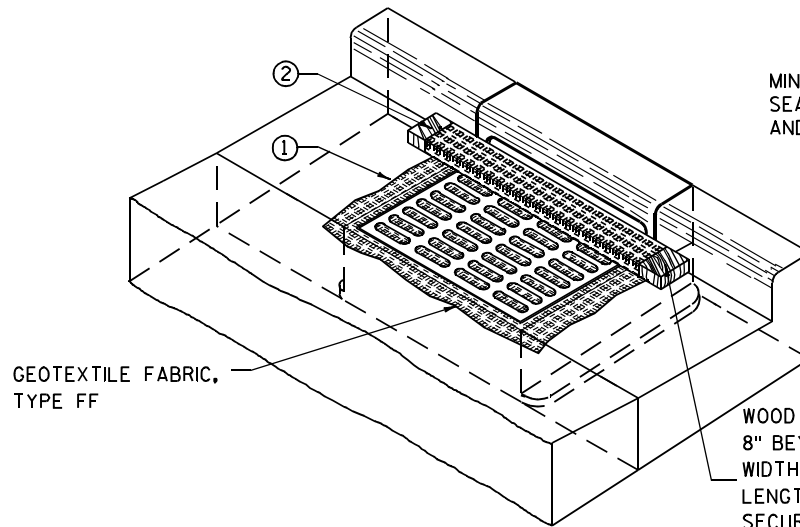
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

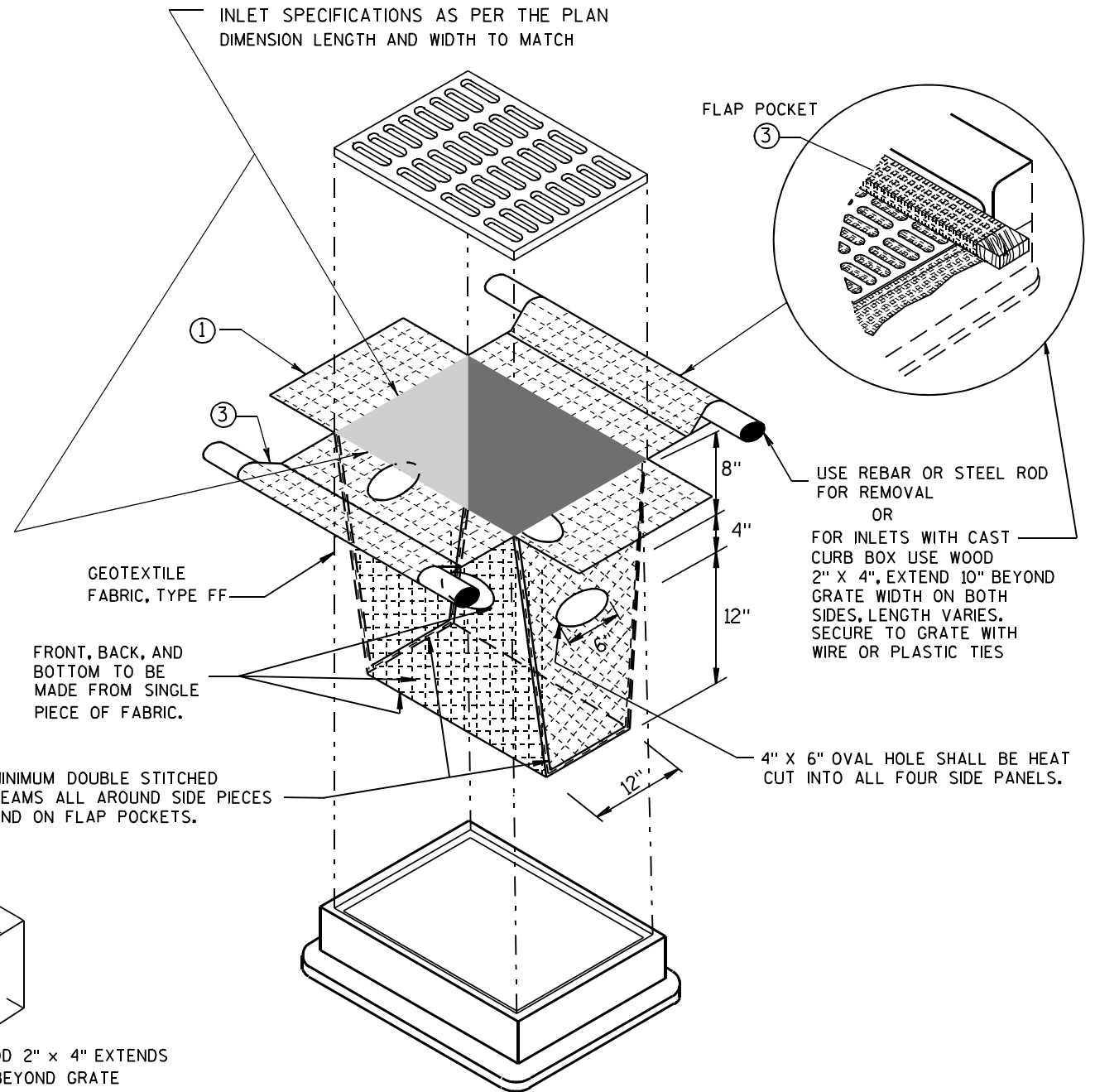
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

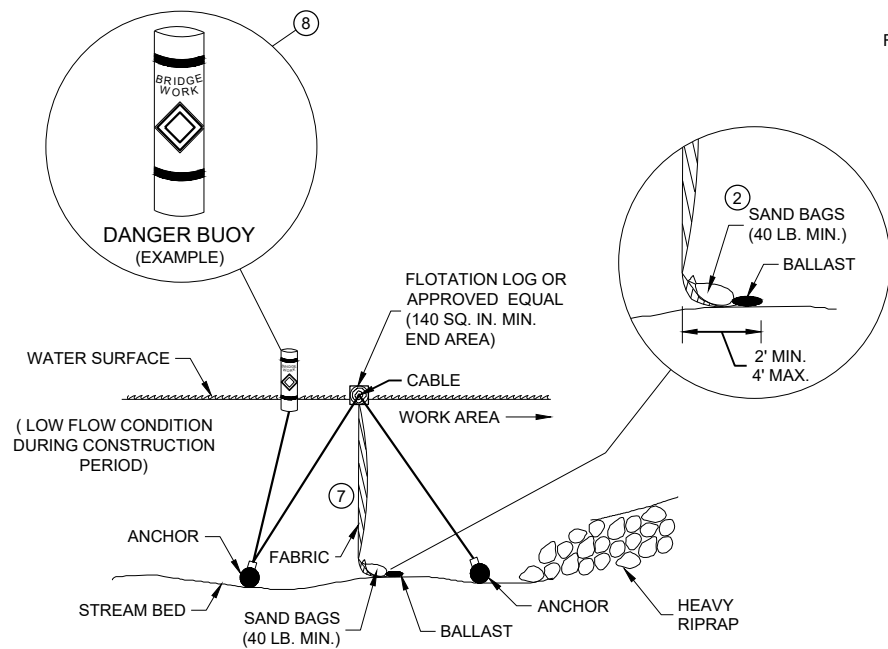
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



INLET PROTECTION, TYPE D

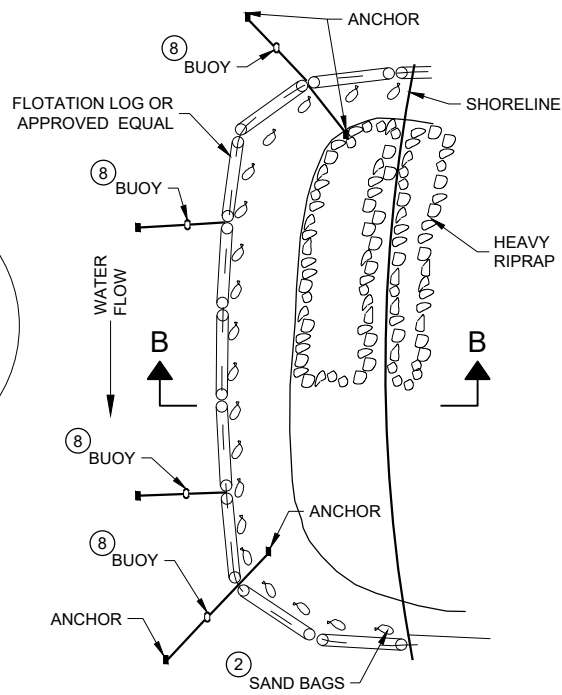
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

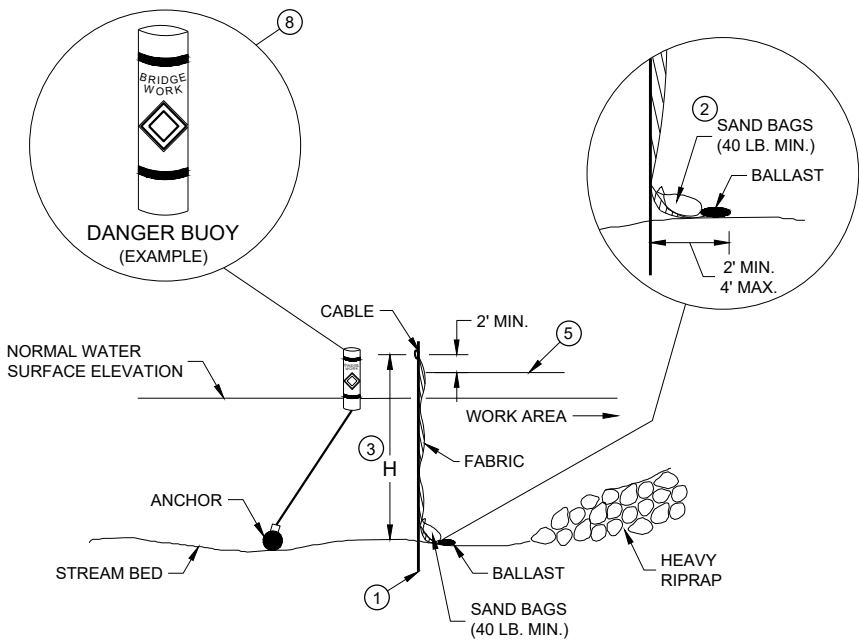


SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**

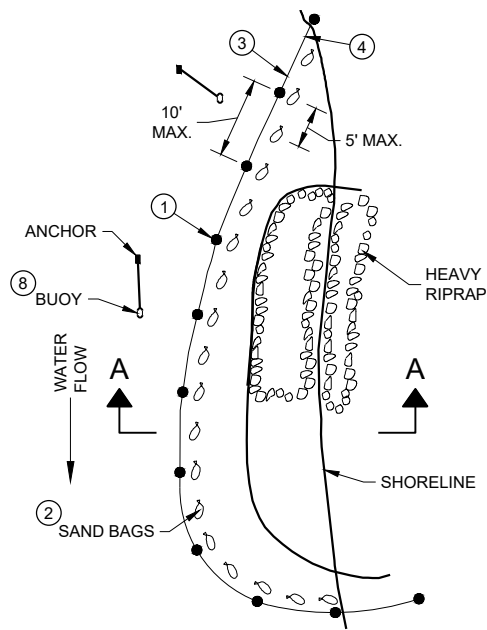


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

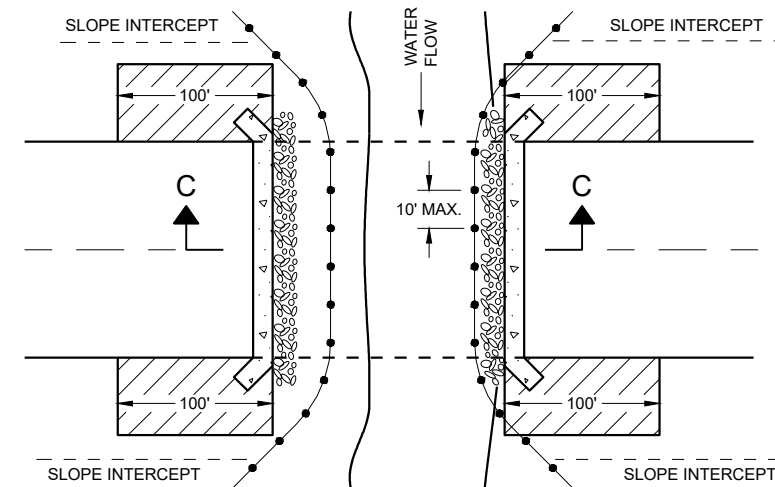
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

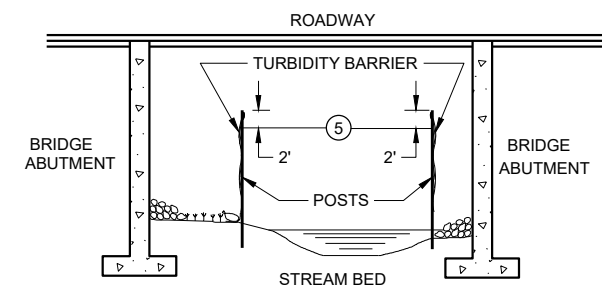
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS 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 FEET, 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 Q2 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 BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

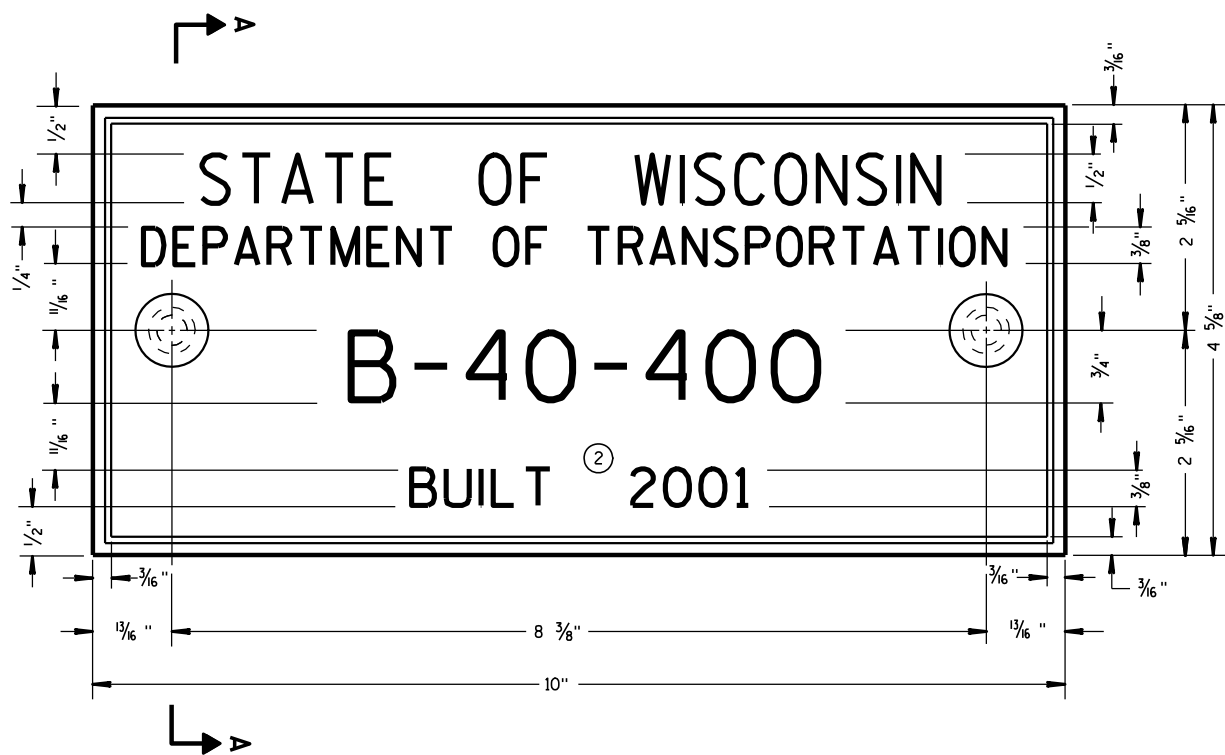
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
ENGINEER

FHWA



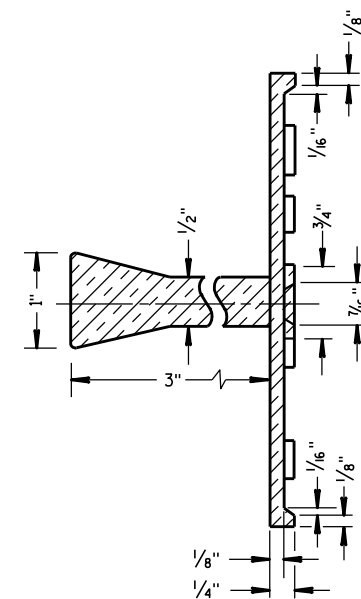
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

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

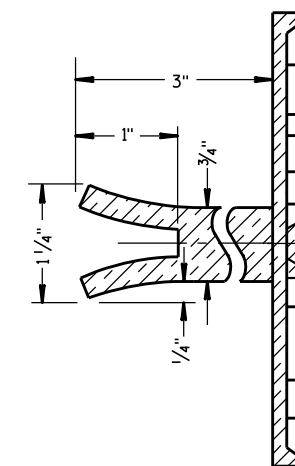
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

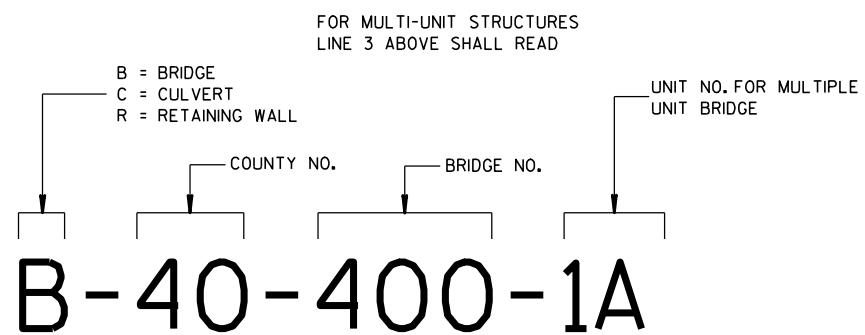


SECTION A-A

SPREAD OPEN SO THE TOP OF LUG IS 1 1/4" WIDE

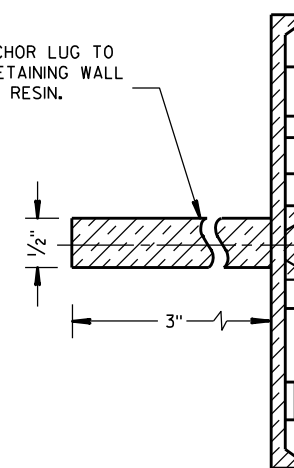


ALTERNATE LUG



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

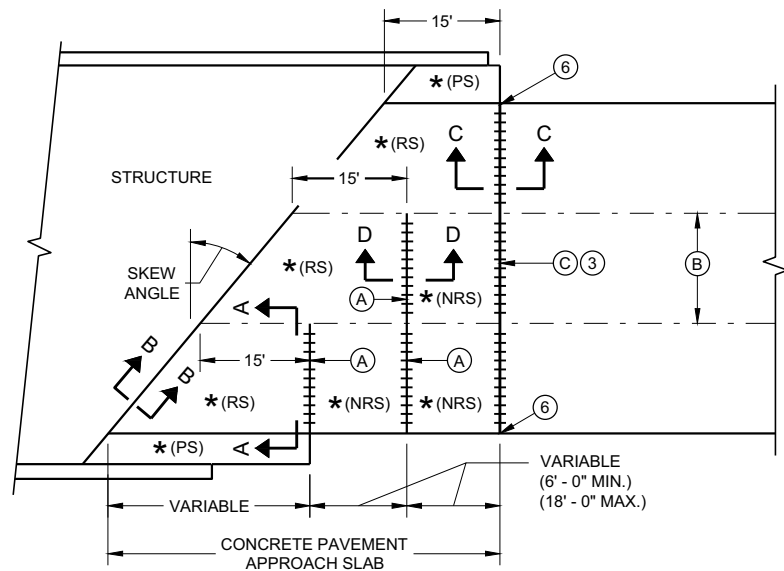


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

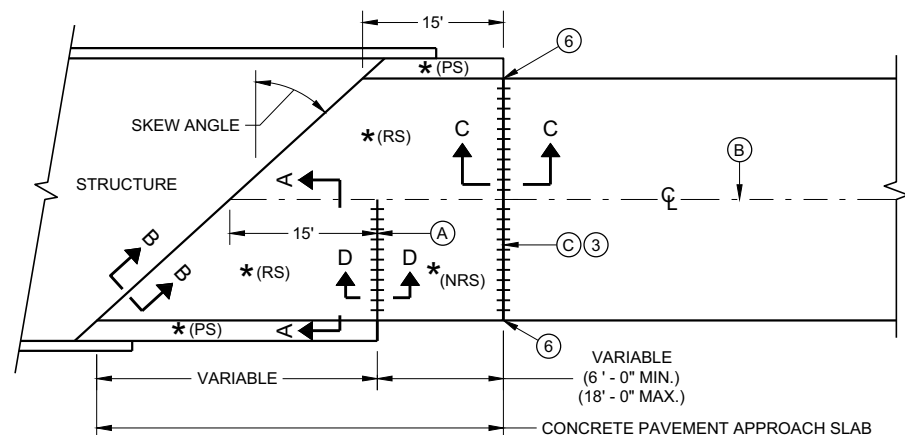
**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

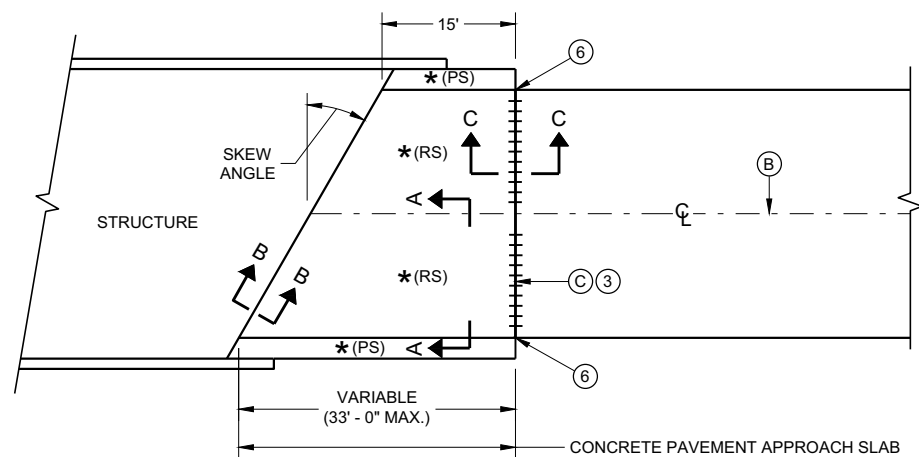
APPROVED
DATE 3/26/10 /S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**

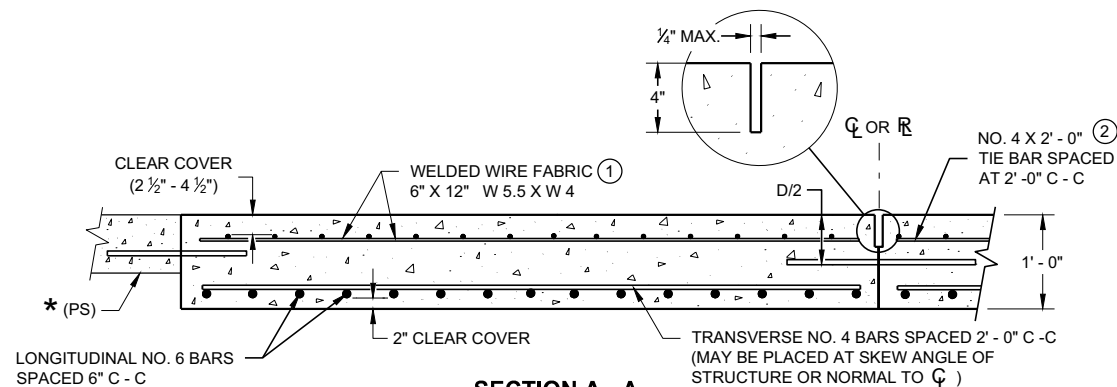


**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

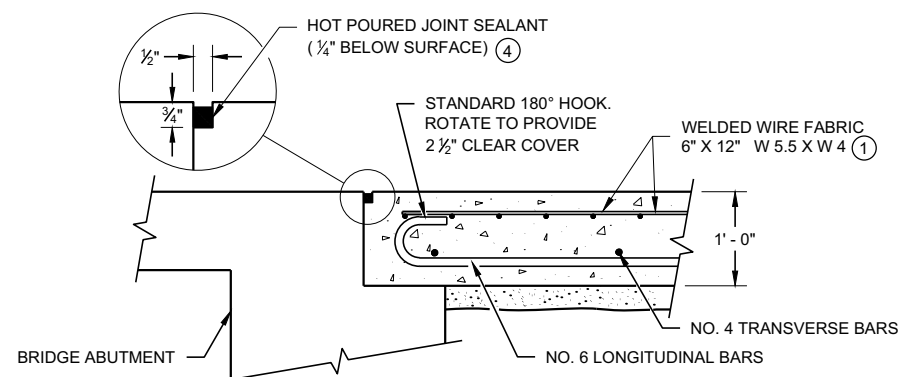


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**
APPROACH SLAB AND ADJACENT PAVEMENT

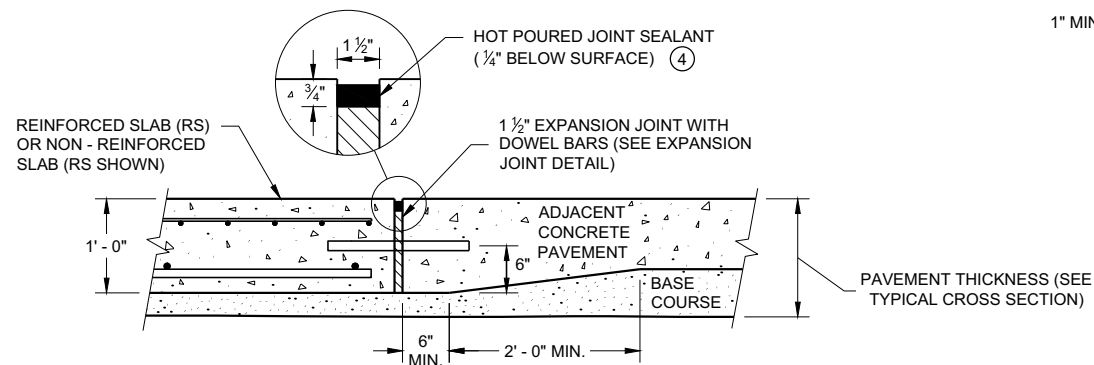
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



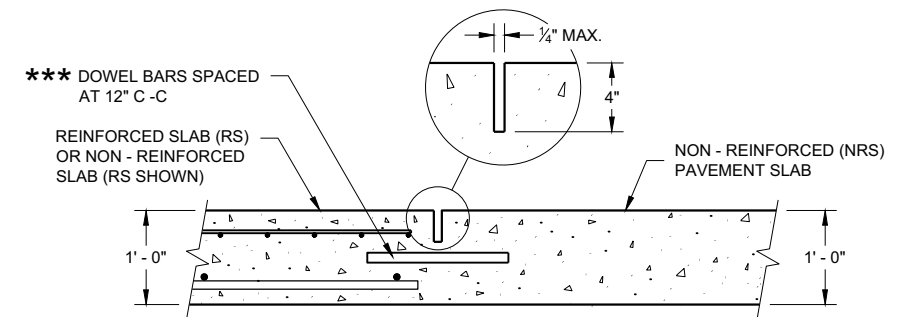
**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



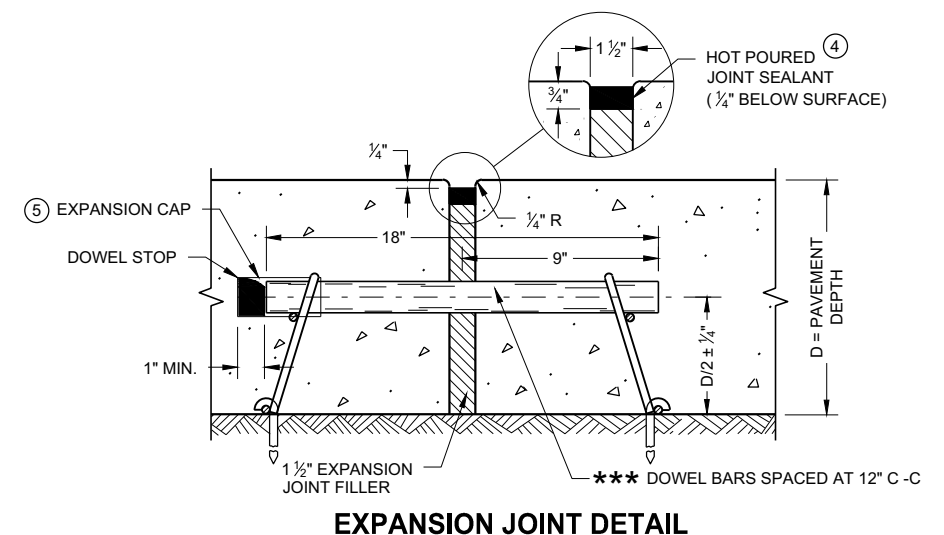
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

- THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.
- TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.
- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
 - ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
 - ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
 - ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
 - ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
 - ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
 - (A) STANDARD CONTRACTION JOINT NORMAL TO \bar{C} OR \bar{R} .
 - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
 - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO \bar{C} OR \bar{R} .



**SECTION D - D
CONTRACTION JOINT**



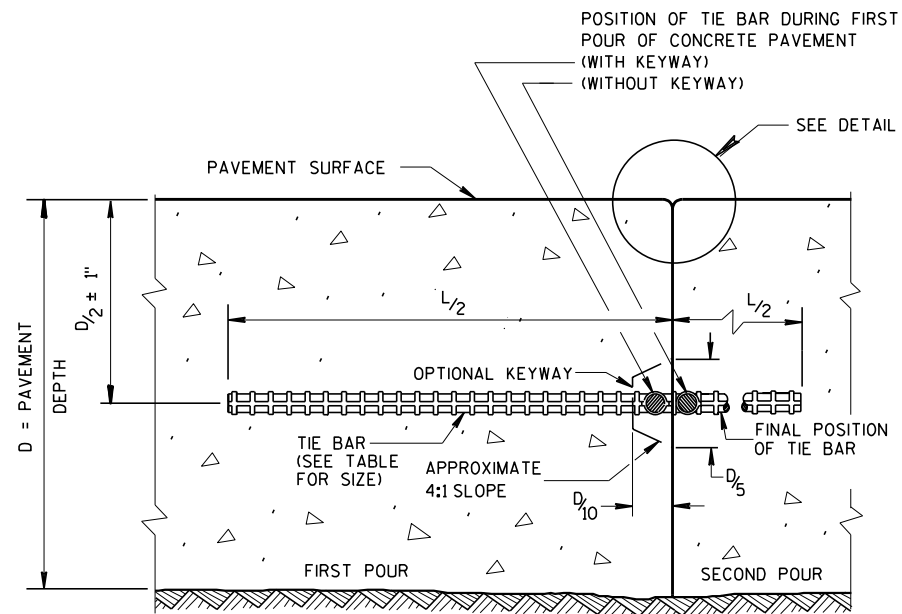
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

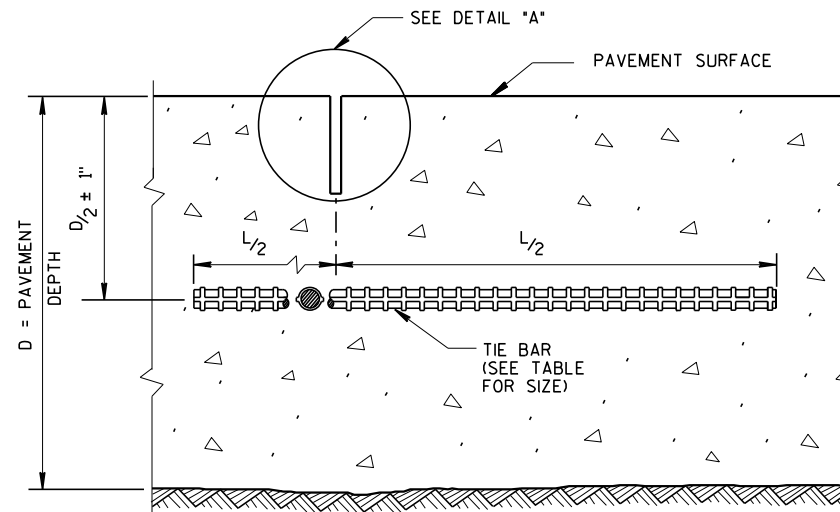
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE DATE PAVEMENT SUPERVISOR

FHWA



CONSTRUCTION JOINT



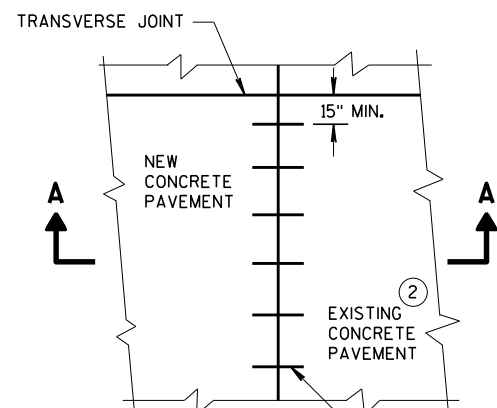
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

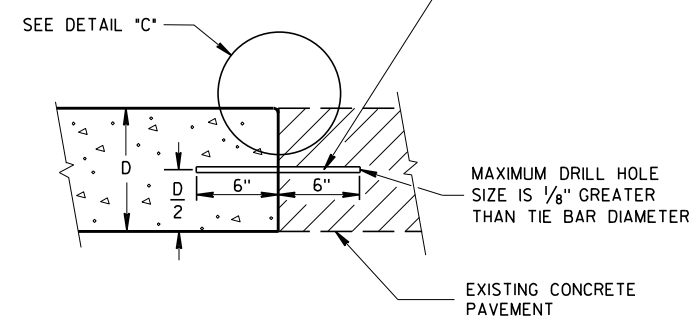
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

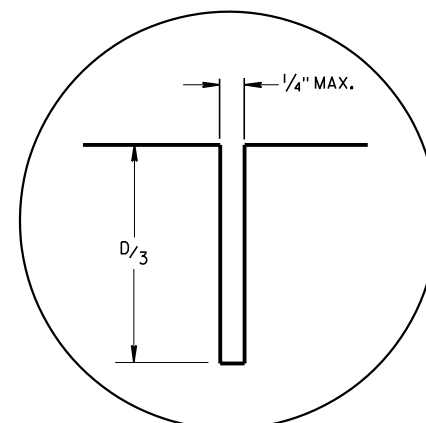


PLAN VIEW

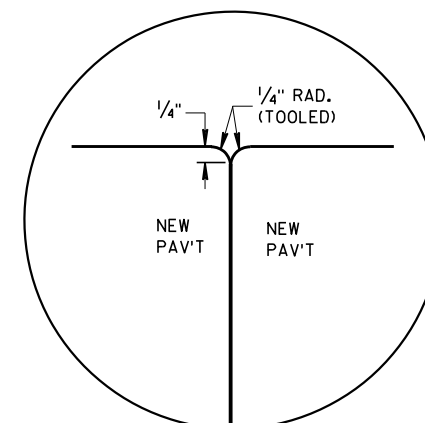
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



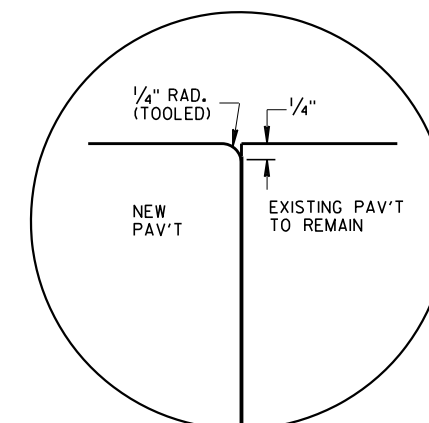
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



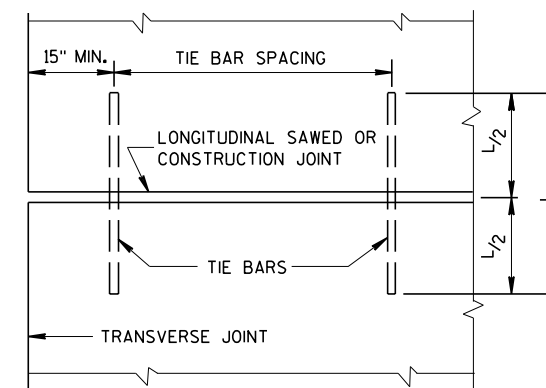
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

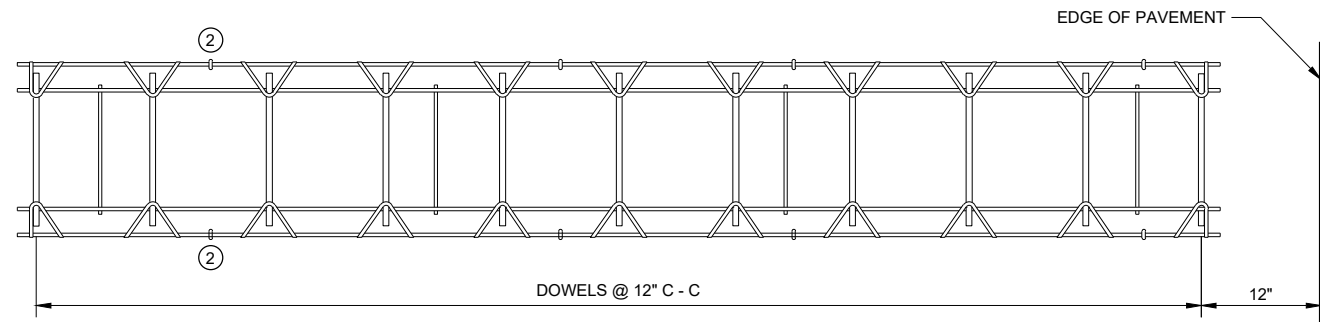


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

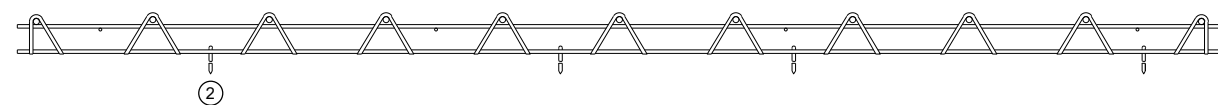
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

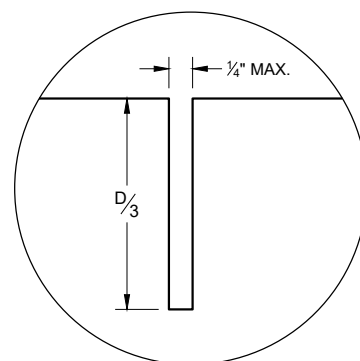


PLAN VIEW



SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

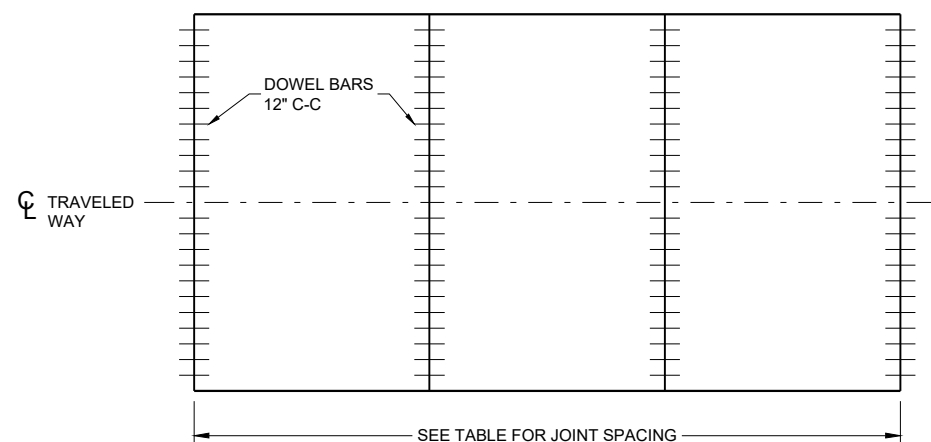
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

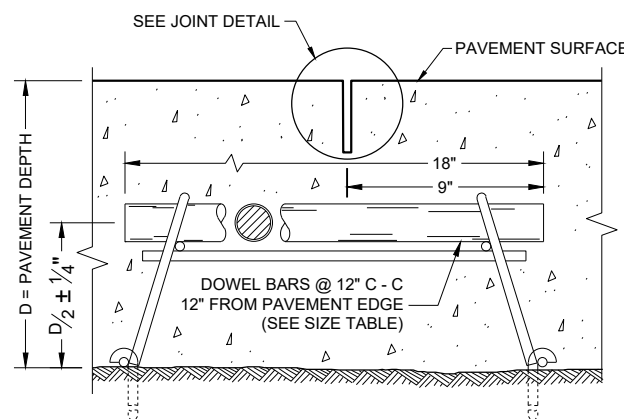
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4" RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



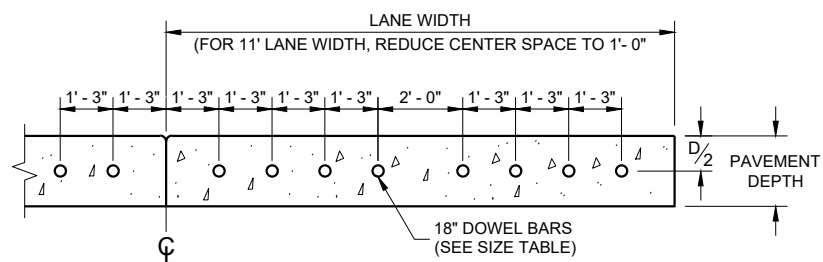
CONTRACTION JOINT LOCATIONS



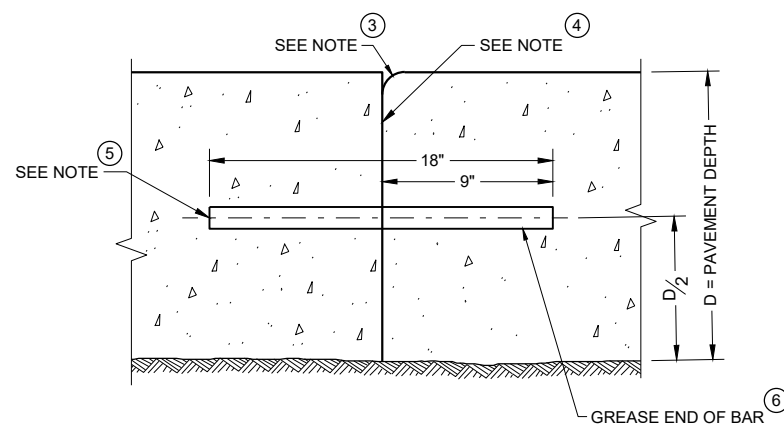
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8" & ABOVE	1 1/4"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



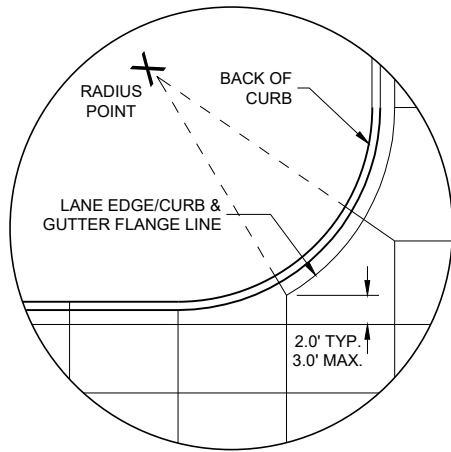
TRANSVERSE CONSTRUCTION JOINT

URBAN DOWELED CONCRETE PAVEMENT

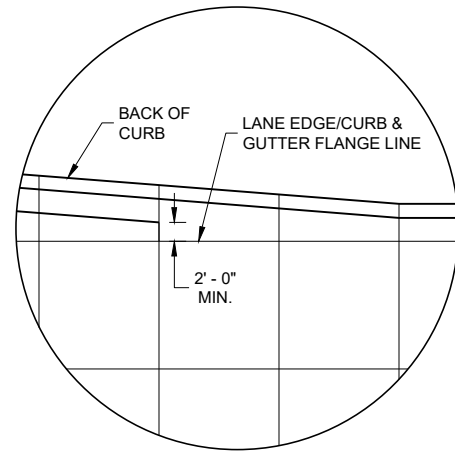
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR

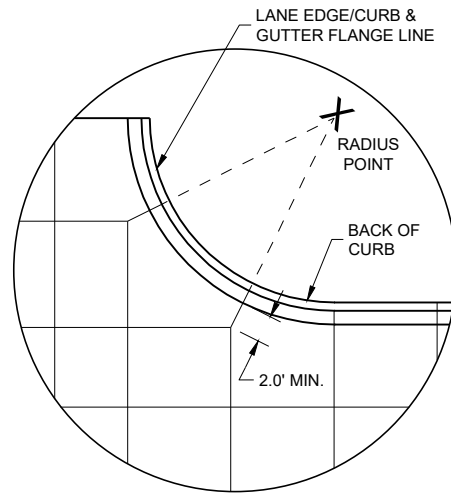
FHWA



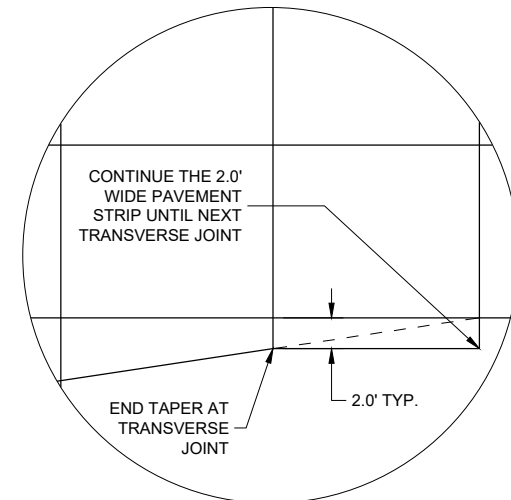
DETAIL "A"



DETAIL "B"



DETAIL "C"

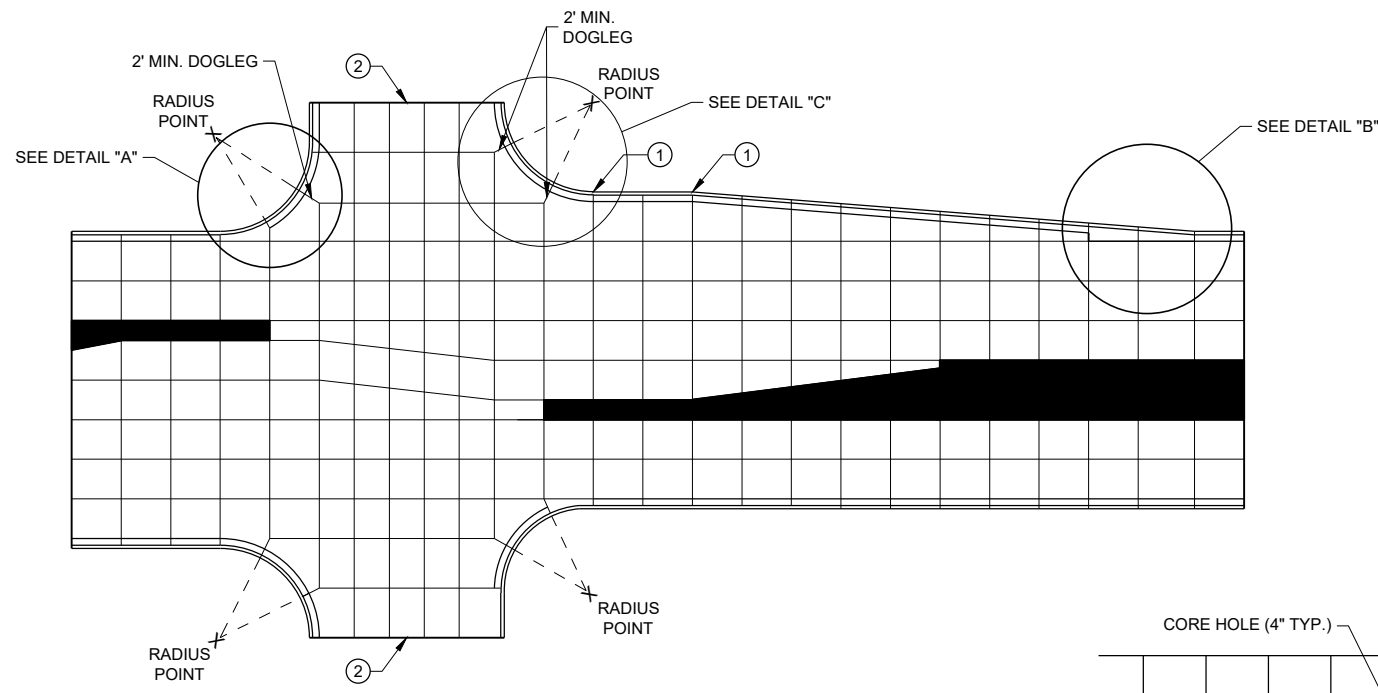


DETAIL "D"

GENERAL NOTES

- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

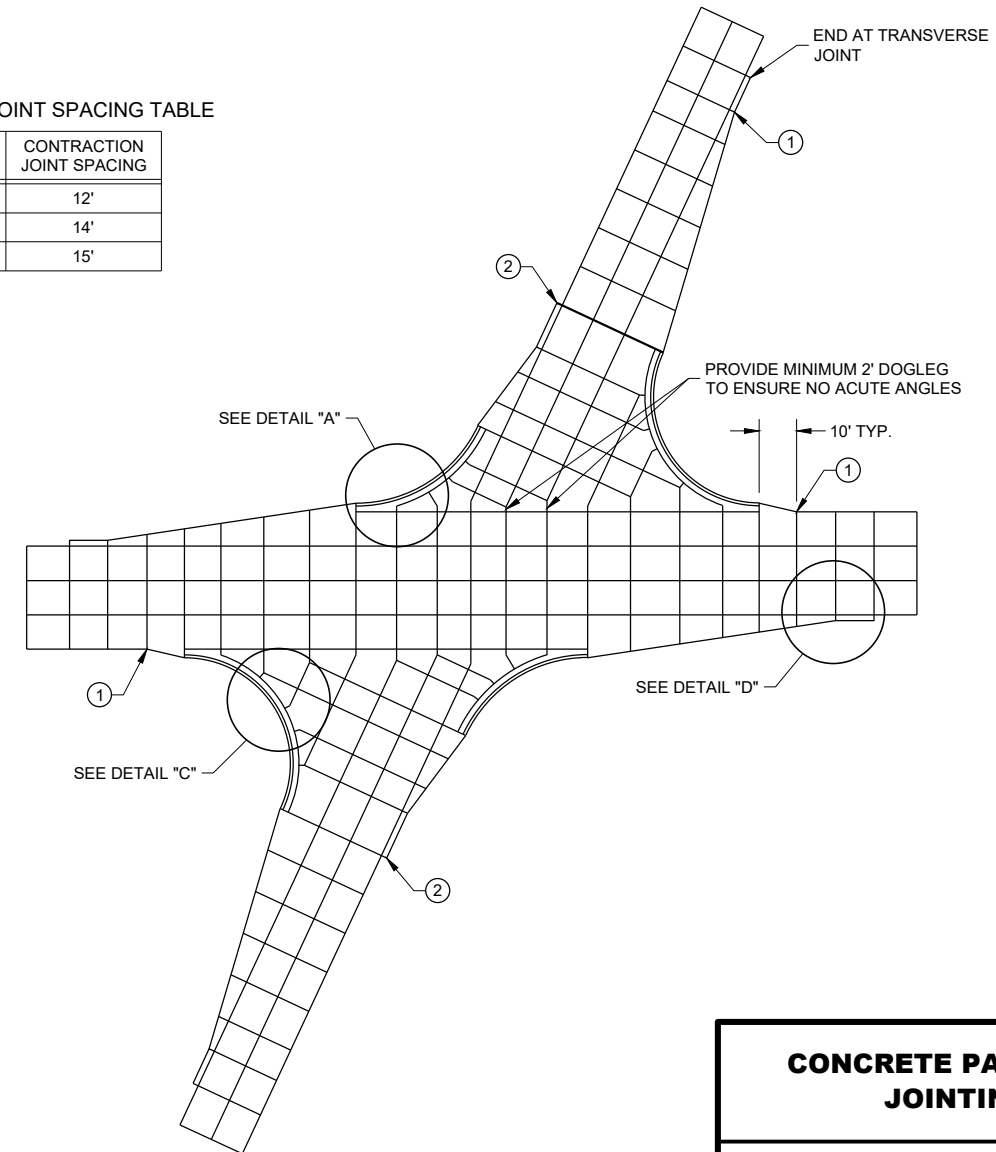
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



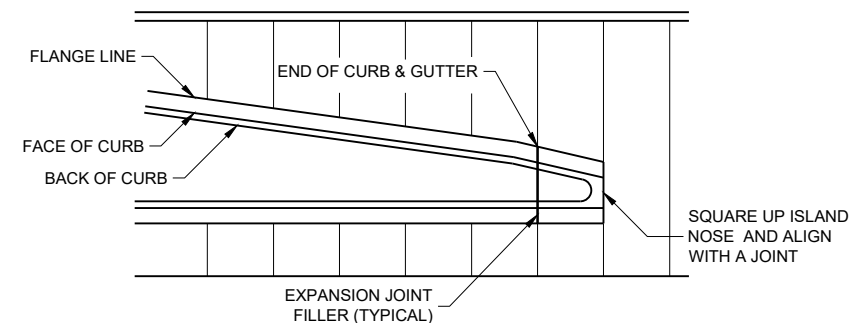
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

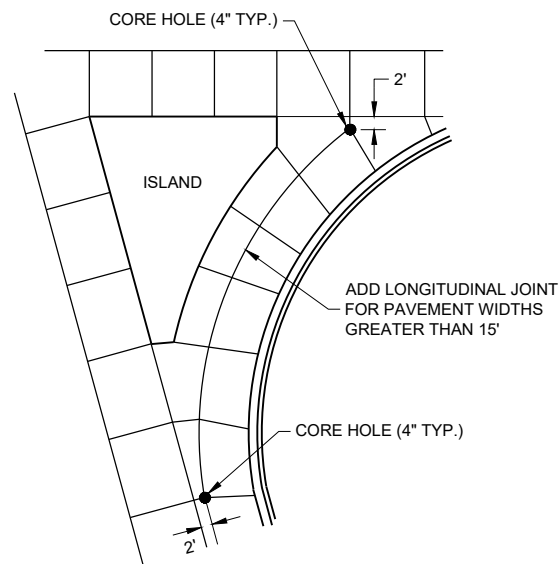
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

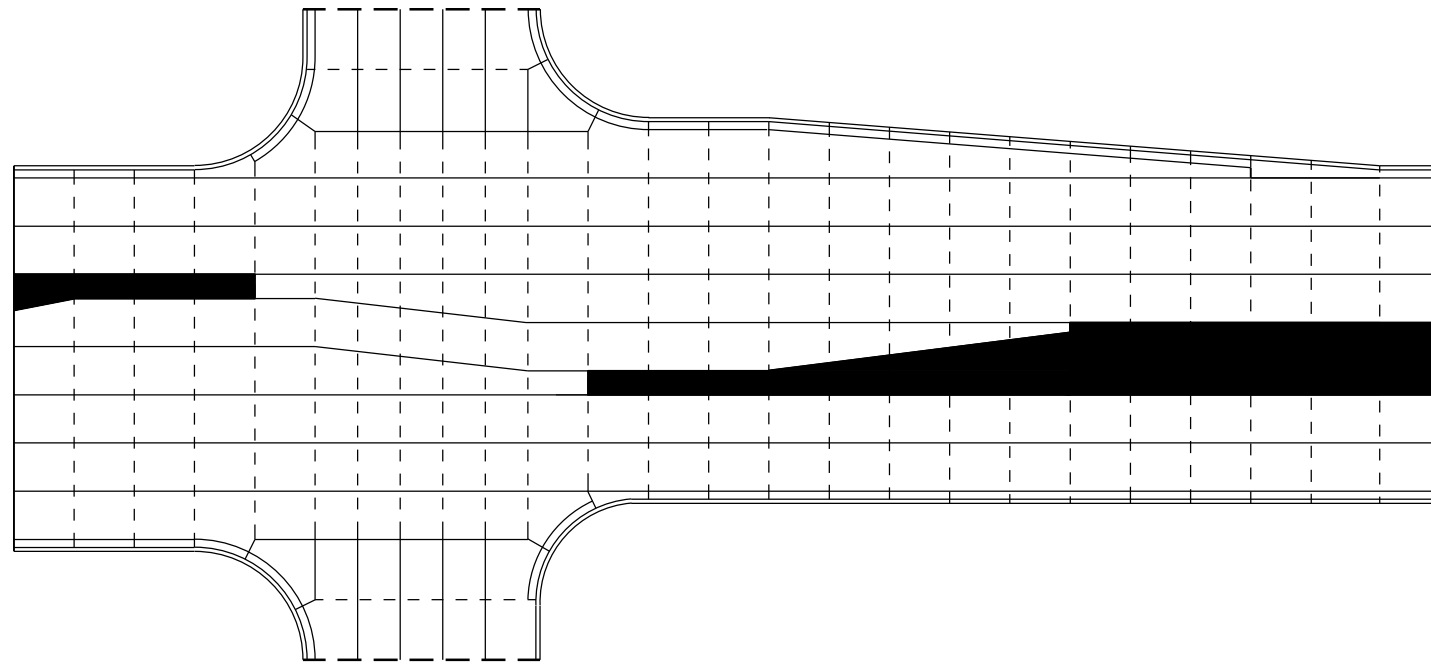
LEGEND

- - - - - POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT

GENERAL NOTES

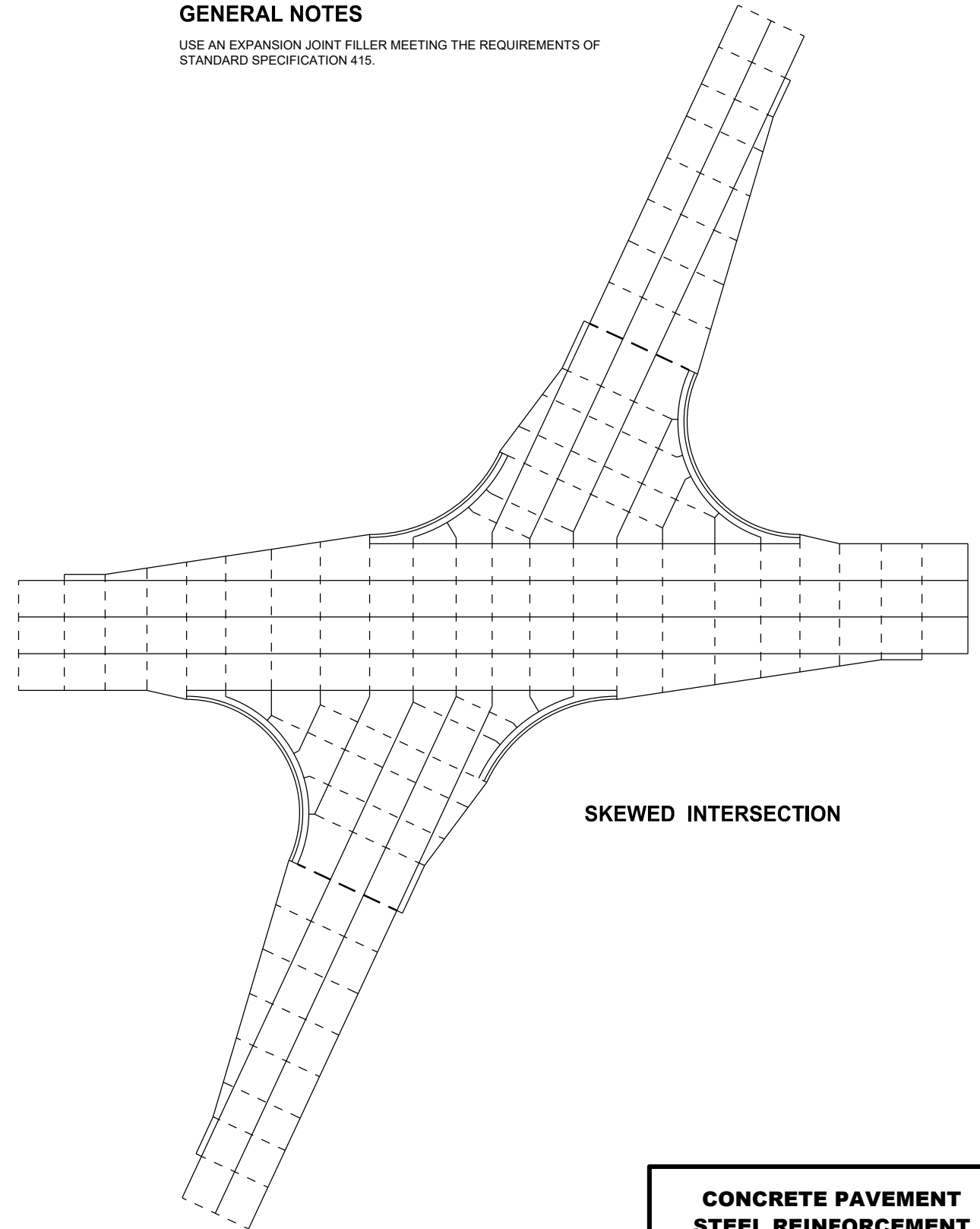
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

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STANDARD INTERSECTION

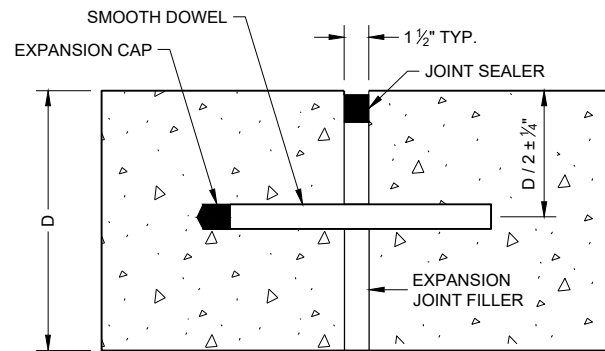
6



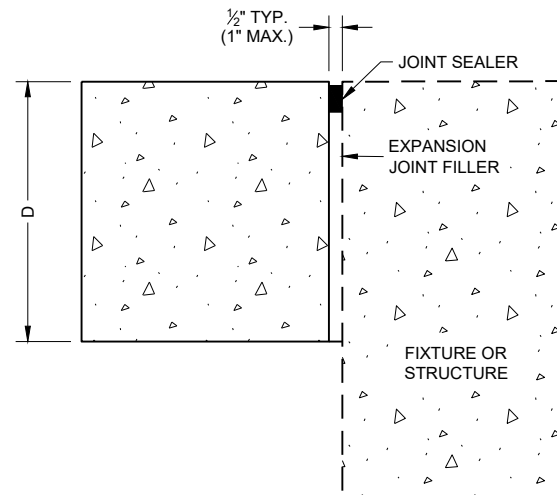
SKewed INTERSECTION

**CONCRETE PAVEMENT
STEEL REINFORCEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DOWELED TRANSVERSE ①



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

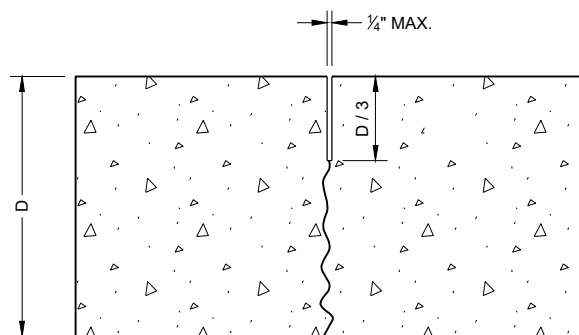
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

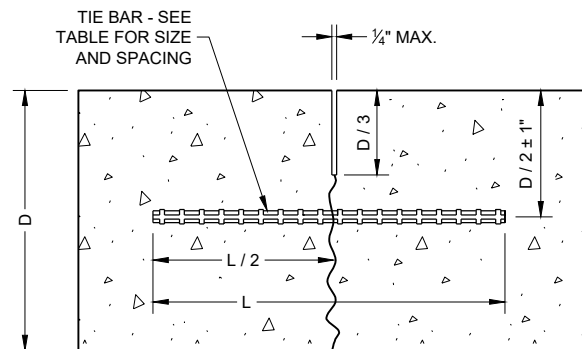
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

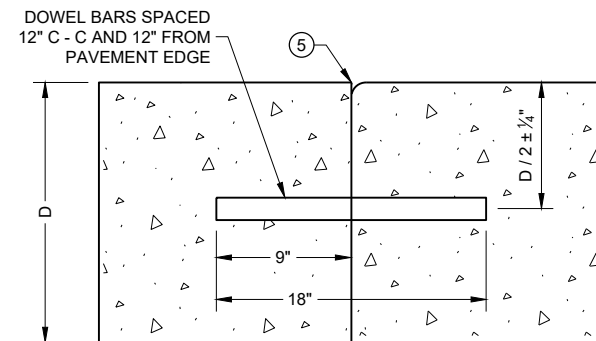
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



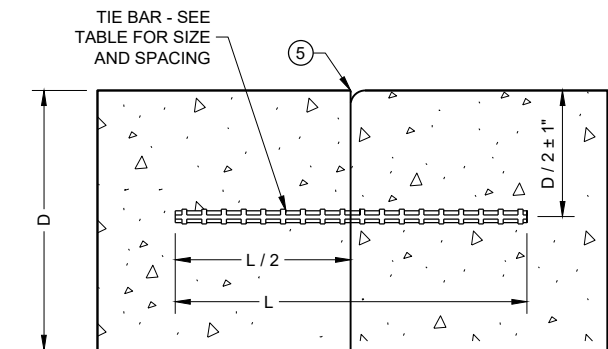
UNDOWELED TRANSVERSE



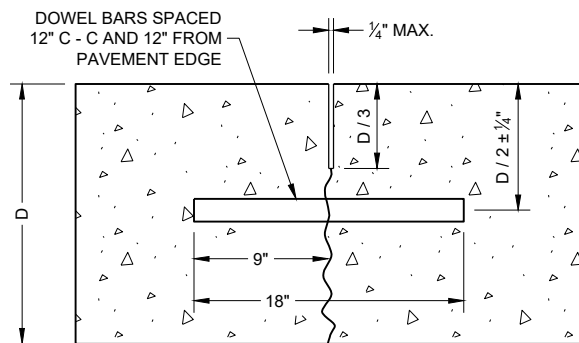
TIED LONGITUDINAL



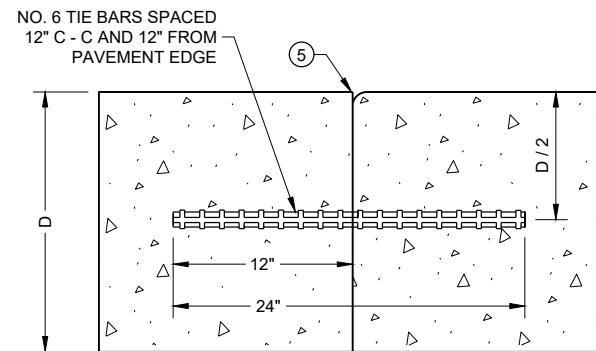
DOWELED TRANSVERSE ③



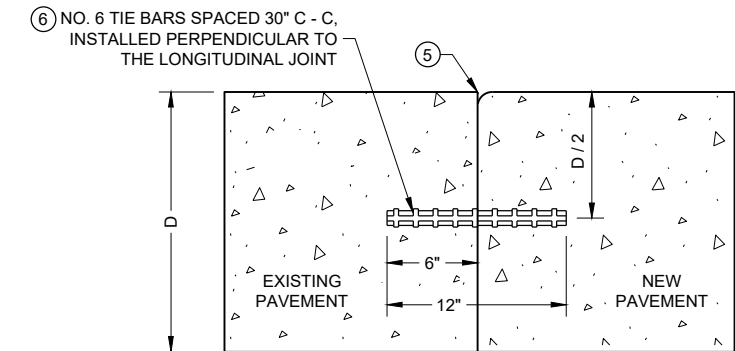
TIED LONGITUDINAL



DOWELED TRANSVERSE



TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



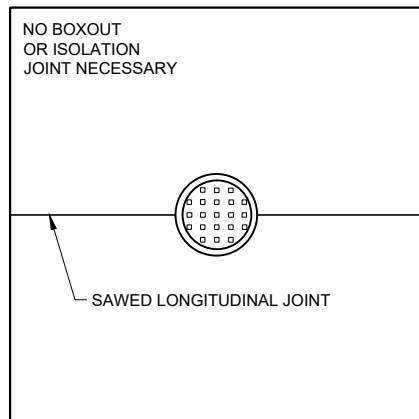
TIED LONGITUDINAL TO EXISTING

CONTRACTION JOINTS ②

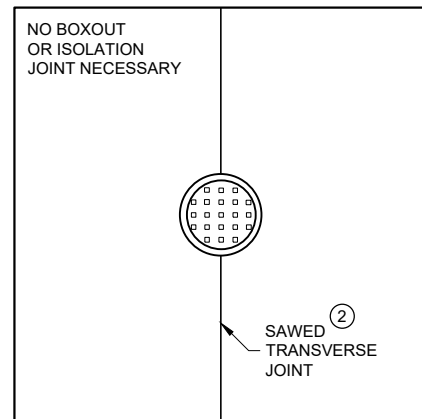
CONSTRUCTION JOINTS ④

CONCRETE PAVEMENT JOINT TYPES

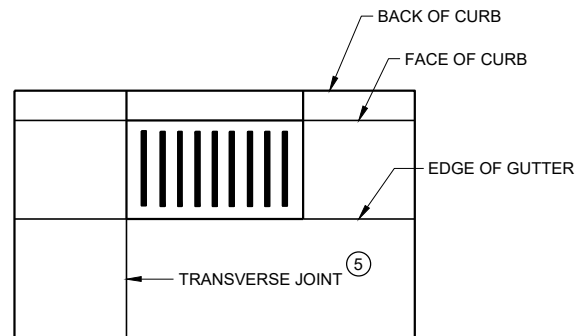
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MANHOLE WITH LONGITUDINAL JOINT



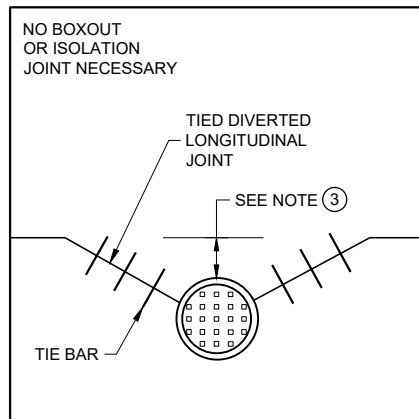
MANHOLE WITH TRANSVERSE JOINT



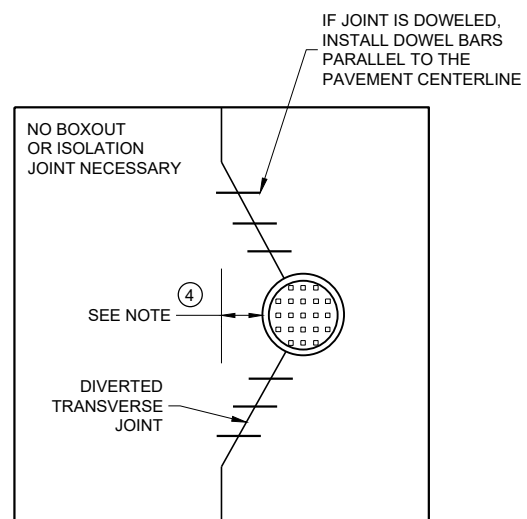
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

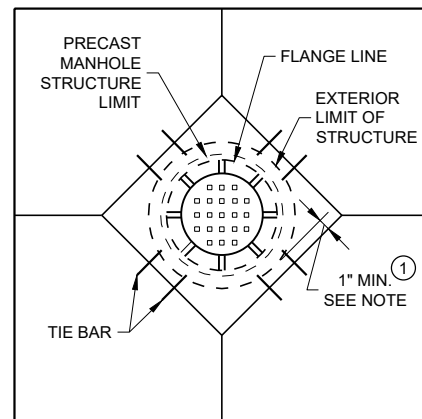
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

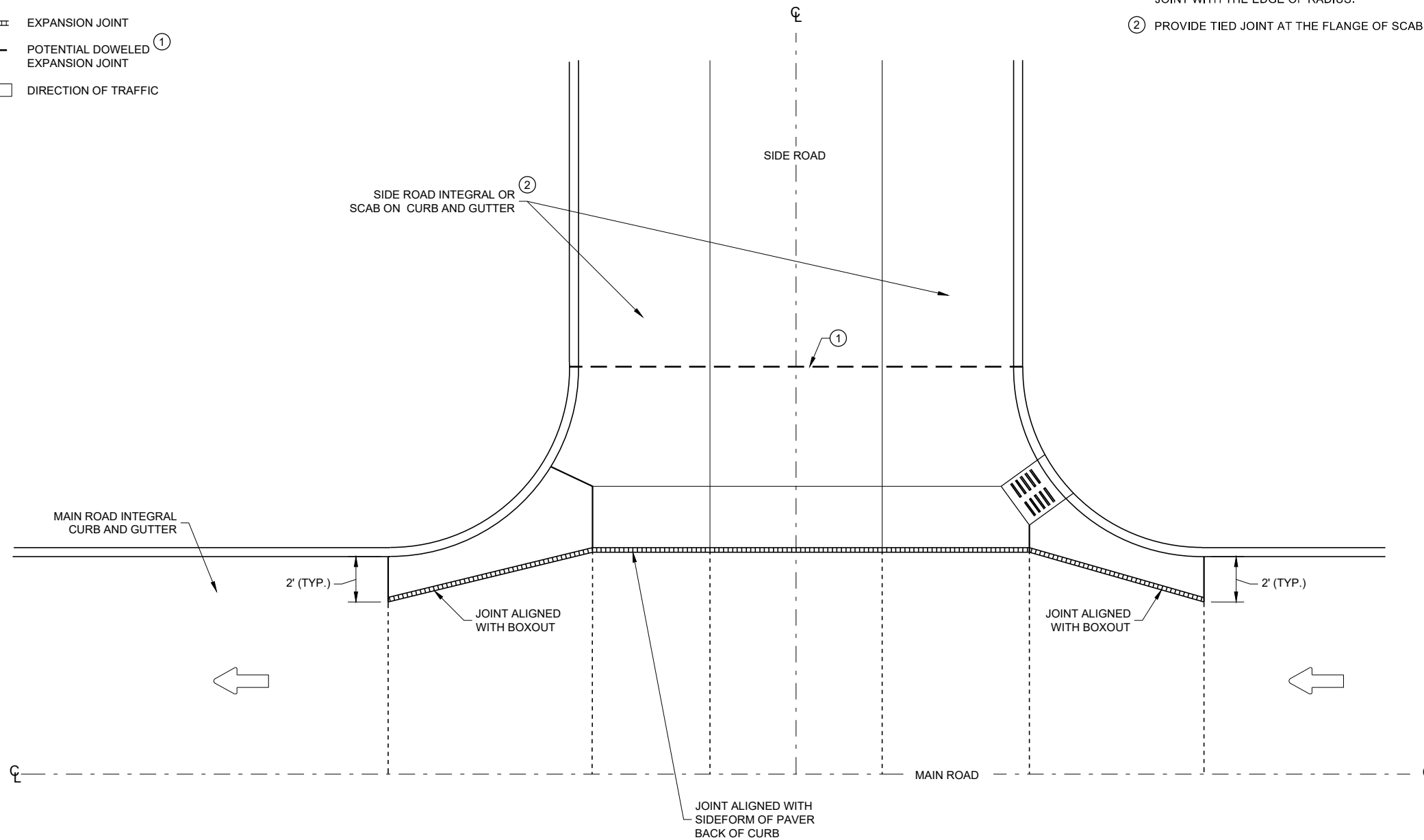
APPROVED	
May 2023	/s/ Peter Kemp P.E.
DATE	PAVEMENT SUPERVISOR

LEGEND

- DOWELED JOINT
- TIED JOINT
- ▤▤▤▤ EXPANSION JOINT
- — — — — POTENTIAL DOWELED EXPANSION JOINT ①
- ← DIRECTION OF TRAFFIC

GENERAL NOTES

- ① CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH THE EDGE OF RADIUS.
- ② PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.



INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

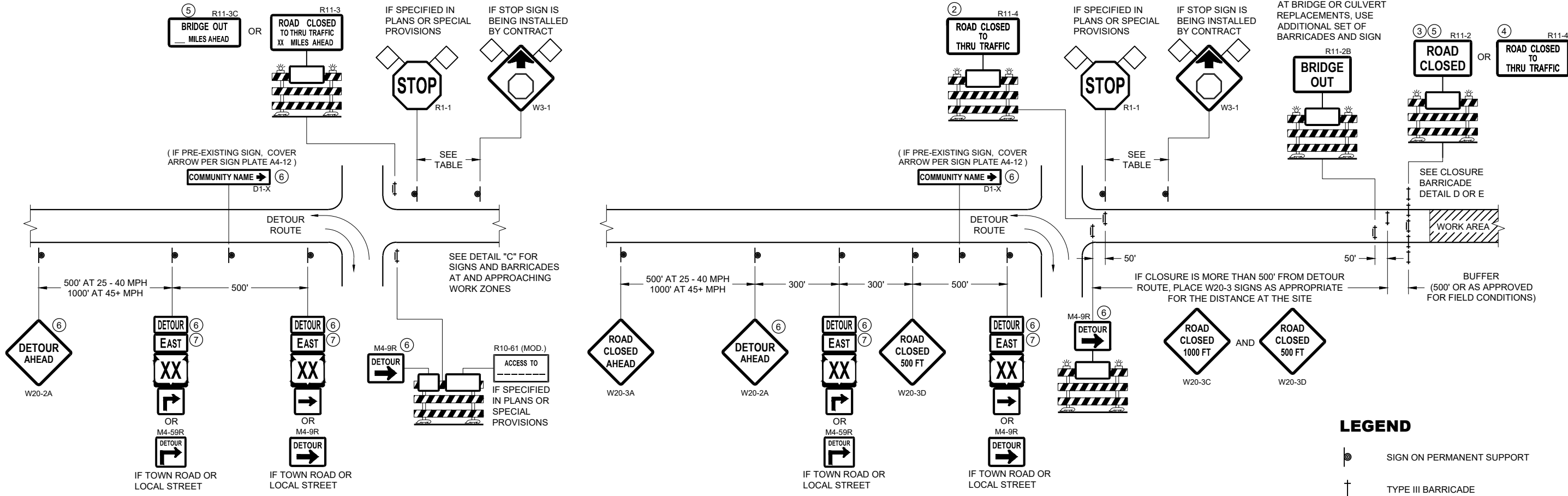
CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Peter Kemp P.E. PAVEMENT SUPERVISOR
FHWA	

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SDD 13C18 - 08f

SDD 13C18 - 08f



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

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

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

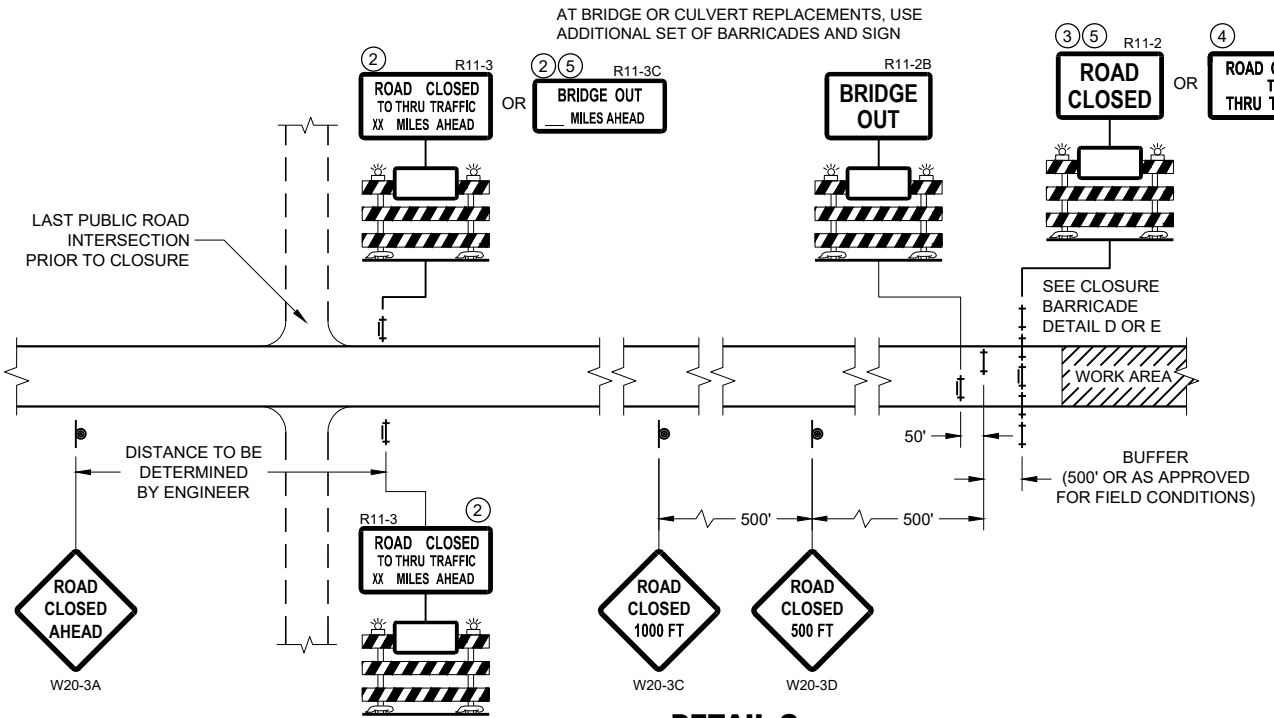
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

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

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



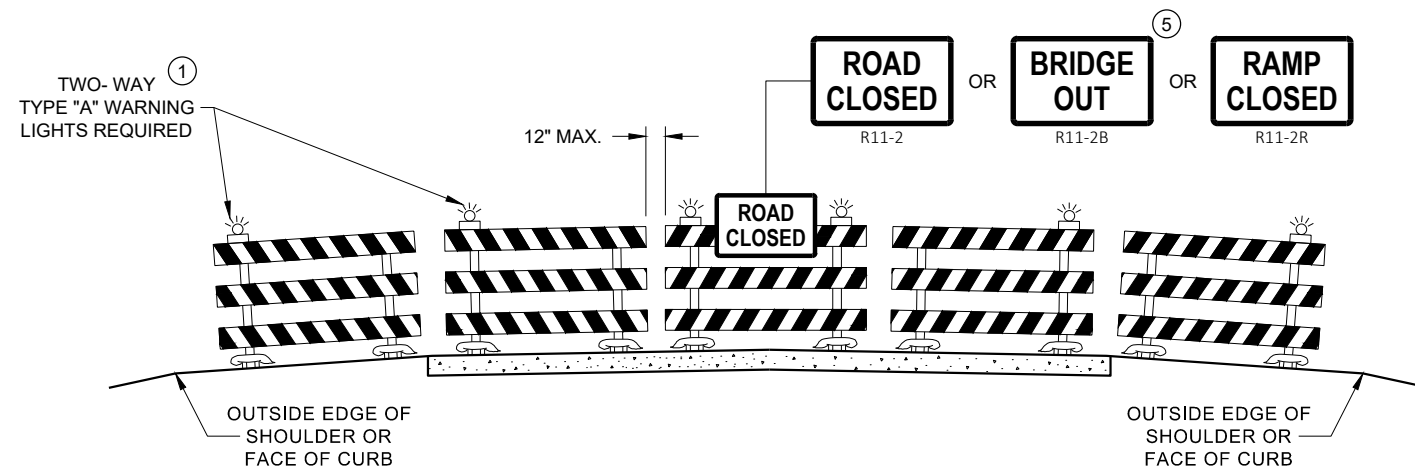
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

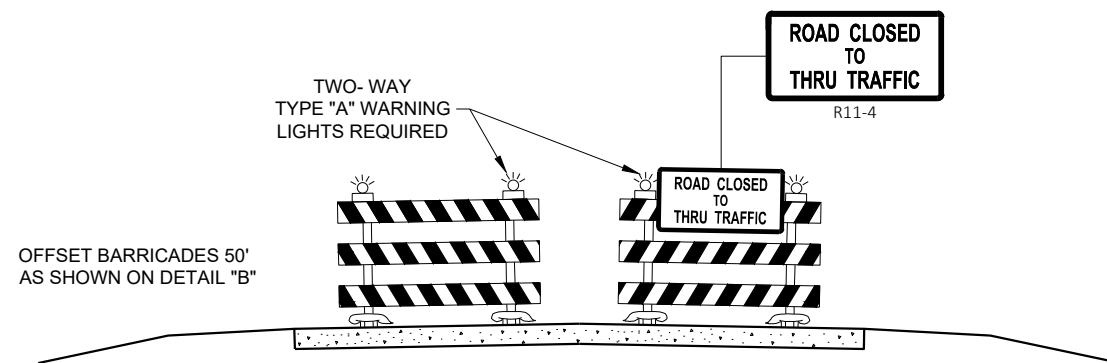
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE DATE WORK ZONE ENGINEER
FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

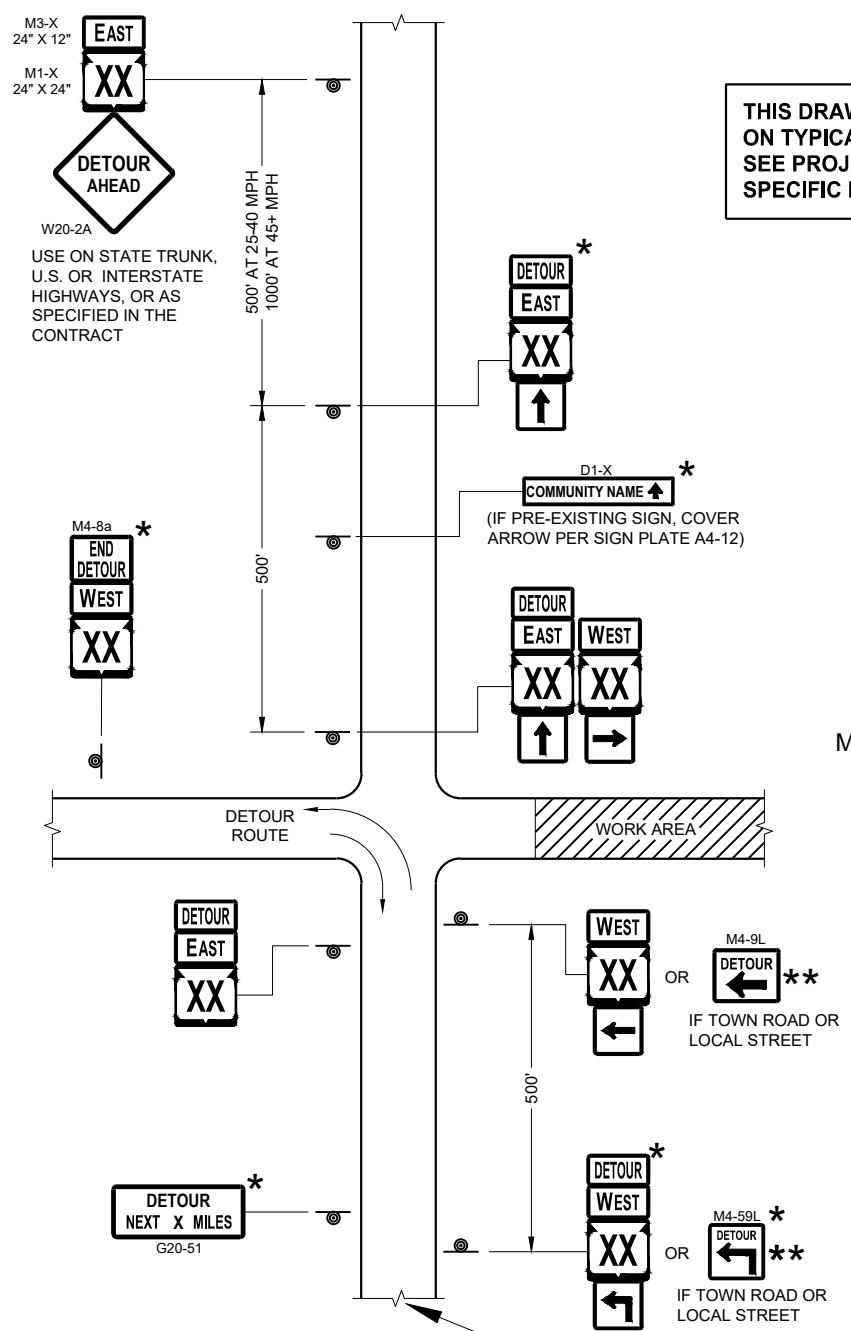
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

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.

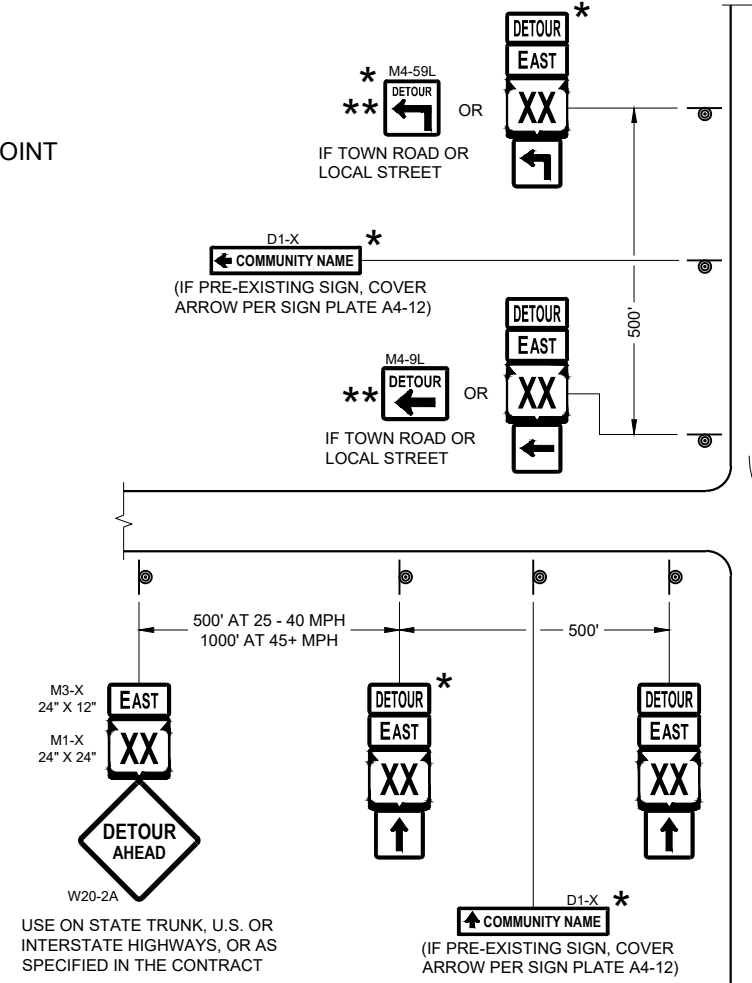
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

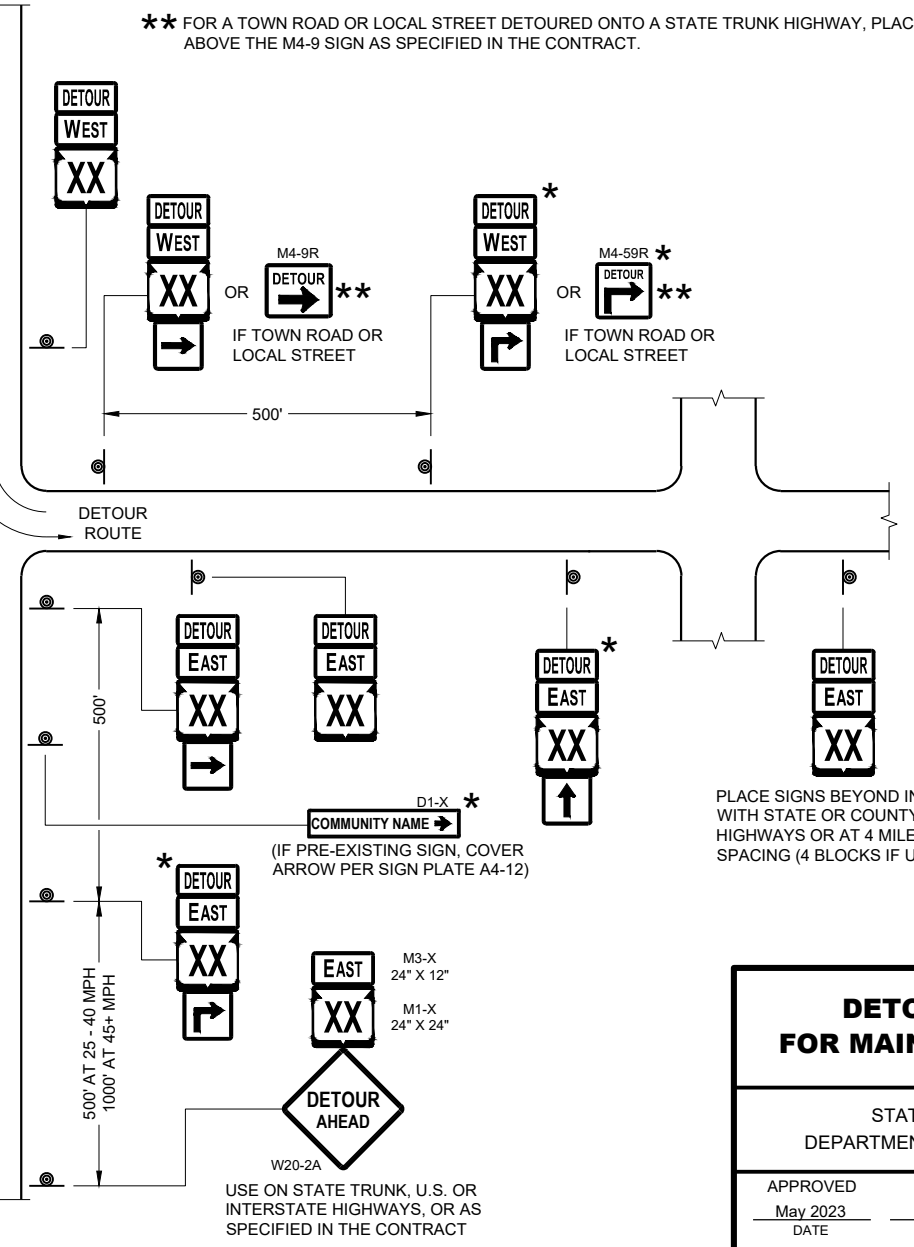
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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.

MATCH POINT



**DETAIL F
DETOUR SIGNING**

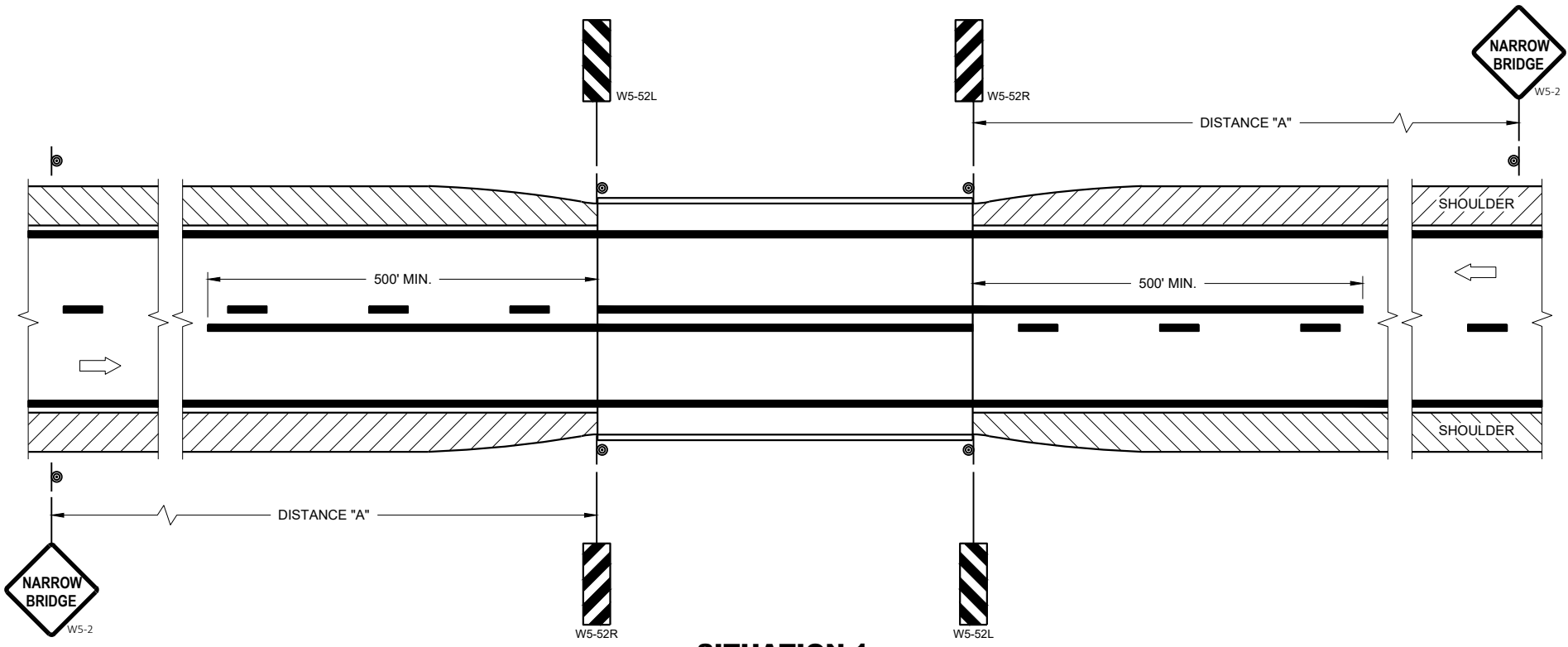


**DETOUR SIGNING
FOR MAINLINE CLOSURES**

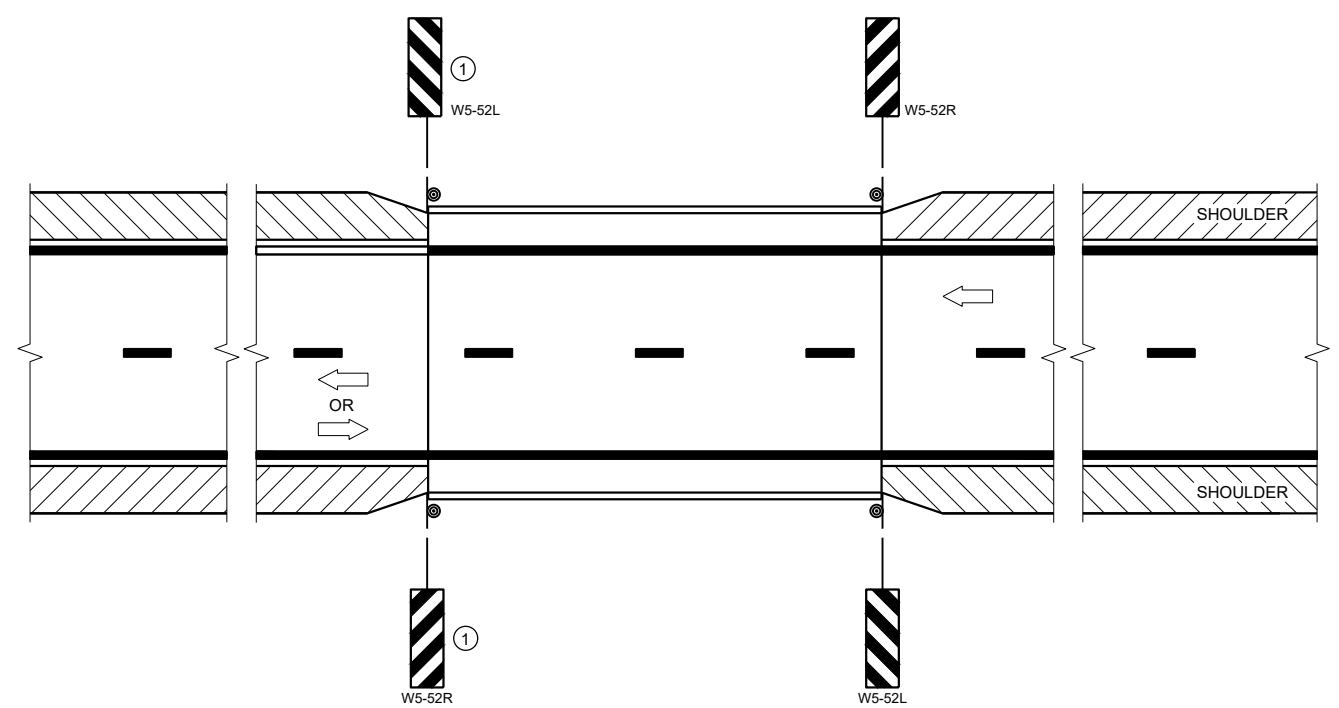
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APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



SITUATION 1
 WARRANTING CRITERIA:
 BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



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

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE 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.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

6

6

SDD 15C06-12

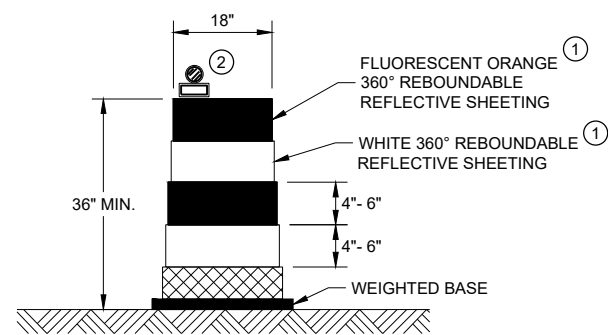
SDD 15C06-12

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

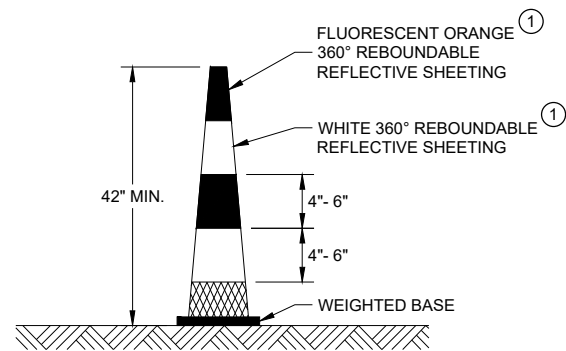
APPROVED
 May 2023 /S/ Jeannie Silver
 DATE STATE SIGNING AND MARKING ENGINEER

FHWA



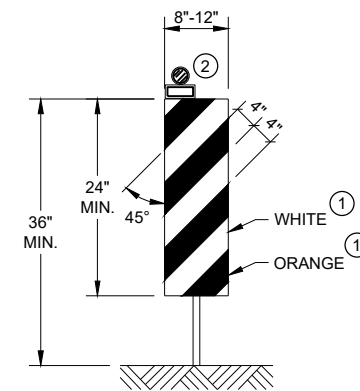
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"

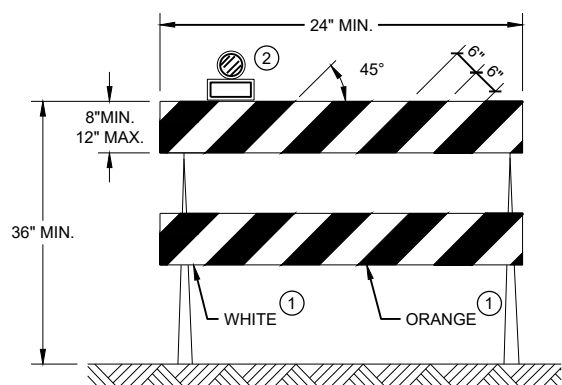


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

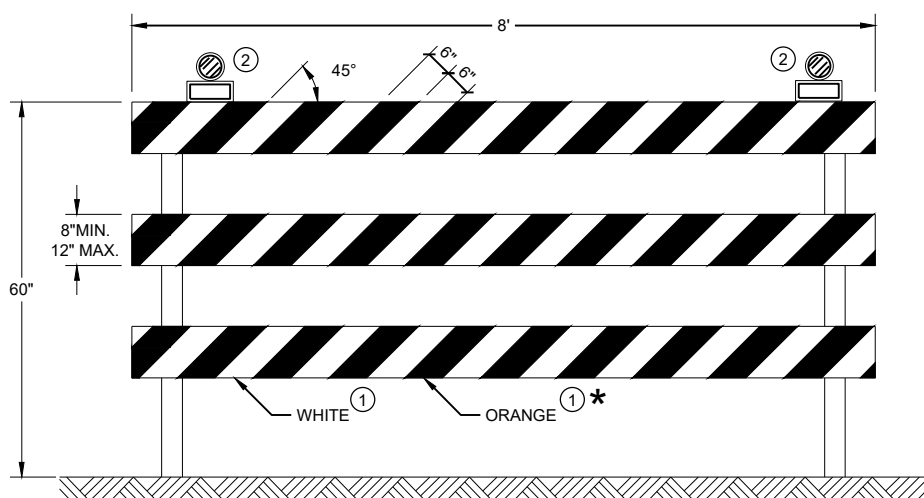
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.










* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

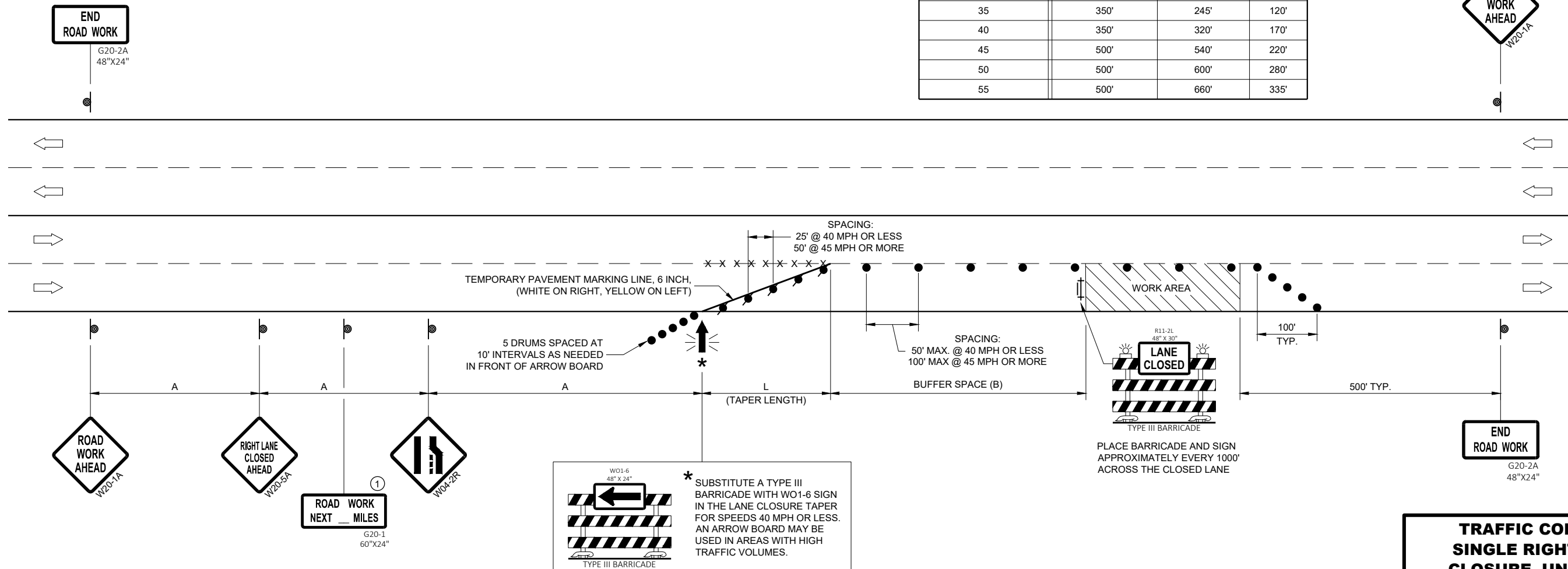
① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'
50	500'	600'	280'
55	500'	660'	335'



6

6



SDD 15D20-07b

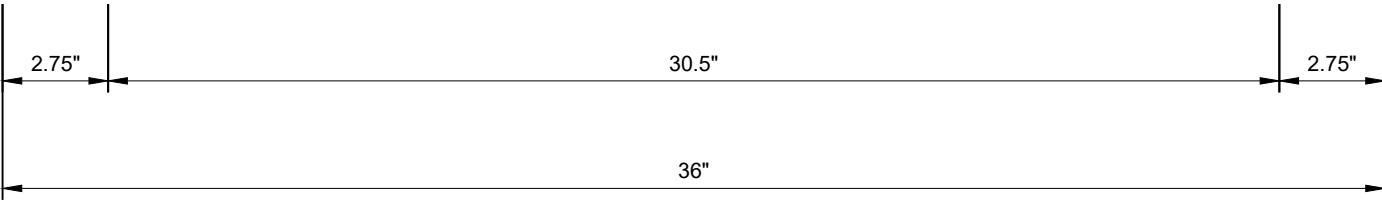
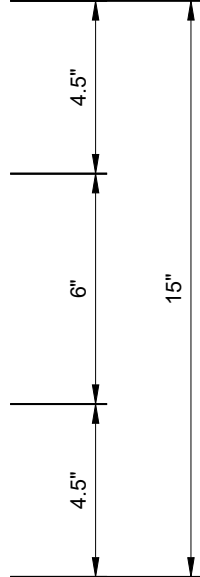
SDD 15D20-07b

**TRAFFIC CONTROL,
SINGLE RIGHT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



1.125" Radius, 0.50" Boarder, 0.375" Indent

- NOTES:
- 1. ALL SIGNS TYPE II - TYPE F REFLECTIVE
 - 2. COLOR:
BACKGROUND - ORANGE
MESSAGE - BLACK
 - 3. MESSAGE SERIES - C

7

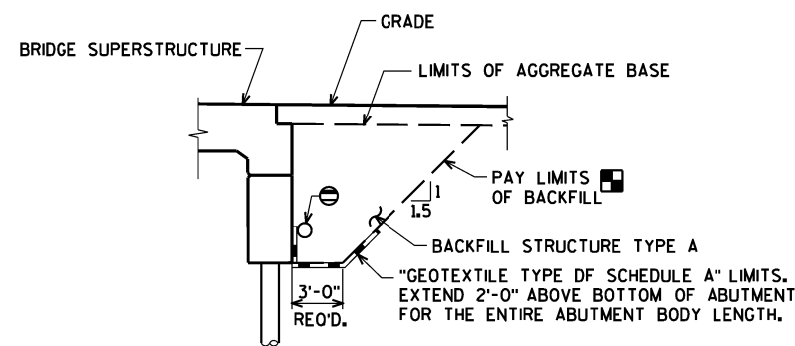
7

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-5-731	EACH	-----	-----	-----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-5-480	EACH	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	260	260	-----	520
502.0100	CONCRETE MASONRY BRIDGES	CY	54.6	54.7	252.7	362
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	330	330
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	64	64
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,210	4,200	-----	8,410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,430	2,430	51,320	56,180
513.7011	RAILING STEEL TYPE C2	LF	-----	-----	157.8	157.8
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16	16	-----	32
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	550	650	-----	1,200
606.0300	RIPRAP HEAVY	CY	80	80	-----	160
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	108	108	-----	216
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	2	-----	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	85	85	-----	170
645.0120	GEOTEXTILE TYPE HR	SY	155	160	-----	315
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	6	6	-----	12
NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

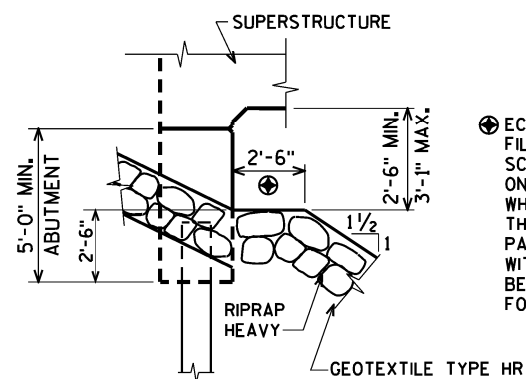
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE. JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE 1, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
 SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.
 THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-5-480" SHALL BE THE EXISTING GROUNDLINE.
 THE EXISTING STRUCTURE, P-5-731 TO BE REMOVED, IS A PRESTRESSED CONCRETE BOX BEAM BRIDGE ON CONCRETE ABUTMENTS, 37.1 FEET LONG WITH A 45.1 FOOT CLEAR ROADWAY WIDTH.
 PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER ARE TO BE APPLIED AS SHOWN IN DETAIL THIS SHEET. BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.
 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
 THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3- FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.
 EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE" BID ITEM.
 AT ABUTMENTS, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

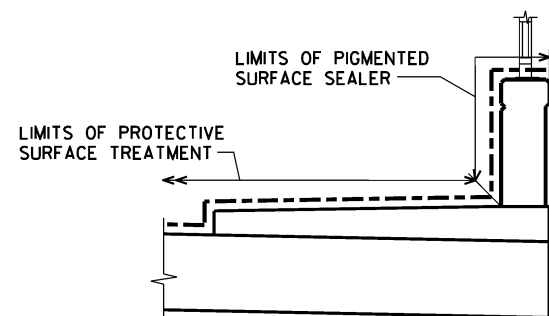


BACKFILL STRUCTURE LIMITS

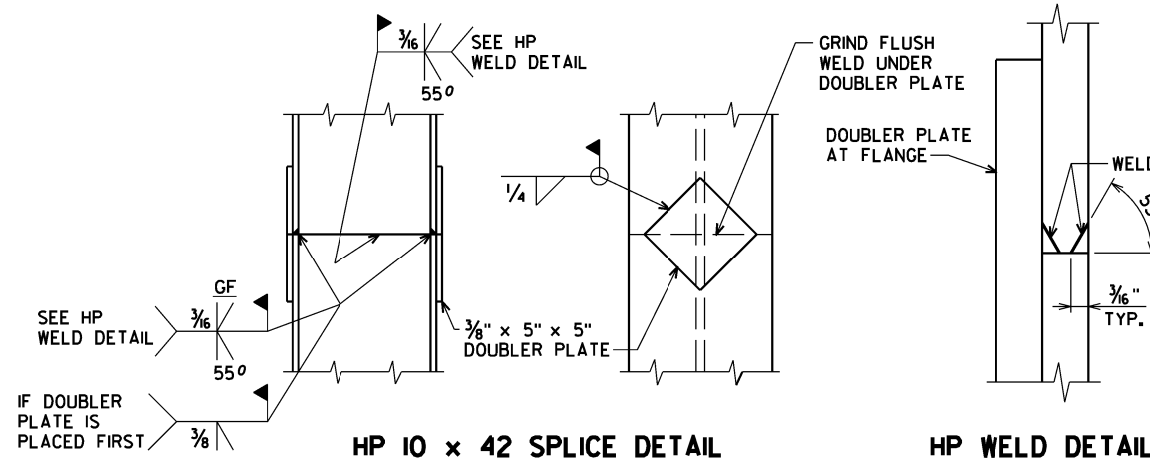
- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 14.



ECO-PASSAGE DETAIL



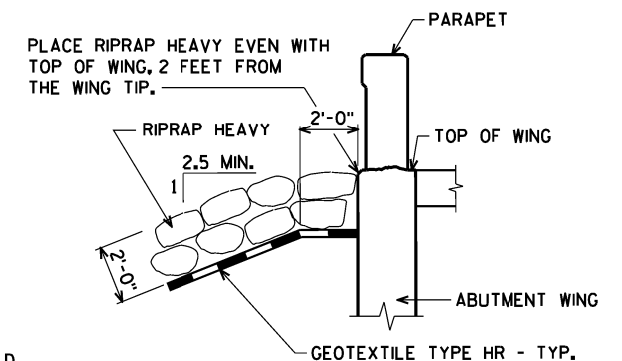
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL



HP 10 x 42 SPLICE DETAIL

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



TYPICAL FILL SECTION AT WING TIPS

NOTE: PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		ZSS	PLANS CK'D. JMC
QUANTITIES AND NOTES			SHEET 2 OF 19

ORIGINAL PLANS PREPARED BY
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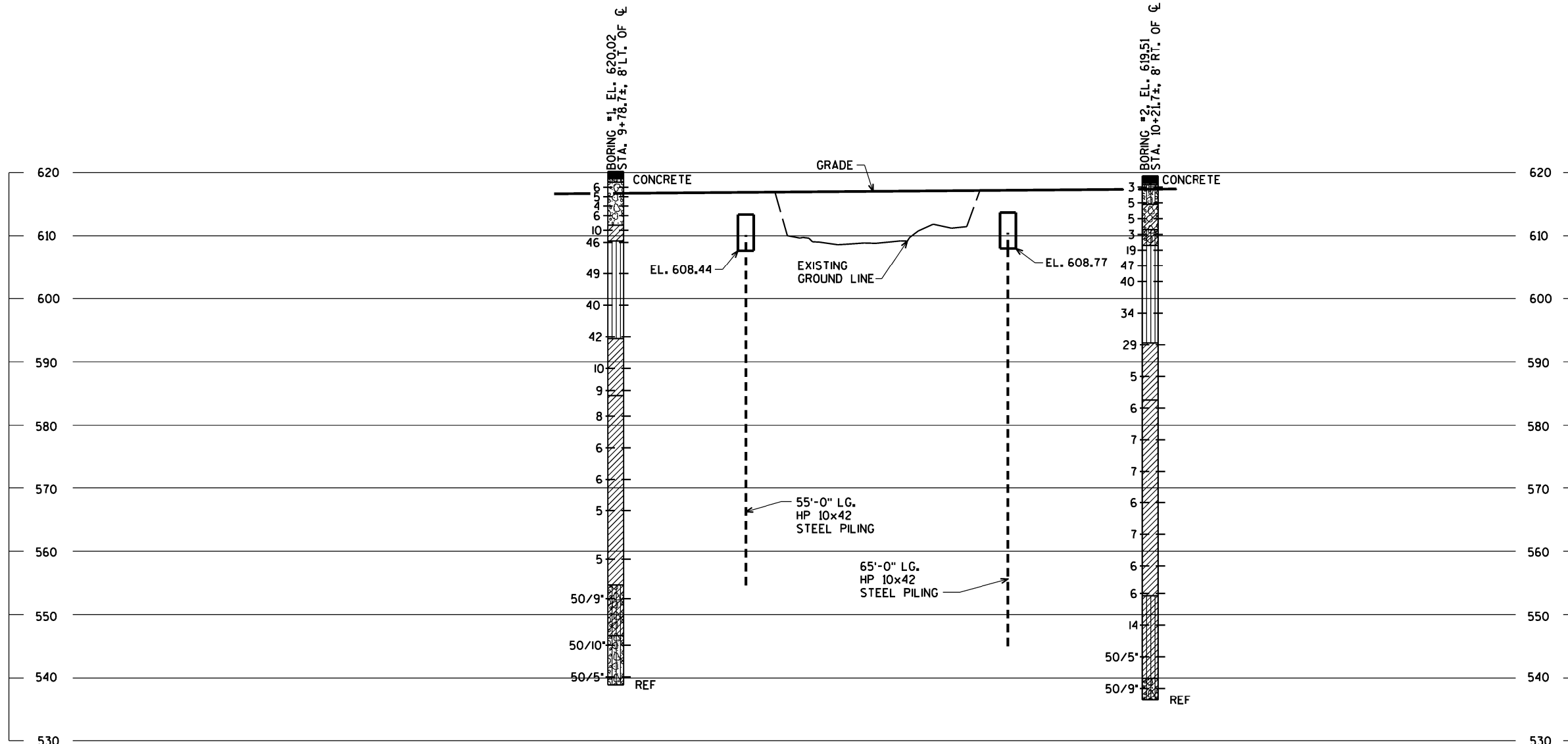
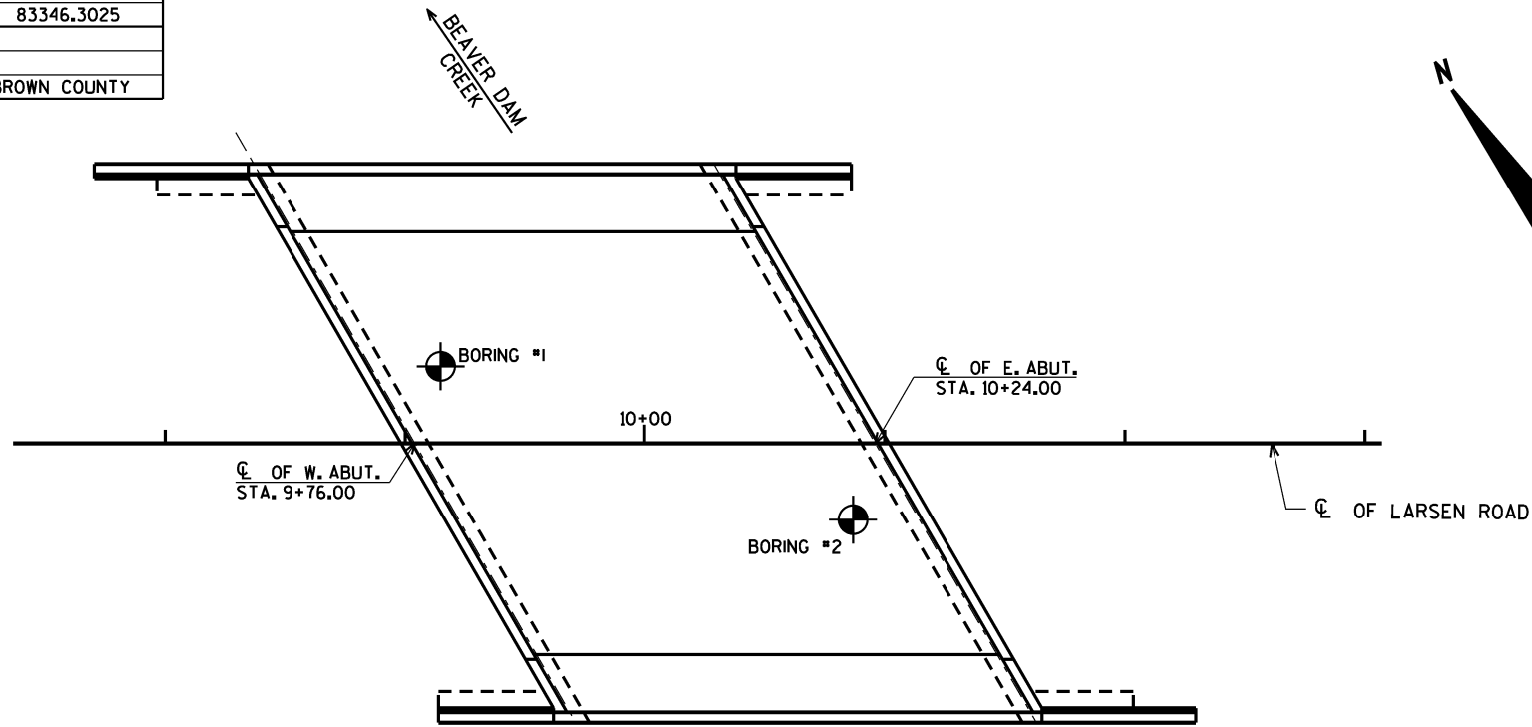
10/30/2023 PENTABLE:BRReou_shd_util.tbi

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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	APRIL 7, 2022	573098.0465	573062.2731
2	APRIL 7, 2022	83317.5752	83346.3025

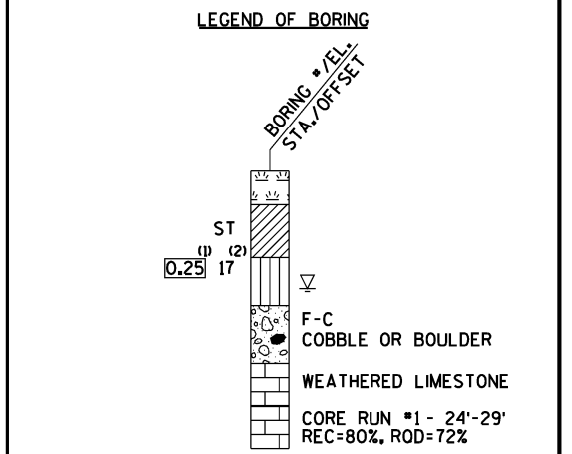
BORINGS COMPLETED BY: ECS MIDWEST, LLC
 REPORT COMPLETED BY: ECS MIDWEST, LLC
 ALL COORDINATES REFERENCED TO WCCS NAD 83(91) BROWN COUNTY



STATE PROJECT NUMBER
4987-12-71

MATERIAL SYMBOLS

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



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

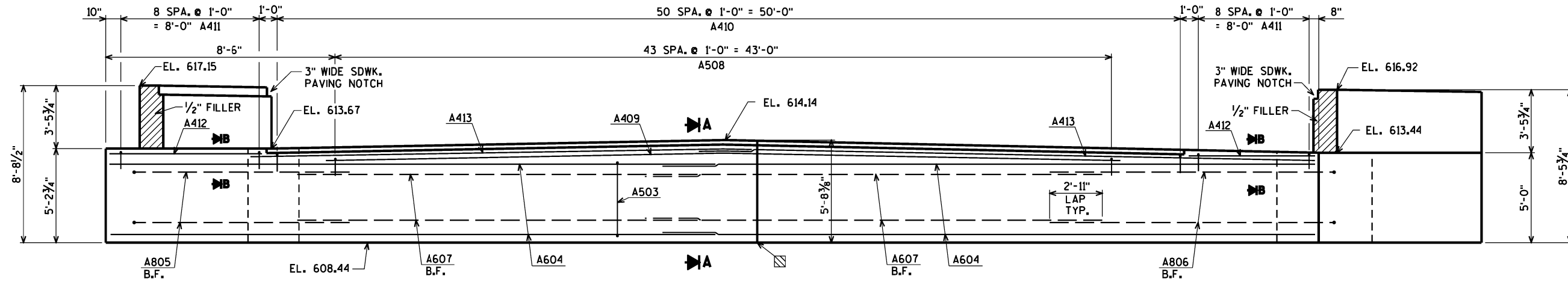
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		ZSS	PLANS CKD. JMC
SUBSURFACE EXPLORATION			SHEET 3 OF 19

8/1/2023 PENTABLE:BRocu_shd_util.tbl

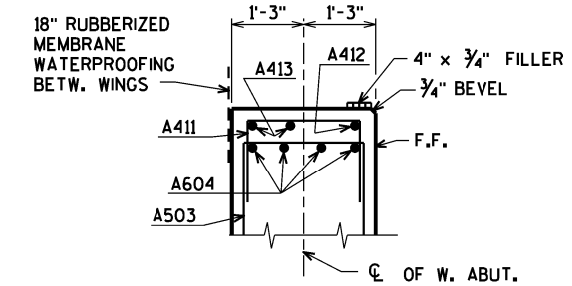
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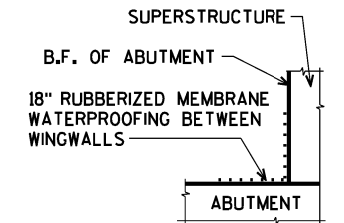
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)



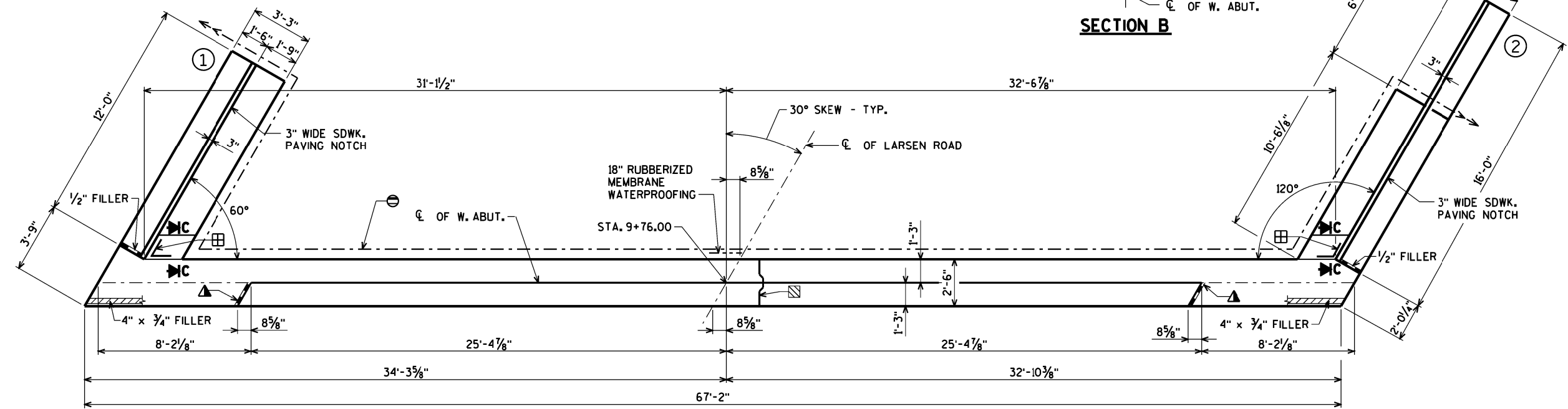
ELEVATION
(LOOKING WEST)
FOR SECTION A SEE SHEET 8.



SECTION B



SECTION C



PLAN

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 14. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

⊠ VERT. CONST. JT. - KEYWAY FORMED BY A SURFACED BEVELED 2" x 8", BEVEL EXPOSED EDGES 3/4". FOR ALTERNATE CONST. JT. DETAILS SEE SHEET 14. SEAL JOINT AT BACK FACE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING

▲ 3/4" CORK FILLER ON VERTICAL FACE ONLY.

⊞ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

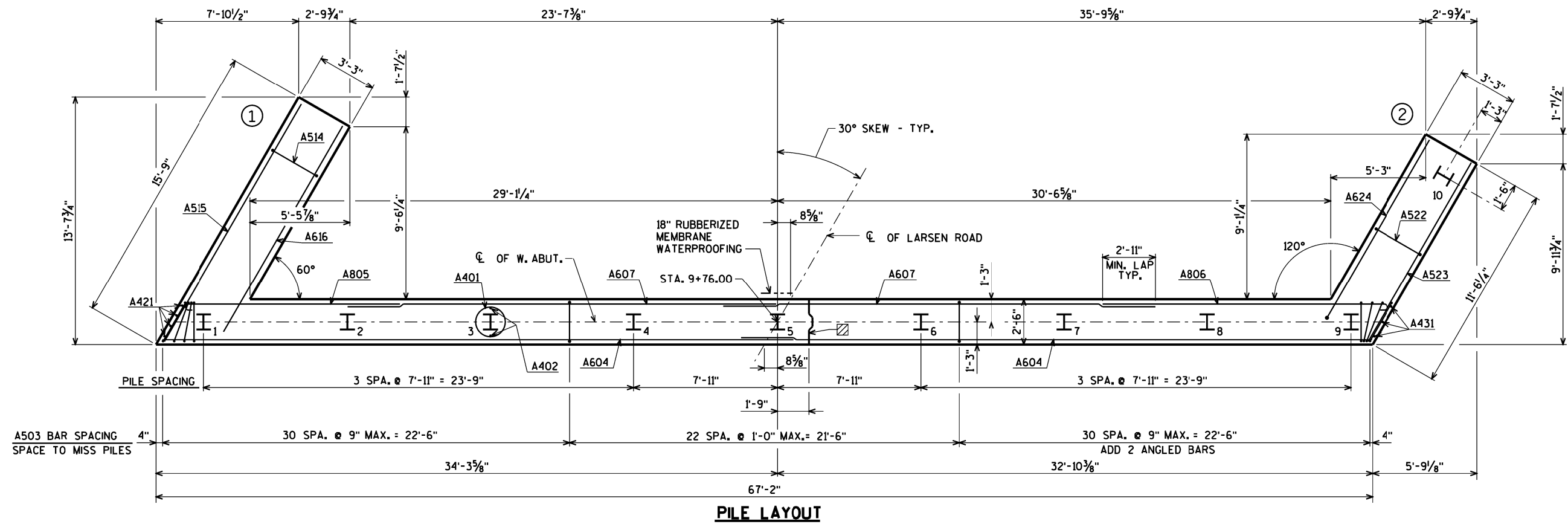
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
WEST ABUTMENT			SHEET 4 OF 19

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Eau Claire, WI 54701
www.AyresAssociates.com



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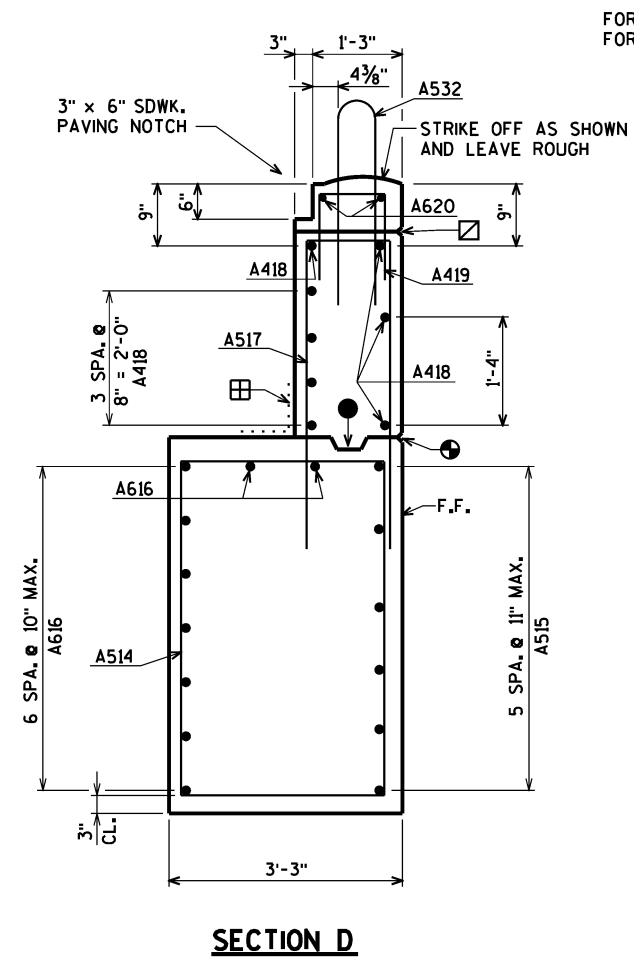
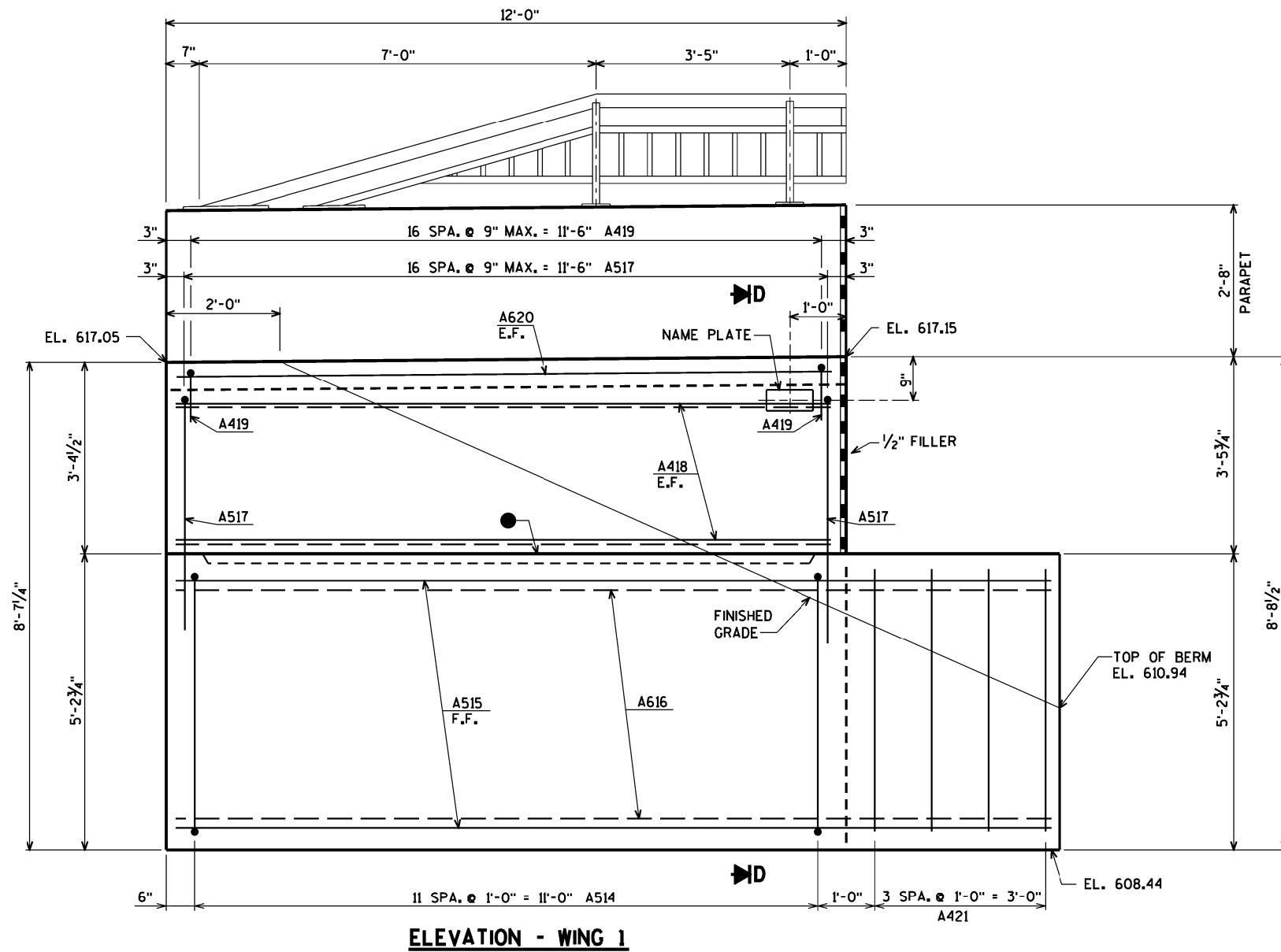
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VERT. CONST. JT. - KEYWAY FORMED BY A SURFACED BEVELED 2" x 8". BEVEL EXPOSED EDGES 3/4". FOR ALTERNATE CONST. JT. DETAILS SEE SHEET 14. SEAL JOINT AT BACK FACE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING

FOR PILE SPLICE DETAIL SEE SHEET 2.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY	CLP	PLANS CK'D.	JMC
WEST ABUTMENT PILE LAYOUT			SHEET 5 OF 19

ORIGINAL PLANS PREPARED BY
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 Eau Claire, WI 54701
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- ⊕ 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☑ OPT. CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. IF USED, UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

10/31/2023 PENTABLE:BRReou_shd_util.tbl

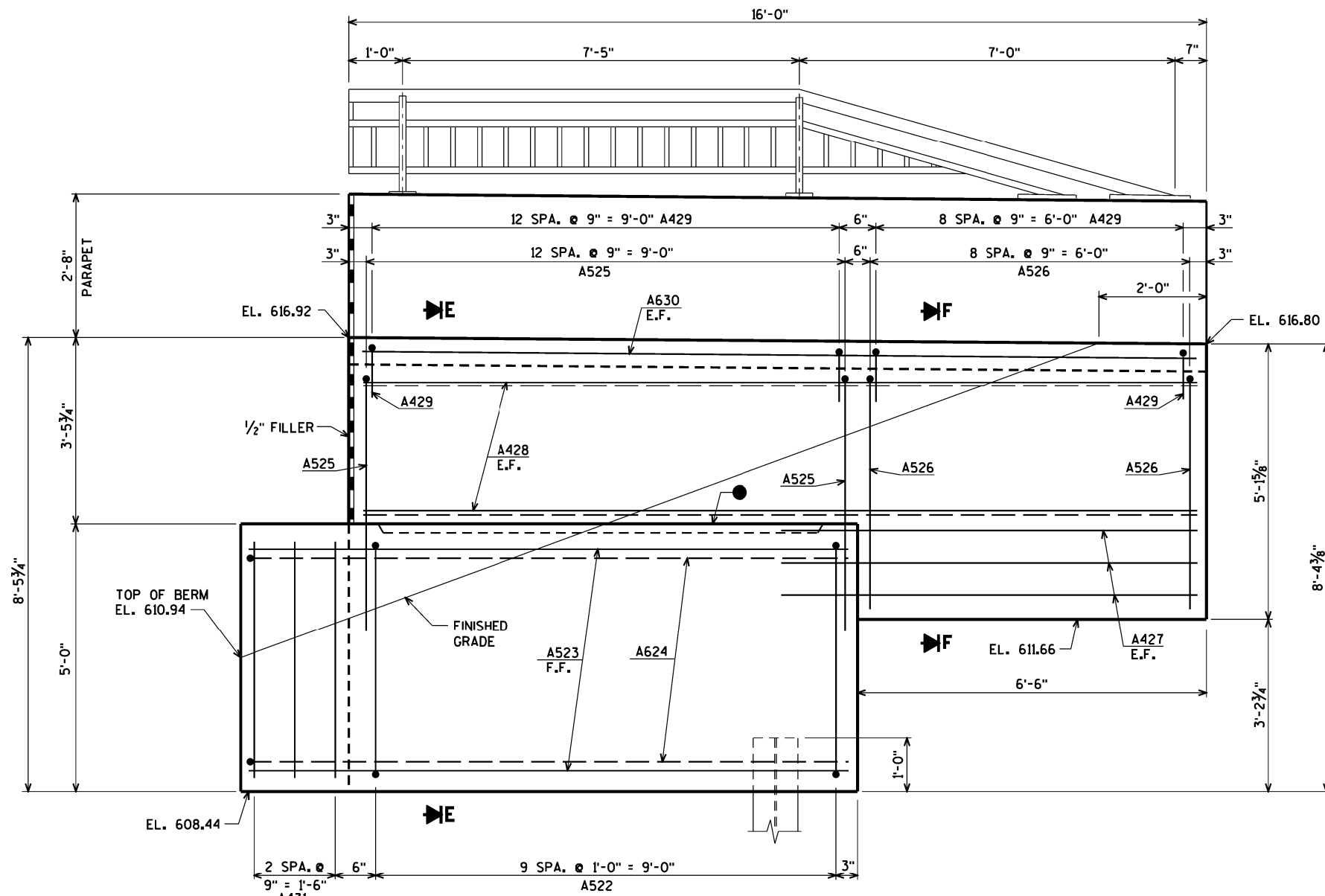
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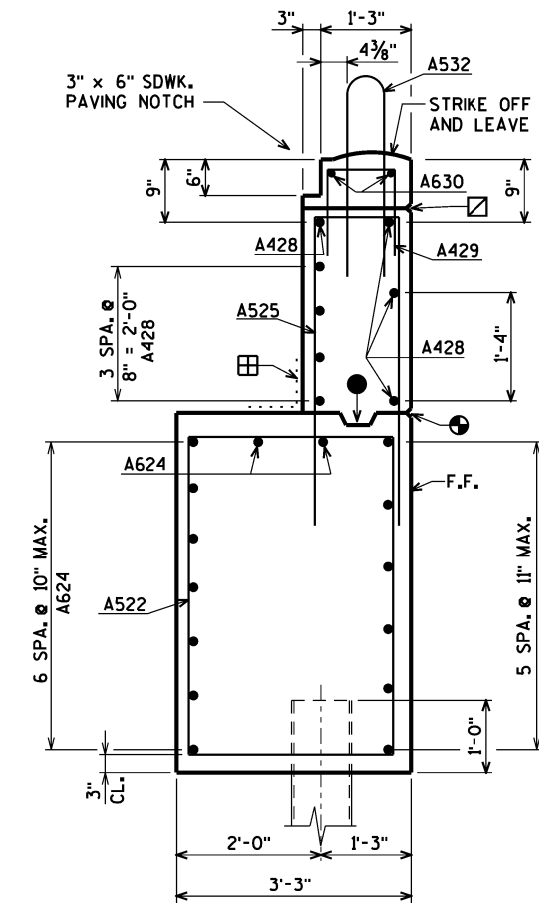
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
WEST ABUTMENT WING 1 DETAILS			SHEET 6 OF 19

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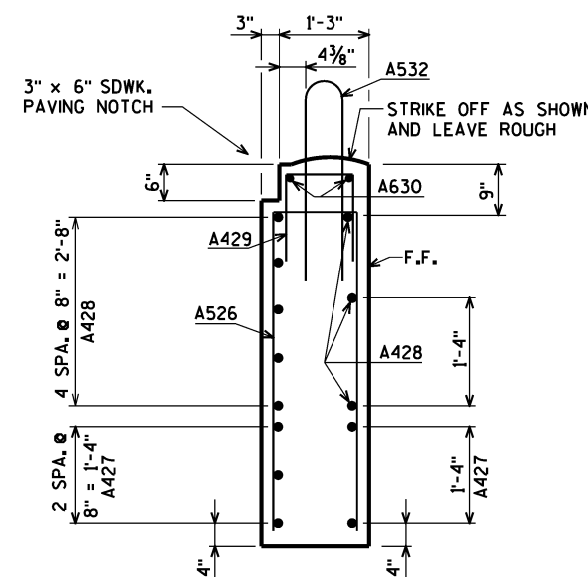
FOR CLARITY PARAPET NOT SHOWN.
FOR DETAILS SEE SHEET 18



ELEVATION - WING 2



SECTION E



SECTION F

• 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.

• OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.

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

☑ OPT. CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. IF USED, UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

10/31/2023
PENTABLE:BRou_shd_util.tbl

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
WEST ABUTMENT WING 2 DETAILS			SHEET 7 OF 19

ORIGINAL PLANS PREPARED BY

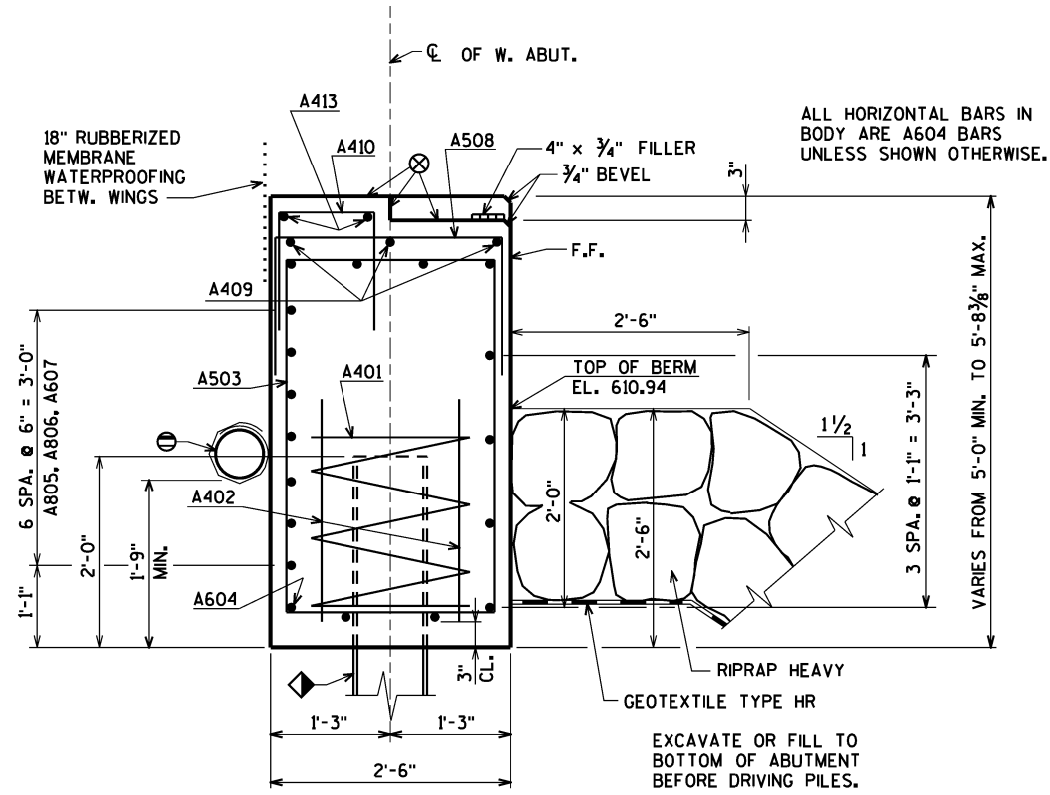
AYRES

3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,430# COATED 4,210# UNCOATED	
							LOCATION
A401		9	28-0	X			BODY @ PILES
A402		18	2-3				BODY @ PILES
A503		85	13-8	X			BODY VERT.
A604		22	34-10				BODY HORIZ.
A805		7	12-11	X			BODY HORIZ. B.F. @ WINGS
A806		7	16-11	X			BODY HORIZ. B.F. @ WINGS
A607		14	23-9				BODY HORIZ. B.F. BTWN WINGS
A508		45	5-1	X			BODY VERT.
A409		3	44-0				BODY HORIZ.
A410		51	3-3	X			BODY VERT. TOP
A411		18	4-6	X			BODY VERT. TOP @ WINGS
A412		2	7-10				BODY HORIZ. TOP F.F. @ WINGS
A413		4	34-5				BODY HORIZ. TOP
A514	X	12	16-0	X			WING 1 VERT.
A515	X	6	15-2				WING 1 HORIZ. F.F.
A616	X	9	13-1				WING 1 HORIZ. B.F. & TOP
A517	X	17	10-5	X			WING 1 VERT.
A418	X	8	11-7				WING 1 HORIZ. E.F.
A419	X	17	5-1	X			WING 1 VERT. TOP
A620	X	2	11-7				WING 1 HORIZ. TOP E.F.
A421	X	4	4-9				BODY VERT. @ END @ WING 1
A522	X	10	15-8	X			WING 2 VERT.
A523	X	6	11-2				WING 2 HORIZ. F.F.
A624	X	9	11-10				WING 2 HORIZ. B.F. & TOP
A525	X	13	10-5	X			WING 2 VERT.
A526	X	9	9-3	X			WING 2 VERT.
A427	X	5	7-9				WING 2 HORIZ. E.F.
A428	X	8	15-7				WING 2 HORIZ. E.F.
A429	X	22	5-1	X			WING 2 VERT. TOP
A630	X	2	15-7				WING 2 HORIZ. TOP E.F.
A431	X	3	4-7				BODY VERT. @ END @ WING 2
A532	X	45	6-1	X			PARAPET VERT.
A533	X	45	4-11	X			PARAPET VERT.
A534	X	8	11-7				PARAPET HORIZ. WING 1
A535	X	8	15-7				PARAPET HORIZ. WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



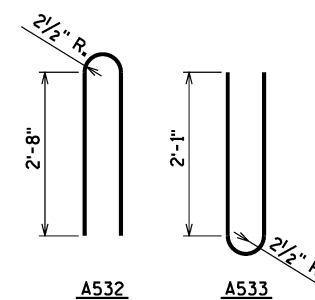
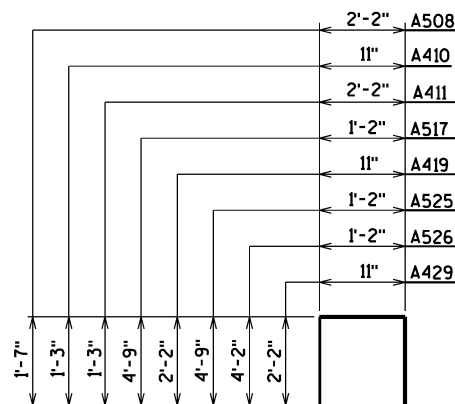
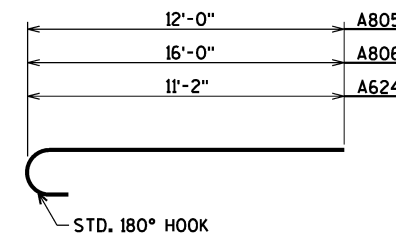
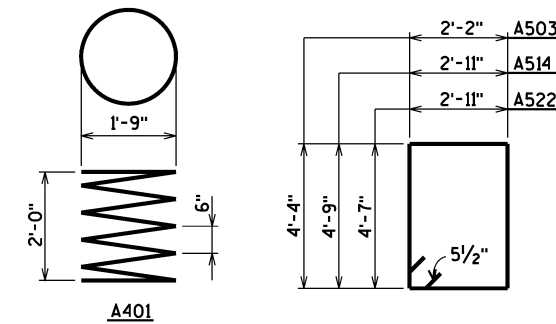
◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED LENGTH 55'-0".

FOR LOCATION OF SECTION A SEE SHEET 4.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 14. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

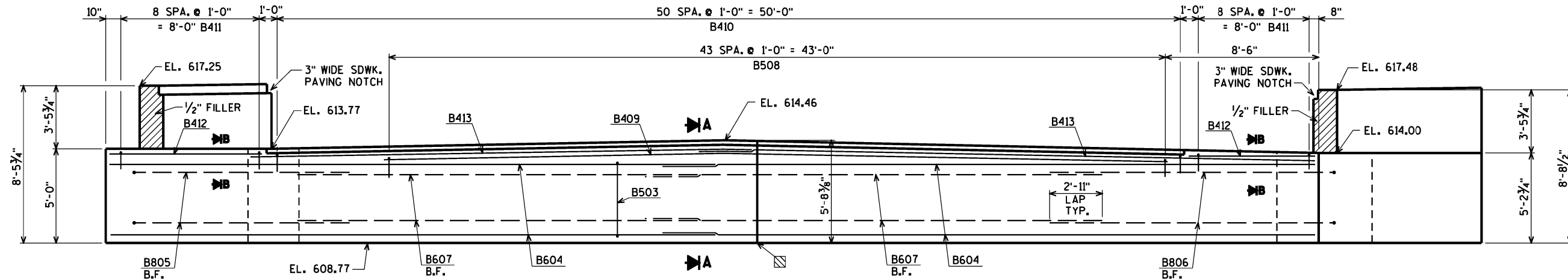
⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

FOR PILE SPLICE DETAIL SEE SHEET 2.

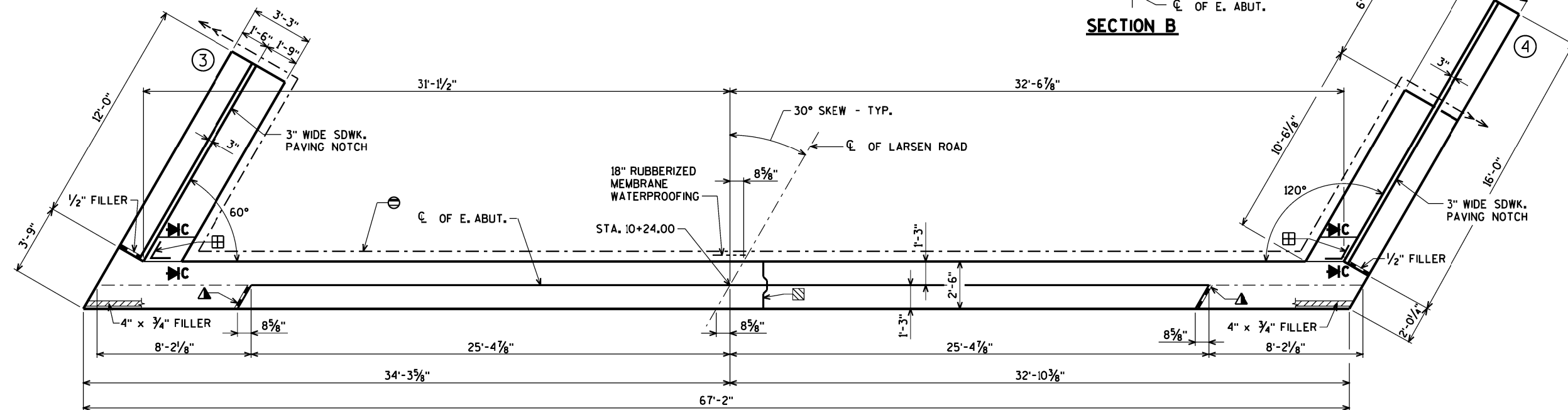
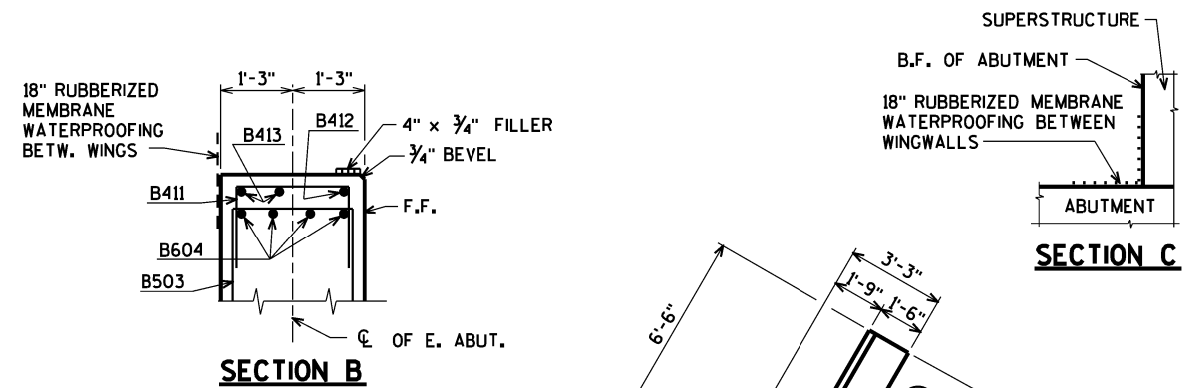


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
WEST ABUTMENT DETAILS & BILL OF BARS			SHEET 8 OF 19

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)



ELEVATION
(LOOKING EAST)
FOR SECTION A SEE SHEET 13.



PLAN

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 14. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

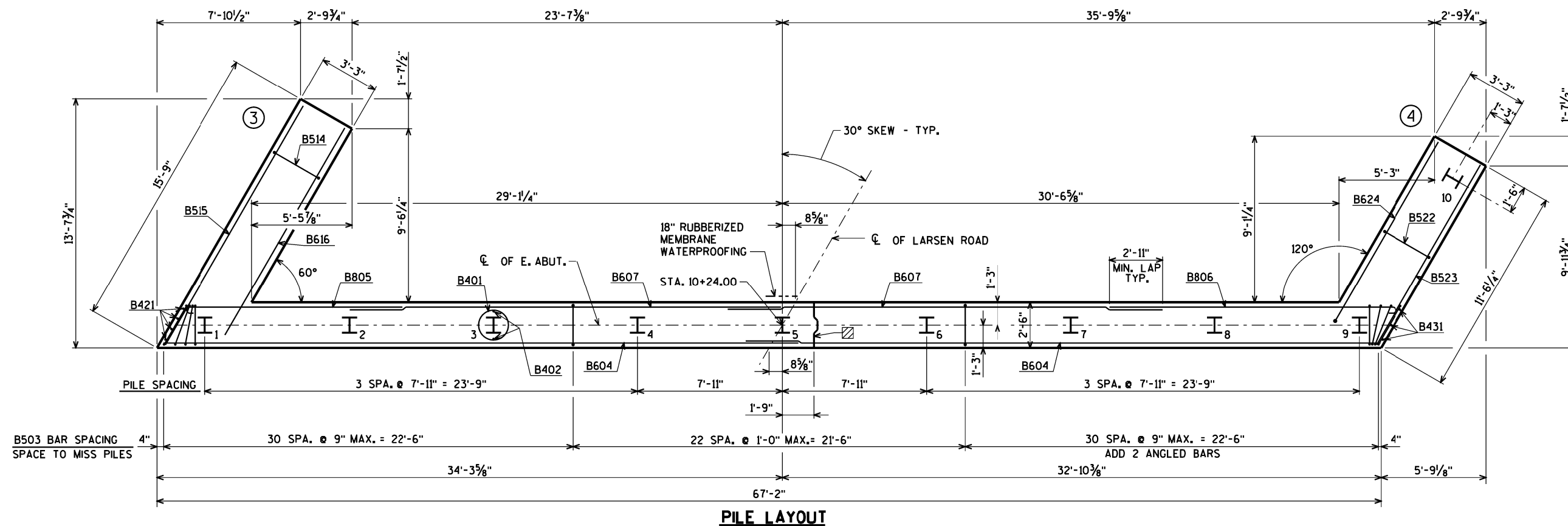
⊠ VERT. CONST. JT. - KEYWAY FORMED BY A SURFACED BEVELED 2" x 8". BEVEL EXPOSED EDGES 3/4". FOR ALTERNATE CONST. JT. DETAILS SEE SHEET 14. SEAL JOINT AT BACK FACE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING

▲ 3/4" CORK FILLER ON VERTICAL FACE ONLY.

⊞ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
EAST ABUTMENT			SHEET 9 OF 19

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PILE LAYOUT

VERT. CONST. JT. - KEYWAY FORMED BY A SURFACED BEVELED 2" x 8". BEVEL EXPOSED EDGES 3/4". FOR ALTERNATE CONST. JT. DETAILS SEE SHEET 14. SEAL JOINT AT BACK FACE WITH 18" RUBBERIZED MEMBRANE WATERPROOFING

FOR PILE SPLICE DETAIL SEE SHEET 2.

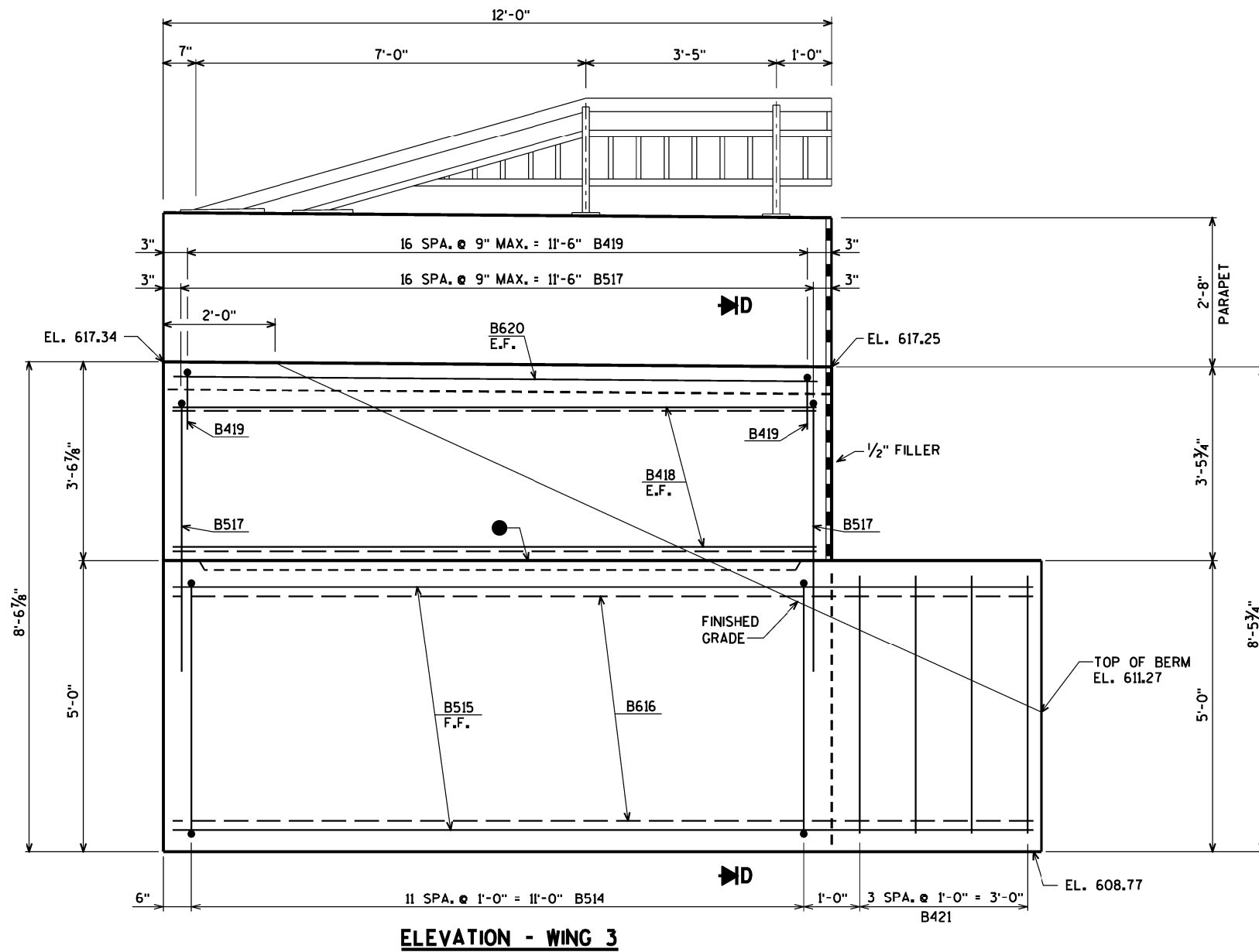
8/21/2023
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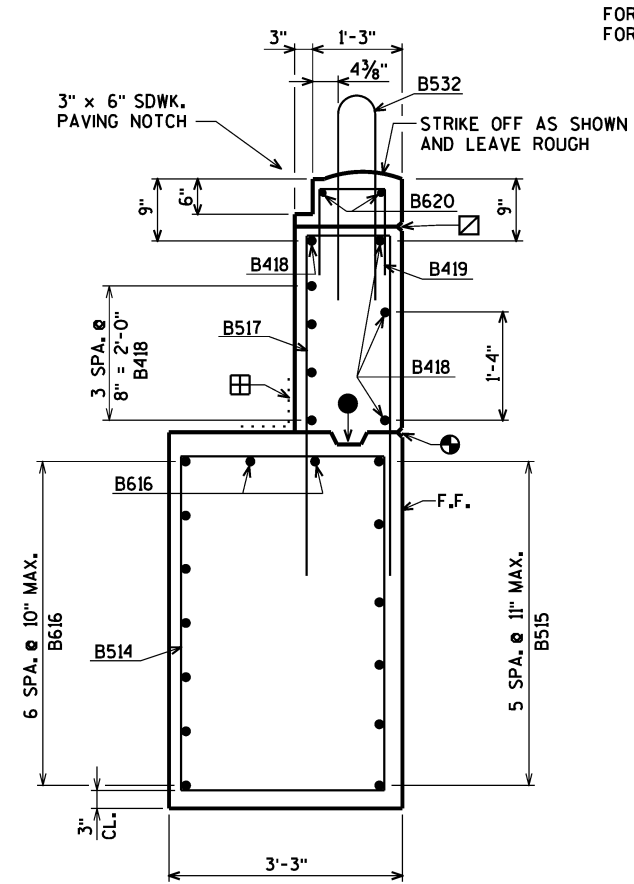
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
EAST ABUTMENT PILE LAYOUT			SHEET 10 OF 19

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ELEVATION - WING 3



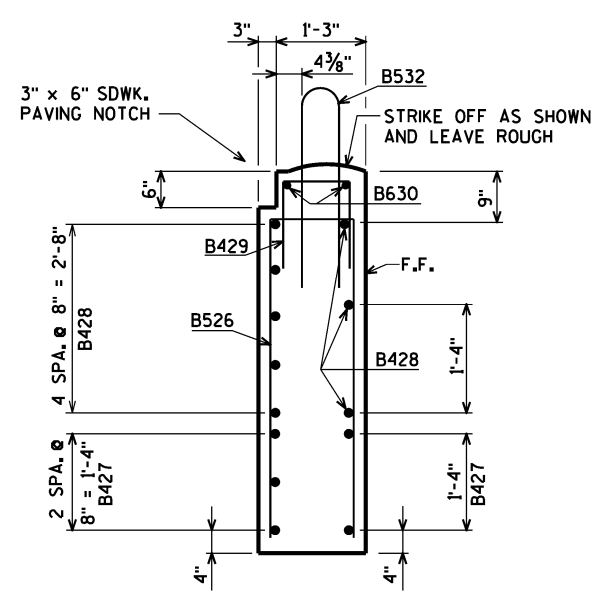
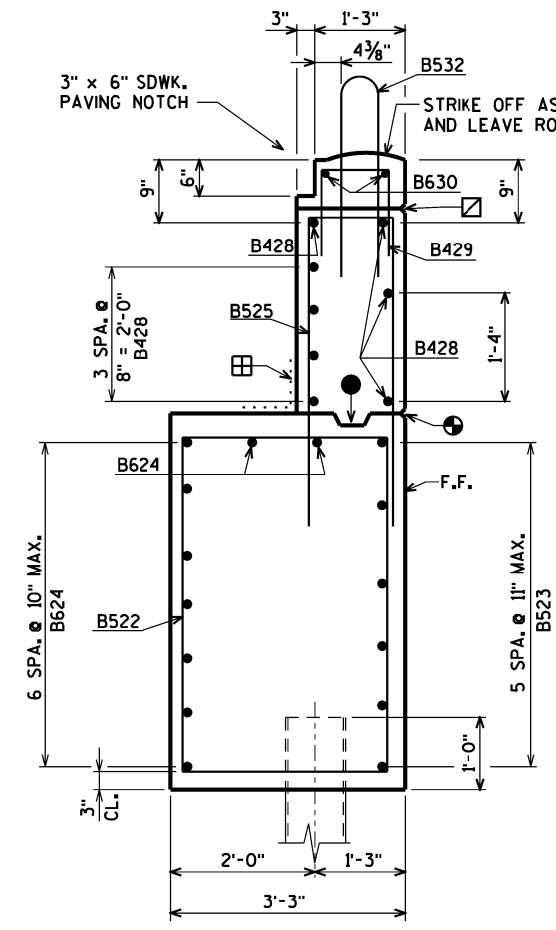
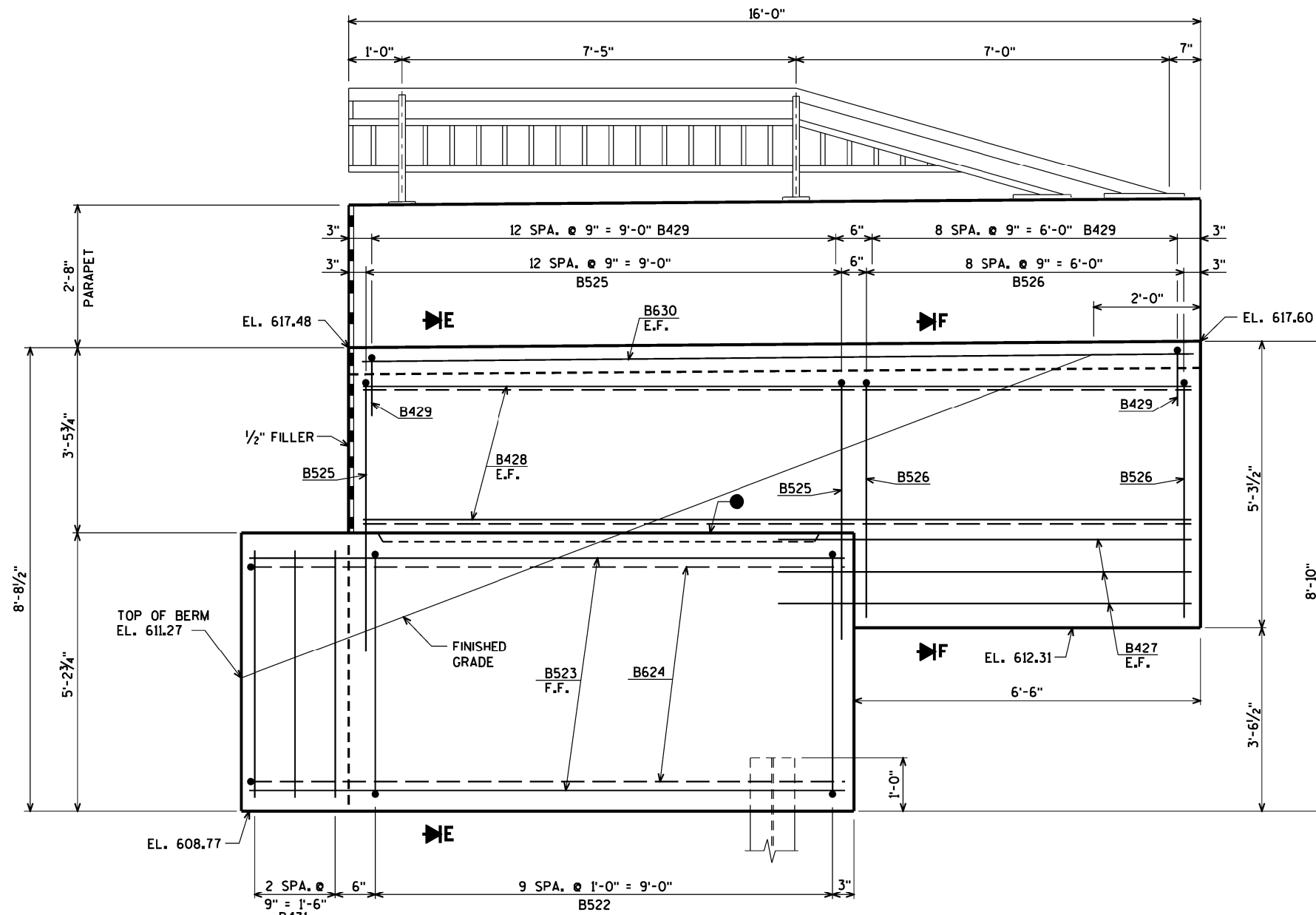
SECTION D

- ⊕ 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ☑ OPT. CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. IF USED, UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
EAST ABUTMENT WING 3 DETAILS			SHEET 11 OF 19

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FOR CLARITY PARAPET NOT SHOWN.
FOR DETAILS SEE SHEET 18



- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
- OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- OPT. CONSTRUCTION JOINT. LEAVE ROUGH. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE. IF USED, UTILIZE RUBBERIZED MEMBRANE WATERPROOFING (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY CLP		PLANS CK'D. JMC	
EAST ABUTMENT WING 4 DETAILS			SHEET 12 OF 19

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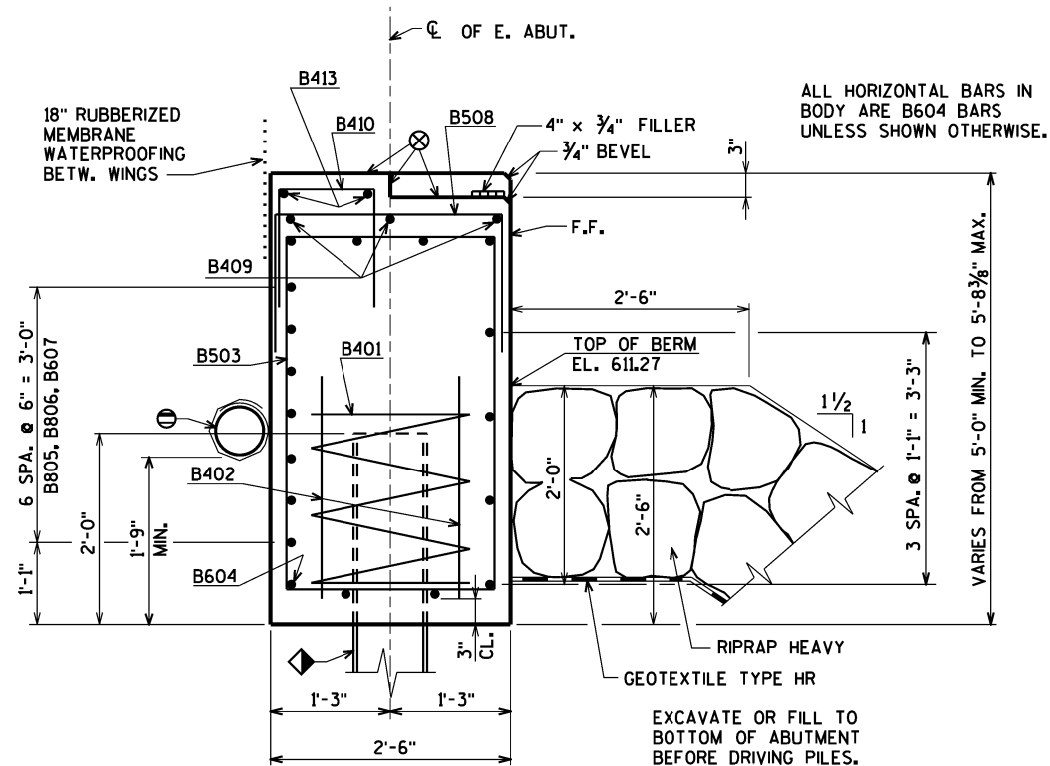
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8

BILL OF BARS

BAR NO.	COATED BAR	NO. REOD.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,430# COATED	4,200# UNCOATED	LOCATION
B401		9	28-0	X		BODY @ PILES			
B402		18	2-3			BODY @ PILES			
B503		85	13-8	X		BODY VERT.			
B604		22	34-10			BODY HORIZ.			
B805		7	12-11	X		BODY HORIZ. B.F. @ WINGS			
B806		7	16-11	X		BODY HORIZ. B.F. @ WINGS			
B607		14	23-9			BODY HORIZ. B.F. BTWN WINGS			
B508		44	5-1	X		BODY VERT.			
B409		3	44-0			BODY HORIZ.			
B410		51	3-3	X		BODY VERT. TOP			
B411		18	4-6	X		BODY VERT. TOP @ WINGS			
B412		2	7-10			BODY HORIZ. TOP F.F. @ WINGS			
B413		4	34-5			BODY HORIZ. TOP			
B514	X	12	15-8	X		WING 3 VERT.			
B515	X	6	15-2			WING 3 HORIZ. F.F.			
B616	X	9	13-1			WING 3 HORIZ. B.F. & TOP			
B517	X	17	10-5	X		WING 3 VERT.			
B418	X	8	11-7			WING 3 HORIZ. E.F.			
B419	X	17	5-1	X		WING 3 VERT. TOP			
B620	X	2	11-7			WING 3 HORIZ. TOP E.F.			
B421	X	4	4-7			BODY VERT. @ END @ WING 3			
B522	X	10	16-0	X		WING 4 VERT.			
B523	X	6	11-2			WING 4 HORIZ. F.F.			
B624	X	9	11-10			WING 4 HORIZ. B.F. & TOP			
B525	X	13	10-5	X		WING 4 VERT.			
B526	X	9	9-3	X		WING 4 VERT.			
B427	X	5	7-9			WING 4 HORIZ. E.F.			
B428	X	8	15-7			WING 4 HORIZ. E.F.			
B429	X	22	5-1	X		WING 4 VERT. TOP			
B630	X	2	15-7			WING 4 HORIZ. TOP E.F.			
B431	X	3	4-9			BODY VERT. @ END @ WING 4			
B532	X	45	6-1	X		PARAPET VERT.			
B533	X	45	4-11	X		PARAPET VERT.			
B534	X	8	11-7			PARAPET HORIZ. WING 3			
B535	X	8	15-7			PARAPET HORIZ. WING 4			

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



SECTION A

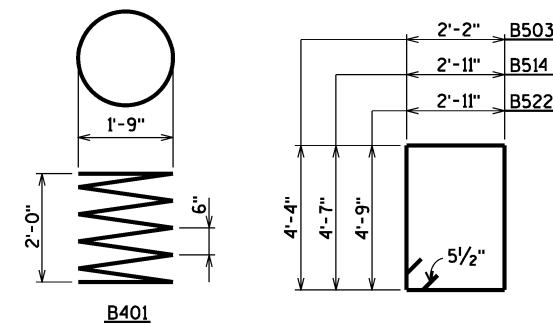
◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED LENGTH 65'-0".

FOR LOCATION OF SECTION A SEE SHEET 9.

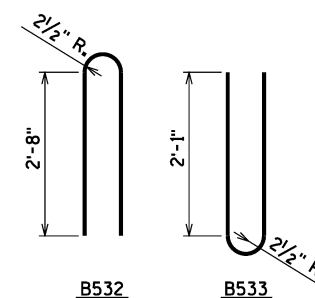
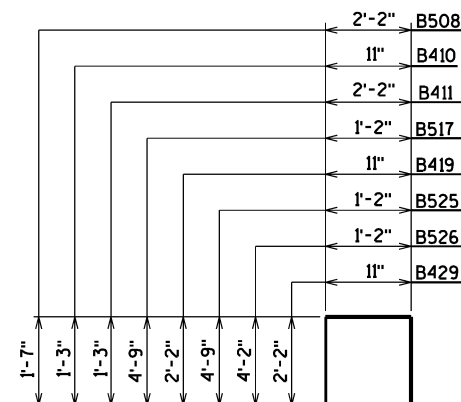
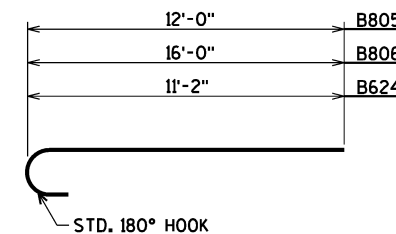
⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 14. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

FOR PILE SPLICE DETAIL SEE SHEET 2.



B401



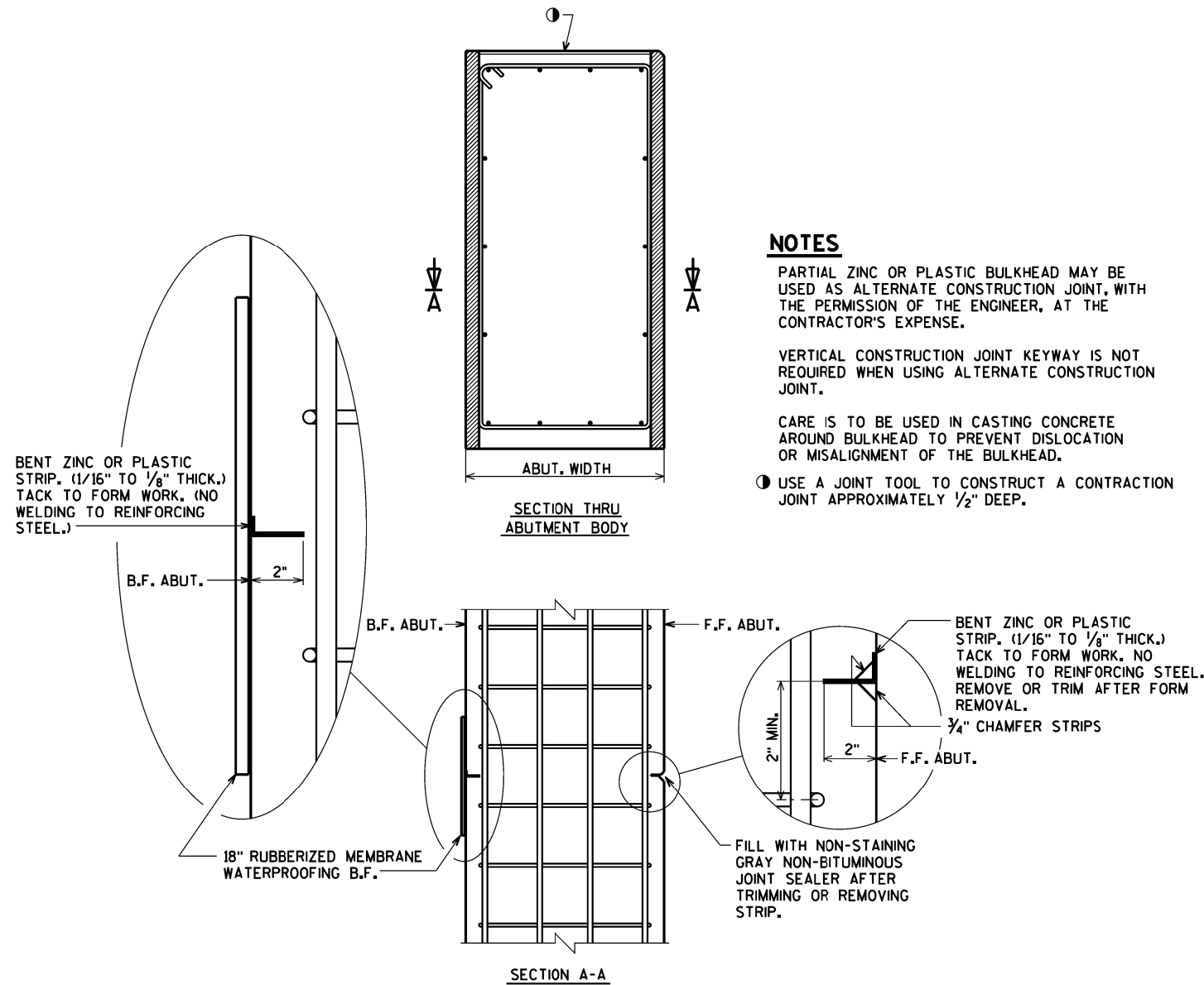
B532

B533

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
EAST ABUTMENT DETAILS & BILL OF BARS			SHEET 13 OF 19



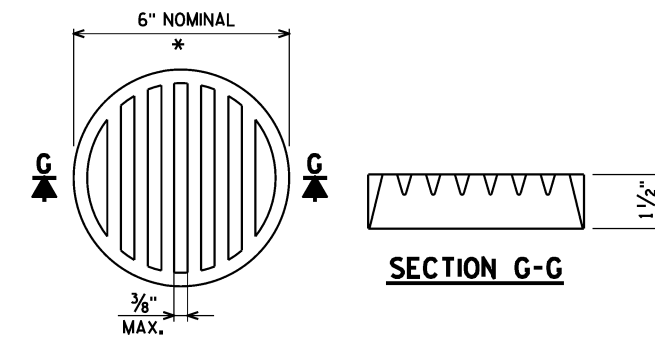
NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

① USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.



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

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

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

RODENT SHIELD DETAIL

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

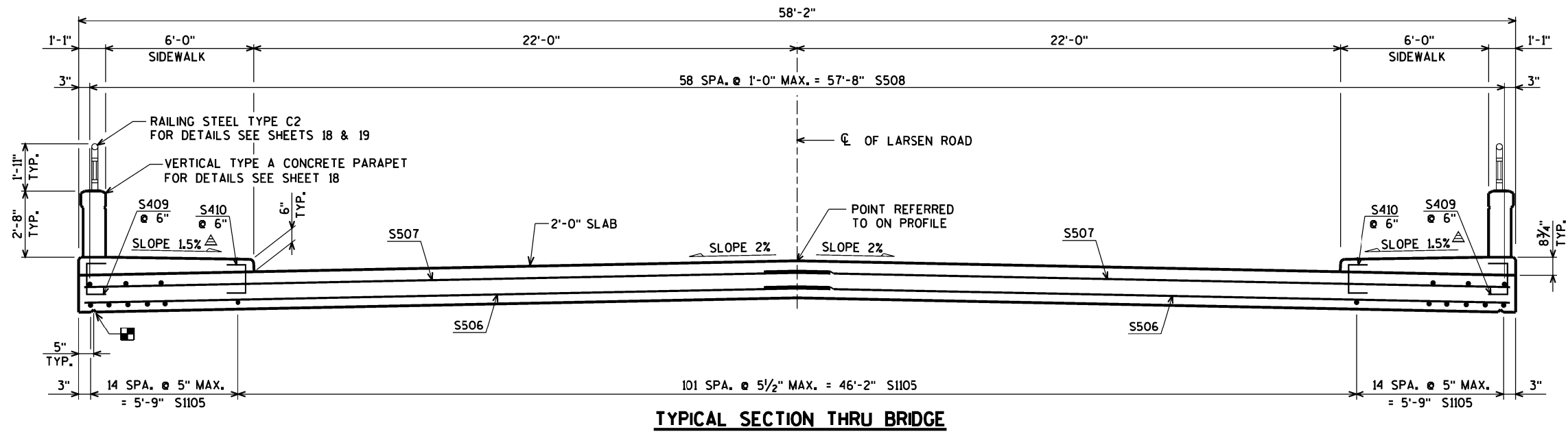
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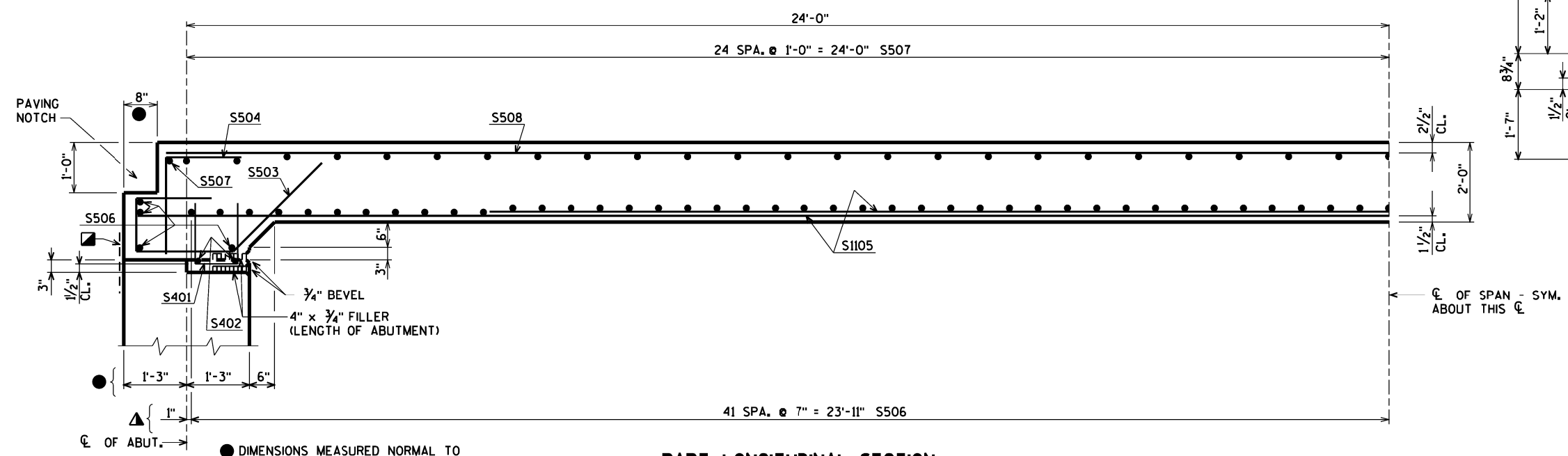
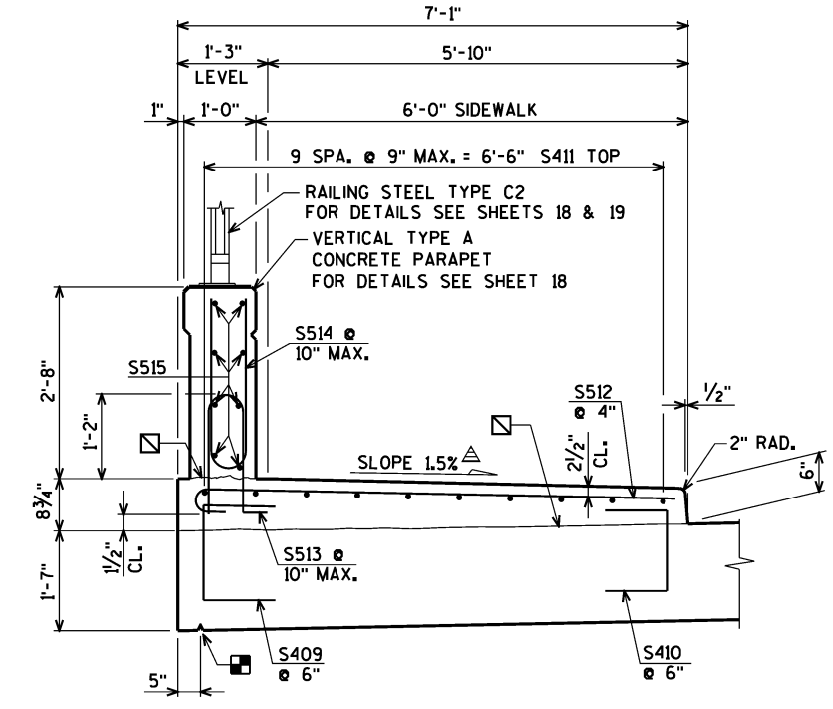
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
ABUTMENT DETAILS			SHEET 14 OF 19

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- △ ± 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ▣ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.
- 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENTS - TYP.



- DIMENSIONS MEASURED NORMAL TO CL OF SUBSTRUCTURE
- ▲ DIMENSIONS MEASURED ALONG CL OF LARSEN ROAD
- ▣ 18" RUBBERIZED MEMBRANE WATERPROOFING

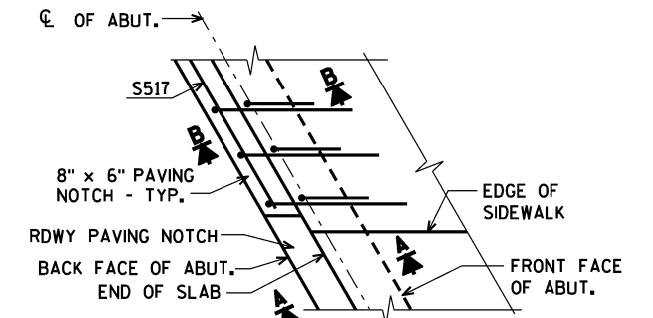
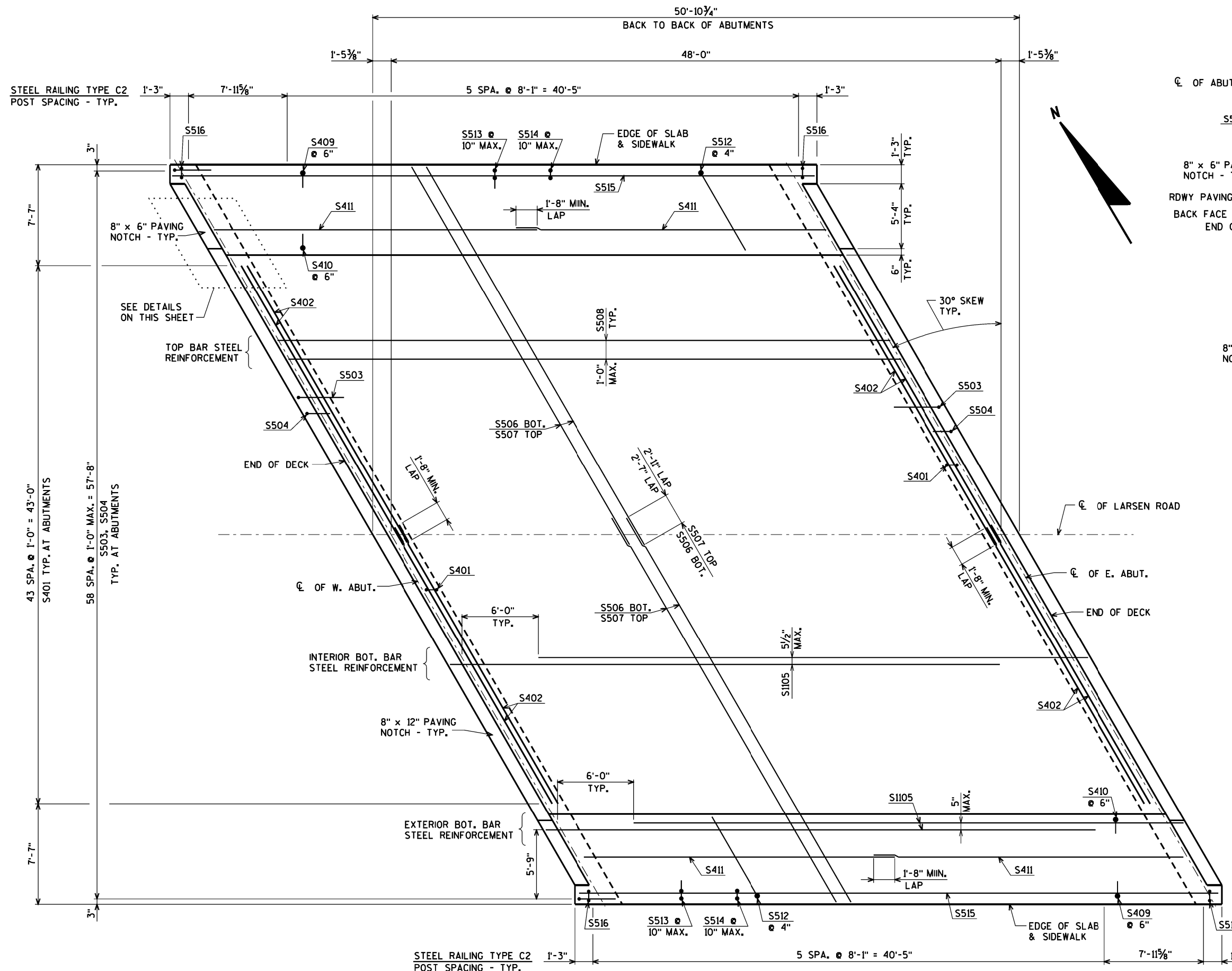
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
SUPERSTRUCTURE			SHEET 15 OF 19

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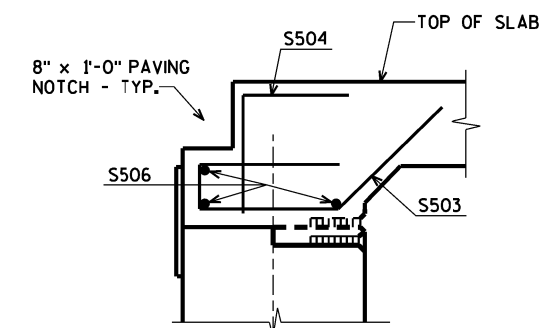
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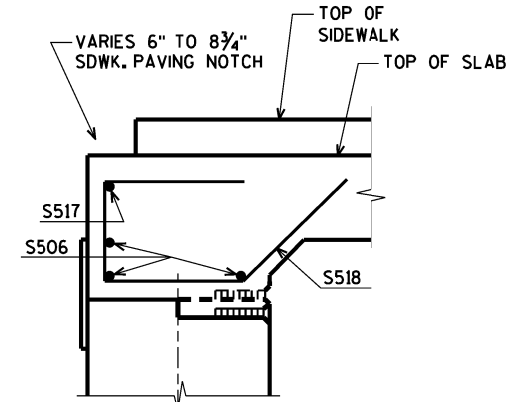
8



DETAIL A



SECTION A-A



SECTION B-B

PLAN

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
SUPERSTRUCTURE PLAN			SHEET 16 OF 19

10/31/2023 PENTABLE:BRou_shd_util.tbl

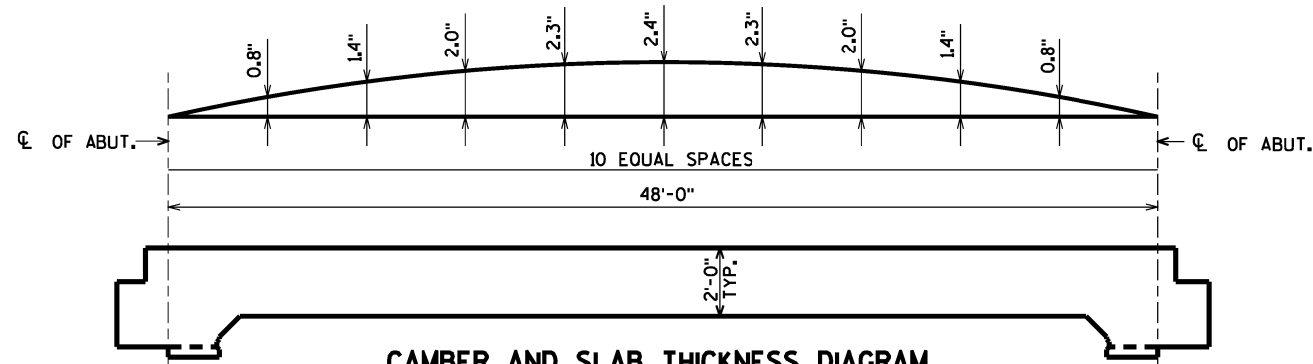
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8

BILL OF BARS

BAR NO.	COATED BAR	NO. REOD.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	51,320# COATED
							LOCATION
S401	X	88	3-4	X			SLAB @ ABUT. NOTCH
S402	X	8	26-0				SLAB @ ABUT. NOTCH
S503	X	90	7-10	X			SLAB @ ABUT.
S504	X	118	3-9	X			SLAB @ ABUT.
S1105	X	130	43-3				SLAB LONG. BOT.
S506	X	182	34-8				SLAB TRANS. BOT.
S507	X	102	34-10				SLAB TRANS. TOP
S508	X	59	48-11				SLAB LONG. TOP
S409	X	198	4-0	X			SLAB @ SDWK. @ EDGE OF SLAB
S410	X	198	3-10	X			SLAB @ SDWK. @ CURB
S411	X	40	25-4				SDWK. LONG. TOP
S512	X	296	8-4	X			SDWK. TRANS. TOP
S513	X	124	4-4	X			SLAB @ PARAPET VERT.
S514	X	124	4-9	X			SLAB @ PARAPET VERT.
S515	X	16	50-6				PARAPET HORIZ.
S516	X	4	6-1	X			PARAPET VERT.
S517	X	4	7-2				SLAB END TRANS.
S518	X	28	8-10	X			SLAB END @ SDWK.

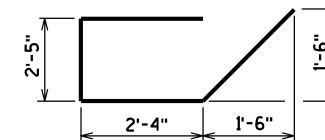
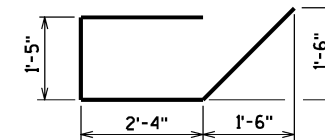
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



TOP OF DECK ELEVATIONS

LOCATION	€ OF W. ABUT.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	€ OF E. ABUT.
N. EDGE OF SLAB	616.19	616.22	616.26	616.29	616.32	616.35	616.39	616.42	616.45	616.48	616.52
N. GUTTER	616.36	616.39	616.43	616.46	616.49	616.52	616.56	616.59	616.62	616.65	616.69
€ OF LARSEN ROAD	616.89	616.92	616.95	616.99	617.02	617.05	617.08	617.11	617.15	617.18	617.21
S. GUTTER	616.53	616.57	616.60	616.63	616.66	616.70	616.73	616.76	616.79	616.83	616.86
S. EDGE OF SLAB	616.42	616.45	616.48	616.52	616.55	616.58	616.61	616.65	616.68	616.71	616.74

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

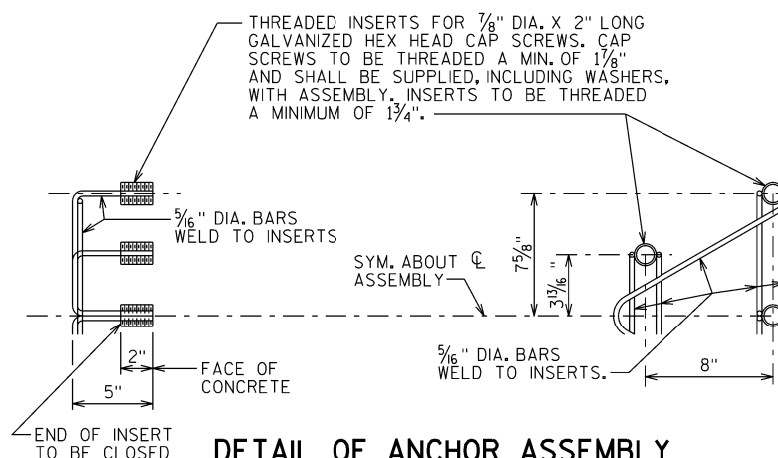
SURVEY TOP OF SLAB ELEVATIONS

LOCATION	€ OF W. ABUT.	5/10 PTS.	€ OF E. ABUT.
N. GUTTER			
€ OF STRUCTURE			
S. GUTTER			

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

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

- TOP OF SLAB ELEVATION AT FINAL GRADE
- MINUS..... 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



DETAIL OF ANCHOR ASSEMBLY

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

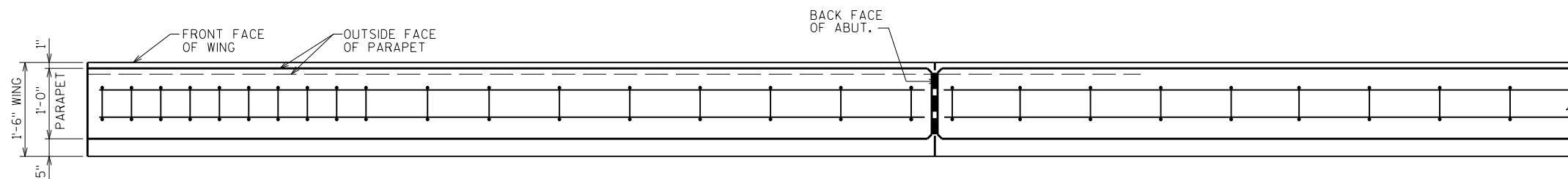
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

ORIGINAL PLANS PREPARED BY

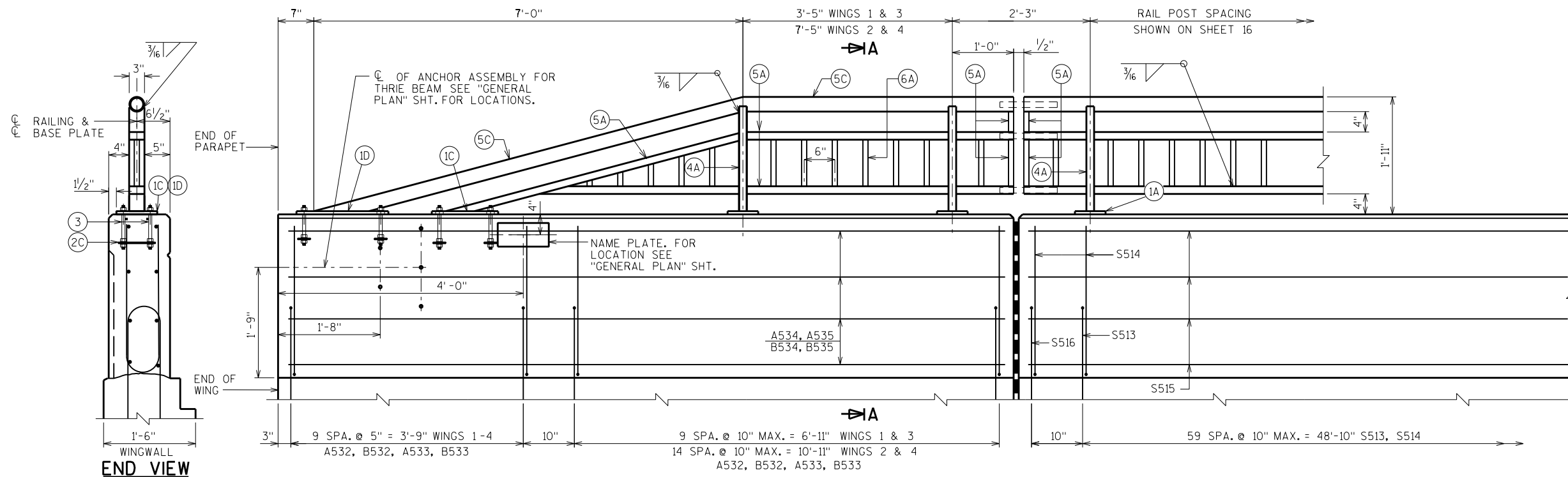


3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY CLP		PLANS CK'D. JMC	
SUPERSTRUCTURE DETAILS AND BILL OF BARS			SHEET 17 OF 19

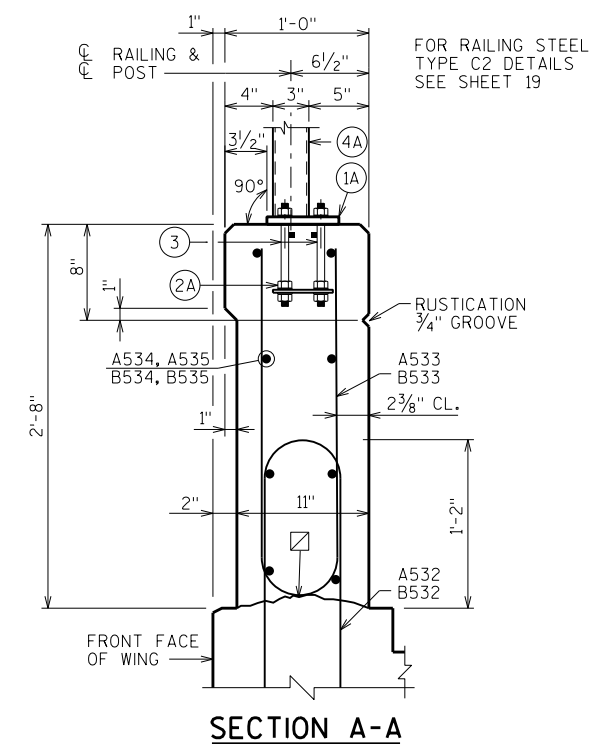


PLAN OF PARAPET

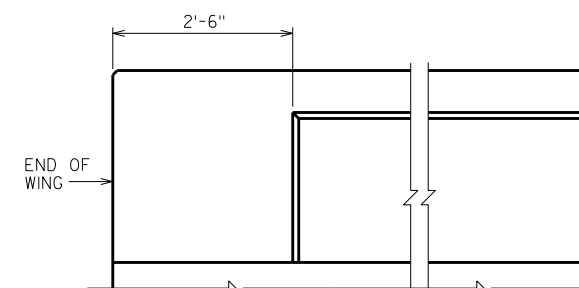


AT ABUTMENTS

INSIDE ELEVATION OF PARAPET



SECTION A-A



OUTSIDE FACE OF PARAPET

DATE
PEN\$

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-480			
DRAWN BY		CLP	PLANS CK'D. JMC
COMBINATION RAIL TYPE "C2"			SHEET 18 OF 19

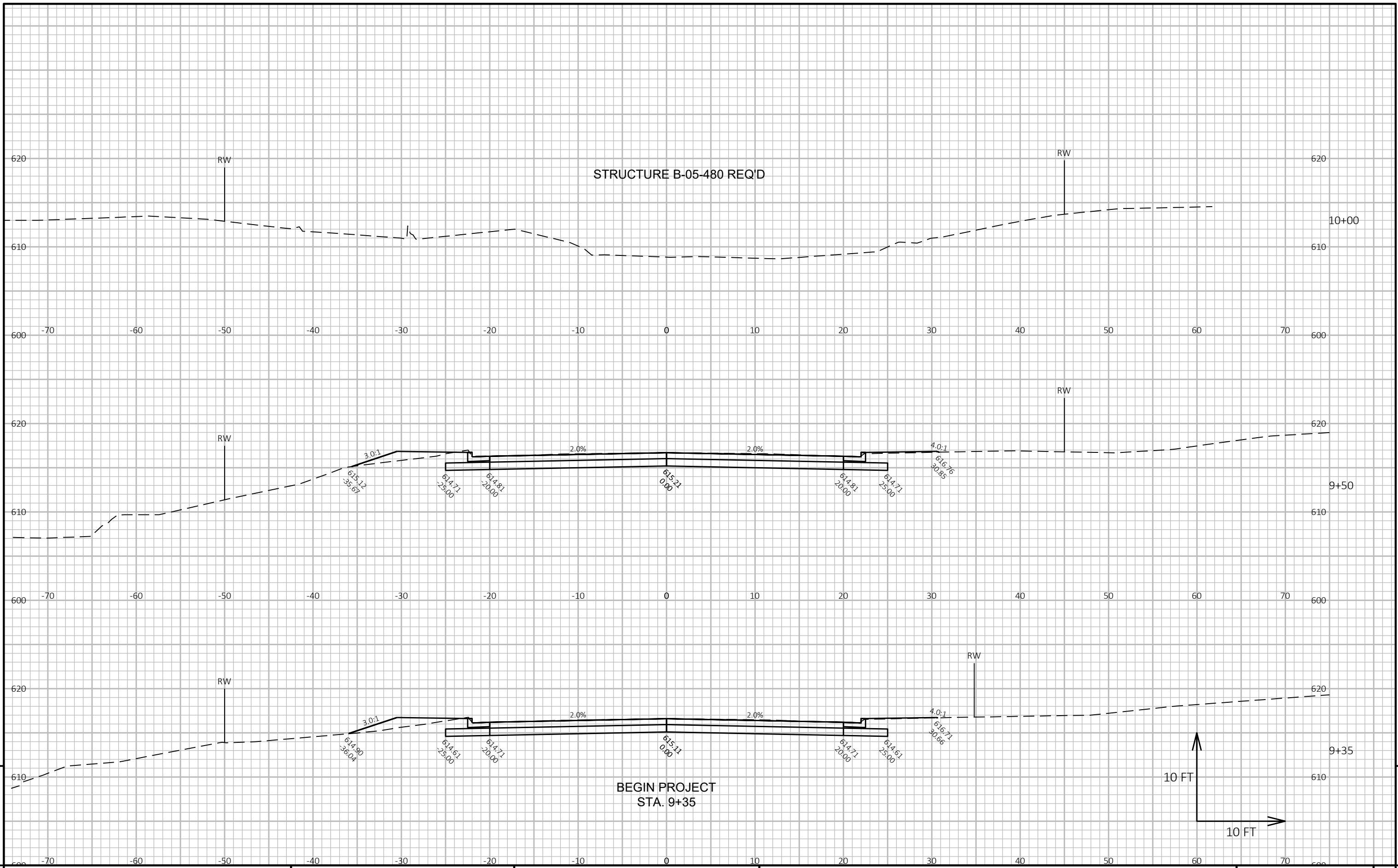
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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EARTHWORK-LARSEN RD

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
9+35	77.10	48.40	8.10	0	0	0	0	0	0
9+50	77.10	48.40	7.80	43	27	4	43	5	11
9+75	38.90	24.20	0.45	23	37	1	66	7	-5
9+92	0.00	0.00	0.00	12	8	0	78	7	-1
B-05-0474									
10+08	0.00	0.00	0.00	0	0	0	78	7	-1
10+25	38.90	24.20	0.45	12	8	0	90	7	4
10+50	77.00	48.40	6.20	54	22	3	144	10	32
10+65	77.00	48.40	7.90	43	27	4	187	16	42

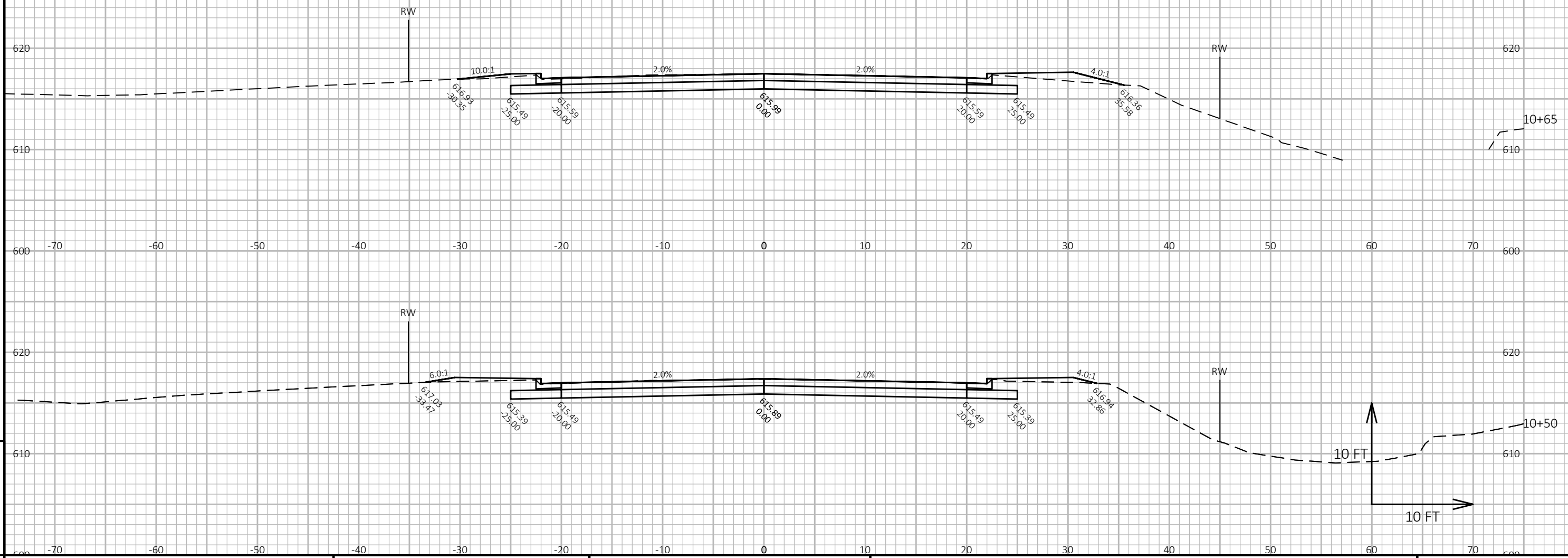
187 129 12

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
8 - Mass Ordinate	Cut - Unusable Pavement Material - (Fill * Fill Factor)



PROJECT NO: 4987-12-71 HWY: LARSEN ROAD COUNTY: BROWN CROSS SECTIONS: LARSEN ROAD SHEET E

END PROJECT
STA. 10+65



9

9

PROJECT NO: 4987-12-71 HWY: LARSEN ROAD COUNTY: BROWN CROSS SECTIONS: LARSEN ROAD SHEET E

FILE NAME : I:\45\450542 LARSEN ROAD\C3D\SHEETSPLAN\090201-XS.DWG PLOT DATE : 10/13/2023 8:11 AM PLOT BY : GARNICA, BRANDON PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

Notes



Wisconsin Department of Transportation

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